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Excess Corporate Cash and Mutual Fund Performance

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This is to certify that the doctoral study by

Shay Richardson

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Abstract

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by

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Corporations may experience lower earnings on assets due to the underinvestment of excess cash. Specifically, leaders of nonfinancial firms hold small amounts of cash in mutual fund investments. The primary benefit to understanding mutual funds is the potential to use them to manage excess corporate cash. Using the efficient market hypothesis as a framework for the study, the purpose of this correlational study was to examine the relationship among mutual fund expenses including 12b-1 fees, sales load at purchase, management fees, total capitalization, and performance. Secondary research databases were used, including the Steele Mutual Fund Expert and the U.S. Securities and Exchange Commission, to create a sample of 96 actively managed mutual funds for the years 2010 to 2014. Multiple regression analysis revealed that 12b-1 fees, sales load at purchase, management fees, and total capitalization were not significant predictors of mutual fund performance. Further, in most years, actively managed mutual funds were not able to outpace the benchmark index. However, a small cluster of successful mutual funds (30) exceeded the performance of the S&P 500 by 5.99%. The implications for positive social change include the potential to devise a strategy to invest excess cash, as additional earnings could offset increasing operational costs and ease shareholder concern. Additionally, legislators could use the results of this study to create regulations to promote stable financial markets.

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Dedication

I would like to dedicate this study to my oldest brother, Richard. Unfortunately, he lost his life to gun violence in January of 1997 when I was still a high school student. He was not able to see me graduate then. He has missed many other special occasions as well. However, not this time. Now, I have an opportunity to include his spirit in my work. I truly miss you my friend. I miss your energy, your laughter, and especially that raspy singing voice.

Acknowledgments

This study may not have been completed without the help of many caring and supportive individuals. To my mother Eula, thanks for raising me, being my advocate, and teaching me to be strong. To my wife Jaime, you have provided encouragement throughout my educational journal, especially during times when I could not find the strength to continue. To our three children (Jeremy, Sofia, and Lucia), the completion of this study demonstrates that if you remain focused and dedicated all things are possible. I would also like to salute the faculty of Walden University for their assistance in helping me find my academic voice. Thank you Dr. Mayer for your persistent and helpful reviews of my work, as well as your continuous encouragement. There were many times when we spoke that you seemed more interested and enthusiastic about my research than I was. This was very encouraging and made me want to complete my study because I did not want to disappoint you. I would also like to thank Dr. Schafer and Dr. Davies who provided timely and helpful feedback to ensure that my work was of high quality. Without your expertise, this study would not have been possible.

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Section 1: Foundation of the Study

Corporate leaders must make critical decisions about their long- and short-term cash management positions (Al-Najjar, 2013). Al-Najjar reasoned that senior leaders based their cash management decisions on the costs and benefits of accumulation. For example, corporate leaders hold cash to hedge against the risk of future cash flow uncertainty (Gao, Hartford, & Li, 2013; Kim, Kim, & Woods, 2011). An increase in cash reserves is customary when leaders believe that future external financing options might be too expensive (Kim et al., 2011; Simutin, 2010). Consequently, when some firms reserve excess cash, future yields decrease due to the underinvestment of capital (Simutin, 2010). In addition, high levels of excess cash can negatively influence corporate value, indicate that leaders have not identified investment opportunities, and increase the chance of mismanagement (Oler & Picconi, 2014; Sun, Yung, & Rahman, 2012; Tong, 2011).

Firms with large cash holdings have received much attention from shareholders. Because of persistently large corporate cash holdings, investors have demanded the return of uninvested, excess cash, as a special dividend payment, to discourage management from making wasteful purchases (Lee & Powell, 2011). Thus, corporate leaders may need to investigate alternative strategies to manage excess cash in lieu of returning uncommitted funds to shareholders.

Background of the Problem

Corporate leaders most often hold cash in fixed, passive investments such as government bonds (Almeida, Campello, Cunha, & Weisbach, 2013). However, in the

long term, strategies that incorporate the assistance of fund managers have the potential to outperform other investment strategies (Chen, Comerton-Forde, Gallagher, & Walter, 2010; Grobys, 2012). An active management strategy that corporate leaders can use is to invest excess cash in mutual funds. By investing in mutual funds, corporate leaders can leverage the skillset of mutual fund managers who have the ability to design and maintain portfolios that balance the risk versus reward trade-off (Van Lear, 2010).

Moreover, the typical business environment presents numerous challenges that require the attention of executives. Corporate leaders are increasingly under pressure to meet long- and short-term financial expectations (Akrivou, Bourantas, Mo, & Papalois, 2011). To mitigate the complexities within the decision-making process, more leaders seek outside expertise because nonemployees can effectively evaluate and present alternatives that are often difficult to unearth internally due to biases (Alexiev, Jansen, Van den Bosch, & Volberda, 2010). In addition, most people without a financial background do not maintain the adeptness to empirically investigate mutual fund performance themselves as multiple determinates of performance require further explanation to provide clarity (Ferreira, Keswani, Miguel, & Ramos, 2013; Li & Lin, 2011).

Problem Statement

Decisions made by corporate treasurers may lead to lower earnings and return on assets (ROA) due to the underinvestment of excess cash (Meier, Bozec, & Laurin, 2013). In 2011, nonfinancial U.S. corporations had $1.6 trillion in cash remaining on their balance sheets (Sánchez & Yurdagul, 2013), of which approximately 1.14% represented

investments in mutual funds (Federal Reserve Board of Governors, 2014). Corporate treasurers face the dilemma of paying fees to invest cash holdings in mutual funds or adopt a self-directed strategy by investing cash holdings directly into the financial markets. The general business problem is that corporate treasurers may be underinvesting cash holdings. The specific business problem is that some corporate treasurers have a limited understanding of the relationship among mutual fund expenses including 12b-1 fees, sales load at purchase, management fees, total capitalization, and performance.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship among mutual fund expenses including 12b-1 fees, sales load at purchase, management fees, total capitalization, and performance. The independent variables included expense ratio and capitalization measurements. The mutual fund expense ratio used included 12b-1 fees, sales load at purchase, and management fees. Mutual fund total capitalization was the total net assets under management. The dependent variable was mutual fund annual performance as compared to the S&P 500. The population used for the study was all open-ended, equity mutual funds that invest in publicly traded U.S.-based companies. In addition, implications for positive social change include improved understanding of the correlates of mutual fund performance, thus equipping corporate leaders with knowledge needed for long-term sustainability.

Nature of the Study

Available methods of inquiry for this study include quantitative, qualitative, or mixed methods (Symonds & Gorard, 2010). I conducted the study using the quantitative

methodology. Researchers conduct quantitative studies by analyzing numerical data so that they may objectively and quantifiably substantiate any generalizations made about a target population (Szyjka, 2012). The quantitative method was appropriate for this study because the intent was to examine numerical characteristics of mutual funds and make generalizations concerning its results.

Consequently, the qualitative method was not appropriate for this study. Qualitative studies are appropriate when researchers are seeking to develop new theories or when there is an attempt to describe the perceptions and experiences of individuals who have endured a common phenomenon (Sergi & Hallin, 2011). In addition, mixed methods combines the qualities of quantitative and qualitative approaches as related to the collection and analysis process and is not preferred because the scope of the research project does not require the qualities of both approaches when collecting and analyzing data (Lopez-Fernandez & Molina-Azorin, 2011).

Several types of quantitative research designs include correlational, experimental, and descriptive (Anastas, 1999; Chen, 2011; McLeod, 2008). I chose a correlation design for this study because correlation research seeks to establish a relationship between two or more variables (McLeod, 2008). The correlation design was appropriate for this study because its purpose is to predict the relationship between independent variables (expenses and capitalization) and the dependent variable (mutual fund performance).

Experimental designs are appropriate when the researcher plans to manipulate the independent variables in an attempt to study the reaction of the dependent variable (Chen, 2011; Stangor, 2011). Descriptive designs are important to researchers who are studying

a phenomenon in its natural setting without a search for its cause or interpreting the relationship of variables (Anastas, 1999). The aim of this study was to establish that a relationship existed, not causation. In addition, the data were not manipulated. Thus, experimental and descriptive designs were not appropriate.

Research Question

The overarching research question was: What is the relationship among 12b-1 fees, sales load at purchase, management fees, total capitalization and performance? The study included the four independent variables: 12b-1 fees, sales load at purchase, management fees, and total capitalization. The dependent variable was annual performance as compared to the S&P 500. Based on the overreaching research question (RQ), the supporting research questions and hypotheses were as follows:

RQ1: To what extent does 12b-1 fees relate to mutual fund performance?

RQ2: To what extent does sales load at purchase relate to mutual fund performance?

RQ3: To what extent does management fees relate to mutual fund performance?

RQ4: To what extent does total capitalization relate to mutual fund performance?

Hypotheses

H_{01}: There is no significant statistical relationship between 12b-1 fees and mutual fund performance.

H_{a1}: There is a significant statistical relationship between 12b-1 fees and mutual fund performance.

H_{02}: There is no significant statistical relationship between sales load at purchase and mutual fund performance.

H_{a2}: There is a significant statistical relationship between sales load at purchase and mutual fund performance.

H_{03}: There is no significant statistical relationship between management fees and mutual fund performance.

H_{a3}: There is a significant statistical relationship between management fees and mutual fund performance.

H_{04}: There is no significant statistical relationship between total capitalization and mutual fund performance.

H_{a4}: There is a significant statistical relationship between total capitalization and mutual fund performance.

Theoretical Framework

I used the efficient market hypothesis as a framework for the study. Bachelier (1900) addressed market efficiency in seminal research on speculation by establishing that stock price movements did not follow a serial path, indicating randomness and unpredictability. Fama (1965) extended Bachelier's work by confirming that markets were efficient due to information availability. Fama (1970) postulated that the current price of an asset encompasses all known information and that there are limits to arbitrage opportunities available due to weak form, semi strong form, and strong form market efficiency.

Yalcin (2010) theorized that there is no advantage to paying fund managers because no one has the ability to predict the financial market. Yet, some fund managers perform strategies that yield surplus returns (Bodson, Cavenaile, & Sougne, 2011). Moreover, when return increases, the size of mutual funds will expand due to cash from new investors (Pastor & Stambaugh, 2012). However, portfolio sizes that deviate from the optimum point may produce subpar returns because the additional trading results in parity with the performance of the market (Bodson et al., 2011). In addition, excess dollars introduced by new investors drive up prices making it difficult for active managers to uncover successful opportunities (Pastor & Stambaugh, 2012). Thus, fees paid by investors for active mutual fund management often reduces or negates surplus returns (Cuthbertson, Nitzsche, & O'Sullivan, 2010; Fama & French, 2010). The efficient market hypothesis was applicable to the study because an examination of relationships in the financial markets is a test of randomness and independence of asset price movements.

Operational Definitions

Arbitrageurs: Arbitrageurs are investors who seek out mispriced assets for profit (Choi, Getmansky, Henderson, & Tookes, 2010).

Equity mutual fund: Equity mutual funds are mutual funds that primarily invest in U.S. common stocks (Fama & French, 2010).

Excess cash holding: Excess cash holding is cash that remains after operating and investment expenses have been resolved (Frésard & Salva, 2010).

Forms of efficiency (weak, semi strong, strong): Forms of efficiency are the systematic movements of the financial markets based upon the availability of

information, from publicly historical data to data only known by company insiders (Fama, 1970).

Mutual fund: A mutual fund is a group of assets pooled together to invest in such assets as stocks, bonds, and money market instruments designed to achieve surplus return (Sivakumar, RajaMohan, Sezhiyan, & Narsimhulu, 2010).

Mutual fund capitalization: Mutual fund capitalization is the total net assets of a mutual fund in U.S. dollars (Baghdadabad & Houshyar, 2014).

Mutual fund expenses: Mutual fund expenses are load charges (front/rear), management fees, and 12b-1 fees charged by fund managers (Kaushik, Pennathur, & Barnhart, 2010).

Mutual fund manager: A mutual fund manager is an individual or group who manages a portfolio of assets through purchasing and selling to satisfy client objectives with the goal of achieving surplus returns (Costa & Jakob, 2011).

Performance: Performance is a measure of return higher than the benchmark or market return such as the S&P 500 (Newton & Bacon, 2012).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are statements used to acknowledge circumstances that are beyond the researcher's control that could potentially jeopardize the validity of their findings (Kirkwood & Price, 2013). I assumed that all data published in the Steele Mutual Fund Database and the Edgar Database were accurate, and that the indicators of 12b-1 fees,

sales load at purchase, management fees, and total capitalization were accurate measures to determine mutual fund performance for the selected years of the study.

Limitations

Limitations are biases that can potentially pose a threat to the validity of the study due to characteristics of the research design or the process by which the results are interpreted (Brutus, Gill, & Duniewicz, 2010). To test the research hypotheses, I used public databases that contained mutual fund and S&P 500 financial data. The findings of this study might not be generalizable due to the use of a specific period, type of mutual funds, and sample size. Moreover, there was a limitation due to the impossibility of isolating all variables and all conditions related to mutual fund performance. Further, any correlation among variables is not an indication of causality (Gardner, 2000).

Delimitations

Delimitations define the controlled parameters of the study by establishing boundaries (Pereira, 2012). The focus of the study was to investigate the relationship among expenses, total capitalization, and mutual fund performance (as compared to the S&P 500). I limited the study to a purposive sample of open ended, U.S. equity mutual funds and performance data of the S&P 500 for the period 2010 to 2014. Thus, the results of the study might only apply to the specified period and type of mutual funds selected.

Significance of the Study

Contribution to Business Practice

The results of the study may assist corporate leaders in identifying strategies to alleviate the burden that excess cash places on corporate balance sheets. When

corporations exceed optimum cash levels, inefficiencies persist. In the midst of excess cash environments, corporate leaders are more prone to pursue negative value enhancing projects that are not in the best interest of shareholders and there is a lack in profitability due to idle cash earning low returns (Kim et al., 2011; Lee & Powell, 2011). Both situations could lead to a lower market value for publicly traded corporations if investors perceive that opportunities exist for cash mismanagement (Frésard & Salva, 2010; Sun & Wang, 2013). Thus, corporate leaders can use the results of the study to strengthen cash management policies.

Implications for Social Change

Academicians and policy makers who have a desire to increase financial stability may benefit from the results of the study. Academicians could further enhance the results of the study through additional testing under various economic conditions with hope for developing financial models that are more refined. Policy makers could use the results of the study to establish legislation that could potentially lead to financial stability by encouraging corporate leaders to maintain cash at optimum levels and invest excess cash in the market to serve two purposes: (a) increase return on investment to corporations and (b) increase economic activity by investing in the financial markets. Further, research in this area is potentially vital because shareholders place great emphasis on excess cash due to potential governance issues arising from internal management (Frésard & Salva, 2010) and the affect excess cash has on profitability (Lee & Powell, 2011).

A Review of the Professional and Academic Literature

The purpose of this quantitative study was to investigate the relationship among mutual fund expenses, total capitalization, and performance. The investigation of using mutual funds as a potential investment alternative for excess corporate cash, as well as understanding the relationship between mutual fund performance and fund specific characteristics, commenced with a review of related professional and academic literature. The literature review is an essential component of the research study as it provides an exhaustive analysis of the subject matter, defines the theoretical framework, support for the study's research methodology, and substantiates the research problem (Callahan, 2010).

The structure of the literature review consisted of in-depth discussion about the theoretical framework, corporate cash holdings, mutual fund characteristics, and the methodologies used to examine mutual fund performance. The review provided an understanding of how corporate leaders can better manage excess cash by using actively managed mutual funds. In conducting the scan of academic literature, I used Walden University's library databases including Business Source Complete, ABI/INFORM Complete, Emerald Management Journals, and Sage. Topics for the search included the key words *efficient market hypothesis*, *excess cash holdings, excess cash issues*, *mutual fund, mutual fund performance*, *costs of mutual funds, size and mutual fund performance*, *predictability of mutual fund performance,* and *problems with mutual fund performance*. The literature review included 188 references, which 98.4% are from peer-reviewed sources with 90.4% published within the last 3 to 5 years.

Efficient Market Hypothesis

The premise of the efficient markets hypothesis is that stock prices reflect news immediately (Malkiel, 2003). Therefore, prices react to news entering the market with appropriate magnitude. Thus, efficient markets do not overact or underact to new information or display any patterns (Sakr, Ragheb, Ragab, & Abdou, 2014). Given the relationship between information and stock prices, any investor, regardless of their level of finance education, would have an equal ability to construct a diversified portfolio that earns high returns that is comparable with that of financial experts (Malkiel, 2003). The efficient market hypothesis suggests that subsequent changes in stock prices take place as new information enters the market because each instance of news or public indication of firm level changes would be reflected at random intervals (Malkiel, 2003).

Early Theory Development. Efficient market hypothesis derives its foundation from that of the random walk theory. Early work on the random walk theory began with seminal research by Bachelier (1900). Bachelier developed a mathematical model of speculation to determine that a speculator's gain in timing or predicting the market is zero. Fama (1970) noted the zero sum gain existed because patterns of market activity were too random in nature to predict future price changes. Random walk theory also presupposes that a speculator cannot use past behavior to predict future activity (Borges, 2010).

Kendall (1953) reaffirmed random market activity by analyzing short-term movements in 22 price series including 19 industries, 2 commodities, and monthly averages of previous time series. Kendall observed that movement of prices was

widespread and independent of each other. Kendall further posited that any gains experienced by investors were due to luck, general price appreciation of all securities, nonpublic information, timing, or in instances where fees were of little concern. Thus, the probability of stock price appreciation has an equivalent chance of happening just as stock price depreciation. The market maintains no memory of prices and what has happened in the past is not necessarily a good indicator of what is to come in the future (Cootner, 1964).

Samuelson (1965) developed a stochastic model of price changes to demonstrate that future price changes did not depend on past patterns. Price changes were thus a random event. Samuelson's model, based on prices and probabilities, hypothesized that historical price information could not be used to profit in the financial markets because all known information was already reflected in existing prices, at least as in the case of spot and future wheat commodity prices. In addition, Samuelson acknowledged that at some point the financial markets would succumb to economic law and react to changes in supply and demand, which some profiteers might use to make investment changes in anticipation of the future. Yet, Samuelson contended that the theorem of pricing contained many deductive assumptions, which were difficult to verify empirically.

Fama (1965) expanded the analysis of the random walk theory and assessed each component of the theory (independent price changes and probability distribution) independently using a dataset of the Dow Jones Industrial Average for the period 1957 to 1962. Fama's empirical work supported the random walk theory. Specifically, in using serial correlations, Fama substantiated that no evidence suggested a dependency between

past prices and future prices. Fama determined that as long as there is no dependency of prices from one time series to the next, the only possible way that price prediction can transpire is by knowing information beforehand that will ultimately affect prices later.

Fama (1970) refined his research by providing a historical and theoretical review of efficient models of market behavior including: fair game, random walk, and sub martingale which emphasized the impossibility of predicting patterns of movement due to efficient capital allocation in the market. In addition, Fama defined forms of efficiency and expanded the theory by introducing three subsets of efficiency: weak form, semistrong form, and strong form. The weak form of the theory considers market participants using historical prices, dividend yields, and interest rates to make investment decisions. The semistrong form considers firm-level information revealed to market participants such as new product development. The strong form considers all information including that known only by insiders and the information readily available to market participants.

Moreover, Fama (1970) provided empirical evidence on the existence of efficient markets; predicating his model on the presumption that market equilibrium was represented by expected returns and that the market contained participants who were rational and some who were irrational, as well as arbitrageurs who buy/sell assets from/to irrational investors in an attempt to make a profit. However, profit opportunities diminish for arbitrageurs due to the random trading activity of irrational investors and the quick availability of information (Yalcin, 2010).

Lo and MacKinlay (1988) investigated market efficiency using weekly stock market returns for the period September 1962 to December 1985. Based on variance estimators, they found that stock prices do not follow a random path, especially when it comes to small cap stocks. However, Lo and MacKinlay found evidence to suggest positive serial correlations for both weekly and monthly periods but admitted that even though they rejected the idea of market efficiency in their experiment, it did not mean that markets are definitely inefficient because when constructing time series models multiple factors could lead to different empirical results.

Yet, the literature contains a multitude of empirical studies where researchers provided support and opposing arguments regarding the efficiency of financial markets. In recent times, there have been numerous studies conducted domestically and internationally that present contradictory findings due to instances of calendar anomalies, regulatory changes, or major market shifts (Abdmoulah, 2010; Deyshappriya, 2014; Guidi, Gupta, & Maheshwari, 2011; Sewell, 2012). Hence, as these particular events take place, profiteers could potentially generate surplus returns in the market.

Support for the Efficient Market Hypothesis. From the perspective of both U.S. financial markets and international financial markets, some researchers have determined various levels of market efficiency using multiple statistical measures of times series. In studying the U.S. financial market, Murthy, Washer, and Wingender (2011) used several univariate, unit roots test to determine time series properties for the period from 1971 to 2009. Murthy et al. determined that the U.S. stock markets were nonstationary and maintained no predictability.

Similarly, Chung and Hrazdil (2010) performed a two-stage regression to explain the effects of new information entering the market and determined that the U.S. stock markets displayed efficiency for the period from 1993 to 2004. As information improves, prices in the market become more efficient, reflecting the new information as return predictability diminishes (Chung & Hrazdil, 2010). Thus, those who seek to profit in environments where market efficiency is present may face difficulty in meeting objectives.

As U.S. financial markets became more sophisticated and developed, the focus of efficient markets research shifted to international or emerging markets. Agathee (2012) examined the momentum effect on the Mauritius Exchange for the 2001 to 2009 period and found minor evidence of its presence; however, the evidence does not refute the efficient market hypothesis. Ajao and Osayuwu (2012) and Sakr et al. (2014) found financial market efficiency in both the Nigeria and Egypt. In conducting their research Ajao and Osayuwu performed serial correlation test, runs test, and the Box-Pierce test for the period from 2001 to 2010. Sakr et al. performed a Fama-Macbeth cross sectional regression analysis on 48 stocks for the period from May 2004 to December 2010. Due to the discovery of efficient markets in both studies, no surplus returns are present in the Nigerian or Egyptian financial markets.

Opposing Views of the Efficient Market Hypothesis. To earn above market returns, profiteers can take advantage of arbitrage opportunities in many international financial markets. Harper and Jin (2012) and Khan, Ikram, and Mehtab (2011) tested the Indian stock market for efficiency. Using autocorrelations tests to determine randomness

(or independence in times series) Harper and Jin revealed that the Indian stock exchange is not efficient for the period from July 1997 to December 2011. Khan et al. had similar findings for the period from April 2000 to March 2010 using runs tests to determine independence. Mehla (2012) also determined that the Indian financial markets did not support the weak form version of the efficient market hypothesis when considering daily and weekly returns for various timeframes during the 1997 to 2011 period.

Jarrett (2010) examined the Pacific basin stock exchanges of Singapore, Malaysia, Korea, and Indonesia using daily return data for the period from 1975 to 2000. The results indicated that all stock markets demonstrated inefficiency. Jarett acknowledged that the violation of the weak form version of the efficient markets hypothesis might be due to the underdevelopment of the financial markets in the sample and may change as the market matures.

In Sri Lanka, Deyshappriya (2014) and Wickremasinghe (2011) examined market efficiency of the Colombo stock exchange. Deyshappriya believed that profiteers could be successful in purchasing stocks on certain days of the week. For the period from January 2004 to June 2013, Deyshappriya used ordinary least squares and generalized autoregressive conditional heteroskedastic (GARCH) regression to discover a day of the week and monthly effect for the sample period, suggesting that investors could use information gained when the financial markets were not in session to make profitable trades when markets opened. Likewise, Wickremasinghe examined macroeconomic indicators' influence on the behavior of the Colombo stock exchange and found a cointegrating relationship and three casual relationships between macroeconomic

indicators and equities suggesting the existence of inefficient financial markets in Sri Lanka as arbitrageurs could earn a profit by studying macroeconomic indicators to predict market movement.

Rodriguez (2012) examined the market efficiency of Argentina, Brazil, Colombia, Mexico, and Peru using GARCH regression for the period from 1993 to 2007. The researcher discovered the prevalence of the day-of-the-week effect. In particular, markets displayed lower returns on Mondays and higher returns on Fridays. In addition, some markets appear more volatile on Mondays than on Fridays.

Hamid, Suleman, Shah, and Akash (2010) studied the efficiency of 14 Asian markets for the period from January 2004 to December 2009. Using autocorrelation, Ljung-Box Q-statistic test, runs test, unit root test, and variance ratio tests, the researchers found that all markets are inefficient. Similarly, Dong Loc, Lanjouw, and Lensink (2010) investigated financial market efficiency of Vietnam for the period from July 2000 December 2004 to determine that the market is not weak form efficient. Thus, profiteers can earn surplus returns when implementing an active portfolio strategy.

Frisch, Kolaric, and Schiereck (2014) examined the market reaction of large price swings (+/− 20%) in the South African stock market to determine whether emerging markets were efficient. For the period from January 2003 to December 2011, the researchers assessed data for the FTSE/JSE Top 40 index. Using the GARCH, the researchers made a number of observations. First, positive average cumulative abnormal returns (ACARs) followed large price increases and were statistically significant for Months 3, 12, 24, and 36 after the price swing. The same is true for price declines;

however, the ACARs are smaller and are only significant in Months 3 and 24. The discovery of these patterns reveals that the South African Stock market is not 100% efficient (Frisch et al., 2014); thus, speculators could potentially earn surplus returns in the market.

Inconsistencies of Market Efficiency. In some financial markets, there have been interchanging periods of market efficiency for a variety of reasons. Sewell (2012); Guidi et al. (2011); and Šonje, Alajbeg, and Bubaš (2011) noted a shift to financial market inefficiency after regulatory changes, major crises, or when analyzing different types of return. Sewell conducted five statistical tests using daily, weekly, monthly, and annual log returns of the Dow Jones Industrial Average to confirm the efficient market hypothesis for the period from October 1928 to March 2012 using multiple tests for autocorrelation, mutual dependence, market memory, and stock picking strategies.

Sewell (2012) found that auto correlations were close to zero for daily and weekly log returns indicating efficiency; however, this did not hold for monthly and annual returns. Using the runs tests, Sewell determined daily returns to be dependent; however, the same was not true for monthly and weekly returns. Thus, daily returns appeared to be in opposition of the efficient market hypothesis. The researcher also determined that the market does not possess any long-term memory. In other words, the past market activity had no relationship to future market activity. Likewise, technical analysts have no ability to predict future market activity, especially during bull markets, as there is a strong negative correlation between the implemented strategy and the behavior of the market in

the long term (Sewell, 2012). These results hold in the long term because the market is inefficient due to investors having finite investment horizons (Sewell, 2012).

Hammami (2013) examined efficiency in both bull and bear markets for the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), and the National Association of Securities Dealers Automated Quotation (NASDAQ) for the period 1927 to 2009. The results uncovered patterns of abnormal profitability only during good times, which seemed to disappear after 1993. Nonetheless, there is evidence that active portfolio managers can exploit imperfections during bull markets (Hammami, 2013).

Akber and Muhammad (2013) tested the Karachi Stock Exchange for market efficiency using parametric and nonparametric techniques for the period 1992 to 2013 and found that the overall market displays signs of inefficiency. However, the last few years of the sample indicate that the market is becoming more efficient. Thus, there is room for investors to earn surplus returns in the Pakistani financial markets.

Guidi et al. (2011) analyzed the Central and Eastern European markets for efficiency for the period January 1999 to January 2009 using autocorrelation tests, runs tests, variance ratio tests, and the GARCH model. Guidi et al. observed that the Central and Eastern European equity markets did not follow a random path and there was an improvement in market efficient after some countries became members of the European Union; however, equity markets in Slovakia and Bulgaria remained inefficient. In addition, 57% of the financial markets displayed momentum (Monday and Tuesday effect). After joining the European Union, more financial markets became inefficient.

Šonje, Alajbeg, and Bubaš (2011) tested both the Croatian stock market and the

U.S. stock market for efficiency for the period January 1997 to September 2010, the researchers examined daily trading data for the Zagreb Stock Exchange and the New York Stock Exchange (NYSE). The results of the autocorrelation test reveal that both the Zagreb Stock Exchange and the NYSE showed signs of market inefficiency during the 2002 to 2010 period. When viewing monthly data before the crises, both financial markets are efficient. However, when viewing daily data, the U.S. financial market appeared to be efficient before the 2008-2009 financial crises. The efficiency of the Croatian markets is not conclusive when viewing daily data. The researchers contend that both markets displayed deviations of autocorrelation over time. Lastly, when viewing investment strategies, they found there is no definitive strategy to beat the market consistently.

In addition to changing periods of adherence to the theory of market efficiency noted the U.S. financial market and some small European financial markets, scholars observed inconsistencies of financial market efficiency in many other European, Asian, and Arab nations as well. When studying financial markets in BRIC nations (Brazil, Russia, India, China), Mobarek and Fiorante (2014) determined that in the mid-1990s financial markets showed signs of persistency, as there were day of the week effects between the years 1995 to 2005. However, by the year 2010, the BRIC financial markets appeared to become more in alignment with the efficient market hypothesis due to the disappearance of calendar anomalies. Additionally, Mobarek and Fiorante hypothesized that the 2008 financial crisis had an impact upon market efficiency, as the event was so widespread that it affected both developed and developing economies.

Comparably, Muhammad and Rahman (2010) performed a longitudinal descriptive study for the period January 1999 to December 2006 using descriptive statistics and regression analysis to examine the behavior of the Malaysian financial market. Muhammad and Rahman found that, half the time, the weekend effect was significant in affecting Monday returns, suggesting that the European and Asian financial markets might have been susceptible to arbitrage opportunities due to the presence of calendar anomalies.

Borges (2010) examined market efficiency by focusing on developed European markets including: United Kingdom, France, Germany, Spain, Greece, and Portugal for the January 1993 to December 2007 period using bootstrapping of joint variance ration tests, join signs based variance ratio tests, and runs tests. Borges (2010) did not find support for the efficient market hypothesis when examining daily returns data for Portugal and Greece. However, it appeared that after the year 2003 the returns showed signs of randomness. Weekly returns help to reject the efficient market hypothesis when it comes to U.K. and French financial markets. In regards to Germany and Spain, there was no rejection of the efficient market hypothesis.

With respect to the Portuguese financial markets, in Borges (2011) for years 1993 to 2006, almost all statistical tests presented mixed results. Serial correlations were present for weekly returns. Yet, they diminish as time passes. The number of runs (test of the independence of successive price changes) was less than expected for all periods. As time progressed, the Portuguese benchmark index (PSI-20) moved more in line to efficiency after the year 2001.

Financial markets in Arab nations displayed mixed tendencies as related to the efficient market hypothesis according to Abdmoulah (2010) and Budd (2012). For the period 1999 to 2009, Abdmoulah used the GARCH-M model to examine 11 Arab financial markets to determine that most were inefficient, and in all but one case (Saudi Arabia) showed signs of improved market efficiency towards the first quarter of 2009. Tunisia, Oman, and Morocco displayed moments of efficiency. Many of the reforms implemented have not improved financial market conditions and they remain unstable, which is in contrast to more developed markets (Abdmoulah, 2010).

Likewise, Budd (2012) identified mixed results in multiple business sectors in the Saudi Arabia Tadawul Stock Exchange using a variance ratio test and runs test for the period 2007 to 2011. Budd established that not all sectors followed a random path. However, nonparametric runs tests displayed efficiency for the banking, building, insurance, and telecom sectors. These sectors represent 61% of the companies on the Tadawul Exchange. The results revealed that there is a potential to profit in some sectors based upon pricing information.

In a study covering multiple countries across several continents, Almudhaf and AlKulaib (2013) examined the financial markets of Colombia, Indonesia, Vietnam, Egypt, Turkey, and South Africa and found mixed results when conducting unit roots, serial autocorrelation, and variance ratio tests. Almudhaf and AlKulaib noted market efficiency after performing unit roots and serial autocorrelations tests. However, when using variance ratio tests, three out six countries in the study showed signs that their

markets did not follow a random path, indicating that some investors could have an advantage over others in studying past price movements for profit.

As indicated in multiple studies, earning a profit in some financial markets refutes the efficient market hypothesis due to the ability of market participants taking advantage of numerous anomalies. Those who anticipate investing in financial markets might want to consider the movement of macroeconomic variables, changes in regulations, and calendar distortions when making investment decisions. Potential investors may want to consider opportunities available both domestically and internationally in order to maximize potential to achieve surplus returns.

Rival Theories/Opponents of the Theoretical Framework

To ensure an exhaustive literature review, several opposing theories are included that could have potentially served as the foundation or theoretical framework through which the study variables could have been examined. One major rival theory in which to view the study is prospect theory. Prospect theory, developed by Kahneman and Tversky (1979) hypothesized that people are risk adverse, meaning they typically discount probable outcomes and place more emphasis on certainty.

Under the theory, probabilities and values receive assignment to gains and losses instead of actual assets. Decision makers generally do not consider components that are common among alternatives and they develop simple rules to evaluate alternatives that increase satisfaction by maximizing utility. I did not frame the study from the perspective of prospect theory because the aim was not to analyze the risk taking ability of corporate leaders as they choose among mutual funds, but to establish that certain relationships

existed to assist corporate leaders in developing criteria to isolate potential mutual funds to invest excess cash.

Another major rival theory is modern portfolio theory. Modern portfolio theory, developed by Markowitz (1952, 1959) suggested that investors could construct an optimum portfolio based upon risk/return characteristics of each asset. Expected (mean) return and variance is the foundation of modern portfolio theory, which investors use to construct a portfolio along an efficient frontier based upon their risk preferences. In order for investors to achieve maximum efficiency, they need to choose multiple assets that have a negative correlation (Marinoni, Adkins, & Hajkowicz, 2011).

In other words, if there are changes in the financial markets (positive or negative) each asset's expected return moves in opposite directions. If the portfolio is appropriately constructed, it has diversification and is less sensitive to economic changes (Marinoni et al., 2011). We call the frontier efficient because the total composition of portfolios maximizes expected return for each level of risk (Fabozzi, Gupta, & Markowitz, 2002). Thus, if an investor knows his or her level of risk they are able to maximize their financial utility with a group of assets, along the frontier that rewards them with sufficient return.

A major strength of modern portfolio theory is its broad applicability to many types of decision situations, especially when assessing uncertainty and potential return among multiple alternatives (Omisore, Yusuf, & Christopher, 2011). Crowe and Parker (2008) demonstrated the use of a model based upon modern portfolio theory to optimize the selection of seed sources to regrow trees. Barkley, Peterson, and Shroyer (2010)

showed how modern portfolio theory could assist Kansas farmers in choosing the most efficient wheat varieties to grow that might yield them the largest harvest. Additionally, Marinoni et al. (2011) applied modern portfolio theory to select the optimized combination of intervention measures that delivered that highest possible return given budgetary constraints. Ando and Mallory (2012) found that when using modern portfolio theory to evaluate alternatives, they were not only able to generate a 15% higher return for each level of risk, but were able to identify reductions in ecosystem uncertainty.

Modern portfolio theory does not exist without criticisms. Although, the theory does allow investors to diversify portfolios if correctly employed, the theoretical foundation is complex and the mathematics of the portfolio composition need maintenance overtime (Grover & Levin, 2007). Only risk and expected returns serve as the foundation of modern portfolio theory, ignoring other essentials such as investment reliability (Rutkauskas, Miečinskiene, & Stasytyte, 2008). Last, modern portfolio theory is limited to many assumptions that do not reflect real financial markets such as the nonexistence of taxes, transaction costs, or that investors have no ceiling on credit limits (Omisore et al., 2011).

The goal in conducting the study was not to gain insight into the perceptions of market participants, to evaluate their decisions, or to construct an optimized portfolio of mutual funds for corporate leaders. The aim in conducting the study was to investigate mutual funds as an excess cash management strategy and to examine mutual fund characteristics and the relationship to its performance. The secondary aim was to determine the degree to which mutual funds generate surplus returns.

Determinates of Corporate Cash Holdings Levels

Corporate leaders must effectively manage cash holding levels by analyzing associated benefits and costs (Al-Najjar, 2013). Cash holdings deviate from optimum levels for a variety of reasons including external financing charges, cash flow shortfalls, potential growth opportunities, and to shield from financial market fluctuations (Al-Amarneh, 2013; Gao et al., 2013; Kim et al., 2011; Sun & Wang, 2013). The literature includes an analysis of multiple variables that influence corporate cash holding levels.

Investment Opportunities, Firm Size, and Cash Holdings. Kim et al. (2011) studied the determinates of cash holdings for 125 publicly traded restaurants for the period 1997 to 2008. The researchers analyzed firm size, leverage, investment opportunities, liquid asset substitutes, capital expenditures, cash flow, and dividend payout using descriptive statistics and weighted least squares regression analysis. Kim et al. found that restaurant firms hold significant amounts of cash when there are plans to make investments. Likewise, Bao, Chan, and Zhang (2012) determined that cash flow levels vary as a result of pending projects, market news, or when managers need cash to pursue projects that serve personal purposes.

Comparably, Al-Amarneh (2013) also contended that corporate leaders maintain high levels of cash when there are pending investment opportunities and adjust cash levels down when they have access to debt or a close cash equivalent. McLean (2011) found that share issuance has been the primary method of raising precautionary cash reserves since 1985. Likewise, Bolton, Chen, and Wang (2013) noted that firms save cash and issue additional shares of stock when there are positive market conditions and there is

no desire to pursue expansion projects. Corporations often use the additional cash saved during periods of prosperity as a hedge against increasing financing costs so firms can continue to invest in value enhancing projects (Bolton, et al., 2013).

Shah (2011) identified a strong positive link between cash and firm size that suggested larger firms might be more profitable. Kim et al. (2011) found that larger sized firms, firms with cash equivalent assets, firms with large fixed asset expenses, and firms that pay dividends have low cash balances. Kim et al. concluded that both precautionary and transaction purposes affect the cash balance of restaurant firms. When studying firms that maintained large relationships with buyers and suppliers, Itzkowitz (2013) found that leaders sustain high cash balances as a precautionary hedge in case some relationships dissolve.

Al-Najjar and Belghitar (2011) discovered that cash holding is endogenous to dividends, leverage, growth, size, risk, profitability, and working capital. Additionally, they determined that cash, leverage, growth, size, risk, and profit influence dividends. Yet, when controlling for endogeneity, there is no significant relationship between dividend and cash holdings because similar factors drive their existence and their interdependence is not significant (Al-Najjar & Belghitar, 2011).

In a comprehensive study of 6,867 firms from 1998 to 2005, Tong (2011) determined that diversified firms have a lower value of cash than single segment firms do. Further, Tong suggested that a dollar of cash in a diversified firm is valued 16 cents less than that same dollar in a single segment firm. Subramaniam, Tang, Yue, Zhou

(2011) found that diversified firms maintained lower cash levels as well and it was attributed to growth opportunities and internal capital markets.

Duchin (2010) also noted that firms with multiple divisions held less cash than firms without divisions due to the availability of increased investment possibilities. More specifically, Duchin determined that diversification strongly correlates with smaller cash reserves, as multidivisional firms are better able to invest their precautionary savings. However, Álvarez, Sagner, and Valdivia (2012) noted that liquidity problems affected small firms more severely and presented corporate leaders with a challenge to maintain optimum cash levels. Yet, both small and large companies were able to adjust cash levels better than medium size companies due to their dependency on financing needs (Álvarez et al, 2012).

With regard to liquidity, Gill and Mathur (2011) determined variables that affect liquidity levels differ depending upon the company's position in the manufacturing or service industry. When considering the manufacturing sector, liquidity has a positive correlation with liquidity ratio, firm size, and the firm's status as a multinational (Gill & Mathur, 2011). In the service sector, the results are similar (with liquidity ratio, firm size, and multinational status); however, liquidity has a negative relationship between net working capital short-term debt, and investment (Gill & Mathur, 2011). Anjum and Malik (2013) found that cash had a strong relationship with firm size, leverage, net working capital, and cash conversion cycle for nonfinancial firms.

Risk, Governance and Cash Holdings. Álvarez et al. (2012) investigated the effects liquidity issues had on firm cash holdings to ascertain the degree of the liquidity

problems and how corporate leaders adjusted cash levels in response. For the period 1996 to 2009, Álvarez et al. established that size, leverage, and debt have a negative relationship with cash. Further, Álvarez et al. found that more risky firms had increased cash holdings. Wang, Ji, Chen, and Song (2013) determined that a link existed between inflation and cash holdings such that firms will increase cash levels to minimize any purchasing power risk.

Asvanunt, Broadie, and Sundaresan (2011) suggested that leaders consider using loans to mitigate liquidity issues as it provides immediate cash access, does not affect dividends, and helps to lower the chance of default as opposed to using cash. Asvanunt et al. established that excess cash is less effective to use in order to reduce liquidity issues because there are potential agency costs, it takes a considerable amount of time to generate, and negatively impacts dividends. Thus, corporate leaders could better position firm resources by increasing debt capacity.

Tong (2010) examined the cash holding levels of 1,768 U.S. firms and determined firms that provide CEOs large stock options generally have lower cash holding levels, but maintain a higher value of cash. Acharya, Davydenko, and Strebulaev (2012) supported the relationship of cash and risk and found that firms with large cash holdings have more risk. As the default risk of a firm increases, so does its liquidity as a hedge; however, the increase in cash does not fully exonerate the firm from risk (Acharya et al., 2012). Thus, a firm with a significant cash balance is no safer than a firm with a smaller cash balance.

Additionally, Palazzo (2012) established that more risky firms have higher external financial costs and higher than normal optimum saving, suggesting additional

precautionary saving is taking place to avoid future cash flow shortfalls. Furthermore, Palazzo concluded that the additional savings is associated with positive relationship between cash holdings and expected returns, and is significantly strong for firms with dismal investment opportunities. Anderson and Carverhill (2012) and Bao et al. (2012) confirmed that a significant relationship existed between cash holding level and business conditions such that corporate leaders adjust cash on hand when there is either a positive or a negative change to expected cash flow.

Risks may also exist for firms with smaller cash holdings. When examining the cash holdings of 280 nonfinancial firms from 1996 to 2008, Shah (2011) established that firms with low cash levels find difficulty with project financing due to illiquidity. As a measure to improve working capital levels, some managers invest cash balances in financial instruments that generally do not maximize shareholder wealth, which potentially leads to bankruptcy (Shah, 2011).

With regard to corporate governance, Tong (2011) confirmed that diversification significantly affects firms with lower oversight, signaling an agency problem, as there is increased probability that management might pursue unsuccessful projects. When examining the cash management policies of 1,212 corporations across multiple countries, Najjar (2013) concluded that the cash management policies do not differ much across countries, however, countries with lax shareholder governance have firms with larger cash holdings. The trend existed because of the difficulty in raising funds in those respective markets (Najjar, 2013).

Kusnadi and Wei (2011) determined that firms in countries with stronger investor protections maintain low cash balances as a mechanism to finance projects. Bao et al. (2012) also found that companies with large institutional shareholders have low cash balances due to active investment in lucrative projects. On the other hand, Shah (2011) discovered that firms in low government environments maintained low cash balances.

Firm Value and Cash Holdings. Sun et al. (2012) surveyed the relationship between corporate earnings and the level and value of cash holdings of 9,417 U.S. firms for the period 1980 to 2005. Sun et al. showed that low earnings quality had a negative influence on the value of cash holding and a positive influence on cash levels. The phenomenon existed because any excess cash corporations had on its balance sheets was overshadowed by the lack of sufficient earnings as perceived by investors (Sun et al., 2012).

Martínez-Sola, García-Teruel, and Martínez-Solano (2013) maintained that there is an optimum level of cash holding for firms and movement from this level will negatively influence the firm's value. Thus, corporate leaders will effectively weigh the costs and benefits of holding cash so that firm value does not deteriorate because investors may penalize corporations if negative earnings news enters the market regardless if there is sufficient cash for hedging because investors will discount the value of the excess cash on the books due to increased agency costs. Similarly, Arnold (2014) established that investors negatively influence a firm's financial condition as opportunities to secure financing diminish and default risk increases because of their reluctance to invest in firms with high levels of cash.

Excess Cash Holdings Levels

Corporate cash balances have grown considerably in recent years (Pinkowitz, Sturgess & Williamson, 2013) and reflect a shift in cash management policies of firms. Excess cash holdings are uncommitted funds that remain after satisfying operational and investment expenses (Frésard & Salva, 2010). Shareholders can derive firm value from the level of excess cash due to their perception of how management will potentially use the funds (Frésard & Salva, 2010). Thus, the market value of a firm could fluctuate given the amount of cash on hand. On this ground, a number of studies include results of the effects that excess cash have on firm value and corporate governance.

Firm Value and Excess Cash. The future performance of publicly traded firms may depend upon cash levels. Oler and Picconi (2014) investigated the effects that cash levels had on the return of net operating assets (RNOA) and stock performance for the period 1989 to 2008. Oler and Picconi determined that one year RNOA and stock returns are significantly lower when firms are not at target or optimum cash levels. The cash holding relationship is even stronger for firms with insufficient cash levels. Thus, movement from target or optimum cash levels has a negative effect on future firm performance (Oler & Picconi, 2014). Although, Fresard (2010) found that cash rich organizations experienced positive changes in market value and ROA.

Simutin (2010) also found a link between excess cash and future firm performance. The researcher observed a strong relationship between excess cash and future stock returns such that in market downturns, excess cash rich firms underperform their peers by .31% and they exceed their peers by at least 12% annually during bull

markets. The condition holds because in market downturns, the value of investment opportunities are lower and when the market expansion occurs cash rich firms have the funds to pursue projects without having to consider external financing like their peers (Simutin, 2010). Incidentally, Simutin noted that firms with significantly large amounts of cash have more risky stocks on average. Though high excess cash firms spend more cash for future purposes, they are no more profitable than their low excess cash peers are because of low profitability (Lee & Powell, 2011; Simutin, 2010).

When analyzing the relationship between firm value and level of cash, multiple researchers have examined and found significant relationships. Lozano (2012) determined a correlation between investment, debt, and dividends and their dependence on liquidity such that shareholders believe cash rich firms are less valuable, even if management pursues profitable investments, than cash poor firms. Therefore, investors rewarded firms with lower cash holdings and higher debt capacity (Lozano, 2012).

In comparison, Lee and Powell (2011) confirmed that cash has a positive correlation with growth options, cash flow variability, capital expenditures, net investments, financing cash flows, and a negative correlation with leverage and networking capital. Thus, firms hold cash as a hedge for a variety of future needs (Lee & Powell, 2011). Far, Tabari, and Akbari (2013) demonstrated that there was a significantly negative relationship between abnormal returns and excess cash. Far et al. and Ku, Lee, Chen, and Chang (2013) perceived that cash holdings exceeding optimum cash levels negatively affected firm performance.

Some researchers have noted that cash holding levels may play a larger role in the competitive business environment. Fresard (2010) and Bao et al. (2012) established that the level of cash a firm has significantly impacts the competitiveness of industry rivals, especially when rivals face difficulty trying to seek financing. Thus, firms with access to cash when there are periods of high capital constraints could still pursue value-enhancing projects without much delay, thereby surpassing competition.

Governance and Excess Cash. When studying the impact that governance of state owned and private organization had on cash usage, Sun and Wang (2013) found that investors perceive excess cash to have a higher market value in state owned firms than in private firms because there is better oversight. Leaders of private firms are more likely to spend excess cash for purposes that are not beneficial to shareholders (Sun & Wang, 2013). Thus, as authenticated by Frésard and Salva (2010) and Sheu and Lee (2012) excess cash is highly correlated with managerial entrenchment, especially in firms with low governance structures, suggesting that when shareholders are not actively involved in oversight, there is a chance that management might pursue projects that deteriorate shareholder wealth.

Mutual Funds as an Investment

Research on mutual funds yielded a wealth of information. The body of knowledge regarding mutual funds covers a broad spectrum. The mutual fund industry vastly differs across multiple regions as related to governance, tax implications, and motives for investing (Fitzpatrick, Hepp, & Lott, 2010) as well as variables that influence its continued performance. Prospective investors must understand there are multiple

components that can affect mutual fund performance (Costa & Jakob, 2011). The focus of this section is among several categories: active investing strategies, discrepancies of active mutual fund management, and an examination of study variables.

Active Investing Strategies. Mutual funds have become a popular investment alternative to accumulate wealth in a diversified portfolio without the hassle of choosing from so many individual stocks (Khorana & Servaes, 2012; Sarpong & Sibanda, 2014). From 1970 to 2009, the mutual fund market increased from nearly $50 billion to approximately $10 trillion (Bhojraj, Jun Cho, & Yehuda, 2012). Risk minimization, low costs, and the expertise of skilled advisors drive mutual fund popularity (Chang, Lin, Lin, & Chiang, 2010; Sarpong & Sibanda, 2014).In 2012, U.S. mutual fund managers oversaw $13 trillion in assets (Park, 2013).

Professional money managers are those who appear to possess the necessary selection skills that generate above average returns, or at a minimum, generate a sufficient level of return to justify their expense (Barras, Scaillet, &, Wermers, 2010). To maintain an optimal portfolio, fund managers must purchase undervalued assets and sell overvalued assets in order to achieve investment goals (Mohammad, 2012). In other words, the decisions made by fund managers are critical and have a direct effect on the wealth of mutual fund investors (Risik, 2013). Professional money managers operate mutual funds and must consistently modify the amount of fund assets in an effort to exceed the expected return of a benchmark index (Cremers & Petajisto, 2009). Fund managers select stocks and other securities that reflect the objectives of their clients (Hsieh et al., 2012). Fang, Kempf, and Trapp (2014) established that mutual fund families

employ managers in financial segments where they can exploit inefficient markets to generate surplus returns. To measure benefit provided by mutual fund managers, one has to assess stock selection, investment timing, and actual return generated as compared to the appropriate benchmark.

When comparing the performance of actively managed mutual funds to that of a passive index, there have been authenticated instances of excess return present. Lin (2014) examined the performance of actively managed equity funds for the period 1999 to 2010 and established that these types of mutual funds generated considerable return versus several passive investments on a risk-adjusted basis. Bello and DeRidder (2011b) studied equity mutual funds for the period 1990 to 2010 to determine that actively managed funds outperformed the S&P 500 index. Kaushik, Saubert, and Saubert (2014) examined actively managed healthcare funds for the period 2000 to 2011 and noted that on average they outpaced passive investments by 2.9%.

Risik (2013) studied the performance of professionally managed open-ended equity mutual funds as compared to the S&P 500 index for the period 1984 to 2000. The researcher found that on average, active fund managers beat the passive index of the S&P 500 by nearly 2%. These results held for both before fee and after fee adjustments. Schultz (2010) showed that actively managed small growth mutual funds earned surplus returns of 0.76% per month, while large value mutual funds earned 0.05% each month. Huij and Post (2011) found that emerging market mutual funds generated sizable returns that covered all fees charged.

Equally, Low (2010) evaluated the performance of actively managed funds and discovered that actively managed funds generate enough positive performance to substantiate existence. When examining a sample of 2000 mutual funds, Brooks and Porter (2012) revealed that the performance of actively managed mutual funds far exceed the performance of mutual funds with passive objectives over a 12 year period, especially during bear markets. Likewise, in a study of U.S. domestic equity mutual funds for the period 1995 to 2006, Barras et al. (2010) discovered that approximately three quarters of the mutual funds had fund managers who produced enough returns to cover their costs. In other words, actively managed mutual funds earn enough return to cover its extra costs.

Actively managed funds are best profitable in times of high uncertainty as investors choose mutual fund managers who are active stock pickers and invest in passive investments such as index funds as a hedge to maximize efficiency (Petajisto, 2013). Hou (2012) established that active mutual fund managers have key information and perform better than individual investors perform. Because of the lack of skill demonstrated by investors, they ultimately have poor selection ability (Wu, 2011). Therefore, it would seem that investors would experience higher returns if they invested in actively managed funds.

The success of actively managed funds can depend upon a number of factors, including the stock picking and timing abilities of fund managers and the sentiment of investors (Baker, Litov, Wachter, & Wurgler, 2010; Da, Gao, & Jagannathan, 2011). Baker et al. (2010) established that there are stock picking abilities present such that on average, mutual fund managers earn 38 basis points more annually than non-managed

investments. The earnings-per-share of mutual funds purchased, far exceeded the return of mutual funds sold, as fund managers were able to pick winning stocks when there were positive earnings announcements and sell losing stocks when there were negative earnings announcements (Baker et al., 2010). Kacperczyk, Nieuwerburgh, and Veldkamp (2014) established that mutual fund managers displayed both timing and selection abilities, such that they were able to pick stocks during bull markets and make successful portfolio changes during bear markets.

In comparison, Da et al. (2011) showed that mutual fund managers were successful when news affected stock trades and this ability motivated investors to deposit more cash. Benos and Jochec (2011) noted persistency of market timing ability for top performing mutual funds. In, Kim, and Ji (2014) examined more than 1,700 mutual funds and determined that fund managers possessed return timing and volatility timing abilities. Woodward (2011) studied the behavior of 217 mutual funds and found evidence that managers displayed stock selection and market timing abilities. Shen, Lu, and Lin (2012) examined the performance of 205 international and U.S. real estate mutual funds and found that some managers possessed selection ability.

The abilities of mutual fund managers not only influences fund return for current investors, but also has an effect on attracting future investors. Mutual fund flows are influenced by distribution channels and the fund flows are related to past mutual fund performance (Keswani & Stolin, 2012). Investors favored funds that have performed well in the past, as there is a strong relationship between a fund's return and a fund's flow

(Keswani & Stolin, 2012; Savov, 2013). With this in mind, mutual funds will replace poor performing managers (Fu & Wedge, 2011).

Qian (2011) established that investors use cash flows as a governance mechanism to control the level of unsatisfactory performance by mutual fund managers. Cashman, Deli, Nardari, and Villupuram (2012) investigated the inflows/out flows of actively managed U.S. mutual funds to determine a strong relationship between cash flow and mutual fund performance, revealing that when mutual funds performed poorly, investors removed money. When there was positive mutual fund performance, investors supplied additional cash (Cashman et al., 2012).

Conversely, Matallin-Saez, Soler-Dominguez, and Tortosa-Ausina (2012) determined that positive mutual fund performance does lead to a higher net cash flow, but a decrease in performance does not automatically lead to negative cash balances. When examining the performance of Chinese mutual funds, Jun, Li, Yan, and Zhang (2014) established that investors respond no differently to winning funds than they do to losing funds. Thus, the performance of mutual funds has no effect on cash flows.

If actively managed mutual funds do underperform, the underperformance could exist due to reasons beyond the fund manager's control as articulated in Savov (2013) and Guercio and Reuter (2013). For the period 1989 to 2013, Savov recognized that investors seek to take advantage of the timing and selection abilities of mutual fund managers because there is a need to hedge against variables that can affect non traded resources such as wages or business income. Consequently, mutual fund investors who

perform trades without the assistance of managers generally are unsuccessful as they display poor timing ability by purchasing and selling at inopportune times (Savov, 2013).

Further, Guercio and Reuter explained that the underperformance of actively managed mutual funds is potentially due to the sale of mutual funds through third party vendors, as they have no incentive to recommend mutual funds that achieve above normal returns. Matallin-Saez et al. (2012) found that, in most cases, actively managed mutual funds do outperform passive investments and organizational structures cause most underperformance. For example, Hao and Yan (2012) revealed that mutual funds associated with investment banks underperform unassociated mutual funds by at least 1.08% to 1.68% annually.

Overall, active fund managers may have an ability to correct many of the potential mistakes made by untrained investors. Fund manager ability could potentially influence return and the attraction of future investors as investors seek out proven strategies. Yet, the fee for the management service may be an important factor in achieving positive return as compared to a benchmark. Furthermore, earnings announcements may have an effect upon the decisions made by mutual fund managers.

Discrepancies in Active Mutual Fund Management. Although active strategies seem to outpace passive strategies from a long term perspective (Grobys, 2012), corporate leaders generally invest cash holdings in fixed, passive investments (Almeida et al., 2013). As such, the viability of active mutual fund management warrants an extended analysis. When examining U.S. domestic equity mutual funds for the period 1995 to

2006, Barras et al. (2010) observed that the quantity of unskilled managers increased and the success of good mutual fund managers was random at best.

Others noted that mutual fund managers did not possess any timing or selection skills or only demonstrated skills during certain financial market conditions (Chang, Fung, & Lai, 2010; Cuthbertson et al, 2010; Ferruz, Munoz, & Vargas, 2012). For the period from 2004 to 2008, Chang et al. found that mutual fund managers were able to select high performing stocks during bull markets. However, they were not as successful during bear markets. Wu (2011) established similar results for mutual funds for the period from 2001 to 2004. Conversely, when considering fund managers with high trading volume and those with low expense ratios the opposite is true, as managers display timing ability only during bear markets (Wu, 2011).

Fulkerson (2013) studied actively managed mutual funds for the period 1995 to 2007 to ascertain manager skill. He devised a new measure of skill that simultaneously considered the selection of individual stocks, industries, and characteristic style. The researcher found that there was largely no skill displayed by managers for the sample period. Muñoz, Vargas, and Marco (2014) compared the performance of U.S. and European socially responsible mutual funds and determined that there were no significant managerial abilities, especially when controlling for market conditions.

Similarly, Roy and Ghosh (2012) observed market timing, risk adjusted performance, diversification, and selection for Indian mutual funds to determine that managers displayed poor performance due to an inability to generate positive returns. Oueslati, Hammami, and Jilani (2014) discovered that Tunisian bond fund managers

displayed no timing ability. Dhar and Mandal (2014) illustrated that Indian mutual fund managers did not possess any market timing skills. Wei, Bolong, and Baker (2015) found limited timing and selection abilities with Chinese mutual fund managers.

Moreover, Mohammad (2012), Chopra (2011), Elton, Gruber, Blake, Krasny, and Ozelge (2010), Elton, Gruber, and Blake (2012), and Ferreira et al. (2013) found little evidence to suggest that there existed any selection and timing ability among mutual fund managers. Bond and Mitchell (2010) found only a small number of actively managed mutual funds outpaced the performance of its respective benchmark. Kaushik et al. (2010) only saw hints of timing ability when comparing actively managed mutual fund performance to that of the S&P 500's performance. However, when comparing mutual funds to its respective sector fund there was no evidence of manager ability (Kaushik et al., 2010).

Cici and Gibson (2012) established that bond fund managers possess no definitive selection or timing ability and thus generally underperform. When examining a sample of 400 U.S. equity mutual funds, Frijns, Gilbert, and Zwinkels (2013) showed that a small percentage of the managers (3.25%) demonstrated positive market timing ability. Similarly, Christensen (2013) established that mutual fund managers displayed limited selection and timing abilities, as only 7% of actively managed funds outperformed their respective benchmarks and only 14% displayed market timing.

Zabiulla (2014) determined that mutual fund managers did not perform better than the market and found a negative relationship between stock selection and timing abilities, indicating that fund managers selected stocks that performed poorly. Shen et al. (2012)

found that prior to 2007, international real estate mutual funds performed significantly better than U.S. real estate mutual funds. However, the timing ability demonstrated by mutual fund managers disappeared. Parlak (2014) established that in most cases actively managed mutual funds underperform passive index. Baghdadabad and Houshyar (2014) showed that most mutual funds underperform for the 2000 to 2012 period due to major losses. Conversely, Bello and DeRidder (2011a) did not find any evidence to suggest that actively managed mutual funds performed better or worse than the S&P 500 for the 1990 to 2010 period.

On the contrary, the skillset of fund managers could differ drastically due to a number of variables (Busse & Tong, 2012). In the majority of instances, due to competition between funds managers, most risk-adjusted returns are close to zero and therefore provide minimal value to investors (Jones & Wermers, 2011). Costa and Jakob (2010) determined that after annualizing return (on a fee-adjusted basis) benchmarks outpaced actively managed funds. Matallín-Sáez (2011) demonstrated that costs erode mutual fund performance and active management does not seem to benefit investors. Consequently, fees may be a contributing factor for the underperformance of many actively managed mutual funds as profits erode (Cuthbertson et al., 2010; Fama & French, 2010).

Moreover, there may be potential for untrained individuals to have as much success as professional mutual fund managers when developing portfolios. Kramer (2012) explored the benefits of active mutual fund management for the period 2003 to 2007. After comparing the performance of portfolios constructed by advisers and those

created by individual investors, Kramer documented that there were no differences in portfolio returns for the two groups. Thus, successful portfolio construction might be a random event, which anyone with limited financial knowledge can partake.

Independent Variables

Expenses. Expenses have an essential role in the performance of mutual funds (Kaushik et al., 2010). Investors typically base their decisions solely upon the historical performance of mutual funds, while ignoring pertinent information such as any fees that will be incurred (Pontari, Stanaland, & Smythe, 2009). Trainor (2010) noted that expense ratio could explain much of the differences in excess return in mutual funds. When assessing an uncategorized dataset of mutual funds, Garyn-Tal (2015) established a statistically significant link between surplus return and expense ratio and rear load and surplus return, however, once there was classification, the relationship did not hold. Banko, Beyer, and Dowen (2010) noted that larger, older, and actively managed mutual funds generally have higher fees. Mutual funds that maintain high fees generally do not generate sufficient return (Wu, 2011). Cuthbertson et al. (2010) found that fees affected mutual fund performance significantly. Matallin-Saez et al. (2012) discovered that load charges negatively affect the returns of mutual funds.

Further, Hartzell, Mühlhofer, and Titman (2010) discovered an inverse relationship between expenses and fee adjusted return. Vidal-García (2013) determined that expense ratio and load fees negatively impacts benchmark adjusted mutual fund return. Edelen, Evans, and Kadlec (2013) demonstrated that there was a significant negative relationship between trading costs and risk adjusted performance.

Chen, Ferson, and Peters (2010) found that bond funds had strong positive performance before fees. However, when applying fees, bond funds severely underperform (Chen et al., 2010). Likewise, Cici and Gibson (2012) found that actively managed bond funds underperform after fees. Busse, Goyal, and Wahal (2010) did not find any significant performance before fees for equity mutual funds. Khorana and Servaes (2012) determined that mutual fund families that charged lower fees pass savings onto investors and increased its market share by supporting marketing efforts with 12b-1 fees. Zhou and Wong (2012) established that larger mutual funds charged higher fees. Glode (2011) established that poor performing funds charged higher fees than mutual funds that had higher returns. Baghdadabad and Houshyar (2014) demonstrated that expenses drastically affect the operational efficiency of mutual funds.

Conversely, Kaushik and Pennathur (2012), Abinzano, Muga, and Santamaria (2010), and Lamphun and Wongsurawat (2012) concluded that there was no evidence to suggest a relationship between expenses and mutual fund performance. Yuhong and Addams (2012) demonstrated that expense ratio did not explain mutual fund performance. Fan and Addams (2012) determined that there was no indication funds with higher expenses performed any better or worse than those that charged lower expenses. The relationship between expenses and mutual fund performance does not exist for sophisticated investors because they demand and earn positive performance from mutual fund managers (Nanigian, 2012). Further, sophisticated investors seek to understand the critical detail of their investments and have oversight of its performance (Nanigian, 2012).

Capitalization. Some have found that the size of a mutual fund can have an impact on its performance. Yuhong and Addams (2012) showed that size affected the performance of international mutual funds. Busse and Tong (2012) determined that size explains one-quarter to one-half of mutual fund performance. Stoughton, Wu, and Zechner (2011) established that there was an inverse relationship between size and gross fund performance. Baghdadabad and Houshyar (2014) showed that as the size of a mutual fund portfolio increases, its efficiency decreases. Hou (2012) determined that there was an inverse relationship between size and investor timing.

Moreover, Bodson et al. (2011) found a quadratic, concave relationship between size and mutual fund performance suggesting that an ideal portfolio size will potentially maximize return. Using a sample of 137 mutual funds for the period 1993 to 2006, Huij and Post (2011) discovered that small cap emerging market mutual funds earned an annual return of 18% compared to large cap funds, which earned on average below 13%. Kaushik and Pennathur (2012) noted a relationship between excess return and size. Thus, there is potential to create an optimally performing portfolio that is size dependent. In confirming a relationship between size and performance, Petajisto (2013) and Ferreira et al. (2013) established that small funds outperformed large funds. However, the reverse is true in international markets due to possible liquidity issues (Ferreira et al., 2013).

In some instances, economies of scale may have the potential to reduce costs and increase profitability. Bello and DeRidder (2011b) established that as net assets under management increases, performance goes up. Fan and Addams (2012) and Zabiulla (2014) determined that larger mutual funds outperformed smaller and midsize mutual

funds. Therefore, larger and more established mutual funds are better equipped to efficiently allocate resources and charge lower fees than smaller funds (Ferreira et al., 2013; Lamphun & Wongsurawat, 2012; Wongsurawat, 2011). Bello and DeRidder (2011a) showed that larger and more diversified mutual funds had better performance. Matallín-Sáez (2011) acknowledged that a relationship did exist between size and mutual fund performance; however, it was not significant. Yet, Abinzano et al. (2010), Low (2010), and Hartzell et al. (2010) found that there was no relationship between size and mutual fund performance.

Pastor and Stambaugh (2012) determined that the size of the actively managed mutual fund industry drastically affects the performance of mutual funds, noting that the inverse relationship is one of pure economics, as more investors participate in the market, the amount of liquidity or excess cash greatly increases for the same limited opportunities. The researchers suggested that once market participation passes the efficient or optimum point, additional transactions produce losses. Because of the losses, investors will divest from mutual funds until the circulation of cash is at acceptable levels and opportunities return (Pastor & Stambaugh, 2012). Consequently, mutual fund investors adjust their portfolio in a revolving cycle between active and passive management as the size of the active mutual fund industry or available opportunities shift.

Mutual Fund Performance

The past performance of mutual funds can provide insight regarding its future (Belgacem & Hellara, 2011) and dictate the composition of a portfolio in later periods

(Chen & Huang, 2009; Gupta & Jithendranathan, 2012). However, such information only applies in the short term (Forin & Michelson, 2010; Su, Zhao, Yi, & Dutta, 2012) and is not certain because of volatile markets (Chen & Huang, 2009). Abinzano et al. (2010) detected performance persistency for actively managed European mutual fund for the period January 1972 to July 2006. However, persistency was no longer than one year due to risk exposure between positively performing funds and negatively performing funds.

Likewise, Kaushik et al. (2014) determined performance persistency was not long term when studying actively managed healthcare mutual funds over an eleven-year period. Busse et al. (2010), using both the three-factor and four-factor models, did not detect any significant performance persistence when examining 4,617 domestic equity mutual funds. Humphrey and O'Brien (2010) applied Carhart's four-factor model to Australian equity mutual funds and determine that there was no presence of persistence. Loon (2011) established that performance persistency (up to 60 months) existed for actively managed equity, bond, and balanced mutual funds. Jun et al. (2014) and Bleaney and Smith (2010) only noted an insignificant amount of performance persistency in Chinese, U.S. and U.K. mutual funds respectively.

Similarly, Baker et al. (2010), Cuthbertson et al. (2010), Petajisto (2013), Huang, Sialm, and Zhang (2011), and Forin and Michelson (2010) found performance persistency such that funds that did well continued to do well and funds that performed poorly continued to perform poorly. However, in most cases, there is a 50% chance of selecting a winning or losing fund over subsequent years and there was no indication of performance persistency in the international mutual fund market, as performance tends to

be a random event (Fan & Addams, 2012). Yuhong and Addams (2012) showed that there is approximately a 50% chance that winning funds might become losing funds or vice-versa when studying U.S. domiciled international mutual funds. Alves and Mendes (2011) and Filip (2011) discovered performance persistency in Portuguese and Hungarian financial markets respectively. Oueslati et al. (2014) documented persistency in Tunisian bond mutual funds.

When studying the financial markets in 22 countries, Huij and Post (2011) discovered persistency in emerging markets mutual funds such that winners continued to outpace passive investments by 4% annually. Hou (2012) studied the performance of 200 Taiwanese mutual funds to determine performance persistency for the 1996 to 2009 period. Vidal-García (2013) found performance persistence (up to 36 months) for 1,050 mutual funds domiciled in United Kingdom, France, Italy, Spain, Germany, and Netherlands for the 1988 to 2010 period.

Methodologies

In reviewing the literature, the most common methodology employed by researchers when studying the performance of mutual funds was quantitative. Nanigian (2012) employed a casual comparative design to examine the relationship between expenses and the performance of U.S. equity mutual funds for the period 2010 to 2011. Nanigian determined that the relationship between expenses and fees disappears for investors who are more informed.

Bodson et al. (2011) used a correlation design to determine if there was a relation between mutual fund size and performance for the period 2000 to 2010. Using cross

sectional regressions, they found that there was an optimum portfolio size, which generates maximum return. Kaushik and Pennathur (2012) used a correlation design to test the relationship between mutual fund characteristics and fund performance. For the 1990 to 2008 period, they determined a relationship between size and alpha as well as turnover and alpha. However, there was no relationship identified for expenses and performance. Zabiulla (2014) used a correlation design to determine if mutual fund managers possessed any stock selection and market timing abilities as well as to determine if asset size and market capitalization affected fund manager ability. For the period 2007 to 2010, he determined that mutual fund managers did not possess any skills and large mutual fund performed best among all capitalizations. Low (2010) used a correlation design to determine the degree of the relationship between mutual fund characteristics and performance. For the period 2000 to 2004, she determined that fund size, initial service charge, or duration had no effect on the risk adjusted return of a mutual fund.

Transition and Summary

In Section 1, I provided a substantiating discussion for the need to conduct a quantitative correlational study to examine the relationship between 12b-1 fees, sales load at purchase, management fees, capitalization, and performance as related to mutual funds. Similar to Bodson et al. (2011) and Kaushik and Pennathur (2012), the rationale in performing a correlation study is to assess quantitative data in order to make generalizations regarding the target population (Szyjka, 2012). Section 1 commenced with a discussion about the context of the problem, highlighting issues that corporate

leaders face when maintaining high levels of cash. Also included in this section are discussions about the general and specific business problem statements, which lead the focus of this proposed study.

Moreover, this section included a detailed discussion about the purpose, nature of the study, theoretical framework, and literature review. The purpose of the study was to examine mutual funds as a potential strategy to assist corporate leaders in managing cash balances. The nature of the study included a discussion of several research methodologies, while the theoretical framework contained the perspective of the research topic examination. The research assumptions, limitations, and delimitations comprised of details regarding controlled and uncontrolled factors that could potentially affect the results.

In reviewing the literature, I discussed the efficiency of the financial markets, variables that affected cash holding levels, and problems that develop when corporate leaders do not maintain optimum cash balances. Furthermore, this section included mixed reviews related to mutual fund management and fund characteristics such as size and expenses that have the propensity to affect the performance of mutual funds. The gap in the literature provided an opportunity for studying the relationship between mutual fund performance and the effects of mutual fund characteristics. Section 1 concluded with a recap of common methodologies used in similar research on mutual funds and a comparative analysis of findings.

In Section 2, I described the role of the researcher, participants, research method and design, and the target population. Section 2 also included a discussion of the ethical

considerations and the details of the data collection procedures. In addition, this section encompassed discussions regarding the data analysis and validity processes.

Section 2: The Project

Section 2 entails key areas related to the development of the study's research methodology. Frésard and Salva (2010) and Kim et al. (2011) documented that academicians have attempted to ascertain the variables that influence corporate cash holdings and the effects that excess cash have had on operations. Using the results of the study, corporate leaders may identify additional methods to optimally manage cash holdings. In Section 2, I addressed (a) the purpose statement, (b) role of the researcher, (c) research method, (d) research design, (e) population sampling, (f) data collection, (g) data collection technique, (h) data analysis technique, (i) reliability and validity, and (j) transition summary.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship among mutual fund expenses including 12b-1 fees, sales load at purchase, management fees, total capitalization, and performance. The independent variables included expense ratio and capitalization measurements. The mutual fund expense ratio used included 12b-1 fees, sales load at purchase, and management fees. Mutual fund total capitalization was the total net assets under management. The dependent variable was mutual fund annual performance as compared to the S&P 500. The population used for the study was all open ended, equity mutual funds that invest in publicly traded U.S.-based companies. In addition, implications for positive social change include improved

understanding of the correlates of mutual fund performance, thus equipping corporate leaders with knowledge needed for long-term sustainability.

Role of the Researcher

Szyjka (2012) reasoned that in quantitative studies, the role of the researcher is to remain objective and neutral throughout the data collection and data analysis processes as not to influence the findings. Chapman and Schwartz (2012) warned that a researcher's values and experiences could often make objective research nearly impossible to conduct. Therefore, I maintained independence by using secondary data, performing a statistical analysis on the data, objectively reporting the findings as discovered, and maintaining employment in an industry unrelated to mutual funds. Because the study included secondary data, the Belmont report protocols established for the protection of participants do not apply (Emanuel & Menikoff, 2011).

Participants

The study did not contain participants because the central theme of the research concerned the performance of mutual funds given certain mutual fund characteristics. The goal of the research was to develop strategies that could potentially identify actively managed mutual fund investments for corporate leaders to invest excess cash. I used publicly available secondary data in the study. Atkinson and Brandolini (2001) explained that the use of secondary sources allows the researcher convenient access to a large range of previously collected data about the subject matter. Mewes et al. (2011) stated that using secondary sources could be a convenient and efficient mechanism for researchers to obtain data. Rabinovich and Cheon (2011) expressed that secondary data are highly

beneficial because they are often held in large volumes; do not take a considerable amount of time and means to collect; and, due to prior collection, remain separate from the chief aim of the study where they are employed.

Research Method and Design

Researchers have a choice among several methodologies when conducting studies. The methods of choice are qualitative, quantitative, and mixed methods (Chen, 2011; Lopez-Fernandez & Molina-Azorin, 2011; Sergi & Hallin, 2011). I chose the quantitative approach for this study.

Method

When examining the performance of mutual funds, a quantitative approach is more appropriate. My intention was to determine the extent of the relationship between expenses, total capitalization, and mutual fund performance. Chen (2011) noted that researchers prefer quantitative methods when they desire to use statistical analysis objectively to study the behavior of defined variables in an attempt to test a hypothesis. Nanigian (2012) and Kaushik and Pennathur (2012) employed a quantitative approach to investigate the relationship between mutual fund characteristics and the performance of mutual funds. Likewise, Zabiulla (2014) used quantitative research to find out whether mutual fund managers possessed any abilities and to determine the effects that asset size and market capitalization had on fund manager ability.

Qualitative research methods are most beneficial when researchers use subjectivity in their desire to explain the perceptions of individuals while studying a particular phenomenon or use subjectivity throughout the collection or analysis processes

(Sergi & Hallin, 2011). The method is also vital to researchers as they attempt to discover new theories using inductive reasoning (Sergi & Hallin, 2011).

Last, mixed-methods research combines the best characteristics of both qualitative and quantitative approaches (Lopez-Fernandez & Molina-Azorin, 2011). Mixed-methods research is desirous when researchers examine a phenomenon that allows data collection and data analysis through the framework of both methodologies (Lopez-Fernandez & Molina-Azorin, 2011). Thus, the results of mixed-methods studies include the subjectivity of qualitative methods and the objectivity of quantitative methods (Lopez-Fernandez & Molina-Azorin, 2011). The mixed-methods approach goes beyond the scope of the study.

Research Design

In quantitative research, when assessing the relationship between independent and dependent variables, the key research design options area experimental, quasi-experimental, casual comparative, and correlation. Because there was no manipulation of control variables to ascertain the effects on dependent variables or consideration for random assignment, experimental and quasi-experimental designs was not appropriate (Chen, 2011; Stangor, 2011). In addition, the aim of this study was not to establish cause and effect; thus, the casual comparative design was not applicable (Schenker & Rumrill, 2004). McLeod (2008) noted that correlational designs are beneficial when the researcher desires to examine the significance of a relationship between two or more variables. Bodson et al. (2011) used a correlation design to determine whether a relationship existed between mutual fund size and performance. Similarly, Kaushik and Pennathur (2012)

used a correlation design to investigate the relationship between mutual fund performance and fund characteristics.

My focus was to establish the degree a relationship existed among expenses, total capitalization, and mutual fund performance. The aim was not to establish that expenses and total capitalization influence or determine mutual fund performance. Thus, a correlational design was most appropriate for the study. In addition, the study included the use of descriptive statistics to describe the sample, not to determine the results of the hypotheses.

Population and Sampling

The target population of the study was all open-ended U.S. equity mutual funds. The data collected consisted of 12b-1 fees, sales load at purchase, management fees, and annualized performance of each individual mutual fund for the period from 2010 to 2014. The data also included the annual performance of the S&P 500 to calculate the surplus return. Landau and Stahl (2013) and Durand (2013) indicated that having an appropriate sample size helps to identify the interaction between the dependent and independent variables and is key to producing valid results. To have a manageable sample, similar to Kaushik and Pennathur (2012), I employed a purposive sampling technique to select mutual funds that contain a portfolio of at least 98% class ‘A’ stock investments in U.S. companies. Currently, there are over 7,000 U.S. domiciled mutual funds (Silverblatt, 2013). Based on the established inclusion and exclusion criterion, the total sample size was 96 mutual funds.

Although when using a purposive sampling technique statistical calculations are not required to establish the minimum sample size, they serve as an acceptable point of reference (Daniel, 2012). Using G*Power 3, I determined that the minimum sample size to achieve a power of .804 should was 68. Therefore, the use of 96 mutual funds is more than the minimum needed. Barratt and Lenton (2014) suggested that purposive sampling, a form of nonprobability sampling, presents a low cost collection alternative that allows the researcher to create a manageable sample based upon set criteria. Consequently, Barratt, Ferris, and Lenton, (2014) noted that due to the sample unearthed, it may not be a true representation of the general population. Nonetheless, the sample constructed is still an appropriate measure on which to draw conclusions about the target population (Barratt et al., 2014).

Ethical Research

Before commencing with the data collection and analysis processes, I obtained permission from the Walden University institution review board (IRB). The IRB approval number for this study is 08-24-15-0404705. Beskow, Grady, Iltis, Salder, and Wilfond (2009) stated that the purpose of the IRB is to ensure that the researcher adheres to applicable regulations and ethical standards. The collections and analysis processes of the study consist of conformity to strict research procedures. Bulpitt and Martin (2010) established that researchers must demonstrate high ethical standards by using a valid research methodology and providing accurate results. In addition, the use of secondary data and the lack of human subjects eliminated the need for participation consent. Emanuel and Menikoff (2011) noted that common rule regulations permit an exemption

from the informed consent process. Moreover, the established research protocols included a process to maintain all data related to the study in a secure location for a minimum of five years after publication.

Data Collection

Instruments

I did not use a collection instrument. The data came from secondary sources. Tashakkori and Teddlie (2003) and Cowton (1998) identified secondary sources as a valid medium for obtaining data for research purposes. Fleischhacker, Evenson, Sharkey, Pitts, and Rodriguez (2013) found the use of secondary data effective. Therefore, I extracted the data from the Steele Mutual Fund Expert Database and mutual fund filings in the U.S. Securities and Exchange Commission's Edgar Database. Steele Mutual Fund Expert is a subscription based analysis/research tool containing multiple categories of mutual fund characteristics including expense, size, and performance data that financial professionals use when constructing financial portfolios (Steele Systems, n.d.). Edgar is a database maintained by the Securities and Exchange Commission that holds required mandatory mutual fund filings containing such items as fees, performance, and strategy information (United States Security and Exchange Commission, 2012).

Data Collection Technique

Although I collected secondary data for the proposed study, there were several advantages and disadvantages to its use. Tashakkori and Teddlie (2003) explained that researchers could use multiple collection methods to gather raw data such as questionnaires, interviews, focus groups, tests, observations, or secondary data (p. 298).

Cowton (1998) revealed that secondary data is inexpensive and due to its prior collection, separates subsequent researchers from the initial design of the collection instrument, leading to an increase in reliability. Fleischhacker et al. (2013) indicated that researchers should try as best as possible to obtain primary data, however, secondary data is sufficient when conducting large studies.

A drawback to using secondary sources is survivorship bias. Chou, Chou, and Ko (2009) noted that there is chance of survivor bias due to data records not sustaining the entire study period and face exclusion from the study. The concept of survivorship bias can plausibly lead to illogical or false conclusions (Chou et al., 2009). Moreover, Bevan, Baumgartner, Johnson, and McCarthy (2013) specified that when using secondary data there is a chance that the initial researcher may have excluded important cases or perhaps missed observations during the data collection process. I assumed that the initial data was collected using appropriate procedures and verified it for accuracy by cross-referencing mutual funds extracted from Steele Mutual Fund with the historical data contained in Edgar for the years 2010 to 2014.

Data Analysis Technique

The chief aim of the study was to answer: *What is the relationship between 12b-1 fees, sales load at purchase, management fees, total capitalization and performance?* The study included the four independent variables:12b-1 fees, sales load at purchase, management fees, and total capitalization. The dependent variable was annual performance as compared to the S&P 500. After reviewing the literature on mutual fund performance, I developed the following research questions and hypotheses:

Research Questions

RQ1: To what extent does 12b-1 fees relate to mutual fund performance?

RQ2: To what extent does sales load at purchase relate to mutual fund performance?

RQ3: To what extent does management fees relate to mutual fund performance?

RQ4: To what extent does total capitalization relate to mutual fund performance?

Hypotheses

H_{01}: There is no significant statistical relationship between 12b-1 fees and mutual fund performance.

H_{a1}: There is a significant statistical relationship between 12b-1 fees and mutual fund performance.

H_{02}: There is no significant statistical relationship between sales load at purchase and mutual fund performance.

H_{a2}: There is a significant statistical relationship between sales load at purchase and mutual fund performance.

H_{03}: There is no significant statistical relationship between management fees and mutual fund performance.

H_{a3}: There is a significant statistical relationship between management fees and mutual fund performance.

H_{04}: There is no significant statistical relationship between total capitalization and mutual fund performance.

H_{a4}: There is a significant statistical relationship between total capitalization and mutual fund performance.

Chen (2011) determined that the investigation of a proposed relationship through a statistical analysis is suitable for the quantitative methodology. When examining the relationship among several variables simultaneously, researchers may choose from several statistical tests such as factor analysis, multiple analysis of variance, path analysis, or multiple regression analysis. Zhang et al. (2011) explained factor analysis as a technique best used to regroup or reduce an extensive list of variables by common association into manageable factors for evaluation.

Tonidandel and LeBreton (2013) described multiple analysis of variance or MANOVA as a sophisticated statistical technique used to examine the relationship between two or more dependent variables (or groups) that correlate. To graphically diagram, relationships (correlations) among independent and dependent variables, Skorek, Song, and Dunham (2014) noted that researchers could use path analysis. Bok-Hee and SoonGohn (2014) noted that multiple regression analysis is most appropriate when researchers want to examine the relationship between several predictor variables and a dependent variable. Alves and Mendes (2011), Banko et al. (2010), and Bhojraj et al. (2012) used multiple regression analysis to ascertain the correlation of several independent variables and mutual fund performance. Thus, to test the hypotheses of the study, I used multiple regression analysis to examine the relationship between four predictor variables (12b-1 fees, sales load at purchase, management fees, total capitalization) and the dependent variable mutual fund performance.

Boyd and Crawford (2012) suggested that the data cleaning process commences with the establishment of the raw data characteristics. Kaushik and Pennathur (2012) and Low (2010) established selection criterion in their research on mutual funds. Thus, I sorted the Steele Mutual Fund database to include only U.S. equity mutual funds for the period 2010 to 2014 that contained at least 98% class 'A' stock investments. The sort excluded international mutual funds, emerging market mutual funds, bond funds, exchange traded funds, and other types of mutual funds/investments that did not represent the U.S. equity mutual fund market for the sample period. Additionally, the sort included the annualize performance of the S&P 500 for comparison purposes.

Hung (2012) and Randall, Ferrante, Boyd, and Semmens (2013) recommended performing data cleaning strategies to improve quality, which could minimize the chances of committing false positives. When performed effectively, Birtwhistle and Williamson (2015) found that the cleaning process converts the raw data into a useable form for analysis. Therefore, I scanned the aggregate raw data, removing redundant or irrelevant fields and eliminated mutual funds that did not contain the needed data for analysis.

The analysis process included using SPSS software to test the hypotheses, ascertain the key assumptions of normality, linearity, homoscedasticity, independence of residuals, and the determination of outliers and multicollinearity. Normality refers to the distribution of the variables (Ghasemi & Zahediasl, 2012). To test the data for normality, Peng and Murphy (2011), Rabinowitz, Levine, Garibaldi, Bugarski-Kirola, Berardo, and

Kapur (2012), and Mustapha, Aris, Ramli, and Juahir (2012) used a normal p-p plot of the regression residuals. Thus, I tested the regression residuals using a normal p-p plot.

Linearity assumes that the relationship between the independent and dependent variables form a straight line (Yang, Novick, & LeBlond, 2015). Yang et al. (2015), Bennett et al. (2013), and Nguyen, Schwartz, and Dockery (2014) noted that a visual inspection of the plotted data points was an appropriate test for linearity. Therefore, I tested the distribution of the residuals using scatterplots to determine the degree of linearity.

Homoscedasticity occurs when the variance of errors is constant for all independent variables (Low, 2010). Berenson (2013), Bamel, Rangnekar, Rastogi, and Kumar (2013), and Grabemann, Mette, Zimmermann, Wiltfang, and Kis (2014) demonstrated that researchers could perform a visual inspection using scatterplots to ensure that homoscedasticity is present. Therefore, I checked for the presence of homoscedasticity using a scatterplot.

Independence of residuals is essential to ensure that the magnitude of the prediction errors do not influence one another over time (Broberg, Salminen, & Kyttä, 2013). Lee (2014), Ray, Mueller, West, and Foley (2013), and Bercu, Portier, and Vazquez (2014) proposed the Durbin-Watson test to ensure independence of residuals or autocorrelation. Thus, I used the Durbin-Watson test to check for autocorrelation.

Outliers are specific abnormal points that reside a considerable distance from other observed values (Yin, Wang, & Yang, 2014). Rousselet and Pernet (2012), Filzmoser, Hron, and Reimann (2012), and Schubert, Zimek, and Kriegel (2014) used

scatterplots to detect outliers. Thus, I determined if outliers are present by using a scatterplot.

Multicollinearity transpires when several independent variables in a multiple regression equation correlate or influence one another (York, 2012). De Winter, Bastiaanse, Hilgenkamp, Evenhuis, and Echteld (2012), Hannigan and Lynch (2013), and Zainodin, Noraini, and Yap (2011) generated a Pearson Correlation to determine the presence of multicollinearity. Consequently, to determine linear dependence among all variables, I generated a Pearson Correlation.

Should any of the parametric assumptions face violation, the conclusions reached may overstate or understate any probable relationships among the study's variables (Williams, Grajales, & Kurkiewicz, 2013). With regard to normality, linearity, homoscedasticity, outliers, and multicollinearity, Osborne and Waters (2002), Zainodin, et al. (2011), and Barnes, Walter, and Chard (2012) suggested variable transformation, omission, or possibly generating new composite variables in order to satisfy the regression model to resolve any violations. Therefore, in order to satisfy the regression model, I transformed, omitted, or developed a composite variable where appropriate.

After the verification of each assumption, the focus was on the measures of central tendency. Akins, Keenan, Sell, Abt, and Lephart (2012) employed descriptive statistics to discuss the central tendency of biological measurements. Both Kanchan and Krishan (2013) and Prabhu, Acharya, and Muddapur (2014) affirmed that descriptive statistics provide essential detail about the study's sample and is vital for future research.

Therefore, I used descriptive statistics to provide the mean and standard deviation for each of the variables for the sample period.

Next, the focus was on the relationship between the independent and dependent variables. Kamruzzaman, ElMasry, Sun, and Allen (2012) noted that the use of regression analysis is an acceptable technique to determine the relationship between study variables. Muhammad and Rahman (2010) used a regression model to examine the behavior of the Malaysian financial market. Bodson (2011) employed a regression model to determine the relationship between mutual fund size and performance. Thus, I created a multivariate regression model containing 12b-1 fees, sales load at purchase, management fees, and total capitalization to determine the extent of the relationship with mutual fund performance based upon a significance level of 0.05.

Study Validity

In the quantitative correlational study, I examined the relationship between 12b-1 fees, sales load at purchase, management fees, total capitalization, and mutual fund performance. Thus, there was no experimental design and threats to internal validity do not apply. However, there were potential threats to statistical conclusion validity.

Howison and Wiggins (2011) noted that statistical conclusion validity refers to the way in which conclusion are reached after interpreting statistics that describe the relationship among study variables. The use of a regression model required me to verify the following data assumptions: normality, linearity, homoscedasticity, independence of residuals, the presence of outliers, and multicollinearity remain vital to ensure valid results.

Normality indicates how well the regression model's coefficients maintain a normal distribution (Ghasemi & Zahediasl, 2012). If a violation occurs with the normality assumption, Li, Wong, Lamoureux, and Wong (2012) stated that there is chance of over/under estimation of the standard error, which could potentially skew the outcome of the regression model. Similar to Peng and Murphy (2011), Rabinowitz et al. (2012), and Mustapha et al. (2012), I tested the standardize residuals for normality by using a normal p-p plot.

Linearity is the belief that the relationship between the independent and dependent variables generate a straight line (Yang et al., 2015). If there is a violation in the linearity assumption, the regression model could lead to inaccurate results (Shev, Hsieh, Beisner, & McCowan, 2012). Nguyen et al. (2014) used a scatterplot to verify linearity of indoor humidity data. Yang et al. (2015) specified that a visual inspection of the data plots would provide a basic way for researchers to discover the presence of linearity. Additionally, Bennett et al. (2013) demonstrated that researchers could use scatterplots during the model validation process to determine linearity. Therefore, I tested for linearity using scatterplots of the residuals.

Homoscedasticity occurs when the variance of errors for all independent variables is unchanged (Low, 2010). A violation in homoscedasticity, or heteroscedasticity, can cause misinterpretations of the standard error and may lead to inaccurate interpretations (Wilcox & Keselman, 2012). Berenson (2013) suggested that researchers could use a scatterplot to examine homoscedasticity. Bamel et al. (2013) used a scatterplot to examine homoscedasticity in research on organizational process and manager flexibility.

In research on attention deficit hyperactivity disorder (ADHD), Grabemann et al. (2014) used scatterplots to determine the presence of homoscedasticity. Therefore, I checked for the presence of homoscedasticity using a scatterplots.

The independence of error terms is vital to ensure that the magnitude of the prediction errors do not influence one another over time or autocorrelate (Broberg et al., 2013). If a violation occurs, there is an increased chance of a Type I error (Wiedermann & von Eye, 2013). Bercu et al. (2014) acknowledged the use of the Durbin-Watson test to reveal autocorrelations. Lee (2014) used the Durbin-Watson test to demonstrate the effects of serial correlations on three auto aggressive models. Ray et al. (2013) tested for autocorrelation in research on crop yields using the Durbin-Watson test. Therefore, I used the Durbin-Watson to detect autocorrelation.

Outliers are points that differ from those predicted by the regression equation (Yin et al., 2014; Zahari, Ramli, & Mokhtar, 2014). If left unchecked, outliers may cause inaccurate standard error estimates (Wilcox, & Keselman, 2012). Rousselet and Pernet (2012) employed scatterplots to determine the presence of outliers in research on brain behavior. Filzmoser et al. (2012) made use of scatterplots to detect outliers in geochemistry data. Schubert et al. (2014) used scatterplots to view outliers in land use data. Thus, I determined if outliers are present by using scatterplots.

Multicollinearity emerges when two or more predictor variables in a multiple regression equation correlate or influence one another (York, 2012). The presence of multicollinearity may generate misleading standard error values (Zahari, et al., 2014). Hannigan and Lynch (2013) and Zainodin et al. (2011) suggested using the Pearson

correlation coefficient to measure linear associations among data points. De Winter et al. (2012) utilized a Pearson correlation coefficient to check for multicollinearity in obesity data. Thus, the verification process of linear dependency among all variables consists of using the Pearson correlation coefficient. If there are violations with any data assumptions, Osborne and Waters (2002), Zainodin, et al. (2011), and Barnes et al. (2012) suggested variable transformation, omission, or possibly generating new composite variables in order to satisfy the regression model. Therefore, in order to satisfy the regression model, I transformed, omitted, or develop a composite variable where appropriate.

Further, the sample size of the study consisted of mutual funds that invest in the U.S. financial markets. Mutual funds with these attributes invest in many types of liquid assets (Silverblatt, 2013). Similar to the selection process of Bodson et al. (2011), Kaushik and Pennathur (2012), and Low (2010), I limited the sample to 96 mutual funds that maintain at least 98% class 'A' U.S. stock investments. Readers of the study may attempt to apply the results to other categories of mutual funds (bond, specialty, international, alternative, indexed, etc.). However, the results may not be representative of the entire U.S. financial market, which is a threat to validity (Brutus et al., 2010). Thus, any findings may only be limited to the study due to the limitations of the sample size, characteristics of mutual funds, and period chosen.

Transition and Summary

Section 2 included the details of my role as the researcher and justification for the quantitative method and correlational design. Moreover, this section contained the

presentation of the purposive sampling process, which allows the researcher to establish a set criterion in order to draw from the target population (Barratt & Lenton, 2014). Section 2 concluded with a presentation of the pre and post data analysis procedures and a discussion of the importance to ensure study validity.

In Section 3, I presented the findings, discussed the practicality to the business world, and the implication for social change. In addition, this section included recommendations for continued action, future research, reflections during the research process, and final concluding remarks.

Section 3: Application for Professional Practice and Implications for Change

Overview of Study

The purpose of this quantitative study was to analyze the relationship between mutual fund expenses including 12b-1 fees, sales load at purchase, management fees, total capitalization, and performance. The persistent increase in excess cash presents many challenges for corporate treasurers, especially the profitability of the firm (Oler & Picconi, 2014; Simutin, 2010). The use of strategies that incorporate the assistance of outside expertise increases chances for success (Alexiev et al., 2010). Specifically, strategies that include guidance from mutual fund managers can potentially outperform less aggressive strategies in the long term (Chen, et al., 2010; Grobys, 2012).

I collected mutual fund data from the Steele Mutual Fund Database and the Edgar Database. The independent variables were 12b-1 fees, sales load at purchase, management fees, and total capitalization. The dependent variable was mutual fund performance (as compared to the S&P 500). The findings of this study may provide guidance to corporate treasurers when defining cash management policies and for relieving the burden of excess cash.

On examining the relationship among the study variables, I did not determine a significant relationship present. Thus, 12b-1 fees, sales load at purchase, management fees, and total capitalization were not useful predictors of mutual fund performance for any year. In addition, most mutual funds were not successful enough to achieve a positive surplus return for the sample period.

Presentation of Findings

Descriptive Statistics

As depicted in Table 1, fees for managed mutual funds increased during the sample period. While comparing 2010 with 2014, average fees increased by 0.23% and the total average net return was 74.62%. However, in only 2 of 5 years (2010 & 2013) did managed funds outperform the market. Overall, the market returned 79.25%, exceeding managed funds by 4.63%. Thus, it appears that managed funds are not generating enough return to outperform the market. The performance deficit would further increase when we consider total fees. Total fees in this study refer to 12b-1 and management fees. However, there are other categories of operational fees charged by mutual funds. Moreover, surplus return illustrates underperformance in most years. Surplus return appears when the performance of a mutual fund exceeds the performance of the market or a benchmark (Newton & Bacon, 2012). Surplus return is present only for years 2010 and 2013.

Table 1

Trend Comparison for the Sample Period

Period	Managed MF total average expenses	Managed MF total average load	Managed MF total average assets (million)	Managed MF total average return	Managed MF % change	S&P 500	S&P 500 % change	Surplus return
2010	0.77	5.5	$245.72	18.37%	–	15.06%	–	3.31
2011	0.79	5.5	$250.03	−1.49%	−108%	2.11%	−86%	−3.50
2012	0.88	5.5	$260.91	14.26%	1057%	16.00%	658%	−1.69
2013	0.92	5.5	$338.04	34.33%	141%	32.39%	102%	2.14
2014	1.00	5.5	$305.02	9.15%	−73%	13.69%	−58%	−4.42
			Total	74.62%		79.25%		

When reviewing the raw data, the sample composed of 96 mutual funds for the year 2014, 86 mutual funds for the year 2013, 83 mutual funds for the year 2012, 76 mutual funds for the year 2011, and 73 mutual funds for the year 2010. Because investment firms create new mutual funds each year, this affected the number of funds that met the selection criteria. Table 2 summarizes the descriptive statistics for the entire sample period.

Table 2

Statistics of Sample Mean and Sample Standard Deviation

Years		2010	2011	2012	2013	2014
Surplus	*M*	3.31	-3.50	-1.69	2.14	-4.42
	SD	7.41	4.46	3.34	4.72	5.11
Total net assets	*M*	240.32	249.77	263.89	345.73	305.02
	SD	498.16	531.07	533.74	706.49	637.38
12b-1 fees	*M*	.24	.24	.24	.24	.24
	SD	.08	.08	.08	.07	.07
Management fees	*M*	.76	.76	.76	.76	.76
	SD	.18	.19	.20	.19	.19
Front load max	*M*	5.60	5.52	5.52	5.52	5.49
	SD	.25	.69	.67	.65	.67
Cases		73	76	83	86	96

Assumptions Testing Results

For the years 2010 to 2014, I developed several multiple regression models to assess the relationship of 12b-1 fees, sales load at purchase, management fees, and total

capitalization against mutual fund performance. After commencing the initial multiple regression model, there was a violation in homoscedasticity and linearity for the sample year 2010 (Figure 1). To remediate these violations, I had to transform the variable FrnLoad_Max_2010 to its natural log form. As shown in Figure 3 through Figure 6, all other years met the assumptions of linearity and homoscedasticity.

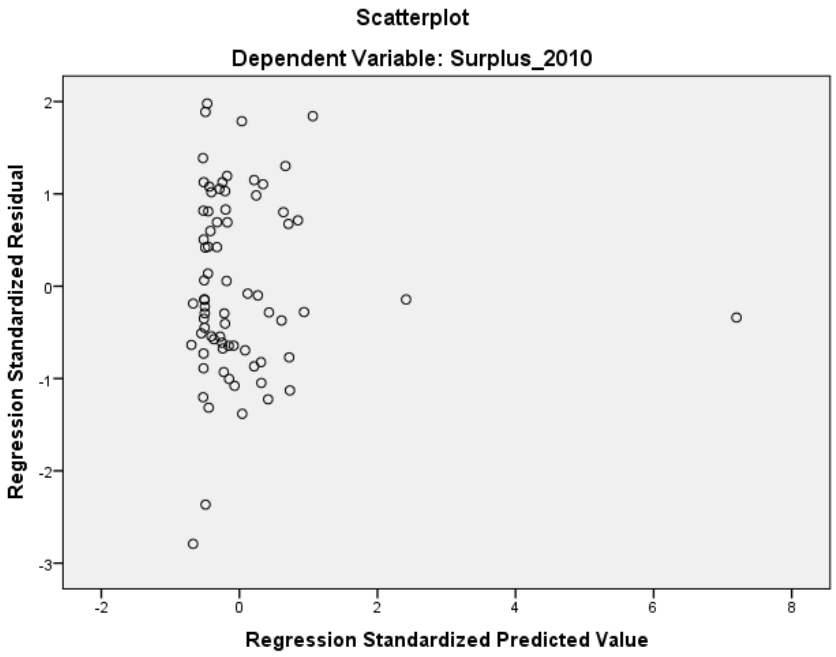

Figure 1. 2010 initial scatterplot for residuals.

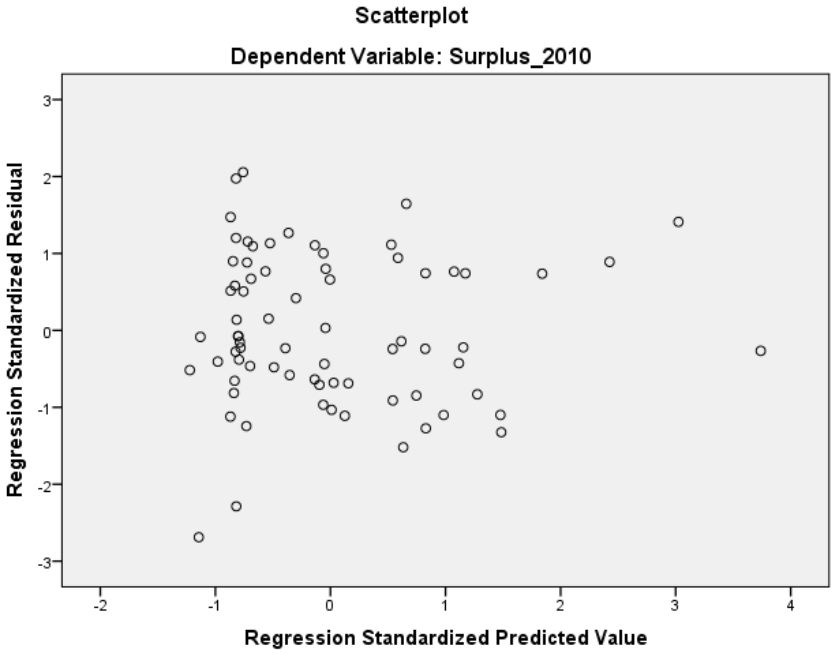

Figure 2. 2010 revised scatterplot for residuals.

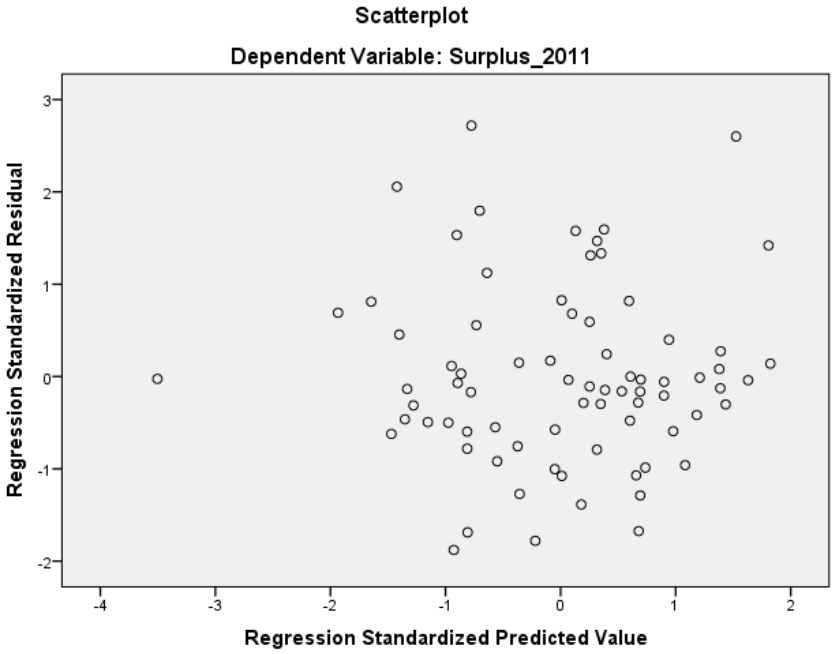

Figure 3. 2011 scatterplot for residuals.

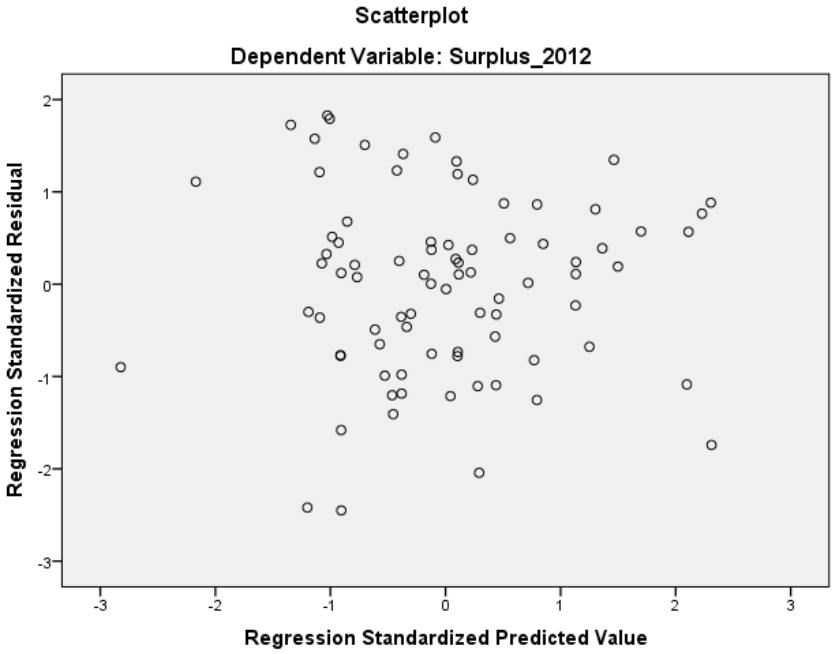

Figure 4. 2012 scatterplot for residuals.

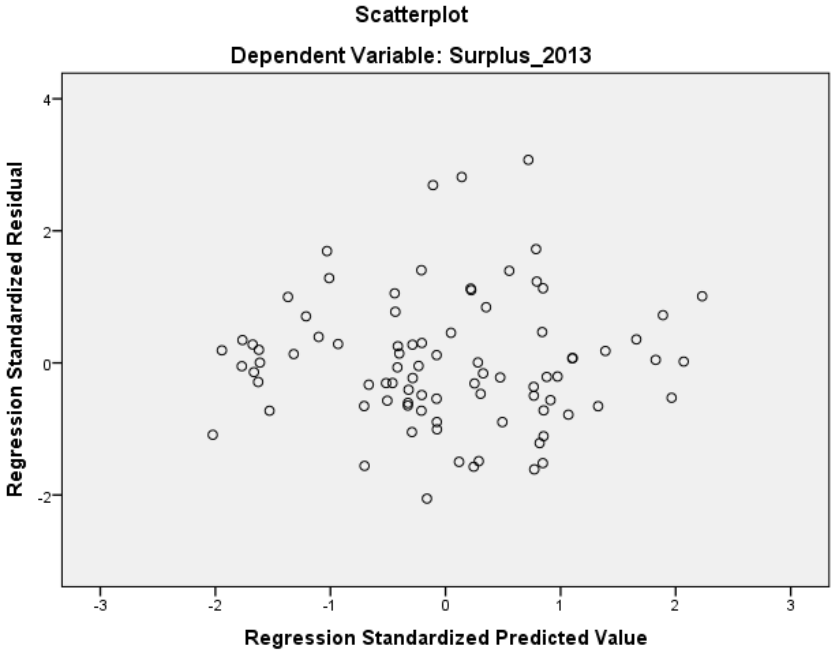

Figure 5. 2013 scatterplot for residuals.

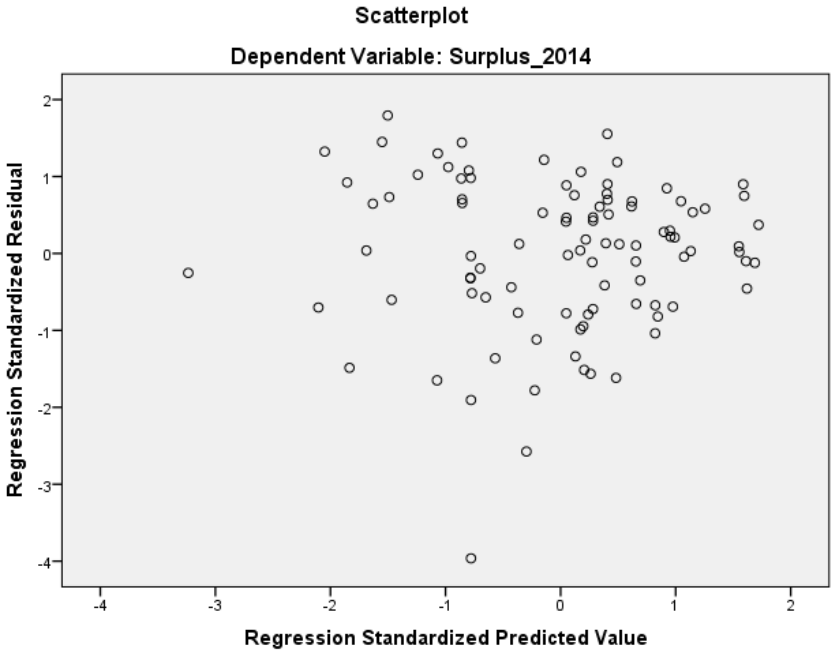

Figure 6. 2014 scatterplot for residuals.

For each year, using normal probability plots (P-P) of the standardize residuals, I did not detect any violations of normality. As shown in Figure 7 though Figure 11, the plots of residuals fit in close proximity to the expected line to consider that all residuals are normally distributed. In addition, the Durbin-Watson statistic, for the years 2010 to 2014, were 2.22, 2.39, 1.87, 1.78, and 1.71, respectively (Table 19–Table 23). Because all measures were close in proximity to the number 2, it is reasonable to assume that the residuals are independent. Thus, there is no evidence of autocorrelation.

Further, I assessed the degree of multicollinearity for each individual year. As indicated by Table 3 through Table 7, there were no bivariate correlations greater than 0.80. Thus, there was no evidence of multicollinearity. With respect to outliers, there were no troublesome outliers needing removal from the data set.

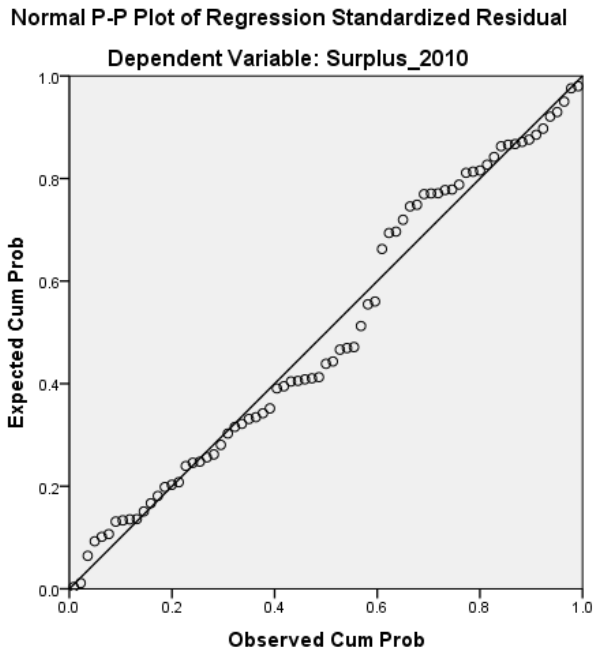

Figure 7. 2010 Normal P-P plot of standardized residuals.

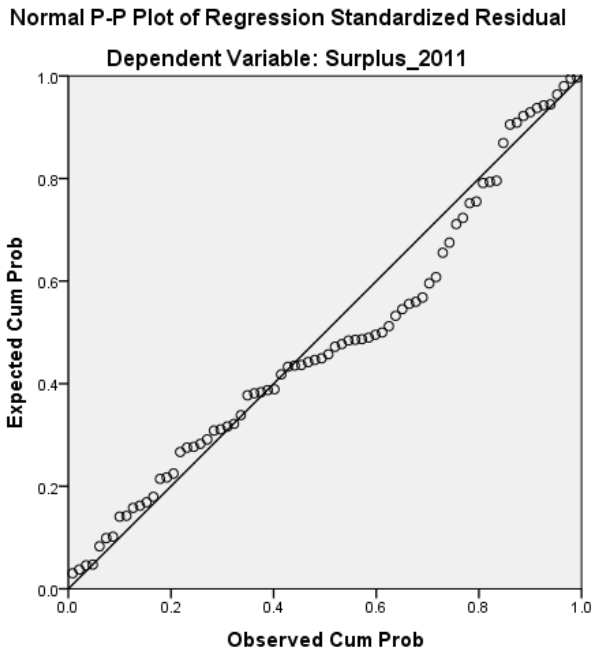

Figure 8. 2011 Normal P-P plot of standardized residuals.

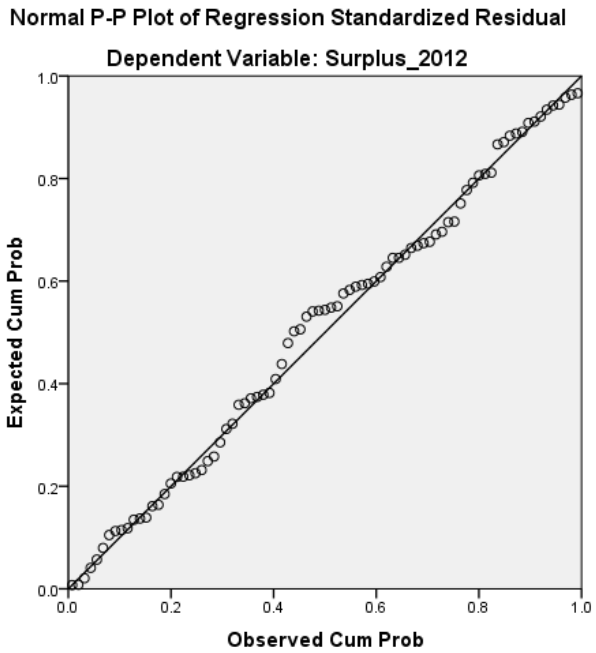

Figure 9. 2012 Normal P-P plot of standardized residuals.

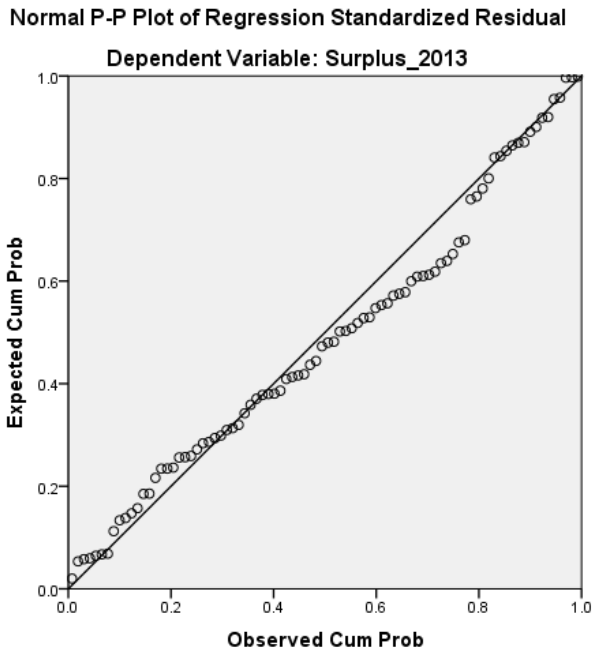

Figure 10. 2013 Normal P-P plot of standardized residuals.

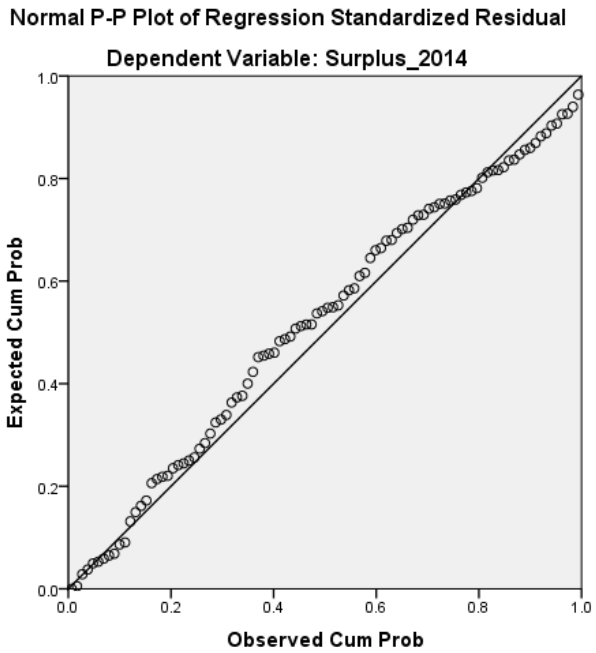

Figure 11. 2014 Normal P-P plot of standardized residuals.

Table 3

2010 Correlation Matrix

		Correlations				
		Surplus return	Total net asset	12b-1 fees	Management fees	Front load max (log)
Pearson correlation	Surplus return	1.000	.164	-.060	-.016	-.190
	Total net assets	.164	1.000	.129	-.184	.069
	12b-1 fees	-.060	.129	1.000	-.105	-.171
	Management fees	-.016	-.184	-.105	1.000	-.061
	Front load max (log)	-.190	.069	-.171	-.061	1.000
Sig. (1-tailed)	Surplus	.	.083	.307	.447	.054
	Total net assets	.083	.	.139	.059	.282
	12b-1 fees	.307	.139	.	.189	.074
	Management fees	.447	.059	.189	.	.303
	Front load max (log)	.054	.282	.074	.303	.
N	Surplus return	73	73	73	73	73
	Total net assets	73	73	73	73	73
	12b-1 fees	73	73	73	73	73
	Management fees	73	73	73	73	73
	Front load max (log)	73	73	73	73	73

Table 4

2011 Correlation Matrix

		Correlations				
		Surplus return	Management fees	12b-1 fees	Front load max	Total net assets
Pearson correlation	Surplus return	1.000	-.220	.085	-.054	-.149
	Management fees	-.220	1.000	-.125	-.087	-.214
	12b-1 fees	.085	-.125	1.000	.259	.118
	Front load max	-.054	-.087	.259	1.000	-.039
	Total net assets	-.149	-.214	.118	-.039	1.000
Sig. (1-tailed)	Surplus return	.	.028	.232	.321	.100
	Management fees	.028	.	.140	.227	.032
	12b-1 fees	.232	.140	.	.012	.155
	Front load max	.321	.227	.012	.	.368
	Total net assets	.100	.032	.155	.368	.
N	Surplus return	76	76	76	76	76
	Management fees	76	76	76	76	76
	12b-1 fees	76	76	76	76	76
	Front load max	76	76	76	76	76
	Total net assets	76	76	76	76	76

Table 5

2012 Correlation Matrix

		Correlations				
		Surplus return	Management fees	12b-1 fees	Front load max	Total net assets
Pearson correlation	Surplus return	1.000	-.184	-.144	.042	.000
	Management fees	-.184	1.000	-.104	-.026	-.269
	12b-1 fees	-.144	-.104	1.000	.118	.131
	Front load max	.042	-.026	.118	1.000	-.055
	Total net assets	.000	-.269	.131	-.055	1.000
Sig. (1-tailed)	Surplus return	.	.048	.096	.353	.500
	Management fees	.048	.	.174	.407	.007
	12b-1 fees	.096	.174	.	.145	.120
	Front load max	.353	.407	.145	.	.311
	Total net assets	.500	.007	.120	.311	.
N	Surplus return	83	83	83	83	83
	Management fees	83	83	83	83	83
	12b-1 fees	83	83	83	83	83
	Front load max	83	83	83	83	83
	Total net assets	83	83	83	83	83

Table 6

2013 Correlation Matrix

		Correlations				
		Surplus return	Management fees	12b-1 fees	Front load max	Total net assets
Pearson correlation	Surplus return	1.000	.030	.023	-.010	.018
	Management fees	.030	1.000	-.095	-.035	-.306
	12b-1 fees	.023	-.095	1.000	.119	.145
	Front load max	-.010	-.035	.119	1.000	-.043
	Total net assets	.018	-.306	.145	-.043	1.000
Sig. (1-tailed)	Surplus return	.	.392	.418	.463	.436
	Management fees	.392	.	.192	.375	.002
	12b-1 fees	.418	.192	.	.137	.092
	Front load max	.463	.375	.137	.	.348
	Total net assets	.436	.002	.092	.348	.
N	Surplus return	86	86	86	86	86
	Management fees	86	86	86	86	86
	12b-1 fees	86	86	86	86	86
	Front load max	86	86	86	86	86
	Total net assets	86	86	86	86	86

Table 7

2014 Correlation Matrix

		Correlations				
		Surplus return	Total net assets	Front load max	12b-1 fees	Management fees
Pearson correlation	Surplus return	1.000	.053	.070	.143	-.208
	Total net assets	.053	1.000	-.032	.064	-.354
	Front load max	.070	-.032	1.000	.100	-.019
	12b-1 fees	.143	.064	.100	1.000	-.061
	Management fees	-.208	-.354	-.019	-.061	1.000
Sig. (1-tailed)	Surplus return	.	.303	.250	.082	.021
	Total net assets	.303	.	.378	.268	.000
	Front load max	.250	.378	.	.167	.427
	12b-1 fees	.082	.268	.167	.	.277
	Management fees	.021	.000	.427	.277	.
N	Surplus return	96	96	96	96	96
	Total net assets	96	96	96	96	96
	Front load max	96	96	96	96	96
	12b-1 fees	96	96	96	96	96
	Management fees	96	96	96	96	96

Research Question and Hypothesis Conclusion

What is the relationship between 12b-1 fees, sales load at purchase, management fees, total capitalization and performance? The study included the four independent variables: 12b-1 fees, sales load at purchase, management fees, and total capitalization. The dependent variable was annual performance as compared to the S&P 500. After reviewing the literature on mutual fund performance, I developed the following research questions and hypotheses:

Research Questions

RQ1: To what extent does 12b-1 fees relate to mutual fund performance?

RQ2: To what extent does sales load at purchase relate to mutual fund performance?

RQ3: To what extent does management fees relate to mutual fund performance?

RQ4: To what extent does total capitalization relate to mutual fund performance?

Hypotheses

H_{01}: There is no significant statistical relationship between 12b-1 fees and mutual fund performance.

H_{a1}: There is a significant statistical relationship between 12b-1 fees and mutual fund performance.

H_{02}: There is no significant statistical relationship between sales load at purchase and mutual fund performance.

H_{a2}: There is a significant statistical relationship between sales load at purchase and mutual fund performance.

H_{03}: There is no significant statistical relationship between management fees and mutual fund performance.

H_{a3}: There is a significant statistical relationship between management fees and mutual fund performance.

H_{04}: There is no significant statistical relationship between total capitalization and mutual fund performance.

H_{a4}: There is a significant statistical relationship between total capitalization and mutual fund performance.

Inferential Results

For the years 2010 to 2014, I conducted a multiple linear regression, where $\alpha = .05$ to determine if there was a relationship between 12b-1 fees, sales load at purchase, management fees, total capitalization (total net assets), and mutual fund performance (surplus). The independent variables were 12b-1 fees, sales load at purchase, management fees, and total capitalization. The dependent variable was mutual fund performance. The null hypothesis was that there was no significant relationship between 12b-1 fees, sales load at purchase, management fees, total capitalization, and mutual fund performance. The alternative hypothesis was that there is a significant statistical relationship between 12b-1 fees, sales load at purchase, management fees, total capitalization, and mutual fund performance.

As depicted in Table 8 through Table 12, there were no years that indicated a significant relationship existed as the *p*-value was .207, .087, .257, .996, .194 for the years 2010 to 2014 respectively, which exceeded alpha of 0.05. Consequently, further examination of individual *t*-tests would lead to erroneous conclusions (Elliott & Woodward, 2007). Therefore, the regression coefficients are located in in Table 14–Table 18 as they may lead to additional research. Thus, 12b-1 fees, sales load at purchase, management fees, and total capitalization were not good predictors of mutual fund performance. As a result, I accepted all null hypotheses respectively that no significant relationships existed. These results are comparable to those of Lamphun and Wongsurawat (2012), Yuhong and Addams (2012), Garyn-Tal (2015), and Low (2010)

who did not find any significant relationship between mutual fund expenses/sales loads, capitalization and performance.

To provide a thorough examination of the data, I identified 30 mutual funds that outperformed the S&P 500, which represents 31.3% of the total sample (Table 13). The average total return of the funds was 85.24%, which exceeded the S&P 500 by 5.99%. The average age of these successful mutual funds was 12.2 years. Moreover, fees and net assets under management increased, which may indicate additional oversight needed to manage the increased amount of assets.

Consequently, the overall results indicate that professionally managed mutual funds underperform the market as noted in Table 1 and Table 2. From years 2011, 2012, 2014, the average total surplus return was negative, illustrating that actively managed funds performed worse than the S&P 500. Wu (2011) and Fulkerson (2013) also noted that mutual fund managers demonstrated little skill as measured by earnings and did not generate enough return to cover expenses. Moreover, because there was no relationship between 12b-1 fees, sales load at purchase, management fees, total capitalization, and mutual fund performance, we may conclude that the financial markets were mostly efficient during the sample period, supporting the efficient market hypothesis (Table 8 through Table 12). Thus, in most cases, corporate leaders may be better off investing directly into a market index similar to the S&P 500.

Table 8

2010 Analysis of Variance

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	323.976	4	80.994	1.518	.207[b]
	Residual	3627.159	68	53.341		
	Total	3951.134	72			

a. Dependent Variable: Surplus return

b. Predictors: (Constant), Front load max (log), Management fees, Total net assets, 12b-1 fees

Table 9

2011 Analysis of Variance

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	159.336	4	39.834	2.124	.087[b]
	Residual	1331.402	71	18.752		
	Total	1490.738	75			

a. Dependent Variable: Surplus return

b. Predictors: (Constant), Total net assets, Front load max, Management fees, 12b-1 fees

Table 10

2012 Analysis of Variance

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	59.557	4	14.889	1.357	.257[b]
	Residual	856.040	78	10.975		
	Total	915.597	82			

a. Dependent Variable: Surplus return

b. Predictors: (Constant), Management fees, Front load max, 12b-1 fees, Total net assets

Table 11

2013 Analysis of Variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.365	4	1.091	.047	.996[b]
	Residual	1886.147	81	23.286		
	Total	1890.512	85			

a. Dependent Variable: Surplus return

b. Predictors: (Constant), Management fees, Front load max, 12b-1 fees, Total net assets

Table 12

2014 Analysis of Variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	158.213	4	39.553	1.552	.194[b]
	Residual	2319.344	91	25.487		
	Total	2477.557	95			

a. Dependent Variable: Surplus return

b. Predictors: (Constant), Management fees, Front load max, 12b-1 fees, Total net assets

Table 13

Analysis of Successful Mutual Funds

Total funds > S&P 500	30
Percentage of sample	31.3%
Average age	12.20
Average total return	85.24%

Period	Average asset size	Average expenses
2014	533.69	1.08
2013	518.12	1.04
2012	374.32	1.04
2011	286.77	0.88
2010	249.34	0.86

Table 14

2010 Regression Coefficients and Collinearity Statistics

Model	Coefficients[a]						
	Unstandardized coefficients		Standardized coefficients	*t*	*Sig.*	Collinearity Statistics	
	B	*Std. Error*	Beta			Tolerance	*VIF*
(Constant)	66.224	33.089		2.001	.049		
Total net assets	.003	.002	.194	1.626	.109	.948	1.055
12b-1 fees	-11.711	11.276	-.124	-1.039	.303	.943	1.061
Management fees	-.287	4.932	-.007	-.058	.954	.955	1.047
Front load max (log)	-35.188	18.593	-.225	-1.892	.063	.958	1.044

a. Dependent variable: Surplus return

Table 15

2011 Regression Coefficients and Collinearity Statistics

Model		Coefficients[a]						
		Unstandardized coefficients		Standardized coefficients	*t*	*Sig.*	Collinearity Statistics	
		B	*Std. Error*	Beta			Tolerance	*VIF*
1	(Constant)	4.453	4.830		.922	.360		
	Management fees	-6.310	2.762	-.264	-2.285	.025	.939	1.065
	12b-1 fees	5.939	6.457	.108	.920	.361	.910	1.099
	Front load max	-.738	.756	-.114	-.977	.332	.923	1.084
	Total net assets	-.002	.001	-.223	-1.925	.058	.939	1.065

a. Dependent variable: Surplus return

Table 16

2012 Regression Coefficients and Collinearity Statistics

Model		Coefficients[a]						
		Unstandardized coefficients		Standardized coefficients	*t*	*Sig.*	Collinearity statistics	
		B	*Std. Error*	Beta			Tolerance	*VIF*
1	(Constant)	1.312	3.592		.365	.716		
	Management fees	-3.478	1.901	-.209	-1.829	.071	.922	1.085
	12b-1 fees	-7.487	4.956	-.169	-1.511	.135	.963	1.039
	Front load max	.274	.555	.055	.493	.623	.980	1.020
	Total net assets	.000	.001	-.031	-.271	.787	.912	1.097

a. Dependent variable: Surplus return

Table 17

2013 Regression Coefficients and Collinearity Statistics

Model		Coefficients[a]						
		Unstandardized coefficients		Standardized coefficients	*t*	*Sig.*	Collinearity statistics	
		B	*Std. Error*	Beta			Tolerance	*VIF*
1	(Constant)	1.380	5.275		.261	.794		
	Management fees	.988	2.892	.040	.342	.733	.902	1.108
	12b-1 fees	1.537	7.250	.024	.212	.833	.961	1.040
	Front load max	-.076	.808	-.011	-.094	.925	.980	1.020
	Total net assets	.000	.001	.026	.220	.827	.889	1.125

a. Dependent variable: Surplus return

Table 18

2014 Regression Coefficients and Collinearity Statistics

Model		Coefficients[a]						
		Unstandardized coefficients		Standardized coefficients	*t*	*Sig.*	Collinearity statistics	
		B	*Std. Error*	Beta			Tolerance	*VIF*
1	(Constant)	-4.492	5.102		-.880	.381		
	Management fees	-5.473	2.847	-.209	-1.922	.058	.872	1.146
	12b-1 fees	9.039	7.262	.127	1.245	.216	.984	1.016
	Front load max	.397	.778	.052	.511	.611	.988	1.012
	Total net assets	.000	.001	-.027	-.249	.804	.871	1.148

a. Dependent variable: Surplus return

Table 19

2010 Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.286[a]	.082	.028	7.303463	2.224

a. Predictors: (Constant), Front load max (log), Management fees, Total net assets, 12b-1 fees

b. Dependent variable: Surplus return

Table 20

2011 Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.327[a]	.107	.057	4.33037	2.393

a. Predictors: (Constant), Total net assets, Front load max, Management fees, 12b-1 fees

b. Dependent variable: Surplus return

Table 21

2012 Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.255[a]	.065	.017	3.31283	1.867

a. Predictors: (Constant), Total net assets, Front load max, 12b-1 fees, Management fees

b. Dependent variable: Surplus return

Table 22

2013 Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.048[a]	.002	-.047	4.82553	1.778

a. Predictors: (Constant), Total net assets, Front load max, 12b-1 fees, Management fees

b. Dependent variable: Surplus return

Table 23

2014 Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.253[a]	.064	.023	5.048495	1.706

a. Predictors: (Constant), Management fees, Front load max, 12b-1 fees, Total net assets

b. Dependent variable: Surplus return

Applications to Professional Practice

My primary goals for this study were to add to the existing literature regarding the predictive ability of mutual fund performance and the performance of actively managed mutual funds. The purpose of this study was to determine the predictive nature of expense, load, and capitalization measures. The findings of the study may be of practical significance to many professionals.

The academic community may want to extend the contribution of this study by further examining other potential correlates of mutual fund performance. The mutual

fund research landscape is vast, with many unknowns that may influence performance (Costa & Jakob, 2011; Fitzpatrick et al., 2010). In addition, the results of this study adds to the ongoing debate on the benefits of active mutual fund management versus passive management.

Furthermore, the results of this study may provide key information to assist corporate leaders when trying to identify strategies to manage excess cash. Investors may penalize corporations for having too much idle cash remaining on balance sheets (Oler & Picconi, 2014; Sun, et al., 2012; Tong, 2011). Though corporate leaders typically hold excess cash in fixed assets (Almeida et al., 2013), there is an increased chance of lower yields due to underinvestment (Simutin, 2010). Although there was no significant correlation established between 12b-1 fees, sales load at purchase, management fees, total capitalization, and performance, investing directly in the financial markets seemed to pay off during the sample period of this study. The S&P 500 outperformed the total average return of managed funds in three out of the five years of this study.

Implications for Social Change

High levels of idle or excess cash have a negative effect upon firm valuation and could lead to potential governance issues for corporations (Frésard & Salva, 2010; Lee & Powell, 2011). The implications of the study's results could serve two potential purposes. For corporations, the overall results indicated that expenses and capitalization measures might not be good predictors of mutual fund performance. Nonetheless, the analysis also indicated that a small portion of mutual funds were able to outperform the market. Thus, opportunities exist for corporate leaders to earn above market interest rates, instead of

earning low interest from fixed investments. Corporate leaders may use the additional earnings to offset increasing labor costs or to expand operations, which could lead to more available employment opportunities.

Furthermore, legislators might find the study's results useful when proposing policies to strengthen financial markets. Due to new money entering the financial markets via institutional investments, legislators may want to devise regulations to ensure that mutual funds operate transparently and maintain a consistent governance structure. Corporate leaders will become more comfortable investing excess cash if they are confident in the stability of mutual funds.

Recommendations for Action

The results of this study are consistent with the work of other researchers of mutual fund performance (Garyn-Tal, 2015; Lamphun & Wongsurawat, 2012; Low, 2010; Yuhong & Addams, 2012). I found that there was no significant relationship between expenses, load charges, capitalization, and mutual fund performance. In addition, the market outperformed managed mutual funds in three out of five years. However, there was a small group of mutual funds that exceeded the total performance of the market for the entire sample period.

The results of this study are vital to corporate leaders, legislators, and scholars. Corporate leaders may use the results of this study to align cash management and governance policies. Legislators may use the results of this study to develop regulations to promote stable and transparent financial markets. Scholars may use the results of this study as a foundation to research other areas of mutual fund performance. I intend to

publish the results of this study in the ProQuest/UMI dissertation database, pursue publication in academic journals, and discuss the results in conferences.

Recommendations for Further Research

In this study, I assessed the relationship between the mutual fund characteristics fees, sales load, capitalization, and performance for the period 2010 to 2014. With regard to fees, the focus was 12b-1 fees and management fees. Future researchers may want to expand the period, potentially focusing on strong markets and/or weak markets, or study other mutual fund characteristics. In addition, the analysis included the S&P 500 as the index to represent the overall market. However, not all mutual funds directly compete against the S&P 500. Thus, future researchers may want to consider other benchmark indexes.

Reflections

My goal in this study was to gain more insight into the behavior of mutual fund characteristics and their effect upon performance. There were a few surprises along the way, especially during the data collection process. Unfortunately, the SEC's website was extremely cumbersome to access and slow at times, delaying collection. Many times, I attempted to access the website at potentially off-peak hours. However, using alternate access times was not a dependable method because there were still outages.

In addition, given the nature of this study, there was no anticipation for the difficulty in locating a suitable mutual fund database that contained the fields needed for analysis. For several weeks, I reviewed the cost, user interface, and data fields of multiple

databases. Though this was an arduous task, the process yielded an appropriate and cost effective source for this study.

Lastly, there was minor difficulty tracking funds during the sample period because of consolidations and/or name changes. The name changes required reconciliation between the Steele Mutual Fund and Edgar databases by comparing the historical performance and ticker symbols. Nevertheless, despite challenges, I was able to establish a final sample for analysis.

Summary and Study Conclusions

The main purpose of the quantitative correlational study was to investigate mutual funds as a potential investment vehicle for excess corporate cash. Specifically, the goal was to determine if a statistically significant relationship existed between expenses, loads, capitalization measurements, and mutual fund performance. I examined the relationship using a multiple regression model and a sample of 96 total actively managed mutual funds.

The findings revealed that there were no significant relationships present because all p-values exceeded alpha of .05. As a result, I accepted the null hypotheses H_{01}, H_{02}, H_{03}, and H_{04}. Thus, the findings of no relationships may indicate that the financial markets are mostly efficient for the period 2010 to 2014 and investors may not use expenses, loads, and capitalization as potential indicators of future mutual fund performance.

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