The Effects of Higher Education Endowment Management Practices on Endowment Performance

Robert Louie Stanton McElhaney

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THE EFFECTS OF HIGHER EDUCATION ENDOWMENT
MANAGEMENT PRACTICES ON ENDOWMENT PERFORMANCE

by

Robert Louie Stanton McElhaney

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

December 2010
ABSTRACT

THE EFFECTS OF HIGHER EDUCATION ENDOWMENT MANAGEMENT PRACTICES ON ENDOWMENT PERFORMANCE

by Robert Louie Stanton McElhaney

December 2010

The purpose of this study was to identify college and university endowments valued from $100 million to $1 billion and to determine the relationship between the five-year investment performance and selected endowment management practices. Data on the five-year investment performance and endowment management practices were obtained by the use of a survey instrument. The survey instrument was sent to 293 colleges and universities. Usable responses were received from 56 institutions. The 56 participants provided data on endowment performance, endowment governance, investment policies, investment managers, and investment manager selection practices.

To determine the endowment management practices that would best explain the relationship between endowment performance and the endowment management practices of the 56 participating institutions, a stepwise regression equation was developed. The final regression model determined that two of the 18 endowment management practices provided the best explanation of the relationship. These two variables explained 20.6% of the variability of investment performance. The variable, importance placed on investment performance in selecting external investment managers, explained 11.4% of the variance; the variable, number of external investment managers per $100 million of assets, explained 9.2%.
Therefore, the study concluded that the five-year investment performance of the 56 participating institutions’ endowments decreased as the importance placed on investment performance in selecting investment managers and the number of investment managers hired increased.
The University of Southern Mississippi

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December 2010
ACKNOWLEDGMENTS

The writer would like to thank the dissertation director, Dr. Mary Nell McNeese, and the other committee members, Dr. Debra Gentry, Dr. Richard Mohn, and Dr. Amy Townsend, for their advice and support throughout the duration of this project. I would especially like to thank Dr. Mary Nell McNeese for her valuable time and direction as my dissertation chair and for her constant encouragement along the way.

Special thanks go to Dr. Charles Bruce at the University of Auburn for the use of his survey instrument. Appreciation must also be expressed to the college and university administrators of the 56 institutions that participated in this study and contributed invaluable information, without which this dissertation would not have been possible.
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CHAPTER I

PROBLEM

Introduction

The two primary sources of income for public higher education in the United States are state appropriations and tuition. According to the 2008 Digest of Educational Statistics, published by the National Center for Educational Statistics (NCES) in 2009, public degree-granting institutions received 23.85% of their total revenues from state appropriations and 16.97% from tuition and fees during fiscal year 2006. During the same year, private degree-granting institutions received most, or 28.98% of their revenues from tuition (NCES, 2009).

That said, colleges and universities are being forced to rely less on state appropriations and tuition to cover the cost of providing higher education. According to the NCES (2009), state appropriations have declined significantly as a percentage of total revenues for public colleges and universities over the past 25 years, from 44% in 1981 to 23.85% in 2006. This trend is likely to continue as states are faced with funding Medicaid, K-12 education, and other competing programs. According to a recent article in the Chronicle of Higher Education, states budgetary shortfalls for this and subsequent years will amount to as much as $350 billion due to the recent recession, causing states to look for ways to cut funding of higher education (Kelderman, 2009). An analysis of state revenues and expenditures conducted by the National Center for Higher Education Management Systems concluded that “all states will face budget deficits by 2013” due to a combination of slow growth in tax revenues, decline in federal aid and increased demand for social programs, such as Medicaid (Walters, 2006, p. 21). As a result, higher
education governing boards are cutting their budgets. A recent survey of 90 higher education governing boards in 46 states, conducted by the Association of Governing Boards of Universities and Colleges, found that 80% of the 90 governing boards are dealing with budget cuts in the current year (Fain, 2009).

State budget cuts to higher education are not the only reason for the decline in state support as a percentage of institutional budgets, as the rising cost institutions incur in providing higher education has out-paced inflation. The Higher Education Price Index (HEPI), the measure of inflation for higher education, rose from 189.1 to 279.3 over the ten-year period from 1999 to 2009, a 47.7% increase compared to a 30.5% increase in the consumer price index over the same ten-year period (Commonfund, 2009).

The decline in state appropriations for public institutions and the corresponding increase in higher education costs for all institutions, has forced colleges and universities to increase tuition and fees in an effort to offset this shortfall. According to the U.S. College Board (2009), over the ten year period from 2000 to 2010, tuition rates rose at an average rate of 4.9% per year above inflation as measured by the consumer price index at public four-year institutions, 2.6% per year at private four-year institutions and 1.8% per year at public two-year institutions. While tuition increases have outpaced inflation, they have not been enough to make up for the shortfall in state support and keep pace with the rising cost of higher education. For instance, state appropriations provided public institutions with 32.5% of their revenues in 1996 but only 23.85% in 2006 (NCES, 2009). During the same ten year period tuition and fees as a percentage of total revenues dropped from 18.8% to 16.97% (NCES, 2009). To compound the problem, these tuition increases not only have not kept up with the cost of higher education, they appear to be
having a negative impact on the ability of some lower income families to afford college. Using data from National Postsecondary Student Aid Studies in 1996 and 2004, Wellman, Desrochers, and Lenihan (2008) found that enrollment of students from families earning less than $20,000 fell from 14.5% to 12.8% between 1996 and 2004 while students from families earning less than $80,000 fell from 66.8% to 49.1% during the same period. Although these student generally receive grant-aid to help pay for tuition, it appears based on data published by the U.S. College Board (2008) that grant-aid from all sources are not keeping pace with the rise in tuition prices. According to the U.S. College Board (2008), net-tuition and fees, which is the gross tuition minus any grant-aid and federal tax-benefits received by students, increased from $2,210 in 1999 to $2,850 in 2009 for full-time students in public four-year institutions and from $12,230 to $14,930 for those in private four-year institutions. Only students at public four-year institutions paid less in net-tuition and fees in 2006 than they did ten years previous, as net tuition for these students fell from $180 to $100 between 1999 and 2009 (U.S. College Board, 2008).

This rise in higher education tuition rates and the effect it has on college affordability is placing political and social pressure on institutions to keep tuition affordable to students. A recent article reports that the priority of several state legislatures is to make college affordable, and even the President of the United States has urged states and institutions to “rein in tuition” (Kelderman, 2009, p. 19). However, without sufficient pricing of tuition, institutions are finding it difficult to sustain operations without cutting costs. If no other sources of revenue are available, freezes in tuition could force colleges and universities to make spending cuts in “faculty positions,
academic programs and student services” (Kelderman, p. 19).

With the reduction in state support, the escalating cost of providing a higher education and pressures to keep tuition affordable, institutions are being forced to rely more on alternative sources of income. One such source is endowment income. According to the NCES (2009) income from institutional investments such as endowments already serve as the second largest source of income for private not-for-profit institutions, accounting for 23.33% of total revenues in 2006 (NCES, 2009). Public colleges and universities, on the other hand, rely less on endowment income. According to the NCES (2009), investment income including income from endowments accounted for only 3.9% of total current fund revenues for all public degree-granting institutions in 2006. Although public institutions rely less on endowment income to operate, endowments can provide a margin of support that could maintain scholarships, professorships and academic programs (Bruce, 1999).

An endowment is a collection of gifts held in perpetuity and invested to generate income and appreciation for the benefit of the institution. The Financial Accounting Standards Board (FASB) Statement of Accounting Standards No. 117, Financial Statements of Not-for-Profit Organizations, gives the following definition of an endowment fund:

An endowment fund is an established fund of cash, securities, or other assets to provide income for the maintenance of a not-for-profit organization. The use of the assets of the fund may be permanently restricted, temporarily restricted, or unrestricted. Endowment funds generally are established by donor-restricted gifts and bequests to provide a permanent endowment, which is to provide a permanent
source of income, or a term endowment, which is to provide income for a specified period. The portion of a permanent endowment that must be maintained permanently—not used up, expended, or otherwise exhausted—and is classified as permanently restricted net assets. The portion of a term endowment must be maintained for a specified term and is classified as temporarily restricted net assets. An organization’s governing board may earmark a portion of its unrestricted net assets as a board-designated endowment (sometimes called funds functioning as endowment or quasi-endowment funds) to be invested to provide income for a long but unspecified period. A board-designated endowment, which results from an internal designation, is not donor restricted and is classified as unrestricted net assets. (FASB, 2008, p. 48)

FASB mentions three types of endowments in its definition of an endowment fund: True-endowment, term-endowment and quasi-endowment. The most common type held by colleges and universities is true-endowment. A true-endowment is the result of a private gift made by a donor with instructions from the donor that the original gift is to remain intact and that earnings derived from investing the gift can be used for a stated purpose. A donor may also instruct that the endowment exist for a certain period of time, or until a future event occurs, such as the death of the donor. This is called a term-endowment. Finally, the governing board may choose to place a portion of its unrestricted assets into a fund that functions like an endowment with the ability to use part or all of the principle at any time. This is called a quasi-endowment. In any event, each year an institution spends a percentage of its endowment to support the institution, which is considered operating income to the institution. Any excess income and
appreciation generated by the endowment in excess of what is spent accumulates in the endowment, resulting in higher endowment values and greater levels of institutional support over time.

Endowments can play a critical role in the viability of an institution and its academic programs. According to Swensen (2009) endowments provide institutions with greater independence, financial stability, and quality education.

*Greater Independence*

Government-funding burdens institutions with the costs of compliance with governmental regulations, and reliance on tuition pressures schools to attract a sufficient number of students to maintain operations (Swensen, 2009). Institutions with larger endowments provide institutions with an internal source of income, which provides more independence from these external pressures.

*Financial Stability*

Government funding and student tuition are also non-permanent sources of income. As stated earlier, state funding of higher education has declined significantly over the past three decades. Schools with larger endowments are more financially stable and better positioned to survive this erosion in government support. Endowments provide financial stability by serving as a safety net for unexpected budgetary shortfalls and strengthening an institution’s capacity to borrow to finance these shortfalls. Swensen (2009) gives a good example of this in his account of Stanford University, which faced a combined operating deficit totaling $125 million over a three year period from 1992 to 1994, as a result of having to pay for over-billing the federal government for sponsored research. According to Swensen, Stanford was able to finance this shortfall by a
combination of borrowing, budget reductions, and increasing its endowment spending rate by 2% in 1993 and 1994. This increased endowment spending alone provided a projected $58 million in additional funds to sustain operations. This allowed Stanford to return to a budget surplus in 1995 and to its previous endowment spending rate (Swensen). Stanford’s capacity to borrow from external sources was also likely helped by its sizeable endowment. According to Massey (as cited in Bruce, 1999), endowments enhance an institution’s ability to borrow by strengthening its long-term assets, which in-turn improves an institution’s bond rating and decreases its cost of borrowing.

Quality of Education

In addition to greater independence and financial stability, incremental endowment income can also enhance an institution’s educational environment. According to Swensen (2009), “endowment size correlates strongly with institutional quality” (p. 17), citing the study of major private research universities conducted by the Yale Investment Office which found that institutions similar in many respects, but with larger endowments, scored higher in the U.S. News and World Report rankings of educational institutions.

Governing boards of colleges and universities are ultimately responsible for the management of these endowments and have a fiduciary duty to employ prudent management practices that result in long-term growth of the endowment and thus greater support for the institution. Prudent management of endowments requires adherence to legal principles and state laws that have jurisdiction over the institution. The primary legal principle guiding governing boards in managing endowments is the Uniform Management of Institutional Funds Act (UMIFA). The UMIFA is a set of uniform and
fundamental rules for the prudent investment and expenditure of endowment funds held by charitable institutions. The UMIFA was approved by the National Conference of Commissioners on Uniform State Laws (NCCUSL) in 1972 and recommended for enactment by the legislatures of the various states. According to the UMIFA web site, the UMIFA has been enacted into law by 47 states. Governing boards should manage their endowments within the guidance of the UMIFA and sound investment management practices.

This study identified endowment management practices employed by institutions of higher learning and determined from their endowment’s five-year rate of return, which management practices contributed to higher endowment performance.

Statement of the Problem

With the decline in government support of higher education and the pressure to keep tuition affordable for students, colleges and universities will have to rely more on alternative sources of revenue, such as endowment income. As endowment income becomes a more important source of revenue for colleges and universities, so will the management of endowments. Every year since 1971, the National Association of College and University Business Officers (NACUBO) has conducted a voluntary survey of colleges and universities across the country, asking them to provide information on their endowment performance, management practices, and investment decisions. The results of recent NACUBO endowment surveys indicate some institutions are more effective at managing their endowments than others based on the disparity between endowment investment returns among institutions of similar size. For instance, the 2006 NACUBO Endowment Study (2007) found that the 143 institutions with endowments valued greater
than $50 million to less than or equal to $100 million reported investment returns ranging from 2.9% to 16.5% during fiscal year 2006. The NACUBO Endowment Study results also show this to be the case over time. The 1996 NACUBO Endowment Study (2007) found that 90 colleges and universities with endowments valued greater than $100 million to and less than or equal to $400 million reported annualized rates of return ranging from 4.6% to 17.0% over a ten year period.

Although the NACUBO studies make no inferences as to the reasons for this variation, other research has shown that various management practices contribute to the improvement of endowment performance. According to studies conducted by Brinson, Hood, and Beebower (1986) and Brinson, Singer, and Beebower (1991), more than 90.0% of investment performance can be attributed to asset allocation. Asset allocation refers to the percentage of the endowment portfolio invested in various asset classes such as stocks, bonds and cash. According to Kochard and Rittereiser (2008), determining an institution’s asset allocation “remains one of the most important decisions a foundation or endowment chief investment officer and investment committee makes” (p. 26).

As important as the asset allocation decision is for an institution, so is the institution’s management structure. According to Williamson (1993) endowment management structures vary from one institution to another and the success or failure of endowments is the result of these structures. Kochard and Rittereiser (2008) suggest factors that contribute to the investment success of endowments include “strong governance, well-vetted investment philosophies and structured processes” (p. 40). Another factor that may influence institutional endowment performance is the pure size of the endowment. NACUBO Endowment Studies have found over the years that large
endowments consistently outperform smaller ones (Kochard & Rittereiser). Institutions may implement the most effective combination management practices but lack the depth of resources necessary to achieve even higher returns. This study focused on these management practices as the purpose of this study was to identify endowment management practices of colleges and universities by analyzing their five-year rate of return to determine which management practices influence endowment performance.

Research Question

This study investigated the relationship among selected higher education endowment management practices and endowment performance, where endowment performance was measured by the endowment’s five-year rate of return. The research question was as follows: What is the influence of selected higher education endowment management practices on the 10-year rate of return of colleges and university endowments ranging in size from $100 million to $1 billion? This research question was analyzed based on the following variables: (a) use of an investment committee; (b) number of committee members; (c) frequency of committee meetings; (d) selection of committee members; (e) use of written investment policy; (f) components of investment policy; (g) use of external investment managers; (h) ratio of external investment managers per $100 million; (i) number of years with external investment managers; (j) use of an investment consultant; (k) employment of a chief investment officer; (l) consideration of personal qualities, background, investment philosophy, investment performance, and management fees in selecting external investment managers; (m) endowment size; and (n) type of institution (public or private).
Definition of Terms

Various terms relevant to this study are defined as follows:

1. *Appreciation* is the increase in the market value of a gift since the date the gift was made.

2. *Asset allocation* is the distribution of endowment assets among various asset classes, including but not limited to equities, fixed income, real estate, cash, hedge funds, private equity, venture capital, and natural resources (NACUBO, 2009).

3. *Chief Investment Officer* (CIO) is the person responsible for managing, planning, directing, and controlling investment-related activities of an institution’s investment pool. The CIO has the fiduciary responsibility to implement appropriate investment strategies and carefully monitor and chose which asset type are most appropriate over time. Typically, the CIO is responsible for selecting investment managers and monitoring their performance (NACUBO, 2009).

4. *Consultant* is an individual or organization retained to advise on investment matters, such as asset allocation, manager selection and performance evaluation (Bruce, 1999).

5. *Endowment income* is the sum of stock dividends, bond interest, cash equivalent interest, rents, royalties, and other net cash flows earned by assets held in the endowment over a specified period, but does not include appreciation (Bruce, 1999).

6. *Equities* are investment securities that represent ownership positions in
7. *Fixed income* investments pay a fixed interest rate. Bonds with promises to repay principal as well as the interest are the most popular type of fixed income investments. Examples of fixed income investments include U.S. Treasury bonds, corporate bonds, municipal bonds and mortgage backed securities.

8. *Hedge fund* is a pool of securities typically managed using an absolute return strategy with the objective of obtaining a predicted level of return regardless of market movement (NACUBO, 2009). Hedge funds are allowed to use aggressive strategies including selling short, leverage, program trading, swaps, arbitrage and derivatives. Since most are restricted by law to less than 100 investors, the minimum investment is typically $1 million (Commonfund Glossary of Terms, 2009).

9. *Investment committee* is an oversight committee appointed by the board to oversee the management of the institution’s endowment and other investments.

10. *Natural resources* are the combined assets of commodities, oil and gas partnerships, and timber (NACUBO, 2009).

11. *Private equity* refers to investments in private companies (Commonfund Glossary of Terms, 2009).

12. *Real estate* investments includes publicly invested real estate such as real estate investment trusts structured similarly to mutual funds, whereby shares are issued to individual investors, and privately invested real estate including a
private polling of funds with real estate holdings. They may be entirely constructed of real estate or combined with other investment vehicles. They may include campus-owned properties and/or non-campus properties (NACUBO, 2009).

13. Total return is the change in the endowments market value over a specified period of time. The percentage of increase or decrease represents the endowment’s total return (Haight, Morrell & Ross, 2007). Total return is comprised of both endowment income and appreciation.

14. Venture capital investments are investments in high-risk enterprises that are not large or mature enough for their shares to be publicly traded (Commonfund Glossary of Terms, 2009).

Delimitations

1. Institutions selected for this study were limited to the 293 institutions that responded to the 2008 NACUBO Endowment Study (2009) with endowments greater than $100 million to less than or equal to $1 billion as of June 30, 2008.

2. The 64 institutions in the > $500 million to ≤ $1 billion size group were selected over other size groups because, according to NACUBO (2009), a larger percentage (44%) of these institutions employed a CIO, one of the management attributes examined in the study.

3. The management practices examined were limited to those identified as significant by previous endowment management studies and those found to be significant by current endowment investment professionals.
4. Endowment growth occurs as a result of gifts received, investment performance, or reducing the spending rate. This study was limited to endowment investment performance.

Assumptions

The individuals responsible for responding to the survey for the institutions were honest, knowledgeable and motivated to answer the survey with complete and accurate responses. These individuals were also motivated to respond within the time requested.

Justification

The purpose of this study was to provide administrators and trustees of colleges and universities a better understanding of endowment management practices used at other institutions and identify best management practices for enhancing endowment performance. Insight into management practices that enhance endowment performance would be meaningful to colleges and universities as an opportunity to increase financial resources to better support the institution. Investment management practices continue to evolve to keep pace with the increasing complexity of the investment process including establishing asset allocations, understanding investment markets and securities, and selecting investment managers. The goal of this study was to reveal new and effective methods of endowment management as well as confirm the use of existing effective methods.
CHAPTER II
LITERATURE REVIEW

The Role of Endowments

Endowments play a critical role in higher education by providing a permanent and reliable source of income for colleges and universities to support the operating needs of the institution. This support provides funds for functional areas within higher education including scholarships, instruction, academic support, public service and research. With additional funding institutions are able to achieve greater independence, financial stability, educational quality and access to higher education.

Before discussing the different ways in which endowment income is used to fund higher education and the benefits derived from that support, it is important to understand how endowments are established and how they operate to generate this income. Endowments are established with either current gifts that are immediately invested to support the institution or deferred gifts that benefit the institution upon the death of the donor. Current gifts can be in the form of cash, stock, bonds, real-estate or tangible personal property such as art, jewelry and other collectibles. Endowments can also be created in the future through deferred gifts such as bequests, trusts, life-insurance and retirement assets such as individual retirement or 401(k) accounts. These endowment gifts are either restricted for a specific purpose or unrestricted for the institution’s governing board to determine their use. According to the 2008 NACUBO Endowment Study (2009), 78.4% of endowments held by public colleges and universities were restricted for specific purposes while 54.6% of endowments held by private institutions were restricted. Endowments are also classified into one of the following three types
according to when they can be used:

1. **True endowments** are established by gifts made by donors with a written agreement that the principal (original gift) is to be held permanently and only the investment return on the principal can be spent (Bruce, 1999). True endowments are often referred to as permanent endowments.

2. **Quasi-endowments** are unrestricted assets that the governing board decides to transfer into an endowment. Governing boards will often transfer surplus funds or non-endowed gifts (Bruce, 1999). Because the board can elect to remove part or the entire principal of the quasi-endowment, it cannot be classified as a true endowment.

3. **Term-endowments** are endowments created for a specified period of time, or until a future event occurs, such as the death of the donor. For example a donor may restrict an endowment to be used to support a particular academic program for five years. After the 5-year term, the board may use the principal or convert it to a quasi-endowment. During the five-year term, the endowment is treated as a true-endowment.

According to the 2008 NACUBO Endowment Study (2009), on average 55.5% of endowments assets were classified as true endowments, 32.6% quasi-endowments, 6.6% term-endowments, and 5.3% were classified as funds held in trust by others. Funds held in trust by others are assets managed by external trustees. These funds are not owned or managed by the institution until the funds are disbursed to the institution by the trustee.

Regardless of their type, endowment gifts are generally deposited into the institution’s combined endowment investment pool and invested to generate income and
appreciation. Terms commonly used throughout the literature to describe endowment income and appreciation include income, return, earnings or performance. The primary source for data on college and university revenues, including endowment income, is the NCES. The NCES conducts annual surveys of all colleges, universities, and technical and vocational institutions who participate in federal student financial aid programs through the Integrated Postsecondary Education Data System (IPEDS). This data, along with data on all levels of education, is compiled and published annually in the Digest of Educational Statistics. The NCES Digest of Educational Statistics includes data on “investment income” and “investment returns” for public and private post-secondary institutions respectively. Both investment income and investment returns, as defined by the IPEDS Glossary are defined as revenues generated from institutional investments and include interest, dividends, capital appreciation, as well as rents and royalties.

Institutional investments include both endowment investments and other investments held by the institution. The IPEDS reporting methodology does not allow one to discern between income generated by endowments and that generated from other investments held by the institution. According to the 2008 Digest of Educational Statistics (NCES, 2009), investment return accounted for 23.3% of private institution revenues in 2006 while investment income accounted for 3.9% of public institution revenues.

Irrespective of the endowment’s investment return is the amount actually made available from endowments to support the institution. Each year the institution spends a percentage of the endowment’s fair market value to support the institution while the excess income and appreciation accumulates in the endowment resulting in higher endowment values and greater spending for the institution over time (Newman, 2005).
The percentage spent from the endowment is referred to as the institution’s spending rate or spending policy. The institution determines its spending policy by considering its current financial needs and the objective to maintain and grow the endowment for future needs. According to Kochard and Rittereiser (2008), the perpetual nature of endowments requires the institution to balance its short and long-term income needs and to spend from the endowment at a rate that preserves the value of the endowment into the future (Kochard & Rittereiser). A common formula used by institutions is 5% of the average value of the endowment over the previous three years (Kochard & Rittereiser). According to the 2008 NACUBO Endowment Study (2009), institutions spent on average of 4.1%, or $15.1 million of their endowment to support the institution during fiscal year 2008. This level of endowment spending provides some institutions with a significant portion of their operating revenues. For instance, Harvard University’s endowment, valued at $26 billion as of June 30, 2009, provided $1.4 billion or 38% of the university’s operating revenue in 2009 (Harvard University, 2009). In the same year Stanford University spent $956.5 million from their endowment on institutional operations, which accounted for 27% of their total revenues (Stanford University, 2009). However, you do not have to go far down the list of the largest endowments before the proportional amounts of institutional support declines significantly. For instance, the University of Chicago, which had the eleventh largest endowment among institutions of higher education in the country according to the 2008 NACUBO Endowment Study (2009) accounted for just 11.2% of total revenue in fiscal year 2009 (University of Chicago, 2010). Public institutions, regardless of their size, do not rely on endowment income to provide a significant portion of their operating revenues. The University of Michigan,
with the second largest endowment among public institutions according to the 2008 NACUBO Endowment Study (2009), provided $244 million, which accounted for 5% of their operating budget in 2009 (University of Michigan, 2009).

Although endowments do not provide most institutions with a significant amount of their revenues as a portion of operating budgets, these distributions from endowments do help fund a variety of functional expenditures of the institution. A recent inquiry conducted by the U.S. Senate Finance Committee into the role of university endowments found that institutions are spending their endowments on student financial aid, teaching, scholarships, research, and public service among other purposes (Broad, 2008). The Senate inquiry requested information from 136 institutions of higher education. Cornell University, one of the institutions surveyed by the Senate inquiry, reported that 31.6% of their $5.4 billion endowment was restricted for academic programs and 23.4% for student aid, which included grant aid, loans, work/study programs, graduate fellowships and tuition remission programs (Cornell University, 2008). The remainder of the endowment was restricted for support of professorships facilities, student services libraries, public service, institutional support and other general purposes (Cornell University).

By providing additional support to these functional areas within higher education, institutions are able to achieve greater independence, financial stability, educational quality and access to higher education. Following is a summary of the literature as it relates to the impact endowments have in these four areas.

*Greater Independence*

Regardless of the level at which an endowment supports a college or university, endowments provide institutions with greater independence from conditions imposed by
external funding sources such as governments, students and alumni. According to Swensen (2009), endowments provide institutions with a permanent and internal source of income which creates a greater level of autonomy from conditions imposed on external sources of funds such as government appropriations, student tuition and alumni donations. Accepting government funding can subject institutions to additional requirements and regulations that result in higher costs to the institutions. Swensen discusses the administrative cost burden placed on private institutions of higher education as a result of accepting federal research dollars in the 1960s and 1970s. By accepting federal aid, colleges and universities were faced with the burden of complying with federal regulations in areas such as admissions policies, personnel administration and in some cases curricula, areas that had nothing to do with the activity being funded (Swensen). These additional requirements and regulations increase the costs institutions incur in providing higher education. According to Fain (2009), one of the major factors contributing to the increase in the cost of higher education is compliance with government regulations and requirements. Endowments also provide institutions greater levels of independence from the demands of students through over-reliance on tuition to cover their costs. Too much reliance on student tuition and fees may force colleges and universities to resort to “current trends” and “fashions” to attract sufficient number of students to maintain operations (Swensen, p. 7). Donations made by alumni and friends to colleges and universities expose institutions to conditions imposed by donors. Institutions that rely on gifts find that donors feel like they have a voice in the operations of the institution (Swensen).

Even though an endowment may not provide an institution with an incremental
amount of independence, it can provide a specific unit or academic program with permanent independence. Through a reliable and permanent source of income endowment gifts can support specific academic programs in perpetuity, thus provide independence from “economic, governmental and political forces” (Newman, 2005, p. 4). If institutions are forced to discontinue certain programs as a result of reductions in state support, a well endowed academic program may be spared from elimination.

Financial stability

Endowments also play a critical role in the financial stability and effectiveness of an institution. “A well-managed endowment sends a message of planned long-term stability, fiscal responsibility and financial viability” (Newman, 2005, p. 4). Endowments enhance the financial stability of an institution by providing a permanent and internal source of funding that reduces the variability of revenues by diversifying the mix of revenue sources and improves the institution’s ability to borrow to finance current needs and future expansion. According to Swensen (2009), sources of funding such as government appropriations, grants, alumni donations or student tuition are variable based on fluctuations in the economy, changes in government policies, generosity of donors or interest of students. In the event of budget reductions due to economic downturns or some other financial exigency, endowments provide institutions with a safety net to weather these financially traumatic periods (Swensen). Endowments can also improve an institution’s financial stability by improving the ability to borrow to finance budgetary shortfalls or fund capital expansion. Institutions with large endowments can obtain favorable bond ratings from credit agencies, which in turn increase the institution’s ability to issue bonds to raise funds to build new facilities (Newman).
Institutional Quality

Incremental endowment income can also improve the quality of education by providing institutions with additional resources to attract better faculty, build superior facilities and fund additional research. According to Swensen (2009), there is a strong correlation between endowment size and the quality of an institution. Swensen basis his conclusion on an unpublished study of major private research universities conducted by the Yale Investment Office which showed that among similar large private research institutions, those with larger endowments were ranked higher in the *U.S. News and World Report* rankings of educational institutions. Although Swensen questions the ability to numerically rank complex institutions like colleges and universities, he does admit that the *U.S. News and World Report* rankings are “widely followed” (p. 18).

Endowments can also improve the quality of education by providing resources to subsidize the cost of tuition for qualified minorities and students from low to middle income families who might not be able to afford the price of tuition. Ehrenberg (2002) believes the quality of education and the educational experience is improved by a brighter and more diverse undergraduate student body.

Access to Higher Education

In addition to the impact on institutional quality as just mentioned, probably one of the most important impact endowments have on higher education and the community as a whole is the ability to subsidize tuition for students who might not otherwise be able to afford it. Each year the U.S. College Board collects tuition data from colleges and universities through their *Annual Survey of Colleges* and uses data on student aid from the National Postsecondary Student Aid Study to calculate and track trends in net tuition.
and fees. Net tuition and fees represents the published price of tuition less the amount of
grant aid and tax benefits received by students, or the net cost to students (U.S. College
Board, 2008). According to the U.S. College Board, net tuition and fees for students in
public four-year institutions increased from an average of $2,130 to $2,850, or 33.8%
between 2004 and 2009. For students in private four-year institutions, net tuition and
fees increased from $13,940 to $14,930 and decreased from $180 to $100 for students
enrolled in public two-year institutions over the same period (U.S. College Board). The
increase in net costs to students enrolled in four-year institutions may be having a
negative impact on the affordability of some lower income families to pay for higher
education. According to Wellman et al. (2008), students of families earning less than
$80,000 fell from 66.8% in 1996 to 49.1% in 2004. During the same period higher
proportions of low-income and minority students were enrolling in public two-year
colleges compared to previous decades (Wellman et al.). Regardless of whether this
enrollment shift is due to rising tuition prices or greater competition for entry into four-
year institutions, if low-income and minority students are increasingly unable to afford
entry into four-year colleges and universities, the enrollment shift will create a burden on
community colleges and call into question the Nation’s ability meet the need of the
workforce for graduates with at least a bachelor’s degrees or higher (Wellman et al.).
The question relevant to this study is whether or not endowments can provide income
sufficient to mitigate further tuition increases and improve access to students. According
to Wellman et al. there is no evidence that income from endowments would be able to
keep tuition down.

However, there is some evidence that endowment income could help mitigate the
impact of higher tuition prices. The U.S. College Board published a report in 2006 on tuition discounting at private four-year and public four and two-year colleges and universities. Tuition discounting is the practice of charging lower prices for the same education to students who cannot afford the full price of tuition or to attract higher performing students. The U.S. College Board (2006) defines the tuition discount rate as the percentage of tuition and fees paid for by institutional grant aid. Sources of institutional grant aid include gifts, endowment income, state allocations for student aid and the school’s general revenue (U.S. College Board). Institutional grant aid is used to provide money to student’s who do not have the financial resources to pay the published tuition and fee rates, but is also used as a strategy to attract athletes and other types of students in competing with other institutions (U.S. College Board). The U.S. College Board reported that the proportion of institutional aid used to meet financial need increased from 57.5% to 65.8% between the academic years 2000-01 through 2003-04. The percentage institutional aid to meet financial need increased from 35.9% to 40.2% from 2001-01 to 2004-05 at public four-year institutions and from 62.6% to 68.2% at private four-year institutions (U.S. College Board). It appears based on these findings that institutions are using more of their institutional aid, including income from endowments, to discount tuition for students in financial need. At more wealthy private institutions like Cornell University, tuition is subsidized by revenues from endowments, as well as from gifts and government support (Martin, 2007). Institutions such as Harvard University, University of Pennsylvania, and Davidson College, in an effort to increase the economic diversity of their student population, are trying to reduce or eliminate net tuition paid by low-income and middle income students through the use of
institutional resources such as endowments (Martin). As the net cost of tuition and fees bourn by students and their families continue to rise, in many cases beyond inflation, so does the necessity for alternative sources of income such as endowments to offset this burden.

In summary, endowments provide colleges and universities with a permanent and reliable source of revenue for many functions of institutions, which provides institutions with greater independence, financial stability, institutional quality and greater access to higher education. The continuing decline of government support, the increase in higher education costs beyond inflation, and the efforts to keep tuition affordable for students, will result in the greater reliance on endowments as source for funding higher education. As endowments become more relevant, so does the management and performance of endowments. According to Trone, Allbright and Taylor (1996) the ongoing viability of educational institutions and their programs depend heavily on the institutions success in managing their investments, giving them a strong incentive for improving investment management. The purpose of this study was to discover those successful endowment management tools that lead to greater endowment returns and thus greater levels of endowment support for higher education.

Evolution of Endowment Management

Endowments have existed in this country since its beginning. One of the earliest and most notable endowments dates back to 1638 when John Harvard left his library of books and half of his estate to an institution for teaching clergy in New England (Newman, 2005). During this time endowment gifts were made to churches, schools and universities to provide permanent support for institutions that did not otherwise receive
income (Kochard & Rittereiser, 2008). Since then, endowment management has evolved largely as a result of changes to legal standards guiding fiduciaries in the prudent management of endowment investments. Thus the evolution of endowment management can best be explained by a discussion of the investment theories, practices and experiences that have led to the modifications to legal standards shaping endowment management over the years. The legal principles that have had the greatest impact on endowment investment management include the Prudent Man Rule, Restatement of Trusts, and the Uniform Management of Institutional Funds Act (UMIFA).

**Prudent Man Rule**

Legal standards guiding endowment investment management can be traced back to the 1830 Massachusetts Court decision (*Harvard College v. Amery*, 9 Pick. [26 Mass.] 446, 461 [1830], which “described the duty owed by a trustee to beneficiaries” (Trone, et al., 1996, p. 266), which came to be known as the Prudent Man Rule. According to Longstreth (1986), the standard used prior to the 1830 Harvard College case was a list of proper and improper investments for trusts handed down by the English Court of Chancery, which essentially directed trustees to invest in government securities. The trustees in the Harvard case however were directed by the terms of a $50,000 testamentary trust to invest in public funds or shares of other stock, using their best judgment. The beneficiaries of the trust were Harvard College and the Massachusetts General Hospital. The trustees invested the trust’s assets in bank, insurance and manufacturing company stock. The value of the insurance and manufacturing company stock declined significantly and the beneficiaries charged the trustees with making improper investments on the grounds that these were not proper trust investments. The
court rejected the English rule, suggesting that it did not apply to American trust law because government securities were limited in amount and were not necessarily safe investments. The court realized that other investments considered safe were also subject to fluctuations. With its decision the court established a process standard known as the Prudent Man Rule.

The Prudent Man Rule directed trustees “to observe how men of prudence, discretion and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income, as well as the probable safety of the capital to be invested” (Harvard College v. Amery, 9 Pick. [26 Mass.] 446, 461 [1830]. The court found that the trustees had satisfied this standard, and thus did not hold them liable for the losses suffered by the trust investments. This Prudent Man Rule standard gave trustees more flexibility in managing investments. However, the Prudent Man Rule was not widely accepted among other states outside of Massachusetts. Throughout the second half of the 19th century other state legislatures adopted their own statutory lists of investments they determined acceptable. Most of these permissible investments were fixed income securities (e.g., bonds). These statutory lists of permissible investments stood until the 1940s. The collapse of the bond market during the Great Depression led most states to abandon these lists of proper investments and adopt a form of the Prudent Man Rule based on a model statute developed in 1942 by the Trust Division of the American Bankers Association meant to codify the Harvard College case (Longstreth, 1986).
The Prudent Man Rule eventually lost much of its flexibility. According to Kochard and Rittereiser (2008), “the Prudent Man Rule became more narrowly interpreted over time” (p. 6), due to the American Law Institute’s Restatement of Trusts (1935) and Austin Wakeman Scott’s treatise on trusts (1939). Scott served as the reporter on the Restatement as well. This Restatement and treatise revised the language of the Prudent Man Rule to the point that it “led fiduciaries to evaluate investments individually, rather than as part of a portfolio” (Kochard & Rittereiser, p. 6).

Furthermore, the Restatement and treatise added a requirement to the general duties of care in administering the trust when it came to the trust’s investments. Scott saw that a prudent man dealing with his own property was more likely to take risks, and because trustees are charged with safeguarding the property for others, they should exercise caution in making investments they would not ordinarily make. The treatise distinguished between prudent and imprudent investments based on “speculation” (Longstreth, 1986, p. 13). The treatise delineated between investments considered permissible such as government bonds, first mortgages, and highly rated corporate bonds, and those considered speculative, such as common stock of companies in new unproven industries, and poorly rated corporate bonds (Longstreth). Although the Restatement of Trusts essentially acknowledged that endowments should be treated differently from private trusts regarding the rules on permissible investments, trust investment law continued to be applied to endowment investments (Longstreth). According to Kochard and Rittereiser, endowments were largely guided by this personal trust law. There were other elements of trust law that limited endowment investment management. Funds were
not allowed to be commingled in investment vehicles, trustees were forbidden to delegate investment decisions to investment professionals, and endowments were limited to spending income only. Funds were managed to generate income, while maintaining the principal over time, resulting in fiduciaries investing in fixed income rather than equity securities (Kochard & Rittereiser).

One of the major catalysts of change to the approach used in investing endowment investments was the emergence of an investment theory presented by American economist Harry Markowitz, in his 1952 article *Portfolio Selection* and 1959 book *Portfolio Selection: Efficient Diversification of Investments*. Through these works, Markowitz presents the investment principles of what is known as Modern Portfolio Theory, which proposes the mathematical formulation of the concept of diversification of investments, where diversification is the combing of individual investments into a portfolio considered less risky than the individual investments. According to Bruce (1999), Markowitz found that if the mean, standard deviation, and correlation of returns of a group of investments are known, one could construct a portfolio with the highest return for a certain level of standard deviation (risk).

The culmination of the limitations imposed by personal trust law on fiduciaries of endowments and the emergence of Modern Portfolio Theory, prompted the Ford Foundation, a major contributor to education at the time, to sponsor two studies of endowment investment management to determine if endowments could be managed more productively (Kochard & Rittereiser, 2008). The results of these studies were released as reports to the Ford Foundation. The first report titled “The Law and Lore of Endowment Funds” was written by two New York attorneys, William L. Cary and Craig B. Bright, in
1969, which examined the legal standards governing investments of the assets of charitable corporations. According to Kochard and Rittereiser, Cary and Bright made the following conclusions and recommendation based on their study:

1. Endowments are corporations with one beneficiary and are not subject to the laws governing personal trusts with many beneficiaries.
2. Trustees represent the institution and have responsibility for establishing spending and investment policy.
3. Trustees can delegate the execution of investment policies to qualified, outside investment advisers but retain responsibility for supervising and monitoring advisors. (p. 7)

A second report titled “Managing Education Endowments” by Robert R. Barker published in 1969 studied the investment returns and strategies of 15 educational institutions to determine the reason for their poor performance. This report indicated a wide disparity between the average annual performance of endowment investments and the performance of growth-oriented mutual funds. The Baker report concluded that the strategy of these endowment investment committees was to maximize income and avoid losses leading them to invest in fixed income over growth equity investments due to the inadequacy of dividends generated by the equity investments. The Baker report also recommended an investment strategy that selected investments on the basis of total return for long-term growth, rather than income only, and advocated the delegation of investment management to investment professionals (Kochard & Rittereiser, 2008).

Uniform Management of Institutional Funds Act

The Cary and Bright report recommended a uniform law that would allow...
fiduciaries to consider total returns (appreciation and income) in setting spending policies (Kochard & Rittereiser, 2008). This led to the Uniform Management of Institutional Funds Act (UMIFA) published in 1972 by the National Conference of Commissioners on Uniform State Laws (NCCUSL), and since has been enacted by 48 states. The UMIFA is a set of uniform and fundamental rules for the prudent investment and expenditure of endowment funds held by charitable institutions. According to prefatory comments included in the UMIFA governing boards of colleges and university endowments were concerned with the following issues: (a) what are considered acceptable investments for endowments; (b) the delegation of investment decisions; (c) the spending of appreciation in addition to income; (d) the potential liability for investment management; and (e) obsolete restrictions placed on endowed gifts (NCCUSL, 1972). There were virtually no laws that addressed these issues and case law was minimal (NCCUSL). The UMIFA addressed each of these concerns with the following standards:

1. *Acceptable investments for endowments* – Prior to the UMIFA, governing boards of colleges and university endowments limited themselves to investments authorized to trustees of private trusts. Boards were also concerned with whether or not they should hold onto investments given to them by donors as gifts; especially if the gifts were not considered good investments. Boards were inclined to hold onto gifts of investment securities in hopes of obtaining additional gifts from the donor, but were concerned over the potential liability of holding imprudent investments in the endowment. Boards were also concerned with investment in common or pooled investment funds. The UMIFA eliminated the restrictions of investments authorized to
trustees of private trusts and gave charitable institutions broad powers to invest in any investment deemed advisable by the board whether or not it generates current income (NCCUSL, 1972).

2. **Delegation of investment decisions** – Prior to the UMIFA, trustees and governing boards of college and university endowments were advised that they were restricted in accordance with rules governing private trusts from delegating investment authority. The UMIFA gives them the right to delegate the day-to-day investment management to committees or employees and hire investment professionals for advise and investment management services (NCCUSL, 1972).

3. **Spending of appreciation** – Prior to the UMIFA, institutions were advised that private trust rules applied to gifts made to endowments that referenced income and principal. Private trust rules insured equity between an income beneficiary and a remainder person upon termination of the trust. This also limited institutions to investing in safe fixed income investments that yielded current income. The writers of the UMIFA commented that neither donor’s intention nor rules of private trusts supported this application of private trust rules, given that in the case of college endowments, the institution is the sole beneficiary. Accordingly, the UMIFA authorized governing boards to spend any increase in endowment as a result of appreciation or income in excess of the endowment’s historical dollar value unless donor of the gift instructs in the gift instrument that the institution is not to expend net appreciation (NCCUSL, 1972).
4. **Potential liability** – The UMIFA clarifies and establishes the standard of care and prudence required of board members, and compares it that required of a director of a profit corporation rather than a private trustee. The Act directs governing board members to exercise the care and prudence considering the facts and circumstances prevailing at the time decisions are made. The Act also directs governing boards to consider the long and short term financial needs of the institution, the return on investment, inflationary trends, and general economic conditions, in making decisions (NCCUSL, 1972).

5. **Obsolete restrictions placed on endowment gifts** – Restrictions are sometimes placed by donors on gifts to endowments that limit the use of the gift to the point the institution cannot administer the gift for the purpose it was intended. For instance, an endowment may be restricted to be used to fund a specific program that is no longer a part of the institution or a research project that no longer exists. Institutions needed a way to use these funds, rather than let them sit there. The UMIFA gave institutions the ability to release these restrictions, either by the donor’s written consent or by petitioning the appropriate court of jurisdiction in the event the donor is no longer living or for any other reason the donor does not have the capacity to give or deny consent (NCCUSL, 1972). Gift instruments today are often written in such a way that gives institutions the right to use the funds for purposes consistent with the wishes of the donor in the event the original purpose cannot be fulfilled.
As a result of the UMIFA was written and recommended for enactment by state legislatures, institutions began broadening their investment strategies and yielding to the advice of investment professionals. According to Kochard and Rittereiser (2008), “between 1972 and 2006 institutions transformed from a group of risk-averse, rule driven, volunteer investors to respected investment organizations, overseen by talented professionals managing increasingly complex and sophisticated portfolios” (p. 10).

**Uniform Prudent Management of Institutional Funds Act**

In an effort to keep up with advancements made in investment and expenditure of charitable assets, as well as asset management theory and practice over the past 35 years since the approval of the UMIFA, the NCCUSL drafted and approved a revision to the UMIFA in 2006 titled the Uniform Prudent Management of Institutional Funds Act (UPMIFA). The UPMIFA updates the rules for investment management, expenditure of endowment assets and restrictions placed on endowments (NCCUSL, 2006). Following is a summary of these major changes:

1. *Investment management.* The UPMIFA enumerates a more exact set of rules for investing in a prudent manner. For instance, it requires prudence in incurring investment costs, authorizing “only costs that are appropriate and reasonable” (NCCUSL, 2006, n.p.). Factors to be considered in investing are expanded to include, for example, the effects of inflation. UPMIFA emphasizes investment decisions must be made in relation to the overall resources of the institution and its charitable purposes. It holds investment experts to a standard of care consistent with that expertise (NCCUSL).
2. *Expenditure of endowment assets.* The UPMIFA builds upon UMIFA’s rule on appreciation, but eliminates the concept of historic dollar value (HDV). Under UMIFA, an institution can spend from an endowment fund the amount of income and appreciation above the HDV, that the institution deems prudent, but can never spend below the HDV. The UPMIFA does not use HDV, and does not restrict spending to amounts above the HDV. Under UPMIFA, a charity can spend the amount it deems prudent in order to maintain the purchasing power of the endowment, and encourages institutions to establish a spending policy that will be responsive to the short-term fluctuations in the value of the endowment. The UPMIFA also includes an optional provision that allows states to enact another safeguard against excessive expenditure. If the state does not want to rely on the UPMIFA, the state can adopt a provision that creates a rebuttable presumption of imprudence if the institution expends an amount greater than seven percent of the fair market value of a fund, using the average fair market value over three years (NCCUSL, 2006).

3. *Restrictions on endowment assets.* The UPMIFA recognizes and protects the donor intent more broadly than the UMIFA. A restriction imposed by a donor can become impracticable, wasteful, or may impair the management of an endowment fund. In case of the absence of the donor, the institution can ask the court to approve of a modification of the restriction. Under UMIFA, the only option was release the restriction. UPMIFA authorizes a modification that a court determines to be in accordance with the donor’s intention. The
UPMIFA adds a new provision that allows a charity to modify a restriction on a small (less than $25,000) and old (over 20 years old) fund without going to court. If a restriction has become impracticable, the charity may notify the state charitable regulator (e.g., attorney general), and unless he or she objects, can modify the restriction in a manner consistent with the charitable purposes expressed in any donor agreement (NCCUSL, 2006). As of this writing, 44 states have adopted the new provisions of the UPMIFA (NCCUSL).

In summary endowment management practices at colleges and universities have adapted over the years to conform to the changes to legal standards governing endowment investment management. These changes are a result of advancement in investment management theory and practice. Today, the UMIFA or UPMIFA are the primary pieces of legislation guiding fiduciaries of charitable endowments in the prudent management of endowment assets to insure the perpetual support of their institutions. As institutions seek to provide this perpetual support for their institutions, these legal standards serve to provide institutions with a less restrictive environment to achieve this goal through the use of combination of endowment management practices. For instance, with the ability to delegate investment decisions to committees, employees or even external investment professionals give institutions the latitude to select the best practice for improving their endowment’s performance. The goal of this study was to discover which of these or a combination of these practices actually lead to improved performance.

Classification of Endowment Principal and Income

An historical overview of endowment fund management cannot be complete
without discussing the two components of an endowment’s value, principal and income. The original dollar amount of the endowed gift is the endowment principal, and the return from the investment of the principal is income, also referred to as earnings. Endowment principal can either come from donor gifts or from the boards’ allocation of unrestricted assets to an endowment to form a quasi-endowment. Prior to the 1970s and the UMIFA and Ford Foundation studies, colleges and universities invested their endowments in fixed income securities, such as bonds and certificates of deposit (CDs). The bond or CD principal remained while the interest income was spent. This approach eroded the purchasing power of the endowment when inflation was considered. After the UMIFA, endowment management practices advanced the concept of endowment principal to include not only gifts but the amount of appreciation required to maintain the purchasing power of the principal. In order to keep up with the rising costs of higher education, institutions began investing more aggressively in equities. The appreciation of these equity investments protected the principal against inflation, and in some cases the growth far exceeded the rate of inflation. However, institutions considered only the amount of appreciation in excess of principal to be available for spending. The UMIFA allowed for the spending of net appreciation, however it still did not allow for the spending of the original principal or the historic dollar value. According to the Commonfund, a leading institutional investor of endowment funds, the UMIFA did not allow institutions to spend from a fund if its asset value was below its historic dollar value. The UPMIFA replaced the concept of historic dollar value with a more flexible spending rule that allowed trustees to spend or accumulate as much of an endowment fund – including principal and income (income and appreciation) as they deem prudent, taking into account the intended
duration of the fund, the fund’s purposes, economic conditions, expected inflation, investment returns, other resources of the institution and its investment policy (NCCUSL, 2006).

Organizational Structures of Endowment Management

Endowments are managed within two basic organizational structures. According to Shumacher (2003), institutions choose to either manage their own endowments or establish separate corporations to manage them for the institution. Following is a summary of the literature as it relates to these two organizational models.

Internal Endowment Management

Some colleges and universities integrate the management of their endowments within the existing organizational structure of the institution. For example, Emory University maintains an investment management office within the university’s Finance and Administration Division. Emory’s investment office is headed by a CIO with a team of full-time professionals, with investment oversight provided by an investment committee of Emory’s board of trustees (Emory University, 2010). Shumacher (2003) believes this structure provides “efficiency and clarity of roles and responsibilities” (p. 7). Swensen (2009) advocates this model suggesting that integrating the investment operation with the institution improves endowment management by fostering interaction between endowment managers and professionals within the institution. Benefits of this interaction include opportunities for endowment investment professionals to teach as well as seek investment advice from faculty (Swensen).

External Endowment Management

Some colleges and universities have perceived more challenges than benefits to
managing their own endowments, leading them to create separate corporations such as foundations or investment management companies to administer their endowments. One such challenge perceived by institutions is the ability to recruit and retain qualified investment professionals on staff to manage the endowments' investments. According to Swensen (2009), nonprofits have a difficult time recruiting and paying experienced investment professionals because they can obtain higher compensation in the private sector. The lack of members on the institution’s governing board who are experienced investment professionals is another challenge institutions perceive. Overseeing endowment management in the complex investment environment may be too demanding on the institution’s trustees. A separate investment management company would allow institutions to recruit investment professionals to serve on a separate board to oversee endowment investments (Swensen). The University of Texas System formed the University of Texas Investment Management Company (UTIMCO) in 1996 to address these and other issues. According to Craigue (2003), the University of Texas established UTIMCO for the following reasons: (a) to attract investment professionals; (b) decrease bureaucracy; (c) protect the endowment’s spending policy from being modified by the institution during budgetary shortfalls; (d) protect the endowment from political pressures such as state government prohibitions on certain types of investments; (e) improve the flexibility of spending on needs of the endowment management office; and (f) allow for the hiring of outside legal counsel on sophisticated investment matters without going through the state attorney general’s office. Duke University also established a separate company to manage its endowment investments. The Duke Management Company (DUMAC) was formed in 1989 to manage the university’s endowment as well as their
retirement fund (Craigue). According to Craigue, Duke university formed DUMAC for the following reasons: (a) to invest more of the portfolio in alternative investments; (b) separate the investment function from other administrative functions; (c) use an oversight board of investment professionals; (d) adapt to the increasingly complex investment environment; (e) recruit investment management professionals; (f) separate from the consensus building model of the university decision making process; and (g) separate the investment management function from the donor relations function.

Swensen (2009) feels the internal endowment management model is more effective because it creates a more cohesive team which brings continuity to the investment process and allows the endowment’s investment professionals to identify with the institution. According to Swensen, institutions do not need to establish separate investment companies to be able to pay competitive salaries to investment professionals and recruit investment professionals to govern the endowment. Swensen suggests universities address and modify their institutional policies to allow them to pay investment professionals competitive compensation packages and establish an investment committee of the board staffed with non-trustee investment professionals. Creating separate organizations to address the compensation and governance issues may cost to the institution more (Swensen).

Whether colleges or universities choose to internally manage their endowments or create separate corporations to do the same depends largely on the organizational climate of the institution. Organizational characteristics of the institution such as governance, decision making processes, bureaucracy, employment and procurement policies, political pressures and government regulations may limit the ability of those entrusted to manage
the endowment to properly carry out their fiduciary duty. On the other hand, separating this function from the institution may cause endowment managers to lose sight of the endowments’ purpose as it relates to the institution’s mission. Literature regarding these two organizational structures of endowment fund management is limited. No data could be found to suggest that either of these organizational models have an impact on endowment performance. The study of organizational structures within which endowments are managed was beyond the scope of this study as this study focused on those endowment management practices that transcend both organizational models mentioned here.

Endowment Management Practices

Guided by the standards for prudent endowment management, fiduciaries continue to search for the most effective management practices that will provide the maximum amount of support for their institution. Research and related literature on the subject of endowment management reveals various endowment management practices that are critical to the investment process and that have an impact on endowment performance. A discussion of these management practices will be organized under the following components of endowment management addressed throughout the literature: (a) asset allocation; (b) endowment oversight; (c) investment policy; (d) internal vs. external investment management; (e) selection of investment managers; and (f) use of investment consultants.

Asset Allocation

Asset allocation policy identifies the percentage of the endowment’s value to be invested among different asset classes such as stocks, bonds, or cash. According to
Swensen, “no other aspect of portfolio management plays as great a role in determining a fund’s ultimate performance” (2009, p. 315). Studies show that over 90% of the variance in endowment performance can be explained by an institution’s asset allocation policy. A 1986 study performed by Brinson et al. (1986) on corporate pension plans found that asset allocation explained 93.6% of investment portfolio returns. A follow up study by Brinson et al. (1991) found that the asset allocation decision itself explained 91.5% of the variation in returns.

Institutions use different approaches to asset allocation. According to Kochard and Rittereiser (2008), institutions fall somewhere on a continuum between two distinct approaches. One approach is to establish a target asset allocation with infrequent adjustments while keeping close to the target with disciplined rebalancing. Another more tactical approach calls for more frequent changes in the balance of asset classes in order to take advantage of investment opportunities (Kochard & Rittereiser). When making asset allocation decisions, investment committees should not seek to time the market and make frequent adjustments to the asset allocation but should develop an asset allocation among broad asset categories with a long-term prospective considering the current and projected investment environment (Newman, 2005).

Asset allocation decisions are made either by the governing boards, delegated to an investment committee, or further delegated to investment staff. According to the 2008 NACUBO Endowment Study (2009), 76.7% of institutions delegated asset allocation decisions to investment committees while 19.0% of institution governing board’s decided on the asset allocation.

The first step in the asset allocation process is to identify the asset classes in
which to invest and define and describe the purpose for each asset class included in the total portfolio. According to Kochard and Rittereiser (2008), there is no correct approach to the number of asset classes. Some allocations are simple and identify the portfolio into broad asset classes such as equities, fixed income and alternative assets, while other institutions may identify more assets classes by further splitting up equities, fixed and alternatives into sub-classes within each. For instance, an institution may identify its equities into foreign or domestic, small or large, and/or growth or value. Swensen (2009) suggests keeping the number of asset classes small enough so that they make a difference, but large enough that they do not make too much of a difference, recommending institutions not commit less than 5 to 10% to any one asset class or no more than 25 to 30% to any one asset class. NACUBO asks institutions participating in its annual endowment study to identify their endowment among the following asset classes: (a) equities, (b) fixed income, (c) real estate, (d) cash and cash equivalents, (e) hedge funds, (f) private equity, (g) venture capital, (h) natural resources, and (i) others.

Equities. An equity security is an ownership interest in the assets of a company in the form of common or preferred stock. Some institutions classify their asset allocation to equities based on market capitalization. Market capitalization refers to the size of the companies measured by the stock share price multiplied by the number of shares issued. Companies are generally divided into large, middle and small cap equities based on their market capitalization. The measure by which these categories are defined changes over time with the growth of the economy. There is no uniform standard for what dollar value identifies a company as small, medium or large. However, according to the Commonfund Glossary of Terms (2009), companies with a market capitalization of $5
billion or greater are considered large-cap, companies with a market capitalization between $2 billion and $5 billion are considered a mid-cap, and companies with less than $2 billion are classified as small-cap companies. The country in which a company is organized can also determine its classification in the portfolio. Shares of a company organized in a foreign country are considered to be foreign equities, whereas domestic equities are shares in a company organized under the laws of the United States. Equities can also be classified into one of two investment styles, growth or value. Growth investment managers concentrate on industries and companies that are expected to grow at a faster rate than the economy, whereas value investors buy stock in companies whose stock price appears to be undervalued based on their worth based on a form of analysis such as the company’s book value (Haight et al., 2007).

**Fixed income.** In general, any investment that yields a fixed return is considered a fixed income security. Popular examples of fixed income securities include federal and local government bonds, government agency bonds, corporate bonds and bank certificates of deposit. Fixed income securities are generally considered to be relatively safe investments compared to the other assets classes. According to Bruce (1999), the annual rates of return of long-term corporate bonds compared to common stock over the same period, show bonds to be less volatile. Bonds can be classified in a portfolio according to the issuer such as government or corporate bonds. Corporate bonds can be further classified according to the company’s credit rating, which is the assessment of a company’s credit worthiness, much like an individual’s credit rating. These ratings are assigned by independent rating agencies such as Moody’s, Standard and Poor’s and Fitch which typically use letter designations such as AAA, B or C, where AAA is the best
rating and C is generally considered risky or speculative (Haight et al., 2007). Bonds can also be classified by their time to maturity, such as long, intermediate or short-term bonds. There is no industry wide accepted measure of what is considered long, intermediate or short-term.

Real estate. Land and improvements such as buildings are considered real estate. Endowments generally do not own a direct interest in land and buildings. Real estate can be owned by virtue of outright gifts to the institution. However, unless the property has value to the institution in its current form, or has potential to appreciate, the property is usually sold soon after it is received. Endowment portfolios are more likely to include public investments in real estate through real estate investment trusts (REITs) or privately through a pooling of funds with real estate holdings. REITs are structured like equity mutual funds, whereby shares in the REIT can be purchased by investors (NACUBO, 2009). According to Haight et al. (2007), REITs are categorized according to the type of underlying real estate asset owned by the REIT. Haight et al. describe three types of REITs:

1. Equity REITs invest in a wide range of commercial properties such as office buildings, shopping centers, and apartment buildings. Equity REITs generate fee and rental income for investors. According to Bruce (1999), these REITs must distribute a minimum of 95% of annual taxable income in the form of dividends.

2. Mortgage REITs finance acquisition and development of commercial projects or long-term financing of completed projects. Income is generated by fees and interest on the mortgages.
3. *Hybrid REITs* are a combination of equity and mortgage REITs.

Real estate investments comprise a small portion of endowment assets. According to the 2008 NACUBO Endowment Study (2009), the average allocation to real estate investments was 4.1%, including 1.3% public and 2.9% private investments in real estate. According to Haight et al. (2007), investment committees view real estate investments as illiquid due to the infrequency of transactions, high transaction costs and fewer buyers and sellers. Institutions invest in real estate in order to diversify their endowment investments. According to Haight et al., REITs are virtually uncorrelated with returns of large capitalized equities and have low correlation with bonds, thus helping to diversify the investment portfolio.

*Cash and cash equivalents.* Cash and cash equivalents are highly liquid, virtually risk free assets with maturities of less than one year, such as treasury bills, certificate of deposits and money market funds. Only 3.9% of endowments were held as cash and equivalents according to the 2008 NACUBO Endowment Study (2009). Endowments generally hold a small amount of cash for investment purchasing opportunities.

*Hedge funds.* Hedge funds are investments open to a limited range of professional and wealthy investors. Hedge funds seek to limit the risk from other types of investments using a variety of methods, namely short selling or derivatives. As defined by NACUBO, hedge funds are a pool of securities typically managed using an absolute return strategy with the objective of obtaining a predicted level of return regardless of market movement. Twelve point nine percent of endowments included in the 2008 NACUBO Endowment Study were invested in hedge funds as of June 30, 2008.
Private equity. Private equity is an asset class consisting of equity securities in companies that are not publicly traded. According to NACUBO, private equity consists of investments arranged for or by a small group to buy equity (usually a controlling percentage) in a company. The investment usually permits the group to take control of the company. Private equity makes up a small portion of endowment investments. According to the 2008 NACUBO Endowment Study (2009), only 3.3% of endowment assets were invested in private equity as of June 30, 2008.

Venture capital. Investments in private equities of new companies in the early stages of growth with high growth potential are considered venture capital investments. This asset class is generally limited to investment by large institutional or very wealthy investors. Only 1.1% of endowments participating in the 2008 NACUBO Endowment Study (2009) held venture capital investments as of June 30, 2008.

Natural resources. NACUBO includes timber, oil and gas partnerships and commodities in this category or asset class. Only 2.2% of endowments participating in the 2008 NACUBO Endowment Study (2009) held natural resources as investments as of June 30, 2008.

Table 1 presents a summary of the allocation of college and university endowment fund assets over the past five years from 2004 to 2008. These percentages are from the 2008 NACUBO Endowment Study (2009). Data from 2008 represent 774 institutions reporting. As shown in Table 1, the percentage of funds invested in traditional asset classes (equities and fixed income) has declined over the past five years while the percentage allocated to real estate, hedge funds and private equity has increased.
Table 1

*Five-Year Comparison of Asset Class Allocation*

<table>
<thead>
<tr>
<th>Asset Classes</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equities</td>
<td>59.9%</td>
<td>58.5%</td>
<td>57.7%</td>
<td>57.6%</td>
<td>51.9%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>22.1%</td>
<td>21.5%</td>
<td>20.2%</td>
<td>18.6%</td>
<td>19.2%</td>
</tr>
<tr>
<td>Real estate</td>
<td>2.8%</td>
<td>3.1%</td>
<td>3.5%</td>
<td>3.5%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Cash</td>
<td>3.7%</td>
<td>3.5%</td>
<td>3.4%</td>
<td>3.5%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Hedge funds</td>
<td>7.3%</td>
<td>8.7%</td>
<td>9.6%</td>
<td>10.6%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Private equity</td>
<td>1.3%</td>
<td>1.6%</td>
<td>1.9%</td>
<td>2.3%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Venture Capital</td>
<td>0.8%</td>
<td>0.8%</td>
<td>0.9%</td>
<td>0.9%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>0.6%</td>
<td>0.9%</td>
<td>1.5%</td>
<td>1.6%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Other</td>
<td>1.6%</td>
<td>1.4%</td>
<td>1.4%</td>
<td>1.4%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Historical data from the 2008 NACUBO Endowment Study (2009) shows this to be a long-term trend. For instance, allocations to equities and fixed income investments have decreased from 89.5% in 1996 to 71.1% in 2008 with the difference shifted to alternative investments. In a recent report by Mimi Lord (2003) on the 2009 NACUBO Endowment Management Forum, it was noted that the trend toward alternatives and away from traditional investment asset classes was continuing and that those with greater allocations towards alternative investments produced higher returns. Endowment professionals attributed the shift to the need for institutions to diversify to improve their
balance of risk and return profile (Lord).

According to Swensen (2009), functional attributes play the dominant role in defining asset classes, which are distinguished by their fundamental character such as debt versus equity, domestic versus foreign, private versus public, liquid versus illiquid. Swensen suggests investors ultimately group like with like investments. Kochard and Rittereiser (2008) suggest that each asset class should add a unique return or risk characteristic into the portfolio. Newman (2005) recommends diversifying investments among asset classes that are not affected the same by economic, political or social developments is a desirable objective (Newman).

The investment time horizon is a major consideration in setting the asset allocation policy. According to Bruce (1999), endowment funds have an extremely long investment horizon. Considering the permanent nature of true endowments, endowment trustees and managers should make asset allocation decisions with a focus on the long-term (Bruce). According to Kochard and Rittereiser (2008), the long term investment planning horizon of institutions is often considered to be ten years, which still leaves room for analysis and tactical actions on shorter-term investment opportunities that may arise over that time.

Consideration of risk is also important in establishing the asset allocation of the endowment. Kochard and Rittereiser (2008) suggest that endowments, like individual investors, “seek to maximize returns while controlling risk”, and that it is “impossible to evaluate the success of prospective returns without some measure of the risk of the investment” (p. 31). The long-term nature of endowments should give managers a higher tolerance for risk.
The primary objective of the asset allocation policy is to provide an optimal distribution of investments among asset classes that will produce the greatest return for a given amount of risk (Schneider, DiMeo & Cluck, 1997). By diversifying investments over several asset classes, institutions are able to increase the probability of this risk vs. return balance objective. With Modern Portfolio Theory, the asset allocation decision making process can be based on an analytical framework that will allow institutions to determine with a given level of risk what is the appropriate mix of assets that will potentially provide the desired rate of return (Swensen, 2009).

Endowment Oversight

The responsibility for managing the college or university’s endowment rests with the governing board of the organization that owns and manages the endowment. As discussed earlier, institutions choose to either integrate the management of their endowment within the organizational structure of the institution or establish separate foundations or investment management companies to manage the endowment on behalf of the institution. There are advantages and disadvantages to both models depending on whether the institution is public or private. Whether owned and managed internally or externally by a separate corporation, most organizations delegate the responsibility of making endowment investment management decisions to investment committees. Committee structures and practices vary among institutions in size, experience, and frequency of meetings.

Institutions responding to the 2008 NACUBO Endowment Study reported investment committees ranging in size from zero to 50 members. Although no empirical evidence suggest investment committee size impacts investment performance, having too
large an investment committee “tends to become inefficient in decision making” (Lord, 2003, p. 43). Alice Handy, who spent 29 years managing the endowment for the University of Virginia, advocates a small investment committee (Kochard & Rittereiser, 2008). Donald Lindsey, the CIO of George Washington University, believes smaller boards are “more accountable” for their decisions, and larger boards get in the way because they have trouble coming to a consensus (Kochard & Rittereiser, p. 198).

Committees also vary in the number of times they meet during the year. Marilyn Smothers-Weaver, in her 1988 study of 246 higher education endowments valued from $10 to $50 millions, found that committees met anywhere from two to 10 times a year, although no relationship to endowment performance was found. A follow up study by Bruce (1999) found that frequency of investment committee meetings did have a negative impact on endowment performance, which led Bruce to postulate that the more a committee meets, the more opportunities they have to react to changes in the market. Bruce suggests this is consistent with the findings of the 1991 study by Brinson et al., which concluded that active management, or temporary deviations from the asset allocation policy in order to take advantage of changes in the market, had no measurable impact on returns, and may actually increase risk by a small margin. Swensen (2009) appears to agree, stating that “limiting committee meetings to four per year prevents trustees from becoming too involved in day-to-day portfolio management decisions, and allows staff to receive appropriate guidance from the committee” (pp. 331-332).

The experience of investment committee members is also important. Alice Handy sees value in having investment committee members that understand the markets (Kochard & Rittereiser). Daniel J. Kingston, long time investment manager with the
Stanford (University) Management Company, suggests that investment committees should be comprised of individuals who have experience in multiple asset classes (Kochard & Rittereiser, 2008). There appears to be little written on the experience of investment committee members. However, Weaver (1988) found that her high performing endowment group valued investment experience over general business experience, while the low performing group valued business experience more, suggesting that committee members with investor experience were more confident and thereby willing to take on more risk in investment growth assets. In a recent article, Hignite (2008) reports that universities have looked at increasing the continuity and investment experience of its investment committee members by including members with practical investment experience, who are not subject to term limits as other board members may be.

According to Kochard and Rittereiser (2008), a panelist at a University Endowment Summit sponsored by the Goldman Sachs Market Institute gave the characteristics of an “ideal” investment committee, which included the following:

1. Members who are willing to commit their time.
2. Diversity of investment and governance expertise.
3. Continuity of the investment team.
4. Open-minded thinkers that resist micromanaging the decisions of the staff.
5. Investment committee support by the full board of trustees or regents. (pp. 39-40)

Experts also agreed that investment committees should consist of five to six members at most and meet four to five times a year, and that terms of investment committee members
should be addressed in the investment policy (Kochard & Rittereiser, 2008).

*Investment Policies*

Most institutions maintain formal written investment policies, although according to Bruce (1999), each is unique. Investment policies are a way of communicating the board’s investment decisions to investment managers, thus investment policies must be clear, thorough, specific, and define measurable goals, while maintaining flexibility (Schneider et al., 1997).

According to Kochard and Rittereiser (2008), the investment policy statement should include “objectives, spending policy, asset allocation objectives and process, investment policy implementation, benchmarks and governance” (pp. 21-22).

*Objectives.* In outlining the objectives of the endowment, the institution should address the type of organization, goal for the return on investment, expected inflow of gifts to the endowment, liquidity needs, and the amount of risk the institution is willing to tolerate.

*Spending policy.* The amount the endowment spends to support the institution on an annual basis is its spending policy. This is typically expressed mathematically as a percentage of the fair market value of the endowment over a moving average, say three years. Educational endowments have flexibility in their spending policies. Kochard and Rittereiser (2008) mention the concept of “intergenerational equity” in discussing spending policies, which would suggest that institutions balance their short-term needs of income with long-term viability of the endowment, setting spending rates at a level that preserves the value of the endowment for future generations (p. 25).

*Asset allocation objectives and process.* The percentage of the endowment
invested in various investment asset classes based on investment objectives and risk
tolerance is asset allocation (Kochard & Rittereiser, 2008).

*Investment policy implementation.* The investment processes such as analyzing,
selecting investment managers, portfolio management, risk-management, deciding on
passive versus active and internal versus external management, should be addressed
(Kochard & Rittereiser, 2008).

*Benchmarks.* The method for evaluating performance by comparing the returns
on the endowment investment portfolio as a whole and by asset class against benchmarks
should be addressed in the investment policy. Kochard and Rittereiser (2008) suggest
measuring performance against a policy benchmark, which is an average of each asset-
class benchmark weighted by the target long-tem or strategic asset allocation. Some
institutions also track their performance against peer institutions, which can easily be
found by accessing the findings of the annual NACUBO Endowment Study.

*Governance.* The investment policy should spell out the roles and responsibilities
of the governing board, the investment committee and the investment staff. Which group
or individual will make what decisions, such as investment objectives, asset allocation,
spending policy, and hiring and firing investment managers should be spelled out in the
investment policy statement (Kochard & Rittereiser, 2008).

Each of Kochard and Rittereiser’s (2008) recommended components of
investment policies are addressed by NACUBO in their annual endowment study.
According to 2008 NACUBO Endowment Study (2009) the following percentages of
institutions reported having formal investment policies that addressed the following
components: (a) the asset allocation strategy followed – 96.5%; (b) the investment
objectives of the institution – 96.85; (c) how endowment earnings or returns relate to spending policy – 82.3%; (d) investment performance benchmarks – 86.7%; (e) the degree of risk in investment pool – 74.8%; (f) whether/how portfolio should be rebalanced to maintain asset allocation – 78.2%; and (g) considerations in hiring and retaining investment managers – 67.8%. Bruce (1999) found a negative relationship between the number of attributes included in investment policies and endowment performance, concluding that more complex policies might be too restrictive, keeping managers from properly diversifying the portfolio.

Haight et al. (2007) recommend that investment policies address the following: (a) investment objectives and guidelines in reaching these goals; (b) the fund’s investment philosophy; (c) investment goals; (d) return objectives; (e) acceptable risk levels consistent with the goals and objectives; (f) constraints on investment managers; (g) asset classes that are acceptable; (h) asset allocation guidelines; and (i) investment strategy to be used in achieving the portfolio’s goals and objectives; and (j) methods to be used in evaluating investment managers and frequency that the portfolio and its managers will be evaluated. Investment policies should be well written and clearly understood by those responsible for the managing the endowments investments as well as the beneficiaries (Haight et al.)

Internal vs. External Investment Management

According to Bruce (1999) “one of the fundamental decisions that must be made by those responsible for endowment management is whether endowment funds will be managed internally or externally” (p. 54). The 2008 NACUBO Endowment Study reported 93.8% of endowments were managed externally. Using external investment
managers is a practice accepted by the guidelines set forth in the UPMIFA, the statute that establishes standards for the management, investment and expenditure of endowment funds of nonprofit institutions (NCCUSL, 2006).

Hiring internal investment managers appears to be an emerging practice seen not only in large endowments, but also in mid-size endowments. Beginning with the 2007 NACUBO Endowment Study, institutions were asked if they have an in-house CIO, whose only responsibility is managing the university’s endowment. The 2008 study found that a greater percentage of large endowments employed CIOs. For instance, only 3% of institutions with endowments valued from $50 to $100 million had hired a CIO, compared to 44% of those with endowments valued between $500 million and $1 billion. Seventy nine percent of endowments over $1 billion had hired a CIO (NACUBO, 2009).

According to the College and University Professional Association for Human Resources, as reported in an article by Mike McNamee (2005), the title of “chief investment officer” did not register in their database before 2000, which now accounts for over 100 CIOs (McNamee). According to Kochard and Rittereiser (2008), this emerging practice is due to the complexity of foundations and universities challenging treasurers and chief financial officers. Michael F. Sullivan, CIO of the University of St. Thomas, in St. Paul Minnesota, who transitioned from the Chief Financial Officer position at the school, mentioned that the CIO is becoming popular among endowments well below $1 billion, further suggesting that the enhanced returns from better oversight outweigh the added investment required for in-house investment staff (McNamee).

According to Kochard and Rittereiser (2008), the downside to hiring an internal manager is that it is difficult to attract them and then retain them. They compare deciding
on whether to hire an external manager versus an internal manager to a “build versus buy
decision,” suggesting it is “easier to buy the best talent that to hire them inside” (p. 34).

Selection of Investment Managers

Donald B. Trone, President of the Foundation for Fiduciary Studies, recommends
that fiduciaries include specific criteria for selecting money managers in their investment
policies (Trone, 2008). Trone recommends institutions include the following selection
criteria in their investment policies: (a) investment managers must be registered as an
investment advisor with the appropriate state and the federal regulatory authority; (b)
investment managers must provide five years of quarterly performance data; (c)
investment managers should provide information that supports stability of personnel; (d)
investment managers should clearly express the firm’s investment strategy and
philosophy; (e) the investment manager should confirm that there is no pending litigation
against the firm and that no regulatory investigations are ongoing, and (f) the investment
manager should address their fiduciary status in writing (Trone). According to Louis R.
Morrell, former Vice President for Investments and current Treasurer for Wake Forest
University, manager selection is one of four major factors that contribute to investment
returns (Morrell, 2005). Haight et al. (2007) believe the selection of investment
managers is one of the most important responsibilities of the investment committee and
suggests that committees consider the following in selecting investment managers: (a)
the managers investment philosophy; (b) past investment performance of the manager;
(c) quality of service provided by the manager; (d) personal qualities such as
trustworthiness and integrity; (e) communication; (f) size of the investment management
firm; (g) employee ownership in the investment management firm; (h) who will actually
manage the fund; and (i) management fees and expenses charged by the investment manager.

Kochard and Rittereiser (2008) interviewed several CIOs of large and successful college and university endowments and found that the CIOs spend a lot of time on the decision to select, evaluate and monitor external investment managers. Kochard and Rittereiser found that while quantitative measures were used, most of the CIOs relied on qualitative factors such as personal qualities in making their decision. In fact, every CIO mentioned qualities such as good values and Trustworthiness and considered these as important as their investment abilities. They also mentioned traits such as passion, hunger, a good culture and energy as important investment management firms hire (Kochard & Rittereiser).

Use of an Investment Consultant

Schneider et al. (1997) define an investment consultant as an “expert in the design, implementation, and oversight of investment strategies for endowments and foundations” (p. 202). Institutions hire outside consultants to assist in the selection of managers, evaluate manager performance and help in the development of investment policy statements (Bruce, 1999). Generally, consultants do not make decisions, but only offer advice regarding decisions. According to Trone et al. (1996), fiduciary liability and complex investment markets necessitate the need for consultants to advise fiduciaries in their decision making. The use of a consultant is generally viewed as positive throughout the literature. Institutions view hiring consultants as a responsible decision due to the complexity of investments (Swensen, 2009). However, Swensen comes down on the opposing side of using consultants, suggesting that the profit motive of consulting firms
drives them to advise the same guidance to many clients, without regard to the individual goals and objectives of the institution.

Institutions have been using consultants since the late 1960s. However, until the 1990s, consulting was solely used by the largest endowments. According to Trone et al. (1996), three barriers kept smaller endowments from using consultants. First, there were not many available. Second, consultant fees were fixed and not based on the size of the endowment. Large institutions could afford consultants but smaller ones were priced out of the market. The third barrier mentioned by Trone et al. was implementation. Even if a smaller endowment could pay for the services of a consultant, it was hard to implement the strategies espoused by consultants. Money manager fees and investment minimums kept most small endowments from diversifying their portfolios as consultants were recommending (Trone et al.). Today, any endowment has the ability and resources to acquire the services of a consultant and many do. More than 75% of all respondents to the 2008 NACUBO Endowment Survey reported employing an outside investment consultant for investment guidance. The largest endowments seem to rely less on outside consultants, as 88.2% of endowments valued between $100 and $500 million and 50% of endowments valued over $1 billion reported using outside consultants (NACUBO, 2009). Results of the Bruce (1999) study appear to be consistent with that of the NACUBO study, as 85.4% of those respondents (endowments valued between $100 and $500 million) reported employing an outside investment consultant for manager performance evaluation and manager search.

The most critical areas of endowment management are asset allocation, endowment governance, investment policies, internal vs. external investment...
management, selection of investment managers, and use of investment consultants. It has been well researched and documented that the asset allocation of the endowment investment portfolio by far is the largest contributor to endowment performance. However, the asset allocation decision is made by institutions with varying management practices. This study focused on management practices other than asset allocation that may contribute to the performance of the endowment. Any incremental improvement in endowment performance can pay great dividends to institution and its operations.

Endowment Size

In addition to management practices, the size of an endowment may also have an effect on endowment investment performance. The annual NACUBO Endowment Studies have shown over the years that larger endowments outperform smaller ones on a consistent basis. According to the 2008 NACUBO Study (2009), institutions with endowments valued within the following six size groups experienced the following ten-year average rate of return for the years ending June 30, 1999 through 2008: (a) Greater than $1 billion – 9.5%; (b) > $500 million to $1 billion – 7.6%; (c) > $100 million to $500 million – 6.4%; (d) > $50 million to $100 million – 5.8%; (e) > $25 million to $50 million – 4.8%; and (f) equal to or less than $25 million – 4.8%. The 2008 NACUBO Study (2009) suggests that the higher performance of larger endowments is the result of a greater allocation of endowment assets to alternative investments such as hedge funds, natural resources, real estate, private equity and venture capital, and less allocated to traditional asset classes such as equities or fixed income. For instance, endowments greater than $1 billion had 39.4% of their assets invested in equities, while endowments less than or equal to $25 million had 55.9% of their assets invested in equities. The
allocation to equities decreased among the size groups as they got larger. For all endowments reporting, the portion of endowment investments in U.S. equities fell by -10.2% during fiscal year 2008. Also, less than 1% of endowment assets of the smallest endowments were invested in natural resources, while the largest endowments had more than 5% of their endowment assets invested in natural resources. The rate of return for endowment investments in natural resources was 23.9% during 2008. Another well-performing asset class in 2008 was private equity. Endowment assets invested in private equity reported an average rate of return of 8.6%. However, only 0.6% of endowment assets of the smallest endowments were invested in private equity versus 10% of the largest endowments (NACUBO, 2009).

When writings on the subject of endowment size and its relationship with endowment investment performance, investment professionals tend to agree that larger endowments are more heavily invested in alternative investments because they have greater resources available to research and manage direct ownership in these types of investments. According to Mimi Lord (n.d.) in her report on the 2009 NACUBO Endowment Management Forum, Jeremy Crigler, CIO for Tulane University, mentioned it is more difficult for smaller endowments to perform the required research for these alternative investments. Scott Malpass, CIO for the University of Notre Dame, mentioned having more resources made it possible for Notre Dame to increase their allocation to hedge funds, which now makes up close to 30% of their endowment investments (Kochard & Rittereiser, 2008).

It appears that the larger an institution’s endowment, the greater the opportunities to investment in more complex alternative investments such as hedge funds, private and
venture capital, and natural resources, asset classes that have provided higher returns than traditional equity and fixed income asset classes. These opportunities are open to the larger endowments due to the resources they have which allow them to meet required minimum investments and the ability to hire qualified investment professionals that are experienced in these types of investments. Other than the data provided on investment performance of the different size groupings and the allocations of investments, the annual NACUBO Studies do not make any statistical inferences as to the relationship among these variables. This study measured whether a relationship between endowment size and performance existed to give institutions further insight into the advantages of using more resources to diversify their endowment portfolios toward these alternative investments. Perhaps the awareness of the importance in diversifying endowments more toward alternative investments and what resources are required to do so might help institutions take advantage of opportunities they might not otherwise have realized they could.

Summary

Research and related literature on endowment management indicates that management practices such as establishing asset allocations, writing investment policies, investment oversight, and selecting investment managers and consultants do have an impact on the performance of endowments. These works have identified prudent practices that should lead to improved endowment performance.

Based on this selected review of the literature on endowment management practices, the questions posed by Bruce (1999) in his survey remain appropriate for analysis ten years later. This study was a partial replication of the Bruce study. The
study departed from the Bruce study in that it surveyed a larger subset of the population. Bruce surveyed 93 colleges and universities with endowments ranging in size from $100 to $400 million. This study surveyed 293 institutions with endowments valued from $100 million to $1 billion. This study also departed from the Bruce study in that it explored the management practice of employing a CIO, a question included in the 2007 and 2008 NACUBO Endowment Surveys. Finally, this study analyzed the value of each institution’s endowment for its effect on endowment performance; a variable not included in the Bruce study.

According to Bruce (1999), previous research had been limited to the endowment practices of private institutions using small samples from limited geographical areas. The Bruce study surveyed a cross section of public and private institutions from across the country with endowments valued between $100 and $400 million. The goal of the study was to provide insight into the management practices used by institutions today and survey a larger subsection of the population by surveying college and university endowments valued between $100 million and $1 billion.

The literature on trends in funding, tuition pricing and cost of higher education also support the relevance of this study. As colleges and universities are forced to rely less on government support and student tuition to fund the escalating cost of higher education, enhancing alternative sources of income, such as income from endowments, is becoming increasingly critical. Incremental endowment income can enhance an institution’s independence, financial stability, institutional quality and student access to higher education. Increasing the value of endowments through improving endowment performance is one way institutions can accomplish this. The purpose of this study was
to identify endowment management practices used by successful endowments and those that have a positive impact on performance.
CHAPTER III

METHODOLOGY

Overview

This study identified colleges and universities that reported having endowments ranging in value from over $100 million to $1 billion in response to the 2008 NACUBO Endowment Study. The 2008 NACUBO Endowment Study was used to identify the institutions because it provided data on endowment values, management practices, investment decisions, and related information. The NACUBO Endowment Study is the primary source of institutional endowment data in the United States (NACUBO, 2008). The five-year investment return and endowment management practices of these institutions were identified. The five-year investment performance and endowment management practices were obtained by use of a survey instrument. The data gathered were used to describe the participating endowments and analyze the relationships among selected endowment management practices and endowment performance. This chapter describes the research design, selection of participants, development of the survey instrument, procedures used in collecting data, and how the data were analyzed.

Colleges and universities with endowments ranging in value from $100 million to $1 billion that responded to the 2006 NACUBO Endowment Study, reported investment returns ranging from -0.2% to 21.7% for the fiscal year ending June 30, 2006. This would indicate some institutions do a better job of managing their endowment. This success of endowment investing hinges on sound management characteristics such as governance, investment philosophies and a structured process (Kochard & Rittereiser, 2008). Considering the uncertainty of receiving adequate government support and tuition
to fund operations, colleges and universities should seek ways to enhance their endowment investment returns to counterbalance potential shortfalls. Investment performance is paramount in an endowment’s ability to support an institution’s financial needs (NACUBO, 2007).

Research Design

A correlational research design using survey research was used in this study to analyze the relationship among selected endowment management practices and endowment performance. This correlational study included one criterion variable and eighteen predictor variables. A description of these variables and how they were computed and coded follows.

Criterion Variable

The criterion variable addressed in this study was investment performance. College and university endowments with assets valued from $100 million to $1 billion that responded to the 2008 NACUBO Endowment Study were asked to provide their investment return net of fees for each of the last ten years (1999-2009). Institutions were also asked to provide the allocation of their endowment over the same ten-year period using the following asset classes: (a) equities, (b) fixed income, (c) real estate, (d) cash, (e) hedge funds, (f) private equity, (g) venture capital, (h) natural resources, and (i) other. These are the asset classes used in the 2008 NACUBO Endowment Study. Each asset class was measured against a benchmark index. Listed below are the asset classes and the benchmark index each of the asset classes were measured against:

*Equities.* The allocation of endowment assets to equities were measured against the Wilshire 5000 Index. “Equity funds which primarily invest within the United States
may be evaluated using indices such as the S&P 500, S&P 100, DJIA, Russell 2000 Value Line, and the Wilshire 5000” (Haight et al., 2007, p. 42). The Wilshire 5000 Index represents the broadest index for the U.S. equity market among these indices mentioned by Haight et al. According to the 2008 NACUBO Endowment Study (2009), approximately 50% of endowment assets invested in equity investments were invested in U.S. equities. The remainder of equity investments was invested in equities in global, foreign, emerging and developed markets. There is not a single index that covers all of these sectors of equity securities.

*Fixed income.* The portion of endowment assets allocated to fixed income investments were measured against the Barclay’s Capital U.S. Aggregate Bond Index. This index is a broad base index used by bond funds as a benchmark to measure their relative performance. This index includes bonds issued by the U.S. Treasury, U.S. Government Agencies, mortgage-backed securities, and corporate bonds. According to the 2008 NACUBO Endowment Study (2009), 0.1% of the endowment assets of endowments valued from $100 to $500 million were invested in foreign fixed income securities.

*Real estate.* The portion of the endowment portfolio allocated to real estate investments was measured against the Wilshire U.S. Real Estate Securities Index (RESI). The Wilshire RESI is a broad measure of the performance of publicly traded real estate investment trusts and real estate operating companies (Wilshire Associates, 2009).

*Cash.* The allocation of the endowment to cash was measured against the Solomon Brothers Three-month Treasury Bill Index, one of several indices used for the performance evaluation of the cash and equivalent component of a portfolio (Haight et
Hedge funds. The portion of the endowment allocated to hedge funds was measured against the Hedge Fund Research Incorporated Weighted Composite Index (HFRIFWI). Hedge Fund Research Incorporated is a company that specializes in “data, information and research on the hedge fund industry” (Haight et al., 2007, p. 96). The HFRIFWI is an equal weighted, net of fees, index of more than 2,000 hedge funds (Hedge Fund Research Incorporated, 2009).

Private equity. Allocation to private equity was measured against the Cambridge Associates LLC U.S. Private Equity Index. This index is based on data compiled from 787 U.S. private equity funds (Cambridge and Associates U.S. Private Equity Index, 2009). Cambridge and Associates is the leading financial and investment consulting firm on investment consulting, performance reporting and research for non-profit endowments (Haight et al., 2007).

Venture Capital. The portion of the endowment portfolio allocated to venture capital was measured against the Cambridge and Associates U.S. Venture Capital Index. According to Cambridge and Associates U. S. Venture Capital Index (2009), returns provided for this index is a compilation of the performance results of more than three fourths of institutional quality venture capital assets.

Natural resources. The portion of the endowment portfolio allocated to natural resources was measured against the S&P North American Natural Resources Index.

Other. Endowment assets classified as “other” include assets that cannot be classified into any one of the NACUBO asset classes and, therefore, have no appropriate index. According to the 2008 NACUBO Endowment Study (2009), only 1.6% of
endowments were invested in these assets. For allocations to these investments, the institutions were asked to provide the benchmark they used to measure these assets.

Using the five-year average annual return for each index listed above, a composite index was computed based on each institution’s five-year average allocation to the various asset classes. The criterion variable (investment performance) equaled the difference between the five-year average annual return of the composite index and the institution’s five-year average annual return. A positive number indicated that the institution performed better than the composite index given their asset allocation, while a negative number indicated the institution performed worse than the index, given their asset allocation. See Table 2 for an example of the method for computing investment performance.

**Predictor Variables**

The predictor variables examined in this study included the following endowment management practices: (a) use of an investment committee; (b) number of committee members; (c) frequency of committee meetings; (d) selection of committee members; (e) use of written investment policy; (f) components of investment policy; (g) use of external investment managers; (h) ratio of external investment managers per $100 million; (i) number of years with external investment managers; (j) use of an investment consultant; (k) employment of a CIO; (l) consideration of personal qualities in selecting external investment managers; (m) consideration of background in selecting external investment managers; (n) consideration of investment philosophy in selecting external investment managers; (o) consideration of investment performance in selecting external investment managers; (p) consideration of management fees in selecting external investment managers.
managers; (q) endowment size; and (r) type of institution (public or private). All of these
management practices, except for two (employment of a CIO and endowment size) were
selected from the Bruce (1999) study. The practice of employing a CIO is a question
asked in the 2007 and 2008 NACUBO Endowment Studies.

*Use of an investment committee.* The survey instrument asked if the institution
has an oversight committee for endowment investment management. If the answer was
yes, this non-metric dichotomous variable was coded 1, and if no, it was coded 0.

*Number of committee members.* If the answer to the previous question was yes,
participants were asked how many members serve on the investment committee. If the
answer to the previous question was no, the variable was coded 0. This metric was a
ratio scale measurement.

*Frequency of committee meetings.* Participating institutions were asked how
many times their investment committee meets each year. This was also a ratio scale
measurement.

*Selection of committee members.* Participants were asked if the selection of
investment committee members was based on financial expertise. This dichotomous
variable was coded 1 if the response was yes and 0 if the answer was no.

*Use of written investment policy.* Does the institution have a written investment
policy for the endowment? This is a non-metric dichotomous variable that was coded 1 if
the response was yes and 0 if no.
Table 2

Example of Methodology Used to Calculate the Dependent Variable (Investment Performance) for Each Participating Institution

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Return</th>
<th>Equities</th>
<th>Fixed Income</th>
<th>Real Estate</th>
<th>Cash</th>
<th>Hedge Funds</th>
<th>Private Equity</th>
<th>Venture Capital</th>
<th>Natural Resources</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>15.2%</td>
<td>50.4%</td>
<td>34.6%</td>
<td>0.0%</td>
<td>3.0%</td>
<td>4.7%</td>
<td>0.0%</td>
<td>2.3%</td>
<td>4.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>2001</td>
<td>0.5%</td>
<td>30.0%</td>
<td>20.7%</td>
<td>0.0%</td>
<td>2.1%</td>
<td>31.4%</td>
<td>0.0%</td>
<td>10.8%</td>
<td>3.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>2002</td>
<td>17.2%</td>
<td>35.5%</td>
<td>18.0%</td>
<td>0.0%</td>
<td>3.2%</td>
<td>21.4%</td>
<td>0.0%</td>
<td>16.9%</td>
<td>3.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>2003</td>
<td>5.4%</td>
<td>32.1%</td>
<td>27.8%</td>
<td>0.0%</td>
<td>7.9%</td>
<td>12.2%</td>
<td>3.6%</td>
<td>11.4%</td>
<td>3.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>2004</td>
<td>6.6%</td>
<td>26.5%</td>
<td>25.2%</td>
<td>11.1%</td>
<td>7.9%</td>
<td>3.8%</td>
<td>3.2%</td>
<td>17.3%</td>
<td>4.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>2005</td>
<td>15.5%</td>
<td>29.2%</td>
<td>22.7%</td>
<td>15.5%</td>
<td>3.6%</td>
<td>3.3%</td>
<td>3.5%</td>
<td>17.2%</td>
<td>4.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>2006</td>
<td>20.7%</td>
<td>23.5%</td>
<td>20.0%</td>
<td>17.4%</td>
<td>3.2%</td>
<td>3.4%</td>
<td>3.1%</td>
<td>24.4%</td>
<td>4.6%</td>
<td>0.4%</td>
</tr>
<tr>
<td>2007</td>
<td>5.9%</td>
<td>16.7%</td>
<td>20.3%</td>
<td>16.9%</td>
<td>8.5%</td>
<td>7.4%</td>
<td>0.0%</td>
<td>25.2%</td>
<td>4.7%</td>
<td>0.3%</td>
</tr>
<tr>
<td>2008</td>
<td>22.9%</td>
<td>19.7%</td>
<td>17.7%</td>
<td>22.4%</td>
<td>3.9%</td>
<td>6.6%</td>
<td>0.0%</td>
<td>24.7%</td>
<td>4.8%</td>
<td>0.2%</td>
</tr>
<tr>
<td>2009</td>
<td>19.0%</td>
<td>21.8%</td>
<td>18.9%</td>
<td>22.8%</td>
<td>0.1%</td>
<td>7.8%</td>
<td>0.0%</td>
<td>23.6%</td>
<td>4.9%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

| Ten-Year Average | 12.9% | 28.5% | 22.6% | 10.6% | 4.3% | 10.2% | 1.3% | 17.4% | 4.2% | 0.9% |

<table>
<thead>
<tr>
<th>Ten-Year Index</th>
<th>Wilshire 5000</th>
<th>Barclays' U.S. Aggregate Bond</th>
<th>Wilshire RESI</th>
<th>3-Month T-Bill</th>
<th>HFRIWI</th>
<th>Cambridge Private Equity</th>
<th>Cambridge Venture Capital</th>
<th>S&amp;P North American Natural Resources</th>
<th>Institution Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13.5%</td>
<td>10.4%</td>
<td>10.1%</td>
<td>8.4%</td>
<td>11.1%</td>
<td>5.4%</td>
<td>9.2%</td>
<td>13.8%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Composite Index</td>
<td>11.1%</td>
<td>3.9%</td>
<td>2.3%</td>
<td>1.1%</td>
<td>0.4%</td>
<td>1.1%</td>
<td>0.1%</td>
<td>1.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Investment Return</td>
<td>1.8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Components of investment policy. Participants were asked if their investment policy contained the following components: (a) asset allocation strategy, (b) investment objectives, (c) how endowment returns or earnings relate to spending policy, (d) investment performance benchmarks, (e) degree of risk in investment pool, (f) whether/how investment portfolio should be rebalanced to maintain asset allocation, and (g) considerations in hiring and retaining investment managers. Participants were asked to mark yes or no to each of these investment policy components. Each of these dichotomous variables were coded 1 if the response was yes, and 0 if no. The number of yes responses were added and recorded as a composite variable.

Use of external investment manager(s). Participants were asked if their institution used external investment managers. This dichotomous variable was coded 1 if yes and 0 if no.

Number of years with external investment managers. If the answer to the previous question was yes, participants were asked to write in the number of years the institution has had a relationship with each of their current external investment managers. The mean of the number of years with all investment managers was calculated for each institution and coded as a ratio scale measurement. If the answer to the previous question was no, this variable was coded 0.

Ratio of external investment managers per $100 million. The participants were asked how many external investment managers they used. The number of external investment managers reported by the institution and the market value of the endowment as reported by the 2008 NACUBO Endowment Study was used to calculate the ratio of investment managers per $100 million of endowment assets.
Use of an investment consultant. Participants were asked if their institution utilized the services of an investment consultant. This non-metric, dichotomous response was coded 1 if the answer was yes and 0 if no.

Employment of CIO. Participants were asked if they employed a CIO who is only responsible for managing the institution’s endowment. This non-metric dichotomous response was coded 1 if the answer was yes and 0 if no.

Consideration of personal qualities in selecting external investment managers. Participants were asked how important they viewed personal qualities in selecting external investment managers. Participants were asked to quantify their view of importance by circling the response that corresponded to their view of the importance of the criteria on a five point Likert-scale ranging from a 1 (unimportant) to a 5 (very important).

Consideration of background in selecting external investment managers. Participants were asked how important they viewed the background of the external investment manager in selecting external investment managers. Participants were asked to quantify their view of importance by circling the response that corresponded to their view of the importance of the criteria on a 5-point Likert-scale ranging from a 1 (unimportant) to a 5 (very important).

Consideration of investment philosophy in selecting external investment managers. Participants were asked how important they viewed the investment manager’s investment philosophy in selecting external investment managers. Participants were asked to quantify their view of importance by circling the response that corresponded to their view of the importance of the criteria on a 5-point Likert-scale ranging from a 1
Consideration of investment performance in selecting external investment managers. Participants were asked how important they viewed past investment performance in selecting external investment managers. Participants were asked to quantify their view of importance by circling the response that corresponded to their view of the importance of the criteria on a 5-point Likert- scale ranging from a 1 (unimportant) to a 5 (very important).

Consideration of management fees and expenses in selecting external investment managers. Participants were asked how important they viewed management fees and expenses charged by investment managers when selecting external investment managers. Participants were asked to quantify their view of importance by circling the response that corresponded to their view of the importance of the criteria on a 5-point Likert-scale ranging from a 1 (unimportant) to a 5 (very important).

Endowment size. Participants were asked to provide the value of their endowment as of June 30, 2009. Institutions were coded in one of two size groups corresponding to the value reported. One size group represented those institutions with endowments valued from over $100 million to $500 million and the second size group represented those endowments valued over $500 million to $1 billion.

Institution type. Participants were asked if their college or university is public or private. The dichotomous variable was coded 1 if public and 2 if private.

Participants

Institutions selected to participate in the study were the 293 colleges and universities that reported having endowments with market values greater than $100
million up to and equal to $1 billion in response to the 2008 NACUBO Endowment Study (2009). The NACUBO Endowment Study segregates institutions into six groups based on endowment size. The 293 institutions selected for this study were segregated into two groups, 229 institutions with endowments > $100 million to ≤ $500 million and 64 with endowments > $500 million to ≤ $1 billion. Table 3 shows the breakdown of institutions responding to the 2008 NACUBO Endowment Study by endowment size group and whether the institution is public or private.

The 229 institutions reporting endowments greater than $100 million up to and equal to $500 million in response to the 2008 NACUBO Endowment Study were selected because this group represents the largest number (28.9%) of institutions responding. The 64 institutions with endowments greater than $500 million up to and equal to $1 billion were selected in order to compare two size-groups and explore the effect endowment size might have on investment performance. The 64 institutions in the >$500 million to ≤ $1 billion group were selected over other size groups because, according to NACUBO (2009), a larger percentage (44%) of these institutions employed a CIO, one of the management attributes examined in this study. The 2008 NACUBO Study was used to select the participating institutions because it provided data on endowment values, management practices, investment decisions, and related information. The NACUBO Endowment Study is the primary source of institutional endowment data in the United States (NACUBO, 2008). According to Bruce (1999), selecting participants from the 2006 NACUBO Endowment Study enhanced participation in his study.
Table 3

*Participants Responding to the 2008 NACUBO Endowment Study*

<table>
<thead>
<tr>
<th>Endowment Assets</th>
<th>Total</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater Than $1 Billion</td>
<td>77</td>
<td>27</td>
<td>50</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>9.7</td>
<td>3.4</td>
<td>6.3</td>
</tr>
<tr>
<td>&gt;$500 Million to ≤ $1 Billion</td>
<td>64</td>
<td>27</td>
<td>37</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>8.1</td>
<td>3.4</td>
<td>4.7</td>
</tr>
<tr>
<td>&gt;$100 Million to ≤ $500 Million</td>
<td>229</td>
<td>69</td>
<td>160</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>28.9</td>
<td>8.7</td>
<td>20.2</td>
</tr>
<tr>
<td>&gt;$50 Million to ≤ $100 Million</td>
<td>156</td>
<td>46</td>
<td>110</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>19.7</td>
<td>5.8</td>
<td>13.9</td>
</tr>
<tr>
<td>&gt;$25 Million to ≤ $50 Million</td>
<td>131</td>
<td>38</td>
<td>93</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>16.5</td>
<td>4.8</td>
<td>11.7</td>
</tr>
<tr>
<td>Less Than or Equal to $25 Million</td>
<td>134</td>
<td>62</td>
<td>72</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>17.0</td>
<td>7.8</td>
<td>9.2</td>
</tr>
<tr>
<td>Total</td>
<td>791</td>
<td>269</td>
<td>522</td>
</tr>
</tbody>
</table>

Note. From 2008 NACUBO Endowment Study (2009).

According to preliminary data provided by the NCES IPEDS for 2008, there were 324 postsecondary degree-granting institutions with endowments > $100 million to ≤ $1 Billion, with total endowment assets valued at $99.9 billion (A. D’Amico, personal communication, December 1, 2009). These 324 institutions represented the population of institutions with endowments of this size. The 293 institutions selected for this study
were chosen from the 2008 NACUBO Study rather than the 324 from the IPEDS database because their responses to NACUBO should increase the likelihood of responding to this study. The 293 institutions selected for this study represented 90.4% of institutions and 96.6% of endowment assets of endowments valued from over $100 million to $1 billion.

Instrumentation

The survey instrument used in the Bruce (1999) study was the basis for the development of the instrument for this study. Approval from Dr. Charles W. Bruce, for the use of his instrument, is shown as Appendix A. The survey instrument included all questions from the Bruce instrument, and one question (Does your institution employ a CIO whose only responsibility is managing the institutions endowment?) from the 2008 NACUBO Endowment Study. However, two questions from the Bruce instrument were modified for use in this instrument based on changes made in NACUBO data gathering methodology, and one question was modified based on contemporary management practices. These modifications are addressed in a detailed description of the survey instrument to follow. The instrument used in this study is shown as Appendix B. The instrument was divided into five sections.

Section I

This section included two questions related to investment performance and asset allocation. The first question asked participants to provide the total rate of return (net of fees) on their endowment for each of the last 10 years. If fees are not deducted from returns, institutions were asked to provide their average annual external investment management fees over the same ten year period. Investment management fees vary
among institutions and therefore were excluded in order to compare investment performance data. The second question asked institutions to provide their asset allocation for each of the last 10 years. Asset allocation data included the percentage of the endowment invested in equities, fixed income, real estate, cash, hedge funds, private equity, venture capital, natural resources and other. This question from the Bruce (1999) instrument was modified to include the asset classes currently used in the NACUBO Endowment Studies (2009). A third question in this section asked participants to provide the 2009 market value of their endowment. The answer to this question was used to determine which size category the endowment fell within, those with endowments > $100 million to ≤ $500 million or those with endowments > $500 million to ≤ $1 billion.

Section II

This section included five questions that gathered data on endowment investment oversight. These five questions gathered data on whether the institution was public or private, and whether the institution had an investment oversight committee. If the institution had such a committee, the questions gathered data on the size of the committee, how often the committee meets, and the criteria used for selecting committee members.

Section III

This section included two questions related to endowment investment policies. The first question asked if institutions have a written investment policy. The second question in this section asked institutions if their investment policies include the following components: (a) asset allocation strategy followed, (b) investment objectives, (c) how endowment earnings or returns relate to spending policy, (d) investment
performance benchmarks, (e) the degree of risk in investment pool, (f) whether/how portfolio should be rebalanced to maintain asset allocation, and (g) considerations in hiring and retaining investment managers. This question from the Bruce (1999) instrument was modified to include the investment policy components included in the 2008 NACUBO Endowment Study (2009).

Section IV

This section included two questions regarding external investment management and consultation. The first question asked participants how many external investment managers they use and the length of time (in years) the institution has had a relationship with each manager. Participants were also asked if they use an external investment consultant.

Section V

The final section gathered information on criteria used in the selection of external investment managers. Participants were asked how important they viewed each of the following criteria in selecting investment managers: (a) personal qualities, (b) background, (c) investment philosophy, (d) performance, and (e) fees. Participants selected a response that corresponded to their view of the importance of each of these criteria in selecting their investment manager(s). Responses ranged from 1 (unimportant) to 5 (very important) on a 5-point Likert-scale. This question from the Bruce (1999) instrument was modified to include selection criteria espoused by current higher education endowment investment professionals. Bruce asked participants if they considered 33 criteria important, or not important, in selecting investment managers. Bruce categorized these 33 criteria under four basic areas concerning the selection of
investment managers: (a) investment manager’s background, (b) manager’s investment philosophy, (c) manager’s past investment performance, and (d) manager’s fees, services and administration (Bruce). According to Kochard and Rittereiser (2008), these four areas are considered by endowment investment professionals as important criteria in the selection of investment managers. Personal qualities such as integrity and honesty are also considered by endowment investment professionals to be important in choosing investment managers (Kochard & Rittereiser). The question in this study used the four basic areas of selection criteria from the Bruce instrument and the criteria of personal qualities found in the literature.

Pilot Testing of the Instrument

A pilot study using the survey instrument was conducted by choosing 10 of the institutions from the 2008 NACUBO Endowment Study that reported endowments $50 million to $100 million. These 10 institutions were sent the surveys with a cover letter requesting their participation in the pilot study. The institutions were asked to complete the survey within 14 days of receipt. Five institutions returned the survey with complete data, four did not return the survey, and one institution could not be contacted.

Procedures

The survey instrument was mailed to the individual at the institution who was responsible for responding to the annual NACUBO Endowment Study. The institution was contacted to identify this individual before the survey was mailed. Given the sensitivity of the data provided, confidentiality of institutional submissions was maintained. A numeric code placed on each survey identified that survey with the institution to which it was mailed. This cross reference between the code on the survey
and the institution’s name was kept confidential by the researcher. Participants were asked to return the completed questionnaire within 14 days of receipt. Institutions that did not respond after 30 days were contacted by email to verify that the survey was received and, if so, to request that it be completed and returned. In some cases, a follow up survey was mailed to those institutions who requested another copy of the survey. The cross reference between the survey code and the institution helped the researcher identify which institutions had not responded to the first survey mailing to assist in the collection of surveys from non-respondents. The cross reference also assisted in the event an institution needed to be contacted to clarify a response or lack of a response on the survey. Data from surveys received within the 45 day period that were determined to be adequate were used for this study.

Limitations

The composite index used in calculating investment performance was based in part on a nationally recognized broad market index for U.S. equities, the Wilshire 5000. Because of the complexities of the equity markets and the disparity of returns among the various styles and types of equity investments, this index may not have accurately reflected the institution’s performance in equity investments. The Wilshire 5000 Index measures the performance of all U.S. equity securities with available price data. In reality, institutions also invest in equities of foreign countries, which are measured against more appropriate indices. Similar complexity exists in the measurement of fixed income investments. This was a limitation mentioned in the Bruce (1999) study. Bruce suggested for future research that institutions determine their own benchmark indices to “give a more reliable measure of the extent to which the subjects met their investment
objectives” (Bruce, p. 107). However, institutions will experience a similar problem declaring their own benchmark index for these broad asset classes, as there is not one index that measures the entire universe of equity investments. Therefore, there does not appear to be an alternative method of calculating performance that would completely address and eliminate this limitation.

Data Analysis

The research question for the study was as follows: What is the influence of selected higher education endowment management practices on the five-year rate of return of colleges and university endowments ranging in size from $100 million to $1 billion? This research question was analyzed based on the following variables: (a) use of an investment committee; (b) number of committee members; (c) frequency of committee meetings; (d) selection of committee members; (e) use of written investment policy; (f) components of investment policy; (g) use of external investment managers; (h) ratio of external investment managers per $100 million; (i) number of years with external investment managers; (j) use of an investment consultant; (k) employment of a chief investment officer; (l) consideration of personal qualities, background, investment philosophy, investment performance, and management fees in selecting external investment managers; (m) endowment size; and (n) type of institution (public or private).

As in the Bruce (1999) study, the Pearson product-moment and Spearman’s rank correlation coefficients were used to measure the relationship among the selected endowment management practices (predictor variables) and endowment investment performance (criterion variable). Spearman is a more appropriate measure of association when using ordinal data (Lomax, 2001) and thus was used given that seven of the
predictor variables (use of investment committee, committee selection, investment policy, use of external managers, use of consultant, employment of a CIO, and institution type) are dichotomous variables.

In addition, standard multiple regression analysis was performed to explore the predictive value each management practice may have had on predicting investment performance. Given the exploratory nature of this study, a step-wise multiple regression analysis was conducted to determine which specific predictor variables make meaningful contributions to the overall prediction of investment performance. According to Mertler and Vannatta (2002), “stepwise regression should be used where exploration is the purpose of the analysis” (p. 171). There was no plan based on theory or previous knowledge that lead to the belief that one management practice has more influence over another, thus this analysis remained exploratory in nature. Although Bruce (1999) found three variables (number of components of investment policies, number of money managers, and frequency of investment committee meetings) to have a negative impact on endowment performance, no further research has been conducted to confirm this finding.

To obtain a reliable regression equation, the ratio of the number of participants to the number of predictor variables should be considered (Mertler & Vannatta, 2002). Tabachnick and Fidell (as cited in Merter & Vannatta) recommend that \( n \geq 50 + 8k \) for testing multiple correlations. This study measured 18 predictor variables. Using the Tabachnic and Fidell formula, this study should realize 186 \( (n \geq 50 + 8(18)) \) usable responses in order for the regression equation to be reliable. Thus a response rate of 66.2% was desirable.
Summary

This study was designed to evaluate the endowment management practices of colleges and universities. An analysis of the survey data studied the relationship between the management practices of those institutions and their investment performance. The data were tabulated and analyzed statistically using PASW version 17.0.
CHAPTER IV

RESULTS

Introduction

In order to gain a better understanding of the relationship between investment performance and the selected endowment management practices of the 56 colleges and university endowments participating in this study, the analysis was organized into two phases, descriptive and statistical. The results of the descriptive phase provide a brief description of each variable being analyzed. The results of the statistical phase reports the results of the statistical tests performed on the variables.

Sixty-six (22.5%) of the 293 surveys were returned. Ten of the 66 returned surveys were determined to be unusable in the study as a result of incomplete data necessary to compute the dependent variable, investment performance. These surveys were incomplete because they did not provide the institution’s investment asset allocation for five years. As a result, their five-year average investment performance (return), relative to their composite index, could not be computed. The remaining 56 (19%) surveys were adequate for use in the study and will be referred to as the participating institutions.

Descriptive Statistics

Usable data were collected from the 56 participating college and university endowments. The data were recorded on an Excel spreadsheet with each column of the first row being the data labels (i.e. dependent and independent variables) and the subsequent rows being the values for each variable provided by the participating
institutions. The data were then uploaded into the PASW 17.0 statistical software and each variable defined in terms of its measure (i.e., nominal or scale).

Using the analyze/descriptive statistics function of PASW, frequencies and percentages were provided for each of the following nominal variables: (a) institution type; (b) has an investment committee; (c) selection of members based on experience; (d) has an investment policy; (e) use of external investment managers; (f) use of a consultant; and (g) use of a CIO. Of the 56 participating institutions, 26 (46%) were public and 30 (54%) were private entities. Table 4 gives a summary of the remaining above-mentioned nominal independent variables used in the study.

Table 4

<table>
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<tr>
<th></th>
<th>Selection of</th>
<th>Use of</th>
</tr>
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<td></td>
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<td>Has an</td>
</tr>
<tr>
<td></td>
<td>investment</td>
<td>investment</td>
</tr>
<tr>
<td></td>
<td>committee</td>
<td>policy</td>
</tr>
<tr>
<td>Has an investment committee</td>
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<td>53</td>
</tr>
<tr>
<td>Yes</td>
<td>56</td>
<td>45</td>
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<td>%</td>
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<td>80%</td>
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<td>10</td>
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<td>17%</td>
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</tr>
<tr>
<td>%</td>
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<td>2%</td>
</tr>
<tr>
<td>Total</td>
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<td>56</td>
</tr>
<tr>
<td>%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
All 56 institutions had both an investment committee and investment policy. Forty-five (80%) reported that they consider investment experience in selecting investment committee members, while 10 (18%) did not. One (2%) institution did not respond to this question. Fifty-three (95%) of participants use external investment managers, and three (5%) do not. Forty-eight (86%) of the participating institutions used a consultant while seven (12%) did not, and one (2%) did not respond to this question. Forty-seven (84%) reported they do not employ a CIO, while nine (16%) reported that they do employ a CIO.

Using the analyze/descriptive statistics function of PASW, minimums, maximums, mean and standard deviations were provided for each of the following interval variables: (a) endowment performance; (b) endowment size; (c) number of committee members; (d) number of committee meetings; (e) number of investment policy features; (f) number of external investment managers; (g) number of years with external investment managers; and (h) importance of personal qualities, background, investment philosophy, investment performance and management fees in selecting external investment managers. The five-year average performance return for the 56 participants was 2.48%. The range of performance was a high of 8.58% and low of -0.32%. The participating endowments ranged in value from $74,771,194 to $679,824,000 with a mean asset size of $232,219,864. The results of the remaining interval level independent variables are summarized in Table 5.
### Table 5

*Summary Statistics for the Interval Independent Variables Used in the Study*

<table>
<thead>
<tr>
<th></th>
<th>Number of Committee Members</th>
<th>Number of Committee Meetings</th>
<th>Investment Policy Features</th>
<th>Managers per $100 Million</th>
<th>Number of Years with Managers</th>
<th>Personal Qualities</th>
<th>Background</th>
<th>Investment Philosophy</th>
<th>Investment Performance</th>
<th>Management Fees</th>
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<tr>
<td>Mean</td>
<td>8.68</td>
<td>4.64</td>
<td>6.21</td>
<td>8.29</td>
<td>5.92</td>
<td>4.42</td>
<td>4.56</td>
<td>4.67</td>
<td>4.15</td>
<td>3.63</td>
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<tr>
<td>Standard Deviation</td>
<td>3.05</td>
<td>1.93</td>
<td>1.07</td>
<td>7.53</td>
<td>3.94</td>
<td>0.67</td>
<td>0.57</td>
<td>0.55</td>
<td>0.67</td>
<td>0.82</td>
</tr>
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<td>2.00</td>
<td>3.00</td>
<td>0.17</td>
<td>1.00</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
<td>2.00</td>
<td>2.00</td>
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<td>Maximum</td>
<td>18.00</td>
<td>12.00</td>
<td>7.00</td>
<td>35.57</td>
<td>23.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>
Among participating institutions the number of members on investment committees ranged from two to 18 with an average of 8.68. The average number of committee meetings held per year was 4.64, and ranged from as few as two to as many as 12 meetings per year. The number of investment policy features ranged from as few as three to as many as seven, with an average of 6.21. The average number of investment managers per $100 million of endowment assets was 8.29, with a minimum of 0.17 and a maximum of 35.57. The average number of years that participants stayed with their investment managers had a mean value of 5.92. The minimum average retention of investment managers was one and the maximum was 23. Participating institutions rated the importance of personal qualities, background, investment philosophy, investment performance and management fees in selecting investment managers an average of 4.42, 4.56, 4.67, 4.15 and 3.63 respectively.

Statistical Analyses

The research question for the study was as follows: What is the influence of selected higher education endowment management practices on the ten-year rate of return of colleges and university endowments ranging in size from $100 million to $1 billion? This research question was analyzed based on the following variables: (a) use of an investment committee; (b) number of committee members; (c) frequency of committee meetings; (d) selection of committee members; (e) use of written investment policy; (f) components of investment policy; (g) use of external investment managers; (h) ratio of external investment managers per $100 million; (i) number of years with external investment managers; (j) use of an investment consultant; (k) employment of a chief investment officer; (l) consideration of personal qualities, background, investment
philosophy, investment performance, and management fees in selecting external investment managers; (m) endowment size; and (n) type of institution (public or private). This phase of the study was designed to analyze the degree of relationship (association) among the various endowment management (independent) variables and between the endowment management variables and the investment performance (dependent) variable. The measurement of the association between two variables is the correlation coefficient. Two common measures of correlation are Pearson’s r and Spearman’s rho. Pearson’s r, also referred to as the Pearson product-moment correlation coefficient, is the “usual measure of correlation” (Garson, 2008, Key Concepts and Terms section, ¶ 5). However, Pearson is not an appropriate measure of correlation when both variables are not at least interval level variables (Lomax, 2001). Spearman’s rho, or the Spearman rank correlation coefficient, is used with two ordinal variables or an ordinal and interval variable (Garson). Of the 18 independent variables in this study, seven were nominal and 11 were interval variables. Therefore, to measure the strength of the relationship among the independent variables and between the dependent and independent variables, both the Pearson and Spearman correlation coefficients were performed.

PASW version 17.0 was the statistical software used to run both of the Pearson and Spearman correlation coefficients at the .001 level of significance. The dependent and all but two of the independent (predictor) variables were entered. Two of the predictor variables, institution has an investment committee and investment policy, were excluded from the analysis because both were constant over all 56 cases. All institutions had an investment committee and an investment policy. This reduced the number of independent variables from 18 to 16. In both correlation matrices, cases were excluded
when one or both of a pair of variables had missing values. Coefficients were based on all cases with valid codes for all pairs of variables. The Pearson matrix is presented in Table 6 and the Spearman matrix in Table 7.

In Table 6, the relationships among the dependent and the 11 interval predictor variables were examined using the Pearson correlation. Among the dependent and the 11 interval predictor variables, 66 pairs were selected and coefficients measured. The Bonferroni correction was used, and significance was set at $p < .001$. None of these correlated pairs had a significant association at the .001 level.

In Table 7, the Spearman correlation coefficient measured the relationships among the dependent variable and the five nominal independent variables. Fifteen pairs were selected and coefficients measured. No significant associations among the dependent, and five nominal independent variables were found.

The Pearson and Spearman correlation coefficients addressed only the extent to which the pairs of variables were associated. Regression analysis, another measure of association, is used to test the extent to which one variable can be used to predict another (Lomax, 2001), despite the low number of observations that were analyzed in this study. Multiple regression involves more than one independent variable and is designed to predict the variance in an interval dependent variable, based on linear combinations of interval and dichotomous independent variables (Garson, 2010) as exist in this study.

The purpose of this research was to utilize regression analysis to clarify the relationship between the dependent variable, investment performance, and the various endowment management variables. The purpose of the analysis is to search for the regression coefficients for each independent variable that would provide the best linear
combination of independent variables in order to predict, as accurately as possible, investment performance. The regression equation takes the form of the following general linear model:

\[ Y' = b_1X_1 + b_2X_2 + \ldots + b_nX_n + C \]

where \( Y' \) is the predicted value of the dependent variable, \( b \)'s are the regression coefficients or weights given to each of the predictors or independent variables (\( X \)s), and \( C \) is the constant or \( Y \) intercept, indicating the amount the dependent variable will be when all the independent variables are zero (Garson, 2010). In the above equation there are \( n \) variables.

The first method of multiple regression used in this study was standard multiple regression. In standard multiple regression, all predictor variables are entered into the analysis simultaneously, and the effect of each predictor variable on the dependent variable is evaluated as if it were entered into the equation last. Each predictor variable is then evaluated in terms of how well it predicts the dependent variable, controlling for each of the other predictor variables (Mertler & Vannatta, 2002).

PASW 17.0 statistical software was used to perform the standard multiple regression analysis. In PASW, the dependent variable, investment performance, and the predictor variables were entered into the equation. Two predictor variables, use of an investment committee and investment policy were eliminated from the analysis given that all cases had an investment committee and investment policy. Of the 56 cases, nine were excluded from the analyses due to missing values. One influential case was identified by the standardized DFFIT and removed from the analysis. The remaining 46 cases were
Table 6

Pearson Product Correlation Summary of Interval Endowment Management Variables

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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
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<td>r</td>
<td>-</td>
<td>.154</td>
<td>-.018</td>
<td>.029</td>
<td>-.361</td>
<td>-.038</td>
<td>.150</td>
<td>.037</td>
<td>-.097</td>
<td>-.129</td>
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<tr>
<td>p</td>
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<td>.896</td>
<td>.830</td>
<td>.006</td>
<td>.792</td>
<td>.304</td>
<td>.795</td>
<td>.494</td>
<td>.361</td>
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<td>-.277</td>
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<tbody>
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Table 7

*Spearman's Correlation Summary of Nominal Endowment Management Variables*

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included in the regression analysis. Table 8 is a summary of the standard multiple regression analysis.

Table 8 provides the regression coefficients ($b$), the standard error of the coefficients ($SE\ b$) and the beta weights ($\beta$) for each of the predictor variables. According to the regression analysis, the predictor variables, institution type and importance of investment performance in selecting external investment managers were the only variables that were significant as predictors of investment performance after controlling for the other predictor variables. The value of the $R^2$ shown at the bottom of Table 8 indicates the percent of variance in the dependent variable explained by the collection of all independent variables entered into the equation (Garson, 2010). The value of $R^2$ in this case indicates that the collection of independent variables explain 48.9% of the variance in investment performance. However, according to Garson, an adjustment to $R^2$ is required in analysis where you have a relatively high number of independent variables to the number of cases. Given there are 16 independent variables in the equation with 46 cases being analyzed, the adjusted $R^2$ is a more reliable measure of the predictive value of the independent variables on investment performance. The adjusted $R^2$ in this analysis was .233, indicating that 23.3% of the variance in investment performance can be explained by the independent endowment management variables included in the equation. The $F$ statistic, also shown at the bottom of Table 8, is the result of the $F$ test used to test the significance of $R^2$, which is the significant of the entire regression model (Garson). The effect of the endowment management variables on endowment performance was not statistically significant, $F(15, 30) = 1.914, p = .06$. 
Table 8

Summary of Regression Analysis for Variables Predicting Investment Performance
(N = 46)

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>SE b</th>
<th>β</th>
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<tr>
<td>Constant</td>
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<td>3.354</td>
<td>0.336</td>
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<td>Endowment value</td>
<td>0.002</td>
<td>0.001</td>
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<td>Institution Type</td>
<td>0.898</td>
<td>0.372</td>
<td>0.356*</td>
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<td>Number of committee members</td>
<td>-0.040</td>
<td>0.058</td>
<td>-0.103</td>
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<td>Number of annual committee meetings</td>
<td>-0.023</td>
<td>0.115</td>
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<td>Committee members selected based on investment experience</td>
<td>0.371</td>
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<td>Number of investment policy attributes</td>
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<td>-0.257</td>
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<tr>
<td>Number of external investment managers</td>
<td>-0.015</td>
<td>0.029</td>
<td>-0.090</td>
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<tr>
<td>Years with investment managers</td>
<td>0.071</td>
<td>0.058</td>
<td>0.225</td>
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<tr>
<td>Use of a consultant</td>
<td>-0.143</td>
<td>0.711</td>
<td>-0.035</td>
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<tr>
<td>Use of a CIO</td>
<td>-0.393</td>
<td>0.568</td>
<td>-0.118</td>
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<tr>
<td>Importance of personal qualities</td>
<td>0.001</td>
<td>0.291</td>
<td>0.001</td>
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<tr>
<td>Importance of background</td>
<td>0.551</td>
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<td>Importance of investment philosophy</td>
<td>0.858</td>
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<td>Importance of investment performance</td>
<td>-0.783</td>
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<td>-0.430*</td>
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<tr>
<td>Importance of management fees</td>
<td>-0.374</td>
<td>0.297</td>
<td>-0.251</td>
</tr>
</tbody>
</table>

Note. $R^2 = .489$; Adjusted $R^2 = .233$; $F = 1.914 (p > .05)$. *$p < .05$. 
Although the model was not found to be significant in predicting the dependent variable, investment performance, considering the exploratory nature of the study, the correlation coefficients of each of the endowment management variables were considered relevant given that the overall model is approaching significance at the .05 level.

An issue with multiple regressions is the method used in selecting the predictor variables to place into the regression equation to obtain an efficient regression equation without including all variables (Mertler & Vannatta, 2002). The most efficient method used in selecting these variables is the use of the researcher’s knowledge (Mertler & Vannatta). However, in studies that are exploratory in nature, where there is no theory or previous knowledge of the effects of the predictor variables on the dependent, a more appropriate method of selecting the best group of variables is stepwise multiple regression (Mertler & Vannatta). In stepwise regression, the independent variable with the highest correlation with the dependent variable is selected and entered into the regression equation. Of the remaining independent variables, the one with the highest correlation with the dependent, while controlling for the first independent variable, is entered into the regression equation. This process is repeated until no additional independent variables increase $R^2$ (Mertler & Vannatta). Since no theory exists on the best set of endowment management variables contributing to endowment performance, a stepwise multiple regression analysis was performed to determine which set of predictor variables made meaningful contributions to the overall prediction of investment performance.

PASW 17.0 statistical software was used to perform the stepwise regression. As was done in the standard multiple regression analysis, the two predictor variables,
investment committee and investment policy, were eliminated from the stepwise regression analysis as these two variables were constant over all 56 cases. Of the 56 cases, nine cases were excluded from the analyses due to missing values. The remaining 47 cases were included in the stepwise regression analysis. Table 9 summarizes the results of the stepwise regression analysis.

Table 9

Summary of Stepwise Regression Analysis for Variables Predicting Investment Performance (N=47)

<table>
<thead>
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<td>-0.608</td>
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<tr>
<td>Step 2</td>
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<tr>
<td>Constant</td>
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<tr>
<td>Importance of Investment Performance</td>
<td>-0.712</td>
<td>0.247</td>
<td>-.395**</td>
</tr>
<tr>
<td>Number of External Investment Managers</td>
<td>-0.052</td>
<td>0.023</td>
<td>-.308*</td>
</tr>
</tbody>
</table>

Note. $R^2 = .114$ for Step 1; $\Delta R^2 = .092$ for Step 2 ($p < .05$). *$p < .05$, **$p < .01$.

This stepwise process entered two predictor variables (importance of investment performance in selecting investment managers and number of external investment managers) into the regression equation. In the first step, the predictor variable, importance of investment performance in selecting external investment managers, was
selected since it had the highest correlation with investment performance. Step 2 added the predictor variable, number of external investment managers, to the equation. As shown at the bottom of Table 9, Step 1 produced an $R^2$ of .114, indicating that 11.4% of the variability of investment performance of the 47 endowments in the analysis can be explained by the importance placed on investment performance when selecting investment managers. The change in $R^2 (\Delta R^2)$ indicates that by adding the variable, number of external investment managers, the predictability of investment performance was increased by 9.2%, producing an $R^2$ of .205, indicating that 20.5% of the variability of investment performance can be explained by the importance placed on investment performance in selecting external investment managers and the number of external investment managers. No other predictor variables added significantly to the prediction of investment performance.

Therefore, the best-fit equation for the regression model established in Table 9 for predicting the dependent variable, investment performance, is as follows:

$$Y' = 5.700 - .712X_1 - .052X_2$$

Where:

$Y' = $ Investment performance

$X_1 = $ Importance of investment performance in selecting investment managers

$X_2 = $ Number of external investment managers

Both predictor variables in the final stepwise regression model had a negative regression coefficient. This means that the higher the institutions rated the importance of past investment performance in selecting external investment managers and the greater the
number of external investment managers hired, the endowment’s investment performance decreased.

The dependent variable, investment performance, was a measure of the endowment funds performance as compared to a composite index. The performance was for the five-year period ending June 30, 2009 and was reported net of management fees. The composite index was developed by appropriate market indices for each asset class, weighted by the allocation indicated by each participating institution (see Table 2). The investment performance variable was the variance above or below the composite index. As found in previous studies, the major determinant (more than 90%) of investment performance is the allocation of assets to the various asset classes (Brinson et al., 1986, 1991). By comparing the performance to a composite index, the effects of allocation were minimized.

In this study, the mean value of the two predictor variables, importance of investment performance in selecting investment managers and number of investment managers was $X_1 = 4.15$ and $X_2 = 8.29$. Using these values, investment performance ($Y'$) would equal 2.31%, or that the endowment performed at 2.31% greater than its composite index. By increasing the institution’s rating of the importance of investment performance to five ($X_1 = 5.00$) and the number of external investment managers to nine ($X_2 = 9.00$), the value of $Y'$ would be 1.67, meaning the endowment would perform at 1.67% greater than its index.
CHAPTER V

DISCUSSION

Summary

This chapter presents a summary of the study, a discussion of the findings, and the limitations to the results of the study. Also presented in this chapter are recommendations to colleges and universities for the management of their endowments, as well as suggestions for future research on the subject of endowment management.

The purpose of this study was to identify college and university endowment, management practices that could enhance endowment performance and thereby increase the level of income to support the institution. Less government support, rising costs, and political pressures to keep tuition affordable have put pressure on colleges and universities to search for alternative sources of income, such as endowment income. A percentage of the endowment’s value is spent each year from the endowment to support the institution. Thus, endowment income to the institution is increased by the growth of the endowment. Endowment growth is a result of gifts made to endowments, endowment investment earnings, and spending rates. This study focused on the investment earnings (i.e., investment performance) component of endowment growth.

This study identified college and university endowments valued from $100 million to $1 billion and determined their five-year investment performance. The five-year performance and various endowment management practices were obtained by way of a survey instrument. This study described the participating institutions and analyzed the relationships between the five-year investment performance and the various management practices.
Review of other endowment management studies and related literature revealed that various management practices have an impact on endowment investment performance. Asset allocation has been found to be the single largest determinant of endowment performance (Brinson et al., 1986, 1991), yet other studies have found that other management practices might explain a portion of endowment performance (Bruce, 1999; Weaver, 1988). However, those studies were limited to either private institutions only, or a narrow range of endowments based on endowment size. This study looked at a broader range of endowments and presents the statistical findings on the 56 participating institutions.

The data used in the study were obtained by the mailing of a survey instrument to 293 college and university endowments that participated in the 2008 NACUBO Endowment Study and whose endowment assets ranged in size from $100 million to $1 billion. The list of participants in the NACUBO Endowment Study provided a cross section of public and private institutions across the country and a significant portion of the population of institutions of higher education.

The research question for this study related to endowment management practices of college and university endowments with assets ranging from $100 million to $1 billion and the influence of selected management practices on the five-year investment performance of the endowment. The study was not designed to determine the causal relationship between the investment performance and the management practices.

Excel 2007 was used to organize the data gathered in the study. The data were then transferred into PASW 17.0 statistical software and analyzed using descriptive, correlation and regression applications.
Conclusions and Discussion

Two of the selected endowment management practices of the 56 participating colleges and university endowments had a significant effect on the five-year investment performance, and the effect for both practices were negative. The higher the participating institutions rated investment performance in selecting investment managers, and as the number of external investment managers increased, investment performance decreased. The other management practices in this study had no significant effect.

The findings of this study support the findings of the 1986 and 1991 Brinson et al. studies, which found that more than 90% of the variance in investment performance is determined by asset allocation. Once this asset allocation is determined, additional management intervention not only has little or no impact on endowment performance, it may have a negative impact. The findings of this study also support the findings of the Weaver (1988) and Bruce (1999) studies. Weaver found no significant differences in the management practices of high and low performing endowments groups except for asset allocation. Bruce found no significant positive relationships between the endowment management practices and endowment performance, but did find a negative relationship among three management practices and endowment performance.

This study found a negative relationship between the number of external investment managers and endowment performance. This was consistent with the Bruce (1999) study, which concluded that too many external investment managers can have a negative impact on the investment performance by costing the institution more in investment management fees. In this and the Bruce study, institutions reported investment performance returns net of any management fees. Investment management
fees are typically based on the value of the investments under management and are
carged as a percentage of investments managed. The larger the amount managed, the
less the management fee percentage. Therefore, more investment managers managing
smaller portions of the endowment investment portfolio may increase the amount paid
out in management fees versus fewer managers with larger portions of the portfolio.
Haight et al. (2007) believe the fee structure of investment managers may be cost-
prohibitive for smaller endowments and points out other costs associated with hiring
multiple managers such as time and effort required to monitor and evaluate their
performance.

This study also found a negative relationship between endowment performance
and the importance placed on past investment performance in selecting external
investment managers. Overreliance on a manager’s past investment performance might
lead endowment trustees to ignore other important attributes of an investment manager
such as personal qualities, investment background and philosophy and management fees.
Through interviews with CIO’s of some of the most successful higher education
endowments, Kochard and Rittereiser (2008) found that CIO’s placed more importance
on qualitative factors, such as personal qualities, in selecting endowment investment
managers. Moreover, every CIO interviewed by Kochard and Rittereiser considered
personal qualities such as good values and trustworthiness to be as important as
investment performance in selecting a good investment manager. According to Haight et
al. (2007), while investment performance is important, “performance and fees tend to
converge over time”, and that the selection of managers may very well come down to
traits such as “quality of service, compatibility of philosophies, trust, and
communications” (p. 222). Weaver (1988) and Bruce (1999) did not analyze the importance institutions placed on past investment performance in selecting investment managers, and how that impacted endowment performance.

This study did not support Bruce’s (1999) findings in regards to the level of involvement of investment committees and the complexity of investment policies. Bruce found that as the number of annual investment committee meetings increased and as the number of features included in investment policies increased, investment performance declined. This led Bruce to conclude that the more investment committees met, the more opportunities there were for the committee to react to changes in the market and deviate from the established asset allocation in order to take advantage of changes in the market. Brinson et al. (1991) concluded this actually may cause an increase in the risk of a portfolio. However, this study found no significant relationship between performance and the number of times investment committees met. Weaver (1988) found no significant relationship between investment performance and the number of annual investment committee meetings.

The stepwise regression analysis indicated that two management practices explained 20.5% of the variability between endowment performance and the two management practices. The importance of investment performance in selecting external investment managers explained 11.4% of the variance, while the number of investment managers explained 9.2%.

Limitations

This study was limited to 56 institutions with endowments valued greater than $100 million to less than or equal to $1 billion. According to data provided by the NCES
(2009), there were 324 postsecondary degree-granting institutions with endowments valued > $100 million to ≤ $1 billion.

The low ratio of the number of participating institutions to the number of endowment management variables analyzed (3:1) produced an unreliable regression equation, thus limiting the statistical power of the regression analysis. A greater number of participants could have resulted in additional significant relationships among investment performance and the endowment management variables.

The study was also limited by the lack of benchmark indices to measure the performance of endowment investments listed as “other” in the asset allocation question. A few of the participating institutions reported a portion of their endowments invested in “other assets.” When asked to clarify what these investments were, participants reported such assets as land, cash surrender value of life insurance, trusts held by others financial institutions, and mortgages receivable. Because of the nature of these assets, the institutions did not have a market index against which to measure their performance.

Finally, the study was limited to measuring endowment performance over a five-year period rather than ten years as was originally planned. Although sixteen of the 56 participants responded with less than ten years of investment returns or asset allocation data necessary to compute the institution’s investment performance over a 10 year period, all 56 participants provided at least five years of investment return and asset allocation data. Measuring performance over a five year period provided a more optimal number of participants for the analysis of data and was still considered to be an adequate period of time.
Recommendations for Policy or Practice

The implications of the findings of this study are that endowment management is chiefly a matter of the institution deciding on the endowment’s allocation among the various asset classes. Once the asset allocation is determined, placing a high level of importance on investment managers past investment performance and hiring multiple investment managers will decrease long-term performance. Other management practices such as the number of investment committee members, the number of annual meetings, selection of investment committee members, number of investment policy attributes, use of external investment managers, consultants or CIO and the importance placed on external investment manager selection criteria have no significant effect on endowment performance. The results of this study suggests that institutions should select the least number of managers best suited to manage the different types of investments as determined by the institutions endowment asset allocation without too much reliance on past investment performance.

Recommendations for Future Research

Sixty-six (22.5%) of the 293 surveys were returned. This low response rate might have been due to the participant’s perception of the time required in completing the survey. The survey in this study was mailed to individuals at institutions who were asked to fill out and return by mail. Individuals at several institutions asked if they could receive an electronic version of the survey to complete on their computer and return via email. A web-based survey might give the individual completing the survey the perception that it would consume less time to complete. Another impediment to completing the survey might have been the time involved with obtaining the data to
provide ten years of investment performance and asset allocation data. Future studies might ask for investment performance data over a five year period rather than ten years as was done in the survey instrument used in this study. Five years may be more readily available to the individual completing the survey while providing an adequate period of performance for the study.

The low response might have also been due to the lack of motivation to complete the survey. Participants in this study were told the results of the study will be provided to them if they choose to participate. Monetary incentives such as a gift cards could be offered to those who participate to motivate them to respond. Participation could also be enhanced by personal phone calls to individuals responsible for completing the survey rather than email correspondence as was used as the primary method of communication in this study.

This study was limited to endowments valued > $100 million to ≤ $1 billion. Additional studies could analyze the management practices of larger and smaller endowments to determine if the effects on investment performance are similar.

This study was limited to investment performance. Endowment growth also occurs as a result of endowment giving. Fund-raising practices of colleges and universities and their impact on the amount of gifts raised would be another area to research. Research in this area could include organizational characteristics such as the type of institution (e.g., public and private four and two-year) and the success of athletic programs to search for effects these might have on private giving. Discovering the practices of successful fund-raising efforts of colleges and universities and the best practices for increasing private giving would be valuable to higher education
administrators as they find alternative ways to fund the cost of providing higher education.

Another dynamic of endowment growth is the rate at which institutions spend from their endowments. Another area of research might be to discover the spending policies of colleges and universities and their effect on the institution’s fund-raising efforts. The rate at which institutions spend from their endowments might affect the attitudes of current and potential donors, thus affecting the institution’s fund-raising efforts.

As suggested by Bruce (1999), another area of study would be the validation of the findings from the Brinson et al. (1986, 1991) studies and their applicability to college and university endowments. Brinson et al. studied the effect of asset allocation on the performance of investments held in pension funds, finding that over 90% of endowment performance could be explained by asset allocation. Future studies could analyze the asset allocations of higher education endowments to find if it has a similar effect on endowment investment performance.

Finally, another area of research might be to study the effect endowment management practices and performance might have on the overall success of the institution. For instance, what impact do endowments have on access to higher education? The justification for this study was based in part on the need for alternative sources of income to augment institutional efforts to off-set the cost of attendance to students through tuition discounts.
Summary

In conclusion, as government support of higher education continues to decline and institutions are unable to make up the difference through tuition increases, endowments become a more critical source of higher education funding. With this dynamic, along with the growing complexity in the investment markets, institutions should place greater importance on determining and implementing the best endowment management practices for enhancing endowment performance. Accordingly, research in the area of endowment fund management should continue in order to determine what the best endowment management practices are.
APPENDIX A
APPROVAL FOR USE OF SURVEY INSTRUMENT

From: Charles Bruce <brucecw@auburn.edu>  
To: McElhaney, Robert  
Subject: Re: Instrument for Dissertation Study

Rob,

You are certainly welcome to use the survey instrument. You are correct about the CIO issue. A couple of years back, Auburn discussed that very topic with the Investment Committee and external consulting firm. AU decided not to hire a CIO. As Assistant Treasurer, I served as the "quasi-CIO."

Last year, I retired after 30 years at AU. As you can tell, I got my doctorate very late in my career at age 53.

I wish you the best in your pursuit of the Ph.D.

Charles

>>> Robert McElhaney <rmcelhaney@accounting.umsmmed.edu> 10/6/2009 5:20 PM >>>

Dear Dr. Bruce,

My name is Rob McElhaney. I'm embarking on my dissertation to fulfill the requirements for a Ph.D. in Higher Education Administration at the University of Southern Mississippi. My topic is endowment management practices and their effect on endowment performance. I'd like to build off of the survey instrument you used in your 1999 study, if I may. In addition to your instrument as is, I'd like to query institutions on whether or not they employ a Chief Investment Officer, since this seems to be an emerging practice among higher education institutions.

I'd be glad to discuss this with you if you'd like, or send you the survey instrument I will be proposing to my committee.

Please let me know if you have any questions.

Very Respectfully,

Rob

Rob McElhaney
Assistant Comptroller
University of Mississippi Medical Center
2500 North State Street
Jackson, MS 39216-4505
Phone: 601-815-5116
Fax: 601-984-1064
rmcelhaney@accounting.umsmmed.edu
Please answer the following questions as completely as possible. If your answer takes more than the allotted space or requires other documentation, please attach the information to the questionnaire and reference the question to which it applies.

**Section I: Endowment Performance, Asset Allocation and Size**

**1.** What was the total rate of return (net of investment management fees and expenses) for your endowment pool for each of the following ten years? This is the return reported to the NACUBO Endowment Study.

<table>
<thead>
<tr>
<th>Year</th>
<th>Return</th>
<th>Year</th>
<th>Return</th>
<th>Year</th>
<th>Return</th>
<th>Year</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td></td>
<td>2003</td>
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<td>2005</td>
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<td>2007</td>
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</tr>
</tbody>
</table>

**2.** Provide an estimate of your institution's endowment asset allocation percentages over the past ten years in the spaces provided below. Information is the same data provided to the NACUBO Endowment Study.

<table>
<thead>
<tr>
<th>Year</th>
<th>Equity</th>
<th>Fixed Income</th>
<th>Real Estate</th>
<th>Cash</th>
<th>Hedge Funds</th>
<th>Private Equity</th>
<th>Venture Capital</th>
<th>Natural Resources</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>2001</td>
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<td>2002</td>
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<td>2003</td>
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<tr>
<td>2004</td>
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<td></td>
<td></td>
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<tr>
<td>2005</td>
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<tr>
<td>2006</td>
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<tr>
<td>2007</td>
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<tr>
<td>2008</td>
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<td></td>
<td></td>
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<tr>
<td>2009</td>
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<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**3.** What was the market value of your institution's endowment assets for the fiscal year ending in 2009?

**2009 Market Value**

**Section II: Endowment Governance**

**4.** Is your college or university public or private?

<table>
<thead>
<tr>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**5.** Does your governing board have an investment committee that has oversight responsibility for endowment management?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**6.** If the answer to the previous question is yes, how many members are on the investment committee?

<table>
<thead>
<tr>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**7.** How many times does the investment committee meet each year?

<table>
<thead>
<tr>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**8.** Is the investment committee membership selection based on investment experience?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Section III: Endowment Investment Policy

9. Does your institution have a written investment policy?  

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. If answer to previous question is yes, indicate whether or not the following components are included in your investment policy?  

<table>
<thead>
<tr>
<th>Component</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Asset allocation strategy followed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Investment objectives of institution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) How endowment returns relate to spending policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Investment performance benchmarks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) The degree of risk in investment pool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) Whether/how portfolio should be rebalanced to maintain allocation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(g) Consideration in hiring and retaining investment managers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section IV: Endowment Investment Manager Information

11. Does your institution have an external investment manager?  

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. If answer to previous question is yes, indicate the number of years with each external investment manager. If the number of managers exceeds 15, please extend your response to the right.  

<table>
<thead>
<tr>
<th>Manager</th>
<th># of Years</th>
<th>Manager</th>
<th># of Years</th>
<th>Manager</th>
<th># of Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Does your institution retain the services of an investment consultant for manager performance evaluation & manager search?  

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. Does your institution employ a chief investment officer whose only responsibility is managing the institution's endowment?  

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section V: Endowment Investment Manager Selection Process

Listed below is a set of general criteria used in the selection of investment managers. Circle the response that most closely corresponds to your view of the importance of each criterion in selecting your current external investment manager(s). Use the following response scale to respond to each item.

<table>
<thead>
<tr>
<th>Investment Manager Selection Criterion</th>
<th>Unimportant</th>
<th>Of Little Importance</th>
<th>Moderately Important</th>
<th>Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal qualities (good values and trustworthiness)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Background (experience, years in business, size of company etc..)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Investment philosophy (management style, rationale for choosing securities for investment portfolio)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Investment performance (past performance)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Investment management fees &amp; expenses</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 10020101
PROJECT TITLE: Effects of Endowment Management Practices on Endowment Performance
PROPOSED PROJECT DATES: 02/15/2010 to 02/15/2011
PROJECT TYPE: Dissertation or Thesis
PRINCIPAL INVESTIGATORS: Robert L. McElhaney
COLLEGE/DIVISION: College of Education & Psychology
DEPARTMENT: Educational Studies & Research
FUNDING AGENCY: N/A
HSPRC COMMITTEE ACTION: Exempt Approval
PERIOD OF APPROVAL: 02/23/2010 to 02/22/2011

Lawrence A. Hosman, Ph.D.
HSPRC Chair

Date: 2-24-10
REFERENCES


