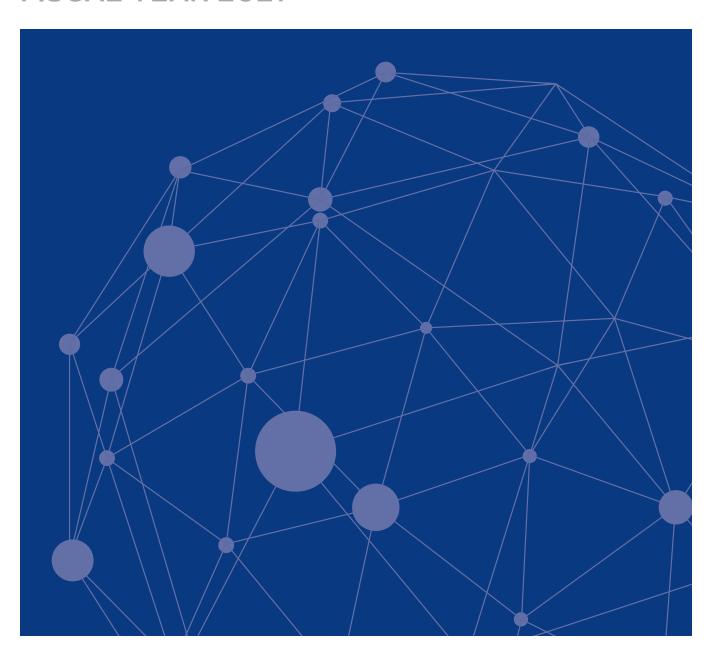
ANNUAL REVIEW OF ENDOWMENTS

FISCAL YEAR 2021





CONTENTS

stment Portfolio Returns stment Policy tfolio Asset Allocation stment Manager Structures itutional Support stment Office Staffing and Governance es on the Data endix	1 2 21 28 36 42 50 61 63
DEBAR	
centile Rankings	3
formance Methodology Descriptions	10
iures	
Trailing 1-Yr Median Returns	2
Fiscal Year 2021 Total Return Percentiles by Institution Type	3
Fiscal Year 2021 Total Return Percentiles by Asset Size	4
Dispersion in Trailing 1-Yr Returns Relative to the Median Return	4
1-Yr Index Returns	5
1-Yr Mean Asset Allocation by Performance Quartile	6
1-Yr Attribution Analysis	7
Median Endowment 1-Yr Asset Class IRRs: Private Investments	8
Median Endowment 1-Yr Asset Class Returns: Marketable Investments	g
Performance Reporting Methodologies: Private Investments	9
Cambridge Associates' Private Investment Index Returns	10
Types of Fees Deducted in FY 2021 Net Return Calculation	11
Total Returns Summary: Trailing 3-, 5-, 10-, and 20-Yr	12
	13
	13
-	14
	14
	15
	16
	16
	17
	•
	18
·	19
·	20
Canturing Equities in the Asset Allocation Policy	22
	Fiscal Year 2021 Total Return Percentiles by Institution Type Fiscal Year 2021 Total Return Percentiles by Asset Size Dispersion in Trailing 1-Yr Returns Relative to the Median Return 1-Yr Index Returns 1-Yr Mean Asset Allocation by Performance Quartile 1-Yr Attribution Analysis Median Endowment 1-Yr Asset Class IRRs: Private Investments Median Endowment 1-Yr Asset Class Returns: Marketable Investments Performance Reporting Methodologies: Private Investments Cambridge Associates' Private Investment Index Returns Types of Fees Deducted in FY 2021 Net Return Calculation Total Returns Summary: Trailing 3-, 5-, 10-, and 20-Yr Rolling Median Returns: Trailing 3-, 5-, 10-, and 20-Yr Median Trailing 3-, 5-, 10-, and 20-Yr by Asset Size Median Trailing 3-, 5-, 10-, and 20-Yr by Institution Type 10-Yr Index Returns 10-Yr Mean Asset Allocation by Performance Quartile 10-Yr PE/VC Allocation vs Total Return 10-Yr Attribution Analysis by Performance Quartile Median Endowment 10-Yr Asset Class IRRs: Private Investments Median Endowment 10-Yr Asset Class Returns: Marketable Investments Rolling Median Real Returns: Trailing 10- and 20-Yr 10-Yr Real Returns After Spending 10-Yr Standard Deviation and Sharpe Ratio Real Total Portfolio Return Objectives

28.	Frequently Used Components of Policy Portfolio Benchmarks:	
	Public Equity for US and Global ex US Regions	24
29.	Frequently Used Components of Policy Portfolio Benchmarks: Private Equity	24
30.	Trend in Private Equity Benchmarks	25
31.	Frequently Used Components of Policy Portfolio Benchmarks: Hedge Funds	26
32.	Frequently Used Components of Policy Portfolio Benchmarks: Fixed Income	26
33.	Range of Out/Underperformance of Total Return vs Policy Portfolio Benchmark	27
34.	Summary Asset Allocation Distribution	28
35.	Mean Asset Allocation: Public Equity and PE/VC	29
36.	Mean Asset Allocation by Asset Size	30
37.	Historical Mean Asset Allocation Trends	31
38.	Trends in Mean Asset Allocation by Asset Size	32
39.	Changes in Target Asset Allocation	33
40.	Uncalled Capital Committed to Private Investment Funds	34
41.	Trend in Uncalled Capital Commitments to Private Investment Funds	35
42.	Private Investment Program Cash Flow by Asset Size	35
43.	Number of External Managers and Investment Vehicles	36
44.	Dispersion in Number of Managers for Selected Asset Classes	37
App	pendix External Managers and Vehicles by Strategy	38
45.	Portfolio Implementation: Private Investments	40
46.	Portfolio Implementation: Traditional Equities and Bonds	41
47.	Endowment Dependence	42
48.	Spending Rule Types	43
49.	Spending Rule Types by Endowment Dependence	44
50.	Target Spending Rates for Market Value-Based Rules	45
51.	Net Flow Rates for Fiscal Year 2021	46
52.	Cumulative Dollar Growth After Inflation, Net Flows, and Spending	47
53.	Composition of Long-Term Investment Portfolio	48
54.	Operating Funds	49
55.	Endowment to Debt	49
56.	Chief Investment Officer Reporting Lines	50
	Average Staffing Levels	51
58.	Average Investment Staff by Function	52
	Use of External Advisors and Consultants	53
60.	Use of External Advisors and Consultants: Types of Services	54
61.	Governing Body of Oversight Committee by Organization Type	55
62.	Decision-Making and Implementation Responsibility for Key Investment Functions:	
	Asset Allocation Policy Development	56
63.	Decision-Making and Implementation Responsibility for Key Investment Functions:	
	Portfolio Rebalancing	56
64.	Decision-Making and Implementation Responsibility for Key Investment Functions:	
	Manager Selection and Termination	57
	Profile of Investment Committee Members	58
	Percent of Investment Committee Members Who Are Investment Professionals	59
67.	Investment Committee Term Lengths and Limits	60

his 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 307 institutions for the fiscal year ended June 30, 2021. Included in this year's report are commentary and exhibits that are spread across six separate sections.

Fiscal year 2021 will go down in the record books as a year that delivered some of the best investment performance that endowments have ever seen. Although endowments across the board earned exceptional returns, the range of outcomes among endowments was the widest it has been in more than 20 years. Our **INVESTMENT**PORTFOLIO RETURNS section highlights performance results for this past fiscal year. This section investigates some of the factors that contributed to the historically large variation of peer returns and what made top performers stand out in particular. Also included in this section is analysis on investment performance over multiyear trailing periods and how this most recent fiscal year helped boost longer-term results.

Endowments not only generated very high returns on an absolute basis in fiscal year 2021. The vast majority of respondents to our survey also outperformed their policy portfolio benchmarks for the year, including some by extremely large margins. But what components are most commonly used in policy benchmarks? Our INVESTMENT POLICY section touches on this topic and how peer practices for benchmarking private equity have changed over the past decade. This section also include data on real return objectives and how asset allocation strategies among endowments can differ from a policy perspective.

CA has been conducting this survey for several decades and this gives us unique insights into trends in asset allocations over the long term. The **PORTFOLIO ASSET ALLOCATION** section highlights how endowments have evolved in investing their portfolios from the early 2000s to today, with a particular focus on the increased equity exposure that endowments have taken on in recent years. This section also incorporates data on target asset allocations to lend insights into how institutions are altering their portfolios heading into the future.

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 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, operating funds, and endowment market values relative to outstanding debt.

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. It also includes analyses on how endowments use outside advisors/consultants and who has decision rights for asset allocation policy development and manager selection.

Section 1: Investment Portfolio Returns

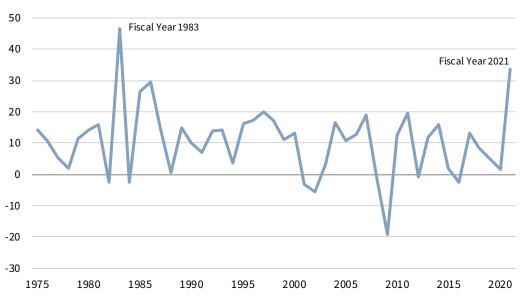
RETURNS IN FISCAL YEAR 2021

The fiscal year 2021 capital market environment picked up where the previous year left off with the continuation of a rebound in risk assets. Global public equity markets fully recovered their pre-COVID-19 peaks early in the fiscal year and pushed forward to new highs throughout the rest of the year. Private equity and venture capital (PE/VC), which had not seen the same steep declines that the public equity markets had experienced, had even more of a banner year in 2021. The result was a fiscal year that will long be remembered in the endowment world for exceptional investment performance and asset growth.

For many endowments, the fiscal year brought about the best investment performance that they had earned in a generation. Of the institutions that have provided us year-by-year performance figures over the last 30 fiscal years, 90% (116 of 129) reported that the highest single-year return from that period was in 2021. In fact, across the four-plus decades in which CA has been collecting and analyzing endowment performance, only in 1983 was the median return higher than what was calculated for this past fiscal year (Figure 1).

FIGURE 1 TRAILING 1-YR MEDIAN RETURNS

Fiscal Years 1975-2021 • Periods Ended June 30



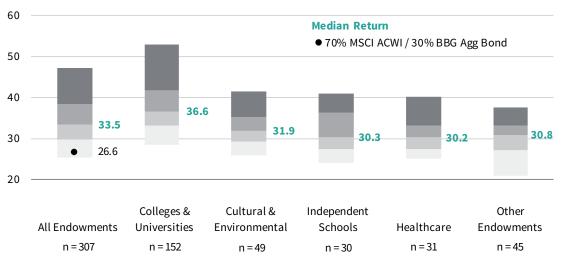
Source: Endowment data as reported to Cambridge Associates LLC.

Note: The number of institutions included in the median calculation varies from one period to the next, ranging from 31 in 1975 to 307 in 2021.

The median return for the CA endowment universe was 33.5% for fiscal year 2021 (Figure 2). More than 90% of participating institutions outperformed a simple benchmark consisting of 70% MSCI ACWI and 30% Bloomberg Aggregate Bond Index, which returned 26.6%. Exceptional returns were reported for endowments of all institution types, with each of the subgroups reporting a median return above 30%.

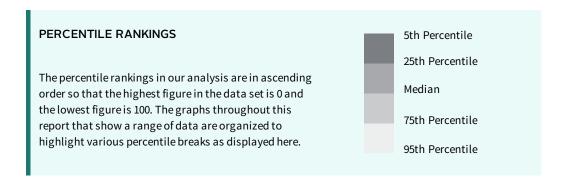
However, it was the college and university (C&U) peer group that stood out from other types of endowments. The median C&U return (36.6%) was by far the highest among the various institution types. In addition, a handful of university endowments reported performance in excess of 50% for the fiscal year.

FIGURE 2 FISCAL YEAR 2021 TOTAL RETURN PERCENTILES BY INSTITUTION TYPE Trailing 1-Yr as of June 30, 2021 • Percent (%) • By Percentile Ranking



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.

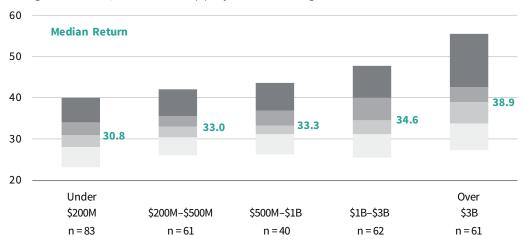
Note: For more information, see page 63 in the Appendix.



More than half of participating C&Us (85 of 152) had endowments that were larger than \$1 billion at the end of the fiscal year. This is notable given that larger endowment tended to perform better than smaller endowments in 2021. The differential was considerable when looking at the opposite ends of the asset size spectrum in Figure 3. The median return for endowments greater than \$3 billion was 38.9%, which was more than 800 basis points (bps) higher than the median for endowments less than \$200 million. At the same time, there was a significant degree of dispersion in the returns among the various subgroups based on institution type and asset size. The variation was greatest within the more than \$3 billion cohort, where the 5th percentile return (55.5%) was more than double the return at the 95th percentile (27.2%).

FIGURE 3 FISCAL YEAR 2021 TOTAL RETURN PERCENTILES BY ASSET SIZE

Trailing 1-Yr as of June 30, 2021 • Percent (%) • By Percentile Ranking

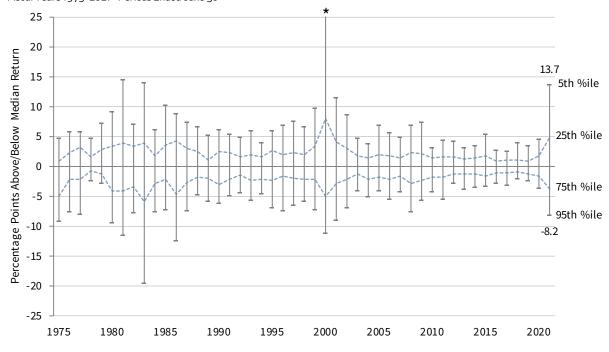


Source: Endowment data as reported to Cambridge Associates LLC.

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

Figure 4 considers the dispersion in fiscal year returns across the participant universe along with the historical context. After a decade of less variation in returns compared to past eras, the levels of dispersion jumped dramatically in 2021. This is most evident at the top end of the universe, where the 5th percentile return (47.2%) was 13.7 percentage points (ppts) higher than the median return. The top quartile mark, at 38.3%, was 4.8 ppts higher than the median return. Both figures were among the highest at their respective percentile marks that we have observed going back to the mid-1970s. The last time that the margins exceeded this year's level was in 2000, which represented the peak of the "dot-com" bubble and venture capital boom of that era.

FIGURE 4 DISPERSION IN TRAILING 1-YR RETURNS RELATIVE TO THE MEDIAN RETURN Fiscal Years 1975–2021 • Periods Ended June 30



Source: Endowment data as reported to Cambridge Associates LLC.

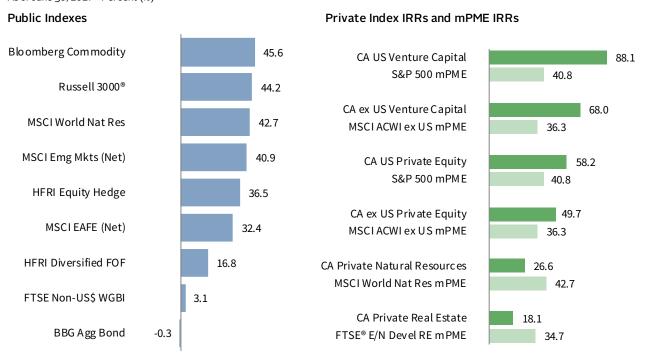
^{*} The graph scaling is capped at +/- 25 for display purposes. The 5th percentile return in 2000 was 30.3 percentage points higher than the median return.

The biggest similarity between this past year and 2000 was the extraordinary performance of venture capital. The CA US Venture Capital Index produced a horizon internal rate of return (IRR), net of fees, expenses, and carried interested, of 88.1% in fiscal year 2021 (Figure 5). This more than doubled the S&P 500 Index's return of 40.8% as computed under the modified public market equivalent (mPME) methodology. The mPME analysis computes public market performance, which traditionally is reported as a time-weighted return, on an IRR basis and allows for a direct comparison of returns between public and private markets. The result of the mPME calculation is the return that would have been earned had the capital invested in the private strategy been invested in the public market index instead. Returns were also stellar for the global ex US version of the venture capital index and both private equity indexes, with all performing significantly better than the mPME benchmarks.

On the public index side, strong returns were reported for long-only equities and real assets—related strategies. Even the HFRI Equity Hedge Index, which represents long/short equity hedge funds strategies, posted a return in the mid-30s for the fiscal year. In contrast, investment-grade fixed income strategies performed poorly, with the Bloomberg Aggregate Bond index reporting a slightly negative return (-0.3%).

FIGURE 5 1-YR INDEX RETURNS

As of June 30, 2021 • 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 market backdrop for fiscal year 2021 helps bring to light some of the key factors that contributed to the historically large variation in endowment performance. Asset allocation is always the first place we start when analyzing peer performance, and the differences in asset allocations across participating endowments typically correlate

with the market environment. This was especially the case this past year where the top-performing endowments had the highest allocations to the best-performing asset classes and vice versa.

The heat map analysis in Figure 6 groups participants into four quartiles based on fiscal year 2021 performance and displays the average allocation across the one-year period for the endowments within each quartile. The top performance quartile stood out in the breakdown of the average total equity allocation, with a more diversified mix between public equity (35.9%) and PE/VC (27.1%) compared to the other quartiles. Digging into the total PE/VC figure, we see that most of that allocation for top-performing endowments came from venture capital, which made up 14.8% of the portfolio on average. This allocation was substantially higher than for any of the other performance quartiles and—along with the extraordinary performance produced by venture capital investments—helps explain why the top quartile of endowments performed so well in fiscal year 2021.

Another category where allocations varied quite a bit among participants was in fixed income. Given the enormous spread in returns between equities and fixed income over the past year, it is not surprising to learn that endowments with the highest bond allocations tended to have the lowest performance. The bottom quartile of performers reported the highest average allocation to fixed income (12.8%), while those in the top performance quartile reported an average allocation that was considerably lower (4.9%).

FIGURE 6 1-YR MEAN ASSET ALLOCATION BY PERFORMANCE QUARTILE Percent (%) • n = 299

Private Equity & Venture Capital										
Quartile	Public Equity	Total PE/VC	VC	PE	Other PI	Hedge Funds	Real Assets	Fixed Income	Private Credit	Cash & Other
Top Quartile	35.9	27.1	14.8	10.9	1.3	18.4	7.6	4.9	1.7	4.3
2nd Quartile	44.4	16.5	7.2	7.4	1.8	17.8	6.9	7.6	1.7	5.1
3rd Quartile	49.9	10.8	3.8	5.2	1.9	17.5	5.6	11.1	1.3	3.8
Bottom Quartile	49.0	6.4	1.8	3.2	1.3	18.7	5.3	12.8	1.2	6.6
All End Mean	44.8	15.2	6.9	6.7	1.6	18.1	6.3	9.1	1.5	4.9



Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Asset allocation is averaged across the two June 30 periods from 2020 to 2021 for each institution in this analysis. Other PI consists primarily of multistrategy FOFs, secondaries, and other private funds that can't be allocated solely to venture capital or non-venture private equity.

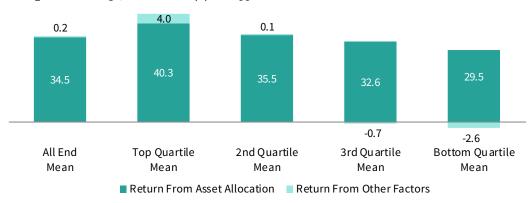
> While the heat map analysis highlights asset classes that are important in understanding the fiscal year 2021 performance story, our attribution analysis goes a step further and quantifies the performance impact of those different asset allocation structures. The attribution analysis we use for Figure 7 assigns a specific index return

to represent each asset class in our framework. For each endowment in our universe, we have calculated a blended index return that is based on the portfolio's beginning fiscal year asset allocation.¹ The result of this calculation is the "return from asset allocation" and represents what the endowment would have earned if it was managed passively throughout the year. The average asset allocation return for the top quartile of performers was 40.3%, which was more than 1,000 bps higher than the average of the bottom performance quartile (29.5%). These results when paired with the heat map analysis clearly demonstrate that differences in private investment asset allocations played a key role in the historically wide dispersion in endowment returns this past year.

However, asset allocation alone is not the only driver of endowment performance, as implementation of the allocations is an important piece to consider. Implementation is primarily driven by the effects of active management, or alpha. In addition, there is a performance impact if an asset allocation structure is altered or rebalanced in the middle of the fiscal year. Our attribution analysis aggregates these effects into the "return from other factors" category. The analysis estimates that the top quartile of performers added an average of 4.0% to their returns from these other factors in fiscal year 2021. In contrast, the average for the bottom quartile of performers was -2.6%. While that gap was not quite as wide as the spread in asset allocation returns, these other factors are also key to understanding why top performers separated themselves so much from rest of the pack in 2021.

FIGURE 7 1-YR ATTRIBUTION ANALYSIS

Trailing 1-Yr as of June 30, 2021 • Percent (%) • n = 299



Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see page 64 in the Appendix.

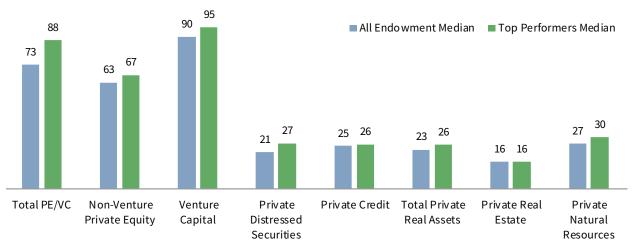
The attribution analysis establishes that there are differentials among endowments in the performance impact from implementation. A key driver of these differentials is the returns that participants earn for the asset class strategies in their portfolios. This was most evident this past year in venture capital, where many endowments reported exceptional performance. The median one-year IRR among participants was 90%, but the full range of returns was staggering. Even after removing the top and bottom five percent of outliers, the 5th percentile return (153%) was an incredible 111 ppts higher than the 95th percentile (42%).

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.

Figure 8 also isolates the top performance quartile as defined by the fiscal year 2021 total return and displays the median private investment IRRs for that subgroup. The median PE/VC composite return for top performers was 88%, which was well above the median for the full universe (73%). The effect of this on total return comparisons is magnified considering that top performers now allocate more than one-quarter of their portfolio to PE/VC strategies, on average. Not only did top performers have highest allocation to the asset classes that produced the best returns in fiscal year 2021, but they generally outperformed other participating institutions in these strategies by significant margins.

FIGURE 8 MEDIAN ENDOWMENT 1-YR ASSET CLASS IRRs: PRIVATE INVESTMENTS

Trailing 1-Yr as of June 30, 2021 • Percent (%)



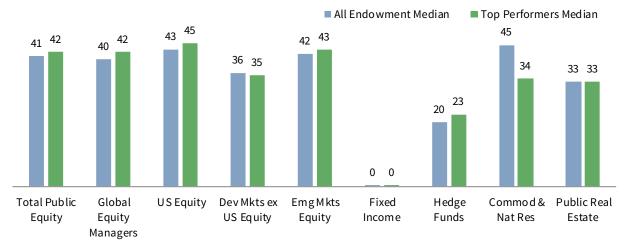
Source: Endowment data as reported to Cambridge Associates LLC.

Notes: For more information, including the number of participants, see page 65 in the Appendix. Private investment return statistics are reported as horizon IRRs.

On the public side, the two strategies where top performers posted the best median returns relative to the overall peer group were in US equity and hedge funds (Figure 9). The median return of top performers was approximately 300 bps higher than the median return of the overall universe in hedge funds and 200 bps higher in US equity. This is notable because the combined allocation to these strategies represents nearly one-third of the average portfolio of top performers. Conversely, the top quartile of endowments tended to not perform as well as the overall universe in commodities/ natural resources. However, these strategies make up just 1% of the average portfolio and, as a result, have a negligible impact when assessing the key drivers of peer performance comparisons.

FIGURE 9 MEDIAN ENDOWMENT 1-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 1-Yr as of June 30, 2021 • Percent (%)



Source: Endowment data as reported to Cambridge Associates LLC.

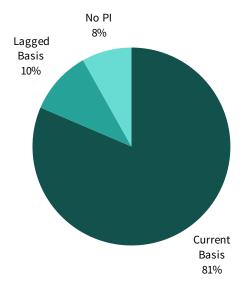
Note: For more information, including the number of participants, see page 66 in the Appendix.

RETURN CALCULATION METHODOLOGIES

The vast majority of participants (81%) in this study incorporate private investment marks into the fiscal year total return calculation on a current basis (Figure 10). For these endowments, private investment performance is time-matched with the actual trailing one-year period and reflects investment activity from July 1, 2020, to June 30, 2021. In contrast, under the lagged basis, private investment marks perpetually lag other assets in the portfolio by one quarter so that the total return captures private investment performance from April 1, 2020, to March 31, 2021.

FIGURE 10 PERFORMANCE REPORTING METHODOLOGIES: PRIVATE INVESTMENTS As of June 30, 2021

All Endowments



Endowments by Asset Size

	Current	Lagged	No PI
	Basis	Basis	Allocation
Under \$200M	78%	_	22%
n	65		18
\$200M-\$500M	92%	_	8%
n	56		5
\$500M-\$1B	90%	8%	3%
n	36	3	1
\$1B-\$3B	81%	18%	2%
n	50	11	1
Over \$3B	70%	30%	_
n	43	18	

Source: Endowment data as reported to Cambridge Associates LLC.

Note: Institutions with no significant private investment allocations (<1% of their total investment portfolios) are reflected in the No PI Allocation category in the pie graph and table by asset size.

PERFORMANCE METHODOLOGY DESCRIPTIONS **Current Basis** Total investment pool return for the trailing one-year period Marketable Assets includes marketable asset performance and private 3Q20 4Q20 1Q21 2Q21 investment performance for July 1, 2020, to June 30, 2021. **Private Investments Lagged Basis** Total investment pool return for the trailing one-year period Marketable Assets includes marketable asset performance for July 1, 2020, to 2Q20 3Q20 4Q20 1Q21 2Q21 June 30, 2021, and private investment performance for April 1, Private Investments 2020, to March 31, 2021.

There is a performance impact to using one methodology over the other. The issue is less significant for longer measurement periods, as the performance impact is diminished through the annualized return calculation. However, the choice of private reporting methodology can be an important factor to consider when conducting peer performance comparisons over short-term periods. When assessing the impact of the two methods for fiscal year 2021, the focus should on be both second quarter 2020 and second quarter 2021. 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.

Figure 11 shows the returns of several CA private investment indexes for second quarter 2021 and the same quarter one year earlier. Except for global ex US venture capital, the returns for the 2021 period were higher than those reported for 2020 across the various strategies. This would point to the current method producing a higher return for an endowment in fiscal year 2021 compared to the lagged basis. However, each endowment's results will be dependent upon its actual fund returns and specific allocation mix.

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



Source: Cambridge Associates LLC.

Note: Private investment return statistics are reported as horizon IRRs.

Another reporting issue that can impact peer return comparisons is the method in which net returns are calculated. While each endowment in this study provided performance on a net-of-fees basis, the types of fees deducted in the net return calculation differ among participants. The overwhelming majority of respondents (85%) reported returns net of external manager fees only for fiscal year 2021 (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.

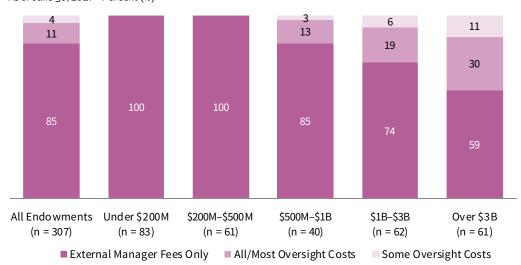


FIGURE 12 TYPES OF FEES DEDUCTED IN FY 2021 NET RETURN CALCULATION As of June 30, 2021 • Percent (%)

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 $drives \ (e.g., investment \ staff \ compensation). \ Institutions \ in \ the \ Some \ Oversight \ Costs \ category \ deduct \ external \ manager \ fees \ and \ drives \ (e.g., investment \ staff \ compensation).$ 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. There was not a single endowment less than \$500 million in this study that deducted investment oversight costs in their net return calculation. In contrast, a significant portion of respondents with asset sizes greater than \$3 billion reported returns net of some or all/most oversight expenses, with 30% netting out the major cost drivers. A 2020 cost survey conducted by CA found that average total oversight expenses came out to approximately 18 bps among the survey's sample group. However, the scale of assets is an important factor as costs in basis points tend to be lower for larger endowments compared to smaller endowments.

LONGER-TERM RETURNS

Strong returns for fiscal year 2021 helped many endowments boost their longer-term performance versus a simple 70/30 benchmark. The median participant return underperformed the simple benchmark by 10 bps for the trailing ten-year period (Figure 13). However, this was a considerable improvement over the results from last year's study, where the median ten-year return underperformed by 80 bps. The improvements were even more dramatic for the trailing five-year period, with the median participant return equaling the simple benchmark after underperforming by 140 bps in last year's study.

Years Ended June 30, 2021 • Percent (%) • By Percentile Ranking **Median Return** • 70% MSCI ACWI / 30% BBG Agg Bond 15 12.6 12.4 11.7 10 8.5 **8.4** 3-Yr 5-Yr 20-Yr 10-Yr n = 305n = 301n = 285n = 225

FIGURE 13 TOTAL RETURNS SUMMARY: TRAILING 3-, 5-, 10-, AND 20-YR

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, please see page 67 in the Appendix.

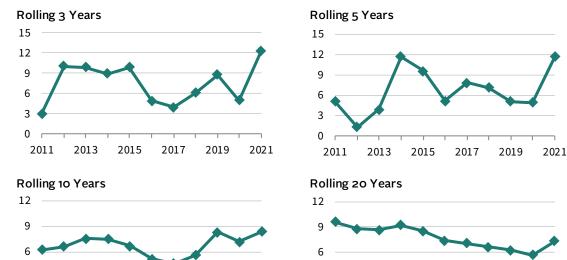
The fiscal year 2021 period also led to strong endowment performance on an absolute basis over the trailing periods displayed in Figure 14. The median endowment returns for the trailing three- and five-year periods were both well into the double digits and were the highest we have calculated for those rolling periods from the past decade. The trailing ten-year median return was just shy of 9%, but similarly was the highest reported over the last decade. The rolling 20-year analysis shows more of a prolonged downward trend in the median return until fiscal year 2021, when the median return spiked back up substantially.

FIGURE 14 ROLLING MEDIAN RETURNS: TRAILING 3-, 5-, 10-, AND 20-YR

Years Ended June 30 • Percent (%)

3 — 0 — 2011

2013



Source: Endowment data as reported to Cambridge Associates LLC.

2017

2015

Note: The number of institutions included in the median calculation varies from one period to the next and is smaller in earlier years compared to the present day.

2021

2019

As we already reviewed in the fiscal year 2021 return analyses, the largest endowments tended to outperform smaller endowments by significant margins. The same was true over the long term as well, with the median return of the greater than \$3 billion cohort outperforming the median of the other asset size groups (Figure 15). This group's median return for the trailing three-year period (15.0%) was 340 bps higher than the median for endowments less than \$200 million (11.6%). While the spreads were narrower for longer-trailing periods, it was still a considerable 240 bps for the trailing 20-year period. For the various institution types in this study, colleges and universities again led the pack with the highest median return across each of these trailing periods (Figure 16).

2011

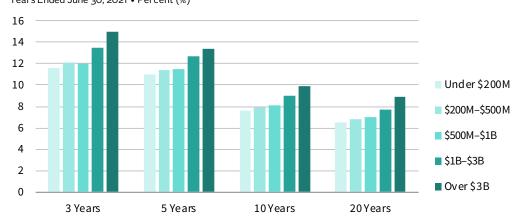
2013

2015

2017

2019

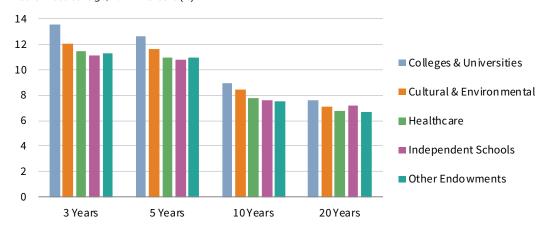
FIGURE 15 MEDIAN TRAILING 3-, 5-, 10-, AND 20-YR RETURNS BY ASSET SIZE Years Ended June 30, 2021 • Percent (%)



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

2021

FIGURE 16 MEDIAN TRAILING 3-, 5-, 10-, AND 20-YR RETURNS BY INSTITUTION TYPE Years Ended June 30, 2021 • Percent (%)

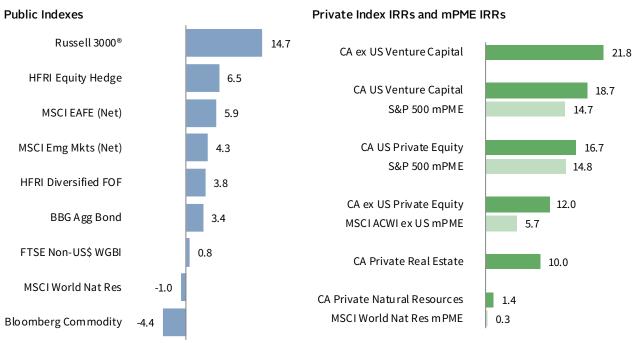


Source: Endowment data as reported to Cambridge Associates LLC.

Many of the same dynamics that drove returns for fiscal year 2021 also played out over the long term. Venture capital was the highest-performing asset class over the trailing ten-year period as measured by the index returns in Figure 17. Non-venture private equity strategies also produced returns that outperformed their mPME benchmarks over the last decade. Among the public benchmarks, the US stock market as represented by the Russell 3000® Index was by far the top-performing strategy. Meanwhile, the low interest rate environment of the last decade resulted in historically low returns for investment-grade fixed income strategies.

FIGURE 17 10-YR INDEX RETURNS

As of June 30, 2021 • 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 leads us to exploring the differences in asset allocations among endowments over the last decade. The heat map analysis in Figure 18 averages asset allocation data of participating endowments across the 11 periods ending June 30 from 2011 to 2021 and places each endowment into the performance quartile that aligns with their ten-year peer return ranking. The four quartiles in the table represent the average of the endowments that fell within each quartile.

There was not a huge differential across the performance quartiles when it came to the average combined allocation to public equity and PE/VC. The second quartile of performers had the highest average total equity allocation (54.9%), while the bottom quartile had the lowest average allocation (50.0%). However, there was a clear distinction in the mix between public and private equities when looking across the four subgroups. The top quartile of performers had the highest average allocation to PE/ VC (21.1%), with the underlying allocations split nearly evenly between venture capital and non-venture private equity. In contrast, the bottom quartile had a much lower average PE/VC allocation at 4.1%. The results were the inverse for public equity, with top performers having the lowest average allocation (33.0%) and the bottom quartile having an average that was substantially higher (45.9%).

FIGURE 18 10-YR MEAN ASSET ALLOCATION BY PERFORMANCE QUARTILE Percent (%) • n = 217

		Private Equity & Venture Capital								
Quartile	Public Equity	Total PE/VC	VC	PE	Other Pl	Hedge Funds	Real Assets	Fixed Income	Private Credit	Cash & Other
Top Quartile	33.0	21.1	10.0	10.6	0.6	22.3	12.5	6.3	1.1	3.6
2nd Quartile	43.8	11.1	4.1	5.9	1.1	20.5	10.6	9.1	1.4	3.7
3rd Quartile	44.0	8.2	2.8	4.5	1.0	22.0	8.5	10.8	1.4	5.2
Bottom Quartile	45.9	4.1	1.6	1.8	0.6	22.5	8.1	13.7	0.9	4.7
All End Mean	41.6	11.2	4.7	5.7	0.8	21.8	9.9	10.0	1.2	4.3
	Divergence of Asset Allocation from All Endowment Mean									
		-4% or lower	-	-2%	M	lean	2%	4% or higher		

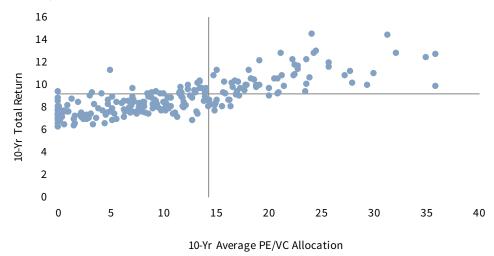
Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Asset allocation is averaged across the 11 periods ending June 30 from 2011 to 2021 for each institution in this analysis. Other PI consists primarily of multi-strategy FOFs, secondaries, and other private funds that can't be allocated solely to venture capital or non-venture private equity.

> Another way to visualize the relationship between PE/VC allocations and relative peer performance is by plotting endowment data on a scatterplot. In Figure 19, each participant that reported data over the last decade is represented by a dot based on where its ten-year average allocation to PE/VC intersects with its trailing ten-year return. The data do not show a perfect relationship—some endowments that have above-median allocations to PE/VC had below-median total returns over the trailing ten-year period and vice versa. However, there is a clear trend from left to right on the scatterplot as endowment performance tends to be higher as the allocation to PE/VC increases.

FIGURE 19 10-YR PE/VC ALLOCATION VS TOTAL RETURN

As of June 30, 2021 • n = 217



Source: Endowment data as reported to Cambridge Associates LLC.

Note: The lines that traverse the graph are drawn where the median PE/VC allocation among participants intersects with the median 10-year participant return.

There were also notable differences among endowments elsewhere in the asset allocation framework (Figure 18). The next largest differential was in fixed income, where top performers had the lowest average allocation (6.3%) over the past decade, while the bottom quartile of performers had the highest allocation (13.7%). The top quartile of performers also had the highest average allocations to real assets (12.5%), with the vast majority of those underlying allocations coming from private strategies.

The attribution model further illustrates the impact of different asset allocation structures on the trailing 10-year return. The average asset allocation return over this period for the top quartile of performers was 9.5% (Figure 20). For the bottom quartile of performers, the average asset allocation return was 230 bps lower at 7.2%. The attribution model estimates that the gap was a bit smaller for the portion of return that is explained by other factors such as implementation. However, top performers also excelled here, earning an average of 1.4% while the bottom quartile added no value from implementation.

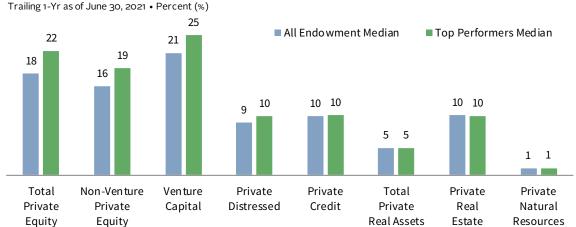
FIGURE 20 10-YR ATTRIBUTION ANALYSIS BY PERFORMANCE QUARTILE As of June 30, 2021 • Percent (%) • n = 217



Source: Endowment data as reported to Cambridge Associates LLC.

The endowments that reported the highest total returns over the past decade not only had the largest allocations to PE/VC, but they also tended to earn the best performance among peers in these strategies as well. The median venture capital IRR for the top-performing endowments was 25% over the trailing ten-year period, approximately 400 bps higher than the median for the overall endowments universe (Figure 21). The differential was slightly smaller for non-venture private equity, but still substantial at 300 bps. With PE/VC accounting for more than 20% of the average portfolio for top performers over the last decade, the superior performance earned in these strategies was a key reason top performers had the best implementation returns in the attribution model.

FIGURE 21 MEDIAN ENDOWMENT 10-YR ASSET CLASS IRRs: PRIVATE INVESTMENTS

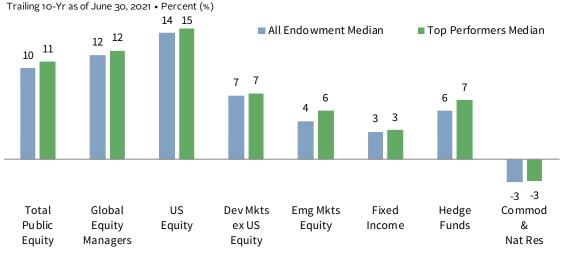


Source: Endowment data as reported to Cambridge Associates LLC.

Notes: For more information, including the number of participants, see pages 68, 69, and 70 in the Appendix. Private investment return statistics are reported as horizon IRRs.

As is typically the case, there was less variation in the returns reported by participants in marketable asset classes (Figure 22). The median return of top performers was higher than the median of the overall universe in most categories, but by smaller margins compared to those reported in PE/VC. The full percentile breakdown of asset class returns across the trailing three-, five-, and ten-year periods is included in the Appendix.

FIGURE 22 MEDIAN ENDOWMENT 10-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS



Source: Endowment data as reported to Cambridge Associates LLC.

Note: For more information, including the number of participants, see pages 71, 72, and 73 in the Appendix.

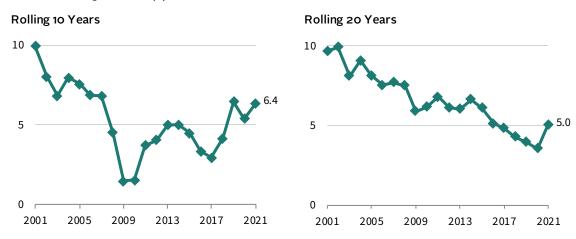
INFLATION-ADJUSTED RETURNS

A primary objective when managing an endowment is to preserve, and perhaps even grow, the purchasing power of its assets over the long term. Most endowments and foundations over the long term have aimed to earn at least a 5% real return in pursuit of this goal. Meeting the real return target allows an endowment to offset the erosion of purchasing power caused by inflation and replenish the annual spending that is drawn from the portfolio.2

The task of earning 5% on a real basis over the long term has become significantly more challenging than it once was. Figure 23 displays the trailing ten- and 20-year median real return for the participant group going back to 2001. At the beginning of this historical period, the trailing ten-year median was nearly double the 5% threshold. By 2008, as the impact of the Global Financial Crisis (GFC) was beginning to be felt worldwide, the median ten-year return had fallen below 5% and it stayed below this level for much of the ensuing decade. Only in 2019—after the GFC track record was removed from the rolling calculation—did the median surge well above 5%. As of June 30, 2021, the ten-year median real return was 6.4%.

The median 20-year real return was also near 10% where Figure 23 begins in 2001. This statistic steadily trended downward over the past two decades and fell below the 5% mark in 2017. The performance from fiscal year 2021 was a boon to the 20-year track record and pushed the median endowment return back up to 5%. The Portfolio Asset Allocation section of this report will detail how endowments have responded to this more challenging return environment by raising allocations to equity-oriented assets and reducing allocations to fixed income and other lower-volatility assets.

FIGURE 23 ROLLING MEDIAN REAL RETURNS: TRAILING 10- AND 20-YR Years Ended June 30 • Percent (%)



Source: Endowment data as reported to Cambridge Associates LLC. Note: The number of institutions included in the median calculation varies from one period to the next, and is smaller in earlier years compared to the present day.

See the Investment Policy section of this report, and Figure 26 specifically, for more information on this topic. While 5% has traditionally been the most common real return target, the exact percentage can be higher or lower depending an institution's specific objectives.

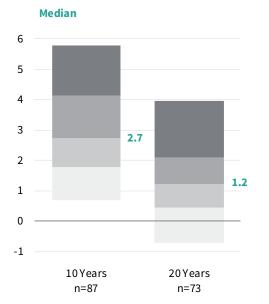
Of the endowments that provided spending rate data for the last ten years, virtually all (86 of 87) reported a real return after spending that was above 0% for this historical period. The significance of this is that each of these endowments experienced asset growth even after the effects of inflation and spending were removed from the equation. The median real return after spending for the trailing ten-year period was 2.7% (Figure 24). For the trailing 20-year period, more than 80% of responding endowments reported a real return after spending that was above 0% with the median at 1.2%.

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

FIGURE 24 10-YR REAL RETURNS **AFTER SPENDING**

As of June 30, 2021 • Percent (%) • By Percentile Ranking



Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see page 74 in the Appendix.

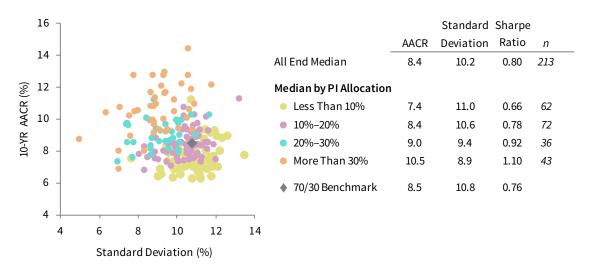
performance is by the Sharpe ratio, which shows how much return above the risk-free rate (T-bills) the investor has earned per unit of risk (defined as the standard deviation of returns). The higher the Sharpe ratio, the more the investor has been compensated for each unit of risk taken.

Risk-adjusted performance comparisons can be complicated when portfolios have significant allocations to private investments. The frequency and timing of private investment valuations can 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 average allocations to private investments over the trailing ten-year period.

The median Sharpe ratio was 1.10 for endowments that had an allocation of 30% or more to private investments. In comparison, the median Sharpe ratio was 0.76 for the overall participant group. Although the better Sharpe ratio for the group with the highest private allocations is partly a function of this group's higher median return, it is also attributable to their lower median standard deviation.

FIGURE 25 10-YR STANDARD DEVIATION AND SHARPE RATIO

Periods Ended June 30, 2021



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 related to endowment investment policies/guidelines 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. Institutions must balance their annual reliance on endowment spending and the commitment to provide support for their missions in perpetuity.3

One term that is often associated with endowment management is intergenerational equity, the concept 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.

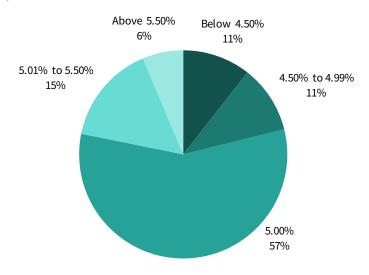
Of the survey participants that specified the primary role for their endowment, 82% indicated it was to maintain intergenerational equity. The remaining 18% of respondents indicated that the primary role of the endowment was to expand its permanent capital so that the endowment could fulfill a bigger 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.

Our survey asked participants to provide their real return objective for the endowment if one was used. Since endowment returns are volatile from year to year, return objectives should be evaluated from the long-term perspective instead of a goal that must be met each and every year. As has been the case historically, the most common real return objective is 5%, which was cited by more than half of endowments (Figure 26). Approximately 21% of respondents have an objective above 5%, while a similar number (22%) reported an objective of less than 5%.

³ See the Institutional Support section of this report for commentary and analysis on endowment spending.

FIGURE 26 REAL TOTAL PORTFOLIO RETURN OBJECTIVES

n = 142



Source: Endowment data as reported to Cambridge Associates LLC.

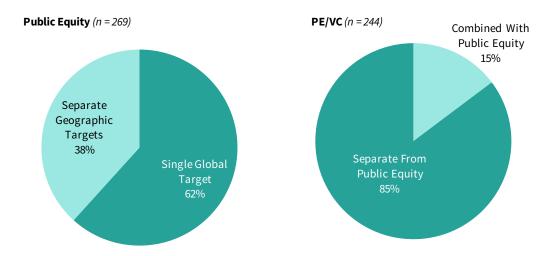
ASSET ALLOCATION POLICY

The asset allocation component of the investment policy specifies the asset classes allowed in the portfolio and assigns target allocations and/or ranges for those asset class categories. The categories and targets chosen are based on the portfolio's risk tolerance, liquidity needs, and performance objectives. Our survey requests that respondents provide the asset class 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 with public equity categories, where there are contrasting approaches to the inclusion of geographic regions into the policy framework. A broad approach is most common, with 62% of respondents reporting a single category that captures their entire public equity allocation (Figure 27). The remaining 38% of respondents assign multiple targets that are based on geographic regions, although there are various combinations of regions used across endowments. The single-category approach provides the investment management team more flexibility, while the multi-category approach puts more constraints on how the public allocations are implemented.

A small percentage (15%) of respondents roll PE/VC together with public equity into a single category in their policy framework. In these instances, a name such as "Growth," or simply "Equity," is used to capture the combined exposure. The vast majority (85%) of endowments separate public and private equity when constructing their asset allocation policy. Most of this latter group has a dedicated target for PE/VC or break out non-venture private equity and venture capital separately. However, some endowments include PE/VC together with other private strategies into a single private investments category in their framework.

FIGURE 27 CAPTURING EQUITIES IN THE ASSET ALLOCATION POLICY



Source: Endowment data as reported to Cambridge Associates LLC.

COMPONENTS OF POLICY PORTFOLIO BENCHMARKS

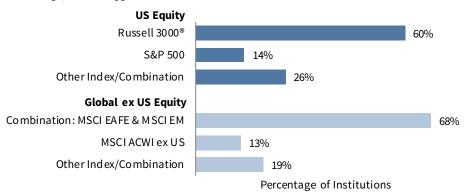
When done well, benchmarking is all about answering the question, "How are we doing?" in ways that are both accurate and relevant to the objectives of the portfolio being measured. The comparison of an endowment's return to its policy portfolio benchmark is used to evaluate whether the portfolio is being successfully implemented according to its asset allocation policy. Such an evaluation not only captures the impact of manager selection decisions, but also the effect of differences between the portfolio's actual asset allocation and the policy targets. The policy portfolio benchmark is typically a blend of indexes that represents 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 may be used.

The structure of the policy portfolio benchmark for most endowments typically matches or closely resembles the framework of the asset allocation policy.⁴ Of the endowments that use a single category for their entire public equity allocation in the policy framework, nearly 90% also use the MSCI All Country World Index to represent that allocation in the policy benchmark. In instances where endowments use separate policy targets for US and global ex US categories, the Russell 3000® Index was most commonly cited for US equity, and a combination of the MSCI EAFE and MSCI Emerging Markets indexes was most prevalent for global ex US equity (Figure 28).

⁴ For this section, we excluded respondents that reported a simple benchmark as their policy benchmark. A simple benchmark typically incorporates a broad-based equity benchmark and a bond index weighted in proportion to the overall risk profile of the portfolio. Just 11% of respondents that provided data on their policy portfolio benchmark reported a simple benchmark.

FIGURE 28 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: PUBLIC EQUITY FOR US AND GLOBAL EX US REGIONS

As of June 30, 2021 • n = 93

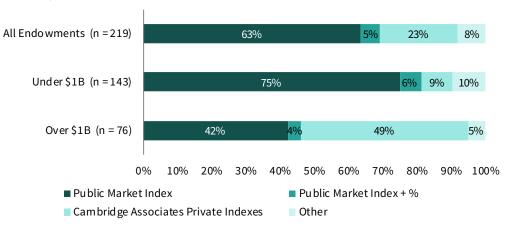


Source: Endowment data as reported to Cambridge Associates LLC.

Accounting for private equity in the policy benchmark can be challenging because there is no single index that meets all of the standards of a valid benchmark. Hence, there are different approaches that we see used across endowments in this study. For the overall respondent group, the use of a public index is the most common practice, as 63% of respondents use this method (Figure 29). The rationale for using this approach is that the capital would have been invested in public equity markets if it was not invested in private equity. Therefore, the public index can help evaluate whether the decision to invest in private equity paid off for the endowment. The use of a public index can also be a straightforward approach when a portfolio is still in a phase of building up its private program and there is an underweight in current private allocations versus the long-term target. This may be one explanation for why this approach is more common at smaller endowments compared to larger peers.

FIGURE 29 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: PRIVATE EQUITY

As of June 30, 2021



Source: Endowment data as reported to Cambridge Associates LLC.

While the use of a public equity index in this way can capture the opportunity cost of investing in private equity, it does not evaluate how well those private allocations are implemented. Approximately one-quarter of the total participant group (23%) uses

the CA private investment indexes, which are calculated by pooling together all of the cash flows and valuation changes for the underlying private funds that are included in a specific strategy's index. These indexes are not investable, nor is there transparency into the names and weightings of the private companies included, and consequently, they don't satisfy the requirements sought for an ideal benchmark. However, these indexes can be custom weighted by vintage year and provide a better evaluation of private investment fund selection compared to what a public index offers. It is likely for this reason that this approach is most prevalent among larger endowments, of which many have performance-based incentive compensation programs for their investment staff.

Just 5% of respondents add a prespecified percentage to a public index return to represent their private equity allocation in the policy benchmark. The reasoning behind this approach is based on the expectation that investing in private equity offers an illiquidity premium, or the potential to earn a return that is above and beyond what can be earned in the public equity market. However, the addition of a premium to a public index return introduces a non-market force that fails the test for having the qualities of a valid benchmark. This method was actually the most common approach among this study's participants ten years ago, when 41% of respondents used this type of benchmark (Figure 30).

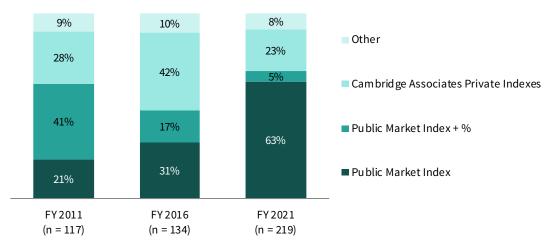


FIGURE 30 TREND IN PRIVATE EQUITY BENCHMARKS

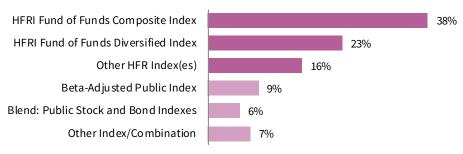
Source: Endowment data as reported to Cambridge Associates LLC.

Endowments also face similar challenges of selecting an appropriate index when accounting for hedge fund allocations in the policy benchmark. Hedge Fund Research® (HFR) produces indexes that broadly track hedge fund managers that report to their database. The HFR indexes may be defined more granularly by investment substrategies, geographic regions, and other criteria. While endowments may use this approach to evaluate their own manager selection versus a broad universe of hedge funds, these indexes lack some of the desired qualities of a valid benchmark such as being investable and transparent. Still, more than three-quarters of the respondent group use one or more of the indexes calculated by HFR. The HFRI Fund of Funds (FOF) Composite Index was used by 38% of endowments, while the HFRI FOF Diversified Index was

the next most commonly cited (23%). Another 16% of respondents use another index or a combination of indexes provided by HFRI. As shown in Figure 31, the remaining respondents use either a beta-adjusted public equity index, a blend of a public equity index and a bond index, or some other type of index.

FIGURE 31 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: HEDGE FUNDS

As of June 30, 2021 • n = 214

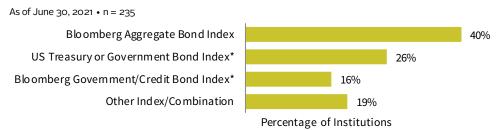


Percentage of Institutions

Source: Endowment data as reported to Cambridge Associates LLC.

The Bloomberg Aggregate Bond Index was the most common benchmark for fixed income, but was cited by just 40% of endowments (Figure 32). Slightly more than one-quarter of respondents (26%) use a US Treasury or US government bond index, and another 16% of endowments use a version of the Bloomberg Government/Credit Index. There are different versions for each of these indexes based on range of maturity and many endowments use the specific version that reflects their portfolio's underlying fixed income exposure. The remaining 19% of respondents use some other type of index or a combination of multiple indexes. For real assets, benchmark combinations are even more unique across the participant group due to the wide variety of strategies employed under this category.

FIGURE 32 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: FIXED INCOME



Source: Endowment data as reported to Cambridge Associates LLC.

^{*}Includes subindexes of the overall strategy that have various ranges of maturity.

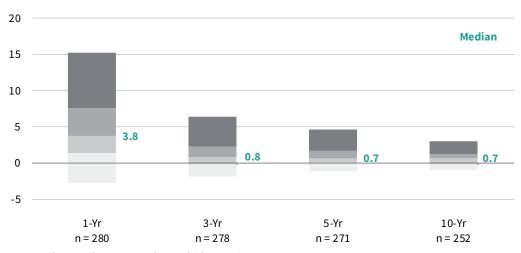
INVESTMENT PERFORMANCE VERSUS POLICY PORTFOLIO BENCHMARKS

The various approaches to benchmarking we have covered in this section are important to keep in mind when analyzing endowment performance relative to policy benchmarks. This is perhaps most evident with the benchmarking of private equity and venture capital. As we detailed in the Investment Portfolio Returns section of this report, the CA Private Equity and Venture Capital index returns were substantially higher than the performance of public equity indexes in fiscal year 2021. Endowments that use the private indexes calculated a policy benchmark return that was considerably higher compared to what it would have been if a public index were used to represent PE/VC, and vice versa.

Total returns for endowments by and large trounced their policy portfolio benchmark returns in fiscal year 2021. The vast majority (88%) of respondents reported that their total return outperformed the policy benchmark for the trailing one-year period. The median spread between the actual return and the policy benchmark return was a whopping 3.8 ppts. The range of results among endowments was extremely large, with the spread at the 5th percentile reaching 15.2 ppts. The magnitude of outperformance for the most recent fiscal year across most endowments also boosted results for longer periods. For each of the multiyear trailing periods in Figure 33, more than 70% of participating endowments reported a return that outperformed their policy benchmark.

FIGURE 33 RANGE OF OUT/UNDERPERFORMANCE OF TOTAL RETURN VS POLICY PORTFOLIO BENCHMARK

Years Ended June 30, 2021 • Percentage Points • By Percentile Ranking



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.

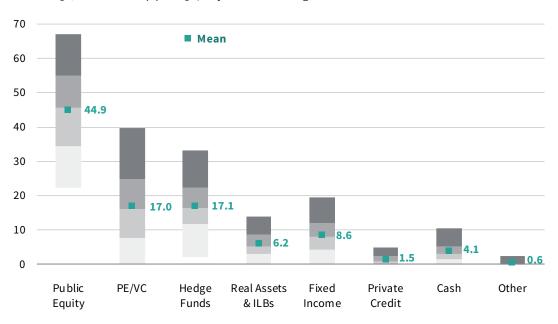
Section 3: Portfolio Asset Allocation

2021 ASSET ALLOCATION

Most endowments had significant allocations to equities at the end of fiscal year 2021. On average, 44.9% of the long-term investment portfolio (LTIP) was invested in longonly public equities and 17.0% was allocated to PE/VC (Figure 34). However, the range in allocations reported across respondents was extremely wide within these categories. Even after removing the top and bottom 5% of outliers, public equity allocations were as high as 67% at the top end of the universe and as low as 22% at the bottom end. For PE/VC, allocations ranged from 40% at the 5th percentile to 0% at the 95th percentile.

FIGURE 34 SUMMARY ASSET ALLOCATION DISTRIBUTION

As of June 30, 2021 • Percent (%) • n = 307 • By Percentile Ranking



Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see page 74 in the Appendix.

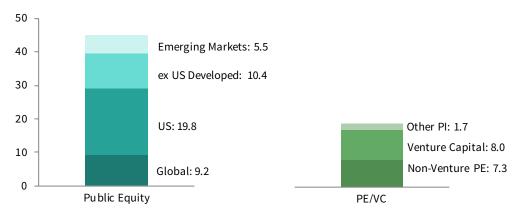
Figure 35 shows the breakdown of detailed categories that fall under public equity and PE/VC in our asset allocation framework. On the public side, we collect data based on the primary geographic region that each fund/manager is invested.⁵ The highest allocations among the public categories tend to be in US-focused funds, with 19.8% of the average LTIP invested in these strategies. Endowments have substantial allocations to equities outside of the United States, with an average of 10.4% allocated to funds primarily invested in global ex US developed regions and another 5.5% invested with dedicated emerging markets funds. Funds that are invested across multiple geographic regions are included in our global category and make up 9.2% of the average LTIP.

We reference investment managers and their funds in our review of asset allocations in this section. However, some endowments gain exposure to these asset classes via internally managed holdings or derivatives. The Investment Manager Structures section of this report contains analysis on how asset allocations are implemented across various strategies

The largest average allocation on the private side was to venture capital (8.0%), while the average allocation to non-venture private equity was slightly lower at 7.3%. Non-venture private equity in our framework consists of buyouts and growth equity, which is aligned with the way these strategies are combined in the CA Private Equity indexes. There is a third category called "other private investments" that is reserved for multi-strategy fund-of-funds, secondaries, and other private funds that can't be allocated solely to either of the aforementioned categories. The average allocation to other PI was just 1.7%.

FIGURE 35 MEAN ASSET ALLOCATION: PUBLIC EQUITY AND PE/VC

As of June 30, 2021 • Percent (%) • n = 307



Source: Endowment data as reported to Cambridge Associates LLC.

Elsewhere in the reporting framework, the average allocation to hedge funds was 17.1% (Figure 34). Real assets, which consist of a diversified group of public and private assets, made up 6.2% of portfolios, on average. Fixed income made up 8.6% of the average LTIP, while private credit accounted for just 1.5%. Rounding out the average asset allocation among participants, 4.1% was allocated to cash and 0.6% was allocated other miscellaneous assets. Average allocations for the more granular asset classes that fall under these broader categories are included in the Appendix of this report.

The total asset size of the LTIP has long been a key factor in the variation of asset allocations among endowments. Smaller endowments continue to maintain higher allocations to fixed income and public equities, while larger endowments have the highest allocations to alternative assets. The differences are most noticeable in the breakdown of public equity versus private equity. Endowments with assets less than \$200 million had an average allocation of 53.4% to public equity, while those with assets greater than \$3 billion had an average of 33.4% (Figure 36). For PE/VC, the largest endowments had an average allocation of 27.9%, while the smallest endowments had an average of 8.5%.

FIGURE 36 MEAN ASSET ALLOCATION BY ASSET SIZE

As of June 30, 2021 • Percent (%)

Asset Size	Public Equity	PE/VC	Hedge Funds	Private Credit	Fixed Income	Real Assets & ILBs	Cash
Less Than \$200M n = 83	53.4	8.5	16.3	1.0	11.7	4.4	4.2
\$200M-\$500M n = 61	50.4	13.0	15.5	1.4	10.2	4.2	3.8
\$500M-\$1B n = 40	44.7	17.6	16.5	2.1	8.5	6.9	3.6
\$1B-\$3B n = 62	39.6	21.4	19.5	1.8	6.1	6.4	4.8
More Than \$3B n = 61	33.4	27.9	17.7	1.7	5.4	9.9	3.7
All End Mean n = 307	44.9	17.0	17.1	1.5	8.6	6.2	4.1
			Divergence F	rom All Endo	wment Mean		
	-	-4%	-2%	Mean	2%	4%	

Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see pages 75 and 76 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 substantially while the equity allocation, which once was invested overwhelmingly in US public equities, has become more diversified. The largest endowments pioneered this transition in the 1980s, with the trend spreading among other institutions in the 1990s and early 2000s. Figure 37 shows the average asset allocation trend over the last 20 years for the 119 endowments that have provided data since 2001. The first half of this period highlights many of these trends in diversification.

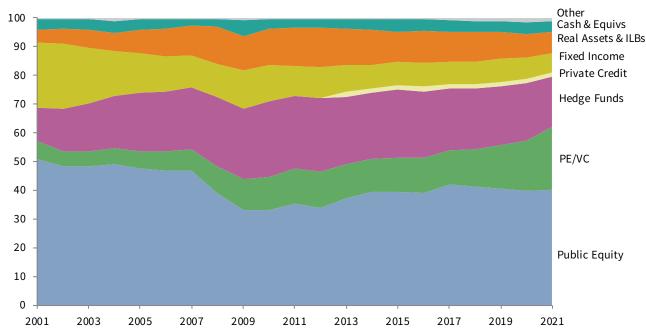
The 2008 GFC occurred near the midpoint of this 20-year period and the impact on endowments' asset allocations was significant. The average public equity allocation dropped by nearly 14 ppts from 2007 to 2009, and fixed income allocations briefly defied the longer-term trend and rose by a few ppts. Allocations to alternative asset classes continued to rise during this time, although they were weighted more heavily towards hedge fund and inflation-hedging strategies than to private equities. By 2011, the combined average allocation to hedge funds and real assets was more than three times greater than the allocation to PE/VC.

The investment environment over the past decade has been characterized by a sustained bull market for equity-oriented assets and a historically low interest rate environment for bonds. The average endowment allocation to equities trended back up post-GFC, with higher increases reported to public equities compared to private

equities through 2017. However, allocations to PE/VC have risen dramatically since 2017, a result of both increased private commitments by endowments and the extraordinary investment performance from these strategies. Meanwhile, average allocations peaked in 2010 to hedge funds and shortly afterwards to real assets (2012), but then declined for both strategies over much of the last decade. Likewise, the average allocation to fixed income has steadily declined and by 2021 was approximately half of what it was ten years prior.

FIGURE 37 HISTORICAL MEAN ASSET ALLOCATION TRENDS





Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see page 77 in the Appendix.

> Endowments of various asset sizes followed the same overall trends from the last decade (Figure 38). Each asset size group saw increases to PE/VC, with endowments greater than \$3 billion reporting the highest average increase (11.9 ppts) and those less than \$200 million reporting the smallest average increase (5.5 ppts). The result is that the gap in private allocations between small and large endowments, which was already substantial ten years ago, has grown to be much wider. The average public equity allocation rose for each asset size cohort, although the increases were largest among endowments less than \$500 million.

There was a stark contrast between the trend in growing equity allocations and the decreases that were reported elsewhere in portfolios. For most asset size groups, the largest decrease in the average asset allocation structure was to hedge funds. Each asset size cohort also reported meaningful decreases in the average allocation to real assets and fixed income.

FIGURE 38 TRENDS IN MEAN ASSET ALLOCATION BY ASSET SIZE

Means as of June 30 • Percent (%)

_	` '						
	Public		Hedge	Private	Fixed	RA	Cash &
	Equity	PE/VC	Funds	Credit	Income	& ILBs	Other
Under \$200M (n = 46)							
2011	43.2	2.5	21.6	0.0	17.7	9.5	5.5
2021	53.9	8.0	15.7	0.9	11.6	4.5	5.3
\$200M-\$500M (n = 42)							
2011	42.8	5.3	22.7	0.0	15.2	11.4	2.6
2021	51.4	12.6	14.9	1.4	10.1	4.3	5.4
\$500M-\$1B (n = 33)							
2011	36.4	8.7	27.6	0.0	10.4	12.4	4.5
2021	43.9	18.4	16.7	2.1	7.9	7.1	3.8
¢1D ¢2D (n = 41)							1
\$1B-\$3B (n = 41) 2011	34.0	11.6	28.7	0.0	9.8	11.6	4.3
2021	38.9	22.6	19.7	1.9	5.8	6.4	4.6
0 600 (55)							1
Over \$3B (n = 55) 2011	31.5	17.4	23.6	0.0	8.4	16.1	3.1
2021	32.4	29.3	17.9	1.7	5.1	9.8	3.7
2021	J2. T	23.3	11.5	1.1	5.1	3.0	5.1
		2021	Mean Asset	Allocation	Relative to	2011	
-8%		-4%	-2%	0%	2%	4%	6%
or lov	ver						

Source: Endowment data as reported to Cambridge Associates LLC. Note: Private credit was not a part of our asset allocation framework in 2011.

TARGET ASSET ALLOCATION

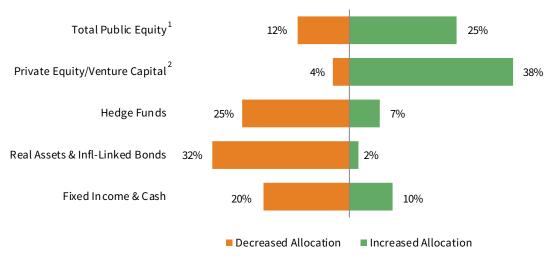
Target asset allocation data can be insightful for evaluating whether endowments are altering their long-term asset allocation policies going forward. Our survey requests that participants provide their asset allocation policy exactly as stated in their investment policy statements. While there are differences 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 2021 was very similar to the recent trends in actual allocations that we just reviewed. In general, there are far more institutions that increased policy allocations to equities compared to those that reported a decrease. The contrast was most striking with PE/VC, where 38% of endowments reported an increase in the target allocation and just 4% reported a decrease (Figure 39). For public equity, the percentage of respondents that increased (25%) their target over the past year was more than twice as much as the percentage that reported a decrease (12%).

Meanwhile, responses for fiscal year 2021 point to a continued decline in hedge funds and real assets allocations going forward. For real assets, 32% of endowments reported that they lowered their target allocation, while just 2% increased their target. The results were similar for hedge funds, where 25% decreased their target compared to 7% that reported an increase. Finally for fixed income and cash, 20% of respondents decreased their targets, while 10% reported an increase.

FIGURE 39 CHANGES IN TARGET ASSET ALLOCATION

June 30, 2020 - June 30, 2021 • Percentage of Institutions Increasing or Decreasing Targets



Source: Endowment data as reported to Cambridge Associates LLC.

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 or marketable assets. As our analysis in this section has shown, endowments have been allocating an increasingly significant portion of their portfolios to private investments. As of the end of fiscal year 2021, the average total private investment allocation for the overall participant group was nearly 23%. For endowments greater than \$3 billion, the average allocation was even larger at 38%.

Uncalled capital commitments represent the amount of capital that endowments have agreed to pay into private investment funds in the future. While annual spending distributions have traditionally made up the biggest liquidity need for endowments, growing allocations to private assets has resulted in uncalled capital becoming an equally important piece of the liquidity picture. Whether an endowment is ramping up private allocations or simply maintaining an already high allocation, the amount of uncalled capital is significant when measured versus the total value of the portfolio for most participants in this study.

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

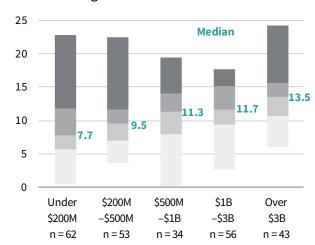
² Private equity/venture capital includes institutions that include PE/VC together with other private investments in a single category.

Uncalled capital commitments as a percentage of the total LTIP tends to be higher for larger endowments than it is for smaller endowments. This should not be surprising given the substantial differential in private allocations between the largest and smallest endowments in this study. The median ratio for endowments greater than \$3 billion was 13.5%, which was almost double the median ratio (7.7%) calculated for endowments less than \$200 million (Figure 40). 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 \$3 billion, the median ratio as a percent the portfolio's liquid assets was 31.3%. In contrast, the ratio was 11.6% for endowments less than \$200 million.

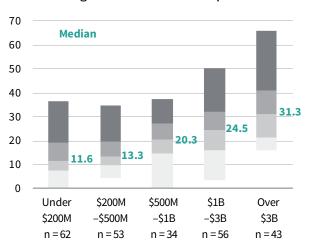
FIGURE 40 UNCALLED CAPITAL COMMITTED TO PRIVATE INVESTMENT FUNDS

As of June 30, 2021 • Percent (%) • By Percentile Ranking

As a Percentage of the Total LTIP



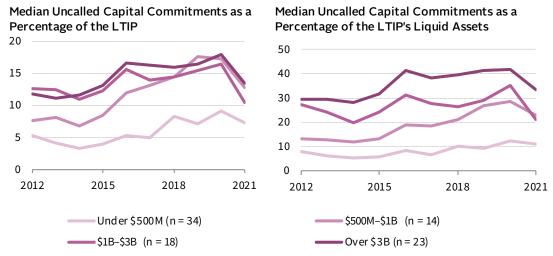
As a Percentage of the Total LTIP's Liquid Assets



Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see page 77 in the Appendix.

Figure 41 shows the trend in these two ratios over the last ten fiscal years for the various asset size cohorts. The median ratios trended higher over much of the past decade but then dropped off substantially in 2021. The decline over the past year was not because there was a decrease in the amount of uncalled commitments across most endowments. Rather, the extraordinary investment performance from fiscal year 2021 drove a growth rate in the asset base for endowments that was much higher than the increase in uncalled commitments. The median growth rate in both the market value of the LTIP and the portfolio's liquid assets was nearly 40% in fiscal year 2021, while the median growth rate in the amount of uncalled capital commitments was just 9%.

FIGURE 41 TREND IN UNCALLED CAPITAL COMMITMENTS TO PRIVATE INVESTMENT FUNDS Years Ended June 30 • Percent (%)

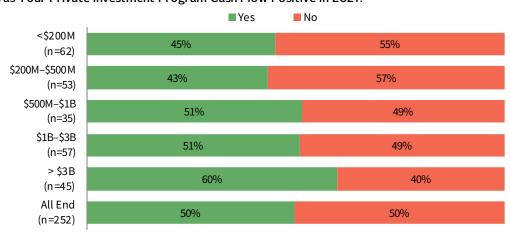


Source: Endowment data as reported to Cambridge Associates LLC.

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.

Our survey directs respondents to indicate whether their private investment programs were cash flow positive for 2021, meaning that the amount of distributions from private funds exceeded the amount of new capital paid in during the fiscal year. The overall endowment universe was split exactly down the middle, with half reporting their programs were cash flow positive and the other half reporting they were cash flow negative. There were some differences when looking at the averages across different asset size cohorts, but even among endowments greater than \$3 billion there was a significant proportion (40%) reporting that their programs were cash flow negative in 2021. While this proportion may seem high given the exceptional returns delivered by private investment strategies, it is important to remember that most of the performance gains from the fiscal year were a result of unrealized value and—if those gains hold—will not be harvested as distributions until future years.

FIGURE 42 PRIVATE INVESTMENT PROGRAM CASH FLOW BY ASSET SIZE As of June 30, 2021



Was Your Private Investment Program Cash Flow Positive in 2021?

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 2021.

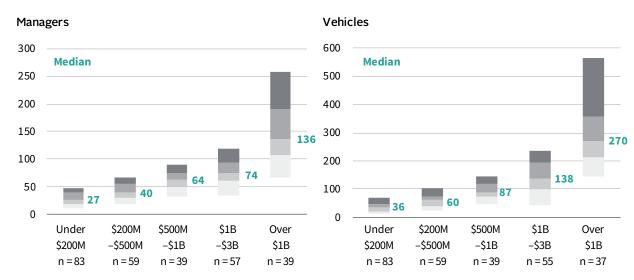
Section 4: Investment Manager Structures

NUMBER OF EXTERNAL MANAGERS

Most of the assets under management at endowments are invested via external investment managers. There are multiple factors that contribute to the number of managers employed within an endowment's portfolio. The scale of total assets under management is the primary factor, as larger endowments generally spread their assets across a greater number of managers compared to smaller endowments. Among endowments greater than \$3 billion, the median number of investment managers was 136 (Figure 43). At the opposite end of the asset size spectrum, the median for endowments less than \$200 million was just 27 managers.

Our survey also asked about the number of vehicles invested in by endowments. For the purposes of our analysis, an investment vehicle represents a fund, product, or separate account that is managed by an investment manager. Endowments often invest in multiple investment vehicles of the same manager, particularly when it comes to private investment funds. Therefore, the number of vehicles endowments are invested in is much higher than the number of managers. The median number of vehicles ranged dramatically from 270 for endowments greater than \$3 billion to 36 for endowments less than \$200 million.

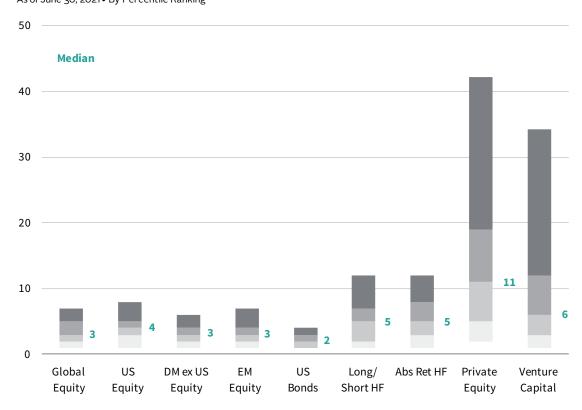
FIGURE 43 NUMBER OF EXTERNAL MANAGERS AND INVESTMENT VEHICLES As of June 30, 2021 • Percent (%) • By Percentile Ranking



Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see page 78 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 (40) is more than double the number used at the 75th percentile (18). For portfolios greater than \$3 billion, 258 managers are employed at the 5th percentile compared to just 68 at the 95th percentile. Much of the variation can be attributed to the management of alternative asset classes. Figure 44 shows the range in number of managers across endowments for several asset classes. 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 five broad asset size groups in the Appendix table on the next page.

FIGURE 44 DISPERSION IN NUMBER OF MANAGERS FOR SELECTED ASSET CLASSES As of June 30, 2021 • By Percentile Ranking



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 78 in the Appendix.

APPENDIX EXTERNAL MANAGERS AND VEHICLES BY STRATEGY

As of June 30, 2021

	Median Number of Managers			Median Number of Vehicles						
Ctratagy	Under	\$200M-	\$500M-	\$1B-	Over	Under	\$200M-	\$500M-	\$1B-	Over
Strategy	\$200M	\$500M	\$1B	\$3B	\$3B	\$200M	\$500M	\$1B	\$3B	\$3B
Traditional Equity										
Global Equity	3	3	3	4	4	3	3	3	4	4
US Equity	3	4	4	4	5	3	4	4	5	6
Developed ex US Equity	3	3	3	3	4	3	3	3	3	4
Emerging Markets Equity	2	2	3	3	6	2	2	3	3	7
Traditional Bonds										
Global Bonds	1	1	1	1	1	1	1	1	1	1
US Bonds	2	2	2	2	1	2	2	3	2	2
Global ex US Bonds	1	1	1	1	1	1	1	1	1	1
High-Yield Bonds	1	1	1	1	2	1	1	1	1	2
Hedge Funds										
Long/Short Hedge Funds	3	4	4	6	7	3	4	4	6	7
Absolute Return	4	5	7	6	9	4	5	7	7	10
Distressed Securities	1	1	1	1	3	1	1	2	2	3
Private Credit										
Distressed - Control Oriented	1	1	2	2	5	1	1	3	4	8
Private Credit ex Distressed	2	2	3	4	8	2	2	4	8	13
Private Equity										
Non-Venture Private Equity	3	6	12	18	33	5	11	20	35	61
Venture Capital	3	4	6	10	24	5	6	13	27	84
Other Private Investments	2	2	3	3	5	4	4	4	4	10
Real Assets & ILBs										
Private Real Estate	1	2	5	6	15	1	2	7	11	24
Public Real Estate	1	1	1	1	1	1	1	1	1	2
Commodities	1	1	1	1	1	1	1	1	1	1
Inflation-Linked Bonds (TIPS)	1	1	1	1	1	1	1	1	1	1
Private Oil & Gas/Nat Res	2	3	4	5	13	3	5	8	11	27
Public Energy/Nat Res	1	1	1	1	1	1	1	1	1	2
Cash	1	1	1	1	1	1	1	1	1	1
Other	1	1	1	1	2	1	1	1	1	2

Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Only those institutions with an allocation to the specific asset class are included in each category. As a result, the sum of the individual asset classes should not be assumed to equal the total number of managers or vehicles.

ASSET CLASS IMPLEMENTATION

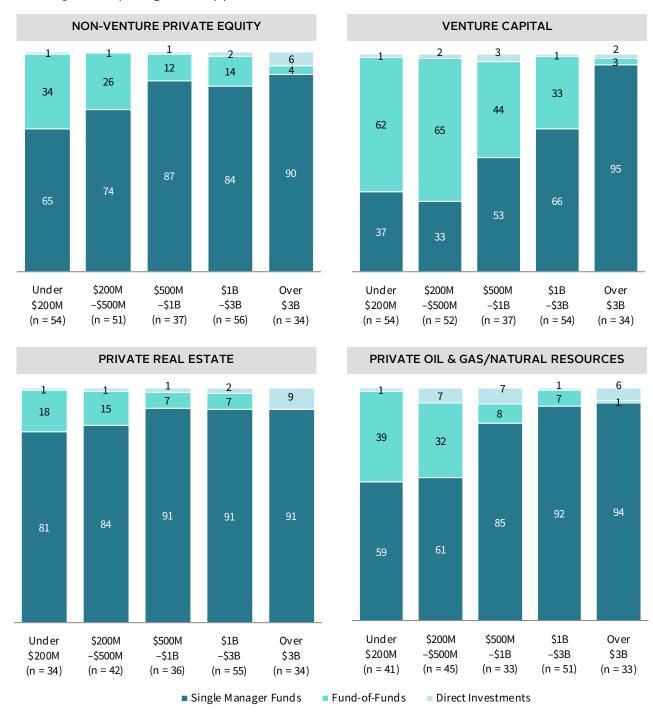
HEDGE FUNDS. There are two primary types of investment vehicles that endowments use when implementing their hedge funds allocations. A single manager fund is a type of investment vehicle where the investment manager makes the decisions for the securities and assets held within the fund. In contrast, a fund-of-funds is a type of strategy where the investment manager invests in a collection of other investment funds. Almost 90% of responding endowments rely solely on single manager funds to implement their hedge fund allocations. While smaller endowments are more likely than larger endowments to use funds-of-funds, the prevalence is still low among the smaller portfolios in our study. Less than one-quarter of participating endowments less than \$500 million reported an allocation to fund-of-funds in their hedge fund strategies.

PRIVATE INVESTMENTS. Endowments also have single manager funds and fund-offunds at their disposal when implementing private investment allocations. In addition, some endowments make direct investments in private strategies. 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. This is most evident in venture capital where fund-of-funds are far more common among smaller endowments than they are for larger C&Us. On average, 62% of the venture capital allocation for endowments under \$200 million is implemented via fund-of-funds. In contrast, fund-of-funds make up just 3% of the average venture capital allocation for endowments more than \$3 billion. Figure 45 shows the average breakdown of allocations by implementation category for other private strategies. Private credit strategies are not included in this exhibit as endowments across all asset sizes rely almost exclusively on single manager funds to implement these allocations.

FIGURE 45 PORTFOLIO IMPLEMENTATION: PRIVATE INVESTMENTS

As of June 30, 2021 • 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.

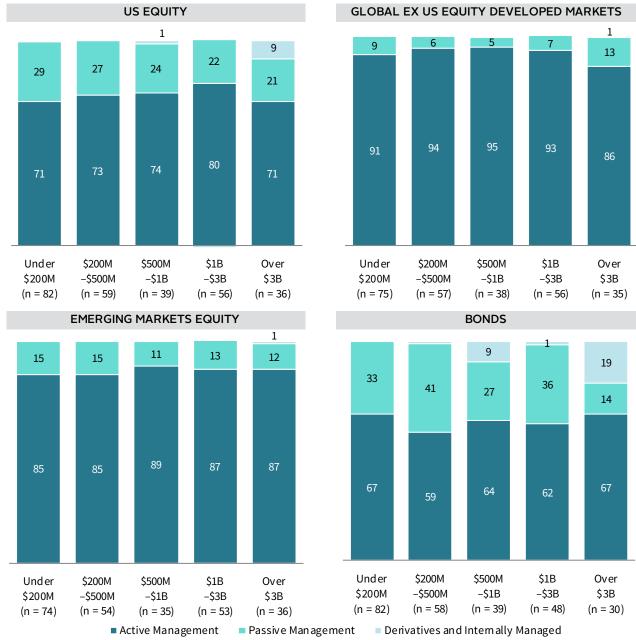
PUBLIC EQUITIES AND BONDS. For traditional bonds and equities, endowments primarily use external managers to implement their allocations. These assets are invested either through active or passively managed investment vehicles. Some endowments also manage assets internally or use derivatives to achieve 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 US allocations 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. While global equity managers are not displayed in Figure 46, nearly 90% or more are invested in active managers across all asset size groups.

Passive management tends to be more common among bonds than it is in the public equity categories. This strategy was most common among endowments between \$200 and \$500 million where 41% of the US fixed income allocation was invested passively. The percentage was lowest for endowments greater than \$3 billion at 14%.

FIGURE 46 PORTFOLIO IMPLEMENTATION: TRADITIONAL EQUITIES AND BONDS

As of June 30, 2021 • 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.

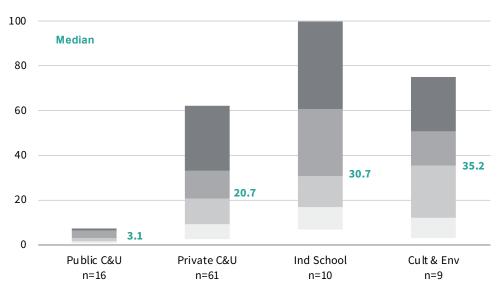
Section 5: Institutional Support

ENDOWMENT DEPENDENCE

Since few nonprofit institutions generate enough revenues from their core operations to break even on their annual operating budgets, many depend on endowment distributions and gifts for additional support. Public universities, which receive financial support from state appropriations, generally rely less on the endowment to fund the operating budget compared to other nonprofits. For the 16 public universities that provided data, the median amount support from the long-term investment pool as a percentage of operating expenses was 3.1% in 2021 (Figure 47). The median endowment support ratio was much higher at private colleges and universities (20.7%), independent schools (30.7%), and cultural and environmental institutions (35.2%). The level of endowment support varies considerably among these latter groups, supporting just a fraction of the budget at some institutions, while for others it is the single largest source of revenue.

FIGURE 47 ENDOWMENT DEPENDENCE

Fiscal Year 2021 • Percent (%) • By Percentile Ranking



Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see page 79 in the Appendix.

SPENDING POLICIES

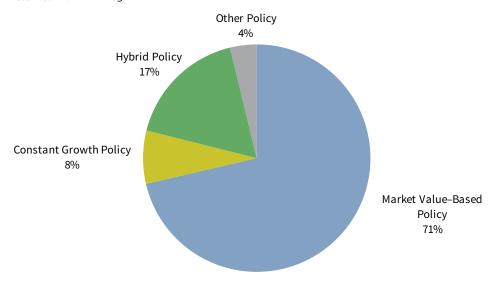
An institution's endowment spending policy serves as a bridge that links the investment portfolio and the enterprise. The policy provides a basis for the calculation of the annual distribution from the endowment. Spending policies are designed to balance the needs of current and future generations of stakeholders, with the goals of providing appropriate levels of support to operations and preserving, or even growing, endowment purchasing power.

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

distribution amount directly to the endowment's market value. The annual distribution will grow in periods where portfolio values trend upward and decrease after periods where portfolio values experience significant declines. By curtailing spending after the market value declines, this rule type places an emphasis on preserving the endowment's purchasing power.

FIGURE 48 SPENDING RULE TYPES

Fiscal Year 2021 • n = 185



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 17% 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.

The level of endowment dependence seems to be a key factor that institutions consider when setting an appropriate spending policy. A market value-based rule was used by the vast majority (80%) of respondents with endowment dependence ratios below 20% (Figure 49). However, practices are a bit more varied among institutions with

endowment support ratios above 20%. A market value—based rule was still the most commonly cited rule type among this latter group (50%), but a considerable proportion use the hybrid (29%) or constant growth (19%) rule types. The more predictable stream of spending dollars presumably makes the constant growth and hybrid rules appealing to many institutions that have higher endowment dependence.

2% 5% 13% ■ Other Policy 29% 2% Hybrid Policy 19% 80% Constant Growth Policy 50% ■ Market Value-Based Policy **Endowment Dependence Endowment Dependence** Less Than 20% More Than 20% n=55 n=48

FIGURE 49 SPENDING RULE TYPES BY ENDOWMENT DEPENDENCE Fiscal Year 2021 • Percent (%)

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 prespecified target spending rate is applied 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 prespecified 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 lies somewhere between 4% to 5%. The most common spending rate continues to be 5% and was reported by approximately one-third of respondents (35%). A slightly smaller percentage of institutions (26%) use a rate that falls between 4% to 4.49%, while another 25% of respondents use a rate that falls between 4.5% to 4.99%. On the outer ends of the distribution, just 10% of respondents reported a spending rate above 5% and even fewer (4%) reported a target spending rate below 4% (Figure 50).

Most endowments with a market value—based rule keep their target spending rate consistent from one year to the next. However, over the long term there are many that do make changes. Of the 66 institutions that reported policy data in both 2011 and 2021, just under half (46%) used a different target spending rate in 2021 compared to ten years prior. Approximately one-third (32%) of respondents decreased their target spending rate over this time period, while 14% have increased their rate.

Below 4.00% Above 5.00% 10% 4.00% to 4.49% 26% 5.00% 35%

FIGURE 50 TARGET SPENDING RATES FOR MARKET VALUE-BASED RULES Fiscal Year 2021 • n = 130

Source: Endowment data as reported to Cambridge Associates LLC.

NET FLOW RATE

The combination of the total outflows (spending and other appropriations) and inflows (gifts and other additions) 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 of the portfolio. As is typically the case, the average net flow rate among participants was negative (-2.1%) in fiscal year 2021, meaning the amount of withdrawals from the portfolio surpassed the amount of additions for most respondents. The average outflow rate was -4.8%, while the average inflow rate was 2.7%.

4.50% to 4.99% 25%

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 81% of total inflows received among participants in fiscal year 2021. 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 portion of outflows, while other recurring spending and one-time appropriations (lighter pink shading) make up a smaller portion. On average, spending policy distributions represented 89% of total outflows in fiscal year 2021.

FIGURE 51 NET FLOW RATES FOR FISCAL YEAR 2021





Source: Endowment data as reported to Cambridge Associates LLC.

The evaluation of endowment health is often focused on the relationship of investment performance and endowment spending, which is also known as the payout or outflow 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 2011, the portfolio would have more than doubled on an inflation-adjusted basis by the end of fiscal year 2021, growing to \$207 in real dollars. A large proportion of that growth is attributed to the very strong performance of the past year. After deducting the annual spending distributions from real investment performance, the investment would have ended the ten-year period with \$131. The real after spending value is much smaller than the statistic based purely on performance, but it would have resulted in significant real growth over this period.

There is one more important part of the asset growth picture. The LTIP market value and purchasing power is also driven by inflows that come in as gifts and other funds designated for long-term investment. In the same figure, the median real growth of the LTIP value, which includes both investment performance and total net flows, is

tracked by the middle line and grew by 79% 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 and the endowment's capacity to support a growing enterprise. 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.

220 207 Median Real AACR 7.6% 190 Median Real Annual Growth After Net Flows 6.0% Median Real After Spending AACR 2.7% 160 131 130 100 70 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 Real Return Real Growth After Net Flow Real Return After Spending

FIGURE 52 CUMULATIVE DOLLAR GROWTH AFTER INFLATION, NET FLOWS, AND SPENDING Years Ended June 30 • Base Year 2011 = \$100 • n = 82

Source: Endowment data as reported to Cambridge Associates LLC.

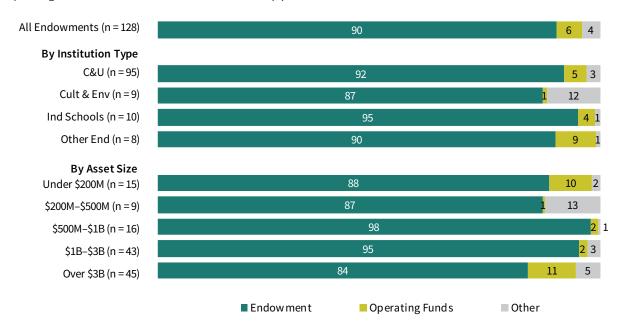
ASSET COMPOSITION

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 and investment profile.

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 comprise all or the vast majority of the LTIP for most respondents. On average, 90% of the LTIP were endowment assets as of June 30, 2021 (Figure 53). 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% and 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.

FIGURE 53 COMPOSITION OF LONG-TERM INVESTMENT PORTFOLIO

Equal-Weighted Means as of Fiscal Year-End 2021 • 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.

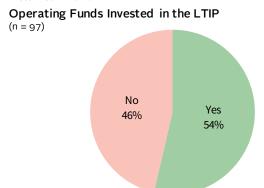
More than half of respondents (54%) that provided data on their operating funds invest a portion of those funds in the LTIP. The median percentage of operating funds invested in the LTIP was 40.7%, but this percentage varies considerably across respondents (Figure 54). The remaining 46% of respondents 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.⁶



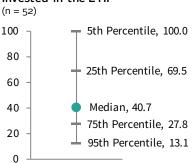
Please see Tracy Filosa et al., "Disruption, Liquidity Sources and the Role of the Endowment," Cambridge Associates LLC, 2020, for a more in-depth discussion on this topic.

FIGURE 54 OPERATING FUNDS

Fiscal Year-End 2021



Percentage (%) of Operating Funds Invested in the LTIP



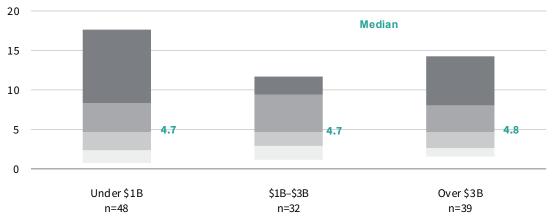
Source: Endowment data as reported to Cambridge Associates LLC.

In addition to operating funds, many nonprofits have access to extra liquidity through a line of credit. Of the 100 institutions that provided data, 22 had outstanding amounts drawn against their credit line as of fiscal year-end. There are many enterprise and balance sheet factors that may determine the sizing of a line of credit. Among the respondents to this study, the size of credit lines varied considerably, ranging from a low of \$1 million to more than \$1 billion on the high end.

DEBT. Figure 55 shows the range of endowment-to-debt ratios for separate asset size groups. The median ratio was very similar across all asset size group at just under 5x. The ratio increased in fiscal year 2021 for nearly 90% (78 of 88) of the respondents that provided data for each of the last two years. This was attributable to the exceptional investment performance over the past year and endowment values growing at a much higher rate than the amount of outstanding debt for the vast majority of institutions. In fact, the median change in outstanding debt year-over-year was -1%, which means that a majority of respondents actually saw a decline in their level of debt.

FIGURE 55 ENDOWMENT TO DEBT

As of June 30, 2021 • n=119 • By Percentile Ranking



Source: Endowment data as reported to Cambridge Associates LLC. Note: For more information, see page 79 in the Appendix.



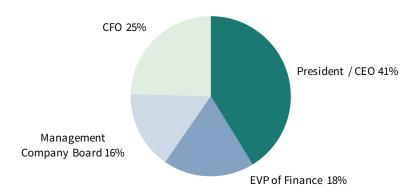
Section 6: Investment Office Staffing and Governance

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. The vast majority (95%) of the respondents with endowments greater than \$1 billion have a fulltime CIO, while 59% of respondents with assets between \$500 million and \$1 billon indicated they had a CIO in place. There was not a single endowment less than \$500 million that had a CIO. For the respondents that do have a dedicated CIO, it is most common for the position to report directly to the CEO or president of the institution (Figure 56).

FIGURE 56 CHIEF INVESTMENT OFFICER REPORTING LINES Fiscal Year 2021 • n = 114



Source: Endowment data as reported to Cambridge Associates LLC.

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

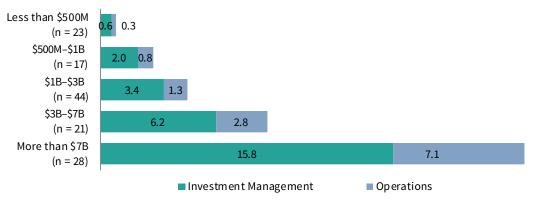
STAFFING LEVELS. Investment office personnel are typically divided into investment management and investment operations. Investment management staff is responsible for implementing the investment policy of the committee and can include: a chief investment officer, risk officer(s), investment director(s), 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 shows that investment office staffing typically correlates 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. Endowments that oversee more than \$7 billion in assets employ a total of 22.9 full-time equivalent (FTE), on average (Figure 57). The average total FTE is split approximately two-thirds to investment management staff (15.8) and one-third (7.1) to operations staff. On the opposite side of the asset size spectrum, endowments less than \$500 million have much smaller in-house investment resources (if any) and use outside professionals to manage or assist in managing the investment portfolio.

Endowments with assets between \$3 and \$7 billion employed an average of 9.0 FTE as of fiscal year-end 2021. The average for this cohort was substantially lower than the figure calculated in last year's study (13.7). However, this differential is attributable to changes to the peer group as opposed to an industry-wide trend in institutions' trimming their staff. The robust investment performance from this past year resulted in several endowments moving up and out at the top end of this size cohort and a host of new institutions entering the group on the lower end of the size range. Of the 19 institutions in this asset size range, just five reported a decrease in their FTE in fiscal year 2021.

FIGURE 57 AVERAGE STAFFING LEVELS

Fiscal Year 2021 • 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 2021 • Number of FTEs

	Inves	tment Manage	ement	Inve	tions	
	Senior	Mid	Junior	Senior	Mid	Junior
More than \$7B	6.6	4.3	5.5	1.4	2.6	4.5
n	27	21	25	19	23	25
\$3B-\$7B	2.3	2.5	2.2	1.0	1.1	1.6
n	19	12	16	11	18	17
\$1B-\$3B	1.5	1.4	1.4	0.8	1.0	1.1
n	35	14	26	8	24	22
\$500M-\$1B	1.1	0.8	1.0	0.9	0.7	0.8
n	9	3	11	4	6	7

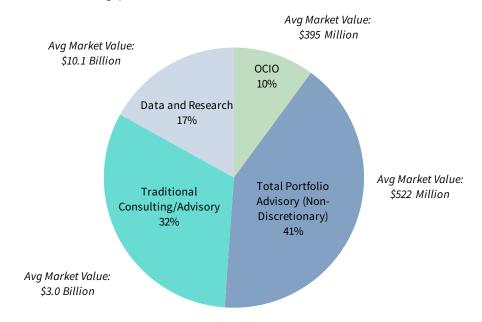
Source: Endowment data as reported to Cambridge Associates LLC.

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. The Less than \$500M cohort was not included due to insufficient observations.

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 307 participants work with outside advisors or consultants. Endowments with assets less than \$1 billion rely more heavily on external advisors to manage or help manage their investment portfolios, while larger endowments will seek outside support in the form of research, data, or asset class specialization.

FIGURE 59 USE OF EXTERNAL ADVISORS AND CONSULTANTS

Fiscal Year 2021 • n = 307



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

Discretionary portfolio management, also known as OCIO, 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. A relatively small proportion of the respondent group (10%) use CA under this management model.

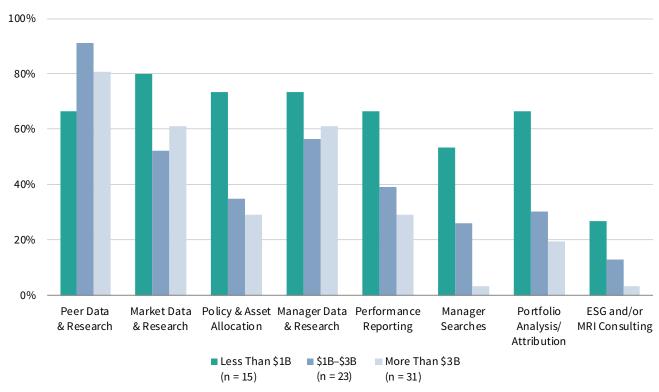
Approximately 41% of institutions in our study use advisors for nondiscretionary portfolio management services for the total endowment. These institutions work with an outside team of investment professionals who provide day-to-day oversight of their portfolios, while retaining final decision making on portfolio investments. This model provides resources and expertise to contribute to portfolio management alongside an institution's staff.

Most larger endowments have built their own internal investment teams and are much less likely to use advisors for investment management services. Almost one-third (32%) of participants use external resources for a range of consulting services including asset allocation reviews, manager searches, alternative assets management, ESG/ MRI consulting, and performance reporting. The average asset size for this group of endowments is \$3.0 billion. The remaining 17% of respondents use outside support for research, manager, peer, and benchmarking data. The average market value of endowments using consultants in this fashion is \$10.1 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





Source: Endowment data as reported to Cambridge Associates LLC.

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

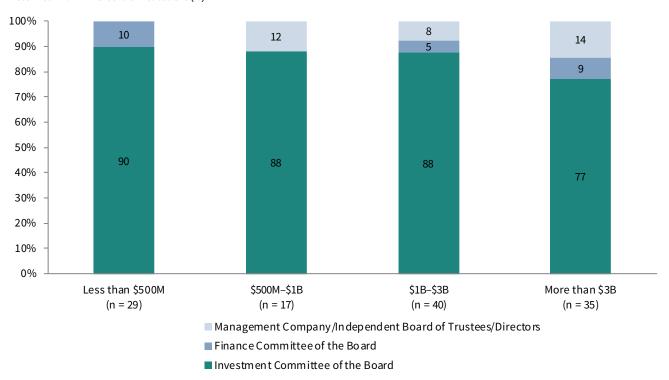
GOVERNANCE

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).

FIGURE 61 GOVERNING BODY OF OVERSIGHT COMMITTEE BY ORGANIZATION TYPE

Fiscal Year 2021 • Percent of Institutions (%)



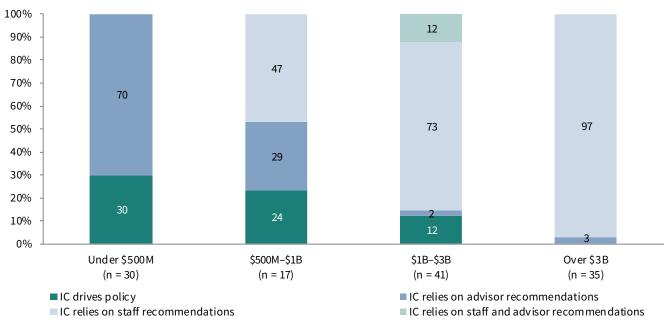
Source: Endowment data as reported to Cambridge Associates LLC.

DECISION-MAKING RESPONSIBILITY. To help quantify the dynamic between the governing body (hereafter referred to simply as 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 nearly all participating endowments more than \$3 billion (97%), asset allocation policy is developed by committees acting on staff recommendations (Figure 62). In contrast, committees at endowments less than \$500 million depend far more on the recommendations of outside advisors or drive the policy autonomously. 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 increases. Among endowments less than \$500 million, 54% rely on advisors to make rebalancing decisions and 40% have their investment committee control this function. For endowments greater than \$500 million, total staff discretion is most common (Figure 63).

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

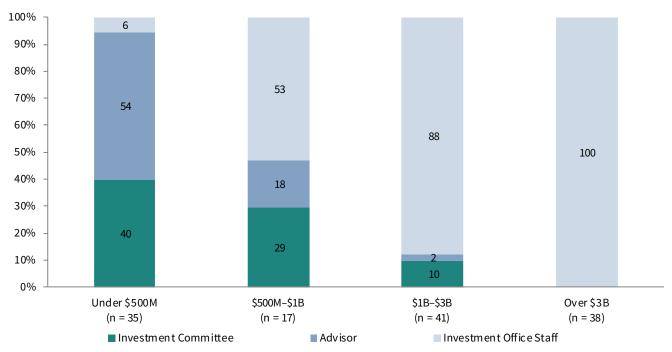
Fiscal Year 2021 • Percent of Institutions (%)



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

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

Fiscal Year 2021 • Percent of Institutions (%)



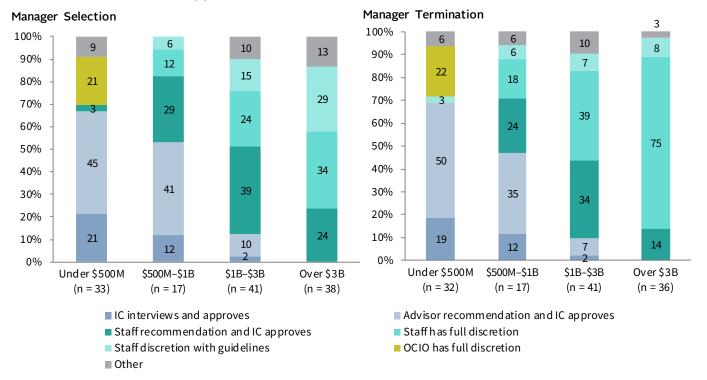
Source: Endowment data as reported to Cambridge Associates LLC.



The process of manager selection and termination also involves committees, advisors, and staff, but with different degrees of discretion (Figure 64). Advisors and OCIOs play a significant role in both selection and termination of investment managers at endowments less than \$500 million. Among the investment committees involved in manager selection, the predominant role is to approve managers, but not interview them. Staff recommendations are increasingly relied upon from \$500 million to \$3 billion, and staff discretion (with and without guidelines) accounts for most of the decision-making at endowments greater than \$3 billion.

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





Source: Endowment data as reported to Cambridge Associates LLC.

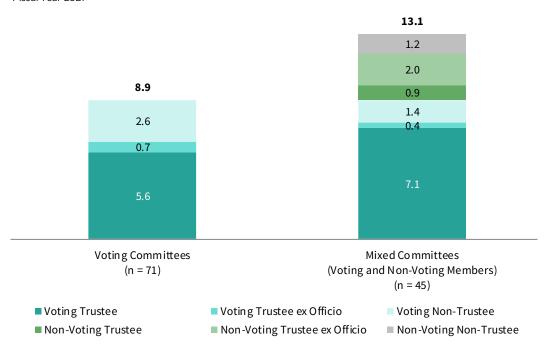
Notes: Investment Committee (IC) is shorthand for governing body. "Other" includes IC approval based on staff and advisor recommendations.

INVESTMENT COMMITTEE COMPOSITION. Two types of committees emerged from our survey data. We found the majority of investment committees (71 of 116) are fully composed of voting members, while the remaining investment committees also include non-voting members. 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.

The average size of voting committees is 8.9 members, which on average consist of 5.6 trustees, 2.6 non-trustees, and 0.7 ex officio members. Examples of ex officio committee members include the president of the college or chairman of the board or of another committee, whose investment committee membership is included in the official duties of the position. Committees including non-voting members averaged 13.1 people (Figure 65).

FIGURE 65 PROFILE OF INVESTMENT COMMITTEE MEMBERS

Fiscal Year 2021



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 72% of their committee members have investment experience. This percentage tends to be greater as asset size increases. Organizations with assets less than \$500 million reported an average of 61% of committee membership having professional investment experience. At endowments greater than \$3 billion, the percentage of committee members that were investment professionals was 77% (Figure 66).

FIGURE 66 PERCENT OF INVESTMENT COMMITTEE MEMBERS WHO ARE INVESTMENT PROFESSIONALS

Fiscal Year 2021 • Percent of Institutions (%)



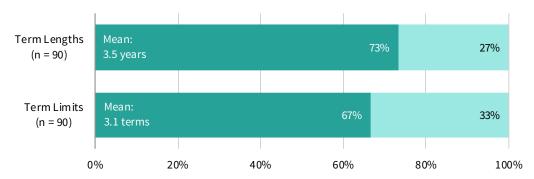
Source: Endowment data as reported to Cambridge Associates LLC.

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 73% of respondents, with the average term being 3.5 years (Figure 67). A similar percentage of respondents (67%) use term limits for committee members and the average limit is 3.1 terms. The prevalence of these guidelines for investment committee chairs was lower, with term lengths and limits being used by 56% and 48% 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.

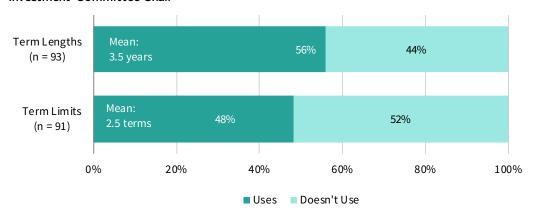
FIGURE 67 INVESTMENT COMMITTEE TERM LENGTHS AND LIMITS

As of June 30, 2021

Investment Committee Member



Investment Committee Chair



Source: Endowment data as reported to Cambridge Associates LLC.

INVESTMENT COMMITTEE MEETINGS. Our survey responses show that the majority of endowments (72%) 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 88%.

REIMBURSEMENT AND CONFLICT OF INTEREST POLICY. Only 25% of respondents provide committee members with expense reimbursement, which generally includes travel-related and other out-of-pocket expenses.

Except for three respondents, all participants have a conflict of interest policy for investment committee members. These policies require disclosure (45%), recusal (18%), or both disclosure and recusal (37%). 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 (88%) also have a conflict of interest policy in place for investment staff. Fifty-five percent of policies require disclosure only, 13% require recusal, and 32% 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 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 307 endowed institutions. When the overall group is broken out by industry type, 152 are colleges and universities, 49 are cultural and environmental institutions, 31 are hospitals, 30 are independent schools, and 45 are other endowed institutions. All participants provided investment pool data as of June 30, 2021. The notation of *n* denotes the number of institutions included in each analysis.

The 307 participants in this study reported long-term investment portfolio (LTIP) assets as of June 30, 2021, totaling \$902 billion. The mean LTIP size was \$2.9 billion and the median was \$582.9 million.

33 participants have an LTIP size below \$100 million while 123 have an asset size above \$1 billion. The remaining 151 participants have an LTIP size between \$100 million and \$1 billion. The participants with LTIP sizes greater than \$1 billion controlled 94% 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_s is the arithmetic average of T-bill (risk-free) quarterly returns, and
- + $S_{_{\scriptscriptstyle D}}$ 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.

Appendix: Investment Portfolio Returns

FISCAL YEAR 2021 TOTAL RETURN PERCENTILES

Trailing 1-Yr as of June 30, 2021 • Percent (%)

		Colleges &	Cultural &	Independent		Other
	All Endowments	Universities	Environmental	Schools	Healthcare	Endowments
5th %ile	47.2	53.0	41.4	40.9	40.3	37.6
25th %ile	38.3	41.8	35.1	36.2	33.1	33.1
Median	33.5	36.6	31.9	30.3	30.2	30.8
75th %ile	29.8	33.2	29.3	27.4	27.5	27.1
95th %ile	25.3	28.4	25.8	24.0	25.1	20.9
Mean	34.6	38.0	32.4	31.7	30.8	29.9
n	307	152	49	30	31	45
70/30 Index	26.6					

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 2021 TOTAL RETURN PERCENTILES

Trailing 1-Yr as of June 30, 2021 • Percent (%) • By Percentile Ranking

			\$500M -		
	Under \$200M	\$200M - \$500M	\$1B	\$1B – \$3B	Over \$3B
5th %ile	39.9	42.0	43.7	47.8	55.5
25th %ile	34.1	35.6	36.8	40.0	42.6
Median	30.8	33.0	33.3	34.6	38.9
75th %ile	28.1	30.5	31.3	31.1	33.7
95th %ile	23.2	26.0	26.3	25.5	27.2
Mean	30.9	33.6	34.1	35.9	39.4
n	83	61	40	62	61

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.



EXAMPLE OF 1-YR ATTRIBUTION ANALYSIS: ALL ENDOWMENT MEAN

As of June 30, 2021 • Percent (%) • n = 299

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	23.8	44.2	10.5	Russell 3000
Venture Capital	5.7	87.8	5.0	CA US Venture Capital
Global ex US Equity-Developed Mkts	14.1	32.4	4.6	MSCI EAFE (N)
Non-Venture Private Equity	6.1	58.2	3.5	CA US Private Equity
Global ex US Equity-Emerging Mkts	6.8	40.9	2.8	MSCI Emg Mkts (N)
Long/Short Hedge Funds	7.4	36.5	2.7	HFRI Equity Hedge
Absolute Return (ex Distressed)	10.2	16.8	1.7	HFRI FOF Diversified
Other Private Investments	1.4	66.0	0.9	CA US PE/VC
Private Oil & Gas / Natural Resources	2.2	26.8	0.6	CA Natural Resources
Distressed-Private Equity Structure	1.4	33.8	0.5	CA Distressed Securities
Distressed-Hedge Fund Structure	1.4	32.3	0.4	HFRI ED: Dist/Rest
Private Real Estate	2.3	18.1	0.4	CA Real Estate
Public Energy / Natural Resources	0.9	42.7	0.4	MSCI World Nat Res (N)
Other	0.6	26.6	0.2	70% Global Eq / 30% Bond
Public Real Estate	0.4	34.8	0.1	FTSE NAREIT Composite
Commodities	0.3	45.6	0.1	Bloomberg Commodity
High-Yield Bonds	0.2	15.4	0.0	BBG High Yield
Inflation-Linked Bonds	0.5	6.5	0.0	BBG US TIPS
Global ex US Bonds	0.3	3.1	0.0	FTSE Non-US\$ WGBI
Cash & Equivalents	4.6	0.1	0.0	91-Day T-Bill
US Bonds	9.2	-0.3	0.0	BBG Agg Bond
Return From Asset Allocation (Sum of Co.	ntributions)		34.5	
+/- Return From Other Factors			0.2	
Mean Total Portfolio Return			34.7	-

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: PRIVATE INVESTMENTS

Trailing 1-Yr as of June 30, 2021 • Percent (%)

		Non-						
	Total	Venture		Private		Total		Private
	Private	Private	Venture	Distressed	Private	Private Real	Private Real	Natural
	Equity	Equity	Capital	Securities	Credit	Assets	Estate	Resources
All Endowments								
5th %ile	106.2	103.3	152.6	48.7	57.2	44.0	49.4	58.6
25th %ile	83.5	73.9	102.6	36.5	34.4	30.3	24.6	34.6
Median	73.1	62.7	89.5	21.5	25.1	23.2	15.9	26.6
75th %ile	64.1	50.9	75.0	14.6	17.3	16.9	7.1	19.5
95th %ile	45.1	36.8	41.9	-1.7	8.5	3.4	-10.5	5.9
Mean	75.1	65.2	93.3	24.8	30.1	24.4	18.1	29.9
n	228	225	208	104	148	199	189	195
Median by Asset Siz	ze							
Less Than \$200M	74.3	64.1	90.8	25.0	25.2	18.7	9.1	22.4
n	60	60	48	14	33	50	32	41
\$200M-\$500M	70.0	63.5	87.3	20.7	25.6	26.0	18.5	26.6
n	57	56	50	26	42	50	41	45
\$500M-\$1B	71.6	64.7	82.0	20.3	26.4	24.8	20.0	29.5
n	35	35	35	28	25	37	36	32
\$1B-\$3B	72.5	62.3	89.6	19.5	24.3	24.7	19.2	27.0
n	45	40	40	23	31	38	44	43
More Than \$3B	82.8	59.3	99.5	32.4	19.9	21.7	13.4	32.4
n	31	34	35	13	17	24	36	34
Median by Institution	on Type							
C&U	75.5	62.4	91.2	21.8	24.5	24.7	17.7	27.6
n	115	112	108	61	68	99	110	109
Cult & Env	70.8	64.5	82.3	21.1	29.9	24.6	8.1	28.8
n	38	37	34	15	29	32	27	30
Ind School	66.6	64.6	74.6	19.5	24.5	20.7	15.0	23.2
n	28	28	22	9	21	21	16	18
Healthcare	73.3	57.5	91.2	20.2	25.0	20.2	15.8	23.7
n	17	18	17	10	13	18	16	12
Other End	72.6	61.6	89.3	36.4	25.3	22.8	19.9	22.6
n	30	30	27	9	17	29	20	26
Median by Total Pe	rformance Q	uartile						
Top Quartile	87.5	67.1	95.3	26.9	26.3	26.0	15.8	30.4
n	57	62	62	31	34	46	56	54
2nd Quartile	72.5	62.0	87.7	21.1	24.5	23.8	17.7	25.3
n	68	62	62	38	45	61	58	60
3rd Quartile	70.8	61.8	89.3	27.6	23.6	22.9	13.7	26.6
n	58	55	49	25	40	49	42	46
Bottom Quartile	62.2	55.9	72.7	13.5	25.2	20.0	15.8	22.8
n	45	46	35	10	29	43	33	35

Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their fiscal year 2021 total portfolio return. The Top Performers subset is based on institutions that were in the top quartile for total portfolio performance for the fiscal year 2021 period. Private investment return statistics are reported as horizon IRRs.



PARTICIPANTS' 1-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 1-Yr as of June 30, 2021 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Commodities and Natural Resources	Public Real Estate
All Endowments									
5th %ile	46.8	50.6	52.5	47.2	52.5	5.3	33.3	77.3	40.9
25th %ile	43.2	44.6	46.1	40.7	46.4	1.8	25.0	52.2	34.4
Median	41.1	40.2	43.4	35.9	41.9	0.4	20.2	44.7	33.0
75th %ile	38.8	35.3	39.5	32.8	38.2	-0.8	16.4	28.7	31.6
95th %ile	35.6	28.0	32.0	28.7	25.6	-3.5	12.7	-2.6	3.5
Mean	41.3	39.9	43.0	37.0	41.8	0.7	21.1	41.7	30.8
n	262	182	257	240	248	253	259	108	50
Median by Asset Si	ze								
Less Than \$200M	40.5	39.9	42.9	37.7	40.3	0.5	21.2	44.8	34.4
n	83	57	82	74	78	81	78	38	10
\$200M-\$500M	41.3	39.6	44.4	35.9	42.1	0.1	19.2	48.7	34.4
n	60	48	60	57	59	58	57	24	7
\$500M-\$1B	41.1	40.2	42.8	34.8	41.1	0.9	18.9	44.2	33.0
n	37	26	35	35	36	37	37	16	11
\$1B-\$3B	41.6	40.7	43.0	35.7	42.4	0.2	20.1	36.1	33.0
310-330 n	47	29	46	33.1 41	40	42	50	14	33.0 11
More Than \$3B	42.4	42.1	44.2	36.2	46.4	0.3	21.2	30.1	31.3
n	35	22	34	33	40.4 35	35	37	30.1 16	31.3 11
Median by Institut	ion Type								
C&U	41.8	41.3	43.9	35.7	43.3	0.6	20.6	44.3	33.0
n	124	75	119	112	115	119	125	52	33
Cult & Env	40.5	40.0	43.4	34.0	39.9	0.3	20.6	42.9	35.0
n	45	34	45	40	43	42	43	18	4
Ind School	41.0	40.3	43.0	36.6	41.2	0.1	19.1	43.2	29.9
n	29	26	29	24	27	27	28	14	1
Healthcare	41.7	39.7	43.0	39.7	42.9	1.0	20.9	44.7	33.0
n	23	16	24	24	24	24	23	8	7
Other End	40.5	38.1	43.5	37.7	40.7	0.7	19.2	45.0	33.4
n	41	31	40	40	39	41	40	16	5
Median by Total Pe	arforman	ce Ouartile							
Top Quartile	42.4	42.4	45.2	35.1	43.1	0.4	22.8	34.0	33.0
n	42.4 59	42.4 44	4 5.2 59	33.1 49	45.1 56	54	63	25	33.0 17
 2nd Quartile	41.1	40.6	43.3	37.1	41.6	0.6	21.5	45.7	33.0
n	68	46	63	60	62	66	67	25	33.0 14
3rd Quartile	41.3	39.9	44.2	37.0	42.1	0.5	19.2	44.8	34.4
n	65	49	67	64	63	66	62	31	11
Bottom Quartile	39.4	39.0	40.5	34.9	41.5	0.6	17.6	44.7	34.4
n	70	43	68	67	67	67	67	27	8

Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their fiscal year 2021 total portfolio return. The Top Performers subset is based on institutions that were in the top quartile for total portfolio performance for the fiscal year 2021 period.



TOTAL RETURNS SUMMARY: TRAILING 3-, 5-, 10-, AND 20-YR

Years Ended June 30, 2021 • Percent (%) • By Percentile Ranking

		Nomina	l AACRs	
,	3 Yr	5 Yr	10 Yr	20 Yr
All Endowments	10.7	10.0	11.5	0.0
5th %ile 25th %ile	18.7 14.3	16.2 13.0	11.5 9.4	9.8 8.2
Median	14.5 12.4	11.7	9.4 8.4	7.3
75th %ile	11.1	10.8	7.6	6.6
95th %ile	9.3	9.4	6.5	5.8
Mean	13.0	12.1	8.6	7.5
n	305	301	285	225
Under\$200M		001	200	220
5th Percentile	13.9	12.4	9.4	7.7
25th Percentile	12.5	11.9	8.3	6.9
Median	11.6	11.0	7.6	6.5
75th Percentile	10.5	10.3	7.1	6.2
95th Percentile	8.0	8.9	6.3	5.4
Mean	11.4	11.0	7.8	6.6
n	83	81	75	46
\$200M-\$500M				
5th Percentile	15.8	14.3	9.6	8.3
25th Percentile	13.3	12.4	8.5	7.5
Median	12.1	11.4	7.9	6.9
75th Percentile	11.1	10.7	7.3	6.4
95th Percentile	9.9	9.5	6.6	5.7
Mean	12.4	11.7	8.0	7.0
n	61	60	57	45
\$500M-\$1B				
5th Percentile	16.5	14.1	9.8	8.7
25th Percentile	13.4	12.4	8.6	7.5
Median	12.0	11.5	8.1	7.0
75th Percentile	11.2	10.8	7.7	6.6
95th Percentile	9.7	9.7	7.2	6.3
Mean	12.4	11.6	8.2	7.2
n	40	40	40	35
\$1B-\$3B				
5th Percentile	18.8	16.7	11.4	9.2
25th Percentile	15.4	14.0	10.2	8.3
Median	13.5	12.7	9.0	7.7
75th Percentile	11.4	11.1	8.3	7.1
95th Percentile	10.3	9.8	7.2	6.8
Mean	13.7	12.7	9.2	7.8
n	61	60	56	45
Over\$3B				
5th Percentile	20.9	17.4	12.8	10.8
25th Percentile	17.2	15.0	10.9	9.5
Median	15.0	13.4	9.9	8.9
75th Percentile	13.1	12.3	9.1	7.9
95th Percentile	10.9	10.2	7.9	6.9
Mean	15.3	13.7	10.1	8.8
n	60	60	57	54

Source: Endowment data as reported to Cambridge Associates LLC.



DISPERSION OF PARTICIPANTS' 3-YR ASSET CLASS RETURNS: PRIVATE INVESTMENTS

Trailing 3-Yr as of June 30, 2021 • Percent (%)

		Non-						
	Total	Venture		Private		Total		Private
	Private	Private	Venture	Distressed	Private	Private Real	Private Real	Natural
	Equity	Equity	Capital	Securities	Credit	Assets	Estate	Resources
All Endowments								
5th %ile	49.2	49.0	54.5	25.5	26.3	13.7	17.0	12.1
25th %ile	38.7	33.9	45.7	12.9	14.4	5.2	10.8	1.7
Median	32.6	27.4	39.3	7.6	11.4	1.0	7.7	-2.5
75th %ile	27.3	21.5	33.0	3.8	6.6	-3.0	2.8	-6.6
95th %ile	18.2	13.0	19.2	-11.1	-0.6	-10.8	-12.3	-12.3
Mean	33.0	28.7	39.0	7.3	11.4	1.2	5.5	-1.8
n	219	219	198	87	130	193	178	192
Median by Asset Si	ze							
Less Than \$200M	32.7	27.8	40.0	7.0	12.3	-0.2	2.5	-2.0
n	57	56	43	9	24	48	29	40
\$200M-\$500M	32.2	27.3	38.0	6.6	10.2	0.1	6.8	-5.0
n	54	54	46	18	38	47	36	43
\$500M-\$1B	31.2	28.3	36.7	7.8	13.2	2.0	9.1	-2.4
n	35	35	33	26	25	37	36	32
\$1B-\$3B	32.4	27.0	41.3	5.1	8.8	1.2	8.6	-2.8
n	44	40	40	20	29	38	42	42
More Than \$3B	36.4	24.4	41.6	12.0	7.4	2.5	6.9	-0.5
n	29	34	36	14	14	23	35	35
Median by Instituti	ion Type							
C&U	32.6	27.3	40.1	8.1	11.6	1.4	8.1	-2.8
n	113	112	106	53	59	98	106	107
Cult & Env	32.4	26.9	38.9	6.6	11.8	-2.7	5.1	-1.0
n	36	35	32	13	25	31	26	29
Ind School	32.8	29.1	36.2	7.0	10.4	1.2	4.8	-1.9
n	26	26	21	8	17	20	14	18
Healthcare	31.6	23.3	39.2	10.8	12.0	3.3	6.0	-4.0
n	15	18	15	8	13	16	15	12
Other End	32.6	27.6	39.2	5.7	9.9	-0.7	9.9	-4.8
n	29	28	24	5	16	28	17	26

Source: Endowment data as reported to Cambridge Associates LLC. Note: Private investment return statistics are reported as horizon IRRs.



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

Trailing 5-Yr as of June 30, 2021 • Percent (%)

		Non-						
	Total	Venture		Private		Total		Private
	Private	Private	Venture	Distressed	Private	Private Real	Private Real	Natural
	Equity	Equity	Capital	Securities	Credit	Assets	Estate	Resources
All Endowments								
5th %ile	36.6	36.6	41.4	22.1	53.5	12.5	15.6	11.7
25th %ile	29.7	27.2	34.0	13.2	17.4	7.5	11.1	5.3
Median	25.6	22.9	29.1	8.3	13.4	4.4	8.2	2.3
75th %ile	21.7	18.6	24.5	6.7	9.1	1.7	4.0	-0.7
95th %ile	13.5	11.8	12.8	-4.3	4.4	-4.7	-7.6	-4.7
Mean	25.7	23.4	28.4	9.6	21.2	4.3	6.7	2.7
n	202	201	178	70	108	181	163	182
Median by Asset S	Size							
Less Than \$200M	24.7	21.3	29.1	8.8	14.6	3.5	4.0	2.7
n	45	44	30	3	17	42	25	36
\$200M-\$500M	25.2	24.2	28.7	7.9	13.4	3.4	7.3	1.6
n	50	49	43	12	29	44	29	40
\$500M-\$1B	25.8	23.7	28.1	8.4	14.4	4.4	9.1	1.3
n	35	35	31	21	24	35	34	31
\$1B-\$3B	25.4	22.7	29.7	6.3	13.0	4.4	9.5	2.1
n	43	39	39	20	26	37	41	40
More Than \$3B	28.1	21.9	31.2	12.3	8.0	5.6	8.4	3.4
n	29	34	35	14	12	23	34	35
Median by Institu	tion Type							
C&U	26.3	23.1	29.6	8.2	11.9	5.2	8.9	2.4
n	112	110	106	46	50	96	100	105
Cult & Env	25.2	22.7	29.7	7.4	15.0	3.9	7.3	3.1
n	30	30	24	11	20	28	25	25
Ind School	24.7	23.2	24.0	8.8	11.8	3.8	4.3	2.4
n	22	22	16	3	16	18	12	17
Healthcare	24.7	20.4	28.9	11.4	13.7	2.8	8.6	0.9
n	13	16	13	6	10	13	12	11
Other End	24.3	23.0	28.3	8.3	12.5	2.8	5.8	0.9
n	25	23	19	4	12	26	14	24

Source: Endowment data as reported to Cambridge Associates LLC. Note: Private investment return statistics are reported as horizon IRRs.



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

Trailing 10-Yr as of June 30, 2021 • Percent (%)

	Total Private Equity	Non- Venture Private Equity	Venture Capital	Private Distressed Securities	Private Credit	Total Private Real Assets	Private Real Estate	Private Natural Resources
All Endowments								
5th %ile	25.3	24.5	31.3	19.1	50.6	12.7	15.8	7.3
25th %ile	21.3	19.3	25.3	11.6	18.5	7.6	12.6	2.9
Median	17.8	15.6	21.5	9.2	10.4	4.8	10.5	1.2
75th %ile	15.2	13.5	17.3	6.7	8.5	2.7	8.4	-0.9
95th %ile	10.6	9.6	9.1	1.9	4.2	-1.0	3.9	-5.1
Mean	18.1	16.3	21.0	9.5	16.5	5.5	11.5	1.1
n	183	184	<i>156</i>	<i>44</i>	68	152	<i>1</i> 37	145
Median by Asset Siz	e							
Less Than \$200M	15.8	14.0	19.2	7	14.5	4.2	9.7	1.7
n	<i>38</i>	38	<i>24</i>	3	9	28	16	21
\$200M-\$500M	17.0	15.3	19.4	9.1	10.4	3.6	11.4	0.6
n	44	44	32		13	33	22	27
\$500M-\$1B	17.9	17.0	22.0	9.2	11.9	4.5	10.1	0.5
n	33	32	30	9	17	33	29	29
\$1B-\$3B	17.7	15.9	22.7	8.7	10.5	6.0	11.3	1.3
n	<i>4</i> 3	<i>3</i> 9	39	15	<i>1</i> 9	36	40	36
More Than \$3B	19.8	15.7	23.6	10.4	9.4	5.5	9.4	1.7
n	25	<i>31</i>	31	11	<i>10</i>	22	<i>30</i>	32
Median by Institution	on Type							
C&U	18.4	16.0	22.3	9.1	9.6	5.2	10.5	1.4
n	<i>104</i>	<i>104</i>	95	<i>32</i>	33	88	90	90
Cult & Env	17.2	15.4	22.9	10.3	14.7	5.3	11.2	0.6
n	28	27	<i>20</i>	4	13	23	<i>21</i>	18
Ind School	15.6	14.1	18.5	7.2	9.7	4.2	9.3	2.7
n	<i>21</i>	<i>21</i>	<i>1</i> 5	3	8	15	9	14
Healthcare n	17.5 <i>11</i>	14.7 13	22.3 12	12.4	10.5 6	4.6 11	10.8	-0.4 9
Other End	17.4	15.1	18.7	11.9	10.4	3.5	8.7	0.2
n	19	<i>19</i>	<i>14</i>	2	8	<i>1</i> 5	9	14
Median by Total Per	rformance Q	uartile						
Top Quartile	21.8	18.8	24.5	10.4	10.5	4.8	10.4	1.3
n	<i>4</i> 3	<i>47</i>	<i>4</i> 6	<i>17</i>	<i>16</i>	<i>34</i>	<i>41</i>	<i>4</i> 1
2nd Quartile	17.8	15.9	21.6	9.2	14.4	5.4	10.8	1.7
n	<i>5</i> 6	<i>52</i>	<i>47</i>	11	23	<i>4</i> 9	<i>4</i> 9	45
3rd Quartile	16.7	15.7	19.0	6.4	9.3	4.8	11.1	-0.4
n	<i>42</i>	<i>44</i>	38	8	<i>1</i> 5	<i>3</i> 6	<i>2</i> 9	31
Bottom Quartile	15.8	14.1	17.5	8.8	10.0	4.1	8.5	1.2
n	37	37	23	5	<i>12</i>	<i>30</i>	<i>1</i> 5	25

Source: Endowment data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their trailing 10-year total portfolio return. The Top Performers subset is based on institutions that were in the top quartile for total portfolio performance for the trailing 10-year period. Private investment return statistics are reported as horizon IRRs.



PARTICIPANTS' 3-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 3-Yr as of June 30, 2021 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Commodities and Natural Resources	Public Real Estate
All Endowments									
5th %ile	18.0	24.5	22.5	13.4	17.2	6.9	12.9	11.8	12.3
25th %ile	15.4	18.1	19.9	10.8	12.9	5.4	9.7	4.6	11.9
Median	14.2	14.4	18.3	9.1	10.7	4.7	7.8	1.7	7.7
75th %ile	13.1	12.3	16.6	7.6	9.1	3.9	6.0	-3.0	7.4
95th %ile	11.7	7.0	13.4	5.2	5.5	2.3	3.8	-13.1	3.9
Mean	14.4	15.2	18.4	9.2	11.1	4.6	7.9	1.1	8.1
n	253	151	249	231	234	242	250	99	44
Median by Asset S	ize								
Less Than \$200M	13.8	14.2	17.7	9.9	10.8	4.7	7.3	2.7	12.0
n	79	43	78	69	69	75	74	34	8
\$200M-\$500M	14.3	13.0	18.6	8.8	10.5	4.8	8.1	2.3	9.5
n	60	39	60	57	59	58	57	23	4
\$500M-\$1B	14.0	16.7	18.5	8.3	9.7	4.8	7.3	0.0	7.4
n	36	23	34	34	35	35	36	15	11
\$1B-\$3B	14.5	14.7	18.8	8.8	12.2	4.5	8.0	-0.7	8.0
n	44	27	44	39	37	40	48	11	11
More Than \$3B	14.9	16.8	18.5	8.7	11.3	5.1	8.6	-2.0	7.6
n	34	19	33	32	34	34	35	16	10
Median by Institut	ion Type								
C&U	14.4	14.4	18.5	8.7	10.5	4.8	7.8	-0.2	7.8
n	122	64	118	111	113	116	123	51	30
Cult & Env	13.8	15.6	18.7	8.4	10.7	4.5	8.6	4.5	7.4
n	43	31	44	39	41	42	42	17	3
Ind School	14.3	14.3	18.7	8.9	10.7	4.3	7.2	2.0	7.9
n	27	19	27	22	22	23	26	10	1
Healthcare	14.4	16.0	17.8	9.5	11.1	5.0	8.1	3.0	7.4
n	22	11	22	22	22	22	21	8	6
Other End	13.5	12.9	17.6	9.9	10.4	4.8	7.2	2.0	9.7
n	39	26	38	37	36	39	38	13	4

PARTICIPANTS' 5-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 5-Yr as of June 30, 2021 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Commodities and Natural Resources	Public Real Estate
All Endowments									
5th %ile	17.8	26.1	20.7	14.5	17.6	4.7	11.6	6.8	12.4
25th %ile	15.5	17.0	18.8	12.4	13.4	3.6	8.7	4.5	7.4
Median	14.6	14.5	17.8	11.1	11.8	3.0	7.7	2.0	6.4
75th %ile	13.8	12.4	16.6	10.2	10.6	2.4	6.3	-0.7	5.8
95th %ile	12.5	9.0	14.1	8.9	8.3	1.1	4.5	-7.4	3.4
Mean	14.8	15.6	17.6	11.4	12.1	3.0	7.7	1.6	7.0
n	245	122	239	221	222	230	240	93	32
Median by Asset S	ize								
Less Than \$200M	14.4	14.0	17.1	11.3	11.8	3.1	7.0	3.6	5.9
n	75	31	73	65	62	68	68	31	3
\$200M-\$500M	14.8	13.1	18.0	10.9	11.6	2.8	7.5	3.7	6.5
n	57	30	57	54	56	55	54	23	3
\$500M-\$1B	14.6	16.2	17.7	10.9	11.4	2.9	7.5	1.5	5.9
n	36	19	34	34	35	35	36	15	10
\$1B-\$3B	15.0	15.4	18.1	11.1	12.1	2.9	8.2	-1.4	6.8
n	43	23	42	37	36	38	47	10	7
More Than \$3B	15.6	17.2	17.5	11.1	12.9	3.4	8.3	2.3	6.5
n	34	19	33	31	33	34	35	14	9
Median by Institut	ion Type								
C&U	14.7	15.1	17.8	11.1	12.0	3.0	7.7	0.7	6.5
n	14.1	53	117	109	12.0 110	3.0 114	122	47	0.5 21
 Cult & Env	14.6	14.6	18.0	10.7	11.7	2.8	7.8	4.1	5.0
n	42	25	43	39	39	2.6 41	40	16	2
Ind School	14.5	14.4	18.1	11.3	12.2	2.8	7.3	4.4	6.5
n	24	13	23	20	19	2.0 18	24	9	1
Healthcare	14.7	15.7	17.4	11.1	12.6	3.2	7.3	2.9	6.8
n	20	15. <i>1</i>	20	11.1	12.6 19	20	1.5 19	2.9 8	5
Other End	14.3	13.1	17.0	11.4	11.5	3.0	7.7	3.5	5.9
n	14.3 38	13.1 22	17.0 36	11.4 34	35	3.0 37	1.1 35	3.5 13	5.9 3
11	30	22	30	J 4	33	31	33	13	3

PARTICIPANTS' 10-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 10-Yr as of June 30, 2021 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Commodities and Natural Resources	Public Real Estate
All Endowments									
5th %ile	12.7	15.3	17.1	9.6	8.0	4.5	8.4	1.8	17.2
25th %ile	11.1	13.2	15.5	7.7	5.6	3.6	6.7	-0.4	9.4
Median	10.3	11.8	14.4	7.2	4.3	3.1	5.5	-2.6	8.6
75th %ile	9.7	10.9	13.4	6.7	3.5	2.7	4.8	-3.8	7.4
95th %ile	8.8	7.9	11.7	5.6	1.9	1.4	3.9	-7.6	5.6
Mean	10.4	12.0	14.3	7.3	4.8	3.1	6.2	-1.6	10.8
n	223	71	216	195	184	206	212	71	21
Median by Asset Si	ize								
Less Than \$200M	10.2	11.4	13.9	7.1	4.1	3.2	5.1	-1.5	8.0
n	64	16	61	53	42	58	52	22	2
\$200M-\$500M	10.5	11.2	14.5	7.1	4.1	3.0	5.3	-3.0	7.4
n	54	19	53	49	50	51	50	19	2
\$500M-\$1B	10.3	12.4	14.7	7.3	4.3	3.2	5.3	-1.3	8.0
n	35	10	34	33	33	33	34	14	7
\$1B-\$3B	10.5	12.0	14.9	7.3	4.9	3.1	5.7	-3.1	9.4
n	39	15	38	33	31	35	45	7	5
More Than \$3B	10.7	12.3	14.3	7.5	5.3	3.7	6.7	-2.5	7.5
n	31	11	30	27	28	29	31	9	5
Median by Institut	ion Type								
C&U	10.4	12.2	14.5	7.3	4.4	3.2	5.6	-2.8	8.3
n	112	35	107	99	98	103	111	36	16
Cult & Env	10.5	12.2	14.5	7.0	4.5	2.9	5.6	-1.2	8.8
n	40	17	42	37	34	39	38	12	1
Ind School	10.4	11.5	14.4	7.3	4.8	3.2	5.2	-2.6	7.4
n	22	7	20	19	17	15	22	8	1
Healthcare	10.3	11.6	14.1	6.6	4.6	3.1	5.4	-1.1	7.7
n	19	4	19	15	16	19	18	7	2
Other End	9.8	11.3	13.5	7.2	3.7	3.2	5.3	-1.6	9.4
n	30	8	28	25	19	30	23	8	1
Median by Total P	erforman	ce Quartile							
Top Quartile	11.0	12.3	14.9	7.4	5.5	3.3	6.7	-2.5	9.4
n	43	18	43	36	38	39	46	15	5
2nd Quartile	10.6	12.2	14.6	7.2	4.7	3.1	5.6	-3.1	7.7
n	59	22	57	56	52	55	57	16	7
3rd Quartile	10.3	11.6	14.5	7.2	4.1	3.4	5.1	-1.7	8.0
n	55	18	52	46	45	53	50	19	7
Bottom Quartile	9.8	10.7	13.8	7.0	4.1	3.0	5.2	-1.6	9.9
n	63	12	60	55	48	58	58	21	1

Source: Endowment data as reported to Cambridge Associates LLC.

 $Notes: Institutions \ are \ assigned \ to \ performance \ quartiles \ based \ on \ their \ trailing \ 10-year \ return. \ The \ Top \ Performers \ subset \ is \ based \ on \ their \ trailing \ 10-year \ return.$ institutions that were in the top quartile for total portfolio performance for the trailing 10-year period.



REAL RETURNS AFTER SPENDING: TRAILING 3-, 5-, 10-, AND 20-Yr

Years Ended June 30, 2021 • Percent (%) • By Percentile Ranking

	3 Yr	5 Yr	10 Yr	20 Yr
All Endowments				
5th %ile	12.8	10.2	5.8	4.0
25th %ile	8.6	7.2	4.1	2.1
Median	6.5	5.3	2.7	1.2
75th %ile	4.8	4.3	1.8	0.4
95th %ile	2.5	2.0	0.7	-0.7
Mean	6.9	5.7	3.0	1.3
n	116	104	87	73

Source: Endowment data as reported to Cambridge Associates LLC.

Appendix: Portfolio Asset Allocation

SUMMARY ASSET ALLOCATION DISTRIBUTION

As of June 30, 2021 • Percent (%) • n = 307

	Public	DE ///C	Hedge	Real Assets	Fixed	Private	6 1	0.1
	Equity	PE/VC	Funds	& TIPS	Income	Credit	Cash	Other
5th %ile	66.9	39.8	33.2	13.9	19.6	4.8	10.5	2.3
25th %ile	54.8	24.7	22.4	8.7	11.9	2.4	5.3	0.0
Median	45.7	16.2	16.3	5.2	8.1	1.0	3.1	0.0
75th %ile	34.5	7.9	11.7	3.1	4.2	0.0	1.5	0.0
95th %ile	22.4	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Mean	44.9	17.0	17.1	6.2	8.6	1.5	4.1	0.6

MEAN ASSET ALLOCATION BY ASSET SIZE

As of June 30, 2021 • Percent (%)

				Asset Size		
	All	Less Than	\$200M-	\$500M-	\$1B-	More Than
	Endowments	\$200M	\$500M	\$1B	\$3B	\$3B
	(n = 307)	(n = 83)	(n = 61)	(n = 40)	(n = 62)	(n = 61)
Public Equity	44.9	53.4	50.4	44.7	39.6	33.4
Global	9.2	11.5	10.5	8.4	9.2	5.5
US	19.8	23.9	23.0	20.5	16.9	13.3
Global ex US Developed	10.4	13.0	11.4	10.9	8.5	7.6
Emerging Markets	5.5	4.9	5.5	4.9	5.0	7.0
PE/VC	17.0	8.5	13.0	17.6	21.4	27.9
Non-Venture Private Equity	7.3	2.5	4.8	8.5	10.3	12.2
Venture Capital	8.0	3.8	5.8	7.5	10.2	14.2
Other Private Investments	1.7	2.2	2.3	1.6	0.9	1.5
Hedge Funds	17.1	16.3	15.5	16.5	19.5	17.7
Long/Short	7.2	6.3	6.5	6.4	9.0	8.1
Absolute Return	8.7	9.5	8.2	8.9	8.6	8.3
Distressed	1.1	0.5	0.9	1.3	1.9	1.3
Private Credit	1.5	1.0	1.4	2.1	1.8	1.7
Distressed - Control Oriented	0.7	0.4	0.4	1.1	0.8	0.8
Private Credit ex Distressed	0.8	0.6	1.0	0.9	1.0	0.8
Fixed Income	8.6	11.7	10.2	8.5	6.1	5.4
Global	0.3	0.5	0.1	0.4	0.3	0.2
US	8.0	11.0	10.0	7.8	5.4	4.5
Global ex US	0.1	0.0	0.0	0.1	0.2	0.1
High-Yield Bonds	0.2	0.1	0.0	0.2	0.2	0.5
Real Assets & ILBs	6.2	4.4	4.2	6.9	6.4	9.9
Private Real Estate	2.1	0.6	0.9	2.7	2.5	4.8
Public Real Estate	0.4	0.4	0.3	0.7	0.4	0.4
Commodities	0.3	0.3	0.2	0.2	0.2	0.5
Inflation Linked-Bonds	0.5	0.9	0.6	0.4	0.2	0.3
Private O&G/Nat Resources	2.0	1.0	1.4	2.0	2.4	3.6
Public Energy/Nat Resources	0.8	1.3	0.9	1.0	0.6	0.4
Cash & Equivalents	4.1	4.2	3.8	3.6	4.8	3.7
Other Assets	0.6	0.6	1.5	0.1	0.3	0.2

MEAN ASSET ALLOCATION BY INSTITUTION TYPE

As of June 30, 2021 • Percent (%)

	Institution Type						
	Coll &	Cult &	Ind		Other		
	Univ	Env	Schools	Healthcare	End		
	(n = 152)	(n = 49)	(n = 31)	(n=30)	(n = 45)		
	(11 – 132)	(11 – 49)	(11 – 31)	(11 – 30)	(11 – 43)		
Public Equity	41.2	47.6	44.3	48.4	52.5		
Global	7.2	11.1	8.6	13.6	11.8		
US	18.4	21.0	19.4	21.1	22.5		
Global ex US Developed	9.8	10.7	10.5	9.3	12.9		
Emerging Markets	5.9	4.8	5.7	4.4	5.3		
PE/VC	22.8	13.5	12.9	11.1	8.4		
Non-Venture Private Equity	9.9	5.0	5.6	5.4	3.0		
Venture Capital	10.9	6.9	6.0	4.0	3.8		
Other Private Investments	1.9	1.5	1.3	1.8	1.6		
Hedge Funds	15.6	19.3	18.7	21.0	16.0		
Long/Short	6.6	7.6	7.7	11.9	5.5		
Absolute Return	7.8	10.5	9.5	8.8	9.4		
Distressed	1.2	1.2	1.5	0.3	1.1		
Private Credit	1.8	1.3	1.6	1.9	0.6		
Distressed - Control Oriented	0.9	0.4	0.7	0.7	0.3		
Private Credit ex Distressed	0.9	0.9	0.9	1.2	0.4		
Fixed Income	7.1	8.1	12.4	7.0	12.5		
Global	0.1	0.5	0.6	0.1	0.9		
US	6.6	7.3	11.5	6.7	11.5		
Global ex US	0.1	0.1	0.1	0.0	0.1		
High-Yield Bonds	0.2	0.2	0.2	0.1	0.0		
Real Assets & ILBs	7.4	4.8	5.4	5.3	4.9		
Private Real Estate	2.8	1.3	1.6	1.8	1.6		
Public Real Estate	0.5	0.4	0.5	0.1	0.4		
Commodities	0.3	0.3	0.4	0.4	0.1		
Inflation Linked-Bonds	0.4	0.5	0.7	0.4	0.7		
Private O&G/Nat Resources	2.7	1.6	1.2	1.7	1.0		
Public Energy/Nat Resources	0.7	0.7	0.9	1.0	1.1		
Cash & Equivalents	3.2	5.3	4.3	5.0	4.8		
Other Assets	0.9	0.0	0.4	0.4	0.3		

HISTORICAL MEAN ASSET ALLOCATION TRENDS

Years Ended June 30, 2021 • Percent (%)

Constant Universe (n = 119)

						Real		
	Public		Hedge	Private	Fixed	Assets &		
	Equity	PE/VC	Funds	Credit	Income	ILBs	Cash	Other
2001	50.8	6.3	11.7		22.6	4.4	3.7	0.4
2002	48.2	5.5	14.6		22.9	5.2	3.2	0.5
2003	48.2	5.5	16.6		19.4	6.3	3.4	0.6
2004	49.0	5.6	18.3		15.4	6.5	4.0	1.2
2005	47.6	6.1	20.1		13.9	8.3	3.7	0.4
2006	46.8	6.6	21.0		12.3	9.7	3.3	0.3
2007	46.7	7.6	21.7		10.8	10.4	2.4	0.4
2008	39.0	9.5	24.0		11.5	13.1	2.4	0.5
2009	33.0	10.7	24.6		13.3	12.0	5.6	0.8
2010	33.0	11.6	26.4		12.5	12.7	3.3	0.5
2011	35.5	12.1	25.2		10.5	13.3	2.8	0.6
2012	33.7	12.9	25.5		10.8	13.6	3.1	0.4
2013	37.2	11.7	23.4	1.9	9.4	12.8	3.2	0.4
2014	39.5	11.6	22.8	1.7	8.1	12.2	3.8	0.3
2015	39.4	12.0	23.7	1.5	8.1	10.6	4.3	0.3
2016	39.1	12.3	23.1	1.6	8.3	11.2	4.0	0.3
2017	41.9	12.1	21.5	1.4	7.7	10.5	4.1	0.8
2018	41.1	13.2	21.2	1.4	7.8	10.5	3.8	1.0
2019	40.7	15.2	20.4	1.5	8.0	9.4	3.7	1.2
2020	39.9	17.3	20.0	1.7	7.4	8.0	4.3	1.4
2021	40.0	22.0	17.4	1.8	6.4	7.5	3.9	1.1

Source: Endowment data as reported to Cambridge Associates LLC.

Note: Analysis is based on a constant universe that includes 119 institutions that provided asset allocation data for each year from 2001 to 2021.

UNCALLED CAPITAL COMMITTED TO PRIVATE INVESTMENT FUNDS

As of June 30, 2021 • Percent (%) • By Percentile Ranking

Uncalled Capital Commitments as a Percentage of the Total LTIP

	Under \$200M	\$200M-\$500M	\$500M-\$1B	\$1B-\$3B	Over \$3B
5th %ile	22.8	22.5	19.5	17.7	24.3
25th %ile	11.8	11.6	14.1	15.1	15.7
Median	7.7	9.5	11.3	11.7	13.5
75th %ile	5.7	7.0	8.0	9.4	10.7
95th %ile	0.5	3.7	0.3	2.6	6.1
Mean	10.3	10.5	11.7	11.7	13.9
n	62	53	34	56	43

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

	Under \$200M	\$200M-\$500M	\$500M-\$1B	\$1B-\$3B	Over \$3B
5th %ile	36.7	34.5	37.5	50.2	65.8
25th %ile	19.3	19.6	27.0	32.0	41.2
Median	11.6	13.3	20.3	24.5	31.3
75th %ile	7.7	10.0	14.5	16.2	21.4
95th %ile	0.6	4.6	0.4	3.6	16.1
Mean	15.8	17.7	21.2	25.1	33.8
n	62	53	34	56	43

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 AND INVESTMENT VEHICLES

As of June 30, 2021 • Percent (%) • By Percentile Ranking

Number of External Managers

	Under \$200M	\$200M-\$500M	\$500M-\$1B	\$1B-\$3B	Over \$3B
5th %ile	48	67	90	118	258
25th %ile	40	55	74	94	190
Median	27	40	64	74	136
75th %ile	18	30	51	62	108
95th %ile	10	19	32	35	68
Mean	29	42	62	77	148
n	83	59	39	57	39

Number of Investment Vehicles

	Under \$200M	\$200M-\$500M	\$500M-\$1B	\$1B-\$3B	Over \$3B
5th %ile	68	102	144	235	566
25th %ile	49	73	117	194	357
Median	36	60	87	138	270
75th %ile	22	41	72	99	213
95th %ile	13	24	47	44	144
Mean	37	58	92	142	308
n	83	59	39	55	37

Source: Endowment data as reported to Cambridge Associates LLC.

DISPERSION IN NUMBER OF MANAGERS FOR SELECTED ASSET CLASSES

As of June 30, 2021 • By Percentile Ranking

	Global Equity	US Equity	DM ex US Equity	EM Equity	US Bonds	Long/Short Hedge Funds	Ab Return Hedge Funds	Private Equity	Venture Capital
5th %ile	7	8	6	7	4	12	12	42	34
25th %ile	5	5	4	4	3	7	8	19	12
Median	3	4	3	3	2	5	5	11	6
75th %ile	2	3	2	2	1	2	3	5	3
95th %ile	1	1	1	1	1	1	1	2	1
Mean	4	4	3	3	2	5	6	15	10
n	213	275	260	257	250	243	263	239	237

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.



Appendix: Institutional Support

ENDOWMENT DEPENDENCE

Fiscal Year 2021 • Percent (%) • By Percentile Ranking

	Public C&U	Private C&U	Ind School	Cult & Env
5th %ile	7.3	62.3	100.0	74.8
25th %ile	6.1	32.8	60.6	50.6
Median	3.1	20.7	30.7	35.2
75th %ile	1.6	9.2	16.7	11.7
95th %ile	0.4	2.5	6.8	2.7
Mean	3.5	22.1	42.9	34.0
n	16	61	10	9

Source: Endowment data as reported to Cambridge Associates LLC.

ENDOWMENT TO DEBT

As of June 30, 2021 • n=119 • By Percentile Ranking

	Under \$1B	\$1B-\$3B	Over \$3B
10th %ile	17.7	11.7	14.3
25th %ile	8.4	9.4	8.1
Median	4.7	4.7	4.8
75th %ile	2.4	3.0	2.7
95th %ile	0.8	1.2	1.6
Mean	12.1	5.9	7.7
n	48	32	39

PARTICIPANTS

COLLEGES AND UNIVERSITIES

University of Alaska Foundation

Allegheny College

American Coll of Greece & American Univ of Greece

Amherst College

University of Arkansas Foundation Inc.

College of The Atlantic Bentley University

Berkeley Endowment Management Company

Boston College Boston University Bowdoin College Brown University Bryn Mawr College University of California

California Institute of Technology

Canisius College 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 Clemson University Foundation

The Colburn School Colby College Colgate University Columbia University Connecticut College

Cooper Union for the Advancement of Science & Art

Cornell University

College For Creative Studies

Curry College
Curry College
Dartmouth College
Davidson College
University of Delaware
Denison University
Duke University
Duquesne University
Emory University

Florida State University Foundation Inc. University of Florida Investment Corporation

Georgia Tech Foundation Inc.

Gettysburg College Goucher College Grinnell College Hampton University

Harvard Management Company, Inc.

Haverford College

University of Hawaii Foundation

Hollins University Hope College 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 of Chicago

Lycoming College Macalester College

MIT Investment Management Company

Mercy College University of Miami University of Michigan Michigan State University Mount Holyoke College Mount St. Mary's University National University

Nevada System of Higher Education

New York University Northeastern University Northwestern University Norwich University University of Notre Dame Oberlin College Occidental College Ohio State University

Ohio Wesleyan University

The University of Oklahoma Foundation, Inc.

Pace University
University of the Pacific
University of Pennsylvania
Pennsylvania State University
Pepperdine University
University of Pittsburgh
Pomona College

Princeton University
Providence College

Purdue Research Foundation

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 at Buffalo Foundation



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

Wellesley College Wesleyan University

Western New England University

Wichita State University Foundation

William & Mary Foundation

Williams College

Yale University

Yeshiva University

CULTURAL AND ENVIRONMENTAL

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

Conservation International 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

GBH Educational Foundation

The J. Paul Getty Trust

Jeremy and Hannelore Grantham Environmental Trust

Hagley Museum and Library

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

Nature Conservancy; The

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

Two River Theatre Company Inc.

Wildlife Conservation Society

The Henry Francis duPont Winterthur Museum, Inc.

HOSPITALS

Beth Israel Lahey Health Investment Partnership, LLP

Blythedale Children's Hospital

Cedars-Sinai Medical Center

Children's HealthCare of Atlanta, Inc.

The Children's Hospital of Philadelphia

The Children's Institute

Children's Medical Center

Cleveland Clinic Fdn:The

Cook Foundation, Inc.; W. I.

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

Memorial Hermann Health System

Children's Mercy Hospital Foundation

Mount Sinai School of Medicine

South Nassau Communities Hospital New York Presbyterian Hospital

Northwestern Memorial HealthCare Ochsner Clinic Foundation

Partners HealthCare System, Inc.

Phoebe Putney Health System

Saint Francis Foundation Shore Regional Health

University Hospitals Health System

INDEPENDENT SCHOOLS

Auditory Learning Foundation

The Blake School

Boston College High School

The Brearley School

Buckingham Browne & Nichols School

Castilleja School

Collegiate School

The Episcopal School of Dallas

The Fessenden School

Greenwich Country Day School

Groton School

Milton Hershey School Trust

Hockadav School

The Hotchkiss School Kamehameha Schools

Lakeside School

The Lawrenceville School

The Loomis Institute

Park Tudor Trust

Phillips Exeter Academy

The Pingry School

Punahou School

The Roxbury Latin School St. Mark's School of Texas

Salisbury School

St. Bernard's School

St. Paul's School

Western Reserve Academy

The Winsor School

Xaverian Brothers High School



OTHER NONPROFITS

American College of Surgeons American Red Cross The American Society of Hematology Animal Rescue League of Boston Armenian Church Endowment Fund The Boston Home Inc. CASAColumbia Catholic Church Extension Society Catholic Education Scholarship Trust Catholic Investment Trust of Washington Archdiocese of Chicago Children's Investment Fund Foundation Christ Church Cathedral Foundation The Church Pension Fund Claremont University Consortium Episcopal Society of Christ Church **Episcopal Divinity School** Greater New York Hospital Association **HighGround Advisors** Howard Hughes Medical Institute The Ignatius Fund Isidore and Van Gerwen Charitable Trusts Jewish Child Care Association

Maine Coast Heritage Trust Mission Diocese Fund Massachusetts Society for Prevention of Cruelty to Animals Lucile Packard Foundation for Children's Health The PGA of America, LP Diocese of Providence The REACH Healthcare Foundation The Rose Hills Foundation Schott Foundation for Public Education The Sealy & Smith Foundation 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 Negro College Fund **United States Tennis Association** Catholic Diocese of Wilmington Xaverian Brothers USA

Copyright © 2022 by Cambridge Associates LLC. All rights reserved.

This report may not be displayed, reproduced, distributed, transmitted, or used to create derivative works in any form, in whole or in portion, by any means, without written permission from Cambridge Associates LLC ("CA"). Copying of this publication is a violation of US and global copyright laws (e.g., 17 U.S.C. 101 et seq.). Violators of this copyright may be subject to liability for substantial monetary damages.

This report is provided for informational purposes only. The information does not represent investment advice or recommendations, nor does it constitute an offer to sell or a solicitation of an offer to buy any securities. Any references to specific investments are for illustrative purposes only. The information herein does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Information in this report or on which the information is based may be based on publicly available data. CA considers such data reliable but does not represent it as accurate, complete, or independently verified, and it should not be relied on as such. Nothing contained in this report should be construed as the provision of tax, accounting, or legal advice. Past performance is not indicative of future performance. Broad-based securities indexes are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly in an index. Any information or opinions provided in this report are as of the date of the report, and CA is under no obligation to update the information or communicate that any updates have been made. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified.

The terms "CA" or "Cambridge Associates" may refer to any one or more CA entity including: Cambridge Associates, LLC (a registered investment adviser with the US Securities and Exchange Commission, a Commodity Trading Adviser registered with the US Commodity Futures Trading Commission and National Futures Association, and a Massachusetts limited liability company with offices in Arlington, VA; Boston, MA; Dallas, TX; Menlo Park, CA, New York, NY; and San Francisco, CA), Cambridge Associates Limited (a registered limited company in England and Wales, No. 06135829, that is authorized and regulated by the UK Financial Conduct Authority in the conduct of Investment Business, reference number: 474331); Cambridge Associates GmbH (authorized and regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht ('BaFin'), Identification Number: 155510), Cambridge Associates Limited, LLC (a registered investment adviser with the US Securities and Exchange Commission, an Exempt Market Dealer and Portfolio Manager in the Canadian provinces of Alberta, British Columbia, Manitoba, Newfoundland and Labrador, Nova Scotia, Ontario, Québec, and Saskatchewan, and a Massachusetts limited liability company with a branch office in Sydney, Australia, ARBN 109 366 654), Cambridge Associates Investment Consultancy (Beijing) Ltd (a wholly owned subsidiary of Cambridge Associates, LLC which is registered with the Beijing Administration for Industry and Commerce, registration No. 11000045074972), and Cambridge Associates Associates Anice Eliging Provinces License to conduct Fund Management for Accredited and/or Institutional Investors only by the Monetary Authority of Singapore).

