ANNUAL REVIEW OF ENDOWMENTS

FISCAL YEAR 2020

CAMBRIDGE ASSOCIATES

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This study is based on a survey that Cambridge Associates (CA) administers annually to our endowment clients. The report that follows summarizes returns, asset allocation, and other investment-related data for 312 institutions for the fiscal year ended June 30, 2020. Included in this year's report are commentary and exhibits that are spread across six separate sections.

Our **INVESTMENT PORTFOLIO RETURNS** section highlights performance results for select trailing periods. 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 is an overview on how methodologies for net reporting and incorporating private investments can vary among institutions when calculating performance.

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. This and other related topics are summarized in the **INVESTMENT POLICY** section.

The **PORTFOLIO ASSET ALLOCATION** section looks back at changes over the last decade and incorporates data on target asset allocations to lend insights 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 average allocations to private equities will likely continue to increase in future years.

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

Meanwhile, the **INSTITUTIONAL SUPPORT** section contains analyses that highlight how much nonprofit institutions rely on their endowments to support their annual operating budgets. Also included in this section are exhibits on spending policies, portfolio inflows and outflows, and operating funds.

Finally, our **INVESTMENT OFFICE STAFFING AND GOVERNANCE** section of the report 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 utilize outside advisors/consultants and who has decision rights for asset allocation policy development and manager selection.

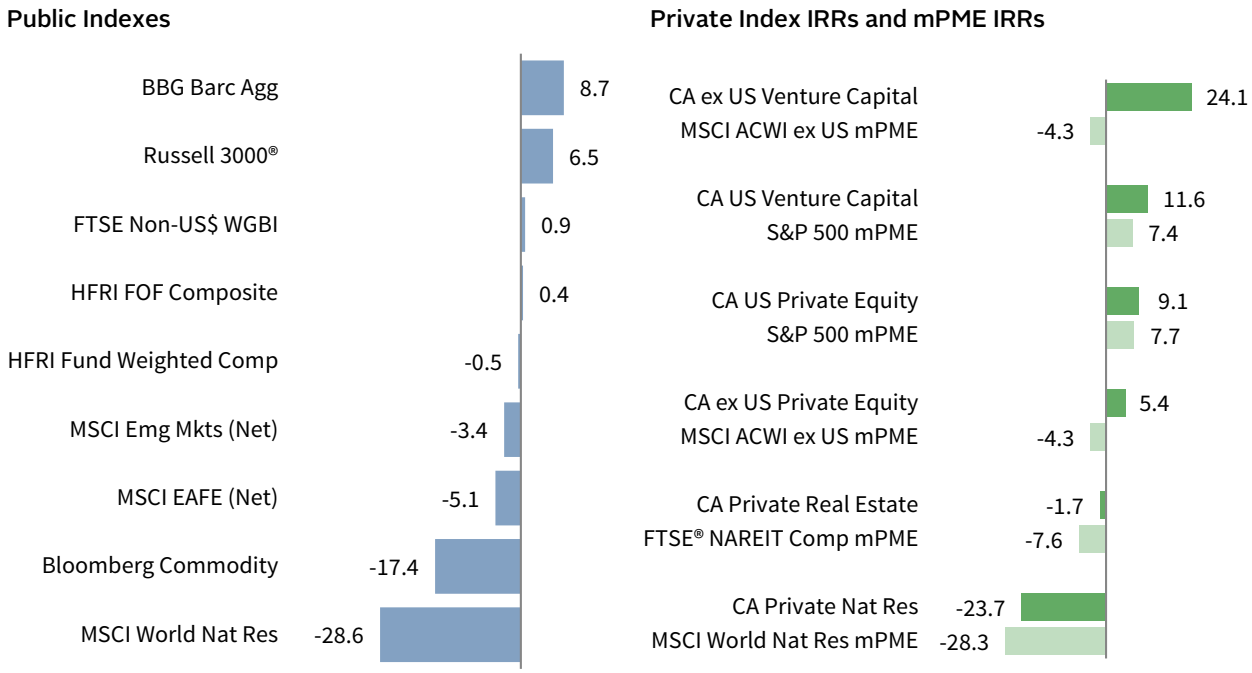
Section 1: Investment Portfolio Returns

RETURNS IN FISCAL YEAR 2020

The effects of the COVID-19 pandemic were felt across the entire investment landscape during fiscal year 2020. Public equity markets suffered a steep downturn as the pandemic began to spread globally, but then staged a remarkable rebound in the last quarter of the fiscal year. The overall US stock market was up for the fiscal year, while most global ex US equity markets finished in the red. Factoring in strong performance from US investment-grade fixed income, a simple portfolio consisting of a broad-based public equity index and a US aggregate bond index outperformed many endowments in 2020.

The performance impact endowments realized from diversifying beyond a simple stock/bond portfolio was mixed in fiscal year 2020. Bright spots were private equity and venture capital (PE/VC) where the indexes tracked by Cambridge Associates outperformed their modified public market equivalent (mPME) benchmarks (Figure 1). In contrast, it was a brutal year for natural resources–related investments with declines of near 20% or more common in both the public and private markets. Hedge fund returns were muted for the fiscal year, with the broad-based HFRI indexes essentially reporting flat performance.

FIGURE 1 1-YR INDEX RETURNS
As of June 30, 2020 • Percent (%)

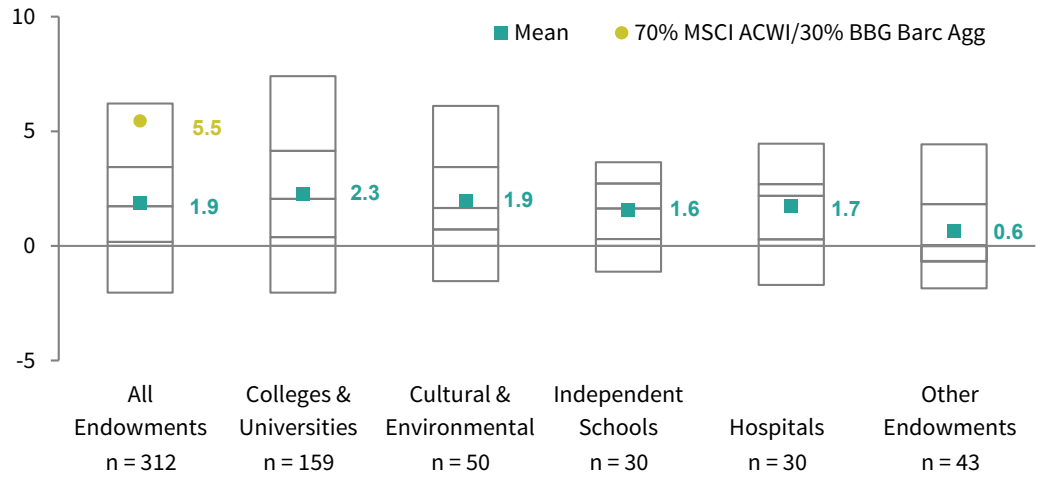


Sources: Index data are provided by Bloomberg Index Services Limited, Cambridge Associates LLC, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., MSCI Inc., the National Association of Real Estate Investment Trusts, Standard & Poor's, and Thomson Reuters Datastream. MSCI data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

The average return for participating endowments in fiscal year 2020 was 1.9% (Figure 2). A simple benchmark consisting of 70% MSCI All Country World Index (ACWI) and 30% Bloomberg Barclays Aggregate Bond Index returned 5.5% and would have landed in the top decile of the overall participant group. Of the various types of endowments in this study, colleges and universities reported the highest average return (2.3%), followed by cultural and environmental institutions (1.9%).

FIGURE 2 FISCAL YEAR 2020 TOTAL RETURN SUMMARY

Trailing 1-Yr as of June 30, 2020 • Percent (%)



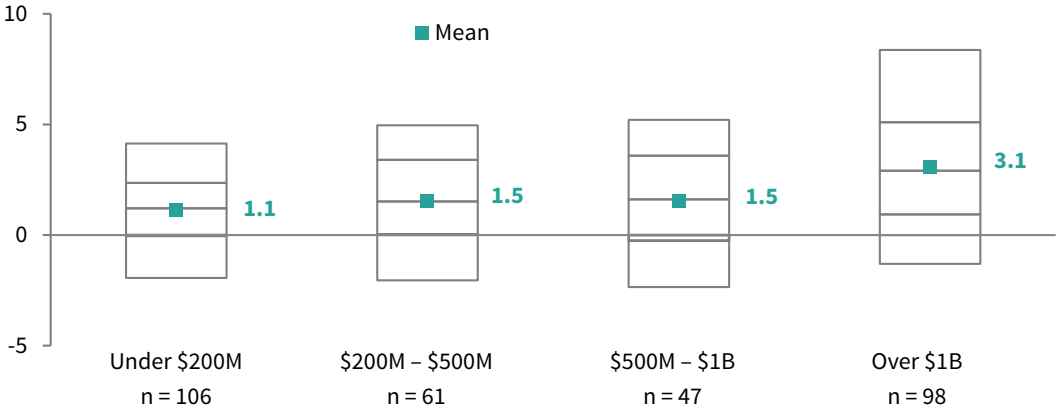
Sources: Endowment data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

Note: For more information, see page 59 in the Appendix.

When the overall universe is split into four separate subgroups based on portfolio size, endowments with assets greater than $1 billion reported the highest average return at 3.1% (Figure 3). At the opposite end of the asset size spectrum, endowments less than $200 million reported the lowest average return (1.1%).

FIGURE 3 FISCAL YEAR 2020 TOTAL RETURN SUMMARY BY ASSET SIZE

Trailing 1-Yr as of June 30, 2020 • Percent (%)



Source: Endowment data as reported to Cambridge Associates LLC.

Note: For more information, see page 59 in the Appendix.

There are several factors that contribute to endowment performance and the differentials in returns reported across institutions in this study. These factors include portfolio asset allocations and how well endowments implement those allocations. In addition, there are various performance measurement methodologies that are important to consider when conducting peer performance comparisons. The commentary and analysis that follow in this section explore these factors and the impact on comparative returns in fiscal year 2020.

ASSET ALLOCATION. Our analysis of comparative peer performance begins with examining the relationship between asset allocation and total portfolio returns. In Figure 4, 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 differences in average asset allocations among the four performance quartiles typically correlate with the backdrop of the market environment. In fiscal year 2020, venture capital and private equity stood above other asset classes in terms of relative performance. As expected given this context, endowments in the top quartile reported the highest average allocations to private investments and the lowest allocations to public equities. The average PE/VC allocation for the top quartile of performers was 17.9% for fiscal year 2020, more than double the average of the bottom quartile (8.0%). In contrast for total public equities, top performers had an average allocation of 37.6%, while the bottom quartile had an average allocation of 49.1%.

FIGURE 4 1-YR MEAN ASSET ALLOCATION BY PERFORMANCE QUARTILE
Percent (%) • n = 309

Quartile	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Dist Sec	PE/VC	Private Real Assets	Public Real Assets & ILBs	Cash	Other
Top Quartile	19.1	11.5	7.0	7.3	21.7	3.0	17.9	5.8	1.2	4.8	0.8
2nd Quartile	23.2	15.1	6.9	10.6	18.4	2.8	11.9	4.8	2.3	3.7	0.2
3rd Quartile	25.2	16.5	7.5	10.6	16.4	2.1	10.3	3.7	2.9	4.5	0.3
Bottom Quartile	25.1	16.5	7.5	11.7	14.7	3.1	8.0	4.4	4.2	3.4	1.4
All End Mean	23.1	14.9	7.2	10.0	17.8	2.8	12.1	4.7	2.6	4.1	0.7

Divergence of Asset Allocation from All End Mean

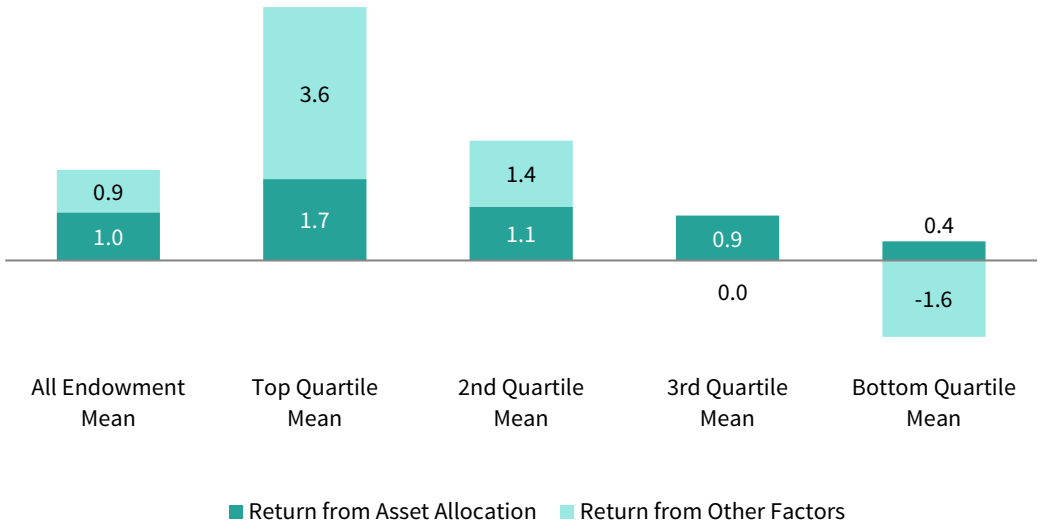
-4% -2% Mean 2% 4%

Sources: Endowment data as reported to Cambridge Associates LLC.
Note: Asset allocation is averaged across the two June 30 periods from 2019 to 2020 for each institution in this analysis.

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 return that a portfolio earns. Our attribution model attempts to quantify how much each endowment's return can be explained by its beginning year asset allocation and how much comes from other factors. The results can be insightful in understanding the variation of total returns that are reported across different endowments.

In the model, an index return is assigned to each asset class. An endowment's return from asset allocation is calculated using a blend of these index returns weighted according to its beginning year asset allocation.[1] This is the return that would have been earned if the endowment was invested passively throughout the year. The model estimates that the average return from asset allocation across all participants was 1.0% for the fiscal year (Figure 5). The top quartile of performers had the highest average asset allocation return (1.7%), while the bottom quartile had the lowest (0.4%).

FIGURE 5 1-YR ATTRIBUTION ANALYSIS
Trailing 1-Yr as of June 30, 2020 • Percent (%) • n = 309



Source: Endowment data as reported to Cambridge Associates LLC.
Note: For more information, see page 60 in the Appendix.

The return from other factors is the difference between the portfolio's actual return and its asset allocation return. This other portion of return is mostly driven by the effects of active management, or alpha. In addition, this portion accounts for any decision to modify the asset allocation structure or rebalance the portfolio allocations through the course of the fiscal year. Given the extreme market volatility during the second half of the fiscal year, rebalancing decisions could have had a meaningful contribution to endowment performance this past year.

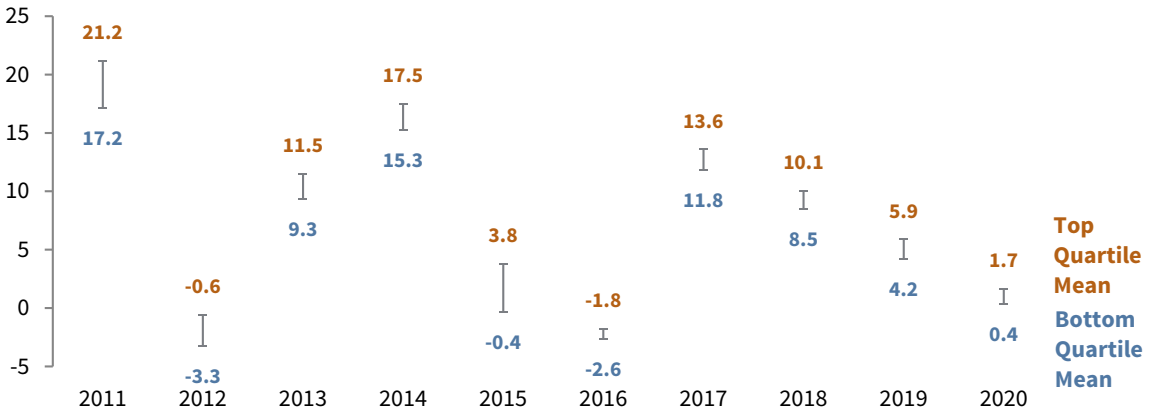
1 See the Appendix of this report for a list of asset class indexes used and an example of how the analysis is conducted using the participant group's mean asset allocation.

The average return from other factors across all participants was 0.9% for fiscal year 2020. The average for the top quartile of performers (3.6%) was over 500 basis points (bps) higher than that of the bottom quartile (-1.6%). This analysis showed that implementation decisions, not asset allocation, influenced most of the differential in the returns between top and bottom performers for the fiscal year.

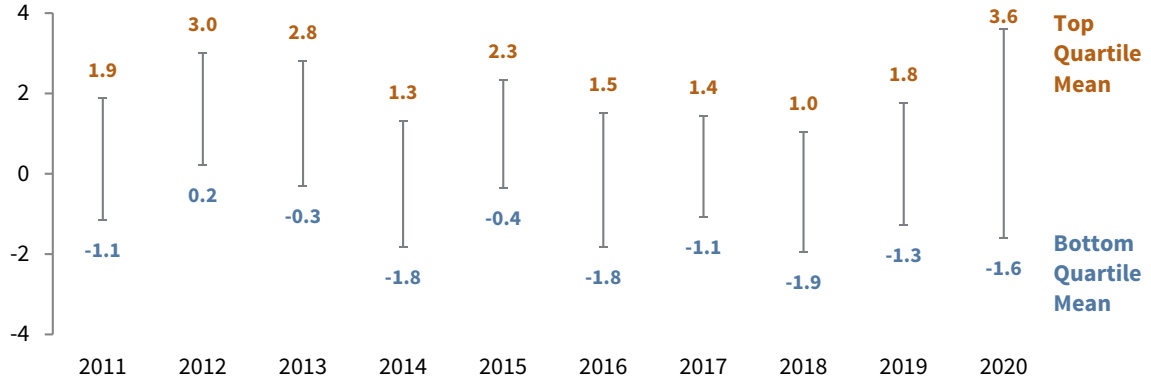
Figure 6 shows the results of this attribution analysis for each of the last ten fiscal years. This historical analysis shows a similar relationship between the returns of the top and bottom quartile of performers. While the effects of both asset allocation and implementation help explain differentials in peer returns, it the implementation return that usually explains most of the difference. In eight of the last ten years, the spread between the top and bottom quartiles for the implementation return was greater than what was calculated for the asset allocation return. The largest differential in implementation returns over the last decade was calculated in fiscal year 2020.

FIGURE 6 ANNUAL ATTRIBUTION ANALYSIS: 2011–20
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*

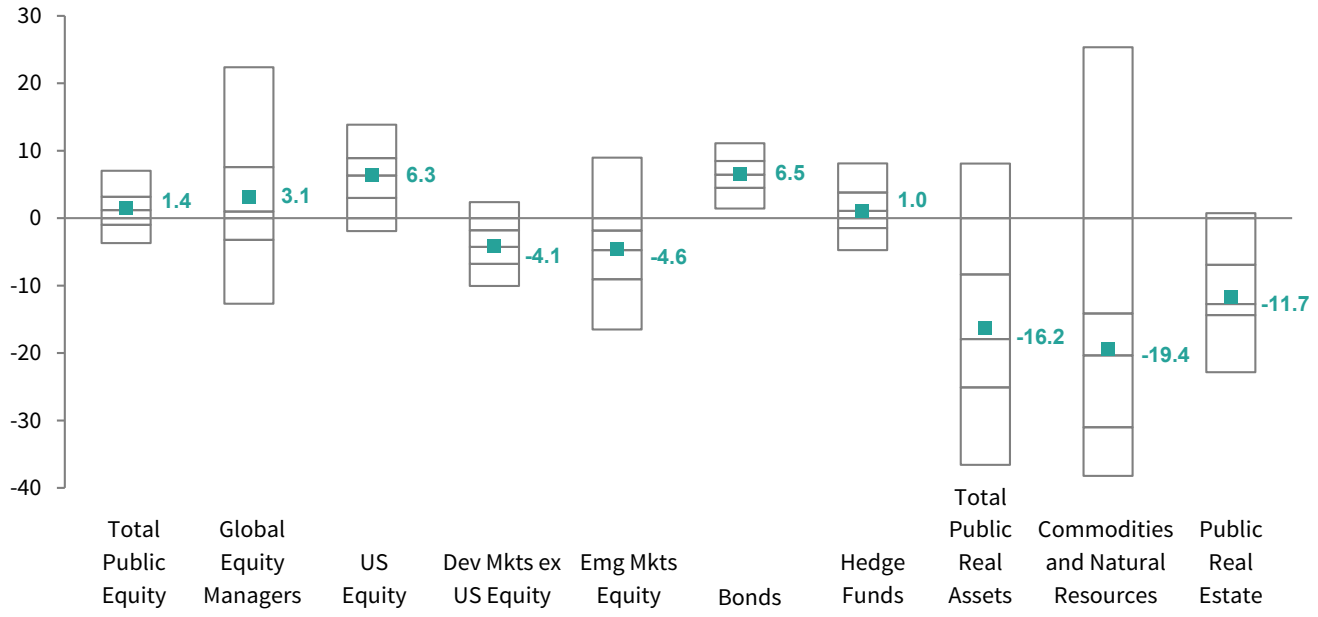


* Performance quartiles are calculated separately for each fiscal year.
Source: Endowment data as reported to Cambridge Associates LLC.

ASSET CLASS RETURNS. The attribution analysis establishes that there can be wide differentials among endowments in the performance impact from implementation. A key driver of these differentials is the relative returns that participants earn for the asset class strategies in their portfolios. Nearly 90% of respondents (275 of 312) provided asset class returns for at least a portion of their portfolio for fiscal year 2020. The marketable asset class returns are reported as time-weighted returns, and the private investment data are horizon internal rates of return (IRRs).

Growth stocks significantly outperformed value stocks across global equity markets in fiscal year 2020. Although our survey does not capture allocations by style, the distribution of participants' equity returns infers that some endowments had more of a value tilt in their allocations while others leaned more toward growth. This was particularly evident in US equities, where the 5th percentile return (13.9%) was over 1,500 bps higher than that of the 95th percentile (-1.9%). For emerging markets equity, the range from the top end to the bottom of the distribution, excluding outliers, was even wider at over 2,500 bps. The range of returns for these and other marketable asset classes was significantly wider compared to more recent years (Figure 7).

FIGURE 7 DISPERSION OF PARTICIPANTS' 1-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS
Trailing 1-Yr as of June 30, 2020 • Percent (%)



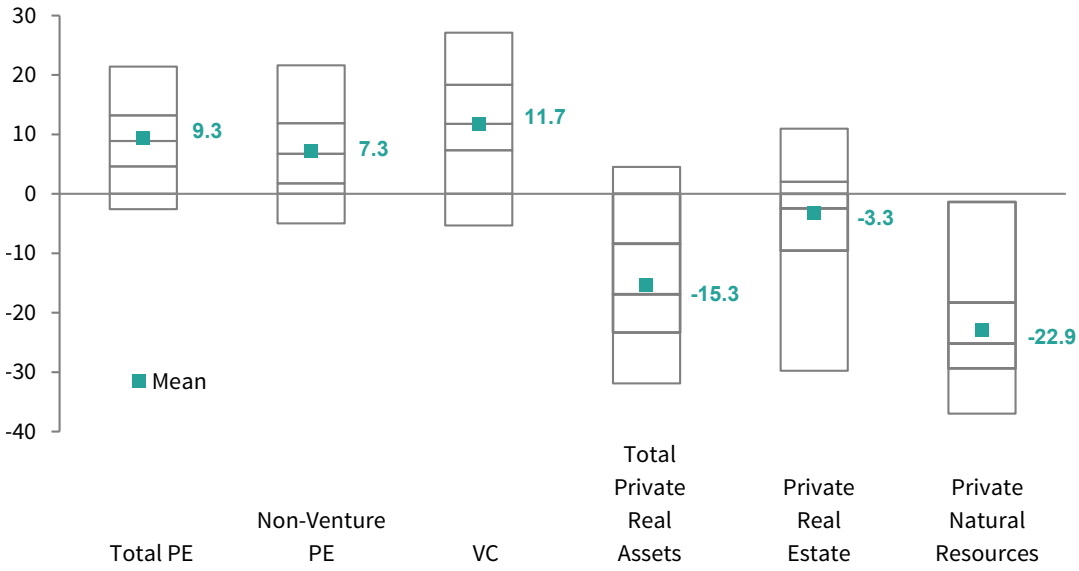
Source: Endowment data as reported to Cambridge Associates LLC.
Note: For more information, see page 61 in the Appendix.

There was also a large spread between the 5th and 95th percentile returns for participants' private investment composite IRRs. Yet unlike the marketable asset classes in fiscal year 2020, the wide range of returns among these strategies is comparable with what we observed in past years. Private investment funds historically have 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. For fiscal year 2020, the widest range in endowments' private investment returns was in real estate, where the 5th percentile return (11.0%) was over 4,000 bps higher than the 95th percentile return (-28.5%) (Figure 8).

FIGURE 8 DISPERSION OF PARTICIPANTS' 1-YR ASSET CLASS RETURNS: PRIVATE INVESTMENTS

Trailing 1-Yr as of June 30, 2020 • Percent (%)



Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Private investment return statistics are reported as horizon internal rates of return. For more information, see page 62 in the Appendix.

Figure 9 breaks the participant group out into four quartiles based on the total portfolio return and shows the median asset class returns for the endowments that fall within each respective quartile. Outperformance for endowments with the best total returns in fiscal year 2020 was not limited to a specific asset class. Except for global ex US equities developed markets and bonds, the top quartile of performers had a median return in each of the marketable asset classes that was substantially higher than the median for the overall participant group. For the total public equity composite, the median return for the top quartile of performers (4.2%) was more than 300 bps higher than that of the overall participant group (1.2%). This magnitude of outperformance is notable considering that the top quartile endowments allocated over one-third of their portfolio on average to total public equities.

As Figure 10 shows, top-performing endowments at the total return level also outperformed in private investment strategies. The top quartile's median return was higher than the overall universe median return for each private asset class. The largest differential in private investment composite returns was within non-venture private equity, where the median return for top performers (10.4%) was 370 bps higher than the median return (6.7%) for all participants.

FIGURE 9 1-YR MEDIAN ASSET CLASS RETURNS BY TOTAL PERFORMANCE QUARTILE: MARKETABLE INVESTMENTS

Trailing 1-Yr as of June 30, 2020 • Percent (%)

Median Return	Total Public Equity	Global Equity Managers	US Equity	Devel Markets ex US Equity	Emerging Markets Equity	Bonds	Hedge Funds	Total Public Real Assets	Comm and Nat Res	Public Real Estate
Top Quartile	4.2	7.3	8.3	-4.2	-1.9	6.5	2.6	-14.0	-11.3	-9.7
n	*59*	*40*	*58*	*52*	*56*	*59*	*61*	*20*	*23*	*5*
2nd Quartile	1.2	3.1	7.0	-3.3	-4.1	6.2	1.3	-9.2	-16.2	-7.0
n	*67*	*44*	*65*	*62*	*62*	*66*	*68*	*34*	*29*	*10*
3rd Quartile	0.4	0.2	5.7	-5.1	-6.2	7.1	1.1	-17.2	-19.8	-14.4
n	*69*	*52*	*69*	*66*	*69*	*67*	*65*	*46*	*40*	*12*
Bottom Quartile	-1.0	-2.5	4.5	-4.1	-7.0	6.2	-1.0	-21.4	-27.7	-12.6
n	*78*	*43*	*66*	*67*	*65*	*68*	*64*	*53*	*50*	*26*
All End Median	1.2	1.0	6.3	-4.3	-4.7	6.4	1.1	-17.9	-20.3	-12.7
n	*261*	*179*	*258*	*247*	*252*	*260*	*258*	*153*	*142*	*53*

Divergence of Asset Allocation from All Endowment Median

-4% -2% Mean 2% 4%

Source: Endowment data as reported to Cambridge Associates LLC.

Note: Institutions are assigned to performance quartiles based on their fiscal year 2020 total portfolio return.

FIGURE 10 1-YR MEDIAN ASSET CLASS RETURNS BY TOTAL PERFORMANCE QUARTILE: PRIVATE INVESTMENTS

Trailing 1-Yr as of June 30, 2020 • Percent (%)

Median Return	Total PE	Non-Venture PE	VC	Total Private Real Assets	Private Real Estate	Private Natural Resources
Top Quartile	11.6	10.4	15.3	-14.5	-1.4	-24.4
n	*53*	*49*	*47*	*46*	*47*	*43*
2nd Quartile	10.2	7.0	11.8	-15.8	-3.3	-22.3
n	*58*	*54*	*49*	*43*	*42*	*44*
3rd Quartile	8.5	5.5	11.0	-18.8	-3.3	-26.2
n	*62*	*61*	*53*	*54*	*47*	*54*
Bottom Quartile	8.2	4.1	11.3	-17.7	-0.6	-25.9
n	*48*	*45*	*42*	*46*	*35*	*44*
All End Median	8.9	6.7	11.8	-16.9	-2.5	-25.2
n	*221*	*209*	*191*	*189*	*171*	*185*

Divergence of Asset Allocation from All Endowment Median

-4% -2% Mean 2% 4%

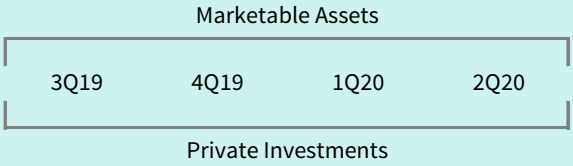
Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their fiscal year 2020 total portfolio return. Private investment return statistics are reported as horizon internal rates of return.

PERFORMANCE REPORTING METHODOLOGIES

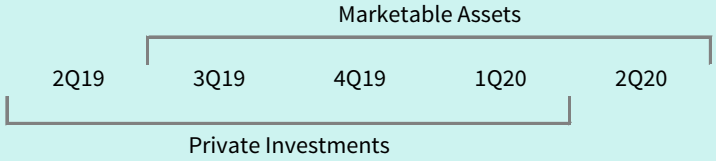
Current Basis

Total investment pool return for 2020 includes marketable asset and private investment performance for July 1, 2019, to June 30, 2020.



Lagged Basis

Total investment pool return for 2020 includes marketable asset performance for July 1, 2019, to June 30, 2020, and private investment performance for April 1, 2019, to March 31, 2020.



Methodologies Used by Participants

Asset Size	Current Basis	Lagged Basis	Other	No PI Allocation
Less than $200M	74%	0%	0%	26%
n	*78*	*0*	*0*	*28*
$200M – $500M	97%	0%	0%	3%
n	*59*	*0*	*0*	*2*
$500M – $1B	81%	19%	0%	0%
n	*38*	*9*	*0*	*0*
More than $1B	74%	23%	1%	1%
n	*73*	*23*	*1*	*1*
All Institutions	79%	10%	0%	10%
n	*248*	*32*	*1*	*31*

Source: Endowment 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.

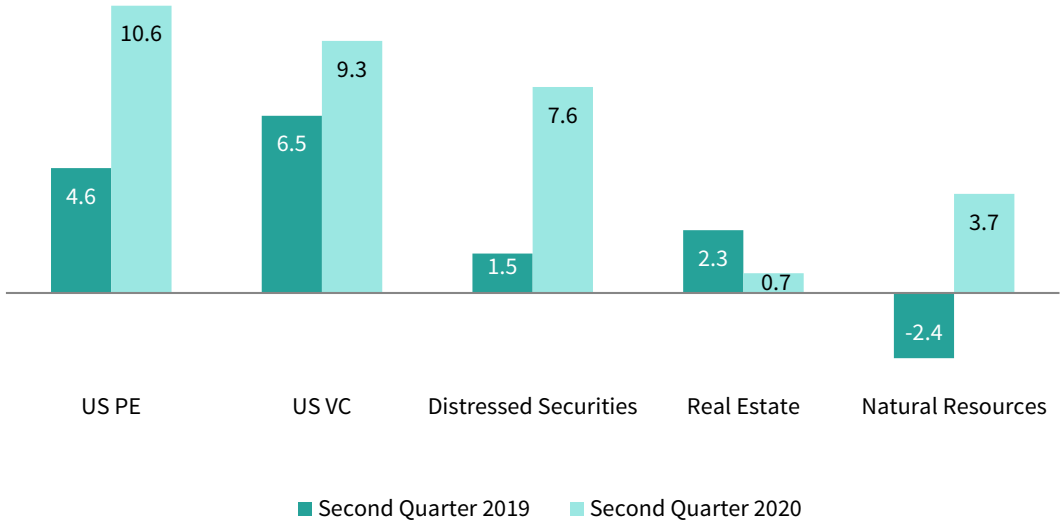
RETURN CALCULATION METHODOLOGIES. The methodology endowments use to account for private investments in their total portfolio return calculation is important to consider when conducting peer performance comparisons. The most frequently used approach among all participants was to report private investment returns on a current basis. The second most frequently used methodology was the lagged basis. For fiscal year 2020, there could be a considerable performance impact to using one of the methodologies over the other.

Under the current basis, the total portfolio return incorporates all investment activity for private investments for the entire fiscal year. In 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 2020 total return represents

performance for the period of April 1, 2019, to March 31, 2020. When assessing the impact of these two methodologies, it is important to consider private investment returns for both second quarter 2019 and second quarter 2020. 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.

The differential in returns between these two periods was substantial for most of the private investment asset classes (Figure 11). Apart from real estate, each of the private investment index returns posted higher performance in second quarter 2020 compared to second quarter 2019. For institutions with large allocations to private investments, the current methodology would very likely calculate a higher total portfolio return compared to the lagged basis for fiscal year 2020. Of the 32 participants that use the lagged methodology, just three reported a total portfolio return that was in the top quartile for fiscal year 2020.

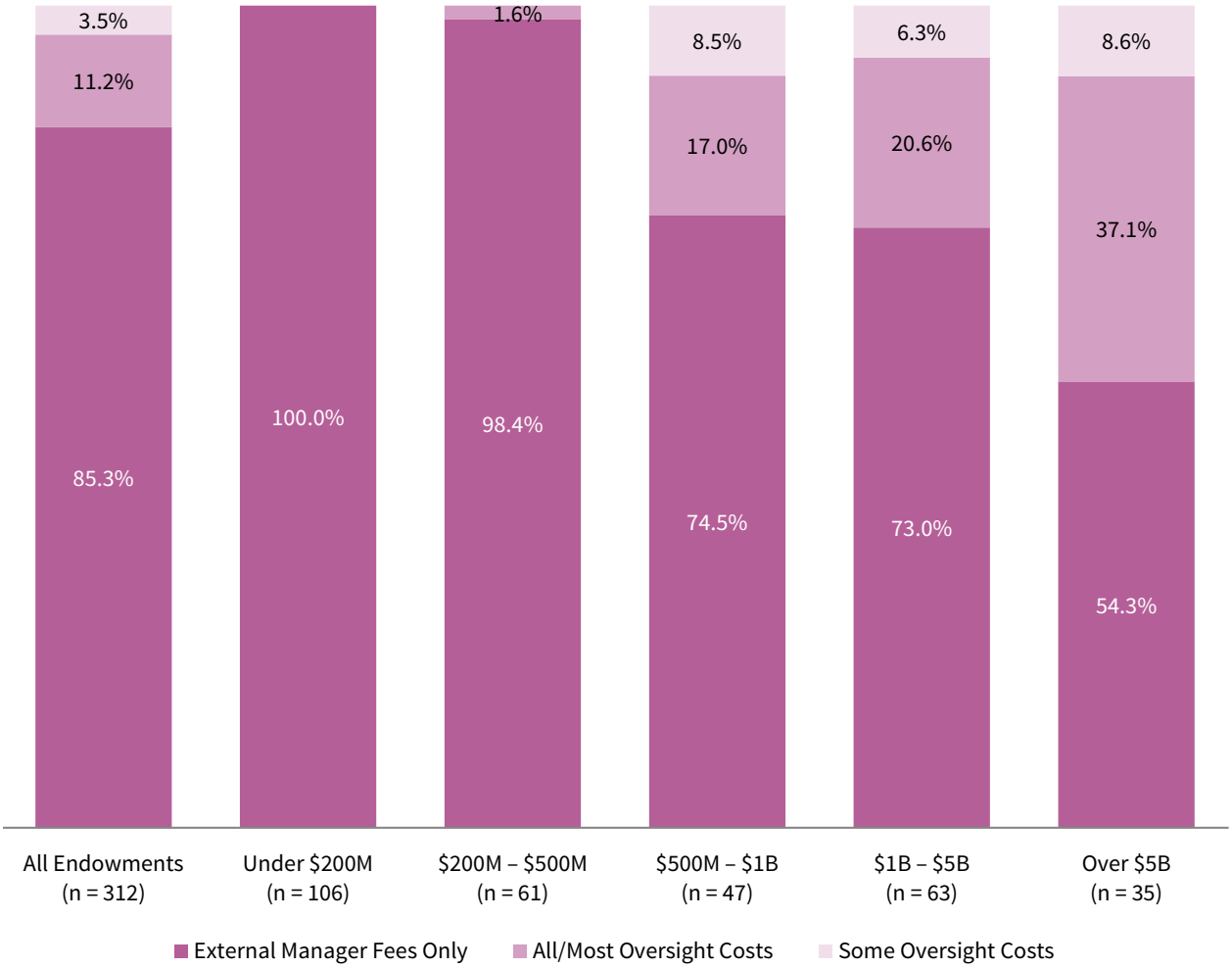
FIGURE 11 CAMBRIDGE ASSOCIATES' PRIVATE INVESTMENT INDEX RETURNS
Percent (%)



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. Most respondents (85%) reported returns net of external manager fees only for fiscal year 2020 (Figure 12). Another 11% 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 4% of respondents deduct external manager fees plus some additional costs but are gross of the major oversight cost expenses.

FIGURE 12 TYPES OF FEES DEDUCTED IN FY 2020 NET RETURN CALCULATION



Source: Endowment 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 drives (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.

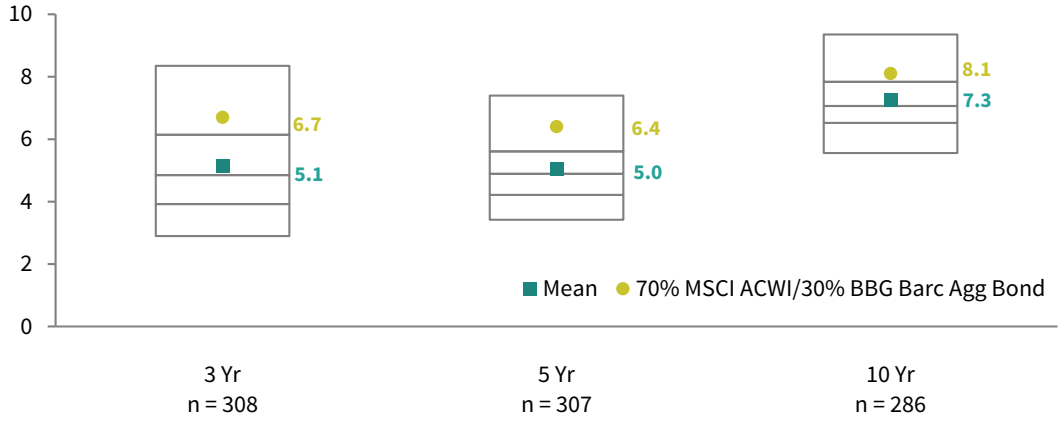
Smaller endowments are much less likely to deduct oversight costs compared to larger endowments. Just one endowment less than $500 million deducts all investment oversight costs in their net return calculation. In contrast, 37% of endowments with asset sizes greater than $5 billion reported returns net 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.

LONGER-TERM RETURNS

The average endowment return for the trailing ten-year period was 7.3%. A simple benchmark consisting of 70% MSCI ACWI and 30% Bloomberg Barclays Aggregate Bond outperformed the mean return by 80 bps over this period and would have landed just inside the top quartile of the overall participant group. The simple benchmark outperformed the average endowment return by 140 bps for the trailing five-year period and 160 bps for the trailing three-year (Figure 13).

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

Years Ended June 30, 2020 • Percent (%)



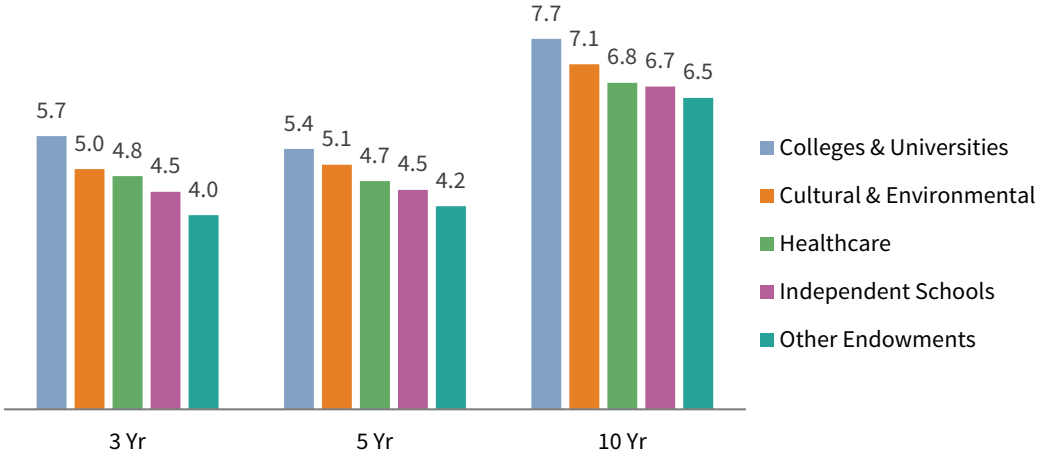
Sources: Endowment data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

Note: For more information, see page 63 the Appendix.

Figure 14 shows the average returns for the various types of institutions in this study. Colleges and universities had the highest average return across each of these trailing periods. The average college and university return was 7.7% for the trailing ten-year period, which trailed the simple 70/30 benchmark by 40 bps.

FIGURE 14 AVERAGE RETURNS BY INSTITUTION TYPE: TRAILING 3-, 5-, AND 10-YR

Years Ended June 30, 2020 • Percent (%)

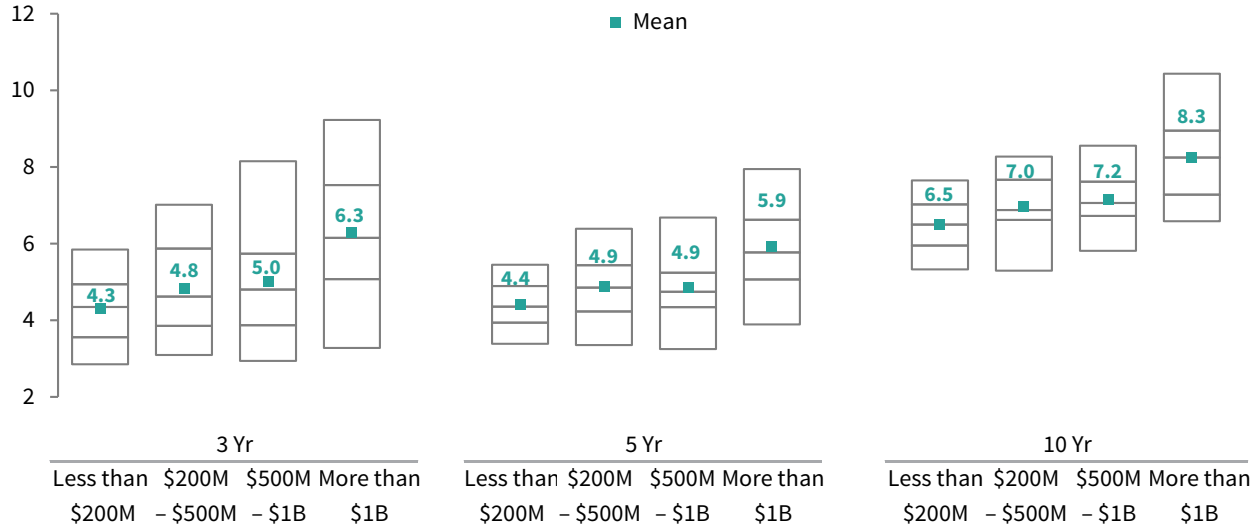


Source: Endowment data as reported to Cambridge Associates LLC.

Note: For more information, see page 64 in the Appendix.

Endowments greater than $1 billion reported the highest average return out of all the asset size groups for the trailing three-, five-, and ten-year periods. In fact, the average returns for endowments greater than $1 billion outperformed the top quartile returns of the other asset size groups across each of these periods. Compared to the simple 70/30 benchmark, the average return of the largest endowments was 20 bps higher over the trailing ten years. For the trailing three- and five-year periods the simple benchmark exceeded the average return of the largest endowments by 40 bps and 50 bps, respectively (Figure 15).

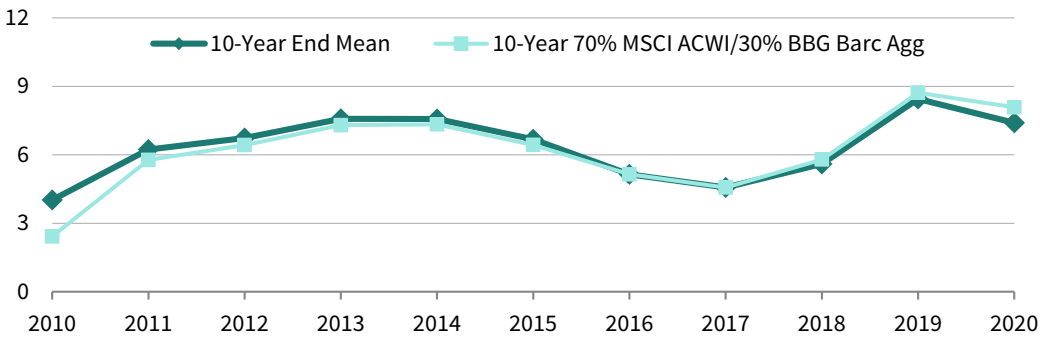
FIGURE 15 NOMINAL RETURN PERCENTILES BY ASSET SIZE: TRAILING 3-, 5-, AND 10-YR
Years Ended June 30, 2020 • Percent (%)



Source: Endowment data as reported to Cambridge Associates LLC.
Note: For more information, see page 65 in the Appendix.

Figure 16 shows the rolling average ten-year return for the overall participant group over the last decade along with the simple 70/30 returns. The return for the ten-year period ending June 30, 2020, was the fourth highest reported from the last decade for the endowment mean and the second highest for the blended index. From a comparative standpoint, 2020 was the third consecutive year that the ten-year average participant return underperformed the simple 70/30 benchmark.

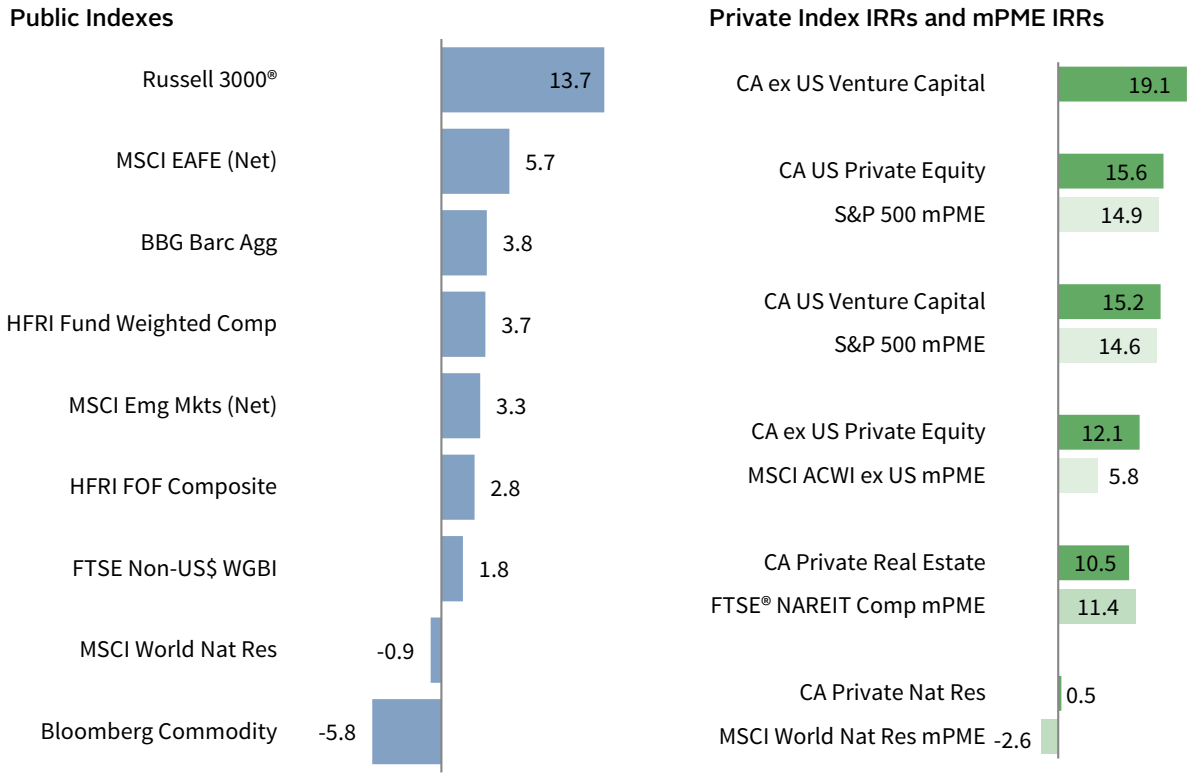
FIGURE 16 ROLLING 10-YR AVERAGE ANNUAL COMPOUND RETURNS
Years Ended June 30 • Percent (%) • n = 226



Sources: Endowment 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.

TEN-YEAR ASSET ALLOCATION. Each endowment in this study has diversified beyond a simple 70/30 portfolio to some degree and into what are considered alternative asset classes. Assessing the returns of alternative asset strategies is important when evaluating the overall performance of endowments relative to the simple benchmark. The US public stock market has accounted for more than half of the equity component (MSCI ACWI Index) in the 70/30 index in recent years and has been the primary driver of this the simple portfolio's return over the last decade. Yet the Cambridge Associates US Private Equity and US Venture Capital indexes performed even better for the trailing ten years, posting a higher return than the mPME version of the S&P 500 Index over this period. The outperformance of the private strategies was more pronounced in the global ex US private markets (Figure 17).

FIGURE 17 10-YR INDEX RETURNS
As of June 30, 2020 • Percent (%)



Sources: 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.

This market backdrop helps to shed light on the differences in asset allocations among participants over the last decade and the impact on comparative returns. The group of endowments that outperformed the 70/30 portfolio over the last decade generally had the highest allocations to private equity and venture capital. The top quartile of performers, most of which outperformed the 70/30 benchmark, had an average allocation of 18.4% to private equity and venture capital over this period. In contrast, endowments in the bottom performance quartile had an average allocation of just 4.9% to these strategies (Figure 18).

FIGURE 18 10-YR MEAN ASSET ALLOCATION BY PERFORMANCE QUARTILE

Percent (%) • n = 224

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	16.7	10.9	6.8	6.9	19.8	3.8	18.4	10.4	2.8	3.3	0.3
2nd Quartile	21.1	14.8	7.4	10.0	19.1	3.7	9.7	5.9	4.4	3.5	0.5
3rd Quartile	21.0	15.0	6.8	11.9	20.7	3.7	7.4	4.1	5.2	3.8	0.5
Bottom Quartile	21.0	15.6	7.1	14.1	20.4	2.8	4.9	2.6	6.7	4.5	0.5
All End Mean	19.9	14.0	7.0	10.7	20.0	3.5	10.1	5.7	4.7	3.8	0.4

Divergence of Asset Allocation from All Endowment Mean

-4% -2% Mean 2% 4%

Source: Endowment data as reported to Cambridge Associates LLC.

Note: Asset allocation is averaged across the 11 June 30 periods from 2010 to 2020 for each institution in this analysis.

ATTRIBUTION. The attribution model further illustrates the impact of different asset allocation structures on the trailing ten-year return. The average asset allocation return over this period for the top quartile of performers was 7.8% (Figure 19). For the bottom quartile of performers, the average asset allocation return was 160 bps lower at 6.2%. The differential in returns from other factors was similar, with the top quartile of performers averaging 1.3% and the bottom quartile averaging -0.2%. These results indicate that differences in asset allocation structures and the implementation of those asset allocations both contributed to the dispersion in total returns among the peer group for the trailing ten-year period.

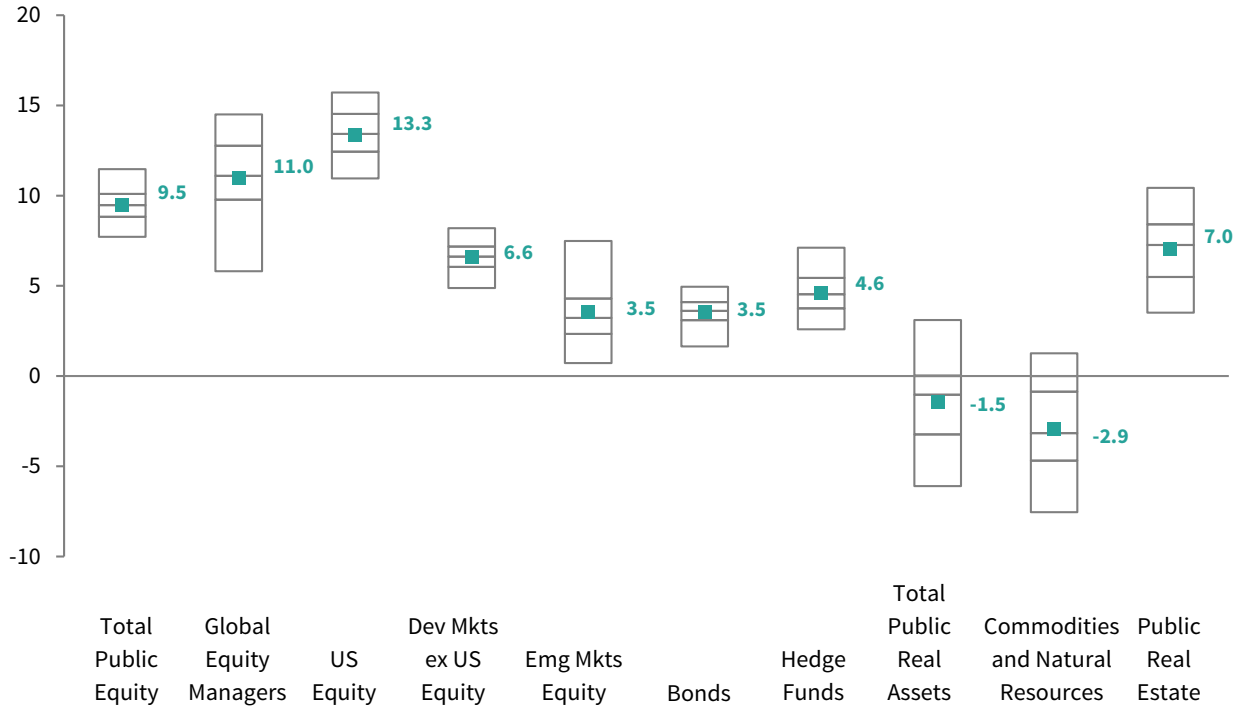
FIGURE 19 10-YR ATTRIBUTION ANALYSIS BY PERFORMANCE QUARTILE

As of June 30, 2020 • Percent (%) • n = 224

Source: Endowment data as reported to Cambridge Associates LLC.

ASSET CLASS RETURNS. The range of participants' trailing ten-year asset class returns for marketable asset class strategies are displayed in Figures 20. The total public equity composite return averaged 9.5%, with US equity have the highest average among the geographic regions (13.3%). On average, the hedge fund composite return was 4.6% while the return for bonds was lower (3.5%). The average total public real assets composite, which is a combination of several substrategies, was negative (-1.5%) for the trailing ten-year period. Commodities and natural resources–related investments typically make up the largest component of public real assets allocations and was also negative (-2.9%), on average.

FIGURE 20 DISPERSION OF PARTICIPANTS' 10-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS
Trailing 10-Yr as of June 30, 2020

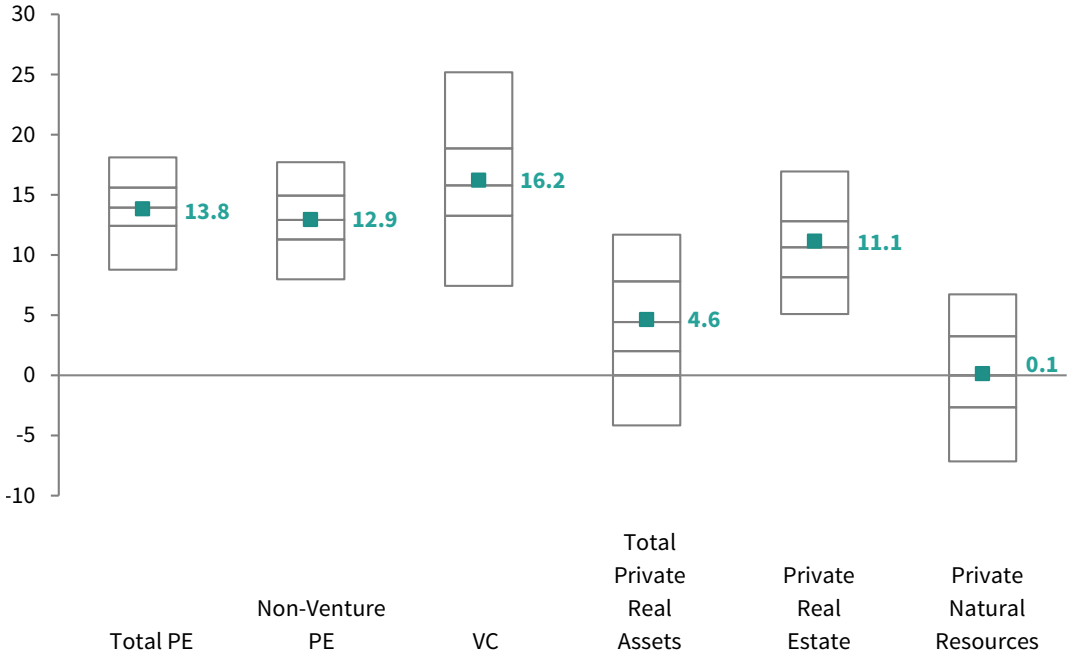


Source: Endowment data as reported to Cambridge Associates LLC.
Note: For more information, see pages 66 and 67 in the Appendix.

Within private investment strategies, the highest average participant return over the last decade was to VC at 16.2% (Figure 21). Several endowments that provided data reported a VC return of 20% or higher. The range of VC returns from the 5th percentile (25.2%) to 95th percentile (7.4%) was nearly 1,800 bps and was the largest variation among all the asset class strategies for the trailing ten-year period. The lowest returns in the private investment strategies came from natural resources–related strategies, where the average return was flat (0.1%).

FIGURE 21 DISPERSION OF PARTICIPANTS' 10-YR ASSET CLASS RETURNS: PRIVATE INVESTMENTS

Trailing 10-Yr as of June 30, 2020



Source: Endowment data as reported to Cambridge Associates LLC.

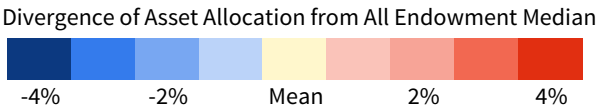
Notes: Private investment return statistics are reported as horizon internal rates of return. For more information, see pages 68 and 69 in the Appendix.

In Figure 22, the participant group is again broken out into four quartiles based on the ten-year total portfolio return. The table shows the median asset class returns for the endowments within each quartile that provided data for this same period. Endowments in the top quartile based on total returns also reported returns in several marketable asset classes that were notably higher than those of other participants. The largest differential was in emerging markets equity, where the median return for the top performance quartile (4.6%) was 140 bps higher than the median for the overall participant group (3.2%). For total public equities, the differential between the median for the top quartile (10.3%) and the overall median (9.5%) was 80 bps. The spread was larger in hedge funds, where the median for the top quartile was 110 bps higher than the overall median. The outperformance in total public equities and hedge funds is noteworthy because of the significant allocations that endowments have to these asset classes. The top quartile of endowments allocated an average 34.4% and 19.8%, respectively, to these total public equities and hedge fund strategies over the last decade (Figure 18).

FIGURE 22 10-YR MEDIAN ASSET CLASS RETURNS BY TOTAL PERFORMANCE QUARTILE: MARKETABLE INVESTMENTS

Trailing 10-Yr as of June 30, 2020 • Percent (%)

Median Return	Total Public Equity	Global Equity Managers	US Equity	Devel Markets ex US Equity	Emerging Markets Equity	Bonds	Hedge Funds	Total Public Real Assets	Comm and Nat Res	Public Real Estate
Top Quartile	10.3	13.1	13.8	6.8	4.6	3.5	5.6	-1.2	-1.6	4.2
n	*46*	*18*	*44*	*40*	*40*	*43*	*48*	*13*	*12*	*2*
2nd Quartile	9.5	11.3	13.5	6.6	3.8	3.6	4.4	-1.0	-2.5	8.8
n	*62*	*20*	*57*	*52*	*44*	*59*	*62*	*28*	*23*	*4*
3rd Quartile	9.3	10.6	13.3	6.4	2.9	3.8	4.3	-1.5	-3.4	7.3
n	*62*	*10*	*61*	*56*	*50*	*54*	*56*	*34*	*29*	*5*
Bottom Quartile	9.1	9.4	13.1	6.7	2.8	3.6	4.3	-0.9	-3.1	7.2
n	*58*	*15*	*57*	*54*	*48*	*59*	*50*	*40*	*32*	*14*
All End Median	9.5	11.1	13.4	6.6	3.2	3.6	4.5	-1.0	-3.2	7.3
n	*228*	*63*	*219*	*202*	*182*	*215*	*216*	*115*	*96*	*25*



Source: Endowment data as reported to Cambridge Associates LLC.
Note: Institutions are assigned to performance quartiles based on their total portfolio return for the ten-year period ending June 30, 2020.

The top-performing endowments also reported outstanding returns in venture capital over the last decade. The median IRR for the top quartile of performers (18.4%) was 260 bps higher than that of the overall participant group (Figure 23). In addition to the stellar performance in VC, the top quartile had an average ten-year allocation of 8.1% to this strategy which was more than double the average of the overall participant group (3.1%). When considering the higher allocations of the top quartile and their magnitude of outperformance, VC was the asset class within the private strategies that stands out the most when trying to understand the variation in total returns across the overall participant group.

RETURNS AFTER SPENDING. 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. Most participants in this study have fared well in this objective over the trailing ten-year period, with the real return after spending averaging 1.4% over this period (Figure 24). Of the endowments that provided returns and spending rates for the last ten years, over 80% (77 of 94) reported a real return after spending that equaled or exceeded 0.0% over the last decade.

FIGURE 23 10-YR MEDIAN ASSET CLASS RETURNS BY TOTAL PERFORMANCE QUARTILE: PRIVATE INVESTMENTS

Trailing 10-Yr as of June 30, 2020 • Percent (%)

Median Return	Total PE	Non-Venture PE	VC	Total Private Real Assets	Private Real Estate	Private Natural Resources
Top Quartile	14.5	13.3	18.4	5.9	11.0	-1.1
n	*46*	*44*	*39*	*36*	*36*	*34*
2nd Quartile	14.6	13.8	16.2	3.7	10.6	0.4
n	*45*	*42*	*35*	*29*	*30*	*30*
3rd Quartile	13.7	12.4	15.5	3.9	10.8	0.0
n	*54*	*53*	*40*	*40*	*32*	*36*
Bottom Quartile	13.0	12.5	13.9	5.9	11.0	0.1
n	*40*	*38*	*29*	*32*	*23*	*26*
All End Median	13.9	12.9	15.8	4.4	10.6	0.0
n	*185*	*177*	*143*	*137*	*121*	*126*

Divergence of Asset Allocation from All Endowment Median

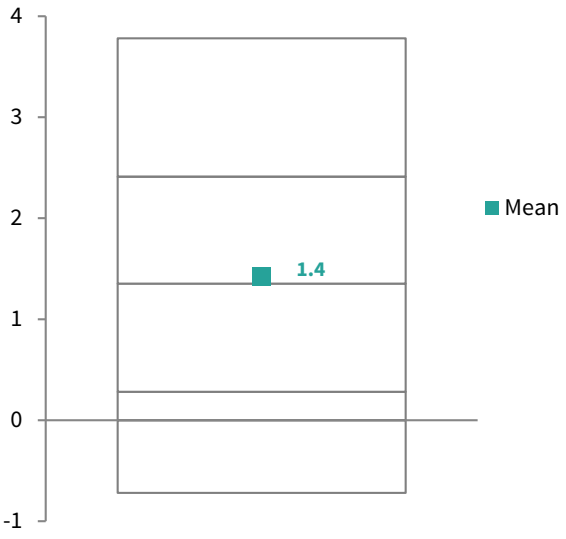
-4% -2% Mean 2% 4%

Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their total portfolio return for the ten-year period ending June 30, 2020. Private investment return statistics are reported as horizon internal rates of return.

FIGURE 24 10-YR REAL RETURNS AFTER SPENDING

As of June 30, 2020 • Percent (%) • n = 94



Source: Endowment data as reported to Cambridge Associates LLC.

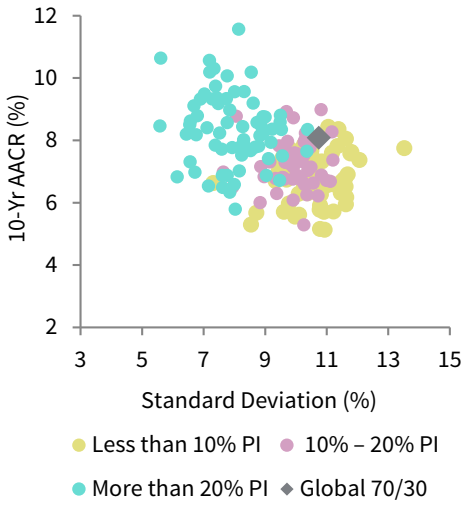
Note: For more information, see page 70 in the Appendix.

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 relative to portfolios that have higher public equity allocations. For this reason, we have split endowments out into subcategories in Figure 25 based on their allocations to private investments.

The average Sharpe ratio for endowments that had an allocation of 20% or more to private investments over ten years was 0.93. In comparison, the average Sharpe ratio was 0.66 for participants that had a private allocation between 10% and 20% and 0.58 for those with a private allocation below 10%. Although the better average Sharpe ratio for the group with the highest private investment allocations is partly a function of this group's higher average returns, it is also attributable to their lower average standard deviations.

FIGURE 25 10-YR STANDARD DEVIATION AND SHARPE RATIO
Periods Ended June 30, 2020



	AACR	Standard Deviation	Sharpe Ratio	*n*
All End Mean	7.3	9.4	0.77	*219*
Mean by PI Allocation				
Less than 10%	6.4	10.7	0.58	*44*
10% – 20%	6.9	10.0	0.66	*73*
More than 20%	8.1	8.4	0.93	*102*
70/30 Benchmark	8.1	10.7	0.72	

Sources: Endowment 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.

Section 2: 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

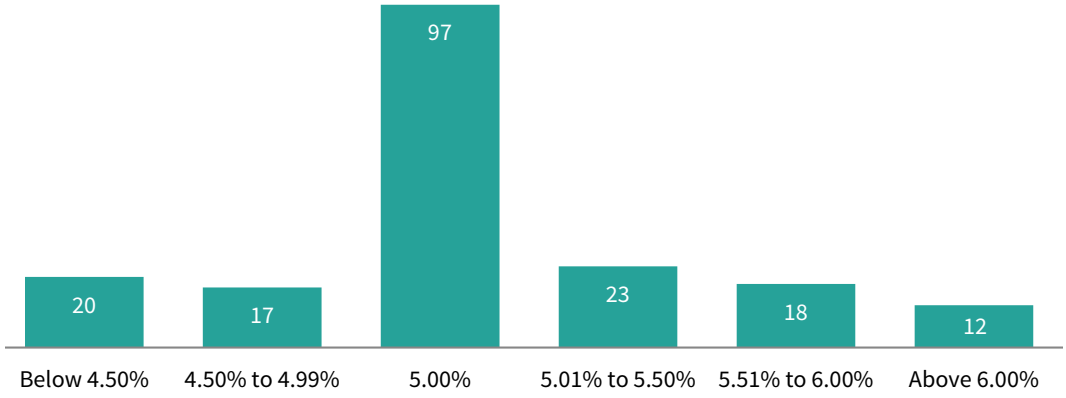
A key issue for any investor to consider is the purpose and role of its investment assets. Most nonprofits don't generate enough revenue to cover the expenses incurred to operate their institutions and rely upon donations and endowed funds to provide additional financial support to their annual budgets. While endowments must provide this support on a regular basis, they also have very long-term time horizons as many nonprofits 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 beneficiaries 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, 82% indicated it was to maintain intergenerational equity. The remaining 18% 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.

Survey participants were asked 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 year. By far the most common real return objective is 5%, which was cited by 97 of 187 respondents (Figure 26). Of the remaining respondents, 53 cited an objective of more than 5%, while 37 reported an objective of less than 5%.

FIGURE 26 REAL TOTAL PORTFOLIO RETURN OBJECTIVES
Number of Institutions = 187



Source: Endowment data as reported to Cambridge Associates LLC.
Note: Analysis includes data for 187 institutions that provided a real total portfolio return objective.

ASSET ALLOCATION POLICY

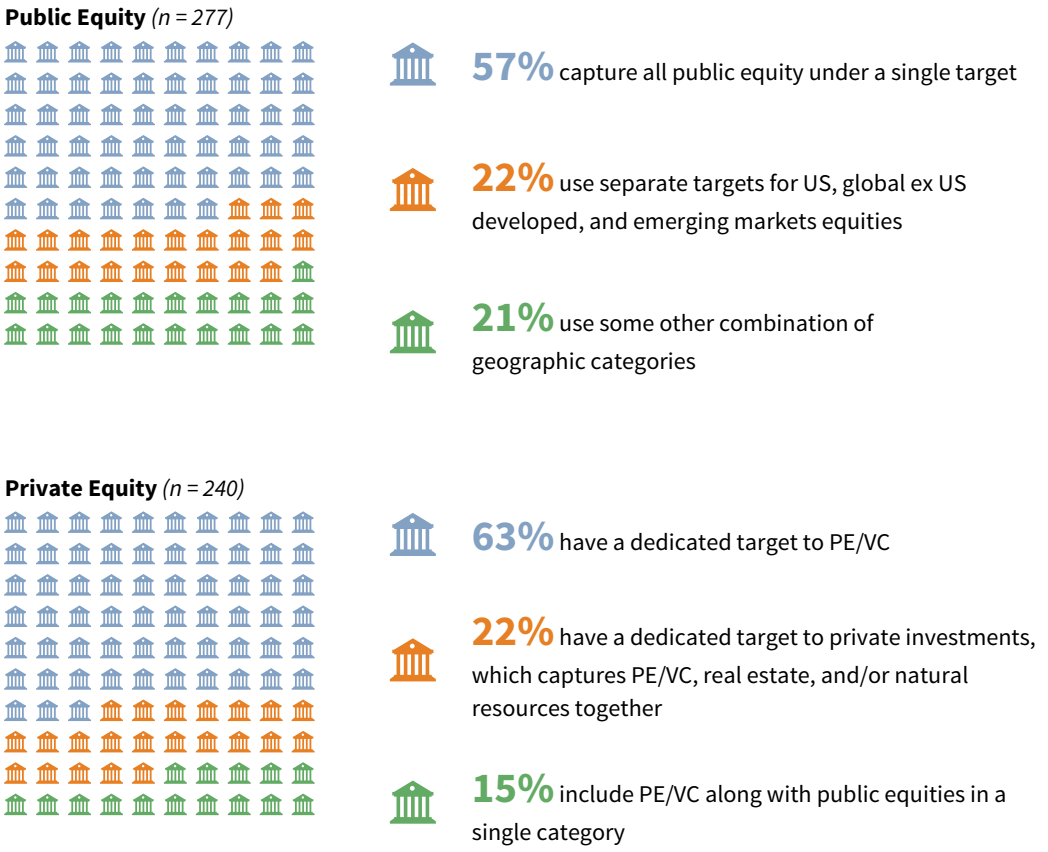
The asset allocation component of the investment policy specifies the asset classes allowed in the portfolio and assigns target allocations and/or ranges for those asset class categories. The chosen categories and targets are based on the portfolio's risk tolerance, liquidity needs, and performance objectives. 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 categories, where there are contrasting approaches to the inclusion of geographic regions and private investments 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 57% of respondents reporting a single category that captures their entire public equity allocation (Figure 27). The next most common approach (22%) is to assign separate targets based on geographic regions to US, global ex US developed, and emerging markets categories. The remaining 21% of respondents use some other combination of geographic regions to represent public equities in their asset allocation policy. One example is using the aforementioned three geographic regions as well as a dedicated global category. Also included in the other bucket are endowments that group US and global ex US developed equities together in a global developed category and endowments that use a single global ex US category without breaking out emerging markets allocations.

Slightly less than two-thirds of respondents (63%) 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 VC. Another 22% of respondents use a total private investments category that combines PE/VC together with private real estate and/or private natural resources in their policy framework. The remaining 15% of respondents use a single equity category to capture public equity and PE/VC together in their target asset allocation framework.

FIGURE 27 CATEGORIES USED FOR EQUITIES IN ASSET ALLOCATION POLICY
Fiscal Year 2020



Source: Endowment data as reported to Cambridge Associates, LLC.
Note: Institutions can use a target and/or a target range for each category specified in their asset allocation policy framework.

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

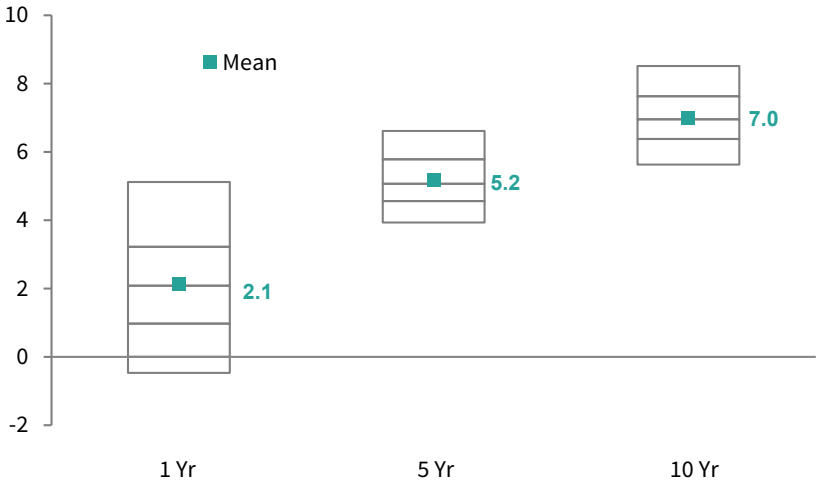
a blend of indexes that represent the desired portfolio risk exposures without any expression of more active alternatives. In certain alternative asset classes, there are no investable proxies and other types of benchmarks are used. Measuring performance relative to the policy benchmark captures the 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 28 shows the range of policy benchmark returns among the respondent group for select trailing periods. For fiscal year 2020, the difference in policy benchmark returns from the 5th percentile to the 95th percentile was 560 bps. The range between the same percentiles was 270 bps for the trailing five-year period and 290 bps for the trailing ten-year period.

FIGURE 28 DISPERSION IN POLICY PORTFOLIO BENCHMARK RETURNS

Periods as of June 30, 2020 • Percent (%)

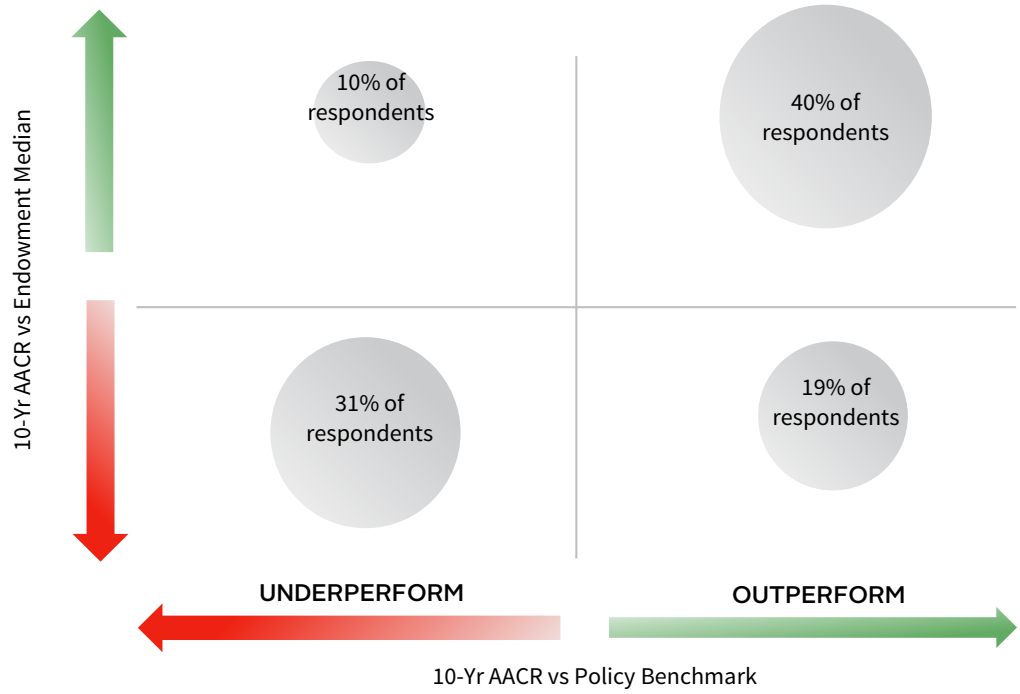


Source: Endowment data as reported to Cambridge Associates LLC.

The range of policy benchmark returns for these periods closely resemble the range of actual portfolio returns reported by participants in this study. For the trailing ten-year data set, endowments at the bottom end of the policy benchmark return distribution did not have portfolios that were 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 29, 19% of respondents experienced this exact scenario for the trailing ten-year period.

FIGURE 29 EVALUATING INVESTMENT PERFORMANCE: 10-YR RETURN VERSUS POLICY BENCHMARK AND ENDOWMENT MEDIAN RETURN

As of June 30, 2020 • n = 246

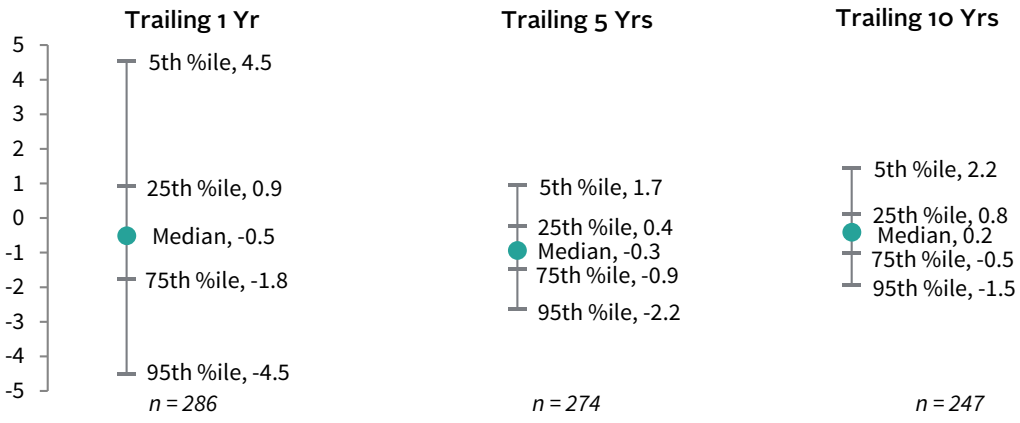


Source: Endowment data as reported to Cambridge Associates LLC.

A majority (59%) 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 0.2 ppts (Figure 30). The median spread was -0.5 ppts for fiscal year 2020, which means a majority of the peer group underperformed their policy benchmark over this most recent annual period. As is typically the case, the range of out/underperformance versus the policy benchmark was wider for the shorter-term fiscal year 2020 period compared to the longer-term trailing five- and ten-year periods.

FIGURE 30 RANGE OF OUT/UNDERPERFORMANCE OF TOTAL RETURN VERSUS POLICY PORTFOLIO BENCHMARK

As of June 30, 2020 • Percentage Points



Source: Endowment data as reported to Cambridge Associates LLC.

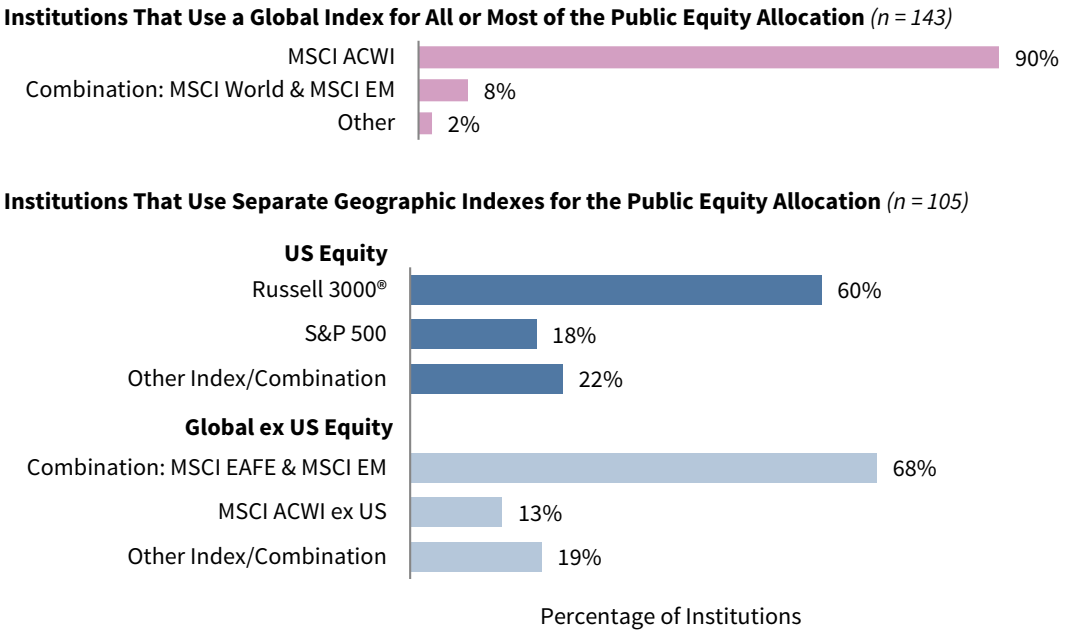
Note: Data points represent the difference between the total portfolio return and the policy portfolio benchmark return.

POLICY PORTFOLIO BENCHMARK COMPONENTS. Almost 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. 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 different levels of granularity, approaches to benchmarking also can 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 (Figure 31).

Among the endowments that use more granular public equity indexes based on geographic orientation, the Russell 3000® Index was cited by 60% for US equity. A higher percentage of respondents (68%) used a blend of the MSCI EAFE and MSCI Emerging Markets indexes for global ex US equity. 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 31 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: PUBLIC EQUITY
As of June 30, 2020

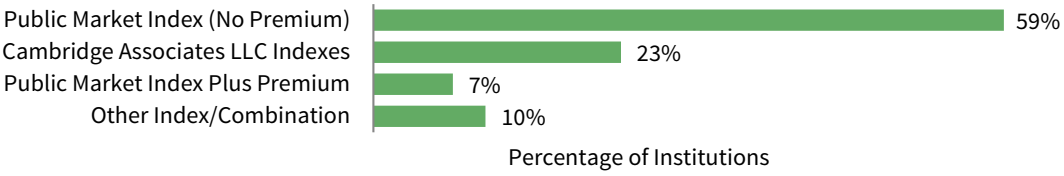


Source: Endowment data as reported to Cambridge Associates LLC.

The use of a public index(es) is the most common practice for benchmarking private equity in the policy portfolio benchmark, as 59% of respondents use the actual public index return (Figure 32). Another 7% of respondents add a prespecified percentage or premia to the public index return. The Cambridge Associates private indexes were cited by 23% of respondents, while 10% 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.

FIGURE 32 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: PRIVATE EQUITY

As of June 30, 2020 • n = 229

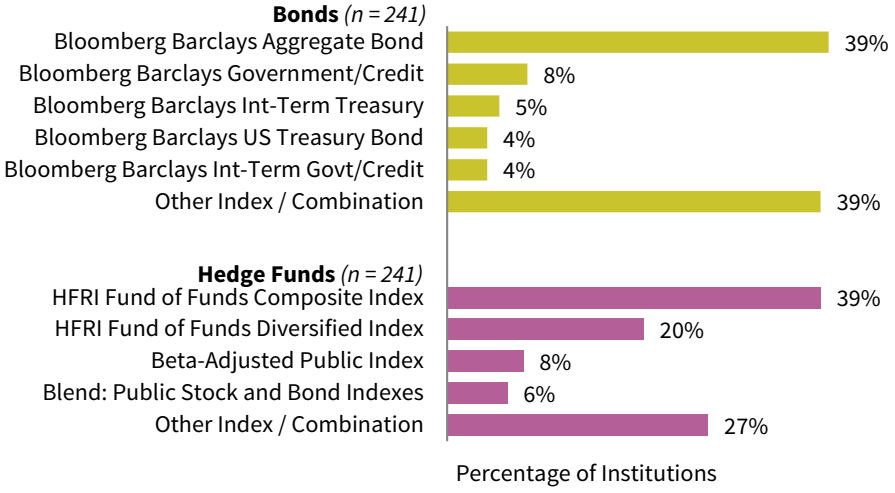


Source: Endowment data as reported to Cambridge Associates LLC.

The use of the Bloomberg Barclays Aggregate Bond Index only was the most common benchmarking approach for bonds and was reported by 39% of endowments (Figure 31). 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 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 33 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: BONDS AND HEDGE FUNDS

As of June 30, 2020



Source: Endowment data as reported to Cambridge Associates LLC.

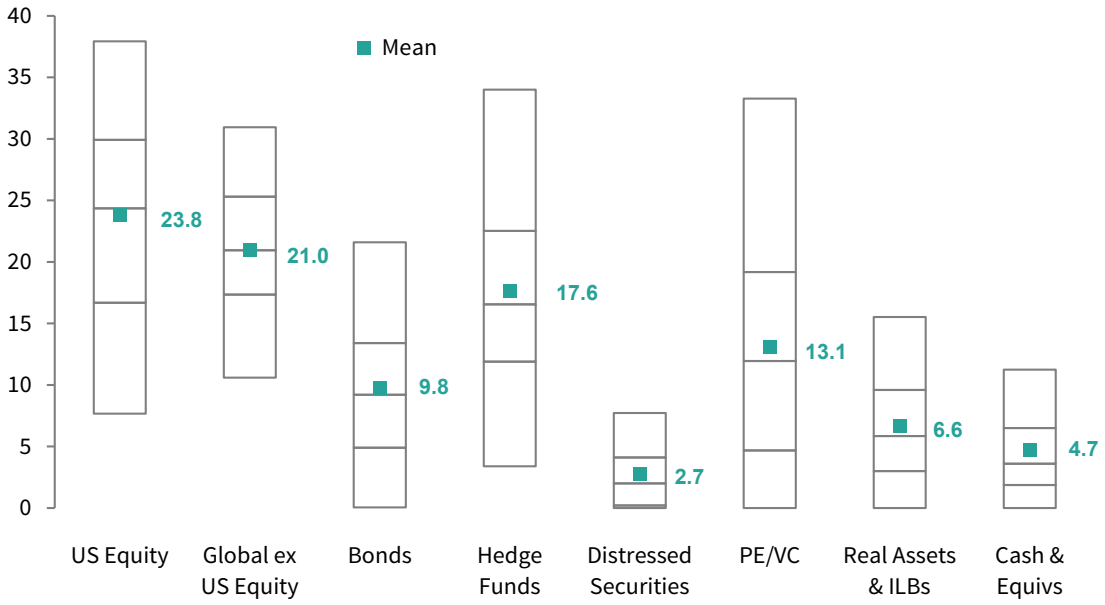
Section 3: Portfolio Asset Allocation

2020 ASSET ALLOCATION

Approximately 45% of the average long-term investment portfolio (LTIP) consisted of public equity at June 30, 2020. On average, the allocations to US equity (23.8%) were higher than those to global ex US equity (21.0%). Portfolios had significant exposure to alternative assets, with 17.6% allocated to hedge funds and 13.1% allocated to private equity and venture capital, on average. Another 2.7% 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 6.6% of portfolios, on average. Average allocations to bonds and cash were 9.8% and 4.7%, respectively (Figure 34).

FIGURE 34 ASSET ALLOCATION DISTRIBUTION BY ASSET CLASS

As of June 30, 2020 • Percent (%) • n = 312

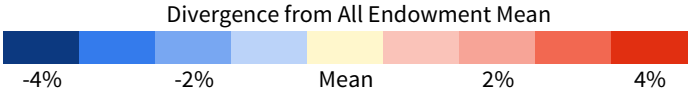


Source: Endowment data as reported to Cambridge Associates LLC.
Note: For more information, see page 70 in the Appendix.

As Figure 34 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 traditional bonds and equities, while those with assets over $1 billion have the highest allocations to alternative assets. The differences are most noticeable in the breakdown of public equity versus private equity. The smallest endowments in this study had an average allocation of 53.7% to public equity, while the largest endowments had an average of 35.4% (Figure 35). For PE/VC, the largest endowments had an average allocation of 20.7% while the smallest endowments had an average of 5.9%. Average allocations for a more granular asset allocation framework are included in the appendix of this report.

FIGURE 35 MEAN ASSET ALLOCATION BY ASSET SIZE
As of June 30, 2020 • Percent (%)

Asset Size	US Equity	Global ex US Equity	Bonds	Hedge Funds	Distressed Securities	PE/VC	Real Assets & Infl-Linked Bonds	Cash & Equivalents	Other
Under $200M *n = 106*	29.4	24.4	13.1	16.2	1.6	5.9	4.2	5.1	0.2
$200M – $500M *n = 61*	25.3	21.7	10.3	16.8	3.0	11.5	5.4	4.6	1.4
$500M – $1B *n = 47*	22.4	18.9	8.9	18.1	4.0	15.4	8.1	4.1	0.1
Over $1B *n = 98*	17.5	17.8	6.3	19.5	3.3	20.7	9.4	4.6	1.0
All End Mean *n = 312*	23.8	21.0	9.8	17.6	2.7	13.1	6.6	4.7	0.7



Sources: Endowment data as reported to Cambridge Associates LLC.
Note: For more information, see page 71 in the Appendix.

HISTORICAL ASSET ALLOCATION

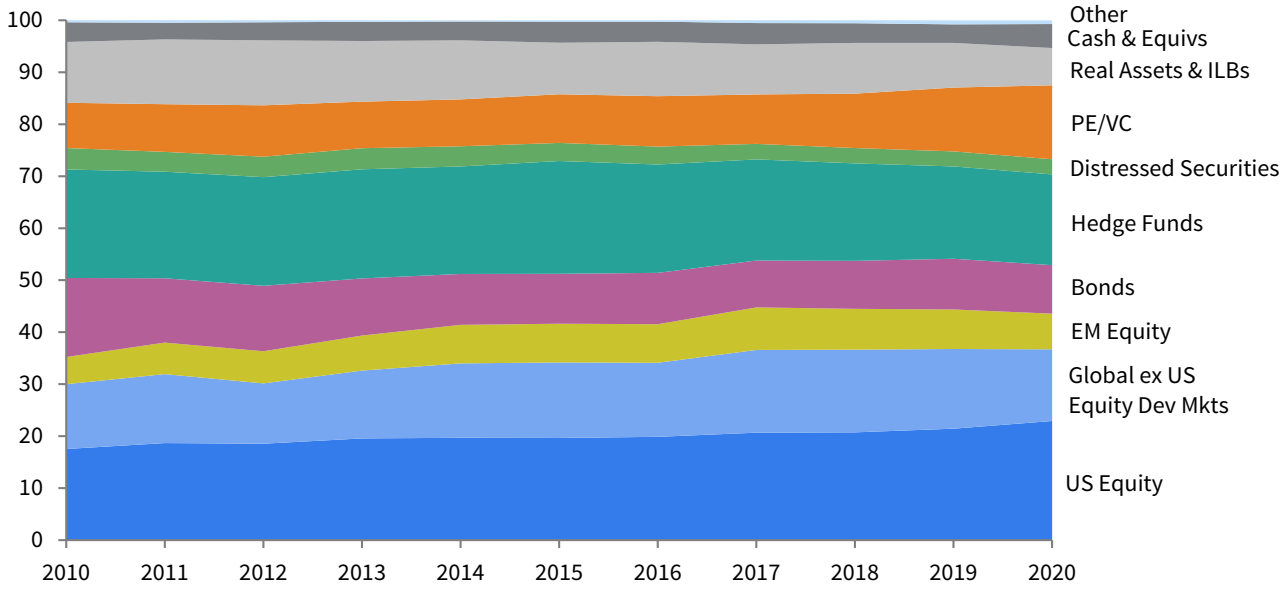
Institutional investors that have adopted the endowment model of investing have seen significant shifts in their asset allocation policies over the last few decades. Exposure to bonds has decreased, while the larger equity allocation has become more diversified. The largest endowments pioneered this 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 end of the 2000s, most endowments in this study had already built highly diversified portfolios.

Figure 36 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, 2010, and just a little over a year after the stock market bottoms of the Global Financial Crisis (GFC). Average public equity allocations were near their all-time low on this date but have ticked back up over the last decade. The biggest increase in public allocations over the last decade have been to US equities, which increased by an average of 5.4 ppts. Allocations to PE/VC increased by virtually the same amount, with the average increasing by 5.5 ppts over the last decade. Bonds (-5.9 ppts), real assets (-4.5 ppts), and hedge funds (-3.4%) all experienced substantial declines on average over this period.

Endowments of various asset sizes followed the same overall trends (Figure 37). Each asset size group saw increases to PE/VC, with endowments over $1 billion reporting the highest average increase (7.2 ppts) and endowments under $200 million with the smallest average increase (3.5 ppts). It was the opposite for US equities, where the smallest endowments reported the largest increase (7.4 ppts) over the decade. By contrast, those over $1 billion reported the smallest increase (2.5%). All asset size groups reported notable decreases to bonds, hedge funds, and real assets.

FIGURE 36 HISTORICAL MEAN ASSET ALLOCATION TRENDS

Years Ended June 30 • Percent (%) • n = 224



Source: Endowment data as reported to Cambridge Associates LLC.

Note: For more information, see page 72 in the Appendix.

FIGURE 37 TRENDS IN ASSET ALLOCATION BY ASSET SIZE

Means as of June 30 • Percent (%)

	US Equity	Global ex US Dev	Global ex US EM	Bonds	Hedge Funds	Dist Sec	PE/VC	RA & ILBs	Cash & Equiv
Under $200M (n = 62)									
2010	20.9	15.1	4.2	21.0	19.2	2.5	2.3	9.3	5.2
2020	28.4	17.3	7.1	13.2	16.6	1.4	5.8	4.6	5.6
Change (ppt)									
2010–2020	7.4	2.2	2.9	-7.8	-2.6	-1.1	3.5	-4.7	0.4
$200M to $500M (n = 44)									
2010	19.3	13.2	5.2	16.8	20.4	4.1	6.1	11.0	3.5
2020	25.6	15.0	6.9	10.3	16.0	3.4	11.5	5.6	4.1
Change (ppt)									
2010–2020	6.2	1.7	1.6	-6.5	-4.4	-0.7	5.4	-5.4	0.7
$500M to $1B (n = 37)									
2010	16.3	11.8	5.5	14.3	22.0	5.7	9.6	11.5	2.9
2020	23.5	13.3	6.1	9.4	16.7	4.0	15.1	7.6	4.2
Change (ppt)									
2010–2020	7.2	1.5	0.5	-4.9	-5.3	-1.7	5.6	-3.9	1.4
Over $1B (n = 81)									
2010	14.5	10.3	5.9	10.3	22.0	4.6	14.6	14.0	3.2
2020	17.0	10.7	7.0	5.7	19.3	3.4	21.8	9.8	4.2
Change (ppt)									
2010–2020	2.5	0.4	1.1	-4.5	-2.7	-1.2	7.2	-4.2	1.0

Change in Mean Asset Allocation from 2010 to 2020

-4% or lower | -3% | -2% | -1% | 0% | 1% | 2% | 3% | 4% or higher

Source: Endowment data as reported to Cambridge Associates LLC.

Note: Asset sizes are based on June 30, 2020, data.

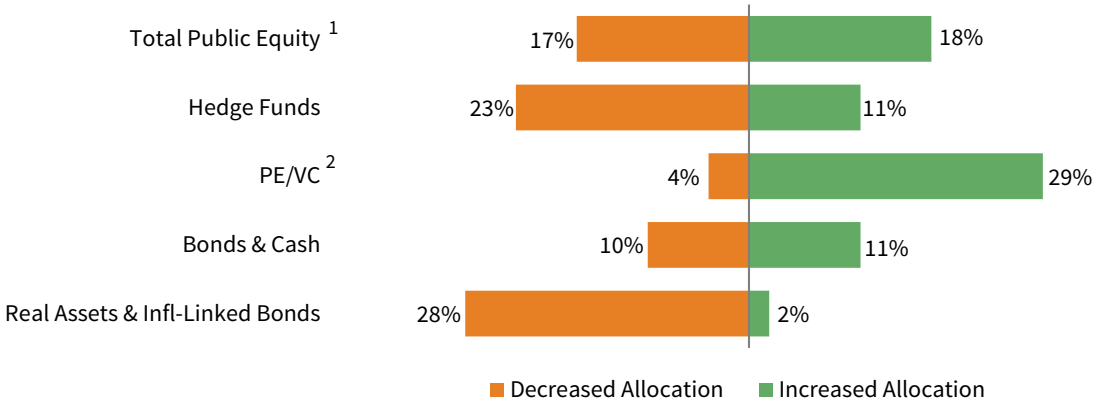
TARGET ASSET ALLOCATION

Target asset allocation data can be insightful for evaluating whether endowments are altering their long-term asset allocation policies going forward. Our survey requests that participants provide their asset allocation policy exactly as stated in their investment policy statements. While there are differences in how policy frameworks are structured across institutions, we are able to make some general observations as to where endowments are tilting toward increasing or decreasing their allocations in the future.

The trend in target asset allocations for fiscal year 2020 was mostly similar those that have been reported in recent years. Over the last fiscal year, 29% of endowments have increased their target allocation to private equity and venture capital. Just 4% of respondents has decreased their target to this category. The trend was the opposite for real assets, where 28% of endowments have lowered their target and just 2% reported an increase. There continues to be more respondents that are decreasing their target to hedge funds as opposed to those reporting increases. For both total public equities and bonds & cash, the proportion of endowments reporting an increase was nearly identical to the proportion reporting a decrease.

FIGURE 38 CHANGES IN TARGET ASSET ALLOCATION

June 30, 2019 – June 30, 2020 • Percentage of Institutions Increasing or Decreasing Targets



Source: Endowment data as reported to Cambridge Associates LLC.

[1] Total public equity excludes institutions that combine public equity together with PE/VC in a single equity category.

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

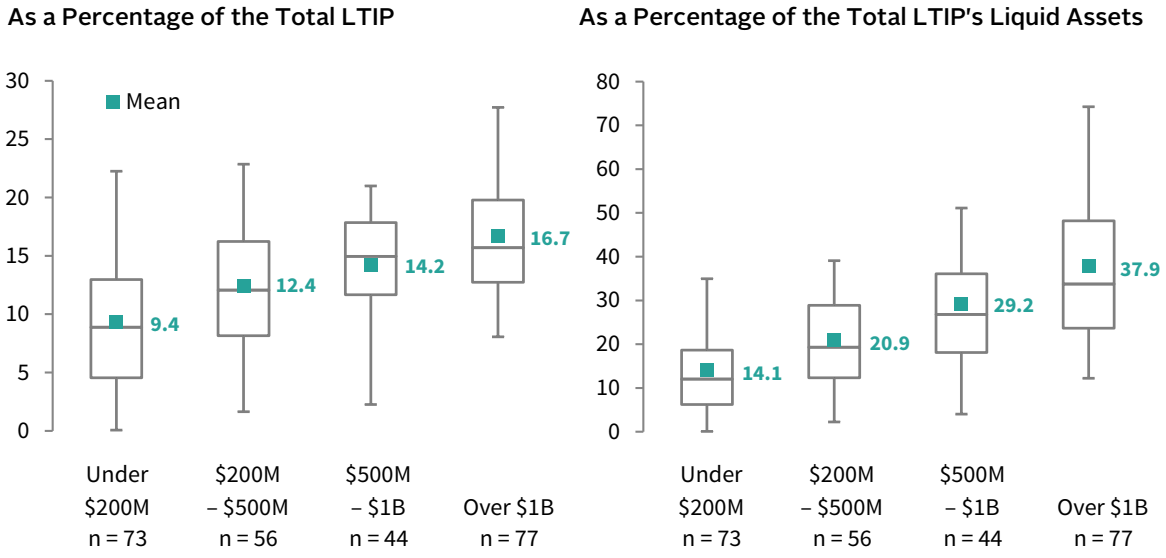
PRIVATE INVESTMENTS AND UNCALLED CAPITAL COMMITMENTS

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. For the constant group of participants that have provided data for the last ten years, the average asset allocation to private investments has increased from 14.1% to 20.6% over this past decade.

As discussed earlier in this section, private investment allocations generally are higher for larger endowments compared to smaller endowments. Similarly, uncalled capital commitments as a percentage of the total LTIP tends to increase along with portfolio size. Endowments under $200 million reported an average ratio of 9.4% for fiscal year 2020, while those over $1 billion reported an average ratio more that was considerably higher (16.7%) (Figure 39). 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 37.9% of their total liquid assets. In contrast, the ratio was 14.1% for endowments under $200 million.

FIGURE 39 UNCALLED CAPITAL COMMITTED TO PRIVATE INVESTMENT FUNDS
As of June 30, 2020 • Percent (%)

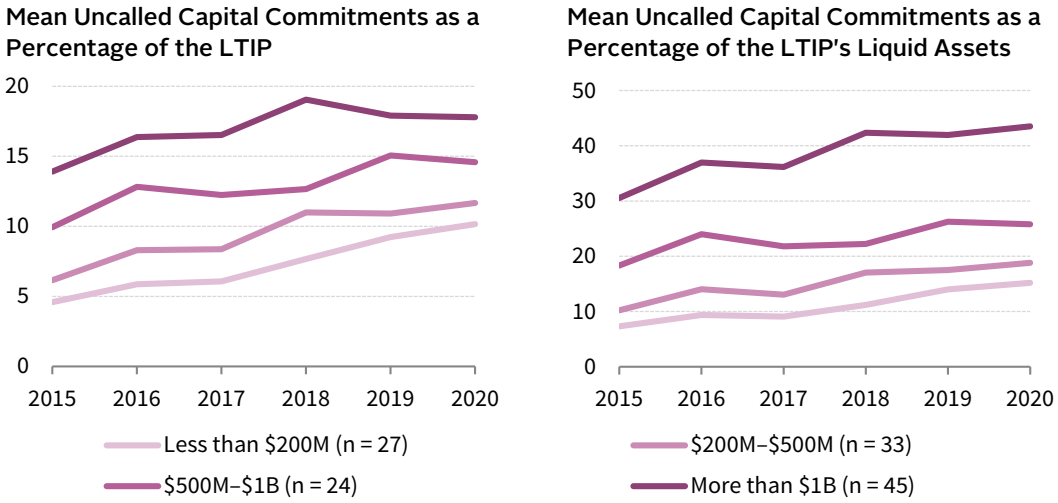


Source: Endowment data as reported to Cambridge Associates LLC.
Note: For more information, see page 72 in the Appendix.

Figure 40 shows the trend over the last five years for these two ratios. The average ratios were considerably higher in 2020 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 dollar amount of uncalled capital commitments increased by more than 82% 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 13% and 11%, respectively. These trends infer that private investment allocations as a percentage of the overall portfolio could continue to rise among endowments into the future.

FIGURE 40 TREND IN UNCALLED CAPITAL COMMITMENTS TO PRIVATE INVESTMENT FUNDS

Years Ended June 30 • Percent (%)



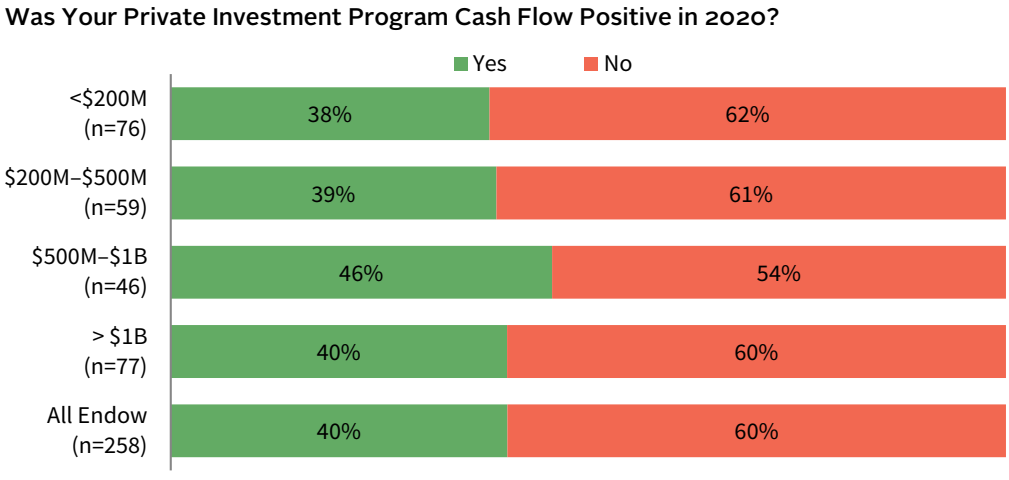
Source: Endowment data as reported to Cambridge Associates LLC.

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 2020, a majority of endowments (60%) reported that their private investment programs were cash flow negative for the fiscal year (Figure 41). 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 41 PRIVATE INVESTMENT PROGRAM CASH FLOW

As of June 30, 2020 • n = 258



Source: Endowment 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 2020.

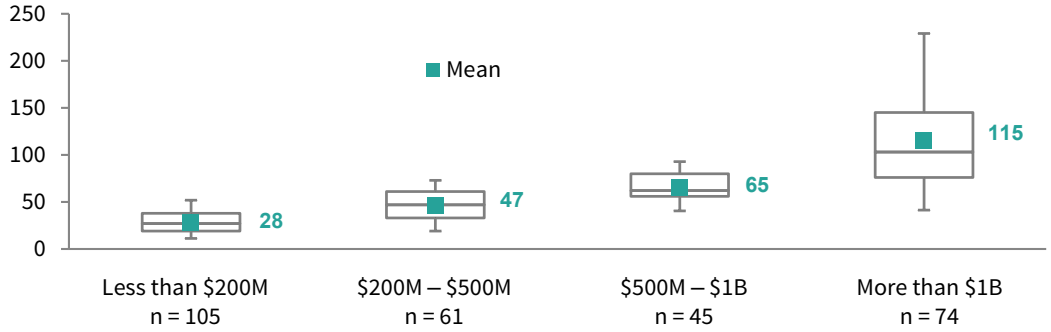
Section 4: Investment Manager Structures

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, endowments with assets over $1 billion employed 115 external investment managers in 2020 (Figure 42). At the opposite end of the asset size spectrum, endowments with assets less than $200 million averaged just 28 managers.

FIGURE 42 NUMBER OF EXTERNAL MANAGERS

As of June 30, 2020



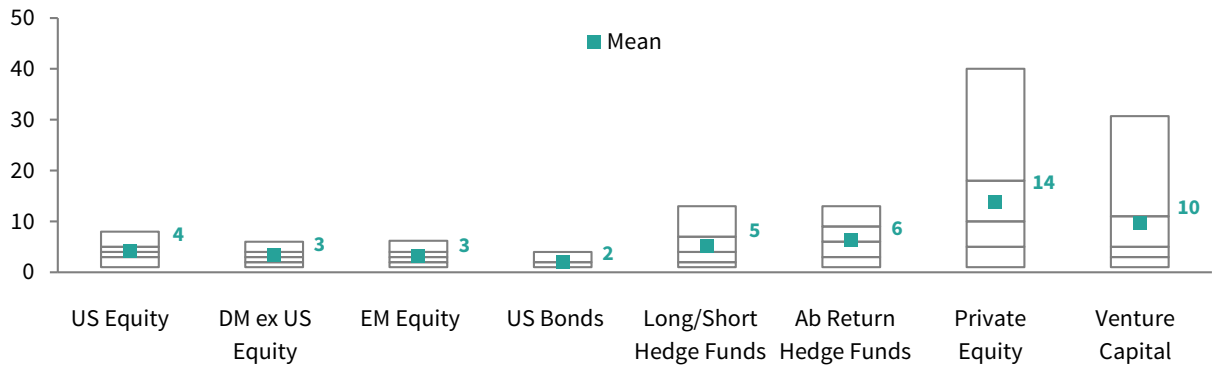
Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Funds-of-funds are counted as one separate investment manager. For more information, see page 73 in the Appendix.

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 (38) is double the number used at the 75th percentile (19). For portfolios over $1 billion, 229 managers are employed at the 5th percentile compared to just 41 at the 95th percentile. Much of the variation can be attributed to the management of alternative asset classes. As Figure 43 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 the Appendix of this report.

FIGURE 43 DISPERSION IN NUMBER OF MANAGERS FOR SELECTED ASSET CLASSES

As of June 30, 2020



Source: Endowment data as reported to Cambridge Associates LLC.

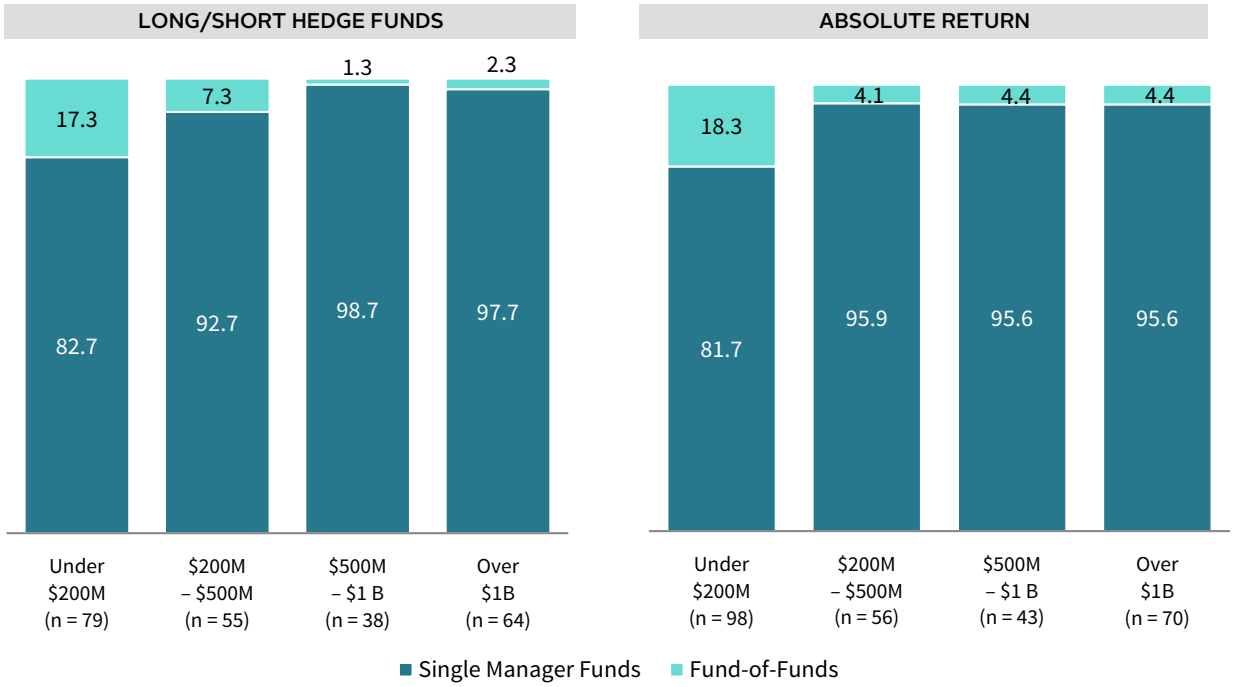
Notes: Only those institutions with an allocation to the specific asset class have been included. Funds-of-funds are counted as one manager. For more information, see page 73 in the Appendix.

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 44 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 under $200 million have the highest exposure to fund-of-funds managers. On average, these smallest endowments use fund-of-funds for 17.3% and 18.3% of their long/short hedge funds and absolute return allocations, respectively.

FIGURE 44 PORTFOLIO IMPLEMENTATION: HEDGE FUNDS

As of June 30, 2020 • Equal-Weighted Means (%)



Source: Endowment 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.

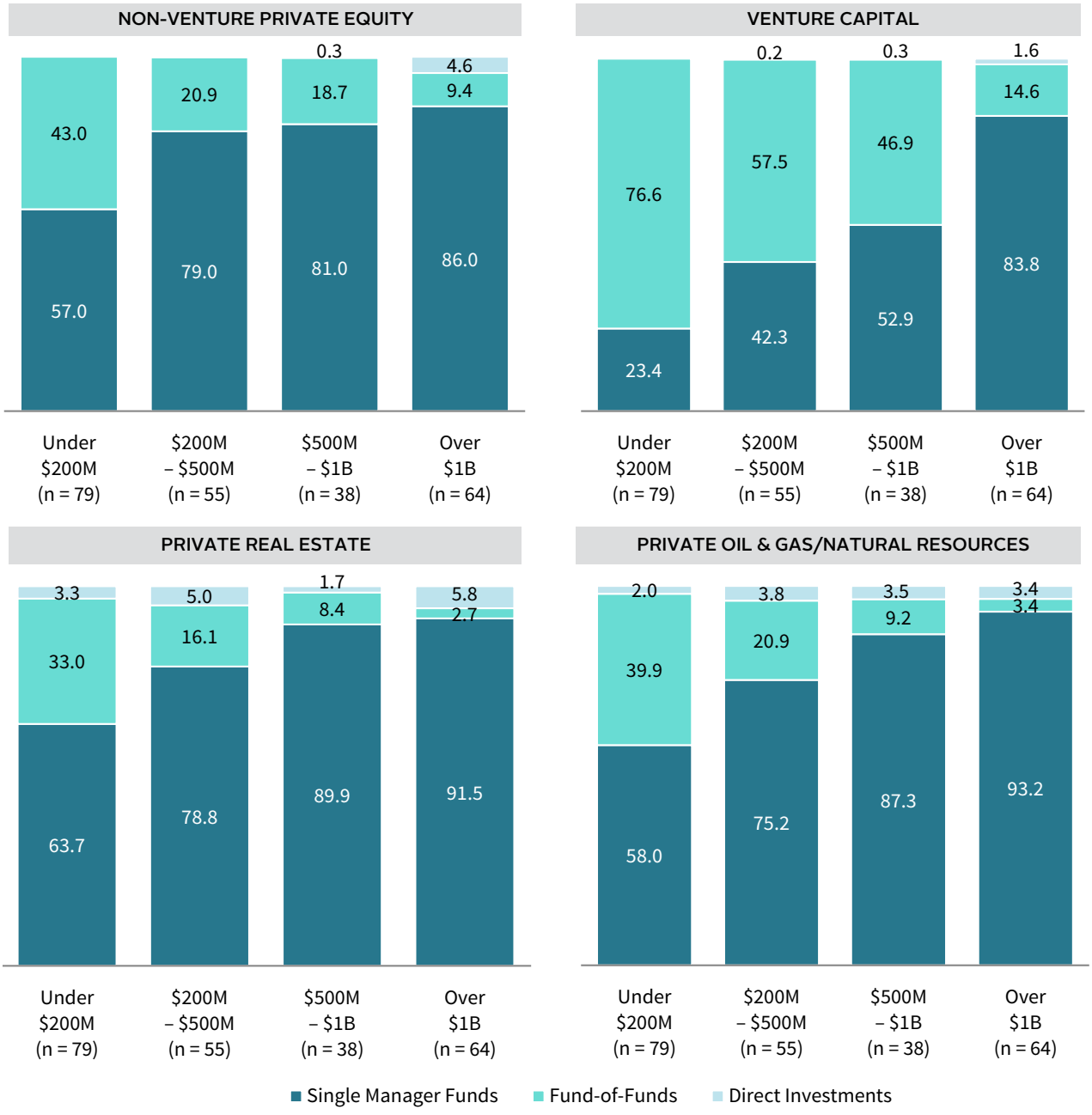
Compared to hedge funds, implementation practices are more varied across private investment asset classes. The average breakdown of allocations by implementation category shows how experiences differ by asset size. For endowments under $200

million, an average of 43% of non-venture PE and 77% of VC was invested via fund-of-funds (Figure 45). The experience is the opposite for endowments over $1 billion, where an average of 86% and 84% of non-venture PE/VC was implemented through single manager funds, respectively.

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

FIGURE 45 PORTFOLIO IMPLEMENTATION: PRIVATE INVESTMENTS

As of June 30, 2020 • Equal-Weighted Means (%)



Source: Endowment data as reported to Cambridge Associates LLC.

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

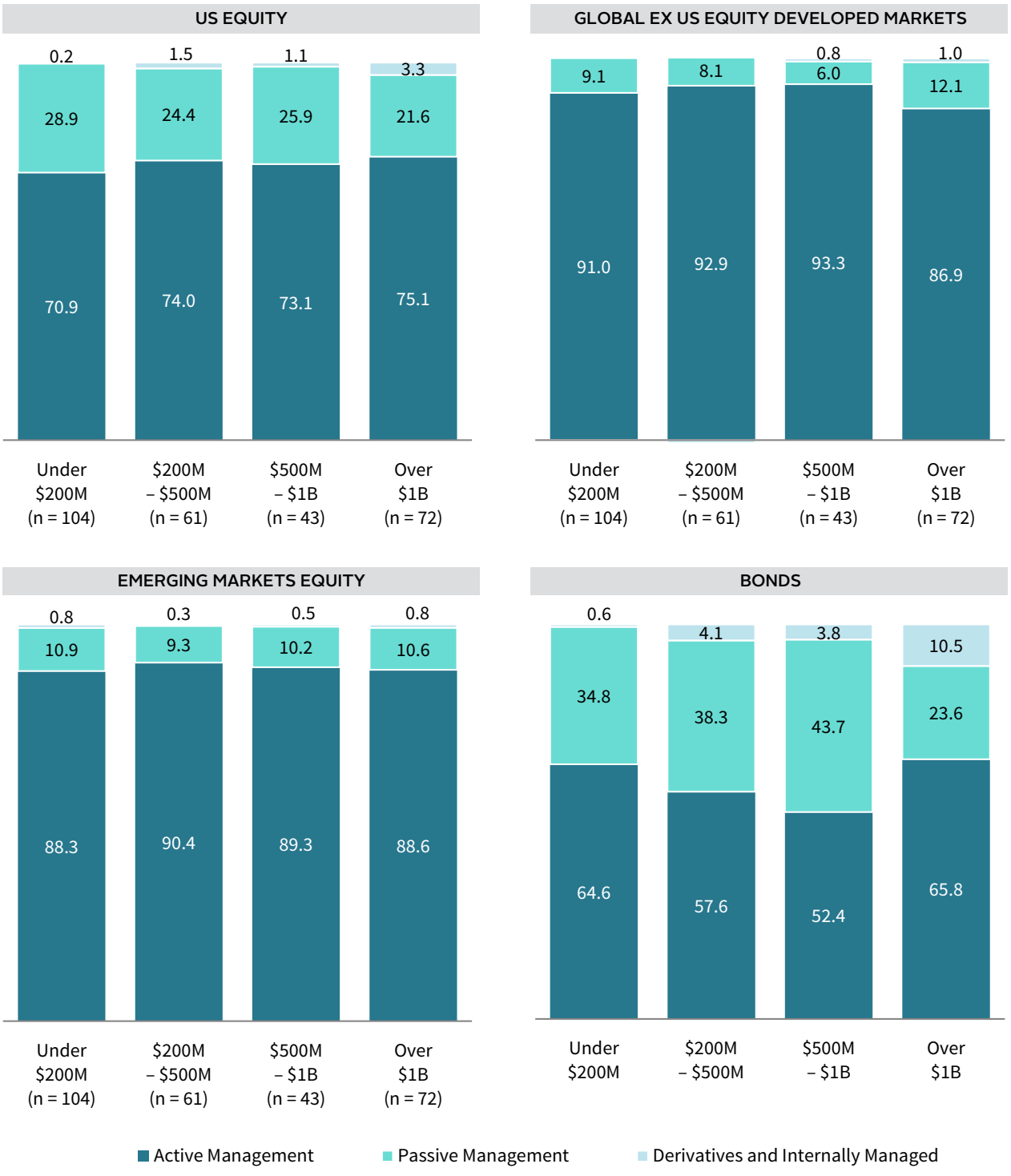
PUBLIC EQUITIES AND BONDS. For traditional bonds and equities, endowments primarily use external managers to implement their allocations. These assets are invested either through active or passively managed investment vehicles. Some endowments also manage assets internally or use derivatives to achieve 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 46). 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 the three asset size subgroups under $1 billion, over one-third of the average allocation is implemented passively. The proportion is lower for larger endowments, where an average of 24% of the bond allocation is invested through passive funds.

FIGURE 46 PORTFOLIO IMPLEMENTATION: TRADITIONAL EQUITIES AND BONDS

As of June 30, 2020 • Equal-Weighted Means (%)



Source: Endowment data as reported to Cambridge Associates LLC.

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

Section 5: Institutional Support

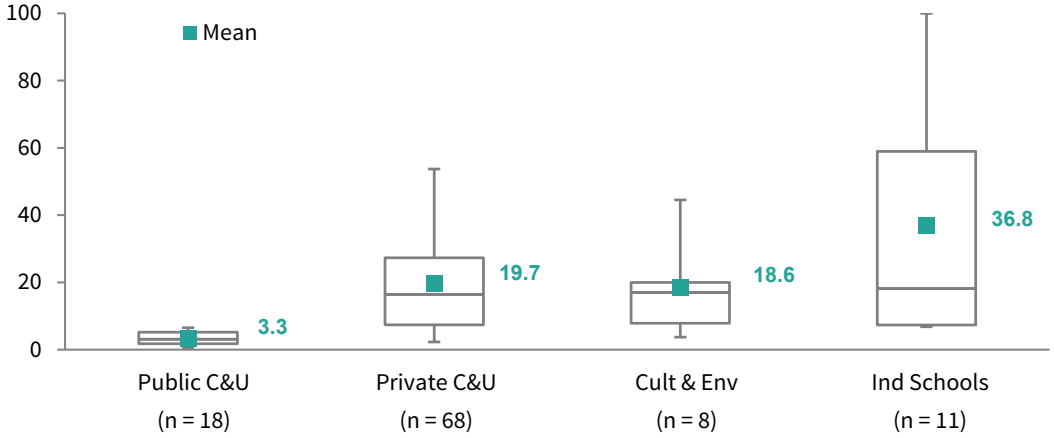
ENDOWMENT DEPENDENCE

Since few nonprofit institutions generate enough revenues from their core operations to break even on their annual operating budgets, many rely on their LTIP to provide additional financial support. The level of LTIP support varies considerably among the institutions in this study. Spending distributions supported 1% or less of the operating budget for some institutions, while for others it is the single largest source of revenue.

Public universities, which receive financial support from state appropriations, generally rely less on the LTIP to fund the operating budget compared to private colleges and universities and other nonprofits. For the 18 public universities that provided data, the average support from the LTIP as a percentage of operating expenses was 3.3% in 2020 (Figure 47). Average endowment dependence for private colleges and universities (19.7%) and cultural and environmental institutions (18.6%) was considerably higher. While the average level of support was highest at independent schools (36.8%) because of a few outliers, the median for this peer group was in line with that of private colleges and universities and cultural and environmental institutions.

FIGURE 47 LTIP SUPPORT OF OPERATIONS

Fiscal Year 2020



Source: Endowment 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.

SPENDING POLICIES

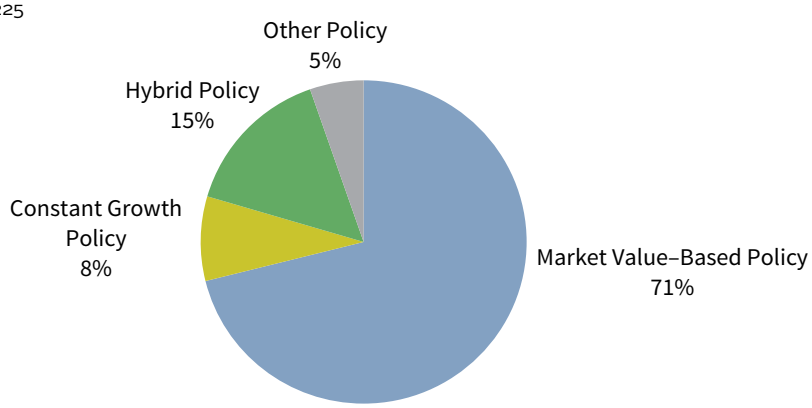
An institution's endowment spending policy serves as a bridge that links the investment portfolio and the enterprise. The spending policy should be designed to balance the needs of current and future generations of stakeholders, with the goals of providing appropriate levels of support to operations and preserving, or even growing, endowment purchasing power.[2]

The majority (71%) of responding institutions continue to use a market value–based rule that dictates spending a percentage of a moving average of endowment market values (Figure 48). By using a target spending rate, this rule type links the spending

2 For a more in-depth discussion on this topic please see William Prout et al., "Spending Policy Practices," Cambridge Associates Research Report, 2020.

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 48 SPENDING RULE TYPES
Fiscal Year 2020 • n = 225



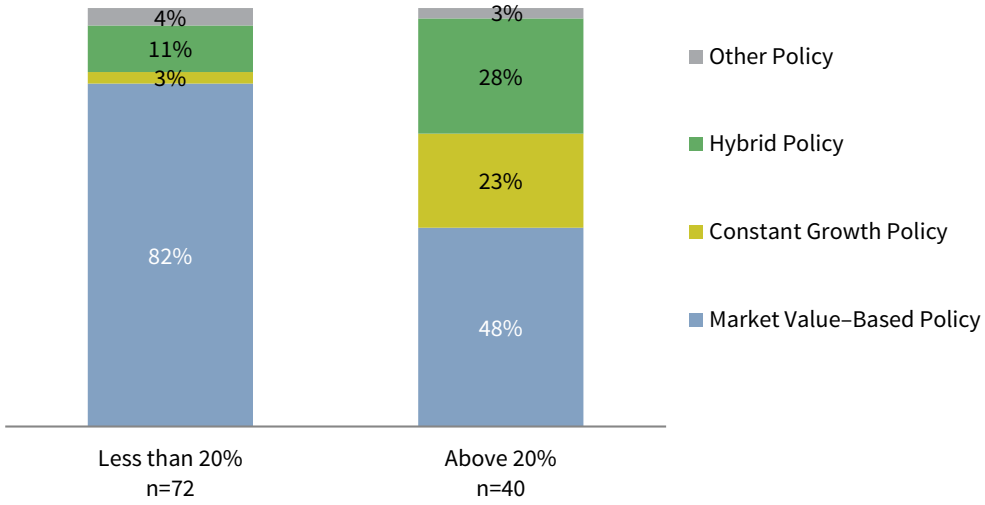
Source: Endowment data as reported to Cambridge Associates LLC.

Approximately 8% 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.

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 market value rule. A hybrid rule essentially has the effect of spending a percentage of an exponentially weighted average market value that is adjusted for inflation.

While a market value–based policy is most common across all groupings of endowments, the more predictable stream of spending dollars presumably makes the constant growth and hybrid rules appealing to institutions with higher endowment dependence. Among institutions with endowment dependence above 20%, a notable proportion used a constant growth policy (23%) or a hybrid policy (28%). In contrast among institutions that are less reliant upon the endowment, just 3% used a constant growth policy and 11% used a hybrid policy (Figure 49).

FIGURE 49 SPENDING RULE TYPES VERSUS ENDOWMENT DEPENDENCE
Fiscal Year 2020

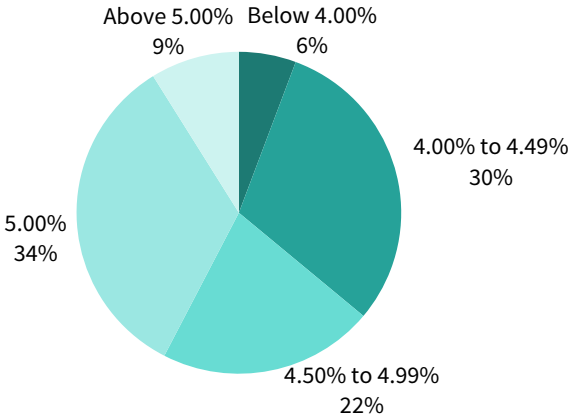


Source: Endowment data as reported to Cambridge Associates LLC.

TARGET SPENDING RATES. A market value–based rule dictates spending a percentage of the endowment's market value, which is most often represented by a moving average over a smoothing period. A pre-specified target spending rate is applied is to the average market value to determine how much of the endowment should be distributed on an annual basis. Some institutions with a market value–based policy allow some discretion by setting a pre-specified range within which the target spending rate may fall. For the purposes of comparing target spending rates in our analysis, we assume the midpoint for institutions that use a discretionary range.

The target spending rate for most endowments in this study within lies somewhere from 4% to 5%. The single most commonly cited rate continues to be 5% (34% of respondents). Slightly less than one-third of respondents (30%) use a rate that falls from 4% to 4.49%, while another 22% of respondents use a rate that falls from 4.5% to 4.99%. Just 9% of respondents reported a spending rate above 5% (Figure 50).

FIGURE 50 TARGET SPENDING RATES FOR MARKET VALUE–BASED RULES
Fiscal Year 2020 • n = 158



Source: Endowment data as reported to Cambridge Associates LLC.

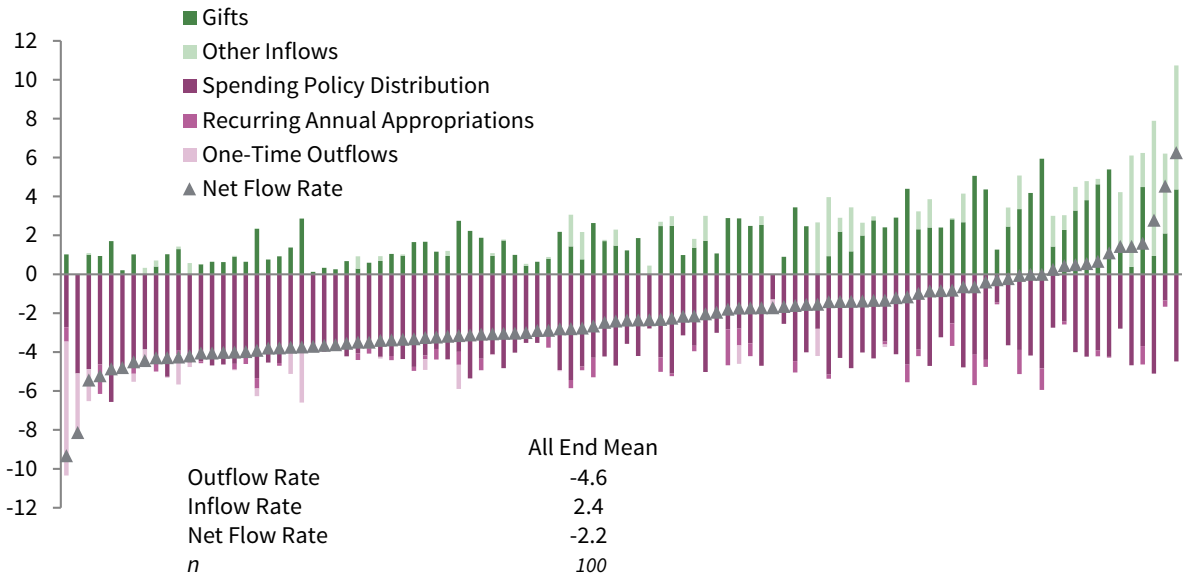
NET FLOW RATE

The combination of the total outflows (spending and other appropriations) and inflows for the portfolio constitutes the net flow rate. The net flow rate is calculated as a percentage of the LTIP market value at the beginning of the fiscal year. Net flow can lend insight into the liquidity needs for the portfolio. As is typically the case, the average net flow rate among participants was negative (-2.2%) in fiscal year 2020, meaning the amount of withdrawals from the portfolio surpassed the amount of additions for most respondents. The average outflow rate was -4.6%, while the average inflow rate was 2.4%.

Inflows are mainly driven by endowed gifts and are represented by the dark green shading in the bar chart on Figure 51. On average, gifts represented 75% of total inflows received among participants in fiscal year 2020. Some institutions receive additional inflows from operations or other sources, which is represented by the light green shading. The endowment spending policy distribution (dark pink shading) represents the biggest chunk of outflows while other recurring spending and one-time appropriations (light pink shading) make up a smaller portion. On average, spending policy distributions represented 90% of total outflows in fiscal year 2020.

FIGURE 51 NET FLOW RATES FOR FISCAL YEAR 2020

Percent (%) • n = 100



	All End Mean
Outflow Rate	-4.6
Inflow Rate	2.4
Net Flow Rate	-2.2
n	*100*

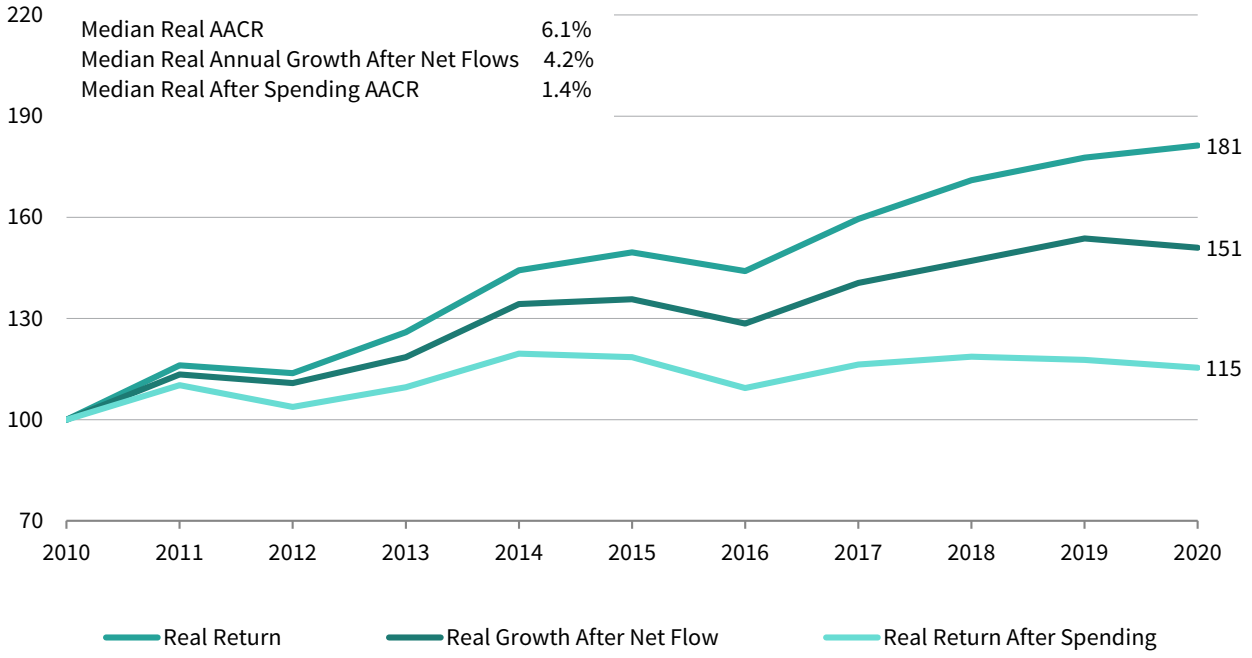
Source: Endowment data as reported to Cambridge Associates LLC.

Often the evaluation of endowment health is focused on the relationship 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. However, institutions often expand programs and facilities so that budgets grow at a faster rate than inflation, thus necessitating additional endowment growth to maintain the endowment's role in the enterprise. Evaluating the net flow rate along with traditional investment performance metrics is important to ensuring that the portfolio keeps up with enterprise growth and maintains its role in supporting the institution.

Figure 52 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 2010, the portfolio would have nearly doubled on an inflation-adjusted basis by the end of fiscal year 2020, growing to $181 in real dollars. After deducting the annual spending distributions from real investment performance, the investment would have ended the decade with $115 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 52 CUMULATIVE DOLLAR GROWTH AFTER INFLATION, NET FLOWS, AND SPENDING

Years Ended June 30 • 2010 = $100 • n = 88



Source: Endowment 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.

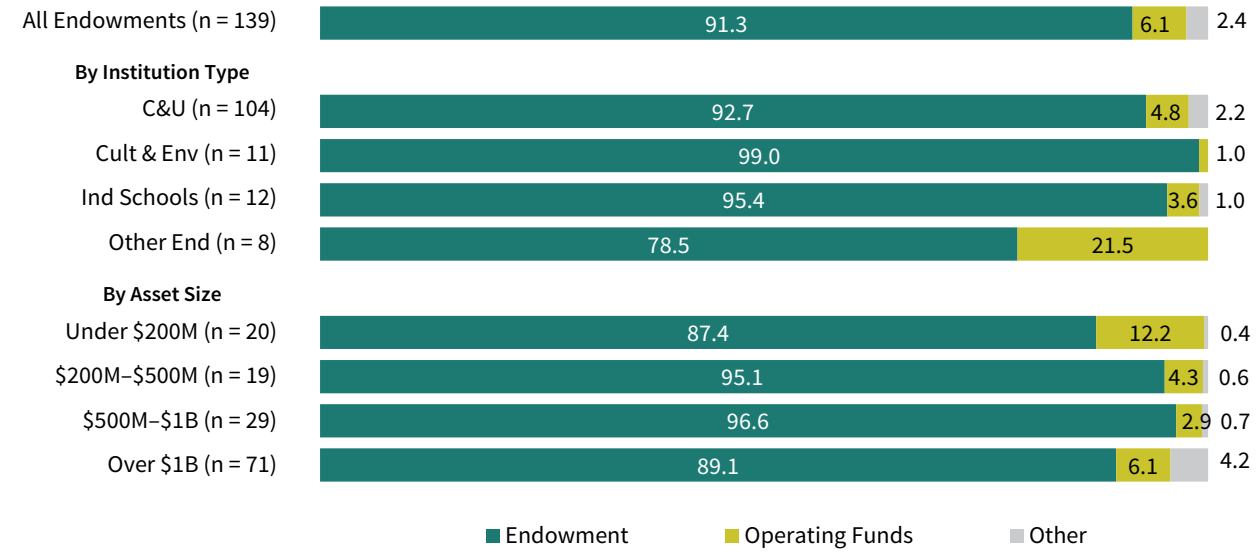
In the same figure, the actual value of the investment, which incorporates both real investment performance and net flows, is tracked by the middle line and grew by 51% over the ten-year period. Because of the steady inflow from gifts and other additions that most institutions experienced, the actual 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.

ASSET COMPOSITION

While the terms long-term investment pool and endowment are often used interchangeably, they are not synonymous. Understanding the types of assets that come together in the LTIP is important to understanding the portfolio's role.

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, 91.3% of the LTIP were endowment assets as of June 30, 2020 (Figure 53). The average composition of the LTIP is similar when comparing across colleges and universities, cultural and environmental institutions, and independent schools.

FIGURE 53 COMPOSITION OF LTIP
Equal-Weighted Means as of Fiscal Year End



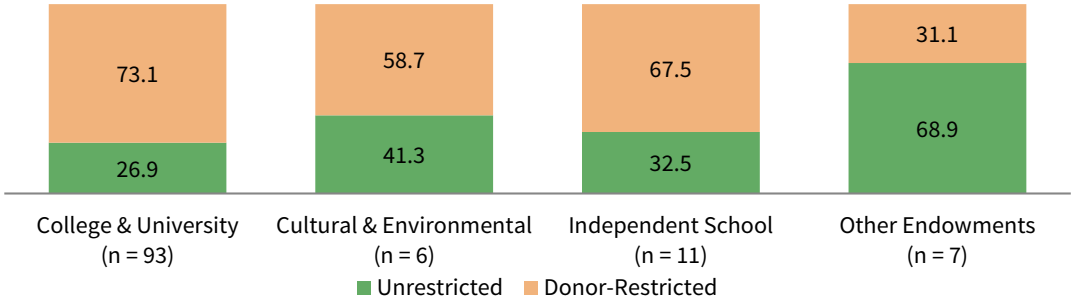
Source: Endowment data as reported to Cambridge Associates LLC.

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 6.1% and 2.4% 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.

ENDOWMENT. The average composition of the endowment between donor-restricted and unrestricted funds varies among the different institution types in study. At colleges and universities, donor-restricted funds represented 73.1% of the endowment, on average. The average proportion was lower at independent schools and cultural and environmental institutions, where donor-restricted funds represented 67.5% and 58.7% of the average endowment, respectively (Figure 54). At other miscellaneous types of nonprofits, donor-restricted assets made up less than one-third (31.1%) of endowment funds on average.

FIGURE 54 CLASSIFICATION OF ENDOWMENT FUNDS

Equal-Weighted Means as of Fiscal Year End 2020 • Percent (%)



Source: Endowment data as reported to Cambridge Associates LLC.

OPERATING FUNDS AND OTHER LIQUIDITY SOURCES. For many institutions, the LTIP is not the only investment pool or source of liquidity. Assessing liquidity sources outside of the LTIP can help to inform liquidity needs within the LTIP. Operating funds and lines of credit are the two most common sources of short-term liquidity for our clients.

Half of respondents (55 of 109) 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 39.1%, but this percentage varies considerably across respondents (Figure 55). The other half of respondents hold all operating reserves outside of the LTIP. Operating funds held outside of the LTIP tend to be the first source of liquidity when immediate funding is needed.[3]

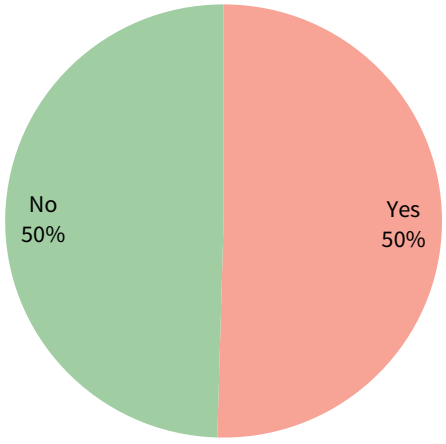
In addition to operating funds, 74 institutions reported having access to extra liquidity through a line of credit. One-third of those institutions had drawn upon their line of credit as of June 30, 2020.

3 Please see Tracy Filosa et al., "Disruption, Liquidity Sources, and the Role of the Endowment," Cambridge Associates Research Report, 2020, for a more in-depth discussion on this topc.

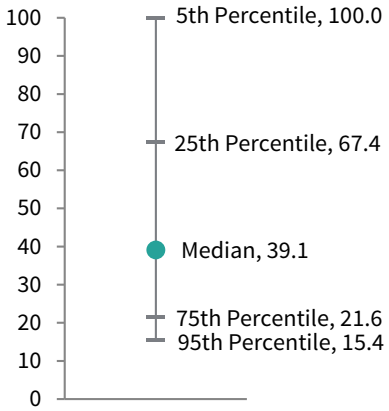
FIGURE 55 OPERATING FUNDS

Fiscal Year 2020

Operating Funds Invested in the LTIP
(n = 109)



Percentage (%) of Operating Funds Invested in the LTIP
(n = 55)



Source: Endowment data as reported to Cambridge Associates LLC.

Section 6: Investment Office Staffing and Governance

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 (93%) of the respondents with endowments greater than $1 billion have a full-time CIO, while 78% of respondents with assets between $500 million and $1 billon indicated they had a CIO in place. The percentage is drastically lower for endowments less than $500 million, where only 12% 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 for endowments of this size to outsource some or the entire portfolio to an OCIO.

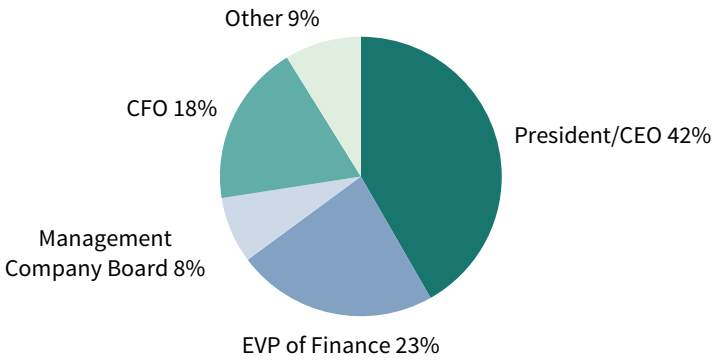
Where there is a CIO, the position typically reports directly to the CEO or President of the institution. Some large public universities have created legally separate management companies who are charged with managing the universities' investments. In these cases, the CIO (or CEO of the management company) will report directly to the management company board (Figure 56).

INVESTMENT OFFICE STAFFING AND GOVERNANCE RESPONSES

Of the 312 participants in this year's survey, 139 responded to this section of our survey including 30 endowments with assets over $3 billion, 40 that fall between $1 billion and $3 billion, 29 that fall between $500 million and $1 billion, and 40 under $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.

FIGURE 56 CHIEF INVESTMENT OFFICER REPORTING LINES

Fiscal Year 2020 • n = 91



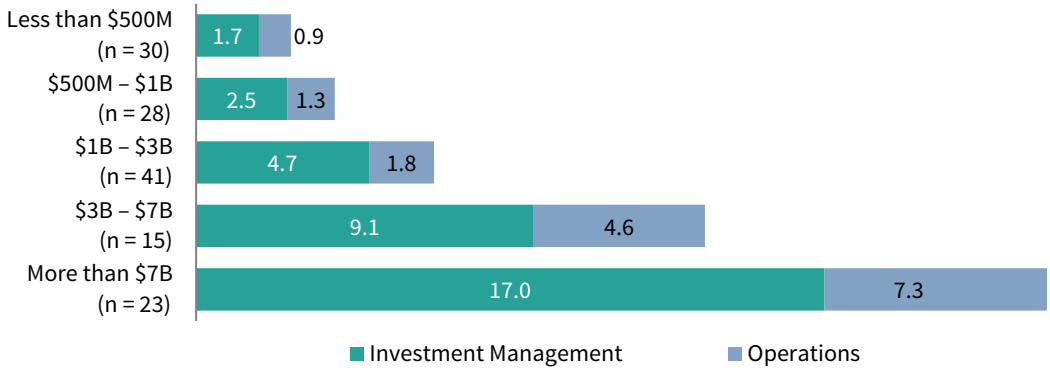
Source: Endowment data as reported to Cambridge Associates LLC.

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 chief investment officer, 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 results show 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 24.3 FTE split between investment management and operations, while endowments with assets between $3 billion and $7 billion are roughly half the size at 13.7 FTE (Figure 57). Endowments under $1 billion have much smaller in-house investment resources (if any) and use outside professionals to mange or assist in managing the investment portfolio.

FIGURE 57 AVERAGE STAFFING LEVELS

Fiscal Year 2020 • Number of FTEs



Source: Endowment data as reported to Cambridge Associates LLC.

Personnel consists of a mixture of senior-, mid-, and junior-level positions. Senior investment professionals typically carry the title of investment director, managing director, or VP 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 58 provides the average FTEs by asset size and position levels for investment management and operations positions.

FIGURE 58 AVERAGE INVESTMENT STAFF BY FUNCTION

Fiscal Year 2020 • Number of FTEs

	Investment Management			Investment Operations		
	Senior	Mid	Junior	Senior	Mid	Junior
More than $7B	6.3	4.9	5.6	1.4	2.5	4.3
n	*22*	*20*	*22*	*18*	*21*	*21*
$3B – $7B	3.2	3.5	3.5	1.0	1.7	2.8
n	*14*	*8*	*13*	*11*	*13*	*13*
$1B – $3B	1.9	1.7	1.6	1.2	1.1	1.5
n	*33*	*18*	*32*	*13*	*22*	*22*
$500M – $1B	1.4	1.2	1.2	1.0	1.0	1.1
n	*14*	*5*	*13*	*6*	*18*	*11*
Less than $500M	1.0	1.0	1.0	1.0	1.0	1.0
n	*8*	*2*	*7*	*4*	*10*	*12*

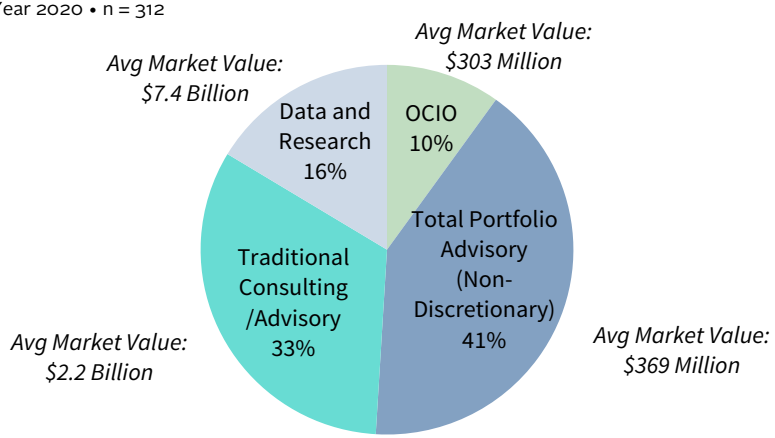
Source: Endowment data as reported to Cambridge Associates LLC.

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 59 broadly illustrates how the 312 participants in this study work with outside advisors or consultants. Endowments, with assets under $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 59 USE OF EXTERNAL ADVISORS AND CONSULTANTS

Fiscal Year 2020 • n = 312



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

Over 40% of institutions in our study 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.

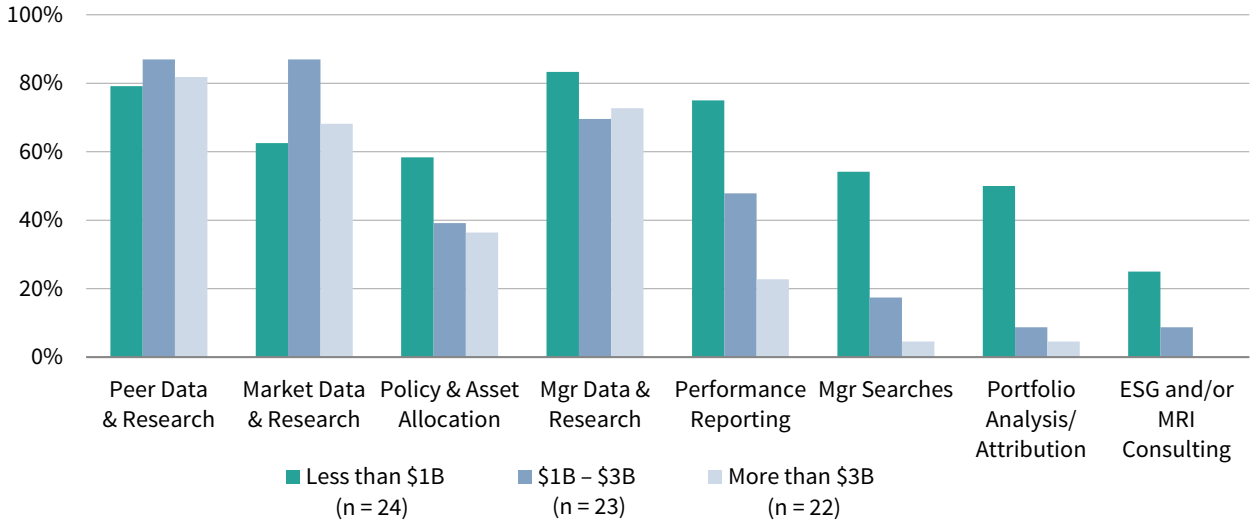
A smaller proportion (10%) of study participants use Cambridge Associates for discretionary portfolio management services. Also known as OCIO, this management model allows institutions to fully delegate portfolio management decision making to an outside firm. These firms are accountable for portfolio 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 the remaining respondents, the largest proportion (33%) use external resources for a range of traditional consulting services, including asset allocation reviews, manger searches, alternative assets management, ESG/MRI consulting, and performance reporting. Another 16% of participants 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 utilizing consultants in this fashion is $7.4 billion.

Figure 60 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 60 USE OF EXTERNAL ADVISORS AND CONSULTANTS: TYPES OF SERVICES

Fiscal Year 2020 • n = 69 • Percent of Institutions (%)



Source: Endowment 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

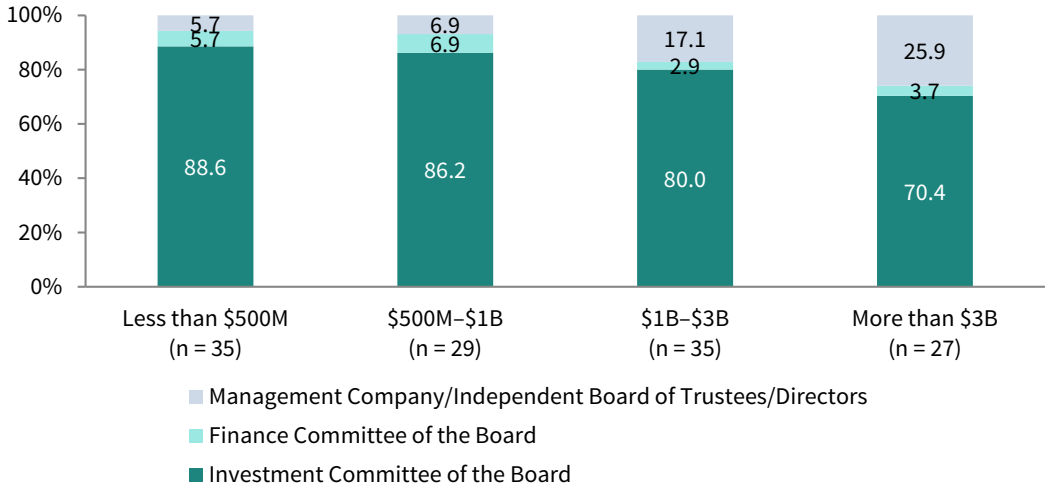
Good governance is one key factor to a successful investment program. To create the conditions for good governance, endowments should assess whether they have in place the appropriate model for portfolio oversight and management, are upholding their fiduciary responsibilities, and are learning about 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 61).

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.

FIGURE 61 GOVERNING BODY OF OVERSIGHT COMMITTEE BY ORGANIZATION TYPE

Fiscal Year 2020 • Percent of Institutions (%)



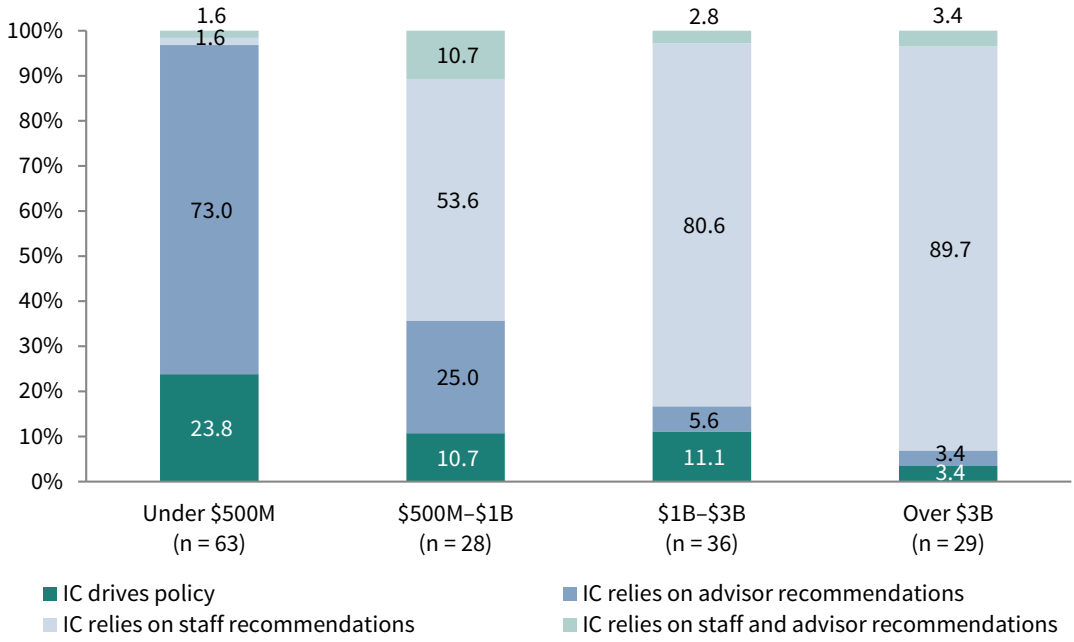
Source: Endowment data as reported to Cambridge Associates LLC.

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.

There is a strong relationship between asset allocation policy development and size of the portfolio. For the vast majority of participating endowments over $3 billion (90%), asset allocation policy is developed by committees acting on staff recommendations (Figure 62). In contrast, just 2% of committees at endowments under $500 million rely solely on staff recommendations. Among these smaller endowments, committees depend far more on the recommendations of outside advisors or drive the policy autonomously.

FIGURE 62 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: ASSET ALLOCATION POLICY DEVELOPMENT

Fiscal Year 2020 • Percent of Institutions (%)



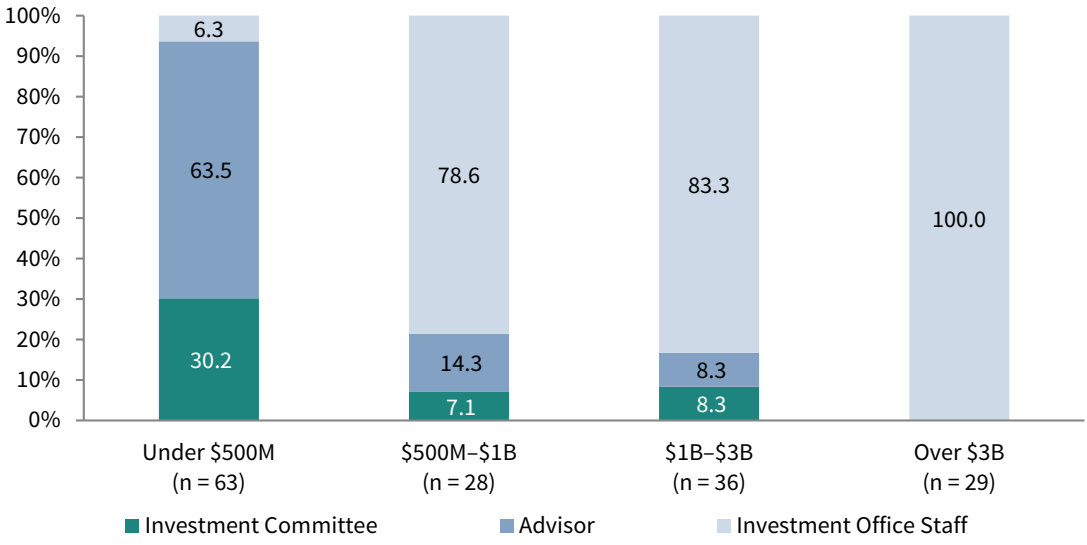
Source: Endowment data as reported to Cambridge Associates LLC.

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

When it comes to rebalancing, both the investment committee's role and the advisor's role in portfolio rebalancing is steadily diminished as endowment size rises. Among endowments under $500 million, 64% rely on advisors to make rebalancing decisions and 30% have their investment committee control this function. For endowments over $500 million, total staff discretion is most common (Figure 63).

FIGURE 63 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: PORTFOLIO REBALANCING

Fiscal Year 2020 • Percent of Institutions (%)

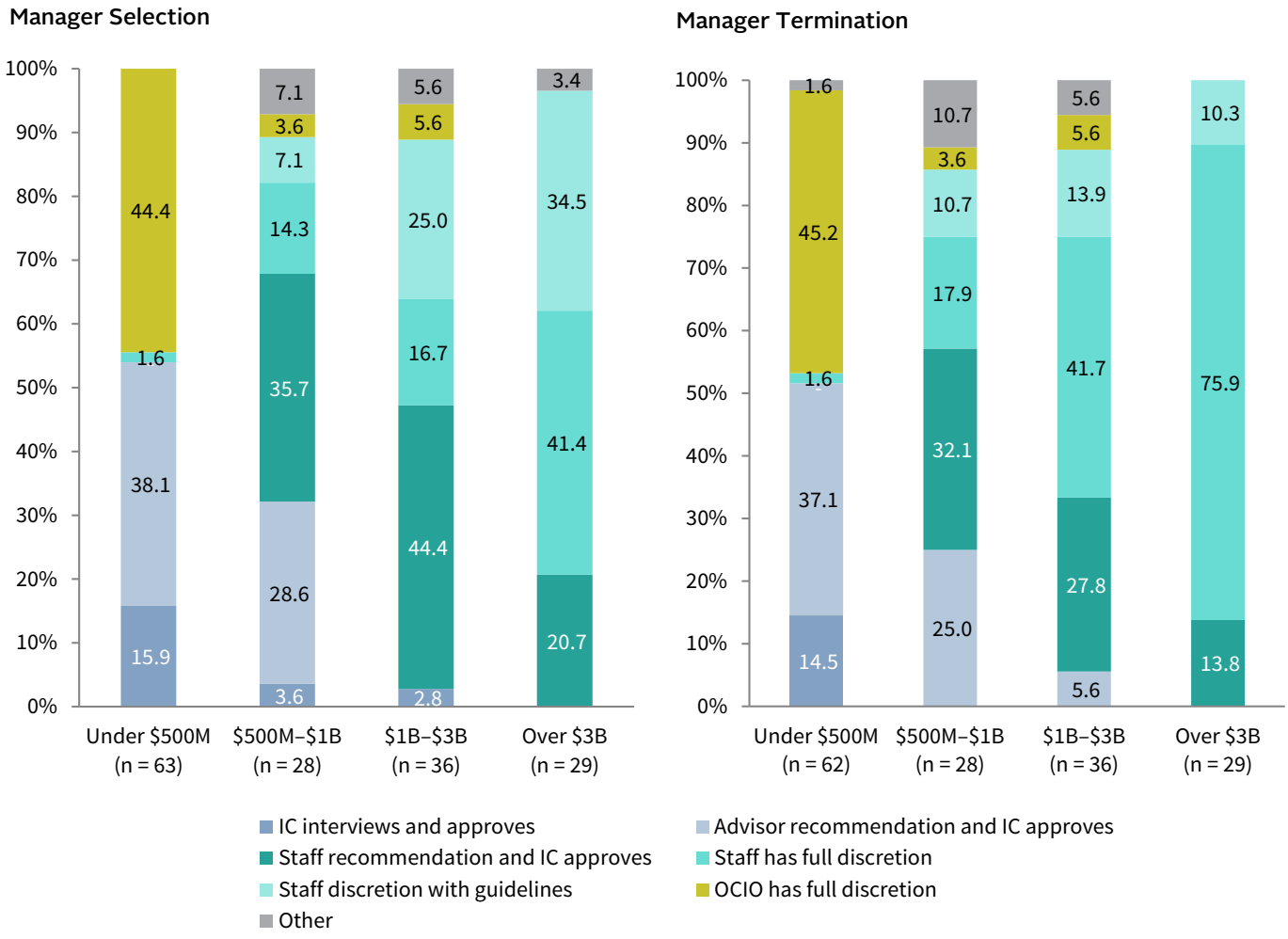


Source: Endowment data as reported to Cambridge Associates LLC.

The process of manager selection and termination also involves committees, advisors, and staff, but with different degrees of discretion (Figure 64). Advisors play a significant role in both selection and termination of investment managers at endowments under $500 million, with 44% 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 over $3 billion.

FIGURE 64 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: MANAGER SELECTION AND TERMINATION

Fiscal Year 2020 • Percent of Institutions (%)



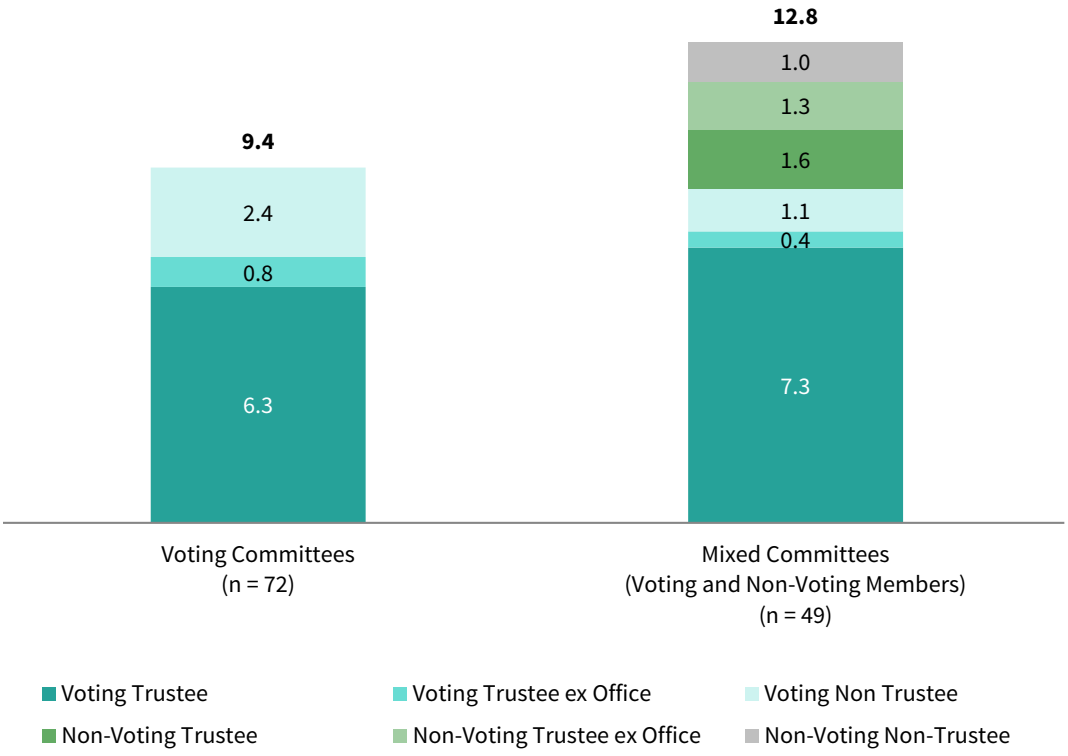
Source: Endowment data as reported to Cambridge Associates LLC.

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 over half of investment committees (72 of 121) are fully composed of voting members, while the remaining investment committees also include non-voting member. While mandatory voting encourages accountability, there can be good reasons to include non-voting members. Organizations should weigh the benefit of these advisory members against the prospects of an oversized committee.

On average, the size of voting committees is 9.4 members, consisting of 6.3 trustees, 2.4 non-trustees, and 0.8 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 included in the official duties of the position. Committees including non-voting members averaged 12.8 people (Figure 65).

FIGURE 65 PROFILE OF INVESTMENT COMMITTEE MEMBERS
Fiscal Year 2020



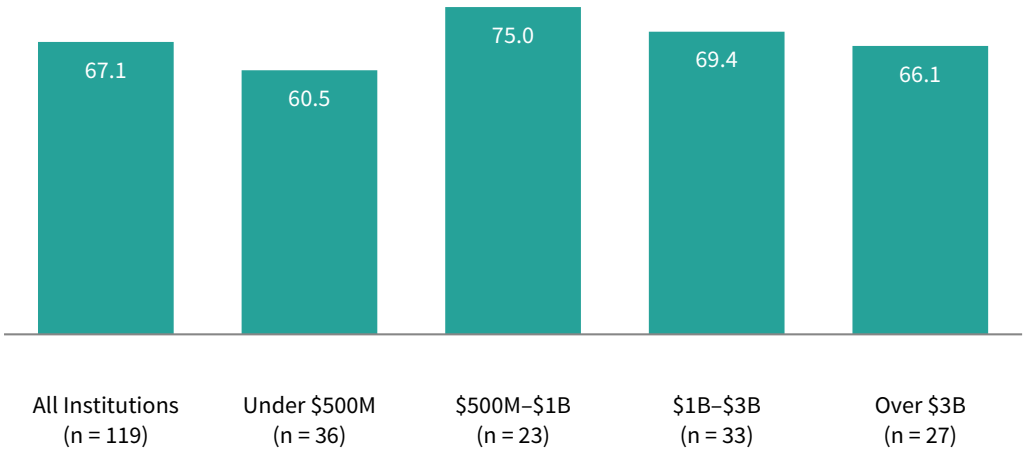
Source: Endowment data as reported to Cambridge Associates LLC.
Note: Investment Committee is shorthand for governing body.

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 67% of their committee members have investment experience. This composition does vary much when viewed by asset size. Organizations with assets under $500 million reported an average of 61% of committee membership having professional investment experience. At endowments over $3 billion, the percentage of committee members that were investment professionals was 66% (Figure 66).

FIGURE 66 PERCENT OF INVESTMENT COMMITTEE WHO ARE INVESTMENT PROFESSIONALS

Fiscal Year 2020 • Percent of Institutions (%)

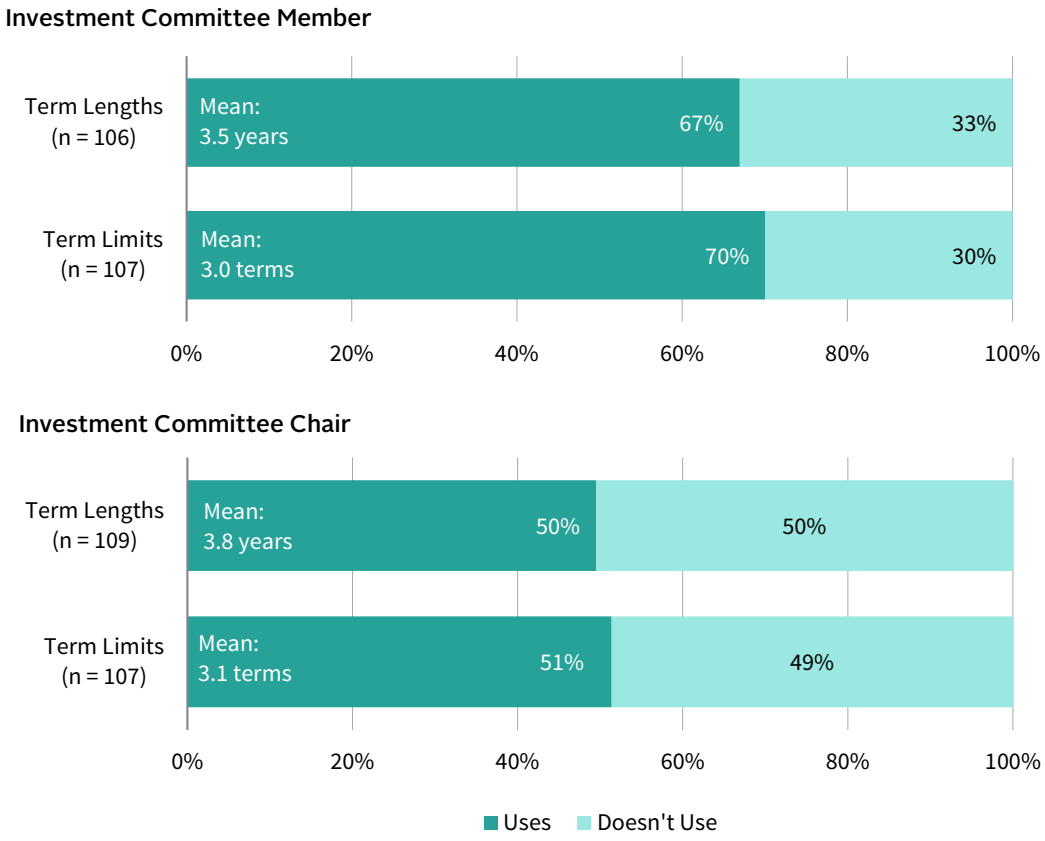


Source: Endowment data as reported to Cambridge Associates LLC.

COMMITTEE TERM LENGTH AND LIMITS. Setting guidelines for terms can help manage member turnover and mitigate committee stagnation. The use of term lengths for investment committee members was cited by 67% of respondents, with the average term being 3.5 years (Figure 67). A slightly higher percentage (70%) of respondents use term limits for committee members and the average limit is 3.0 terms. The prevalence of these guidelines for investment committee chairs was lower, with term lengths and limits being used by 50% and 51% of respondents, respectively. 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 or chair, and view turnover as disruptive to long-term investment policy.

INVESTMENT COMMITTEE MEETINGS. Our survey responses show that the majority of endowments (68%) 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 86%.

FIGURE 67 INVESTMENT COMMITTEE TERM LENGTHS AND LIMITS
As of June 30, 2020



Source: Endowment data as reported to Cambridge Associates LLC.

REIMBURSEMENT AND CONFLICT OF INTEREST POLICY. Only 29% of respondents provide committee members with expense reimbursement, which generally includes travel-related and other out-of-pocket expenses.

Except for two respondents, participants have a conflict of interest policy for investment committee members. These policies require disclosure (50%), recusal (19%), or both disclosure and recusal (24%). Decisions on conflict are resolved case by case in 7% of participants. Policies may differ by asset class, with institutions requiring disclosure for long-only equity conflicts and recusal for private equity conflicts, for example. Most institutions (86%) also have a conflict of interest policy in place for investment staff. Fifty-three percent of policies require disclosure only, 8% require recusal, and 23% require disclosure and recusal. ■

Notes on the Data

The notation of *n* denotes the number of institutions included in each analysis.

Returns for periods greater than one-year are annualized.

The simple portfolio benchmark consisting of 70% MSCI ACWI Index/30% Bloomberg Barclays Aggregate Bond Index is calculated assuming rebalancing occurs on the final day of each quarter.

The MSCI indexes contained in this report are net of dividend taxes for global ex US securities.

Private indexes are pooled horizon IRRs, net of fees, expenses, and carried interest.

PROFILE OF RESPONDENTS

This report includes data for 312 endowed institutions. When the overall group is broken out by industry type, 159 are colleges and universities, 50 are cultural and environmental institutions, 30 are hospitals, 30 are independent schools, and 43 are other endowed institutions. All participants provided investment pool data as of June 30, 2020. The notation of n denotes the number of institutions included in each analysis.

The 312 participants in this study reported long-term investment portfolio (LTIP) assets as of June 30, 2020, totaling $656 billion. The mean LTIP size was $2.1 billion and the median was $439.6 million.

Forty-eight participants have an LTIP size below $100 million while 98 have an asset size above $1 billion. The remaining 166 participants have an LTIP size between $100 million and $1 billion. The participants with LTIP sizes greater than $1 billion controlled 90% 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

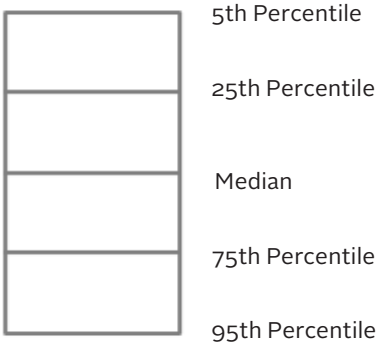
S_p is the quarterly standard deviation of composite quarterly returns.

MODIFIED PUBLIC MARKET EQUIVALENT (MPME) INDEXES

Under Cambridge Associates' mPME methodology, 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. The mPME analysis evaluates what return would have been earned had the dollars invested in private investments been invested in the public market instead.

PERCENTILE RANKINGS

The percentile rankings throughout this report are in ascending order so that the highest return in the data set is 0 and the lowest return is 100. The graphs that show the range of data are organized to highlight various percentile breaks as displayed below:



Appendix: Investment Portfolio Returns

FISCAL YEAR 2020 TOTAL RETURN SUMMARY

Trailing 1-Yr as of June 30, 2020 • Percent (%)

	All Endowments	Colleges & Universities	Cultural & Environmental	Independent Schools	Hospitals	Other Endowments
5th %ile	6.2	7.4	6.1	3.7	4.5	4.4
25th %ile	3.4	4.1	3.4	2.7	2.7	1.8
Median	1.7	2.1	1.7	1.6	2.2	0.0
75th %ile	0.2	0.4	0.7	0.3	0.3	-0.7
95th %ile	-2.0	-2.0	-1.5	-1.1	-1.7	-1.9
Mean	1.9	2.3	1.9	1.6	1.7	0.6
n	*312*	*159*	*50*	*30*	*30*	*43*
70/30 Index	5.5					

Sources: Endowment 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.

FISCAL YEAR 2020 TOTAL RETURN SUMMARY BY ASSET SIZE

Trailing 1-Yr as of June 30, 2020 • Percent (%)

	Under $200M	$200M–$500M	$500M–$1B	Over $1B
5th %ile	4.1	5.0	5.2	8.4
25th %ile	2.4	3.4	3.6	5.1
Median	1.2	1.5	1.6	2.9
75th %ile	0.0	0.0	-0.3	0.9
95th %ile	-1.9	-2.1	-2.4	-1.3
Mean	1.1	1.5	1.5	3.1
n	*106*	*61*	*47*	*98*

Source: Endowment data as reported to Cambridge Associates LLC.

EXAMPLE OF 1-YR ATTRIBUTION ANALYSIS: ALL ENDOWMENT MEAN

As of June 30, 2020 • Percent (%) • n = 309

	Breakdown of Return from Asset Allocation			
Asset Class	Beginning Year Mean Asset Allocation	Asset Class Benchmark Return	Contribution to Asset Class Return	Index
US Equity	22.4	6.5	1.5	Russell 3000®
US Bonds	9.4	8.7	0.8	BBG Barc Agg Bond
Venture Capital	4.9	11.9	0.6	CA US Venture Capital
Non-Venture Private Equity	5.1	9.1	0.4	CA US Private Equity
Other Private Investments	1.1	9.8	0.1	CA US PE/VC
Cash & Equivalents	3.5	1.6	0.1	91-Day T-Bill
Long/Short Hedge Funds	7.2	0.7	0.0	HFRI Equity Hedge
Inflation-Linked Bonds	0.5	8.3	0.0	BBG Barc US TIPS
Other	0.7	5.5	0.0	70% Global Eq/30% Bond
Global ex US Bonds: Dev Mkts	0.2	0.9	0.0	FTSE Non-US$ WGBI
Global ex US Bonds: Emg Mkts	0.3	0.5	0.0	JPM EMBI Glob Div
Timber	0.1	0.3	0.0	NCREIF Timberland
High-Yield Bonds	0.3	0.0	0.0	BBC Barc High Yield
Private Real Estate	2.1	-1.8	0.0	CA Real Estate
Public Real Estate	0.5	-8.1	0.0	FTSE NAREIT Composite
Absolute Return	10.9	-0.5	-0.1	HFRI FOF Conservative
Commodities	0.3	-17.4	-0.1	Bloomberg Commodity
Distressed: PE Structure	1.3	-3.7	-0.1	CA Distressed Securities
Distressed: HF Structure	1.5	-4.9	-0.1	HFRI ED: Dist/Rest
Global ex US Equity: Emg Mkts	7.6	-3.4	-0.3	MSCI Emg. Mkts (N)
Public Energy/Nat Res	1.7	-28.6	-0.5	MSCI World Nat Res (N)
Private Oil & Gas/Nat Res	2.7	-24.0	-0.7	CA Natural Resources
Global ex US Equity: Dev Mkts	15.7	-5.1	-0.8	MSCI EAFE (N)
Return from Asset Allocation (Sum of Contributions)			*1.0*	
+/- Return from Other Factors			*0.9*	
Mean Total Portfolio Return			**1.9**	

Sources: Endowment 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.

Note: 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.

DISPERSION OF PARTICIPANTS' 1-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 1-Yr as of June 30, 2020 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Total Public Real Assets	Commodities and Natural Resources	Public Real Estate
5th %ile	7.0	22.4	13.9	2.4	9.0	11.1	8.1	8.1	25.4	0.7
25th %ile	3.2	7.6	8.9	-1.8	-1.8	8.5	3.8	-8.3	-14.1	-6.9
Median	1.2	1.0	6.3	-4.3	-4.7	6.4	1.1	-17.9	-20.3	-12.7
75th %ile	-1.0	-3.2	3.0	-6.8	-9.1	4.5	-1.5	-25.1	-31.0	-14.4
95th %ile	-3.7	-12.7	-1.9	-10.1	-16.5	1.4	-4.7	-36.6	-38.2	-22.8
Mean	1.4	3.1	6.3	-4.1	-4.6	6.5	1.0	-16.2	-19.4	-11.7
n	*261*	*179*	*258*	*247*	*252*	*260*	*258*	*153*	*142*	*53*
Median by Asset Size										
Less than $200M	0.5	-0.4	4.5	-4.6	-4.7	6.3	1.0	-15.4	-19.9	-6.9
n	*102*	*71*	*101*	*96*	*99*	*100*	*100*	*67*	*59*	*13*
$200M – $500M	1.1	0.5	6.6	-4.7	-5.6	7.2	0.6	-19.8	-20.3	-12.7
n	*59*	*43*	*60*	*57*	*60*	*59*	*57*	*41*	*37*	*9*
$500M – $1B	1.9	2.8	7.1	-4.2	-5.2	6.2	1.0	-19.0	-27.3	-14.4
n	*41*	*22*	*37*	*37*	*36*	*38*	*40*	*21*	*17*	*17*
More than $1B	2.1	3.5	7.0	-3.6	-3.3	5.9	1.6	-19.9	-23.7	-12.5
n	*59*	*43*	*60*	*57*	*57*	*63*	*61*	*24*	*29*	*14*
Median by Institution Type										
C&U	1.5	1.2	6.5	-4.4	-5.1	6.5	1.0	-19.8	-21.3	-12.5
n	*125*	*75*	*123*	*117*	*121*	*128*	*126*	*67*	*70*	*35*
Cult & Env	1.2	2.2	6.7	-4.3	-4.7	5.3	1.4	-13.7	-19.4	-17.2
n	*46*	*34*	*46*	*43*	*43*	*45*	*45*	*27*	*23*	*2*
Ind School	1.1	1.9	5.2	-4.6	-3.8	5.3	1.1	-16.4	-18.1	-16.9
n	*30*	*26*	*30*	*27*	*29*	*28*	*29*	*19*	*16*	*2*
Healthcare	1.2	0.5	5.3	-3.7	-6.0	7.0	1.2	-10.4	-19.4	-6.9
n	*21*	*14*	*21*	*21*	*21*	*21*	*21*	*16*	*12*	*6*
Other End	-0.1	-0.9	4.3	-3.9	-5.3	6.5	1.3	-19.3	-20.7	-14.4
n	*39*	*30*	*38*	*39*	*38*	*38*	*37*	*24*	*21*	*8*

Source: Endowment data as reported to Cambridge Associates LLC.

DISPERSION OF PARTICIPANTS' 1-YR ASSET CLASS RETURNS: PRIVATE INVESTMENTS

Trailing 1-Yr as of June 30, 2020 • Percent (%)

	Total Private Equity	Non-Venture Private Equity	Venture Capital	Total Private Real Assets	Private Real Estate	Private Natural Resources
5th %ile	21.4	21.6	27.1	4.5	11.0	-1.4
25th %ile	13.2	11.9	18.3	-8.4	2.0	-18.3
Median	8.9	6.7	11.8	-16.9	-2.5	-25.2
75th %ile	4.6	1.8	7.3	-23.3	-9.5	-29.4
95th %ile	-2.6	-5.0	-5.3	-31.9	-29.8	-37.0
Mean	9.3	7.3	11.7	-15.3	-3.3	-22.9
n	*221*	*209*	*191*	*189*	*171*	*185*
Median by Asset Size						
Less than $200M	8.3	5.6	11.4	-17.5	-2.4	-23.2
n	*72*	*72*	*55*	*56*	*34*	*49*
$200M – $500M	8.3	5.6	10.2	-18.9	-5.3	-26.6
n	*55*	*55*	*52*	*52*	*46*	*46*
$500M – $1B	9.5	7.1	15.0	-18.7	-1.1	-28.7
n	*37*	*33*	*31*	*35*	*34*	*36*
More than $1B	11.4	9.4	15.3	-14.2	-1.7	-22.5
n	*57*	*49*	*53*	*46*	*57*	*54*
Median by Institution Type						
C&U	9.5	7.6	13.2	-15.2	-1.5	-24.4
n	*116*	*109*	*106*	*103*	*106*	*107*
Cult & Env	6.6	4.3	12.4	-18.5	-5.1	-26.7
n	*38*	*37*	*32*	*30*	*27*	*28*
Ind School	9.1	9.2	8.3	-17.6	-9.7	-19.1
n	*26*	*25*	*21*	*20*	*11*	*17*
Healthcare	7.9	3.7	11.2	-16.5	0.0	-25.1
n	*16*	*16*	*13*	*14*	*14*	*12*
Other End	8.1	5.4	12.4	-20.4	-7.2	-26.1
n	*25*	*22*	*19*	*22*	*13*	*21*

Source: Endowment data as reported to Cambridge Associates LLC.

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

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

Years Ended June 30, 2020 • Percent (%)

	Nominal AACRs		
	3 Yr	5 Yr	10 Yr
All Endowments			
5th %ile	8.3	7.4	9.4
25th %ile	6.1	5.6	7.8
Median	4.8	4.9	7.1
75th %ile	3.9	4.2	6.5
95th %ile	2.9	3.4	5.6
Mean	5.1	5.0	7.3
n	*308*	*307*	*286*
70/30 Index	6.7	6.4	8.1

Sources: Endowment 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: The 70/30 Benchmark is composed of 70% MSCI ACWI Index/30% Bloomberg Aggregate Bond Index.

NOMINAL RETURN PERCENTILES BY INSTITUTION TYPE: TRAILING 3-, 5-, AND 10-YR

Periods Ended June 30, 2020 • Percent (%)

	Average Annual Compound Returns (AACRs)		
	3 Yr	5 Yr	10 Yr
Colleges & Universities			
5th %ile	9.4	9.4	9.3
25th %ile	6.9	8.2	7.7
Median	5.6	7.4	7.0
75th %ile	4.7	6.7	6.4
95th %ile	3.3	5.6	5.8
Mean	5.9	7.5	7.2
n	*130*	*130*	*122*
Cultural & Environmental			
5th %ile	7.9	9.2	8.4
25th %ile	6.2	7.9	7.5
Median	5.3	7.4	6.7
75th %ile	4.6	6.7	6.2
95th %ile	3.8	5.9	5.4
Mean	5.5	7.4	6.8
n	*48*	*48*	*47*
Healthcare			
5th %ile	7.7	8.3	8.5
25th %ile	6.0	7.6	6.8
Median	5.2	6.8	6.4
75th %ile	4.5	6.4	6.0
95th %ile	3.4	5.6	5.1
Mean	5.4	7.0	6.5
n	*28*	*28*	*26*
Independent Schools			
5th %ile	7.4	7.7	7.9
25th %ile	6.1	7.3	7.2
Median	5.1	6.9	6.5
75th %ile	4.5	6.7	5.7
95th %ile	3.9	5.6	5.3
Mean	5.2	6.9	6.5
n	*29*	*29*	*28*
Other Endowments			
5th %ile	5.9	8.0	7.7
25th %ile	4.9	7.2	6.7
Median	4.2	6.6	6.0
75th %ile	3.8	6.3	5.5
95th %ile	3.2	5.5	4.9
Mean	4.4	6.7	6.1
n	*40*	*39*	*32*

Source: Endowment data as reported to Cambridge Associates LLC.

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

Years Ended June 30, 2020 • 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	5.8	7.0	8.2	9.2	5.4	6.4	6.7	7.9	7.6	8.3	8.6	10.4
25th %ile	4.9	5.9	5.7	7.5	4.9	5.4	5.2	6.6	7.0	7.7	7.6	8.9
Median	4.3	4.6	4.8	6.1	4.4	4.9	4.7	5.8	6.5	6.9	7.1	8.2
75th %ile	3.6	3.9	3.9	5.1	3.9	4.2	4.3	5.1	5.9	6.6	6.7	7.3
95th %ile	2.9	3.1	2.9	3.3	3.4	3.4	3.2	3.9	5.3	5.3	5.8	6.6
Mean	4.3	4.8	5.0	6.3	4.4	4.9	4.9	5.9	6.5	7.0	7.2	8.3
n	*105*	*60*	*47*	*96*	*105*	*60*	*47*	*95*	*93*	*60*	*42*	*91*

Source: Endowment data as reported to Cambridge Associates LLC.

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

DISPERSION OF PARTICIPANTS' 5-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 5-Yr as of June 30, 2020 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Total Public Real Assets	Commodities and Natural Resources	Public Real Estate
5th %ile	8.7	13.9	11.8	5.5	6.6	5.2	5.4	2.5	1.0	7.4
25th %ile	6.8	8.8	10.5	3.5	3.3	4.3	3.6	-1.6	-3.2	4.0
Median	6.0	7.1	9.6	2.7	2.3	3.7	2.5	-3.8	-6.7	2.3
75th %ile	5.4	4.6	8.3	1.8	1.1	2.9	1.2	-6.8	-9.8	0.5
95th %ile	4.1	1.5	6.0	0.3	-1.1	1.7	-0.4	-12.6	-15.7	-1.8
Mean	6.1	7.5	9.3	2.8	2.4	3.6	2.4	-4.6	-6.7	2.3
n	*246*	*131*	*242*	*226*	*230*	*237*	*239*	*135*	*124*	*36*
Median by Asset Size										
Less than $200M	5.9	6.3	9.4	2.5	2.1	3.7	2.0	-3.7	-5.7	0.2
n	*96*	*47*	*95*	*85*	*87*	*90*	*92*	*58*	*50*	*5*
$200M – $500M	6.2	6.8	9.7	2.7	2.4	3.8	2.1	-4.4	-5.9	2.1
n	*54*	*29*	*54*	*52*	*54*	*53*	*52*	*37*	*34*	*6*
$500M – $1B	6.2	6.9	9.7	2.3	2.3	3.3	2.7	-3.8	-8.1	2.3
n	*40*	*19*	*36*	*35*	*34*	*36*	*37*	*19*	*17*	*13*
More than $1B	6.3	8.1	9.5	3.0	2.4	3.8	3.5	-4.6	-8.7	2.6
n	*56*	*36*	*57*	*54*	*55*	*58*	*58*	*21*	*23*	*12*
Median by Institution Type										
C&U	6.1	7.0	9.5	2.7	2.3	3.6	2.8	-3.7	-7.0	2.3
n	*122*	*56*	*120*	*112*	*116*	*121*	*119*	*61*	*62*	*23*
Cult & Env	6.4	7.3	10.0	2.5	2.5	3.5	2.7	-4.2	-5.6	1.8
n	*43*	*23*	*42*	*40*	*38*	*41*	*42*	*23*	*19*	*1*
Ind School	6.3	6.7	10.2	2.5	2.9	3.7	2.3	-4.5	-4.4	0.8
n	*26*	*18*	*25*	*23*	*22*	*21*	*25*	*16*	*13*	*2*
Healthcare	6.2	6.7	9.9	2.3	2.2	3.7	1.9	-3.2	-8.3	1.5
n	*19*	*10*	*19*	*16*	*18*	*19*	*19*	*14*	*11*	*4*
Other End	5.6	6.8	9.3	2.9	2.1	3.9	2.2	-4.5	-6.4	2.0
n	*36*	*24*	*36*	*35*	*36*	*35*	*34*	*21*	*19*	*6*

Source: Endowment data as reported to Cambridge Associates LLC.

DISPERSION OF PARTICIPANTS' 10-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 10-Yr as of June 30, 2020 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Total Public Real Assets	Commodities and Natural Resources	Public Real Estate
5th %ile	11.5	14.5	15.7	8.2	7.5	4.9	7.1	3.1	1.3	10.4
25th %ile	10.1	12.8	14.5	7.2	4.3	4.1	5.4	0.0	-0.9	8.4
Median	9.5	11.1	13.4	6.6	3.2	3.6	4.5	-1.0	-3.2	7.3
75th %ile	8.8	9.8	12.4	6.0	2.3	3.1	3.8	-3.2	-4.7	5.5
95th %ile	7.7	5.8	11.0	4.9	0.7	1.6	2.6	-6.1	-7.5	3.5
Mean	9.5	11.0	13.3	6.6	3.5	3.5	4.6	-1.5	-2.9	7.0
n	*228*	*63*	*219*	*202*	*182*	*215*	*216*	*115*	*96*	*25*
Median by Asset Size										
Less than $200M	9.3	10.4	13.3	6.5	3.1	3.6	4.1	-1.2	-3.1	5.5
n	*86*	*19*	*83*	*74*	*57*	*78*	*77*	*50*	*41*	*3*
$200M – $500M	9.5	11.6	13.7	6.7	3.2	3.6	4.5	-1.0	-2.5	8.3
n	*53*	*14*	*52*	*47*	*49*	*51*	*50*	*31*	*27*	*5*
$500M – $1B	9.5	10.6	14.0	6.7	3.4	3.4	4.6	-0.9	-4.6	7.3
n	*38*	*9*	*34*	*34*	*32*	*33*	*35*	*16*	*14*	*9*
More than $1B	9.7	11.8	13.4	6.8	3.5	3.8	5.6	-1.0	-3.9	6.9
n	*51*	*21*	*50*	*47*	*44*	*53*	*54*	*18*	*14*	*8*
Median by Institution Type										
C&U	9.5	11.3	13.4	6.6	3.2	3.7	4.5	-0.8	-3.2	7.3
n	*114*	*33*	*109*	*103*	*96*	*111*	*111*	*52*	*48*	*18*
Cult & Env	9.8	11.2	13.8	6.6	3.3	3.2	4.7	-1.4	-3.3	--
n	*41*	*13*	*40*	*36*	*33*	*38*	*40*	*19*	*14*	--
Ind School	9.4	11.2	13.5	6.8	3.6	3.7	4.2	-2.1	-3.7	6.2
n	*24*	*8*	*22*	*21*	*17*	*18*	*24*	*15*	*11*	*2*
Healthcare	9.5	10.6	13.7	5.9	3.3	3.5	4.4	-0.4	-2.6	5.8
n	*18*	*4*	*18*	*15*	*17*	*18*	*18*	*14*	*10*	*2*
Other End	9.0	9.8	12.6	6.7	2.8	3.6	4.5	-1.5	-2.8	7.2
n	*31*	*5*	*30*	*27*	*19*	*30*	*23*	*15*	*13*	*3*

Source: Endowment data as reported to Cambridge Associates LLC.

DISPERSION OF PARTICIPANTS' 5-YR ASSET CLASS RETURNS: PRIVATE INVESTMENTS

Trailing 5-Yr as of June 30, 2020 • Percent (%)

	Total Private Equity	Non-Venture Private Equity	Venture Capital	Total Private Real Assets	Private Real Estate	Private Natural Resources
5th %ile	17.9	18.3	20.7	8.2	12.1	3.0
25th %ile	14.0	13.5	16.5	2.5	8.9	-1.3
Median	11.6	10.9	12.7	-0.7	6.9	-4.0
75th %ile	9.2	8.1	8.7	-4.1	4.4	-7.9
95th %ile	2.8	2.5	-0.1	-8.6	-3.9	-12.4
Mean	11.6	11.0	12.0	-0.6	5.9	-4.3
n	*204*	*192*	*160*	*166*	*145*	*163*
Median by Asset Size						
Less than $200M	10.7	9.3	12.3	-1.2	6.8	-2.4
n	*61*	*60*	*38*	*44*	*23*	*40*
$200M – $500M	11.8	11.5	11.1	-2.7	6.5	-5.4
n	*52*	*52*	*42*	*44*	*34*	*40*
$500M – $1B	11.4	10.4	12.5	-0.7	8.5	-5.9
n	*36*	*32*	*29*	*32*	*31*	*33*
More than $1B	13.5	12.7	15.1	0.2	6.6	-3.5
n	*55*	*48*	*51*	*46*	*57*	*50*
Median by Institution Type						
C&U	12.3	11.4	13.2	0.1	7.1	-3.6
n	*115*	*107*	*101*	*94*	*95*	*96*
Cult & Env	11.6	11.0	14.6	-0.1	6.6	-4.7
n	*34*	*33*	*20*	*26*	*23*	*24*
Ind School	10.1	9.1	9.9	-1.9	5.0	-5.3
n	*23*	*22*	*15*	*17*	*8*	*16*
Healthcare	11.9	11.6	12.9	-2.3	7.0	-5.3
n	*12*	*12*	*10*	*10*	*9*	*9*
Other End	11.4	10.4	12.1	-3.3	5.8	-5.7
n	*20*	*18*	*14*	*19*	*10*	*18*

Source: Endowment data as reported to Cambridge Associates LLC.

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

DISPERSION OF PARTICIPANTS' 10-YR ASSET CLASS RETURNS: PRIVATE INVESTMENTS

Trailing 10-Yr as of June 30, 2020 • Percent (%)

	Total Private Equity	Non-Venture Private Equity	Venture Capital	Total Private Real Assets	Private Real Estate	Private Natural Resources
5th %ile	18.1	17.7	25.2	11.7	16.9	6.7
25th %ile	15.6	14.9	18.9	7.8	12.8	3.2
Median	13.9	12.9	15.8	4.4	10.6	0.0
75th %ile	12.4	11.3	13.3	2.0	8.2	-2.7
95th %ile	8.8	8.0	7.4	-4.2	5.1	-7.2
Mean	13.8	12.9	16.2	4.6	11.1	0.1
n	*185*	*177*	*143*	*137*	*121*	*126*
Median by Asset Size						
Less than $200M	12.7	12.0	15.0	3.9	11.4	0.3
n	*52*	*52*	*27*	*29*	*16*	*23*
$200M – $500M	14.1	13.6	15.4	3.2	11.1	-1.3
n	*49*	*49*	*40*	*37*	*26*	*32*
$500M – $1B	13.8	13.0	16.3	4.4	11.0	-1.1
n	*35*	*31*	*29*	*31*	*28*	*28*
More than $1B	14.9	14.1	17.7	5.2	9.9	0.6
n	*49*	*45*	*47*	*40*	*51*	*43*
Median by Institution Type						
C&U	14.1	13.4	15.4	4.6	10.5	-0.2
n	*103*	*99*	*90*	*81*	*80*	*78*
Cult & Env	13.7	13.0	16.2	4.4	12.3	-0.7
n	*32*	*31*	*19*	*21*	*19*	*17*
Ind School	13.1	12.7	15.8	4.1	10.5	3.4
n	*21*	*20*	*13*	*14*	*7*	*13*
Healthcare	14.0	12.4	16.7	3.9	10.0	-0.1
n	*11*	*11*	*10*	*9*	*7*	*8*
Other End	13.5	11.6	16.1	2.6	9.7	-1.5
n	*18*	*16*	*11*	*12*	*8*	*10*

Source: Endowment data as reported to Cambridge Associates LLC.

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

REAL RETURNS AFTER SPENDING: TRAILING 3-, 5-, AND 10-YR

Years Ended June 30, 2020 • Percent (%)

	3 Yr	5 Yr	10 Yr
All Endowments			
5th %ile	3.0	1.8	3.8
25th %ile	0.8	0.5	2.4
Median	-0.7	-0.8	1.4
75th %ile	-1.9	-1.7	0.3
95th %ile	-3.6	-2.9	-0.7
Mean	-0.5	-0.6	1.4
n	*128*	*106*	*94*

Sources: Endowment data as reported to Cambridge Associates LLC.

Appendix: Portfolio Asset Allocation

ASSET ALLOCATION DISTRIBUTION BY ASSET CLASS

As of June 30, 2020 • Percent (%) • n = 312

	US Equity	Global ex US Equity	Bonds	Hedge Funds	Distressed Securities	Priv Equity & Ven Capital	Real Assets & ILBs	Cash & Equivs
5th %ile	37.9	30.9	21.6	34.0	7.7	33.3	15.5	11.2
25th %ile	29.9	25.3	13.4	22.5	4.1	19.2	9.6	6.5
Median	24.4	21.0	9.2	16.6	2.0	12.0	5.9	3.6
75th %ile	16.7	17.4	4.9	11.9	0.2	4.7	3.0	1.9
95th %ile	7.7	10.6	0.1	3.4	0.0	0.0	0.0	0.0
Mean	23.8	21.0	9.8	17.6	2.7	13.1	6.6	4.7

Source: Endowment data as reported to Cambridge Associates LLC.

MEAN ASSET ALLOCATION BY ASSET SIZE AND INSTITUTION TYPE

As of June 30, 2020 • Percent (%)

	Asset Size				Institution Type				
	Under $200M	$200M – $500M	$500M – $1B	Over $1B	Coll & Univ	Cult & Env	Ind Schools	Healthcare	Other End
	(n = 106)	*(n = 61)*	*(n = 47)*	*(n = 98)*	*(n = 159)*	*(n = 50)*	*(n = 30)*	*(n = 30)*	*(n = 43)*
US Equity	**29.4**	**25.3**	**22.4**	**17.5**	**21.7**	**24.9**	**27.6**	**23.4**	**28.0**
Global ex US Equity	**24.4**	**21.7**	**18.9**	**17.8**	**19.8**	**21.8**	**21.8**	**20.5**	**24.3**
Developed Markets	17.3	14.6	12.9	11.0	13.0	14.6	15.4	14.3	16.8
Emerging Markets	7.1	7.1	6.0	6.8	6.7	7.2	6.4	6.2	7.5
Bonds	**13.1**	**10.3**	**8.9**	**6.3**	**8.1**	**9.6**	**8.5**	**13.8**	**14.2**
US Bonds	12.5	10.0	8.6	5.5	7.6	9.0	8.3	13.0	13.4
Global ex US Bonds (DM)	0.2	0.1	0.0	0.3	0.1	0.1	0.0	0.3	0.3
Global ex US Bonds (EM)	0.3	0.0	0.1	0.1	0.1	0.3	0.1	0.2	0.5
High-Yield Bonds	0.1	0.2	0.2	0.4	0.3	0.2	0.1	0.5	0.1
Hedge Funds	**16.2**	**16.8**	**18.1**	**19.5**	**16.8**	**20.2**	**19.7**	**18.6**	**15.7**
Long/Short Hedge Funds	5.4	7.1	7.3	9.3	6.9	7.9	9.5	7.8	5.5
Absolute Return (ex Distressed)	10.8	9.7	10.8	10.3	9.8	12.3	10.2	10.8	10.2
Distressed Securities	**1.6**	**3.0**	**4.0**	**3.3**	**3.0**	**2.9**	**2.6**	**2.8**	**1.7**
Hedge Fund Structure	0.7	1.3	2.1	1.7	1.4	1.7	0.8	1.5	1.0
Private Equity Structure	0.9	1.7	1.9	1.6	1.6	1.2	1.9	1.2	0.8
PE/VC	**5.9**	**11.5**	**15.4**	**20.7**	**17.7**	**9.4**	**8.3**	**9.9**	**5.7**
Non-Venture Private Equity	2.4	4.6	6.6	9.3	7.6	4.5	2.8	4.0	2.7
Venture Capital	1.9	5.3	7.5	10.4	8.4	3.8	4.3	4.7	2.2
Other Private Investments	1.5	1.7	1.3	1.0	1.7	1.0	1.2	1.2	0.8
Real Assets & Infl-Linked Bonds	**4.2**	**5.4**	**8.1**	**9.4**	**8.0**	**4.7**	**5.6**	**5.9**	**4.9**
Private Real Estate	0.3	1.3	3.3	4.4	3.1	1.3	1.6	1.8	1.1
Public Real Estate	0.3	0.4	0.8	0.3	0.5	0.1	0.1	0.4	0.5
Commodities	0.4	0.3	0.1	0.3	0.3	0.2	0.4	0.4	0.2
Public Energy/Nat Resources	0.8	0.3	0.3	0.4	0.4	0.6	0.5	1.0	0.5
Private O&G/Nat Resources	1.0	1.6	2.8	3.3	2.7	1.6	2.0	1.0	1.2
Timber	0.0	0.0	0.2	0.2	0.1	0.0	0.1	0.1	0.0
Inflation-Linked Bonds	1.3	1.5	0.7	0.5	0.9	0.8	0.9	1.1	1.5
Cash & Equivalents	**5.1**	**4.6**	**4.1**	**4.6**	**3.9**	**6.5**	**5.4**	**4.5**	**5.1**
Other	**0.2**	**1.4**	**0.1**	**1.0**	**1.0**	**0.0**	**0.4**	**0.6**	**0.3**

Source: Endowment data as reported to Cambridge Associates LLC.

HISTORICAL MEAN ASSET ALLOCATION TRENDS

Years Ended June 30, 2020 • Percent (%)

	Constant Universe										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
US Equity	17.5	18.7	18.6	19.6	19.7	19.6	19.9	20.7	20.7	21.4	22.9
Global ex US Equity Devel Mkts	12.5	13.2	11.6	13.1	14.3	14.5	14.2	15.9	15.9	15.3	13.8
Emerging Markets Equity	5.2	6.1	6.2	6.8	7.4	7.4	7.4	8.2	7.8	7.6	6.8
Bonds	15.2	12.4	12.6	11.0	9.8	9.6	9.9	9.0	9.2	9.7	9.3
Hedge Funds	20.9	20.5	20.9	21.0	20.7	21.7	20.8	19.4	18.7	17.8	17.5
Distressed Securities	4.1	3.8	4.0	4.1	3.9	3.5	3.4	3.0	3.0	2.9	2.9
PE/VC	8.7	9.2	9.9	9.0	9.0	9.4	9.7	9.5	10.4	12.3	14.2
Real Assets & Infl-Linked Bonds	11.7	12.5	12.5	11.7	11.4	9.9	10.5	9.6	9.8	8.6	7.2
Cash & Equivalents	3.8	3.2	3.5	3.7	3.6	4.1	3.9	4.1	3.8	3.6	4.6
Other	0.4	0.5	0.4	0.3	0.2	0.3	0.3	0.5	0.6	0.8	0.7

Source: Endowment data as reported to Cambridge Associates LLC.
Note: Analysis is based on a constant universe that includes 224 institutions that provided asset allocation data for each year from 2010 to 2020.

UNCALLED CAPITAL COMMITTED TO PRIVATE INVESTMENT FUNDS

As of June 30, 2020 • Percent (%)

Uncalled Capital Commitments as a Percentage of the Total LTIP

	Under $200M	$200M – $500M	$500M – $1B	Over $1B
5th %ile	22.2	22.9	21.0	27.7
25th %ile	13.0	16.2	17.8	19.8
Median	8.9	12.1	15.0	15.7
75th %ile	4.6	8.2	11.7	12.7
95th %ile	0.1	1.6	2.3	8.1
Mean	9.4	12.4	14.2	16.7
n	*73*	*56*	*44*	*77*

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

	Under $200M	$200M – $500M	$500M – $1B	Over $1B
5th %ile	35.0	39.1	51.1	74.2
25th %ile	18.7	28.9	36.1	48.2
Median	12.0	19.3	26.8	33.8
75th %ile	6.2	12.3	18.1	23.7
95th %ile	0.1	2.2	4.0	12.2
Mean	14.1	20.9	29.2	37.9
n	*73*	*56*	*44*	*77*

Source: Endowment 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.

Appendix: Investment Manager Structures

NUMBER OF EXTERNAL MANAGERS

As of June 30, 2020

	Less than $200M	$200M – $500M	$500M – $1B	More than $1B
5th %ile	52	73	93	229
25th %ile	38	61	80	145
Median	27	47	62	103
75th %ile	19	33	56	76
95th %ile	11	19	40	41
Mean	28	47	65	115
n	*105*	*61*	*45*	*74*

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

DISPERSION IN NUMBER OF MANAGERS FOR SELECTED ASSET CLASSES

As of June 30, 2020

	US Equity	DM ex US Equity	EM Equity	US Bonds	Long/Short Hedge Funds	Ab Return Hedge Funds	Private Equity	Venture Capital
5th %ile	8	6	6	4	13	13	40	31
25th %ile	5	4	4	2	7	9	18	11
Median	4	3	3	2	4	6	10	5
75th %ile	3	2	2	1	2	3	5	3
95th %ile	1	1	1	1	1	1	1	1
Mean	4	3	3	2	5	6	14	10
n	*281*	*272*	*277*	*262*	*241*	*273*	*241*	*234*

Source: Endowment 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.

PARTICIPANTS

COLLEGES AND UNIVERSITIES

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
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
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
Jewish Theological Seminary of America
Johns Hopkins University
Kalamazoo College
KU Endowment
Kentucky; University of
Lafayette College
University of Louisiana at Lafayette Foundation
Lebanese American University
Lehigh University
Lewis and Clark College
Louisiana State University Foundation
Loyola University Chicago
Lycoming College
Macalester College
MIT Investment Management Company
Mercy College
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.
University of Oregon Foundation
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
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
University of Tennessee
Texas Lutheran University
Texas State Univ. Dev. Fdn.
The University of Texas Investment Management Co.
Trinity University

Tulane University
The UCLA Foundation
UNC Management Company, Inc.
UNCG Endowment Partners, LP
Union Theological Seminary
University of California, San Francisco
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

CULTURAL AND ENVIRONMENTAL

Atlanta Historical Society
The Vivian Beaumont Theater, Inc.
Boston Symphony Orchestra Inc.
The Brookings Institution
Carnegie Institution for Science
Science History Institute
The Children's Museum of Indianapolis
Conner Prairie Foundation
Council on Foreign Relations
Cypress Lawn Endowment Care Trust
The Edison Institute
The Evergreens Cemetery
Fallon Paiute-Shoshone Tribe
The Frick Collection
Isabella Stewart Gardner Museum
The J. Paul Getty Trust
Jeremy and Hannelore Grantham Environmental Trust
Hagley Museum and Library
Honolulu Museum of Art
Huntington Library and Art Gallery
Institute for Advanced Study
Linda Hall Library Trusts
Longwood Gardens, Inc.
Mashantucket Pequot Tribal Nation Endowment Trust
Metropolitan Museum of Art
Minnesota Orchestral Association
Museum of Contemporary Art, Los Angeles
Museum of Fine Arts, Boston
Museum of Fine Arts, Houston
Museum of Science, Boston
National Gallery of Art
National Geographic Society
NPR Foundation
National Wildlife Federation
The Nature Conservancy
New York Philharmonic
The New York Public Library
New York Public Radio
Peabody Essex Museum
Philadelphia Museum of Art
Ravinia Festival Association
Scenic Hudson Land Trust Inc.
Seattle Art Museum
Smithsonian Institution
Indianapolis Symphony Orchestra Foundation, Inc.
The Trustees of Reservations
United Negro College Fund
WGBH Educational Foundation
Wildlife Conservation Society
The Henry Francis duPont Winterthur Museum, Inc.

HEALTHCARE

Blythedale Children's Hospital
CareGroup Investment Partnership, LLP
Cedars-Sinai Medical Center
Children's HealthCare of Atlanta, Inc.
The Children's Institute
Children's Medical Center
Children's Mercy Hospital Foundation
The Cleveland Clinic Foundation
W. I. Cook Foundation, Inc.
Dana-Farber Cancer Institute Inc.
Exeter Health Resources Inc.
Franciscan Missionaries of Our Lady Health System
Hawaii Pacific Health
Holy Redeemer Health System Inc.
Lifespan Corporation
Maine Medical Center
Main Line Health Foundations
Mayo Clinic
Medical Society of South Carolina
Mount Sinai School of Medicine
New York Presbyterian Hospital
Northwestern Memorial HealthCare
Novant Health Inc.
Ochsner Clinic Foundation
Partners HealthCare System, Inc.
Phoebe Putney Health System
Saint Francis Foundation
Shore Regional Health
University Hospitals Health System
Woman's Hospital Foundation

INDEPENDENT SCHOOLS

Auditory Learning Foundation
The Blake School
Boston College High School
The Brearley School
Buckingham Browne & Nichols School
Castilleja School
The Colburn School
The Episcopal School of Dallas
The Fessenden School
Greenwich Country Day School
Groton School
Milton Hershey School Trust
Hockaday School
The Hotchkiss School
Kamehameha Schools
Lakeside School
The Lawrenceville School
The Loomis Institute
The Madeira School
Park Tudor Trust
Phillips Exeter Academy
The Pingry School
Punahou School

The Roxbury Latin School
Salisbury School
St. Mark's School of Texas
St. Paul's School
Western Reserve Academy
The Winsor School
Xaverian Brothers High School

OTHER ENDOWMENTS

American College of Surgeons
American Red Cross
The American Society of Hematology
Animal Rescue League of Boston
Armenian Church Endowment Fund
Armenian General Benevolent Union
The Boston Home Inc.
CASAColumbia
Catholic Church Extension Society
Catholic Education Scholarship Trust
Catholic Investment Trust of Washington
Archdiocese of Chicago
The Church Pension Fund
Claremont University Consortium
Episcopal Divinity School
Federation of Protestant Welfare Agencies
Greater New York Hospital Association
HighGround Advisors
Howard Hughes Medical Institute
The Ignatius Fund
Isidore and Van Gerwen Charitable Trusts
Jewish Child Care Association
Mission Diocese Fund
Mass. Society for Prevention of Cruelty to Animals
University of Nebraska Foundation Fund
Lucile Packard Foundation for Children's Health
The PGA of America, LP
Diocese of Providence
The Rose Hills Foundation
Saint Thomas Church
The Sealy & Smith Foundation
SGI-USA Endowment
Soka University of America EEF
Southern Poverty Law Center
Southwest Research Institute
Spastic Children's Endowment Foundation
Sunflower Foundation Health Care for Kansans
Texas Biomedical Research Institute
Trinity Church Wall Street
United Methodist Health Ministry Fund
United States Tennis Association
Catholic Diocese of Wilmington
Xaverian Brothers USA

William Prout, Senior Investment Director
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