



Annual Analysis of College and University Investment Pool Returns: Fiscal Year 2015

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College and University
Investment Pool Returns:
Fiscal Year 2015

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Annual Analysis of College and University Investment Pool Returns

This report summarizes portfolio returns, asset allocation, investment manager structures, and net flow data for 162 colleges and universities for the fiscal year ended June 30, 2015. Nineteen are public institutions, 27 are foundations affiliated with public institutions, and 116 are private institutions. The 162 participants in this study reported long-term investment portfolio (LTIP) assets as of June 30, 2015, totaling \$375 billion. The LTIP size of participants ranged from \$50.7 million to \$41.0 billion. The mean LTIP size was \$2.3 billion and the median was \$680 million. Sixty-one colleges and universities reported LTIP assets greater than \$1 billion, and they controlled 90% of the aggregate LTIP assets.

This year's report takes a closer look at additional portfolio attributes and investor trends relevant to colleges and universities. Included are exhibits on asset class returns, performance attribution, risk analytics, and policy portfolio benchmarking. We also highlight private investment programs and their impact on portfolio liquidity. Our section on investment management structures reviews the use of external managers by asset class and details portfolio implementation techniques. The report's final section includes exhibits covering net flow rates and the LTIP's support of operations.

Investment Portfolio Returns

Returns in Fiscal Year 2015

After two straight years in which most colleges and universities posted double-digit returns for their LTIPs, performance in fiscal year 2015 settled in at a lower level. Global equity returns for US\$-based investors decoupled in 2015, with US equities continuing to post positive returns as global ex US equities ended the year in the red in US\$ terms. Private equity

generated strong returns, while hedge funds contributed modest gains to portfolios in 2015. Commodities and natural resources–related investments, which were dragged down considerably by collapsing oil prices, detracted from overall portfolio performance.

The mean nominal total return earned by participating institutions was 2.7% in fiscal year 2015 (Figure 1). With inflation (as measured by the Consumer Price Index) at just 0.1% for the year, the mean real return

Figure 1. Summary of Investment Portfolio Returns
Years Ended June 30, 2015 • Percent (%)

Nominal Total Returns				
	Average Annual Compound Nominal Return			
	1 Year	5 Years	10 Years	20 Years
Responding Institutions				
High	14.4	14.7	10.5	13.7
Low	-4.3	6.3	4.4	6.3
Mean	2.7	9.9	6.8	8.8
Median	2.3	9.8	6.7	8.4
<i>n</i>	162	158	151	120
Mean After Spending	-1.5	5.2	2.3	4.2
<i>n</i>	144	117	100	83
Benchmarks				
70% Russell 3000® / 30% Barclays Govt/Credit	5.6	13.5	7.4	8.4
70% MSCI ACWI / 30% Barclays Govt/Credit	1.4	10.0	6.6	7.1
Real Total Returns				
	Average Annual Compound Real Return			
	1 Year	5 Years	10 Years	20 Years
Responding Institutions				
High	14.3	12.6	8.2	11.2
Low	-4.4	4.3	2.3	4.0
Mean	2.6	7.9	4.7	6.4
Median	2.2	7.8	4.6	6.0
<i>n</i>	162	158	151	120
Mean After Spending	-1.6	3.3	0.2	1.9
<i>n</i>	144	117	100	83
Benchmarks				
70% Russell 3000® / 30% Barclays Govt/Credit	5.5	11.4	5.2	6.0
70% MSCI ACWI / 30% Barclays Govt/Credit	1.2	8.1	4.4	4.7

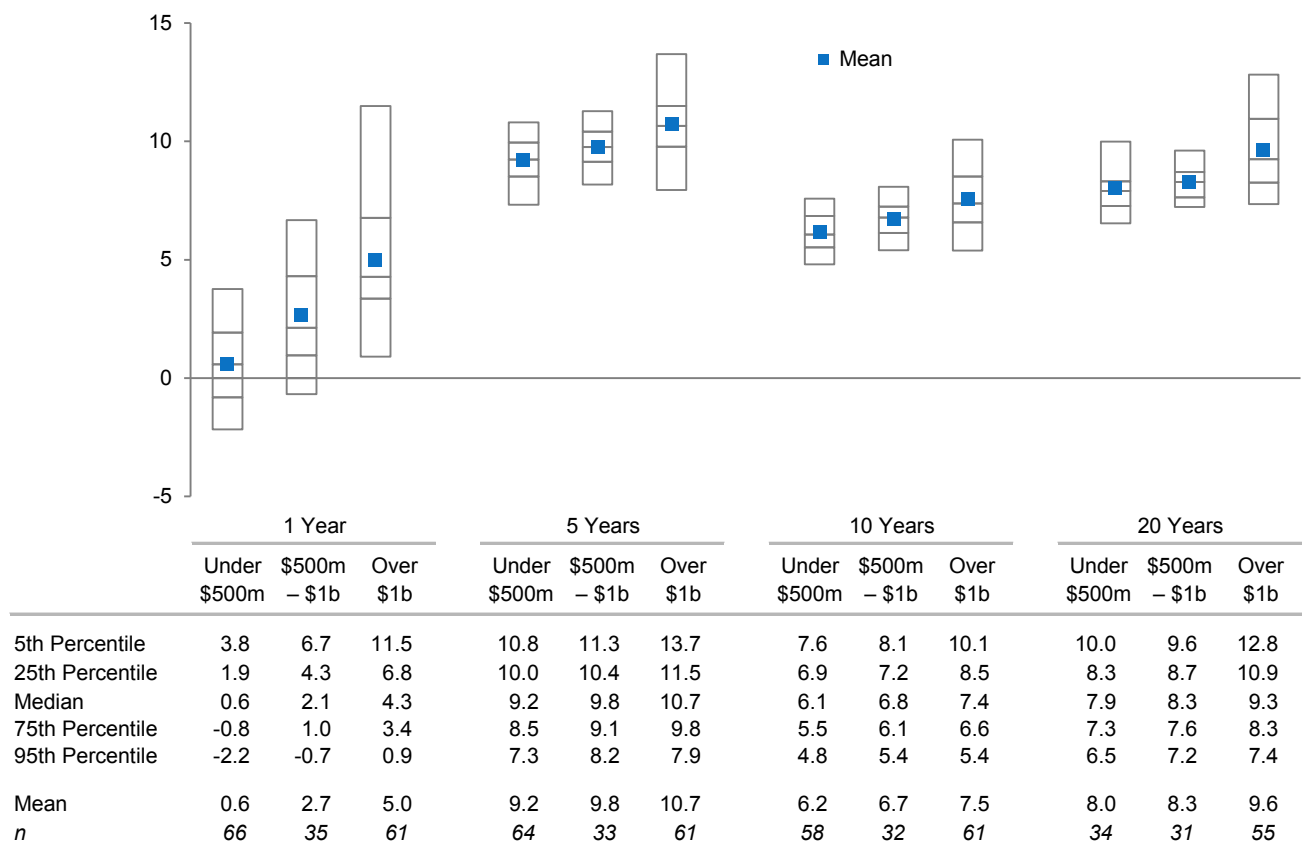
Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Barclays, Frank Russell Company, and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

Notes: Five-, ten-, and 20-year returns are annualized. Real returns are adjusted for inflation as measured by the Consumer Price Index.

for all respondents is adjusted slightly to 2.6%. There was a significant amount of disparity in trailing one-year returns when the participant group is broken out into three broad asset size groups. Participants with assets over \$1 billion reported the highest average nominal return (5.0%) (Figure 2). Institutions with assets between \$500 million and \$1 billion reported an average return of 2.7%, followed by those with assets under \$500 million (0.6%). Throughout this section, we will explore the factors that contributed to this variation of returns across institutions.

Survey participants were asked to provide composite returns for the major asset classes in their portfolio. Figures 3 and 4 display the range of participants' returns across these asset classes and show median composite returns for the three broad asset size groups. The charts that follow in this section provide fiscal year 2015 median performance for the participant group across these asset classes alongside returns for relevant indexes (all index returns are in US\$ terms unless otherwise noted).

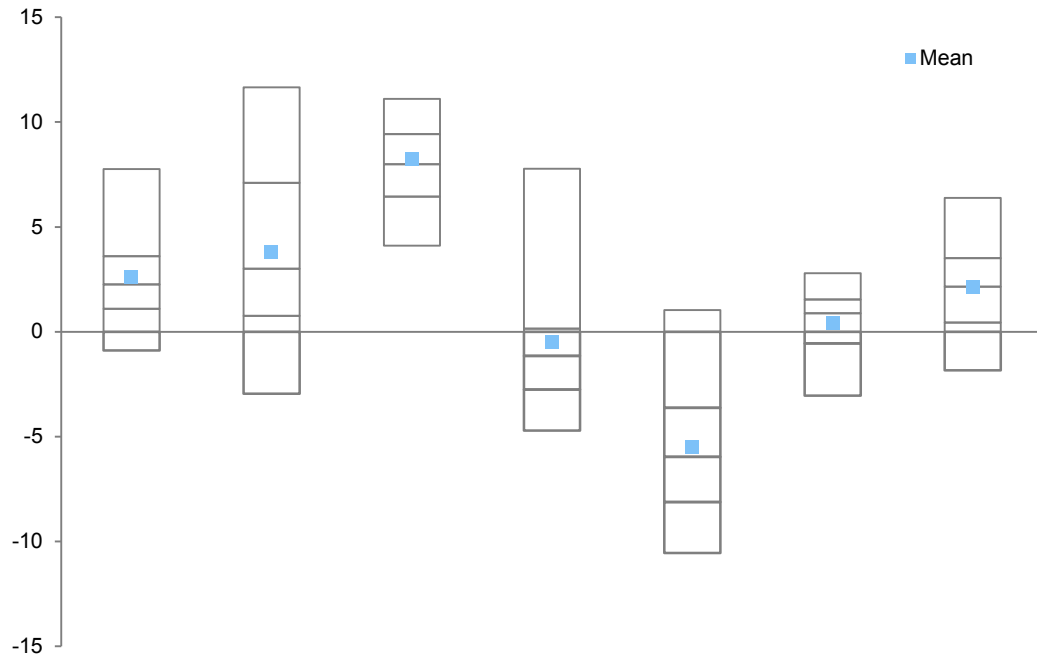
Figure 2. Summary of Long-Term Investment Portfolio Return Percentiles by Asset Size
Years Ended June 30, 2015 • Percent (%)



Source: College and university data as reported to Cambridge Associates LLC.

Note: Five-, ten-, and 20-year returns are annualized.

Figure 3. Dispersion of Participants' Asset Class Returns: Traditional Assets and Hedge Funds
Trailing One-Year as of June 30, 2015



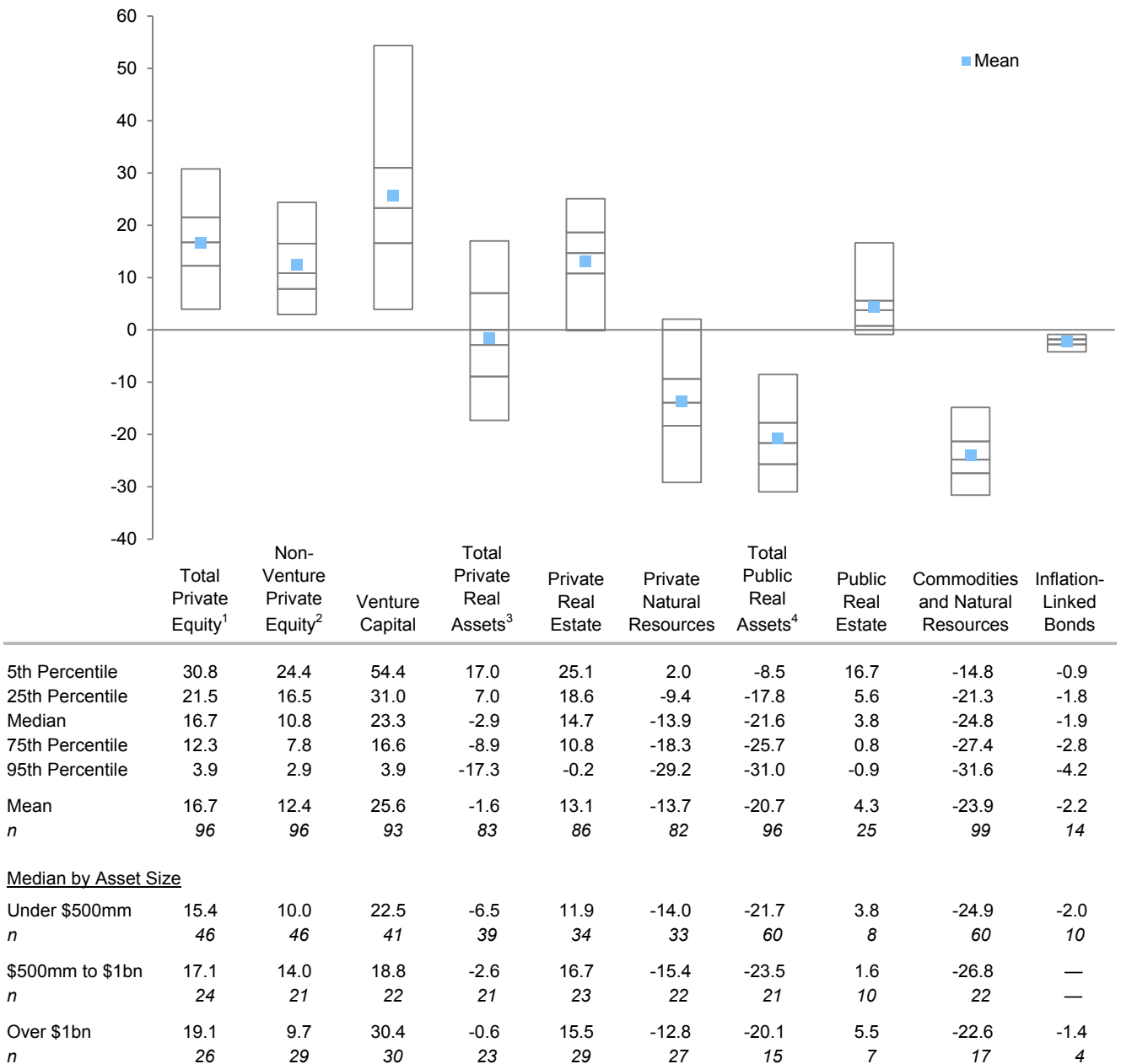
	Public Equity ¹	Global Equity ²	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds
5th Percentile	7.8	11.7	11.1	7.8	1.0	2.8	6.4
25th Percentile	3.6	7.1	9.4	0.1	-3.6	1.5	3.5
Median	2.3	3.0	8.0	-1.1	-6.0	0.9	2.1
75th Percentile	1.1	0.8	6.4	-2.7	-8.1	-0.6	0.4
95th Percentile	-0.9	-2.9	4.1	-4.7	-10.5	-3.0	-1.8
Mean	2.6	3.8	8.2	-0.5	-5.5	0.4	2.1
<i>n</i>	125	57	123	122	124	125	126
Median by Asset Size							
Under \$500mm	2.2	2.0	7.9	-1.4	-6.6	0.5	1.8
<i>n</i>	62	25	62	61	61	61	60
\$500mm to \$1bn	2.4	3.7	8.3	-0.5	-6.0	0.9	2.1
<i>n</i>	28	14	28	28	27	28	29
Over \$1bn	2.8	6.4	8.0	-0.8	-5.4	1.2	2.8
<i>n</i>	35	18	33	33	36	36	37

Source: College and university data as reported to Cambridge Associates LLC.

¹ Public equity is a composite of global equity, US equity, developed markets ex US equity, and emerging markets equity.

² Global equity includes only investment vehicles that have a mandate to invest in US and international markets.

Figure 4. Dispersion of Participants' Asset Class Returns: Private Equity and Real Assets
Trailing One-Year as of June 30, 2015



Source: College and university data as reported to Cambridge Associates LLC.

Note: Private investment return statistics are reported as internal rates of return.

¹ Total private equity is a composite of non-venture private equity and venture capital.

² Non-venture private equity also includes distressed securities that are invested through a private investment vehicle.

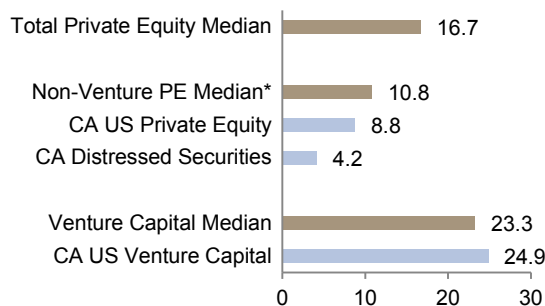
³ Total private real assets is a composite of private real estate and private natural resources.

⁴ Total public real assets is a composite of public real estate, commodities, and inflation-linked bonds.

Private Equity. Private equity turned in the best performance of the broad asset class strategies in fiscal year 2015. For participants in this study, the median return for the private equity composite was 16.7% (Figure 5). Institutions with portfolios greater than \$1 billion reported the highest median composite return (19.1%) (Figure 4). Leading the way in this composite was venture capital, which produced a median return of 23.3% among participating institutions. While non-venture private equity returns were not as strong, the median participant return for this asset class was still in the double-digits (10.8%).

Historically, private equity fund returns have varied considerably more than public equities, underscoring the importance of manager selection within this strategy. Excluding outliers that make up the top and bottom 5% of participants, private equity composite returns in fiscal year 2015 ranged from 30.8% to 3.9% (Figure 4). The range for venture capital was even wider, with a handful of participants reporting returns above 50% for the asset class.

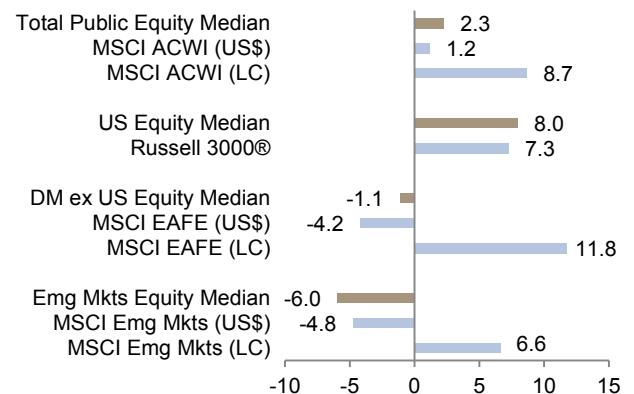
Figure 5. Private Equity: Median Participant Return Versus Index Returns
Trailing One-Year as of June 30, 2015



Sources: Cambridge Associates LLC and college and university data as reported to Cambridge Associates LLC.
* Non-venture private equity also includes distressed securities that are invested through a private investment vehicle.

Public Equity. The US dollar began consistently rising against other major currencies in July 2014 and finished the fiscal year up strongly against all. Consequently, fiscal year 2015 saw a wide divergence in returns of global equities in local currency and US\$ terms. The trailing one-year return for the MSCI All Country World Index (ACWI) was 8.7% in local currency terms and just 1.2% in US\$ terms (Figure 6). A separate 2014 survey of large universities revealed that only 22% of these investors hedge a portion of their foreign currency exposure. Due to the operational complexity and resources needed to adequately oversee a currency hedging program, the prevalence of currency hedging among all reporting institutions in this study is likely to be considerably lower. Median performance among participants for the total public equity composite (2.3%) was much closer to the MSCI ACWI return in US\$ terms, an indication that currency hedging is not widely employed within this study's universe.

Figure 6. Public Equity: Median Participant Return Versus Index Returns
Trailing One-Year as of June 30, 2015



Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Frank Russell Company and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

US equities, represented by the Russell 3000® Index, returned 7.3% (Figure 6) in fiscal year 2015. Among participants in this study, the median return for US equities was 8.0%, with mid-sized portfolios reporting the highest median return of the disparate asset size groups (8.3%) (Figure 3). Participant returns varied from 11.1% at the 5th percentile to 4.1% at the 95th percentile, a substantially smaller range compared to that of private equity.

Median participant performance for developed markets ex US equities and emerging markets equities was -1.1% and -6.0%, respectively (Figure 6). Mid-sized portfolios reported the highest median return to developed markets ex US equities (-0.5%) while the largest portfolios reported the highest median return to emerging markets (-5.4%) (Figure 3). The range of developed markets ex US equity returns among participants was wider than that of US equities, but smaller than the range of private equity returns.

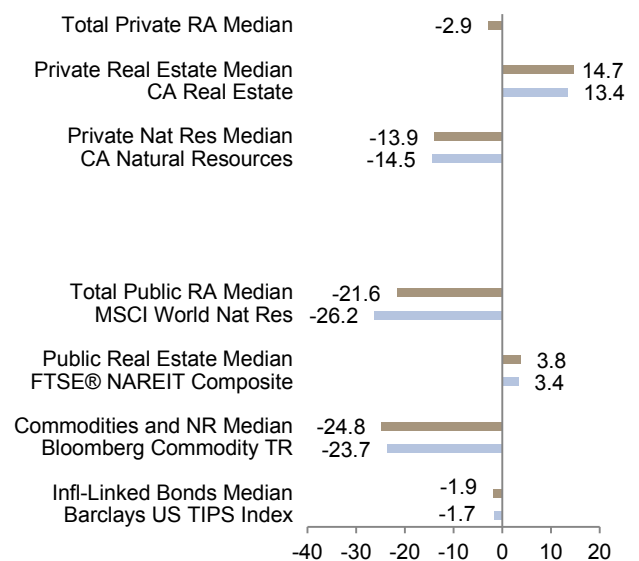
Real Assets. Real assets consists of a diversified group of investments, including commodities, natural resources, real estate, and inflation-linked bonds. The range of returns for these various strategies was considerable in fiscal year 2015. On an index basis, real estate was the strongest-performing asset class among the strategies, with the Cambridge Associates Private Real Estate Index returning 13.4% and the FTSE® NAREIT Composite returning 3.4% (Figure 7). Meanwhile, commodity and natural resources returns were dragged down considerably by collapsing oil prices.

Returns for private real assets strategies were considerably higher than those of public real assets. For participants in this study, the median composite returns for private real assets and public real assets were -2.9% and -21.6%, respectively. Institutions with portfolios greater than \$1 billion reported the highest median return for both composites. Median returns for the various sub-strategies among participants are displayed in Figure 7.

The varying asset mixes across the diverse substrategies of these composites contributed to a wide range in returns reported across participants. The range of private real assets returns from the 5th percentile to 95th percentile was 34 ppts. The range of public real assets returns was smaller,

Figure 7. Real Assets: Median Participant Return Versus Index Returns

Trailing One-Year as of June 30, 2015

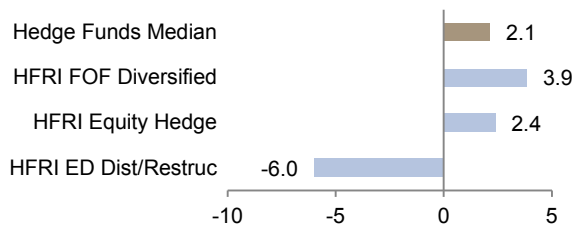


Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Barclays, Bloomberg L.P., Cambridge Associates LLC, FTSE International Limited, and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

although still substantial at 23 ppts. For both composites, institutions at the top end of the return distribution had the highest proportional allocations to the outperforming real estate asset classes.

Hedge Funds. The median hedge fund composite return among participants was 2.1% (Figure 8) in fiscal year 2015, with the largest portfolios reporting the highest median return (2.8%) (Figure 3). On an index basis, diversified funds-of-funds that invest across a variety of strategies outperformed equity-oriented hedge funds over the one-year period. The variation in hedge funds returns was considerably lower than that of private equity and real assets, ranging from 6.4% to -1.8% excluding outliers making up the top and bottom 5%.

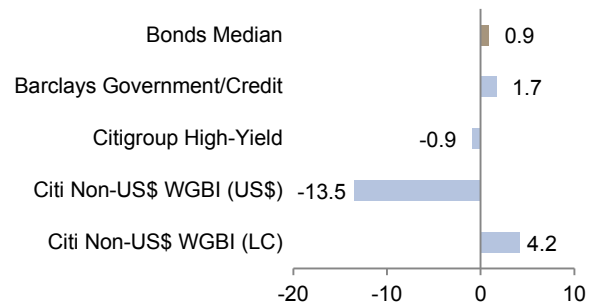
Figure 8. Hedge Funds: Median Participant Return Versus Index Returns
Trailing One-Year as of June 30, 2015



Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Hedge Fund Research, Inc.

Bonds. Median participant performance for bonds was 0.9% in fiscal year 2015 (Figure 9). US bonds, as represented by the Barclays Government/Credit Bond Index, outperformed international bond indexes in US\$ terms, but underperformed the same international markets in local currency terms. The largest portfolios reported the highest median bonds return (1.2%) while the smallest portfolios reported the lowest median return (0.5%) (Figure 3).

Figure 9. Bonds: Median Participant Return Versus Index Returns
Trailing One-Year as of June 30, 2015



Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Barclays and Citigroup Global Markets.



Analysis of Top and Bottom Performers in 2015

Many factors contribute to investor returns, including asset allocation policy and the implementation of that policy. In addition, varying performance measurement methodologies may impact the peer performance statistics reported in this study.

Asset Allocation. The importance of an asset allocation mix and its contributions to performance cannot be overstated. Figure 10 breaks the participant group into four quartiles based on fiscal year 2015 investment performance. Each institution's asset allocation was averaged across the beginning and ending points for the trailing one-year period. The four quartiles in the heat map table represent the average of the institutions within each quartile.

The greatest disparity between top and bottom performers was the way in which the overall equity portfolio was allocated. Institutions that posted a trailing one-year return in the top quartile had the highest average allocation to the outperforming PE/VC asset classes (18.0%). Those in the bottom quartile of performers reported an average allocation of just 5.1%. Conversely, the top quartile of performers reported the lowest average allocation to public equities, while the bottom quartile of performers had the highest average allocation.

There were also substantial differences in allocations to real assets, hedge funds, and bonds. As with equity allocations, institutions in the top quartile of performers had the highest average allocation to private real assets while those in the bottom quartile had the highest average allocation to public

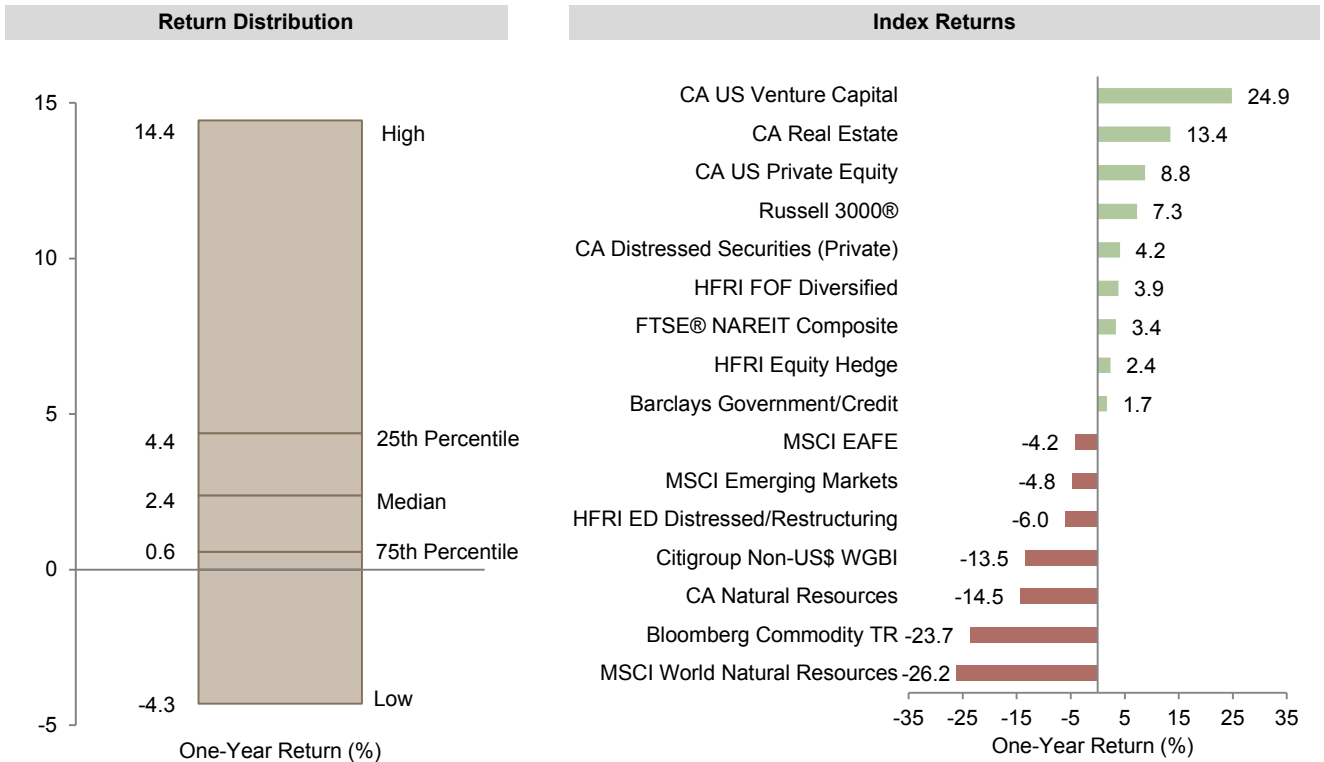
real assets. The top quartile of performers had the highest allocation to hedge funds and the lowest allocation to bonds.

Attribution. While asset allocation is a key driver of performance, it does not fully explain the variation of returns that are reported across different institutions. The execution or implementation of an asset allocation strategy also contributes to the total returns that portfolios earn. While we do not have the level of detailed data that is necessary to perform a precise attribution analysis, our data do allow us to conduct an estimated analysis that can help illuminate the main drivers of performance for fiscal year 2015.

Figure 11 illustrates the results of an estimated attribution analysis based on the one-year return and beginning fiscal year asset allocation of 159 respondents that provided sufficient data. The darker shading on the bar chart represents the portion of the mean participant return that can be attributed to asset allocation and is calculated using a blend of representative asset class benchmarks weighted according to each institution's asset allocation. The lighter shading of the bar is calculated by subtracting the mean asset allocation return from the mean participant return and is the portion of the total return that cannot be explained by asset allocation. This "other" portion of returns is principally driven by implementation or execution decisions, which can include active management and manager selection.¹

¹ This model assumes that flows to and from investment managers take place on the last day of the fiscal year. In addition, the analysis uses a standard set of asset class benchmarks that may be more or less representative of the asset allocation policy across different institutions. Therefore, the portion of returns from other factors may also include some residual/unattributable asset allocation effects.

Figure 10. Analysis of Top and Bottom Quartile Performers: One-Year Asset Allocation
As of June 30, 2015



Mean Asset Allocation by Performance Quartile (%): June 30, 2014 to June 30, 2015

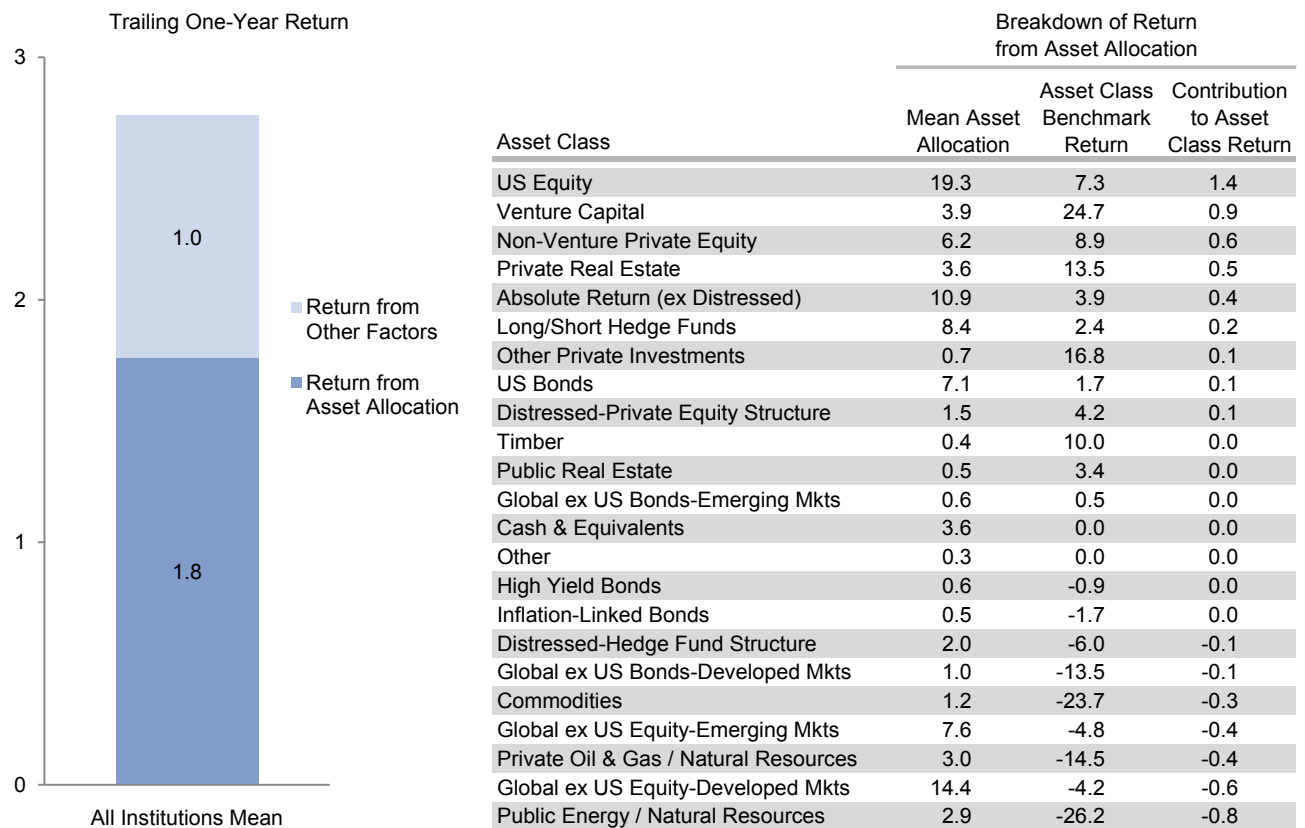
Quartile	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Dist Sec	PE & VC	Private RA	Public RA and ILBs	Cash	Other
Top Quartile	13.9	10.8	7.2	5.9	23.0	3.8	18.0	11.5	2.0	3.5	0.3
2nd Quartile	19.5	13.0	7.4	7.4	21.2	3.5	13.1	7.0	3.5	3.9	0.4
3rd Quartile	21.7	16.1	7.4	10.7	18.5	3.5	8.1	5.0	5.3	3.7	0.0
Bottom Quartile	22.2	18.0	8.0	12.7	16.9	2.7	5.1	2.5	8.0	3.5	0.4
All C&U Mean	19.3	14.5	7.5	9.2	19.9	3.4	11.1	6.5	4.7	3.7	0.3

Divergence of Asset Allocation from Mean

Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Barclays, Bloomberg L.P., Cambridge Associates LLC, Citigroup Global Markets, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., MSCI Inc., and the National Association of Real Estate Investment Trusts. MSCI data provided “as is” without any express or implied warranties.

Notes: Performance quartiles are based on the long-term investment portfolio’s (LTIP) trailing one-year return as of June 30, 2015. Mean allocations are for the two June 30 time periods from 2014 to 2015. Analysis includes 159 colleges and universities.

Figure 11. Attribution Analysis
As of June 30, 2015 • Percent (%)



Sources: College and university data as reported to Cambridge Associates LLC. Index data provided by Barclays, Bloomberg L.P., BofA Merrill Lynch, Cambridge Associates LLC., Citigroup Global Markets, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., J.P. Morgan Securities, Inc., MSCI Inc., National Association of Real Estate Investment Trusts, and the National Council of Real Estate Investment Fiduciaries. MSCI data provided "as is" without any express or implied warranties.

Notes: Includes data for 159 institutions that provided beginning fiscal year asset allocation. Mean asset allocation is as of June 30, 2014. The sum of the contribution to asset class return for all categories in the table equals the amount of the total return that was explained by asset allocation. To be consistent with the methodology in which private investment returns are incorporated into the total portfolio composite calculation, private investment benchmark returns are linked quarterly end-to-end returns.

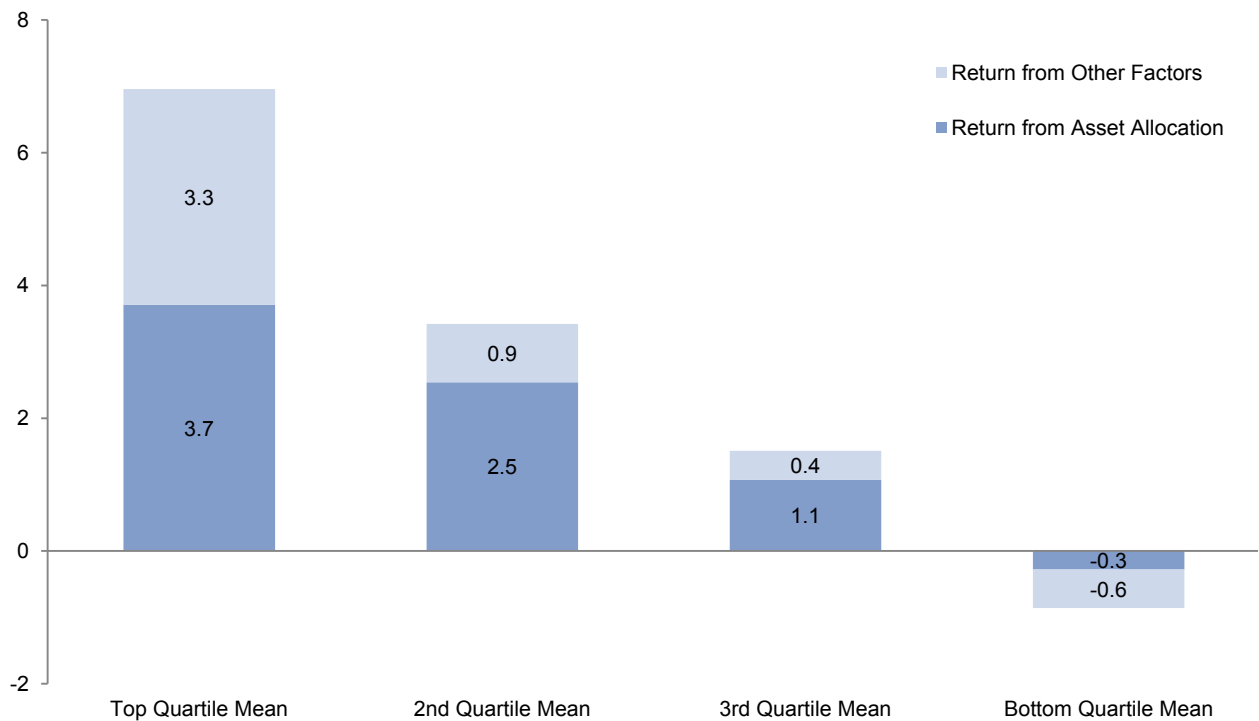
The attribution analysis estimates that the majority of the mean total return for the participant group could be explained by asset allocation in fiscal year 2015. US equity, which returned 7.3% on an index basis and had the highest allocation among the detailed asset classes, was the largest asset class return contributor for the trailing one-year period. While venture capital represented only 4% of the mean

portfolio, the model indicates it was the second largest asset class return contributor due to its strong performance on an index basis. Private equity and private real estate also made notable positive contributions to returns, while natural resources–related investments and global ex US equities detracted from portfolio performance.

A breakdown of the attribution data into the four performance quartiles of the overall group highlights the different experiences among institutions (Figure 12). The model estimates that the top performance quartile had the highest mean asset class return for fiscal year 2015. As displayed previously in Figure 10, these institutions had the highest allocations to the outperforming private investment asset classes. In

addition to having an outperforming asset allocation structure, the model estimates that the top performance quartile also had the highest mean return from other factors, and by a wide margin. This indicates that implementation decisions were a significant contributor to the top performance quartile’s outperformance of the overall participant group in fiscal year 2015.

Figure 12. Attribution Analysis by Performance Quartile: Trailing One-Year Return
As of June 30, 2015 • Percent (%)



Source: College and university data as reported to Cambridge Associates LLC.
Note: Includes data for 159 institutions that provided beginning fiscal year asset allocation.



Return Calculation Methodologies.

Performance reporting methodologies differ across participants in this study. Institutions that place a significant emphasis on benchmarking peer performance should take note of the following issues.

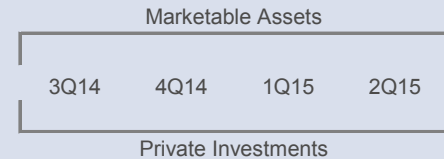
Private Investments. There were two main methodologies that institutions used to account for private investments in their fiscal year 2015 total portfolio return. The most frequently used methodology was to report returns on a current basis, meaning the total portfolio return incorporated private investment valuations for the entire fiscal year period. The second most frequently used methodology to account for private investments was the lagged basis. Under this methodology, private investment valuations lag other assets in the portfolio by one quarter. In essence, the private investment portion of the fiscal year 2015 total return represents performance for the period of April 1, 2014, to March 31, 2015.

When assessing the impact of these two methodologies, it is important to consider private investment returns for both second quarter 2014 and second quarter 2015. With the lagged basis methodology, performance for the former period will be included in the one-year total return calculation, while performance for the latter period will be excluded. The Cambridge Associates' private investment index returns for second quarter 2014 were stronger than second quarter 2015 returns for some strategies, but weaker in others.

Performance Reporting Methodologies

Current Basis

Total investment pool return for 2015 includes marketable asset and private investment performance for July 1, 2014, to June 30, 2015. Of the 121 institutions using this methodology, 118 used confirmed private investment valuations and three used estimated valuations.



Lagged Basis

Total investment pool return for 2015 includes marketable asset performance for July 1, 2014, to June 30, 2015, and private investment performance for April 1, 2014, to March 31, 2015.



Methodologies Used by Participants

Asset Size	Current Basis	Lagged Basis	Other	No PI Allocation
Under \$500mm	79%	2%	2%	18%
<i>n</i>	52	1	1	12
\$500mm to \$1bn	77%	23%	0%	0%
<i>n</i>	27	8	0	0
Over \$1bn	69%	30%	2%	0%
<i>n</i>	42	18	1	0
All Institutions	75%	17%	1%	7%
<i>n</i>	121	27	2	12

Source: College and university data as reported to Cambridge Associates LLC.

Notes: Private investments include non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, timber, private real estate, and other private investments. Institutions with no significant private investment allocations (<1% of their total investment portfolios) are reflected in the right-hand column.

Figure 13. Cambridge Associates Private Investment Index Returns

	One Quarter End-to-End Pooled Return		Beginning Year Mean Asset Allocation
	Q2 2014	Q2 2015	
US Private Equity	5.4	3.8	6.5
US Venture Capital	3.1	6.7	4.3
Distressed Securities	3.5	1.6	1.5
Real Estate	3.9	4.2	3.6
Natural Resources	8.5	-0.4	3.4
Blended Benchmark Return			
Q2 2014	5.0		
Q2 2015	3.6		

Source: Cambridge Associates LLC and college and university data as reported to Cambridge Associates LLC.

Notes: Includes data for 159 institutions that provided beginning fiscal year asset allocation. Blended benchmark incorporates the return for each asset class and is weighted according to the beginning year mean allocation of private investments for the total participant group.

For a blended private investment benchmark that is weighted according to the overall participant group's average asset allocation, the return for second quarter 2014 was 5.0% (Figure 13), 140 bps higher than the return for second quarter 2015. For a portfolio with a 19% allocation to private investments weighted according to the average asset mix, the differential in benchmark returns between the two periods could impact the total portfolio return by approximately 27 bps.² The actual impact for each portfolio would vary according the actual asset allocation and investment performance.

Net of Fee Calculations. Each participant in this study provided performance on a net-of-fees basis, with virtually all (159 of 162) providing a breakdown of the fee types deducted. The majority (69%) of respondents deduct only asset- and

² This impact on the total return is estimated by multiplying the overall participant group's mean private investment allocation (19%) by the difference in the second quarter 2014 and second quarter 2015 blended benchmark return (140 bps).

Figure 14. Calculation of Net Returns
Fiscal Year 2015

	110	15	9	6
<i>Number of Institutions</i>	110	15	9	6
<i>% of Institutions</i>	69	9	6	4
Asset-Based Mgmt Fees	x	x	x	x
Perf-Based Mgmt Fees	x	x	x	x
Custody Fees		x	x	x
Consulting Fees			x	x
Staff Salaries			x	x
Travel Expenses			x	x
Legal Expenses			x	x
Accounting Expenses			x	x
IC Meetings Costs			x	x
Rents/Space Costs			x	

Source: College and university data as reported to Cambridge Associates LLC.

Note: The remaining 12% of institutions deduct asset-based and performance-based management fees, as well as various other combinations of investment office oversight expenses.

performance-based management fees while another 9% also deduct custody expenses (Figure 14). The remaining institutions deduct the aforementioned fee types as well as a variety of investment office oversight expenses. Consulting fees and internal staff salaries tend to be the largest components of investment oversight expenses and are deducted by 21% and 19% of institutions, respectively.

Past Cambridge Associates surveys have shown that total annual investment office oversight expenses range between 10 bps and 30 bps for most of our endowment clients. Many factors can impact the overall level of costs including staffing levels, overall complexity of the portfolio, and the types of costs recognized. The scale of asset size can also impact statistics in relative terms, as costs in basis points tend to be lower for institutions with a larger asset base.

Long-Term Returns

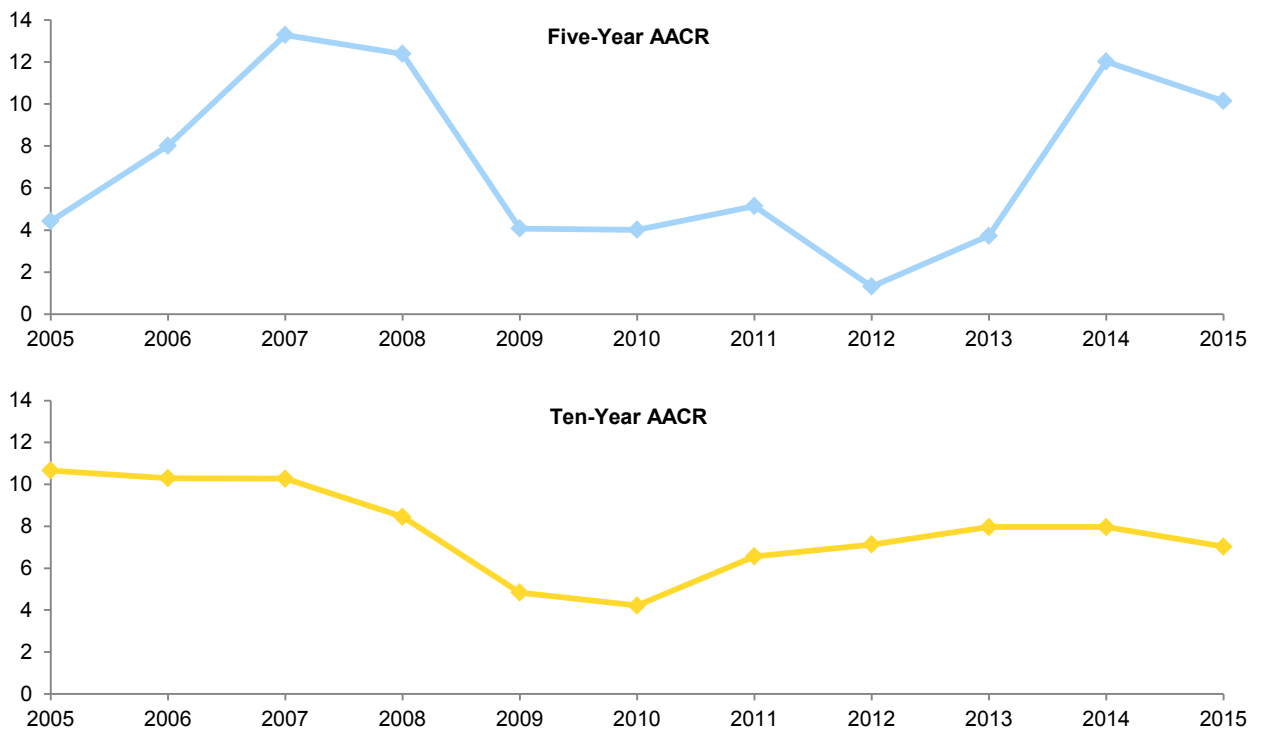
The mean average annual compound return (AACR) was 9.9% for the five-year period ending June 30, 2015 (Figure 1). Institutions with assets greater than \$1 billion reported the highest average five-year return (10.7%) (Figure 2). For a constant group of institutions that have consistently reported historical performance, the most recent five-year period represents the fourth highest return from the last decade, trailing only the five-year periods ending in fiscal year 2007, 2008, and 2014 (Figure 15). Similar to those years, this most recent five-year period incorporates a recovery following a recession in which stock markets had significantly declined.

The mean nominal AACR for the ten-year period was 6.8% (Figure 1), with the largest portfolios again reporting the highest mean return (7.5%) (Figure 2). For the constant group of institutions, the most recent ten-year period is one of the lowest return periods reported over the last decade, surpassing only the ten-year periods ending in fiscal years 2009, 2010, and 2011 (Figure 15).

To maintain purchasing power for an endowment,³ institutions must achieve a real return that offsets the average effective spending rate over the long-term. Of the 100 institutions that provided consistent

³ In this instance, endowment refers to a single fund with no future inflows. An LTIP, which is a collection of multiple endowments and other long-term funds, can use inflows to maintain purchasing power even if the spending rate exceeds the pool's long-term real return.

Figure 15. Rolling Five-Year and Ten-Year Average Annual Compound Returns
Years Ended June 30 • Percent (%)



Source: College and university data as reported to Cambridge Associates LLC.

Note: Analysis includes data for 120 institutions that provided returns for the last 20 years.

data over the last decade, the average long-term effective spending rate was 4.8%.⁴ For the institutions that provided a long-term real return objective, the most common figure reported was 5% (Figure 16). Through the trailing ten-year period ending June 30, 2015, the average real return after spending was 0.2%, with just over half (53 of 100) of respondents reporting a return above 0%.

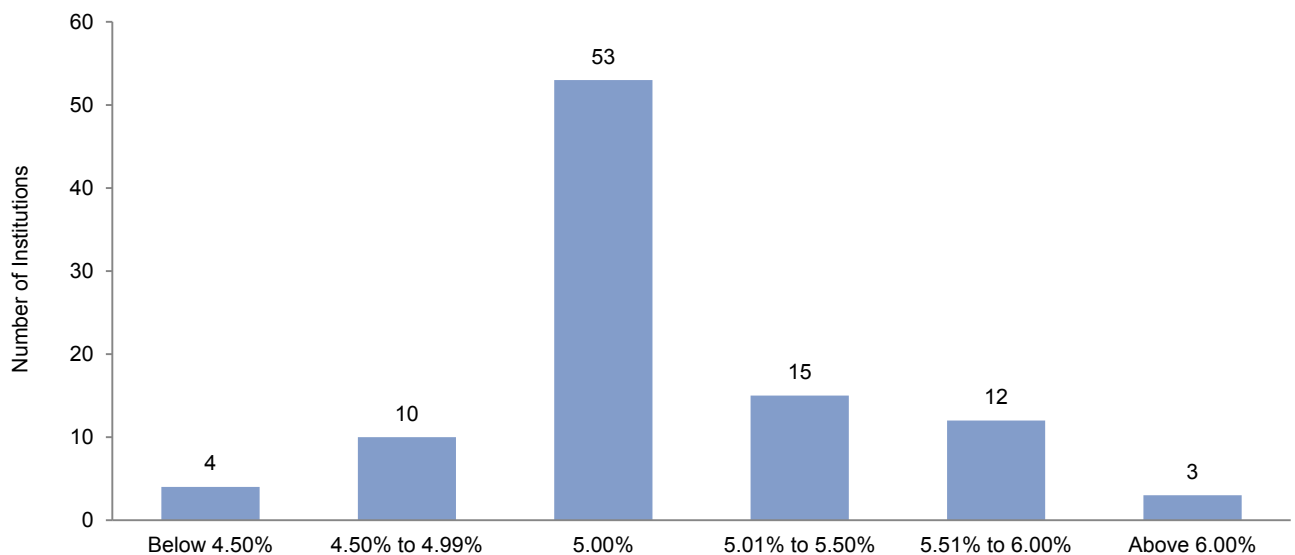
Relative Returns: Simple Portfolio Benchmark. US equities have been among the top-performing investments over the past five years. Consequently, most institutions have considerably lagged a simple 70/30 benchmark that uses a US index for the equity component. The average return for participants underperformed this simple benchmark by over 300 bps (Figure 1) for

the trailing five-year period. Even over the ten-year period that incorporates the stock market crash of late 2008 to early 2009, the mean return has underperformed this benchmark by 60 bps. Institutions have fared better against a 70/30 benchmark that uses a global equity index, slightly outperforming this benchmark's return over the ten-year period.

These simple benchmarks help evaluate the decision to adopt the endowment model of investing where a portion of assets are allocated across non-traditional less liquid assets. While much criticism has been recently levied against the endowment model of investing, our historical data shows that the portfolios that were most diversified over the last decade generally performed the best. Figure 17 breaks out institutions that provided asset allocation data over the last decade into four quartiles based on the trailing ten-year return.

⁴ The effective spending rate is the dollar amount of spending from the portfolio for the fiscal year divided by the beginning fiscal year market value of the portfolio. The long-term effective spending rate is the average for the ten-year period from fiscal years 2006 to 2015.

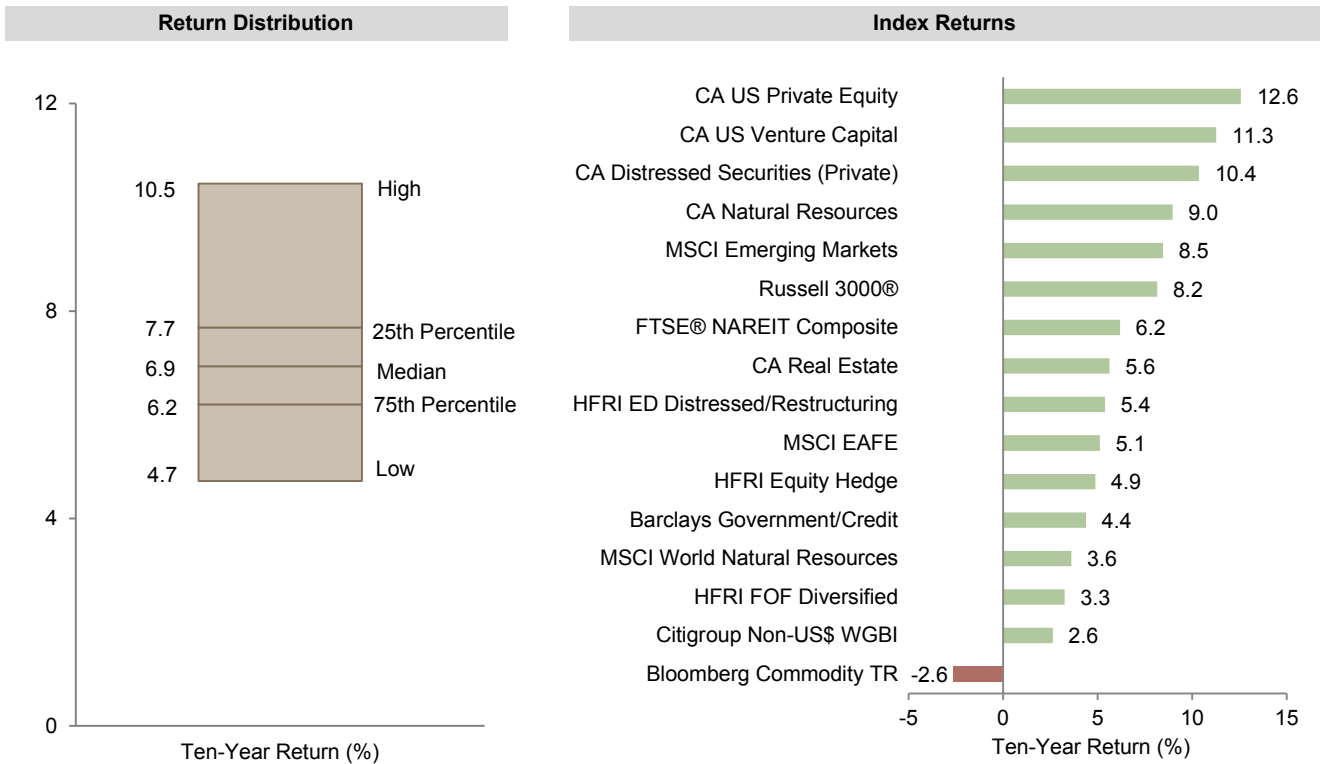
Figure 16. Real Total Portfolio Return Objectives



Source: College and university data as reported to Cambridge Associates LLC.

Note: Graph includes data for 97 colleges and universities that provided a real total portfolio return objective.

Figure 17. Analysis of Top and Bottom Quartile Performers: Ten-Year Asset Allocation
As of June 30, 2015



Quartile	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Dist Sec	PE & VC	Private RA	Public RA and ILBs	Cash	Other
Top Quartile	15.9	11.1	5.8	8.1	20.6	3.5	17.3	11.8	3.2	2.4	0.3
2nd Quartile	20.8	13.7	6.4	11.0	19.2	3.2	10.6	6.4	5.4	3.0	0.3
3rd Quartile	21.5	13.9	6.4	12.3	18.2	3.9	8.3	5.2	6.8	3.1	0.5
Bottom Quartile	24.5	16.1	5.1	16.5	16.7	2.1	6.1	2.9	6.3	3.4	0.4
All C&U Mean	20.7	13.7	5.9	12.0	18.7	3.1	10.6	6.6	5.4	2.9	0.4

Divergence of Asset Allocation from Mean

Asset Class	Divergence (%)
US Equity	-4.8
DM ex US Equity	-3.8
EM Equity	-3.2
Bonds	-1.0
Hedge Funds	0.0
Dist Sec	+1.0
PE & VC	+2.0
Private RA	+3.0
Public RA and ILBs	+3.0
Cash	+3.0
Other	+3.0

Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Barclays, Bloomberg L.P., Cambridge Associates LLC, Citigroup Global Markets, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., MSCI Inc., and the National Association of Real Estate Investment Trusts. MSCI data provided “as is” without any express or implied warranties.

Notes: Performance quartiles are based on the long-term investment portfolio’s (LTIP) trailing ten-year return as of June 30, 2015. Mean allocations are for the 11 June 30 time periods from 2005 to 2015. Analysis includes 116 colleges and universities.

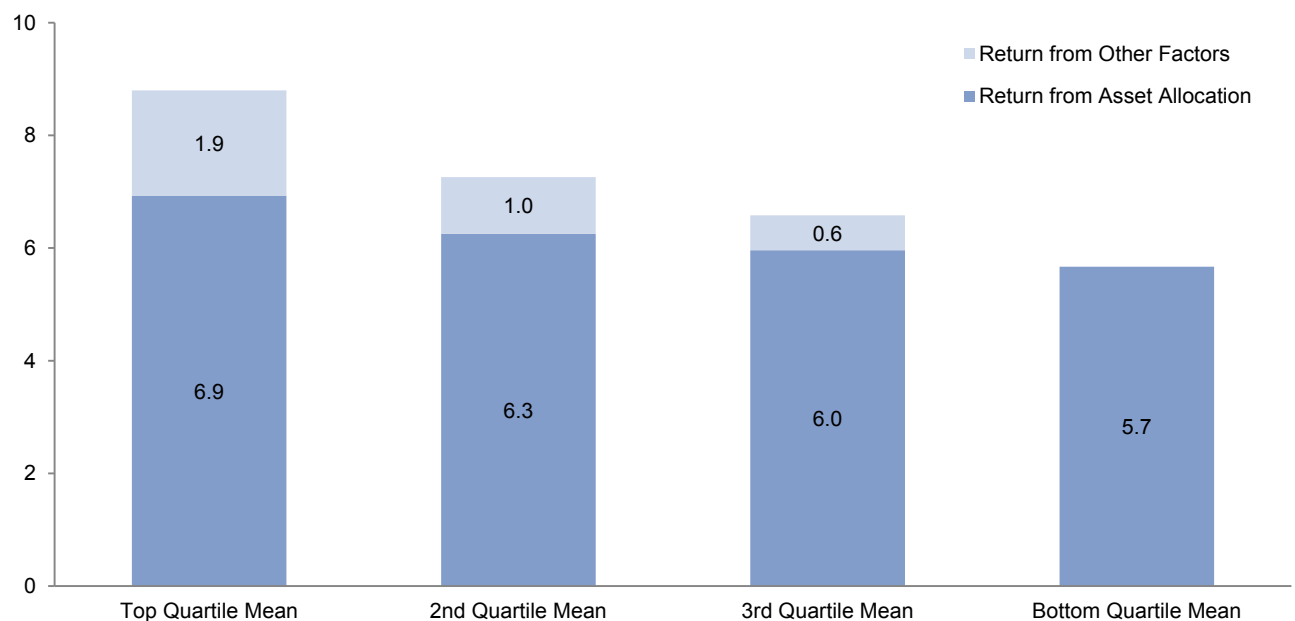
Each institution's asset allocation data was averaged across the 11 June 30 periods that fell from 2005 to 2015. The four quartiles in the heat map table represent the average of the institutions that fall within each quartile. The top quartile of performers, all of which reported a ten-year return that surpassed the domestic 70/30 benchmark, reported the highest average allocation to illiquid private investments and the lowest average allocation to long-only developed equities and traditional bonds.

The attribution model also points to an outperforming asset allocation structure for the top performance quartile over the last decade. In addition, it suggests this group

was the best at adding value through active management of the portfolio. The model estimates the top performance quartile earned an average of 6.9% from asset allocation over the trailing ten-year period and added another 1.9% through implementation decisions (Figure 18). Conversely, it is estimated that the bottom performance quartile had the lowest average return from both factors, including virtually no value added through implementation decisions. The ranges of actual asset class returns across the entire participant group for the trailing five- and ten-year periods are listed in Figures 19 and 20.

Figure 18. Attribution Analysis by Performance Quartile: Trailing Ten-Year Return

As of June 30, 2015 • Percent (%)



Source: College and university data as reported to Cambridge Associates LLC.

Note: Includes data for 116 institutions.

Figure 19. Dispersion of Participants' Asset Class Returns: Traditional Assets and Hedge Funds
As of June 30, 2015

	Public Equity ¹	Global Equity ²	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds
Trailing Five-Year							
5th Percentile	15.1	18.5	21.0	13.5	8.5	6.1	9.3
25th Percentile	14.0	16.3	18.9	11.9	5.6	4.1	8.0
Median	13.1	14.9	17.9	11.0	4.5	3.6	7.2
75th Percentile	12.3	12.7	16.8	9.9	3.1	2.9	6.3
95th Percentile	11.0	9.1	15.5	8.7	1.1	1.7	4.4
Mean	13.1	14.4	18.0	11.0	4.4	3.7	7.0
<i>n</i>	120	31	118	116	108	118	119
Trailing Ten-Year							
5th Percentile	9.0	12.3	10.6	9.1	10.4	6.5	8.3
25th Percentile	7.7	10.6	9.1	7.6	9.1	5.4	6.9
Median	7.2	8.4	8.4	6.8	7.8	4.9	6.3
75th Percentile	6.6	7.3	7.8	5.9	6.8	4.1	5.4
95th Percentile	6.1	4.9	6.8	4.1	5.0	2.8	4.1
Mean	7.3	8.7	8.5	6.7	7.6	4.7	6.2
<i>n</i>	109	14	108	95	68	97	101

Source: College and university data as reported to Cambridge Associates LLC.

¹ Public equity is a composite of global equity, US equity, developed markets ex US equity, and emerging markets equity.

² Global equity includes only investment vehicles that have a mandate to invest in US and international markets.

Figure 20. Dispersion of Participants' Asset Class Returns: Private Equity and Real Assets
As of June 30, 2015

	Total Private Equity ¹	Non- Venture Private Equity ²	Venture Capital	Total Private Real Assets ³	Private Real Estate	Private Natural Resources	Total Public Real Assets ⁴	Public Real Estate	Commodities and Natural Resources
Trailing Five-Year									
5th Percentile	21.6	20.1	33.4	17.3	52.7	14.0	8.3	21.4	6.9
25th Percentile	18.2	16.2	24.1	12.4	15.9	8.1	3.5	14.4	2.7
Median	16.3	14.5	19.0	9.3	13.0	5.2	1.1	13.5	0.2
75th Percentile	14.5	13.1	16.0	7.1	10.0	1.3	-0.8	11.4	-1.5
95th Percentile	11.1	10.5	9.4	2.1	6.7	-3.7	-3.9	8.1	-3.9
Mean	16.5	14.8	19.4	10.8	16.8	4.9	1.8	15.5	0.8
<i>n</i>	95	94	87	81	82	73	86	20	86
Trailing Ten-Year									
5th Percentile	18.1	16.5	22.5	12.0	10.3	18.2	5.3	7.6	5.6
25th Percentile	13.7	12.4	15.8	8.3	7.1	12.1	3.4	7.4	3.5
Median	11.6	10.7	12.4	5.4	4.3	7.7	2.0	5.9	1.9
75th Percentile	10.3	9.7	10.2	2.4	1.2	5.4	0.8	5.1	0.2
95th Percentile	8.0	6.9	4.5	-8.7	-21.5	-2.1	-1.4	3.5	-0.8
Mean	12.2	11.2	12.9	4.7	2.5	8.1	2.0	5.9	2.0
<i>n</i>	85	83	73	64	60	45	54	15	37

Source: College and university data as reported to Cambridge Associates LLC.

Note: Private equity and private real assets return statistics are reported as internal rates of return.

¹ Total private equity is a composite of non-venture private equity and venture capital.

² Non-venture private equity also includes distressed securities that are invested through a private investment vehicle.

³ Total private real assets is a composite of private real estate and private natural resources.

⁴ Total public real assets is a composite of public real estate, commodities, and inflation-linked bonds.

Policy Portfolio Benchmarks

Relative Returns. Each nonprofit institution has its own unique blend of investment objectives, constraints, and risk tolerances. Consequently, investment policies will vary, leading to different asset allocation structures for institutions that may otherwise be considered worthy peers. While performance results of peers can be informative, they are not necessarily the most effective benchmark to evaluate an institution's investment performance.

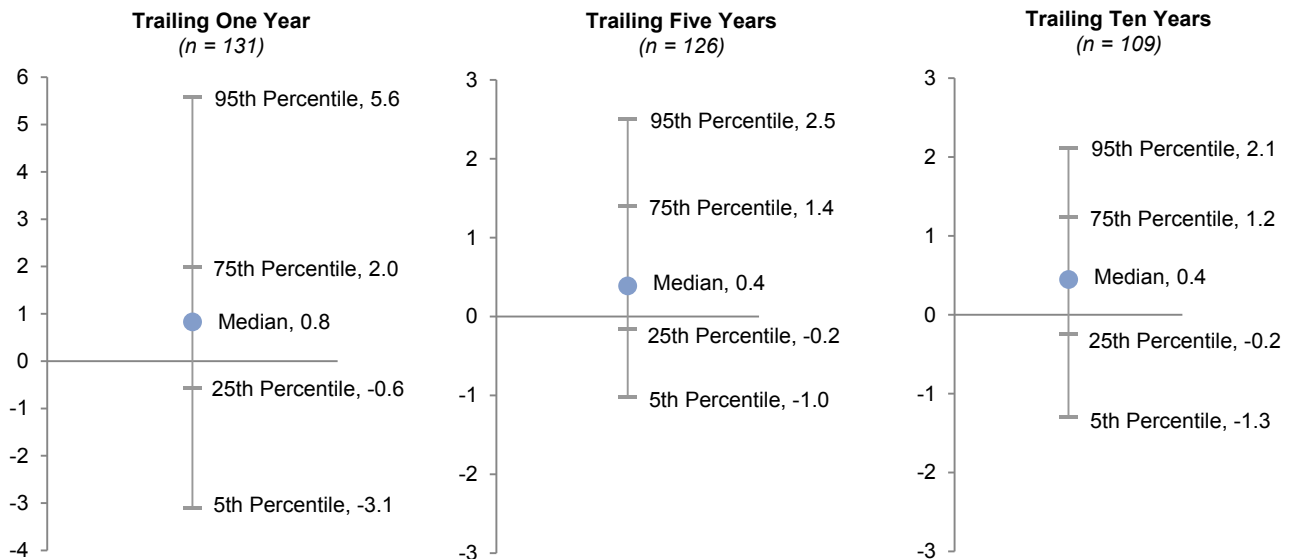
The comparison of an institution's return to its policy portfolio benchmark is the true mark for determining whether a portfolio is being successfully managed against its target investment policy. For the institutions that provided performance for their policy portfolio benchmark, the median difference between the total portfolio return and the

benchmark was 0.8 ppts for fiscal year 2015 (Figure 21). Nearly 70% of these institutions (90 of 131) earned a return that surpassed their policy portfolio benchmark for the trailing one-year period. A nearly identical proportion of institutions outperformed their policy portfolio benchmarks over both the trailing five- and ten-year periods. The median difference between the total portfolio AACR and the benchmark was 0.4 ppts for both longer-term periods.

Policy Portfolio Benchmark

Components. Over 80% of the respondents (116 of 140) that provided a policy portfolio benchmark use a detailed, asset class-specific benchmark to evaluate the performance of the total portfolio. Figure 22 summarizes the most frequently used benchmarks in policy portfolios by asset class/strategy.

Figure 21. Range of Out/Underperformance of Total Return Versus Policy Portfolio Benchmark
As of June 30, 2015 • Percentage Points



Source: College and university data as reported to Cambridge Associates LLC.

Note: Data points represent the difference between the total portfolio return and the policy portfolio benchmark return.

Figure 22. Frequently Used Components of Policy Portfolio Benchmarks
As of June 30, 2015

Simple Policy Benchmarks (n = 24)		
	Benchmark Description	Percent (%) of Institutions
Simple Benchmark Combinations	Combination: MSCI All Country World and Barclays Aggregate Bond indexes	16.7
	Combination: S&P 500 and Barclays Aggregate Bond indexes	8.3
	Combination: MSCI All Country World and Barclays Government/Credit Bond indexes	8.3
	16 Other Unique Benchmarks/Combinations	66.7
Detailed Policy Benchmarks (n = 116)		
Asset Class/Strategy	Benchmark Description	Percent (%) of Institutions
Global Equity (n = 32)	MSCI All Country World Index	71.9
	Combination: MSCI World and MSCI Emerging Markets indexes	9.4
	MSCI All Country World Investable Market Index	6.3
	3 Other Unique Benchmarks/Combinations	12.5
US Equity (n = 70)	Russell 3000® Index	64.3
	S&P 500 Index	14.3
	Wilshire 5000 Index	14.3
	4 Other Unique Benchmarks/Combinations	7.1
Global ex US Equity (n = 70)	Combination: MSCI EAFE and MSCI Emerging Markets indexes	60.0
	MSCI All Country World ex US Index	24.3
	Combination: MSCI All Country World ex US and MSCI Emerging Markets indexes	4.3
	8 Other Unique Benchmarks/Combinations	11.4
Bonds (n = 109)	Barclays Aggregate Bond Index	26.6
	Combination: Barclays Aggregate Bond and Citigroup WGBI indexes	11.9
	Barclays Government/Credit Bond Index	7.3
	46 Other Unique Benchmarks/Combinations	54.1
Hedge Funds (n = 106)	HFRI Fund of Funds Composite Index	35.8
	HFRI Fund of Funds Diversified Index	21.7
	91-Day Treasury Bills + prespecified percentage	8.5
	27 Other Unique Benchmarks/Combinations	34.0
Private Investments (n = 76)	Cambridge Associates LLC Private Equity® and/or Venture Capital® indexes	47.4
	Russell 3000® Index + prespecified percentage	11.8
	S&P 500 Index + prespecified percentage	9.2
	15 Other Unique Benchmarks/Combinations	31.6

Source: College and university data as reported to Cambridge Associates LLC.

Notes: Not all colleges and universities reported a benchmark for each asset class/strategy. The percent of institutions calculation includes only those with a benchmark to the specific asset class/strategy. Benchmarks for real assets are not shown due to the unique combinations that are employed across nearly all participating institutions.

The most commonly cited benchmark used to evaluate the US equity portion of the portfolio was the Russell 3000® Index. Global ex US equity was most often measured by a blend of the MSCI EAFE and MSCI Emerging Markets indexes. Some institutions prefer to measure their long-only equities against a global index instead of benchmarking the domestic and international equities separately. For these institutions, the MSCI All Country World Index is the most common benchmark. The Cambridge Associates LLC Private Equity and Venture Capital indexes were the most frequently used benchmarks for private investments.

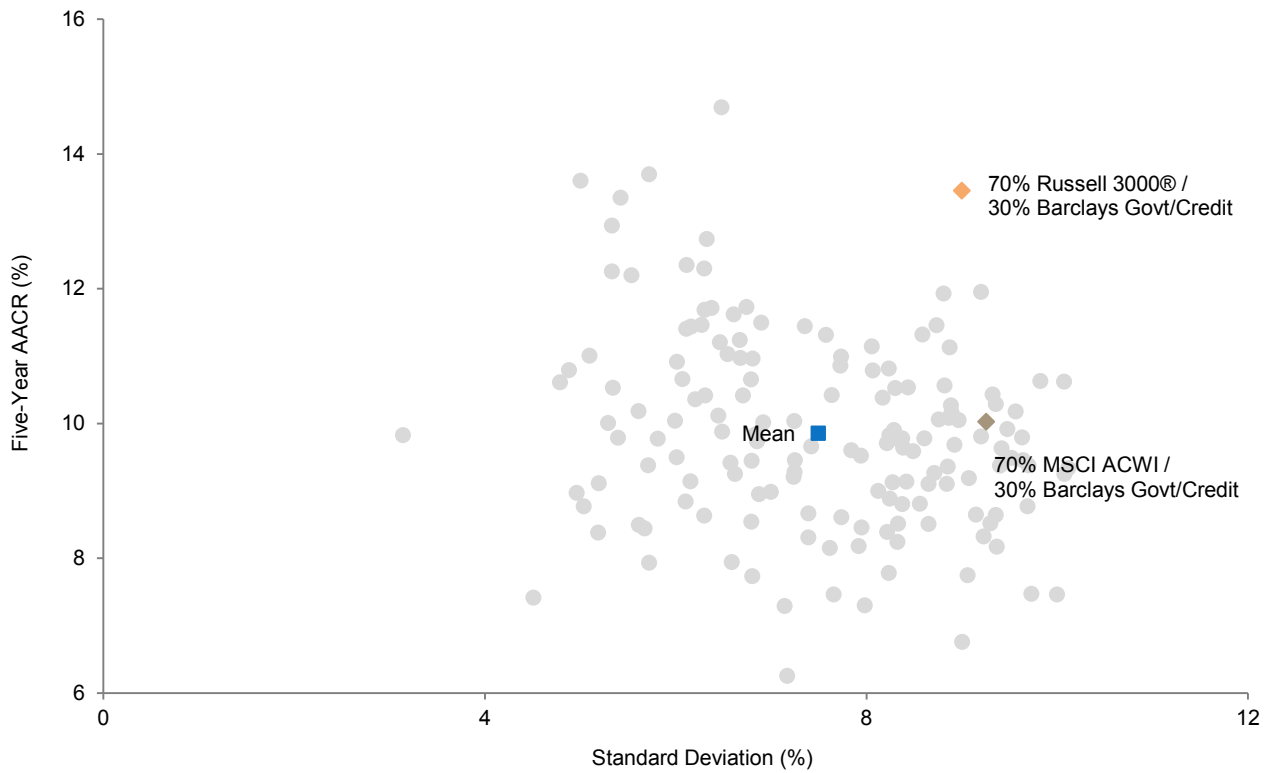
Most respondents used an HFRI index for hedge funds, with the Fund of Funds Composite Index being the most common. The most frequently used bond benchmark was the Barclays Aggregate Bond Index, though many institutions use unique index combinations to better reflect their underlying bond exposure. For real assets, benchmark combinations are unique across most participants due to the wide variety of strategies under this category.

Risk-Adjusted Performance

The most common approach to measuring risk-adjusted performance is by the Sharpe ratio, which shows how much return above the risk-free rate (T-bills) the investor has earned per unit of risk (defined as the standard deviation of returns). The higher the Sharpe ratio, the more the investor has been compensated for each unit of risk taken. While the average standard deviation among institutions was lower compared to a simple 70/30 benchmark containing a US equity component, the group's average

return underperformed the simple benchmark by over 300 bps (Figure 23). As a result, the average Sharpe ratio of respondents over the trailing five-year period (1.36) was lower than that of the domestic 70/30 benchmark (1.46). The Sharpe ratio for a 70/30 benchmark with a global equity component was 1.08.

Figure 23. Risk/Return and Sharpe Ratio
Five Years Ended June 30, 2015



	Five-Year AACR (%)	Standard Deviation (%)	Sharpe Ratio
5th Percentile	12.3	9.7	2.13
25th Percentile	10.7	8.7	1.60
75th Percentile	8.9	6.3	1.06
95th Percentile	7.6	5.2	0.92
Mean	9.9	7.5	1.36
Median	9.8	7.6	1.26
<i>n = 154</i>			
70% Russell 3000® / 30% Barclays Govt/Credit	13.5	9.0	1.46
70% MSCI ACWI / 30% Barclays Govt/Credit	10.0	9.3	1.08

Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Barclays, Frank Russell Company, and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.
Note: Analysis includes only institutions that provided underlying quarterly returns, and excludes those that only provided annual returns.



Portfolio Asset Allocation

2015 Asset Allocation

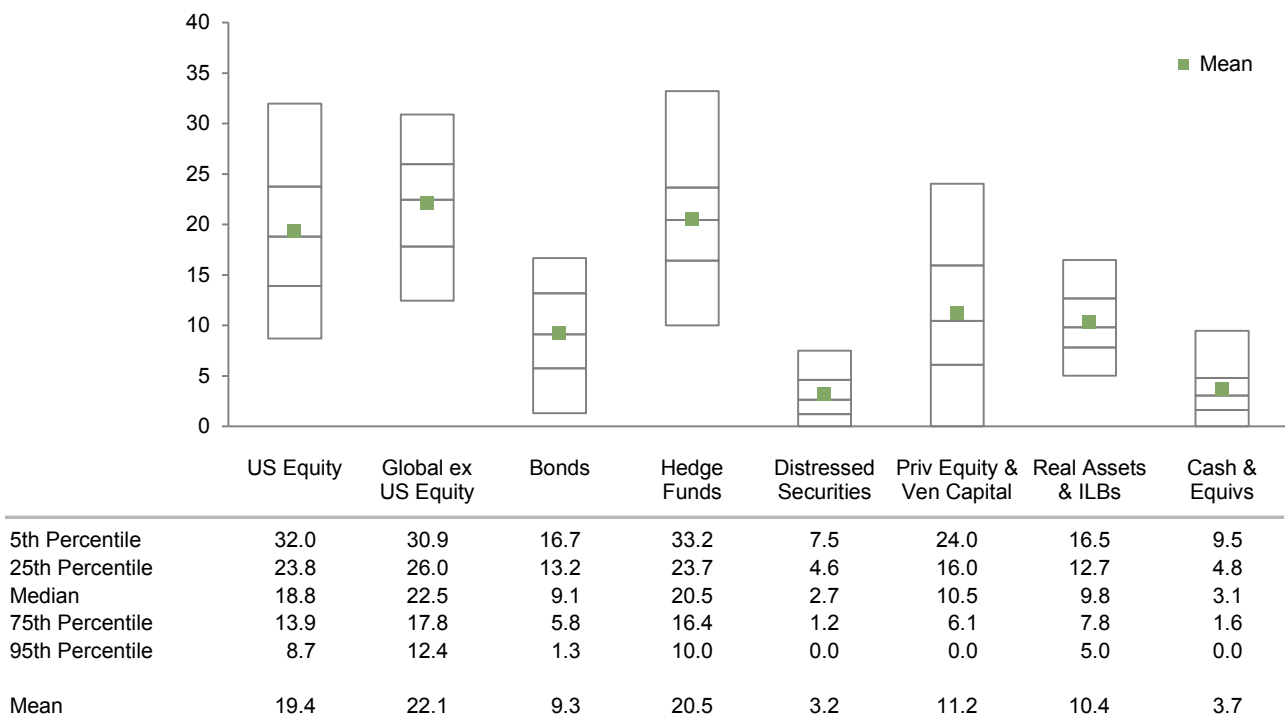
Over 40% of the average LTIP consisted of public equities at June 30, 2015. On average, allocations to global ex US equities (22.1%) were higher than those to US equities (19.4%) (Figure 24). Portfolios had significant exposure to alternative assets, with 20.5% allocated to hedge funds and 11.2% allocated to private equity/venture capital, on average. Another 3.2% was allocated on average to distressed securities, which are invested through either a hedge fund or private equity-type investment vehicle. Real assets, which consist of a diversified group of public and private assets, made up 10.4% of portfolios, on average. Average alloca-

tions to bonds and cash were 9.3% and 3.7%, respectively.

As Figure 25 shows, allocations to these broad asset classes vary considerably. A key factor in the variation of asset allocations continues to be the total value of assets under management. Smaller portfolios continue to maintain higher allocations to US equities and global ex US equities, in part because smaller asset sizes may preclude a meaningful degree of diversification into alternative assets (particularly private investments). The average allocation to private equity and venture capital is highest for institutions with assets over \$1 billion, while the average allocation to hedge funds is highest for midsized portfolios.

Figure 24. Asset Allocation Distribution by Asset Class

As of June 30, 2015 • Percent (%) • $n = 162$



Source: College and university data as reported to Cambridge Associates LLC.

Figure 25. Summary Asset Allocation by Asset Size

As of June 30, 2015 • Percent (%)

	Under \$500mm (n = 66)		From \$500mm to \$1bn (n = 35)		Over \$1bn (n = 61)	
	Mean	Median	Mean	Median	Mean	Median
US Equity	23.4	23.1	17.5	17.2	16.1	15.3
Global ex US Equity	25.1	25.5	20.5	20.9	19.8	19.7
Developed Markets	17.6	17.7	13.8	14.7	12.2	12.9
Emerging Markets	7.5	7.2	6.7	7.4	7.6	7.4
Bonds	12.2	13.0	8.2	8.8	6.7	6.2
US Bonds	10.2	10.1	6.4	6.3	5.3	5.5
Global ex US Bonds (Developed)	0.8	0.3	0.9	0.1	0.7	0.0
Global ex US Bonds (Emerging)	0.9	0.7	0.5	0.0	0.3	0.0
High-Yield Bonds	0.5	0.0	0.3	0.0	0.3	0.0
Hedge Funds	18.2	19.2	22.5	21.2	21.9	21.5
Long/Short Hedge Funds	8.8	9.1	9.1	8.1	10.3	9.2
Absolute Return (ex Distressed)	9.4	9.4	13.4	14.2	11.6	11.4
Distressed Securities	2.4	2.1	4.1	3.8	3.5	3.1
Hedge Fund Structure	1.8	1.6	2.2	2.0	1.9	1.4
Private Equity Structure	0.6	0.0	1.9	1.4	1.6	1.2
Private Equity & Venture Capital	6.2	5.5	12.0	9.9	16.3	16.1
Venture Capital	2.2	1.4	4.7	4.1	7.1	6.2
Non-Venture Private Equity	3.1	2.4	6.6	6.4	8.4	8.0
Other Private Investments	0.8	0.1	0.6	0.0	0.7	0.0
Real Assets & Infl-Linked Bonds	8.9	8.7	10.3	10.3	11.9	11.9
Private Real Estate	1.4	0.5	3.2	2.5	5.1	4.4
Public Real Estate	0.4	0.0	0.8	0.0	0.3	0.0
Commodities	1.0	0.9	0.6	0.2	0.7	0.0
Inflation-Linked Bonds	0.6	0.1	0.0	0.0	0.5	0.0
Private Oil & Gas/Natural Resources	0.9	0.2	2.8	2.6	3.8	3.7
Timber	0.1	0.0	0.4	0.0	0.8	0.4
Public Energy/Natural Resources	4.5	4.2	2.5	2.5	0.8	0.0
Cash & Equivalents	3.2	2.8	4.7	3.4	3.6	3.5
Other	0.3	0.0	0.2	0.0	0.2	0.0

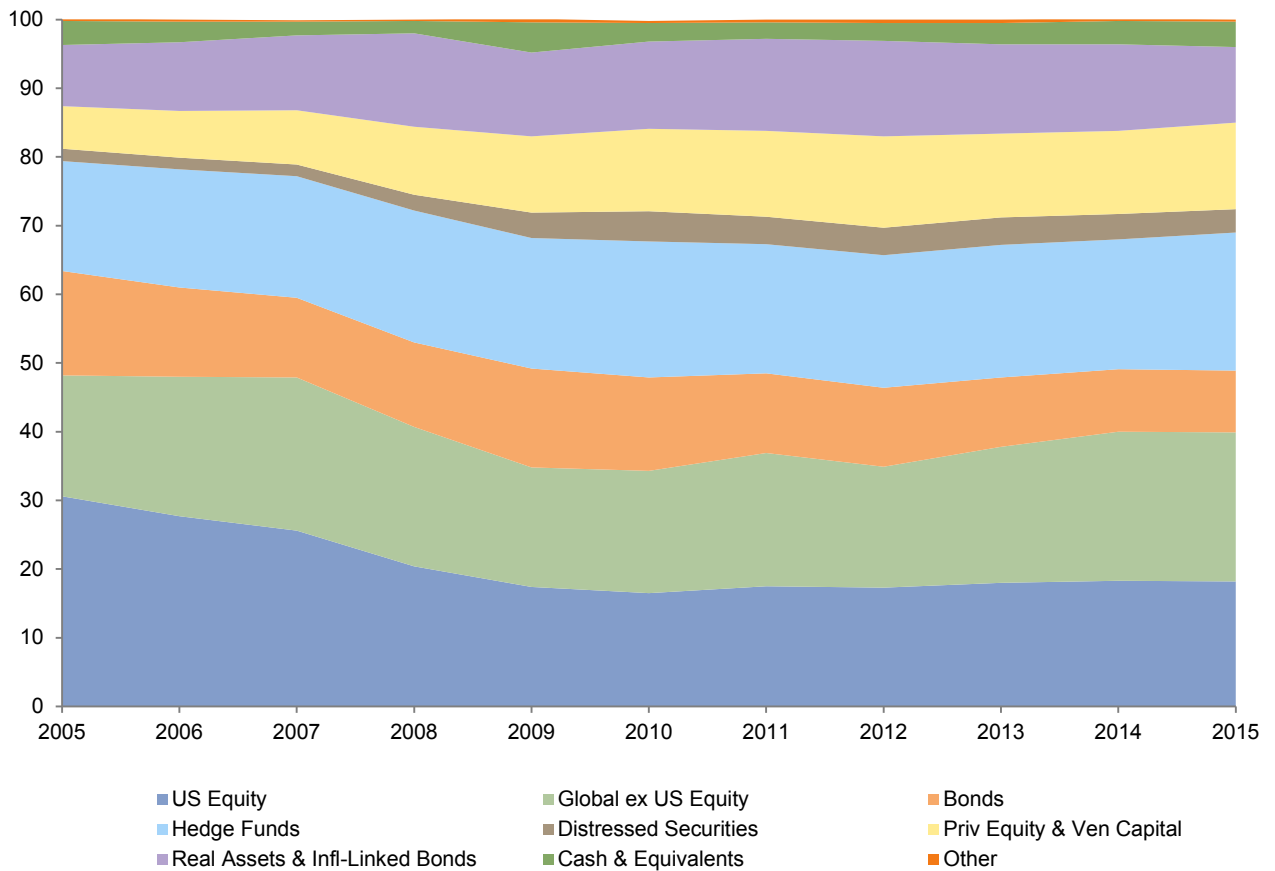
Source: College and university data as reported to Cambridge Associates LLC.

Historical Asset Allocation

Average asset allocations at the end of fiscal year 2015 look considerably different than those reported a decade ago (Figure 26). In general, allocations to US equities and bonds are substantially lower, while allocations to global ex US equities, hedge funds, private investments, and real assets have increased. In several asset classes, the greatest extent of the changes occurred in the years leading up to the 2008–09 financial crisis.

Figure 27 shows the average asset allocation of colleges and universities in 2005, 2010, and 2015. Institutions are divided into three broad asset size groups: those with assets under \$500 million, from \$500 million to \$1 billion, and over \$1 billion. Over the full ten-year period, US equity allocations declined the most, dropping by double-digit percentage points for all three peer groups. Allocations to bonds also decreased considerably, falling by more than 5 ppts

Figure 26. Historical Mean Asset Allocation Trends
Years Ended June 30 • Percent (%)



	Constant Universe											All Inst
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2015
US Equity	30.6	27.7	25.6	20.4	17.4	16.5	17.5	17.3	18.0	18.3	18.2	19.4
Global ex US Equity	17.6	20.3	22.3	20.3	17.4	17.8	19.4	17.6	19.8	21.7	21.7	22.1
<i>Developed Markets</i>	13.7	15.7	16.6	14.7	12.2	12.1	12.9	11.4	13.0	14.1	14.3	14.7
<i>Emerging Markets</i>	4.0	4.6	5.7	5.6	5.2	5.7	6.5	6.2	6.8	7.6	7.4	7.4
Bonds	15.2	13.0	11.6	12.3	14.4	13.6	11.6	11.5	10.1	9.1	9.0	9.3
Hedge Funds	16.0	17.2	17.7	19.2	19.0	19.8	18.8	19.3	19.3	18.9	20.1	20.5
Distressed Securities	1.8	1.7	1.7	2.3	3.7	4.4	4.0	4.0	4.0	3.7	3.4	3.2
Priv Equity & Ven Capital	6.2	6.8	7.9	9.9	11.1	12.0	12.5	13.3	12.2	12.1	12.6	11.2
Real Assets & Infl-Linked Bonds	8.9	10.0	10.9	13.6	12.2	12.7	13.4	13.9	13.0	12.6	11.0	10.4
Cash & Equivalents	3.5	3.0	2.0	1.8	4.4	2.7	2.4	2.6	3.1	3.4	3.7	3.7
Other	0.3	0.3	0.2	0.2	0.5	0.3	0.4	0.5	0.5	0.3	0.3	0.3

Source: College and university data as reported to Cambridge Associates LLC.

Notes: Constant universe represents 116 institutions that provided asset allocation data for each year from 2005 to 2015. All institutions represents 162 institutions that provided 2015 data.

Figure 27. Trends in Asset Allocation by Asset Size
Equal-Weighted Means as of June 30 • Percent (%)

	US	Global ex US			Bonds	Hedge Funds	Dist Sec	PE/VC	RA & ILBs	Cash & Equiv
	Equity	Total	Dev	EM						
Under \$500mm (n = 37)										
2005	36.6	18.6	14.8	3.8	18.2	10.4	0.9	2.7	7.8	4.4
2010	22.2	20.4	15.1	5.4	18.9	16.9	3.0	6.0	10.2	2.4
2015	22.4	24.8	17.6	7.1	12.3	18.0	2.6	7.0	9.6	2.8
Change (ppt)										
2010–15	0.2	4.4	2.5	1.7	-6.6	1.1	-0.4	1.0	-0.6	0.4
2005–15	-14.2	6.2	2.8	3.3	-5.9	7.6	1.7	4.3	1.8	-1.6
From \$500mm to \$1bn (n = 29)										
2005	30.1	16.4	13.1	3.3	16.1	16.1	2.2	6.2	7.9	4.5
2010	15.4	17.4	12.4	5.1	13.0	20.8	5.2	12.0	12.5	3.0
2015	17.1	21.5	14.3	7.2	8.7	20.8	4.5	12.1	10.7	4.6
Change (ppt)										
2010–15	1.7	4.1	1.9	2.1	-4.3	0.0	-0.7	0.1	-1.8	1.6
2005–15	-13.0	5.1	1.2	3.9	-7.4	4.7	2.3	5.9	2.8	0.1
Over \$1bn (n = 52)										
2005	26.7	17.4	13.1	4.3	12.3	19.8	2.3	9.0	10.2	2.2
2010	12.9	16.1	9.9	6.2	10.1	21.7	4.9	16.5	14.7	2.8
2015	15.8	19.7	11.9	7.8	6.7	21.4	3.3	16.8	12.2	3.7
Change (ppt)										
2010–15	2.9	3.6	2.0	1.6	-3.4	-0.3	-1.6	0.3	-2.5	0.9
2005–15	-10.9	2.3	-1.2	3.5	-5.6	1.6	1.0	7.8	2.0	1.5

Source: College and university data as reported to Cambridge Associates LLC.

Note: Asset sizes are based on June 30, 2015 data.

across the board. All asset size groups saw increases to alternative assets. For the largest portfolios, the greatest increase in allocation was to private equity and venture capital. Hedge funds allocations increased the most for the smallest portfolios.

Changes in portfolio allocations were generally more modest over the second half of the decade, and in some cases a reverse of the longer-term trends. Since 2010, US equity allocations have increased for all three asset size groups. After increasing over the first part of the last decade, allocations to real assets have declined for all

asset size groups since 2010. The largest reported increases over the last five years were to global ex US equities for all asset size groups, while the largest decreases were to bonds.

Target Asset Allocation

While long-term asset allocation trends clearly show how investment policies have evolved over time, one-year changes in actual allocations can be influenced by factors such as asset returns and rebalancing flows. Using shorter-term data can be misleading in determining whether institutions are altering their long-term asset allocation policies. An analysis of target asset allocations is more suitable for such an evaluation.

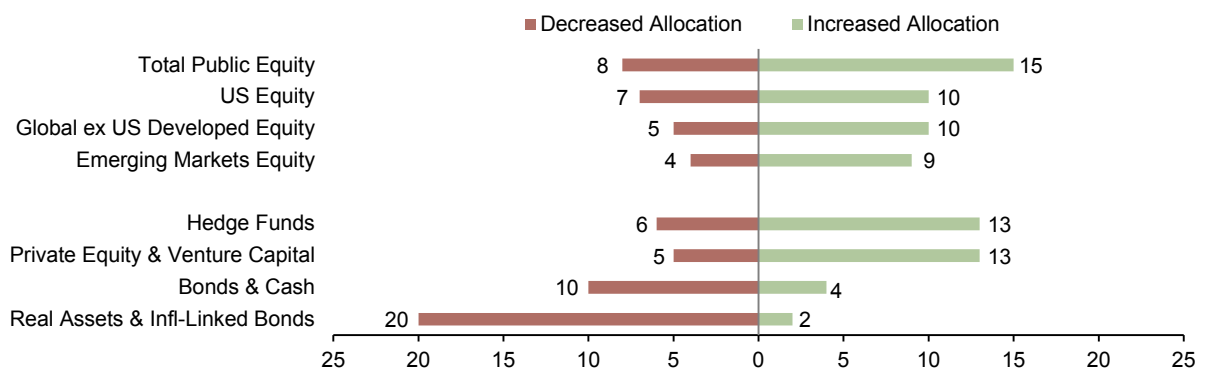
Over 95% of survey participants (155 of 162) provided target asset allocation data for fiscal year 2015. Institutions construct their target asset allocation mix under different frameworks. Of the 155 institutions that provided target asset allocation data, 82% reported data using the traditional asset allocation–centered structure. The remaining institutions reported data using other frameworks, including role in portfolio. Under the role-in-portfolio framework, targets are set to broad categories based on the roles that certain investments are expected to play in the portfolio (e.g., growth, deflation-hedging, diversifier).

Our trend analysis on this topic focuses on institutions that reported under the traditional asset allocation–centered framework. A little over one-third (34%) of these institutions made a change to their policy targets in fiscal year 2015. Institutions with larger portfolios were most likely to make changes to their policy targets (45%) followed by mid-sized portfolios (30%) and smaller portfolios (27%).

As shown in Figure 28, the most striking change in fiscal year 2015 was within real assets, where 20% of institutions lowered targets while only 2% reported an increase. Among the other broad asset categories, the proportion of institutions that reported increases to hedge funds and private equity was more than double the proportion that lowered targets. The category with the highest proportion of institutions reporting an increase was public equity (15%). Meanwhile, as in past years, the proportion of institutions lowering their targets to bonds outpaced the proportion that increased their target allocation. Figure 29 shows detailed data by asset size.

Figure 28. Changes in Target Asset Allocation

June 30, 2014 – June 30, 2015 • Percentage of Institutions Increasing or Decreasing Targets



Source: College and university data as reported to Cambridge Associates LLC.

Notes: Exhibit represents data for 122 colleges and universities that provided target asset allocation data for 2014 and 2015. Real assets includes targets to both public and private assets.

Figure 29. Changes in Target Asset Allocation by Asset Size
June 30, 2014 – June 30, 2015

	Total Equity	US Equity	Global ex US		Hedge Funds	PE/VC	Bonds & Cash	RA & ILBs	Other
			Dev	EM					
Under \$500mm (n = 51)									
Mean Target AA (%)									
2014	45.4	22.0	16.2	7.7	18.0	7.3	16.5	12.4	0.4
2015	46.0	22.5	16.4	7.7	18.8	7.6	15.9	11.5	0.2
% of Inst Making Changes to Targets									
Increased	14	11	11	6	12	10	0	0	0
Decreased	6	2	3	3	2	4	12	18	2
From \$500mm to \$1bn (n = 27)									
Mean Target AA (%)									
2014	36.6	16.9	13.0	8.0	22.5	13.1	11.8	12.9	3.1
2015	36.8	16.9	13.1	7.7	23.0	13.3	11.7	12.3	2.9
% of Inst Making Changes to Targets									
Increased	15	5	6	0	7	7	0	4	0
Decreased	4	11	6	6	0	4	4	15	4
Over \$1bn (n = 44)									
Mean Target AA (%)									
2014	34.5	15.7	11.4	8.4	21.5	16.2	10.3	15.6	1.9
2015	34.9	15.9	11.6	8.6	21.5	16.8	10.3	14.9	1.6
% of Inst Making Changes to Targets									
Increased	16	11	10	22	18	20	11	2	5
Decreased	14	11	10	4	14	7	11	27	5

Source: College and university data as reported to Cambridge Associates LLC.

Note: Asset sizes are based on June 30, 2015, data.

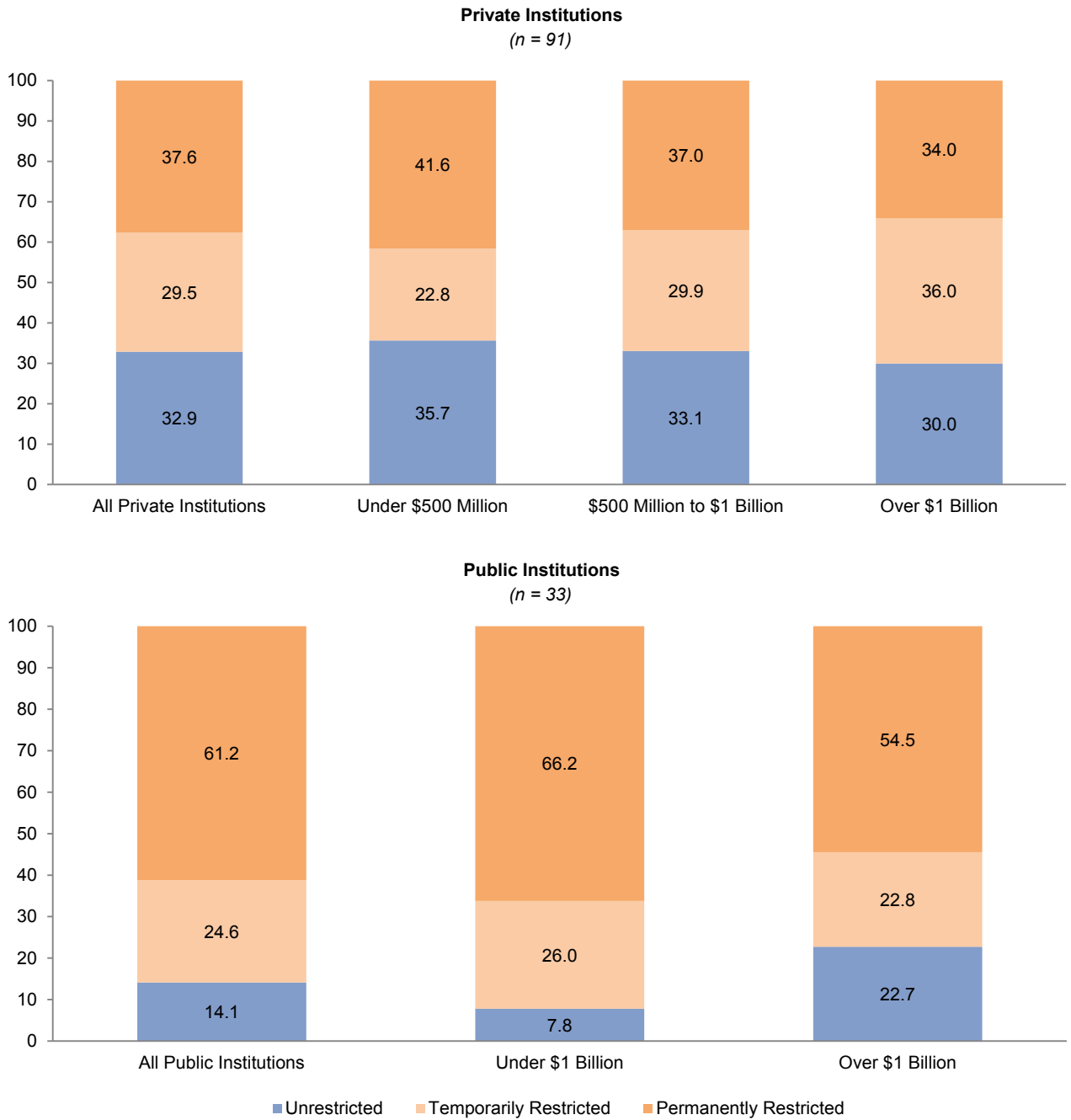
Endowment Asset Composition

While endowment asset composition by degree of restriction varies across participants, certain patterns emerge. On average, 38% of endowment assets at private institutions are classified as permanently restricted.⁵ The proportion was much higher at public institutions, where 61% of endowment assets are permanently restricted (Figure 30).

Much of the disparity in endowment composition between private and public institutions can be attributed to the amount of recent fundraising relative to the overall size of the endowment. Given that the majority of donor gifts tend to be restricted, institutions with a larger percentage of endowment from recent gifts tend to have a higher proportion of their endowment classified as permanently restricted. Over the last decade at public institutions, over two-thirds of the increase in endowment market values could be attributed to gifts and other additions. The ratio is lower at private institutions, which generally have longer-established endowment funds.

⁵ In this study, we use the Financial Accounting Standards Board (FASB) accounting categories. Some public institutions use private affiliated foundations to raise funds and manage their endowment assets and also report under FASB standards. Other public institutions use the Governmental Accounting Standards Board (GASB) accounting categories. Under GASB, "restricted-nonexpendable" is equivalent to FASB's "permanently restricted" and "restricted-expendable" is equivalent to "temporarily restricted."

Figure 30. Classification of Endowment Funds
 Equal-Weighted Means as of Fiscal Year End 2015



Source: College and university data as reported to Cambridge Associates LLC.
 Note: Institutions grouped by fiscal year 2015 market value of endowment assets.

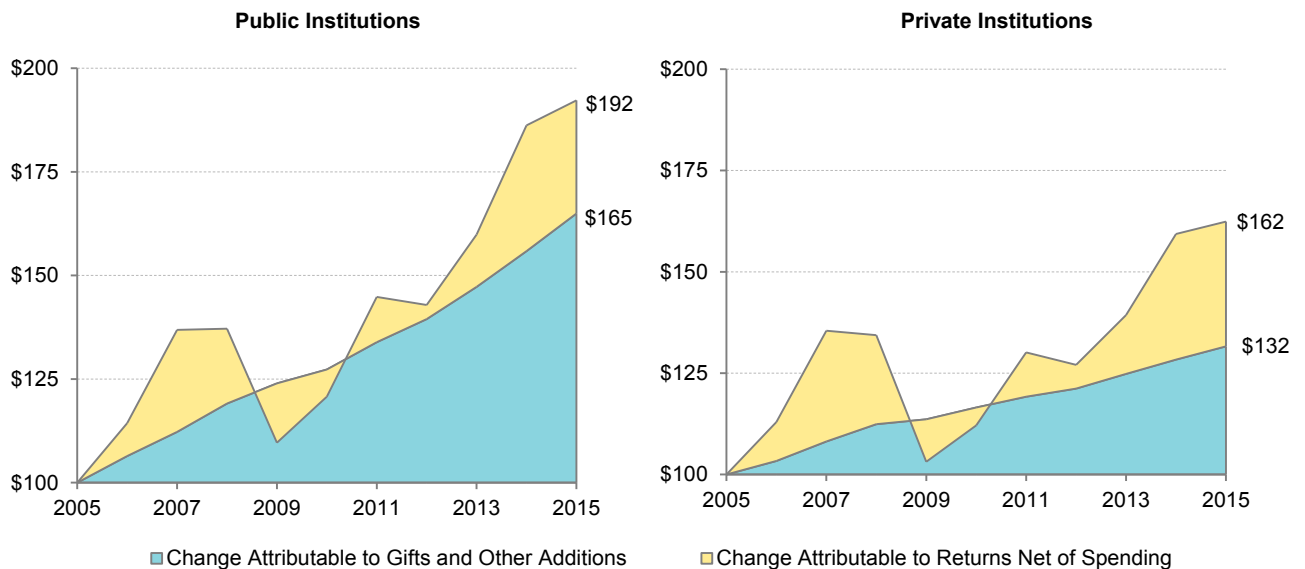


Just over half of endowment growth over the last decade could be linked to gifts and other additions at private institutions, and the rest to accumulated unspent returns (Figure 31).

Differences in endowment composition can also be related to the overall size of endowment assets. At both public and private institutions, endowments with smaller market values tend to have a higher proportion of permanently restricted assets compared to larger endowments (Figure 30). As detailed in Figure 2, larger endowments have posted higher historical returns than smaller endowments, resulting in more unspent endowment earnings that accrue to the temporarily restricted category. Since smaller endowments have accumulated less earnings, their permanently restricted category is proportionally greater when compared to larger endowments.

Over the last decade, there have been significant shifts in the average endowment composition at private institutions. The proportion of unrestricted assets declined at both larger and smaller endowments by 15 ppts (Figure 32). The decline was offset by increases to the other categories, with temporarily restricted assets showing the greatest increase. Most of the shifts in endowment composition occurred after fiscal year 2008 and were mainly a result of the accounting changes mandated as states adopted the Uniform Prudent Management of Institutional Funds Act (UPMIFA). In addition, new donor contributions in 2009 likely contributed to a spike in the proportion of permanently restricted assets during a year in which existing endowment assets eroded substantially due to severe market declines.

Figure 31. Ten-Year Cumulative *Change* in Endowment Market Value
 Years Ended June 30 • Base Year July 1, 2005 = \$100

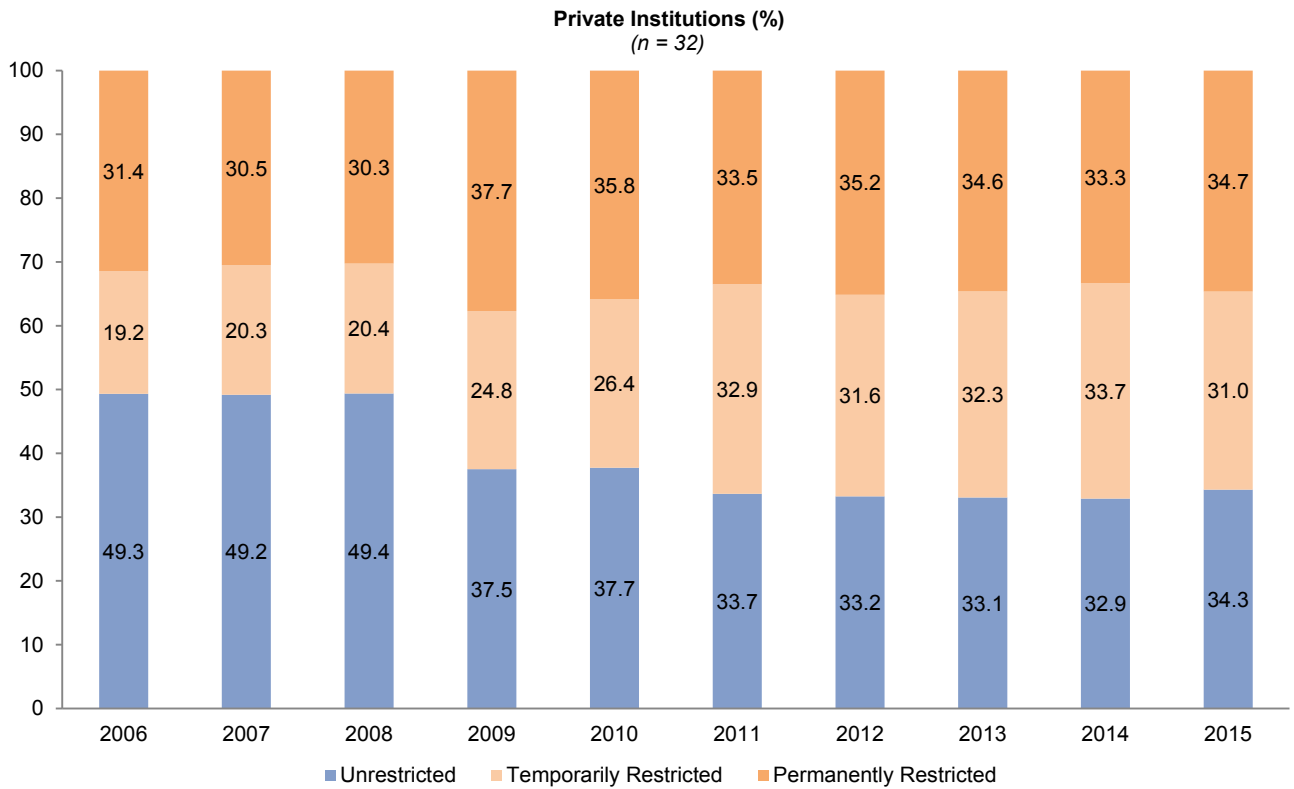


Source: College and university data as reported to Cambridge Associates LLC.

Notes: Analysis displays the average cumulative growth in endowments at public and private institutions over the last decade based on an initial \$100 investment at the beginning of the period. Included are 27 public institutions and 70 private institutions that provided returns, effective spending rates, and endowment market values for each year from 2005 to 2015.



Figure 32. Trends in Classification of Endowment Funds: Private Institutions
Equal-Weighted Means as of Fiscal Year End 2015



Institutions by Asset Size

Under \$1 Billion
(n = 17)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2014	Change (ppt) 2006–15
Unrestricted	52%	49%	48%	39%	40%	38%	37%	37%	37%	37%	-15
Temporarily Restricted	15%	17%	16%	19%	21%	25%	24%	25%	27%	27%	11
Permanently Restricted	33%	34%	36%	42%	39%	37%	39%	38%	35%	36%	3

Over \$1 Billion
(n = 15)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change (ppt) 2006–15
Unrestricted	46%	49%	51%	35%	35%	28%	28%	28%	28%	31%	-15
Temporarily Restricted	24%	25%	25%	31%	32%	42%	41%	41%	41%	36%	12
Permanently Restricted	30%	27%	24%	33%	32%	30%	31%	31%	31%	33%	3

Source: College and university data as reported to Cambridge Associates LLC
Note: Institutions grouped by fiscal year 2015 market value of endowment assets.



Private Investments and Uncalled Capital Commitments

One of the core principles of the endowment model is the use of private investments that, in part due to their illiquid nature, offer the potential for higher long-term returns than those of public equities. Participating institutions, particularly those with larger asset sizes, continue to allocate a significant portion of their portfolios to private investments.⁶ The average allocation to private investments for all participants was 18.5%, while those with portfolios greater than \$1 billion had an average allocation of 27.6%.

Investors should be mindful of the liquidity implications of investing in and funding a private investments program. Uncalled capital represents a commitment of capital to be funded in the future. While annual spending distributions usually represent the biggest liquidity need of a portfolio, institutions with private investment programs must also consider the potential impact of uncalled capital commitments.

For participants with private investment programs, uncalled capital commitments as a percentage of the total LTIP value averaged 10.0% at the end of fiscal year 2015 (Figure 33). Predictably, institutions with larger asset sizes tend to have a higher ratio of uncalled capital commitments to the total LTIP value. For those with asset sizes greater than \$1 billion, uncalled capital commitments represented an average of 14.1% of their total LTIP value (ranging from 5.5% to 22.0%, excluding outliers).

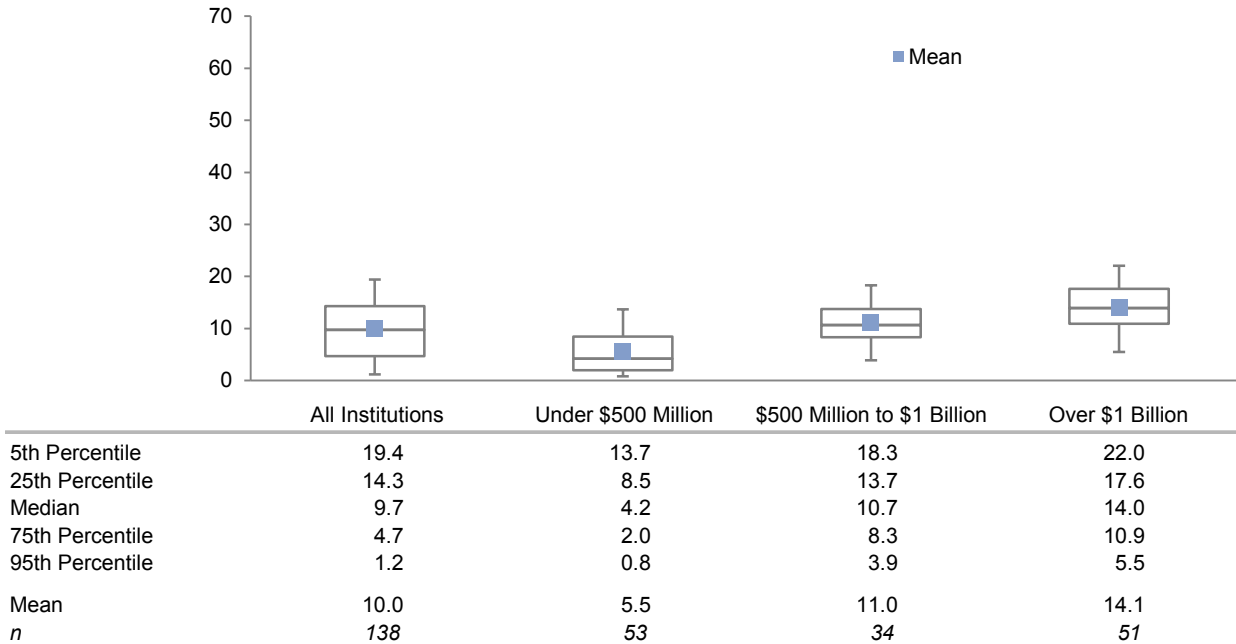
Larger portfolios also tend to have a higher ratio of uncalled capital commitments to the LTIP's total liquid assets, which exclude hedge funds and private investments. For institutions with asset sizes greater than \$1 billion, uncalled capital commitments represented an average of 31.2% of their total liquid assets. For institutions with asset sizes under \$500 million, the average was 8.8% (Figure 33).

Institutions can use a variety of sources to fund capital calls, including private investment fund distributions, cash reserves, and proceeds from sales of other investment assets. In fiscal year 2015, private investment programs for most participants were cash flow positive, meaning the amount of fund distributions was higher than paid-in capital calls (Figure 34).

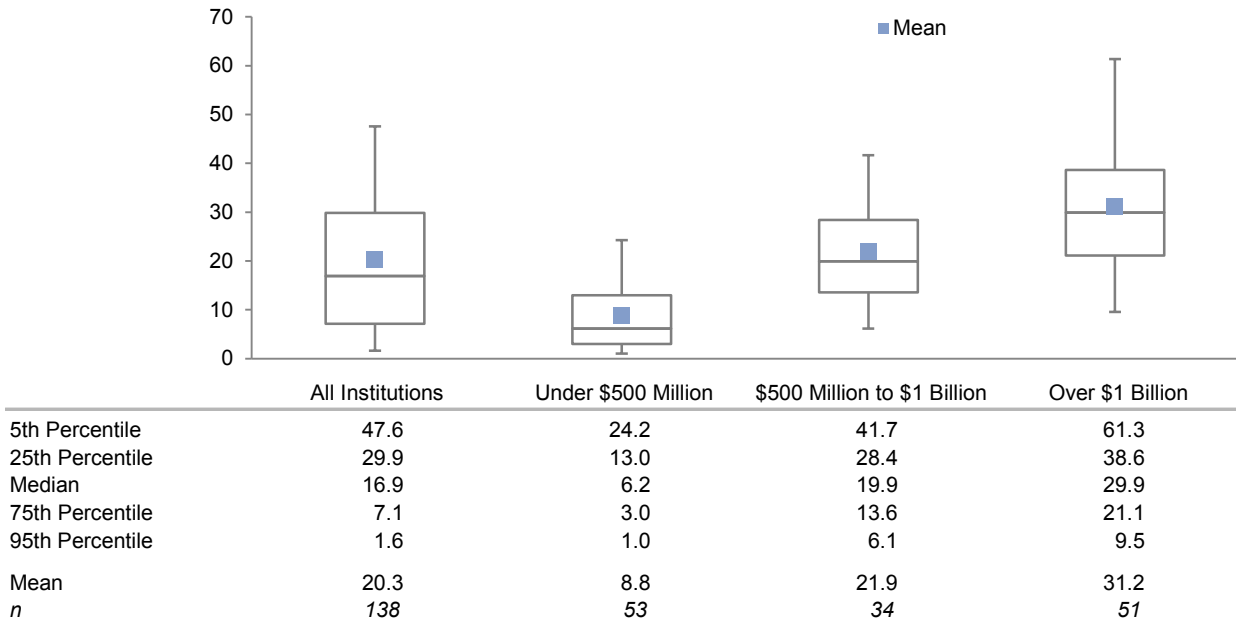
⁶ Private investments include private equity, venture capital, private distressed securities, private real estate, private oil & gas/natural resources, and timber.

Figure 33. Uncalled Capital Committed to Private Investment Funds
As of June 30, 2015 • Percent (%)

Uncalled Capital Commitments as a Percentage of the Total LTIP



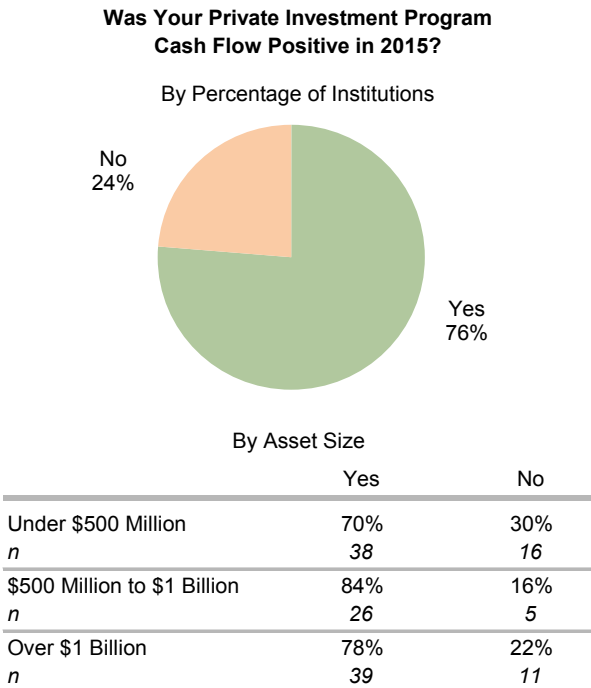
Uncalled Capital Commitments as a Percentage of the LTIP's Liquid Assets



Source: College and university data as reported to Cambridge Associates LLC.

Notes: Uncalled capital is the amount committed, but not yet paid in, to private investment funds. Liquid assets consist of all LTIP assets excluding hedge funds and private investments. Private investments include non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, private real estate, and timber.

Figure 34. Private Investment Program Cash Flow
As of June 30, 2015 • *n* = 135



Source: College and university data as reported to Cambridge Associates LLC.

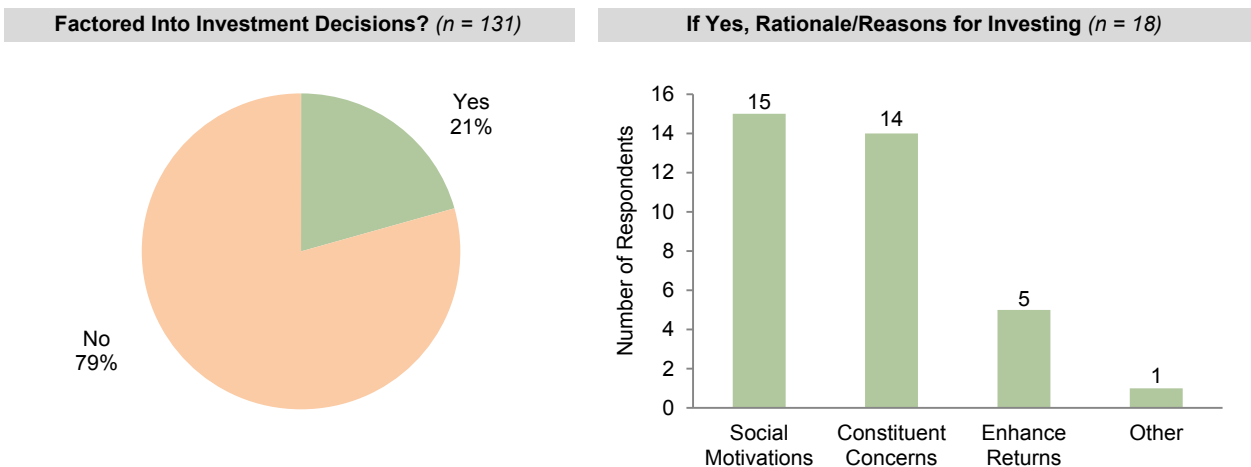
Note: Private investment fund programs were considered cash flow positive if fund distributions were higher than paid in capital calls in 2015.

Mission-Related Investing

Mission-related investing (MRI) generally refers to the incorporation of environmental and social considerations into the investment decision-making process. MRI can encompass a variety of strategies and approaches, including, but not limited to: environmental, social, and governance investing; impact investing; and socially responsible investing.

MRI has been gaining traction on college campuses in recent years, with a particular focus on addressing climate change concerns. This trend is in part due to student-led campaigns on many campuses to divest from fossil fuels. Despite the increased attention on these issues, only 21% of institutions in this study reported some type of MRI activity. Institutions that pursue MRI do so for a variety of reasons, including social motivations, to address concerns of constituents, and to enhance investment returns (Figure 35).

Figure 35. Mission-Related Investing Rationales
As of June 30, 2015



Source: College and university data as reported to Cambridge Associates LLC.

Notes: Of the 27 colleges and universities that reported they were engaged in mission-related investing, 18 provided data on their rationale/reasons. Respondents were able to choose multiple reasons.



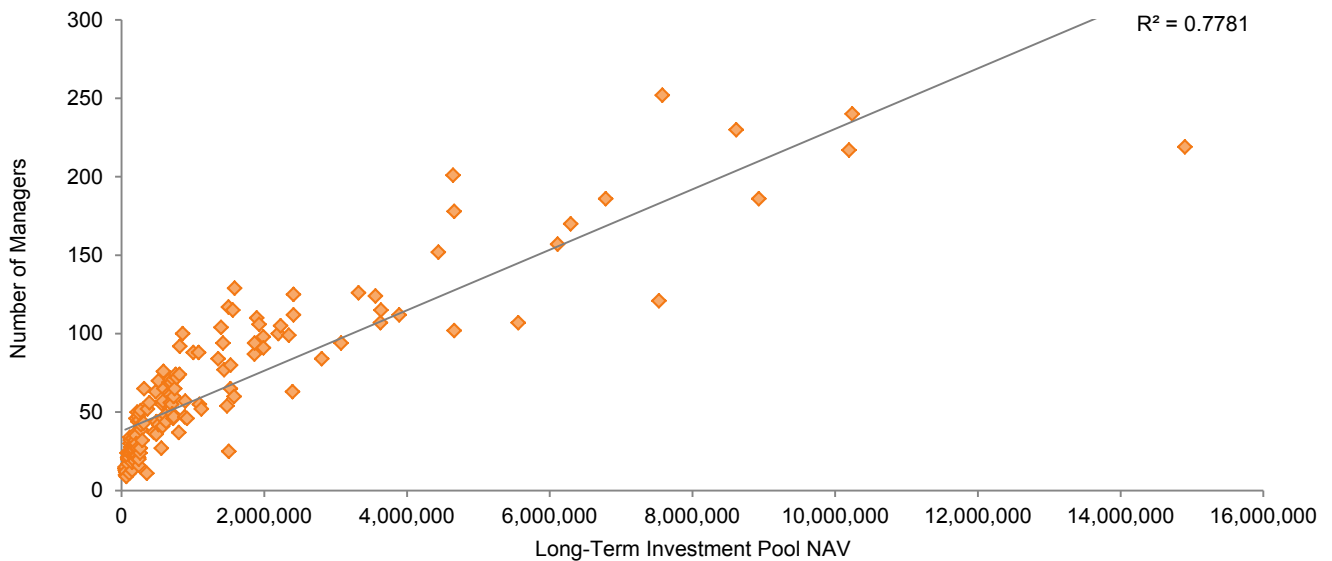
Investment Management Structures

Number of External Managers

Many factors contribute to the number of managers employed within an investment portfolio. As shown in Figure 36, the scale of total assets under management is a primary factor, as portfolios with more assets generally spread their assets across a greater number of managers. On average, institutions with assets over \$1 billion employed 119 external investment managers at the end of fiscal year 2015 (Figure 37). In contrast, mid-sized portfolios had an average of 59 managers, while smaller portfolios reported even fewer (29). The number of investment vehicles is even higher for each peer group, mainly because of the allocation of capital across multiple funds of the same investment manager in private investment asset classes.

Even within the broad asset size groups, the range of managers employed can be wide. Within the smallest portfolios, the number of managers employed at the 25th percentile (36) is nearly twice the amount used at the 75th percentile (21). For portfolios over \$1 billion, there are 225 managers employed at the 5th percentile compared to just 54 at the 95th percentile. Much of the variation can be attributed to the management of alternative asset classes. As Figure 38 shows, the dispersion in the number of alternative asset managers employed, particularly within private investments, is much wider than that of the more traditional equity and bond asset classes. Further detail on these and other asset classes are provided for the three broad asset size groups in Figure 39.

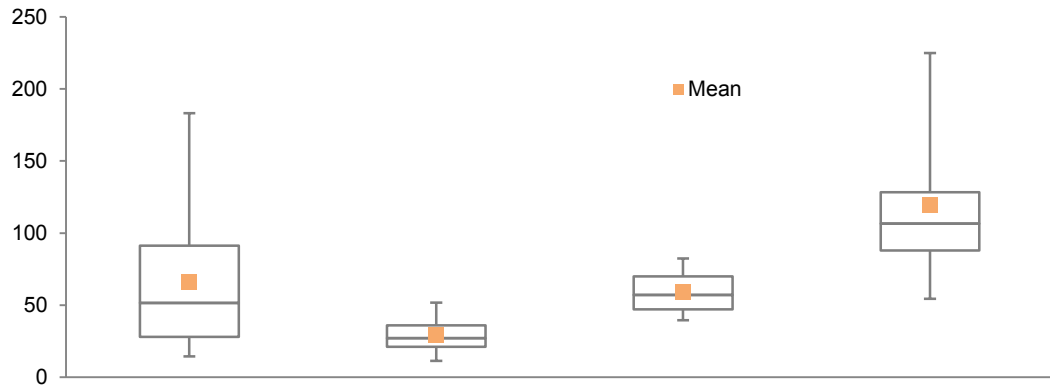
Figure 36. Number of External Managers Versus LTIP Market Value
As of June 30, 2015 • $n = 148$



Source: College and university data as reported to Cambridge Associates LLC.

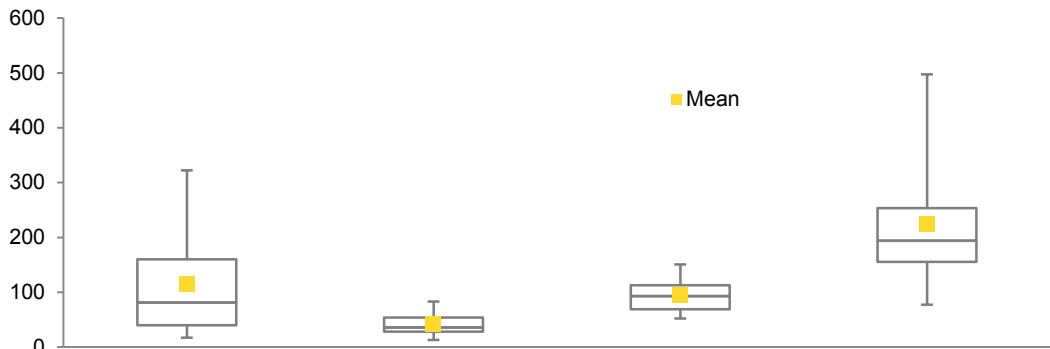
Figure 37. Number of External Managers and Investment Vehicles
As of June 30, 2015

External Managers



	All Institutions	Under \$500 Million	\$500 Million to \$1 Billion	Over \$1 Billion
5th Percentile	183	52	82	225
25th Percentile	91	36	70	128
Median	52	27	57	107
75th Percentile	28	21	47	88
95th Percentile	14	11	39	54
Mean	66	29	59	119
<i>n</i>	148	65	33	50

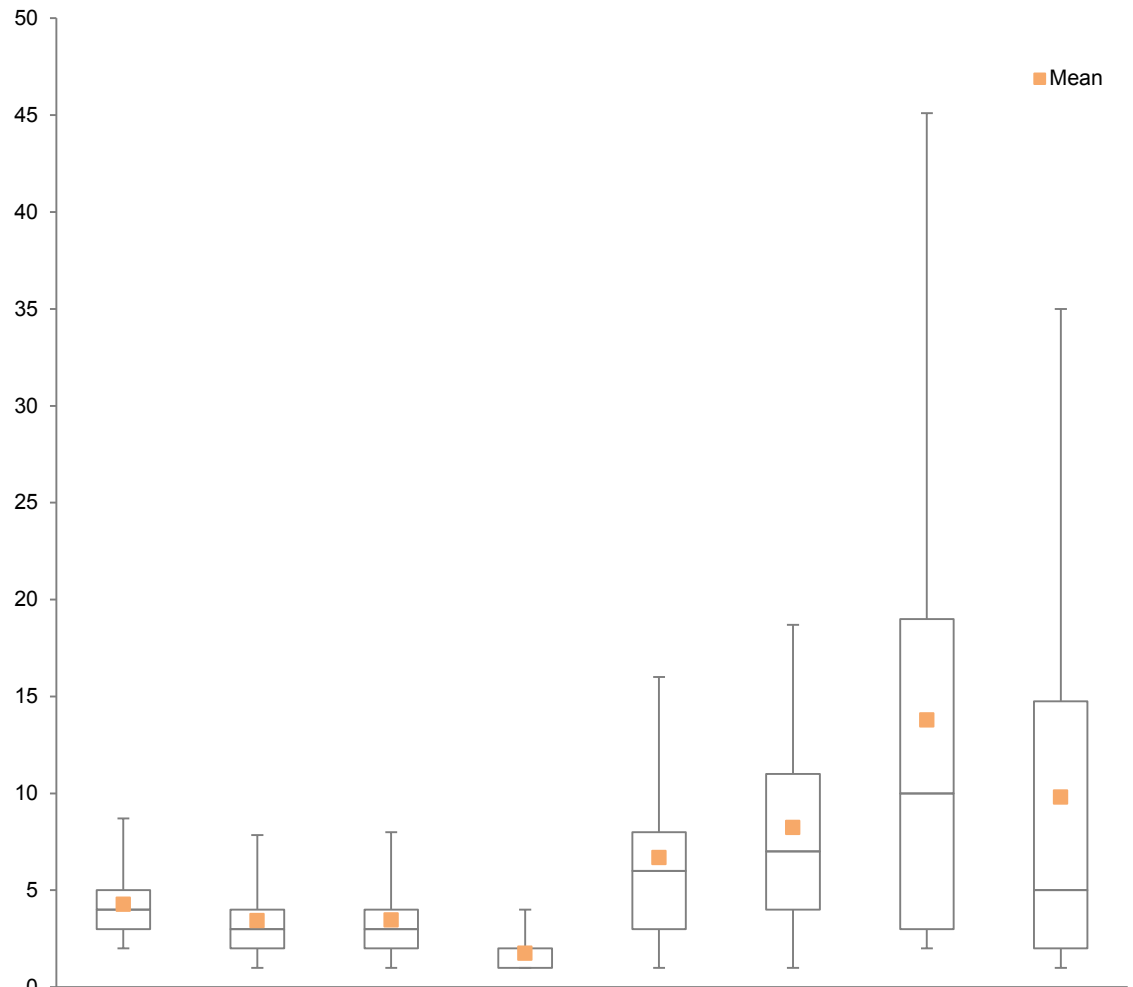
Investment Vehicles



	All Institutions	Under \$500 Million	\$500 Million to \$1 Billion	Over \$1 Billion
5th Percentile	323	83	151	497
25th Percentile	160	54	113	254
Median	82	36	93	194
75th Percentile	40	28	69	155
95th Percentile	17	13	52	77
Mean	115	41	95	224
<i>n</i>	148	65	33	50

Source: College and university data as reported to Cambridge Associates LLC.
Note: Funds-of-funds are counted as one separate investment manager and investment vehicle.

Figure 38. Dispersion in Number of Managers for Selected Asset Classes
As of June 30, 2015



	US Equity	Global ex US Dev Equity	Emerging Markets Equity	US Bonds	Long/Short Hedge Funds	Ab Return Hedge Funds	Private Equity	Venture Capital
5th Percentile	9	8	8	4	16	19	45	35
25th Percentile	5	4	4	2	8	11	19	15
Median	4	3	3	1	6	7	10	5
75th Percentile	3	2	2	1	3	4	3	2
95th Percentile	2	1	1	1	1	1	2	1
Mean	4	3	3	2	7	8	14	10
<i>n</i>	147	144	147	136	126	144	130	126

Source: College and university data as reported to Cambridge Associates LLC.

Notes: Only those institutions with an allocation to the specific asset class have been included. Funds-of-funds are counted as one manager.

Figure 39. Externally Managed Investment Pool Holdings by Strategy
As of June 30, 2015

Strategy	Under \$500 Million			\$500 Million to \$1 Billion			Over \$1 Billion		
	Average Number of		<i>n</i>	Average Number of		<i>n</i>	Average Number of		<i>n</i>
Managers	Vehicles	Managers		Vehicles	Managers		Vehicles		
Traditional Equity									
Global Equity	2	2	27	2	2	14	5	5	25
US Equity	3	4	65	4	4	33	6	6	49
Global ex US Equity - Developed	3	3	64	3	3	33	5	5	47
Global ex US Equity - Emerging	2	2	65	3	3	33	5	6	49
Traditional Bonds									
Global Bonds	1	1	32	1	1	15	1	1	13
US Bonds	2	2	64	2	2	28	2	2	44
Global ex US Bonds - Developed	—	—	0	2	2	1	1	2	7
Global ex US Bonds - Emerging	1	1	12	1	1	3	1	1	10
High-Yield Bonds	1	1	13	1	1	3	2	2	10
Hedge Funds									
Long/Short Hedge Funds	4	4	50	7	7	29	9	10	47
Absolute Return (ex Dist Securities)	5	6	62	8	9	33	12	14	49
Distressed Securities									
Distressed (Hedge Fund Structure)	2	2	29	2	3	26	3	3	35
Distressed (Private Equity Structure)	2	4	23	5	8	27	6	13	39
Private Investments									
Non-Venture Private Equity	4	8	47	10	19	33	26	53	50
Venture Capital	2	5	45	6	15	31	19	51	50
Other Private Investments	2	3	36	2	3	17	4	6	19
Real Assets & ILBs									
Private Real Estate	2	3	35	6	9	32	15	30	50
Public Real Estate	1	1	10	1	1	11	1	1	9
Commodities	1	1	22	1	1	14	2	2	21
Inflation-Linked Bonds (TIPS)	1	1	11	1	1	1	1	1	8
Private Oil & Gas / Natural Resources	2	4	36	5	10	32	10	24	49
Timber	1	1	4	1	2	12	2	3	28
Public Energy/Natural Resources	2	2	56	2	2	24	2	3	22
Diversified (Multi-Strategy) RA	1	1	22	1	1	4	3	3	4
Cash (Dedicated Cash Managers Only)	2	2	34	1	2	19	1	2	32
Tactical Asset Allocation	1	1	9	1	1	2	1	1	5
Other	1	1	1	1	1	1	4	7	5

Source: College and university data as reported to Cambridge Associates LLC.

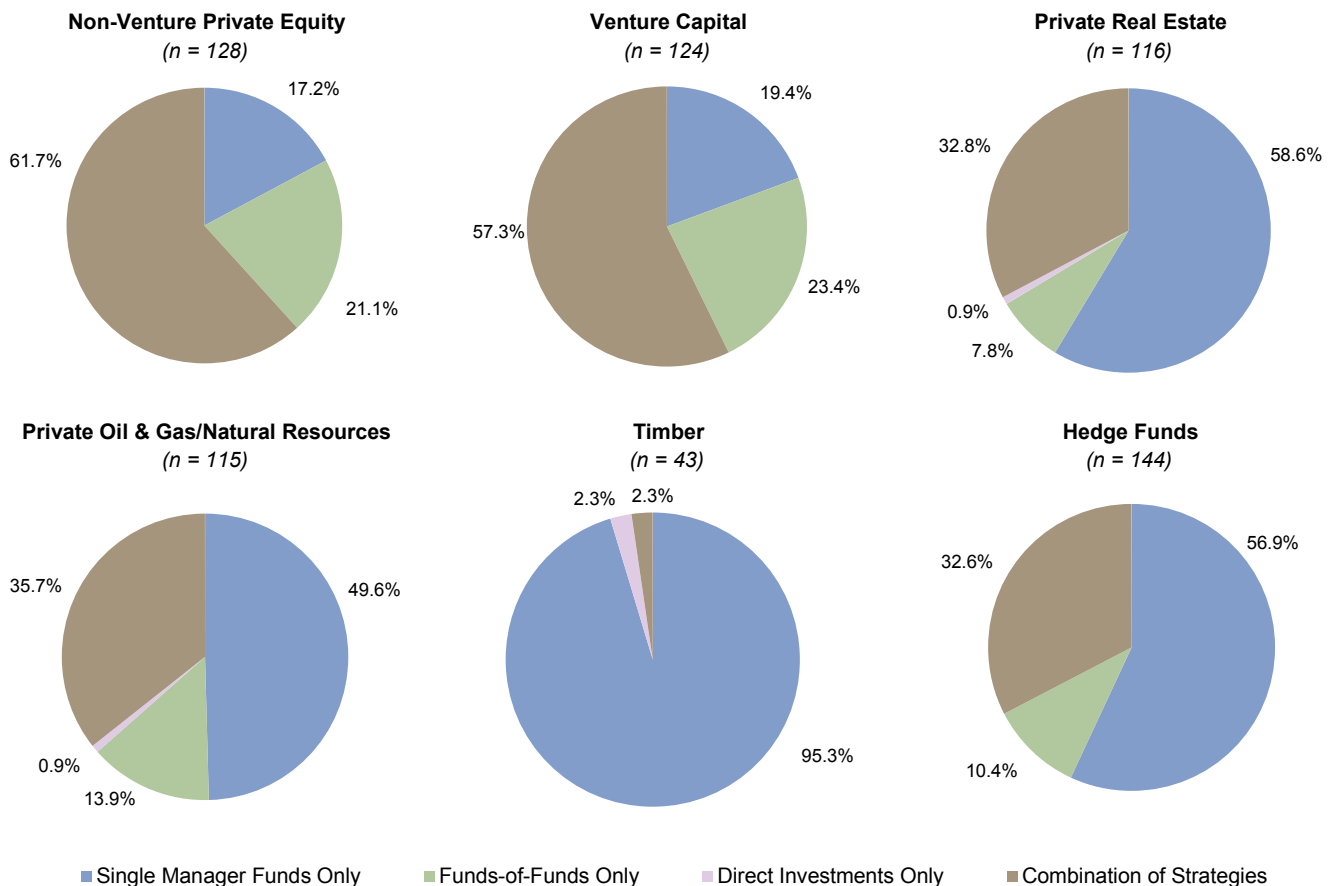
Notes: *n* indicates the number of colleges and universities that are included in the average number of managers and average number of vehicles. Only those institutions with an allocation to the specific asset class are included in each category. As a result, the sum of the individual asset classes will not equal the true total average of managers and vehicles.

Asset Class Implementation

Alternative Assets. A little over half of participants (57%) have constructed a hedge fund program that solely uses single manager funds, while just 10% rely only on funds-of-funds. The remaining institutions employ a combination of single manager funds and funds-of-funds (Figure 40). Implementation practices also vary across private investment asset classes. The use of a combination of strategies was most common

for the implementation of private equity and venture capital portfolios. A sole reliance upon single manager funds was most prevalent in real estate (59%) and private energy/natural resources (50%). Smaller portfolios generally employ more funds-of-funds managers than larger portfolios in all alternative asset classes, which is not surprising given the typically high minimum investments for alternative asset funds.

Figure 40. Portfolio Implementation: Private Investments and Hedge Funds
As of June 30, 2015

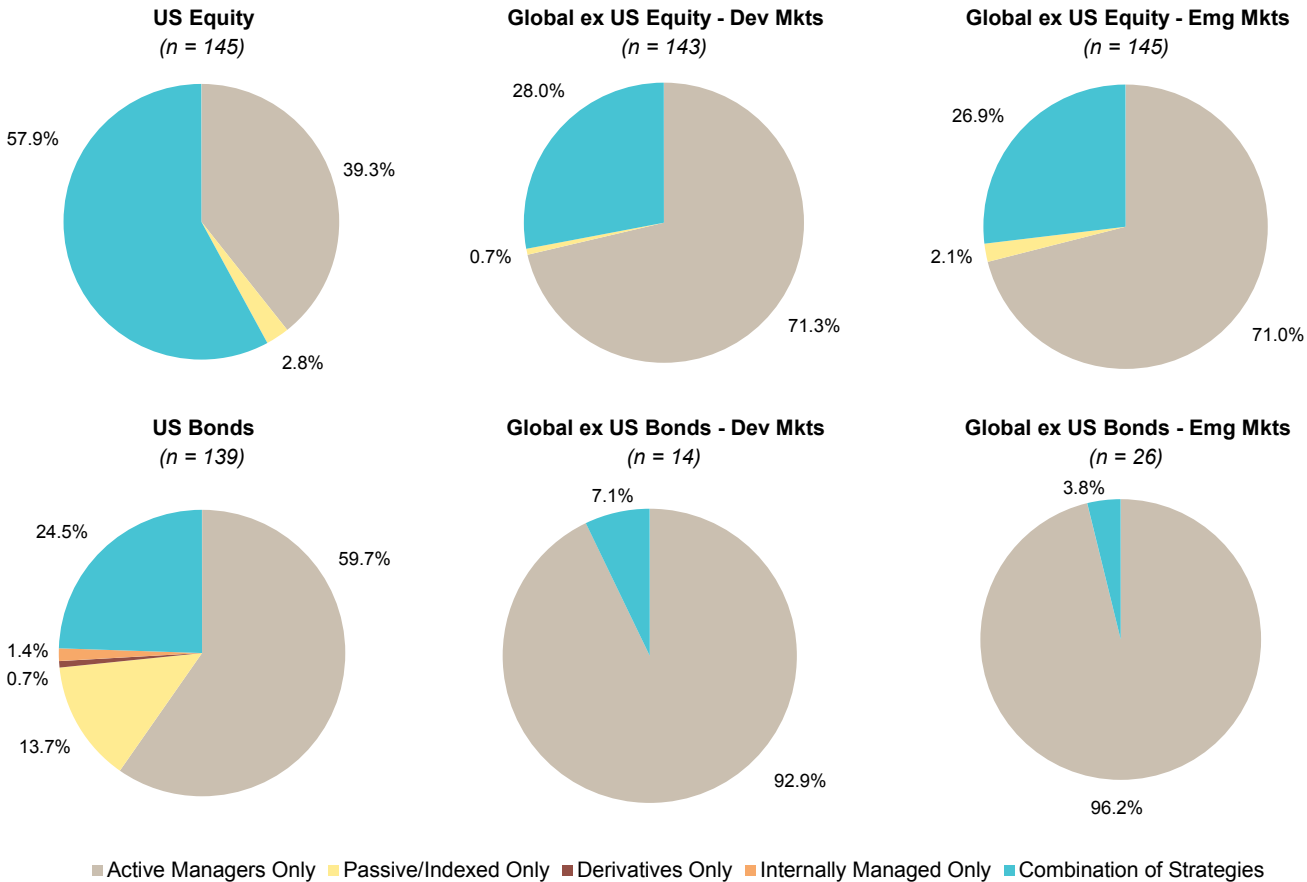


Source: College and university data as reported to Cambridge Associates LLC.
Note: n represents the number of institutions that provided the portfolio implementation for each asset class.

Public Equities and Bonds. Of the institutions that provided data on their portfolio implementation, 39% used active managers for all of their US equity allocation (Figure 41). The proportion was higher for global ex US equity allocations, where developed markets and emerging markets

allocations were achieved solely through active managers for 71% of respondents. For bonds, a majority of respondents used only active managers for their total allocation to US markets (60%), global ex US developed markets (93%), and emerging markets (96%).

Figure 41. Portfolio Implementation: Traditional Equities and Bonds
As of June 30, 2015



Source: College and university data as reported to Cambridge Associates LLC.
Note: n represents the number of institutions that provided the portfolio implementation for each asset class.



Payout From the Long-Term Investment Portfolio

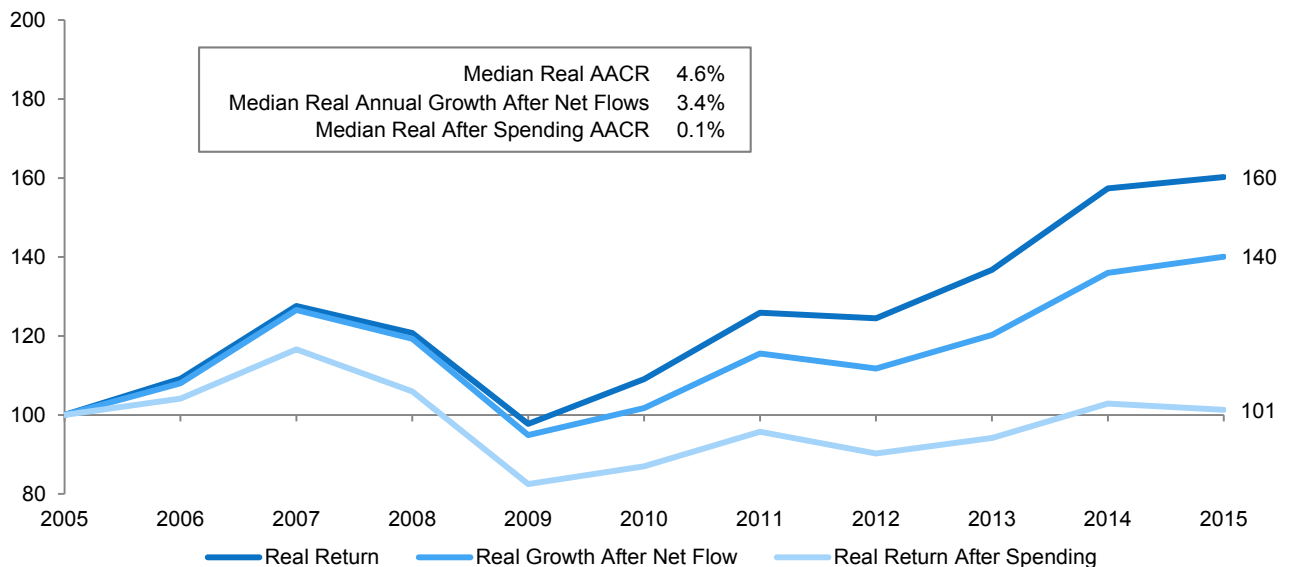
Net Flow Rate

Traditionally, endowment health has been evaluated in terms of investment performance and endowment spending or payout rate. A key objective has been to achieve real investment returns that exceed the average annual payout rate over the long term. Figure 42 is based on median data for the group of participants that provided returns, LTIP market values, and spending rates over the last decade. Using median investment performance and starting with an initial investment of \$100 in 2005, the portfolio would have grown to \$160 in real dollars by the end of fiscal year 2015. After deducting the annual endowment spending policy distribution from real investment

performance, the investment would have grown to just \$101. If the LTIP market value tracked this path, its purchasing power would effectively be the same as the initial principal value from ten years prior. This approach omits an important part of the picture: the LTIP is also driven by inflows that come in as gifts, and other funds designated for long-term investment.

The combination of the total inflows and outflows for the LTIP constitutes the net flow rate. The actual value of the investment, which incorporates both real investment performance and net flows, is tracked by the middle line in Figure 42 and grew by 40% over the ten-year period. Because of the steady inflow from gifts and other additions that most institutions experienced, the actual growth in the portfolio was substantially higher than growth based on returns

Figure 42. Cumulative Dollar Growth After Inflation, Net Flows, and Spending
 Years Ended June 30 • Base Year 2005 = \$100 • n = 98



Source: College and university data as reported to Cambridge Associates LLC.

Notes: To limit the impact of outliers, median data are used for each statistic in this exhibit. The median real annual growth after net flows represents the actual growth in the long-term investment portfolio's market value adjusted for inflation.

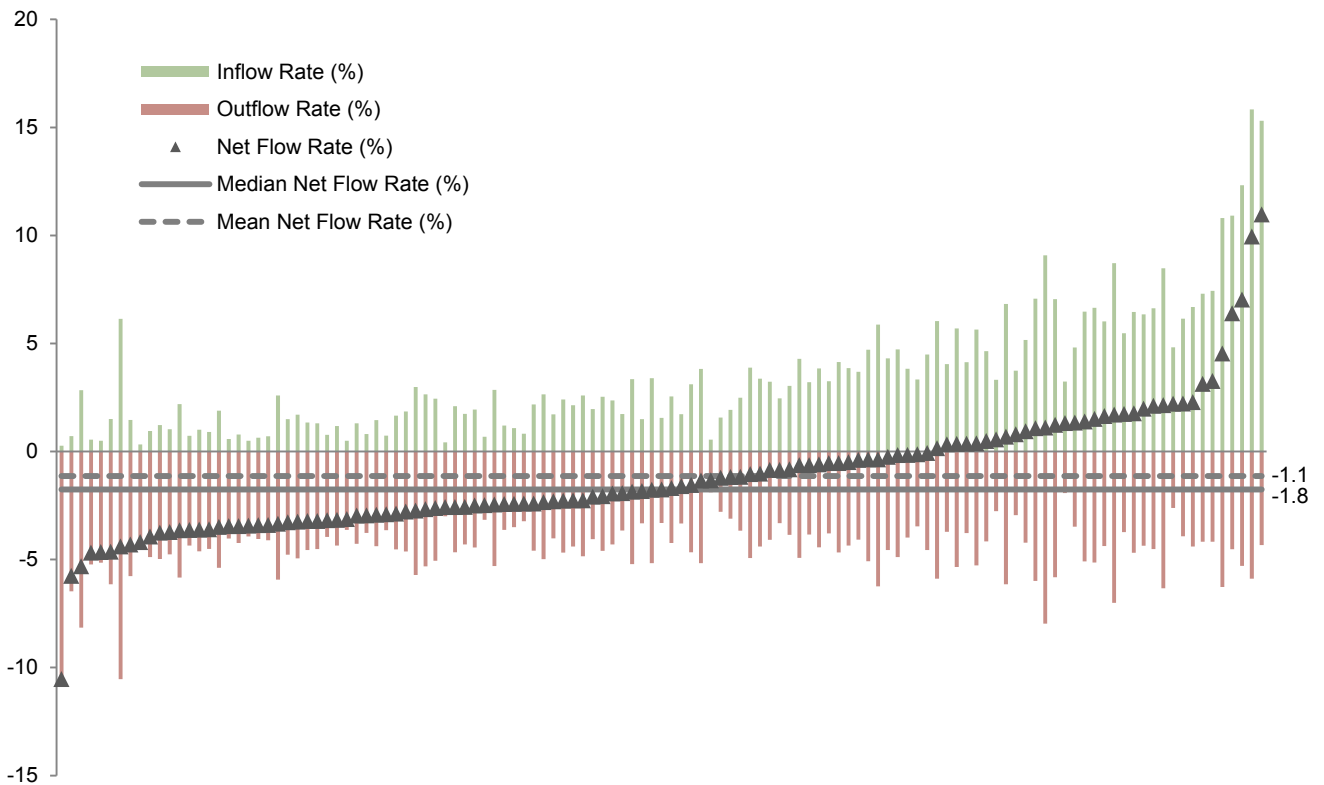


after spending only. Since maintaining the purchasing power of existing endowment gifts is a key objective in endowment management, the traditional return after spending statistic should not be dismissed. However, this statistic can understate the actual extent of asset growth. By incorporating real investment performance with the overall net flow rate, an institution can better evaluate the trajectory of the LTIP’s role in the institution’s business model.

The mean (-1.1%) and median (-1.8%) net flow rates for participants in fiscal year 2015 were negative, meaning the amount of withdrawals from the portfolio surpassed the amount of additions for the majority

of respondents (Figure 43). However, real investment performance (mean and median of 2.6% and 2.2%, respectively) was high enough to offset the net flow rate in fiscal year 2015 for a majority of institutions. Two-thirds of participants (83 of 123) reported real investment performance that surpassed the net flow rate for fiscal year 2015, resulting in real net asset growth for the LTIP. For the 34 participants that provided a detailed breakdown of flows over the last decade, the median net flow rate was negative (i.e., *net outflow*) for each of the ten years (Figure 44). The median *net outflow* rate in fiscal year 2015 was -2.1%, which equals the third lowest net flow rate over the last decade.

Figure 43. Net Flow Rate Comparison
Fiscal Year 2015 • n = 123



Source: College and university data as reported to Cambridge Associates LLC.



Inflows. Endowment gifts typically represent the bulk of additions that an LTIP receives. On average, endowment gifts represented nearly 80% of total inflows in fiscal year 2015 among participants. The inflow rate captures these gifts and other types of additions to the portfolio for the fiscal year as a percentage of the LTIP’s beginning year market value.⁷ For the constant group of institutions in Figure 44, the median inflow rate in fiscal year 2015 (2.3%) was the second lowest of the last decade.

Outflows. The vast majority of outflows for institutions consist of distributions determined by the endowment spending rule. On average, these distributions represented nearly 90% of total outflows from the LTIP in fiscal year 2015.⁸ For the constant group of institutions in Figure 44, the median total outflow rate in fiscal year 2015 (-4.5%) was the second lowest of the last decade.

⁷ Other types of additions can include reinvested operating surpluses, capital campaign funds, proceeds from non-portfolio asset sales, and other various types of inflows.

⁸ Of the remaining outflows, 7% consisted of recurring annual appropriations to cover administrative costs, investment oversight costs, and other types of expenses, while 4% consisted of special one-time appropriations.

Figure 44. Historical Median Net Flow Rate
Fiscal Years 2006–15 • n = 34



Source: College and university data as reported to Cambridge Associates LLC.

Note: Since median data are used, the sum of the outflow and inflow rates will not equal the net flow rate.



Spending Policies

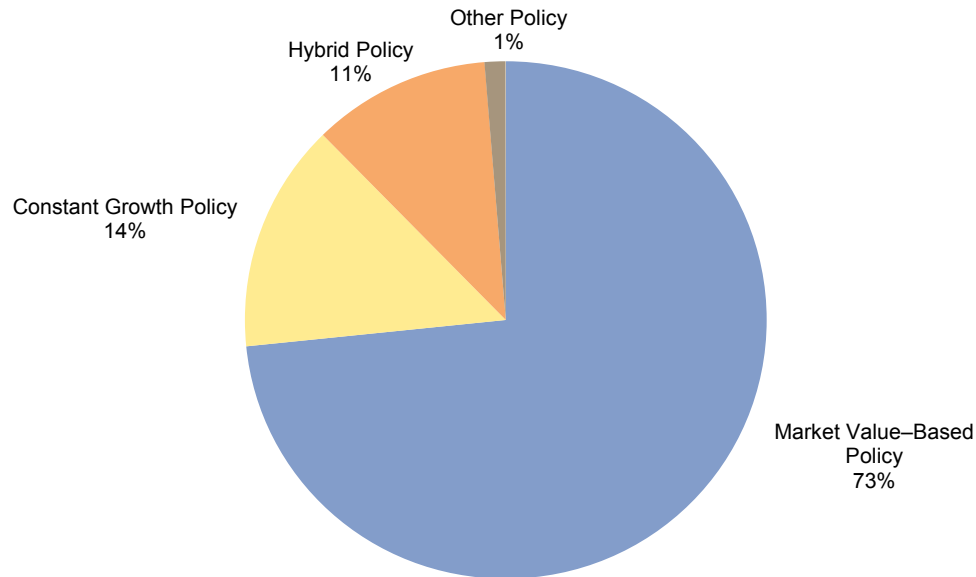
An institution’s spending policy serves as a bridge that links the LTIP and the enterprise. The spending policy should be designed to balance the needs of current and future generations of stakeholders, with the goals of providing appropriate levels of support to operations and preserving, or even growing, endowment purchasing power.⁹

The majority (73%) of responding institutions continue to use a market value–based rule that dictates spending a percentage of a moving average of endowment market values (Figure 45). This rule type emphasizes purchasing power preservation by linking the spending distribution amount directly to the endowment’s market value.

⁹ For a more in-depth discussion on this topic please see William Prout et al., “Spending Policy Practices,” Cambridge Associates Research Report, 2015.

Another 14% of institutions use a constant growth spending rule, which increases the prior year’s spending amount by a measure of inflation and/or a prespecified percentage. Institutions tend to use this rule type when the endowment is a significant source of operating revenue and volatility in annual spending distributions is less tolerable. While the strict application of a constant growth rule produces predictable spending, most institutions using this rule type impose a spending cap and floor based on a percentage of the endowment’s market value, or a moving average of market values. Spending collars essentially transform the constant growth rule to a market value–based rule in times of significant endowment growth or contraction to avoid a complete disconnect between spending and the endowment market value.

Figure 45. Spending Policy Types
Fiscal Year 2015 • n = 154



Source: College and university data as reported to Cambridge Associates LLC.



The third most common spending rule type is a hybrid policy, which was cited by 11% of institutions. A hybrid spending policy blends the more predictable spending element of a constant growth policy with the asset preservation principle of a market value–based policy and allows an institution to set the appropriate mix that best meets its needs. The rule is expressed as a weighted average of a constant growth rule and a percentage-of-market-value (or average market value over a period of time) rule.

Administrative Fees for University-Affiliated Foundations

Of the 46 public university respondents, 27 were an affiliated foundation of a university. An affiliated foundation is a private entity that raises funds and manages investment assets for a public university. For their services, affiliated foundations often charge an administrative fee to the endowment that goes beyond the spending draw to the institution. The administrative fee is used to cover the foundation’s operating expenses. The mean administrative fee rate for the 25 institutions that provided data was 1.26% (Figure 46).

Figure 46. University-Affiliated Foundations Administrative Fees
Fiscal Year 2015

University-affiliated foundations charge an administrative fee back to the endowment to cover the annual operating expenses of the foundation. Operating expenses can include costs associated with fundraising for the university, endowment oversight costs, and other institutional advancement and revenue development costs.

Institution	Administrative Fee (%)
A	0.45
B	0.50
C	0.60
D	0.80
E	0.90
F	0.95
G	1.00
H	1.00
I	1.00
J	1.00
K	1.00
L	1.25
M	1.25
N	1.25
O	1.25
P	1.35
Q	1.40
R	1.50
S	1.50
T	1.60
U	1.75
V	1.98
W	2.00
X	2.10
Y	2.10
Mean	1.26
Median	1.25
<i>n</i>	25

Source: College and university data as reported to Cambridge Associates LLC.

Note: Due to confidentiality surrounding administrative fees charged by foundations, this data is provided on a blind-coded basis.

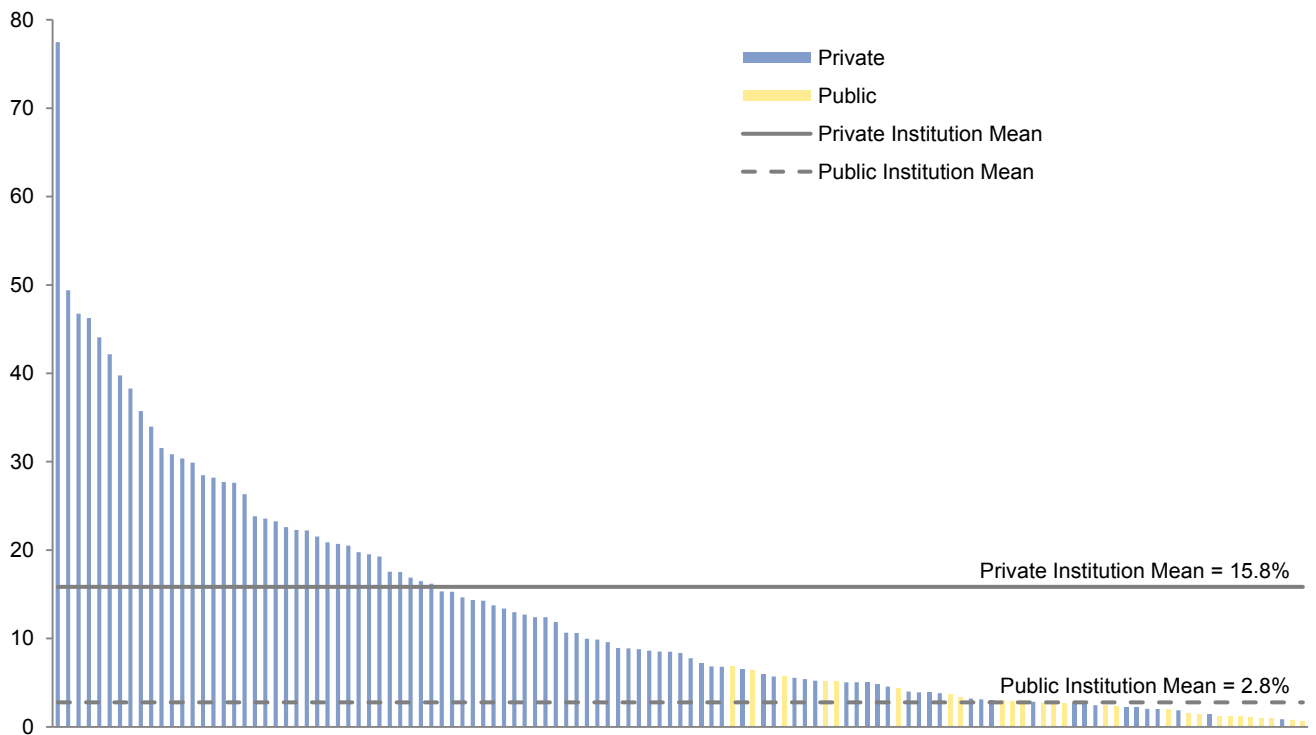
LTIP Support of Operations

Colleges and universities draw the bulk of their revenue from operations (instruction, research, student housing, food services, patient care, etc.). However, since few break even on operations, institutions rely on endowment and gifts for additional support. Public institutions, which receive substantial financial support from state appropriations, generally rely less on endowment payout to fund the operating budget compared to private institutions. For the 27 public institutions that provided data, support from the LTIP as a percentage of the total operating expenses averaged just 2.8% in fiscal year 2015 (Figure 47). Average support from the LTIP for private institutions was 15.8%.

The range of LTIP support varies considerably among private institutions. Institutions with smaller asset sizes tend to have a lower ratio of LTIP support than those with larger asset sizes (Figure 48). Support from the LTIP as a percentage of operating expenses averaged 10.3% for institutions with asset sizes under \$500 million. In contrast, average LTIP reliance was 19.7% for institutions with assets between \$500 million and \$1 billion and 19.3% for those with assets over \$1 billion.

LTIP reliance also varies within the private institution peer group depending on the type of institution. The business model of baccalaureate colleges is focused almost exclusively on providing instruction and

Figure 47. Long-Term Investment Portfolio (LTIP) Support of Operations: All Colleges and Universities
Fiscal Year 2015 • n = 121



Source: College and university data as reported to Cambridge Associates LLC.

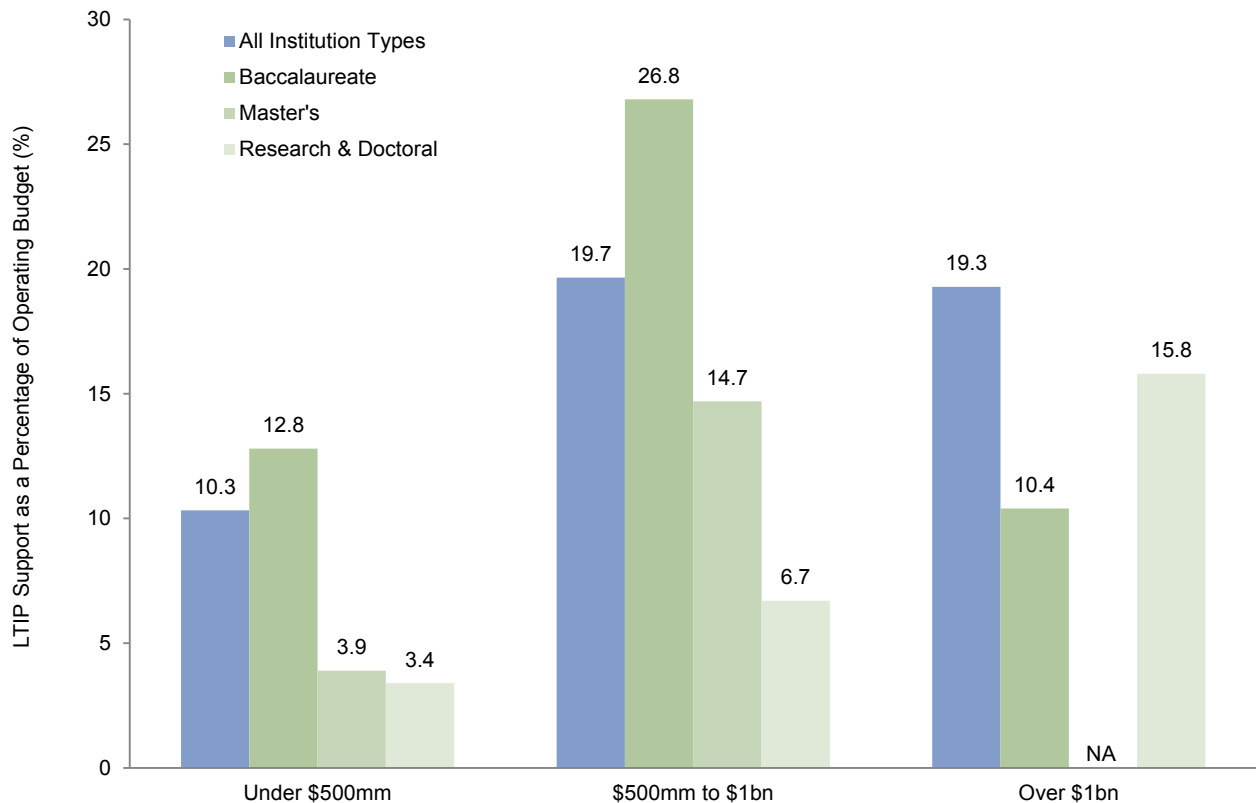
Note: LTIP support of operations is the proportion of the operating budget that is funded from LTIP payout.



other services to students. Private baccalaureate colleges in this study tend to have the greatest reliance on support from the LTIP (Figure 48). In fiscal year 2015, the average level of LTIP support was 21.4% for these institutions. Research and doctoral universities have more complex and diversified enterprises. They have business models that are focused on a variety of activities,

including education, research, and hospital services in some cases. This group of universities reported a lower average level of LTIP support (13.7%). While average reliance upon the LTIP was just 6.1% for master’s colleges and universities, the vast majority of these institutions (12 of 15) have asset sizes less than \$500 million. ■

Figure 48. Long-Term Investment Portfolio (LTIP) Support of Operations: Private College and Universities
Fiscal Year 2015 • n = 90



Source: College and university data as reported to Cambridge Associates LLC.

Notes: LTIP support of operations is the proportion of the operating budget that is funded from LTIP payout. Colleges and universities are grouped by institution type based on the classification categories set forth by the Carnegie Foundation for the Advancement of Teaching.



Data Collection and Results

This report includes data for 162 colleges and universities. Nineteen are public institutions, 27 are foundations affiliated with public institutions, and 116 are private institutions. All participants provided investment pool data as of June 30, 2015. The notation of n denotes the number of institutions included in each analysis.

Calculation of the Real Rate of Return

The real, or inflation-adjusted, rate of return for a given investment is calculated by dividing the nominal total return by the appropriate deflator for the same time period. Throughout the report, the measure used for this purpose is the Consumer Price Index (CPI-U). Note that simply subtracting the CPI-U from the nominal total return does not result in an accurate computation of real total return. The formula is:

$$\frac{1 + \text{Nominal Total Return}}{1 + \text{CPI-U}} - 1 = \text{Real Total Return}$$

Calculation of the Return After Spending

The rate of return after spending for a given investment is calculated by dividing the total return by the spending rate for the time period. The spending rate is the dollar amount of spending for a fiscal year as a percentage of the beginning market value of assets. Note that simply subtracting the spending rate from the total return does not result in an accurate computation of total return after spending. The formula is:

$$\frac{1 + \text{Total Return}}{1 + \text{Spending Rate}} - 1 = \text{Total Return After Spending}$$

Calculation of the Sharpe Ratio

The Sharpe ratio shows how much return above the risk-free rate (T-bills) the investor has earned per unit of risk (defined as standard deviation of returns). The higher the Sharpe ratio, the more the investor has been compensated for each unit of risk taken. The ratio is a measure of reward relative to total volatility. The formula is:

$$\frac{R_p - R_f}{S_p} = \text{Sharpe Ratio}$$

Where:

- ◆ R_p is the arithmetic average of composite quarterly returns,
- ◆ R_f is the arithmetic average of T-bill (risk-free) quarterly returns, and
- ◆ S_p is the quarterly standard deviation of composite quarterly returns.

Blended Portfolio Benchmarks

Throughout the report, the 70/30 simple portfolio benchmarks are calculated assuming rebalancing occurs on the final day of each quarter. ■

Absolute Return	The use of different strategies (e.g., global macro, market neutral, open mandate) to produce a positive return regardless of the direction and fluctuation of capital markets. Common techniques include using arbitrage, derivatives, futures, leverage, options, short selling, and unconventional assets.
Bonds (Fixed Income)	Includes long-term promissory notes that cannot be exchanged for other assets, government bonds, preferred stocks, structured debt, and derivatives where bonds are the underlying assets. Generally earn interest paid semiannually and are repaid at the principal (par) value. Does not include mortgage real estate.
Cash & Equivalents	Highly liquid, virtually risk-free assets with maturities of less than one year (e.g., certificates of deposit, commercial paper, nonconvertible bonds, and Treasury bills).
Co-Investments	A direct investment made into a company alongside a general partner that originates the transaction.
Commodities	Diversified baskets of fully collateralized, long-only, commodity futures contracts.
Developed Markets	Markets within countries that have an established economic infrastructure.
Distressed Securities	Securities of companies that are currently in default, bankruptcy, financial distress, or a turnaround situation.
Effective Spending Rate	The dollar amount of spending as a percentage of the beginning market value of assets. Spending amount includes the endowment spending policy distribution and other annual appropriations. It does not include investment management fees that are netted out of returns.
Emerging Markets	Typically includes countries that have an underdeveloped or developing economic infrastructure with significant potential for economic growth and increased capital markets participation by foreign investors.

Emerging Markets Debt	Debt instruments of emerging market countries and issuers, including US\$-denominated and local currency bonds.
Emerging Markets Equity	Equity securities of emerging markets countries; considered emerging even if the equity market is fully functional and well regulated.
Endowment (as defined in FASB SFAS No. 117)	A fund of cash, securities, or other assets established 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. 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, generally establish endowment funds. The principal of a permanent endowment must be maintained permanently—not used up, expended, or otherwise exhausted—and is classified as permanently restricted net assets. The principal 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 referred to as funds functioning as endowment or quasi-endowment funds) to be invested to provide income for a long but unspecified period. The principal of a board-designated endowment, which results from internal designation, is not donor restricted and is classified as unrestricted net assets.
Equities	Ownership positions in companies that can be traded in public markets. Often produce current income, which is paid in the form of quarterly dividends. The holders’ claims are subordinate to the claims of preferred stock-holders and bondholders. Includes convertible bonds if they are held as an opportunistic means of eventually acquiring a company’s stock. Also includes futures, options, rights, and warrants where the underlying assets are equities.
Externally Managed Assets	Assets, including pooled assets, managed by individuals or firms outside an institution.
Faculty Mortgages	Homeownership loans issued by an institution to faculty or staff. Classified as other assets.

Fund-of-Funds	A fund that invests in a collection of underlying funds.
High-Yield Bonds	Bonds regarded, on balance, as predominantly speculative with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation. Typically, these bonds have a credit rating of BB or lower and pay higher yields because they are more risky than investment-grade bonds. Also includes collateralized bond obligations (CBOs).
Inflation-Linked Bonds	Fixed coupon bonds that earn interest paid semi-annually on inflation-adjusted principal.
Long/Short Hedge Funds	Portfolios with long positions in undervalued companies and short positions in overvalued companies, to capture the disparity in prospective returns, while maintaining a low level of overall market risk.
Long-Term Investment Portfolio	The group of assets that an institution deems best represents its investment policies and endowment asset allocation and returns. These assets should be subject to frequent market valuation and may include operating funds. Pooled income funds and charitable remainder trusts should be excluded if the investment strategy varies from the institution's asset allocation policy. Assets that cannot be fairly valued such as artwork, copyrights, and patents should also be excluded.
Non-Venture Private Equity	Through negotiation or tender offer, a takeover of a majority percentage of a company's equity with the purpose of acquiring its assets and operations. Includes leveraged buyouts (LBOs).
Other Assets	Should only include assets that cannot be classified as one or more of the other asset classes.
Other Private Investments	Includes funds that are invested across multiple private investments and cannot be allocated to a single asset class. Includes multi-strategy funds-of-funds and secondary market private investments.
Permanently Restricted Endowment	Endowments established with donor-imposed restrictions that must be followed in perpetuity. Relevant to private institutions reporting under FASB standards.

Private Oil & Gas/ Natural Resources	Funds created to invest in the exploration or development of energy-related reserves and natural resources.
Private Real Estate	Includes ownership positions in land and buildings as well as private operating companies. May also include equity-like investments in mortgages or land leases that include substantial participation in revenues and capital appreciation. Does not include equity mortgages such as collateralized mortgage obligations (CMOs), mortgage-backed securities, publicly traded REITs, or other public real estate.
Public Energy/Natural Resources	Includes marketable energy funds and natural resources.
Public Real Estate	Includes REITs and other public real estate equity such as umbrella partnership REITs (UPREITs), and other public operating companies (REOCs).
Single Manager Fund	A fund in which the fund manager makes the investment decisions for the assets/securities/companies held within the fund.
Solo Investments	A direct investment made into a company in which the institutional investor originates and invests in a transaction, which is not associated with a manager in the investor's portfolio.
Spending Rule	The guideline an institution uses to determine annual distributions from its endowment (e.g., spend all income, spend 5% of three-year moving average market value, increase spending by 5% each year).
Temporarily Restricted Endowment	Endowments established with donor-imposed restrictions that expire after a specific period of time or when some other condition is met. Relevant to private institutions reporting under FASB standards.
Timber	Funds created to invest in timber-related business. Usually limited partnerships.
Total Return	The sum of income earned and appreciation, both realized and unrealized, for a specified period of time. Preferred method of calculation uses time-weighted rates of return.

Traditional Assets	Include US equities, non-US equities (including emerging markets), US investment-grade bonds, non-dollar bonds, high-yield bonds, emerging markets debt, and all cash and cash equivalents.
Unrestricted Endowment	Funds that do not have restrictions by donors or other parties.
Venture Capital	Investments in private securities of new companies or companies considered to be in the early stages of growth; these investments may have high risk and the potential for high return.

The University of Akron Foundation
 University of Alaska Foundation Consolidated Endowment
 Allegheny College
 American University
 Amherst College
 University of Arkansas Foundation Inc.
 Baylor University
 Bentley University
 Berkeley Endowment Management Company
 Bethune-Cookman University
 Boston College
 Boston University
 Bowdoin College
 Brandeis University
 Brown University
 Bryant University
 Bryn Mawr College
 University of California
 California Institute of Technology
 Carleton College
 Carnegie Mellon University
 Case Western Reserve University
 Centenary College of Louisiana
 Chapman University
 The University of Chicago
 Christian Theological Seminary
 The City University of New York
 Claremont McKenna College
 Clarkson University
 Clemson University Foundation
 Colby College
 Colgate University
 Columbia University
 Connecticut College
 Cooper Union for the Advancement of Science and Art
 Cornell University
 Dartmouth College
 Davidson College
 University of Delaware
 Duke University
 Emerson College
 Emory & Henry College
 Emory University
 Florida International University Foundation, Inc.
 University of Florida Investment Corporation
 Florida State University Foundation Inc.
 Georgetown University
 Georgia Tech Foundation Inc.
 Gettysburg College
 Goucher College
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 Hampton University
 Harvard Management Company, Inc.
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 University of Hawaii Foundation
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 Howard University
 University of Idaho Foundation, Inc.
 University of Illinois Foundation
 Indiana University Foundation
 Iowa State University Foundation
 Johns Hopkins University
 Kalamazoo College
 Kansas State University Foundation
 KU Endowment
 Lafayette College
 Lebanese American University
 Lehigh University
 Lewis and Clark College
 University of Louisville
 Lycoming College
 Macalester College
 University of Maine Foundation
 Maryland Institute College of Art
 University of Michigan
 Michigan State University
 MIT Investment Management Company
 Mount Holyoke College
 Mount St. Mary's University
 National University
 University of Nebraska Foundation
 Nevada System of Higher Education
 New England Conservatory
 New York University
 Northeastern University
 Northwestern University
 Norwich University
 University of Notre Dame
 Oberlin College
 Occidental College
 Ohio State University
 Ohio Wesleyan University
 University of Oklahoma Foundation
 Oklahoma State University Foundation
 University of Oregon Foundation
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Santa Clara University
Scripps College
Seattle University
Siena College
Simmons College
Soka University of America
University of Southern California
Spelman College
Stanford University
St. Lawrence University
University of St. Thomas
Swarthmore College
Temple University
Texas Lutheran University
University of Toronto Asset Management Corporation
Trinity University
Tulane University
The UCLA Foundation
UNCG Endowment Partners, LP
UNC Management Company, Inc.
Union Theological Seminary
Vanderbilt University
The University of Vermont
Villanova University
University of Virginia
Virginia Tech Foundation
University of Washington
Washington and Jefferson College
Washington College
Washington University in St. Louis
Webb Institute
Wellesley College
Wesleyan University
Western New England University
Wheelock College
College of William & Mary Foundation
Williams College
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