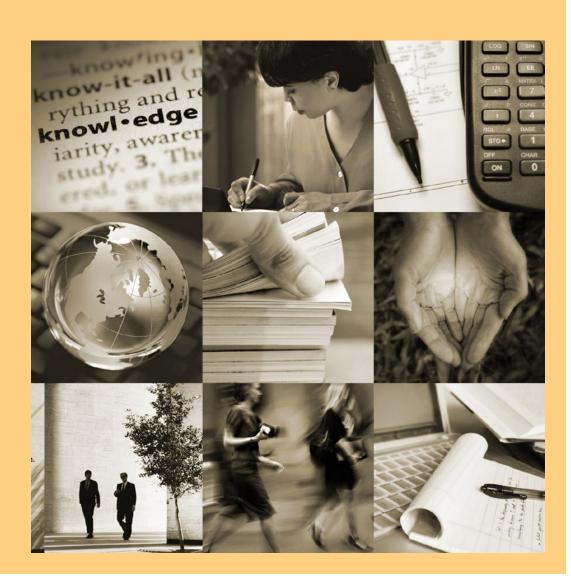


Does Active Management Benefit Endowment Returns?

An Analysis of the NACUBO- Commonfund Study of Endowments (NCSE) Data

April 2014



Contents

Section I Introduction1
Section II Role of Endowment CIO and OCIO5
Section III Description of Data and Methodology Used6
Section IV Hypothesis Test Findings7
Bibliography12

Author

David Belmont, CFA Chief Risk Management Officer

Irakli Odisharia, Ph.D. Director

15 Old Danbury Road Wilton, CT 06897

About Commonfund Institute

Commonfund Institute houses the education and research activities of Commonfund and provides the entire community of long-term investors with investment information and professional development programs. Commonfund Institute is dedicated to the advancement of investment knowledge and the promotion of best practices in financial management. In addition to teaming with NACUBO to produce the NCSE, Commonfund Institute provides a wide variety of resources, including conferences, seminars and roundtables on topics such as endowments and treasury management; proprietary and third-party research and publications, including the Higher Education Price Index (HEPI); and events such as the annual Commonfund Forum and Commonfund Endowment Institute.

Does Active Management Benefit Endowment Returns? An Analysis of the NACUBO-Commonfund Data

Executive Summary

We conduct a longitudinal analysis of the NACUBO-Commonfund Study of Endowments (NCSE) results from 2006-2013 to evaluate if active management is related to higher endowment returns in U.S. equities over time. We also analyze the data to evaluate the endowment characteristics that are related to higher levels of performance over time.

We find that active management for endowments is significantly positively related to higher returns net of fees from U.S. equity allocations over the evaluation period. In addition, endowments with CIOs or OCIOs are better able to earn incremental positive returns from active management than those without. Larger endowments are better able to earn incremental positive returns from active management than the smallest endowments but the effect appears to diminish as endowments increase in size.

Section I

Introduction

Beginning with Sharpe (1966) and Jensen (1968), many have questioned the relative value of passive versus active management and have argued that after fees, indexed portfolios are superior investment vehicles. French (2008) among others has argued that investors spend a significant amount on fees, expenses and trading costs, in actively managed funds that on average fail to beat market indices after those costs are considered.

Active management is broad and portfolio managers may use a variety of factors and strategies to construct their portfolio(s)¹. These include quantitative measures such as Price–Earnings ratios and Price Earnings to Growth ratios, sector investments that attempt to anticipate long-term macroeconomic trends (such as a focus on energy or housing stocks), and purchasing stocks of companies that are temporarily out-of-favor or selling at a discount to their intrinsic value. Some actively managed funds also pursue strategies such as risk arbitrage, short sales, and option writing.

¹ Active managers rely on analytical research, forecasts, and their own judgment and experience in making investment decisions on what securities to buy, hold and sell. The opposite of active management is called passive management, better known as "indexing". The active manager will deviate from the benchmark weights by (i) varying the weights from the benchmark weights on securities in the benchmark; (ii) adding securities outside the benchmark or choosing not to hold securities included in the benchmark and (iii) timevarying asset allocation where weights on certain securities change through time. The goal of active management is to produce a return that exceeds the passive return with minimal risk.

The effectiveness of an actively managed investment portfolio obviously depends on the skill of the manager and research staff but also on how truly active they are. Many mutual funds that purport to be actively managed stay fully invested regardless of market conditions, with only minor allocation adjustments over time. In reality, a large percentage of "actively managed" funds rarely outperform their index counterparts over an extended period of time because many mutual funds are "closet indexers" (i.e. funds whose portfolios look like indexes and whose performance is very closely correlated to an index). Alernative managers will retreat fully to cash, or use hedging strategies during prolonged market declines. These two groups of active managers will often have very different performance characteristics.²

The choice for long term equity investors to manage investments actively or passively has important implications on their potential outperformance. On the one hand, Wermers (2000) summarized the state of U.S. equity fund research as follows: "The majority of studies now conclude that actively managed funds underperform their passively managed counterparts." The dominant view is that active management does not pay, even for sophisticated investors, and is costly on net. Furthermore, opportunities for active managers to outperform passive indices are thought to be lower in more efficient markets. The U.S. equity market is considered to be one of the most efficient markets. Consequently, academics have advised investors to avoid active U.S. equity management.

On the other hand, certain active managers consistently beat the passive index net of fees. Cremers and Petajisto (2009) show that among active managers, those whose holdings most significantly differ from their index benchmarks (i.e. truly active as opposed to closet indexers) tend to outperform their benchmarks net of fees over time.

As Sharpe (1991) and French (2008) point out, it is impossible for all active investors to outperform. A necessary condition for active management to deliver excess returns is that those investors who choose it as an investment strategy must be sophisticated enough in their abilities to select and retain the better-performing managers.

The economics of investment management suggest that institutional investors should be more likely to have the ability to better select outperforming active managers. They are large and sophisticated repeat contractors with external managers, which gives them both more potential to provide oversight (see, for example, Del Guercio and Tkac (2002)) and more negotiating power, leading to lower costs and a greater share of any rents in the relationship (Dyck and Pomorski (2011)). Successful active investors must be able to identify the best active managers. Jones and Wermers (2011) found the following investment capabilities necessary when seeking to identify and evaluate superior active managers:

- The ability to conduct performance attribution of past performance (properly adjusted) to help identify sources of returns and historical active share in different market environments.
- The ability to analyze manager investment style and factor characteristics
- The ability to estimate managers' opportunity sets in different economic environments. Opportunity set is linked to expected returns by manager in that certain economic environments are more favorable to individual active management strategies and to a given manager's skill. This insight informs tactical allocations to active and passive strategies and ultimately to manager allocations.
- Ongoing analysis of active manager fund holdings to detect style drift or closet indexing

Institutional investors are more likely to invest in these skills and capabilities in an effort to identify and profit over the long term from allocating to superior active managers. In fact, according to the Yale endowment's most recent report, "For the twenty years ending June

² High tracking error volatility is one way to evaluate the degree of active management. The logic behind the measurement is that the makeup of the individual stocks in the portfolio will be reflected in the pattern of the returns. If the returns of the portfolio deviate from the index returns significantly through time, the makeup of the portfolio must be significantly different from the index. While tracking error volatility makes sense and is easy to calculate, it only infers what the manager is doing in the portfolio and does not actually look at the underlying holdings. Active Share is found by analyzing the actual holdings of a manager's portfolio and comparing those holdings to its benchmark index. By measuring active management in this way, investors can get a clearer understanding of what exactly a manager is doing to drive performance, rather than drawing conclusions from observed returns. Active Share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the manager's portfolio versus the weight of each holding in the benchmark index and dividing by two.

30, 2012, nearly 80 percent of Yale's outperformance relative to the average Cambridge Associates endowment was attributable to the value added by Yale's active managers, while only 20 percent was the result of Yale's asset allocation."³

Risk Tolerance of Endowments Makes Active Management Attractive

Endowments are a specific type of long term, sophisticated institutional investor. They are perpetual investors for the benefit of future generations. Their distinct objectives and risk tolerances make them uniquely capable of capturing the long term benefits of active management.

Unlike pensions⁴, endowments typically have a different reason for being and different objectives for their investing that inspires them a greater ability to pursue active management. With an obligation to preserve or grow real assets for future generations, endowments are inter-generational investors. In addition, they exist to provide reliable income for current operating and grant budgets of the institutions they support. Endowments are also unique in that they typically have relatively small "liabilities" to fund as a percentage of assets. These liabilities are to an extent variable over short periods of time (and in many cases relate to the endowment's investment performance via its spending rule). These liabilities are however, infinite given the perpetual nature of endowments. The perpetual nature of endowments

implies that the primary area of uncertainty is the difference between the expected rate of return of the endowment and the expected rate of inflation over the long term. Consequently, return targets are often set to beat real global growth, forever.

Downside volatility is not a major risk except where it coincides with a period where high levels of liquidity are needed. In a circumstance where a significant portion of the endowment needs to be liquidated to deliver cash to fund the institution AND markets have fallen significantly, then negative real returns may be realized. The impact of such an event on the long term returns of the endowment should be relatively small as near term liabilities are a small percentage of endowment assets. The fact that near term liabilities are typically a small percentage of current assets implies that intermittent drawdowns in the market value of the endowment due to a short period of volatility should not materially impact the long term goal of outperforming inflation as long as expected returns remain intact.

While active managers may produce more volatile returns depending on the rate of return from active management, the higher volatility need not lead to lower terminal wealth expectations. Jones and Wermers (2011) found that long term investors with at least a 20 year horizon who are able to identify superior active managers with an aggregate expected information ratio of 0.25 and no correlation with other risks in the investor's portfolio, can theoretically expect a 32% increase in terminal wealth and an 10.7% increase in expected volatility by increasing active risk taking by only 6%. In short, endowments have a capacity for volatility and liquidity risk.

Characteristics of Active Equity Managers

Active managers have risk characteristics that match well with endowment risk appetite. These risks are typically slightly higher volatility, somewhat lower liquidity, and higher portfolio concentration than passive managers.

Kosowski (2006) found that active equity managers outperform in periods of high volatility and stock dispersion. With respect to liquidity, Huang, Sialm, and Zhang (2010) hypothesized that active managers who have superior information or analytical capabilities are likely to profit from supplying liquidity in times of market stress. Wei, Wermers, and Yao (2009) found that Contrarian activist managers outperformed passive

³ 2012 The Yale Endowment, Yale University, Pg. 7

Other types of long term, sophisticated institutional investors such as retirement or pension funds exist and invest to meet measurable, fixed, and finite liabilities. Typically, these liabilities are relatively large compared to the assets invested. The maturity and size of these liabilities is to a large extent controllable at the time of underwriting. The ongoing assessment of the certainty of the invested assets' ability to fund these liabilities when due, determines the risk taking ability of the entity. The relationship between the expected future value of the assets and the expected future value of liabilities and the certainty around those measures, determines the risk taking capacity of these investors. This relationship is expressed by the funding ratio. The funding ratio is the ratio of assets to liabilities. Funding ratios above a one indicate the pension can cover all obligated payments. Ratios below one will reflect it is unable to make payments or may be in jeopardy of not being about to make payments at a later time. The funding ratio of a pension will be much smaller than that of an endowment. Liabilities of pensions are also less flexible and payable on average sooner than an endowment's. Pension funds are only perpetual investors to the extent that they are serial investors for each generation of retirees that they underwrite and who contribute capital to their own future pension. In this sense, they are intra-generational investors.

herding managers by more than 260 bps a year. Their findings suggest that these excess returns come both from supplying liquidity to the market and from superior information collection and analysis. Investors with a long investment horizon, and little need for liquidity of their own, will be well positioned to benefit as providers of liquidity.

Concentration is also a characteristic of active managers. Cremers and Petajisto (2009) found that managers who take big active positions perform better than those who take small positions. They defined "active share" as the absolute difference between a stock's weight in the portfolio and its weight in the "best fit" benchmark, cumulated across all the stocks in the portfolio and the benchmark. They found that funds with the highest aggregate active share outperform those with the lowest active share by roughly 250 bps a year. They attributed this result to greater "conviction" on the part of active managers and concluded that "the most active stock pickers have enough skill to outperform their benchmarks even after fees and transaction costs."

Due to their perpetual investment horizon and the relationship between the size of their assets and near term liabilities, endowments tend to have high tolerances for volatility and liquidity risks that can make active management attractive. We argue that 1) endowments have a significant ability to accept the volatility and liquidity risks which active management brings and 2) their broad diversification to systemic factors and alpha⁵ from active management results in higher long term returns due to greater amounts of principal compounding at higher rates over time. Active equity management is one means by which endowments can use their appetite for volatility and liquidity risk to enhance returns.

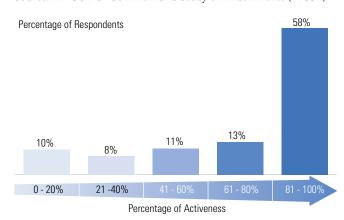
The evaluation of whether endowments' active equity investments underperform, are not different from, or outperform their passive investments in U.S. markets requires knowing the returns earned and costs incurred by endowments pursuing both active and passive management strategies. This granular data is not readily available. However, one straightforward way to overcome these obstacles is to simply ask a broad sample of endowment managers about the realized cost, allocation and performance of their actual active and

In this paper, we take advantage of this type of survey data collected by the National Association of College and University Business Officers (NACUBO) and Commonfund Institute. Endowments report to NACUBO—Commonfund so that their boards and management will be able to compare their costs and return performance with that of their peers. The NACUBO—Commonfund Study of Endowments (NCSE) data includes a significant portion of the endowment population. Our analysis of the NCSE data confirms that endowments are significant users of active management and that usage increases with size. Over 75% of endowments in the survey reported that 50% or more of their U.S. equity allocation was actively managed.

FIGURE I

NCSE Respondents Utilizing Active Management (2006-2013)

Source: NACUBO-Commonfund Study of Endowments (NCSE)



So, given their risk appetite and resources, we test empirically whether endowments that reportedly pursue active management report higher net returns.

The remainder of this paper is structured as follows. In the next section, we describe the role of the CIO in endowment management and their impact on returns. In section III, we describe our data set. In section IV, we describe our methodology and we analyze the contribution of active management to endowment returns. In section V, we conclude.

passive positions.

⁵ Returns lowly correlated to systemic factors.

Section II

Role of Endowment CIO and OCIO

The Chief Investment Officer (CIO) of an Endowment manages the endowment assets of an institution and their ability to fund future obligations while balancing expected returns and risks. Often working with oversight by an Investment Committee, the Chief Investment Officer's goal is to sustain spending from the endowment in support of the institution's academic programs for future generations.

The job requires significant investment expertise, a deep understanding of the investment skills required to manage the endowment compared to those present in the organization and those outsourced to third parties⁶, day to day management skill to lead the investment organization, the ability to nurture the skills of staff, the ability to prioritize often competing requirements of the institution, and the ability to stay up-to-date on regulatory developments. Within this larger mandate, a CIO is tasked with understanding current and future needs and goals of the organization, setting realistic return expectations given forecasts of future returns, and setting a risk tolerance that balances the organization's investment needs. The risk tolerance and return expectations are typically set out in the policy portfolio. The outflow and inflow expectations are typically set out in the capital raising expectations and spending policies. Together, these policies help the organization meet its obligations within the confines of its risk tolerance.

After determining the policy portfolio, executing the investment plan and deciding the degree of active or passive investment strategies to utilize is an endowment CIO's second most important strategic decision. To make this active versus passive decision, the CIO must have conviction as to the opportunity the market

Key CIO Responsibilities:

Develop investment guidelines and strategic objectives, including asset allocation policies, manager selection criteria, and risk management framework.

Determine the risk appetite; where to take risk; evaluating active and passive investment opportunities by asset class; selecting active managers.

Review and monitor portfolio risk characteristics and compliance with investment guidelines.

Monitor asset allocation and implement re-balancing actions in accordance with the investment policy and Investment Committee approval.

Manage the investment research and reporting process, including the production of comprehensive due diligence reports for existing and prospective investment managers.

Identify, evaluate and recommend new investment opportunities through proactive outreach, creative thinking, and careful consideration of capital market trends and conditions.

Monitor, analyze, and present the ongoing performance of all investment managers and related capital market segments

Prepare the annual investment/endowment operating budget and update investment income projections as appropriate.

Maintain an excellent reputation for the University throughout the finance and investment community.

Proactively communicate the investment objectives and progress with internal and external constituent groups.

⁶ Hiring a CIO or an investment team can represent a significant financial commitment for an institution, especially for an endowment with a small to mid-size asset pool. Additionally, smaller organizations may be able to hire only one professional who, however knowledgeable, may lack the time or expertise to do every task related to the job well. Rather than relying on a small CIO office or an investment committee, CIO outsourcing provides immediate, turnkey access to asset allocation expertise to assist in policy portfolio design, extensive manager research and selection expertise, and ongoing monitoring of the investment portfolio. Outsourced CIOs can take responsibility for navigating the array of available investment options including active, passive and tactical investment strategies, products that use derivatives and leverage, and those with lockups and alternate fee structures.

provides at a given point in time for active management to produce returns in excess of fees and costs. The CIO must have an economic outlook, performance analysis data of how active managers have done in different economic environments, and the ability to complete the due diligence and to invest with the most desired active managers in short order. In almost all economic endeavors, the quality of management is generally a key component of a successful operation but the extent to which a quality fund manager can exceed an index or his or her peers depends on the efficiency of the market. Consequently, a CIOs' convictions about active versus passive management may vary by asset class and over time. Furthermore, they may vary by manager within an asset class depending on the CIO's assessment of the manager's skill.

So, given their responsibilities, skills, and resources, do CIOs make better decisions and realize higher returns with respect to active management? We also test empirically whether endowments that retain a CIO or OCIOs report higher net returns from active management.

Section III

Description of Data and Methodology Used

We evaluate the NACUBO—Commonfund Study of Endowments (NCSE) Dataset 2006 – 2013. The annual NCSE analyzes return data net of fees and a wide range of related information gathered from a broad cross section of U.S. colleges and universities, both public and private, as well as their supporting endowments. The size and scope of the study make it the most comprehensive annual report on the investment management and governance practices and policies of U.S. institutions of higher education. Eight hundred thirty-five institutions participated in the 2013 NCSE of which 533 were private and 302 were public. The participating institutions in the 2013 survey represent \$448.6 billion in total endowment assets. Ninety-four percent of the 2013 year's participating institutions also participated in the prior year's study.

Limitations of the data

The results are self-reported. It is not possible to verify the accuracy of each individual's response. Persistence of respondents across time is strong but not 100 percent. Sufficient time series data on the degree of active management utilized in U.S. Equities is directly observable from the data. Data on the degree of active management in other asset classes is being accumulated but is not yet of sufficient duration to be meaningfully analyzed.

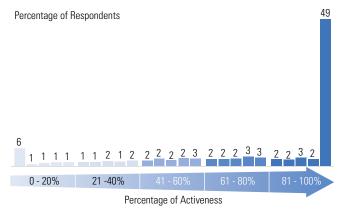
Methodology

Starting from fiscal year 2006, the NCSE includes questions on actively and passively managed allocations for domestic equity investments of the endowment. Additionally, the survey asks questions on overall return of the endowment for domestic equity investments along with other asset classes. This data allows us to analyze returns of the endowment relative to its activeness within the domestic equity asset class.

We grouped respondents into 25 activeness buckets based on their relative allocation of active investments in the domestic equity market. Specifically, we define activeness of the endowment as a percentage ratio of the active portion of domestic equity allocation to the total domestic equity allocation. Activeness buckets were distributed as follows: 0-4%, 4-8%, 8-12% . . . 92-96%, 96-100%. For example endowments in 4-8% activeness bucket have 4-8% of their domestic equity allocation to actively managed funds and 92-96% in passive index equity funds. Figure II below shows the distribution of NCSE respondents' reported use of active management within their domestic equity allocations. 50% of respondents report for example that 100% of their U.S. equity allocation is actively managed. This is by far the dominant mode of U.S. Equity management among endowments.

FIGURE II

Distribution of NCSE Respondents Utilizing Active Management 2006-2013



Source: NACUBO-Commonfund Study of Endowments (NCSE)

Section IV

Hypothesis Test Findings

In this section we discuss our main results with respect to the relationship between active management, the CIO, endowment size and performance.

Hypothesis A:

Over time active management results in higher returns for endowments.

Test: We averaged annual endowment returns over the entire reporting period of 8 years within each activeness bucket. We then calculated a simple linear regression and found the following relationship between average returns and activeness:

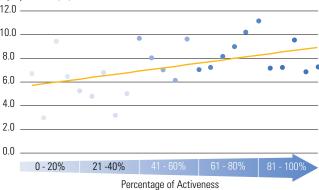
$$Return = 5.25 + 2.13 \times Activeness$$

We find that there is a statistically significant positive correlation between activeness of the endowments and performance.

Fiscal Year 2006 - 2013	
Alpha	5.24
Beta	2.13
t Value	2.20
One-sided Confidence	95.0%
Adjusted R^2	13.8%

FIGURE III





Source: NACUBO-Commonfund Study of Endowments (NCSE)

Data shows that hypothesis ßactive>0 is accepted at 95 percent confidence level. This result confirms that on average, endowments with larger allocation to actively managed equity funds outperform passive ones over the reported period of July 1, 2006 – June 30, 2013.

It should be noted that despite a positive correlation between activeness and overall performance there is a significant variability in the endowment returns which means there are other factors in addition to activeness that could potentially influence performance of the endowment. Regression shows that activeness factor is accounting for about 14% of the variability in explaining endowment returns.

Hypothesis B:

Endowments with in house CIOs are better able to earn incremental positive returns from active management than those without. Is the existence of a CIO correlated with the ability to earn higher returns from active management? Is it a signal as to the institutional ability of an endowment to identify and invest with high performing active managers?

Test: We found that among endowments pursuing an active U.S. equity investment strategy, those with a dedicated CIO earned on average a return of 7.4% while those without a CIO earned 4.1% annually over the observation period. Significance tests for correlation between average returns and presence of a dedicated CIO for the endowment shows that correlation, while being low, is positive and statistically significant at a 97.5% confidence level.

Correlation	5.7%
Beta	2.1
F-Stat	8.0
Confidence	97.5%

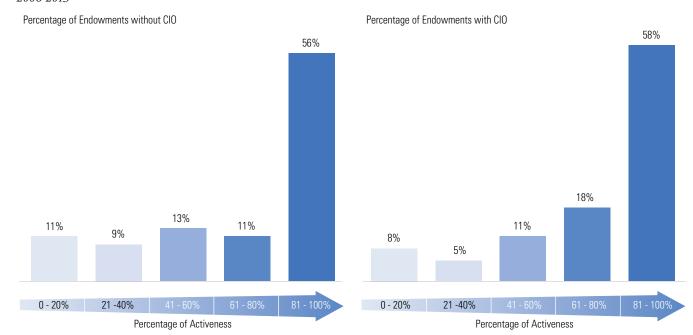
A similar analysis but for individual years for which data is available is shown in the tables below. Statistical tests on correlation show that the presence of a CIO is correlated with excess returns in 2010 and 2011. In both years, the average endowment with a CIO outperformed S&P 500 index by 3% and 1% respectively.

				Ave	rage Re	turn
Year	Correlation	F-Stat	Hypothesis	S&P 500	No CIO	CIO
2009	-3%	0.5	N/S*	-26%	-25%	-26%
2010	8%	3.2	90%	14%	16%	17%
2011	15%	11.2	99%	31%	30%	32%
2012	2%	0.1	N/S*	5%	2%	2%
2013	5%	0.9	N/S*	18%	21%	21%

^{*} Not significant

FIGURE IV

Distribution of NCSE Respondents with and without CIOs/OCIOs and Degree of Activeness in U.S. Equities 2006-2013



Source: NACUBO-Commonfund Study of Endowments (NCSE)

Hypothesis C:

Larger endowments are better able to earn incremental positive returns from active management than smaller endowments.

Next, we analyzed data by the size of the endowment; we divided endowments into 3 size buckets:

- 1. Under \$100 million
- 2. \$100 million to \$500 million
- 3. Over \$500 million.

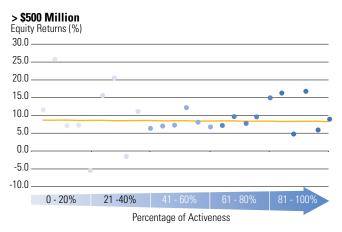
We see that endowments in the \$100-500 million bucket show a statistically significant positive correlation to activeness for U.S. equity.

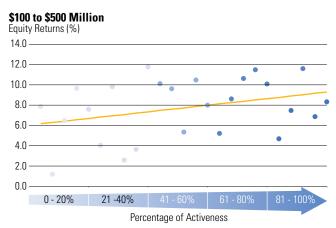
Size of Institution	>\$500 mm	\$100 - \$500 mm	< \$100 mm
Alpha	9.93	6.10	3.29
Beta	-0.53	3.18	3.10
t Value	-0.12	1.61	0.86
One-sided Confidence	N/S*	90%	N/S*
Adjusted R^2	-4%	6%	-1%

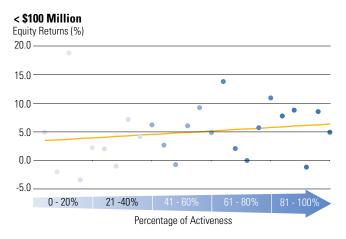
^{*}Not significant

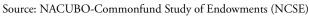
FIGURE V

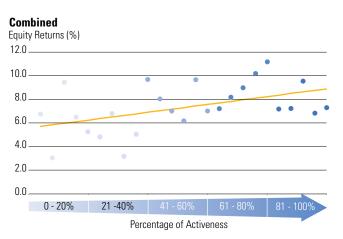
NCSE Respondents: U.S. Equity Returns from Active Management 2006-2013











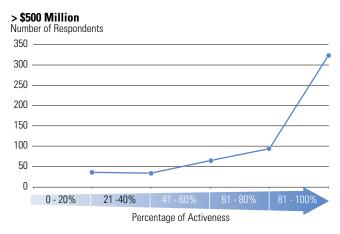
Data shows that hypothesis is accepted at 95% confidence level for endowments with \$100-500 million assets under management, confirming that on average larger allocations to actively managed equity funds outperformed passive ones over the calendar period of 1/7/2005 - 6/30/2013.

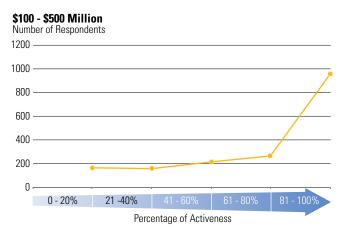
Smaller (less than \$100 million) and larger (greater than \$500 million) endowments also show positive dependency on actives but not enough to be statistically significant. This is partly due to sample size and data distribution for various size groups. As shown on Figure VI, blue line, endowments in \$100 – 500 mm group are relatively evenly distribution across activeness buckets

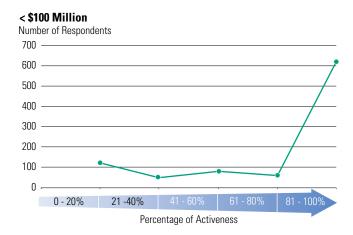
and have large sample size of 1,507 data points. While for larger and smaller endowment distribution is more irregular and sample sizes are smaller. Note that larger endowments represented by the green line on Figure VI, are heavily skewed towards active investing. Smaller endowments on the other hand are heavily weighted toward both ends of the activeness spectrum as shown by the blue line on Figure VI.

FIGURE VI

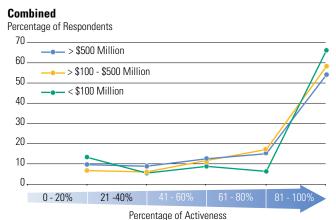
NCSE Respondents | Activeness by Size Group 2006-2013







Source: NACUBO-Commonfund Study of Endowments (NCSE)



Hypothesis D:

Active management enhances endowment returns by generating greater returns in up markets and smaller losses in down markets.

Next we evaluated whether there are any patterns in activeness and performance relative to market returns in different time periods. We analyzed data averaged across all the endowments during fiscal years 2006 to 2013. Results show that active management during 2008 and 2009 added a statistically significant value. Especially for 2009, significance is very high at a 99 percent confidence level. Based on these results, we conclude that active management added value in this down-market, and acted as downside hedge.

Fiscal Year	Factor Beta	t value	One Sided Confidence	Adjusted R^2	S&P Return
2006	0.09	0.11	N/S*	-5%	9%
2007	0.77	1.75	95%	9%	21%
2008	3.21	3.29	99%	30%	-13%
2009	1.49	1.59	90%	6%	-26%
2010	-0.26	-0.30	N/S*	-4%	14%
2011	-1.51	-1.37	90%	3%	31%
2012	-1.78	-2.62	99%	20%	5%
2013	-0.04	-0.06	N/S*	-4%	18%

^{*}Not significant

Results show that the relative contribution of active management can be either positive or negative during up markets. For example, endowments employing active management did better in 2007 but did worse in 2011 and 2012. In 2012, during a year of sideways markets for the domestic equity, we see statistically strong indication at a 99 percent confidence level that performance of active management was suboptimal.

Overall, our results suggest that during individual years, active management in U.S. equity may or may not add value but that over longer periods of time, active management does add value and outperforms passive index investing. Outperformance in active investing is a long term effect and takes time to materialize.

Section V

Conclusions

We have conducted a longitudinal analysis of the NACUBO-Commonfund Study of Endowments (NCSE) results from 2006-2013 to evaluate if active management is related to higher endowment returns in U.S. equities over time. We have also analyzed the data to evaluate whether endowment size and the presence or a CIO or OCIO are correlated to the returns of active management in U.S. Equities.

We find that active management for endowments is significantly positively related to higher returns net of fees from U.S. equity allocations over the evaluation period. In addition, endowments with CIOs or OCIOs are better able to earn incremental positive returns from active management than those without. Larger endowments are better able to earn incremental positive returns from active management than the smallest endowments but the effect appears to diminish as endowments increase in size.

Over time, active investing can result in excess returns, but it requires skill to identify truly active managers that beat the market versus closet indexers. It is easy to make a mistake in differentiating a truly active manager from closet indexers, and sophisticated performance analysis of managers' returns is essential if one is to capture the benefits of active management. Survey data indicates that there is a correlation between outperformance and use of a CIO.

To capitalize on the benefits of active management, smaller endowments need to have access to the services of a skilled evaluator in order to discern true active managers from closet indexers. For smaller endowments, the overhead costs of such an in house CIO office outweigh the benefit. However, benefits of such services can be partially or fully obtained via the use of OCIO and consulting services.

Bibliography

Del Guercio and Tkac, 2000. "The determinants of the flow of funds of managed portfolios: mutual funds versus pension funds," Working Paper 2000-21, Federal Reserve Bank of Atlanta

April 2014

Dyck and Pomorski, 2011, "Is Bigger Better? Size and Performance in Pension Plan Management" (June 1, 2011). Rotman School of Management Working Paper No. 1690724.

Huang, Sialm, and Zhang, (2010), "Risk Shifting and Mutual Fund Performance" (November 22, 2010). McCombs Research Paper Series No. FIN-04-08.

Kosowski, (2006) "Do Mutual Funds Perform When it Matters Most to Investors? U.S. Mutual Fund Performance and Risk in Recessions and Expansions" (August 1, 2006)

Sharpe, (1966) "Mutual Fund Performance", Journal of Business, Vol. 39, No. 1, pp. 119–138.

Sharpe, (1991) "Capital Asset Prices with and without Negative Holdings," Journal of Finance, June 1991, pp. 489-509.

Jensen, (1968) "The Performance of Mutual Funds in the Period 1945-1964", Journal of Finance, vol. 23, no. 2, 389-416.

Cremers, and Petajisto, (2009) "How Active is Your Fund Manager? A New Measure That Predicts Performance" (March 31, 2009). AFA 2007 Chicago Meetings Paper; EFA 2007 Ljubljana Meetings Paper; Yale ICF Working Paper No. 06-14.

French, (2008), "The Cost of Active Investing" (April 9, 2008).

Wei, Wermers, and Yao, "Uncommon Value: The Investment Performance of Contrarian Funds" (November 2009)

Wermers, (2000), "Mutual Fund Performance: An Empirical Decomposition into Stock-Picking Talent, Style, Transactions Costs, and Expenses", Journal of Finance, vol. 55, no. 4, 1655-1695.

Wermers, and Jones, (2011) "Active Management in Mostly Efficient Markets" (November 22, 2011). Financial Analysts Journal, Vol. 67, No. 6, 2011.

Market Commentary

Information, opinions, or commentary concerning the financial markets, economic conditions, or other topical subject matter are prepared, written, or created prior to posting on this Report and do not reflect current, up-to-date, market or economic conditions. Commonfund disclaims any responsibility to update such information, opinions, or commentary.

To the extent views presented forecast market activity, they may be based on many factors in addition to those explicitly stated in this Report. Forecasts of experts inevitably differ. Views attributed to third parties are presented to demonstrate the existence of points of view, not as a basis for recommendations or as investment advice. Managers who may or may not subscribe to the views expressed in this Report make investment decisions for funds maintained by Commonfund or its affiliates. The views presented in this Report may not be relied upon as an indication of trading intent on behalf of any Commonfund fund, or of any Commonfund managers.

Market and investment views of third parties presented in this Report do not necessarily reflect the views of Commonfund and Commonfund disclaims any responsibility to present its views on the subjects covered in statements by third parties.

Statements concerning Commonfund Group's views of possible future outcomes in any investment asset class or market, or of possible future economic developments, are not intended, and should not be construed, as forecasts or predictions of the future investment performance of any Commonfund Group fund. Such statements are also not intended as recommendations by any Commonfund Group entity or employee to the recipient of the presentation. It is Commonfund Group's policy that investment recommendations to investors must be based on the investment objectives and risk tolerances of each individual investor. All market outlook and similar statements are based upon information reasonably available as of the date of this presentation (unless an earlier date is stated with regard to particular information), and reasonably believed to be accurate by Commonfund Group. Commonfund Group disclaims any responsibility to provide the recipient of this presentation with updated or corrected information.

