

# COLLEGE AND UNIVERSITY INVESTMENT POOL RETURNS

FISCAL YEAR 2019



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This study is based on a survey that Cambridge Associates (CA) administers annually to our college and university clients. The report that follows summarizes returns, asset allocation, and other investment-related data for 164 institutions for the fiscal year ended June 30, 2019. Included in this year's report are commentary and exhibits spread across six separate sections.

**INVESTMENT PORTFOLIO RETURNS** highlights performance results for select trailing periods. Larger endowments generally performed better than their smaller counterparts in fiscal year 2019 and over the last decade. This section investigates some of the factors that contributed to the variation of peer returns and what made top performers stand out. Also included in this section are insights into which expenses endowments deduct in their net return calculation.

Performance results of peers can be informative, but they are not necessarily the most effective benchmark for evaluating an endowment's investment performance. Many endowments that underperformed the peer median in this study fared well when evaluated against their policy portfolio benchmark. A new section to this year's report summarizes this and other topics that pertain to **INVESTMENT POLICY**.

**PORTFOLIO ASSET ALLOCATION** looks back at changes over the last decade and incorporates data on target asset allocations to provide insight into how institutions are altering their portfolios heading into the future. After considering these observations and trends in uncalled capital commitments, it is evident that endowments are generally increasing their portfolio exposure to private equities.

The number of managers that endowments use for their overall portfolio and within specific asset classes can vary widely. **INVESTMENT MANAGER STRUCTURES** explores data on this topic, as well as implementation strategies for traditional assets (i.e., active versus passive management) and alternative assets.

**PAYOUT FROM THE LONG-TERM INVESTMENT PORTFOLIO** contains a set of analyses that look at portfolio inflows and outflows. Included in this section are exhibits on spending policies, the long-term investment portfolio (LTIP)'s support of college and university operating budgets, and liquidity coverage ratios. This section also looks at how target spending rates for market value-based spending rules have changed over the last decade.

Finally, **INVESTMENT OFFICE STAFFING AND GOVERNANCE** takes a look at topics such as the number of personnel in the investment office and investment committee structure. Also included are analyses on how endowments use outside advisors/consultants and who has decision rights for asset allocation policy development and manager selection.

# Investment Portfolio Returns

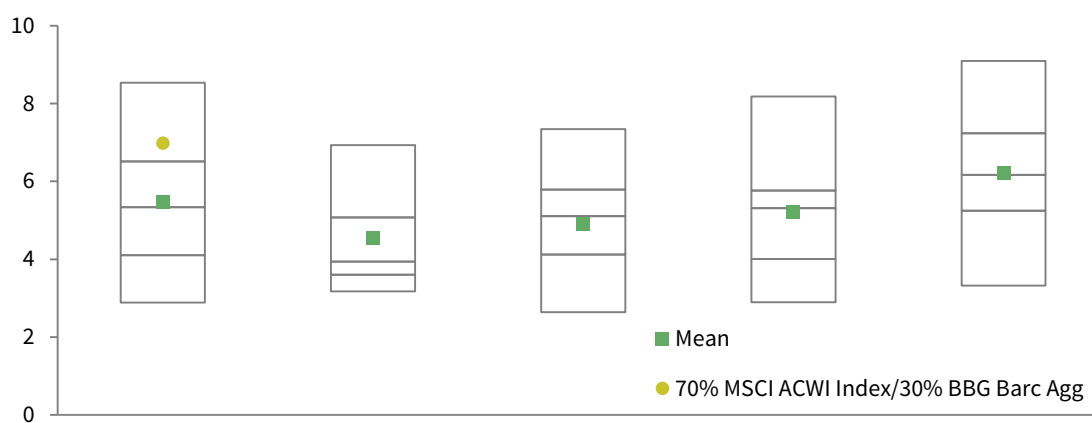
## RETURNS IN FISCAL YEAR 2019

Investment performance was mixed across global capital markets in fiscal year 2019. The best returns came from private equities and US public equities once again, whereas performance from global ex US equities and hedge funds were more muted. Commodities and natural resources were among the worst-performing asset classes for the fiscal year. Meanwhile, bonds delivered strong returns with the US aggregate market generally outperforming other geographic regions.

The average return for participating colleges and universities in fiscal year 2019 was 5.5% (Figure 1). The peer group average underperformed a simple benchmark consisting of 70% MSCI ACWI Index and 30% Bloomberg Barclays Aggregate Bond Index, which returned 7.0%. The average return for institutions with assets greater than \$1 billion was 6.2%, considerably higher than that of the other asset size groups. In fact, this average return of the largest endowments was higher than the top quartile return for each of the other asset size groups.

**FIGURE 1 FISCAL YEAR 2019 TOTAL RETURN SUMMARY**

Trailing 1-Yr as of June 30, 2019 • Percent (%)



	All C&Us	Less than \$200M	\$200M – \$500M	\$500M – \$1B	More than \$1B
5th %ile	8.5	6.9	7.3	8.2	9.1
25th %ile	6.5	5.1	5.8	5.8	7.2
Median	5.3	3.9	5.1	5.3	6.2
75th %ile	4.1	3.6	4.1	4.0	5.3
95th %ile	2.9	3.2	2.6	2.9	3.3
Mean	5.5	4.6	4.9	5.2	6.2
<i>n</i>	164	28	33	34	69
70/30 Index	7.0				

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

Note: Total returns for the MSCI ACWI Index are net of dividend taxes for global ex US securities.

There are many factors that contribute to investor returns and the differentials in returns reported across institutions, including asset allocation policy and its implementation. In addition, varying performance measurement methodologies may impact the peer performance statistics reported in this study. The commentary and analysis that follow explore these factors and the impact on comparative returns in fiscal year 2019.

**ASSET ALLOCATION.** Figure 2 looks at the relationship between asset allocation and total portfolio returns in fiscal year 2019. The participant group is broken out into four quartiles based on investment performance and each endowment'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 asset allocation of the endowments within each quartile. The chart of index returns provides the context of the market environment for the year.

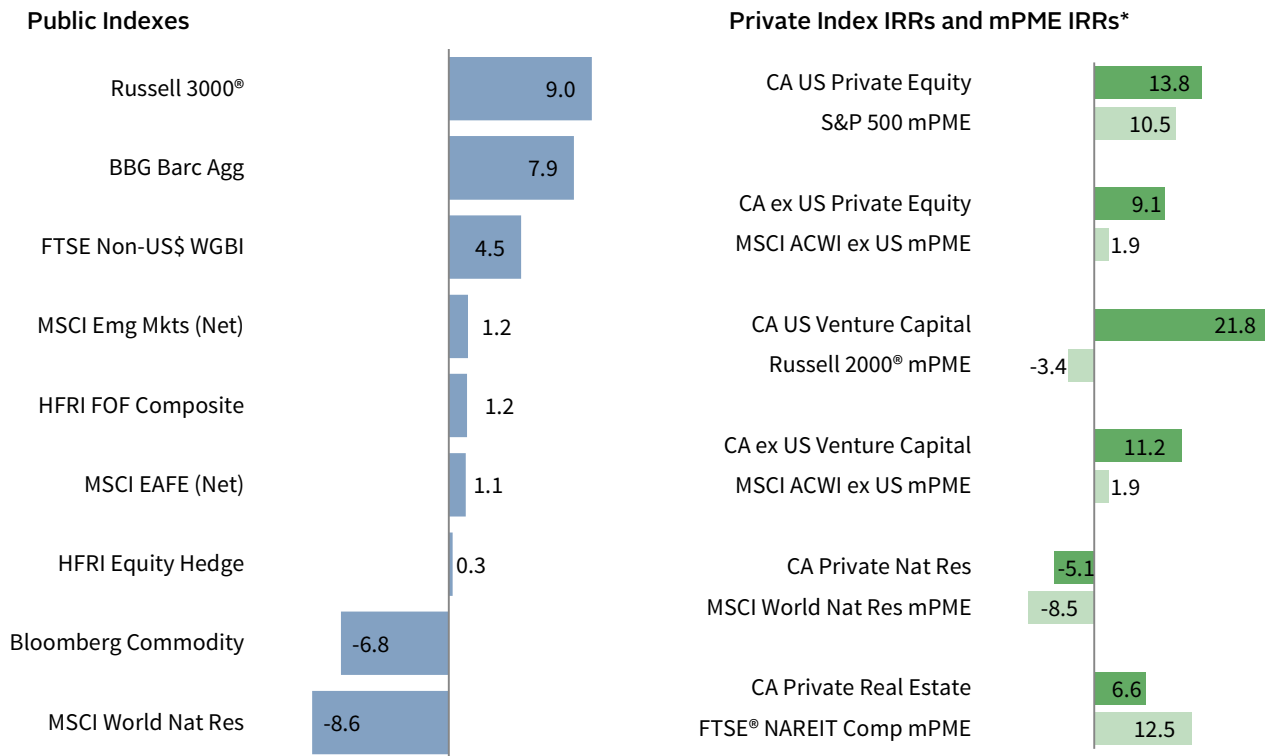
The differences in average asset allocations among the four performance quartiles often correlate with the backdrop of the market environment. In fiscal year 2019, private investment strategies stood out from other asset classes in terms of relative performance. The index of each the major private investment strategies, except for real estate, outperformed its CA Modified Public Market Equivalent (mPME)<sup>1</sup> benchmark for the trailing one-year period. As one might expect given this context, institutions in the top quartile reported the highest average allocations to private investments and the lowest allocations to public equities. The opposite was true for institutions in the bottom performance quartile.

The differential in average allocations was largest within the private equity and venture capital (PE/VC) category, where the average for top performers (20.8%) was more than 13 percentage points (ppts) higher than that of the bottom quartile of performers (7.6%). Figure 3 repeats this analysis for each of the last ten fiscal years and shows how influential PE/VC allocations were on the dispersion of returns in 2019 compared to past years. The divergence in PE/VC allocations between top and bottom performers for this most recent year was the third largest observed over the last decade.

<sup>1</sup> Under the CA mPME methodology, the public index's share are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. The mPME analysis evaluates what return would have been earned had the dollars invested in private investments been invested in the public market instead.

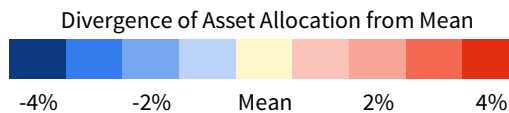
**FIGURE 2 ONE-YEAR INDEX RETURNS AND ASSET ALLOCATION OF TOP AND BOTTOM PERFORMERS**

As of June 30, 2019 • Percent (%)



**Mean C&U Asset Allocation by Performance Quartile: June 30, 2018 to June 30, 2019**

Quartile	US Equity	DM ex US Eqty	EM Equity	Bonds	Hedge Funds	Dist Sec	PE/VC	Priv RA	Pub RA & ILBs	Cash	Other
Top Quartile	17.9	10.9	7.3	5.9	18.9	4.0	20.8	8.2	2.1	3.9	0.1
2nd Quartile	19.2	14.1	7.6	8.4	18.2	2.6	15.1	7.5	3.6	2.6	0.9
3rd Quartile	21.8	15.3	8.0	10.1	17.4	2.8	11.7	6.0	3.4	2.8	0.7
Bottom Quartile	23.5	18.3	7.6	10.6	16.5	2.6	7.6	3.8	4.4	3.3	1.7
All C&U Mean	20.6	14.6	7.6	8.8	17.8	3.0	13.8	6.4	3.4	3.2	0.8



\* Private indexes are pooled horizon IRRs, net of fees, expenses, and carried interest. The CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns.

Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited, Cambridge Associates LLC, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., MSCI Inc., the National Association of Real Estate Investment Trusts, Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

**FIGURE 3 MEAN ALLOCATION TO PE/VC BY PERFORMANCE QUARTILE**

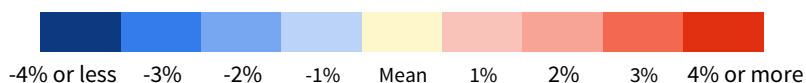
Percent (%)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>1-Yr Index Returns</b>										
Global PE/VC (IRR)	16.3	29.6	2.5	13.9	24.5	12.1	4.4	16.2	19.3	13.5
MSCI ACWI (TWR)	12.0	30.5	-6.2	16.9	23.3	1.0	-3.4	19.2	11.1	6.1

**Mean Allocation by Quartile\***

Top Quartile	10.3	13.0	20.0	11.2	15.2	18.4	15.3	11.4	20.9	20.8
2nd Quartile	9.1	9.2	15.6	12.4	10.2	13.6	12.8	10.7	11.6	15.1
3rd Quartile	11.2	11.6	9.2	13.0	11.1	8.4	10.8	13.3	9.4	11.7
Bottom Quartile	14.9	14.0	5.7	12.5	9.5	6.0	8.3	12.2	6.5	7.6
All C&U Mean	11.4	11.9	12.6	12.3	11.5	11.7	11.8	11.9	12.1	13.8
<i>n</i>	126	132	132	137	138	141	146	148	156	159

**Divergence of Asset Allocation from Mean**



\* Performance quartiles are calculated separately for each fiscal year. The mean allocations incorporate each institution's beginning and ending points for the respective fiscal-year period.

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

**ATTRIBUTION.** While asset allocation is a key driver of investment performance, it does not fully account for a portfolio's overall return. The execution or implementation of an asset allocation strategy also contributes to the total returns that portfolios earn. This implementation component can also be used to explain the variation of returns that are reported across different institutions.

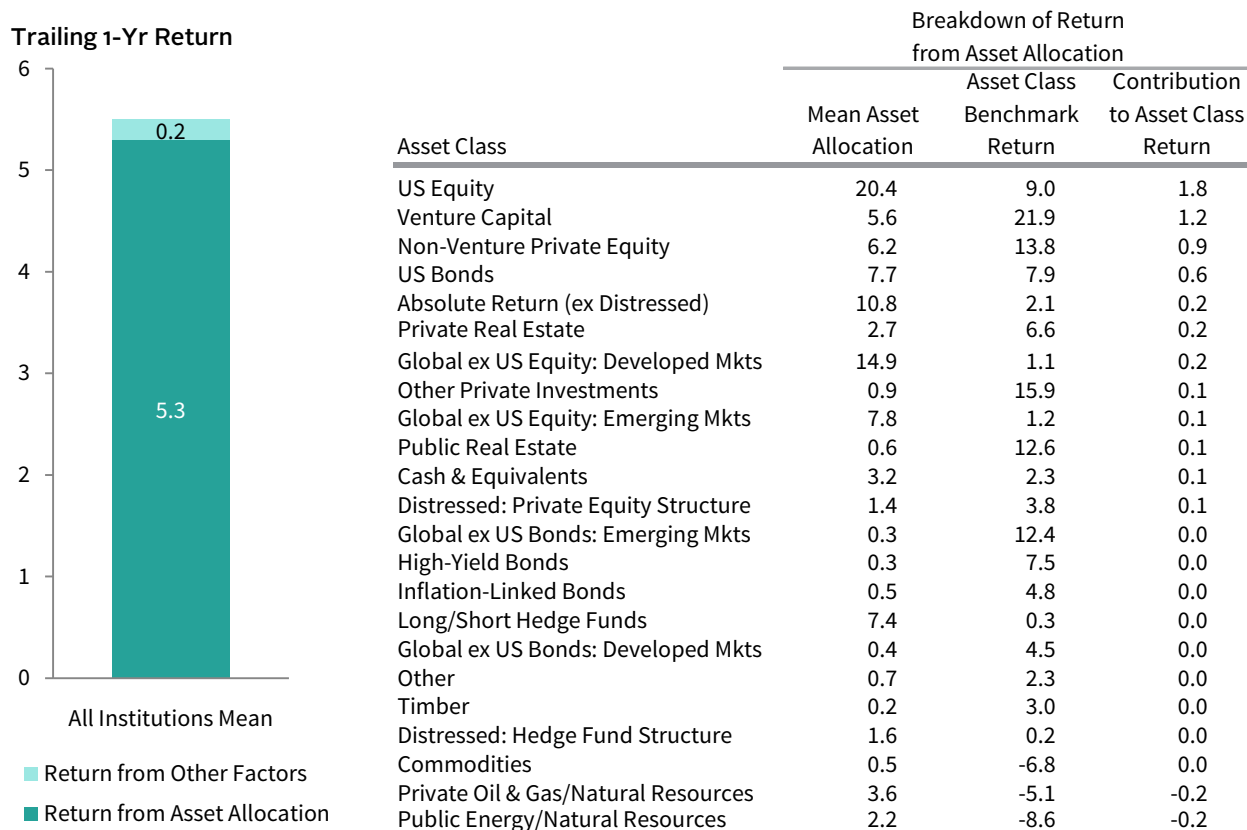
Figure 4 illustrates the results of a basic attribution analysis that considers the contributions of asset allocation and implementation on each endowment's total return. The darker shading on the bar represents the portion of the average endowment return that can be attributed to asset allocation. It is calculated using a blend of representative benchmarks that are weighted according to each endowment's beginning year asset allocation. The lighter shading of the bar is calculated by subtracting the asset allocation return from the total investment return. This other portion of return is principally driven by implementation or execution decisions, which can include effects of active management and manager selection.<sup>2</sup>

2 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 attributed to implementation may also include some residual/unattributable asset allocation effects.



## FIGURE 4 ATTRIBUTION ANALYSIS

As of June 30, 2018 • Percent (%)



Sources: College and university data as reported to Cambridge Associates LLC. Index data provided by Bloomberg Index Services Limited, BofA Merrill Lynch, Cambridge Associates LLC, Frank Russell Company, FTSE Fixed Income LLC, 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.

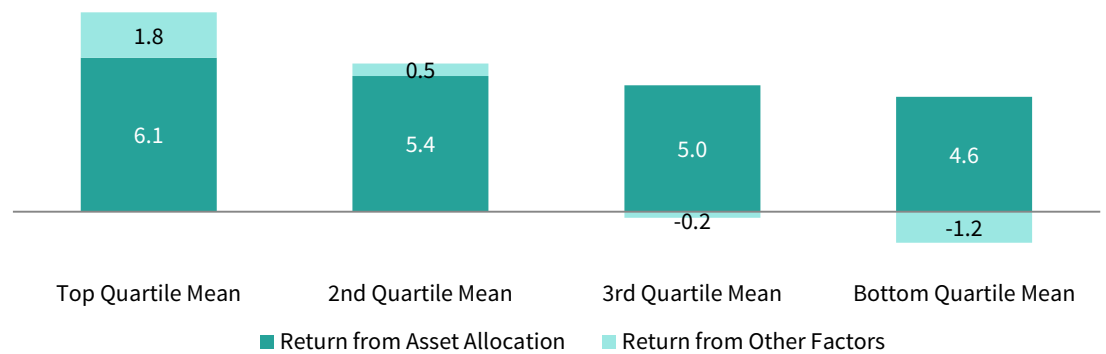
Notes: Includes data for 159 institutions that provided beginning year asset allocation. Mean asset allocation is as of June 30, 2018. The sum of the contribution to asset class return for all categories in the table equals the amount of the total return that was explained by asset allocation. To be consistent with the methodology in which private investment returns are incorporated into the total portfolio composite calculation, private investment benchmark returns are linked quarterly horizon returns.

An endowment’s asset allocation usually explains most of the total return that it earns. For fiscal year 2019, the average asset allocation return among participating endowments was 5.3%, which accounted for nearly all of the average total portfolio return (5.5%) reported by the peer group. Each asset classes’ contribution to the average asset class return is a function of its benchmark return, as well as the participant group’s average allocation to the category. US equities, which returned 9.0% for the fiscal year and had the highest average allocation among the detailed asset classes, had the largest contribution to the average asset class return in this analysis. Venture capital and non-venture private equity also made significant positive contributions to performance for the fiscal year. The effects of implementation were positive for most endowments over this same period, with the analysis estimating an average implementation return of 0.2%.

While asset allocation explained most of the total returns that institutions earned in fiscal year 2019, it did not explain most of the relative performance among the institutions in this study. Figure 5 shows the attribution data for the four performance quartiles of the overall respondent group. The top performance quartile had an average asset allocation return of 6.1%, approximately 150 basis points (bps) higher than the average for the bottom performance quartile. The model estimates that there was an even a wider gap between the top and bottom performance quartiles when it came to the performance impact of implementation decisions. On average, the top quartile of performers added 180 bps in performance through implementation, while the bottom quartile lost 120 bps.

**FIGURE 5 ATTRIBUTION ANALYSIS BY PERFORMANCE QUARTILE**

Trailing 1-Yr Return • As of June 30, 2019 • Percent (%)



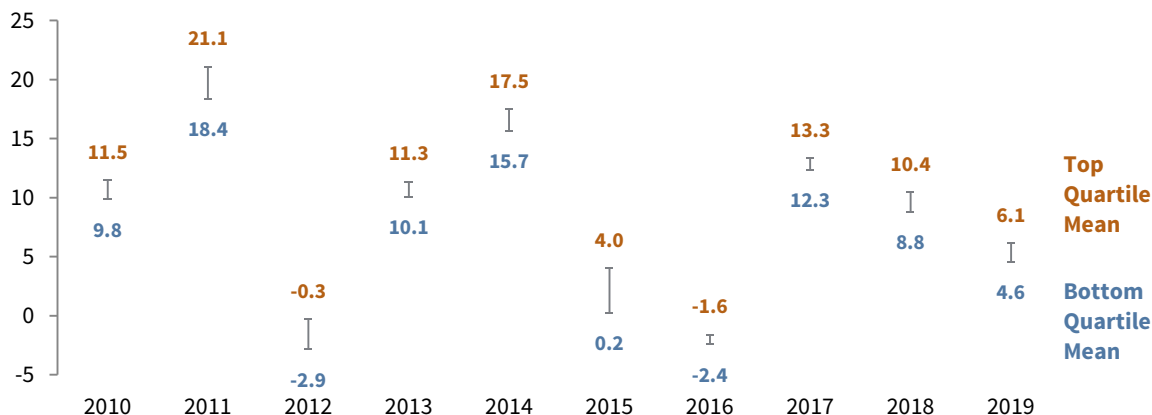
Source: College and university data as reported to Cambridge Associates LLC.  
 Note: Includes data for 159 institutions that provided beginning year asset allocation.

Figure 6 shows the results of this attribution analysis for each of the last ten fiscal years. This historical analysis shows a similar relationship between the returns of the top and bottom quartile of performers. While the effects of both asset allocation and implementation help explain differentials in peer returns, the implementation return explains most of the difference. Compared to the average asset allocation returns, the differential in implementation returns between the top and bottom performers was larger in each of the last ten years.

**FIGURE 6 ANNUAL ATTRIBUTION ANALYSIS: 2010–19**

Based on Trailing 1-Yr Returns as of June 30

**Mean Asset Allocation Return: Top Quartile versus Bottom Quartile\***



**Mean Implementation Return: Top Quartile versus Bottom Quartile\***



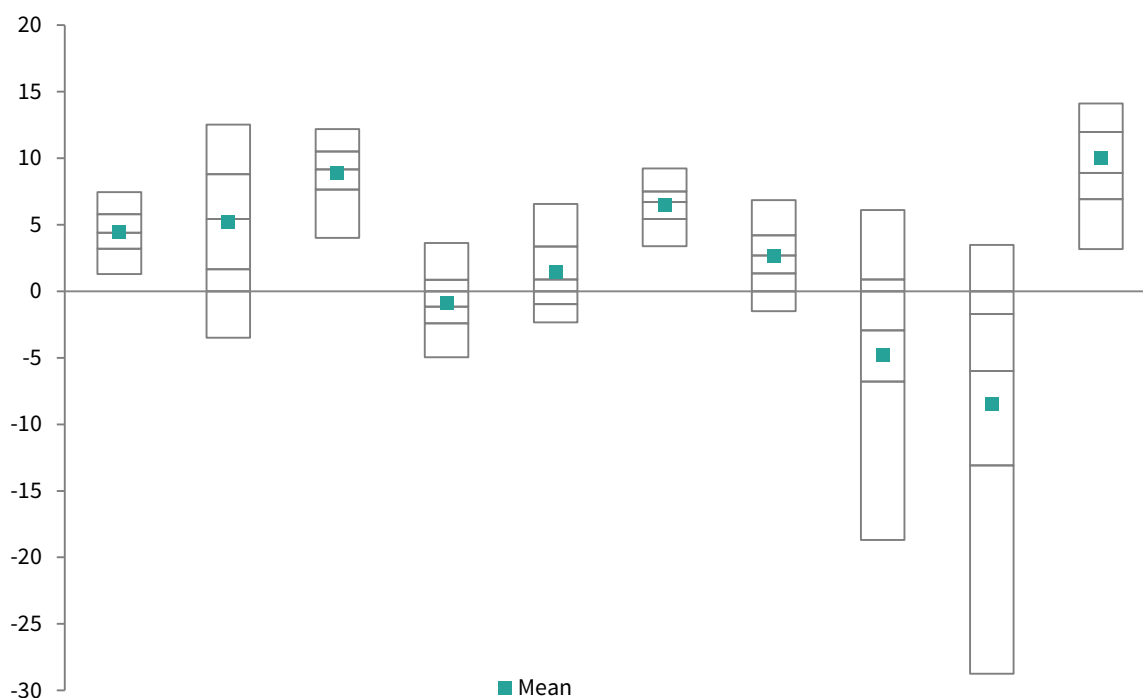
\* Performance quartiles are calculated separately for each fiscal year.  
Source: College and university data as reported to Cambridge Associates LLC.

**ASSET CLASS RETURNS.** Data on asset class returns of participating endowments are displayed in Figures 7 through 10. The marketable asset class returns are reported as time-weighted returns, and the private investment data are horizon internal rates of return (IRRs).<sup>3</sup> Median data for the four asset size groups are included for each of the asset class categories.

3 A time-weighted return (TWR) captures the total return earned over time on the initial investment and eliminates the impact of future cash flows. TWRs are appropriate where the investor controls the timing of cash flows. An IRR extracts a return from a cash flow stream composed of the beginning net asset value (NAV) for the time horizon, all inflows and outflows within the period, and the final NAV of the period. IRRs are more appropriate for investments where the fund managers control the decisions of when to call and return capital.

## FIGURE 7 DISPERSION OF PARTICIPANTS' ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 1-Yr as of June 30, 2019



	Public Equity <sup>1</sup>	Global Equity <sup>2</sup>	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Public Real Assets <sup>3</sup>	Commodities and Natural Resources	Public Real Estate
5th %ile	7.5	12.5	12.2	3.6	6.5	9.2	6.8	6.1	3.5	14.1
25th %ile	5.8	8.8	10.5	0.8	3.4	7.5	4.2	0.9	-1.7	12.0
Median	4.4	5.4	9.2	-1.2	0.9	6.7	2.7	-2.9	-6.0	8.9
75th %ile	3.2	1.7	7.6	-2.4	-1.0	5.4	1.4	-6.8	-13.1	6.9
95th %ile	1.3	-3.5	4.0	-5.0	-2.3	3.4	-1.5	-18.7	-28.7	3.2
Mean	4.4	5.2	8.9	-0.9	1.5	6.5	2.7	-4.8	-8.5	10.0
<i>n</i>	127	82	125	120	124	129	129	79	83	37
<b>Median by Asset Size</b>										
Less than \$200M	4.6	5.9	9.2	-0.2	1.4	6.6	1.9	-2.8	-4.0	12.0
<i>n</i>	27	17	27	25	27	27	27	22	21	9
\$200M – \$500M	5.0	4.9	10.1	-1.1	0.9	7.2	2.1	-3.0	-4.7	9.7
<i>n</i>	31	21	32	32	32	32	31	26	25	4
\$500M – \$1B	3.8	3.1	9.1	-1.4	-0.3	6.2	2.5	-1.3	-7.5	8.7
<i>n</i>	28	15	26	26	26	28	30	14	13	11
More than \$1B	4.6	7.1	8.3	-1.6	1.6	6.8	3.9	-5.9	-8.3	8.7
<i>n</i>	41	29	40	37	39	42	41	17	24	13

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

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

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

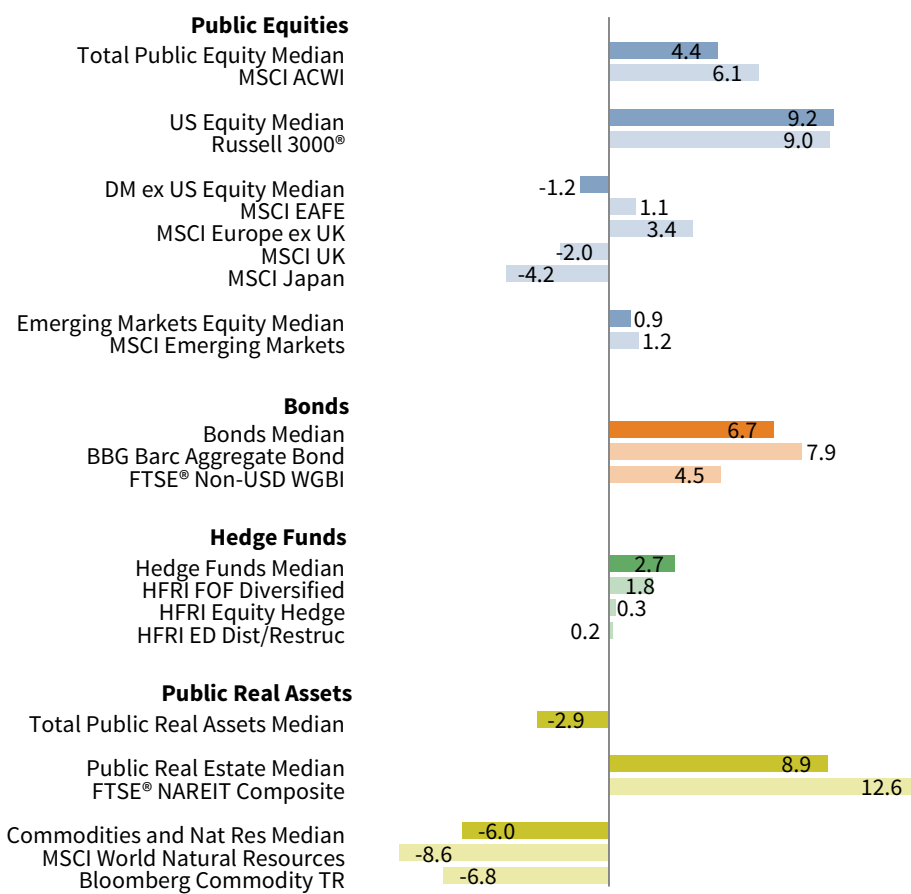
<sup>3</sup> Public real assets is a composite of public real estate, commodities and natural resources, and inflation-linked bonds.

In public equities, the median total public equity composite return for fiscal year 2019 was just 4.4%, which was 170 bps lower than the return of the MSCI ACWI Index (Figure 8). When looking across the geographic regions, much of this underperformance can be attributed to global ex US developed equities, where the median return of -1.2% was significantly lower than that of the MSCI EAFE Index (1.1%). The two countries with the largest weightings in the index, Japan and the United Kingdom, produced negative returns in USD terms for the fiscal year. Since our survey's asset allocation framework does not drill down to the country level, it is unknown how much of the underperformance in global ex US equity developed equities was attributable to an overweight to these countries.

For private investments, there is typically a wide range of composite returns reported across participating endowments (Figure 9). The return distribution in these categories is somewhat illustrative of the J-curve effect, as returns in the bottom end of the distribution tend to come from endowments with low private investment allocations and presumably less mature private programs. In addition, private investment funds have also exhibited large variations in returns even when comparing funds of the same vintage year, which underscores the importance of manager selection within these asset classes.

**FIGURE 8 MEDIAN MARKETABLE ASSET CLASS RETURNS VS INDEX RETURNS**

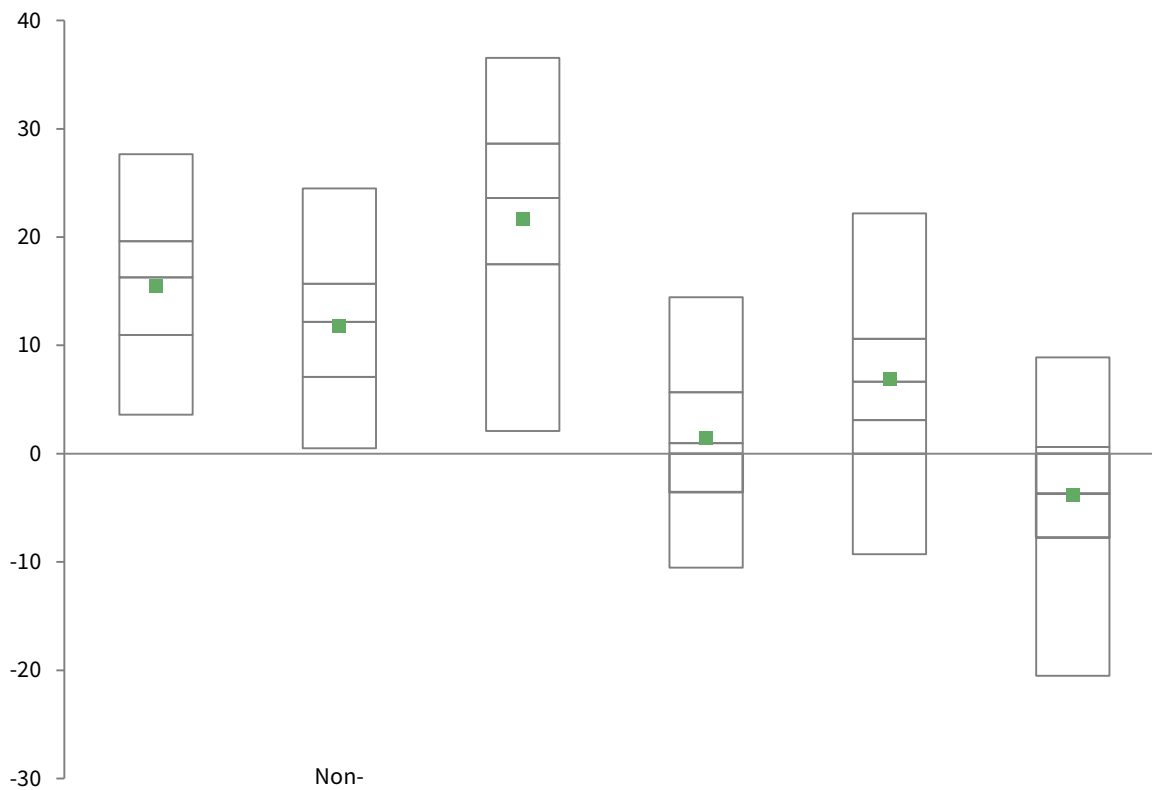
Trailing 1-Yr as of June 30, 2019



Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., and MSCI Inc. MSCI data provided "as is" without any express or implied warranties. MSCI Indexes are net of dividend taxes for global ex US securities.

**FIGURE 9 DISPERSION OF PARTICIPANTS' ASSET CLASS RETURNS: PRIVATE INVESTMENTS**

Trailing 1-Yr as of June 30, 2019



	Private Equity <sup>1</sup>	Non-Venture Private Equity <sup>2</sup>	Venture Capital	Private Real Assets <sup>3</sup>	Private Real Estate	Private Natural Resources
5th %ile	27.7	24.5	36.5	14.5	22.2	8.9
25th %ile	19.6	15.7	28.6	5.7	10.6	0.6
Median	16.3	12.2	23.6	1.0	6.6	-3.7
75th %ile	11.0	7.1	17.5	-3.5	3.1	-7.7
95th %ile	3.6	0.5	2.1	-10.5	-9.3	-20.5
Mean	15.5	11.8	21.7	1.5	6.9	-3.8
<i>n</i>	116	114	107	103	105	107
<b>Median by Asset Size</b>						
Less than \$200M	16.2	9.8	23.2	4.0	6.4	-4.5
<i>n</i>	19	19	14	17	13	15
\$200M – \$500M	15.8	12.1	22.8	-1.2	3.8	-1.9
<i>n</i>	31	31	28	26	23	25
\$500M – \$1B	15.0	10.4	23.9	1.6	7.1	-2.0
<i>n</i>	28	26	26	28	27	27
More than \$1B	19.5	14.1	24.0	1.4	6.8	-4.3
<i>n</i>	38	38	39	32	42	40

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

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

<sup>1</sup> Private equity is a composite of non-venture private equity and venture capital.

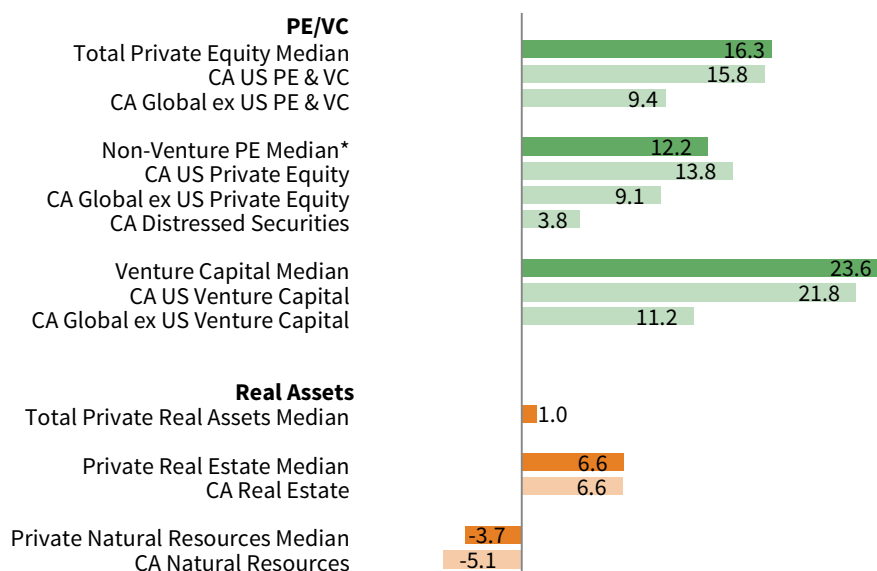
<sup>2</sup> Non-venture private equity also includes distressed securities that are invested through a private investment vehicle.

<sup>3</sup> Private real assets is a composite of private real estate and private natural resources.

Endowments greater than \$1 billion reported a total private equity composite IRR of 19.5%, which was considerably higher than that of the other asset size groups (Figure 10). PE/VC is composed of a substantial portion of the overall portfolio for these larger endowments,<sup>4</sup> and the superior performance earned in private equity was a key factor in the outperformance of large endowments at the total portfolio level.

**FIGURE 10 MEDIAN PRIVATE INVESTMENT ASSET CLASS IRRs VS INDEX IRRs**

Trailing 1-Yr as of June 30, 2019



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

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

Note: Private investment return statistics are reported as horizon internal rates of return (IRRs).

**RETURN CALCULATION METHODOLOGIES.** The methodology endowments use to account for private investments in their total portfolio return calculation can have an impact on relative peer performance. The most frequently used approach among all participants was to report private investment returns on a current basis. The second most frequently used methodology was the lagged basis.

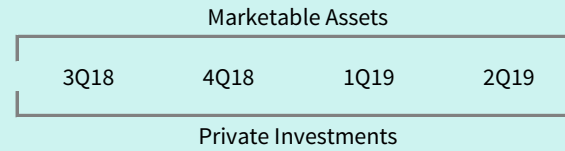
Under the current basis, the total portfolio return incorporates all investment activity for private investments for the entire fiscal year. By contrast, under the lagged basis, private investment valuations lag other assets in the portfolio by one quarter. In essence, the private investment portion of the fiscal year 2019 total return represents performance for the period from April 1, 2018, to March 31, 2019. When assessing the impact of these two methodologies, it is important to consider private investment returns for both second quarter 2018 and second quarter 2019. With the lagged basis methodology, performance for the former period will be included in the one-year total return calculation, and performance for the latter period will be excluded.

<sup>4</sup> As displayed in Figure 30, the combined average allocation to PE/VC was 20.7% at the end of the fiscal year for endowments greater than \$1 billion.

## PERFORMANCE REPORTING METHODOLOGIES

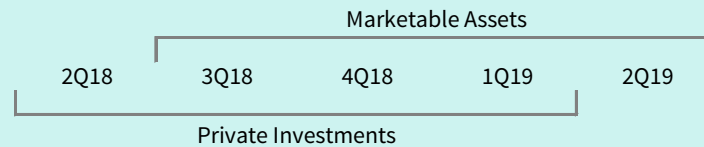
### Current Basis

Total investment pool return for 2019 includes marketable asset performance for July 1, 2018, to June 30, 2019.



### Lagged Basis

Total investment pool return for 2019 includes marketable asset performance for July 1, 2018, to June 30, 2019, and private investment performance for April 1, 2018, to March 31, 2019.



### Methodologies Used by Participants

Asset Size	Current Basis	Lagged Basis	Other	No PI Allocation
Less than \$200M	71%	0%	4%	25%
<i>n</i>	20	0	1	7
\$200M – \$500M	100%	0%	0%	0%
<i>n</i>	33	0	0	0
\$500M – \$1B	82%	18%	0%	0%
<i>n</i>	28	6	0	0
More than \$1B	81%	17%	1%	0%
<i>n</i>	56	12	1	0
All Institutions	84%	11%	1%	4%
<i>n</i>	137	18	2	7

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

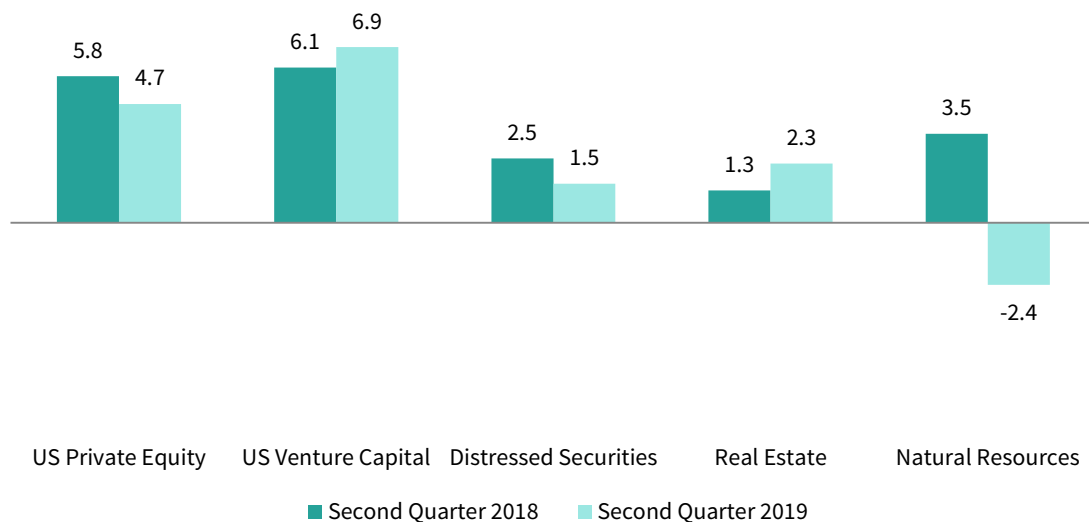
Notes: Private investments include non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, timber, private real estate, and other private investments. Institutions with no significant private investment allocations (<1% of their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

The differential in returns between these two periods was relatively minor in most of the private investment asset classes (Figure 11). The exception was natural resources, where the second quarter 2018 return was 3.5%, while the second quarter 2019 return was -2.4%. For institutions with large allocations to natural resources, the lagged reported methodology could result in a higher total portfolio return compared to the current basis for fiscal year 2019.



**FIGURE 11 CAMBRIDGE ASSOCIATES' PRIVATE INVESTMENT INDEX RETURNS**

Percent (%)



Source: Cambridge Associates LLC.

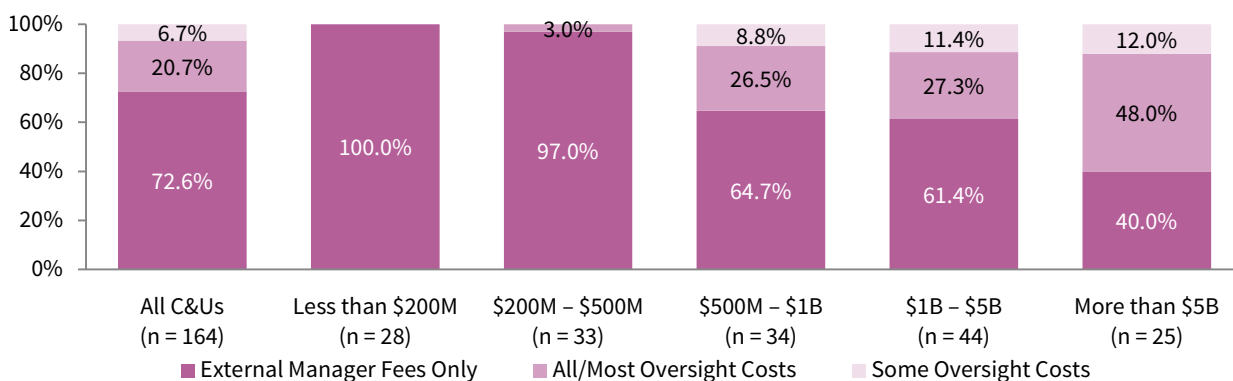
Note: Private investment return statistics are reported as horizon internal rates of return.

Another reporting issue that can impact peer returns is the method in which net returns are calculated. Each endowment in this study provided performance on a net-of-fees basis. However, the types of fees deducted in the net return calculation differ among participants. Just under three-quarters of respondents (73%) reported returns net of external manager fees only for fiscal year 2019 (Figure 12). Another 21% of respondents deduct external manager fees plus all or most of investment oversight expenses. The main drivers of these costs tend to be staff compensation for those institutions that have internal investment offices or consultant/advisor fees for those that rely heavily on external investment advisors. The remaining 7% of respondents deduct external manager fees plus some additional costs, but are gross of the major oversight cost expenses.

Smaller endowments are much less likely to deduct oversight costs compared to larger endowments. Just one endowment of less than \$500 million deducts all investment oversight costs in their net return calculation. In contrast, nearly half (48%) of endowments with asset sizes greater than \$5 billion reported returns net of all or most oversight expenses, including investment staff compensation. Past CA surveys and empirical evidence have shown that the scale of assets can impact costs in relative terms, as costs in basis points tend to be lower for larger portfolios compared to smaller portfolios. Thus, smaller endowments seem to be more reluctant to adopt a reporting method that would result in them talking a bigger haircut to returns compared to larger endowments.

**FIGURE 12 TYPES OF FEES DEDUCTED IN FY 2019 NET RETURN CALCULATION**

As of June 30, 2019 • Percent (%)



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

Notes: Institutions in the All/Most Oversight Costs category net out all or the majority of oversight costs, including the major cost drivers (e.g., investment staff compensation). Institutions in the Some Oversight Costs category deduct external manager fees and some investment oversight costs, but are gross of the major cost drivers.

### LONGER-TERM RETURNS

The average endowment return equaled the 70/30 benchmark return for the trailing three-year period and lagged the benchmark by just 10 bps for the trailing five- and ten-year periods (Figure 13). Endowments with assets greater than \$1 billion had the highest average return among the asset size peer groups for all three trailing periods. Similar to the fiscal year 2019 analysis, the median return for these largest endowments was higher than the top quartile returns of the other asset size groups for each trailing period (Figure 14).

Figure 15 shows the rolling average ten-year return for the overall participant group over the last decade. The average return for the ten-year period ending June 30, 2019, was the highest reported from the last decade. This most recent ten-year period, which began on July 1, 2009, is the only rolling period from the last decade that does not incorporate the steep stock market declines from the 2008–09 global financial crisis (GFC).

**FIGURE 13 TOTAL RETURNS SUMMARY: TRAILING 3-, 5-, AND 10-YR**

Years Ended June 30, 2019 • Percent (%)

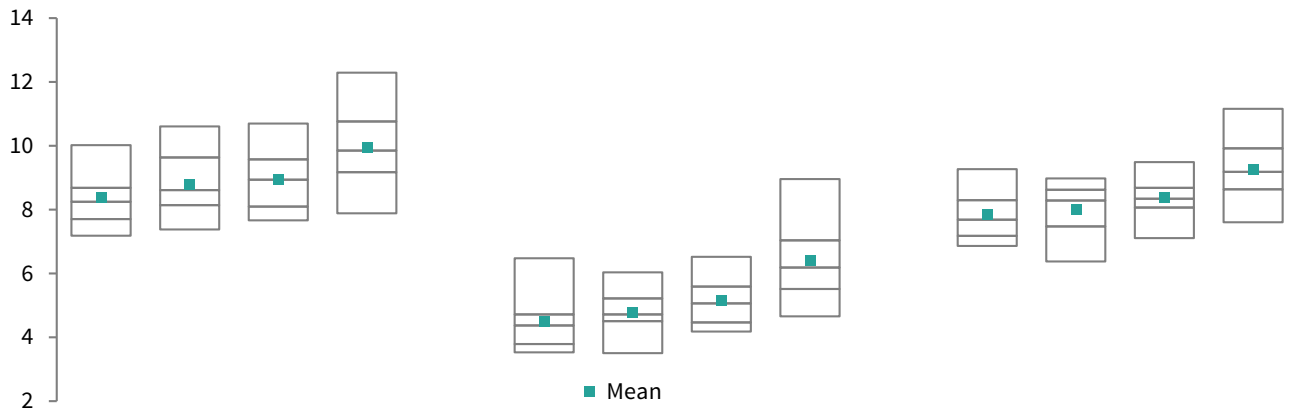
	Nominal AACRs			Real After Spending AACRs		
	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr
<b>All C&amp;Us</b>						
5th %ile	11.5	7.8	10.5	4.9	2.4	4.4
25th %ile	10.1	6.3	9.2	3.5	0.6	3.0
Median	9.1	5.2	8.6	2.4	-0.3	2.1
75th %ile	8.3	4.5	7.9	1.5	-1.1	1.4
95th %ile	7.4	3.6	7.0	0.1	-2.6	0.2
Mean	9.2	5.5	8.6	2.5	-0.2	2.2
<i>n</i>	164	163	157	106	96	87
70/30 Index	9.2	5.6	8.7			

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

Notes: Real returns are adjusted for inflation as measured by the Consumer Price Index. The Global 70/30 Benchmark is composed of 70% MSCI ACWI Index/30% Bloomberg Aggregate Bond Index. Returns for the MSCI ACWI Index are net of dividend taxes for global ex US securities.

**FIGURE 14 NOMINAL RETURN PERCENTILES BY ASSET SIZE: TRAILING 3-, 5-, AND 10-YR**

Years Ended June 30, 2019 • Percent (%)



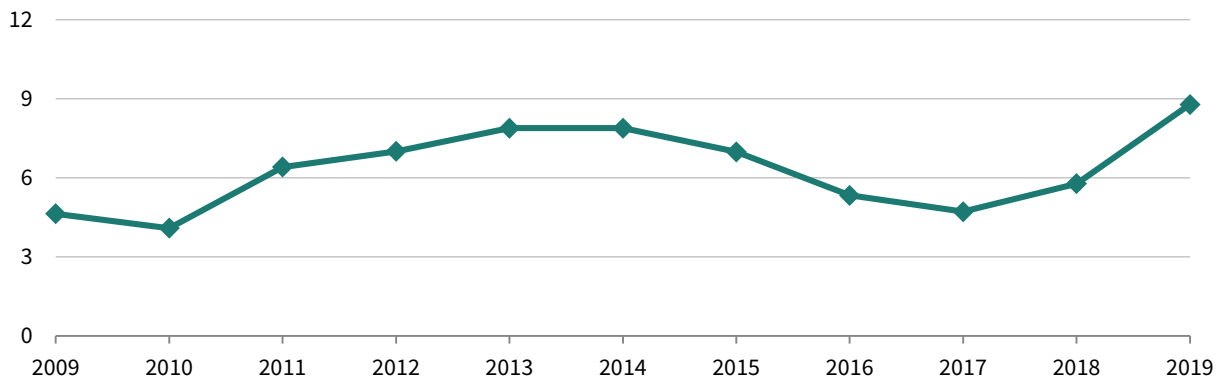
	3 Yr				5 Yr				10 Yr			
	Less than \$200M	\$200M - \$500M	\$500M - \$1B	More than \$1B	Less than \$200M	\$200M - \$500M	\$500M - \$1B	More than \$1B	Less than \$200M	\$200M - \$500M	\$500M - \$1B	More than \$1B
5th %ile	10.0	10.6	10.7	12.3	6.5	6.0	6.5	9.0	9.3	9.0	9.5	11.2
25th %ile	8.7	9.6	9.6	10.8	4.7	5.2	5.6	7.0	8.3	8.6	8.7	9.9
Median	8.2	8.6	8.9	9.8	4.4	4.7	5.1	6.2	7.7	8.3	8.3	9.2
75th %ile	7.7	8.1	8.1	9.2	3.8	4.5	4.5	5.5	7.2	7.5	8.1	8.6
95th %ile	7.2	7.4	7.7	7.9	3.5	3.5	4.2	4.7	6.9	6.4	7.1	7.6
Mean	8.4	8.8	8.9	9.9	4.5	4.8	5.2	6.4	7.8	8.0	8.4	9.3
<i>n</i>	28	33	34	69	27	33	34	69	24	33	32	68

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

Note: Three-, five-, and ten-year returns are annualized.

**FIGURE 15 ROLLING 10-YR AVERAGE ANNUAL COMPOUND RETURNS**

Years Ended June 30, 2019 • Percent (%)



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

Note: Analysis includes data for 129 institutions that provided returns for the last 20 years.

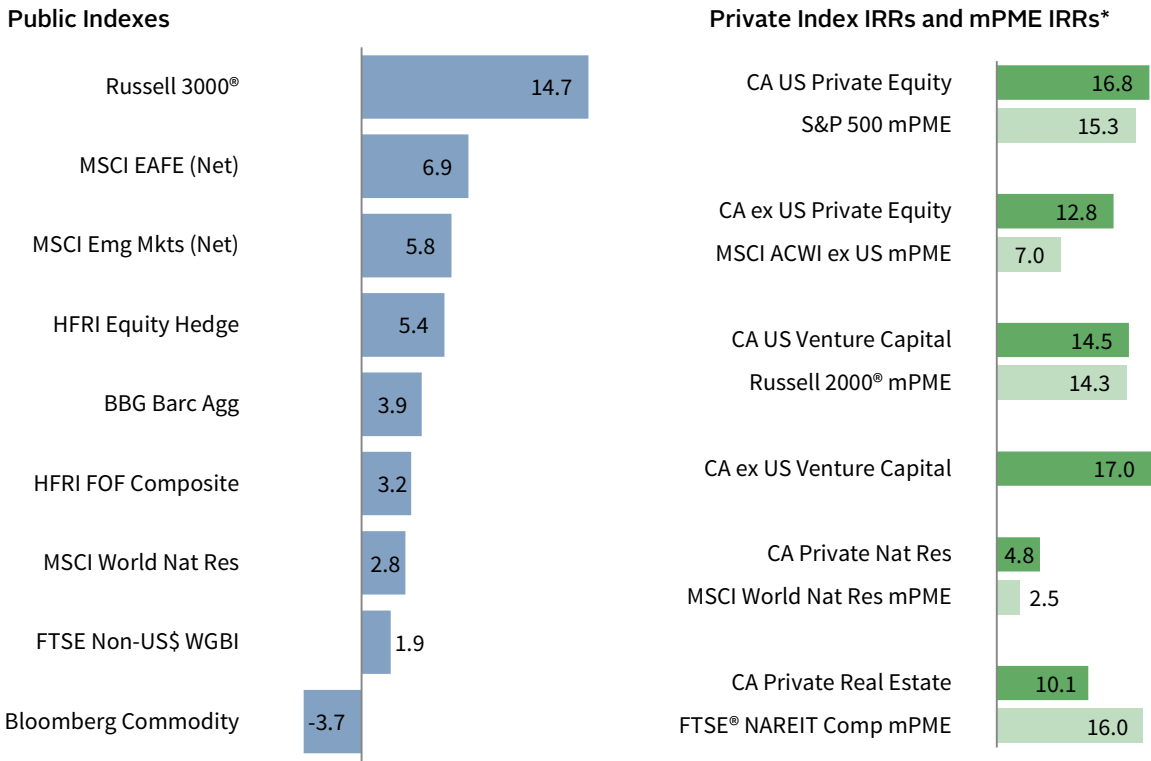
A primary objective when managing an endowment is to preserve, and perhaps even grow, the purchasing power of its assets over the long term. To achieve this goal, the endowment must earn a return that offsets or exceeds its spending rate and the inflation rate. Participants in this study have fared well in this objective over the trailing ten-year period, with the real return after spending averaging 2.2% over this period (Figure 13). Of the endowments that provided returns and spending rates for the last ten years, almost all (83 of 87) reported a real return after spending that equaled or exceeded 0.0% over the last decade.

**TEN-YEAR ASSET ALLOCATION.** Figure 16 looks at the relationship between asset allocation and investment performance for participating endowments over the last ten years. Each of the private investment indexes listed in this analysis, except for real estate, outperformed its mPME benchmark for the trailing ten-year period. The top quartile of performers had the highest average allocations to PE/VC and private real assets over this period, while the bottom quartile of performers had the lowest average allocations. The combined average allocation to these private investment categories over the last decade was 31.2% for the endowments in the top quartile.

**ATTRIBUTION.** The attribution model further illustrates the impact of different asset allocation structures, particularly differences in private investment allocations, on the trailing ten-year return. The average asset allocation return over this period for the top quartile of performers was 8.7% (Figure 17). For the bottom quartile of performers, the average asset allocation return was 90 bps lower at 7.8%. However, similar to our analysis on the trailing one-year data, our attribution model estimates that it was the return from other factors—mainly implementation decisions—that explained most of the dispersion in returns among the peer group for the trailing ten-year period.

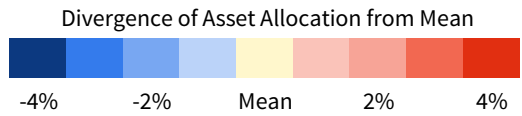
**FIGURE 16 10-YR INDEX RETURNS AND ASSET ALLOCATION OF TOP AND BOTTOM PERFORMERS**

As of June 30, 2019 • Percent (%)



**Mean C&U Asset Allocation by Performance Quartile: June 30, 2009 to June 30, 2019**

Quartile	US Equity	DM ex US Eqty	EM Equity	Bonds	Hedge Funds	Dist Sec	PE & VC	Priv RA	Pub RA & ILBs	Cash	Other
Top Quartile	14.0	10.5	6.9	6.7	20.8	3.5	19.9	11.3	3.1	3.0	0.3
2nd Quartile	18.5	14.6	6.8	9.6	19.5	4.3	11.9	7.1	4.4	3.0	0.4
3rd Quartile	20.1	13.5	7.3	12.0	17.6	3.4	10.2	6.1	5.6	3.5	0.8
Bottom Quartile	19.3	14.6	6.6	11.7	19.6	4.0	9.4	5.0	5.2	3.9	0.8
All C&U Mean	18.0	13.3	6.9	10.0	19.4	3.8	12.9	7.4	4.5	3.3	0.6



\* Private indexes are pooled horizon IRRs, net of fees, expenses, and carried interest. The CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns.

Sources: College and university data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited, Cambridge Associates LLC, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., MSCI Inc., the National Association of Real Estate Investment Trusts, Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

**FIGURE 17 10-YR ATTRIBUTION ANALYSIS BY PERFORMANCE QUARTILE**

As of June 30, 2019 • Percent (%)



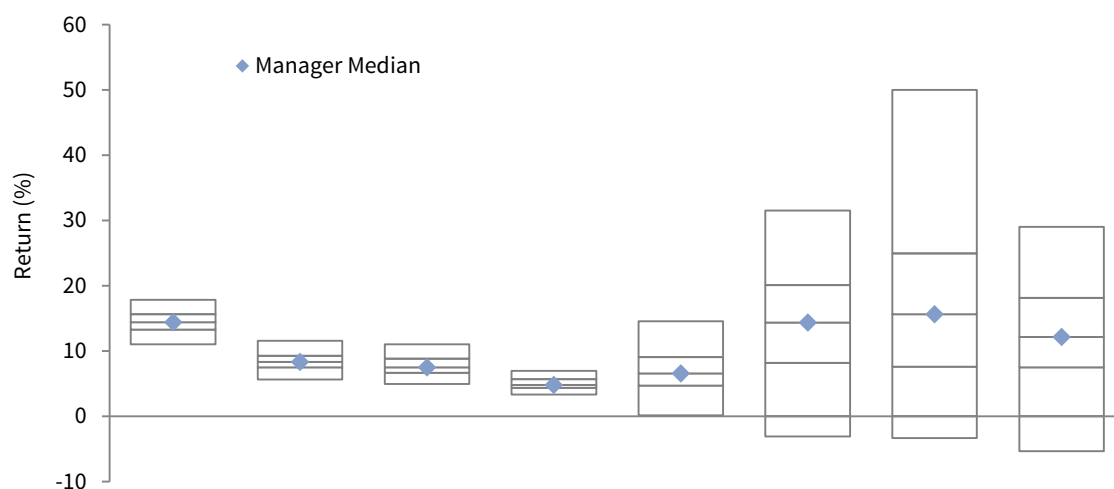
Source: College and university data as reported to Cambridge Associates LLC.

Note: Includes data for 125 institutions that provided beginning year asset allocation for each of the last ten years.

The range of returns among private investment funds was much wider than what was experienced in marketable asset classes over the last decade (Figure 18). Endowments with higher private investment allocations have more potential for earning a larger return from implementation, and the potential for excess return can be very significant in certain periods. For the trailing ten-year period, the top quartile of performers had an average implementation return of 1.5%, while the bottom quartile of performers actually lost value through implementation (-0.2%). The ranges of asset class composite returns across the entire participant group for the trailing five- and ten-year periods are listed in Figures 19 and 20. Also included in these tables are median composite return for the four asset size groups.

**FIGURE 18 COMPARING MANAGER RETURN DISPERSION ACROSS ASSET CLASSES**

USD Terms • Percent (%)



	US Equity	Global ex US Equity	Emerging Markets	Core/Core Plus Bonds	Hedge Funds	Global Private Equity	Global Venture Capital	Global Real Estate
5th %ile	17.8	11.6	11.0	7.0	14.5	31.5	50.0	29.0
25th %ile	15.6	9.3	8.8	5.7	9.1	20.1	24.9	18.1
Median	14.4	8.3	7.5	4.8	6.6	14.3	15.6	12.2
75th %ile	13.3	7.5	6.6	4.3	4.7	8.2	7.6	7.5
95th %ile	11.0	5.6	5.0	3.4	0.1	-3.1	-3.3	-5.4
<i>n</i>	637	182	62	156	445	389	319	265
5th – 95th Differential	<b>6.8</b>	<b>5.9</b>	<b>6.0</b>	<b>3.6</b>	<b>14.4</b>	<b>34.6</b>	<b>53.3</b>	<b>34.4</b>

Source: Cambridge Associates LLC.

Notes: Returns for bond, equity, and hedge fund managers are average annual compound returns (AACRs) for the ten years ended June 30, 2019, and only managers with performance available for the entire period are included. Returns for private investment managers are horizon internal rates of return (IRRs) calculated since inception to June 30, 2019. Time-weighted returns (AACRs) and money-weighted returns (IRRs) are not directly comparable. CA's bond, equity, and hedge fund manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than \$50 million in product assets are excluded. Performance of bond and public equity managers is generally reported gross of investment management fees. Hedge fund managers generally report performance net of investment management fees and performance fees. CA derives its private benchmarks from the financial information contained in its proprietary database of private investment funds. The pooled returns represent the net end-to-end rates of return calculated on the aggregate of all cash flows and market values as reported to CA by the funds' general partners in their quarterly and annual audited financial reports. These returns are net of management fees, expenses, and performance fees that take the form of a carried interest.

## FIGURE 19 DISPERSION OF PARTICIPANTS' ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 5- and 10-Yr • As of June 30, 2019

	Public Equity <sup>1</sup>	Global Equity <sup>2</sup>	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Public Real Assets <sup>3</sup>	Commodities and Natural Resources	Public Real Estate
<b>Trailing 5-Yr</b>										
5th %ile	8.7	12.8	11.6	7.7	6.5	4.2	5.7	2.7	-1.9	9.9
25th %ile	7.0	9.1	10.6	4.2	3.1	3.0	3.9	-2.1	-4.1	7.8
Median	6.4	7.6	9.7	3.5	2.2	2.4	2.7	-4.4	-6.9	6.1
75th %ile	5.7	5.6	8.6	2.8	1.6	1.7	1.8	-6.3	-9.9	4.4
95th %ile	4.5	2.4	6.8	1.0	0.1	0.9	1.0	-10.3	-13.3	3.7
Mean	6.4	7.5	9.4	3.7	2.5	2.4	2.8	-4.3	-7.3	6.6
<i>n</i>	124	56	121	114	117	121	122	70	67	21
<b>Median by Asset Size</b>										
Less than \$200M	6.1	6.9	9.7	2.3	1.8	2.2	2.3	-4.6	-5.1	4.6
<i>n</i>	26	8	26	22	25	25	24	19	17	2
\$200M – \$500M	6.6	7.4	10.0	3.4	2.1	2.5	1.8	-4.2	-5.4	7.0
<i>n</i>	29	12	30	30	30	30	29	24	22	2
\$500M – \$1B	6.0	6.1	10.1	3.4	1.9	2.1	2.6	-2.9	-7.1	6.5
<i>n</i>	28	14	26	26	26	26	28	13	12	10
More than \$1B	6.6	8.4	8.9	3.9	3.0	2.7	3.9	-4.7	-9.4	6.1
<i>n</i>	41	22	39	36	36	40	41	14	16	7
<b>Trailing 10-Yr</b>										
5th %ile	12.6	15.1	16.4	10.0	9.6	6.3	8.2	8.1	4.5	14.8
25th %ile	11.4	14.0	15.6	9.0	7.4	4.8	6.8	3.8	1.8	13.4
Median	10.9	12.8	14.4	8.2	6.4	4.2	5.5	1.7	0.7	11.4
75th %ile	10.3	11.7	13.5	7.3	5.2	3.6	5.0	0.6	-0.5	9.4
95th %ile	9.0	6.4	12.3	6.2	4.3	1.9	3.6	-1.5	-3.9	6.8
Mean	11.0	12.0	14.4	8.2	6.6	4.1	5.8	2.4	0.6	11.1
<i>n</i>	114	30	111	103	95	109	109	57	44	15
<b>Median by Asset Size</b>										
Less than \$200M	11.0	14.1	14.2	7.4	5.9	4.2	5.0	1.3	1.0	13.1
<i>n</i>	24	5	24	21	16	22	20	15	11	1
\$200M – \$500M	11.0	14.0	14.9	8.1	6.2	4.2	5.3	1.5	1.1	14.0
<i>n</i>	27	5	27	25	25	26	27	19	15	2
\$500M – \$1B	10.8	12.4	15.0	8.5	6.4	3.9	5.4	1.9	0.2	11.0
<i>n</i>	26	6	25	25	23	26	24	11	8	7
More than \$1B	10.9	12.8	14.2	8.5	7.1	4.6	7.0	2.1	0.1	9.5
<i>n</i>	37	14	35	32	31	35	38	12	10	5

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

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

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

<sup>3</sup> Total public real assets is a composite of public real estate, commodities, and inflation-linked bonds.



## FIGURE 20 DISPERSION OF PARTICIPANTS' ASSET CLASS RETURNS: PRIVATE INVESTMENTS

Trailing 5- and 10-Yr • As of June 30, 2019

	Total Private Equity <sup>1</sup>	Non-Venture Private Equity <sup>2</sup>	Venture Capital	Total Private Real Assets <sup>3</sup>	Private Real Estate	Private Natural Resources
<b>Trailing 5-Yr</b>						
5th %ile	18.8	18.2	23.0	11.6	16.0	7.5
25th %ile	15.6	14.5	19.2	7.6	13.0	2.8
Median	13.3	12.4	14.8	4.1	10.8	-0.8
75th %ile	11.0	9.5	11.1	0.7	8.3	-3.8
95th %ile	6.4	5.2	5.0	-4.2	-3.5	-9.0
Mean	13.0	12.0	14.8	4.0	9.7	-0.9
<i>n</i>	114	110	102	95	96	93
<b>Median by Asset Size</b>						
Less than \$200M	11.9	10.3	15.0	4.4	9.7	1.0
<i>n</i>	19	18	12	15	12	12
\$200M – \$500M	13.2	12.6	12.5	3.5	8.4	0.3
<i>n</i>	29	29	25	21	16	17
\$500M – \$1B	12.2	10.7	14.7	3.8	12.2	-2.1
<i>n</i>	28	26	26	27	26	25
More than \$1B	14.4	12.9	17.7	5.3	10.1	-0.2
<i>n</i>	38	37	39	32	42	39
<b>Trailing 10-Yr</b>						
5th %ile	19.7	18.4	26.6	12.5	15.0	10.9
25th %ile	16.4	15.9	19.8	8.8	12.0	6.2
Median	14.6	14.2	15.4	6.5	8.6	4.4
75th %ile	12.8	12.4	12.4	3.6	6.1	1.9
95th %ile	9.3	9.3	7.6	-2.2	-1.3	-4.1
Mean	14.7	14.2	16.2	6.1	8.3	3.8
<i>n</i>	106	104	91	84	87	78
<b>Median by Asset Size</b>						
Less than \$200M	13.0	12.6	12.0	5.9	9.4	3.5
<i>n</i>	15	15	7	12	10	7
\$200M – \$500M	14.5	14.0	14.0	4.9	8.2	3.3
<i>n</i>	28	28	23	17	13	14
\$500M – \$1B	14.5	13.2	15.5	6.6	10.6	3.2
<i>n</i>	27	25	24	26	25	22
More than \$1B	15.9	14.8	18.0	7.4	8.0	5.7
<i>n</i>	36	36	37	29	39	35

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

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

<sup>1</sup> Total private equity is a composite of non-venture private equity and venture capital.

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

<sup>3</sup> Total private real assets is a composite of private real estate and private natural resources.

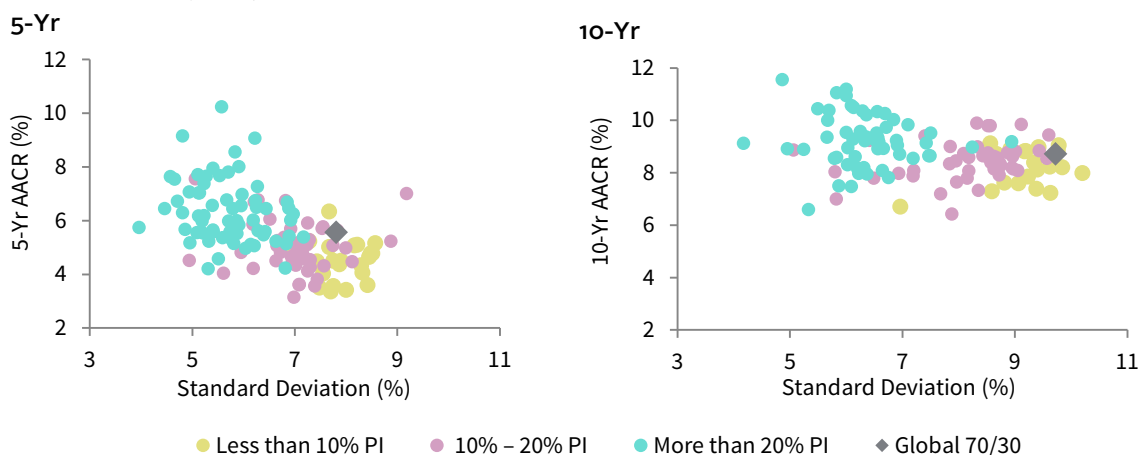
**RISK-ADJUSTED RETURNS.** Risk-adjusted performance is important to evaluate, as it measures the total return relative to the total amount of risk taken by the portfolio. The most common approach to measuring risk-adjusted performance is by the Sharpe ratio, which shows how much return above the risk-free 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.

Risk-adjusted performance comparisons can be complicated when portfolios have significant allocations to private investments. The frequency and timing of private investment valuations can artificially dampen the standard deviation for the returns of these assets. Thus, a portfolio with high allocations to private investments can yield a lower volatility statistic that does not fully represent the amount of risk it has actually taken. For this reason, we have split institutions out into subcategories in Figure 21 based on their allocations to private investments.

The average Sharpe ratio for institutions that had an allocation of 20% or more to private investments over the last five and ten years was significantly higher than that of the other subgroups with lower private allocations. Although the magnitude of the differences in average Sharpe ratios is partly a function of this group's higher average returns, it is also attributable to their lower average standard deviations.

**FIGURE 21 STANDARD DEVIATION AND SHARPE RATIO**

Periods Ended June 30, 2019



	5-Yr				10-Yr			
	AACR	Standard Deviation	Sharpe Ratio	<i>n</i>	AACR	Standard Deviation	Sharpe Ratio	<i>n</i>
All C&U Mean	5.6	6.5	0.77	137	8.8	7.5	1.16	121
<b>Mean by PI Allocation</b>								
Less than 10%	4.5	7.9	0.49	23	8.2	9.2	0.86	21
10% -15%	5.0	7.0	0.62	49	8.5	8.1	1.00	44
More than 20%	6.3	5.7	0.98	65	9.3	6.4	1.39	56
70/30 Benchmark	5.6	7.8	0.62		8.7	9.7	0.87	

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

Notes: Analysis includes only institutions that provided underlying quarterly returns and asset allocation for the five-year and ten-year periods. The 70/30 Benchmark is composed of 70% MSCI ACWI Index/30% Bloomberg Barclays Aggregate Bond Index.

## Investment Policy

An investment policy provides guidelines for trustees, investment committee members, investment staff, advisors, and other relevant parties that are involved in the endowment's investment management and governance processes. The investment policy statement (IPS) is the formal document that outlines the important components of this policy. Some institutions may have additional informal guidelines that are considered in the investment management process, but are not documented in the IPS. Our survey touched on several issues that are related to endowment investment policies and the following section summarizes these responses.

### **ROLE OF THE ENDOWMENT**

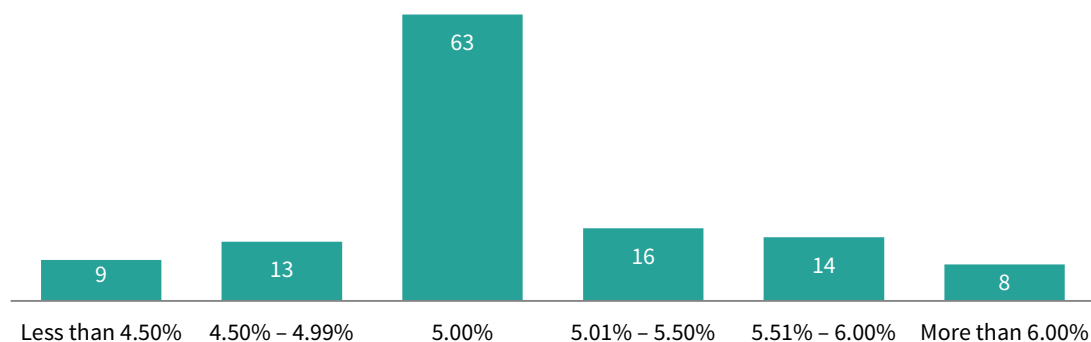
A key issue for any investor to consider is the purpose and role of its investment assets. Most colleges and universities don't generate enough revenue to cover the expenses incurred to operate their institutions, and rely upon donations and endowed funds to provide additional financial support to their annual budgets. While endowments must provide this support on a regular basis, they also have very long-term time horizons as colleges and universities intend to carry out their missions in perpetuity.

One term that is often associated with endowment management is intergenerational equity. The concept of intergenerational equity is that future generations should receive financial support from the endowment that is equitable to what is received by today's students and programs. To meet this objective, an endowment must earn a return over the long term that replenishes both the spending withdrawals from the portfolio and the purchasing power lost because of inflation.

Of the survey participants that specified the primary role for their endowment, 83% indicated it was to maintain intergenerational equity. The remaining 17% of respondents indicated that the primary role of the endowment was to expand its permanent capital so that the endowment could fulfill a bigger role in the institution's business model in the future. While the overall endowment pool can be expanded by raising new gifts, existing endowment funds would need to earn a long-term return that exceeds the combined rate of spending and inflation if the objective is to grow the purchasing power of those funds.

Our survey asked participants to provide their real return objective for the endowment if one was used. Since endowment returns are volatile from year to year, return objectives should be evaluated from the long-term perspective instead of a goal that must be met each and every year. By far the most common real return objective is 5%, which was cited by 63 of 123 respondents (Figure 22). Of the remaining respondents, 38 cited an objective of more than 5%, while 22 reported an objective of less than 5%.

FIGURE 22 REAL TOTAL PORTFOLIO RETURN OBJECTIVES



Source: College and university data as reported to Cambridge Associates LLC.  
Note: Chart includes data for 123 institutions that provided a real total portfolio return objective.

### ASSET ALLOCATION POLICY

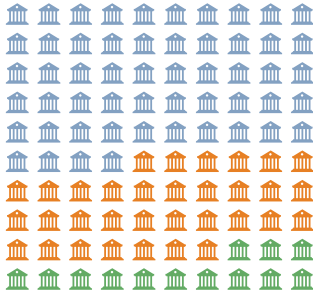
The asset allocation component of the investment policy specifies the asset classes allowed in the portfolio and assigns target allocations and/or ranges for those asset class categories. The categories and targets that are chosen are based on the portfolio’s risk tolerance, liquidity needs, and performance objectives. In this year’s survey, we asked institutions to provide the asset classes categories used in their endowment’s asset allocation policy.

There are differences in the policy frameworks reported among respondents, with some endowments using more detailed categories than others. This is most evident in equity and real assets categories, where there are contrasting approaches to the inclusion of geographic regions, private investments, and diverse sub-strategies into the policy framework. The level of granularity used in the asset allocation framework should be determined by the overall investment approach and how much latitude is given to those responsible for implementing the portfolio. A broader framework is appropriate where there is a more opportunistic strategy that allows the management team wider latitude in implementing the portfolio.


A broad approach is most common for public equities, with 54% of respondents reporting a single category that captures their entire public equity allocation (Figure 23). The next most common approach (33%) was to assign separate targets based on geographic regions to US, global ex US developed, and emerging markets categories. The remaining 13% of respondents use some other combination of geographic regions to represent public equities in their asset allocation policy. Examples of these other combinations include grouping US and global ex US developed equities together in a global developed category, or using a single global ex US category without breaking out emerging markets allocations.


**FIGURE 23 CATEGORIES USED FOR EQUITIES AND REAL ASSETS IN ASSET ALLOCATION POLICY**  
Fiscal Year 2019

**Public Equity** (*n* = 152)

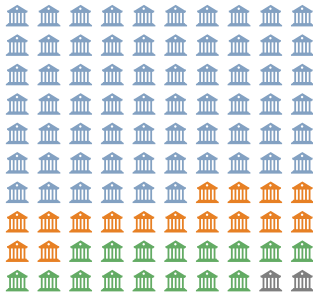



 **54%** capture all public equity under a single target


 **33%** use separate targets for US, global ex US developed, and emerging markets equities


 **13%** use some other combination of geographic categories

**Private Equity** (*n* = 142)

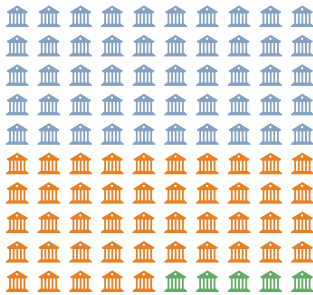



 **66%** have a dedicated target to PE/VC


 **16%** include PE/VC along with public equities in a single category


 **16%** have a dedicated target to private investments, which captures PE/VC and private real assets together

**Real Assets** (*n* = 146)



 **50%** use multiple categories that are split by substrategy (e.g., real estate vs. natural resources) and/or public versus private

 **45%** use a single category that captures all strategies

 **5%** only have private real assets allocations and include those with PE/VC in a single category

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

Notes: Institutions can use a target and/or a target range for each category specified in their asset allocation policy framework. For private equity, 2% of respondents use some other approach to capture PE/VC in their asset allocation policy

Just under two-thirds of respondents (66%) have a dedicated target to PE/VC in their asset allocation policy. Most of these institutions with a dedicated PE/VC target use a single category for the combined allocations, while a smaller proportion assigns a target for non-venture private equity and a separate target for venture capital. Another 16% of respondents use a single equity category to capture public equity and PE/VC together in their target asset allocation framework. A similar proportion of respondents (16%) use a total private investments category that combines PE/VC together with private real assets in their policy framework.

Real assets is another area where the level of granularity in the policy framework differed among respondents. Half of respondents (50%) use multiple categories, which can be split up between a diverse group of subcategories and/or private versus public assets. Different types of asset class categories cited by respondents include commodities, gold, inflation-linked bonds, natural resources/oil & gas, real estate, and timber. A slightly smaller proportion (45%) use a single target to capture their entire real assets allocation.

### **POLICY PORTFOLIO BENCHMARKS**

When done well, benchmarking is all about answering the question “How are we doing?” in ways that are both accurate and relevant to the objectives of the portfolio being measured. The comparison of an endowment’s return to its policy portfolio benchmark is the best measure to evaluate whether the portfolio is being successfully implemented according to its asset allocation policy. The policy benchmark is typically a blend of indexes that represent the desired portfolio risk exposures without any expression of more active alternatives.<sup>5</sup> Measuring performance relative to the policy benchmark captures the impact not only of manager selection decisions, but also the differences between the portfolio’s actual asset allocation and the target asset allocation policy.

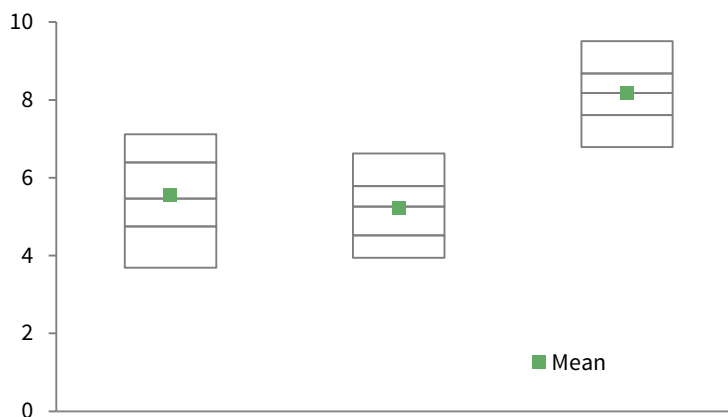
Performance results of peers can be informative, but they are not necessarily the most effective benchmark for evaluating an endowment’s investment performance. Each nonprofit institution has its own unique blend of investment objectives, enterprise conditions, and risk tolerances. Therefore, investment policies will vary within a peer group, leading to different asset allocation structures for institutions that may otherwise be considered worthy peers.

The difference in asset allocation structures among endowments can translate to different performance objectives and results as defined by the policy portfolio benchmark return. Figure 24 shows the range of policy benchmark returns among the respondent group for select trailing periods. For fiscal year 2019, the difference in policy benchmark returns from the 5th percentile to the 95th percentile was 340 bps. The range between the same percentiles was 270 bps for both the trailing five- and ten-year periods.

<sup>5</sup> In certain alternative asset classes, there are often no investable proxies and other types of benchmarks are used.

**FIGURE 24 DISPERSION IN POLICY PORTFOLIO BENCHMARK RETURNS**

Periods as of June 30, 2019 • Percent (%)



	1 Year	5 Year	10 Year
5th %ile	7.1	6.6	9.5
25th %ile	6.4	5.8	8.7
Median	5.5	5.3	8.2
75th %ile	4.8	4.5	7.6
95th %ile	3.7	3.9	6.8
Mean	5.5	5.2	8.2
<i>n</i>	151	147	138

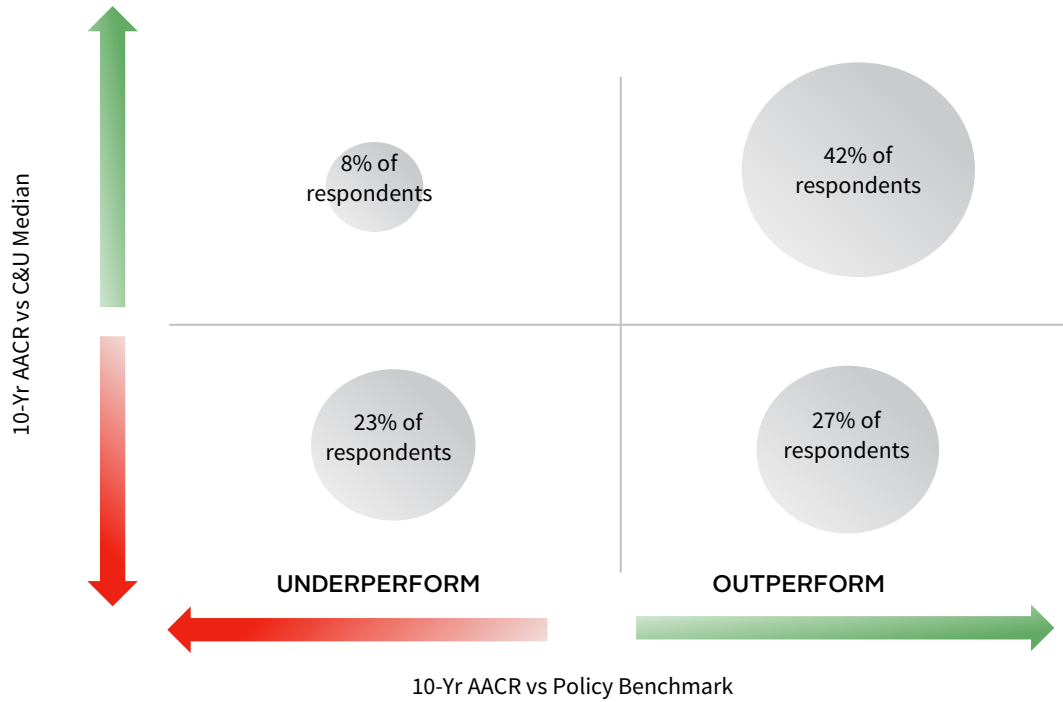
Source: College and university data as reported to Cambridge Associates LLC.

Endowments at the bottom end of the policy benchmark return distribution may have had portfolios that were not as well positioned from an asset allocation perspective to outperform other peers over the last decade. It is possible for an endowment to underperform the peer group median, but still outperform its policy benchmark return. In fact, as illustrated in Figure 25, 27% of respondents experienced this exact scenario for the trailing ten-year period.

Nearly 70% of respondents outperformed their policy benchmark return for this trailing ten-year period. The median spread between the actual ten-year return and the policy benchmark return was 0.3 ppts (Figure 26). The median spread was -0.1 ppts for fiscal year 2019, which means a majority of the peer group underperformed their policy benchmark over this most recent annual period. The range of out/underperformance versus the policy benchmark was wider for fiscal year 2019 compared to the trailing five- and ten-year periods.

**FIGURE 25 EVALUATING INVESTMENT PERFORMANCE: 10-YR RETURN VS POLICY BENCHMARK AND C&U MEDIAN RETURN**

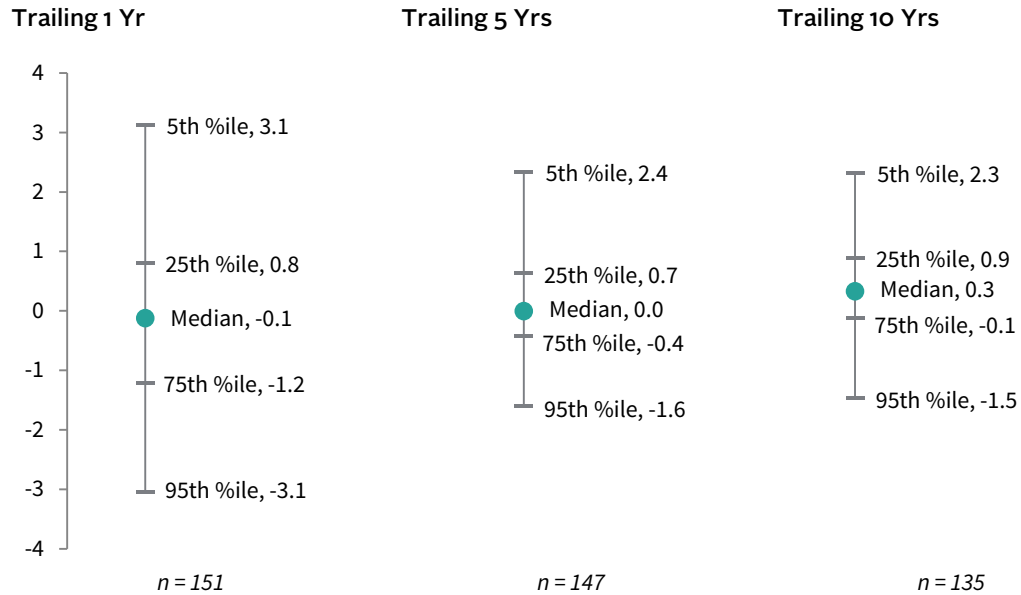
As of June 30, 2019 • n = 135



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

**FIGURE 26 RANGE OF OUT/UNDERPERFORMANCE OF TOTAL RETURN VS POLICY PORTFOLIO BENCHMARK**

As of June 30, 2019 • 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.



**POLICY PORTFOLIO BENCHMARK COMPONENTS.** More than 90% of the respondents that provided a policy portfolio benchmark use a detailed, asset class–specific benchmark to evaluate the performance of the total portfolio (Figure 27). The remaining endowments use a simple benchmark that typically incorporates a broad-based equity market index and a bond index weighted in proportion to the overall risk profile of the portfolio. The analysis that follows includes only the data of the respondents that use a detailed policy portfolio benchmark.

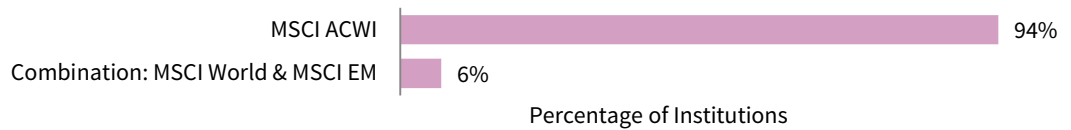
The components of a detailed policy benchmark usually align with the asset classes or categories stated in the portfolio’s asset allocation policy. Since policy allocations can be set at varying levels of granularity, approaches to benchmarking vary among institutions. One area where this is noticeable is in the benchmarking of public equities, where a majority of endowments use a global equity index for all or most of their public equity allocation. The use of the MSCI ACWI Index for the entire public equity allocation was by far the most common approach. A handful of respondents used a combination of the MSCI World Index, which represents global developed markets, and the MSCI Emerging Markets Index.

Among the endowments that use more granular public equity indexes based on geographic orientation, the Russell 3000® Index was cited by 72% for US equity. For global ex US equities, 66% of respondents used a blend of the MSCI EAFE and MSCI Emerging Markets indexes. This approach is appropriate for institutions that have separate targets to global ex US developed and emerging markets, particularly if the targets are out of proportion to the weightings of the MSCI ACWI ex US Index.

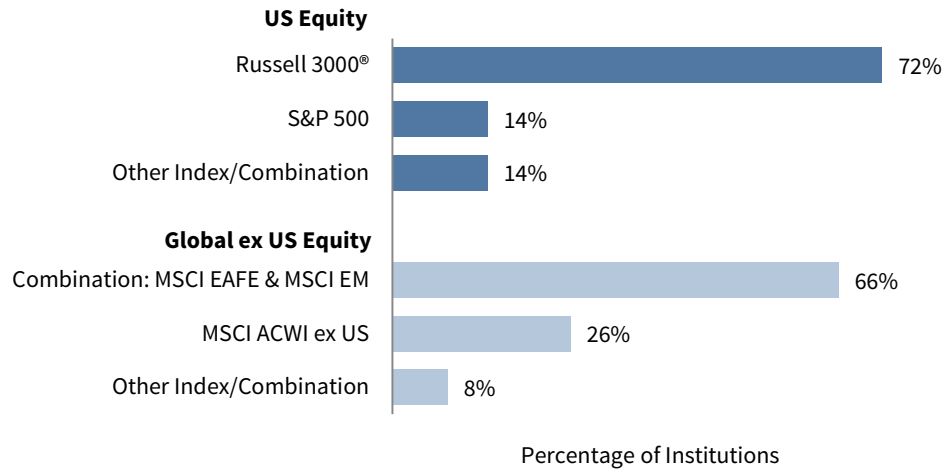
**FIGURE 27 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: PUBLIC AND PRIVATE EQUITY**

As of June 30, 2019

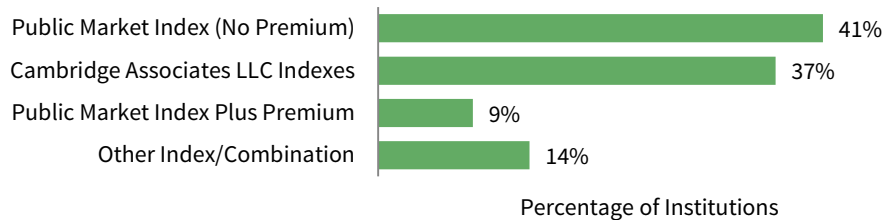
**Institutions That Use a Global Index for All or Most of the Public Equity Allocation (n = 78)**



**Institutions That Use Separate Geographic Indexes for the Public Equity Allocation (n = 50)**



**Private Equity Indexes (n = 115)**



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

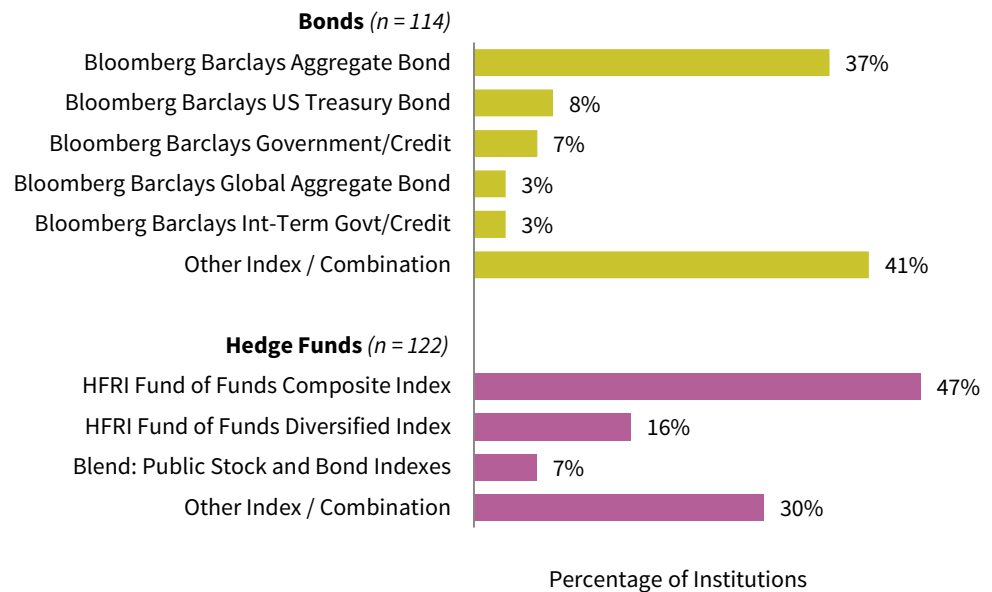
The use of a public index(es) is the most common practice for benchmarking private equity in the policy portfolio benchmark, as 41% of respondents use the actual public index return. While another 9% add a prespecified percentage or premium to the public index return, the proportion of the peer group incorporating a premium has dropped substantially in recent years. The Cambridge Associates private indexes were cited by 37% of respondents, while 14% of institutions used some other benchmark that was not previously mentioned. Included in this other group are institutions that use the actual private equity portfolio return in the policy benchmark, effectively neutralizing the performance of the private allocation in the benchmark calculation. This approach can be appropriate for endowments with immature private investment programs that are deep in the J-curve effect.<sup>6</sup>

<sup>6</sup> For a more in-depth discussion on this topic, please see Jill Shaw et al., “Policy Benchmarking: Best Practices for Private Investments,” Cambridge Associates Research Report, 2018.

The use of the Bloomberg Barclays Aggregate Bond Index only was the most common benchmarking approach for bonds and was reported by 37% of endowments (Figure 28). However, many respondents use unique index combinations to better reflect their underlying bond exposure. Often in practice, benchmarks depend on whether allocations are made domestically or globally, as well as the type of issuer (sovereign versus corporate or both). Some endowments also used indexes that only include bonds of a certain range of maturities. In hedge funds, most respondents use an HFRI index for hedge funds, with the HFRI Fund of Funds Composite Index being the most common. For real assets, benchmark combinations are unique across most participants due to the wide variety of strategies employed under this category.

**FIGURE 28 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: BONDS AND HEDGE FUNDS**

As of June 30, 2019



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

## Portfolio Asset Allocation

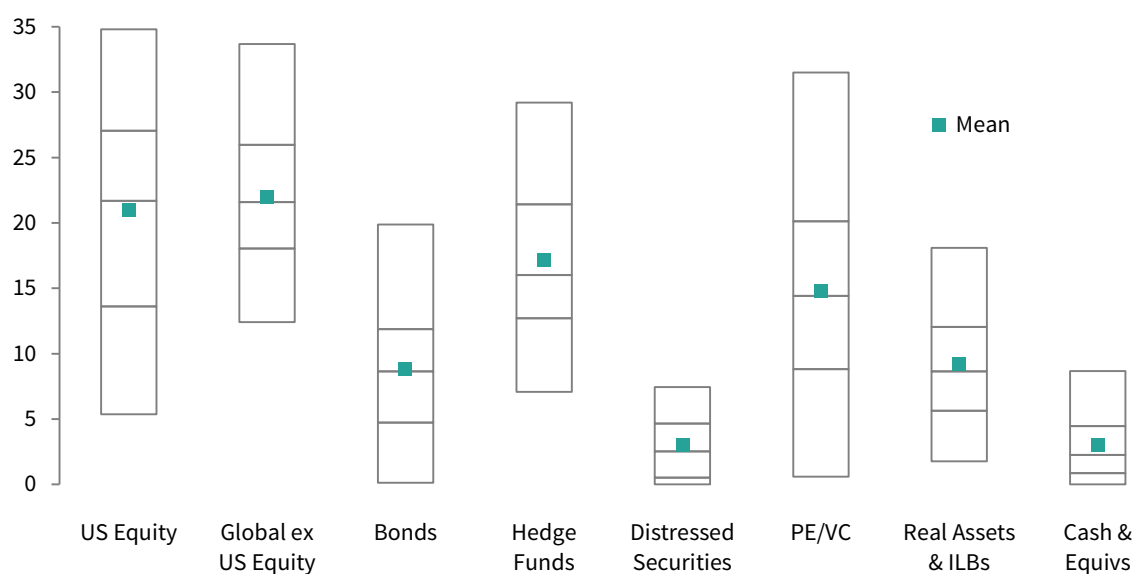
### 2019 ASSET ALLOCATION

More than 40% of the average LTIP consisted of public equities at June 30, 2019. On average, the allocations to global ex US equities (22.0%) were slightly higher than those to US equities (21.0%). Portfolios had significant exposure to alternative assets, with 17.2% allocated to hedge funds and 14.8% allocated to private equity and venture capital, on average. Another 3.0% 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 9.2% of portfolios, on average. Average allocations to bonds and cash were 8.9% and 3.0%, respectively (Figure 29).

As Figure 30 shows, allocations to some of 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. Portfolios with asset sizes under \$200 million continue to maintain higher allocations to public equities and bonds, while those with assets greater than \$1 billion have the highest allocations to private investments. Also displayed in Figure 30 is a more granular view of allocations within each broad asset class.

**FIGURE 29 ASSET ALLOCATION DISTRIBUTION BY ASSET CLASS**

As of June 30, 2019 • Percent (%) • n = 164



	US Equity	Global ex US Equity	Bonds	Hedge Funds	Distressed Securities	PE/VC	Real Assets & ILBs	Cash & Equivs
5th %ile	34.8	33.7	19.9	29.2	7.5	31.5	18.1	8.6
25th %ile	27.0	26.0	11.9	21.4	4.7	20.1	12.0	4.4
Median	21.7	21.6	8.6	16.0	2.5	14.4	8.6	2.2
75th %ile	13.6	18.0	4.7	12.7	0.5	8.8	5.6	0.8
95th %ile	5.4	12.4	0.1	7.1	0.0	0.6	1.8	-0.1
Mean	21.0	22.0	8.9	17.2	3.0	14.8	9.2	3.0

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

### FIGURE 30 MEAN ASSET ALLOCATION BY ASSET SIZE

As of June 30, 2019 • Percent (%)

	Asset Size				
	All	Less than	\$200M –	\$500M –	More than
	C&Us (n = 164)	\$200M (n = 28)	\$500M (n = 33)	\$1B (n = 34)	\$1B (n = 69)
<b>US Equity</b>	<b>21.0</b>	<b>29.8</b>	<b>25.0</b>	<b>20.5</b>	<b>15.6</b>
<b>Global ex US Equity</b>	<b>22.0</b>	<b>26.8</b>	<b>24.3</b>	<b>20.0</b>	<b>19.9</b>
Developed Markets	14.5	19.3	16.5	13.5	12.2
Emerging Markets	7.5	7.5	7.8	6.5	7.8
<b>Bonds</b>	<b>8.9</b>	<b>13.1</b>	<b>11.0</b>	<b>9.3</b>	<b>5.9</b>
US Bonds	8.0	11.9	10.7	8.7	4.8
Global ex US Bonds (DM)	0.3	0.2	0.1	0.0	0.7
Global ex US Bonds (EM)	0.2	0.4	0.1	0.2	0.1
High-Yield Bonds	0.3	0.6	0.1	0.4	0.3
<b>Hedge Funds</b>	<b>17.2</b>	<b>15.2</b>	<b>15.9</b>	<b>16.7</b>	<b>18.8</b>
Long/Short Hedge Funds	7.0	4.8	6.4	6.5	8.5
Absolute Return (ex Distressed)	10.2	10.4	9.5	10.2	10.4
<b>Distressed Securities</b>	<b>3.0</b>	<b>1.2</b>	<b>2.3</b>	<b>4.2</b>	<b>3.4</b>
Hedge Fund Structure	1.4	0.7	1.0	2.0	1.7
Private Equity Structure	1.6	0.5	1.3	2.2	1.8
<b>PE/VC</b>	<b>14.8</b>	<b>5.4</b>	<b>10.2</b>	<b>15.2</b>	<b>20.7</b>
Non-Venture Private Equity	7.0	1.3	4.5	7.4	10.4
Venture Capital	6.5	2.3	3.8	6.7	9.4
Other Private Investments	1.3	1.8	1.9	1.2	0.8
<b>Real Assets &amp; Infl-Linked Bonds</b>	<b>9.2</b>	<b>5.9</b>	<b>6.7</b>	<b>10.2</b>	<b>11.2</b>
Private Real Estate	2.7	0.4	1.2	3.1	4.2
Public Real Estate	0.6	0.7	0.5	1.1	0.4
Commodities	0.3	0.3	0.3	0.1	0.4
Public Energy/Nat Resources	1.6	2.7	2.6	1.4	0.8
Private O&G/Nat Resources	3.4	1.2	1.7	3.9	4.8
Timber	0.2	0.0	0.0	0.1	0.3
Infl-Linked Bonds	0.5	0.6	0.5	0.4	0.4
<b>Cash &amp; Equivalents</b>	<b>3.0</b>	<b>2.4</b>	<b>2.6</b>	<b>3.7</b>	<b>3.1</b>
<b>Other</b>	<b>1.0</b>	<b>0.3</b>	<b>1.9</b>	<b>0.2</b>	<b>1.2</b>

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

## HISTORICAL ASSET ALLOCATION

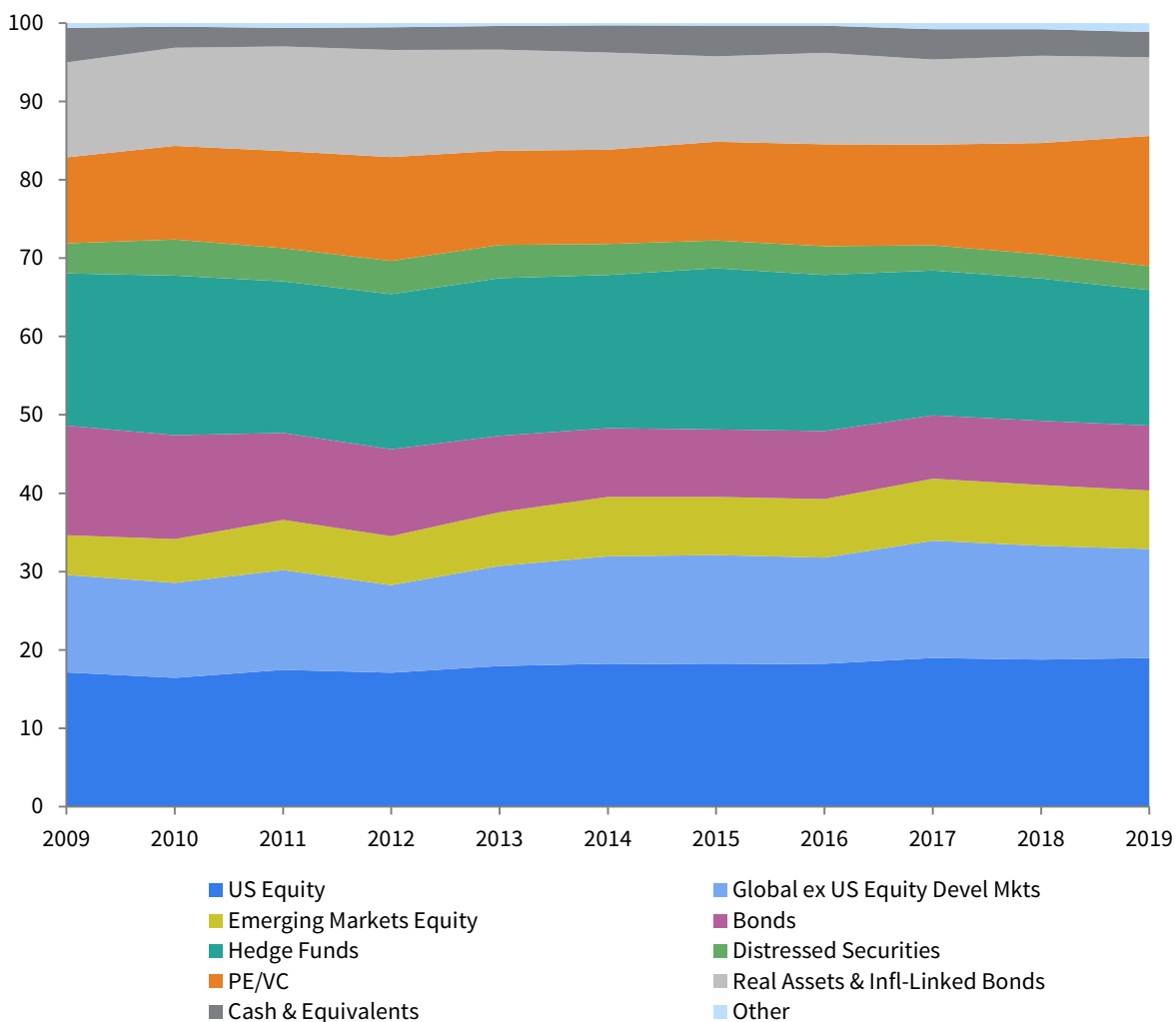
Institutional investors that have adopted the endowment model of investing have seen significant shifts in their asset allocation policies over the last few decades. Exposure to bonds has decreased while the larger equity allocation has become more diversified. The largest endowments pioneered this transition in the 1980s, with the trend spreading among other institutions in the 1990s and then accelerating throughout much of the first decade of the new millennium. By the time the 2008–09 GFC occurred, most endowments in this study had already built highly diversified portfolios.

Figure 31 shows the trend in average asset allocations for the group of endowments that have participated in the study in each of the last ten years. The beginning of this ten-year period was July 1, 2009, just a few months after the stock market bottoms of the GFC. Average public equity allocations were near their all-time low on this date and bond allocations had ticked back up after the multi-decade trend downward. In the ten years since, endowments in general have increased their allocations to both public and private equities while lowering allocations to bonds, hedge funds, and real assets. The largest increase in average allocations over the last decade was to PE/VC (5.6 ppts), while the largest decrease was to bonds (-5.7 ppts).

Endowments of various asset sizes followed the same overall trends (Figure 32). Each asset size group saw increases to PE/VC, with the largest endowments reporting the highest average increase (6.8 ppts). Among public equities, it was the smallest endowments that reported the largest increases over the decade. The smallest endowments also reported the biggest change to bonds, with their allocation declining by an average of 9.8 ppts. All asset size groups reported decreases to hedge funds and real assets.

**FIGURE 31 HISTORICAL MEAN ASSET ALLOCATION TRENDS**

Years Ended June 30, 2019 • Percent (%)



	Constant Universe										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
US Equity	17.2	16.5	17.4	17.1	18.0	18.2	18.2	18.2	19.0	18.8	19.0
Global ex US Equity Devel Mkts	12.4	12.1	12.8	11.2	12.7	13.7	14.0	13.6	15.0	14.5	13.9
Emerging Markets Equity	5.1	5.6	6.4	6.2	6.9	7.6	7.4	7.5	7.9	7.7	7.5
Bonds	14.0	13.3	11.1	11.1	9.8	8.7	8.6	8.7	8.1	8.2	8.3
Hedge Funds	19.4	20.3	19.3	19.8	20.1	19.6	20.6	19.9	18.5	18.2	17.3
Distressed Securities	3.8	4.6	4.2	4.2	4.3	3.9	3.6	3.6	3.2	3.1	3.1
PE/VC	11.0	11.9	12.4	13.3	12.0	12.1	12.6	13.0	12.9	14.2	16.6
Real Assets & Infl-Linked Bonds	12.1	12.5	13.3	13.7	12.9	12.4	10.9	11.7	10.9	11.1	10.0
Cash & Equivalents	4.4	2.7	2.4	2.9	3.0	3.5	3.9	3.5	3.9	3.4	3.2
Other	0.6	0.5	0.6	0.5	0.4	0.3	0.3	0.3	0.8	0.8	1.1

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

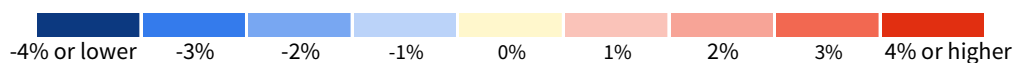
Note: Analysis is based on a constant universe that includes 125 institutions that provided asset allocation data for each year from 2009 to 2019.

**FIGURE 32 TRENDS IN ASSET ALLOCATION BY ASSET SIZE**

Means as of June 30 • Percent (%)

	US Equity	Global ex US		Bonds	Hedge Funds	Dist Sec	PE/VC	RA & ILBs	Cash & Equiv
		Dev	EM						
<b>Less than \$200M (n = 14)</b>									
2009	23.6	17.5	4.4	22.4	16.8	1.6	2.4	8.2	2.9
2019	26.9	19.6	7.3	12.6	16.7	1.0	5.5	7.5	2.5
Change (ppt)									
2009–19	3.3	2.1	2.9	-9.8	-0.2	-0.6	3.1	-0.7	-0.5
<b>\$200M – \$500M (n = 21)</b>									
2009	23.1	14.6	4.7	17.6	16.2	3.1	6.5	10.0	4.3
2019	23.9	15.7	7.4	10.9	14.8	2.4	11.6	7.3	3.1
Change (ppt)									
2009–19	0.7	1.1	2.7	-6.7	-1.3	-0.7	5.1	-2.7	-1.3
<b>\$500M – \$1B (n = 28)</b>									
2009	16.9	11.7	4.9	15.2	19.7	4.6	10.7	10.9	4.7
2019	20.1	13.8	6.3	9.5	16.1	4.3	15.4	10.2	4.1
Change (ppt)									
2009–19	3.2	2.1	1.4	-5.7	-3.6	-0.4	4.7	-0.7	-0.6
<b>More than \$1B (n = 62)</b>									
2009	13.8	10.8	5.4	10.3	21.0	4.3	14.6	14.3	4.6
2019	15.0	12.1	8.0	5.9	18.8	3.2	21.4	11.4	3.0
Change (ppt)									
2009–19	1.2	1.3	2.6	-4.5	-2.2	-1.1	6.8	-2.9	-1.5

Change in Mean Asset Allocation from 2009 to 2019



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

Note: Asset sizes are based on June 30, 2019, data.

### TARGET ASSET ALLOCATION

Though 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 sometimes be misleading for determining whether endowments are altering their long-term asset allocation policies. An analysis of target asset allocations is more suitable for such an evaluation.

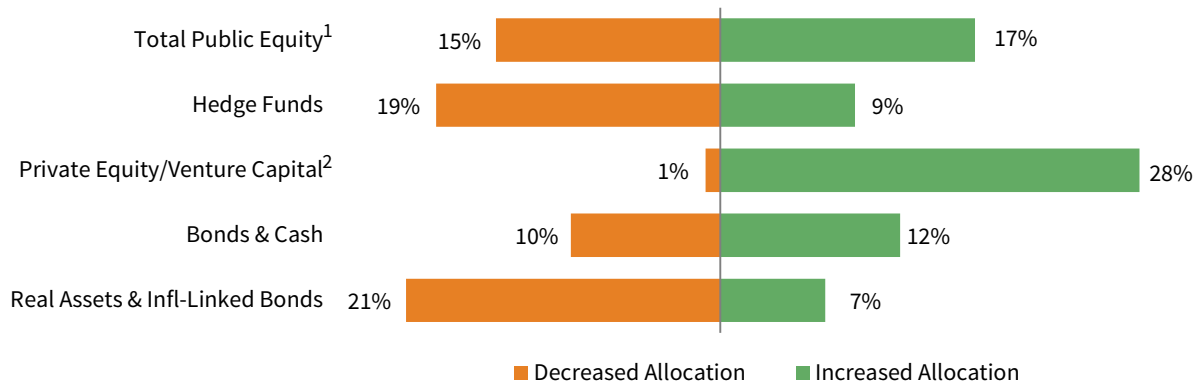
The trend in target asset allocations for fiscal year 2019 was very similar those that have been reported in recent years. As shown in Figure 33, 28% of respondents raised their target allocation to PE/VC in fiscal year 2019, while just 1% lowered their target. The trend was the opposite for hedge funds, where there were more endowments



that lowered their target (19%) compared to those that reported an increase (9%). In real assets, the proportion of endowments lowering their target (21%) was triple the proportion that reported increases. For both total public equities and bonds & cash, the proportion of endowments reporting an increase was just slightly higher than the proportion reporting a decrease.

**FIGURE 33 CHANGES IN TARGET ASSET ALLOCATION**

June 30, 2018 – June 30, 2019 • Percentage of Institutions Increasing or Decreasing Targets



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

<sup>1</sup>Total public equity excludes institutions that combine public equity together with PE/VC in a single equity category.

<sup>2</sup>Private equity/venture capital includes institutions that include PE/VC together with private real assets in a single private investments category.

## ASSET COMPOSITION

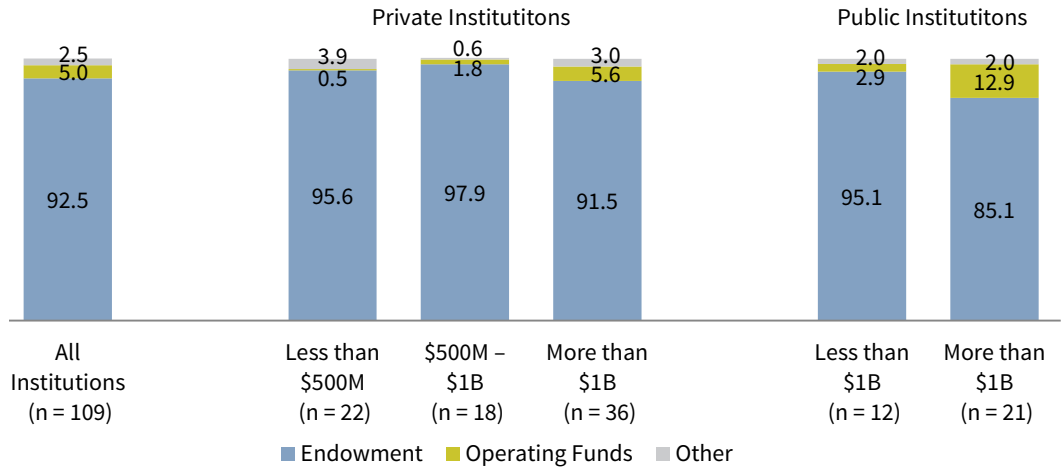
**LONG-TERM INVESTMENT PORTFOLIO.** The LTIP is the group of assets for which institutions report their asset allocation and returns in this study. Endowment assets compose all or the vast majority of the LTIP for most respondents. On average, 92.5% of the LTIP were endowment assets as of June 30, 2019 (Figure 34).

In addition to endowment assets, many institutions invest a portion of their operating funds and/or other assets in the LTIP. On average, operating funds and other assets represented 5.0 and 2.5% of the LTIP, respectively. Examples of other assets in the LTIP include life income and annuity funds, special purpose funds, and assets invested by external organizations.

The average composition of the LTIP is mostly similar when the respondent group is broken down across public and private institutions in different size bands. Public universities with portfolios greater than \$1 billion tend to have a higher proportion of non-endowment assets in their LTIP than other institutions. On average, operating funds and other assets represented 12.9% and 2.0% of the LTIP, respectively, for these public institutions with larger portfolios.

### FIGURE 34 COMPOSITION OF LONG-TERM INVESTMENT PORTFOLIO

Equal-Weighted Means as of Fiscal Year End 2019



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

**ENDOWMENT.** On average, 69.0% of endowment assets were donor restricted at private institutions, while the remaining assets were unrestricted (Figure 35). When broken out by asset size, the largest private endowments had a slightly higher proportion of donor-restricted assets compared to the smallest endowments (69.6% versus 67.9%).

The proportion of endowment consisting of donor-restricted assets (86.3%) was higher at public institutions. For public institutions, there was a greater differential between large and smaller endowments in composition. On average, donor-restricted assets represented 80.0% of endowment for those greater than \$1 billion compared to 95.0% for endowments less than \$1 billion.

### FIGURE 35 CLASSIFICATION OF ENDOWMENT FUNDS

Equal-Weighted Means as of Fiscal Year End 2019



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

Note: Institutions grouped by fiscal year 2019 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. 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. Although annual spending distributions usually represent the biggest liquidity need of a portfolio, endowments with private investment programs must also consider the potential impact of uncalled capital commitments.

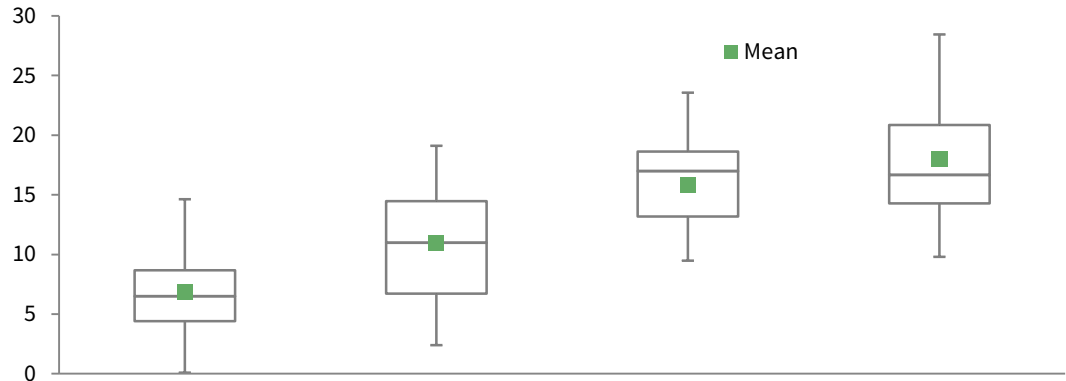
Participating institutions, particularly those with larger asset sizes, have been allocating an increasingly significant portion of their portfolios to private investments. The average asset allocation to private investments for all participants was 22.7% as of June 30, 2019, which was approximately 5 ppts higher than the average from ten years prior. For endowments greater than \$1 billion, the average allocation was even higher (31.8%) for fiscal year 2019 (Figure 30).

As Figure 36 shows, uncalled capital commitments as a percentage of the total LTIP increases along with portfolio size. Endowments less than \$200 million reported an average ratio of 6.8% for fiscal year 2019, while those more than \$1 billion reported an average ratio nearly three times higher (18.0%). The difference is even more stark when considering the ratio of uncalled capital commitments to the LTIP's total liquid assets, which exclude hedge funds and private investments. For endowments greater than \$1 billion, uncalled capital commitments represented an average of 40.3% of their total liquid assets. In contrast, the ratio was 9.6% for endowments less than \$200 million.

### FIGURE 36 UNCALLED CAPITAL COMMITTED TO PRIVATE INVESTMENT FUNDS

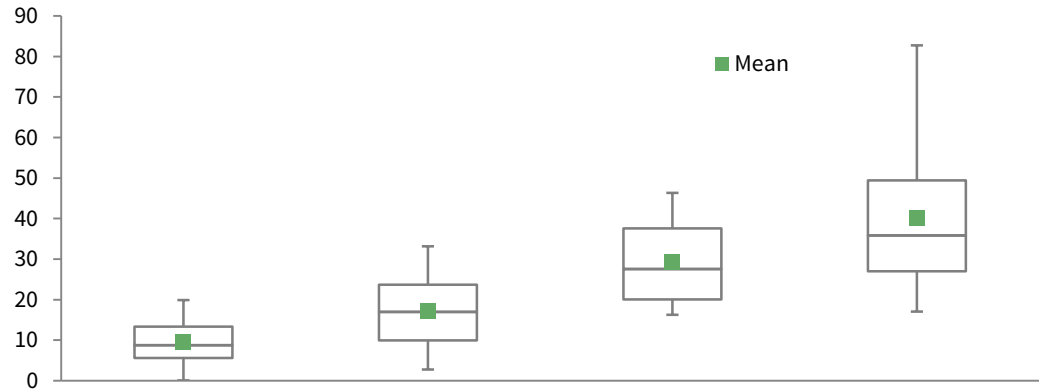
As of June 30, 2019 • Percent (%)

#### Uncalled Capital Commitments as a Percentage of the Total LTIP



	Less than \$200M	\$200M – \$500M	\$500M – \$1B	More than \$1B
5th %ile	14.6	19.1	23.6	28.4
25th %ile	8.7	14.5	18.6	20.9
Median	6.5	11.0	17.0	16.7
75th %ile	4.4	6.7	13.2	14.3
95th %ile	0.1	2.4	9.5	9.8
Mean	6.8	10.9	15.9	18.0
<i>n</i>	19	31	32	59

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



	Less than \$200M	\$200M – \$500M	\$500M – \$1B	More than \$1B
5th %ile	19.9	33.2	46.3	82.7
25th %ile	13.4	23.7	37.6	49.4
Median	8.8	17.0	27.6	35.9
75th %ile	5.6	10.0	20.1	27.0
95th %ile	0.1	2.8	16.3	17.1
Mean	9.6	17.3	29.3	40.3
<i>n</i>	19	31	32	59

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

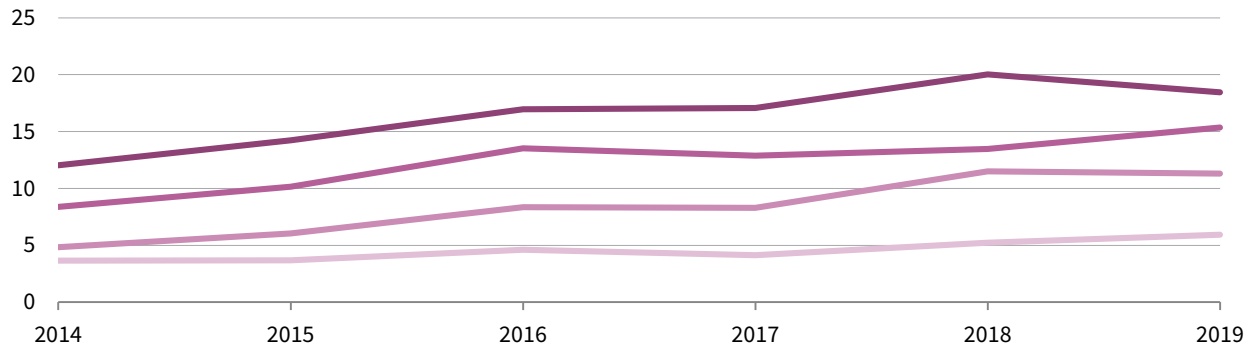
Notes: Uncalled capital is the amount committed, but not yet paid in, to private investment funds. Liquid assets consist of all LTIP assets excluding hedge funds and private investments.

Figure 37 shows the trend over the last five years for these two ratios. The average ratios were considerably higher in 2019 compared to five years prior for each of the asset size groups. This is a result of uncalled capital commitments growing at a much higher rate than the value of the LTIP and its liquid assets. Among all endowments in this analysis, the average amount of uncalled capital commitments increased by more than 148% over the last five years. Over this same period, the average change in the market value of the LTIP and the portfolio's liquid assets was just 21% and 22%, respectively. These trends infer that private investment allocations as a percentage of the overall portfolio will continue to rise among endowments into the future.

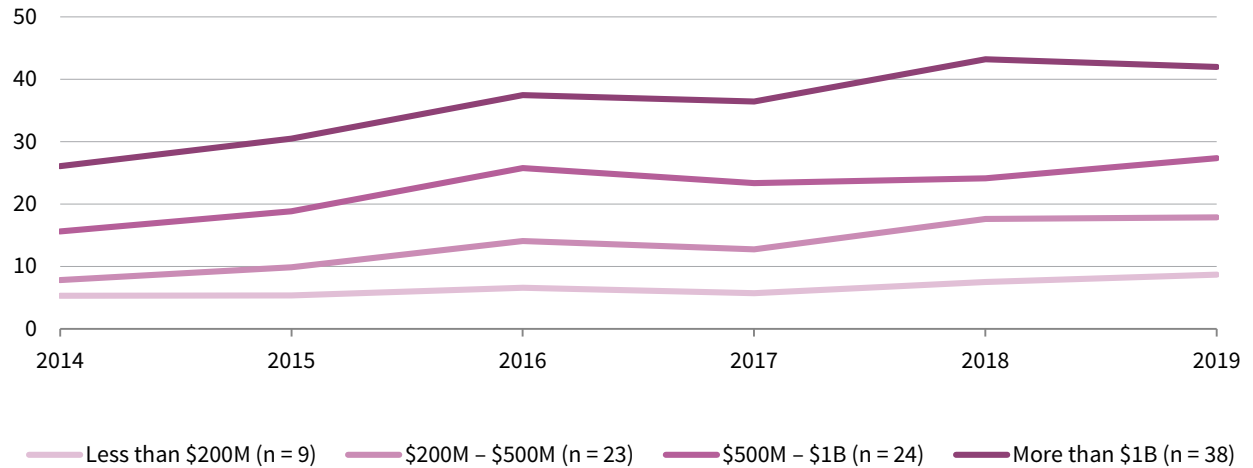
**FIGURE 37 TREND IN UNCALLED CAPITAL COMMITMENTS TO PRIVATE INVESTMENT FUNDS**

Years Ended June 30 • Percent (%)

**Mean Uncalled Capital Commitments as a Percentage of the LTIP**



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



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

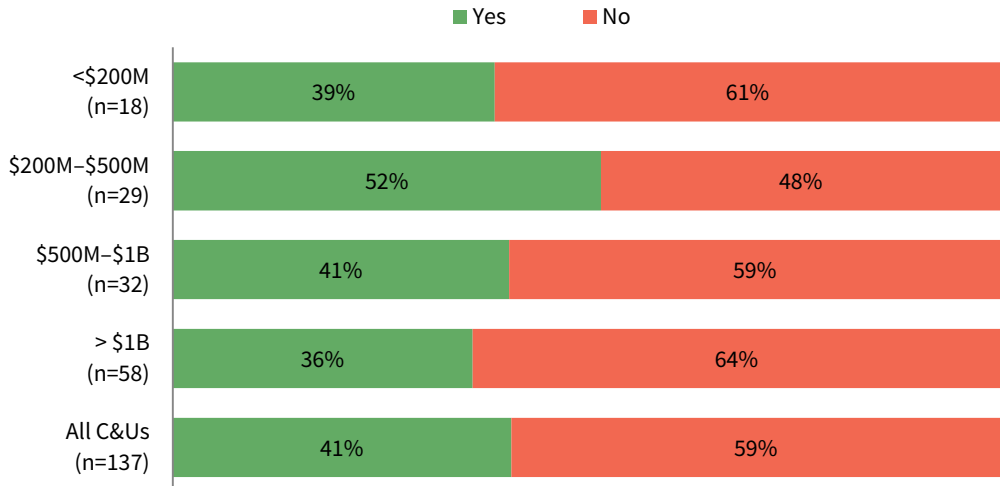
Notes: Uncalled capital is the amount committed, but not yet paid in, to private investment funds. Liquid assets consist of all LTIP assets excluding hedge funds and private investments.

Despite the strong performance of private investments in 2019, most endowments (59%) reported that their private investment programs were cash flow negative for the fiscal year (Figure 38). This is likely because many endowments have been ramping up their private investment allocations, resulting in a phase where paid-in capital was higher than fund distributions. For endowments whose private investment fund distributions are not enough to offset new capital calls, the remaining funding of capital calls has to come from cash reserves or other liquidity sources, which could include proceeds from sales of other investment assets in the LTIP.

**FIGURE 38 PRIVATE INVESTMENT PROGRAM CASH FLOW BY ASSET SIZE**

As of June 30, 2019 • n = 137

**Was Your Private Investment Program Cash Flow Positive in 2019?**



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 2019.

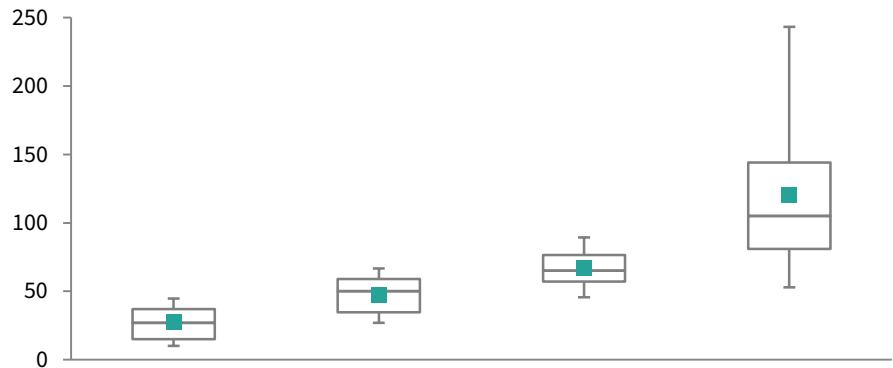
# Investment Manager Structures

## NUMBER OF EXTERNAL MANAGERS

Many factors contribute to the number of managers employed within an investment portfolio. 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, colleges and universities with assets more than \$1 billion employed 120 external investment managers in 2019 (Figure 39). At the opposite end of the asset size spectrum, endowments with assets less than \$200 million averaged just 27 managers. While the average number of managers was higher in fiscal year 2019 compared to five years prior for all asset size groups, the trend has leveled off over the last couple of years (Figure 40).

**FIGURE 39 NUMBER OF EXTERNAL MANAGERS**

As of June 30, 2019



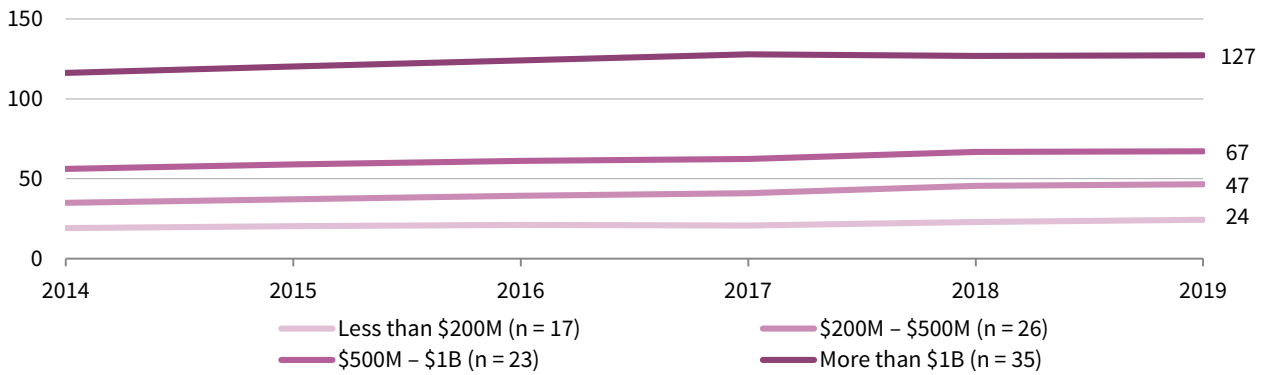
	Less than \$200M	\$200M – \$500M	\$500M – \$1B	More than \$1B
5th %ile	45	67	89	243
25th %ile	37	59	77	144
Median	27	50	65	105
75th %ile	15	35	57	81
95th %ile	10	27	46	53
Mean	27	47	67	120
<i>n</i>	25	32	32	53

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

Note: Funds-of-funds are counted as one separate investment manager.

**FIGURE 40 TREND IN AVERAGE NUMBER OF EXTERNAL MANAGERS**

2014–19



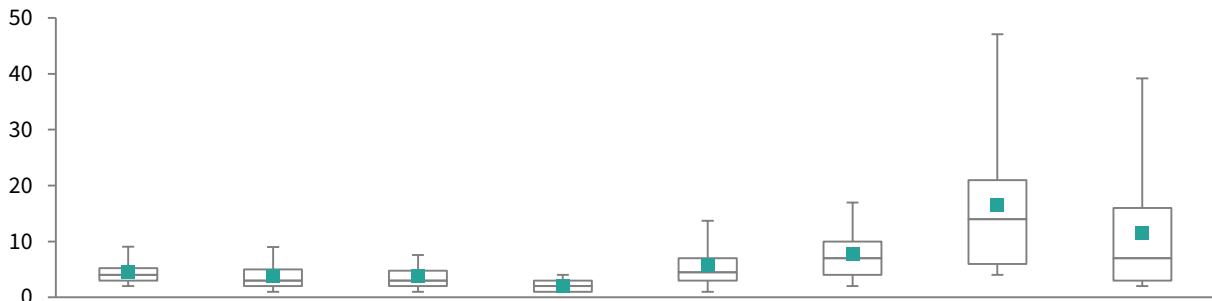
Source: College and university data as reported to Cambridge Associates LLC.

Note: Analysis includes institutions that reported their manager counts for each of the last six fiscal years.

Even within the broad asset size groups, the range of managers employed can be wide. Among the smallest endowments, the number of managers employed at the 25th percentile (37) is more than double the number used at the 75th percentile (15). For portfolios greater than \$1 billion, 243 managers are employed at the 5th percentile compared to just 53 at the 95th percentile. Much of the variation can be attributed to the management of alternative asset classes. As Figure 41 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 four broad asset size groups in Figure 42.

**FIGURE 41 DISPERSION IN NUMBER OF MANAGERS FOR SELECTED ASSET CLASSES**

As of June 30, 2019



	US Equity	DM ex US Equity	Emerging Markets Equity	US Bonds	Long/Short Hedge Funds	Ab Return Hedge Funds	Private Equity	Venture Capital
5th %ile	9	7	8	4	16	16	46	36
25th %ile	5	5	5	3	7	10	21	16
Median	4	3	3	2	5	7	14	7
75th %ile	3	2	2	1	3	4	6	3
95th %ile	2	1	1	1	1	1	2	1
Mean	5	4	4	2	6	8	16	12
n	140	138	142	126	124	141	132	128

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 42 EXTERNAL MANAGERS BY STRATEGY**

As of June 30, 2019

Strategy	Less than \$200M		\$200M – \$500M		\$500M – \$1B		More than \$1B	
	Average Number of Managers	<i>n</i>	Average Number of Managers	<i>n</i>	Average Number of Managers	<i>n</i>	Average Number of Managers	<i>n</i>
<b>Traditional Equity</b>								
Global Equity	2	17	3	22	5	14	4	34
US Equity	4	25	4	32	4	31	5	52
Developed ex US Equity	3	24	3	32	3	31	5	51
Emerging Markets Equity	2	25	3	32	3	32	5	53
<b>Traditional Bonds</b>								
Global Bonds	1	6	1	5	2	5	1	5
US Bonds	2	25	2	31	2	28	2	42
Developed ex US Bonds	1	2	–	0	1	2	2	8
Emerging Markets Bonds	1	1	1	2	1	2	1	6
High-Yield Bonds	1	5	1	1	1	7	2	10
<b>Hedge Funds</b>								
Long/Short Hedge Funds	3	18	4	29	5	29	8	48
Absolute Return (ex Distressed)	3	25	7	31	7	32	10	53
<b>Distressed Securities</b>								
Distressed (HF Structure)	1	6	1	18	2	27	3	34
Distressed (PE Structure)	2	12	3	27	5	31	7	45
<b>Private Investments</b>								
Non-Venture Private Equity	3	15	7	32	14	32	27	53
Venture Capital	2	16	4	30	9	31	21	51
Other Private Investments	2	17	3	26	3	18	4	22
<b>Real Assets &amp; ILBs</b>								
Private Real Estate	2	13	3	25	7	32	14	52
Public Real Estate	1	7	1	6	1	16	1	14
Commodities	1	1	1	7	2	2	1	15
Inflation-Linked Bonds (TIPS)	1	4	1	7	1	3	1	6
Private Oil & Gas / Nat Res	2	14	4	24	6	30	11	51
Timber	1	1	–	0	2	8	2	26
Public Energy/Nat Res	1	17	2	25	2	17	3	23
Multi-Strategy Funds	1	8	1	2	1	2	2	2
<b>Cash</b>	1	21	2	30	1	25	2	34
<b>Tactical Asset Allocation</b>	1	2	1	2	–	0	–	0
<b>Other</b>	1	1	1	6	1	3	3	9

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. 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.

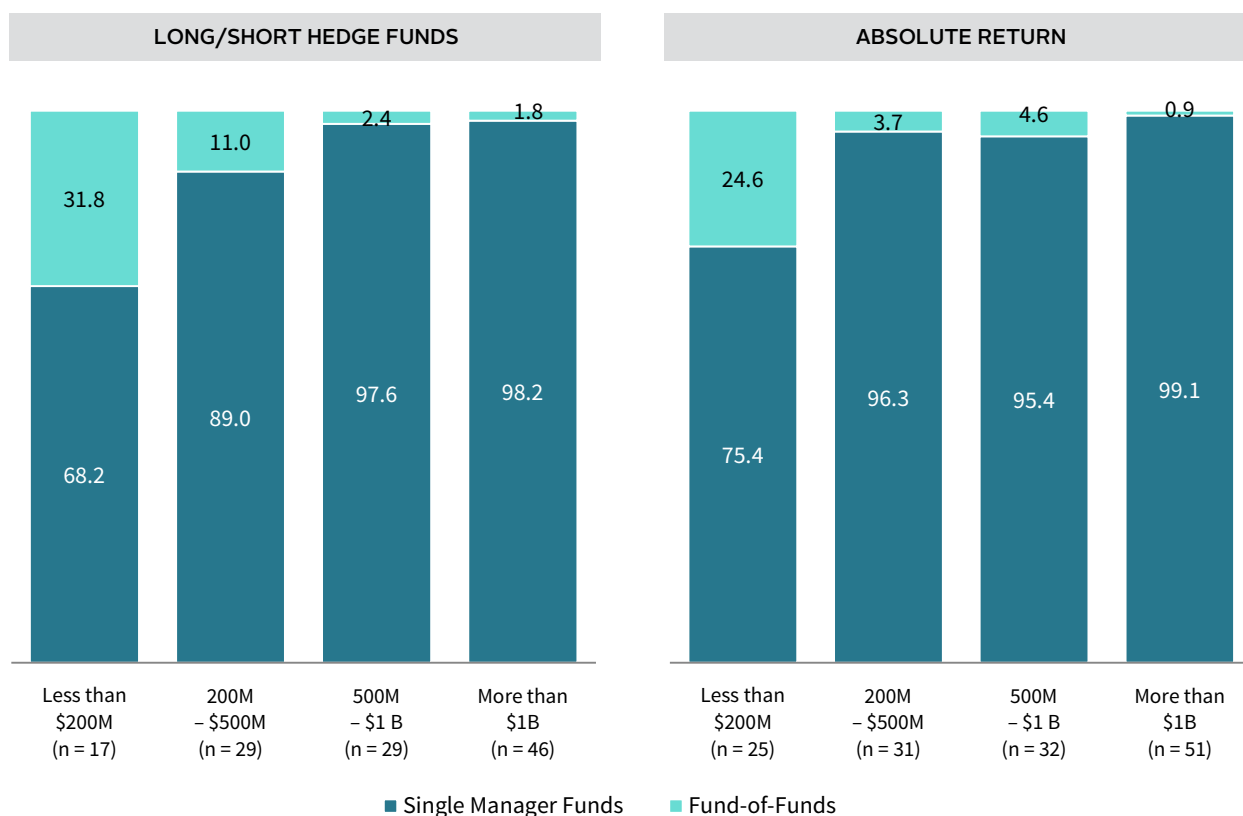
## ASSET CLASS IMPLEMENTATION

**HEDGE FUNDS.** There are two primary types of investment vehicles that endowments use when implementing their hedge funds allocations. A single manager fund is a type of investment vehicle where the investment manager makes the decisions for the securities and assets held within the fund. In contrast, a fund-of-funds is a type of strategy where the investment manager invests in a collection of other investment funds.

Figure 43 shows the average breakdown of hedge funds allocations across the two implementation categories. While single manager funds make up the majority of hedge fund allocations for all asset size groups, endowments less than \$200 million have the highest exposure to fund-of-funds managers. On average, these smallest endowments use fund-of-funds for 32% and 25% of their long/short hedge funds and absolute return allocations, respectively.

**FIGURE 43 PORTFOLIO IMPLEMENTATION: HEDGE FUNDS**

As of June 30, 2019 • Equal-Weighted Means (%)



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

Note: Analysis shows the average allocation of assets across the implementation categories for each peer group.

**PRIVATE INVESTMENTS.** Single manager funds and fund-of-funds are also common investment vehicles used to implement private investment allocations. In addition, some endowments use direct investments to implement some of their private investment allocations. Direct investments can take the form of co-investments that are made alongside a general partner or solo investments that are originated by the endowment itself.

Compared to hedge funds, implementation practices are more varied across private investment asset classes. The average breakdown of allocations by implementation category shows how experiences differ by asset size. For endowments less than \$200 million, an average of 57% of non-venture private equity and 88% of venture capital was invested via fund-of-funds (Figure 44). The experience is the opposite for endowments greater than \$1 billion, where more than 85% of both non-venture PE and VC was implemented through single manager funds, on average.

Most of the private real estate and private oil & gas allocations are invested in single manager funds across all asset size groups. Similar to the private equity categories, the average percentage of allocations implemented through single manager funds is higher as endowment size increases.

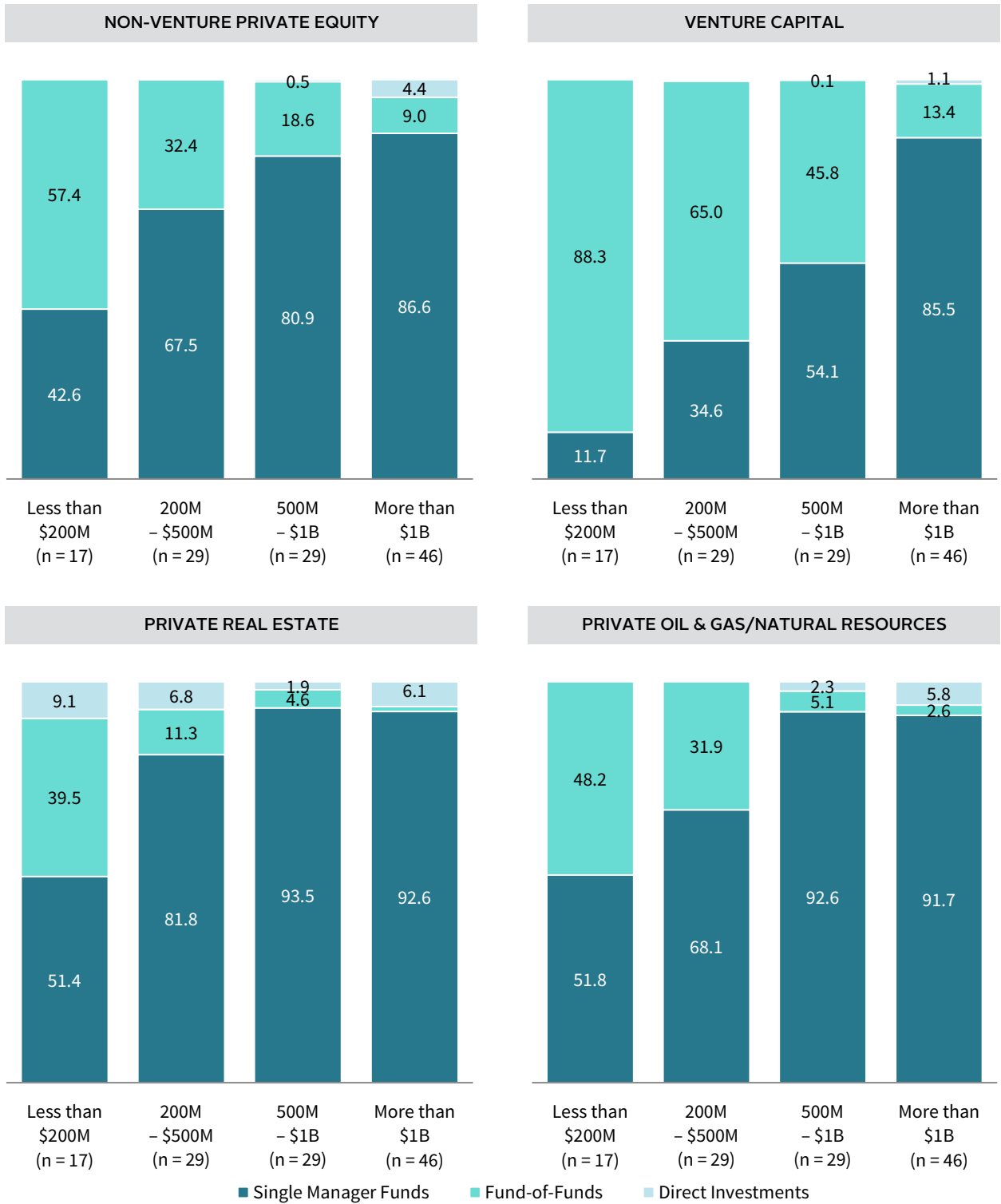
**PUBLIC EQUITIES AND BONDS.** For traditional bonds and equities, endowments primarily use external managers to implement their allocations. These assets are invested either through active or passively managed investment vehicles. Some endowments also manage assets internally or use derivatives to achieve desired exposures. The use of these implementation methods is most common among the largest endowments.

When considering the average breakdown of US equity allocations, the majority of assets are invested via active managers (Figure 45). The proportion of assets invested through active managers is similar across all asset size groups. For global ex US equities, the average proportion of allocations invested through active managers is even higher. Similar to US equity, the proportion of assets invested through active managers varies little when looking across asset size groups.

Passive management tends to be more common among bonds than it is in the public equity categories. For endowments less than \$1 billion, a little more than one-third of the average allocation is implemented passively. The proportion is lower for larger endowments, where an average of 18% of the bond allocation is invested through passive funds.

**FIGURE 44 PORTFOLIO IMPLEMENTATION: PRIVATE INVESTMENTS**

As of June 30, 2019 • Equal-Weighted Means (%)

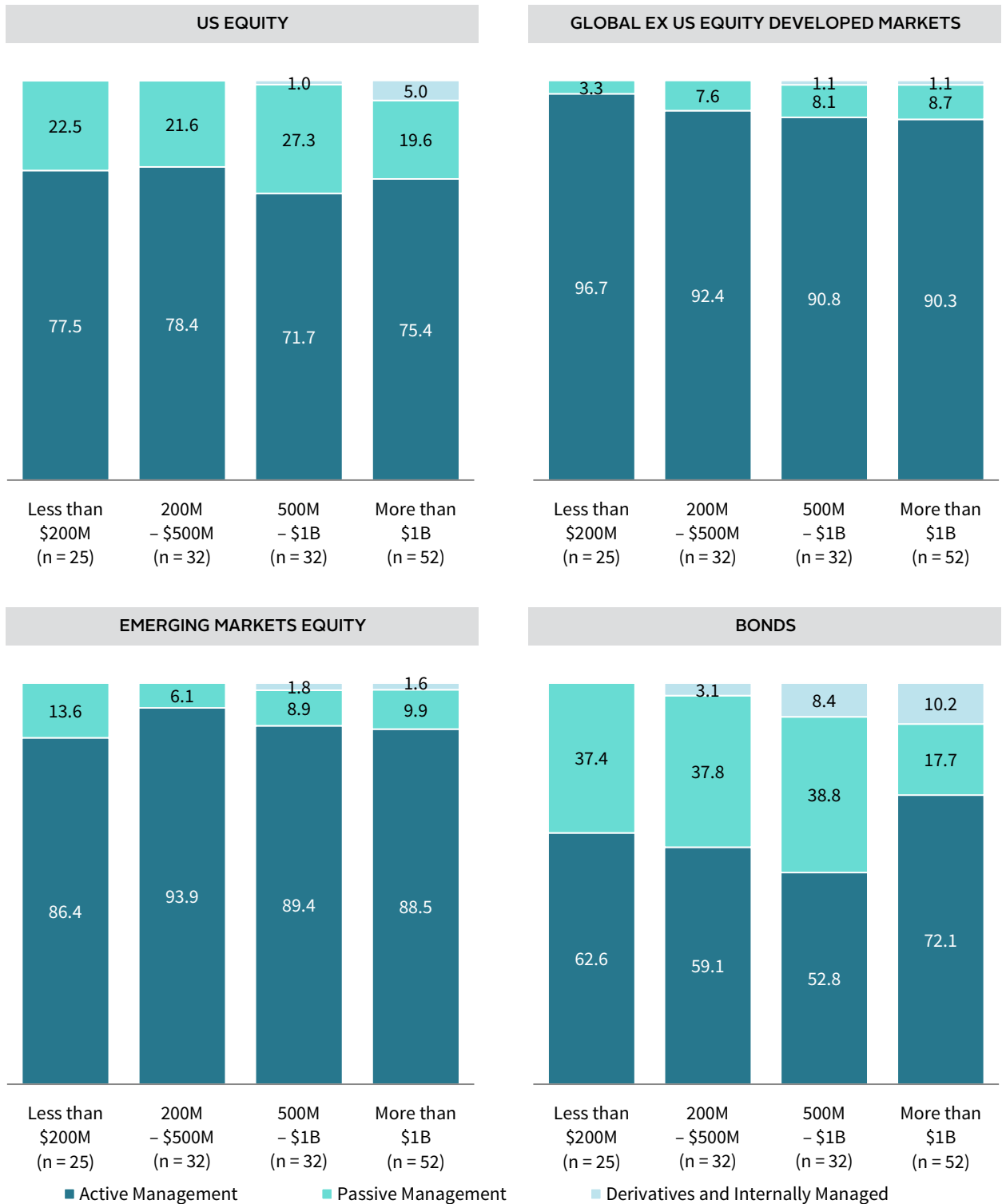


Source: College and university data as reported to Cambridge Associates LLC.

Note: Analysis shows the average allocation of assets across the implementation categories for each peer group.

**FIGURE 45 PORTFOLIO IMPLEMENTATION: TRADITIONAL EQUITIES AND BONDS**

As of June 30, 2019 • Equal-Weighted Means (%)



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

Note: Analysis shows the average allocation of assets across the implementation categories for each peer group.

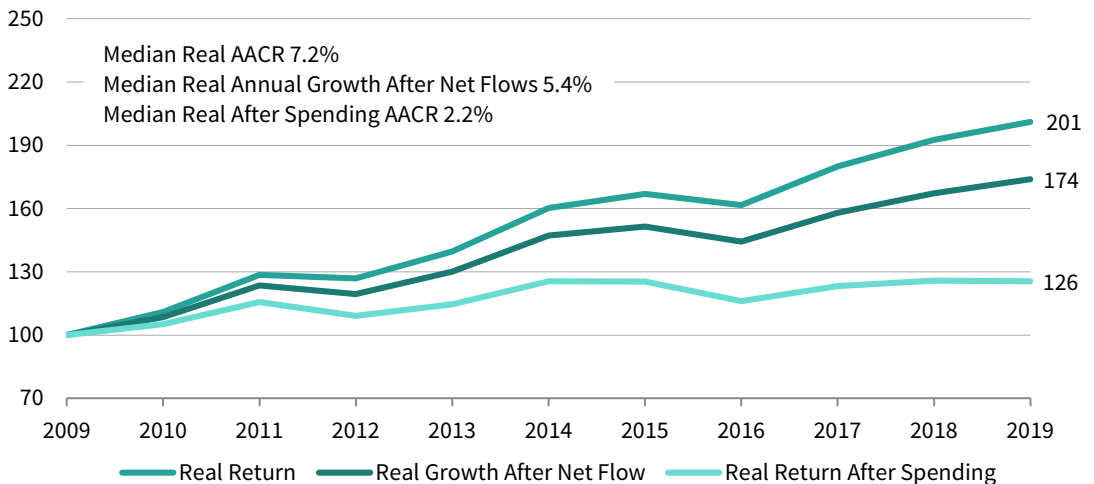
## Payout from the Long-Term Investment Portfolio

### 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 46 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 2009, the portfolio would have doubled on an inflation-adjusted basis by the end of fiscal year 2019, growing to \$201 in real dollars. After deducting the annual spending distributions from real investment performance, the investment would have grown to \$126 and experienced a much smaller growth rate in purchasing power. 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.

**FIGURE 46 CUMULATIVE DOLLAR GROWTH AFTER INFLATION, NET FLOWS, AND SPENDING**

Years Ended June 30 • Base Year 2009 = \$100 • n = 85



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

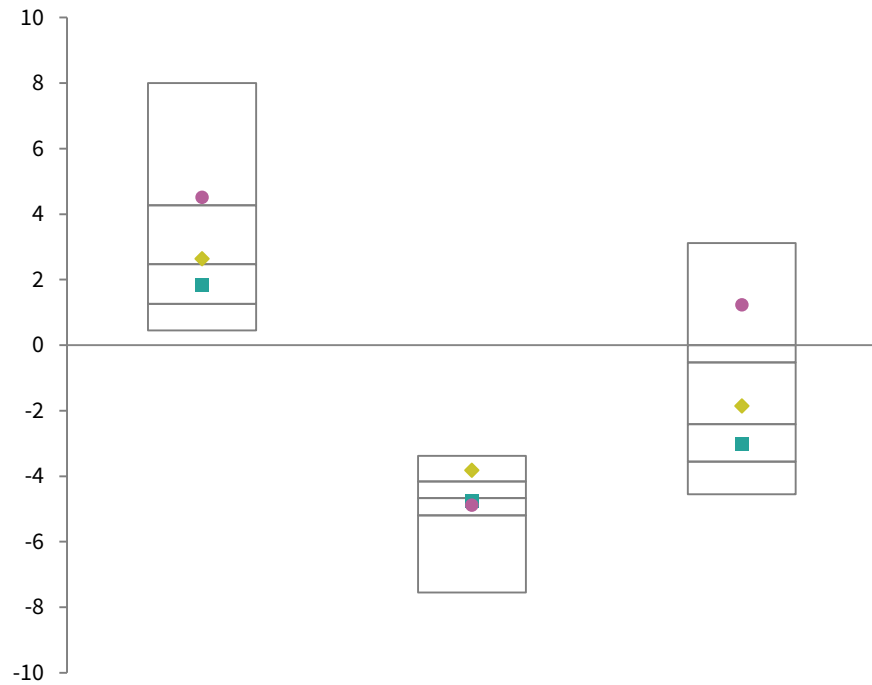
Notes: To limit the impact of outliers, median data are used for each statistic in this chart. The median real annual growth after net flows represents the actual growth in the long-term investment portfolio's market value adjusted for inflation.

The combination of the total inflows and outflows for the LTIP constitutes the net flow rate. In the same figure, the actual value of the investment, which incorporates both real investment performance and net flows, is tracked by the middle line and grew by 74% 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 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 net flow rate is calculated as a percentage of the LTIP market value at the beginning of the fiscal year. As is typically the case, the median (-2.4%) net flow rate for participants in fiscal year 2019 was negative, meaning the amount of withdrawals from the portfolio surpassed the amount of additions for the majority of respondents (Figure 47). The median outflow rate was -4.7%, while the median inflow rate was 2.5%.

**FIGURE 47 INFLOW, OUTFLOW, AND NET FLOW RATES**

Fiscal Year 2019



	Inflow Rate	Outflow Rate	Net Flow Rate
5th %ile	8.0	-3.4	3.1
25th %ile	4.3	-4.2	-0.5
Median	2.5	-4.7	-2.4
75th %ile	1.3	-5.2	-3.6
95th %ile	0.5	-7.5	-4.5
<i>n</i>	90	90	90

■ Private C&U Median

1.8

-4.8

-3.0

◆ Public C&U Median

2.6

-3.8

-1.9

● Public C&U – Affiliated Foundation Median

4.5

-4.9

1.2

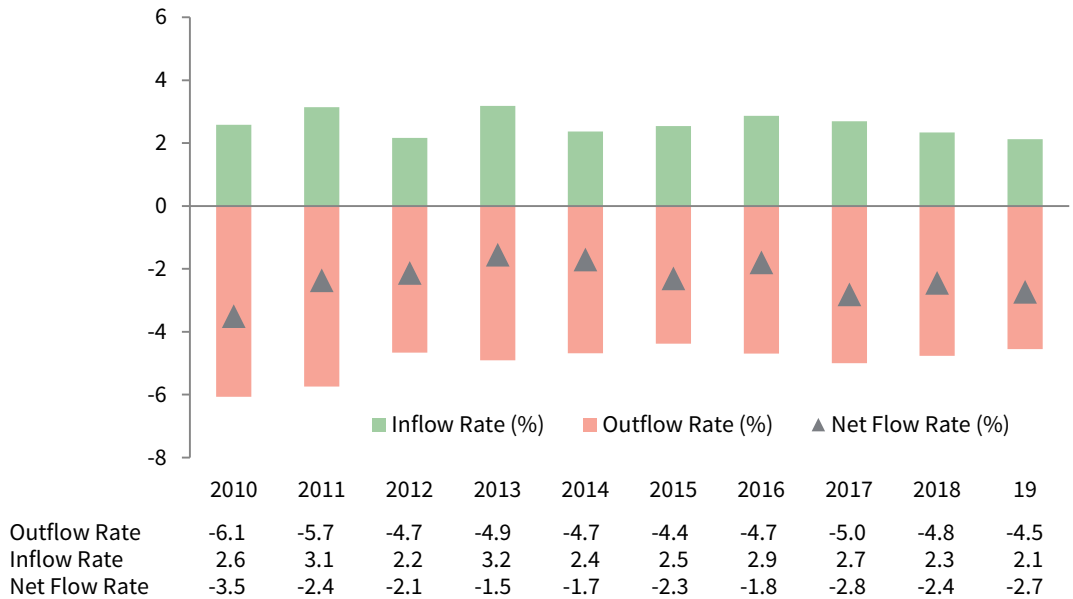
Source: College and university data as reported to Cambridge Associates LLC.

Notes: All rates are expressed as a percentage of the beginning year LTIP market value. Included in this analysis are 63 private C&Us, 12 public C&Us, and 15 public C&U-affiliated foundations.

For the 29 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 48). The median net flow rate in fiscal year 2019 was the third lowest of the last decade.

**FIGURE 48 HISTORICAL MEDIAN NET FLOW RATE**

Fiscal Years 2010–19 • n = 29



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.

**INFLOW RATE.** Endowment gifts typically represent the bulk of the inflows that an LTIP receives. On average, endowment gifts represented 67% of total inflows in fiscal year 2019 among participants. Other types of inflows can include reinvested operating surpluses, capital campaign funds, proceeds from non-portfolio asset sales, and various additions. The inflow rate among participants in fiscal year 2019 varied from 8.0% at the 5th percentile to 0.5% at the 95th percentile.

**OUTFLOW RATE.** The vast majority of outflows consist of distributions determined by the endowment spending policy. On average, spending policy distributions represented 87% of total outflows in fiscal year 2019 among participants. Other types of outflows consist of special one-time appropriations, as well as recurring annual distributions to cover administrative costs and expenses. Compared to inflow rates, the range of outflow rates among participants fell within a narrower band, from -3.4% at the 5th percentile to -7.5% at the 95th percentile.



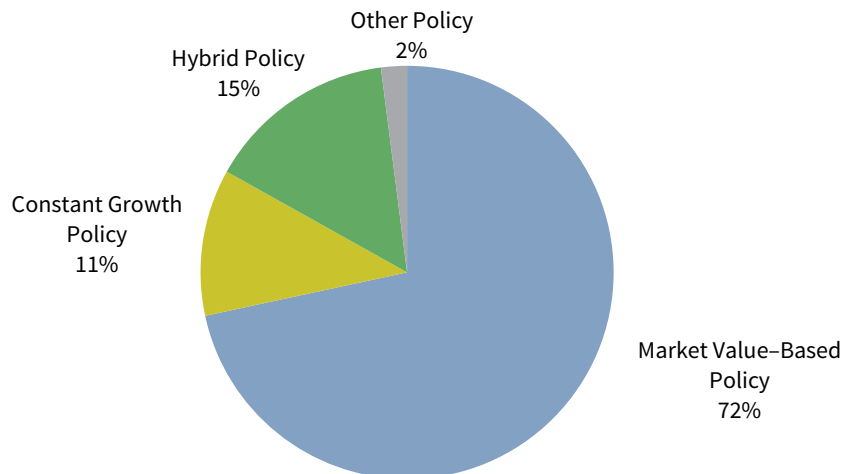
## SPENDING POLICIES

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.<sup>7</sup>

The majority (72%) of responding institutions continue to use a market value–based rule, which dictates spending a percentage of a moving average of endowment market values (Figure 49). By using a target spending rate, this rule type links the spending distribution amount directly to the endowment's market value. The annual distribution will grow in periods where portfolio values trend upward and decrease after periods where portfolio values experience significant declines. By curtailing spending after the market value declines, this rule type places an emphasis on preserving the endowment's purchasing power.

**FIGURE 49 SPENDING RULE TYPES**

Fiscal Year 2019 • n = 148



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

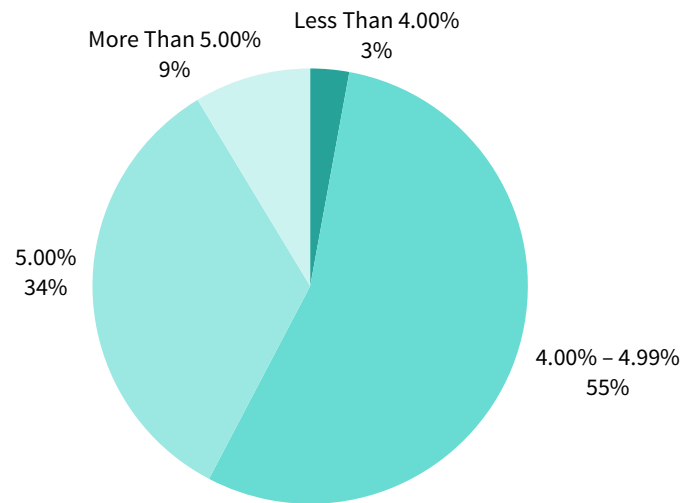
Approximately 11% of respondents use a constant growth rule. This rule type increases the prior year's spending amount by a measure of inflation and/or a prespecified percentage. Institutions tend to use this rule type when the endowment is a significant source of operating revenue and volatility in annual spending distributions is less tolerable. Though 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.

<sup>7</sup> For a more in-depth discussion on this topic, please see William Prout et al., "Spending Policy Practices," Cambridge Associates Research Report, 2019.

Another 15% of respondents use a hybrid spending rule, which 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.

**TARGET SPENDING RATES.** The most common target spending rate for market value–based rules continues to be 5%, which was cited by one-third of respondents in fiscal year 2019 (Figure 50). Approximately 55% of endowments reported a target spending rate that ranged between 4% and 4.99%. Just 9% of respondents reported a spending rate of more than 5%.

**FIGURE 50 TARGET SPENDING RATES FOR MARKET VALUE–BASED RULES**  
Fiscal Year 2019 • n = 104

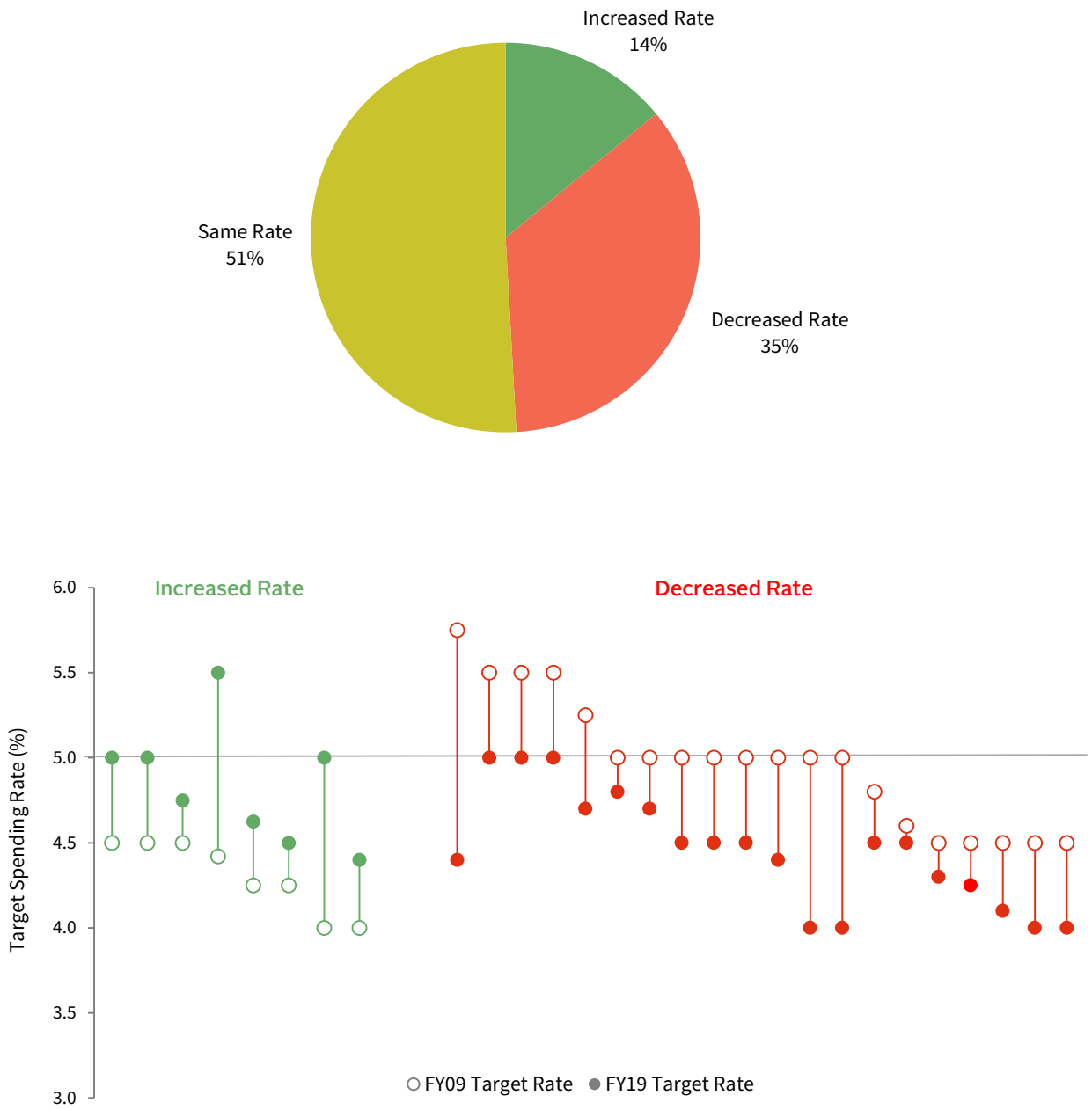


Source: College and university data as reported to Cambridge Associates LLC.

Figure 51 considers endowments that use a market value–based rule and reported spending rule data for fiscal years 2019 and 2009. Just more than half (51%) of respondents used the same target spending rate in 2019 compared to ten years prior. The remaining respondents switched to a different target rate over the course of the last decade. The percentage of endowments that decreased their rate was more than double the proportion that reported an increase (35% versus 14%).

The level of spending from ten years ago was a distinguishing characteristic when separating those that decreased their rate from those that increased their rate. Among the group of endowments that decreased their target spending rate, most were using a rate that was equal to or more than 5% in 2009. In contrast, each of the endowments that increased their spending rates were using a rate that was less than 5% in 2009.

**FIGURE 51 CHANGES IN TARGET SPENDING RATES FOR MARKET VALUE-BASED SPENDING POLICIES**  
 2019 vs 2009 • n = 57



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

Notes: This analysis reflects data for the institutions using a market value-based spending policy that also provided the target rate used in their spending calculation for fiscal year 2009. If a range was provided, the target spending rate was calculated using the midpoint of the range.

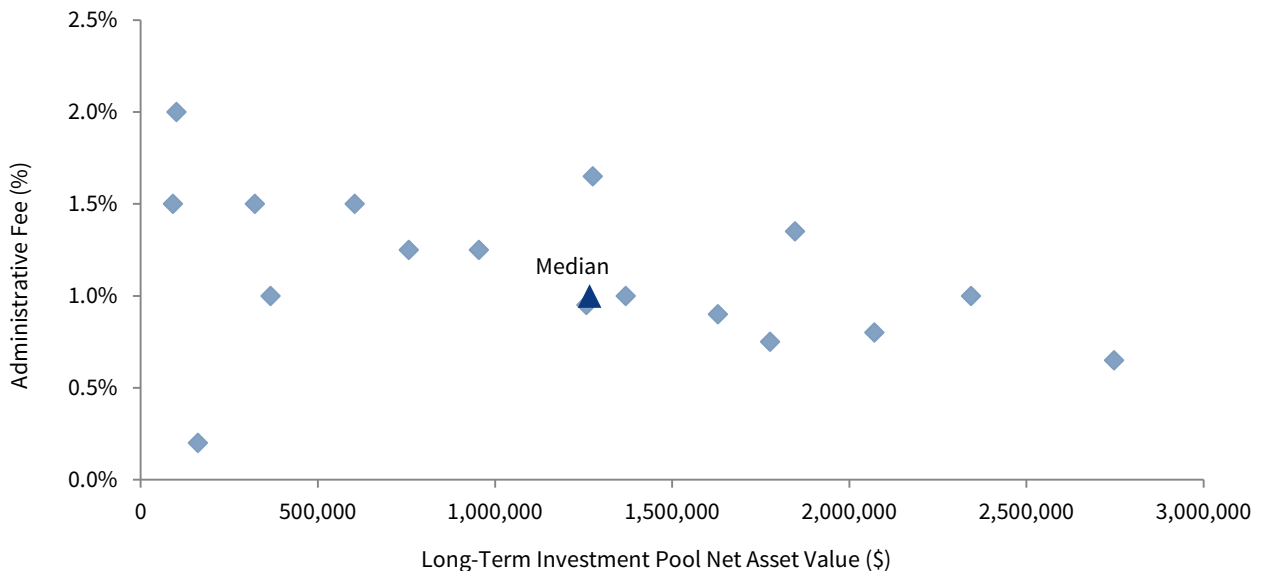
## ADMINISTRATIVE FEES FOR UNIVERSITY-AFFILIATED FOUNDATIONS

An affiliated foundation is a private entity that raises funds and can manage 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 range of fees can be attributed to what services the foundation provides and the assets under management. Our data show that as asset size increases, the total administrative fee charged against assets tends to decrease (Figure 52). The median administrative fee rate for the 18 affiliated foundations that provided data was 1.0% of assets under management.

**FIGURE 52 ADMINISTRATIVE FEES OF UNIVERSITY-AFFILIATED FOUNDATIONS**

Fiscal Year 2019 • n = 18

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.



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

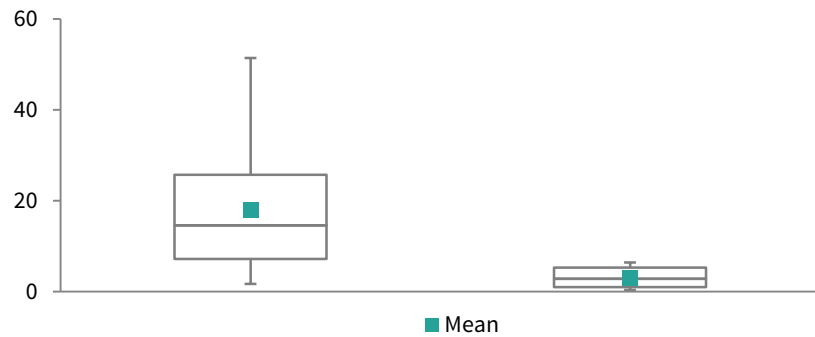
Note: The median marker is displayed where the median administrative fee for fiscal year 2019 intersects with the median LTIP market value as of June 30, 2019.

## 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 18 public institutions that provided data, support from the LTIP as a percentage of the total operating expenses averaged just 3.1% in fiscal year 2019 (Figure 53). Average support from the LTIP for private institutions was considerably higher at 17.9%.

**FIGURE 53 LTIP SUPPORT OF OPERATIONS**

Fiscal Year 2019 • Percent (%)



	Private Institutions	Public Institutions
5th %ile	51.4	6.4
25th %ile	25.7	5.2
Median	14.6	2.8
75th %ile	7.2	1.0
95th %ile	1.7	0.4
Mean	17.9	3.1
<i>n</i>	74	18

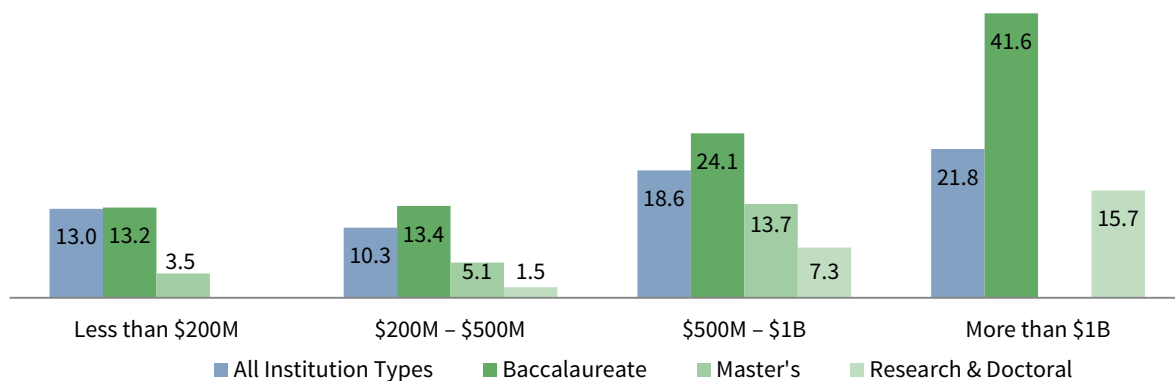
Source: College and university data as reported to Cambridge Associates LLC.

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

The range of LTIP support varies considerably among private institutions. Institutions with larger endowments tend to have a higher ratio of LTIP support than those with smaller endowments (Figure 54). Portfolios with assets greater than \$1 billion reported the highest average LITP reliance (21.8%), while those between \$200 million and \$500 million reported the lowest average (10.3%).

**FIGURE 54 LTIP SUPPORT OF OPERATIONS: PRIVATE COLLEGE AND UNIVERSITIES**

Fiscal Year 2019 • Percent (%) • n = 74



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.

The type of higher education institution also has an impact on the differences in LTIP support reported among our study's participants. The core operating structure of baccalaureate colleges is based mostly on student revenues, reflecting a mission that is focused almost exclusively on providing instruction and other services to students. The endowment's annual distribution tends to fall right behind student revenues in terms of overall contribution to the operating budget at these institutions. In contrast, research and doctoral universities have more complex enterprises that are focused on a variety of activities including education, research, and hospital services in some cases. While the endowment can still be a major source of funding to the operating budget at these institutions, it is usually a smaller piece of the overall revenue pie because it is among a broader set of revenue streams. Within each of the asset size groups in our study, the ratio of LTIP support is significantly higher for baccalaureate colleges than it is for research and doctoral universities.

### **ENDOWMENT PAYOUT COVERAGE RATIOS**

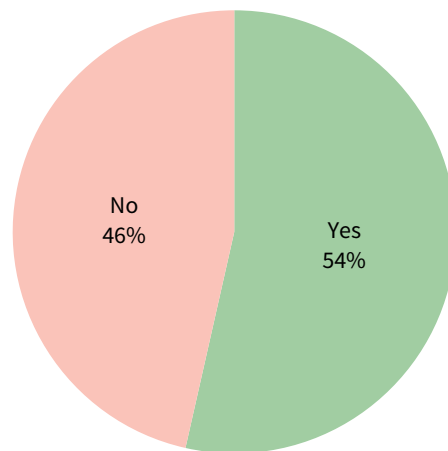
As discussed earlier in this section, the endowment spending policy distribution accounts for the vast majority of the annual outflows from the LTIP. Since most spending rules incorporate some measure of the endowment's market value, institutions can be susceptible to decreases in endowment spending following periods of market decline. Similarly, institutions may prefer to avoid liquidating certain assets at depressed prices during market bottoms. In such instances, institutions may seek to replace a portion of endowment spending or supplement it by drawing funds from other liquidity sources. Following is a discussion of two coverage metrics that compare the market value of operating funds and the amount available under lines of credit to endowment spending. While credit lines and operating funds can be used for many different purposes by an institution, the coverage ratios we show here provide hypothetical markers for colleges and universities to evaluate their endowment payout in relation to these sources of liquidity.

**OPERATING FUNDS.** More than half of the institutions (54%) that provided data on their operating funds invest a portion of those funds in the LTIP. The median percentage of operating funds invested in the LTIP was 45.1%, but this percentage varies considerably across respondents (Figure 55).

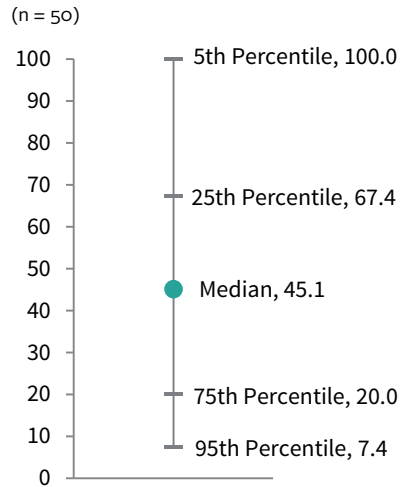
## FIGURE 55 OPERATING FUNDS

Fiscal Year 2019

### Operating Funds Invested in the LTIP (n = 92)



### Percentage (%) of Operating Funds Invested in the LTIP (n = 50)



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

There were 80 respondents that reported data on their operating funds and endowment spending policy distribution. The coverage ratio displayed in Figure 56 considers the amount of operating funds outside of the LTIP in relation to the endowment spending policy distribution. The median ratio among all respondents was 2.0. At this level, there would be enough operating funds outside the LTIP to cover two full years of endowment spending.

For institutions that rely little on the LTIP to support the operating budget, spending distributions are often lower relative to other aspects of the business model. Indeed, the ratio of operating funds outside the LTIP to the endowment spending policy distribution is generally higher among colleges and universities in this study have lower LTIP support. Institutions that have low LTIP support (5% or less) reported a median ratio of 9.9. Respondents with a moderate reliance on LTIP support reported a median ratio of 2.1, while those with a high reliance on LTIP support reported a median of 1.2.

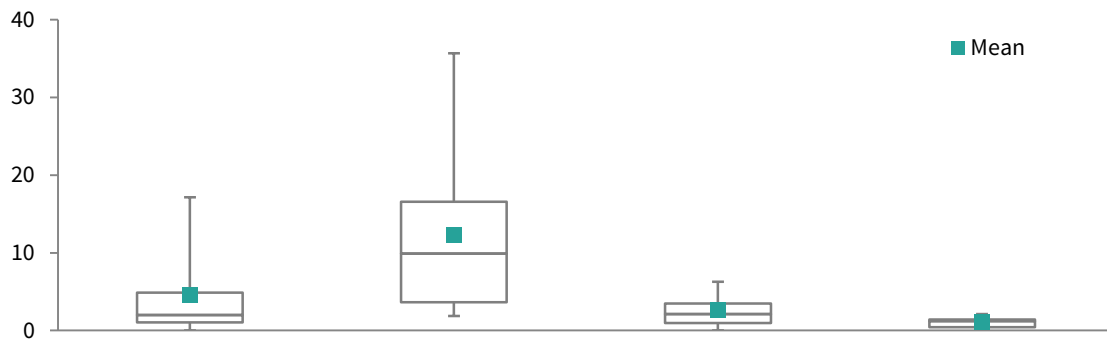
**LINES OF CREDIT.** There were 54 respondents that reported data on their line(s) of credit and endowment spending policy distribution. Among these institutions, the median ratio of available line of credit to endowment spending policy distribution was 0.8 for fiscal year 2019. A ratio less than 1.0 means that there are not enough funds available to be drawn from the credit lines to replace the entire annual endowment spending policy distribution.

Similar to the coverage ratio that focused on operating funds, this ratio also tends to be higher for institutions that have lower levels of LTIP support. Institutions that rely the least on the LTIP to support the operating budget reported a median ratio of 1.6. Respondents with a moderate reliance on LTIP support reported a median ratio of 0.7, while those with a high reliance reported a similar median ratio (0.8).

## FIGURE 56 ENDOWMENT PAYOUT COVERAGE RATIOS

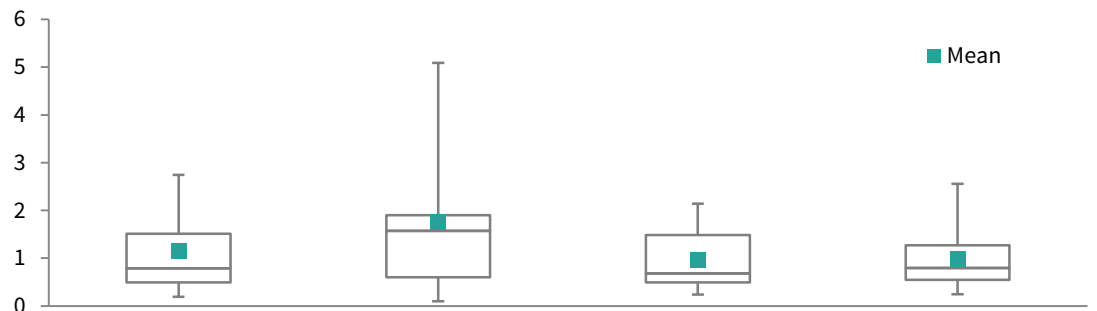
As of June 30, 2019

### Ratio of Operating Funds Outside LTIP to Endowment Spending Policy Distribution



	All Institutions	Low LTIP Support	Moderate LTIP Support	High LTIP Support
5th %ile	17.2	35.7	6.3	2.1
25th %ile	4.9	16.6	3.5	1.4
Median	2.0	9.9	2.1	1.2
75th %ile	1.1	3.7	1.0	0.4
95th %ile	0.0	1.9	0.0	0.0
Mean	4.6	12.3	2.6	1.0
<i>n</i>	80	19	33	21

### Ratio of Available Line of Credit to Endowment Spending Policy Distribution



	All Institutions	Low LTIP Support	Moderate LTIP Support	High LTIP Support
5th %ile	2.7	5.1	2.1	2.6
25th %ile	1.5	1.9	1.5	1.3
Median	0.8	1.6	0.7	0.8
75th %ile	0.5	0.6	0.5	0.5
95th %ile	0.2	0.1	0.2	0.2
Mean	1.1	1.8	1.0	1.0
<i>n</i>	54	12	25	17

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

Notes: Subgroups in this analysis are based on the proportion of the operating budget that is funded from LTIP payout. The subgroups are broken out as follows: low LTIP support, less than 5%; moderate LTIP support, 5% to 20%; and high LTIP support, greater than 20%. Available line of credit is calculated as the total amount of all credit lines net of any amounts drawn against those lines as of fiscal year end.



## Investment Office Staffing and Governance

In this section, we provide a snapshot of endowment management in 2019 and highlight relevant trends over the past year. The majority of this year's participants (120 of 164) responded to this section of our survey including 31 endowments with assets greater than \$3 billion, 34 that fall between \$1 billion and \$3 billion, 25 that fall between \$500 million and \$1 billion, and 30 less than \$500 million. Some institutions chose not to respond to every question within this section or the question was not applicable to them. The universe size for each analysis is noted in the subsequent figures.

### INVESTMENT OFFICE STAFFING AND OUTSIDE RESOURCES

The primary mission of an investment office is to assume day-to-day responsibility for the endowment and other investment assets. This mission will be defined by the set of functions that internal investment office staff will carry out or oversee. Since both the investment philosophy and the demands on the office will vary among institutions, each office will have its own unique profile. Therefore, when evaluating the current structure or anticipated growth of an investment office, it is important to consider not only the size of the asset base, but also the portfolio complexity (whether handled by internal or external resources), the secondary demands on the staff (i.e., treasury functions), the use of outside consultants or advisors, and the level of involvement by boards and committees. Both the number of internal professional investment staff and the depth of specialization required to successfully manage the asset base will fluctuate based on these characteristics.

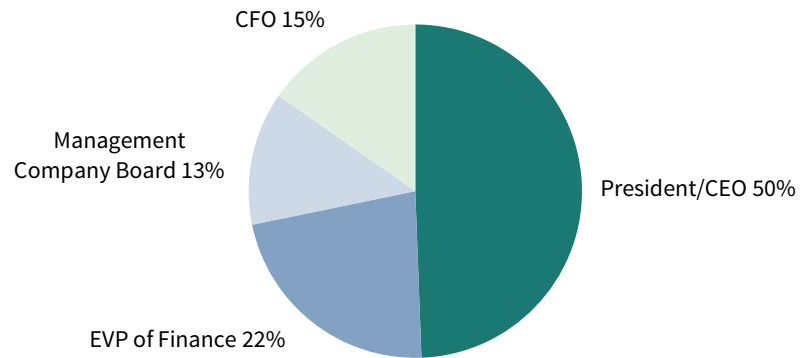
**CHIEF INVESTMENT OFFICER.** The presence of a dedicated Chief Investment Officer (CIO) correlates with asset size and is most common at larger endowments. Nearly all (98%) of the respondents with endowments greater than \$1 billion have a full-time CIO, while 72% of respondents with assets between \$500 million and \$1 billion indicated they had a CIO in place. The percentage is drastically lower for endowments less than \$500 million, where only 10% of respondents have a CIO.

Organizations with smaller asset sizes rely more heavily on outside advisors or a chief financial officer to oversee investment assets. In these cases, the chief financial officer might work closely with external investment advisors to develop an investment strategy and monitor investment managers. It is also becoming more common place for endowments of this size to outsource some or the entire portfolio to an OCIO.

Where there is a CIO, it is most common for the position to report directly to the CEO or President of the institution. Some large public universities have created legally separate management companies who are charged with managing the universities' investments. In these cases, the CIO (or CEO of the management company) will report directly to the management company board (Figure 57).

**FIGURE 57 CHIEF INVESTMENT OFFICER REPORTING LINES**

Fiscal Year 2019 • n = 85



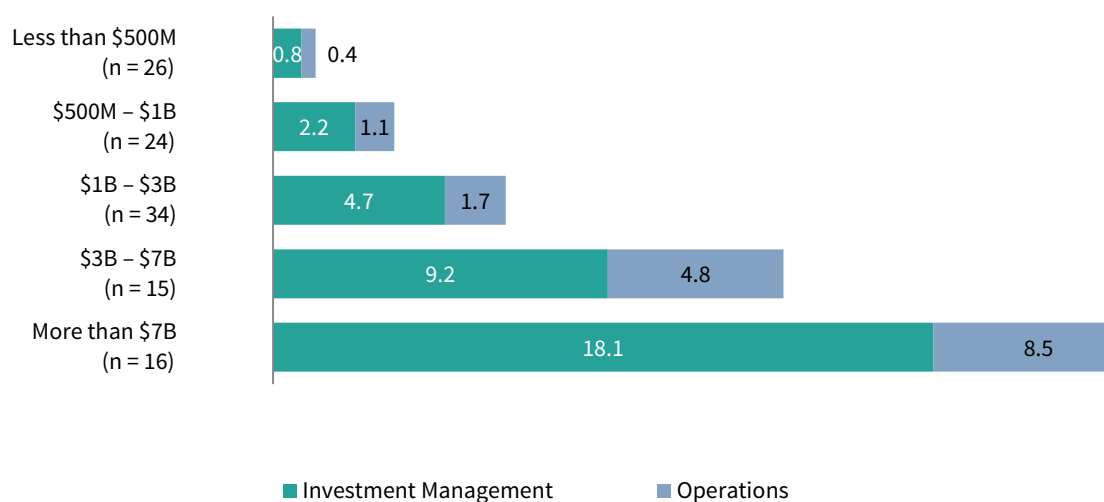
Source: College and university data as reported to Cambridge Associates LLC.

**STAFFING LEVELS.** Investment office personnel are typically divided into investment management and investment operations. Investment management staff is responsible for implementing the investment policy of the committee and can include: a CIO, risk officer(s), investment director(s), investment officer(s), portfolio manager(s), and analyst(s). Investment operations staff is responsible for the management of custodian and broker relationships, transaction processing, capital call management, endowment accounting, performance measurement, and in some cases conducting operational due diligence on investment managers.

Our survey shows that investment office staffing typically correlate with asset size. This is perhaps not surprising, as larger portfolios tend to invest with more fund managers and favor a more active investment approach, which can require more resources. On average, endowments that oversee more than \$7 billion in assets employ a total of 26.6 full-time equivalent (FTE) employees split between investment management and operations, while endowments with assets between \$3 billion and \$7 billion are roughly half the size at 14.0 FTE (Figure 58). Endowments less than \$1 billion have much smaller in-house investment resources (if any) and use outside professionals to manage or assist in managing the investment portfolio.

### FIGURE 58 AVERAGE STAFFING LEVELS

Fiscal Year 2019 • Number of Full-Time Equivalents (FTEs)



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

Personnel consisted of a mixture of senior-, mid-, and junior-level positions. Senior investment professionals typically carry the title of Investment Director or Managing Director and have more than ten years of professional experience. Mid-level professionals can hold the titles of Investment Officer or Associate and bring five to ten years of experience. Junior-level positions are usually recent graduates or those with a few years of experience. Junior positions usually carry the title of Investment Analyst or Associate. Figure 59 provides the average FTEs by asset size and position levels for investment management and operations positions.

### FIGURE 59 AVERAGE INVESTMENT STAFF BY FUNCTION

Fiscal Year 2019 • Number of Full-Time Equivalents (FTEs)

	Investment Management			Investment Operations		
	Senior	Mid	Junior	Senior	Mid	Junior
More than \$7B	7.2	5.3	5.9	1.3	2.7	4.8
<i>n</i>	15	14	15	14	15	16
\$3B – \$7B	2.9	3.1	3.7	1.0	1.8	3.0
<i>n</i>	15	9	13	11	14	12
\$1B – \$3B	1.9	1.9	1.8	0.9	1.0	1.4
<i>n</i>	27	12	27	12	20	18
\$500M – \$1B	1.3	1.0	1.2	0.5	0.9	0.9
<i>n</i>	12	8	10	6	16	9
Less than \$500M	0.8	0.5	0.7	0.4	0.4	0.5
<i>n</i>	7	2	8	4	8	9

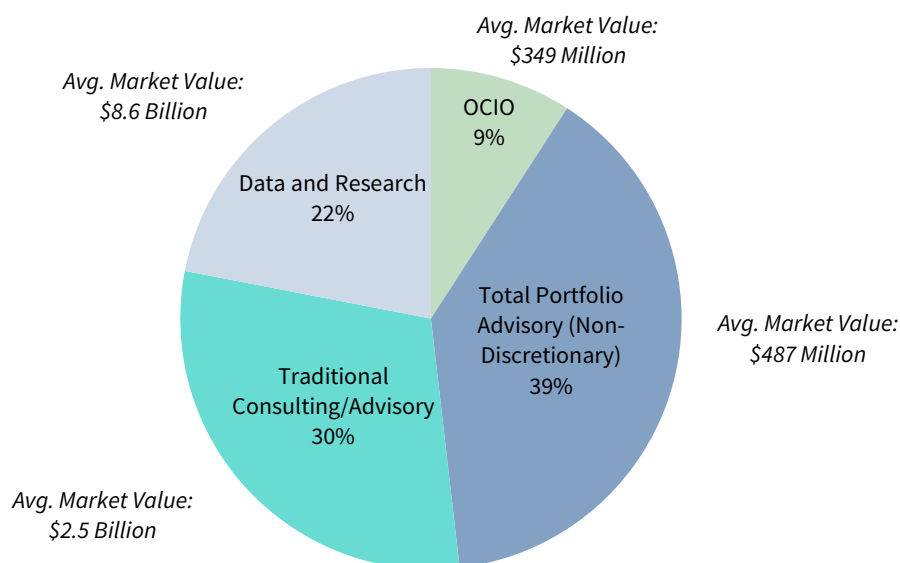
Source: College and university data as reported to Cambridge Associates LLC.

Notes: Office leadership positions (CFO/CIO), IT, and Legal support are not included in the analysis. Only institutions with personnel at the specific staffing level are included in each category. Therefore, the sum of the personnel across each category will not equal the total investment office FTEs.

**RELIANCE ON OUTSIDE ADVISORS AND CONSULTANTS.** Endowments engage external advisors and consultants in varying degrees and across a wide variety of functions. Based on survey responses and our understanding of how each survey participant engages with CA, Figure 60 broadly illustrates how the 164 participants in this study work with outside advisors or consultants. Endowments, with assets less than \$1 billion rely more heavily on external advisors to manage or help manage their investment portfolios, while larger endowments will seek outside support in the form of research, data, or asset class specialization.

**FIGURE 60 USE OF EXTERNAL ADVISORS AND CONSULTANTS**

Fiscal Year 2019 • n = 164



Source: College and university data as reported to Cambridge Associates LLC and CA's service contract records.

Among study participants, 9% use CA for discretionary portfolio management services. Also known as OCIO, this management model allows institutions to fully delegate portfolio management decision making to an outside firm. These firms are accountable for portfolio strategy, implementation, day-to-day management, and operations. Managing the portfolio within agreed upon policy guidelines, the outsourced investment team makes manager selection, manager termination, tactical asset allocation, and portfolio rebalancing decisions.

Of institutions in our study, 39% use advisors for non-discretionary portfolio management services for the total endowment. These institutions work with an outside team of investment professionals who provide day-to-day oversight of their portfolios, while retaining final decision making on portfolio investments. This model provides resources and expertise to contribute to portfolio management alongside an institution's staff.

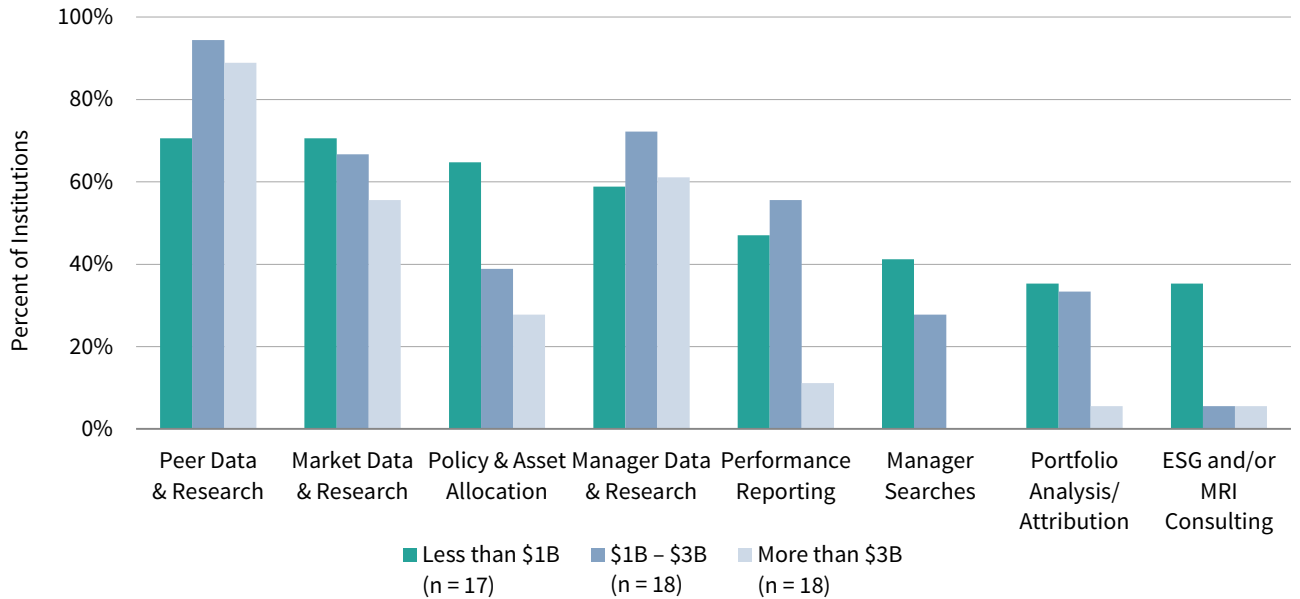
Of participants, 22% use outside support for research, manager, peer, and benchmarking data. These endowments tend to be larger and have built their own internal investment teams to manage their portfolios. The average market value of endowments using consultants in this fashion is \$8.6 billion.

The remaining 30% of survey participants use external resources for a range of traditional consulting services, including asset allocation reviews, manager searches, alternative assets management, ESG/MRI consulting, and performance reporting.

Figure 61 examines the range of services other than portfolio management that are most commonly used by institutions of different sizes. Based on survey responses, smaller endowments rely more heavily on external advisors for policy and asset allocation, performance reporting, and manager searches than the largest endowments. Reliance on research and data was more consistent across all asset sizes.

**FIGURE 61 USE OF EXTERNAL ADVISORS AND CONSULTANTS: TYPES OF SERVICES**

Fiscal Year 2019 • n = 53 • Percent of Institutions (%)



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

Note: Analysis excludes institutions that use advisors for OCIO and non-discretionary portfolio management, as the above services are included in those types of arrangements.

## GOVERNANCE

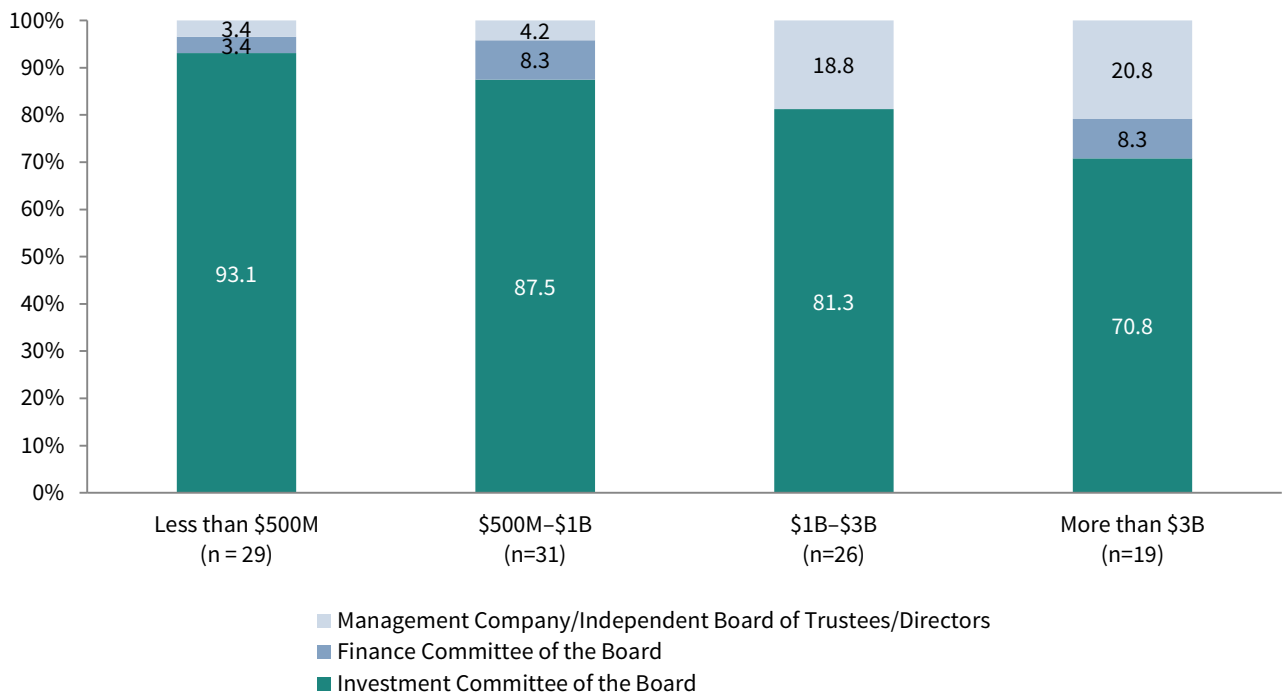
Good governance is one key factor to a successful investment program. To create the conditions for good governance, endowments should assess whether they have in place the appropriate model for portfolio oversight and management, are upholding their fiduciary responsibilities, and are learning about peer best practices in committee structure, process, and policies.

**GOVERNING BODY/OVERSIGHT COMMITTEE.** Regardless of endowment size, an investment committee of the board most often has oversight over the investment office and/or outside advisors who manage the portfolio. In much smaller numbers, other governing bodies cited by respondents were a finance committee of the board, and management company/independent board of trustees/directors (Figure 62).

Some of the largest university endowments have established legally separate investment management companies, which have their own board of directors. In these cases, the management company's board typically has some overlap with that of the university. Among the more than \$3 billion cohort, 21% have a management company board in place.

**FIGURE 62 GOVERNING BODY OF OVERSIGHT COMMITTEE BY ORGANIZATION TYPE**

Fiscal Year 2019 • Percent of Institutions (%)



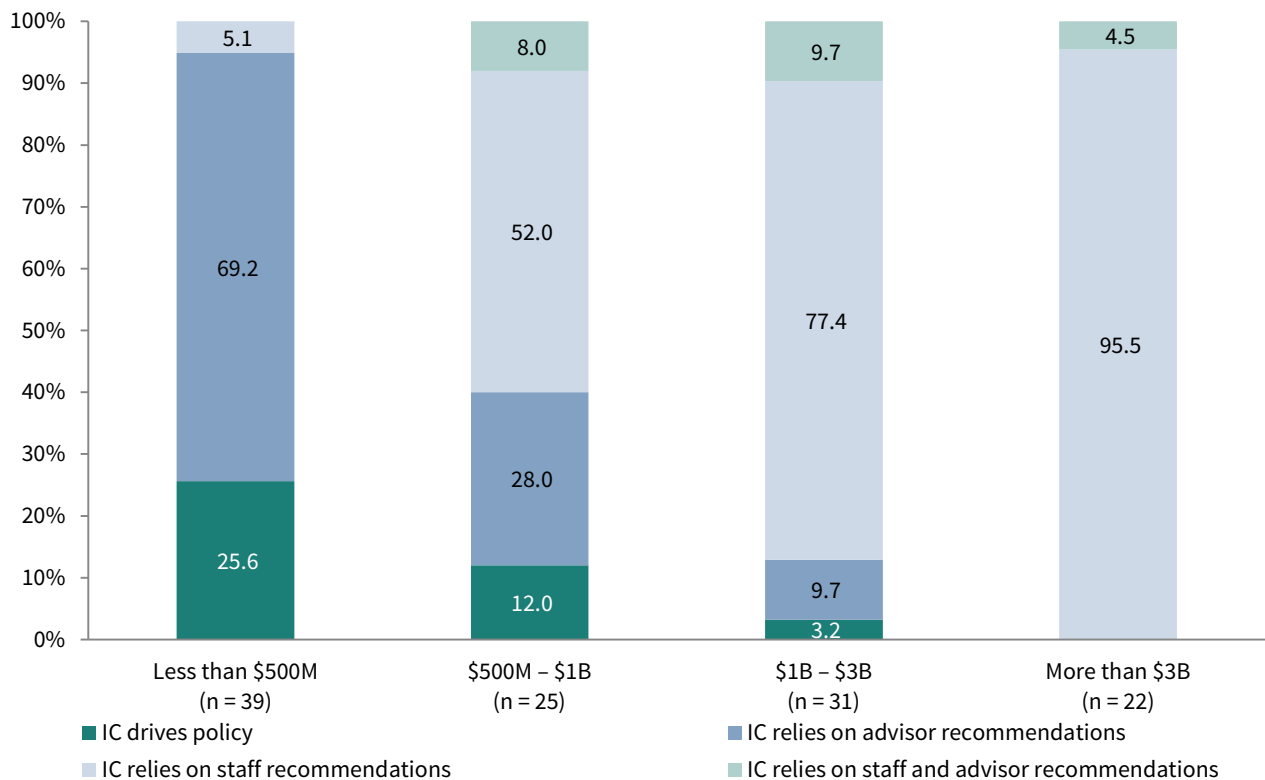
Source: College and university data as reported to Cambridge Associates LLC.

**DECISION-MAKING RESPONSIBILITY.** To help quantify the dynamic between the governing body (hereafter referred to as simply investment committee) and those managing the endowment (internal investment office or outside advisor), we asked who possessed decision-making responsibility for four integral investment functions: asset allocation policy development, portfolio rebalancing, manager selection, and manager termination. The resulting data show certain trends in the balance of authority between investment committees, staff, and advisors.

For endowments greater than \$1 billion, the majority of asset allocation policy is developed by committees acting on staff recommendations (Figure 63). Endowments less than \$500 million depend far more on the recommendations of outside advisors or investment committees driving policy autonomously. The investment committee’s role in portfolio rebalancing is steadily diminished as endowment size rises, with total staff discretion on rebalancing decisions most common for endowments more than \$500 million (Figure 64).

**FIGURE 63 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: ASSET ALLOCATION POLICY DEVELOPMENT**

Fiscal Year 2019 • Percent of Institutions (%)

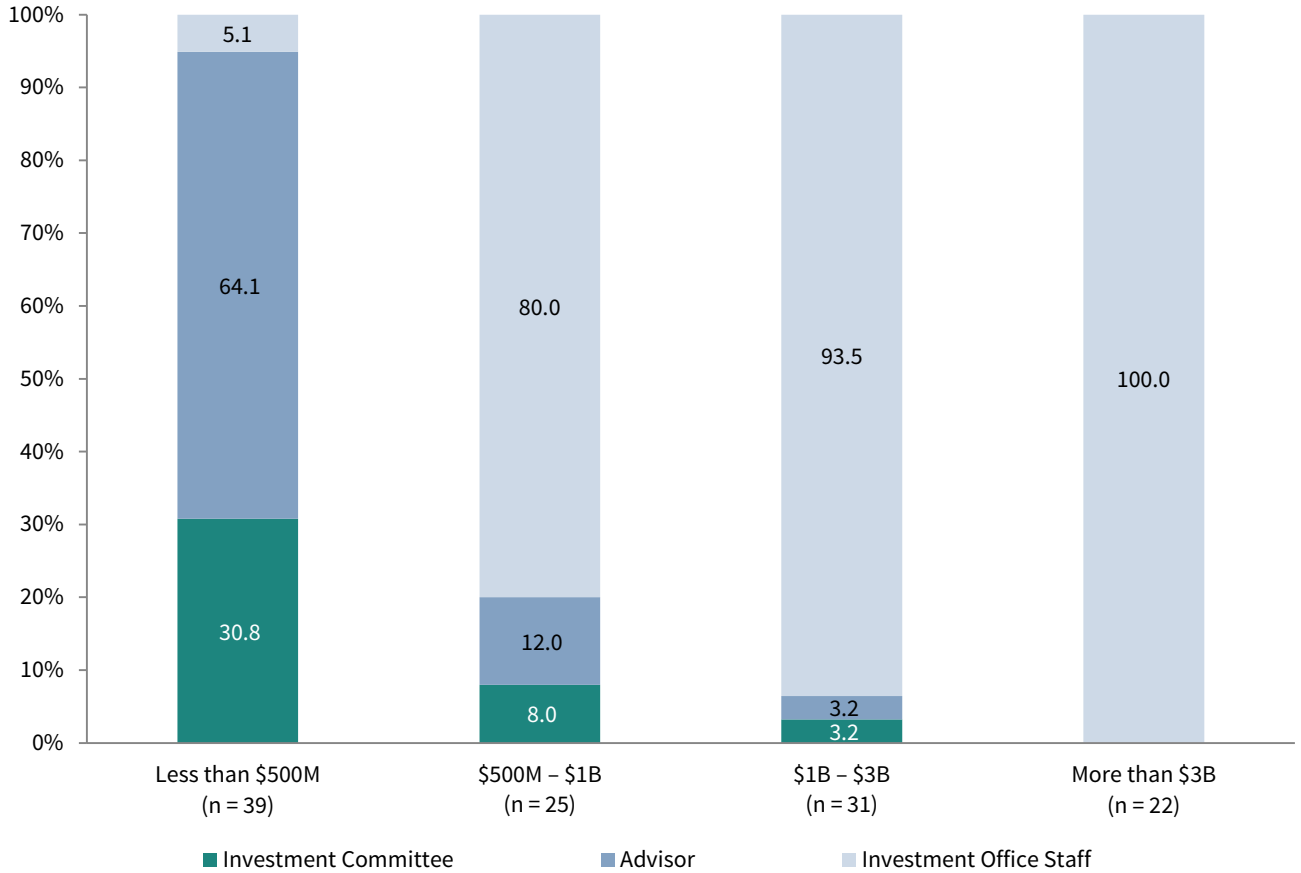


Source: College and university data as reported to Cambridge Associates LLC.

Note: Investment Committee (IC) is shorthand for governing body.

**FIGURE 64 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: PORTFOLIO REBALANCING**

Fiscal Year 2019 • Percent of Institutions (%)



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

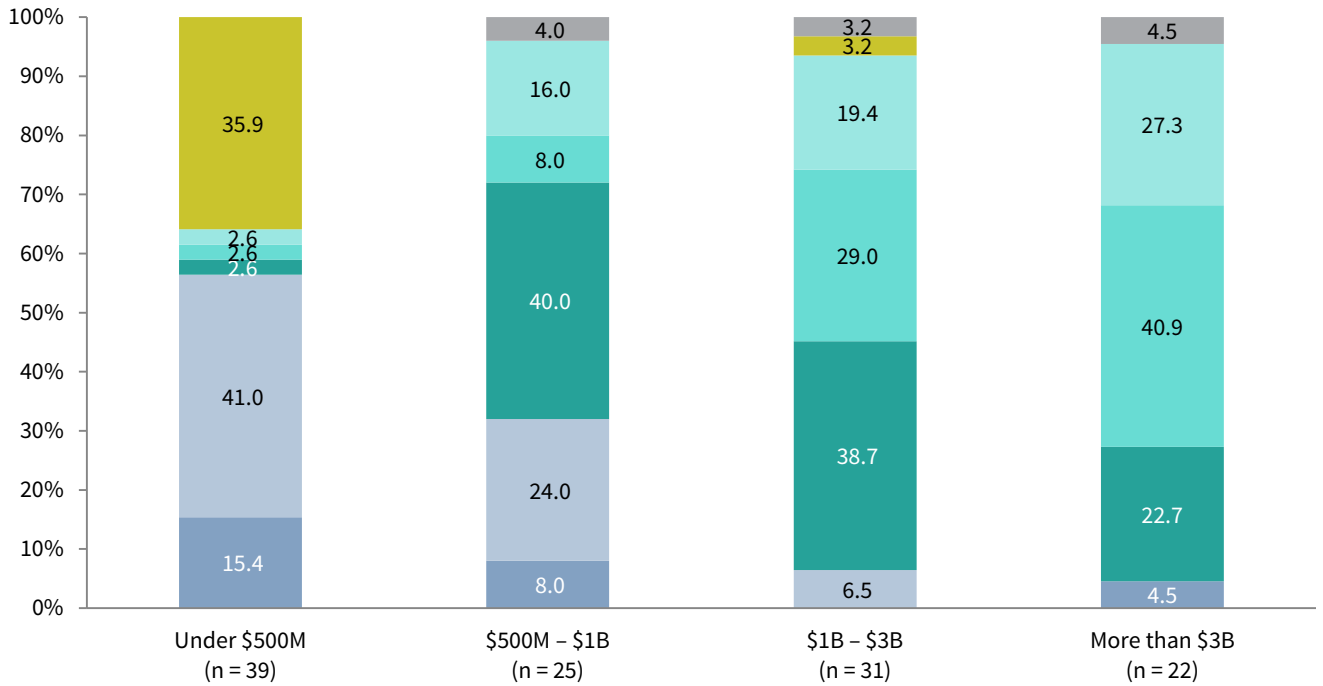
The process of manager selection and termination also involves committees, advisors, and staff, but with different degrees of discretion (Figure 65). Advisors play a significant role in both selection and termination of investment managers at endowments less than \$500 million, with 36% delegating full discretion to an OCIO to make hiring and firing decisions. Among the investment committees involved in manager selection, the predominant role is to approve managers, but not interview them. Staff recommendations are increasingly relied upon from \$500 million to \$3 billion and staff discretion (with and without guidelines) accounts for most of the decision making at endowments greater than \$3 billion.



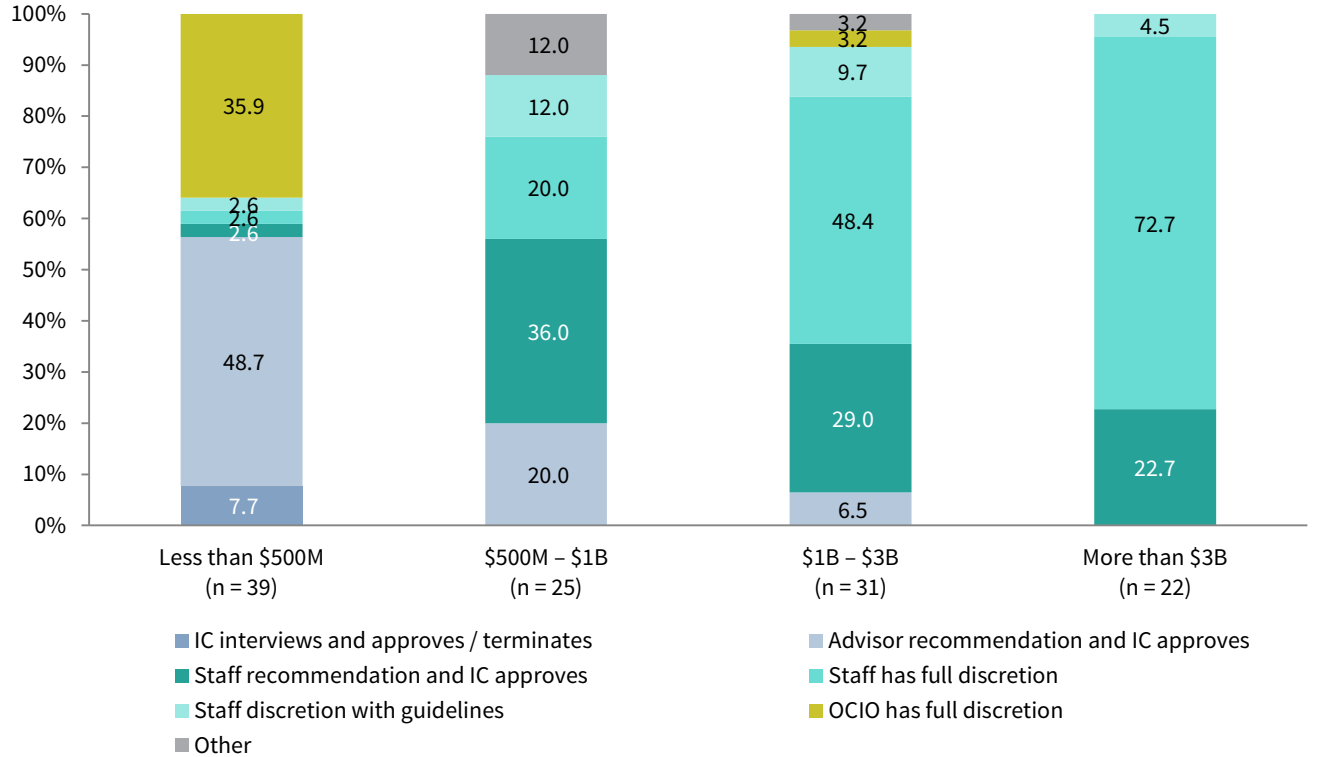
**FIGURE 65 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: MANAGER SELECTION AND TERMINATION**

Fiscal Year 2019 • Percent of Institutions (%)

**Manager Selection**



**Manager Termination**



- IC interviews and approves / terminates
- Staff recommendation and IC approves
- Staff discretion with guidelines
- Other
- Advisor recommendation and IC approves
- Staff has full discretion
- OCIO has full discretion

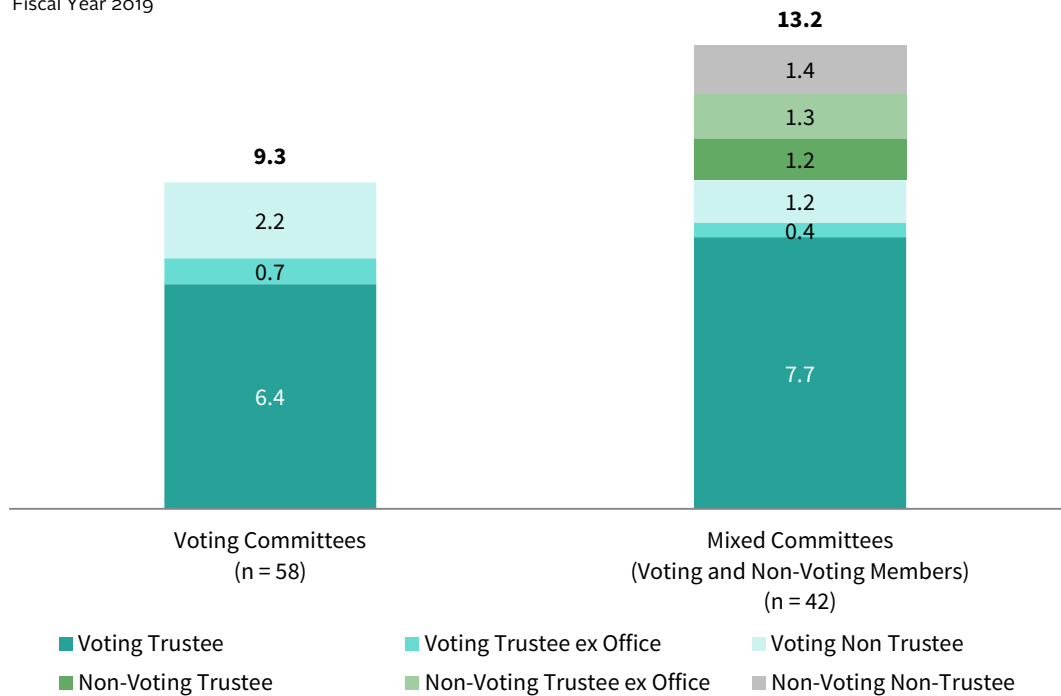
Source: College and university data as reported to Cambridge Associates LLC.

Notes: Investment Committee (IC) is shorthand for governing body. "Other" includes IC approval based on staff and advisor recommendations.

**INVESTMENT COMMITTEE COMPOSITION.** Two types of committees emerged from our survey data. We found that just more than half of investment committees (58 of 100) are fully composed of voting members, while the remaining investment committees also include nonvoting member. Although mandatory voting encourages accountability, there can be good reasons to include nonvoting members. Organizations should weigh the benefit of these advisory members against the prospects of an oversized committee.

The average size of voting committees is 9.3 members, which on average consist of 6.4 trustees, 2.2 non-trustees, and 0.7 *ex officio* members. Examples of *ex officio* committee members include the president of the college or chairman of the board or of another committee, whose investment committee membership is part of the official duties of the position. Committees including non-voting members averaged 13.2 people (Figure 66).

**FIGURE 66 PROFILE OF INVESTMENT COMMITTEE MEMBERS**  
Fiscal Year 2019

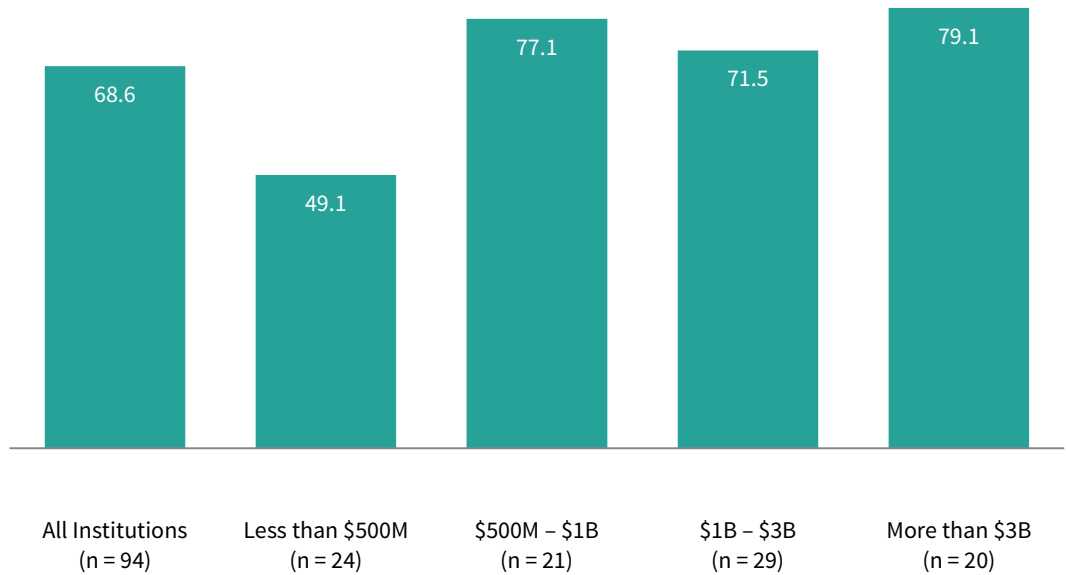


Source: College and university data as reported to Cambridge Associates LLC.  
Note: Investment Committee is shorthand for governing body.

Investment committee members can bring a diverse set of experiences to assist in overseeing institutional investment assets. At least some committee members should have professional, institutional investment experience—not just experience managing their own money—and if the organization lacks sufficient trustees with such qualifications, many times the committee includes non-trustee members with investment expertise to fulfill this role.

On average, respondents indicated that 69% of their committee members have investment experience. This composition does change when viewed by asset size. Organizations with assets less than \$500 million reported an average of 49% of committee membership having professional investment experience. Each of the asset size groups greater than \$500 million had an average of 72% or higher (Figure 67).

**FIGURE 67 PERCENT OF INVESTMENT COMMITTEE WHO ARE INVESTMENT PROFESSIONALS**  
Fiscal Year 2019 • Percent of Institutions (%)



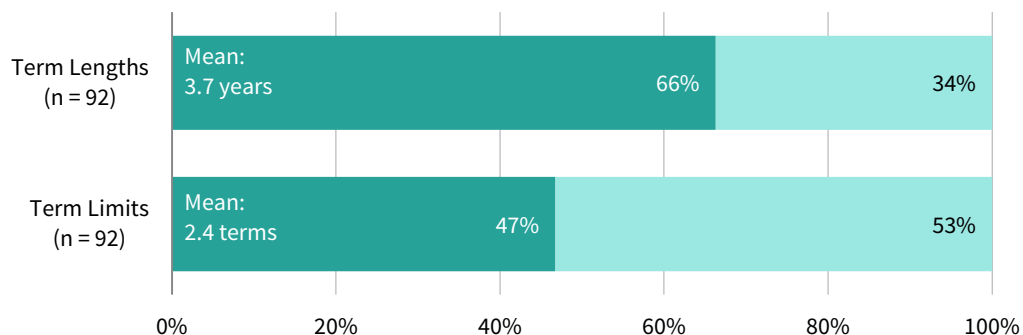
Source: College and university data as reported to Cambridge Associates LLC.

**COMMITTEE TERM LENGTH AND LIMITS.** Setting guidelines for terms can help manage member turnover and mitigate committee stagnation. Responses regarding term length and limit policy indicated that term length guidelines are generally more common than term limits: for committee members, term lengths (an average of 3.7 years) were specified by 66% of endowments, while term limits (an average of 2.4 terms) were mandated by a smaller percentage of 47% of institutions (Figure 68). Term length and limit policies applied similarly to committee chairmanship. The lack of policies around term limits and lengths at some endowments could suggest that these institutions value the stability of a long-standing committee and view turnover as disruptive to long-term investment policy.

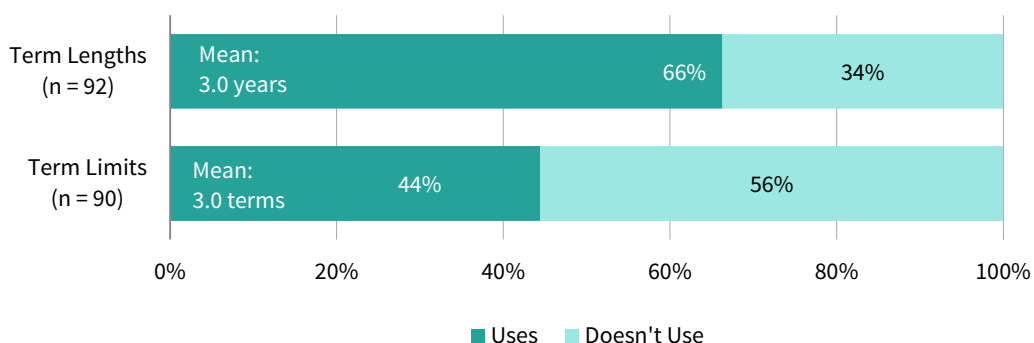
**FIGURE 68 INVESTMENT COMMITTEE TERM LENGTHS AND LIMITS**

As of June 30, 2019

**Investment Committee Member**



**Investment Committee Chair**



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

**INVESTMENT COMMITTEE MEETINGS.** Our survey responses show that the majority of endowments (71%) hold quarterly meetings. Few institutions hold meetings on a more or less frequent schedule, but ad hoc conference calls are a frequently cited occurrence. Regular attendance of investment committee members is critical to proper oversight. Participants indicated that average attendance was strong at 85%.

**REIMBURSEMENT AND CONFLICT OF INTEREST POLICY.** Only 22% of respondents provide committee members with expense reimbursement, which generally includes travel-related and other out-of-pocket expenses. Just 2% of respondents offer their committee members some sort of compensation other than expense reimbursement. This compensation most often comes in the form of charitable gifts and honorariums.

Except for one respondent, all participants have a conflict of interest policy for investment committee members. These policies require disclosure (43%), recusal (24%), or both disclosure and recusal (33%). Policies may differ by asset class, with institutions requiring disclosure for long-only equity conflicts and recusal for private equity conflicts, for example. The vast majority of institutions (90%) also have a conflict of interest policy in place for investment staff. Of interest policies, 52% center on disclosure only, while 28% require disclosure and recusal. ■

## Notes on the Data

### DATA COLLECTION AND RESULTS

This report includes data for 164 colleges and universities. Twenty-one are public institutions, 28 are foundations affiliated with public institutions, and 115 are private institutions. All participants provided investment pool data as of June 30, 2019. The notation of  $n$  denotes the number of institutions included in each analysis.

The 164 participants in this study reported long-term investment portfolio (LTIP) assets as of June 30, 2019, totaling \$470 billion. The mean LTIP size was \$2.9 billion and the median was \$796.7 million.

Ten participants have an LTIP size less than \$100 million, while 69 have an asset size greater than \$1 billion. The remaining 85 participants have an LTIP size between \$100 million and \$1 billion. The participants with LTIP sizes greater than \$1 billion controlled 92% of the aggregate LTIP assets.

### 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. ■

## PARTICIPANTS

The University of Alaska Foundation  
Allegheny College  
American Coll of Greece & American Univ of Greece  
American University  
Amherst College  
University of Arkansas Foundation Inc.  
College of The Atlantic  
Baylor University  
Bentley University  
Berkeley Endowment Management Company  
Bethune-Cookman University  
Boston College  
Boston University  
Bowdoin College  
Brown 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  
University of Cincinnati  
Claremont McKenna College  
Clarkson University  
Clemson University Foundation  
Colby College  
Colgate University  
Columbia University  
Connecticut College  
Cooper Union for the Advancement of Science & Art  
Cornell University  
College For Creative Studies  
Dartmouth College  
Davidson College  
University of Delaware  
Denison University  
Duke University  
Duquesne University  
Emerson College  
Emory & Henry College  
Emory University  
Florida International University Foundation, Inc.  
Florida State University Foundation Inc.  
University of Florida Investment Corporation  
Georgia Tech Foundation Inc.  
Gettysburg College  
Goucher College  
Grand Valley State University  
Grinnell College  
Hampton University  
Harvard Management Company, Inc.  
Haverford College  
University of Hawaii Foundation  
Hollins University  
College of the Holy Cross  
Hope College  
Houston Baptist University  
University of Houston System  
Howard University  
University of Idaho Foundation, Inc.  
University of Illinois Foundation  
Indiana University Foundation  
Iowa State University Foundation  
Johns Hopkins University  
Kalamazoo College  
University of Kentucky  
KU Endowment  
Lafayette College  
Lebanese American University  
Lehigh University  
Lewis and Clark College  
Louisiana State University Foundation  
University of Louisville  
Lycoming College  
Macalester College  
University of Maine Foundation  
Maryland Institute College of Art  
University of Memphis Foundation  
MIT Investment Management Company  
Mercy College  
University of Miami  
University of Michigan  
Michigan State University  
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  
The University of Oklahoma Foundation, Inc.  
Pace University  
University of the Pacific  
University of Pennsylvania  
Pennsylvania State University  
Pepperdine University  
University of Pittsburgh  
Pomona College  
Princeton University  
Providence College  
Purdue Research Foundation  
Randolph-Macon College  
Reed College  
Rensselaer Polytechnic Institute  
University of Rhode Island Foundation  
Rice University  
University of Rochester  
The Rockefeller University  
University of San Diego  
San Francisco State University Foundation  
Santa Clara University  
Scripps College  
Seattle University  
Simmons College  
Soka University of America  
University of Southern California  
Southern Methodist University  
Southern New Hampshire University  
Spelman College  
Stanford University  
St. Lawrence University  
University of St. Thomas  
Swarthmore College

## PARTICIPANTS (CONT)

University of Tennessee  
Texas Lutheran University  
Texas State Univ. Dev. Fdn.  
The University of Texas Investment Management Co.  
University of Toronto c/o UTAM (returns in CAD)  
Trinity University  
Tulane University  
The UCLA Foundation  
UNC Management Company, Inc.  
UNCG Endowment Partners, LP  
Union Theological Seminary  
Vanderbilt University  
University of Vermont & State Agricultural College  
Villanova University  
University of Virginia Investment Management Co.  
Virginia Tech Foundation  
Washburn University Foundation  
University of Washington  
Washington College  
Washington and Jefferson College  
Washington University in St. Louis  
Webb Institute  
Wellesley College  
Wesleyan University  
Western New England University  
Wichita State University Foundation  
William & Mary Foundation  
Williams College  
Yale University  
Yeshiva University

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