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CHAPTER I

INTRODUCTION

As of 2010, the U.S. mutual fund industry remained the largest in the world with $11.8 trillion in assets, representing approximately 48% of the $24.7 trillion invested in funds worldwide. Of the $11.8 trillion invested in Mutual funds, roughly 44% belong to equity mutual funds (Investment Company Fact Book, 2011)[1]. Mutual funds have become very desirable because they offer several advantages such as, diversification, professional management, and liquidity, among others. Given these advantages, mutual funds are the preferred option for many retirement accounts such as 401(k)s and Individual Retirement Arrangements (IRAs). However, despite the many benefits, there continues to be a debate on whether it is best for individuals to invest in an actively or passively managed fund. Many studies show that investors do not necessarily benefit from investing in actively managed funds; as a result, they are better off investing in a fund that is passively managed. For example, Jensen (1968) discovers that actively managed funds, on average, are unable to outperform the market on a consistent basis. This can be attributed to high transaction cost associated with excessive trading activities. Since Jensen, many other studies have found similar results providing strong empirical evidence confirming the notion that investors do not benefit from investing in actively managed funds (Berk & Green, 2004; Carhart, 1997; Gruber, 1996). Due to the fascinating nature of the mutual funds, it is one of the most researched areas within the financial literature.

[1] The Investment Company Fact Book is located at the following http://www.ici.org/pdf/2011_factbook.pdf

This dissertation adds to that body of knowledge by exploring areas that have not been examined. It consists of three articles, each exploring a different topic related to mutual funds. The first article looks at the performance and expenditure of Black owned and/or Black managed mutual funds within the United States. The second explores investor preference for skewness when selecting mutual funds. The third investigates how investor preference for skewness relates to incubated mutual funds; additionally, it explores the expenditure of incubated mutual funds.

Description of studies

Chapter II begins with an in depth look at mutual funds that cater to African Americans. This paper builds on the work of Malloy and Zhu (2004), who find that investors who live in minority neighborhoods invest a great deal of their resources in mutual funds with high expensive loads. However, instead of using the data provided by a discount brokerage firm, I will examine the performance and the expense of mutual funds that are marketed directly towards Blacks. Given the relative inexperience of Blacks in the financial market, I hypothesize that mutual funds that cater to Blacks are more costly in terms of both salient and less salient fees and are significantly more likely to underperform relative to conventional funds. Furthermore, I hypothesize that mutual funds that cater to Black investors benefit from investor loyalty by targeting a clientele that prefers investing in Black owned or Black managed mutual funds.

The results of the first study shows that on average funds that cater to Black investors carry lower fees, however, they do not perform statistically different from conventional funds. Arguably, these findings indicate that mutual funds that cater to Black investors have made an integral move toward improving the financial well being of

Black households in the United States. Moreover, the result of this study reveals that Black mutual funds experience lower volatility which is consistent with investor loyalty.

Next, Chapter III explores investor preference for skewness when deciding which mutual funds to invest. While many studies provide strong empirical evidence that show that mutual fund investors flock to funds with recent high performance, the preference that investors have for funds that generate a positively skewed return is yet to be examined. Therefore, this study makes a pivotal contribution to the body of literature by examining investor preference for skewness. Although many studies show that investors prefer portfolios and stocks that are positively skewed, the relation between skewness and mutual fund flows has not been studied. Understanding investor inclination for skewness when investing in mutual funds, should offer a key contribution in understanding the survival and growth of actively managed funds. The results reveal that mutual fund investors prefer investing in mutual funds that are positively skewed in a given year. Given the complex nature of skewness, I have come up with two additional variables to proxy for skewness. These two variables are used to capture investor expectation. Similar to skewness, I argue that funds with a high batting average and funds that post returns in the furthest quintile relative to their peers during a given month are appealing to investors, because they demonstrate an ability to outperform the market. Thus, appealing to investors' inclination for skewness as it could potentially increase lifetime wealth.

Chapter IV takes paper two a step further as it presents an investigation of how investor preference for skewness impacts their desire to invest in incubated mutual funds. Mutual fund incubation is the process of creating mutual funds without making them available to the public first. Funds that perform well during the incubation process are

then offered to the public, while those that perform poorly are not. Additionally, this study explores the expenditure of incubated funds relative to non-incubated funds. First, the results reveal that incubated mutual funds on average have a statistically significantly higher expense ratio when compared to non-incubated funds. Here, I argue that the knowledgeable mutual fund companies that are aware of the return-chasing behavior launch incubated funds when their returns are high in order to extract higher rents from naïve investors. Consistent with the idea that investors are attracted to mutual funds that are positively skewed. The results also reveal that those incubated mutual funds that are highly skewed at inception receive a higher inflow of funds when compared with other funds that are available in the market. Thus, I provide empirical evidence that mutual fund incubation is an innovative strategy that fund families and managers can use to increase their assets under management. However, this strategy is misleading to investors as it allows them to believe that a mutual fund company has identified a manager with superior stock picking ability, albeit, this performance may simply be attributed to luck.

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CHAPTER II

DO MUTUAL FUNDS MARKETED TO AFRICAN AMERICAN INVESTORS EXTRACT EXCESS RENT?

ABSTRACT

Empirical evidence shows that Blacks prefer to invest in either Black-owned or Black-managed mutual funds. This study investigates the performance and the costs of mutual funds that target Black investors. Using data from Morningstar Direct the results reveal that Black mutual funds, on average, have lower fees than comparable conventional funds. Additionally, Black mutual funds do not perform statistically different when compared to a conventional group of their peers. An examination of the standard deviation of net investor cash flow indicates that Black mutual funds experience less volatility relative to comparable conventional funds.

The African American Investor

According to the Census Bureau (2010), Blacks represent approximately 12.3% of the U.S. population. Between 1995 and 2001, Blacks increased their ownership of equity at a faster rate than non-Blacks (Hanna & Lindamood, 2008; Aizcorbe, Kennickell, & Moore, 2003). Shortly after, mutual fund companies followed suit by creating funds that cater to Black investors. These funds are advertised in media outlets whose primary audience is members of the Black community. Many of these funds are either owned or managed by an African American. As more Blacks begin investing in the market, their financial inexperience may increase their vulnerability to excessive rent extraction from more knowledgeable fund managers. Here, I define rent extraction as the portion of fees mutual fund investors pay to their fund managers for which they receive nothing in return. Oftentimes mutual fund managers are able to charge higher fees and/or expend less effort identifying underpriced securities if their investors are more likely to trust and believe that they are acting in their best interest. Prior literature on funds that target a specific clientele has not yet focused on funds that cater to a relatively less experienced group of investors. The main purpose of this paper is to investigate the performance and costs of mutual funds that are either owned or managed by an African American and is promoted among Blacks.

The results reveal that Black mutual funds, on average, have lower fees when compared to their conventional counterparts. I also find that there is no statistically significant difference in the performance of Black managed mutual funds when compared to conventional funds. By examining the standard deviation of investor cash flow, it is

evident that Black funds experience less volatility than conventional funds. This is indicative of investor loyalty.

Background of the Black Investor

Due to racial and discriminatory policies, the participation of Blacks in financial markets is relatively new when compared to Whites (Gittleman & Wolff, 2004). As a result, many Blacks perceive that the financial sector as being dominated by other racial groups (Biafora, Taylor, Warheit, & Vega, 1993; Grier & Cobbs, 1968). However, as time progresses and cultures evolve, there has been increased participation by Blacks in the financial markets. Despite this increase, the cultural mistrust that Blacks have for other racial groups remains evident in their behavior. This has translated into a lower level of risk tolerance amongst Black investors. For example, Blacks are less likely to own risky financial assets when compared to Whites. Studies show that Blacks have a lower preference for riskier assets such as common stocks (Hanna & Lindamood, 2008; Hong, Kubik, & Stein, 2004; Coleman, 2003; Gutter, Fox, & Montalto, 1999; Badu, Daniels, & Salandro ,1999; Terrell, 1971). Also, Blacks prefer to hold tangible non-financial assets that provide consumptive services, whereas Whites prefer to hold financial assets that are income producing as well as non-financial assets (Coleman, 2003; Blau & Graham, 1990; Terrell, 1971). In examining the consumption of financial services, research shows that Blacks are skeptical of the advice they receive from financial advisors (Ariel Schwab, 1998).

Consistent with the cultural mistrust of other ethnic groups, the 1998 Ariel Schwab Black investor survey reveals that 58% of Blacks prefer to invest in a racially diverse firm. More than 57% indicate that they would rather have an investment account

with a company that is either owned or managed by an African American. Another 51% state that it is important to have the option of investing in a Black owned and/or Black managed mutual fund as a portion of their 401(k) or defined contribution plan. Arguably, this is an indication that Blacks are more likely to trust and have more confidence in individuals who share a similar racial background. If Blacks invest based on their preference for either a Black owned or a Black managed mutual fund, then the utility they receive from investing in these should be greater than if they invest otherwise.

Over the past few decades a number of mutual funds have been created and/or are being managed by African Americans. These funds promote to Black investors through various African American media outlets. Two well known mutual funds that cater to Black investors are the Ariel fund and the Brown fund. Advertisement for these funds can be found in the *Black Enterprise magazine*[2], as well as, on websites that provide financial advice to Black investors. By marketing their mutual funds, mutual fund managers are able to increase net investor cash flow. Cronqvist (2006) finds that mutual fund advertisement has an impact on investors' choice, as it arouses certain key positive emotions making their attitude more favorable towards those mutual funds in the advertisement. He also finds that advertisements direct investors towards mutual funds that have higher exposure to equities and a more active fund manager; both of which negatively impacts a mutual fund's performance.

The growth of the mutual fund industry has been accompanied by the creation of mutual funds that are marketed towards specific clienteles. Although, the issue of the performance and the expense of mutual funds marketed towards Blacks are unexplored,

[2] The Black Enterprise magazine similar to the Money magazine, however, it caters to a primary Black audience.

numerous studies focus on socially responsible mutual funds. Socially responsible investing (SRI) has been around for many decades; however, given its new found popularity it has acquired the interest of the academic community. A unique feature of SRI mutual funds is that they market themselves as having superior moral values relative to their conventional counterparts. In order to be classified as a SRI mutual fund, the mutual fund must only invest in companies based on ethical or moral criteria by screening out companies that offer undesirable services and products (Geczy, Stambaugh, & Levin, 2003; Statman, 2000; Hamilton, Jo, & Statman, 1993). As a result, investors may be drawn to SRI mutual funds because they possess personal values that are aligned with the investment philosophy of the fund. Schueth (2003) suggests that there are two groups of SRI mutual funds investors. First, there are the "feel good" investors who will invest in a manner more aligned with their personal values and priorities. Second, there is the group of investors who have a strong desire to invest in such a way that sustains, promotes, and enhances their quality of life. Consequently, some investors care more about the social performance of the fund and less about its financial performance (Nilson, 2009). Thus, there is a "warm-glow" effect derived from the utility investors receive from investing in these funds. A potential hazard faced by investors who experience a warm-glow effect, is their lack of oversight as it pertains to the mutual fund's governance. As a result, they are less likely to punish a fund manager due to poor performance. Therefore, I argue that Black investors are similar to SRI investors because there is a warm-glow effect experienced from investing in either a Black-owned or a Black-managed mutual fund. It is because of this warm-glow effect or utility received by Black investors when they invest in Black mutual funds that make them comparable to SRI investors. If Blacks

community, they might not monitor the fees and performance of the funds closely to reduce agency costs. Additionally, if these funds underperform, investors may remain loyal because of the warm-glow effect.

SRI mutual funds have received quite a bit of attention from the academic community. The primary basis of many studies is whether investors are made worse off when they invest in SRI funds, especially given the limit of their investment options. However, the results consistently show that there is no significant difference in the risk-adjusted performance of SRI mutual funds relative to non-SRI funds (Bollen, 2007; Bauer, Derwell, & Otten, 2006; Bauer, Koedijk, & Otten, 2005; Guerard, 1997; Sauer, 1997). In addition to the statistical insignificance in performance between the two groups, empirical evidence shows that both groups of actively managed funds underperform the market.

Despite the statistical insignificance between the performance of SRI funds and conventional funds, studies show that SRI mutual funds generally carry higher fees. Geczy et al. (2005) find that investing in SRI mutual funds is costly to investors, in addition to having higher loads they also have a higher expense ratio (1.36 for socially responsible mutual fund compared to 1.1 for regular funds). Similarly Bauer et al. (2005) demonstrate that, on average, SRI mutual funds have a higher expense ratio than conventional funds. They reveal high expenditure of SRI is not limited to the U.S., but it is also observed in Germany and the United Kingdom. Likewise, Otten et al. (2006) find that SRI mutual funds in Canada have a higher expense ratio when compared to conventional funds. These findings support the idea that mutual funds that cater to a

specific clientele who may experience a warm-glow effect are able to charge higher fees because their target investors are essentially less price sensitive.

The negative effect of mutual fund fees on performance has been the focal point of many studies. Across the board, empirical evidence consistently show that low fees are superior to high fees, active managers cannot outperform indices, and past returns do not predict future returns (Carhart, 1997; Gruber, 1996). Therefore, although some investors might experience a warm-glow effect based on the philosophies of a mutual fund, the high costs associated with these funds make them sub-optimal investment choices. Based on empirical evidence, investors would be better off investing in an index fund. However, despite this evidence, investors continue to invest in actively managed mutual funds.

The decision made by investors to purchase high expense actively managed funds can be attributed to numerous factors. Wilcox (2003) finds that mutual fund investors who have some basic financial knowledge are more averse to loads than those who do not have financial knowledge. Likewise, Barber, Odean and Zheng (2005), find that more experienced investors are more aware of front-end loads but they pay less attention to hidden management fees. Additionally, investors' preference for investing in a small subset of funds increases their vulnerability to high rent extract, especially if they fail to pay attention to fees associated with the funds. The preference of Black investors to purchase a Black-owned or Black-managed mutual fund coupled with their relative financial inexperience makes them susceptible to excessive rent extraction via higher fees, especially those which are salient. The evidence that minorities are charged higher fees has been documented. Using a dataset that merges individual account data with the

U.S. Census, Malloy and Zhu (2004) find that investors in neighborhoods with a higher percent of Hispanics and Blacks invest more of their wealth in expensive load funds.

Theory/Principal Agent Conflict

Within the mutual fund industry, the relationship between an investor and a mutual fund manager can be viewed as a relationship between the principal, who is the investor, and the agent, who is the mutual fund manager (Huhmann, 2005). In such a relationship an investor will entrust his or her money to the mutual fund manager for investment purposes. In return, the mutual fund manager is expected to make utility-maximizing decisions on behalf of the client. However, because the action of the manager is not fully transparent to the investor, potential principal-agent conflicts of interest might arise. Consequently, if both parties involved in the relationship are utility maximizers, then it is likely that the agent may not act in the best interest of the principal (Jenson & Meckling, 1976). As it pertains to mutual funds, investors desire a high risk-adjusted performance for a relatively low cost; however, this is not always the objective of fund families and managers, whose goal is to maximize assets under management (Khorana & Servaes, 2004).

Given the cultural mistrust between Blacks and other racial groups, in addition to their investment preferences, they are arguably more prone to making suboptimal investment decisions. If Blacks are more likely to trust other Blacks who own or manage mutual funds, as well as, those who provide financial advice through the African American media, they may be less likely to monitor the financial performance of their investment. Trust, in addition to a lack of experience, is likely to increase the agency conflict or agency cost. Jensen and Meckling (1976) break agency cost into three

categories: monitoring cost, bonding cost, and residual loss. Monitoring cost requires a certain level of experience and financial sophistication from the investor in order to limit the deviant activities of the mutual fund manager. Hence, if Blacks are inexperienced they will not be able to efficiently monitor the actions of mutual fund managers. The principal incurs a bonding cost to ensure the alignment of interest between himself and the agent. Agency costs beyond monitoring and bonding costs are referred to as residual loss. Fama and Jensen (1983) suggest that mutual fund investor agency conflicts of interest are resolved through shareholder transactions, whereby, the investor will reward mutual fund managers with inflows if he or she posts good returns and punish managers with outflows if they post bad returns. However, Qian (2006) suggests that individuals may not possess the combination of skills and knowledge to monitor funds or the cost of monitoring these funds may be too high when compared with the benefits. Thus, managers may not experience an outflow of funds in response to poor performance. In order to make the monitoring process more complex and exploit consumer loyalty, mutual fund retailers will increase the complexity of their products (Carlin, 2009). Also, because many Black investors experience a warm-glow effect from investing in specific mutual funds, they may remain loyal regardless of performance. As a result, underperforming managers might not be penalized for poor performance.

Failure to monitor mutual fund managers' performance can lead to a significant reduction in investors' utility due to a loss in wealth. James and Karceski (2006) find that greater monitoring of mutual fund managers by investors improves performance. As a result, if Blacks are less likely to monitor the mutual funds in which they invest, it is possible that these funds could perform worse and investors might not be aware of it.

Additionally, James and Karceski (2006) imply that funds with lower minimum initial investment requirement tend to have a lower investor oversight. Likewise, Malloy and Zhu (2004) find that mutual fund investors in Hispanic or Black neighborhoods tend to invest a large amount of capital into mutual funds with no minimum requirement. Hence, given the lack of oversight mutual fund managers are able to take advantage of an inexperienced clientele by extracting excess rents, while failing to generate sufficient returns.

Hypothesis

Due to the relative inexperience of Black investors in the market, I hypothesize that mutual funds that cater to Blacks are more expensive in terms of salient cost such as front-end and deferred-load fees and less salient fees such as 12b-1 and expense ratio. Additionally, I also hypothesize that mutual funds that cater to Black clienteles are significantly more likely to underperform the market relative to conventional funds. This study builds on the work of Malloy and Zhu (2004), who find that investors who live in minority neighborhoods invest disproportionately more in mutual funds with high expensive loads. Additionally, based on the results of the 1998 Ariel Schwab survey, I hypothesize that Black mutual funds experience a lower level of volatility because of the warm-glow effect experienced by their Black clientele.

Data/Method

The equity mutual fund data come from Morningstar Direct and was collected for the years between 2000 and 2010. Morningstar Direct reports historical net asset values, cash flows, expense ratios, returns, among many other data points for both live and defunct mutual funds. In order to determine which mutual funds cater to or target a Black

clientele, a manual search was carried out. Black-owned and/or Black-managed mutual funds were identified in The *Encyclopedia of African American Business Volume 1, The Black Enterprise Magazine* and on websites providing financial advice to Black investors. These data sources were manually scanned and funds which were identified as being owned or managed by an African American were selected for the sample of 84 Black equity mutual funds. A match pair analysis was used to identify a comparable peer group of mutual funds. The match pair analysis was based on a mutual fund's prospectus objective, analysis assigned benchmark, and prospectus assigned benchmark. A sample of 700 funds was collected and then using bootstrap random sampling procedure 1,000 samples of 100 funds were generated. The bootstrap procedure was used in order to get a more reliable estimate of the means for conventional funds. Considering that this study is focused on retail investors; all institutional funds have been removed from the sample. The sample is free of survivorship bias as it includes both alive and extinct funds. Also, excluded from the sample are index funds, foreign country mutual funds, sector funds, closed-end funds, and funds with less than 24 months of return data. Given that different share classes of a fund have claims to the same underlying portfolio and thus they do not differ in trades or investment holdings, I combine monthly total net assets across all shares for each fund. Hence, the fund returns are based on the weighted average of returns across all share classes.

Descriptive Analysis

Table 2.1 provides a side-by-side comparison of some basic characteristics of Black mutual funds and a bootstrap sample of conventional funds. Included in the table are the total net assets of the fund and the total net assets of the fund's family. Also

included is the average length of manager tenure, the age of the fund, and the fund's turnover ratio which are reported on an annual basis. In order to compare the two groups, a series of t-tests were employed. The results indicate that conventional funds are on average larger than Black mutual funds; however, there is no statistical difference between the sizes of both groups. Black mutual funds belong to smaller fund families than conventional funds; nonetheless, the results are also statistically insignificant. A fund manager's tenure represents the number of years that the current manager has been the portfolio manager for a specific fund; this variable is directly reported by Morningstar Direct. Black mutual funds have managers with longer tenure. This is a possible signal that mutual funds that cater to Blacks may have developed an expertise serving a specific group of investors. Also, if the Black mutual funds are managed in part by its owners then this should be reflected in the governance of the fund as it would be in the best interest of the managers to manage the fund efficiently resulting in lower manager turnover. Despite the insignificance, Black mutual funds are younger than their conventional peers; this can be attributed to the fact that these funds were developed and began targeting Black investors in the past few decades. Finally, the results specify that Black mutual funds on average have a significantly lower turnover ratio than conventional mutual funds. A mutual fund's turnover ratio is an indication of a portfolio manager's trading activity. Consequently, a high turnover ratio is associated with a high trading activity which results in higher transaction costs. An increase in trading activity negatively affects performance (Carhart, 1997 & Jensen, 1968) as the increase in transaction cost is then passed on to investors. Thus, since Black mutual funds have a

lower turnover ratio it could possibly be a sign that these funds have lower fees and as a result, a much higher performance.

Costs of Black Funds

Similar to the analysis in the prior section, t-test was used to determine whether Black funds have higher fees relative to a bootstrap sample of conventional funds. In this analysis both salient and non-salient fees are compared. The results of this analysis can be found in Table 2.2. First, I examine fees such as front-end loads and deferred loads. Second, I examine less salient fees such as the fund's expense ratio and 12b-1 fee. A mutual fund's front-end load is defined as a one-time up front deduction from an investment made into the fund. The amount is generally relative to the amount of the investment, so that larger investments incur smaller rates of charge. This sales charge serves as a commission for the broker who sold the fund, additionally it serves as compensation for the financial planner or others providing professional investment advice. According to Morningstar Direct, a fund may have a sliding-scale maximum initial sales charge of 5.50% that is reduced to 4.50% if $200,000 is invested and reduced to 3.50% if $400,000 is invested. Its minimum may be 0.50% if at least $5 million is invested. Barber, Odean, and Zheng (2005) find that mutual fund investors have become aware of salient fees such as a mutual funds' front-end load and as a result they are more likely to invest in mutual funds that do not carry a higher load. Due to the relative inexperience of Black investors, it is possible that mutual funds that cater to them will have higher loads relative to conventional funds. Malloy and Zhu (2004) find that mutual fund investors who live in minority neighborhoods invest in mutual funds that carry

higher loads. Conversely, the results of this analysis indicate that mutual funds that cater to a Black clientele carry, on average, a lower front-end load.

A mutual fund may either carry a front-end load or deferred load. A deferred load, also known as a back-end sales load is similar to a front-end load; however, it is only enacted when investors redeem shares. The deferred load generally declines, as one of the main purposes of this fee is to make investors remain invested in the fund for a longer period. The comparison of the deferred load between the two groups reveals that mutual funds that cater to Black investors, on average, charge a significantly lower fee. In examining salient fees, the results show that Black funds have a statistically significant lower fee when compared to conventional funds; these results are not consistent with the hypothesis that Black funds charge higher loads.

Next, fees that are of a less salient nature namely, 12b-1 fee and expense ratio, are examined. The 12b-1 fee is the maximum annual charge deducted from a mutual fund's assets to pay for distribution and marketing costs. Although this fee is usually set on a percentage basis, the amount will occasionally be a flat figure. Morningstar Direct only reports active 12b-1 fees which come directly from the fund's prospectus. The analysis of difference between 12b-1 fees of Black mutual funds and that of the conventional group of mutual funds reveal that Black mutual funds carry a statistically significant lower 12b-1 fee relative to conventional mutual funds.

Finally, I look at the expense ratio of Black mutual funds relative to conventional funds. Morningstar Direct defines a mutual fund's expense ratio as the percentage of fund assets used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, however, it

excludes brokerage costs. Barber, Odean, and Zheng (2005) find that mutual fund investors continue to invest in funds that carry high expense ratios. They suggest that investors are not fully aware of this cost because it is not very visible to investors, and as a result, they may not be aware of its existence. Consequently, given the relative inexperience of Black investors, funds that cater to Blacks could potential engage in high rent extraction via an inflated expense ratio. Henceforth, I expect that expense ratio, being a less salient fee, would be higher. However, the results reveal the opposite. Mutual funds that cater to Blacks on average have a significantly lower expense ratio than conventional mutual funds. This result is interesting because Black mutual funds are in essence a warm-glow type of mutual fund. However, unlike other types of warm-glow funds namely SRI, Black mutual funds have on average a lower expense ratio when compared to a similar group of conventional funds.

The results of this analysis presented in Table 2.2 serve as a possible indication that mutual funds that are created and marketed to Blacks are vested in the financial growth of the African American community. Based on the results, it can be inferred that these funds are less costly than conventional funds. These results are not consistent with the aforementioned hypothesis. Although Black mutual funds charge lower fees it is equally important to assess the performance, as the main goal of investors is to have the highest risk adjusted return possible.

Estimating Performance

In order to compare the performance of mutual funds that cater to Blacks and that of conventional funds, I employ the Capital Asset Pricing Model (CAPM) based single-

factor model and Carhart's four-factor model[3]. The CAPM single-factor model is represented in the equation below:

$$R_{it}\text{-}R_{ft}=\alpha_1+\beta_i\,(Rmt\text{-}Rft_t)+e_{it} \qquad (1)$$

where R_{it} is equal to the return on fund i in month t, R_{ft} is equal to the 30-day risk free rate in month t and R_{mt} is equal to the return on the market portfolio in month t, and e_{it} represents the idiosyncratic return. Accordingly, β_i (beta) captures the market risk exposure of the funds and α_1 represents the intercept which is used to measure performance, this is referred to as Jensen's alpha.

The empirical results for CAPM-based single-factor model can be found in Table 2.3. Reported are the means of the cross-sectional distribution of mutual funds that cater to a Black clientele and a bootstrap sample of conventional funds. Since R-squared is generally used to identify how much of the systematic component is explained by the regression, the results indicate that a greater amount of a conventional mutual fund strategy is captured by CAPM relative to Black managed mutual funds. The results of the regression also indicate that both Black mutual funds and conventional funds underperformed the market. The alphas observed were -0.01 and -0.02 respectively. The differences in mean results show that Black mutual funds outperformed conventional mutual funds. However, the results are statically insignificant.

[3] Additional data used in this analysis was received from http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

Fama and French (1993) provide evidence that demonstrates the inefficiencies of CAPM, and as a result, they introduced the Fama-French three-factor model. Later, in an effort to improve the Fama-French three-factor model, the Carhart (1997) four-factor model was introduced. The four-factor alpha is represented by $\alpha_{carhart}$ in the equation below. A mutual fund's net return of fees in excess of the one-month Treasury bill rate is regressed on a constant and the standard four as indicated by the model below.

$$R_{it}\text{-}R_{ft}=\alpha_{carhart}+\beta_{1i}\,(Rmt\text{-}Rft_t)\,+\beta_{2i}SMB_t+\beta_{3i}HML_t+\beta_{4i}\,Momentum_t+\,error_{it} \qquad (2)$$

From equation (2), R_{it} is equal to the return on fund *i* in month *t*, R_{ft} is equal to the risk free rate in month *t* and R_{mt} is equal to the return on the market portfolio in month *t*. SMB_t and HML_t are the returns on the factor-mimicking portfolios for small-cap minus large-cap firms in month *t*, and high book to market minus low book to market as defined by Fama and French (1993). $Momentum_t$ captures the momentum anomaly noted by Jegadeesh and Titman (1993), the rate of return on portfolios of high minus low momentum of stocks in month *t*, and e_{it} represents the idiosyncratic return. The four-factor model provides relatively more reliable information on a mutual fund's performance when compared to the CAPM and the Fama-French 3-factor model (Carhart, 1997).

The cross-sectional results of the Carhart 4-factor model can be found in Table 2.4. Also presented in the table is the summary regression statistic of the betas represented in the equation. Reported are the cross-sectional mean distributions of mutual

funds that cater to a Black clientele and beta coefficients of the bootstrap sample of conventional funds. The coefficient on the market shows that Black funds have a greater exposure to the market than conventional mutual funds. Also, since the size factor is equal to the return of small stocks minus the return of large stocks, the results indicate that Black funds within the sample are weighted towards large cap stocks more so than conventional funds. However, the results are statistically insignificant. The results also indicate that Black mutual funds have less exposure to momentum stocks. This result is consistent with low turnover as it might indicate that Black mutual fund managers do not engage heavily in return chasing behavior relative to other funds. Finally, in looking at the performance of Black mutual funds and conventional funds, the result provides empirical evidence that Black mutual funds outperformed their peers; however, the results are inconclusive given that there is not statistical significance. Additionally, the results indicate that both groups underperformed the market, with an intercept of -0.092 and -0.094 for Blacks and conventional funds respectively. Once more the results are also inconsistent with the hypothesis that funds which cater to Blacks have a lower risk-adjusted performance. It should be noted that both groups of mutual funds have a negative alpha in the aforementioned analysis suggesting their inability to outperform the market.

One distinctive characteristic of warm-glow funds is investor loyalty. As mentioned before, the 1998 Ariel Schwab survey shows that Blacks prefer investing in either a Black-owned or Black-managed mutual fund. Given that only a small number of funds fit these criteria, it is possible that Black investors are more likely to remain with these funds regardless of performance. In studying the behavior of socially responsible

investors, Bollen (2007) finds that they are more loyal. The results of his study show that there is less volatility among the standard deviation of investor cash flow. Arguably, if Black investors have a warm-glow effect similar to other SRI investors then they should also be more loyal investors.

In order to determine whether a Black-owned or a Black-managed mutual benefits from having a loyal investor clientele, I employ a methodology that is similar to Bollen (2007). The loyalty of mutual fund investors can be determined based on the volatility of net investor cash flow. For the purposes of this study volatility, is measured using a time-series standard deviation of monthly flows for each fund using only consecutive observations from 2000 to 2010[4]. Following Sirri and Tufano (1998), I estimate net cash flows as the growth in fund assets beyond reinvested dividends. The following formula is used to determine flow:

$$\text{FLOW}_{i,t}=\frac{TNA_{i,t-TNA_{i,t-1}}*(1+R_{i,t})}{TNA_{i,t-1}}, \qquad (3)$$

where $TNA_{i,t}$ fund *i*'s total net assets at time *t*, $R_{i,t}$ is the funds return for a given month. Although, there are several methods to assess a mutual fund's flow, this measure was chosen as it reflects the percentage change in the size of a mutual fund.

Table 2.5 panel A, reports the 25^{th,} 50th and 75th percentile flow volatility values of the funds which cater to Black investors and conventional funds. The table also reports

[4] After a visual inspection extreme values were removed from the sample, the results and level of significance was similar when the extreme values were included in the semester.

the statistical difference between the two groups. Note that the median difference is lower for funds that cater to a Black clientele relative to a conventional fund. As explained by Bollen (2007), the interpretation for the median in panel A, is that a $100 million dollar fund experiences monthly flows with a standard deviation of about $4.2 million for Black mutual funds and $5 million for conventional funds. In examining the sample means, the results are higher than the median. Similar to Bollen (2007), the means are also higher than the median. The sample mean is 4.5% for Black mutual funds and 5% for conventional funds and the results are statistically different at the 5% level. These results show that funds which cater to Blacks, are statistically and economically less volatile than conventional funds. Therefore, these findings suggest that Black investors move money out of Black mutual funds at a significantly slower rate than investors in conventional funds. Bollen (2007) suggest that investors who invest with a purpose are in general more loyal. Therefore, he proposes that his results should extend to other studies where investors have a motive behind their selection of funds. The results of this study are in agreement with his statement.

The results in Table 2.5 panel B and C show the flow volatility of mutual funds that are younger than six years and mutual funds that are older than six years respectively. Sirri and Tufano (1998) find that younger funds experience a stronger percentage of fund flows than larger funds. Consistent with their findings, the results here show that flow volatility of younger funds is greater than the flow volatility for older funds.

Conclusion

Recent studies show that Black investors prefer to invest in either a Black-owned and/or Black-managed mutual funds. This study investigates the costs and performance of mutual funds that cater to a Black clientele. Given that Blacks are relatively new participants in equity markets, they may be vulnerable to principal agent conflicts. A prior study shows that minority investors have a tendency to invest in inferior funds that extract excess rents (Malloy & Zhu, 2004). I find that mutual funds that market to Blacks are, in general, less costly in terms of both salient and less salient fees. The result indicates that funds which cater to Blacks are in general not involved in excessive rent extraction as predicted by my hypothesis. Similarly, the results indicate that mutual funds that cater to Blacks do not significantly perform better than conventional funds. Therefore, by choosing to invest in a Black mutual fund, African American investors are no worse off than if they invest in a conventional fund. Additionally, the results indicate that funds that cater to a Black clientele benefit from investor loyalty when compared with conventional funds.

Given that Blacks are becoming increasingly active in the financial market, like other investor groups, they may have a preference in their choice of investments. The results of this study have a practical implication in the financial planning industry. First, financial planners should not be quick to dismiss some of the preferences of Black investors. Unlike other warm-glow funds the costs are less than their conventional peer group. However, like other warm-glow funds, actively managed Black mutual funds, as well as, their conventional peer group both underperform the market. Therefore, investors are better off investing in passively-managed mutual funds.

Additionally, since there are Black investors who would prefer to invest in either a Black owned and/or Black managed mutual, those providing defined contribution plans such as 401(k)s, should be aware of funds that fit this criteria. As a result, mutual funds that fit the aforementioned characteristic should be included as an option for investors for investors to choose.

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Table 2.1: Descriptive Statistics. This table presents a general summary statistics of select characteristics of Black mutual funds and their conventional counterparts. TNA represents the total net assets of the fund. Fam. Size the fund family size. Manager tenure is the average length of time the mutual fund manager has managed the fund's investment portfolio. Age represents the number of year the fund has been in existence since its inception. Turnover is the measure of the portfolio managers trading activity. Also reported mean difference, Satterthwaite T-values, P-values. (Black funds N=84 Conventional funds N=1000*100)

***Coefficient is statistically significant at the 1% level
** Coefficient is statistically significant at the 5% level
* Coefficient is statistically significant at the 10% level

Variables	Black	Conventional (Bootstrap)	Difference	T-Value	P-Value
TNA (Millions)	243	318	-75	-0.77	0.44
Fam. Size (Millions)	796	1016	220	-1.01	-0.3157
Manager Tenure (yrs)	7.91	6.29	1.62**	2.45	0.0169
Age (yrs)	9.71	10.60	-0.89	-0.95	0.347
Turnover (%)	74.51	102.90	-28.39***	-4.13	0.0001

Table 2.2: Mutual Fund Fees. This table reports the means of both salient and non-salient fees charged by both Black and Conventional mutual funds. Front-end-load represents the maximum up front brokerage fee charged on a mutual fund. Deferred Load represents the back-end-load of the mutual fund.12b-1 fee represents the 12b-1 fee charged by mutual funds. Exp. Ratio denotes the mutual funds expense ratio. All variables come directly from Morningstar Direct. Also reported in the table is the mean difference, Satterthwaite T-values and P-values. (Black funds N=84 Conventional funds N=1000*100)

***Coefficient is statistically significant at the 1% level
** Coefficient is statistically significant at the 5% level
* Coefficient is statistically significant at the 10% level

Variables	Black	Conventional (Bootstrap)	Difference	T-Value	P-Value
Front-end-Load	4.76	5.35	-1.59**	-3.08	0.0067
Deferred Load	2.00	2.97	-0.97*	-1.97	0.0729
12 b-1 fee	0.39	0.60	-0.21***	-5.11	<0.0001
Expense Ratio	1.51	1.70	-0.19**	3.25	0.0019

Table 2.3: Single Factor Model. This table reports the results of the CAPM based regression. To measure Black mutual funds and conventional mutual fund performance I estimated the model defined formally in equation (1) by Rit-$R_{ft}=\alpha_1+\beta_i\ (Rmt-Rft_t) + e_{it}$ where R_{it} is equal to the return on fund *i* in month *t*, R_{ft} is equal to the 30-day risk free rate in month *t* and R_{mt} is equal to the return on the market portfolio in month *t*, and e_{it} is an error term. Accordingly, β_i (beta) captures the market risk exposure of the funds and α_1 represents the intercept which is used to measure performance, this is referred to as Jensen's alpha. The table also reports the mean difference Satterthwaite T-values and P-values. (Black funds N=84 Conventional funds N=1000*100)

***Coefficient is statistically significant at the 1% level
** Coefficient is statistically significant at the 5% level
* Coefficient is statistically significant at the 10% level

Variables	Black	Conventional (Bootstrap)	Difference	T-Value	P-Value
Alpha	-0.01	-0.02	0.01	0.15	0.8815
Beta	0.60	0.58	0.02	0.46	0.649
R-Square	0.67	0.72	0.05	-1.47	0.1471

Table 2.4: Four Factor Model. This table reports the result of the Carhart four-factor model regression. To measure Black mutual funds and conventional mutual fund performance I estimated the model defined formally by equation two $R_{it}-R_{ft}=\alpha_{carhart}+\beta_{1i}\,(Rmt-Rft_t) +\beta_{2i}SMB_t+\beta_{3i}HML_t+\beta_{4i}\,Momentum_t+\,error_{it}$ where R_{it} is equal to the return on fund *i* in month *t*, R_{ft} is equal to the risk free rate in month *t* and R_{mt} is equal to the return on the market portfolio in month t. SMB_t and HML_t are the returns on the factor-mimicking portfolios for small-cap minus large-cap firms in month *t*, and high book to market minus low book to market as defined by Fama and French (1993). $Momentum_t$ captures the momentum anomaly noted by Jegadeesh and Titman (1993), the rate of return on portfolios of high minus low momentum of stocks in month *t* and e_{it} is an error term. The table also reports the mean difference and it also reports the mean difference Satterthwaite T-values and P-values. (Black funds N=84 Conventional funds N=1000*100)

***Coefficient is statistically significant at the 1% level
** Coefficient is statistically significant at the 5% level
* Coefficient is statistically significant at the 10% level

Variables	Black	Conventional (Bootstrap)	Difference	T-Value	P-Value
Alpha	-0.092	-0.094	-0.186	-0.04	0.9712
Beta	0.59	0.57	0.02	0.47	0.6372
SMB	0.12	0.15	0.03	-0.13	0.8898
HML	-0.001	0.01	-0.011	-0.37	0.731
MOM	-0.005	0.02	-0.025	-1.53	0.1310
R-Square	0.76	0.79	0.03	-0.77	0.4466

Table 2.5: Investor Loyalty. Listed are the values of the 25th, 50th, and 75th percentile of the cross-sectional distribution of monthly volatility of percentage fund flows for both Black mutual funds and Conventional funds. Panel A shows the results for all funds within the sample. Panel B shows the results of young (age <6) funds and panel C contains the results of old funds (age>6). Also represented in the tables are the mean values and t-values and the level of significance.

***Coefficient is statistically significant at the 1% level
** Coefficient is statistically significant at the 5% level
* Coefficient is statistically significant at the 10% level

Panel A-All Funds

Variable	Market to Blacks	Convention
N	55	627
25th	0.029	0.033
50th	0.042	0.047
75th	0.058	0.063
Difference in Mean		
Conventional	0.050	
Market to Blacks	0.045	
Difference	0.0044***	
T-Values	13.36	

Panel B

	Young Funds Age<6		Mature Funds Age>6	
Variable	Black Funds	Conventional Funds	Black Funds	Conventional Funds
25th	0.035	0.039	0.030	0.030
50th	0.051	0.055	0.040	0.047
75th	0.066	0.070	0.057	0.063
No. of Observations	17	172	38	455
Means	0.053	0.060	0.045	0.051
Difference		0.006***		0.006***
T. Value		5.01		12.37

CHAPTER III

INVESTORS PREFERENCE FOR SKEWNESS AND THE DEMAND FOR ACTIVELY MANAGED MUTUAL FUNDS

ABSTRACT

Investor preference for skewness is well documented within the financial literature. This study extends the body of knowledge by examining investor preference for skewness when investing in mutual funds. The preference that investors have for skewness is often demonstrated by a lack of diversification within their investment portfolio. The result of this study shows that although mutual funds are a diversified financial instrument, mutual fund investors exhibit an affinity for skewness. This result provides a possible explanation for the continuous growth of actively managed mutual funds.

Introduction

The existence of actively managed mutual funds continues to attract interest from both academia and practitioners. Since Jensen's (1968) seminal article on the value of active management, many studies provide empirical evidence which demonstrate that actively managed mutual funds, on average, are unable to outperform the market on a consistent basis[5]. Actively managed mutual funds on average have higher fees, which result from high trading activity. These additional fees are then passed onto investors. Studies find that high fees have a negative impact on performance (Berk & Green, 2004; Carhart, 1997; Gruber, 1996). Despite the excessive management fees and the failure to generate returns above the market consistently, actively managed funds continue to receive a large inflow of cash. As of 2010, the United States mutual fund industry remained the largest in the world with $11.8 trillion in assets, representing approximately 48% of the $24.7 trillion invested in funds worldwide. Of the $11.8 trillion, roughly 44% belong to equity mutual funds (Investment Company Fact Book, 2011)[6]. Due to the wide array of funds available in the U.S., consumers are faced with the overwhelming task of selecting among a variety of funds.

Ackerman and Loughran (2007) point out that there are more mutual funds that invest in stocks than there are companies listed on the American Stock Exchange, the Nasdaq, and the New York Stock Exchange collectively. Not only must investors select from a wide array of mutual funds, but they must also decide which investment style best suits their investment objective. Brown and Goetzmann (1997) identify 15 categories of

[5] Sharpe (1991);Mahoney (2004) ; Malkiel, B. (2003) ; French 2008

[6] The Investment Company Fact Book is located at the following http://www.ici.org/pdf/2011_factbook.pdf

equity mutual funds such as equity income, growth and income, and health sector, among others. Consequently, investors are faced with high search costs when selecting funds due to the lack of knowledge, and/or, the time to make the optimal financial decisions. Therefore, they naturally gravitate toward funds that have recently caught their attention. Sirri and Tufano (1998) find that consumers have a tendency to invest disproportionately more in funds that perform well in the prior period. This can be attributed to the marketing efforts put forth by mutual funds companies. Consistently, Sirri and Tufano (1998) point out that those mutual funds that perform well are the ones that are most salient in the marketplace, thus reducing the search cost for investors. Given the compensation structure of mutual fund managers, the primary goal seems to be maximizing assets under management (Mahoney, 2004). Thus, it is in the mutual fund manager's best interest to make the public aware of mutual funds that have performed well. Although traditional finance literature dictates that past returns do not impact future returns, to an unsophisticated investor a mutual fund's historical performance is the most important signal when choosing a fund (Capon, Fitzimon, & Prince, 1996). Koehler and Mercer (2010), find that mutual fund companies selectively advertise their better performing funds in order to attract investors. Furthermore, Jain and Wu (2000) find that funds which advertise their superior performance in a particular period will experience a larger inflow of funds relative to those funds without advertisement; albeit this superior performance is not evident in the post advertisement period.

Investors' decision to invest in securities that perform above average is well documented in the financial literature. In examining the stock selection of investors, Barber and Odean (2008) find that consumers have a limited attention and hence they are

more likely to invest in stocks that have recently caught their attention. In a similar sense, a strong performance by a mutual fund manager may be able to attract the interest of investors. Barber, Odean and Zhu (2009) find that investors are biased in their investment decisions, and as a result, they are more likely to buy stocks with a recent high performance. Consistently, Barber and Odean (2008) imply that this behavior is due to consumers' having a limited attention span and a proclivity to invest in stocks that have recently been publicized in the media. If actively managed funds effectively market the superior performance of their products, they will be able to attract new money. Given that mutual fund investors exhibit return chasing behavior, it should come as no surprise that mutual fund companies are employing multiple tactics to gain investors' attention. While many studies provide strong empirical evidence that show investors flock to funds with recent high performances; investor preference for funds that exhibit positive skewness has not been examined. Therefore, this study adds to the body of literature by examining investor preference for skewness when purchasing mutual funds. Additionally, I investigate the relation between diversification and a mutual fund's ability to generate a positively skewed return.

Literature Review

Some investors' desire to take on excessive risk and invest in actively managed mutual funds could potentially be attributed to their preference for skewness. Skewness represents asymmetry in returns series and is known as the third moment. Investors' preference for skewness is well documented; for example, Golec and Tamarkin (1998) examine the decisions made by horse race bettors. They find that these gamblers are attracted to the returns of the bets that are heavily skewed. Additionally, Kapadia (2006)

finds that the long-term underperformance of initial public offerings (IPOs) can largely be attributed to investors' preference for skewness. Zhang (2005) finds that the cross-sectional skewness of firms that are similar in terms of size or book-to-market are usually good in predicting the total skewness of individual stocks. Higson, Holly and Kattuman (2002) look at the cross-sectional skewness of growth firms and how they relate to the business cycle. They show that cross-sectional skewness and variance are strongly counter-cyclical and that the effects of macro-economic shocks are more noticeable for firms in the middle range of growth.

To set the theoretical framework, Arditti (1967) demonstrates that investors' preference for positive skewness in the return distribution is consistent with the concept of decreasing absolute risk aversion. He argues that an investor who has a decreasing absolute risk aversion forgoes an expected portfolio return in order to benefit from skewness. Likewise, Scott and Horvath (1980) also show that investors demonstrate a preference for skewness in return distributions. Kraus and Litzenberger (1976), extends the Sharpe-Linter Capital Asset Pricing Model to include the effect of skewness on valuation. They reveal that if investors estimate risky assets by the expected value of a concave utility function and if the third derivative is not zero, then co-skewness which measures the movement between the idiosyncratic returns and the market-level volatility will be priced in equilibrium. Therefore, if an investor shows prudence (a positive third derivative of utility function) then co-skewness should have a negative premium. As a result, stocks that have prices that are likely to increase during a period of high market volatility are more desirable than stocks that do the opposite. On the same note, Simkowitz and Beedles (1978) and Conine and Tamarkin (1981) argue that when the

third moment is taken into consideration, some investors may optimally choose to remain under-diversified.

Harvey and Siddique (2000) suggest that investors should prefer portfolios that are right-skewed instead of those which are left-skewed. Thus, assets that decrease a portfolio's skewness are less desirable as it will make the portfolio more left-skewed and so it should require higher expected returns. Similarly, they state that an asset that increases portfolios skewness should have lower expected returns. Parkash, Chang, and Pactwa (2003) propose that positive skewness is desirable, because an increase in skewness decreases the probability of large negative returns.

Goetzman and Kumar (2008) find that a large amount of individuals hold under-diversified portfolios and this is especially true for individuals who hold only retirement accounts. Mitton and Vorkink (2007) attribute the under-diversification in individual investor portfolios to preference for positive skewness. They go on to show that the best performing portfolios are held by under-diversified investors. Although holding an under-diversified portfolio is suboptimal, investors continue to do so in an effort to generate much higher returns. Barberis and Huang (2007) suggest that some investors take a large under-diversified position in a skewed security because it enables them to have a more lottery-like wealth distribution. Mitton and Vorkink (2007) and Goeztman and Kumar (2008), show that investors who are under-diversified place greater portfolio weights on highly skewed stocks.

Overweighting the low probability of a high return can provoke a preference for skewness. Moreover, even though the probability of an actively managed mutual fund beating the market is very low, some investors may be attracted to these funds because of

the potential of a high payoff. As a result, it can be argued that investors' decision to invest in actively management mutual funds is a result of their preference for skewness. Kumar (2009) finds that most individual investors demand lottery type stocks during poor economic periods. Investors then disproportionately invest more in stocks with higher idiosyncratic volatility, higher skewness, and lower prices even when the stocks have lower mean returns.

Investors' preference for skewness can be explained by Cumulative Prospect Theory (CPT). Under CPT (Tversky & Kahneman, 1992) investors have a tendency to overweigh small probabilities and as a result highly skewed instruments become attractive. By overweighting the tails of a distribution, positively skewed mutual funds might appear to be more desirable. Thus, some investors may be willing pay a high price for skewed securities in addition to accepting negative average excess returns. So, lotteries are very appealing to consumers because there is a small probability of winning big. Lou (2007) explains that investors have a preference for a more positively skewed distribution because losses are less probable than in a negative or normally skewed distribution . Given that a majority of investors are risk averse, they view the disutility of a loss twice as much as the utility of a gain in the same proportion (Tversky & Kahneman, 1992). Hence, it is the need that investors have for earning an exceptionally high return on their investments that is driving their investment decision. Thus, it can be argued that if a mutual fund is positively skewed it could potentially serve as a signal of superior management to an investor. Given that, mutual fund investors are faced with high search costs and they may not posses either the skills, the time, or both to assess the overall characteristics of a mutual fund, they resort to easily identifiable signals. So,

funds that perform well are highly desirable. If mutual funds have managers with superior stock picking skills, then, theoretically, these fund should perform well above the market. Additionally, if fund managers are superior then they will provide investors with the best opportunity of experiencing a lottery-like return on their investment. Therefore, although mutual funds are a diversified financial instrument, funds that signal the ability to produce highly skewed returns are desireable. Therefore, if a mutual fund is perceived as having superior management that can identify underprised stocks then it will benefit from a positive inflow of cash. Although mutual funds are a diversified financail instrument, it is often the only option that investors have in their retirement savings account. Therefore, by investing in actively managed mutual funds, investors are able to make their wealth distribution more lottery-like or positively skewed.

Hypothesis

Well documented within the literature is the tendency of mutual fund investors to invest new money into funds that have recently performed well. Ippolito (1992), Chevalier and Ellison (1997), Sirri and Tufano (1998) all show a positive relationship between net flows and a fund's past performance. Although, this return chasing behavior has been studied, investor preference for skewness is yet to be examined. Therefore, this study extends the body of literature by looking at investor preference for skewness when selecting mutual funds. Understanding investor preference for skewness could provide a possible explanation for the continuous growth of actively managed mutual funds. Hence, this should prove a worthy contribution to a relatively new and unexplored area in mutual fund research.

Hypothesis:

Mutual fund investors prefer funds that are positively skewed. Therefore, there is a positive relation between funds that post a positively skewed return and net investor cash flow.

Data

The mutual fund data used in this study is obtained from the Morningstar Direct database. Morningstar Direct reports historical net asset values, cash flows, expense ratios, and return data, among many other variables for both live and obsolete mutual funds. Consistent with prior studies, I restrict my sample to U.S equity mutual funds. Hence, excluded from the sample are index funds, foreign country mutual funds, sector funds, closed-end funds, specialized funds, institutional funds, bond funds, among other non-equity funds. Additionally, in order to have a more accurate estimate of a mutual fund's performance, funds with less than 30 months of return data were deleted. The sample is free of survivorship bias as it includes live and obsolete funds. Similar to Kacperczyk and Seru (2007), to avoid double counting of mutual funds, funds with multiple share classes are included only once. The final sample consists of 1,441 funds and the information is gathered from January 1991 to December 2010.

Analysis

Within much of the literature that looks at investors preference for skewness, there appears to be a discrepancy of what is the most appropriate and accurate way to measure skewness. A particular concern of this study is investors' perception of skewness, as it is unclear how investors gauge skewness. Therefore, because prior studies show that investors are drawn to funds based on their recent returns, it is presumably safe

to infer that investor preference for skewness is based on the upside potential signaled by funds in the market that experience recent high returns. Those funds with extremely high returns during a given year are positively skewed and are often perceived by investors as a fund with great upside potential. Skewness is estimated mathematically in the equation below:

$$skewness = \frac{\sum_i (Ri - \mu)^3}{\sigma^3} \qquad (1)$$

where R_i denotes the monthly return of a mutual fund, μ and σ represent the mean and the standard deviation, respectively. One important characteristic of total skewness is that it is scaled by the variance of returns; this adjusts for any relationship between skewness and variance.

The prime focus of this study is the impact of skewness on the selection of actively managed mutual funds. Descriptive statistics are presented in Table 3.1. Here, mutual funds have been sorted into quintiles based on skewness. The first variable presented in the table is the mutual fund's expense ratio which is reported on an annual basis. It is defined by Morningstar Direct as the percentage of fund assets used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Given the non-salient nature of the expense ratio, many investors may not be fully aware, or have a good comprehension on the uses of this fee. Although studies show that a mutual fund's expense ratio has a negative relationship with performance (Carhart, 1997; Jensen, 1968), it does not appear to deter investors. For instance, Barber, Odean and Zheng (2005) show those mutual funds with high expense ratios continue to receive flows of new money. They attribute this to the opaque nature of the fee. The results in the Table 3.1 reveal that

the more positively skewed a mutual fund, the higher the expense ratio. This is an indication that mutual funds that have experienced an above normal performance will attract investors, which presents a great opportunity for the transfer of wealth. Alternatively, it could be argued that these funds are able to perform well because they have managers with exceptional skills and as a result these managers should be compensated accordingly.

Also, presented in Table 3.1 is the mutual fund's front-end load, this is represented by the maximum front-end-load recorded by Morningstar Direct. Front-end loads are paid upfront to the broker of a mutual fund. The results of the analysis indicate that mutual funds within the highest skewness quintile carried a slightly lower front-end-load fee. Although there are potentially many factors driving this result, I will offer two suggestions. First, because mutual funds advertise their best performing funds it reduces the search cost to investors. As a result, these funds already stand out to investors and thus the use of a broker is not required. Second, a mutual fund in the highest skewness quintile appears to have a higher expense ratio. Although, front-end-load fees and a mutual fund expense ratio are not perfect substitutes, funds with higher expense ratios usually have lower front-end-loads.

Finally, it is important to note the relation between skewness and mean of new money flow. The results indicate a monotonic positive relationship between a mutual fund's skewness and growth. This is empirical evidence that mutual fund investors prefer mutual funds that post positively skewed returns. This finding is consistent with the hypothesis of this study. However, the results of this analysis are not sufficient to draw a

robust conclusion about the relation between new money and the skewness of a fund. Therefore, in order to have more robust results a multivariate analysis is used.

Mutual fund flows and skewness

In order to investigate investor preference for skewness, net investor cash flow is regressed on skewness. The dependent variable used in this study is mutual fund flow. Unlike most studies, this variable comes directly from Morningstar Direct and it is estimated by stripping out two types of activities. One is natural growth of the assets due to capital market movements. The other is reinvestment of the capital gains and dividend distributions that occur during the calculation month. This measure of flow is used as it is arguably more consistent than the other derived measurements common within the literature, as it comes directly from the mutual funds and it is reported on a monthly basis.

While analyzing net cash flow to the fund, it is essential to control for various factors that could impact the flow of money going into a fund. Similar to Barber, Odean, and Zheng (2005) the riskiness or volatility of a mutual fund is measured by a time series of monthly standard deviation. The standard deviation from monthly returns is able to capture the short-term volatility of a mutual fund. The aforementioned studies, as well as, many others show that investors do not like volatility when selecting funds. Moreover, I control for the size of the fund, the fund's family, the age of the fund, the fund's expense ratio, as well as additional fees. The relation between the size of a fund and net investor cash flow is well documented within the literature. Controlling for the size of the fund is important for a few reasons. First according to Sirri and Tufano (1998), an equal dollar

flow will have a larger impact on smaller funds. Second, Barber, Odean, and Zheng (2005) states that it will ensure that the results are not being driven by small funds. Sirri and Tufano (1998) Barber, Odean, and Zheng (2005), and Evans (2010) all document a negative relation between the total net assets of a fund and net investor cash flow, thus providing evidence that investors have a preference for investing in smaller funds. As a result, the natural logarithm of total net assets will be included as a control variable. Given that larger fund families are more recognizable in the financial market it is important to control for the effects of the fund family size on net investor cash flow. Evans (2010) empirically shows a positive relationship between a mutual fund's family size and net investor cash flow. This can be attributed to the brand name of the fund, due to its strong presence in the market. Therefore, included in the analysis is the natural logarithm of the fund family size. Additionally, it is important to control for the possibility that fund families are steering money into new funds. Also included is the analysis is an control for age this is represented by the natural logarithm of a mutual fund's age.

Like Sirri and Tufano (1998), I control for the total expense of mutual funds. In order to get a rough estimate of the total fees paid by an investor on an annual basis, expense ratio is added to one-seventh of the percentage front-end-load fees, if any. This method of estimating a mutual fund's total expense assumes that an investor in a load fund will hold the fund for seven years, as a result, amortizing the front-end-load of the holding period.

The non-linear relationship between mutual fund flows and performance is a well-documented phenomenon in the mutual fund literature. For example, Chevalier and

Ellison (1997) and Ippolito (1992) provide evidence that shows a non-linear relationship between mutual fund flows and performance. As a result, I employ several variables that will capture mutual fund performance. First, similar to Barber, Odean, and Zheng (2005) I control for performance using the annual market-adjusted fund return for the previous 12 months (MAR_{t-1}), and the annual market-adjusted fund return for the 12 months in a year t-2 represented by (MAR_{t-2}). First, I use the Carhart (1997) four-factor model as a measure of mutual funds' performance. The four factor model is represented in the model below:

$$R_{it}-R_{ft}=\alpha_{4t}+\beta_{1i}\,(R_{mt}-R_{ft})\,+\beta_{2i}SMB_t+\beta_{3i}HML_t+\beta_{4i}\,Momentum_t+\,error_{it} \qquad (2)$$

From equation 2, a mutual fund's net return of fees in excess of the one-month Treasury bill rate is regressed on a constant and the Fama-French (1993) three factors. Where (R_{mt}-R_{ft}) represents the difference between a monthly return on a value-weighted market index and the monthly return of T-bills, in addition to SMB_t and $HML_{t,}$ which are the returns on the factor-mimicking portfolios for small-cap minus large-cap firms in month *t*, and high book to market minus low book to market as defined by Fama and French (1993). $Momentum_t$ captures the momentum anomaly noted by Jegadeesh and Titman (1993), the rate of return on portfolios of high minus low momentum of stocks in month *t*. From the above equation performance is captured by the intercept. The four-factor model provides relatively more reliable estimate of a mutual fund's performance when compared to the Capital Asset Pricing Model and the Fama French three-factor model (Carhart, 1997).

The results in Table 3.2 are based on a panel regression analysis, used to assess the fund-specific effect. The dependent variable is the monthly mutual fund cash flows. Although, various forms of the regression modeling are used, the most general form is given by the following equation:

$$Flow = \alpha_{i,t} + \beta_1 Skewness_{i,t} + \beta_2 TE_{i,t} + \beta_3 LnTNA_{i,t} + LnFamily_{i,t} + \beta_5 AGE_{i,t} + \beta_6 \sigma + \beta_6 Mar_{i,t-1} + \beta_7 Mar_{i,t-2} + C_1 Four\text{-}Factor\ Alpha_{i,t} + error_{i,t} \quad (3)$$

In specification (1), monthly mutual fund cash flow is regressed on a skewness of a mutual fund during a given year. The results show that there is a positive and significant relationship between mutual funds and expense ratio.

In specification (2) the first set of control variables have been added to the regression. The results here are similar to that in specification (1); it shows that skewness has a statistically significant positive impact on mutual fund flows. The signs of the control variables in the regression are consistent with prior studies. Consistent with Sirri and Tufano (1998), there is a significant and negative relationship between total expenses and fund flows. Lastly, there is a positive and highly significant relationship between new money flows and the mutual fund's performance, capturing the well documented non-linear relationship between performance and fund flows (Barber Odean & Zheng, 2005; Sirri & Tufano, 1998; Chevalier & Ellison, 1997;).

In specification (3) additional control variables are included. The variables in this regression produce similar results to well established studies. The results indicate that older mutual funds experience a smaller inflow of new money. Large funds experience a significantly lower growth rate. Mutual funds that belong to a large fund family

experience a larger inflow of cash that can be attributed to the fact that larger companies have developed a brand name. Finally, the results here concur with prior studies which show that mutual fund investors are averse to variance.

Specification (4) present the results by using the Carhart (1997) four-factor model instead of the annual market adjust return for the prior 12 months *(MAR_{t-1})* and the annual market-adjusted return for the 12 months in year t-2 *(MAR_{t-1}).* The results indicate that the choice of performance measure does not make any significant difference in the results. The coefficient on skewness, control variables, and t-statistics are similar to those in specification (3).

The estimation of skewness is to some extent complex. Furthermore, the lack of sophistication among mutual fund investors is well recognized within the literature (Battalio & Mendenhall, 2005; Gruber, 1996). Whilst institutional investors may possess the skill and knowledge to estimate a complex measure of skewness, it is unlikely that individual investors will be able to do the same. Barber and Odean (2008) suggest that individual investors are rationally bounded, implying their inability to make complicated financial decisions. As a result, many mutual fund investors adhere to easily identifiable heuristics when making financial decisions. Given that many investors have a propensity to invest in actively managed mutual funds it is evident that there is some belief that amongst actively managed funds, superior managers exist. Therefore, I employ two additional measures to capture the expectation that mutual fund investors have about a fund's ability to generate positively skewed returns. First, I look at those mutual funds that post returns in the quintile farthest away from the mean of their industry peers; these funds have what I like to refer to as the "glitter effect". Second, I will examine a mutual

fund's batting average; this variable captures a mutual funds manager's ability to outperform a benchmark. Since the goal of a passively managed mutual fund is to match either the market or a specific benchmark, the possibility of generating a positively skewed return is not plausible given their level of diversification. Therefore, for an investor who would like to make their wealth distribution more lottery-like, a mutual fund with a high batting average is ideal as it could potentially generate returns that are positively skewed relative to the market.

In view of the fact that mutual fund investors are rationally bounded, they often engage in return chasing behavior by investing in funds that have recently captured their attention. In order to identify funds that generate positively skewed returns relative to their peers, I have come up with a variable that I will refer to as "top performer". Unlike total skewness that is captured by the third central moment, this measure of skewness is based on the ex post performance of an actively managed funds relative to their peers. As mentioned before, these funds have the "glitter effect", as a result, they are more likely stand out among their peers. In order to identify funds that have outperformed their peers, I have created a binary variable. This variable carries a value of 1 if the mutual fund posts a return that is in the fifth quintile relative to the mean performance of their peers and 0 otherwise. Funds that belong to the lowest quintile are those that underperform in the market relative to other actively managed equity funds. Whilst those funds that belong to the highest quintile are the ones that post returns that are more positively skewed when compared to other actively managed mutual funds in a given month. This measure of skewness is uncomplicated and straightforward. As a result, investors who prefer skewness will invest in these funds with the hope that they will continue to generate

positively skewed returns in the future. Albeit this superior performance could simply be attributed to luck. The empirical model employed is as follows:

$$Flow = \alpha_{i,t} + \beta_1 Top\ Performer_{i,t} + \beta_2 TE_{i,t} + \beta_3\ LnTNA_{i,t} + LnFamily_{,t} + \beta_5 AGE_{i,t} + \beta_6 \sigma +$$

$$\beta_6 Mar_{t-1} + \beta_7 Mar_{t-2} + C_1 Four\text{-}Factor\ Alpha_{i,t} + error_{i,t} \qquad (4)$$

Where *Top Performer* is a binary variable represented by 1 if the mutual fund post a return that is in the top quintile relatively to other actively managed mutual funds during a given a month and 0 if it belongs to the other four quintiles. The control variables in are the same as explained in the prior empirical model.

Table 3.3 presents the descriptive statistics of mutual fund's performance relative to their peers, broken down by quintiles. Funds in the lowest quintile are those funds that perform below their peers, while funds in the top quintile post returns that are positively skewed relative to its peers. Note, that the results are similar to those posted in table 3.1, where the table is broken down into quintiles based on total skewness. Also, apparent in this table is the evidence that mutual funds that post return that are positively skewed relative to their peers experience a higher inflow of funds, in addition to, carrying a higher expense ratio.

The results of the multivariate analysis can be found in table 3.4. Comparable to the results in table 3.2, I find a positive and statistically significant relationship between net investor cash flow and mutual funds that generate returns in the top quintile relative to their peers (top performers). This result is consistent with idea that mutual fund investors are drawn to positively skewed returns. By investing in actively manage mutual funds that have outshined their peers, certainly, investors expect that these funds will

continue to generate positively skewed returns, making the distribution of their wealth more lottery-like. Debatably, investors believe that they are investing in mutual funds that have been able to identify mutual fund managers with superior stock picking abilities.

If superior mutual fund managers exist then they should have the ability to beat the market consistently for a lengthy period. Another measure that potentially captures a mutual fund manager's ability to outperform in the market over a given period is the batting average. Batting average is a measure of a manager's ability to consistently beat the market during a specified period. It is calculated by dividing the number of months in which a mutual fund does better than or matched an index divided by the totality of months in the period. For example, a fund that meets or does better than the market every month in a given period would have a batting average of 100. Whilst a fund that outperforms the market half of the time would have a batting average of 50. Arguably, funds that have a higher batting average than funds will appear to be superior, thus, making it more desirable to investors, financial planners, among others as it sends a signal of superior management. Accordingly, a mutual fund's batting average serves as another simple and intuitive proxy for skewness. One advantage of using a mutual fund's batting average is that it captures investors' expectations. Additionally, it serves as an indication of superior fund management. This can easily be identified by investors as it does not require a complex estimation technique. Essentially, all that is required is the return information of the mutual fund and the assignment benchmark. Morningstar Direct lists the primary prospectus benchmark for each mutual fund. As a result, I am able to compare monthly return for each fund over a one year period. Here I propose that a mutual fund is able to send a signal of superior management by outperforming a

passively managed benchmark on a consistent basis. Given the non-linear relation between mutual fund performance and net investor cash flow, actively managed funds with a high batting average should be more appealing to investors.

The Securities Exchange Commission (S.E.C) requires mutual funds to report their performance relative to a benchmark. For the purpose of this study, the primary prospectus benchmark is used with the assumption that mutual fund investors are limited in their ability to make complex financial decisions. Accordingly, given that investors are rationally bounded and they rely on the information that is readily available, using the primary prospectus benchmark is appropriate as far as this study is concerned. Although it can be argued that some mutual funds do not report their correct benchmark, the assumption is made that investors will make their decisions based on the information presented to them. As noted before, investors react asymmetrically to a mutual fund's performance. For that reason, the batting average serves as an appropriate measure to capture investor expectation. Similar to skewness, I argue that a mutual funds batting average appeals to investors in that they expect the mutual funds to generate returns that exceed that market. For that reason, the batting average serves as an appropriate measure that is able to capture various components of skewness. Fundamentally, it is a simple and intuitive way for investors to identify funds that have performed well and potentially produce a lottery-like return. The empirical model employed is as follows:

$$Flow = \alpha_{i,t} + \beta_1 Batting\ Average_{i,t} + \beta_2 TE_{i,t} + \beta_3 LnTNA_{i,t} + LnFamily_{,t} + \beta_5 AGE_{i,t} + \beta_6 \sigma +$$

$$\beta_6 Mar_{t-1} + \beta_7 Mar_{t-2} + C_1 Four\text{-}Factor\ Alpha_{i,t} + error_{i,t} \qquad (5)$$

where the dependent variable is net investors cash flow represented by *Flow* and the variable of is the mutual funds batting average denoted by *Batting Average.* The control variables used in this equation are the same as in equation 3.

Table 3.5 contains the results of a panel regression; used to explore the impact of batting average on net investor cash flow. The control variables are used in a manner that is consistent with the preceding regression analysis. Similar to the results in the prior model, I find a positive and statistically significant relationship between net investors' cash flow and a mutual fund's batting average. This result is consistent with much of the prior literature that documents a robust relation between performance and net investor cash flow. Arguably, investors are drawn to these funds because they prefer skewness. Therefore, if an actively managed fund is able to signal a level of superiority within the market, they will become highly attractive to investors. This can be attributed to the fact that investors desire skewness. Thus, investors will gravitate towards funds that have demonstrated an ability to produce positively skewed returns, being that these funds could potentially increase their overall wealth and socioeconomic status.

Conclusion and Implication

This study is quite possibly the first to explore investor preference for skewness when investing in mutual fund. Although mutual funds generally consist of a diversified portfolio, it is evident that investors do have a preference that post positively skewed returns. These results are consistent with the hypothesis that mutual fund investors are drawn to funds that exhibit a positively skewed return.

Whilst institutional investors may possess the skill and knowledge to estimate a sophisticated measure of skewness, it is unlikely that individual investors will be able to do the same. For that reason, I employ two additional variables to capture investor expectation for an upside potential or a lottery-like return. First, I look at funds that generated returns that are in the top quintile furthest away from their peers. Second, I look at a mutual fund manager's ability to outperform a passively managed portfolio. By looking at funds that are in the top quintile of performance relative to their peers, I am essentially able to identify mutual funds that have posted a positively skewed return. Similarly, a mutual fund's batting average serves as an appropriate measure that captures a mutual fund manager's ability to beat the market. Fundamentally, both measures are a simple and intuitive way for investors to identify funds that have performed well. Accordingly, the results reveal that a positive relation exists between the aforementioned variables and net investor cash flow.

Understanding investor inclination for skewness and their belief in a mutual fund manager's ability to outperform a passively managed benchmark provides insight into the growth of actively managed mutual funds. Although, empirical evidence shows that actively managed funds fail to outperform passively managed funds overtime, in addition to, the inability to identify to managers to superior stock picking ability. Investors still flock toward actively managed funds, because their potential to generate positively skewed returns. Actively managed mutual funds offer investors the possibility of high upside return. Given the rise in Defined Contribution retirement plans, individuals are given the option to select mutual funds that best match their investment objective. As humans, we often prefer more wealth to less wealth. Therefore, those funds that signal an

ability to generate positively skewed returns are naturally attractive to investors because they appeal to us instinctively.

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Table 3.1: Descriptive Statistics. Descriptive Statistics for Mutual Funds sorted based on skewness during the period of 1991-2010. Expense ratio is the weighted expense ratio of a mutual fund. According to Morningstar Direct, a fund's expense ratio is the percentage of fund assets used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Front-end load represents the maximum upfront brokerage fee charged by a mutual fund if any. 12b-1 fee represent that average 12b-1 fee charges by a mutual fund if any. *Age*, represents the amount of time a mutual fund has been in existence since its inception. *LnTNA* represents the natural logarithm total net assets. *LnFsize* represents the natural log of a mutual funds family size. Similar to Carhart (1997b), the four factor loadings are estimated for each fund, which is then used to calculate a time series of alphas for each fund this is represented by the four-factor alpha. Finally, new money represents the net investor cash flow going into a fund. This variable is not derived, but it reported by Morningstar Direct.

Quintile	Expense Ratio (%)	Front-end Load (%)	12b-1 fees (%)	Ln TNA	Four-Factor Alpha (%)	New Money ($ Million)
1 (low)	1.22	2.65	0.26	18.72	-0.12	.55
	(0.50)	(2.74)	(0.21)	(2.00)	(1.71)	(21.80)
2	1.25	2.66	0.27	18.58	-0.02	.54
	(0.46)	(2.75)	(0.22)	(1.97)	(1.78)	(20.21)
3	1.23	2.64	0.27	18.68	-0.02	0.08
	(0.43)	(2.75)	(0.21)	(1.97)	(1.74)	(20.00)
4	1.26	2.53	0.28	18.74	-0.01	1.82
	(0.47)	(2.74)	(0.24)	(1.96)	(1.98)	(21.17)
5(high)	1.27	1.53	0.27	18.80	0.09	1.15
	(0.46)	(2.32)	(0.22)	(1.99)	(2.84)	(23.04)

Table 3.2: Total Skewness and Flow. The dependent variable is net investor cash flow. This variable comes directly from Morningstar Direct and it is defined as the total net asset of new money flowing into a mutual fund. *Skewness* represents total skewness of a mutual fund during a given year, which is found in the third moment. *Total Expense,* represents the total expenditure of a mutual fund and this variable is derived by multiplying 1/7 of a mutual fund's front-end load, if any, and then adding it to the mutual fund's expense ratio. MAR_{t-1} is the market adjusted return for the prior twelve months and MAR_{t-2} is the annual market-adjusted return for the twelve months in year t-2. Age represents the number of years a mutual fund has been in existence since its inception. $LnTNA_{t-1}$ represents the log lag of a mutual fund's total net assets. *LnFamsize* represents the natural log of a mutual fund's family size. Volatility, shown as "σ" in the model, represents the mutual fund volatility which is captured by the standard deviation of the monthly returns for each mutual fund. *Performance* is measured by the Carhart four-factor model. *** - significant at 0.1%, ** - significant at 1%, and * - significant at 5%.

Variable	I	II	III	IV
Intercept	1.30	1.81	-0.65	-0.18
Skewness	0.33***	0.32***	0.30***	0.28***
	(4.04)	(3.91)	(3.70)	(3.39)
Total Expense		-0.67***	-1.11***	-1.09
		(-3.45)	(-5.24)	(-5.22)
MARt-1		0.10***	0.10***	
		(10.74)	(10.29)	
MARt-2		0.08***	0.08***	
		(9.06)	(9.76)	
Alpha				0.38***
				(15.04)
Age			-0.03**	-0.02**
			(-2.27)	(-2.71)
$Lntna_{t-1}$			-2.38***	-0.03***
			(-20.24)	(-2.41)
LnFamsize			2.62***	2.51
			(22.12)	(21.18)
σ			-0.36***	-0.07***
			(-14.77)	(-12.76)
Number of Observations	174,085	174,061	172,781	172,802
Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R-squared	0.01	0.02	0.1	0.1

Table 3.3: Descriptive Statistics. Descriptive Statistics for Mutual Funds sorted based on its performance relative to its peers during the period of 1991-2010. *Top Performer* captures the difference in a mutual funds return relative to the average performance of mutual funds during a given month. *Expense ratio* is the weighted expense ratio of a mutual fund. According to Morningstar Direct, a fund's expense ratio is the percentage of fund assets used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. *Front-end load* represents the maximum upfront brokerage fee charged by a mutual fund if any. Similar to Carhart (1997b), the *Four Factor Alpha* are estimated for each fund, which is then used to calculate a time series of alphas for each fund this is represented by the four-factor alpha. Finally, *New Money* represents the net investor cash flow going into a fund. This variable is not derived, but it reported by Morningstar Direct.

Quintile	Top Performer	Expense Ratio (%)	Front-end Load (%)	Four-Factor Alpha (%)	New Money ($ Million)
1 (low)	-3.14	1.30	2.54	-1.82	-0.41
	(1.96)	(0.50)	(2.74)	(1.97)	(21.14)
2	-0.94	1.21	2.66	-0.60	0.34
	(0.30)	(0.45)	(2.75)	(1.10)	(20.67)
3	-0.03	1.19	2.64	-0.08	0.86
	(0.24)	(0.45)	(2.75)	(1.05)	(21.38)
4	0.89	1.22	2.65	0.45	1.11
	(0.31)	(0.46)	(2.75)	(1.10)	(21.52)
5(high)	3.22	1.31	2.52	1.96	2.23
	(2.21)	(0.47)	(2.74)	(2.46)	(21.84)

Table 3.4: Top Performer and Net Investor Cash Flow. The dependent variable is net investor cash flow. This variable comes directly from Morningstar Direct and it is defined as the total net asset of new money flowing into a mutual fund. *Top Performer* is a binary variable, it is coded one is a mutual fund generates returns are in top quintile relative to other actively managed mutual funds and 0 otherwise. *Total Expense* denotes the total expenditure of a mutual fund and this variable is derived by multiplying 1/7 of a mutual fund's front-end load, if any, and then adding it to the mutual fund's expense ratio. MAR_{t-1} is the market adjusted return for the prior twelve months and MAR_{t-2} is the annual market-adjusted return for the twelve months in year t-2. Age represents the number of years a mutual fund has been in existence since its inception. $LnTNA_{t-1}$ represents the log lag of a mutual fund's total net assets. *LnFamsize* represents the natural log of a mutual fund's family size. Volatility, shown as "σ" in the model, represents the mutual fund volatility which is captured by the standard deviation of the monthly returns for each mutual fund. *Performance* is measured by the Carhart four-factor model. *** - significant at 0.1%, ** - significant at 1%, and * - significant at 5%.

Variable	I	II	III	IV
Intercept	0.87	1.91	1.49	-0.57
Top Performer	1.67***	1.63***	1.82***	1.14***
	(8.15)	(8.06)	(9.47)	(5.57)
Total Expense		-0.67*	-1.06**	-1.07**
		(-1.71)	(-2.65)	(2.65)
MARt-1		0.09***	0.09***	
		(10.54)	(9.96)	
MARt-2		0.08***	0.09***	
		(9.02)	(9.68)	
Alpha				0.28***
				(7.65)
Age			-0.03	-0.03
			(-1.40)	(-1.37)
$Lntna_{t-1}$			-2.32	-2.28***
			(-8.98)	(-8.87)
LnFamsize			2.60	2.52***
			(9.49)	(9.28)
σ			-0.41	-0.42***
			(-5.01)	(-5.14)
Number of Observations	174,250	174,250	172,863	172,884
Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R-squared	0.01	0.03	0.08	0.08

Table 3.5: Batting Average and Net Investor Cash Flow. The dependent variable is net investor cash flow. This variable comes directly from Morningstar Direct and it is defined as the total net asset of new money flowing into a mutual fund. *Batting Average* represents a mutual fund manager's ability to outperform their prospectus benchmark in a given period. Total Expense, represents the total expenditure of a mutual fund and this variable is derived by multiplying 1/7 of a mutual fund's front-end load, if any, and then adding it to the mutual fund's expense ratio. MAR_{t-1} is the market adjusted return for the prior twelve months and MAR_{t-2} is the annual market-adjusted return for the twelve months in year t-2. Age represents the number of years a mutual fund has been in existence since its inception. $LnTNA_{t-1}$ represents the log lag of a mutual fund's total net assets. *LnFamsize* represents the natural log of a mutual fund's family size. Volatility, shown as "σ" in the model, represents the mutual fund volatility which is captured by the standard deviation of the monthly returns for each mutual fund. *Performance* is measured by the Carhart four-factor model. *** - significant at 0.1%, ** - significant at 1%, and * - significant at 5%

Variable	I	II	III	IV
Intercept	-1.22	-0.01	-5.10	-4.07
Batting Average	0.05***	0.05***	0.07***	0.05***
	(6.28)	(6.31)	(6.65)	(5.83)
Total Expense		-0.89*	-1.08**	-1.09**
		(-1.69)	(-2.19)	(-2.20)
MARt-1		0.16***	0.11***	
		(10.83)	(10.19)	
MARt-2		0.01***	0.10***	
		(8.52)	(9.27)	
Alpha				0.37***
				(8.96)
Age			-0.03	-0.04
			(-1.40)	(-1.43)
$Lntna_{t-1}$			-2.41***	-2.32***
			(-7.89)	(-7.73)
LnFamsize			2.77***	2.67***
			(8.69)	(8.46)
σ			-0.45***	-0.48***
			(-4.48)	(-4.98)
Number of Observations	147,768	147,657	146,514	146, 535
Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R-squared	0.02	0.03	0.1	0.1

APPENDIX

Unsystematic Risk and Skewness

This appendix contains an extension of the paper titled "Investors Preference for Skewness and the Demand for Actively Managed Mutual Funds". However, instead of focusing on investor preference for skewness, this section looks at mutual fund managers' inclination to generate positively skewed returns. Here, I argue that mutual fund managers who hold a less diversified or concentrated portfolio is doing so with the intent of generating positively skewed returns. Theoretically, mutual fund managers have an incentive to hold an under-diversified portfolio if it increases the possibility of generating a positively skewed return. Mutual fund managers that are able to generate positively skewed returns are appealing to investors who have an appetite for performance. Thus, increasing the mutual fund manager's assets under management, thus, their level of compensation.

Prior empirical evidence ascertains that the portfolio returns of under-diversified investors are substantially more positively skewed than the return of diversified investors (Mitton & Vorkink, 2007). However, unlike other studies this is unique, as mutual fund investors do not have control over the portfolio allocation of the funds in which they chose to invest. Furthermore, given the opaque nature of mutual funds, it will be difficult for investors to assess the level of unsystematic risk present in the fund's portfolio. Although the results of this study show that mutual fund investors prefer skewness when selecting funds, it is important to emphasize that their selection is in part influenced by the asymmetry of return that is present in the right tail of the distribution. Therefore, I

investigate the level of unsystematic risk held within a mutual fund's portfolio and its relation to total skewness. A mutual fund's performance and holdings is driven by both the managerial ability to identify underpriced securities and the retail investor's decision to select that fund manager. Considering that mutual fund families charge a fixed percentage management fee, they profit from an inflow of new funds which increase the firm's assets under management. Additionally, mutual fund managers have an incentive to take on greater risk when attempting to boost their own income, while making the fund family happy.

Mitton and Vorkink (2007) find investors intentionally or unintentionally benefit from a lack of diversification in their portfolio. Therefore, for mutual fund managers that would like to "get ahead," there is a higher probability that they will hold fewer stocks in their portfolio with the hopes of generating a positively skewed return. Consequently, if this is the case then mutual fund managers are sacrificing mean-variance efficiency, in order to generate more positively skewed returns. Mitton and Vorkink (2007) point out that diversification is like a two-edge sword; simultaneously it eliminates unwanted variance in return distributions and desired skewness.

Table 3.4 contains summary statistics of the number of stocks held within a mutual fund's portfolio broken down into deciles based on skewness. The holdings data comes directly from Morningstar Direct. The results in the table show that as skewness increases the average number of stocks held within a mutual fund's portfolio decreases. Also observable in the table is the natural relation between skewness and performance: funds in the highest skewness decile have a positive alpha. Arguably, mutual funds that produce returns that are in the extreme right-tail of a return distribution create a lottery

like perception making it desirable to investors. This serves as a potential explanation for the non-linear relation between mutual fund flows and performance. In order to determine whether the number of stocks held within a portfolio influences the asymmetry of its return I employ a panel regression. The panel regression is used to explore the impact of mutual funds' stock holdings on skewness.

The following is the specification of the general empirical model:

$$Skewness_{i,t}=\alpha+\beta_1 Holding_{i,t}+\beta_2 EXP_{i,t}+\beta_3 TURN_{i,t}+\beta_4 lnTNA_{i,t}+\beta_5 frontload_{i,} \quad (3)$$

From the equation above, *Holdings* represents the number of stocks held within a portfolio this is used to capture the level of unsystematic risk held within the portfolio. As the number of stocks in the portfolio increase it becomes more diversified, and so there is a decrease in unsystematic risk. Hence, a negative relationship is expected between the number of stocks in a portfolio and total skewness. Additionally, I explore other factors that might potentially impact skewness. Also, *EXP* denotes the expense ratio. As displayed in Table 3.1, there is a monotonic relationship between a firm's expense ratio and performance. As stated before, this could be attributed to the high cost associated with hiring a manager that can produce alpha or it may simply be rent extraction via fees. Additionally, given the compensation structure of mutual fund managers, they have an incentive to take on excessive risk because it increases their chances of generating a positive skewed return. Therefore, I expect that mutual funds that have a higher expense ratio will produce a more positively skewed return. *TURN* represents the mutual funds turnover ratio, defined as the minimum of sales or purchases divided by the total net assets of the fund. If a fund manager is engaged in return chasing behavior in order to

increase return, then a positive relationship between turnover and skewness is expected. The effects of size on performance as demonstrated by Berk and Green (2004) show that there is a decreasing return to scale as mutual funds increase in size. Therefore, included in the model is the natural logarithm of total net assets (*LnTNA*). Given the flexibility that smaller funds have when executing trades coupled with fund managers' desire to increase assets under management through growth, a negative relationship is expected between size and total skewness. Also included in the analysis is a mutual fund's front-end load, represented by 1 if the fund has a front-end load or 0 otherwise.

The results of equation 3 are conveyed in Table (3.5). The results in column (1) demonstrate that a negative relationship exists between the number of stocks held within a portfolio and total skewness. This suggests that as the number of stocks in a portfolio increases the probability of experiencing a positively skewed return decreases. This is consistent with Mitton and Vorkink (2007) who find better performing portfolios are under-diversified. Consequently, fund managers who expose themselves to higher unsystematic risk also increase their probability of experiencing a poor performance. In fact, a large negative return shock could force the fund to liquidate.

The results in column (2) reveal the existence of a positive relationship between a mutual fund's expense ratio and its level of skewness. This result is also consistent with that of agency theory, which posits that there is a positive relation between incentive and the level of risk. Additionally, the results reveal that smaller funds are more likely to be positively skewed. This is consistent with the work of Berk and Green (2004) who demonstrate the decreasing returns to scale of mutual funds. The results also indicate that funds which engage in high trading activity are more likely to be skewed. This is

indicated by the positive coefficient on turnover. Mutual fund managers who are concentrated within a specific area of the market or just in a few funds may consistently be trying to identify underpriced stocks in order to generate a positively skewed return.

By sacrificing mean variance efficiency in order to generate skewness via increased unsystematic risk, fund managers are engaging in a sub-optimal strategy that is economically harmful to investors. Therefore, as an alternative measure of risk I examine idiosyncratic risk relative to the total risk with a portfolio. Similar to Amihud and Goyenko (2011) and Karoui and Meier (2009) this measure comes from the systematic component of total risk as is captured by the R^2 generated from the Carhart four-factor model. Like Amihud and Goyenko (2011) and Karoui and Meier (2009), the logistic transformation of R^2 generated from the Carhart four-factor model to estimate the ratio of unsystematic risk to total risk is used. This transformation is necessary because R^2 is clustered around the 90s and this transformation produces a more systematic distribution. This transformation is represented in the equation 4 below:

$$TR^2 = log[\frac{\sqrt{R^2}}{\sqrt{1-R^2}}] \qquad (4)$$

The results of the robustness check are presented in Table 3.6. Consistent with the results presented in the prior table, the results reveal that as R^2 increases or unsystematic risk decrease, there is a reduction in positive skewness. Mutual fund manager who sacrifice mean-variance efficiency in order to generate more positively skewed returns are ultimately harming investors because it results in higher probability of a large negative shock.

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Koehler, J., & Mercer, M. (2010). Selection Neglect in Mutual Fund Advertisement. *Working Paper* .

Table 3.6: Descriptive Statistics. This table contains additional descriptive statistics for mutual funds sorted by skewness deciles. Alpha represents the Carhart four factor method of performance. # of stocks denotes the number of stocks present in a mutual fund's portfolio. Turnover represents the mutual fund's turnover ratio, defined as the minimum number of sales or purchases divided by the total net assets of the fund. Expense ratio is the expense ratio of a mutual fund.

Decile	Alpha	# of Stocks	Turnover	Expense Ratio
1 (Low)	-0.14	146.14	81.97	1.22
	(1.75)	(222.85)	(145.88)	(0.50)
2	-0.11	162.00	79.23	1.21
	(1.68)	(254.70)	(80.44)	(0.50)
3	-0.03	141.14	85.00	1.24
	(1.80)	(207.90)	(75.73)	(0.45)
4	-0.01	154.29	85.37	1.26
	(1.77)	(281.05)	(87.25)	(0.47)
5	0.00	151.74	84.61	1.24
	(1.71)	(246.04)	(91.57)	(0.42)
6	-0.03	129.74	80.32	1.23
	(1.76)	(171.20)	(93.23)	(0.44)
7	-0.06	112.09	85.42	1.26
	(0.04)	(150.55)	(141.26)	(0.42)
8	-0.02	160.33	87.82	1.26
	(1.91)	(286.78)	(111.66)	(0.51)
9	0.04	136.42	82.51	1.24
	(2.29)	(203.18)	(95.59)	(0.49)
10 (High)	0.15	(107.18)	91.16	1.29
	(3.29)	(140.42)	(124.62)	(0.43)
Mean	-0.01	140.90	84.32	1.25
	(2.05)	(224.19)	(107.30)	(0.46)

Table 3.7:Skewness and Mutual Fund Holdings.This table reports the mean coefficient estimate and t-statistics from a panel regression. The dependent variable is total annual skewness. # of stocks denotes the number of stocks present in a mutual fund's portfolio. Turnover represents the mutual fund's turnover ratio, defined as the minimum number of sales or purchases divided by the total net assets of the fund. Expense ratio is the expense ratio of a mutual fund. LogTNA represents the natural logarithm of total net assets. *** - significant at 0.1%, ** - significant at 1%, and * - significant at 5%.

Variable	(1)	(2)	(3)
Intercept	-0.322	-0.27	-0.23
# of Stocks	-0.001***	-0.001***	-0.001***
	(-5.82)	(-4.12)	(-4.41)
Expense		0.08***	0.08***
		(8.66)	(8.85)
LogTNA		-0.01***	-0.01***
		(-5.16)	(-5.57)
Turnover		0.029***	0.012***
		(4.73)	(4.43)
Front-Load (dummy)			-0.01
			(-0.82)
Number of Observations	89,190	87,416	87,416
Fixed Effects	Yes	Yes	Yes
Pseudo R-squared	0.2	0.3	0.6

Table 3.8: Skewness and Unsystematic Risk. This table reports the mean coefficient estimate and t-statistics from a panel regression. The dependent variable is total annual skewness. TR2 denotes the systematic risk in a mutual fund's portfolio that is captured by the R^2 from the Carhart four-factor model. Turnover represents the mutual fund's turnover ratio, defined as the minimum number of sales or purchases divided by the total net assets of the fund Expense ratio is the expense ratio of a mutual fund. LogTNA represents the natural logarithm of total net assets. *** - significant at 0.1%, ** - significant at 1%, and * - significant at 5%.

Variable	(1)	(2)	(3)
Intercept	-0.04	0.24	0.28
TR^2	-0.09***	-0.10***	-0.10***
	(-19.24)	(-16.24)	(-16.10)
Expense		0.02***	0.03***
		(4.04)	(4.61)
LogTNA		-0.02***	-0.02***
		(-13.94)	(-14.02)
Turnover		0.02***	0.02***
		(7.29)	(7.30)
Front-Load (dummy)			-0.00
			(-0.29)
Number of Observations	169,443	169,443	169,443
Fixed Effect	Yes	Yes	Yes
Pseudo R-squared	0.1	0.2	0.2

CHAPTER IV

INVESTOR PREFERENCE FOR SKEWNESS AND THE INCUBATION OF MUTUAL FUNDS

ABSTRACT

Mutual fund companies utilize a variety of tactics to gain the attention of investors. One of the methods is marketing the lofty performance of funds created in incubation. The primary purpose of this study is twofold. First, I will investigate the expenditure of incubated funds relative to non-incubated funds. Second, given that incubation involves funds developing an outstanding track record before becoming publicly available, I will investigate the net investor cash flow to incubated mutual funds that are positively skewed at inception. The results of this study show that incubated funds carry a higher expense ratio relative to non-incubated funds. Additionally, I find that investors flock towards funds that are most skewed at inception.

Introduction

Mutual fund companies employ a variety of tactics to gain the attention of investors. Given that most investors have no formal training in what factors to assess when selecting a fund, selecting the right fund is at times a daunting task. Thus, consumers are faced with high search costs when selecting among mutual funds. Sirri and Tufano (1998) find that consumers have a tendency to invest disproportionately more in funds that perform well in the prior periods. Such behavior can be attributed to the marketing efforts put forth by mutual fund companies. They further assert that mutual funds that perform well are the most salient in the marketplace, thus reducing the search cost for investors. Koehler and Mercer (2010), also provide evidence that mutual fund companies selectively advertise their better performing funds in order to attract investors. Moreover, Jain and Wu (2000) find that funds which advertise their superior performance in a particular period will experience a larger flow of funds than those without advertisement; albeit this superior performance is not evident in the post advertisement periods.

Given the compensation system of mutual fund managers, their main goal is to maximize a fund's assets under management (Mahoney, 2004). In addition to mutual fund managers, mutual fund families also have an incentive to increase assets under management. As a result, a considerable amount of a mutual fund's resources are expended on grabbing the attention of investors (Jordan & Kaas, 2002). Traditional finance literature provides empirical evidence that past returns have no impact on future returns. It also shows that investors are better off investing in funds that carry low fees.

However, to an investor a mutual fund's historical performance is the most important signal when choosing a fund (Capone, Fitzimon, & Prince, 1996).

Barber, Odean, and Zhu (2009) find that investors are biased in their investment decisions, and as a result, they are more likely to buy stocks with recent high performance. Barber and Odean (2008) attribute this sort of behavior to consumers having a limited attention and a proclivity to invest in stocks that have recently been publicized in the media. If actively managed funds effectively market the superior performance of their products, they will be able to take advantage of the return chasing behavior of investors. Therefore, given the return chasing behavior of mutual fund investors it should come as no surprise that mutual fund companies are employing innovative techniques to gain investors' attention. One such practice is the incubation of funds. Mutual fund incubation is a tactic that some fund companies use to create new fund offerings. In incubation, families develop numerous new funds, often with a restricted amount of capital. Later, after being evaluated, some funds are opened to the public, whereas others are liquidated before investors ever become aware of them (Evans, 2010).

The primary purpose of this study is twofold. First, I will explore the expenditure of incubated funds relative to non-incubated funds. Second, given that incubation involves funds developing an outstanding track record before becoming publicly available, I will investigate the net investor cash flow to incubated mutual funds that are positively skewed at inception. Both incubation and skewness of mutual funds are relatively unexplored areas within the financial literature. Hence, this study should prove to be a worthy contribution to the literature, to practitioners, and to regulators. Arguably,

the incubation process might be viewed as an innovative marketing technique. Prior literature show that investors are drawn to incubated mutual funds (Evans, 2010). Hence, when fund families launch their best performing funds they are able to profit from the convex relationship that exists between past performance and current flows (Sirri & Tufano, 1998).

Review of Literature

One of the methods mutual fund companies use to attract investor cash flow, is marketing the loftier performance of new funds. For instance, many mutual fund companies create mutual funds in incubation. As previously noted, incubation is the process where a mutual fund company creates several mutual funds (incubator funds) seeded with their own resources and operated in private for a specified period of time (Palmiter & Taha, 2009). Mutual fund incubation can either be done in private or in public. Before a mutual fund company can market a new fund to the public, it must first register the fund with the Securities Exchange Commission (SEC). If a mutual fund company decides to wait, and then register the incubator fund right before it becomes publicly available, it is referred to as "private incubation". On the other hand, "public incubation" occurs when the mutual fund company goes ahead and registers the incubator fund with the SEC when it is created, but does not actively market the performance of this fund until it is known (Evans, 2010). Those incubator funds that are unsuccessful in terms of realized returns are often eliminated and never publicized. Then again, successful funds are marketed to prospective investors (Evans, 2010). Palmiter and Taha (2009) argue that fund companies are deceiving investors by marketing the high performing funds while neglecting to mention their poorly performing brethrens. By

marketing only those incubator funds that have done well, mutual fund companies are creating the illusion that they have superior fund managers with special stock picking abilities, thus leading consumers to believe that these funds will continue to perform well above the market.

The incubation of funds has become a very common practice in the mutual fund industry. Evans (2010) shows that approximately 23% of new funds are created through the process of incubation. Fund families are more likely to create incubator funds in an investment objective where the current offerings have a lower net cash flow, thus showing the fund family's aspiration to increase flows in specific areas. Evans (2010) also finds that mutual funds sold through brokers are more likely to be incubated. This is consistent with Bregstresser, Chalmers, and Tufano (2009) who demonstrate that funds sold through brokers are more sensitive to performance, supporting the idea that mutual fund investors are net buyers of attention grabbing funds. Although it might be argued that incubation can be used by a mutual fund family to identify superior management ability, Evans (2010) suggests that an alternative rationalization for superior fund performance can be attributed to the ex post selection of the best performing funds.

Much of the literature on mutual fund incubation provide evidence which indicate, that once incubated funds become publicly available they do not outperform the market. For instance, Garavito (2008) shows that incubated domestic equity funds outperform non-incubated domestic equity funds on a risk-adjusted basis for the initial three years of existence. However, this performance is short lived because after three years the incubated funds no longer outperformed the non-incubated funds. Ackerman and Loughran (2006) find that the average incubator fund outperformed the market by

358 basis points. They provide evidence that after these funds become publicly available they underperform the market by 423 basis points. Similarly, Evans (2010) finds a negative relation between incubator fund returns and subsequent returns. Artega, Ciccotello, and Grant (1998) show that, after going public, incubated funds revert to the median performance. In examining the commodity fund market Elton, Gruber, and Rentzler (1989) discover that commodity funds have poorer returns than their significantly higher advertised prospectus returns. Thus, they propose that this is in part due to private incubation.

Ending the incubation process is an important decision that must be made by the mutual fund company. As noted by Evans (2010) and Garavito (2008) the incubation process can last from a few months to several years. Therefore, in order to attract investors, mutual fund companies must launch their incubated funds when their returns are high. In view of that, Garavito (2008) finds that mutual fund companies tend to launch incubated funds when their returns are above the industry median. Wisen and Chiang (2006) find that new mutual funds returns are more sensitive to initial public offerings' (IPOs) first day returns relative to established funds. The results of their study indicate that new funds contain a greater percentage of IPOs than more established funds, thus, boosting the incubated period returns. Still, empirical evidence shows that mutual fund families deceive investors with the incubation of funds. Studies also show that investors are being misled by inflated returns at inception.

Arguably, incubated mutual funds have returns that are more positively skewed during incubation and so when launched it is highly desirable by investors. Despite the empirical evidence that shows that investors are better off investing in passively managed

funds; actively managed funds continue to attract consumers. Thus, I argue that investors' desire for taking on excessive risk and investing in actively managed mutual funds can be attributed to their preference for skewness. Skewness not only captures the first two moments (mean of the return distribution and volatility risk) but it also captures asymmetry which is characterized by the third moment.

Investor preference for skewness is well documented. In his seminal article, Arditti (1967) demonstrates that investors prefer positive skewness in the return distribution. He maintains that an investor who has a decreasing absolute risk aversion forgoes an expected portfolio return in order to benefit from skewness. Similarly, Harvey and Siddique (2000) advocate that investors should prefer portfolios that are right-skewed instead of those which are left-skewed, thus, assets that decrease a portfolio's skewness are less desirable and should require higher expected returns. Parkash, Chang, and Pactwa (2003) propose that a positive skewness is desirable, because an increase in skewness decreases the probability of large negative returns. Kapadia (2006) finds that the long-term underperformance of IPOs can largely be attributed to investor preference for skewness. Kraus and Litzenberger (1976) discover that investors are averse to variance, however, they have a preference for skewness. As a result, they prefer stocks which are more likely to go up during a period of high market volatility. Likewise, Kumar (2009) finds that most individual investors demand lottery type stocks during poor economic periods. Hence, they invest disproportionately more in stocks that display a higher skewness. Barberis and Huang (2007) imply that some investors prefer skewness because it enables them to have a more lottery-like wealth distribution.

Theory

Investor preference for skewness can be better understood with the aid of Cumulative Prospect Theory (CPT). Under CPT (Tversky & Kahneman, 1992) investors have an affinity to overweigh small probabilities, thus, highly skewed instruments become attractive. By overweighting the tails of a distribution, a mutual fund that exhibits a positively skewed performance might appear to be more desirable. Consequently, some investors may be willing to pay a high price for skewed securities, as well as, accepting negative average excess returns. Lou (2007) explains that investors have a preference for a more positively skewed distribution because losses are less probable than in a negative or normally skewed distribution. Hence, given that most investors are risk averse, they view the disutility of a loss twice as much as the utility of a gain in the same proportion (Tversky & Kahneman, 1992). As a result, lottery-like investments are more alluring to investors because it offers a small probability of winning with an especially high reward. Thus mutual funds that are outstanding during the incubation process are deemed desirable by investors. Questionably, if an incubated mutual fund is launched with positively skewed returns it may perhaps serve as a signal of superior management to an investor. Given that mutual fund investors are faced with high search costs and they may not have either the skills, the time, or both to assess the overall characteristics of a mutual fund, they will resort to simple hueristics. So funds that perform well are highly desirable. If mutual funds have managers with superior stock picking skills then, theoretically, these fund should do better than the market.

The innovation of incubation coupled with the bounded rationality of mutual fund investors; creates an environment in which knowledgeable fund managers can extract

additional rents from naïve investors. The relationship between an investor and a mutual fund manager can be viewed as a relationship between the principal who is the investor and the agent who is the mutual fund manager. Given the lack of sophistication among mutual fund investors, there is an inept reliance on mutual fund managers to make prudent investment decisions. However, if both parties who are involved in the relationship are utility maximizers then it is possible that the agent may not act in the best interest of the principal (Jenson & Meckling, 1976). Mutual fund investors desire a high-risk adjusted performance for a relatively low cost, but this is not always the objective of many of the families selling funds, whose goal is to maximize assets under management (Khorana & Servaes, 2004). Accordingly, mutual fund companies have an incentive to launch incubated mutual funds when their returns are high. Therefore, given that investors will flock towards funds with a superior performance, incubated mutual funds are more likely to have a higher expense ratio. Given the in advert nature of a mutual fund's expense ratio it is likely to be over-shadowed by salient performance of incubated funds during incubation.

Hypothesis

Empirical evidence shows that mutual fund investors have a tendency to chase after the best performing funds. By incubating funds, mutual fund companies are able to launch funds that exhibit positively skewed returns, thus attracting investors. Because mutual funds investors are drawn to funds that perform well, mutual fund companies that incubate funds are in a position to charge higher fees. As a result they are able to extract additional rent from investors.

Hypothesis 1: Incubated mutual funds have a higher expense ratio than non-incubated mutual funds.

Hypothesis 2: At inception incubated funds that are most skewed will receive a higher inflow of cash relative to other funds.

Data and Descriptive Statistics

The source of the equity mutual fund data comes directly from Morningstar Direct and the National Association of Securities Dealer (NASD) ticker creation date data.[7] Morningstar Direct reports historical net asset values, cash flow, expense ratios, and return data for live and obsolete mutual funds. A sample of equity funds from the United States Domicile was collected. Following Evans (2010), only funds that have an inception date that is greater than or equal to January 1, 1996 is included in the sample. This allows funds at the beginning of the sample to be incubated for a minimum of 3 years since the ticker creation date data begins in January 1999. In order to determine which mutual funds were incubated I merge the data from Morningstar Direct with the NASD creation date data by the tickers assign to each share class. The ticker creation date is the date a ticker was assigned to a particular fund. Excluded from the sample are indexed funds, foreign country mutual funds, sector funds, closed-end funds, specialized funds, institutional funds, and funds with less than 30 months of return data. This brings the final sample of funds to 1,698. The sample is free of survivorship bias as it includes both funds that are extinct and funds that are currently active. Given that different share classes of a fund have claims to the same underlying portfolio and thus they do not differ

[7] I would like to thank Richard Evans at the University of Virginia for providing me with this data.

in trades or investment holdings, I combine monthly total net assets across all shares for each fund, and the mutual funds returns are weighted accordingly.

Similar to Evans (2010), in order to determine whether a mutual fund was incubated, I observe the difference between the ticker creation date and the inception of the fund. Based on this assessment, if the difference is positive it indicates a deferral between the start of the fund and the application for and approval of a ticker for the fund. Like Evans (2010), to separate incubated from non-incubated, I set a cutoff of 12 months. Therefore, if there is a difference of 12 months or more between the ticker creation date and the mutual fund's inception date the fund is classified as being incubated. Comparable to Evans (2010), I find that 22.91% of the sample is incubated. The ticker creation date is further used to separate incubated funds into incubation data (those observation with preceding the ticker creation date) and post-incubation (those observations with date following to the ticker creation date).

Table I panel A, presents summary statistics of 389 incubated mutual funds. The funds come from five different global categories as documented by Morningstar Direct. The mean (standard deviation) size of incubated funds in terms of the total net assets under management is roughly $79 ($180.57) million with a mean (standard deviation) expense ratio of 1.76(0.63) percent. The mean (standard deviation) manager tenure is 6.10 (4.36) years. Panel B, contains the summary statistics of mutual funds that have not been identified as having gone through the incubation process. Once more, funds are broken down into five different global categories. Overall, the results show that the non-incubated funds are on average larger with a mean (standard deviation) of $120.34 ($305.49). The expense ratio and the average manager of the non-incubated fund are also

less than incubated funds. Largely speaking, incubated funds do not appear in their basic characteristics to be too different except that they are smaller and managers have a longer track record. In looking at the overall frequencies of Morningstar Direct's global category, the distributions of incubated mutual funds are similar across groups when compared to non-incubated mutual funds. Thus, it does not appear that incubated mutual funds are highly concentrated in a certain type of stock. The results here are comparable to prior studies (Evans, 2010; Garavito, 2008).

Panel C contains the result of a two sample t-test, in which the aforementioned variables are compared for incubated and non-incubated mutual funds. The results in Panel C show that on average, incubated mutual funds are statistically smaller than non-incubated mutual funds. However, this result should be taken with caution as it appears that the mean of non-incubated mutual funds are driven by some very large funds as indicated by the standard deviation. On the other hand, in examining the difference in mutual fund expenditure, incubated mutual funds carry a higher expense ratio. This result confirms hypothesis one, it shows that on average incubated mutual funds have a statistically larger expense ratio when compared to non-incubated mutual funds. As indicated in prior studies (Carhart, 1997) mutual fund expense ratios have a negative relation with performance. Consequently, mutual fund investors who purchase higher expense mutual funds end up losing as a portion of their returns goes to the mutual fund company to cover their expenses. The high expense ratio of incubated mutual funds might be attributed to a variety of factors. Arguably, while in incubation mutual funds are much smaller than funds which are sold publicly. Because of their small size, there are no economies of scale and so it is far more costly to operate. Although, while in incubation

funds are operated in private, having a higher expense ratio is arguably justifiable. Consistent with this idea, Garavito (2008) find that incubated mutual funds generally belong to smaller fund families. Once the fund develops a good track record and it is launched, the expense ratio should remain the same. This can be accredited to the SEC's requirement that mutual fund management practices remain the same once the fund becomes publically available. As a result, any changes in fees could potentially be viewed as a violation of this requirement. Alternatively, fund families could be registering their incubated funds with a higher expense ratio because they are aware of the potential SEC's sanctions if they increase the expense ratio incubated funds expense ratio once it becomes public. Given that incubated mutual funds are launched based on the ex post performance. Mutual fund managers are able to take advantage of investors flock towards mutual funds that perform well regardless of their fees.

Incubated Funds and Skewness

Although many studies have explored investor preference for skewness, there is no consensus of a general measure of skewness. A particular apprehension of this study is investors' perception of skewness, as it may not be quantifiable to a majority of mutual fund investors. Given the widely acknowledged non-linear relationship between skewness and net investors cash flow, it is presumably safe to infer that an investor's preference for skewness is based on the upside potential signaled by funds in the market that experience recent high returns. Skewness is estimated mathematically in the equation below:

$$skewness = \frac{\sum_i (Ri - \mu)^3}{\sigma^3} \quad (1)$$

where R_i represents the monthly return of a mutual fund, μ and σ symbolize the mean and the standard deviation, respectively. One important feature of total skewness is that it is scaled by the variance of returns; this adjusts for any relationship between skewness and variance.

Consistent with the idea that mutual fund companies launch their best incubated funds, I anticipate that the returns of incubated mutual funds are more positively skewed while in incubation. Similar to consumers who purchase the lottery because of the possibility of a large return, mutual fund investors will purchase incubated mutual funds because of the return generated while in incubation. In other words, by marketing the high returns of incubated funds, mutual fund companies are sending a signal to consumers that they have identified fund managers with superior stock picking skills.

Table 2 presents the descriptive characteristic of incubated mutual funds, pre- and post incubation. The results show that the returns of incubated funds during incubation are more positively skewed when compared with the results post incubation. Although, the results are statistically significant, the returns pre- and post incubation are both negatively skewed. A potential explanation for this is that actively managed mutual funds have a tendency to underperform. Although, mutual fund families launch incubated funds with a good track record, it does not necessarily mean that these did not experience negative returns while in incubation. Correspondingly, the law of large numbers is also another factor to take into consideration. As the number of observation increases there is a shift towards a normal distribution, thus, the negative skewness is potentially a more accurate description of the symmetry of funds while in incubation. Traditional finance

literature shows that active mutual fund managers are able to generate positive returns consistently for lengthy periods. Next, the results in the table indicate that the average raw return net of fees is higher for incubated funds while in incubation. This result is also statistically significant; however, this can be attributed to the mutual fund families launching their best performing funds ex post returns. Additionally, the results would suggest that incubation is an effective strategy for mutual fund companies. The results reveal that on average mutual incubated funds quadruple in size post incubation.

Figure 1 plots the average skewness of incubated mutual funds. The figure shows that the returns of incubated funds are more positively skewed during inception. However, consistent with prior studies there is a decline in the realized returns as is demonstrated by a reduction in skewness. Likewise, figure 2 plots the average raw returns of incubated funds pre- and post incubation. Consistent with figure 1, there is a decrease in the performance of incubated funds once they are made publicly available. Given that mutual fund families have demonstrated a tendency to launch their incubated funds once they have developed a good track record it should appeal to investors. Hence, if this is an effective strategy, it would be plausible to expect that, holding everything else constant, incubated funds would experience a relatively large inflow of funds when compared once made publicly available. The reduction in performance post incubation can be attributed to few factors. First, there is clearly a selection bias; funds that perform well during incubation are more likely to be sold. However, this strong performance during incubation can simply be attributed to luck or random chance that generally does not continue post incubation. Second, mutual fund companies are able to give their mutual funds preferential treatment during the incubation process. As expected, there is a

decline in incubated funds net investor cash flow in years following inception as an investor's decision are driven by performance. Figure 3, conveys the relative fund flows to incubated funds, post inception. The graph shows that there is an increase of investor cash flow during the first year following inception. However, there is a steady decrease from year two going forward. This is consistent with the notion that mutual fund investors are myopic return chasers. Therefore, given that incubated funds do not perform well outside of incubation they do not attract the interest of individual investors. However, figure 4 shows that mutual fund companies benefit from incubation. Similar to the results in table 2, the graph show an increase in the total net asset of the mutual funds. Thus, by generating somewhat of a track record during incubation mutual funds companies are able to increase their assets under management.

The Impact of Incubation on Fund Flows

In this section I examine the investor preference for skewness when investing in incubated mutual funds at inception. It is important to point out net investors' cash flow comes directly from Morningstar Direct and it is estimated by stripping out two types of activities. One is expected growth of the assets due to capital market movements. The other is reinvestment of the capital gains and dividend distributions that occur during the calculation month. Morningstar Direct is advantageous given that its measure comes directly from the mutual fund. Similar, to Evans (2010) the dependent variable is ranked by year and month. Like Evans (2010), I assign a fractional rank to each fund based on its net dollar flow for that year. The decision to use a fractional rank instead of the direct measure of net investor cash flow is attributed to two reasons. First, the hypothesis being

tested here is whether incubated funds that are most skewed at inception attract a greater net dollar flow of funds. Given that variation in the size of younger funds, using a percentage rank reduces the probability that the results are driven by outliers. Second, since there is variation in the net cash flow to mutual funds on a yearly basis, ranking funds within each time-period controls for the volatility. While observing mutual funds net investor cash flow, it is essential to control for various mutual fund characteristics that could impact the flow of money going into a fund. I control for the size of the fund, the fund's family, the age of the fund, the fund's expense ratio, as well as additional fees. Well established in the literature is the relation between flows and the aforementioned variables are well documented.

The relation between the size of a fund and net investor cash flow is well recognized within the literature. Controlling for the size of the fund is important for several reasons. First, Sirri and Tufano (1998) infer that an equal dollar flow will have a larger impact on smaller funds. Second, Barber, Odean, and Zheng (2005) advise that it will ensure that the results are not being driven by small funds. Evans (2010), Barber, Odean, and Zheng (2005), and Sirri and Tufano (1998), all document a negative relation between the total net assets of a fund and net investor cash flow, thus providing evidence that investors have a preference for investing in smaller funds. Therefore, the natural logarithm of total net assets is included as a control variable. Given that larger fund families are more identifiable in the financial market it is imperative that I control for the effects of the fund family size on net investor cash flow. Evans (2010) empirically shows a positive relationship between a mutual fund's family size and net investor cash flow. Controlling for the mutual funds family size is important given the possibility that fund

families are steering money into new funds. So the natural logarithm of a mutual fund's funds family size is included. Similar to Evans (2010), I also control for the funds expenses and turnover. Like Evans (2010) I also include a dummy variable for funds that have a front-end load. The non-linear relationship between mutual fund flows and performance is a well-documented phenomenon in the mutual fund literature. For example, Chevalier and Ellison (1997) and Ippolito (1992) provide evidence that shows a non-linear relationship between mutual fund flows and performance. Therefore, I control for performance using the annual market adjusted return over 12 months.

Table 4.4 conveys the results of a panel regression which was used to explore the investor preference for investing in incubated funds that are skewed at inception. The results in columns 1 to 2 are consistent with the findings of Evans (2010). The results show that positive relations exist amongst funds that are incubated and net investor cash flow. The signs of the control variables are also consistent with previous literature. Columns 3 and 4 show investors prefer investing in mutual funds that are positively skewed. In column 5, I used an indicator variable to capture those incubated funds that belong to the highest skewness quintile at inception. This is used to capture investor preference for investing incubated funds that have a positively skewed return at inception. The results are statistically significant. This is consistent with the hypothesis that investors prefer incubated funds that are most skewed at inception. In column 6, I examine funds that are incubated and belong to the lowest skewness quintile. The results here are statistically insignificant. Therefore, mutual fund managers have an incentive to create funds in incubation and hopefully, they will be able to launch these funds when their returns are highest. Overall, the results of this analysis are intuitive. Mutual funds

investors are driven by performance. Therefore, because incubated funds have an outstanding track record they are highly appealing to mutual fund investors. Generally, investors do not differentiate incubated and non-incubated funds they simply select the fund that they believe will generate the highest possible return. This is problematic because it is misleading investors, as the performance experience by funds in incubation could simply be due to luck. As a result, there is need for improved regulation in the mutual fund industry as it relates to the incubation of funds. Evans (2010), details the trivial regulation by the SEC as it pertains to incubated funds. However, given that mutual funds are such a vital part of investors' portfolios, especially those who are selecting funds as a part of a retirement portfolio, the incubation of funds needs to be regulated more heavily. Mutual fund companies ought not to be allowed to backfill data. Databases such as Morningstar Direct need to consider the ticker creation date data instead of just reporting the data that comes to them from mutual funds. Additionally, financial advisors should be advised on the process of incubation. This will help them to make better financial decisions when choosing funds for their clients.

Conclusion

Consumers are faced with high search costs when selecting among mutual funds. Therefore, in order to attract investors, mutual fund companies must demonstrate a profitable appeal. One such strategy is the incubation of mutual funds. Thus, the primary purpose of this study is twofold. First, I explore the expense ratio of incubated mutual funds relative to non-incubated funds. Second, I examine the net investor cash flow of incubated funds that are most skewed at inception.

The results of this study reveal that incubated funds carry a higher expense ratio relative to non-incubated funds. Given that incubated funds are launched after, developing a reputable track record, mutual fund companies are able to charge higher fees because they know that investors respond positively to performance. However, as the results of this study show, as well as, many other studies, incubated funds do now have exceptional performance post incubation. As a result, investors are made worse off investing in high expense funds that are creating in incubation. Accordingly, the results of this study also reveal that when incubated mutual funds are made available to the public, those funds that are launched and are highly skewed receive a larger inflow of funds relative to other funds. A possible explanation for is the upside potential demonstrated by these funds during incubation. Arguably, investors are not identifying managers with superior stock picking ability, but they are identifying funds that are able to create an early and somewhat instant history. This practice is misleading to investors, and given that these funds carry higher fees and do not perform as well once they are publicly available there is a potential loss of wealth to investors. As a result, investors are better investing in low expense passively managed funds.

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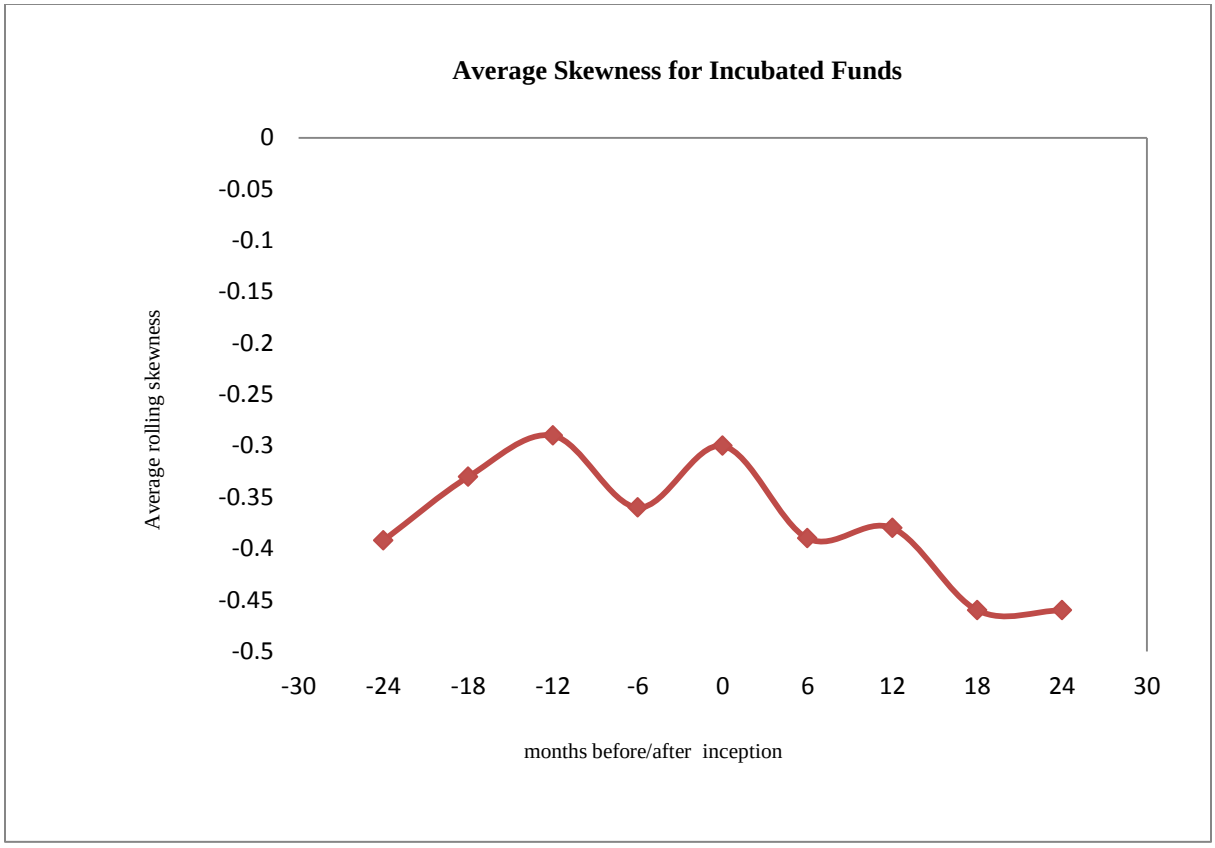

Figure 4.1: This figure shows skewness pre- and post incubation

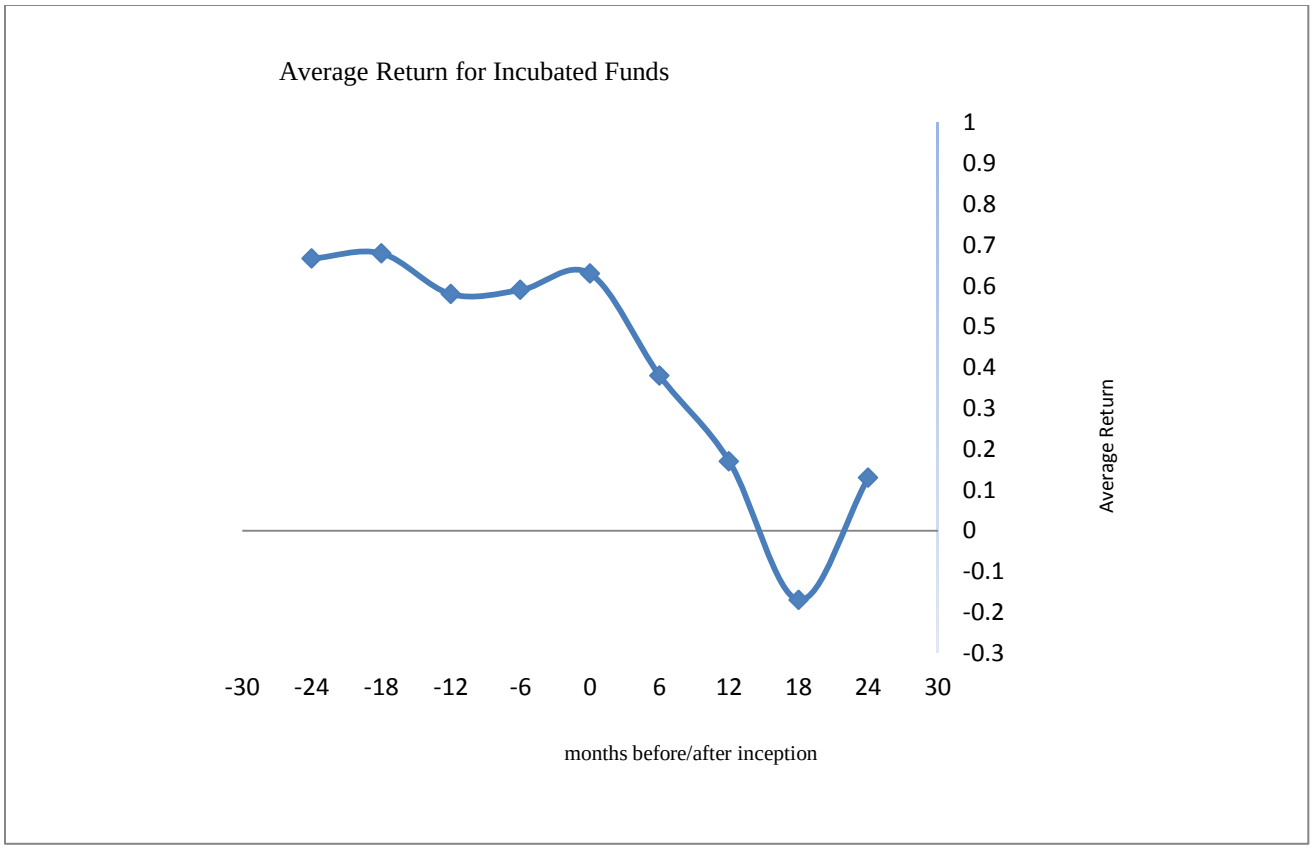

Figure 4.2: The figure shows the annual average return for mutual incubated mutual funds, post and pre incubation.

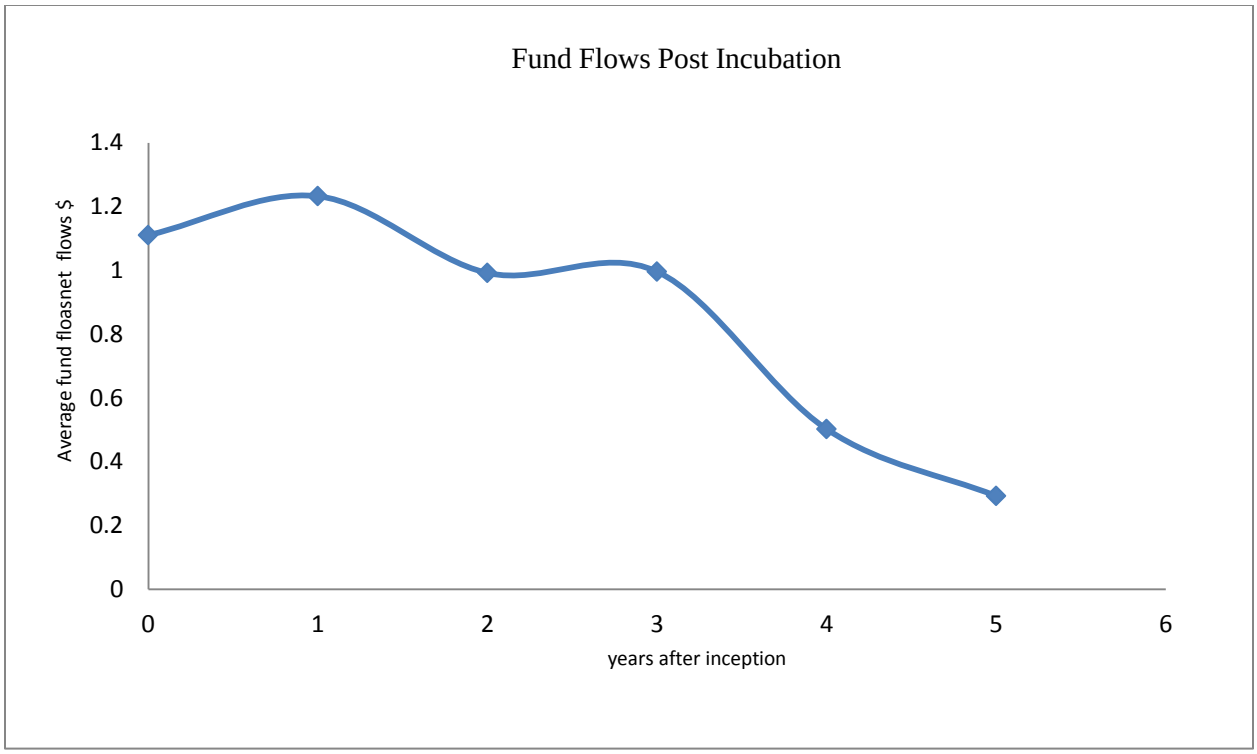

Figure 4.3: This figure shows net investor cash flow post incubation

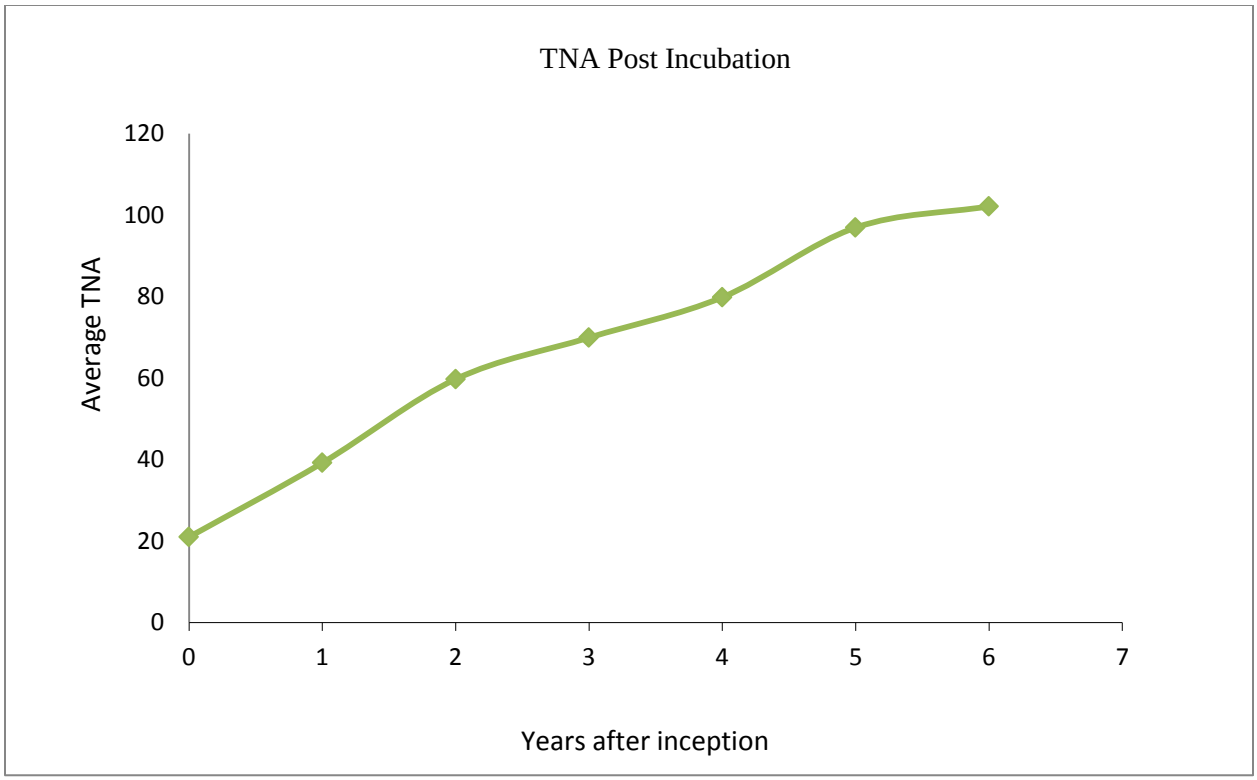

Figure 4.4: This figure shows mutual funds total net assets post incubation

Table 4.1: Morningstar Categories. Panel A presents the aggregate summary statistics for incubated mutual funds. Means (Standard Deviation) are presented for expense ratio, total net assets, and manager tenure. Also, presented is the number of funds along with their relative frequencies.

Morningstar Global Category	No. of Obs. (freq)	Expense Ratio (%)	Total Net Assets ($ Millions)	Manager Tenure
U.S. Large Cap Blend	91 (23.39%)	1.53 (0.65)	88.52 (197.62)	6.50 (4.90)
U.S. Large Cap Growth	82 (21.10%)	1.73 (0.50)	162.54 (310.75)	5.57 (4.90)
U.S. Large Cap Value	56 (14.39%)	1.90 (0.91)	52.17 (108.91)	6.71 (3.96)
U.S. Equity Mid Cap	86 (22.11%)	1.72 (0.51)	76.70 (154.58)	5.91 (3.96)
U.S. Equity Small Cap	74 (19.02%)	1.99 (0.47)	57.24 (103.87)	5.78 (4.13)
All	389	1.76 (0.63)	79.70 (180.57)	6.10 (4.36)

Panel B: Non-Incubated funds. Panel B presents the aggregate summary statistics for non-incubated mutual funds. Means (Standard Deviation) are presented for expense ratio, total net assets, and manager tenure. Also, presented is the number of funds along with their relative frequencies.

Morningstar Global Category	No. of Obs. (freq)	Expense Ratio (%)	Total Net Assets ($ Millions)	Manager Tenure
U.S. Large	316	1.45	140.25	5.58
Cap Blend	(24.14%)	(0.57)	(368.02)	(3.40)
U.S. Large	320	1.70	121.98	5.43
Cap Growth	(24.44%)	(0.51)	(287.20)	(3.78)
U.S. Large	179	1.72	82.40	6.21
Cap Value	(13.67%)	(0.42)	(158.64)	(3.75)
U.S. Equity	269	1.72	147.63	6.12
Mid Cap	(19.78%)	(0.52)	(371.15)	(3.73)
U.S. Equity	225	1.84	87.62	5.83
Small Cap	(17.18%)	(0.54)	(220.22)	(3.64)
All	1309	1.67	120.34	5.78
		(0.54)	(305.49)	(3.66)

Panel C Test: Panel C presents test statistics of incubated versus non-incubated mutual funds. The table compares the means of the expense ratio, total net assets, and manager tenure. Also, present in the table is the statistical difference and swatterthwaite test statistics.

Incubated N=389 Non-incubated N=1039

Variable	Incubated	Non-Incubated	Difference	Test-Statistic
Expense Ratio	1.75	1.67	-0.08**	-2.29
TNA	79.90	120.3	40.44***	3.25
Manager Tenure	6.09	5.0	-0.30	-1.27

Table 4.2: Descriptive Statistics. This table contains the descriptive statistics of mutual funds, post or during incubation. The mean and statistical differences with T-Values are report for skewness, annual returns net of fees, expense ratio, total net assets, and turnover.

Variable	During Incubation (9,168)	Post Incubation (42,085)	Difference	T-Value
Skewness	-0.33	-0.37	0.03**	2.65
Raw Return	0.55	0.37	0.17***	3.77
Expense Rat.	1.80	1.77	-0.01	0.93
TNA	18.27	89.28	-71.00***	29.04
Turn	96.87	91.68	5.19***	4.22

Table 4.3: Descriptive Statistics. This table provides the descriptive statistics for various mutual fund characteristics that are known to impact net investor cash flow. Table sorts into deciles by skewness. *Exp* represents the mutual funds expense ratio.load, denotes the mutual funds front end load. *Skewness* represents the annual skewness of the fund. *Turnover* denotes the mutual funds turnover ratio. *TNA* represents the total net assets of the mutual fund. Finally, *Family size* shows the fund family size.

Quintile	Exp	Skewness	Turnover	TNA	Family size
1(low)	1.67	-1.29	87.23	119.44	774.17
2	1.70	-0.77	89.36	139.76	821.14
3	1.70	-0.43	91.56	129.77	769.63
4	1.72	-0.06	90.25	134.23	870.54
5(high)	1.74	0.53	92.00	144.46	975.49

Table 4.4: Incubated Funds at Inception and Flow. This table shows the coefficients from a regression of investor cash flow on fund characteristics, including whether the fund is incubated and in the highest skewness quintile at inception. The dependent variable is net cash flow ranked by month and year. Each fund is assigned a fractional rank between zero (lowest) and one (highest) based on net cash flow for that year. *ID incubated* is represented by one if the fund is incubated, zero otherwise. *Skewness* denotes the annual skewness of the mutual fund. *ID Incep HiSkew* and *ID Incep LowSkew* represents incubated funds that belong to the highest and lowest skewness quintile at inception. $LnTNA_{t-1}$ represents the log lag of a mutual fund's total net assets. *Age* represents the number of years a mutual fund has been in existence since its inception. *LnFamsize* represents the natural log of a mutual fund's family size. *Expense*, denotes the mutual funds expense ratio. *Front Load Dummy* is a dummy variable for whether the mutual fund has a front-end load or not. Turnover represents the mutual funds turnover. *Ret1* is the market adjusted return for the prior twelve months *** - Also reported are robust t-statistics for each variable, number of observations, and Pseudo R-squared. The asterisks statistical significance as followed: significant at 0.1%, ** - significant at 1%, and * - significant at 5%

Variable	1	2	3	4	5	6
Intercept	0.51***	0.64***	0.75***	0.51***	0.77***	0.76***
ID New Incubated	0.06*** (7.74)	0.05*** (6.22)	0.04*** (5.24)			
Skewness				0.01** (1.96)		
ID Incep HiSkew					0.04** (2.56)	0.04** (2.51)
ID Incep LowSkew						0.020 (094)
$LogTNA_{t-1}$		-0.05*** (-6.22)	-0.01*** (-6.61)	-0.01*** (-7.00)	-0.01*** (-7.05)	-0.01*** (-7.00)
Age		-0.01*** (-6.29)	-0.01*** (-6.06)	-0.01*** (-5.88)	-0.01*** (-5.675)	-0.01** (-5.76)
Log Famsize		0.01** (2.27)	0.01 (1.36)	(0.00) (1.28)	0.01 (1.21)	0.00 (1.30)
Expense			-0.04*** (5.72)	-0.03*** (-5.93)	-0.04*** (-5.80)	-0.04*** (-5.79)
Front Load dummy			0.01 (1.20)	0.01 (1.12)	0.01 (1.18)	0.01 (1.20)
Turnover			-0.00 (-0.31)	-0.00 (-0.22)	-0.00 (-0.02)	-0.00 (-0.28)
Ret1			0.003*** (14.99)	0.003*** (14.99)	0.003*** (14.97)	0.003*** (14.98)
Number of Observations	159,982	159,982	160,222	159,982	159,982	159,982
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.01	0.1	0.2	0.2	0.2	0.2

CHAPTER V

CONCLUSION OF STUDIES

One of the greatest phenomenons in the financial industry is without a doubt the growth and demand for actively managed mutual funds. Arguably, growth can be attributed to the rise of defined contribution retirement plans. Given the daunting task individuals face when selecting individual securities, mutual funds offer a much simpler alternative. Mutual funds are largely desirable because they offer several advantages such as, diversification, professional management, and liquidity, among others. Despite the demand and the benefits associated with investing in mutual funds, there is an ongoing debate on whether it is best for individuals to invest in an actively or passively managed fund. This can be attributed to numerous studies that show that investors do not necessarily benefit from investing in actively managed funds; as a result, they are better off investing in a fund that is passively managed.

This dissertation extends the body of knowledge by exploring areas that have not been examined. My study consists of three articles, each exploring a different topic related to mutual funds. The first looks at the performance and expenditure of Black owned and/or Black managed mutual funds within the United States. The second explores investor preference for skewness when selecting mutual funds. The third investigates how investor preference for skewness relates to incubated mutual funds; furthermore, it investigates the expenditure of incubated mutual funds.

Given the cultural mistrust amongst the Black community, they are particularly vulnerable to high rent extract from more knowledgeable mutual fund managers. Additionally, these managers may fail to provide investors with the appropriate risk

adjusted return. The results of study one indicates that Black mutual funds, on average, have lower fees than comparable conventional funds. Moreover, I was unable to find any evidence that would suggest that Black mutual funds perform statistically different when compared to a conventional group of their peers. In fact, both groups underperformed the market, which simply suggests that investors are better investing in passively managed funds. Like socially responsible mutual funds, Black mutual funds clientele consist of a group of clienteles that a certain level of utility from investing in the fund. An examination of the standard deviation of net investor cash flow shows that Black mutual funds experience less volatility relative to comparable conventional funds. This is consistent with investor loyalty.

The second study extends the literature by examining investor preference for skewness when investing in mutual funds. Here, I find that although mutual funds are a diversified financial instrument, mutual fund investors exhibit an affinity for skewness. This result offers a possible explanation for the continuous growth of actively managed mutual funds. In addition to using total skewness, I employ two additional variables to proxy for skewness "top performers" and "mutual fund batting average", as a way to gauge the investors' expectation of a fund's performance. Here, the results also reveal that mutual fund investor prefer to invest mutual funds that have a high batting average.

Finally, the third article is an extension of the prior study; however, it focuses on mutual funds that were incubated. The results of this study show that incubated funds carry a higher expense ratio relative to non-incubated funds. Additionally, I find that investors flock towards funds that are most skewed at inception. Since, incubated mutual funds are able to create an instant history this practice is misleading to investors.

Therefore, given that these funds carry higher fees and do not perform as well once they are publicly available there is a potential loss of wealth to investors.