

**The Financial Returns from Oil and Natural Gas Company Stocks
Held by American College and University Endowments**

Robert J. Shapiro and Nam D. Pham

December 2012

SONECON 

Table of Contents

| | | |
|------|--|-----|
| I. | Executive Summary | 2. |
| II. | College and University Endowments: An Overview | 4. |
| III. | The Distribution of College and University Endowments by Asset Class | 8. |
| IV. | The Returns on Investments by College and University Endowments by Asset Class..... | 10. |
| V. | Conclusion | 17. |
| | References | 19. |
| | About the Authors | 20. |

The Financial Returns from Oil and Natural Gas Company Stocks Held by American College and University Endowments

Robert J. Shapiro and Nam D. Pham¹

I. Executive Summary

This study examines the performance of American college and university endowments. While these endowments vary in size and the public or private status of the institutions, the most important factor affecting their financial performance is their asset allocation. We tracked the returns of the major asset classes held by college and university endowments over the most recent year (FY 2010-2011), the most recent five-year period (FYs 2006-2011), and the most recent ten-year period (FYs 2001-2011).² Depending on the period, different classes of assets produced relatively higher returns for college and university endowments. Over the most recent five-year period, for example, fixed income securities and distressed debt far outperformed all U.S. equities, foreign equities, and real estate securities. Yet, over the most recent ten-year period, real estate securities, distressed debt, commodities and foreign equities far outperformed all U.S. equities, fixed income instruments, and Treasury bills. And over the most recent year, real estate securities, all U.S. equities and foreign equities outperformed bonds, distressed debt, and cash and Treasury bills.

This analysis also revealed one consistent element: Over all three periods, U.S. shares of oil and natural gas companies outperformed both the overall performance of these endowments

¹ Support for the research for this report was provided by the American Petroleum Institute. The analysis and conclusions are solely those of the authors.

² We used the following indexes to measure the returns of the various asset classes: U.S. stocks, the S&P 500; foreign equities, the MSCI World Index, excluding the U.S.; bonds or fixed income instruments, the Barclay Bond Index; real estate securities, the Wilshire Real Estate Securities index; commodities, the Dow Jones Commodities Index; and distressed debt, the HFRI Distressed Debt Index. Note, the National Association of College and University Business Officers (NACUBO) has reported the one-year return on certain asset classes. In particular, they reported a 30.1 percent return on U.S. equities held by their endowments for FY 2010-2011. They do not report five-year or ten-year returns by asset class. For this study, we generally apply the benchmarks, and for FY 2010-2011, the S&P 500 returned 30.7 percent. As NACUBO reported a 30.1 percent return on U.S. equities, it indicates that college and university endowment investments in U.S. equities track the S&P 500 very closely.

and every other asset class examined here.³ We find that for at least the last decade, investments by college and university endowments in U.S. shares of oil and natural gas companies produced the highest returns for those endowments.

- In the most recent year with available data, FY 2010-2011, 823 endowed U.S. public and private not-for-profit colleges and universities held endowment assets totaling \$408 billion, an average of \$496 million per-institution.⁴ The endowments of 295 public institutions totaled \$122.4 billion, averaging \$415 million each; and the endowments of 528 private institutions totaled \$285.7 billion, averaging \$541 million each. All told, private institutions account for 70 percent of all college and university endowment assets.
- In FY 2010-2011, these 823 college and university endowments held 2.1 percent of their assets in oil and natural gas company stocks, valued at \$8.45 billion and accounting for \$3 billion of the endowment assets of public institutions and \$5.4 billion of the endowments at private institutions.

Summary Table 1. College and University Endowment Assets and Investment Gains, All Assets, U.S. Equities, and Oil and Natural Gas Stocks, Public and Private Institutions, FY 2010-2011 (\$ million)

| | Public Institutions | Private Institutions | All Institutions |
|-------------------------------------|---------------------|----------------------|------------------|
| Total Endowment Assets | \$122,439.0 | \$285,691.0 | \$408,130.0 |
| Domestic Equities | \$23,263.4 | \$42,853.7 | \$66,117.1 |
| Share of Endowment Assets | 19.0% | 15.0% | 16.2% |
| Oil & Natural Gas Stocks | \$2,973.1 | \$5,476.7 | \$8,449.8 |
| Share of Endowment Assets | 2.4% | 1.9% | 2.1% |
| | | | |
| Total Investment Gains | \$23,508.3 | \$55,138.4 | \$78,361.0 |
| One-Year Returns | 19.2% | 19.3% | 19.2% |
| All U.S. Equities | \$7,072.1 | \$12,856.1 | \$19,901.2 |
| One-Year Returns | 30.4% | 30.0% | 30.1% |
| Oil & Natural Gas Stocks | \$1,570.7 | \$2,893.3 | \$4,464.0 |
| One-Year Returns | 52.8% | 52.8% | 52.8% |

³ The returns on oil and natural gas stocks are derived from the S&P Energy Index. Over 98 percent of the index is comprised of oil and natural gas companies: 60.3 percent integrated oil & gas companies; 17.75 percent oil & gas exploration and production firms; 14.11 percent oil and gas equipment and services companies; 2.66 percent oil and gas storage and transportation firms; 1.96 percent oil and gas drilling companies; and 1.29 percent oil & gas refining and marketing firms. Coal and consumable fuels account for the remaining 1.92 percent of the Index.

⁴ The number of institutions of higher education is larger than the number analyzed here. We focus on 823 institutions with significant endowments included in the NACUBO-Commonfund Study of Endowments.

- Over the most recent five-year period, June 2006 to June 2011, the oil and gas company stocks held by colleges and universities produced average annual returns of 7.9 percent. These returns far exceeded those of the other asset classes held by these endowments, with average annual five-year returns of 2.9 percent for all U.S. stocks, 2.0 percent for global equities, 6.5 percent for bonds, 1.6 percent for real estate, 0.0 percent for commodities, 4.7 percent for distressed debt, and 2.0 percent for 3-month Treasury bills.
- The 7.9 percent average annual five-year returns from oil and natural gas company stocks were 172 percent higher than the average annual five-year 2.9 percent returns on all U.S. stocks and 68 percent greater than the average annual five-year 4.7 percent returns on all college and university endowment assets.
- Over the most recent ten-year period, June 2001 to June 2011, oil and gas company stocks held by colleges and universities produced average annual ten-year returns of 11.5 percent, compared to 2.7 percent for all U.S. stocks, 6.1 percent for global equities, 5.7 percent for bonds, 10.4 percent for real estate, 6.6 percent for commodities, 9.4 percent for distressed debt, and 2.1 percent for 3-month Treasury bills.
- The 11.5 percent average annual ten-year returns on oil and natural gas company stocks were 326 percent higher than the average annual ten-year 2.7 percent returns on all U.S. stocks and 105 percent greater than the overall average annual ten-year 5.6 percent returns on all college and university endowment assets.
- While one-year returns are often volatile, over the most recent year with data, June 2010 to June 2011, oil and natural gas company stock produced returns of 52.8 percent. By contrast, over the same year, the returns on all U.S. publically-traded stocks were 30.7 percent, foreign equities returned 30.3 percent, bonds generated 3.9 percent, real estate-based securities returned 35.2 percent, commodities produced returns of 25.9 percent, distressed debt generated 11.8 percent, and 3-month Treasuries returned 0.2 percent.
- From June 2010 to June 2011, the 52.8 percent returns from the oil and natural gas company shares held by college and university endowments were 71 percent higher than the 30.7 percent returns on all U.S. equities. Moreover, the one-year returns on oil and natural gas company shares also were 175 percent greater than the overall, 19.2 percent one-year, average return on all college and university endowment assets.
- Over the last decade, college and university endowments reduced their holdings of equities, including U.S. oil and natural gas stocks, and increased their holdings of “alternative investments.” Yet, throughout this period, oil and natural gas company

shares have outperformed the various assets included as alternative investments, including real estate securities, distressed debt, and commodities.

Summary Table 2. Average Annual Five-Year, Ten-Year, and One-Year Returns on College and University Endowment Assets, By Asset Class (Benchmarks)

| | Five Years: June 2006-June 2011 | Ten Years: June 2001-June 2011 | One Year: June 2010-June 2011 |
|---|--|---|--|
| All Endowments | 4.7% | 5.6% | 19.2% |
| Public institutions | 4.9% | 5.4% | 19.1% |
| Private institutions | 4.6% | 5.6% | 19.3% |
| <i>Returns by Asset Class</i> | | | |
| Oil and Natural Gas Stocks | 7.9% | 11.5% | 52.8% |
| All U.S. Equities | 2.9% | 2.7% | 30.7% |
| Foreign Equities | 2.0% | 6.1% | 30.3% |
| Fixed-Income Instruments (Bonds) | 6.5% | 5.7% | 3.9% |
| Real Estate Securities | 1.6% | 10.4% | 35.2% |
| Commodities | 0.0% | 6.6% | 25.9% |
| Distressed Debt | 4.7% | 9.4% | 11.8% |
| Three-month Treasury Bills | 2.0% | 2.1% | 0.2% |

II. College and University Endowments: An Overview

In 2010-2011, 19 million students attended 3,286 U.S. public and private colleges and universities on a full-time or part-time basis.⁵ (Table 3, below) Since 1990, student enrollments have risen nearly 40 percent while the number of institutions is nearly unchanged. About half of the institutions are public and half are private. Some 15.1 million students (79.7 percent) attended public institutions while less than 3.9 million (21.3 percent) attended private institutions.

Table 3. Degree-Granting U.S. Colleges and Universities and Their Enrollments, Selected Years⁶

| | FY 1990-1991 | FY 2000-2001 | FY 2010-2011 |
|-------------------------|---------------------|---------------------|---------------------|
| All Institutions | 3,216 | 3,393 | 3,286 |

⁵ This study also does not include 1,404 private, for-profit institutions that offer degree programs for some 2 million part-time and full-time students, because these institutions do not have endowments.

⁶ National Center for Education Statistics, Department of Education. 2012. "Digest of Education Statistics 2012." http://nces.ed.gov/programs/digest/d12/tables/dt12_279.asp; http://nces.ed.gov/programs/digest/d11/tables/dt11_196.asp.

| | | | |
|------------------------|------------|------------|------------|
| Public | 1,567 | 1,698 | 1,656 |
| Private | 1,649 | 1,695 | 1,630 |
| All Enrollments | 13,604,944 | 14,862,205 | 18,997,729 |
| Public | 10,844,717 | 11,752,786 | 15,142,809 |
| Private | 2,760,227 | 3,109,419 | 3,854,920 |

Endowments are financial assets established by donors or an institution's governing board. There are three classes of endowments. "True endowments" are funds in which the principal must be invested to provide income. "Term endowments" cover principal funds which may be spent after a period of time or for a specified purpose. True and term endowments are usually donor-restricted funds. By contrast, "quasi-endowments" are usually established by an institution's governing body and can be expended at any time at that body's direction. Universities and colleges include all three types of endowments in their total assets. The Department of Education and the National Association of College and University Business Officers (NACUBO) conduct regular surveys of endowment assets, allocations, and returns.⁷

These endowments have grown sharply since 1970 and especially since 1990, increasing from some \$11 billion in 1970 to \$68 billion in 1990 and \$408 billion in 2011. (Figure 1, below) The Department of Education reports that the 120 largest endowments account for about 75 percent of all endowment assets.⁸ In 2009, NACUBO and the Commonfund Institute issued the first NACUBO-Commonfund Study of Endowments. They analyzed the endowment assets of 823 institutions participating in the NACUBO survey, or 94 percent of all college and university endowments as estimated by the Department of Education. Our analysis of current endowments draws on the third NACUBO-Commonfund Study of Endowments.⁹

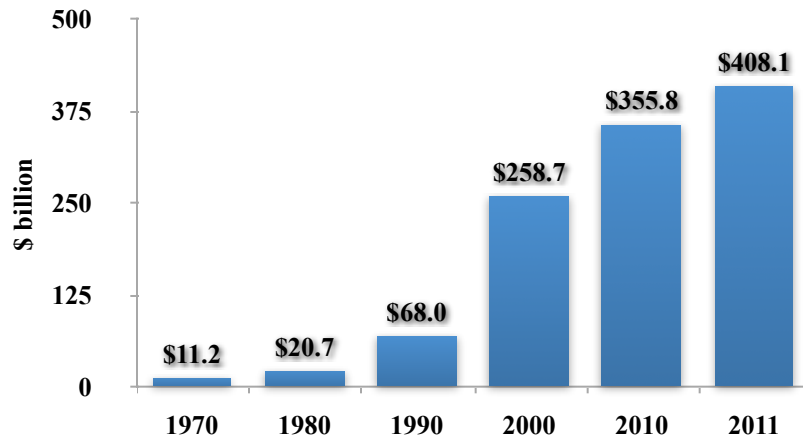
Figure 1. The Market Value of U.S. College and University Endowment Funds¹⁰

⁷ General Accounting Office. 2010. "Postsecondary Education – College and University Endowments have Shown Long-term Growth, While Size, Restrictions, and Distributions Vary." Report to U.S. Senate Committee on Health, Education, Labor, and Pensions and Committee on Education and Labor of the House of Representatives.

⁸ National Center for Education Statistics. Department of Education. 2012. "Digest of Education Statistics 2012". <http://nces.ed.gov/Programs/digest/>.

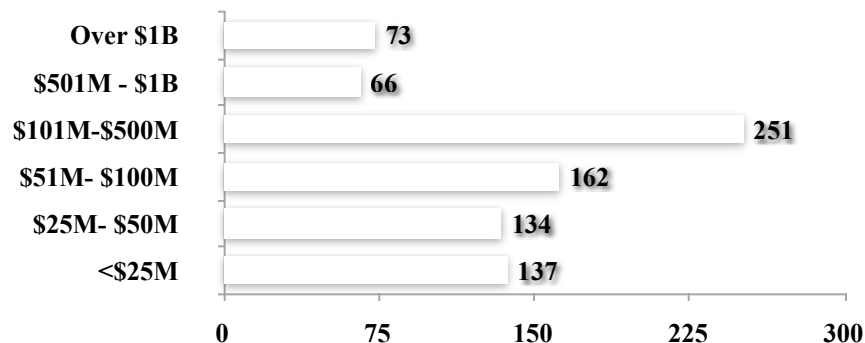
⁹ National Association of College and University Business Officers and the Commonfund Institute. 2012. "2011 NACUBO-Commonfund Study of Endowments." Annual Report.

¹⁰ *Ibid.*; National Center for Education Statistics. Department of Education. 2011. "Digest of Education Statistics"



Across the 823 institutions which participated in the FY 2010-2011 NACUBO survey, 73 institutions or 8.9 percent reported endowment assets exceeding \$1 billion, 66 institutions or 8.0 percent reported endowments worth \$501 million to \$1 billion, 251 institutions or 30.5 percent had endowments of \$101 million to \$500 million, 162 institutions or 19.7 percent reported endowment assets of \$51 million to \$100 million assets, 134 institutions or 16.3 percent had endowments of \$25 million to \$50 million assets, and 137 institutions or 16.6 percent reported endowments assets of less than \$25 million. (Figure 2, below)

Figure 2. College and University Endowments, By Size, FY 2010-2011¹¹



Over 64 percent of these endowed institutions, or 528 colleges and universities, are private institutions, and the remaining 295 institutions or nearly 36 percent of the total are public colleges and universities.¹² This large sample includes 66 community colleges granting associate

¹¹ National Association of College and University Business Officers and the Commonfund Institute. 2012. "2011 NACUBO-Commonfund Study of Endowments." Annual Report.

¹² *Ibid.*

degrees, or 8 percent of the total. In addition, 231 institutions or 28.1 percent confer only bachelor degrees, 241 institutions or 29.3 percent of the total grant bachelor and master degrees, and 285 institutions or 34.6 percent confer bachelor, master and doctorate degrees.¹³

The average market value of the endowment assets of all these institutions in FY 2010-2011 was \$495.9 million per-institution, ranging from \$574,000 at Southern Virginia University and \$823,000 at Georgia Perimeter College, to \$31.7 billion at Harvard University and \$19.3 billion at Yale University. Seventy-three institutions reported endowment assets of more than \$1 billion each. (Table 4, below) These 73 colleges and universities held a total of \$285 billion in endowment assets, an average of \$3.9 billion per-institution, and accounted for 70 percent of the combined endowment assets of all 823 institutions. Some 317 institutions had endowment assets of \$100 million to \$1 billion each, averaging \$321.8 million per-institution, and together held a total of \$102 billion in those assets or 25 percent of all college and university endowments. The remaining 433 institutions with endowments of less than \$100 million each, and averaging \$48.8 million per-institution, held combined assets of \$21.1 billion or 5 percent of all college and university endowments.

**Table 4. Distribution of College and University Endowment Assets
By Size, FY 2010-11 (\$ million)¹⁴**

| | Number of Institutions | Share of All Endowment Assets | Total Value of Endowments | Average Value of Endowment Per- Institution |
|---|-----------------------------------|--|--------------------------------------|--|
| Total Endowments | 823 | 100.0% | \$408,130 | \$495.9 |
| Large (Over \$1 billion) | 73 | 69.8% | \$285,000 | \$3,904.1 |
| Medium (\$100 million-\$1 billion) | 317 | 25.0% | \$102,000 | \$321.8 |
| Small (Under \$100 million) | 433 | 5.2% | \$21,130 | \$48.8 |

Private colleges and universities hold most endowment assets. In FY 2010-11, the 528 private colleges and universities held a combined total of \$285.7 billion in endowment assets, or 70 percent of all such endowment assets in the United States. (Table 5, below) By contrast, the combined endowments of the 295 public colleges and universities totaled \$122.4 billion, or 30 percent of all such assets. On an average per-institution basis, private and public institutions held endowments of roughly comparable size, at an average of \$541 million per-private institution and \$415 million per-public institution.

**Table 5. Distribution of College and University Endowment Assets,
Private and Public Institutions, FY 2010-2011 (\$ million)¹⁵**

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ *Ibid.*

| | All Institutions | Public Institutions | Private Institutions |
|---|-------------------------|----------------------------|-----------------------------|
| Total Endowments | \$408,130.0 | \$122,439.0 | \$285,691.0 |
| Share of Total Endowment Assets | 100.0% | 30.0% | 70.0% |
| Number of institutions | 823 | 295 | 528 |
| Endowment Assets Per Institution | \$495.9 | \$415.0 | \$541.1 |

As of June 30, 2011, the 10 largest college and university endowments included seven private institutions with combined assets of \$109.4 billion and three public institutions with combined endowments of \$32 billion. (Table 6, below) Harvard University had the largest endowment with more than \$31.7 billion in assets, following by Yale University with an endowment worth nearly \$19.4 billion and the University of Texas system with an endowment of \$17.1 billion. On a per-student basis, Princeton University had the largest endowment with assets of \$2,261,069 per-student, followed by Yale University at \$1,671,781 per-student and Harvard University at \$1,494,845 per-student.

**Table 6. Ten Largest College and University Endowments,
Total Assets and Assets Per-Student, June 30, 2011¹⁶**

| | Private or Public | Total Endowment (\$ million) | Endowment Per-Student |
|--|------------------------------|---|----------------------------------|
| Harvard University | Private | \$31,728.1 | \$1,494,845 |
| Yale University | Private | \$19,374.0 | \$1,671,781 |
| University of Texas System | <i>Public</i> | \$17,148.6 | \$85,160 |
| Princeton University | Private | \$17,109.5 | \$2,261,069 |
| Stanford University | Private | \$16,502.6 | \$1,077,264 |
| Massachusetts Institute of Technology | Private | \$9,712.6 | \$891,558 |
| University of Michigan | <i>Public</i> | \$7,834.8 | \$183,415 |
| Columbia University | Private | \$7,789.6 | \$282,170 |
| Northwestern University | Private | \$7,182.7 | \$374,413 |
| Texas A&M University System | <i>Public</i> | \$6,999.5 | \$131,232 |

III. The Distribution of College and University Endowments by Asset Class

The endowments of U.S. colleges and universities are distributed across many classes of assets. The main asset categories include U.S. equities, foreign equities, fixed income instruments such as bonds, cash and near-cash equivalents such as Treasury bills, and alternative investments. These alternative investments include holdings in funds operated by hedge funds,

¹⁶ *Ibid.* University websites.

venture capital and private equity funds, distressed debt, commodity instruments including timber, agricultural goods and oil and natural gas, and real estate-based securities.

Over the last decade, college and university endowments have sharply reduced their relative holdings of U.S. equities, foreign equities and fixed-income instruments, and sharply increased their holdings in alternative investments. In FY 2000-2001, 50.2 percent of the assets of college and university endowments were held in U.S. and foreign stocks, 23.4 percent in fixed-income instruments, alternative investments accounted for 24.3 percent of endowments, and the remaining 2.1 percent was held in cash and near-cash equivalents. (Table 7, below) By FY 2010-2011, the share of endowments held in U.S. and foreign stocks had declined to 31 percent and the share held in fixed-income instruments had fallen to 12 percent. (Table 8, below) In contrast, the share of those endowments held in alternative investments increased from 24.3 percent in FY 2000-2011 to 52.0 percent in FY 2010-2011.

This shift in the composition of college and university endowments has been led by institutions with large endowments (over \$1 billion), although it has occurred across institutions with large, medium and small endowments. By FY 2010-2011, institutions with large endowments held just 26 percent of their endowments in equities and 60 percent in alternative investments. (Table 8, below) By contrast, colleges and universities with medium-sized endowments (\$100 million to \$1 billion) still held 41 percent of their assets in equities and 40.5 percent in alternative investments; and institutions with small endowments held 59.0 percent of their assets in equities and just 17.0 percent in alternative investments. Finally, this shift is evident across private and public institutions, with private institutions relying on alternative investment to a greater extent. In FY 2000-2001, private colleges and universities held 57.3 percent of their endowments in equities and 11.5 percent in alternative investments, and public institutions held 57.2 percent of their endowments in equities and 8.0 percent in alternative investments. (Table 7, below) By FY 2010-2011, private college and university endowments held 29.0 percent of their assets in equities and 56.0 percent in alternative investments, and public institutions held 37.0 percent in equities and 45.0 percent in alternative investments.

Table 7. The Allocation of Endowment Assets by Asset Class, Endowment Size, and Public or Private Institutions, FY 2000-2001¹⁷

| | U.S. and Foreign Equities | Fixed Income Instruments | Alternative Investments | Cash/ Others |
|---|--------------------------------------|-------------------------------------|------------------------------------|-------------------------|
| All institutions | 50.2% | 23.4% | 24.3% | 2.1% |
| Large (\$1 billion +) | 45.1% | 20.5% | 32.0% | 2.4% |
| Medium (\$101 million-\$1 billion) | 56.7% | 22.4% | 18.2% | 2.8% |
| Small (Under \$100 million) | 58.7% | 29.1% | 6.4% | 5.8% |
| Public institutions | 57.2% | 29.1% | 8.0% | 5.7% |
| Private institutions | 57.3% | 25.7% | 11.5% | 5.5% |

¹⁷ National Association of College and University Business Officers and the Commonfund Institute. 2002. "Asset Allocation by Asset Class" 2002 NACUBO Endowment Study Information.

Table 8. The Allocation of Endowment Assets by Asset Class, Endowment Size, and Public or Private Institutions, FY 2010-2011¹⁸

| | U.S. Equities | Foreign Equities | Fixed Income Instruments | Alternative Investments | Cash/ Others |
|--|----------------------|-------------------------|---------------------------------|--------------------------------|---------------------|
| All Institutions | 15.0% | 16.0% | 12.0% | 52.0% | 5.0% |
| Large (Over \$1 billion) | 11.0% | 15.0% | 10.0% | 60.0% | 4.0% |
| Medium (\$101million-\$1 billion) | 22.5% | 18.5% | 13.0% | 40.5% | 5.5% |
| Small (Under \$100 million) | 36.7% | 22.3% | 16.3% | 17.0% | 7.7% |
| Public institutions | 19.0% | 18.0% | 13.0% | 45.0% | 5.0% |
| Private institutions | 13.0% | 16.0% | 10.0% | 56.0% | 3.0% |

The Value of College and University Endowments, by Asset Class

Using these allocations by asset class, we can estimate the market value of the categories of endowment assets. As of June 30, 2011, college and university endowments held investments valued at \$408.1 billion, including \$66.1 billion in U.S. equities, \$67.7 billion in foreign equities, \$44.5 billion in fixed-income securities, \$215.1 billion in alternative investments, and \$14.7 billion in cash and short-term cash-equivalent securities. (Table 9, below) These totals are distributed across large, medium and small endowments and private versus public institutions.

Table 9. Market Value of Endowment Assets by Asset Class, Endowment Size, and Public or Private Institutions, June 30, 2011 (\$ billion)

| | Total | U.S. Equities | Foreign Equities | Fixed Income Instruments | Alternative Investments | Cash/ Others |
|------------------------------------|--------------|----------------------|-------------------------|---------------------------------|--------------------------------|---------------------|
| All Endowments | \$408.1 | \$66.1 | \$67.7 | \$44.5 | \$215.1 | \$14.7 |
| Large (over \$1 billion) | \$285.0 | \$35.4 | \$45.3 | \$26.5 | \$170.1 | \$7.7 |
| Medium (\$101 mil -\$1 bil) | \$102.0 | \$22.9 | \$18.9 | \$13.3 | \$41.3 | \$5.6 |
| Small (under \$100 million) | \$21.1 | \$7.7 | \$3.5 | \$4.7 | \$3.6 | \$1.6 |
| Public institutions | \$122.4 | \$23.3 | \$22.0 | \$15.9 | \$55.1 | \$6.1 |
| Private institutions | \$285.7 | \$42.8 | \$45.7 | \$28.6 | \$160.0 | \$8.6 |

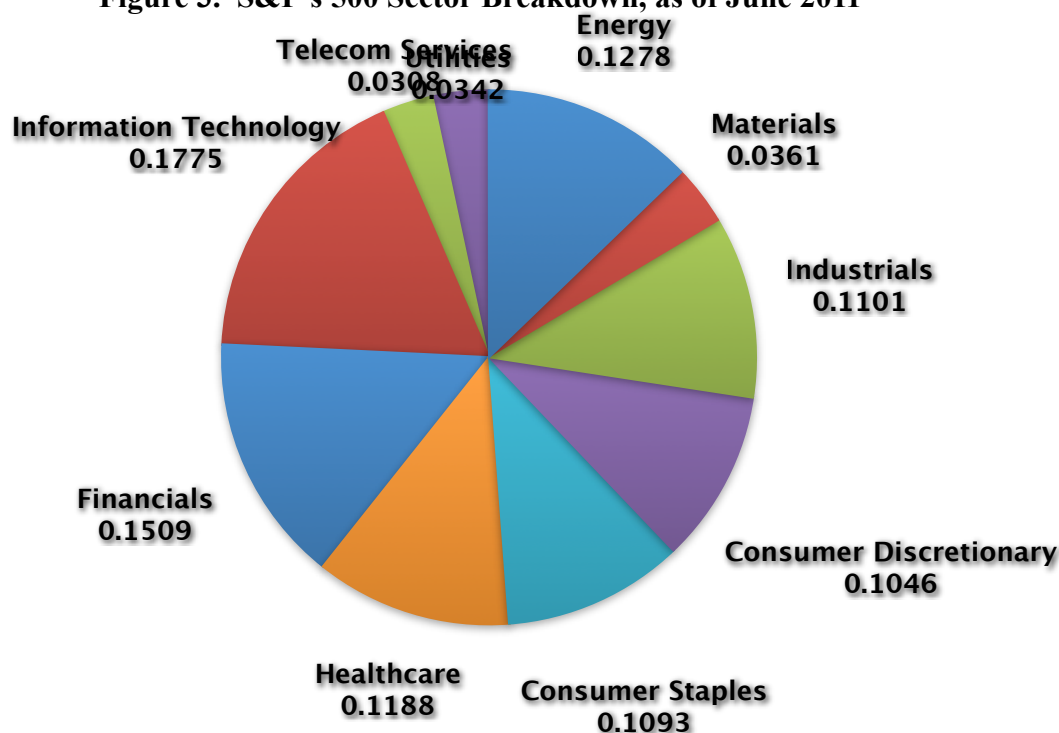
Value of Oil and Natural Gas Company Equities Held by College and University Endowments

To estimate holdings of oil and natural gas company shares, we use the S&P 500, the index for U.S. equities used in the NACUBO-Commonfund Study of Endowments. On June 30,

¹⁸ National Association of College and University Business Officers and Commonfund Institute. 2012. "2011 NACUBO-Commonfund Study of Endowments." Annual Report.

2011, the energy sector accounted for 12.8 percent of the S&P 500. (Figure 3, below) Thus, at that time, energy stocks accounted for some \$1.5 trillion of the \$11.6 trillion S&P 500.

Figure 3. S&P's 500 Sector Breakdown, as of June 2011¹⁹



Using this distribution, college and university endowments held \$8.45 billion in oil and natural gas company stocks on June 30, 2011, or 12.8 percent of an estimated \$66.1 billion in U.S. equity investments and 2.1 percent of \$408.1 billion in total endowment assets. (Table 10, below) Large endowments held more than \$4.5 billion in oil and natural gas company stocks, medium-size endowments held \$2.9 billion in those stocks, and small endowments held less than \$1 billion in those shares. As a share of endowment assets, large and medium-sized endowments held 1.6 percent of their total holdings in oil and natural gas company stocks, while those shares accounted for 2.9 percent of small endowments. Public colleges and universities held nearly \$3.0 billion in oil and natural gas company shares, or 2.4 percent of their endowments; and private institutions held nearly \$5.5 billion in those shares or 1.9 percent of their total holdings.

**Table 10. Oil and Natural Gas Company Holdings
By College and University Endowments, June 30, 2011 (\$ billions)**

| | Oil and Natural Gas Company Holdings | Total Endowment Assets | Oil and Natural Gas Company Holdings as a Share of Endowments |
|---------------------------------|--------------------------------------|------------------------|---|
| All Endowments | \$8.45 | \$408.1 | 2.1% |
| Large (over \$1 billion) | \$4.52 | \$285.0 | 1.6% |

¹⁹ Standard & Poor's, S&P Dow Jones Indices Benchmark, Research, Data and Analytics, <http://www.standardandpoors.com/indices/sp-500/en/us/?indexId=spusa-500-usdof--p-us-l->

| | | | |
|---|--------|---------|------|
| Medium (\$101 million - \$1 billion) | \$2.93 | \$102.0 | 2.9% |
| Small (under \$100 million) | \$0.99 | \$21.1 | 4.7% |
| Public institutions | \$2.97 | \$122.4 | 2.4% |
| Private institutions | \$5.48 | \$285.7 | 1.9% |

IV. The Returns on Investments by College and University Endowments by Asset Class

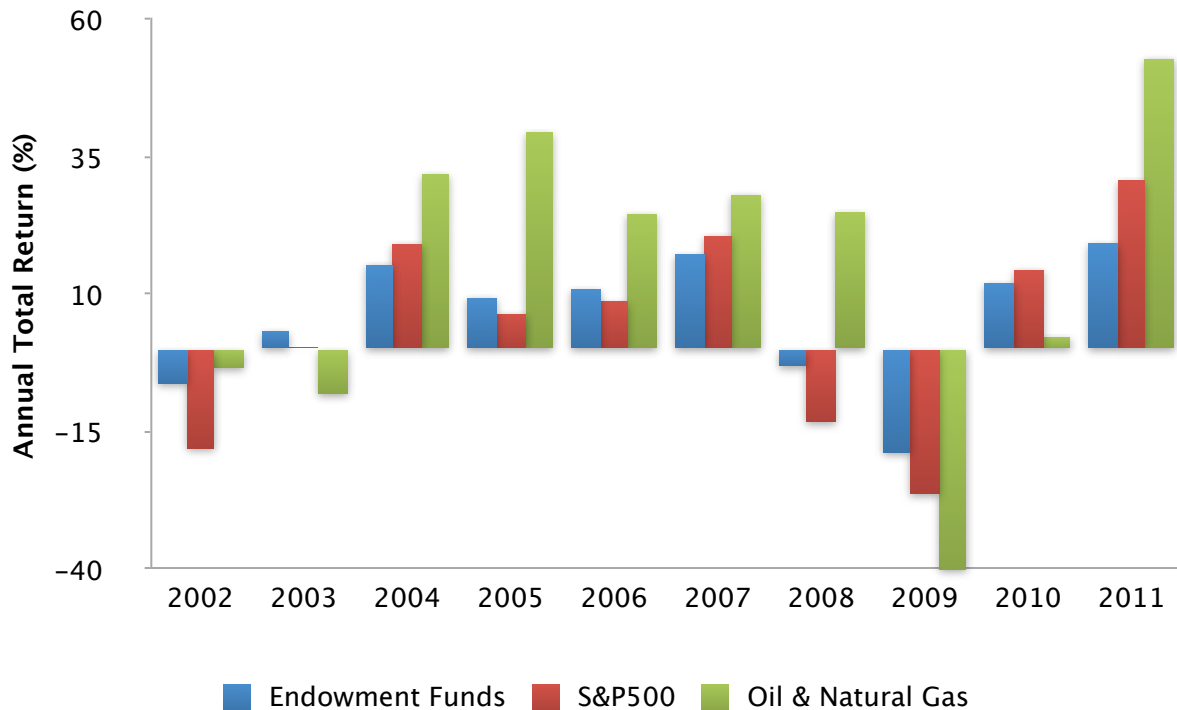
Analysis of the returns by the various assets held by college and university endowments shows that over the most recent periods of one year (FY 2010-2011), five years (FY 2006-2011) and ten years (FY 2001-2011), oil and natural gas company stock achieved substantially higher returns than all U.S. equities, the foreign equities, fixed-income instruments, alternative investments or cash and near-cash equivalents held by those endowments.

Returns on College and University Endowments, the S&P 500, and Oil and Natural Gas Shares

Over the last decade, the annual returns of college and university endowments have ranged from -18.7 percent in FY 2008-2009 to 19.2 percent in FY 2010-2011. (Figure 4, below) In three years of recession in the last decade -- FYs 2001-2002, 2007-2008, and 2008-2009 -- these returns were negative. The returns for these endowments also are correlated with the returns for the S&P 500 Index, a standard benchmark for all U.S. equities. The returns on oil and natural gas company stock, while also correlated with the S&P 500, are more volatile than the S&P 500 or overall endowment returns. In particular, the value of oil and natural gas company shares and their consequent returns tend to increase more than other equities during periods of economic expansion and decline more than other equities during economic contractions.

Figure 4. Annual Total Returns of Endowment Funds, the S&P 500, and Oil and Natural Gas Company Shares, FY 2002-2011²⁰

²⁰ National Association of College and University Business Officers and Commonfund Institute. 2012. "2011 NACUBO-Commonfund Study of Endowments." Annual Report; Bloomberg; Standard & Poor's, S&P Dow Jones Indices Benchmark, Research, Data and Analytics, Web, <http://www.standardandpoors.com/indices/sp-500/en/us/?indexId=spusa-500-usdof--p-us-l--> ..

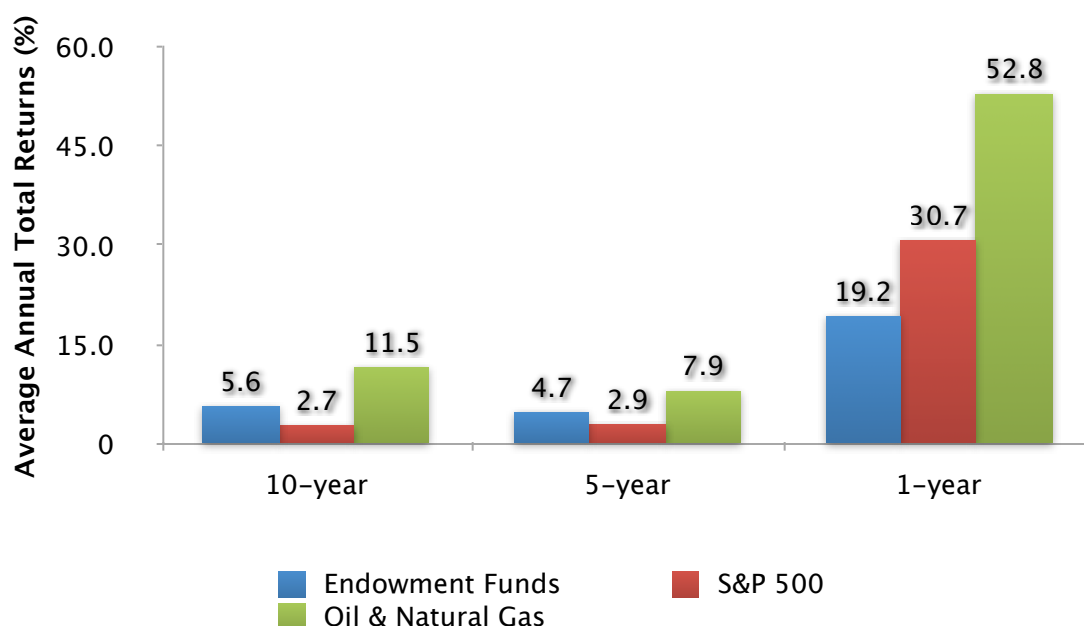


Next, we examine the average annual returns for all college and university endowments over several recent time periods. Over the last year of complete data, FY 2010-2011, these endowments achieved total returns of 19.2 percent. Over the same period, the S&P 500 outperformed the endowments, achieving returns of 30.7 percent. Moreover, the energy sector in the S&P 500, comprised almost entirely of oil and natural gas stocks, outperformed both overall endowment returns and the S&P 500, achieving total returns of 52.8 percent. (Figure 5, below)

Similarly, over the last five-year period, FY 2006-2011, college and university endowments achieved total average annual returns of 4.7 percent. Over this period, however, endowments outperformed the S&P 500, which achieved total average annual returns of just 2.9 percent. Once again, oil and natural gas company stocks outperformed both the S&P 500 and college and university endowments, achieving total average annual returns of 7.9 percent.

Finally, over the last ten years, FY 2001-2011, college and university endowments achieved total average annual returns of 5.6 percent. Over this period, endowments once again outperformed the S&P 500, which achieved total average annual returns of just 2.7 percent. And again, oil and natural gas company stocks outperformed both the S&P 500 and the overall performance of endowments, registering total average annual returns of 11.5 percent. Over the past decade, the oil and natural gas company shares held by these endowments achieved average annual returns that were 105 percent greater than the average annual returns of the endowments overall and 326 percent greater than the average annual returns of the S&P 500.

Figure 5. Average, Annual Ten-Year, Five-Year and One-Year Returns By Endowments, the S&P's 500, and Oil and Natural Gas Company Stocks ²¹



Investment Returns of College and University Endowments, By Asset Class

Next, we analyze the total returns achieved by college and university endowments over the most recent year (FY 2010-2011), by all of the various asset classes, endowment size and public or private status. (Table 11, below) Overall, the endowments achieved total returns of 19.2 percent in this most recent year. The only significant variations occur across the asset classes. All U.S equities held by the endowments achieved the highest returns at 30.1 percent – closely tracking the 30.7 percent return of the S&P 500 -- followed by foreign equities at 27.2 percent. Alternative investments held by endowments achieved returns of 14.1 percent, or roughly half the returns of U.S. and foreign equities. Finally, fixed-income instruments achieved returns of 6.5 percent, and cash and cash near equivalents had returns of 4.2 percent. As noted above, oil and natural gas company shares achieved much higher returns at 52.8 percent than any of the larger asset classes in this period. The data also show very little variation in the returns of endowments based on endowment size or the public or private status of the institutions. (Table 11, below)

²¹ National Association of College and University Business Officers and Commonfund Institute. 2012. “2011 NACUBO-Commonfund Study of Endowments.” Annual Report; Bloomberg; Standard & Poor’s, S&P Dow Jones Indices Benchmark, Research, Data and Analytics, www.standardandpoors.com/indices/sp-500/en/us/?indexId=spusa-500-usdof-p-us-l.

Table 11. Total Returns by Endowments, By Asset Class, FY 2010-2011²²

| | Overall Return | All U.S. Equities | Foreign Equities | Fixed-Income Instruments | Alternative Investments | Cash/ Other |
|-----------------------|-----------------------|--------------------------|-------------------------|---------------------------------|--------------------------------|--------------------|
| All Endowments | 19.2% | 30.1% | 27.2% | 6.5% | 14.1% | 4.2% |
| Large | 20.1% | 32.3% | 29.0% | 6.6% | 16.9% | 6.1% |
| Medium | 19.3% | 31.0% | 27.8% | 6.7% | 15.9% | 4.1% |
| Small | 18.8% | 28.8% | 26.6% | 6.4% | 11.8% | 3.3% |
| Public | 19.1% | 30.4% | 27.4% | 6.3% | 12.3% | 4.4% |
| Private | 19.3% | 30.0% | 27.1% | 6.6% | 15.1% | 4.0% |

College and University Endowment Gains from All Holdings, U.S. Equities and Oil and Natural Gas Company Shares

Next, we estimate the capital gains and other income achieved by college and university endowments over the most recent year, FY 2010-2011, focusing first on gains by endowments as a whole, their holdings in U.S. equities, and their investments in oil and natural gas company shares. Once again, as of June 30, 2011, these endowments had total holdings of \$408.1 billion, including \$122.4 billion held by public institutions and \$285.7 billion held by private institutions. This total included \$66.1 in U.S. equities, including \$23.2 billion held by public institutions and \$42.8.3 billion held by private institutions. These domestic equities included \$8.4 billion in oil and natural gas company shares, nearly \$3.0 billion held by public institutions and \$5.5 billion by private institutions.

Based on the reported total returns, we estimate that college and university endowments achieved total gains of nearly \$78.4 billion in FY 2010-2011, including \$23.5 billion in gains by public institutions and \$55.1 billion in gains by private institutions. (Table 12, below) Domestic equities accounted for \$19.9 billion or 25.4 percent of those gains, including \$7.1 billion in gains by public institutions and \$12.8 billion in gains by private institutions. Endowment holdings of oil and natural gas company stock provided gains of nearly \$4.5 billion, including \$1.6 billion in gains by public institutions and \$2.9 billion in gains by private institutions.

The data show that college and university endowment holdings of oil and natural gas company shares contributed 5.7 percent of all endowment gains while comprising 2.1 percent of all endowment assets. Oil and natural gas company shares also contributed 22.6 percent of all

²² National Association of College and University Business Officers and Commonfund Institute. 2012. "2011 NACUBO-Commonfund Study of Endowments." Annual Report. The total returns on U.S. equities, foreign equities, bonds, alternative investments and cash and near cash equivalents, reported in a NACUBO study of the 823 institutions, show minor variations based on endowment size and public or private status. The total return from oil and natural gas stocks is the reported return for the S&P Energy Sector index, and so does not vary.

gains from U.S. equities by college and university endowments while comprising only 12.8 percent of all U.S. equities held by those endowments.

On a per-institution basis, college and university endowments generated gains averaging \$95.2 million per-institution, including an average of \$104.4 million per-private institution and \$79.7 million per-public institution. The U.S. equity holdings of those endowments produced gains averaging \$24.7 million per-institution, including an average of \$24 million per-public institution and \$24.3 million per-private institution. The oil and natural gas company shares held by those endowments generated gains averaging \$5.4 million per-institution, including an average of \$5.3 million per-public institution and \$5.5 million per-private institution.

On both a per-institution basis, therefore, college and university endowment holdings of oil and natural gas company shares contributed an average of 5.7 percent of all endowment gains in FY 2010-2011, while comprising an average of only 2.1 percent of the endowment assets, per-institution. Oil and natural gas company shares also contributed an average of 22.0 percent of all endowment gains from U.S. equities per-institution, while comprising an average of 12.8 percent of all U.S. equities held per-institution.

Table 12. Endowment Investment Gains from All Assets, All U.S. Equities, and Oil and Natural Gas Company Shares, Public and Private Institutions, FY 2010-2011 (\$ million)

| | Public Institutions | Private Institutions | All Institutions |
|-------------------------------|---------------------|----------------------|------------------|
| Total Endowments | \$122,439.0 | \$285,691.0 | \$408,130.0 |
| All U.S. Equities | \$23,263.4 | \$42,853.7 | \$66,117.0 |
| Oil & Natural Gas | \$2,973.1 | \$5,476.7 | \$8,449.8 |
| Total Investment Gains | \$23,508.3 | \$55,138.4 | \$78,361.0 |
| All U.S. Equities | \$7,072.1 | \$12,856.1 | \$19,901.2 |
| Oil & Natural Gas | \$1,570.7 | \$2,893.3 | \$4,464.0 |
| <i>Per Institution</i> | | | |
| Endowment Assets | \$415.0 | \$541.1 | \$495.9 |
| Investment Gains | \$79.7 | \$104.4 | \$95.2 |
| All U.S. Equities | \$24.0 | \$24.3 | \$24.7 |
| Oil & Natural Gas | \$5.3 | \$5.5 | \$5.4 |

The Returns on College and University Holdings of Oil and Natural Gas Company Shares, Compared to Other Endowment Assets, Over the Most Recent One-Year, Five-Year and Ten-Year Periods

Finally, we calculate the average annual one-year, five-year and ten-year returns on the oil and gas company shares held by college and university endowments, and compare them to the average annual returns of all of the other major classes of endowment assets. In all three periods, oil and natural gas companies produced greater gains than any other class of asset.

First, we note that there are only very modest differences in the average annual returns on all assets for all three time periods based on the size of the endowment or on whether the institution is public or private. (Table 13, below) All of the significant differences in returns arise from the differences types of assets.

To calculate the returns of the different types of assets held by college and university endowments, we use standard indexes for each asset class that are used by asset managers cited in the NACUBO-Commonfund Study of Endowments. Again, for U.S. equities, we use the S&P 500 index; for foreign equities, we use the MSCI World Index excluding the United States; for fixed-income instruments, we use the Barclays Aggregate Bond Index; for alternative investments, we use the Wilshire Real Estate Securities Index, the Dow Jones commodities Index, and the HFRI Distressed Debt Index; and for cash and near-cash alternatives, we use the three-month Treasury bills.

Table 13. Average Annual Five-Year, Ten-Year and One-Year Returns on College and University Endowment Assets, By Asset Class²³

| | Five Years: June 2006-June 2011 | Ten Years: June 2001-June 2011 | One Year: June 2010-June 2011 |
|--|--|---|--|
| All Endowments | 4.7% | 5.6% | 19.2% |
| Large (over \$1 billion) | 5.4% | 6.9% | 20.1% |
| Medium (\$100 million - \$1 billion) | 4.5% | 5.5% | 19.3% |
| Small (under \$100 million) | 4.9% | 5.0% | 18.8% |
| Public institutions | 4.9% | 5.4% | 19.1% |
| Private institutions | 4.6% | 5.6% | 19.3% |
| <i>Benchmark Returns by Asset Class</i> | | | |
| Oil and Natural Gas Stock | 7.9% | 11.5% | 52.8% |
| S&P 500 | 2.9% | 2.7% | 30.7% |
| MSCI World Index Excluding U.S. | 2.0% | 6.1% | 30.3% |
| Barclays Aggregate Bond Index | 6.5% | 5.7% | 3.9% |
| Wilshire Real Estate Securities Index | 1.6% | 10.4% | 35.2% |
| Dow Jones Commodities Index | 0.0% | 6.6% | 25.9% |
| HFRI Distressed Debt Index | 4.7% | 9.4% | 11.8% |
| Three-month Treasury Bills | 2.0% | 2.1% | 0.2% |

²³ National Association of College and University Business Officers and Commonfund Institute. 2012. "2011 NACUBO-Commonfund Study of Endowments." Annual Report.

The data show that over the most recent year (June 30, 2010-June 30, 2011), the oil and natural gas company stocks held in college and university endowments achieved estimated returns of 52.8 percent. (Table 13, above) These returns far exceeded those of the endowments' other assets classes, including a 30.7 percent return on all U.S. equities, the 30.3 percent return on foreign equities, and "alternative investment" returns of 35.2 percent return for real estate securities and 25.9 percent return for commodities. Overall, the one-year returns on the oil and natural gas company assets held by endowments were 2.75 times the 19.2 percent one-year average return on all endowment assets.

One-year returns can be volatile. However, our analysis finds the same pattern on relative returns by asset class for the most recent five-year and ten-year periods. Over the most recent five years (June 30, 2006-June 30, 2011), the oil and natural gas company shares in college and university endowments recorded estimated, average annual returns of 7.9 percent. Over this period, these returns also exceeded those of other well-performing asset classes, including the 6.5 percent average annual five-year return on fixed-income instruments and the 4.7 percent average annual five-year return on distressed debt. (Table 13, above) Over this period, oil and natural gas company shares also far outperformed the 2.9 percent average annual five-year return for all U.S. stocks overall and a 2.0 percent average annual five-year return for foreign equities. Overall, the 7.9 percent average annual five-year returns on the oil and natural gas company assets held by college and university endowments were 68 percent greater than the 4.7 percent average annual five-year returns on all endowment assets.

Finally, over the most recent ten-year period (June 30, 2001-June 30, 2011), the oil and natural gas company stocks held by college and university endowments achieved estimated returns of average annual ten-year returns of 11.5 percent. (Table 13, above) Once again, these returns exceeded those of every other asset class held by those endowments, including in this instance the 10.4 percent average annual ten-year return on real estate securities and a 9.4 percent average annual ten-year return on distressed debt. Over this period, oil and natural gas company shares also far outperformed the 2.7 percent average annual ten-year return for all U.S. stocks, a 6.1 percent average annual ten-year return on foreign equities, and the 5.7 percent average annual ten-year return on bonds (fixed-income instruments). Overall, the 11.5 percent average annual ten-year returns on the oil and natural gas company assets held by college and university endowments were 105 percent higher than the 5.6 percent average annual ten-year returns on all endowment assets.

V. Conclusion

This study has analyzed the composition and performance of the endowment assets of American colleges and universities. These educational endowments vary substantially in size and in the public and private status of the institutions. In addition, the composition of these endowments, in terms of their asset holdings, varies somewhat by size. Consequently, the returns generated by these endowments also vary somewhat by size. Overall, the most

significant factor affecting the performance of these endowments is their asset allocation and the financial performances of these asset classes.

We tracked the returns of the major asset classes held by college and university endowments over the most recent available year (FY 2010-2011), the most recent five-year period (FY 2006-2011) and the most recent ten-year period (FY 2001-2011). To estimate these returns, we used standard indexes for the major classes of assets, including U.S. equities, foreign equities, fixed-income instruments, cash and near-cash equivalents (three-month Treasury bills), and several categories of alternative investments including real estate securities, distressed debt, and commodity instruments.

We found that depending on the period, different classes of assets produced relatively higher returns for college and university endowments. Over the most recent year, real estate securities, U.S. equities and foreign equities substantially outperformed fixed-income instruments (bonds), distressed debt and cash and Treasury bills. By contrast, over the most recent five-year period, fixed-income securities and distressed debt far outperformed U.S. equities, foreign equities and real estate securities. And over the most recent ten-year period, real estate securities, distressed debt, commodities and foreign equities far outperformed U.S. equities, fixed income instruments, and Treasury bills.

Our analysis of the returns on college and university endowment assets also revealed one constant element: Over all three periods, shares of oil and natural gas companies far outperformed both the overall performance of these endowments and every other asset class examined here.

Over the most recent year (FY 2010-2011), oil and natural gas company shares generated returns of 52.8 percent, compared to 19.2 percent for endowments overall and 30.7 percent for all U.S. equities, the highest-performing broad class of assets in that year. Over the most recent five-year period (FY 2006-2011), oil and natural gas company shares produced average annual returns of 7.9 percent, compared to a 4.7 percent average annual return for college and university endowments overall and 6.5 percent annual returns for fixed-income instruments, the highest-performing broad class of assets over the same five years. Finally, over the most recent ten-year period (FY 2001-2011), oil and natural gas company stock generated average annual gains of 11.5 percent for college and university endowments, compared to a 5.6 percent average annual return for the endowments overall and 10.4 percent annual returns for real estate securities, the highest-performing broad class of assets over the same ten years.

We conclude that for at least the last decade, investments by college and university endowments in oil and natural gas company shares have produced the highest consistent returns for those endowments.

References

Bloomberg Service, historical data from the MSCI World Index excluding U.S.; Barclay Bond Index; Wilshire Real Estate Securities Index, Dow Jones Commodities Index, and HFRI Distressed Debt Index.

Department of Education. 2012. National Center for Education Statistics. “Digest of Education Statistics 2012.”

_____. 2011. National Center for Education Statistics. “Digest of Education Statistics 2011.”

General Accounting Office. 2010. “Postsecondary Education – College and University Endowments have Shown Long-term Growth, While Size, Restrictions, and Distributions Vary.” Report to U.S. Senate Committee on Health, Education, Labor, and Pensions and the Committee on Education and Labor of the House of Representatives.

Gravelle, Jane G. 2007. “Tax Issues and University Endowments.” Memorandum, Congressional Research Service.

National Association of College and University Business Officers and Commonfund Institute. 2012. “2011 NACUBO-Commonfund Study of Endowments.” Annual Report.

_____. 2002. “2002 NACUBO Endowment Study Information.”
[www.nacubo.org/Research/NACUBO-Commonfund_Study_of_Endowments/
Public_NCSE_Tables.html](http://www.nacubo.org/Research/NACUBO-Commonfund_Study_of_Endowments/Public_NCSE_Tables.html).

Standard & Poor’s, S&P Dow Jones Indices Benchmark, Research, Data and Analytics, Web.
<http://www.standardandpoors.com/indices/sp-500/en/us/?indexId=spusa-500-usduf--p-us-l-->

About the Authors

Robert J. Shapiro is the chairman of Sonecon, LLC, a private firm that provides advice, analysis and support to senior officials of the U.S. and foreign governments, senior executives of U.S. and foreign firms, and directors and managers of non-profit organizations. He is an internationally-known economist who has advised, among others, President Bill Clinton, Vice President Al Gore, Jr., British Prime Ministers Tony Blair and Gordon Brown, and U.S. Senators Barack Obama and Hillary Clinton, as well as senior management at numerous Fortune 100 companies. Currently, he is also a Senior Policy Fellow of the Georgetown University McDonough School of Business, an advisor to the International Monetary Fund, chairman of the U.S. Climate Task Force, director of the Globalization Initiative at NDN, and a member of the advisory board of Gilead Sciences. Prior to establishing Sonecon, Dr. Shapiro was Under Secretary of Commerce for Economic Affairs from 1998 to 2001. Prior to that post, he was co-founder and Vice President of the Progressive Policy Institute and before that, Legislative Director and Economic Counsel for Senator Daniel Patrick Moynihan. He also was the principal economic advisor to Bill Clinton in his 1991-1992 campaign and a senior economic advisor to Vice President Gore and Senator John Kerry in their presidential campaigns. In 2008, he advised the campaign and presidential transition of Barack Obama. Dr. Shapiro has been a Fellow of Harvard University, the Brookings Institution, and the National Bureau of Economic Research. He holds a Ph.D. and M.A. from Harvard University, a M.Sc. from the London School of Economics and Political Science, and an A.B. from the University of Chicago.

Nam D. Pham is the founder and president of NDP Group, LLC, an economics consulting firm that specializes in assessing complex issues in finance, trade, and industry development, and a senior affiliate of Sonecon, LLC. Clients of NDP Group include U.S. and foreign corporations, financial institutions, federal and local governments, trade associations and multinational organizations. Prior to founding NDP Group in 2000, Dr. Pham was Vice President at Scudder Kemper Investments in Boston, where he was responsible for research, asset allocations and currency hedges for Scudder's global and international bond funds. Before that he was Chief Economist of the Asia Region for Standard & Poor's DRI in Boston. Dr. Pham also has advised numerous multilateral institutions and government agencies in Washington D.C. These activities include time as an economist at the World Bank as well as consultant to the Department of Commerce and the Federal Trade Commission. In addition, Dr. Pham has been an adjunct professor at the George Washington University, where he has taught courses in monetary economics, international finance and trade, monetary economics, macroeconomics and microeconomics. Dr. Pham earned his Ph.D. in economics from George Washington University with concentrations in international finance and trade, economic development and applied microeconomics, a M.A. from Georgetown University, and a B.A. from the University of Maryland.