

AN EXAMINATION OF THE EFFICACY OF CHRISTIAN-BASED SOCIALLY
RESPONSIBLE INVESTMENT FUNDS

by

Richard Scott Stultz

Doctoral Study Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Business Administration

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Abstract

This applied doctoral research project examined the efficacy of Christian-based socially responsible investment funds. The researcher performed quantitative analysis of the risk-adjusted yields of the funds as compared to the S&P 500 Index as well as other types of socially responsible investment funds to accomplish this task. The timeframe for the study was 1995 to 2015. An examination of the differences in the performance of funds within the Christian-based category was also completed. Overall, the Christian-based funds underperformed the S&P 500 Index. The difference was statistically significant at the $\alpha = .10$ level for each time period (i.e., 1-, 3-, 5-, 10-, 15-, and 20-years) examined. In addition, the Christian-based funds experienced mixed results when compared to other types of socially responsible investment funds. Finally, the researcher identified top-performing Christian-based socially responsible investment funds during the study period. These results point to variability within the body of Christian-based funds that would-be investors should carefully consider. Not all investment options are equal. It is important to consider these differences before making investment decisions. The findings of this project are useful to those considering investments in Christian-based socially responsible investment funds. They are also useful for financial professionals (e.g., accountants, advisors, brokers, etc.) who are assisting their clients to make informed investment decisions.

Keywords: Christian-based, biblically-based, socially responsible, investment funds, SRI

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Dedication

Soli Deo Gloria

Acknowledgments

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Table of Contents

| | |
|---|----|
| List of Tables | vi |
| Section 1: Foundation of the Study..... | 1 |
| Background of the Problem | 2 |
| Problem Statement | 4 |
| Purpose Statement..... | 4 |
| Nature of the Study | 5 |
| Research Questions | 7 |
| Hypotheses | 9 |
| Theoretical Framework..... | 9 |
| Agency Theory..... | 10 |
| Modern Portfolio Theory | 11 |
| Definition of Terms..... | 13 |
| Assumptions, Limitations, and Delimitations..... | 13 |
| Assumptions..... | 14 |
| Limitations | 14 |
| Delimitations..... | 15 |
| Significance of the Study | 15 |
| Reduction of Gaps..... | 15 |
| Implications for Biblical Integration..... | 16 |
| Relationship to Field of Study | 19 |
| A Review of the Professional and Academic Literature..... | 20 |

| | |
|---|----|
| Socially Responsible Investing | 21 |
| Spiritual Influences | 21 |
| Secular Influences | 23 |
| Proposed Positive Benefits of Socially Responsible Investing..... | 25 |
| General Criticisms of Socially Responsible Investing..... | 26 |
| Defining Socially Responsible Activity..... | 27 |
| True Impact of Shareholder Activism..... | 28 |
| True Motivation of Business Leaders to do Good | 31 |
| Profit Sacrifices..... | 32 |
| Socially Responsible Direct Investments..... | 33 |
| Business Ventures | 34 |
| Projects..... | 36 |
| Programs | 37 |
| Types of Socially Responsible Funds | 37 |
| Environmental Funds | 40 |
| Ethics-based Funds | 41 |
| Religious-based Funds | 43 |
| Christianity | 43 |
| Judaism..... | 44 |
| Islam..... | 45 |
| Overlapping Objectives | 45 |
| Screening Techniques | 46 |

| | |
|---|----|
| Influences and Design..... | 48 |
| Research on Yields | 49 |
| Favorable Results for All Socially Responsible Funds..... | 50 |
| Unfavorable Results for All Socially Responsible Mutual Funds | 54 |
| Mixed Results for All Socially Responsible Mutual Funds..... | 59 |
| Results with No Difference for All Socially Responsible Mutual Funds..... | 64 |
| Favorable Results of Faith-Based Mutual Funds..... | 68 |
| Unfavorable Results for Faith-Based Mutual Funds | 71 |
| Mixed Results for Faith-Based Mutual Funds | 74 |
| Results of No Difference for Faith-Based Mutual Funds | 77 |
| Research Variables..... | 79 |
| Summary of Research Findings and Gaps in the Literature | 81 |
| Transition and Summary..... | 83 |
| Section 2: The Project..... | 85 |
| Purpose Statement..... | 85 |
| Role of the Researcher | 86 |
| Independent variable..... | 88 |
| Dependent variables..... | 89 |
| <i>Yields</i> | 89 |
| <i>Beta coefficients</i> | 90 |
| <i>Expense ratios</i> | 90 |
| Participants..... | 92 |

| | |
|---|-----|
| Research Method and Design | 92 |
| Method | 92 |
| Research Design..... | 94 |
| Population and Sampling | 96 |
| Data Collection | 98 |
| Instruments..... | 98 |
| Data Collection Technique | 98 |
| Data Organization Techniques..... | 99 |
| Data Analysis Technique | 100 |
| Reliability and Validity..... | 101 |
| Reliability..... | 101 |
| Validity | 104 |
| Internal validity..... | 104 |
| External validity..... | 104 |
| Conclusion..... | 105 |
| Construct..... | 106 |
| Transition and Summary..... | 107 |
| Section 3: Application to Professional Practice and Implications for Change | 108 |
| Overview of Study | 108 |
| Presentation of the Findings..... | 109 |
| Large-cap..... | 114 |
| Mid-cap..... | 116 |

| | |
|---|-----|
| International..... | 117 |
| Applications to Professional Practice | 123 |
| Recommendations for Action | 129 |
| Recommendations for Further Study | 132 |
| Reflections | 134 |
| Summary and Study Conclusions | 136 |
| References..... | 139 |
| Appendix A: Christian-Based Socially Responsible Investment Funds Used..... | 165 |

List of Tables

| | |
|---|-----|
| Table 1. Risk-Adjusted Yields of Christian-Based Funds v. S&P 500 Yields for the Periods Ending December 31, 2015..... | 111 |
| Table 2. Christian-Based Large-Cap Funds v. Large-Cap Socially Responsible Benchmark for the Periods Ending December 31, 2015..... | 115 |
| Table 3. Christian-Based Mid-Cap Funds v. Mid-Cap Socially Responsible Benchmark for the Periods Ending December 31, 2015 | 116 |
| Table 4. Christian-Based International Funds v. International Socially Responsible Benchmark for the Periods Ending December 31, 2015..... | 118 |
| Table 5. Top-Performing Christian-Based Funds for the One-Year Period Ending December 31, 2015 | 120 |
| Table 6. Top-Performing Christian-Based Funds for the Three-Year Period Ending December 31, 2015 | 120 |
| Table 7. Top-Performing Christian-Based Funds for the Five-Year Period Ending December 31, 2015 | 121 |
| Table 8. Top-Performing Christian-Based Funds for the Ten-Year Period Ending December 31, 2015 | 121 |
| Table 9. Top-Performing Christian-Based Funds for the Fifteen-Year Period Ending December 31, 2015 | 121 |
| Table 10. Top-Performing Christian-Based Funds for the Twenty-Year Period Ending December 31, 2015 | 121 |

Section 1: Foundation of the Study

The effective management of financial resources is essential for the survival of businesses (Garrison, Noreen, & Brewer, 2015). The manner in which organizations generate revenues and spend money must be aligned with the strategic objectives of the organization or the individual making the investment decisions. The misalignment of these items can have a significant negative effect on the long-term viability of an organization or of an individual (Elgazzar, Tipi, Hubbard, & Leach, 2012; Slager & Koedijk, 2007).

In addition, a Christian should evaluate investment decisions using the teachings of his or her faith (Domini, 2001; Louche, Arenas, & van Cranenburgh, 2012). Various writers have suggested that Christians should invest their resources in a biblically correct manner that will help their communities to flourish (Hardy, 1990; Van Duzer, 2010). Christian-based socially responsible investment funds have been recommended as a method of achieving this investment goal (Kathman, 2012). There has not been a substantial amount of scholarly research on the use of Christian-based socially responsible investment funds (Beer, Estes, & Deshayes, 2014; Boasson, Boasson, & Cheng, 2006). Without a body of scholarly research examining the efficacy of Christian-based socially responsible investment funds, it is difficult for investors to make informed decisions regarding these types of funds. The researcher designed this applied doctoral research project to add to the current body of research regarding those types of investments.

Background of the Problem

Socially responsible mutual funds are a growing element of the total body of mutual fund investment options. Socially responsible mutual funds focus on investment options that meet certain screening criteria such as environmental, social, or religious goals (Viviers & Eccles, 2012). Fund managers for socially responsible investment funds use screening methods such as negative screening and positive screening to determine the stocks to purchase for the funds (Viviers & Eccles, 2012). These types of funds now represent nearly 10% of the total money invested in American mutual funds (Blanchett, 2010; Kempf & Osthoff, 2007).

Christian-based socially responsible funds represent one of the subcategories of socially responsible mutual funds. The managers of Christian-based investment funds focus on choosing investments aligned with Christian teachings and principles. They do not consider companies that do not meet the selected criteria for inclusion in the funds.

Most of the scholarly research on socially responsible investments has taken one of two paths: (a) include all faith-based funds under the umbrella of socially responsible investments or (b) examine all faith-based funds together to look for differences between them (Adler & Kritzman, 2008; Blanchett, 2010; Camejo, 2002). Within those divergent methodologies, different results have been found. For example, some researchers have concluded that socially responsible investment funds provide a higher yield for investors than benchmark funds (Camejo, 2002; Harrington, 1992), while others have concluded that the funds yield lower overall returns (Adler & Kritzman, 2008; Minor, 2007). A third group of researchers concluded that there was no statistically significant difference

between the yields of socially responsible investment funds and their benchmark funds (Blanchett, 2010; Mallett & Michelson, 2010). Each of those researchers took the first approach and included faith-based funds under the umbrella definition of all socially responsible investments.

Fewer researchers have chosen to examine only faith-based mutual funds. Some researchers examined the returns of all faith-based funds and found that they underperformed other types of socially responsible investments as well as their non-delineated benchmark averages (Adams & Ahmed, 2013; Ferruz, Muñoz, & Vargas, 2012). In addition, Adams and Ahmed (2013) found Islamic-based funds outperformed Christian-based funds. However, Beer, Estes, and Deshayes (2014) found faith-based funds performed better than their benchmark averages during the financial meltdown that began around 2008. Finally, Spohn (2009) found there was no statistically significant difference between the returns of faith-based funds and their benchmark funds.

The current body of literature regarding the efficacy of faith-based socially responsible investment funds is inconclusive. In addition, there is not a substantial body of research that focuses specifically on Christian-based funds (i.e., those classified by Morningstar as Catholic, Protestant, or Evangelical) (Kathman, 2012). It is important to provide Christians seeking to invest in a manner that is consistent with their beliefs with sufficient data to determine the efficacy of investing in Christian-based socially responsible mutual funds.

Problem Statement

The problem addressed by this applied doctoral research project is the need for clarity regarding the efficacy of using Christian-based socially responsible investment funds. The current body of literature yielded mixed results regarding the efficacy of these types of funds, and most of the current studies group Christian-based funds under the umbrella term of faith-based funds for analysis (Kathman, 2012). Researchers who have recently examined these types of funds have concluded that they have underperformed (Adams & Ahmed, 2013), outperformed (Beer et al., 2014), or matched (Spohn, 2009) other investment fund options.

The uncertainty surrounding the efficacy of choosing Christian-based socially responsible funds makes it difficult to determine if an investor's strategic investing objectives can be best-achieved by employing them. The researcher designed this study to address the need for clarity regarding the efficacy of Christian-based socially responsible mutual funds. It specifically focuses on the risk-adjusted performance of Christian-based mutual funds.

Purpose Statement

The purpose of this descriptive quantitative study was to examine the financial performance of Christian-based socially responsible investment funds in order to provide clarity regarding the efficacy of those types of funds. Investors have shown an increased desire to invest in a way that supports their beliefs (Porter, 2013). Christian-based mutual funds offer an opportunity to take advantage of the benefits of a mutual fund while

honoring one's religious beliefs. However, investors must also be good stewards over the resources they have been given.

This study assisted those investors, and their advisors, by providing a comparative analysis of the financial performance of Christian-based socially responsible investment funds. The researcher examined these types of funds by measuring the risk-adjusted yields and expense ratios of the funds and comparing them to those of benchmark funds without a socially responsible investment focus. In addition, the performance of the Christian-based socially responsible funds was compared to that of other types of socially responsible funds (i.e., environmental funds and corporate governance funds).

Nature of the Study

The researcher selected the quantitative method of data analysis for this study because it provided a better analysis of the performance of the different groups of funds (Creswell, 2008; Yilmaz, 2013). The qualitative method might assist the researcher to determine the values or attitudes of the investors (Creswell, 2008; Stake, 2010). However, that type of analysis does not address the research questions of the study. It is also beyond the scope of the study. In addition, the use of a mixed-method study design would have been inappropriate. The data collected and analyzed in this study would not lend itself to the concurrent or sequential designs common in mixed-method research because it was quantitative in nature (Driscoll, Appiah-Yeboah, Salib, & Rupert, 2007). Adding qualitative elements to the study would have obfuscated the data analysis and would not have contributed to answering the research questions of the project.

The projected used an observational descriptive quantitative research design. The researcher selected this method over other methods of quantitative research because this study did not provide a specific intervention and because more than one group was being examined. Other quantitative methods rejected were: (a) correlational, (b) experimental, and (c) quasi-experimental.

A correlational quantitative research design seeks “to describe the relationship among variables rather than to infer cause and effect relationships” (Lappe, 2010, p. 81). This study was designed to examine the impact of the investment focus of a fund has on the fund’s relative financial performance. Therefore, the correlational design was not appropriate.

Experimental research requires the researcher to establish two equivalent groups (i.e., experimental and control) and then introduce an experimental procedure to one of the groups to determine its effectiveness (Abbott, 2013). This method requires random assignment of participants to one of the two groups, and it requires the researcher to attempt to control for external factors that could affect study outcomes (Creswell, 2008). The researcher rejected the use of the experimental design because this study did not attempt to introduce an experimental procedure. Instead, it used historical data to analyze fund performance.

Quasi-experimental research is similar to the experimental design in that it seeks to test the effectiveness of an experimental procedure using control and experimental groups (Creswell, 2008). However, quasi-experimental designs often do not have randomly assigned groups. Instead, they generally employ naturally occurring groups

such as students in a classroom (Abbott, 2013). The groups for this study were naturally occurring, but the researcher did not introduce an experimental procedure. Therefore, the use of the quasi-experimental design was not advisable.

Observational descriptive quantitative analysis was the primary method of research utilized by the researchers in the studies in the current body of literature regarding socially responsible investment funds. For example, BinMahfouz and Hassan (2013) employed to evaluate Islamic-based investing. Frahm, Wikern, and Wiechers (2012) also used it evaluate different investment strategies to optimize portfolio return.

Each of the groups in the study contained annual yields, beta levels, and expense ratios. The researcher analyzed those cardinal values for statistical significance within the design of this observational descriptive quantitative analysis. The goal of this type of research is to explain trends in the existing (i.e., historical) data and to determine differences between two or more groups (Creswell, 2008).

Research Questions

The research designed the project to answer three research questions. The first research question was: Are the risk-adjusted yields of Christian-based socially responsible investment funds equivalent to benchmark funds that do not have a specific socially responsible investing agenda? The researcher accomplished this by examining the risk-adjusted yields of the funds over time. The time frame for the analysis was 20 years. The study examined the performance of the funds between 1995 and 2015. This 20-year period included times of economic expansion as well as economic recession. This assisted in the examination of the robustness of the investment options.

The second research question was: Are the risk-adjusted yields of Christian-based socially responsible investment funds equivalent to other types of socially responsible investment funds that are not Christian-based funds? Christian-based investment funds are only a part of the total body of socially responsible investment funds available to investors. Much of the research on socially responsible investment funds has grouped all of the funds together for analysis (Adler & Kritzman, 2008; Blanchett, 2010; Mallett & Michelson, 2010). However, it is important to distinguish the performance of Christian-based investment funds and those with other types of focuses (e.g., environmental, social, and so on).

The third research question was: Are any specific Christian-based socially responsible investment funds better financial investments than others? The researcher measured this based on the risk-adjusted yields of the Christian-based socially responsible investment funds during the period of the study. It was plausible that some Christian-based funds in the same category (e.g., small cap domestic) will outperform others. Noting any significant differences in performance is helpful to would-be investors.

The researcher included all socially responsible investment funds that were classified as Christian-based by the Morningstar classification system in this analysis. Some of those funds may not be well known. However, they were included in the study because of the alignment of their investment objectives with Christian values. A list of the funds included in the study is located in Appendix A.

Hypotheses

H₀1: There is no statistically significant difference between the risk-adjusted yields of Christian-based socially responsible investment funds and benchmark funds that do not have a specific socially responsible investing agenda.

H_A1: There is a statistically significant difference between the risk-adjusted yields of Christian-based socially responsible investment funds and their benchmark funds.

H₀2: There is no statistically significant difference between the risk-adjusted yields of Christian-based socially responsible investment funds and other types of socially responsible funds.

H_A2: There is a statistically significant difference between the risk-adjusted yields of Christian-based socially responsible investment funds and other types of socially responsible investment funds.

H₀3: There is no specific Christian-based socially responsible investment fund that performs better than other types of Christian-based socially responsible investment funds as measured by their risk-adjusted yields.

H_A3: There is a specific Christian-based socially responsible investment fund that performs better than other types of Christian-based socially responsible investment funds as measured by their risk-adjusted yields.

Theoretical Framework

The theoretical framework of a study helps to explain the lens through which the researcher is focusing his or her attention (Creswell, 2008). The researcher based the theoretical framework for this descriptive quantitative study on two theories from the

current body of literature: (a) agency theory and (b) modern portfolio theory. Agency theory is based on the work of researchers such as Eisenhardt (1989), Jensen and Meckling (1976), and Ross (1973). Modern portfolio theory focuses primarily on the work of Markowitz (1952).

Agency Theory

There are two primary parties in an agency arrangement: (a) the principal and (b) the agent. The principal will make an agreement with the agent wherein the agent agrees to act on behalf of the principal in a given matter (Shapiro, 2005). There are three primary types of risks involved in agency relationships: (a) goal asymmetry, (b) risk asymmetry, and (c) information asymmetry (Tan & Lee, 2015). These risks weaken the agency relationship because of the perception that each of the parties will seek his or her best interest. However, the agent can significantly reduce the risks when he or she chooses to focus on meeting the desires and interest of the principal (Tan & Lee, 2005).

The types of agency arrangements will vary from one situation to the next (Miller & Sardais, 2011). However, the primary design of a principal and agent remains unchanged in each one. For the purpose of this applied doctoral research project, the principal in the agency relationship is the client. The agent is either the accountant or financial advisor of the client.

The agent should work to serve the needs and interests of the client. The agent of a Christian client who wishes to invest in Christian-based socially responsible investment funds must balance the dualistic needs of the client when providing guidance. For example, the client will want to maximize his or her return on investment within a given

set of risk parameters. However, the client will also want to invest in companies that represent his or her religious beliefs and interests. The agent must attempt to balance the needs of his or her client to help the client to make informed decisions. In the event the goals of the client conflict, the agent should provide relevant data for the client to choose which path he or she wishes to follow.

Modern Portfolio Theory

The concept of the modern portfolio theory was first developed by Markowitz (1952). Modern portfolio theory recognizes that most investors do not hold only one type of investment or mutual fund (Shipway, 2009). Instead, they attempt to balance the risk in their portfolios by selecting a number of diversified funds that will help to achieve the goals of the investor while limiting risk to a tolerable level (Miccolis & Goodman, 2012). This process has been called “a mathematical interpretation of the old adage ‘don’t put all your eggs in one basket’ (Shipway, 2009, p. 67).

Modern portfolio theory contains two basic assumptions. First, it assumes that investors want to achieve a rate of return that is commensurate with the risk involved in their portfolio (Elton, Gruber, Brown, & Goetzmann, 2014). For example, investors expect there to be risk involved in an investment in another company. However, the investors will seek to achieve a higher return on their investment if he or she determines the target for the investment is riskier. In addition, modern portfolio theory assumes that, when faced with two alternatives with equal possible returns, investors will select the option with the lower amount of perceived risk (Elton et al., 2014). For example, if an investor is presented with two options that are both expected to yield a 5% return, the

investor will select the option with the lower perceived level of risk. Since the projected returns are equal, it is logical to choose the option with the lower level of risk.

Investors and portfolio managers must consider the level of risk inherent in their investment choices (Miccolis & Goodman, 2012). Christian investors also consider additional criteria beyond risk and return when choosing their investments. However, the investor should fully consider the risks of choosing Christian-based socially responsible investment funds when making investment decisions.

Employing modern portfolio theory could help the investor to make financial decisions that are likely to achieve his or her goals while limiting risk to a tolerable level. Considering the level of risk involved in an investment decision will generally lead to better investment choices (Elton et al., 2014). In addition, the financial advisor who fails to assist his or her client to examine this risk would be in breach of his or her responsibility under the agency theory.

The combination of agency theory and modern portfolio theory provide the theoretical support for this study. The financial advisor should act in a way that will assist his or her clients to achieve their investment goals. This includes examining the potential risks and returns of Christian-based socially responsible investment funds so the client is provided with the best information on which to base his or her investment decisions.

Definition of Terms

The researcher used the following terms throughout the study. The definitions provided below were confined to this study. The use of these definitions in a different setting or in a broader context might lead to confusion.

Christian: For the purpose of this study, the researcher defined Christian broadly to include all faiths associated with one or more Christian denominations (i.e., Catholic, Protestant, and Evangelical) (Kathman, 2012). This is the way that Morningstar classifies Christian-based investment funds (Kathman, 2012). Using this definition will allow for the inclusion of a greater variety of Christian-based socially responsible investment funds.

Risk-adjusted yield: The risk-adjusted yield represents the yield of a particular fund that the researcher has adjusted to reflect the level of risk that accompanies the investment (Melicher & Norton, 2011). There are five methods of calculating the risk for a mutual fund: (a) the alpha level, (b) the beta level, (c) the R-squared ratio, (d) the Sharpe's ratio, and (e) the standard deviation (Vysniauskas & Rutkauskas, 2014). For this study, the researcher evaluated the risks using the beta ratio for each fund. The beta ratio is the most-commonly cited measurement of risk for mutual funds (Melicher & Norton, 2011; Nanigian, 2014), and its interpretation is easy to explain.

Assumptions, Limitations, and Delimitations

In the next section, the assumptions, limitations, and delimitations surrounding the study will be discussed. The recognition and discussion of these items is essential for

providing readers with a balanced view of the study and its findings (Leedy & Ormrod, 2010). A general overview of each of the items will be provided.

Assumptions

The assumptions for the current study are that all of the data gathered will accurately represent the performance, expense ratios, and beta levels of each fund included in the study. The researcher gathered the data from a reputable source (i.e., Morningstar). Since the 1980s, the Morningstar rating system for investment products has been a reliable source for guidance (Hoovers, 2015). The Financial Industry Regulatory Authority (FINRA), an organization that is “dedicated to investor protection and market integrity through effective and efficient regulation of the securities industry” (FINRA, 2015a, para. 1), values the Morningstar ratings so much that it includes them as part of FINRA’s investment analysis tools (FINRA, 2015b). Therefore, the researcher assumed the data provided by Morningstar for the statistical analysis was free of material errors that would have negatively affected the outcome of the study. If this assumption is not true, then there is a risk that the results of the statistical analysis will be incorrect. This could lead to misleading results. In order to mitigate this risk, the researcher used additional sites such as Yahoo Finance and *The Wall Street Journal* to confirm the ending prices for the funds in the study when possible. Researchers often use triangulation of data to provide greater assurance regarding the accuracy of study data (Stake, 2010).

Limitations

The primary limitation of this study is that it relied on historical data to compare the funds. While this information is more reliable and less subject to misinterpretation,

historical data does not guarantee future returns. Would-be investors should also consider other economic conditions and market forces before making a final decision regarding the use of Christian-based socially responsible funds.

Delimitations

The researcher designed the study to answer specific research questions. Those questions focused the analysis on the risk-adjusted yields of Christian-based socially responsible investment funds. The researcher then compared the performance of those funds to those of other types of socially responsible investment funds as well as to benchmark funds. Other types of faith-based socially responsible funds (e.g., Islamic, Jewish, and so on) were not evaluated.

Significance of the Study

This study is significant in a number of ways. First, it will help to reduce the gap in the current body of research concerning Christian-based socially responsible investment funds. In addition, it is integrated with a number of biblical principles. Finally, the study is related to the researcher's field of study (i.e., accounting).

Reduction of Gaps

The findings of this applied doctoral research project will help to fill a gap in the current body of literature regarding the efficacy of investing in Christian-based socially responsible investment funds to fulfill organizational and individual strategic investment objectives. Previous studies have yielded conflicting or inconclusive results. Some researchers (Blanchett, 2010; Camejo, 2002; Glassman, 2012) have concluded that those funds are a good investment alternative, while others state they are not a sound

investment (Adler & Kritzman, 2008; Chang & Witte, 2010; Farnen & van der Wijst, 2005). In addition, some researchers have determined these funds are too risky due to their negative and positive screening techniques (Colle & York, 2009; Farnen & van der Wijst, 2005), while others believe this is not an issue if the risk is properly managed (Kempf & Osthoff, 2007; Viviers & Eccles, 2012).

The research developed this study to fill a part of this gap in the research by focusing on the risk-adjusted yields of Christian-based socially responsible funds. This subset of the larger category of socially responsible investment funds does not have a large body of scholarly research regarding its efficacy. Anecdotal discussion of the advantages and disadvantages of choosing Christian-based investment funds is not sufficient to provide potential investors, or their financial advisors, with enough information to make informed decisions (Bollen, 2007; Williams, 1996).

The results of this project may assist businesses and individuals interested in pursuing socially responsible investing objectives. The use of socially responsible investment funds shows promise for small businesses and individual investors who wish to follow Christian principles while making an efficacious use of their financial resources (Camejo, 2002; Lyn & Zychowicz, 2010; Peifer, 2011). However, clarity regarding those types of funds is needed before an informed investment decision can be made.

Implications for Biblical Integration

It is important to understand how investments made by individuals or organizations can be used to advance God's purpose on Earth. The strategic goals informing investment decisions of Christians should be well aligned with the teachings

found in the Bible. For example, in St. Paul's letter to the church at Colossae, he urged the believers to "whatever you do, work at it with all your heart, as working for the Lord, not for human masters" (Colossians 3:23, NIV). The work to which St. Paul was referring extends beyond that day-to-day labor of believers in their vocations. It also includes how Christians live their lives. For example, in another letter that was written by St. Paul to the church at Corinth, he admonished believers that "whether, then, you eat or drink or whatever you do, do all to the glory of God" (1 Corinthians 1:31, NLT).

The work of Christians includes how they invest the financial resources God has given to them. This may seem like a simple task, but the investor must be aware that there are threats to accomplishing this goal. Some of the threats may come from within an individual, an organization, or a family, but others may come from outside sources such as competitors, activist groups, or misleading information (Rudy & Johnson, 2013; Soule, 2012). Recognizing these threats will help the investor to prepare to deal with them effectively.

Van Duzer (2010) provided a framework to assist Christian business leaders and investors. According to the framework, a business leader should ask "how can I best deploy my resources to (1) enable this community to flourish, and (2) provide opportunities for my employees to engage in meaningful and creative work?" (Van Duzer, 2010, p. 152). In addition, the Christian investor should ask if the business under consideration for investment is following these principles.

Van Duzer's (2010) thesis is applicable to individual investors as well as business leaders. It provides the foundation for a broad discussion of the choice of investment

options. For example, is the investment in Christian-based investment funds the best use of a Christian's financial resources? Are investments in those types of funds the best way to provide opportunities for the communities to flourish? Would it be better to invest one's funds in an investment vehicle without a specific agenda to maximize profits and then use those excess returns to help the local community?

These questions help to illustrate the need for the analysis that this study provided. Effective financial management, or stewardship, is discussed throughout the Bible. In Proverbs 3:9, the writer says, "honor the Lord with your wealth and with the first fruits of all your produce" (ESV). He then goes on to discuss the benefits that will accrue to those who were faithful in following this teaching.

In addition, while the types of investments chosen by the good and faithful servants in the parable of the talents (Matthew 25:14-30) were not defined as religious-oriented activities, it is clear that the Master was concerned that the servants had invested the funds wisely and earned a reasonable return on the money. This parable leads to the question of whether the Christian investor should limit personal investments to Christian-based investment funds or if it would be better stewardship of the resources to invest them in a broadly diversified portfolio that does not have a faith-based focus. This is an especially relevant question if the risk-adjusted yields of the Christian-based investment funds are not at least comparable to those of other types of investment funds.

Finally, Jesus taught about stewardship for the believer. He is quoted in Luke 14:28-30 saying

Suppose one of you wants to build a tower. Won't you first sit down and estimate the cost to see if you have enough money to complete it? For if you lay the foundation and are not able to finish it, everyone who sees it will ridicule you, saying, 'this person began to build and wasn't able to finish' (NIV).

It is clear that Christ felt that believers should carefully plan their actions and investments. Investing in a mutual fund without first weighing the potential costs and benefits would be an example of poor stewardship that could lead to financial loss and humiliation.

Relationship to Field of Study

The subject of the comparative efficacy of Christian-based socially responsible investment funds is well aligned with the study of accounting. One of the functions performed by accountants is to assist clients in determining the best investment choices for excess financial resources (Garrison, Noreen, & Brewer, 2015). The accountant is often considered an expert on a wide range of financial issues (American Institute of Certified Public Accountants (AICPA), 2015), so he or she should make every effort to understand the options available to his or her clients.

When serving the planning and investing needs of Christians, the accountant will need to consider the unique requirements of his or her clients. This includes being prepared to discuss the relative efficacy of choosing different types of investment funds while also meeting his or her clients' desire of honoring the Creator. Christian-based socially responsible investment funds represent one of the options available to investors; however, they might not be the best option.

Simply having a Christian moniker is not an indication of the efficacy of the fund. It is important for those advising potential investors to understand all of the advantages and disadvantages of a specific type of investment (Thiagarajan & Schachter, 2011). The clients will look to their accountants to assist them with making wise financial decisions, and the accountants need to be prepared to provide this important service.

Professional accountants who possess a Certified Public Accountant designation are bound by a code of ethics. The American Institute of Certified Public Accountants (AICPA) has established a Code of Professional Conduct for all members. The AICPA's Code of Professional Conduct states that members should offer a full range of services needed by their clients (AICPA, 2015). Part of fulfilling this obligation is to offer a range of services that help to meet the investment needs of an accountant's clients. Certified Financial Planners, stockbrokers, and other types of financial professions are bound by professional standards similar to those developed by the AICPA, so the results of this study will be beneficial to them as well.

A Review of the Professional and Academic Literature

The researcher conducted a review of the literature to determine the types of research currently available and to determine the issues that were central to the theoretical framework of the project. The review was also performed to look for gaps in the research that the project could help to fill. The literature review helps to define key topics and concepts surrounding the study and to demonstrate where the study fits within the current body of research (Creswell, 2008). The literature review is divided into seven main areas: (a) an introduction to the concept of socially responsible investing, (b)

analysis of the positive benefits of socially responsible investing, (c) discussion of the general criticisms of socially responsible investing, (d) socially responsible direct investments, (e) socially responsible investment funds, (f) research findings regarding socially responsible investment funds, and (g) gaps in the current body of research regarding socially responsible investment funds.

Socially Responsible Investing

The concept of socially responsible investing spans thousands of years to teachings found in sources such as the Bible and the Babylonian Talmud. It also has religious and secular roots. Socially responsible investing has been defined as “the philosophy and practice of making strategic investment decisions by integrating financial and non-financial considerations, including personal values, societal demands, environmental concerns, and corporate governance issues” (Cheah, Jamali, Johnson, & Sung, 2011, p. 305). From this definition it seems apparent that socially responsible investing has three basic tenets: (a) the investor should invest his or her funds wisely, (b) the investor should invest in a way that is aligned with his or her personal beliefs, and (c) the investor should consider the effect of his or her investment decisions on society (Berry & Junkus, 2013; Cheah et al., 2011). An examination of the spiritual and secular aspects of socially responsible investing will help to establish the foundational discussion of this popular topic.

Spiritual Influences

Talmudic and Biblical writings encouraged Jewish and early Christian followers to use their resources in a manner that will help the believer to grow financially while

also bringing glory to God. For example, the Babylonian Talmud encourages the safeguarding of money and the diversification of investments between different types of options such as land, merchandise, and savings (Rowling, 2012). Also, the account of Jacob, who divided his belongings between two different camps in case one camp was destroyed, is another example of diversification of assets found in the Bible (see Genesis 32:7-9). Finally, Jesus discussed the need to adequately plan personal expenditures when He spoke about not building a tower until the cost has first been considered (see Luke 14:28-30).

In addition to making wise investments, adherents are also encouraged to invest in a manner that will accomplish God's will. Mankind was created to be custodians over God's creation (Van Duzer, 2010). Part of that duty involves using the resources they are given in the most responsible manner possible. This is the reason that many religious-based socially responsible investments use screening techniques to avoid investments in companies that produce alcohol, tobacco, or gambling (Lyn & Zychowicz, 2010). Those types of products do not typically align with the teachings found in the adherents' faiths.

Organized religious bodies later formalized the teachings about socially responsible investing. In the mid-1200s, the Catholic Church developed a set of statements of social thought and economics that discussed these concepts (Wishloff, 2009). In addition, other Protestant denominations, such as the Methodists and the Quakers, also developed investment principles in the 1700s to help them screen out investments that were not aligned with biblical teachings (Schueth, 2003).

Secular Influences

Religious teachings and practices helped to develop and reinforce the foundation for much of the modern socially responsible investing movement (Dania & Malhotra, 2013; Lyn & Zychowicz, 2010). However, secular activities also helped to shape the modern socially responsible investing paradigm. Many of those influences began in the 1960s, and they continue to affect modern society (Welker & Wood, 2011).

In the 1960s and 1970s, a variety of social movements shaped modern culture. The civil rights movement, anti-war protests, peace marches, and gender equality activities all happened during this time, and they all had an influence on the reasoning involved with socially responsible investing (Glac, 2014; Schueth, 2003). The philosophy of corporate social responsibility began to emerge in academic literature in the 1950s, but it was energized by the climate of the 1960s and 1970s (Marens, 2008). In addition, the excesses of the proceeding decades and various instances of corporate malfeasance ranging from Union Carbide to Enron brought many investors and business leaders to the point of re-considering their profit-only approach to investing (Abdelsalam, Fethi, Matallin, & Tortosa-Ausina, 2014; Welker & Wood, 2011).

Unlike the spiritual elements of the socially responsible investment movement, the secular segment focused on items such as environmental awareness, corporate transparency, and gender equality (Welker & Wood, 2011). The secular movement also helped to transform the mindset of many non-religious investors. Those investors might not have considered the implications of their investment choices without the cultural influences that developed because of the secular approach to socially responsible

investing. However, the movement to transform the existing culture helped to bring those investors to a place where they could appreciate the concept of investing in companies that supported specific causes (Welker & Wood, 2011).

Within this culture of increased accountability, increased social awareness, and increased spiritual sensitivity, socially responsible investment options, including direct investments and socially responsible mutual funds, were developed and marketed to a broad group of consumers and organizations (Cheah et al., 2011; Viviers & Eccles, 2012). Earlier versions of socially responsible investment funds had existed for several years before the 1970s (Schwartz, 2003). However, they were typically designed for a specific religious organization, and they were not part of the typical investment offerings made available to the general public (Schwartz, 2003; Schueth, 2003). In addition, direct investments in socially responsible activities have grown from government-funded programs to include many corporations, religious groups, and individuals (Bustamonte, 2015; Myrah & Odinsky-Zec, 2013).

The idea of socially responsible investments is at the heart of this research project. The first research question of the study centers on whether Christian-based socially responsible investment funds have equivalent performance to traditional investment vehicles. Socially responsible investments must not simply be different from other types of investment options. They must also provide investors with a reasonable return of their investments. This project helped to address these questions using the preceding discussion of the concepts underlying socially responsible investing as its foundation.

Proposed Positive Benefits of Socially Responsible Investing

The primary benefit of socially responsible investing is that it allows the investor to reflect personal values when investing dollars (Cheah et al., 2011). Those projects, companies, and mutual funds that are aligned with the investor's beliefs will receive funding, and those that are misaligned with the investor's beliefs will be rejected. Ideally, this approach will advance the investor's agenda while also yielding a positive financial return (Escrig-Olmedo, Muñoz-Torres, & Fernandez-Izquierdo, 2013).

In addition, socially responsible investing can help to bring greater attention to a cause that investors support. Relying on business leaders or governmental officials to make changes that will benefit society may not be the best or fastest method of achieving those goals (Haughton & McManus, 2012). If business leaders follow the neoliberal model of economics, then they are likely to be more concerned with generating profitable returns instead of achieving social goals (Adegbite, Amaeshi, & Amao, 2012; Polanyi-Levitt, 2012). Furthermore, elected officials will often rely on opinion polls and social trends to shape their decisions (Barnes & Shafer, 2013).

However, using financial investments and the voices of the voters may help to advance the goals of those who pursue socially responsible objectives. For example, religious organizations and investors have submitted hundreds of proposals to corporations in the United States since 2006 that have attempted to alter corporate policies on a number of topics ranging from environmental concerns to employee rights (Chasan & Murphy, 2015). One-third of all proxy proposals presented to public corporations in 2014 were related to environmental and social issues (Weinstein, Martin,

& Meisheid, 2015). This trend of increased shareholder-sponsored proxies is expected to continue in future years (Chasan & Murphy, 2015; Weinstein et al., 2015).

The financial investing tendencies and investor activism surrounding socially responsible investing can have a significant impact on business decisions. These actions are rooted in either the spiritual or the secular roots of stewardship and activism that helped to develop the modern socially responsible investing movement. They can also attract the attention of elected officials who are developing legislation that will affect society.

These are generally viewed as some of the most prominent positive influences of socially responsible investing (Escrig-Olmedo et al., 2013; Weinstein et al., 2015). However, positive influences and community development cannot be the only consideration in investment decisions. The provision of a benefit to a local community or to society is a noble goal. It is also aligned with the teachings regarding the role of Christian business leaders discussed by Van Duzer (2010), Grudem (2003), and others. However, individuals and institutional investors must receive a reasonable return on their investments to justify the use of limited resources on these endeavors. The researcher developed the research questions of this project to assist potential investors and those who advise them to make informed decisions regarding socially responsible investments.

General Criticisms of Socially Responsible Investing

Despite the suggested benefits of socially responsible investing, there are also a number of criticisms. These objections do not specifically oppose the concept of investing in a manner that supports one's views. However, the critics of socially

responsible investing address some of the underlying issues surrounding the practice in a modern economy. Four of the main criticisms of socially responsible investing will be discussed here.

Defining Socially Responsible Activity

One of the criticisms of socially responsible investing is the definition of what constitutes being socially responsible (Berry & Junkus, 2013). For example, is a firm socially responsible if it follows the letter of the law, or does it also need to follow the spirit of the law? In addition, who decides what items to include in the criteria for determining social responsibility? Finally, is a company considered socially responsible if it follows a set of standards for most of its actions, but fails to meet them in other areas? These types of questions tend to obfuscate the definition of socially responsible.

An example of this type of issue involves the process of corporate tax inversion. Tax inversion involves moving the home country of a business from its original location to one with a lower income tax rate (Hwang, 2015). This is generally accomplished by purchasing a company in another country and then moving the primary jurisdiction of the purchasing company to the jurisdiction of the newly purchased company (Turner, 2014). The first tax inversion by a company headquartered in the United States occurred in 1982. In that year, McDermott International, an oil and gas company headquartered in the United States, moved its headquarters to a subsidiary that it purchased in Ireland (Marian, 2015). The result was a significant reduction in the tax rates for the company (Hwang, 2015). Since 1982, over 75 companies located in the United States have moved their primary domicile to countries that have lower corporate tax rates (Hwang, 2015).

A great amount of popular and scholarly literature gave the process of tax inversion a great amount of attention in the popular and scholarly literature in recent years. One of the issues behind the discussion has been the issue of whether the process is ethical (Doyle, Hughes, & Summers, 2013). The companies that practice inversion are not violating any laws. However, it has been argued that the process violates the spirit of the current tax code (Dowling, 2014; Lanis & Richardson, 2013). It could also be asserted that a company that practices tax avoidance techniques is refusing to pay its fair share of the costs of the benefits it enjoys in the region in which it operates (Dowling, 2014). These issues lead to the question of whether following a set of laws, such as the tax code, is sufficient to consider a company to be ethical. The same question can be asked about other actions such as marketing techniques and adherence to fair labor standards.

Finally, the culture in which a company operates can have an influence on what actions it views as ethical. For example, the process of being declared as socially responsible in some countries, such as China and Russia, is considerably different than in the United States (Kelova, Lamarche, & Magnin, 2014; Marquis & Qian, 2014). This makes it more difficult for would-be investors in the United States to determine if foreign enterprises were truly socially responsible investments.

True Impact of Shareholder Activism

Another question surrounding the concept of socially responsible investing is the true impact of shareholder activism on institutional socially responsible investing decisions and on organizational behavior. Investors who are dissatisfied with the actions

of a company's leaders can take one of two paths: (a) divest their shares of the company and invest them elsewhere, or (b) voice their concerns to the leaders of the organization (Goodman, Louche, van Cranenburgh, & Arenas, 2014). Choosing either of these options represents shareholder activism. One form of activism is financial activism, and the other form is vocal, or proxy, activism (Goodman et al., 2015).

Most of the attention regarding shareholder activism is given to those who follow the second path (Goodman et al., 2015). However, either type of activism has the ability to influence corporate decisions. The question at the heart of the shareholder activism discussion is whether the actions by investors have a positive influence on the decisions of organizational leaders. Those who support increased shareholder activism will insist that it is an effective method of influencing the direction of publicly traded businesses (Adegbite et al., 2012; Malecki & Magnier, 2011; Weinstein et al., 2015), but a closer examination of shareholder activism is needed.

Shareholder activism is considered to be an essential element of a movement toward sustained corporate social responsibility (Uysal & Tsetsura, 2015). In addition, policies such as the directive issued by the European Union in 2007 to strengthen the rights and voices of shareholders of publicly-traded companies have emphasized the perceived need for an active shareholder voice in the corporate decision-making process (Malecki & Magnier, 2011). Furthermore, nearly one-third of shareholder proposals in 2014 were related to socially responsible items such as environmental and societal issues (Weinstein et al., 2015).

Given this apparent increase in shareholder activism, it could be hypothesized that efforts by shareholders were having a positive impact on the direction of many publicly traded companies. However, the support for shareholder activism is not unanimous. Three general criticisms of this assumption are in the literature.

The first criticism addresses true effectiveness of shareholder proxies. Simply presenting a proxy does not guarantee that it their acceptance. Most of the successful shareholder proxies presented to corporate boards focused on transparency in areas such as executive compensation instead of limiting certain types of corporate activities or products (Weinstein et al., 2015). While those items may help to achieve some shareholder desires, they are unlikely to change the decision matrix of the organizational leaders.

In addition, it has been asserted that most corporate shareholders were so alienated from their investments that they were unaware of any contradictions between their values and those of the leaders of the companies they own (Welker & Wood, 2011). Essentially, a shareholder who holds stock in a company through a mutual fund or other investment vehicle is unaware, either by choice or by chance, of the companies in which they have invested (Bailey, Kumar, & Ng, 2011). This detachment minimizes the grass-roots element of the shareholder activism movement. Instead, it transforms much shareholder activism into another struggle between the leaders of the business with a handful of activists who are attempting to promote their own agendas under the guise of a broad-based movement (Weinstein et al., 2015; Welker & Wood, 2011).

Finally, a warning has been issued that increased shareholder activism might simply replace the self-enriching goals of management with the self-enriching goals of a few vocal activist investors (Goranova & Ryan, 2014). This is an extension of the argument that many investors were unaware of, or unconcerned about, the actions of the companies in which they have invested. This apathy can lead to a small minority of investors changing the direction of an organization in a way that is neither profitable nor socially responsible.

True Motivation of Business Leaders to do Good

Another criticism of the socially responsible investing movement centers on the true motivation of business leaders. It has been suggested that prosocial or benevolent behavior by businesses is “rarely, if ever, purely selfless” (Lin-Healy & Small, 2013, p. 696). In other words, a business leader who chooses a socially responsible course of action is generally expecting some sort of reward from investors or customers.

In addition, the leader may choose to project the image of corporate social responsibility while conducting his or her business in a way that is contrary to that image. The public expression of concern for causes that are popular with socially responsible investors may simply be a method of placating investor concerns or attracting socially responsible customers (Amazeen, 2011). For example, a company may issue a statement that it wants to have a strong environmental record. The leaders may say this because they want to make their organization more appealing to investors and customers who are concerned with environmental issues. The company might even choose to plant trees or

make its buildings more energy efficient. However, the company's actions in other areas may actually be detrimental to the environment.

If the motivation behind these types of actions and announcements is only to attract investors or customers, then the efficacy of socially responsible investing is questionable. Instead of a true expression of concern for adhering to socially responsible principles and positive corporate behavior, the company's announcements and actions might simply be deceptive marketing campaigns that disguise true motivations. This has led some to be critical of the process of socially responsible investing (Amazeen, 2011; Lin-Healy & Small, 2013).

Profit Sacrifices

At the peak of the secular development of the concepts of corporate social responsibility and socially responsible investing, a Nobel Prize winning economist named Milton Friedman pushed back against the idea. Friedman (1970) stated that the goal of the profit-centered business is "to use its resources and engage in activities designed to increase its profits" (para. 33). He asserted that businesses did not exist to fulfill the social goals of their owners or managers. Instead, they should only focus on legally earning a profit for their owners (Wishloff, 2009).

Friedman's remarks echoed the sentiment of the neoliberal school of economic thought that was championed by well-known economists and philosophers such as Friedrich Hayek and Ludwig von Mises. Within this paradigm, the concept of a business acting to achieve an idealistic notion of the public good was foreign (Adegbite et al., 2012; Polany-Levitt, 2012). Instead, business owners should work to maximize the

profitability of their organizations and then the individual investors can use their share of those profits to achieve their own objectives.

This introduces the final criticism of the socially responsible investing movement. Is it ethical to use investors' money in a method that will not maximize profit? The neoliberal school of thought would assert that it is a violation of the fiduciary duty of the business leader to use investor money to achieve any objectives that were not aligned with the goal of profit maximization (Adegbite et al., 2012; Polany-Levitt, 2012). Under this assumption, the business leaders should work to maximize the return for their investors, and the investors can then use their share of the business profits to do the good works that they choose (Wishloff, 2009).

Potential investors should carefully consider each of the common criticisms against socially responsible investing before making an investment choice. The researcher developed the questions and related hypotheses of the project to assist with this critical analysis. No project could fully address each of these concerns. However, the researcher designed this project to provide a stepping-off point for this analysis.

Socially Responsible Direct Investments

Investment decisions should be well aligned with strategic objectives (Elgazzar, Tipi, Hubbard, & Leach, 2012; Girardi, 2013). In addition, it has been suggested that investments made by Christians should also reflect the attitudes and teachings that are consistent with the life and teachings of Jesus (Van Duzer, 2010; Wishloff, 2009). With this in mind, some will turn to direct investments that are socially responsible. There are several types of investments that fall within this category. The primary types of direct

investments include: (a) business ventures, (b) community improvement projects, and (c) economic development programs.

Business Ventures

The central focus of most businesses is to earn a profit (Garrison et al., 2015). Therefore, decisions regarding investments in new lines or business, expansions of existing operations, or purchases of other entities will generally focus on quantitative measures such as return on investment, payback period, or net present value (Armeanu, Enciu, & Poanta, 2011; Chin, Wu, & Hsieh, 2013). However, it is possible for a business venture to be both profitable and beneficial to society.

Van Duzer (2010) asserted that Christian leaders should ask themselves “how can I best deploy my resources to (1) enable this community to flourish, and (2) provide opportunities for my employees to engage in meaningful and creative work?” (p. 152). When this union of profitability and benevolence is achieved, the project would assist the organization to achieve its strategic objectives of being financially and spiritually successful. Several researchers have discussed the socially responsible actions of business owners and the organizations that they lead when forming new ventures (Ahmad & Ramayah, 2012; Wang & Bansal, 2012).

Overall, the reviews of the business ventures with socially responsible goals have been positive (Myrah & Odinsky-Zec, 2013; Wang & Bansal, 2012). However, new business ventures with socially responsible goals in emerging markets seem to struggle more with balancing profitability and good works (Ahmad & Ramayah, 2012). When those two items collide, it appears that the owners have moved toward profitability so the

business can remain open (Ahmad & Ramayah, 2012). Those leaders may hope to return to their original goal of profitability and good works, but they must become profitable if they are going to be able to continue.

Another issue concerning the social responsibility of business ventures is the way that the owners define social responsibility. For example, is a firm that develops new military technology providing a socially responsible product? From the perspective of defending the country and those who cannot defend themselves while reducing the overall cost of product development to the taxpayers, then it would seem that these organizations meet Van Duzer's (2010) criteria. However, some could argue that these products were not socially responsible because of their potentially negative uses.

There have been several joint ventures in the past 15 years that have produced these types of products. For example, the In-Q-Tel program was a joint venture between the US Central Intelligence Agency and various private Silicone Valley businesses (Reinert, 2013). The joint venture funded 37 startup companies from 2003 to 2012, and those companies helped to develop commercially-focused technologies such as wearable cameras, tracking devices, and encryption software (Reinert, 2013). Each of those items had both civilian and governmental applications. Another example was OnPoint Technologies. This partnership between the US Army and the RAND Corporation developed portable energy generating sources that could easily be carried by an individual (Chadwick, 2013). Those energy sources could be used by civilians in areas without easy access to electricity, but they could also be employed by soldiers on the field of combat.

In each of these examples, the business owners could state they were providing a good that was helping their communities either directly or indirectly. However, the items also had military applications that some investors or portfolio managers may find objectionable. Therefore, it is necessary to consider how the business owners define their socially responsible goals when examining the efficacy of these types of business ventures.

Projects

A great deal of scholarly literature regarding strategic investment has dealt with those decisions made by for-profit organizations (Bustamonte, 2015; Hill, 2010). However, other types of organizations, such as not-for-profit and governmental organizations (NPGOs), also make these types of decisions (Chalmers & Balan-Vnuk, 2013; Clark, 2012). One type of investment commonly made by NPGOs is community development projects.

Community development projects provide expenditures for items such as playgrounds, community health and welfare programs, and engagement initiatives (Gqaji & Ptak, 2013; Ljunggren, Huang, & Johansson, 2014; Warren, Wyss, Shakarishvili, Atun, & Savigny, 2013). These projects do not have a direct financial benefit to the organization. However, they are still quite valuable to those receiving the services. In addition, they help to enhance the social capital in the area where they are employed (Labonne & Chase, 2011). Community development projects are also aligned with Van Duzer's (2010) central thesis that organizations should seek to help their community and employees to flourish.

Programs

Economic development programs are frequently funded by NPGOs (Carley, Lawrence, Brown, Nourafshan, & Benami, 2011; Vanderzaag, 2013). However, some businesses undertake them as well (Leisinger, 2007; Vanderzaag, 2013). Regardless of the source of the funds, these programs provide an influx of money into an area to develop it for business growth or financial revival (Brückner & Tuladhar, 2014).

The goals of economic development funds can be achieved by providing direct financial incentives to local businesses (Chowdhury & Mukhopadhaya, 2012; Corsetti, Meier, & Müller, 2012) or by addressing social concerns such as the health, equality, and education of those living and working in the communities (DeJaeghere & Wiger, 2013; Ricca, Prosnitz, Perry, Edward, Morrow, Ernst, & Ryan, 2011). An example of a socially responsible economic development project would be an initiative to train local residents to be effective business leaders and to provide them with microfinance loans to develop their organizations. Other types of programs might attempt to address issues such as pregnancy mortality rates or gender inequality in areas of employment training and education (DeJaeghere & Wiger, 2013; Ricca et al., 2011). In addition to meeting their primary goals, these types of programs are also well-aligned with Van Duzer's (2010) goals for the Christian leader and his or her organization.

Types of Socially Responsible Funds

Successful direct investments in socially responsible ventures, projects, or programs require significant financial expenditures, managerial expertise, and time. However, not all organizations have the ability to fully-fund and lead these types of

projects. In addition, individual investors are often not in the position to plan or fund them. One way of addressing this issue is using socially responsible investment funds.

Those who provide socially responsible investment funds structure them like traditional mutual funds. They invest in companies that meet a certain set of investment criteria. Unlike traditional mutual funds, socially responsible investment funds only invest in those businesses that support the ideals of the individual investors (Fitzpatrick, Church, & Hasse, 2012; Renneboog, Hurst, & Zhang, 2011). Socially responsible investment funds allow investors to incorporate their social goals into the investment decision-making process (Ooi & Lajbcygier, 2013). This is accomplished by following an investment methodology of excluding the stocks of “otherwise attractive companies from an investor’s portfolio because the companies are judged to be socially irresponsible, and including the securities of certain otherwise unattractive companies because they are judged to be behaving in a socially laudable way” (Langbein & Posner, 1980, p. 73).

The first formal socially responsible investment criteria in the United States were established in the 1700s. During that time, leaders with the Methodist and Quaker religious groups developed a set of screening criteria to avoid investing church money into businesses that participated in undesirable behaviors (Dossa & Kaeufer, 2014). The initial behavior that targeted by the church investors was the participation in slave trade (Schueth, 2003). The churches opposed this activity, and they did want to invest their money in companies that supported it. Later, other items such as military or war-related

products, tobacco, and alcohol became common screens for these types of organizations (Dossa & Kaeufer, 2014).

Individual investment advisors did not convert the original socially responsible investment criteria into a mutual fund commonly used today. Instead, those investment advisors would specifically tailor the portfolios of their clients to meet their unique screening characteristics (Dossa & Kaeufer, 2014; Schueth, 2003). However, many of the elements of these early investment criteria can be found in modern socially responsible investment funds (Viviers & Eccles, 2012). For example, most modern socially responsible investment funds utilize at least one of the following techniques attributed to the original socially responsible investing ideals from 300 years ago: (a) screening, (b) shareholder advocacy, and (c) community investing (Schueth, 2003).

Screening helps to make certain the companies selected for investment meet the portfolio's criteria (Viviers & Eccles, 2013). In addition, shareholder advocacy helps to ensure target companies are conducting themselves in a manner acceptable to the investors (Clinebell, 2013). Finally, focusing on businesses that invest at least part of the proceeds from their activities into the lives of their workers and the communities where they are located is an important consideration for many modern socially responsible investment funds (Schueth, 2003).

The use of socially responsible investment funds has grown drastically in the past 30 years (Hayes, 2005; Viviers & Eccles, 2012). Blanchett (2010) estimated that socially responsible investment funds comprised approximately one-tenth of all mutual fund

investments in the United States. This means that socially responsible mutual funds now have around \$800 billion in total net assets (Blanchett, 2010; Climent & Soriano, 2011).

Minor (2007) asserted that 20% of investors now consider themselves to be socially responsible investors. In addition, socially responsible investment funds are especially attractive to those in the baby boomer generation (Okere, Latiff-Zaman, & Maloney, 2008). That category of investors can have a significant influence on the product offerings from the investment community and other types of businesses because of its size and financial strength (Benson & Connell, 2014).

Socially responsible investment funds are not homogeneous. Just as there are a variety of beliefs and ideals in the world, there are a many different types of socially responsible investment funds from which investors can choose. The three largest categories of socially responsible investment funds are: (a) environmental funds, (b) ethics-based funds, and (c) religious-based funds (Ito, Managi, & Matsuda, 2013).

Each fund will use a different set of criteria to choose companies for investment, but the basic methodology followed by the funds is the same. Professional fund managers utilize screening methods to determine which companies receive investments (Colle & York, 2009; Viviers & Eccles, 2012). A brief review of each type of socially responsible investment fund will assist in building the model for the project.

Environmental Funds

Environmental investment funds or “green funds” (Mallett & Michelson, 2010, p. 395) focus on companies that have proven records of environmentally friendly investments and operations. Concern about environmental issues such as pollution,

deforestation, clean water, and climate change has grown in recent years (Muñoz, Vargas, & Marco, 2014). Among those factors, climate change has been recognized as the greatest environmental issue facing the global economy (Climent & Soriano, 2011). Many of the socially responsible investment funds with environmental focus will closely examine the activities of a company to determine if those activities are contributing to the estimated causes of climate change (Sievänen, Rita, & Scholtens, 2013). Managers of environmental investment funds employ screening criteria to determine if a company's actions meet the threshold for investment. If a company meets the environmentally friendly criteria, then it will be considered for inclusion in the fund (Muñoz et al., 2014).

Companies such as timbering or coal mining businesses are not generally included in environmentally focused mutual funds because they do not meet the screening criteria of the fund managers (Muñoz et al., 2014). Investor preferences determine the specific environmental focus of the fund (Leverett, 2014). For example, the fund may have investment criteria that directs the fund manager to focus on making investments in companies that have favorable records on issues such as deforestation or global warming (Muñoz et al., 2014). However, these types of funds often seek to make investments in companies with limited environmental footprints and positive overall environmental responsibility (Dam & Heijdra, 2011).

Ethics-based Funds

Funds that invest in ethics-based causes evaluate the actions of companies to determine if the organizations are being good corporate citizens. The concept of corporate social responsibility is a large element of ethics-based funds (Amazeen, 2011;

Uysal & Tsetsura, 2015). This includes items such as employee treatment, corporate transparency, and pay disparity (Chasan & Murphy, 2015).

Investing in companies based on corporate social responsibility ratings and managerial actions was traditionally not a major investment market for mutual funds (Cabello, Ruiz, Perez-Gladish, & Mendez-Rodriguez, 2014). However, a number of examples of corporate mismanagement and managerial greed emerged during the financial crisis in the late 2000s. Companies such as Enron, Global Crossing, and Lehman Brothers became examples of how not to ethically manage an organization (Carroll, Lipartito, Post, Werhane, & Goodpaster, 2012). As a reaction against these items, the desire among consumers to invest in organizations that demonstrated positive corporate social responsibility has increased (Cabello et al., 2014).

Companies that have higher corporate social responsibility ratings are more likely to be included in the ethics-based funds (Malik, 2015). If fund managers decide the firms are behaving ethically and treat their employees well, then those companies will be candidates for inclusion (Amazeen, 2011; Cabello et al., 2014). The largest mutual fund with a focus on ethical activities is the Parnassus Core Equity Fund. This fund had nearly \$12 billion in net assets as of June 30, 2015 (Parnassus, 2015). The fund's managers screen out any companies with poor corporate social responsibility ratings as well as those that operate in key industries such as alcohol, tobacco, and nuclear power production, and the fund received a five-star rating from Morningstar (Morningstar, 2015).

Religious-based Funds

The final category of socially responsible investment funds is religious-based funds. The practice of religion has been associated with the tendency to follow rules, honor commitments, and respect rules and laws (Anderson, 1988). Religious-based funds are an extension of these qualities into the investment arena. The screening criteria used by these funds are based on the religious beliefs that they are attempting to recognize. There are different types of religious-based mutual funds. However, the three largest religions represented by religious-based mutual funds in the United States are Christianity, Judaism, and Islam (Ferruz et al., 2012). These funds will not purchase stock in companies that violate the teachings of the specific religion. A closer examination of each of the subtypes of religious-based funds follows.

Christianity

The term Christian is quite broad, and it includes a variety of denominations under this umbrella term. Morningstar classifies all Christian-based mutual funds within the same category (Kathman, 2012). The multitude of denominational teachings and approaches to Christian investing has the potential to make comparison of Christian-based investment funds difficult. For the purpose of this study, Christian was defined broadly to include all faiths associated with one or more Christian denominations (i.e., Catholic, Protestant, and Evangelical). These funds will generally use criteria based on their beliefs to screen companies for investment. The companies that provide goods or services that are inconsistent with the teachings of Christianity are excluded (Hood, Nofsinger, & Varma, 2014). Those companies that meet specific behavioral criteria are

included in the Christian-based funds (Hood et al., 2014). The largest Christian-based mutual funds are found in the fund families provided by the Ava Maria Mutual Funds Company and the GuideStone Funds Company (Ava Maria Mutual Funds Company, 2015; GuideStone Funds Company, 2015). Those funds seek to invest in companies that honor the teachings of the Christian faith while providing a favorable return for their investors.

Judaism. The Jewish beliefs on investing were established in the writings found in the Old Testament as well as the Babylonian Talmudic teachings (Rowling, 2012). Essentially, Jewish investment practices stress the importance of asset diversification following a “1/3, 1/3, 1/3 recommendation” (Newfeld, 2014, p. 1). This recommendation is that one-third of an investor’s assets are invested in each of three areas: (a) land, (b) businesses, and (c) cash on hand or cash equivalents (Rowling, 2012). In order to achieve this goal, a Jewish investor would consider investing approximately two-thirds of his or her money in real-estate trusts (REITs) and stocks (Newfeld, 2014). The other one-third would be invested in cash or cash equivalent investments such as savings accounts, bonds, or certificates of deposit (Rowling, 2012). There are no specific requirements that Jewish-based funds pursue certain behavioral characteristics in their target companies. However, one of the largest Jewish-based investment funds is the AMIDEX35 Israel Mutual Fund. This fund invests exclusively in the 35 largest Israeli-owned businesses that are traded on exchanges in either the United States or Israel (AMIDEX, 2015). The fund is not diversified between industries, and it does not have additional behavioral screens that are found in other religious-based socially responsible

investment funds. Instead, the AMIDEX35 Israel Mutual Fund allows Jewish investors to invest in Israeli-owned companies that are expected to earn a positive return while supporting Jewish industry (AMIDEX, 2015).

Islam. Islamic-based funds use screening techniques to ensure that the companies in which they invest do not violate the teachings of Islam. Examples of companies and industries that are generally avoided by Islamic-based funds are those in the financial markets and those that produce or sell pork products (Clarke, 2015). Islamic-based mutual funds have only existed since 1994. In that year, the International Fiqh Academy issued a decree that relaxed the Sharia constraints on investing by Muslims (Hayat & Kraeussl, 2011). Since that time, more than 800 Islamic-based mutual funds have been introduced worldwide. Worldwide, those funds contain over \$1 trillion in net assets (Abdelsalam et al., 2014). Islamic-based mutual funds are more prevalent outside of the United States because the domestic market for them has not yet reached a level of maturity (Abdelsalam et al., 2014), but they are continuing to grow each year. The family of mutual funds known as Amana Mutual Funds represent the oldest and largest group of Islamic-based mutual funds offered in the United States (Saturna Capital Corporation, 2015). Those funds have net assets of approximately \$3.5 billion as of September 30, 2015 (Saturna Capital Corporation, 2015).

Overlapping Objectives

Socially responsible investment funds are not created, and do not exist, in a vacuum. Those funds interact with changes in the global market. The fund managers of

those funds must also analyze the entrance and exit of companies to and from the equities market as they select the stocks in which they will invest (Child, 2015).

Therefore, it is possible that the objectives and holdings of different types of socially responsible investment funds can overlap. For example, environmental concerns can also be aligned with religious beliefs. In addition, ethics-based funds can have elements found in religious-based funds such as prohibitions against companies in industries such as gambling or pornography. Finally, it is conceivable that an ethics-based fund would also be concerned about the environmental record of a company before making an investment decision. Investors should consider the possibility of overlapping objectives when analyzing socially responsible investment funds.

Screening Techniques

Most of the managers of socially responsible investment funds utilize some sort of screening technique to choose the companies that are included in the funds. There are two basic screening methods used by the funds: (a) positive screening and (b) negative screening (Beer, Estes, & Deshayes, 2014). Positive screening involves selecting firms that meet a specific set of requirements. Negative screening is the process of excluding companies from investments due to items such as the products they provide and the services they offer. It has been suggested that the use of these types of screens have a negative effect on the overall performance of the funds that employ them (Capelle-Blancard & Monjon, 2014; Sanchez & Sotorrio, 2014). In addition, screened funds have ratios and fund sizes that are significantly different than funds that do not use screening filters. For example, Sanchez and Sotorrio (2014) found that investment funds using

positive or negative screening techniques had average expense ratios that were nearly 20% higher than unscreened funds. Other researchers have determined that screened funds generally have lower turnover ratios, are more volatile, and have smaller net assets than unscreened funds (Beer et al., 2014; Capelle-Blacard & Monjon, 2014).

The idea of using mutual funds to facilitate socially responsible investing has existed for over 30 years (Viviers & Eccles, 2012). Some consider socially responsible investment funds to be a narrow-minded and inefficient investment approach (Farmen & van der Wijst, 2005). However, those types of funds have grown in popularity and acceptance over the past two decades (Adams & Ahmed, 2013; Blanchett, 2010).

This growth in the availability of socially responsible mutual funds led Dunfee (2003) to conclude that socially responsible investing “has the potential to become a mainstream phenomenon practiced by ordinary investors and reflected in the investment policies of retirement plans and mutual funds” (p. 252). With over \$200 billion dollars in holdings, socially responsible investment funds now represent a growing percentage of the total money invested in mutual funds (Blanchett, 2010). In response to investor demands for these types of products, a number of investment companies are providing several socially responsible investing options (Glassman, 2012).

Socially responsible investment funds have been the focus of considerable research. Most of the research focuses on: (a) the primary influences and internal workings of the funds or (b) the yields generated by the fund. Each of these elements is important to an understanding of the design and performance of socially responsible

mutual funds. However, it seems that the yields generated by the funds would be the more important area to consider.

Both of these areas will be discussed in this review. A brief review of the discussion of the primary influences will be provided first. Afterward, a thorough overview of the current body of research regarding the yields of socially responsible mutual funds will be provided. The second analysis has two main parts: (a) the returns of socially responsible mutual funds and (b) the returns of faith-based mutual funds.

The researcher designed this analysis to provide a basis for addressing the research questions of the project. There are a variety of investing approaches and research results in the current body of literature regarding socially responsible investment funds. This discussion will highlight conflicting research results and gaps in the current body of literature that this project was designed to help fill.

Influences and Design

One of the areas on which socially responsible investment fund research has focused has been on the types of funds available and the methodology used to select companies for inclusion or exclusion in them. Research findings and conclusions on these two areas have been inconsistent or contradictory. For example, Berry and Junkus (2013) asserted that environmental and sustainability issues were the driving forces behind the growth of socially responsible investment funds. However, Blanchett (2010) and Ghoul and Karam (2007) insisted that religious institutions were leading the development. Others have also joined the discussion, but no consensus has emerged.

Part of the reason for this disparity of opinions is the way that the researchers classified the funds. For example, a fund that is designed to focus on investing in companies with favorable environmental records (i.e., an environmentally-focused mutual fund) may also be classified by some researchers to support certain types of religious teachings (i.e., a faith-based mutual fund). Generally, using classifications such as those provided by Morningstar helps to reduce this ambiguity. However, it does not always settle the debate. This often leads researchers to use alternative classification systems or lists provided by independent organizations such as the Social Investment Forum to confirm a mutual fund's proper classification.

Research on Yields

A significant portion of the scholarly research on socially responsible investment funds has focused on the yields they have provided to investors. There is a great deal of diversity in the research findings on those types of funds. There are four possible outcomes for research on the yields of socially responsible mutual funds: (a) favorable results, (b) unfavorable results, (c) mixed results, and (d) findings of no difference.

In the remainder of this section, examples of recent research studies regarding the efficacy of choosing socially responsible mutual funds will be provided. The studies will be divided according to the findings of the authors using the classification system listed above. In addition, the studies will also be divided according to the type of fund being examined. Socially responsible mutual funds will be discussed first, and then faith-based mutual funds will be discussed.

For the purpose of discussing the faith-based mutual funds, studies that primarily examined either Christian-focused or Islamic-focused funds will be presented. Those two religions represent the largest portion of faith-based socially responsible mutual funds (Adams & Ahmed, 2013). Therefore, research findings on those types of faith-based socially responsible mutual funds will be discussed.

Favorable Results for All Socially Responsible Funds

A number of research studies have found favorable results when examining the yields of socially responsible mutual funds. Three of the more-recent studies will be discussed here. Those studies provide a general overview of the research designs employed and the findings of the authors.

Gil-Bazo, Ruiz-Verdú, and Santos. Gil-Bazo, Ruiz-Verdú, and Santos (2010) examined the returns of socially responsible mutual funds. They used the Center for Research in Securities Prices Survivorship-Bias Free US Mutual Fund Database (CRSP Database) to select the funds included in their study and to obtain the data used for their analysis. The time frame for the study was December 1994 through December 2005.

The authors did not distinguish between the different types of socially responsible mutual funds. Instead, all funds classified as socially responsible by the CRSP Database were included in the analysis. All other funds in the CRSP Database, labeled as “conventional funds” (Gil-Bazo, Ruiz-Verdú, & Santos, 2010, p. 247), were used as the benchmark for the socially responsible mutual funds.

The researchers calculated the mean, median, and standard deviation for each of the key statistics selected by the researchers. The key statistics studied were: (a) expense

ratio, (b) total expense load percentage, (c) age of funds, (d) turnover rate, (e) net assets, and (f) gross returns (Gil-Bazo et al., 2010). The authors found a statistically significant difference between the two groups of funds. They found that the socially responsible mutual funds outperformed their benchmark funds in both before-fee and after-fee returns (Gil-Bazo et al., 2010).

A closer examination of the data by the authors helped them to explain the variance found between the socially responsible mutual funds and the conventional mutual funds. It also assisted the researchers to identify other trends in the data. First, the researchers found that socially responsible mutual funds that managed by companies that specialize in those types of funds consistently outperformed the conventional funds. In addition, they found that the expenses between the different types of funds were not different by a statistically significant amount. Finally, the authors found that socially responsible funds managed by companies that did not specialize in that type of fund underperformed their benchmarks and charged higher fees. These results led the authors to recommend that would-be socially responsible investors consider the type of company managing the mutual funds when making investment decisions (Gil-Bazo et al., 2010). According to the researchers' data, socially responsible mutual funds have the potential to yield substantially higher returns. However, the investor needs to find the right company to manage the mutual funds.

Ito, Managi, and Matsuda. Ito, Managi, and Matsuda (2013) approached the analysis of socially responsible mutual funds a bit differently than Gil-Bazo, Ruiz-Verdú, and Santos (2010). Instead of examining only socially responsible mutual funds versus

conventional mutual funds, the authors also provided additional analysis of environmentally friendly mutual funds. This provided three classes of funds to examine.

The authors also accounted for the risk inherent in each of the groups of funds as part of their analysis. They measured this risk by the average alpha value for each of the funds groups (Ito, Managi, & Matsuda, 2013). The researchers stated that most research studies on socially responsible investing were not adequately addressing the risk. They believed that their analysis would provide a better overall picture of the effectiveness of each type of fund (Ito et al., 2013).

Finally, the authors included funds from the United States (US) as well as funds from the European Union (EU) in their analysis. They did not combine the funds into a single set of data. Instead, they performed two sets of calculations (i.e., US and EU).

The researchers found that socially responsible funds, as a group, outperformed conventional funds in a statistically significant manner. These findings were consistent among funds from the US as well as those from the EU. However, the findings for environmentally friendly funds were not as favorable. Those funds underperformed their benchmarks in both regions. These findings led the researchers to conclude that socially responsible funds, excluding environmentally focused funds, had the potential to provide returns that were significantly better than their benchmarks. The findings also led to the conclusion that environmentally friendly mutual funds lowered the overall performance of the total body of socially responsible mutual funds. Without the environmentally friendly funds, it is reasonable to assume that the overall performance of the socially

responsible investment funds in the study would have been even better than what the researchers found.

Slapikaite and Tamosiuniene. Slapikaite and Tamosiuniene (2013) examined the returns of socially responsible mutual funds between 2001 and 2012. Either Morningstar or the Natural Investments Social Rating (NISR) system classified the funds they used in their review as socially responsible. The authors did not describe the different types of socially responsible mutual funds that were selected for inclusion in the study. They only stated that they were classified as socially responsible investments. A total of 40 socially responsible mutual funds were selected for inclusion in the study (Slapikaite & Tamosiuniene, 2013).

Unlike most previous studies, Slapikaite and Tamosiuniene (2013) used two different benchmark rates to examine the returns of the socially responsible mutual funds. They used the Morningstar Moderate Target Risk (MMTR) benchmark and the Standard and Poor's 500 (S&P 500) Index to perform their analysis. The researchers benchmarked 29 of the socially responsible mutual funds against the S&P 500 Index, while the remaining 11 socially responsible mutual funds were compared to the MMTR benchmark. Chegut, Schenk, and Scholtens (2011) recommended the use of multiple benchmarks because it has the potential to provide more-extensive analysis of socially responsible mutual funds.

Overall, the researchers found that the socially responsible mutual funds outperformed both of the benchmark rates. In addition, they found that the socially responsible mutual funds “recovered faster and more significantly after the world

financial crises” (Slapikaite & Tamosiuniene, 2013, p. 209) in the stock market from 2007 to 2009. These results led the researchers to conclude that socially responsible mutual funds provided a viable and profitable investment alternative.

Unfavorable Results for All Socially Responsible Mutual Funds

Another possible outcome of research regarding socially responsible mutual funds is that the results will be unfavorable. That means that the socially responsible mutual funds examined underperformed their benchmarks. Three studies that produced unfavorable results will be discussed here.

Climent and Soriano. Climent and Soriano (2011) studied the returns of environmentally focused mutual funds and socially responsible mutual funds. They compared those returns to a group of benchmark mutual funds that did not have any type of socially responsible or environmental investment agenda. The timeframe of the study was 1987 to 2009.

The authors selected the socially responsible funds from the CRSP Database (Climent & Soriano, 2011). The authors selected funds from that database listed as being socially responsible, including those that were environmentally focused, for inclusion in the study. They then divided the data between the funds focused on environmental issues and all other types of socially responsible investments (e.g., religious, ethical, governance, and so on). Finally, they employed the Bloomberg financial database to confirm that the funds selected were properly classified as either environmental or socially responsible.

The authors selected a total of 21 mutual funds for their test group, and 28 mutual funds for their control group. Seven of the mutual funds in the test group were environmentally focused, and the remaining 14 funds were non-environmental socially responsible mutual funds. The authors used the after-fee returns of the funds for the analysis. This amount provided a better indication of the actual yield of a fund because it represented the amount returned to the investor after the fund manager had been compensated.

Climent and Soriano (2011) used Carhart's (1997) four-factor model to analyze the data. Because of the study design, the authors had three sets of comparisons of the mutual funds: (a) environmental to socially responsible, (b) environmental to conventional, and (c) socially responsible to conventional. The first result was that mutual funds with an environmental focus underperformed the funds with a socially responsible focus. Next, the researchers found that environmental mutual funds underperformed conventional funds. Finally, they determined that socially responsible mutual funds underperformed conventional mutual funds. All of the differences identified by the researchers were statistically significant.

The findings of Climent and Soriano (2011) discouraged the use of either environmentally focused or socially responsible mutual funds. The returns of those funds were consistently lower than conventional mutual funds without those types of investment criteria. The study of Climent and Soriano (2011) had a rather small sample size (i.e., 21 total funds). It is possible that a larger sample of funds or the further

segmentation of the group of socially responsible mutual funds might have yielded different results.

Cortez, Silva, and Areal. Cortez, Silva, and Areal (2012) studied the returns of internationally focused socially responsible mutual funds in the United States and Europe. The authors chose to examine socially responsible mutual funds in those two regions for four specific reasons. First, the internationally focused socially responsible mutual funds in the United States have the longest tenure of any major fund markets in the world (Cortez, Silva, & Areal, 2012). This longevity has led to a maturity in the market that has not been achieved in other regions. In addition, the European socially responsible global mutual fund market, which did not begin until the mid-1980s, has 60% more socially responsible global mutual funds than the United States (Cortez et al., 2012). While the total value of assets under management for the European funds is less than half of the similar funds in the United States, it is growing at a faster rate (Cortez et al., 2012). In addition, the socially responsible mutual funds in the two regions generally use different types of screens. Most of the funds based in the United States employ negative screens, while those based in Europe use positive screening techniques (Cortez et al., 2012). The authors hypothesized that these differences would yield different types of returns for the funds. Finally, the researchers asserted that most prior research on socially responsible investing had been limited to looking only at funds that invested in domestic stocks in each host country. This study was designed to help fill this perceived gap in the current body of literature (Cortez et al., 2012).

The researchers gathered their sample data from two databases. For global mutual funds in the United States, they used a listing provided by the Social Investment Forum. For European internationally focused socially responsible mutual funds, the Avanzi Research database was used. The authors only selected the oldest of each class of funds identified for inclusion in their study. For example, if more than one socially responsible large-cap fund were found, then only the oldest fund would be used in the study. Using this methodology, the authors selected a total of 46 socially responsible mutual funds for inclusion in the study. Seven of the funds were from the United States, and the remaining 39 funds were from Europe. The authors also divided the European funds between different countries. Funds were selected from each the following countries: (a) Austria, (b) Belgium, (c) France, (d) Germany, (e) Italy, (f) the Netherlands, and (g) the United Kingdom.

The benchmark return chosen for the study was the Morgan Stanley Capital International All-Country World Index (MSCI AWI). The researchers used a direct comparison of the selected funds to their benchmarks for their initial analysis. They then performed Carhart's (1997) four-factor analysis to estimate the alphas of the funds given the past and expected market momentum. Using both types of analysis, the researchers arrived at the same results. They found that internationally focused socially responsible mutual funds in the United States underperformed their peers in Europe as well as their benchmark index. In addition, they found that European global socially responsible mutual funds did not underperform their benchmark index. Essentially, those mutual funds were able to match the MSCI AWI. The authors contributed the negative screening

employed by most US-based global socially responsible mutual funds to the comparatively poor performance of the funds.

Mallett and Michelson. Mallett and Michelson (2010) designed a study to test the efficacy of choosing either environmentally focused mutual funds, other types of socially responsible mutual funds, or index funds without a similar type of investment focus. The timeframe used for their study was 1998 through 2007. The authors contended that a direct comparison of these types of mutual funds, in the manner in which they planned to analyze them, had not been previously accomplished.

The researchers discussed the assumption prevalent in the current body of scholarly literature that the returns of the environmentally focused mutual funds, or “green funds” (Mallett & Michelson, 2010, p. 1083), would be less favorable than the returns of the entire body of socially responsible funds. This was because green funds are a subset of the total universe of socially responsible mutual funds available to investors. The authors did not believe that this assumption was justifiable, and they hypothesized that they would find no difference in the performance of the two groups of socially responsible mutual funds.

To test this theory, they designed a study that would examine the yields of green funds and compare them to a group of socially responsible mutual funds that did not employ an environmental focus. The researchers then compared the yields of these two groups of funds to a benchmark consisting of index funds selected by the authors. This overall design was similar to the one employed by Climent and Soriano (2011).

However, Mallett and Michelson (2010) used a different method of gathering the data and analyzing the returns.

Mallett and Michelson (2010) selected their sample of funds using the Morningstar database of mutual funds. They searched for all funds that met their criteria as of July 2008. The authors identified six environmentally focused socially responsible mutual funds, 43 socially responsible mutual funds without environmental focuses, and 25 index funds to be used as a benchmark for analysis. They then analyzed the data gathered using regression analysis and the non-parametric Mann-Whitney testing.

The researchers concluded that environmentally focused socially responsible mutual funds performed slightly better than socially responsible mutual funds and similar to the benchmark index funds. In addition, they found that socially responsible mutual funds that did not include environmentally focused funds underperformed the benchmark index funds during the same period. This led the researchers to conclude that investing in socially responsible mutual funds is likely to lead to lower yields for investors than if they invested in index funds. The authors stopped short of endorsing environmentally focused mutual funds because they believed that the sample size of their study was too small to make the results generalizable.

Mixed Results for All Socially Responsible Mutual Funds

A third option for research on the yields of socially responsible mutual funds is that the findings will be mixed. For the purpose of this discussion, mixed research findings are those that have both favorable and unfavorable elements. For example, the

author might find that the funds do better in certain types of markets than in others.

Three research studies with mixed results will be presented here.

Branch, Ma, Shafa, and Shaw. Branch, Ma, Shafa, and Shaw (2014) examined the performance of socially responsible mutual funds during a relatively brief period. The time frame for the study was January 2008 through March 2010 (Branch, Ma, Shafa, & Shaw, 2014). This period was chosen by the researchers due to the extreme volatility experienced by the US stock markets during that time. The stock market experienced a broad sell-off at the beginning of the study period, and it rebounded near the end. The purpose of the study was to determine how well socially responsible mutual funds performed during times of extreme economic uncertainty.

To accomplish their analysis, the authors created a portfolio of mutual funds consisting of funds classified by Morningstar as socially conscious. The researchers then compared this portfolio to a control portfolio developed by the researchers. The control portfolio was comprised of mutual funds with similar investment strategies and with similar total assets, expense ratios, age, and turnover percentage compared to the socially responsible portfolio.

In addition, the researchers compared the return of a socially responsible exchange traded fund to the Center for Research in Securities Prices market index (CRSP market index). The socially responsible exchange traded fund selected was the iShares MSCI KLD 400 Social fund, which is designed to reflect the Domini 400 index (Branch et al., 2014). This multi-dimensional testing allowed the authors to identify any errors that may have developed in the creation of the socially responsible and control portfolios.

The authors found that the return of the created socially responsible portfolio was statistically significantly lower than the return of their control portfolio. Despite having nearly identical characteristics, the socially responsible portfolio underperformed the control portfolio. However, the analysis of the index funds yielded the opposite result. The authors found that the socially responsible index fund outperformed the non-socially responsible index fund. These conflicting results led the researchers to call for additional research on this area. In addition, they recognized that different results may have been obtained if the study period employed had been longer than 27 months.

Chang and Witte. Chang and Witte (2010) examined 184 socially responsible mutual funds traded in the US market as of March 31, 2008. The authors used the Morningstar rating system to identify and classify the funds. They did not differentiate between the different types of funds (e.g., environmental, religious, and so on). Instead, they grouped all socially responsible mutual funds together for analysis.

The researchers then compared the selected funds to their benchmark averages to determine how they performed over 3-, 5-, 10-, and 15-year periods. The benchmark used in this study was the average of all mutual funds for each area and time period examined. Additional factors considered by the researchers were the annual turnover of holdings in the funds, the expense ratios of the funds, and the tax cost ratio of the funds.

The researchers' analysis found mixed results with regard to the socially responsible mutual funds. Overall, the funds underperformed their benchmark averages during the period reviewed. However, the socially responsible mutual funds had lower expense ratios, annual turnover rates, and tax cost ratios than their benchmarks. Despite

the lower costs, the authors concluded that the socially responsible mutual funds, as a group, were not a better financial investment than mutual funds without a socially responsible focus.

However, Chang and Witte (2010) also found that some types of socially responsible mutual funds outperformed their benchmark returns over a three-year period. Over that period, the returns of balanced and fixed-income socially responsible funds outperformed their benchmarks while also yielding lower costs, tax ratios, and turnover rates. These results led the authors to conclude, “there is not a fixed or homogeneous cost associated with socially responsible investing” (Chang & Witte, 2010, p.16). This did not dissuade the authors from their conclusion that socially responsible investing was not an efficacious use of investment dollars. However, it did cause them to recognize that not all socially responsible mutual funds are similar and that favorable returns for individual funds, and groups of funds, might make the socially responsible funds a viable option for would-be socially responsible investors.

Muñoz, Vargas, and Marco. Muñoz, Vargas, and Marco (2014) examined two different groups of mutual funds. They evaluated socially responsible mutual funds and environmental mutual funds in the United States and European Union during the period of 1994 through 2013. The authors chose the environmental mutual funds based on the Morningstar classification of the funds as socially conscious and environmentally focused. They also chose the second group of socially responsible funds using the Morningstar rating system. The researchers constructed a portfolio of socially responsible funds that considered factors other than environmental factors (i.e., religious,

social, and governance). Finally, the authors constructed a matched sample of mutual funds to use as a benchmark for the different types of socially responsible mutual funds.

The researchers compared the constructed portfolios of funds on a number of factors in an attempt to make them as comparable as possible before beginning their analysis. The factors used to evaluate the different groups of fund portfolios were: (a) age of the fund, (b) fund manager tenure, (c) total net assets of the fund, and (d) management fees charged by the fund. Once the fund portfolios had been developed, they were then analyzed examining their returns during the study period. The length of the study period was chosen so that the authors could examine the performance of the groups of funds over two crisis periods (i.e., 2000 – 2002 and 2007 – 2009) as well as in non-crisis periods (Muñoz, Vargas, & Marco, 2014).

The authors divided their results by region (i.e., US and European Union). For United States-based funds, the authors found that environmentally focused mutual funds did not perform statistically different from the portfolio of other socially responsible mutual funds. In addition, they found that socially responsible mutual funds performed similar (i.e., no statistically significant difference) to their benchmarks during crisis periods. The researchers also discovered that the socially responsible mutual funds underperformed their benchmarks during non-crisis times.

The findings for European mutual funds were similar to the funds in the United States with regard to the comparison of environmentally focused funds and socially responsible funds (i.e., no statistically significant difference). However, the authors found that European socially responsible funds obtained “statically insignificant performance

irrespective of market conditions” (Muñoz et al., 2014, p. 566). Different screening techniques employed by the mutual funds in the different regions may have caused these differences. However, additional research will be needed to more closely examine that element of the study.

Results with No Difference for All Socially Responsible Mutual Funds

The final possible outcome for a research study on the yields of socially responsible mutual funds is that the researchers may find that there is no statistically significant difference between the yields of the socially responsible mutual funds and their benchmark funds. Three studies that generated mixed results are examined here.

Bauer, Koedijk, and Otten. Bauer, Koedijk, and Otten (2005) examined 103 socially responsible mutual funds in Germany, the United Kingdom, and the United States during the period of 1990 to 2001. The authors included all socially responsible funds under the umbrella term of “ethical funds” (Bauer et al., 2005, p. 1751). The funds chosen from two different databases. The socially responsible funds domiciled in the United States were selected from the CRSP Database. The funds from Germany and the United Kingdom were selected from the Datastream database.

Other mutual funds without socially responsible objectives were then selected from those same databases to provide a benchmark for analysis. The conventional funds were selected based on their country of origin and investment focus (i.e., domestic or international). For example, socially responsible mutual funds with a domestic focus from the United States were matched with all other domestic mutual funds in the CRSP Database that had a domestic investment focus.

The returns used by the authors were net of management fees. The deduction of the management fees helped to provide a better view of the net return of each fund. The researchers used the traditional capital asset pricing model and the four-factor model developed by Carhart (1997) to perform their analysis on the mutual funds.

After completing their analysis, the authors concluded that there was “no evidence of significant differences in risk-adjusted returns between ethical and conventional funds” (Bauer, Koedijk, & Otten, 2005, p.1751). The authors asserted that their analysis using the capital asset pricing model and Carhart’s (1997) four-factor model provided a better analysis of the different types of funds than previous studies. However, the use of the four-factor model assumes that the prior momentum of the fund will indicate its future direction (Carhart, 1997). It is possible that this will overstate or understate the true alpha value of the different types of funds.

Humphrey and Tan. Humphrey and Tan (2014) approached the analysis of socially responsible investments from a slightly different perspective than many previous studies. Many prior research studies examined the returns of current socially responsible mutual funds to index funds or related benchmarks. However, Humphrey and Tan (2014) decided to examine the impact of positive and negative screening on the performance of socially responsible mutual funds. To accomplish this goal, they created socially responsible portfolios that would mirror the larger equities market if certain types of screens were employed to either include (i.e., positive screening) or exclude (i.e., negative screening) the stocks of individual companies.

The researchers created four equity portfolios that they theorized would mirror the current body of all socially responsible mutual funds. They separated their created portfolios by the type of screening mechanism used to choose the individual stocks. They developed two portfolios formed through negative screening and two portfolios formed through positive screening. The authors then compared those portfolios to the returns of unscreened portfolios and used *t*-tests to determine if differences between the groups of funds existed.

Humphrey and Tan (2014) found no significant difference between the earnings of any of the created portfolios and their benchmarks. This led them to conclude, “a typical socially responsible fund will neither gain nor lose from screening its portfolio” (Humphrey & Tan, 2014, p.375). These results provide some amount of reassurance to investors that socially responsible investments can provide equivalent returns to mutual funds without socially responsible objectives. The use of the *t*-tests also provides a simple, yet effective, analysis of the returns of the different portfolios without attempting to consider items such as past fund momentum as part of the analysis.

Pinto, Lemme, and Leal. Pinto, Lemme, and Leal (2014) examined the returns of socially responsible mutual funds in Brazil. The authors chose Brazilian mutual funds because they believed most current research into socially responsible investing overlooked them. The Brazilian mutual fund market is the fourth largest mutual fund market in the world (Pinto, Lemme, & Leal, 2014), so the performance of socially responsible mutual funds in this market should provide additional information on how socially responsible mutual funds perform in that area.

Of the 13,417 mutual funds available to Brazilian investors in June 2013, only 11 of the funds had a socially responsible investment objective (Pinto et al., 2014). The authors used those 11 socially responsible mutual funds in their analysis. They did not separate the funds by type (e.g., large cap, small cap, and so on). Instead, all of the funds were included in a single group. The researchers then compared the funds to two major indices of Brazilian stock returns: (a) the Ibovespa index and (b) the IBrX index. The Ibovespa index contains 90% of the total assets under management in the Brazilian mutual fund market, and the IBrX index is representative of the 100 largest stocks in the Brazilian stock market (Pinto et al., 2014).

The authors found that the returns of the socially responsible mutual funds were no different from those of either of the benchmark indices. In addition, they found that the returns of the socially responsible mutual funds and each of the benchmarks were normally distributed. They also found that the net returns of the socially responsible mutual funds were not statistically significantly different from their benchmark returns. These findings led the authors to conclude that socially responsible mutual funds in the Brazilian market were not different than those of the larger market of mutual funds.

These results are encouraging to those who support the use of socially responsible mutual funds because they demonstrate that those funds are as efficacious as funds without socially responsible goals. However, the funds in the study represent a very small sample of the total assets under management in the Brazilian market (Pinto et al., 2014). In addition, the Brazilian socially responsible mutual fund market is relatively

young. It has only existed since 2001 (Pinto et al., 2014). An increase in the number of available socially responsible mutual funds might lead to different results.

Favorable Results of Faith-Based Mutual Funds

Faith-based socially responsible mutual funds are a segment of the larger body of socially responsible mutual funds. As the previous studies demonstrated, faith-based mutual funds are often grouped with other types of socially responsible mutual funds for analysis. However, there have been a few studies in the recent body of literature that have focused on the performance of faith-based mutual funds. One possibility for research on faith-based mutual funds is that the yields provided by those funds outperforms their benchmarks in a statistically significant manner. When this happens, the results are classified as favorable. Two research studies that generated favorable results regarding faith-based mutual funds will be discussed here.

Lyn and Zychowicz. Lyn and Zychowicz (2010) examined the returns of faith-based mutual funds during the period of 2001 through 2008. The initial list of funds included in the study was obtained from the Interfaith Center on Corporate Responsibility (ICCR). The authors then compared the list of 43 funds received from the ICCR to the ratings by Morningstar to determine if any of the funds needed to be removed from the sample. After analysis, the list was narrowed to 38 faith-based mutual funds. The mutual funds used for the analysis by Lyn and Zychowicz (2010) included Christian-based funds, Islamic-based funds, and funds tailored for other religions. No attempt was made by the researchers to differentiate the returns of the different types of religious-based funds. Instead, all of the funds were grouped and analyzed together.

The researchers chose the Standard and Poor's 500 (S&P 500) and the Domini 400 Social Index (DS400) as the benchmarks for their study. They then used a combination of techniques to analyze the data. The researchers used the Sharpe, Treynor, and Jensen ratios to analyze the performance of the funds relative to their benchmarks. This method of analysis was preferable to employing the four-factor model recommended by Carhart (1997) because it did not attempt to estimate the momentum in the market and risk overstating or understating the returns of the funds. The authors also used two different levels of alpha for their statistical analyses (i.e., $\alpha = .01$ and $\alpha = .05$). The use of two different levels helped to identify statistically significant relationships between the data without being too constrained.

The authors found that faith-based mutual funds performed statistically significantly better than the benchmark indices at the significance level of $\alpha = .05$. The superior performance against the S&P 500 Index led the researchers to conclude that investors in faith-based funds "did not sacrifice satisfactory economic returns by making ethical and socially responsible investing decisions based on their faith" (Lyn & Zychowicz, 2010, p. 142). In addition, the higher performance against the DS400 indicated that the faith-based mutual funds outperformed the index designed to measure the return on all socially responsible mutual funds. This implied that faith-based funds, as a group, were a more-attractive investment option among the field of socially responsible mutual funds.

Peifer. Peifer (2011) approached the analysis of religious-based mutual funds differently than most other researchers who have examined the returns of socially

responsible mutual funds. Rather than focus on historical returns of the funds, Peifer (2011) examined the stability of the assets and holdings of the funds from 1991 through 2007. To choose the mutual funds to include in his analysis, Peifer (2011) used the CRSP Database. The researcher initially identified nearly 200 faith-based mutual funds in the United States. However, he reduced the number of faith-based funds in his study to 72 after reviewing the data in the CRSP Database.

The CRSP Database contains information on current and terminated funds. The inclusion of terminated funds may misstate the actual performance and stability of funds since it includes funds that are no longer available to investors. However, Peifer's (2011) purpose was to provide an initial analysis of the concepts of fund stability, so the use of the CRSP Database did not invalidate his results. Instead, it will help point to future research on the area using only actively traded religious-based mutual funds.

Peifer (2011) used regression analysis as well as Carhart's (1997) four-factor analysis to examine the flow of investment assets in and out the funds. He was interested in seeing if negative returns by the funds in one period would correlate with outflows of assets in the preceding periods. This is a typical expectation for mutual funds (Peifer, 2011), but the study was designed to determine if religious-based mutual funds performed differently.

Peifer's (2011) analysis led him to conclude that this was not the case among religious-based mutual funds. Instead, he found that the religious-based mutual funds were much more stable than other types of socially responsible mutual funds and conventional mutual funds. His findings were consistent with the assertion by Etzioni

(2003) that religious affiliation would increase the dedication to fund holdings and overall fund stability.

Unfavorable Results for Faith-Based Mutual Funds

When the yield of a faith-based mutual fund is statistically significantly lower than its benchmark, then the results would be considered unfavorable. Unfavorable results would indicate that the use of a faith-based mutual fund might not be in the investor's best financial interest. Two studies that found unfavorable results for faith-based mutual funds are presented here.

Adams and Ahmed. Adams and Ahmed (2013) designed a study to measure the performance of faith-based mutual funds in the United States during the period of 1998 through 2009. The authors limited the population of mutual funds in their study to Christian-based mutual funds and Islamic-based mutual funds. They chose these two groups because they contained the largest number of funds in the United States market and because those were the two largest religious groups in the country (Adams & Ahmed, 2013). The researchers used the current body of socially responsible mutual funds that are not faith based and the body of all mutual funds in the United States as the benchmarks for their analysis.

Using the Morningstar database, the authors identified 518 faith-based mutual funds that were either Christian-based or Islamic-based. In addition, they located 598 socially responsible mutual funds that did not have a religious-based focus. Finally, Adam and Ahmed (2013) used the Morningstar database to gather information on all 75,898 mutual funds in the United States as of 2009.

The researchers also used the Standard and Poor's (S&P 500) as a benchmark for secondary analysis. Adams and Ahmed (2013) performed regression analysis to perform their primary analysis of the funds. They then used the three-factor analysis discussed by Fama and French (1996) and Carhart's (1997) four-factor model to provide secondary analysis of the data.

Overall, the researchers found that Christian-based mutual funds underperformed Islamic-based mutual funds during the study period. In addition, the Christian-based mutual funds had higher expense ratios, front-end loads, and asset turnover than the Islamic-based mutual funds. The researchers hypothesized that the screening methods utilized by the funds caused the differences between the Christian-based and Islamic-based mutual funds. Finally, the researchers concluded that the faith-based funds underperformed the overall market of mutual funds. However, the results of the secondary analyses (i.e., three-factor and four-factor) found that these differences were not statistically significant.

Merdad, Hassan, and Alhenawi. Merdad, Hassan, and Alhenawi (2010) compared the returns of Islamic-based mutual funds in Saudi Arabia to conventional funds during the period of 2003 through 2010. The market for Islamic-based mutual funds in Saudi Arabia is one of the most mature markets for those types of funds in the world (Merdad, Hassan, & Alhenawi, 2010). That is one of the reasons that the authors chose this market for their study. Many other research studies have included Islamic-based funds in other regions (e.g., the United States, the European Union, and so on) where those funds have only been in existence for a few years. The authors asserted that

this study provided a better analysis of Islamic-based mutual funds because it examined a more-mature mutual fund market.

The funds selected for the study were all managed by the Hong Kong and Shanghai Banking Corporation (HSBC). HSBC was the fourth-largest fund manager in Saudi Arabia at the time the study was conducted (Merdad et al., 2010). The use of a single family of funds has the advantage of reducing variability in the fund managers' ability levels and investment approaches of the managers of the funds. This reduces variability between funds that might be caused by managerial preferences and tendencies rather than actual stock performance. However, the use of only HSBC funds reduced the number of available funds for analysis. It also had the potential to limit the generalizability of the study's findings.

The authors obtained all fund data from HSBC or from the Saudi Stock Exchange (i.e., Tadawul). The researchers used 12 Islamic-based mutual funds and 16 conventional mutual funds for their analysis. Once they gathered the fund data, the authors performed a number of statistical analyses on the fund data including regression analysis, Sharpe ratio analysis, Treynor ratio analysis, and a modified capital asset pricing model. In addition, they used three different alpha levels for their analysis (i.e., $\alpha = .10$, $\alpha = .05$, and $\alpha = .01$). The authors used three different levels to make certain they identified any differences. Since the authors were looking at data trends and differences, the use of a higher alpha level is justifiable (Creswell, 2008).

The researchers segmented their analysis into four parts during the 2001 to 2009 time period: (a) overall period of 2001-2010, (b) bullish period of 2003-2006, (c) bearish

period of 2006-2010, and (d) crisis period of 2008-2010. They found that the Islamic-based mutual funds underperformed the conventional mutual funds during the overall period examined. Those funds also underperformed the conventional funds during the bullish period of 2003-2006. The only time that the Islamic-based mutual funds performed as well as the conventional mutual funds was during the bearish and crisis periods. However, that improved performance in the latter years was not enough to overcome the underperformance in the earlier years.

Mixed Results for Faith-Based Mutual Funds

The results of research regarding the efficacy of faith-based mutual funds can be mixed. This would indicate that some elements of the research findings were favorable for the funds while other elements of the findings were unfavorable. Two research studies on faith-based mutual funds that yielded mixed results will be examined here.

Beer, Estes, and Deshayes. Beer, Estes, and Deshayes (2014) examined the returns of socially responsible mutual funds without a focus on religious values, Christian-based mutual funds, and Islamic-based mutual funds. The primary focus of the researchers was to see how these different types of investments performed during and after the financial crisis of 2008. To accomplish this goal, the authors used data from 1998 to 2012. They then subdivided the information into pre-crisis (i.e., 1998-2008) and post-crisis (i.e., 2008-2012) for analysis.

Rather than choose individual mutual funds, the authors decided to use indices to track performance. The authors felt that the use of indices would eliminate the need to account for fund fees and fund manager abilities (Beer, Estes, & Deshayes, 2014). One

index was selected for each of the three test groups, and the Standard and Poor's 500 (S&P 500) Index was used as the benchmark return for all analysis. The authors used the Domini 400 Social Index (DS400) to measure the performance of the socially responsible mutual funds that did not have a focus on religious values. They then chose the Morgan Stanley Capital International (MSCI) Catholic Values Index (CV400) to represent Christian-based mutual funds. Finally, they selected the Dow Jones Islamic Market Index (DJIM) as the representative index for Islamic-based mutual funds.

The authors used a number of techniques to analyze the data including the Sharpe ratio, the Treynor ratio, Jensen's alpha, the capital asset pricing model, analysis of variance, and regression analysis. Overall, the authors' analysis yielded mixed results. They found that both Christian-based and Islamic-based investments performed better than their benchmark during the economic downturn. However, those funds underperformed the benchmark S&P 500 Index during the pre-crisis period of 1998 to 2008. In addition, the other socially responsible mutual funds performed somewhat better than the religious-based mutual funds during both periods. Finally, they detected a significant amount of variability, as measured by the beta level (β), for all three groups of funds. The authors concluded that it was important for individual investors, as well as those who assist them with investment management and planning, to understand the risks associated with these types of investments.

Spohn. Spohn (2009) studied the returns on faith-based mutual funds and other types of socially responsible mutual funds during the bearish market period of 2003 to 2009. The author worked from the assumption that investors in socially responsible

mutual funds, particularly faith-based mutual funds, were less sensitive to swings in the market with regard to their investments. Peifer (2011) later studied this tendency. He concluded that this was true for faith-based investors, but that it was not true for investors in other types of socially responsible mutual funds. The Spohn (2009) study was designed to see if there was a true cost to faith-based investors due to their resistance to divest from religious-based mutual funds during bearish market periods.

Spohn (2009) gathered her data from the Morningstar database. She then used Social Investment Forum website to confirm the religious-focus of the funds selected for her study. Once she completed her screening process, Spohn (2009) had a study population of 25 religious-based mutual funds and 83 socially responsible mutual funds that did not have a faith-based focus. The researcher used a modified version of Carhart's (1997) four-factor model to evaluate the data. The author eliminated the market momentum element of the calculation from the model since it had the possibility of misstating the resulting asset values (Spohn, 2009).

The results of Spohn's (2009) analysis were mixed. At the risk level of $\alpha = .10$ level, she concluded that the returns of the faith-based mutual funds were statistically significantly lower than those of other types of socially responsible mutual funds. Investors in faith-based mutual funds would sacrifice 26.4 basis points (i.e., .264%) in return during bullish market periods. However, that difference was not significant at the other two risk levels employed by the researcher. The use of multiple risk levels in this study helped to identify a difference between the different types of mutual funds. Using

the more-restrictive .05 and .01 levels led to the conclusion that no difference existed between the different groups, but the use of the .10 level yielded different results.

Results of No Difference for Faith-Based Mutual Funds

A final possibility for research regarding the yields of faith-based mutual funds is that there will be no statistically significant difference between the yields of the funds and their benchmarks. When that happens, it indicates that the use of faith-based mutual funds will not pose a significant risk to the financial return received by the faith-based investor. Two research studies that found that there was no difference between the yields of faith-based mutual funds and their benchmarks are examined here.

Boasson, Boasson, and Cheng. Boasson, Boasson, and Cheng (2006) performed a four-factor analysis on the returns of five Christian-focused mutual funds. The time frame for their analysis was from the time of inception of each fund until 2003. The authors selected the mutual funds included in the study from the CRSP Database and from Yahoo Finance.

The authors did not use a benchmark index for their analysis. Instead, they relied on the risk-free rate of return included in Carhart's (1997) four-factor model. This model also includes an element accounting for market momentum in the pricing of an asset that might lead to a misstatement of the true value of a fund (Carmichael & Cöen, 2008). That factor has led some researchers, such as Spohn (2009), to reject or modify the original equation when preparing the Carhart (1997) analysis.

The researchers concluded that, based on their analysis, there was no statistically significant difference in the returns of Christian-focused mutual funds and the overall

market. These results led them to conclude, “investment managers may incorporate moral/ethical components into their investment decisions without unduly shortchanging their clients for whom they have fiduciary duties” (Boasson, Boasson, & Cheng, 2009, p. 844). These results were promising for those wishing to choose Christian-focused mutual funds. However, the small sample size may have reduced the generalizability of the study findings.

BinMahfouz and Hassan. BinMahfouz and Hassan (2013) attempted to study the effect of Islamic-based screening techniques on investment returns. The approach that they chose to accomplish this was to select four indices and perform statistical analysis on them. Two of the indices were conventional investment measurements (i.e., Dow Jones Global Index and Dow Jones Sustainability World Index). The other two indices were Islamic-based indices (i.e., Dow Jones Islamic World Index and Dow Jones Islamic Market Sustainability Index). The authors felt that these two indices could be used to form two matched pairs for comparison. Each of the pairs had an Islamic element and a conventional element. This design was similar to the one that was later employed by Beer, Estes, and Deshayes (2014).

The researchers calculated absolute mean returns and *t*-tests to determine if any differences existed between the two pairs of indices. In addition, they completed multi-factored capital asset pricing models to examine the comparative returns of the funds and to see if they were fairly priced. The authors employed three different levels of risk for their initial analysis (i.e., $\alpha = .10$, $\alpha = .05$, and $\alpha = .01$).

Based on their analysis, the authors concluded that there was no statistically significant difference between the Islamic-based indices and their benchmark indices. This was true for all three levels of risk. These results led the authors to conclude that the use of Islamic-based investment screens did not pose a risk to the investment returns or to the systematic risks of the investment portfolios. In the summary of their results, the authors stated that investors can “choose investments that are consistent with their value systems and beliefs without being forced to sacrifice performance or exposure to higher systematic risk” (BinMahfouz & Hassan, 2013, p.164).

Research Variables

The researcher selected the independent and dependent variables in the design of the project to address the research questions. They were chosen because of their direct relationship to the research questions of the project. Each of the variables was also supported by the currently body of literature. A detailed discussion of each of the variables will be provided in Section 2. However, they will be briefly introduced here.

The independent variable utilized was the type of investment fund examined. Nearly all of the previous research studies discussed in this review of the literature divided the funds examined based on the type of investment fund examined. It would not be possible to delineate the earnings of a particular type of fund without this type of classification system. This design helped to address each of the research questions and research hypotheses of the project.

An examination of each of the dependent variables assisted in the analysis of the data and in answering the research questions of the project. The dependent variables for

this project were: (a) the overall yield of the funds, (b) the risk of each of the funds as measured by their beta coefficients, and (c) the expense ratios of the funds. Each of the variables was determined by reviewing the current body of literature and by examining the research questions of the project.

The researcher measured the fund yield by the percentage return reported for the fund during the study period. The percentage yield was the primary dependent variable used to examine the performance of each type of fund in this project. It was also the primary dependent variable used in other studies involving Christian-based investment funds (Adams & Ahmed, 2013; Beer et al., 2014; Lyn & Zychowicz, 2010) as well as other types of socially responsible investments (Bauer et al., 2005; Chang & Witte, 2010; Muñoz et al., 2014).

The researcher used the beta coefficient of each fund as the second dependent variable for the project. The beta coefficient of a fund is a measurement of the risk of a particular type of investment instrument compared to the larger market (Trecroci, 2014). The beta coefficient is the industry benchmark for measuring volatility for investment funds (Berger, 2013; Melicher & Norton, 2011; Nanigian, 2014). In addition, funds with lower beta coefficients have been found to perform better than other types of funds over long periods of time (Gelderen & Huij, 2014). Determining if this inverse relationship between fund performance and beta coefficient existed for Christian-based socially responsible investment funds was helpful in addressing the differences between the different types of funds examined in the project.

Finally, the researcher analyzed the expense ratio for each fund. The expense ratio measures the cost to the investor charged by the fund manager (Sharpe, 2013). The expense ratio increases with the level of buying and selling activity of the individual stocks held by the fund (Sharpe, 2013). Many investors are unaware of the impact of expenses on the overall return of a fund (Houge & Wellman, 2007). However, the expense ratio of the fund can have a significant effect on investor earnings. Some researcher (Capelle-Blancard & Monjon, 2014; Sanchez & Sotorrio, 2014) included expense ratios as part of their analysis. However, most of the research in the current body of literature did not address the impact of expense ratios on overall fund performance. Analyzing the expense ratios of the different types of funds included in this study aided in answering the project's research questions and hypotheses.

Summary of Research Findings and Gaps in the Literature

The research studies discussed here have demonstrated two items. First, research regarding the efficacy of using socially responsible mutual funds has produced contradictory results. In addition, there is a gap in the current body of research regarding the efficacy of using Christian-based socially responsible mutual funds.

It is apparent that no consensus has been achieved and that there are gaps in the current body of research regarding the use of socially responsible mutual funds to achieve investment and personal objectives. Some researchers (Gil-Bazo et al., 2010; Ito et al., 2013; Slapikaite & Tamosiuniene, 2013) have concluded that socially responsible investment funds are a good investment alternative. However, others (Climent & Soriano, 2011; Cortez et al., 2012; Mallett & Michelson, 2010) state that they are not a

sound investment. In addition, other researchers (Bauer et al., 2005; Humphrey & Tan, 2014; Pinto et al., 2014) have found that there is no difference between the yields of these types of mutual funds and their benchmarks, so investors can choose to use them without fear of undo financial risk. Finally, the mixed results of some studies of socially responsible mutual funds (Branch et al., 2014; Chang & Witte, 2010; Muñoz et al., 2014) have led researchers to conclude that additional research is needed to determine the efficacy of employing those types of funds

In addition, research that focused specifically on faith-based mutual funds has been equally contradictory. Research results have been positive (Lyn & Zychowicz, 2010; Peifer, 2011), negative (Adams & Ahmed, 2013; Merdad et al., 2010), mixed (Beer et al., 2014; Spohn, 2009), and inconclusive (BinMahfouz & Hassan, 2013; Boasson et al., 2006). Also, much of the research on faith-based mutual funds that has been produced since 2010 has grouped funds that are catered to more than one faith (e.g., Christian, Muslim, and so on) together.

The differences in the beliefs and investment principles of the different faiths can lead to drastically different types of screening techniques and fund holdings (Beer et al., 2014). Therefore, an examination of how religious-based mutual funds for each major type of religion was needed. The purpose of this study is to examine the efficacy of Christian-based mutual funds. Anecdotal discussion of the advantages and disadvantages of choosing Christian-based socially responsible investment funds is not sufficient to provide potential investors, or their financial advisors, with enough information to make informed decisions.

The number of recent (i.e., since 2010) research studies on the efficacy of Christian-based socially responsible mutual funds has been scarce. As the market for those types of funds matures, it is important to reassess the effectiveness of the funds. Relying only on outdated research studies would not fulfill the fiduciary duty for investment managers to assist their clients with making financial decisions. It would also violate the biblical teachings regarding godly stewardship and planning (Proverbs 6:6-8; Proverbs 12:15; Matthew 25:14-30; Colossians 3:23-24).

Transition and Summary

The effective management of financial resources is essential for the survival of businesses (Garrison et al., 2015). The same can be said for most individuals. If revenues and expenses are not properly balanced, then it will not be possible to meet current and future financial obligations or to achieve long-term goals.

In addition, a Christian should evaluate investment decisions using the teachings of his or her faith (Louche et al., 2012). Christian writer have suggested that Christians should invest their resources in a manner that will help their communities to flourish and that is aligned with scriptural teachings (Van Duzer, 2010). Within this framework, it would seem hypocritical to proclaim Christ as one's Savior while conducting one's business in a manner that violates His teachings.

Christian-based socially responsible investment funds have been recommended as a method of achieving this investment goal (Kathman, 2012). These types of funds are relatively newer investment options, but they are growing in popularity. The scholarly research on the efficacy of employing Christian-based socially responsible investment

funds has been limited, and the results of the studies that have been conducted have been mixed.

This study was been designed to fill the gap in the current body of literature that has been discussed here. The study focused on examining the returns of Christian-based socially responsible investment funds. It will employ some of the techniques used in the studies presented in this review of the literature. However, the research will take care to avoid analytical techniques that increase the risk of overstating or understating the performance of Christian-based socially responsible investment funds. The results of the study will help to provide would-be investors, and their advisors, with the information needed to make informed decisions regarding the effectiveness of these types of investments.

The applied doctoral research project will be discussed in the next section. That discussion will provide details regarding the design of the study, the data collection techniques employed, and the methods used to analyze the data. The researcher performed this work to answer the research questions of the applied doctoral research project.

Section 2: The Project

Socially responsible investment funds are a growing element of the total body of mutual fund investment options. Christian-based funds are a subcategory of socially responsible funds. Modern Christian writer have suggested that Christians should invest their resources in a manner that will benefit their communities and glorify God (Hardy, 1990; Van Duzer, 2010). However, Christians are also instructed to be good stewards over the resources they have been given (Matthew 25:14-30; Luke 16:11; Luke 14:28).

Some investment advisors have recommended Christian-based funds for achieving a balance between the investing and philosophical goals of Christians (Kathman, 2012). However, the current body of research on the efficacy of those funds has been inconclusive (Branch et al., 2014; Muñoz et al., 2014). The researcher designed the applied doctoral research project discussed here to address the research questions regarding Christian-based investment funds discussed in the previous section.

The researcher designed the project so the results of the study would help to contribute to the current body of research concerning the efficacy of Christian-based socially responsible investment funds. Further details of the project will be presented in the following section. The items discussed will include: (a) purpose statement, (b) role of the researcher, (c) participants, (d) research methods and design, (e) population sampling, (f) data collection, (g) data analysis technique, and (h) reliability and validity.

Purpose Statement

The purpose of this descriptive quantitative study is to examine the financial performance of Christian-based socially responsible investment funds in order to provide

clarity regarding the efficacy of those types of funds. Investors have shown an increased desire to invest in a way that supports their beliefs (Porter, 2013). Christian-based mutual funds offer an opportunity to take advantage of the benefits of a mutual fund while honoring one's religious beliefs. However, investors must also be good stewards over the resources they have been given.

This study will assist those investors, and their advisors, by providing a comparative analysis of the financial performance of Christian-based socially responsible investment funds. The researcher examined these types of funds by measuring the risk-adjusted yields and expense ratios of the funds and comparing them to those of benchmark funds without a socially responsible investment focus. In addition, the researcher compared the performance of the Christian-based socially responsible funds to that of other types of socially responsible funds (i.e., environmental funds and corporate governance funds).

Role of the Researcher

The researcher served several roles in the preparation of the applied doctoral research project. First, the researcher gathered the data needed to perform the quantitative analysis of the information regarding the performance of the Christian-based investment funds included in the project. Next, the researcher served as the analyst of the data. This work included the statistical analysis of the data and the review of the results of the statistical tests performed. Finally, the researcher interpreted the results of the data analysis to determine how the information helped to address the research questions and

related hypotheses of the applied doctoral research project. A review of each of these roles will be provided here.

Data Collection

The data collected for the project was gathered from publicly available third-party sources of information. The first step in the process was to identify Christian-based mutual funds. Morningstar classifies investment funds in different ways. One of the ways it classifies funds is faith based (Kathman, 2012). A review of the funds within this classification revealed that other faiths (e.g., Islam, Sikh, and so on) were included within this category. Each fund was reviewed by the researcher to determine if it met the Christian definition discussed in Section One.

Once the researcher identified the funds for inclusion in the project, the relevant data regarding yields, expense ratios, and beta coefficients were gathered from third-party sources. The primary source for the data was Morningstar. However, the information gathered was also compared to other third-party sources (e.g., Blackrock, The Wall Street Journal, and Yahoo Finance) when available to confirm their accuracy.

Data Analysis

The researcher evaluated the data collected using independent samples *t*-tests. The independent samples *t*-test is one of the most common analytical techniques employed in quantitative research studies (Dodge, 2003; Salkind, 2013). This technique has been used to analyze data in a variety of settings and with a variety of topics (BinMahfouz & Hassan, 2013; Ezazi, Ostad, & Ostad, 2011; Humphrey & Tan, 2014).

The researcher developed the research hypotheses and related null hypotheses to address the research questions of the project. Each of the hypotheses was directly linked to one of the research questions. The researcher analyzed the data gathered for the project and calculated the results to determine if it could be concluded that statistically significant differences existed between the funds being examined.

The alpha level chosen for the study was $\alpha = .10$. This risk level was recommended by Bartlett, Kotrlik, and Higgings (2001) for “identifying marginal relationships, differences or other statistical phenomena as a precursor to further studies” (p. 45). Given the sparsely researched nature of the current topic, it was decided that the significance level of $\alpha = .10$ would allow for a broad examination of the available data without being too confined with regard to the resulting p value. Other researchers (Lucas & Brandmeir, 2005; Suh & Lucas, 2011) have chosen this level for research on various topics.

The researcher selected the independent and dependent variables in the design of the project to address the research questions. The researcher chose them because of their direct relationship to the research questions of the project. This framework assisted in answering the research questions of the project by delimiting the performance of the Christian-based socially responsible investment funds from the other funds examined in the study.

Independent variable. The independent variable utilized was the type of investment fund examined. The funds included in the test group for the study were those Morningstar classified as Christian-based socially responsible investment funds. All

funds classified by Morningstar as faith-based that were specifically focused on Christian beliefs were included in this group. The researcher then compared those funds to their benchmarks. For example, a large-cap Christian-based socially responsible fund was compared to a benchmark representing all large-cap mutual funds found in the Morningstar database. This design helped to address each of the research questions and research hypotheses of the project.

Dependent variables. An examination of each of the dependent variables assisted in the analysis of the data and in answering the research questions of the project. The dependent variables for this project were: (a) the overall yield of the funds, (b) the risk of each of the funds as measured by their beta coefficients, and (c) the expense ratios of the funds. Each of the variables was determined by reviewing the current body of literature and by examining the research questions of the project.

Yields. The first dependent variable examined in the project was the overall yield of the funds. The researcher measured the fund yield by the percentage return reported for the fund during the study period. The researcher selected the percentage yield instead of the dollar amount of the yield. Using the percentage yield made the evaluation of funds of different sizes more meaningful and comparable (Garrison et al., 2015). The percentage yield was the primary dependent variable used to examine the performance of each type of fund in this project. It was also the primary dependent variable used in other studies involving Christian-based investment funds (Adams & Ahmed, 2013; Beer et al., 2014; Lyn & Zychowicz, 2010).

Beta coefficients. The researcher used the beta coefficient of each fund was used as the second dependent variable for the project. The beta coefficient of a fund is a measurement of the risk of a particular type of investment instrument compared to the larger market (Trecroci, 2014). Higher beta coefficient values indicate increased volatility of the fund compared to the overall market (Gelderen & Huij, 2014). Conversely, lower beta coefficients indicate a lower level of fund volatility (Gelderen & Huij, 2014). Chong and Philips (2011) argued that the beta coefficient is not the best measurement of fund volatility. However, the use of beta coefficients remains the industry benchmark for measuring volatility for investment funds (Berger, 2013). In addition, funds with lower beta coefficients have been found to perform better than other types of funds over long periods of time (Gelderen & Huij, 2014). Determining if this inverse relationship between fund performance and beta coefficient existed for Christian-based socially responsible investment funds was helpful in addressing the differences between the different types of funds examined in the project.

Expense ratios. Finally, the researcher analyzed the expense ratio for each fund. The expense ratio measures the cost to the investor charged by the fund manager (Sharpe, 2013). The expense ratio increases with the level of buying and selling activity of the individual stocks held by the fund (Sharpe, 2013). Many investors are unaware of the impact of expenses on the overall return of a fund (Houge & Wellman, 2007). However, the expense ratio of the fund can have a significant effect on investor earnings. Sharpe (2013) estimated that an investor choosing lower-cost investments could have a standard of living over 20% better than that of a similar investor using higher-cost investments.

No-load mutual funds tend to have lower expense ratios, whereas mutual funds that charge a load also generally have higher expense ratios (Houge & Wellman, 2007). It appears that investors choosing no-load funds are more cost-conscious and sophisticated. The U.S. General Accounting Office concluded that mutual funds “rarely endeavor to compete on cost” (as cited in Houge & Wellman, 2007, p.70), so it is up to the individual investor or investment advisor to consider these items when making investment decisions. Since there is a correlation between load type and expense ratio (Houge & Wellman, 2007), only the expense ratios were used as a final dependent variable, instead of both the load type and the expense ratio of the fund. Analyzing the expense ratios of the different types of funds aided in answering the project’s research questions and hypotheses.

Data Interpretation

Finally, the researcher interpreted the results of the statistical analysis. The alpha level for the study (i.e., $\alpha = .10$) was used as the benchmark for determining if each of the null research hypotheses could be rejected. With this information, the researcher interpreted the data and drew conclusions regarding each of the research questions. The results of the study and the interpretation of the data will be discussed in detail in Section Three of this applied doctoral research project.

Creswell (2008) stressed the importance of researcher impartiality when performing quantitative research. The results of a research study will not be as reliable if this separation between the researcher and the research material does not exist. The

researcher for this applied doctoral research project worked to maintain impartiality in each role performed.

Participants

The researcher did not use any participants in this applied doctoral research project. The project addressed the research questions and research hypotheses by examining archival data related to the Christian-based socially responsible investment funds included in the study. The information gathered was publicly available from investor research sites (i.e., Morningstar, Yahoo Finance, and *The Wall Street Journal*). Items about the funds, such as the returns, risks, management fees, and other relevant items, were retrieved from the publicly-available sites. The researcher needed this data to perform statistical analysis of the funds' performance. The researcher did not gather any confidential or personal information for this study.

Research Method and Design

The researcher developed the research method and design to address the project's research questions. Next, the researcher conducted purposive sampling to gather the data for the analysis. Finally, the researcher conducted quantitative analysis of the data. More details regarding the research method and design employed in this project will be discussed in the following sections.

Method

The researcher selected the quantitative research method for this project. This method provides a more concrete analysis of the performance of the study groups and it is the preferred method of answering research questions that are focused on measurable

metrics (Creswell, 2008). The researcher chose the quantitative method over methods such as qualitative and mixed-method because of its advantage for addressing research questions involving the type of variables employed in this project. The qualitative method might assist the researcher to determine the values or attitudes of the investors who choose one type of investment fund over another (Creswell, 2008; Stake, 2010). However, it would not be appropriate for addressing the research questions of this project. In addition, the use of a mixed-method would have been inappropriate. The data collected and analyzed in this study would not lend itself to the concurrent or sequential designs common in mixed-method research because it was quantitative in nature (Driscoll, Appiah-Yeboah, Salib, & Rupert, 2007). Adding qualitative elements to the study would have obfuscated the data analysis and would not have contributed to answering the research questions of the project.

In addition, Creswell (2008) recommended the quantitative method for analyzing this type of data. The results of the quantitative method can be used to determine if it can be concluded that statistically significant differences existed between the study groups. The data provided by this type of method can also be examined and combined with the results from future studies with a similar focus using techniques such as meta-analysis (Creswell, 2008). This is not generally possible using other techniques such as the qualitative method. Each of the groups in the study contained yields, beta coefficients, and other cardinal values required to use the quantitative method. The researcher could not adequately analyze those values to determine if statistically significant differences existed between the study groups without the use of quantitative research methods.

Other researchers used the quantitative method employed in this project when studying socially responsible investment funds (Blanchett, 2010; Chang & Witte, 2010). BinMahfouz and Hassan (2013) employed the quantitative method to evaluate Islamic investing techniques. In addition, Frahm, Wikern, and Wiechers (2012) used the quantitative method to evaluate different investment strategies to optimize portfolio return. It appears that most researchers in this area agree that it would not be possible to reach a conclusion regarding the efficacy of any specific type of investment fund without the use of the quantitative method.

Research Design

The researcher employed an observational descriptive quantitative research design in this study. The goal of this type of research is to explain trends in the existing (i.e., historical) data and to determine differences between two or more groups (Creswell, 2008). Each of the groups in the study contained annual yields, beta levels, and expense ratios. The researcher analyzed those cardinal values for statistical significance within the design of this type of research design.

Observational descriptive quantitative analysis was the primary method of research utilized by the researchers in the studies in the current body of literature regarding socially responsible investment funds. For example, BinMahfouz and Hassan (2013) employed this technique to evaluate Islamic-based investing. Frahm, Wikern, and Wiechers (2012) also employed it to evaluate different investment strategies to optimize portfolio return.

The researcher chose the observational descriptive quantitative research design over other methods of quantitative research available. The primary reason the other methods were rejected was that this study did not provide a specific intervention and that more than one group was being examined. In addition, this study did not seek to determine relationships between the groups, so the observational descriptive quantitative research design was the most-appropriate method. Other quantitative methods rejected were: (a) correlational, (b) experimental, and (c) quasi-experimental.

A correlational quantitative research design seeks “to describe the relationship among variables rather than to infer cause and effect relationships” (Lappe, 2010, p. 81). This study was designed to examine the impact of the investment focus of a fund has on the fund’s relative financial performance. Therefore, the correlational design was not appropriate.

Experimental research requires the researcher to establish two equivalent groups (i.e., experimental and control) and then introduce an experimental procedure to one of the groups to determine its effectiveness (Abbott, 2013). This method requires random assignment of participants to one of the two groups, and it requires the researcher to attempt to control for external factors that could affect study outcomes (Creswell, 2008). The researcher rejected the use of the experimental design because this study did not attempt to introduce an experimental procedure. Instead, it used historical data to analyze fund performance.

Quasi-experimental research is similar to the experimental design in that it seeks to test the effectiveness of an experimental procedure using control and experimental

groups (Creswell, 2008). However, quasi-experimental designs often do not have randomly assigned groups. Instead, they generally employ naturally occurring groups such as students in a classroom (Abbott, 2013). The groups for this study were naturally occurring, but the researcher did not introduce an experimental procedure. Therefore, the use of the quasi-experimental design was not advisable.

Population and Sampling

The researcher designed this project to provide a comparative quantitative examination of the risk-adjusted rates of return for the different types of investment funds. The researcher divided the data into three groups: (a) Christian-based socially responsible investment funds, (b) socially responsible investment funds without a Christian focus, and (c) benchmark funds that do not have a specific socially responsible investing agenda. The researcher selected the funds used in the study using the current Morningstar classification of mutual funds. A list of the funds included in the study is located in Appendix A.

All socially responsible investment funds that Morningstar considered faith based that were later determined to be Christian-based were included in this analysis. In addition, the researcher also selected socially responsible investment funds without a Christian focus using the Morningstar classification system. The top five socially responsible investment funds without a Christian focus in each category (e.g., large-cap, mid-cap, and so on) were included in the study to provide a benchmark for the Christian-based investment funds. Including all socially responsible investment funds that did not have a Christian focus in the benchmark would have been beyond the scope of this

project. Finally, the researcher obtained the data regarding the benchmark funds from Morningstar.

The data for the project were gathered from publicly available sources including Morningstar, Yahoo Finance, Blackrock, and *The Wall Street Journal*. This type of quantitative analysis and purposive sampling assisted with the evaluation of the research hypotheses and the related null hypotheses. The results also helped to address the project's research questions.

The funds chosen for inclusion in the project were limited to those traded within the United States. The researcher excluded foreign market investment options from the analysis because the target population for the project was located in the United States. In addition, the majority of the socially responsible mutual funds, such as Christian-based mutual funds, are located in the United States (Bauer, Koedijk, & Otten, 2005). Finally, it becomes more difficult to examine international socially responsible investments due to cultural influences affecting the definitions of the terms used in the design of the project (Bengtsson, 2008; Scholtens & Sievänen, 2013).

In addition, Christian-based index funds were not included in the analysis. All of the Christian-based index funds that were previously opened had been closed by 2011 due to a lack of capital investment (Kathman, 2012). Therefore, including them would not have assisted in answering the research questions and hypotheses of the project.

The researcher made the decision to include all Christian-based socially responsible investment funds in the project. This increased sample size helped to improve the validity of the project's results. It might have been possible to arrive at the

same results by only including the largest Christian-based socially responsible investment funds in the study. However, having the largest possible sample size helped to lower the possibility that the researcher excluded relevant fund performance data from consideration.

Data Collection

The data collection methods will be discussed in the next sections. The instruments used, data collection techniques employed, and data organization techniques applied will be described. These items were adopted to assist in addressing each of the research questions by analyzing the data gathered from each of the groups in the project.

Instruments

The researcher did not use any specific data-gathering instrument (e.g., questionnaire, interview, and so on) in this project. The raw data gathered to perform the quantitative analysis was taken from publicly-available third-party sources of existing records. The researcher entered the data gathered into a Microsoft Excel spreadsheet to perform statistical analysis. A list of the funds included in the study is located in Appendix A.

Data Collection Technique

The data used in the project were obtained from existing records found on publicly-available third-party websites. The proper classification of the funds was determined using the Morningstar classification system. Once the funds were identified, publicly-available third-party sources such as Blackrock, Morningstar, *The Wall Street Journal*, and Yahoo Finance were used to gather the relevant data regarding each of the

funds. The researcher did not use any other interview or survey questions in the project. The data used in the analysis of the performance of the funds was limited to what was obtained from the publicly-available third-party sources.

Data Organization Techniques

The researcher tracked the data gathered during the study in a Microsoft Word document as well as in a Microsoft Excel spreadsheet. The researcher organized the Word document in the form of a journal to record daily progress toward identifying funds to include in the project and to gather the data needed to perform the quantitative analysis of the funds. The journal also assisted the researcher in documenting any concerns or additional elements to consider for inclusion in the design of the project. Stake (2010) recommended keeping a written journal similar to the one employed in this project to assist in the design and execution of a research study.

In addition, the researcher designed the Excel spreadsheet to use one line for each fund included in the study. The researcher developed the columns in the spreadsheet for fund returns, beta coefficients, expense ratios, and investment classifications (i.e., large-cap, mid-cap, and so on) for each of the funds. A separate tab within the spreadsheet was created for each group of funds (i.e., Christian-based socially responsible, socially responsible without a Christian focus, and benchmarks). This layout assisted the researcher in gathering all pertinent data needed to address the research questions of the project.

The Word document and Excel spreadsheet were stored on the hard drive of a computer owned by the researcher. The researcher created a second copy of each of the

items for the project. The researcher updated the files each day as journal entries were updated and as project data were collected. These copies were stored on a flash drive owned by the researcher. The researcher utilized the copies to protect against data loss in the event of file corruption or some other type of computer malfunction.

Data Analysis Technique

The data gathered for each fund in the study included the yields, beta coefficients, and management fees of the funds. The time frame for the data gathered was for the 1-, 3-, 5-, 10-, 15-, and 20-year periods ending December 31, 2015, as available. The data gathered and analyzed assisted in addressing the research questions of the project because those items were the metrics chosen to demonstrate the performance of the different types of funds.

The researcher analyzed the data gathered using Microsoft Excel. The statistical technique used in this study was the independent samples *t*-tests. The independent samples *t*-test is one of the most common analytical techniques employed in quantitative research studies (Dodge, 2003; Salkind, 2013). This technique has been used to analyze data in a variety of settings and with a variety of topics (BinMahfouz & Hassan, 2013; Ezazi, Ostad, & Ostad, 2011; Humphrey & Tan, 2014). The results of the data analysis were used to either reject or to fail to reject the null research hypotheses for the project based on the chosen alpha level for the study. The researcher used the outcome of the analysis to arrive at conclusions regarding the project's research questions.

The alpha level chosen for the study was $\alpha = .10$. Bartlett, Kotrlik, and Higgings (2001) recommended using this risk level for "identifying marginal relationships,

differences or other statistical phenomena as a precursor to further studies” (p. 45).

Given the sparsely researched nature of the current topic, it was decided that the significance level of $\alpha = .10$ would allow for a broad examination of the available data without being too confined with regard to the resulting p value. Other researchers (Lucas & Brandmeir, 2005; Suh & Lucas, 2011) have chosen this level for research on various topics.

Reliability and Validity

All research studies are subject to issues with reliability and validity (Creswell, 2008). The types and extent of the threats differ depending on the type of study conducted (i.e., quantitative, qualitative, or mixed method) and the instruments used by the researcher to collect the data and to administer the research procedures. The reliability and validity of this applied doctoral research project will be discussed here.

Reliability

Reliability examines “the quality of the test such that it is consistent” (Salkind, 2013, p. 446). It is essential that the testing instrument or other data-gathering device employed in a research study accurately and consistently measures what is being examined (Creswell, 2008). The definition of reliability will differ somewhat depending on the design of the research study. For example, reliability in a qualitative study “indicates that the researcher’s approach is consistent across different researchers and different projects” (Creswell, 2008, p.190). However, the reliability in a quantitative study focuses on the accuracy of the data gathered and the ability of the results to be repeated or confirmed by other researchers (Creswell, 2008).

This project was a quantitative study. Therefore, the focus on the reliability of this study was on the ability of the data gathered and analyzed by the researcher to be confirmed by others. There are various types of threats to reliability that researcher often examine in quantitative studies. Some of the most common are test-retest, parallel forms, and internal consistency (Creswell, 2008).

The researcher did not use any specific testing instrument to gather the data employed by the researcher for this project. Instead, the information was gathered from publicly-available third-party sources. The researcher confirmed this archival data by comparing it to other third-party sources when available. For example, the researcher confirmed the statistics gathered from Morningstar with an additional source such as Blackrock, *The Wall Street Journal*, or Yahoo Finance. This helped to verify the information and to make the results of the study more reliable.

Researchers have used archival databases in their studies since the 1950s (Elder, Pavalko, & Clipp, 1993). However, the use of those databases has grown in recent years because of advances in computer technologies and Internet access (Feng, Ling, Neely, & Roberts, 2014). The information found in archival databases can sometimes come from special-purpose surveys designed to assist future researchers (Barnes, Dang, Leavitt, Guarana, & Uhlmann, 2015). However, those databases are generally assembled for purposes other than conducting research, such as tracking historical performance of a sports team (Barnes et al., 2015). The researcher gathered the data used in this project was from the latter type of database because the information to show the historical performance of the investment funds.

Archival databases offer a number of advantages to the researcher. These databases can: (a) improve the validity and relevance of study findings, (b) aid in research reproducibility, (c) discourage misconduct by researchers, and (d) allow for easier detection of researcher misconduct (Barnes et al., 2015). However, one distinct disadvantage of archival databases is the researcher has no control over the quality of the information gathered (Bryman & Bell, 2015). To address this concern, Bryman and Bell (2015) recommended that researchers attempt to use databases that are from regulated sources. The database used for this study was not from a federally-regulated agency. Instead, it was from Morningstar. However, it is reasonable to assume that the individual companies offering the investment funds would compare the results listed in the Morningstar database to their actual performance and notify the organization of discrepancies.

Individuals can use archival databases for studies with different types of research designs. They have been recommended for qualitative and quantitative studies (Feng et al., 2014; Hill, 1993). In addition, they have been employed to examine a variety of micro-level and macro-level topics (Atinc, Simmering, & Kroll, 2012; Elder et al., 1993). These types of databases can be used by researchers to ask “new questions of old data” (Elder et al., 1993, p. 11).

It is important to select the archival database that is appropriate for the study. It is also necessary for the researcher to develop research questions and models that fit well with the data available in the archival databases. Doing this will yield a clearer idea of the problem to be researched and a better analysis of the available data (Elder et al.,

1993). The research questions of this applied doctoral research project were well-suited to the use of the archival database regarding the performance of the investment funds being examined.

Validity

Validity examines “the quality of a test such that it measures what it says it does” (Salkind, 2013, p. 448). There are different types of threats to the validity of a study. Four of the most common threats are: (a) internal validity threats, (b) external validity threats, (c) statistical conclusion validity threats, and (d) threats to construct validity (Creswell, 2008). The researcher considered each of these threats in the design of this applied doctoral research project.

Internal. Threats to the internal validity of a study affect the ability of the researcher to arrive at reasonable conclusions regarding the effectiveness of an experimental treatment. The threats can be related to the study participants, the procedures employed by the researcher, or the procedures selected by the researcher (Creswell, 2008). This applied doctoral research project did not use human subjects. In addition, the research did not use any specific testing instruments. The examination of archival data regarding the key factors of the funds included in the project was the only method employed by the researcher. Finally, only investment funds meeting the specific criteria discussed earlier were included in the study. The researcher chose to use this process to avoid, or at least reduce, the threats to the internal validity of the project.

External. Threats to the external validity of a study arise when researchers “draw incorrect inferences from the sample data to other persons, other settings, and past or

future situations” (Creswell, 2008, p. 162). Three common threats to external validity involve the interaction of an applied experimental treatment with: (a) the participants selected for the study, (b) the setting in which the study occurred, and (c) the history surrounding the study (Creswell, 2008). The researcher did not apply an experimental procedure to the groups in this study. However, the researcher addressed each of the three threats to external validity in the design of the project.

First, all investment funds meeting the appropriate criteria were included in the study. This helped to prevent selection bias in the development of the groups for the project. Next, only funds traded in US-based (i.e., domestic) exchanges were considered for inclusion in the project. This narrowed the focus of the study and helped to mitigate the influences of international market forces and cultural influences on the project’s results. Finally, the researcher could not overcome the threat of history surrounding the study. The current project is not a replication of previous studies. In order to address the history threat to the external validity of the project, it would be necessary to replicate the study again in the future (Creswell, 2008). This will be discussed in greater detail as part of the recommendations listed in Section Three of the project.

Conclusion. Threats to the statistical conclusion validity of a study develop when the researcher employs inadequate or improper statistical techniques in the analysis of the study data (Creswell, 2008). The researcher in this project gathered continuous variables regarding the yields, beta coefficients, and expense ratios of each of the funds. The statistical technique employed in the study was discussed earlier in this section. Various writers recommended that method for analyzing this type of data (Creswell, 2008;

Salkind, 2013). It was also employed in other studies where investment fund performance was examined (BinMahfouz & Hassan, 2013; Ezazi et al., 2001; Humphrey & Tan, 2014). Using the appropriate analytical methods helped to address the threat to the statistical conclusion validity of the project.

Construct. Threats to the construct validity of a study occur “when investigators use inadequate definitions and measures of variables” (Creswell, 2008, p. 164). The researcher designed this project to mitigate the threats to construct validity. First, the researcher developed clear definitions of key terms such as Christian in the design of the project. This assisted the researcher to determine which investment funds to include in the study. In addition, following industry standards and definitions employed by the third-party sources from which the study data were gathered for items such as return, expense ratio, and beta coefficient contributed to the validity of the data used in this project.

It would be impossible to design a research study free of any threats to reliability or validity (Creswell, 2008). However, the researcher took all reasonable steps in the design and implementation of this project to mitigate any identified threats. The researcher recognized and discussed existing threats that could not be adequately overcome by study design or implementation (e.g., the history threat to external validity). Recognizing the threats to the reliability and validity of the study allows the reader to make an informed assessment of the findings of the project.

Transition and Summary

Socially responsible investment funds are a growing element of the total body of mutual fund investment options. Christian-based funds, a subcategory of socially responsible funds, allow the Christian investor to achieve a balance between his or her investing and philosophical goals. The researcher designed this descriptive quantitative study to examine the financial performance of Christian-based socially responsible investment funds in order to provide clarity regarding the efficacy of those types of funds.

The researcher developed the research method and design of this project to address the specific research questions of the study. The researcher chose the independent and dependent variables included in the study design because of their relevance to the research questions. Quantitative analysis of the data collected allowed the researcher to arrive at conclusions based on the information regarding the performance of the funds.

While it would not be possible to design a research study free of any threats to reliability or validity (Creswell, 2008), all reasonable steps were taken in the design and implementation of this project to mitigate any identified threats. In instances where threats could not be overcome through the design and implementation of the study, they were recognized and discussed. The findings of the study will be discussed in the next section. Those findings assisted in answering the research questions of the project.

Section 3: Application to Professional Practice and Implications for Change

Some investment advisors have recommended Christian-based socially responsible investment funds for achieving a balance between the investing and philosophical goals of Christians (Kathman, 2012). Those funds provide Christians with an opportunity to invest in a manner consistent with their beliefs while also taking advantage of the benefits of mutual funds. However, it is important for Christians to be wise stewards over the financial resources with which they have been blessed (Matthew 25:14-30; Luke 14:28-30). Part of that stewardship includes determining if a Christian-based investment fund is the best investment alternative.

The findings of the project will be presented in this section. These findings will contribute to the current body of research concerning Christian-based investment funds. The information provided is be divided into seven parts: (a) overview of the study, (b) presentation of the findings, (c) applications to professional practice, (d) recommendations for action, (e) recommendations for further study, (f) reflections, and (g) summary and study conclusions.

Overview of Study

It is important for would-be investors to carefully analyze their choices before making investment decisions. The current body of research concerning the efficacy of Christian-based socially responsible investment funds has been inconclusive (Branch et al., 2014; Muñoz et al., 2014). This applied doctoral research project was developed and conducted to add to the current body of literature concerning these types of investment funds.

The project was designed to address the three research questions discussed in Section One. All three research questions centered on evaluating the risk-adjusted yields of Christian-based socially responsible investment funds. Overall, the findings of the study indicated Christian-based socially responsible investment funds underperformed the benchmark returns (i.e., S&P 500 Index) during each of the periods examined. In addition, the comparison of the Christian-based funds to other types of the socially responsible investment funds without a religious focus had mixed results. Finally, the researcher identified specific Christian-based socially responsible investment funds during the study that performed better than the average of the group. In all periods examined except for the 20-year period, those top-performing funds produced yields equal to or higher than the average yields of the S&P 500 Index. A detailed discussion of the study findings is provided in the next section.

Presentation of the Findings

The findings of this applied doctoral research project will be presented here. The researcher designed the project to address three research questions. The discussion of the findings will be organized around each of the three questions. In addition, the findings will be related to the current body of literature discussed in Section One as appropriate.

The data used in this project were the historical actual performance of the funds examined. The entire population of Christian-based equity-only investment funds was included in the study (n=40). For funds with multiple classes of shares, only the individual class of shares was included in the project. Not all funds in the study had 20 years of history. Therefore, the degrees of freedom associated with the statistical testing

declined in some of the comparisons as the examination of fund performance moved from the 1-year period ending December 31, 2015, to the 20-year period ending December 31, 2015. A list of the funds included in the study is located in Appendix A.

Research Question One

The first research question asked: Are the risk-adjusted yields of Christian-based socially responsible investment funds equivalent to benchmark funds that do not have a specific socially responsible investing agenda? The researcher addressed this question by examining the risk-adjusted yields of the funds over time and comparing them to the S&P 500 Index yields. The timeframe for the analysis was 20 years. The researcher examined the performance of the funds between 1995 and 2015. This 20-year period included times of economic expansion as well as economic recession. This assisted in the examination of the robustness of the investment options.

The calculation of the risk-adjusted rate of return included two steps: (a) calculate the fee-free rate of return and (b) translate the fee-free rate of return into the risk-adjusted rate of return. The researcher calculated the fee-free rate of return by adding the average administrative fees charged by the fund to its reported earnings during the period. Next, the researcher adjusted the fee-free rate of return to reflect the risk of the fund as measured by its beta coefficient. If the beta coefficient was greater than 1.00, the researcher decreased the return of the fund in a proportional amount to the value over 1.00. If the beta coefficient was lower than 1.00, then the researcher increased the return of the fund in a proportional amount to the value under 1.00.

The Christian-based socially responsible investment funds underperformed the S&P 500 Index during all time periods (i.e., 1-, 3-, 5-, 10-, 15-, and 20-year periods) examined as measured by their risk-adjusted rates of return. Table 1 summarizes the risk-adjusted yields and S&P 500 Index yields during the 1-, 3-, 5-, 10-, 15-, and 20-year periods ending December 31, 2015. The resulting *t* scores, degrees of freedom, and *p* values from each independent samples *t*-test performed for each time period are also listed in Table 1. The differences between the groups were statistically significant for each period reviewed.

Table 1: Risk-Adjusted Yields of Christian-Based Funds v. S&P 500 Yields for the Periods Ending December 31, 2015

| Time Period | Christian-Based Fund Risk-Adjusted Yield | S&P 500 Index | t Value | Degrees of Freedom | p Value |
|---------------------|--|---------------|---------|--------------------|---------|
| 1 Year (2015) | (2.49) | 1.36 | 3.6280 | 39 | .0008 |
| 3 Year (2013-2015) | 11.08 | 15.67 | 4.0610 | 38 | .0002 |
| 5 Year (2011-2015) | 9.48 | 13.00 | 5.4311 | 34 | .000005 |
| 10 Year (2006-2015) | 6.93 | 8.83 | 6.0080 | 24 | .000003 |
| 15 Year (2001-2015) | 5.64 | 6.70 | 2.3800 | 13 | .03332 |
| 20 Year (1996-2015) | 8.21 | 9.82 | 3.7662 | 6 | .0093 |

The first research hypothesis was: There is a significant difference between the risk-adjusted yields of Christian-based socially responsible investment funds and their benchmark funds. Due to the nature of this hypothesis, the researcher performed a series

of two-tailed independent samples *t*-tests to test it. The results of the statistical tests supported this hypothesis. The differences between the Christian-based funds and the S&P 500 Index were significant for each time period examined.

The results of the independent samples *t*-tests for each time period were: (a) 1-year period ($t=2.2860$, $df=39$, $p=.048$); (b) 3-year period ($t=4.0610$, $df=38$, $p=.0002$); (c) 5-year period ($t=5.4311$, $df=34$, $p=.000005$); (d) 10-year period ($t=6.0080$, $df=24$, $p=.000003$); (e) 15-year period ($t=2.3800$, $df=13$, $p=.03332$); and (f) 20-year period ($t=3.7662$, $df=6$, $p=.0093$). The *p* values from the *t*-tests led to the rejection of the first null hypothesis of no difference between the two groups of funds for each period examined. Once the researcher made the conclusion that a statistically significant difference existed between the groups, the researcher then compared the mean yields for each group. The risk-adjusted yields for the Christian-based funds were lower than those of the S&P 500 Index in each period.

These findings do not support the conclusions of Lyn and Zychowicz (2010). Those researchers studied the combined returns of Christian-based and Islamic-based funds against the S&P 500 Index during a seven-year period between 2001 and 2008. They concluded that investors in faith-based funds “did not sacrifice satisfactory economic returns by making ethical and socially responsible investing decisions based on their faith” (Lyn & Zychowicz, 2010, p. 142). However, the findings of this project support the conclusion that investors in Christian-based socially responsible investment funds may experience a financial return on their investments made in those funds that is significantly lower than the S&P 500 Index.

The researcher based the theoretical framework of this project on the agency theory and modern portfolio theory. Within the agency theory, it is the responsibility of the agent to inform the principal of all relevant information regarding an investment decision (Tan & Lee, 2005). The results of this study should be utilized by those providing financial advice to individuals and organizations wishing to invest in Christian-based socially responsible mutual funds. In addition, the modern portfolio theory recommends investors balance their portfolios in a manner that provides the greatest return while reducing risk to an acceptable level (Miccolis & Goodman, 2012). The use of the risk-adjusted yields in this project assisted in the analysis of the Christian-based funds while considering the potential for risk.

These findings do not suggest that all Christian-based funds produce lower yields. Instead, they indicate those funds, as a group, underperformed the S&P 500 Index. The findings related to the second and third research questions will provide greater insight into the performance of the funds.

Research Question Two

The second research question of the project asked: Are the risk-adjusted yields of Christian-based socially responsible investment funds equivalent to other types of socially responsible investment funds that are not Christian-based funds? The researcher selected the socially responsible investment funds without a Christian focus using the Morningstar classification system. The top five socially responsible investment funds without a Christian focus in each category (i.e., large-cap, mid-cap, and international) were included in the study to provide a benchmark for the Christian-based investment

funds to address the second research question. The researcher selected the funds based on total investment assets at December 31, 2015.

The researcher did not analyze small-cap funds because a sufficient number of socially responsible investment funds without a Christian focus could not be obtained. The majority of the socially responsible small-cap funds had a Christian-based focus. Once the researcher excluded those funds, fewer than five funds remained in the small-cap socially responsible category.

The second research hypothesis was: There is a significant difference between the risk-adjusted yields of Christian-based socially responsible investment funds and other types of socially-responsible investment funds. Due to the nature of this hypothesis, the researcher performed a series of two-tailed independent samples *t*-tests to test it. This did not revise the overall confidence level of the study. It simply reflected the two-tailed nature of the research question.

The findings of the portion of the project that compared the Christian-based funds and other socially responsible mutual funds without a Christian focus were mixed. The results of the statistical tests will be addressed here. The discussion will be divided by fund classification: (a) large-cap, (b) mid-cap, and (c) international. After the findings are presented, discussion of their relationship to the current body of literature and the theoretical framework of the project will be provided.

Large-cap. The comparison of the risk-adjusted yields of large-cap Christian-based socially responsible funds to the yields of their benchmarks is located in Table 2. The resulting *p* values are also included in Table 2.

Table 2: Christian-Based Large-Cap Funds v. Large-Cap Socially Responsible Benchmark for the Periods Ending December 31, 2015

| Time Period | Large-Cap Christian-Based Fund Risk-Adjusted Yield | Large-Cap Socially Responsible Risk-Adjusted Benchmark | t Value | Degrees of Freedom | p Value |
|---------------------|--|--|---------|--------------------|---------|
| 1 Year (2015) | 1.03 | .704 | .2987 | 16 | .7690 |
| 3 Year (2013-2015) | 14.36 | 16.43 | 2.7729 | 16 | .01358 |
| 5 Year (2011-2015) | 11.22 | 14.08 | 6.1344 | 15 | .00002 |
| 10 Year (2006-2015) | 7.33 | 9.07 | 5.0666 | 13 | .0002 |
| 15 Year (2001-2015) | 5.85 | 8.10 | 4.2099 | 6 | .0056 |
| 20 Year (1996-2015) | 8.38 | 11.71 | 15.1394 | 2 | .0043 |

The results of the independent samples *t*-tests for each time period were: (a) 1-year period ($t=.2987$, $df=16$, $p=.7690$); (b) 3-year period ($t=2.7729$, $df=16$, $p=.01358$); (c) 5-year period ($t=6.1344$, $df=15$, $p=.00002$); (d) 10-year period ($t=5.0666$, $df=13$, $p=.0002$); (e) 15-year period ($t=4.2099$, $df=6$, $p=.0056$); and (f) 20-year period ($t=15.1394$, $df=2$, $p=.0043$). These results were mixed. The resulting *p* values led to the rejection of the null hypothesis for every period examined except for the one-year period. The null hypothesis was not rejected (i.e., failed to reject the null hypothesis) for the one-year period ending December 31, 2015, so the difference between the two groups was not considered statistically significant during that period. The Christian-based funds outperformed the benchmark during the one-year period ending December 31, 2015, but the difference was not statistically significant. However, the funds underperformed the

benchmark during the other periods examined. The differences were statistically significant for the 3-, 5-, 10-, 15-, and 20-year periods.

Mid-cap. The comparison of the risk-adjusted yields of mid-cap Christian-based socially responsible funds to the yields of their benchmarks is located in Table 3. The resulting p values are also included in the table.

Table 3: Christian-Based Mid-Cap Funds v. Mid-Cap Socially Responsible Benchmark for the Periods Ending December 31, 2015

| Time Period | Mid-Cap Christian-Based Fund Risk-Adjusted Yield | Mid-Cap Socially Responsible Risk-Adjusted Benchmark | t Value | Degrees of Freedom | p Value |
|---------------------|--|--|---------|--------------------|-----------|
| 1 Year (2015) | (3.82) | (2.68) | .4307 | 5 | .6846 |
| 3 Year (2013-2015) | 12.80 | 13.51 | .2958 | 5 | .7792 |
| 5 Year (2011-2015) | 9.71 | 10.01 | .2374 | 5 | .8217 |
| 10 Year (2006-2015) | 6.79 | 7.62 | .8239 | 4 | .4563 |
| 15 Year (2001-2015) | 4.83 | 6.81 | 1.5019 | 2 | .2719 |
| 20 Year (1996-2015) | 9.06 | 9.18 | N/A | N/A | N/A |

Independent samples t -tests were performed to compare the yields for 1-, 3-, 5-, 10-, and 15-year periods. The researcher did not calculate them for the 20-year period because only one mid-cap Christian-based socially responsible fund had 20 years of history. Since there was only one fund, performing the t -test would not have been appropriate. The 20-year yields are presented in Table 3, but there is no p value to report.

The results of the independent samples *t*-tests for each time period were: (a) 1-year period ($t=.4307$, $df=5$, $p=.6846$); (b) 3-year period ($t=.2958$, $df=5$, $p=.7792$); (c) 5-year period ($t=.2374$, $df=5$, $p=.8217$); (d) 10-year period ($t=.8239$, $df=4$, $p=.4563$); and (e) 15-year period ($t=1.5019$, $df=2$, $p=.2719$). During each period examined, the Christian-based funds underperformed their benchmarks. However, the differences between the returns were not statistically significant. Because the *p* values from the *t*-tests were all greater than the associated alpha level for this research question, the null hypothesis of no difference between the groups could not be rejected (i.e., failed to reject the null hypothesis). These findings support the statement that the risk-adjusted yields of Christian-based mid-cap socially responsible funds were equivalent to other types of mid-cap socially responsible investment funds for the 1-, 3-, 5-, 10-, and 15-year periods examined.

International. The comparison of the risk-free yields of international Christian-based socially responsible funds to the yields of their benchmarks is located in Table 4. The resulting *p* values are also included in Table 4.

Table 4: Christian-Based International Funds v. International Socially Responsible Benchmark for the Periods Ending December 31, 2015

| Time Period | International Christian-Based Fund Risk- Adjusted Yield | International Socially Responsible Risk- Adjusted Benchmark | t Value | Degrees of Freedom | p Value |
|------------------------|--|---|---------|-----------------------|---------|
| 1 Year (2015) | (7.25) | (.612) | 2.2866 | 9 | .0480 |
| 3 Year (2013-2015) | 1.93 | 6.55 | 1.8113 | 8 | .1077 |
| 5 Year (2011-2015) | 4.66 | 4.95 | .1245 | 5 | .9057 |
| 10 Year (2006-2015) | 3.61 | 5.27 | N/A | N/A | N/A |

The results of the independent samples *t*-tests for each time period were: (a) 1-year period ($t=2.2866$, $df=9$, $p=.0480$); (b) 3-year period ($t=1.8113$, $df=8$, $p=.1077$); and (c) 5-year period ($t=.1245$, $df=5$, $p=.9057$). The results were mixed. There was a statistically significant difference between the Christian-based funds and the benchmark average for the one-year period. The *p* value was less than the alpha level, and this led to the rejection of the null hypothesis of no difference between the groups. Since the Christian-based funds experienced a lower yield than the benchmark funds, the researcher concluded that the difference was statistically significant.

Christian-based funds underperformed the benchmark funds during the one-year period by over 6%. However, there were no statistically significant differences for the three-year and five-year periods. The *p* values were greater than the alpha level. Therefore, the null hypothesis could not be rejected (i.e., failed to reject the null hypothesis) for the three-year and five-year comparisons. The Christian-based funds

underperformed the benchmark returns during those periods, but the difference was not statistically significant. Based on the results of the *t*-tests, the researcher concluded that the funds were not statistically different.

In addition, there was only one Christian-based international investment fund with ten years of history. The researcher did not perform statistical testing for that comparison since there was only one Christian-based fund. Finally, there were no Christian-based funds in existence on December 31, 2015, with 15 or more years of returns. Therefore, only one-, three-, five-, and ten-year returns are shown in Table 4.

The mixed results of the statistical analysis do not fully support the associated research hypothesis. The Christian-based funds outperformed other socially responsible funds only one time (i.e., one-year large-cap) in all of the groups of comparisons made to address this research question. In addition, the differences between the funds were statistically significant in only 6 of the 14 groups of comparisons, and 5 of the 6 were related to the large-cap funds. The other statistically significant difference was related to the one-year return of international funds. While the researcher identified differences between the risk-adjusted yields of the Christian-based funds and the benchmark yields for each set of comparisons, they were not statistically significant in eight of the fourteen sets.

The agency theory requires the agent to advise the principal of the risks and rewards involved in investment decisions (Tan & Lee, 2005). However, the agent must also take the desires of the principal into consideration. Therefore, if a client has a stated objective of investing in socially responsible investment funds, the advisor can use these

results to assist in making a decision between Christian-based and other types of socially responsible investment funds. Socially responsible investments have increased risks over funds without those objectives due to higher administrative expenses and limited availability of investment alternatives (Colle & York, 2009; Muñoz et al., 2014).

However, these findings can be helpful for distinguishing between Christian-based and other types of socially responsible investment funds if a client decides to use those types of investments.

Research Question Three

The third research question of the project was: Are any specific Christian-based socially responsible investment funds better financial investments than others? The researcher measured this based on the risk-adjusted yields of the Christian-based socially responsible investment funds during the period of the study. The top five funds in each of the periods included in the study are listed in Tables 5 – 10.

Table 5: Top-Performing Christian-Based Funds for the One-Year Period Ending December 31, 2015

| Fund Name | Ticker Symbol | Risk-Adjusted Return |
|---|---------------|----------------------|
| Thrivent Large Cap Growth Fund | THLCX | 11.25 |
| GuideStone Growth Equity Fund | GGEZX | 6.42 |
| GuideStone Defensive Market Strategies Fund | GDMZX | 5.73 |
| Praxis Growth Index Fund | MGNDX | 4.59 |
| LKCM Aquinas Growth Fund | AQEGX | 3.93 |
| S&P 500 Average | | 1.36 |

Table 6: Top-Performing Christian-Based Funds for the Three-Year Period Ending December 31, 2015

| Fund Name | Ticker Symbol | Risk-Adjusted Return |
|---|---------------|----------------------|
| Eventide Gilead – Class A | ETAGX | 21.92 |
| PAX Small Cap Fund | PXSCX | 20.92 |
| GuideStone Defensive Market Strategies Fund | GDMZX | 20.27 |
| Thrivent Large Cap Growth Fund | THLCX | 19.07 |
| Timothy Plan Large/Mid Cap Value Fund | TLVAX | 18.04 |
| S&P 500 Average | | 15.67 |

Table 7: Top-Performing Christian-Based Funds for the Five-Year Period Ending December 31, 2015

| Fund Name | Ticker Symbol | Risk-Adjusted Return |
|----------------------------|---------------|----------------------|
| PAX Small Cap Fund | PXSCX | 15.69 |
| Steward Global Equity Fund | SGIDX | 14.61 |
| Eventide Gilead – Class A | ETAGX | 14.19 |
| Praxis Growth Index Fund | MGNDX | 14.16 |
| PAX World Growth Fund | PXWGX | 12.99 |
| S&P 500 Average | | 13.00 |

Table 8: Top-Performing Christian-Based Funds for the Ten-Year Period Ending December 31, 2015

| Fund Name | Ticker Symbol | Risk-Adjusted Return |
|--|---------------|----------------------|
| Ave Maria Growth Fund | AVEGX | 10.18 |
| Ave Maria Rising Dividend Fund | AVEDX | 10.10 |
| Timothy Plan Large/Mid Cap Growth Fund | TLVAX | 8.94 |
| Timothy Plan Small Cap Value Fund | TPLNX | 8.19 |
| Thrivent Large Cap Growth Fund | THLCX | 7.69 |
| S&P 500 Average | | 8.83 |

Table 9: Top-Performing Christian-Based Funds for the Fifteen-Year Period Ending December 31, 2015

| Fund Name | Ticker Symbol | Risk-Adjusted Return |
|---------------------------------------|---------------|----------------------|
| Timothy Plan Large/Mid Cap Value Fund | TLVAX | 8.80 |
| Timothy Plan Small Cap Fund | TPLNX | 8.11 |
| Thrivent Mid Cap Stock Fund | TMSIX | 7.36 |
| Thrivent Small Cap Stock Fund | TSCSX | 6.86 |
| LKCM Aquinas Value Fund | AWEIX | 6.38 |
| S&P 500 Average | | 6.70 |

Table 10: Top-Performing Christian-Based Funds for the Twenty-Year Period Ending December 31, 2015

| Fund Name | Ticker Symbol | Risk-Adjusted Return |
|-----------------------------------|---------------|----------------------|
| Timothy Plan Small Cap Value Fund | TPLNX | 9.70 |
| Thrivent Mid Cap Stock Fund | TMSIX | 9.06 |
| LKCM Aquinas Growth Fund | AQEGX | 8.80 |
| LKCM Aquinas Value Fund | AQEIX | 8.27 |
| Thrivent Large Cap Stock Fund | IILGX | 8.06 |
| S&P 500 Average | | 9.82 |

In addition, the S&P 500 Index average for each of the periods is shown in each of the tables. With the exception of the 20-year analysis shown in Table 10, at least one

Christian-based investment fund exceeded the S&P 500 Index in each of the periods examined.

The third research hypothesis was: There are specific Christian-based socially responsible investment funds that perform better than other types of Christian-based socially responsible investment funds as measured by their risk-adjusted yields. The results of this analysis generally support the third research hypothesis. Twenty-one of the 30 funds found in Tables 5-10 outperformed the S&P 500 Index. The only time period when at least one Christian-based fund failed to outperform the S&P 500 Index was the 20-year period. As a group, the Christian-based investment funds underperformed the benchmark returns in the majority of comparisons performed in this project. However, a few funds outperformed their group averages. Sixteen of the 30 funds found in Tables 5-10 were large-cap funds. The others were comprised of mid-cap (i.e., five), small-cap (i.e., seven), and international (i.e., two) funds.

It is important to note that past performance of a fund is not a guarantee of future results. These findings indicate variability between the different types of Christian-based investment funds. An understanding of this variability is a helpful starting point for making investment decisions.

The findings related to this research question are useful for meeting the requirements of the agency theory and the modern portfolio theory. The agent can use this information, along with the findings related to the other research questions, to help the principal make informed decisions regarding the use of Christian-based socially responsible investment funds. The results can also assist the investor to follow the

modern portfolio theory be selecting the funds with the greatest potential for maximizing portfolio return while considering risk tolerance and investment objectives.

Applications to Professional Practice

The findings of this applied doctoral research project are relevant beyond the academic setting. They are also useful for improving the investment decision-making process of business leaders and individuals. A review of the applicability of these findings to the practice of business will be presented here. It will be augmented by a discussion of the implications of the findings in relation to the practice of professional accountancy. Finally, the findings will be examined with regard to the biblical framework discussed in Section One.

Practice of Business

The subject of the comparative efficacy of Christian-based socially responsible investment funds is well-aligned with the investment practices of modern businesses. Business leaders must carefully choose between different types of investment alternatives (Garrison et al., 2015). Part of that process includes making better investment decisions and planning effectively.

Gwartney, Stroup, Lee, & Ferrarini (2010) suggested that businesses and individual investors should exclusively use index funds instead of mutual funds because of their lower expense ratios. However, the findings of this study illustrate the need to look beyond management fees to determine if an investment fund should be selected. It is possible for mutual funds, like the ones examined in this applied doctoral research project, to outperform index funds despite higher average management fees. Several of

the funds listed in Tables 5 – 10 outperformed the S&P 500 Index by an amount larger than their average management fee. The average management fee of the Christian-based investment funds was 1.17%. Therefore, the recommendation to use only index funds for investment because of lower fees ignores the impact of professional management and investment differentiation on fund performance.

In addition, Mintzberg (2009) stressed the importance of planning as part of the leadership of any organization. Managers must develop a clear method of planning and evaluating investments. Part of this evaluation process includes examining the risks and rewards associated with any decision. The findings of this study will assist Christian organizational leaders in preparing better analyses and making better decisions while attempting to fulfill a desire to invest in a manner consistent with a set of Christian beliefs.

Another benefit of this type of analysis is increased competition and improved product offerings. In, Kim, Park, Kim, and Kim (2014) found that increased competition in the mutual fund market created by the entrance of socially responsible funds fostered the performance of socially responsible investment funds and did not have a negative impact on the overall performance of investment funds without a socially-responsible focus. They also found that most socially responsible investment funds compete with other socially responsible funds rather than traditional mutual funds for new investment dollars. The findings of this project will assist the business leaders and individuals who want to invest in a socially responsible manner to determine how Christian-based investment funds performed against other types of socially responsible funds. Increased

attention to the performance of the Christian-based funds may also lead to improved product offerings and fund performance in the future.

Professional Accountancy

One of the functions performed by accountants is to assist clients in determining the best investment choices for their excess financial resources (Garrison et al., 2015). The accountant is often considered an expert on a wide range of financial issues (AICPA, 2015). Therefore, he or she should make every effort to understand the options available to his or her clients.

When serving the planning and investing needs of Christians, the accountant will need to consider the unique requirements of his or her clients. This includes being prepared to discuss the relative efficacy of choosing different types of investment funds while also meeting his or her clients' desire of honoring the Creator. Christian-based socially responsible investment funds represent one of the options available to investors; however, they might not be the best option. The findings of this project will assist accountants to become better-informed regarding Christian-based investment funds.

Using these results to expand the accountant's knowledge about Christian-based investment funds is also consistent with the agency theory and modern portfolio theory. The modern professional accountant often acts as an agent for his clients (Carey & Tanewski, 2016). Part of the agent's responsibility is to advise his or her clients as they work to achieve their goals (Tan & Lee, 2005). However, the agent should also assist the client to maximize his or her investment opportunities within the given risk tolerance parameters and investment objectives (Resnik, 2010).

As the findings of this study have demonstrated, simply having a Christian moniker is not an indication of the efficacy of the fund. It is important for those advising potential investors to understand all of the advantages and disadvantages of a specific type of investment (Thiagarajan & Schachter, 2011). The clients will look to their accountants to assist them with making wise financial decisions (Carey & Tanewski, 2016), and the accountants need to be prepared to provide this important service.

Professional accountants who possess a Certified Public Accountant designation are bound by a code of ethics. The AICPA's Code of Professional Conduct states that members should offer a full range of services needed by their clients (AICPA, 2015). Part of fulfilling this obligation is to offer a range of services that help to meet the investment needs of an accountant's clients. Certified Financial Planners, stockbrokers, and other types of financial professions are bound by professional standards similar to those developed by the AICPA. Therefore, the findings of this study will be beneficial to them as well.

Biblical Implications

Finally, it is important to understand how investments made by individuals or organizations can be used to advance God's purpose on Earth. The strategic goals informing investment decisions of Christians should be well-aligned with the teachings found in the Bible. For example, St. Paul encouraged believers to "whatever you do, work at it with all your heart, as working for the Lord, not for human masters" (Colossians 3:23, NIV).

The work to which St. Paul was referring extends beyond that day-to-day labor of believers in their vocations. It also includes how Christians live their lives. For example, in another letter that was written by St. Paul, he admonished believers that “whether, then, you eat or drink or whatever you do, do all to the glory of God” (1 Corinthians 1:31, NLT).

Part of the work of Christians includes how they invest the financial resources they have been given by God. This may seem like a simple task, but the investor must be aware that there are threats to accomplishing this goal. Some of the threats may come from within an individual, an organization, or a family, but others may come from outside sources such as competitors, activist groups, or misleading information (Rudy & Johnson, 2013; Soule, 2012). The findings of this project will help Christians to better evaluate their alternatives by providing a balanced view of the funds. This approach is consistent with the goal expressed in Proverbs 11:1 that “the Lord detests dishonest scales, but accurate weights find favor in Him” (NIV). Recognizing the threats facing Christian investors will help them to prepare to deal with them effectively.

Van Duzer (2010) provided a framework to assist Christian business leaders and investors. He suggested that a business leader should ask “how can I best deploy my resources to (1) enable this community to flourish, and (2) provide opportunities for my employees to engage in meaningful and creative work?” (Van Duzer, 2010, p.152). In addition, the Christian investor should ask if the business he or she is considering for investment is following these principles. Christian-based investment funds offer promise for accomplishing this goal because they often use screening devices to identify

businesses for inclusion in their funds. However, the findings of this project have revealed that Christian-based investment funds are not homogeneous.

Van Duzer's (2010) thesis can be applied to individual investors as well as business leaders. It provides the foundation for a broad discussion of the choice of investment options. For example, is the investment in Christian-based investment funds the best use of a Christian's financial resources? Are investments in those types of funds the best way to provide opportunities for the communities to flourish? Would it be better to invest one's funds in an investment vehicle without a specific agenda to maximize profits and then use those excess returns to directly help the local community?

These questions help to illustrate the need for the analysis the researcher provided by completing this applied doctoral research project. Effective financial management, or stewardship, is discussed throughout the Bible. In Proverbs 3:9, the writer says "honor the Lord with your wealth and with the first fruits of all your produce" (ESV). He then goes on to discuss the benefits that will accrue to those who were faithful in following this teaching.

In addition, while the types of investments chosen by the good and faithful servants in the parable of the talents (Matthew 25:14-30) were not defined as religious-oriented activities, it is clear that the Master was concerned that the servants had invested the funds wisely and earned a reasonable return on the money. This parable leads to the question of whether the Christian investor should limit his or her investments to Christian-based investment funds or if it would be better stewardship of the resources to invest them in a broadly-diversified portfolio that does not have a faith-based focus. This

is an especially relevant question if the risk-adjusted yields of the Christian-based investment funds are not at least comparable to those of other types of investment funds.

Finally, Jesus taught about stewardship for the believer. He is quoted in Luke 14:28-30 saying:

Suppose one of you wants to build a tower. Won't you first sit down and estimate the cost to see if you have enough money to complete it? For if you lay the foundation and are not able to finish it, everyone who sees it will ridicule you, saying, 'this person began to build and wasn't able to finish'.

It is clear that Christ felt that believers should carefully plan their actions and investments. Investing in a mutual fund without first weighing the potential costs and benefits would be an example of poor stewardship that could lead to financial loss and humiliation. The findings of this project will add to the current body of research and will assist those considering Christian-based investment funds to weigh the costs and benefits of those types of funds.

Recommendations for Action

The results of this project would be relevant to any investor considering Christian-based socially responsible investment funds. They would also be useful for advisors, such as professional accountants, who are assisting business leaders and individuals considering those types of funds. The findings would also be helpful to managers of mutual fund companies offering those types of products.

This information should be disseminated as widely as possible to assist all interested parties to make better-informed investment decisions. The publication of the

findings in academic and professional journals would be advisable. Alternatively, the information could be disseminated via the Internet using weblogs, social media links, or similar mediums.

Based on the findings of this study, it can be concluded that, as a whole, Christian-based investment funds have not performed on par with the S&P 500 Index. They have also experienced mixed results when compared to other types of socially responsible investment funds. Finally, the results indicate that not all Christian-based investment funds are equal. Therefore, it is important to carefully consider each individual fund before making an investment decision.

Accountants should assist their clients who are considering investing in Christian-based investment funds to evaluate factors such as yield, expense ratio, and risk when choosing between investment options. In addition, the risk tolerance of the client should be considered. Next, the advantages and disadvantages of the type of fund (e.g., Christian-based, environmental focused, etc.) should be discussed with the client. The accountant has a professional obligation to assist the client in making decisions (AICPA, 2015), and that discussion would help fulfill this duty. Finally, the focus of the fund (e.g., large-cap, mid-cap, etc.) should be carefully considered. Different types of funds performed differently in the study period. Recognizing these differences should be a part of the planning and consulting process. The results of this study will assist with the evaluation of the different types of Christian-based investment funds examined.

The number and type of socially responsible investment fund options has expanded exponentially in recent years (Glassman, 2012; Kempf & Osthoff, 2007), and

those types of funds comprise approximately \$200 billion of the current assets invested in mutual funds in America (Blanchett, 2010). In addition, most socially responsible investment funds compete with other socially responsible funds for investment dollars (In et al., 2014). The growth in these types of funds seems to have come from cultural changes influencing the mindset of investors.

This is promising for the future of socially responsible investment funds. However, it is important to understand that not all funds are equivalent. The leaders of accounting firms as well as sole practitioners should carefully consider these factors when developing staff training programs and client service policies and procedures. No staff member should advise a client wishing to pursue this type of investment product without first consulting the information highlighted in this applied doctoral research project.

Finally, those offering mutual funds to the public should consider these findings. Not all Christian-based funds underperformed the S&P 500 Index. It would be advisable to examine the characteristics of the funds that outperformed the benchmark when developing new products or modifying existing mutual fund offerings. The information yielded by this study does not provide a full picture of the differences between the different types of funds. However, it will provide a springboard for future discussion and research. Those working in the mutual fund industry are uniquely qualified to examine the findings of this study and help to improve the product offerings of their organizations. This would make their products more competitive and provide better customer service.

Recommendations for Further Study

This project contributed to the sparse body of literature concerning the efficacy of Christian-based socially responsible investment funds. Additional research is recommended for this area. Some of the recommendations for further study will be presented here.

First, the performance of mixed Christian-based socially responsible investment funds could be studied using a combination of the S&P 500 Index and the Barclays Capital Aggregate Bond Index to prepare the benchmarks for comparison. The benchmark would be created using the target levels of the Christian-based socially responsible funds. For example, the benchmark for a fund with a target allocation of 60% equities and 40% bonds would be calculated by mixing the returns of the S&P 500 Index and the Barclays Capital Aggregate Bond Index in proportional amounts.

Next, the performance of Christian-based socially responsible bond funds could be examined. The Barclays Capital Aggregate Bond Index would be used as the benchmark for analyzing the performance of the funds. The average age to maturity of the holdings in the Christian-based bond funds would also be compared to the benchmark averages.

In addition, target date Christian-based socially responsible investment funds could be studied. Those funds have a target date for the retirement of the holder, and they automatically reallocate fund assets periodically to become more conservative as they approach the stated target date. A combination of the S&P 500 Index and the Barclays Capital Aggregate Bond Index would be used to prepare the benchmarks for

comparison. The benchmark would need to be adjusted at each interval of change for the target funds.

Also, the returns of Christian-based socially responsible investment funds domiciled outside the United States could be evaluated. Two benchmarks could be used for those funds: (a) the yields of the US-based funds and (b) country-specific indices for each plan. The researcher examined the returns of the US-based funds in this study. The country-specific indices would depend of the country in which the fund is domiciled. For example, a fund domiciled in Germany would use the Deutsche Boerse AG Index. The comparison of the foreign funds with the US-based funds could also include a comparison of how well each group performed compared to its respective country-specific benchmarks.

Next, the best-performing and worst-performing Christian-based socially responsible investment funds could be examined to determine if they share any common factors. For example, perform an examination to determine if weighting in a specific industry correlated with overall fund performance. Also, determine if there is overlap in the top holdings of each group of funds and if the overlap is correlated with fund performance.

Finally, other types of religious-based socially responsible funds, such as Islamic-based funds, could be compared to benchmark returns over the same 20-year period of this study. The returns of those funds could also be compared to Christian-based funds, either US-based or foreign-based, for additional benchmarking.

Reflections

As a Christian, I began this study hoping to find positive results regarding the efficacy of the Christian-based socially responsible investment funds. I felt there were three possible conclusions for the study: (a) Christian-based funds outperformed their benchmarks, (b) Christian-based funds experienced returns equivalent to their benchmarks, and (c) Christian-based funds underperformed their benchmarks. I would have concluded that the results of the project were positive for the Christian-based funds if the data had supported the first or second conclusions.

Obviously, past performance of any investment fund does not guarantee future results. This study relied on historical data gathered from publicly-available sources. This design helped to prevent investigator bias in the analysis. If either of the first two conclusions had been reached, then the investor considering Christian-based funds could have found some amount of comfort including these types of funds in his or her portfolio options.

The findings of the study did not provide the clear results I hoped to see. In fact, they were negative with regard to the overall performance of the Christian-based investment funds in many comparisons. However, the project results also highlighted some positive items for Christian-based investment funds. In nearly every time period examined, some Christian-based investment funds outperformed the S&P 500 Index.

I believe this project provided a significant benefit to business practice, professional accountancy, and society at large. The study helped to provide guidance to those considering Christian-based socially responsible investment funds. In addition, the

variance in the performance of the Christian-based investment funds discussed in this project illustrated the need for careful analysis before making investment decisions.

Furthermore, I do not believe my results will discourage the consideration of Christian-based investment funds by would-be investors. It seems that those who have chosen to invest in socially responsible investment funds, such as Christian-based funds, have already made the decision to invest in a way consistent with their beliefs (In et al., 2014). The results of this project should not dissuade those investors. Instead, the findings will simply illustrate the need for diligence when selecting among investment alternatives. This is where the assistance of professional accountants or other types of financial advisors will be most beneficial to investors.

The findings of the project helped to shape my personal views on Christian-based socially responsible investment funds. I had no direct experience with the funds before beginning the study. I had not invested in them, and I had only limited conversations with others about the funds before beginning the process of developing and conducting this applied doctoral research project. My hope to find overall positive results with regard to the funds was based entirely on my personal faith and my hope to see an enterprise that purports to support Christian values succeed.

The findings of the study also encouraged me to reflect on the teachings found in the Bible. In Proverbs 16:16, we are reminded “how much better to get wisdom than gold, to get insight rather than silver” (NIV). The value of gaining wisdom is repeated throughout the Bible (Ecclesiastes 7:12; Job 28:12-19; Proverbs 4:5-9). The results of this project provide insight into the efficacy of Christian-based socially responsible

investment funds. This knowledge will be valuable to would-be investors because they will be able to use it to make wise choices regarding the use of the resources with which they have been blessed.

In addition, the findings of the study are useful in following the example of Jesus' teaching in the parable of the talents in Matthew 25:14-30. Christianity teaches that everything an individual has is a gift from God (James 1:17). Like the master in Jesus' parable, God expects Christians to be faithful servants who wisely use the resources He has given them. The findings from this study will provide assistance to Christian investors as they consider if investing in Christian-based funds is a wise use of the resources they have been given.

Overall, I am pleased with the results of the study. They were not the results I initially hoped to find. However, I am glad that I conducted the study. It helped to fill a gap in the current body of research. In addition, the findings may lead to future research in this area.

Summary and Study Conclusions

The researcher designed and conducted this applied doctoral research project to examine the efficacy of Christian-based socially responsible investment funds. The researcher also compared the risk-adjusted yields of the funds to those of the S&P 500 Index as well as other types of socially responsible investment funds during the period of 1995 to 2015. Finally, the researcher examined and discussed the differences in the performance of individual funds within the Christian-based funds category.

The results of this project will help to address a gap in the current body of literature concerning the efficacy of Christian-based socially responsible investment funds. Prior studies did not examine the entire body of funds available to investors in the same manner as this project. In addition, other studies did not use the same number and types of benchmarks to measure fund performance. Finally, the 20-year time frame for the project was longer than most studies examining fund performance. This longer time frame helped to account for natural ebbs and flows in the market cycles.

Overall, the Christian-based funds underperformed the S&P 500 Index. The difference was statistically significant at the $\alpha = .10$ level for each time period examined. In addition, the Christian-based funds experienced mixed results when compared to other types of socially responsible investment funds. The Christian-based funds outperformed other socially responsible funds only once in all of the groups of comparisons, and that difference was not statistically significant. Only six of the fourteen comparisons were statistically significant, and the majority of them were related to large-cap funds. In each of those instances, the Christian-based funds underperformed the other socially responsible funds. Finally, the researcher identified the top-performing Christian-based socially responsible investment funds during the study. In nearly all time periods examined, at least one Christian-based socially responsible investment fund outperformed the S&P 500 Index. These results point to a great amount of variability within the body of Christian-based funds that must be carefully considered by would-be investors.

Not all investment options are equal, and it is important to carefully consider these differences before making investment decisions. The findings of this project are

useful to those considering investments in Christian-based socially responsible investment funds. They are also useful for financial professionals (e.g., accountants, advisors, brokers, and so on) who are assisting their clients to make informed investment decisions.

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Appendix A: Christian-Based Socially Responsible Investment Funds Used

| Fund Name | Inception Date |
|---|----------------|
| Ave Maria Catholic Values Fund | 5/1/2001 |
| Ave Maria Growth Fund | 5/1/2003 |
| Ave Maria World Equity Fund | 4/30/2010 |
| Eventide Gilead Fund | 7/8/2008 |
| GuideStone Defensive Market Strategies Fund | 9/1/2011 |
| GuideStone Emerging Markets Equity Fund | 10/31/2013 |
| GuideStone Equity Index Fund | 8/24/2001 |
| GuideStone Growth Equity Fund | 8/27/2001 |
| GuideStone International Equity Fund | 8/27/2001 |
| GuideStone Small Cap Equity Fund | 8/27/2001 |
| GuideStone Value Equity Fund | 8/27/2001 |
| LKCM Aquinas Growth Fund | 1/3/1994 |
| LKCM Aquinas Small Cap Fund | 1/3/1994 |
| LKCM Aquinas Value Fund | 1/3/1994 |
| New Covenant Growth Fund | 7/1/1999 |
| PAX Capital Appreciation Fund | 1/4/2010 |
| PAX Small Cap Fund | 3/27/2008 |
| PAX World Growth Fund | 6/11/1997 |
| Praxis Growth Index Fund | 5/1/2007 |
| Praxis International Equity Fund | 12/31/2010 |
| Praxis Small Cap Fund | 3/27/2008 |
| Praxis Value Index Fund | 5/1/2001 |
| Steward Global Equity Fund | 4/1/2008 |
| Steward International Enhanced Equity Fund | 2/28/2006 |
| Steward Large Cap Enhanced Equity Fund | 10/1/2004 |
| Steward Small Cap Enhanced Equity Fund | 3/31/1952 |
| Thrivent Large Cap Growth Fund | 10/29/1999 |
| Thrivent Large Cap Stock Fund | 7/16/1987 |
| Thrivent Large Cap Value Fund | 10/29/1999 |
| Thrivent Mid Cap Stock Fund | 6/30/1993 |
| Thrivent Partner Emerging Markets Equity Fund | 8/31/2012 |
| Thrivent Small Cap Stock Fund | 12/29/1997 |
| Timothy Plan Aggressive Growth Fund | 10/5/2000 |
| Timothy Plan Emerging Markets Fund | 12/3/2012 |
| Timothy Plan International Equity Fund | 5/3/2007 |
| Timothy Plan Israel Common Values Fund | 10/12/2011 |
| Timothy Plan Large/Mid Cap Growth Fund | 7/31/2003 |
| Timothy Plan Large/Mid Cap Value Fund | 7/14/1999 |
| Timothy Plan Small Cap Value Fund | 3/24/1994 |