

# FOUNDATION ANNUAL INVESTMENT POOL RETURNS

CALENDAR YEAR 2018



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This study is based on a survey that Cambridge Associates (CA) administers annually to our foundation clients. The report that follows summarizes returns, asset allocation, and other investment-related data for 109 foundations for the year ended December 31, 2018. Included in this year's report are commentary and exhibits that are spread across five separate sections.

For most foundations in this study, 2018 was the worst year for investment performance since the 2008 global financial crisis (GFC). Despite the poor performance on the total portfolio level, many foundations reported strong returns in private investments for the calendar year. Allocations to private investments were a key factor in distinguishing between the total portfolio returns of top and bottom performers in 2018. **INVESTMENT PORTFOLIO RETURNS** investigates this and other factors that contributed to the variation of returns reported among participants. Also included in this section are analyses on returns for the last decade.

Over the last decade, foundations of all asset sizes have increased allocations to emerging markets equities and private equity and venture capital (PE/VC) while decreasing allocations to bonds. In addition to analyzing historical trends, **PORTFOLIO ASSET ALLOCATION** considers recent changes to target allocations, which lend insight into how portfolio allocations could shift into the future. This section also includes data on unfunded commitments to private investment funds and shows how these commitments, on average, are growing at a higher rate than the market value of the overall investment pool.

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

**PAYOUT FROM THE LONG-TERM INVESTMENT PORTFOLIO** contains a set of analyses that look at spending objectives and policies of private non-operating foundations. These types of foundations are required under the federal tax code to distribute approximately 5% of their assets each year. While most of these foundations' payout objectives are tied closely to this requirement, some also use smoothing-type spending rules like those used more commonly among endowments.

Finally, our 2018 survey expanded to add more questions on **INVESTMENT OFFICE STAFFING AND GOVERNANCE**. This section of the report takes a look at topics such as the number of personnel in the investment office, the use of external advisors and consultants, decision-making responsibilities for investment functions, and investment committee structure.

# Investment Portfolio Returns

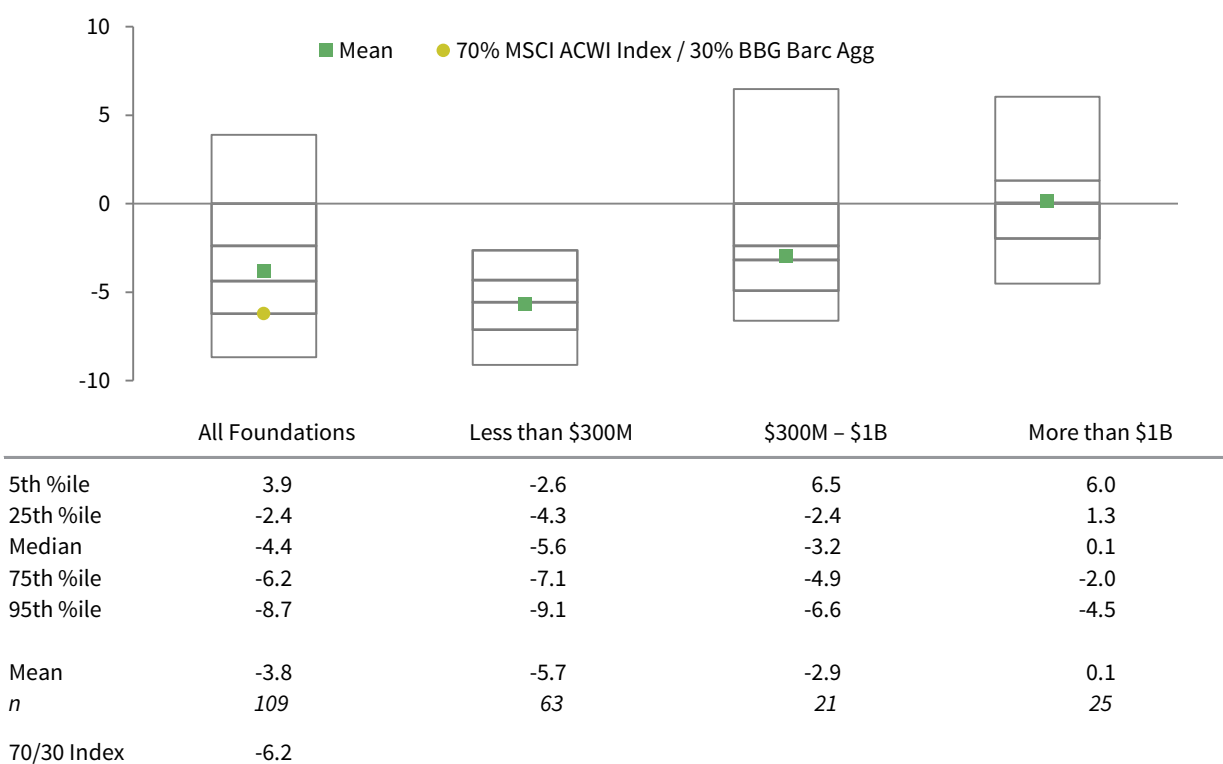
## RETURNS IN 2018

Slowing economic growth, central bank tightening, adverse political developments, and the ongoing US-led trade spat weighed on sentiment and asset returns last year. A steep decline in global public equities in the fourth quarter pushed most foundations' returns into negative territory for the year, with 2018 ending up as the worst year for investment performance since 2008. The lone bright spot was in private investments, where most participants in this study reported double-digit returns in PE/VC.

The average return for participating foundations in 2018 was -3.8% (Figure 1). The median return was 60 basis points (bps) lower (-4.4%), which is one of the largest gaps we have observed between the annual mean and median return in recent history. The average return was higher than the median because the returns of foundations on the top end of the distribution extended out farther from the median compared to those on the bottom end. When looking at the dispersion in 2018 returns across the overall participant group, performance ranged from 3.9% at the 5th percentile to -8.7% at the 95th percentile. The difference between the 5th percentile return and the median was 8.3 percentage points (ppts) in 2018, which is the largest spread reported between those two points over the last decade (Figure 2).

**FIGURE 1 2018 TOTAL RETURN SUMMARY**

Trailing 1-Yr as of December 31, 2018 • Percent (%)

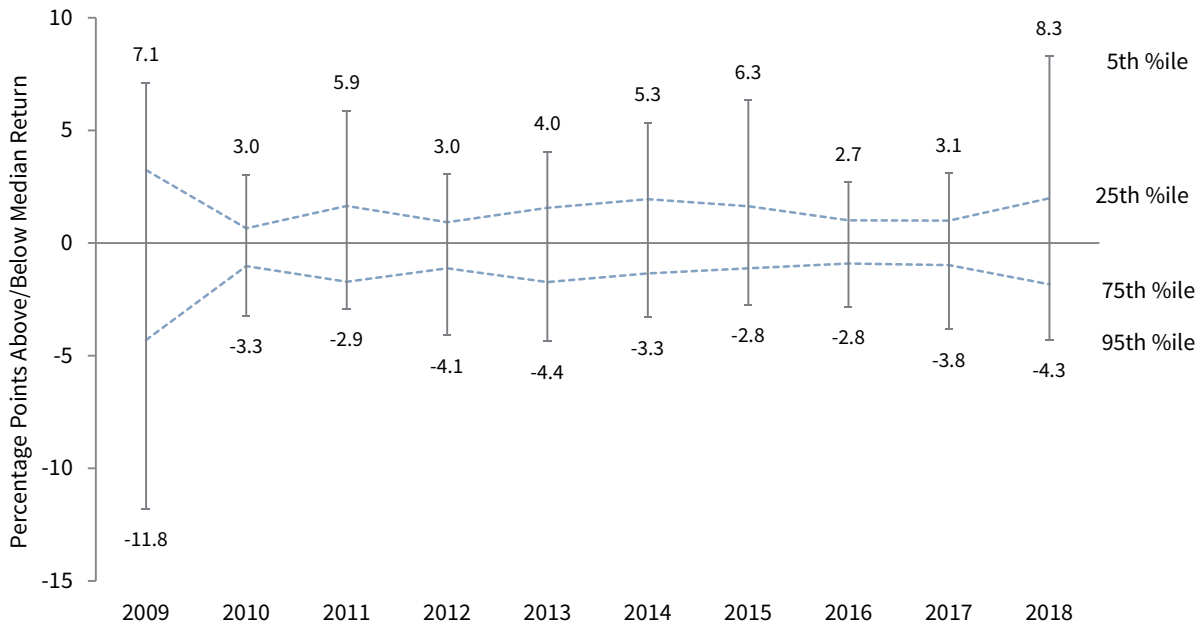


Sources: Foundation data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

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

**FIGURE 2 DISPERSION OF ANNUAL RETURNS RELATIVE TO THE MEDIAN RETURN**

Based on Trailing 1-Yr Returns as of December 31



Source: Foundation data as reported to Cambridge Associates LLC.

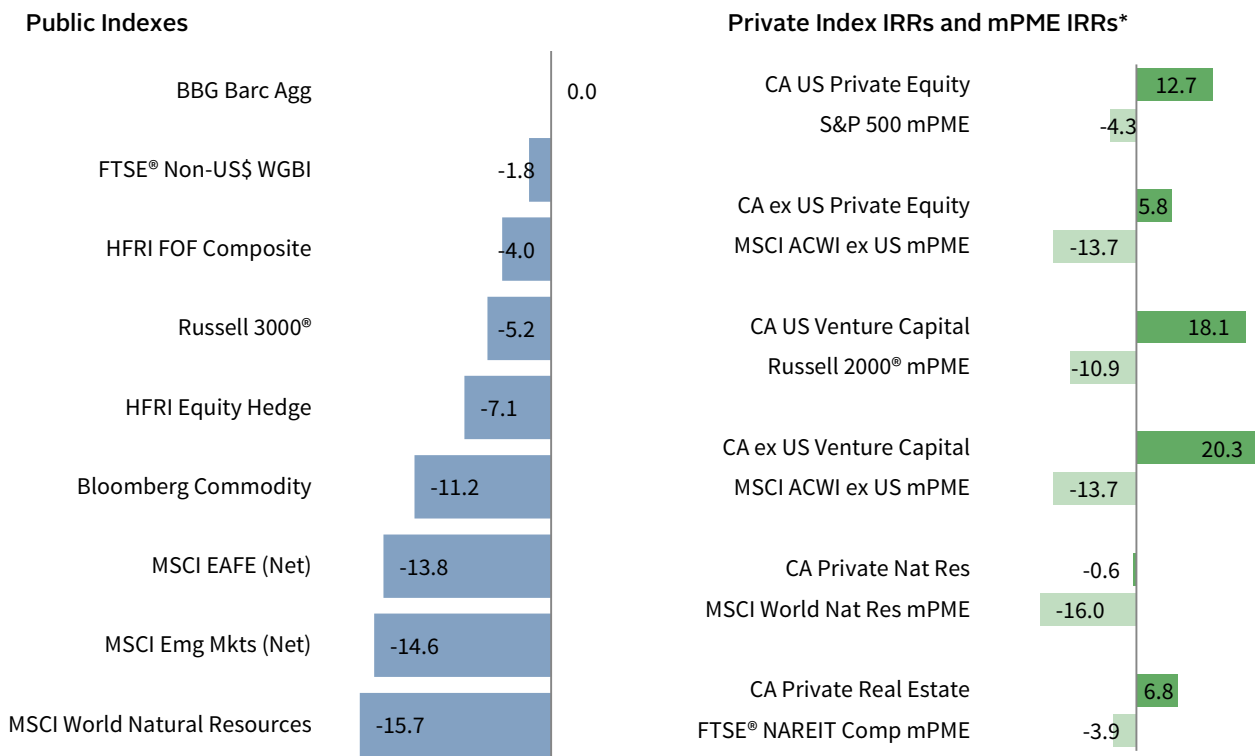
Figure 1 also breaks out the returns of foundations by various asset size ranges. The average 2018 return for each of the asset size groups outperformed a simple benchmark consisting of 70% MSCI ACWI Index and 30% Bloomberg Barclays Aggregate Bond Index, which returned -6.2%. The average return for foundations with assets greater than \$1 billion was 0.1%, substantially higher than that of the other asset size groups. Of the 25 foundations with assets of more than \$1 billion, 20 reported a one-year return that ranked in the top quartile of the overall participant group.

There are many factors that contribute to investor returns and the differentials in returns reported across foundations. These factors include asset allocation policy and the implementation of that policy. In addition, varying performance measurement methodologies may impact the peer performance statistics reported in this study. The commentary and analysis that follow in this section explore these factors and the impact on comparative returns in 2018.

**ASSET ALLOCATION.** Figure 3 looks at the relationship between asset allocation and total portfolio returns in 2018. The participant group is broken out into four quartiles based on 2018 investment performance and each foundation’s asset allocation was averaged across the beginning and ending points for the trailing one-year period. The four quartiles in the heat map table represent the average asset allocation of the foundations within each quartile. The chart of index returns provides the context of the market environment for the year.

**FIGURE 3 ONE-YR INDEX RETURNS AND ASSET ALLOCATION OF TOP AND BOTTOM PERFORMERS**

As of December 31, 2018 • Percent (%)



**Mean Foundation Asset Allocation by Performance Quartile: December 31, 2017 to December 31, 2018**

Quartile	US Equity	DM ex US Eqty	EM Equity	Bonds	Hedge Funds	Dist Sec	PE/VC	Priv RA	Pub RA & ILBs	Cash	Other
Top Quartile	15.5	11.1	8.3	6.9	15.9	3.4	23.2	8.7	1.9	5.0	0.1
2nd Quartile	20.3	15.6	8.0	11.9	16.9	3.1	11.1	4.7	3.6	3.6	1.3
3rd Quartile	24.6	17.7	8.9	15.1	13.5	1.8	6.6	2.6	4.8	4.0	0.3
Bottom Quartile	27.2	21.9	8.7	13.8	13.8	1.2	4.0	1.2	4.3	3.5	0.5
All Fdn Mean	21.9	16.6	8.5	11.9	15.0	2.4	11.2	4.3	3.6	4.0	0.6



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

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

Note: Analysis includes data for 107 institutions.

The differences in average asset allocations among the four performance quartiles often correlate with the backdrop of the market environment. In 2018, private investment strategies stood out from other asset classes in terms of relative performance. The indexes of nearly all of the major private investment strategies produced positive returns in 2018, and each outperformed their reference mPME<sup>1</sup> indexes by substantial margins. In contrast, the Bloomberg Barclays Aggregate Bond Index, which posted a flat (0.0%) return in 2018, was the highest performing index of the major marketable asset classes.

Consequently, foundations in the top quartile reported the highest average allocations to private investments and the lowest allocations to public equities, particularly US and global ex US developed equities. The opposite was true for foundations in the bottom performance quartile. In addition, there was a large differential in bond allocations, with the top quartile reporting by far the lowest allocation (6.9%) to this asset class.

The differential in average allocations was largest within the PE/VC category, where the average for top performers (23.2%) was more than 19 ppts higher than that of the bottom quartile of performers (4.0%). Figure 4 repeats this analysis for each of the last ten calendar years and shows how influential PE/VC allocations were on the dispersion of returns in 2018 compared to past years. The divergence in PE/VC allocations between top and bottom performers for this most recent year was the largest observed over the last decade.

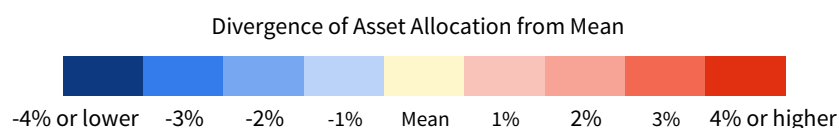
<sup>1</sup> Under the CA mPME methodology, the public index's share are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. The mPME analysis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

**FIGURE 4 MEAN ALLOCATION TO PE/VC BY PERFORMANCE QUARTILE**  
Percent (%)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>1-Yr Index Returns</b>										
Global PE/VC (IRR)	14.9	19.9	7.8	13.2	21.6	12.7	9.9	8.9	20.6	11.8
MSCI ACWI (TWR)	34.6	12.7	-7.3	16.1	22.8	4.2	-2.4	7.9	24.0	-9.4

**Mean Allocation by Quartile\***

Top Quartile	1.6	11.0	18.4	9.3	8.9	16.5	20.1	8.0	5.4	23.2
2nd Quartile	3.7	7.2	6.1	9.2	9.3	8.1	9.8	9.2	8.4	11.1
3rd Quartile	10.1	7.0	5.7	7.9	9.7	6.1	5.9	10.2	11.3	6.6
Bottom Quartile	13.0	5.8	5.0	10.3	7.5	4.3	2.4	12.4	15.5	4.0
All Fdn Mean	7.1	7.8	8.9	9.2	8.8	8.8	9.5	10.0	10.0	11.2
<i>n</i>	67	78	82	85	89	89	96	100	105	107



\* Performance quartiles are calculated separately for each calendar year. The mean allocations incorporate each institution's beginning and ending points for the respective calendar year period.  
Sources: Foundation data as reported to Cambridge Associates LLC.



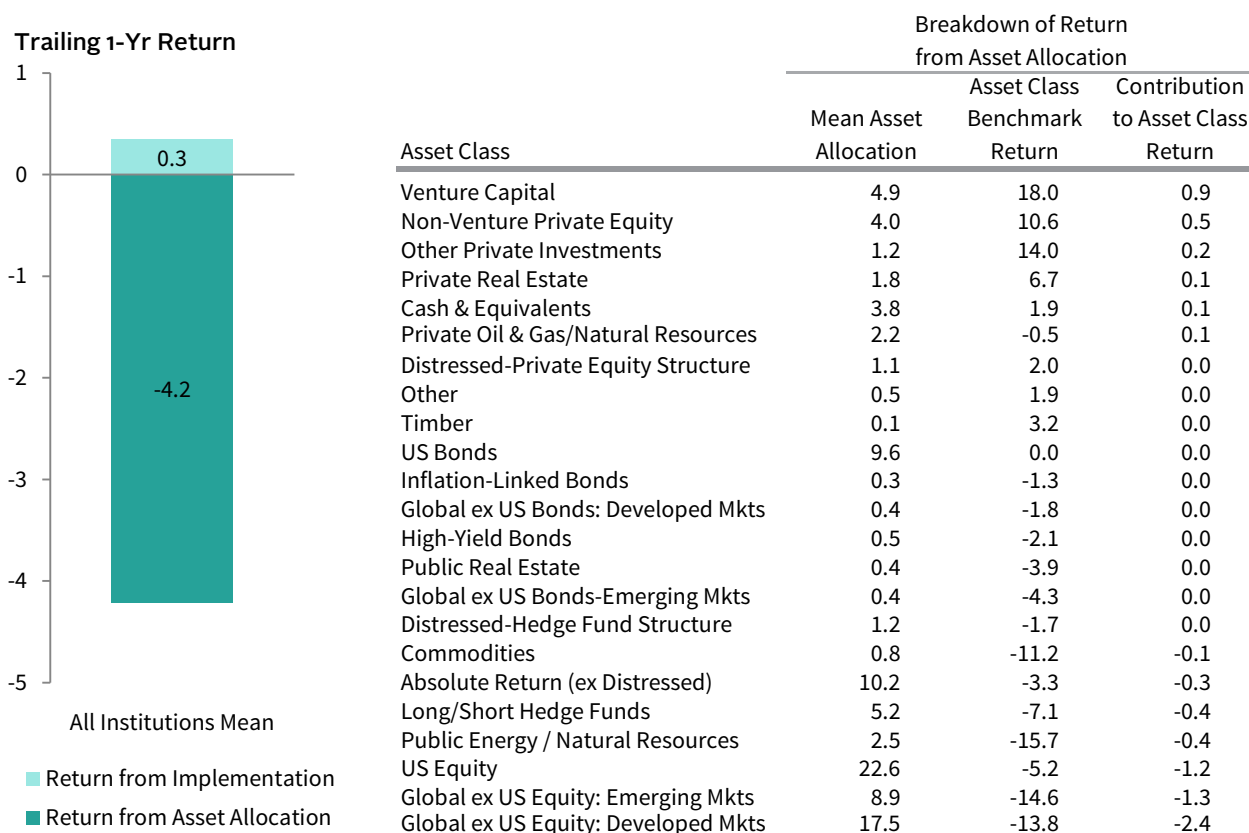
**ATTRIBUTION.** While asset allocation is a key driver of investment performance, it does not fully account for a portfolio’s overall return. The execution or implementation of an asset allocation strategy also contributes to the total returns that portfolios earn. This implementation component can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

Figure 5 illustrates the results of a basic attribution analysis that considers the contributions of asset allocation and implementation on foundation investment performance. The darker shading on the bar represents the portion of the average foundation return that can be attributed to asset allocation. It is calculated using a blend of representative benchmarks that are weighted according to each foundation’s beginning year asset allocation. The lighter shading of the bar is calculated by subtracting the asset allocation return from the total investment return. This other portion of return is principally driven by implementation or execution decisions, which can include effects of active management and manager selection.<sup>2</sup>

<sup>2</sup> This model assumes that flows to and from investment managers take place on the last day of the fiscal year. In addition, the analysis uses a standard set of asset class benchmarks that may be more or less representative of the asset allocation policy across different institutions. Therefore, the portion of returns attributed to implementation may also include some residual/unattributable asset allocation effects.

### FIGURE 5 ATTRIBUTION ANALYSIS

As of December 31, 2018 • Percent (%)



Sources: Foundation data as reported to Cambridge Associates LLC. Index data provided by Bloomberg Index Services Limited, BofA Merrill Lynch, Cambridge Associates LLC, Frank Russell Company, FTSE Fixed Income LLC, FTSE International Limited, Hedge Fund Research, Inc., J.P. Morgan Securities, Inc., MSCI Inc., National Association of Real Estate Investment Trusts, and the National Council of Real Estate Investment Fiduciaries. MSCI data provided “as is” without any express or implied warranties.

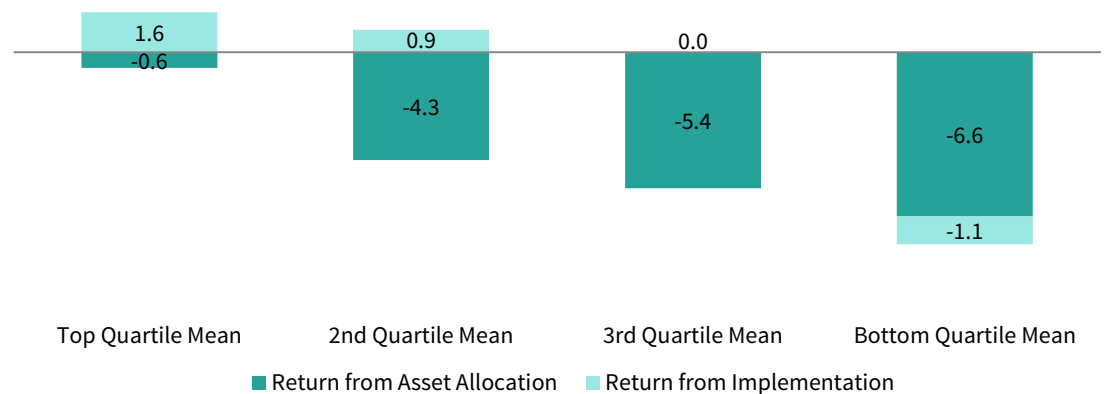
Notes: Includes data for 107 institutions that provided beginning year asset allocation. Mean asset allocation is as of December 31, 2017. The sum of the contribution to asset class return for all categories in the table equals the amount of the total return that was explained by asset allocation. To be consistent with the methodology in which private investment returns are incorporated into the total portfolio composite calculation, private investment benchmark returns are linked quarterly horizon returns.

Each asset class' contribution to the average asset class return is a function of its benchmark return, as well as the participant group's average allocation to the category. The three public equity categories, which represented nearly 50% of the average foundation asset allocation at the beginning of 2018, tend to have the greatest impact of all the categories on the average asset allocation return. Poor performance among the public equity benchmarks led to negative contributions from these asset classes in 2018. These negative contributions were offset a bit by the strong performance from venture capital and non-venture private equity, which made the largest positive contributions to the average asset class return. However, since the average public equity allocation dwarfs the average PE/VC allocation for the overall participant group, the total average asset class return was negative (-4.2%) for 2018. The effects of implementation were positive for most foundations over this same period, with the analysis estimating an average implementation return of 0.3%.

Figure 6 provides a breakdown of the attribution data for the four performance quartiles of the overall respondent group. The top performance quartile had an average asset allocation return of -0.6%, approximately 600 bps higher than the average for the bottom performance quartile (-6.6%). This differential in asset allocation returns was the second largest observed over the last ten years, with only the 2009 calendar year having a wider spread (w). The top quartile's average implementation return for 2018 was 270 bps higher than the average of the bottom quartile, a differential that was near the middle of the outcomes calculated over the last decade.

**FIGURE 6 ATTRIBUTION ANALYSIS BY PERFORMANCE QUARTILE**

Trailing 1-Yr Return • As of December 31, 2018 • Percent (%)



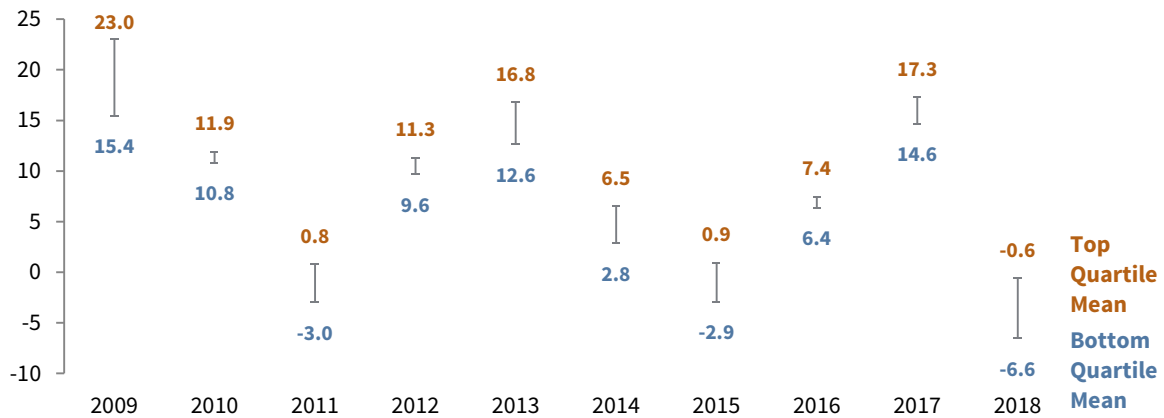
Source: Foundation data as reported to Cambridge Associates LLC.

Note: Includes data for 107 institutions that provided beginning year asset allocation.

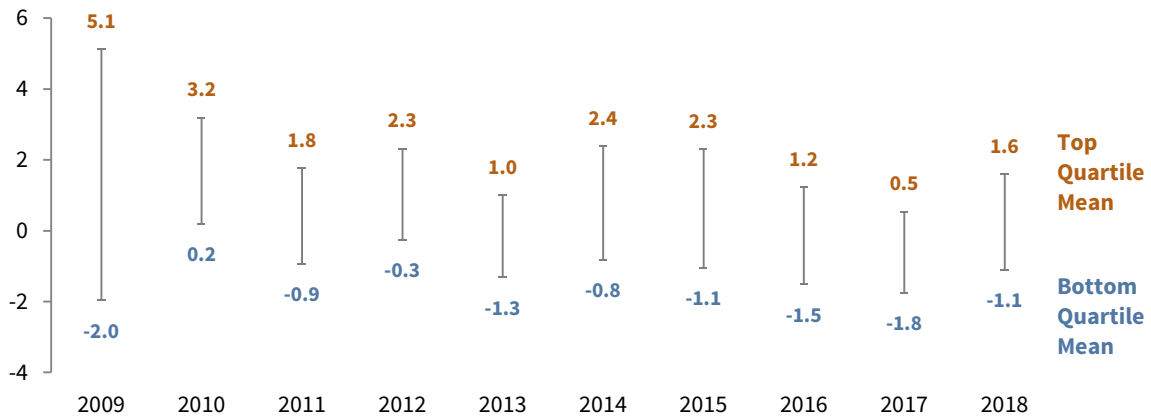
**FIGURE 7 ANNUAL ATTRIBUTION ANALYSIS: 2009–18**

Based on Trailing 1-Yr Returns as of December 31

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



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



\* Performance quartiles are calculated separately for each calendar year.  
Source: Foundation data as reported to Cambridge Associates LLC.

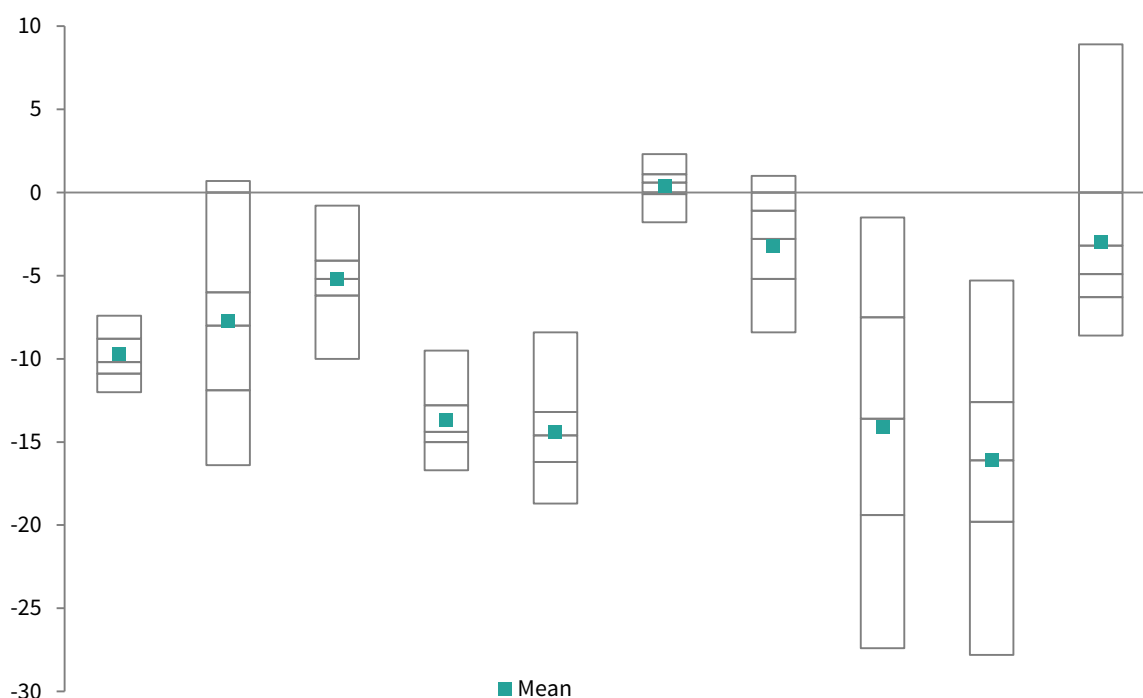
**ASSET CLASS RETURNS.** Data on asset class returns of participating foundations are displayed in Figures 8 through 11. The marketable asset class returns are reported as time-weighted returns, and the private investment data are horizon internal rates of return.<sup>3</sup> Median data for the three asset size groups are included for each of the asset class categories.

In public equities, median participant returns were negative across all three geographic regions included in our asset class framework. The median return equaled the asset class index return in US and emerging markets equities, but lagged in the global ex US developed equity category by 60 bps. Median returns for these and other marketable asset classes are displayed next to index returns in Figure 9.

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

## FIGURE 8 DISPERSION OF PARTICIPANTS' ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 1-Yr as of December 31, 2018



	Public Equity <sup>1</sup>	Global Equity <sup>2</sup>	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Public Real Assets <sup>3</sup>	Commodities and Natural Resources	Public Real Estate
5th Percentile	-7.4	0.7	-0.8	-9.5	-8.4	2.3	1.0	-1.5	-5.3	8.9
25th Percentile	-8.8	-6.0	-4.1	-12.8	-13.2	1.1	-1.1	-7.5	-12.6	-3.2
Median	-10.2	-8.0	-5.2	-14.4	-14.6	0.6	-2.8	-13.6	-16.1	-4.9
75th Percentile	-10.9	-11.9	-6.2	-15.0	-16.2	-0.1	-5.2	-19.4	-19.8	-6.3
95th Percentile	-12.0	-16.4	-10.0	-16.7	-18.7	-1.8	-8.4	-27.4	-27.8	-8.6
Mean	-9.7	-7.7	-5.2	-13.7	-14.4	0.4	-3.2	-14.1	-16.1	-3.0
<i>n</i>	93	61	91	89	90	92	84	62	62	16
<b>Median by Asset Size</b>										
Less than \$300M	-10.2	-7.5	-5.2	-14.5	-14.8	0.3	-3.9	-16.2	-16.9	-4.9
<i>n</i>	57	38	57	57	56	57	52	41	41	7
\$300M – \$1B	-9.8	-11.5	-5.2	-13.7	-13.8	0.6	-2.2	-11.4	-15.0	-4.9
<i>n</i>	18	10	18	17	18	17	16	15	13	5
More than \$1B	-9.8	-8.9	-5.9	-14.7	-15.1	0.9	-1.2	-6.5	-13.4	1.7
<i>n</i>	18	13	16	15	16	18	16	6	8	4

Source: Foundation data as reported to Cambridge Associates LLC.

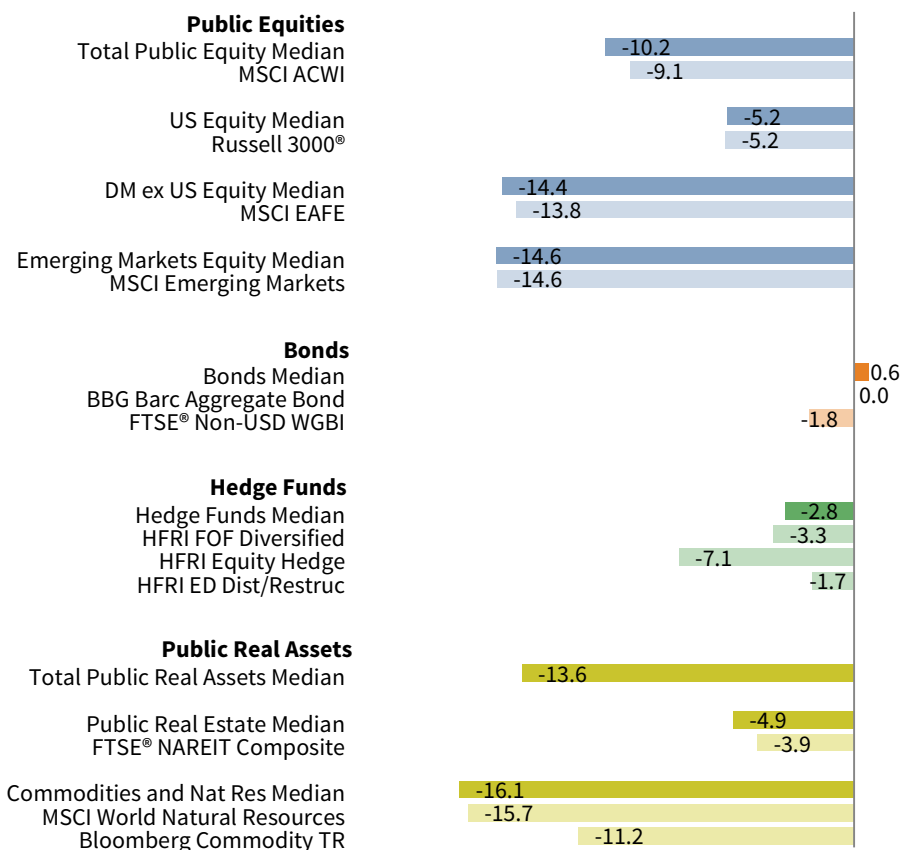
<sup>1</sup> Public equity is a composite of global equity, US equity, developed markets ex US equity, and emerging markets equity.

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

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

**FIGURE 9 MEDIAN MARKETABLE ASSET CLASS RETURNS VS INDEX RETURNS**

Trailing 1-Yr as of December 31, 2018



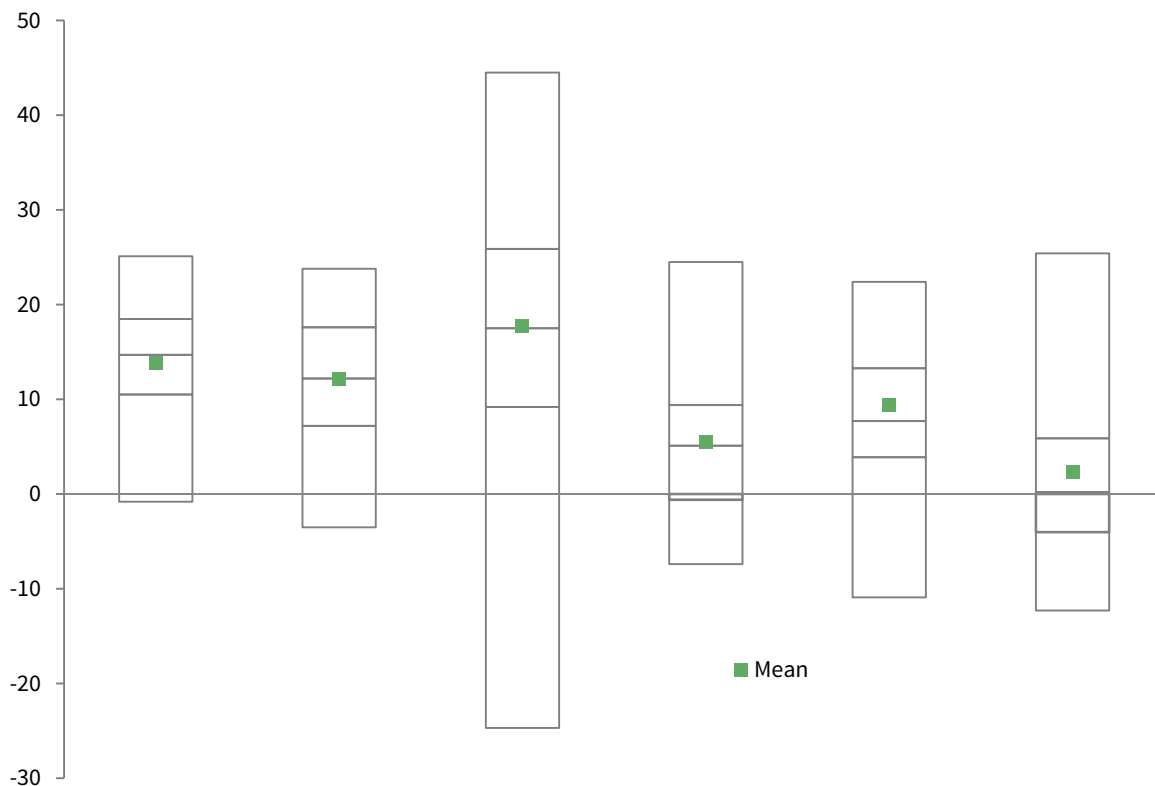
Sources: Foundation data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

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

Similar to the comparison of index returns covered earlier in this section, the highest composite returns among foundations in 2018 were reported in the private equity categories. The median total private equity composite return for foundations over \$1 billion was 20.3%, substantially higher than that of the other asset size cohorts (Figure 10). This group of the largest foundations also reported the highest median returns to the two subcategories of this composite, non-venture private equity (18.6%) and venture capital (21.5%).

**FIGURE 10 DISPERSION OF PARTICIPANTS' ASSET CLASS RETURNS: PRIVATE INVESTMENTS**

Trailing 1-Yr as of December 31, 2018



	Private Equity <sup>1</sup>	Non-Venture Private Equity <sup>2</sup>	Venture Capital	Private Real Assets <sup>3</sup>	Private Real Estate	Private Natural Resources
5th Percentile	25.1	23.8	44.5	24.5	22.4	25.4
25th Percentile	18.5	17.6	25.9	9.4	13.3	5.9
Median	14.7	12.2	17.5	5.1	7.7	0.2
75th Percentile	10.5	7.2	9.2	-0.6	3.9	-4.0
95th Percentile	-0.8	-3.5	-24.7	-7.4	-10.9	-12.3
Mean	13.9	12.1	17.7	5.5	9.4	2.3
<i>n</i>	68	77	66	67	63	65
<u>Median by Asset Size</u>						
Less than \$300M	13.8	11.7	16.7	5.0	7.0	0.0
<i>n</i>	47	44	38	39	31	34
\$300M – \$1B	15.3	11.1	17.6	2.6	7.0	-2.5
<i>n</i>	15	18	16	18	17	16
More than \$1B	20.3	18.6	21.5	5.2	11.4	2.4
<i>n</i>	6	15	12	10	15	15

Source: Foundation data as reported to Cambridge Associates LLC.

Note: Private investment return statistics are reported as horizon internal rates of return (IRR<sub>s</sub>).

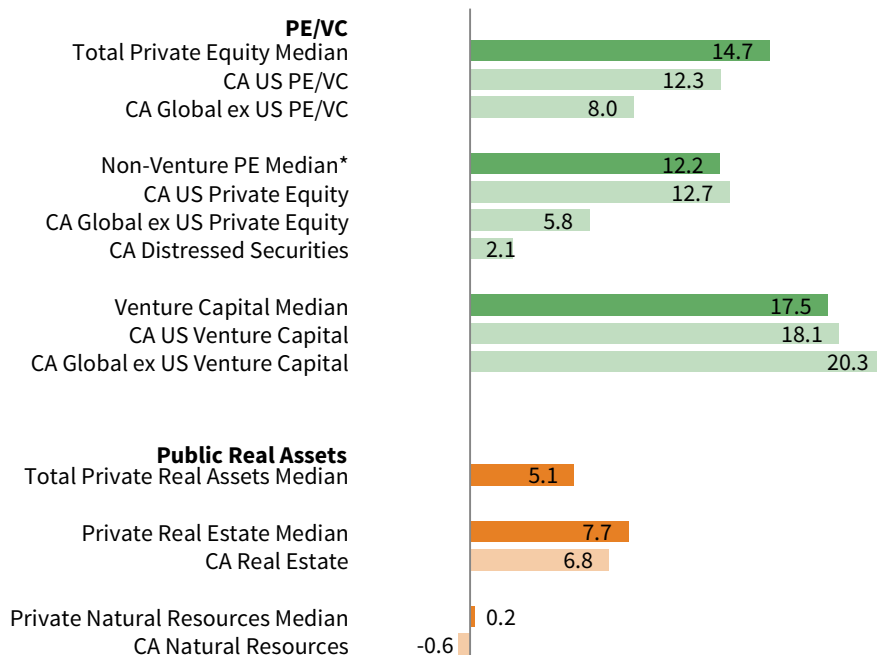
<sup>1</sup> Private equity is a composite of non-venture private equity and venture capital.

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

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

**FIGURE 11 MEDIAN PRIVATE INVESTMENT ASSET CLASS IRRs VS INDEX IRRs**

Trailing 1-Yr as of December 31, 2018



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

Sources: Foundation data as reported to Cambridge Associates LLC. Index data are provided by Cambridge Associates LLC.

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

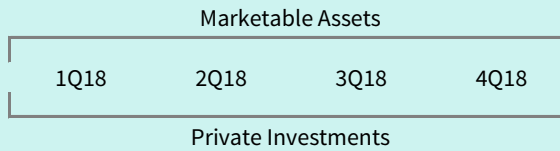
**RETURN CALCULATION METHODOLOGIES.** The methodology foundations use to account for private investments in their total portfolio return calculation had significant impacts on comparative returns in 2018. The most frequently used approach among all foundations was to report private investment returns on a current basis. While the second most frequently used methodology among all foundations was the lagged basis, it is notable that this was the most common reporting methodology for foundations with assets greater than \$1 billion.

Under the current basis, the total portfolio return incorporates all investment activity for private investments for the entire calendar year. In contrast, under the lagged basis, private investment valuations lag other assets in the portfolio by one quarter. In essence, the private investment portion of the 2018 total return represents performance for the period of October 1, 2017, to September 30, 2018. When assessing the impact of these two methodologies, it is important to consider private investment returns for both fourth quarter 2017 and fourth quarter 2018. 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.

## PERFORMANCE REPORTING METHODOLOGIES

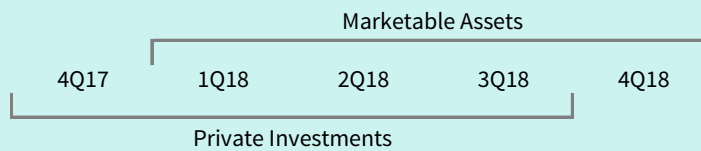
### Current Basis

Total investment pool return for 2018 includes marketable asset and private investment performance for January 1, 2018, to December 31, 2018.



### Lagged Basis

Total investment pool return for 2018 includes marketable asset performance for January 1, 2018, to December 31, 2018, and private investment performance for October 1, 2017, to September 30, 2018.



### Methodologies Used by Participants

Asset Size	Current Basis	Lagged Basis	Other	No PI Allocation
Less than \$300M	71%	2%	3%	24%
<i>n</i>	45	1	2	15
\$300M – \$1B	86%	5%	10%	0%
<i>n</i>	18	1	2	0
More than \$1B	36%	64%	0%	0%
<i>n</i>	9	16	0	0
All Institutions	66%	17%	4%	14%
<i>n</i>	72	18	4	15

Source: Foundation data as reported to Cambridge Associates LLC.

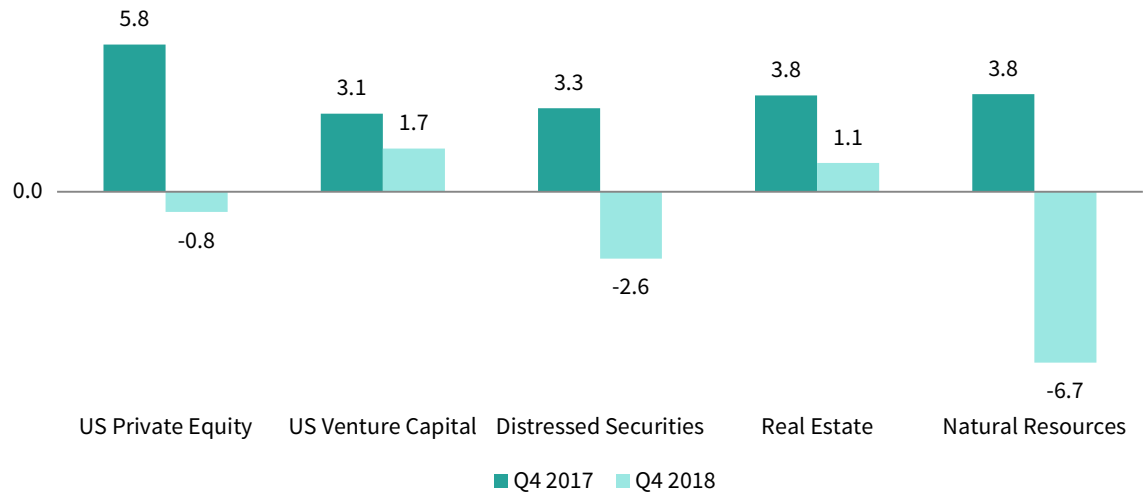
Notes: Private investments include non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, timber, private real estate, and other private investments. Institutions with no significant private investment allocations (<1% of their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

There was a stark contrast in the capital markets return environments of these two quarters, with equity markets performing much better in fourth quarter 2017 compared to fourth quarter 2018. This contrast was also present in private investment asset classes, with several categories posting returns that were much better in fourth quarter 2017 (Figure 12). The lagged reporting methodology would clearly produce a higher total portfolio return compared to the current basis for the 2018 calendar year. While the exact impact will depend on each foundation's allocation and performance across the private asset classes, the choice of methodology will most likely affect the largest foundations the most as they tend to have the highest private investment allocations.<sup>4</sup>

<sup>4</sup> The average allocation to private investments was 31.5% for foundations with assets greater than \$1 billion. For foundations with assets less than \$300 million, the average allocation to private investments was just 10.6%.



**FIGURE 12 CAMBRIDGE ASSOCIATES' PRIVATE INVESTMENT INDEX RETURNS**



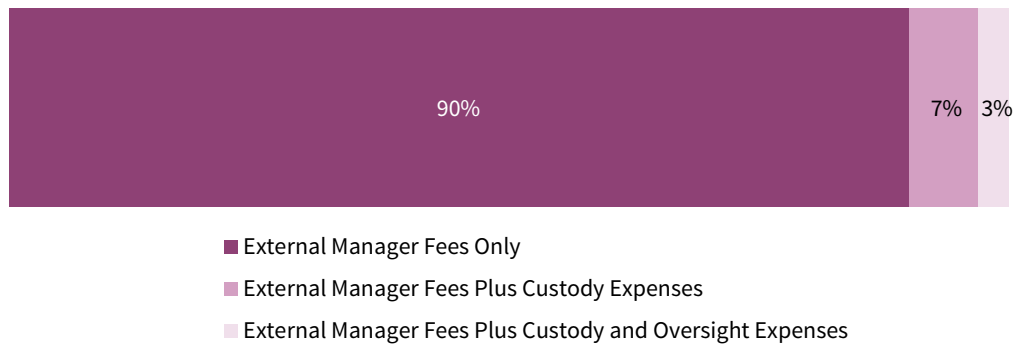
Source: Cambridge Associates LLC.

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

Another reporting issue that can impact foundation returns is the method in which net returns are calculated. All except one participant in this study provided performance on a net-of-fees basis. Of the foundations that report net of fees, the vast majority (90%) deduct solely external manager fees in their net calculation. Another 7% of foundations deduct custody expenses in addition to external manager fees. The remaining 3% of foundations deduct the aforementioned expenses types, as well as investment office oversight expenses (Figure 13).

**FIGURE 13 TYPES OF FEES DEDUCTED IN NET RETURN CALCULATION**

Calendar Year 2018 • n = 108



Source: Foundation data as reported to Cambridge Associates LLC.

Note: One foundation reports returns gross of external manager fees and is excluded from this analysis.

## LONG-TERM RETURNS

The average participant return for the five-year period ending December 31, 2018, was 4.3% (Figure 14). Results over the trailing ten-year period were better, with the average nominal return at 7.8%. The largest foundations reported the highest mean and median returns for all trailing time periods (Figure 15).

Figure 16 shows average trailing five- and ten-year returns for the last decade. The trailing five-year return through 2018 fell off sharply from the previous year, and was the lowest calculated for the participant group since 2012. In contrast, the average trailing ten-year return through 2018 was significantly higher than it was for the previous year and was the second highest reported over the last decade.

The average real after spending return for the trailing ten-year period was 1.0%. Of the 29 foundations that provided returns and spending for the last ten years, 25 (or 86%) had a real return after spending that was above 0%. These foundations earned enough to offset spending and inflation over the last decade and grow the purchasing power of their portfolios over this period.

**FIGURE 14 TOTAL RETURNS SUMMARY: TRAILING 3-, 5-, AND 10-YR**

Years Ended December 31, 2018 • Percent (%)

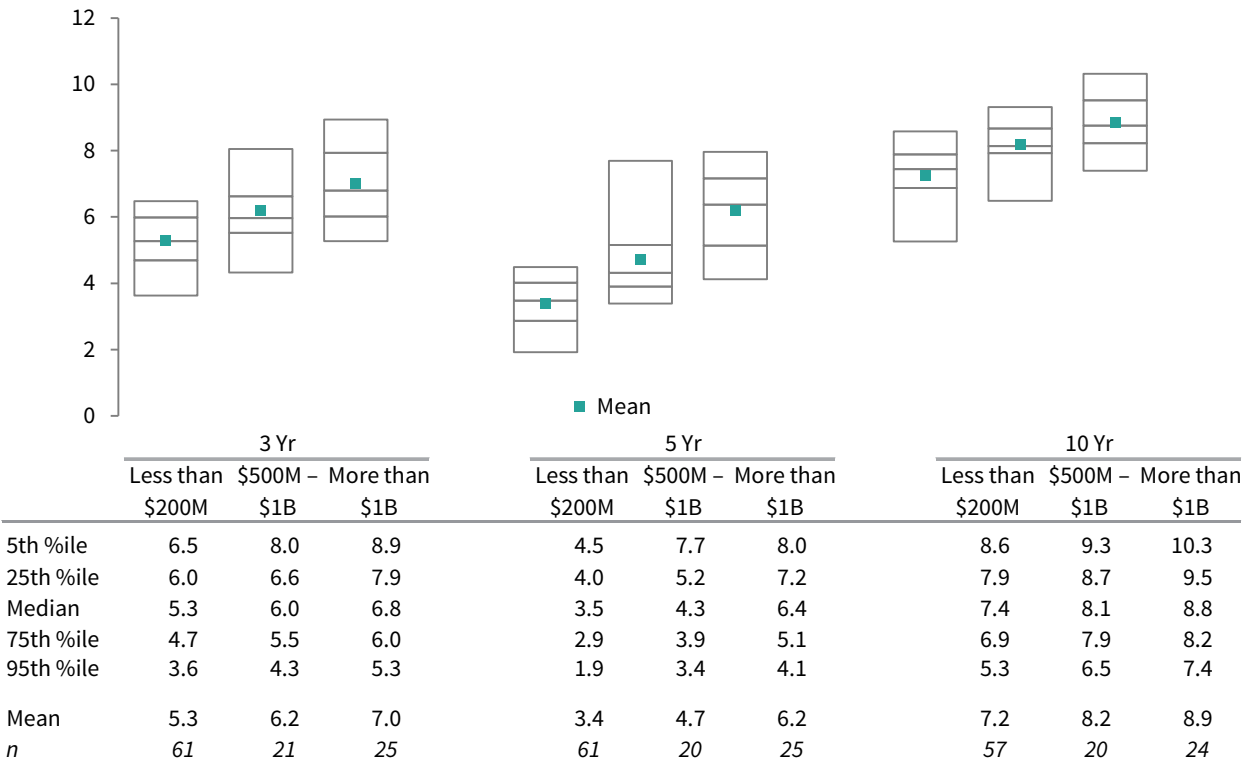
	Nominal AACRs			Real After Spending AACRs		
	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr
<b>All Foundations</b>						
5th Percentile	8.4	7.4	9.6	1.2	1.3	2.9
25th Percentile	6.3	4.8	8.6	-0.4	-0.7	2.3
Median	5.8	4.0	7.9	-1.5	-2.2	0.8
75th Percentile	5.0	3.3	7.2	-2.0	-3.2	0.4
95th Percentile	3.9	2.1	5.7	-4.0	-4.6	-1.3
Mean	5.9	4.3	7.8	-1.2	-1.9	1.0
<i>n</i>	107	106	101	55	49	29
70/30 Index	5.6	4.1	8.2			

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

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

**FIGURE 15 NOMINAL RETURN PERCENTILES BY ASSET SIZE: TRAILING 3-, 5-, AND 10-YR**

Years Ended December 31, 2018 • Percent (%)



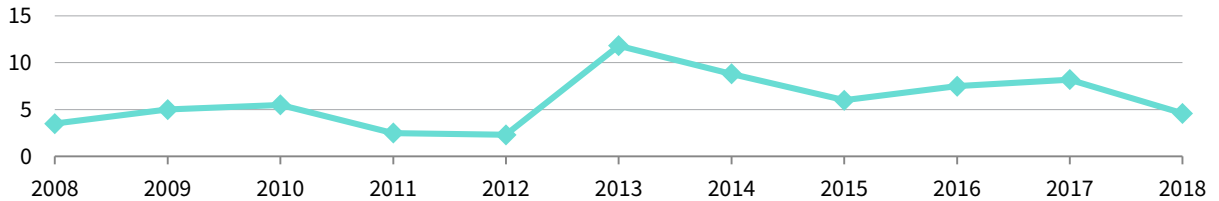
Source: Foundation data as reported to Cambridge Associates LLC.

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

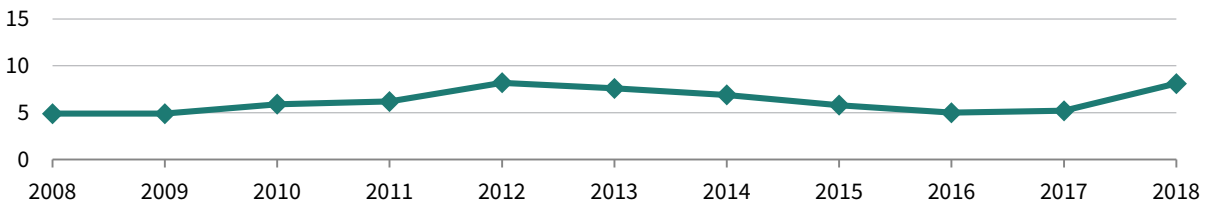
**FIGURE 16 ROLLING 5-YR AND 10-YR AVERAGE ANNUAL COMPOUND RETURNS**

Years Ended December 31 • Percent (%)

**5-Yr AACR**



**10-Yr AACR**

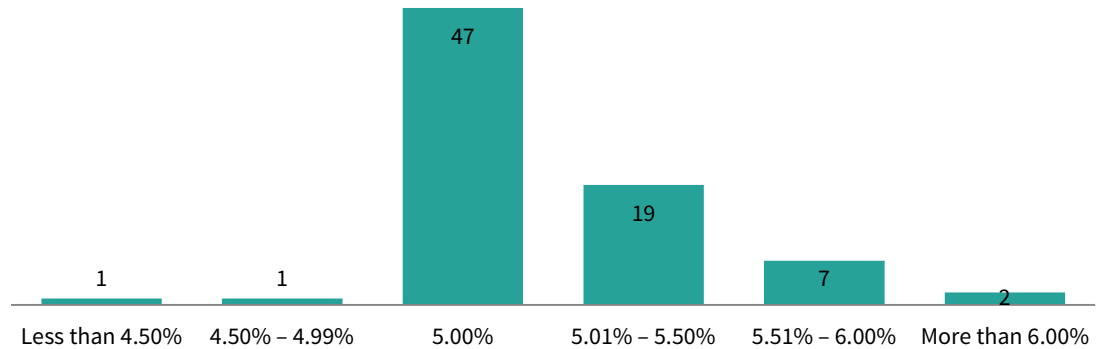


Source: Foundation data as reported to Cambridge Associates LLC.

Note: Analysis includes data for 58 institutions that provided returns for the last 20 years.

The vast majority of foundations in this study are private non-operating foundations and are required to distribute approximately 5% of their assets on an annual basis. To comply with this requirement and maintain purchasing power over time, a foundation must achieve a real return that offsets this 5% spending rate. In fact, the majority of foundations that provided a long-term real return objective (47 of 77) aim to earn 5% (Figure 17). Another 28 reporting foundations have a real return objective above 5%. Of the two foundations that reported a return objective below 5%, one was a community foundation and one was a private operating foundation.

**FIGURE 17 REAL TOTAL PORTFOLIO RETURN OBJECTIVES**



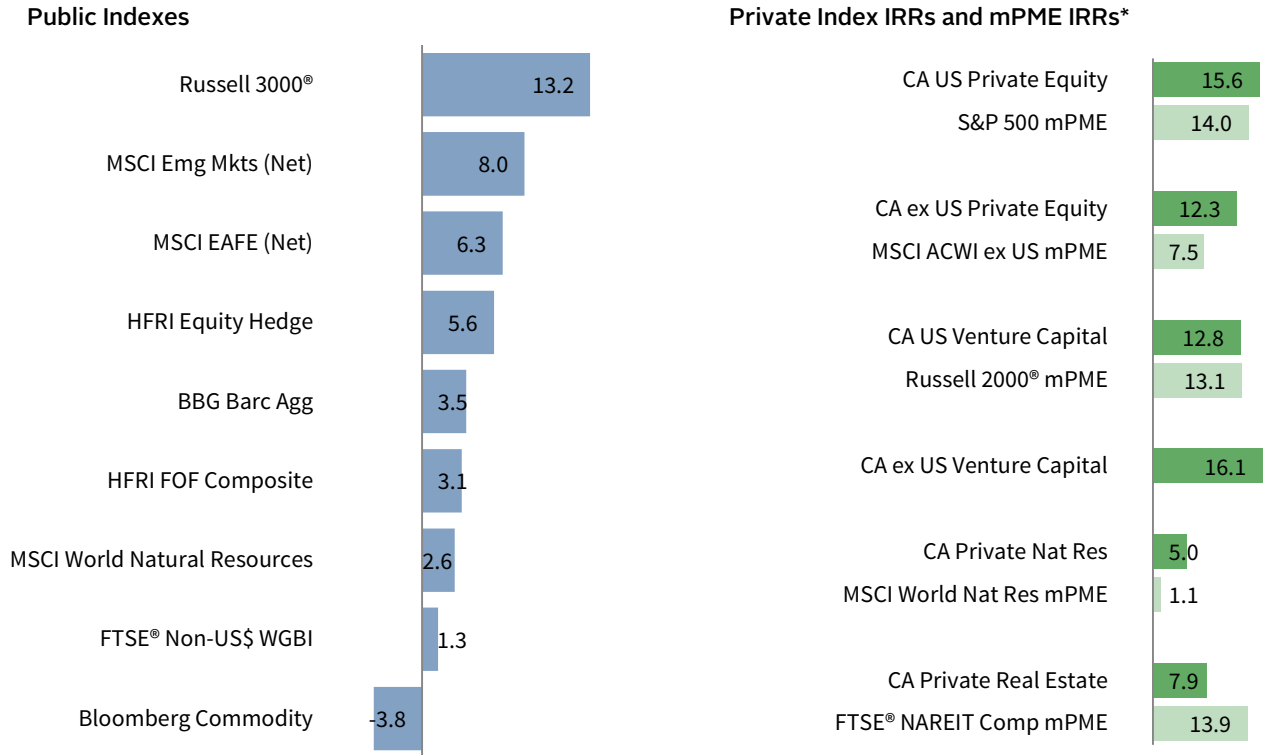
Source: Foundation data as reported to Cambridge Associates LLC.

Note: Includes data for 77 institutions that provided a real total portfolio return objective.

**TEN-YEAR ASSET ALLOCATION.** Figure 18 looks at the relationship between asset allocation and investment performance for participating foundations over the last ten years. The indexes for US equity, non-venture private equity, and venture capital have been among the best-performing asset class benchmarks for this past decade. As one would expect given the market backdrop, foundations that were in the top quartile for the trailing ten-year period had the highest average allocations to US equity and PE/VC. The greatest dispersion in asset allocations over the last decade was within bonds, where the top quartile’s allocation averaged 10.0%, while the bottom quartile averaged 16.5%.

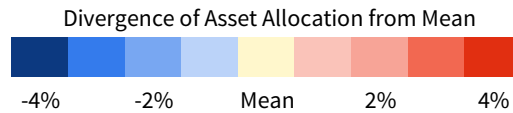
**FIGURE 18 10-YR INDEX RETURNS AND ASSET ALLOCATION OF TOP AND BOTTOM PERFORMERS**

As of December 31, 2018 • Percent (%)



**Mean Foundation Asset Allocation by Performance Quartile: December 31, 2008 to December 31, 2018**

Quartile	US Equity	DM ex US Eqty	EM Equity	Bonds	Hedge Funds	Dist Sec	PE/VC	Priv RA	Pub RA & ILBs	Cash	Other
Top Quartile	23.2	13.2	8.0	10.0	16.5	3.0	11.1	6.5	3.6	4.7	0.2
2nd Quartile	20.4	15.3	7.1	11.3	17.2	3.2	9.9	5.3	6.8	3.2	0.3
3rd Quartile	19.1	14.2	6.9	12.5	18.9	4.2	9.3	5.0	5.4	4.5	0.1
Bottom Quartile	20.9	15.7	6.5	16.5	17.2	2.3	5.5	3.4	6.0	5.3	0.8
All Fdn Mean	20.9	14.6	7.1	12.6	17.4	3.2	8.9	5.0	5.4	4.4	0.4



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

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

Note: Analysis includes data for 66 institutions.

**ATTRIBUTION.** The attribution model further illustrates the impact of different asset allocation structures on the trailing ten-year return. The average asset allocation return over this period for the top quartile of performers (7.9%) was 130 bps higher than the average for the bottom quartile of performers (Figure 19). In addition, the top quartile’s average implementation return (1.2%) was 130 bps than that of the bottom quartile. The ranges of actual asset class returns across the entire participant group for the trailing five- and ten-year periods are listed in Figures 20 and 21.

**FIGURE 19 10-YR ATTRIBUTION ANALYSIS BY PERFORMANCE QUARTILE**

As of December 31, 2018 • Percent (%)



Sources: Foundation data as reported to Cambridge Associates LLC. Index data provided by Bloomberg Index Services Limited, BofA Merrill Lynch, Cambridge Associates LLC, Frank Russell Company, FTSE Fixed Income LLC, FTSE International Limited, Hedge Fund Research, Inc., J.P. Morgan Securities, Inc., MSCI Inc., National Association of Real Estate Investment Trusts, and the National Council of Real Estate Investment Fiduciaries. MSCI data provided “as is” without any express or implied warranties.

Notes: Includes data for 66 institutions that provided beginning year asset allocation for each of the last ten years. To be consistent with the methodology in which private investment returns are incorporated into the total portfolio composite calculation, private investment benchmark returns are linked quarterly end-to-end returns. This model assumes that flows to and from investment managers take place on the last day of the fiscal year. In addition, the analysis uses a standard set of asset class benchmarks that may be more or less representative of the asset allocation policy across different institutions. Therefore, the portion of returns from other factors may also include some residual/unattributable asset allocation effects.

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

Trailing 5- and 10-Yr • As of December 31, 2018

	Public Equity <sup>1</sup>	Global Equity <sup>2</sup>	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Public Real Assets <sup>3</sup>	Commodities and Natural Resources	Public Real Estate
<b>Trailing 5-Yr</b>										
5th Percentile	6.5	8.2	9.3	4.8	5.5	4.2	4.2	2.0	0.6	12.3
25th Percentile	5.4	6.1	8.5	2.7	2.7	2.5	2.9	-2.7	-4.0	9.8
Median	4.6	4.6	7.7	2.0	1.6	2.0	1.7	-4.8	-6.4	8.1
75th Percentile	4.0	3.8	6.6	1.3	1.1	1.6	1.0	-7.9	-8.6	5.4
95th Percentile	3.2	2.5	4.3	0.3	0.3	0.7	-0.4	-11.0	-11.4	3.3
Mean	4.7	5.0	7.4	2.1	2.2	2.2	1.9	-4.8	-6.0	7.7
<i>n</i>	89	37	87	82	77	87	80	59	57	10
<b>Trailing 10-Yr</b>										
5th Percentile	12.1	13.5	14.9	9.6	11.1	6.1	8.4	6.1	3.8	12.0
25th Percentile	10.9	12.2	14.1	8.4	9.7	4.6	6.9	3.4	2.7	11.7
Median	10.2	11.7	13.1	7.5	8.5	3.9	5.6	2.2	1.0	10.8
75th Percentile	9.4	10.3	12.3	6.9	7.7	3.1	5.0	0.0	-0.2	10.0
95th Percentile	8.4	9.9	9.5	5.6	6.8	2.1	3.0	-1.9	-2.7	8.0
Mean	10.2	11.5	12.8	7.6	8.8	4.0	5.6	1.9	1.2	10.5
<i>n</i>	83	16	79	72	61	76	73	45	41	6

Source: Foundation data as reported to Cambridge Associates LLC.

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

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

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

## FIGURE 21 DISPERSION OF PARTICIPANTS' ASSET CLASS RETURNS: PRIVATE INVESTMENTS

Trailing 5- and 10-Yr • As of December 31, 2018

	Total Private Equity <sup>1</sup>	Non-Venture Private Equity <sup>2</sup>	Venture Capital	Total Private Real Assets <sup>3</sup>	Private Real Estate	Private Natural Resources
<b>Trailing 5-Yr</b>						
5th Percentile	23.9	32.3	22.4	14.4	17.1	7.7
25th Percentile	17.1	15.4	17.6	8.4	13.1	4.2
Median	13.9	12.9	15.4	4.8	10.9	1.0
75th Percentile	11.0	10.8	10.4	2.6	8.7	-2.5
95th Percentile	4.9	5.6	-7.0	0.5	-1.6	-7.6
Mean	15.3	14.9	12.5	5.8	10.0	1.4
<i>n</i>	62	71	54	55	57	52
<b>Trailing 10-Yr</b>						
5th Percentile	16.5	16.9	19.3	8.4	10.6	11.1
25th Percentile	12.1	12.6	14.8	5.7	5.4	5.8
Median	10.1	9.4	12.2	3.3	2.3	3.4
75th Percentile	7.4	7.7	8.3	1.9	0.0	1.9
95th Percentile	5.2	5.4	-6.0	-1.0	-4.6	1.1
Mean	10.0	9.9	10.6	3.3	2.6	4.5
<i>n</i>	51	60	45	46	46	46

Source: Foundation data as reported to Cambridge Associates LLC.

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

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

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

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

## POLICY PORTFOLIO BENCHMARKS

**RELATIVE RETURNS.** 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. Performance results of peers can be informative, but they are not necessarily the most effective benchmark to evaluate an institution’s investment performance. Despite the mandatory spending floor imposed by the government on private foundations, differing objectives on how much to spend, as well as varied risk tolerances can lead to different investment policies among foundations. In fact, the level of dispersion in the policy portfolio benchmark returns of participating foundations is similar to the dispersion in actual portfolio returns.<sup>5</sup>

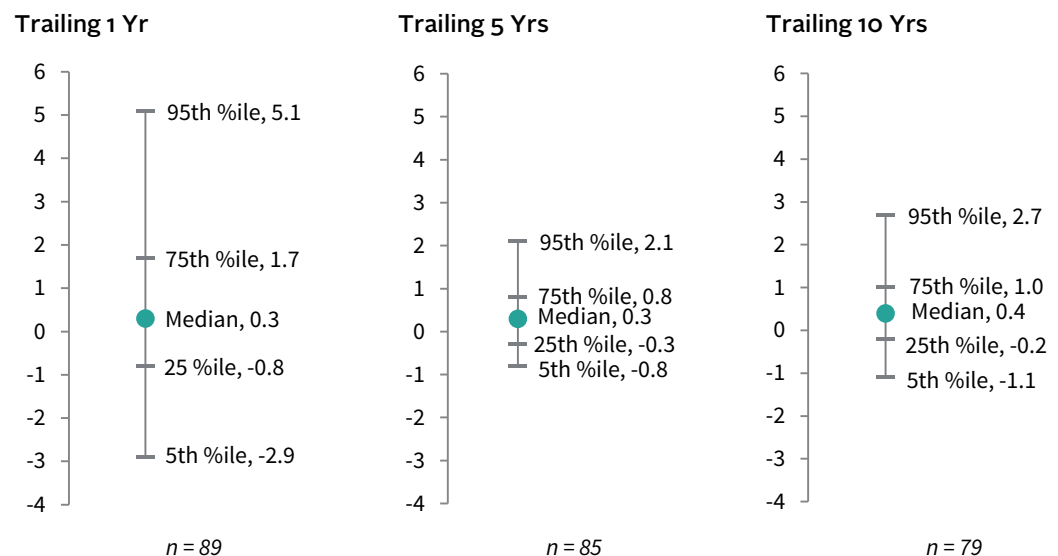
The policy benchmark is a blend of indexes that represent the desired portfolio risk exposures without any expression of more active alternatives. In certain asset classes, such as hedge funds and private investments, there are often no investable proxies and other types of benchmarks are used. Measuring performance relative to the policy benchmark captures the impact not only of active decisions, but also that of portfolio tilts away from the target asset allocation policy. The comparison of a foundation’s return to its policy portfolio benchmark is a better measure than peer performance comparisons for determining whether a portfolio is being successfully managed against its target investment policy.

The median differential between the actual portfolio return and the policy portfolio benchmark return was 30 bps in 2018, meaning a majority of foundations outperformed their benchmark. The median difference was the same for the trailing five-year period and slightly higher (40 bps) for the trailing ten-year period (Figure 22).

5 For the trailing ten-year period, the range of policy portfolio benchmark returns from the 5th percentile to the 95th percentile was 360 bps. The range of actual portfolio returns for the same period was just slightly wider at 390 bps.

**FIGURE 22 RANGE OF OUT/UNDERPERFORMANCE OF TOTAL RETURN VERSUS POLICY PORTFOLIO BENCHMARK**

As of December 31, 2018 • Percentage Points (ppts)



Source: Foundation data as reported to Cambridge Associates LLC.

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



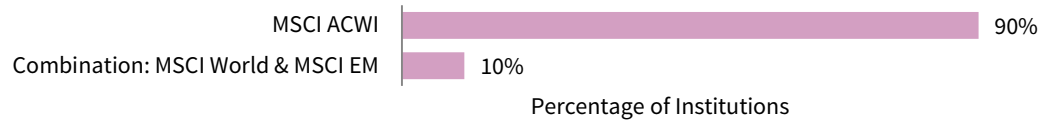
**POLICY PORTFOLIO BENCHMARK COMPONENTS.** Nearly 90% of the respondents (87 of 97) that provided a policy portfolio benchmark use a detailed, asset class-specific benchmark to evaluate the performance of the total portfolio. The other 10 foundations that provided data use a simple benchmark, which typically incorporates a broad-based equity market index and a bond index weighted in proportion to the overall risk profile of the portfolio. The analysis that follows includes only the data of the respondents that use a detailed policy portfolio benchmark.

The components of a detailed policy benchmark should align with the asset classes or categories stated in the portfolio’s asset allocation policy. Since policy allocations can be set at varying levels of granularity, approaches to benchmarking vary among institutions. One area where this is noticeable is in the benchmarking of public equities, where 41 respondents use a global benchmark for their entire allocation while a slightly higher number of foundations (45) use separate geographic indexes (Figure 23). For institutions that use a global index for their entire public equity allocation, the MSCI ACWI Index was by far the most common index cited.

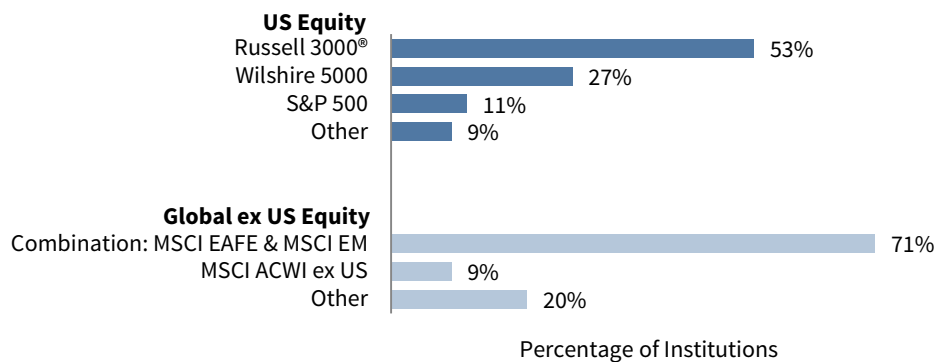
**FIGURE 23 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: PUBLIC AND PRIVATE EQUITY**

As of December 31, 2018

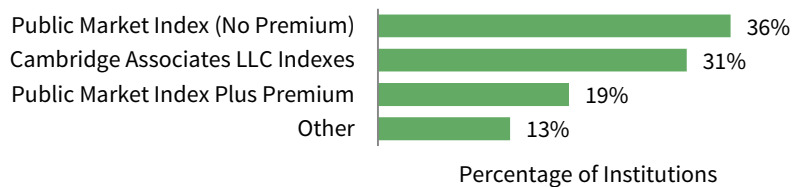
**Global Index for the Entire Public Equity Allocation (n = 41)**



**Separate Geographic Indexes for the Public Equity Allocation (n = 45)**



**Private Equity Indexes (n = 67)**



Source: Foundation data as reported to Cambridge Associates LLC.

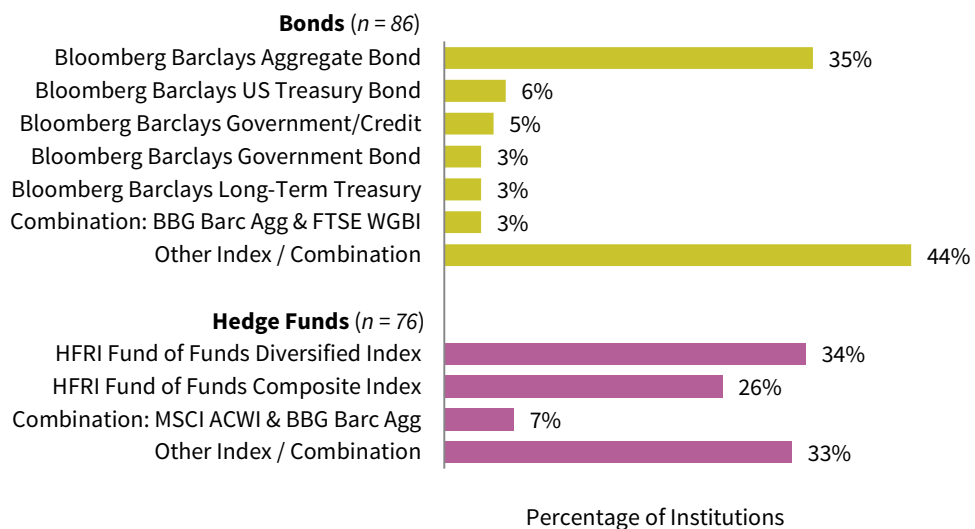
Among the foundations that use separate public equity indexes based on geographic orientation, the Russell 3000® Index was cited by 53% for US equity. There was more uniformity within global ex US equities, where 71% of respondents used a blend of the MSCI EAFE and MSCI Emerging Markets indexes. This approach is appropriate for institutions that have separate targets to global ex US developed and emerging markets, particularly if the targets are out of proportion to the weightings of the MSCI ACWI ex US Index.

The use of a public index(es) is the most common practice for benchmarking private equity in the policy portfolio benchmark, as 36% of respondents use the actual public index return. While another 19% add a prespecified percentage or premium to the public index return, the proportion of the peer group incorporating a premium has dropped significantly in recent years. The MSCI ACWI was the most common benchmark cited by those that use a public index for private equity.

The use of solely the Bloomberg Barclays Aggregate Bond Index was the most common benchmarking approach for bonds and was reported by 35% of foundations (Figure 24). However, many foundations use unique index combinations to better reflect their underlying bond exposure. Benchmarks should depend on whether allocations are made domestically or globally, as well as the type of issuer (sovereign versus corporate or both). Some foundations also used indexes that only include bonds of a certain range of maturities. In hedge fund, most respondents use an HFRI® index for hedge funds with the Fund-of-Funds Diversified Index being the most common. For real assets, benchmark combinations are unique across most participants due to the wide variety of strategies under this category.

**FIGURE 24 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: BONDS AND HEDGE FUNDS**

As of December 31, 2018



Source: Foundation data as reported to Cambridge Associates LLC.

## RISK-ADJUSTED PERFORMANCE

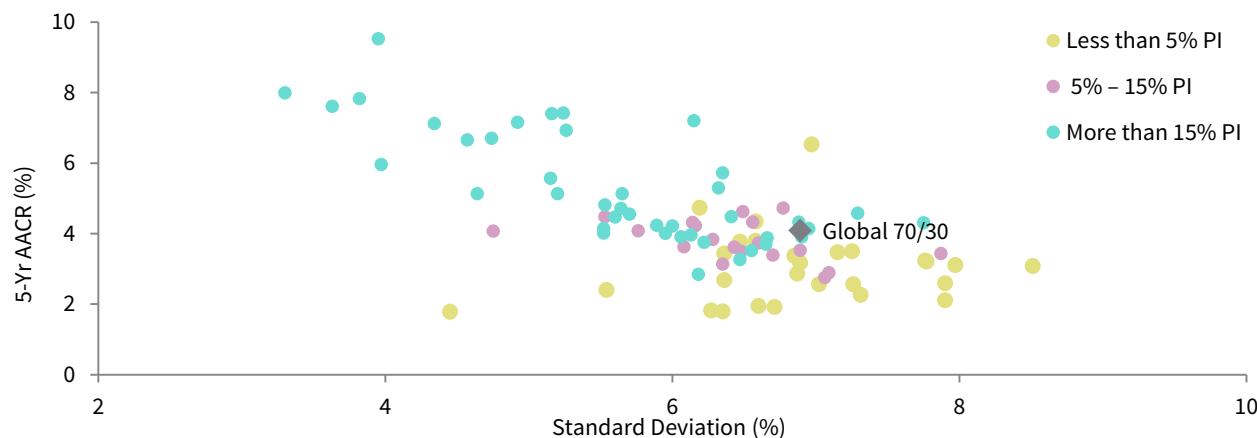
Risk-adjusted performance is important to evaluate, as it measures the total return relative to the total amount of risk taken by the portfolio. The most common approach to measuring risk-adjusted performance is by the Sharpe ratio, which shows how much return above the risk-free rate (T-bills) the investor has earned per unit of risk (defined as the standard deviation of returns). The higher the Sharpe ratio, the more the investor has been compensated for each unit of risk taken.

Risk-adjusted performance comparisons can be complicated when portfolios have significant allocations to private investments. The frequency and timing of private investment valuations can artificially dampen the standard deviation for the returns of these assets. Thus, a portfolio with high allocations to private investments can yield a lower volatility statistic that does not fully represent the amount of risk it has actually taken. For this reason, we have split foundations out into subcategories in Figure 25 based on their allocations to private investments.

Institutions that had an allocation of 15% or more to private investments over the last five years reported an average Sharpe ratio of 0.91, significantly higher than that of the other subgroups with smaller private allocations. Although the magnitude of the differences in average Sharpe ratios is partly a function of this group's higher average five-year return, it is also attributable to its lower average standard deviation.

**FIGURE 25 STANDARD DEVIATION AND SHARPE RATIO**

5 Yrs Ended December 31, 2018



	All Foundation	Mean by PI Allocation			70/30 Global
	Mean	Less than 5%	5% -15%	More than 15%	Benchmark
5-Yr AACR	4.3	3.0	3.8	5.3	4.1
Standard Deviation	6.2	6.9	6.4	5.6	6.9
Sharpe Ratio	0.66	0.38	0.53	0.91	0.53
<i>n</i>	88	27	19	42	

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

Notes: Analysis includes only institutions that provided underlying quarterly returns and asset allocation for the last five years. Each institution's private investment allocation represents the mean for the six December 31 periods from 2013 to 2018. The composed of 70% MSCI ACWI Index/30% Bloomberg Barclays Aggregate Bond Index.

## Portfolio Asset Allocation

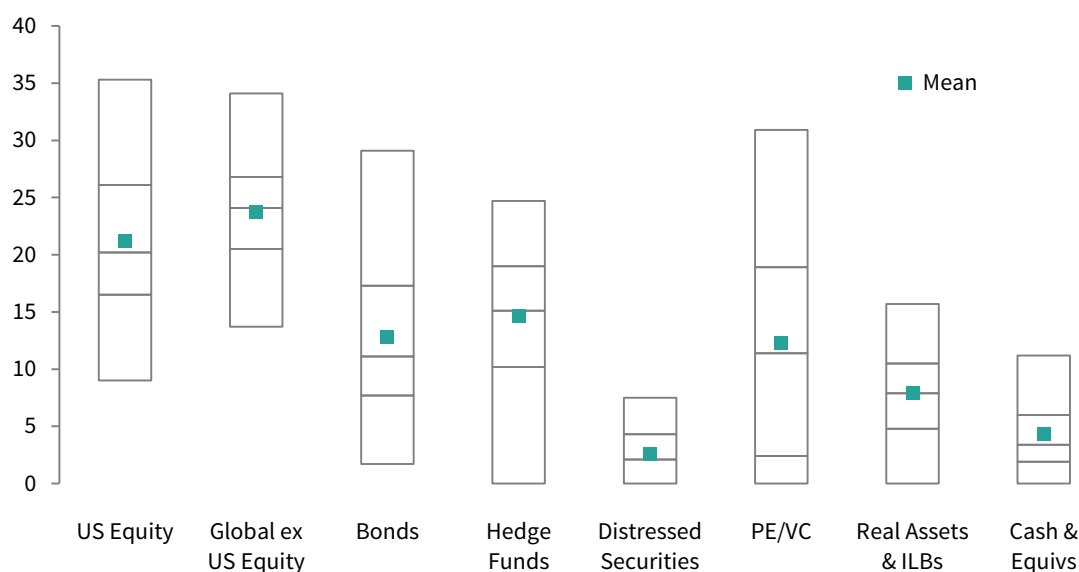
### 2018 ASSET ALLOCATION

Nearly 45% of the average long-term investment portfolio (LTIP) consisted of public equities at December 31, 2018. On average, allocations to global ex US equities (23.7%) were higher than those to US equities (21.2%). Portfolios had significant exposure to alternative assets, with 14.6% allocated to hedge funds and 12.3% allocated to PE/VC, on average. Another 2.6% was allocated, on average, to distressed securities, which are invested through either a hedge fund or private equity-type investment vehicle. Real assets, which consist of a diversified group of public and private assets, made up 7.9% of portfolios, on average. Average allocations to bonds and cash were 12.8% and 4.3%, respectively (Figure 26).

As Figure 27 shows, allocations to these broad asset classes vary considerably. A key factor in the variation of asset allocations continues to be the total value of assets under management. Portfolios with the smallest asset sizes continue to maintain higher allocations to public equities and bonds, while larger foundations have the highest allocations to private investments. Also displayed is a more granular view of allocations within each broad asset class.

**FIGURE 26 ASSET ALLOCATION DISTRIBUTION BY ASSET CLASS**

As of December 31, 2018 • Percent (%) • n = 109



	US Equity	Global ex US Equity	Bonds	Hedge Funds	Distressed Securities	PE/VC	Real Assets & ILBs	Cash & Equivs
5th Percentile	35.3	34.1	29.1	24.7	7.5	30.9	15.7	11.2
25th Percentile	26.1	26.8	17.3	19.0	4.3	18.9	10.5	6.0
Median	20.2	24.1	11.1	15.1	2.1	11.4	7.9	3.4
75th Percentile	16.5	20.5	7.7	10.2	0.0	2.4	4.8	1.9
95th Percentile	9.0	13.7	1.7	0.0	0.0	0.0	0.0	0.0
Mean	21.2	23.7	12.8	14.6	2.6	12.3	7.9	4.3

Source: Foundation data as reported to Cambridge Associates LLC.

**FIGURE 27 MEAN ASSET ALLOCATION BY ASSET SIZE AND INSTITUTION TYPE**

As of December 31, 2018 • Percent (%)

	Asset Size			
	All Foundations (n = 109)	Less than \$300M (n = 63)	\$300M – \$1B (n = 21)	More than \$1B (n = 25)
<b>US Equity</b>	<b>21.2</b>	<b>23.8</b>	<b>18.7</b>	<b>17.0</b>
<b>Global ex US Equity</b>	<b>23.7</b>	<b>26.1</b>	<b>22.0</b>	<b>19.0</b>
Developed Markets	15.6	17.9	13.9	11.4
Emerging Markets	8.1	8.2	8.1	7.6
<b>Bonds</b>	<b>12.8</b>	<b>15.8</b>	<b>9.6</b>	<b>7.8</b>
US Bonds	11.4	14.1	8.9	6.7
Global ex US Bonds (DM)	0.3	0.4	0.2	0.3
Global ex US Bonds (EM)	0.4	0.5	0.1	0.2
High-Yield Bonds	0.7	0.8	0.4	0.7
<b>Hedge Funds</b>	<b>14.6</b>	<b>14.0</b>	<b>14.5</b>	<b>16.4</b>
Long/Short Hedge Funds	4.8	4.2	5.4	6.0
Absolute Return (ex Distressed)	9.8	9.8	9.1	10.4
<b>Distressed Securities</b>	<b>2.6</b>	<b>2.1</b>	<b>3.1</b>	<b>3.4</b>
Hedge Fund Structure	1.2	1.1	1.2	1.5
Private Equity Structure	1.3	1.0	1.9	1.9
<b>PE &amp; VC</b>	<b>12.3</b>	<b>7.1</b>	<b>17.3</b>	<b>21.3</b>
Non-Venture Private Equity	4.6	2.2	6.8	9.1
Venture Capital	6.2	2.8	9.7	11.8
Other Private Investments	1.5	2.1	0.8	0.5
<b>Real Assets &amp; Infl-Linked Bonds</b>	<b>7.9</b>	<b>6.4</b>	<b>9.5</b>	<b>10.2</b>
Private Real Estate	1.9	1.1	2.5	3.6
Public Real Estate	0.4	0.3	0.8	0.3
Commodities	0.6	0.7	0.5	0.5
Public Energy/Nat Resources	2.0	2.5	1.7	0.7
Private O&G/Nat Resources	2.6	1.5	3.4	4.6
Timber	0.1	0.1	0.1	0.1
Infl-Linked Bonds	0.4	0.3	0.7	0.3
<b>Cash &amp; Equivalents</b>	<b>4.3</b>	<b>3.9</b>	<b>4.8</b>	<b>4.6</b>
<b>Other</b>	<b>0.6</b>	<b>0.9</b>	<b>0.5</b>	<b>0.3</b>

Source: Foundation data as reported to Cambridge Associates LLC.

### HISTORICAL ASSET ALLOCATION

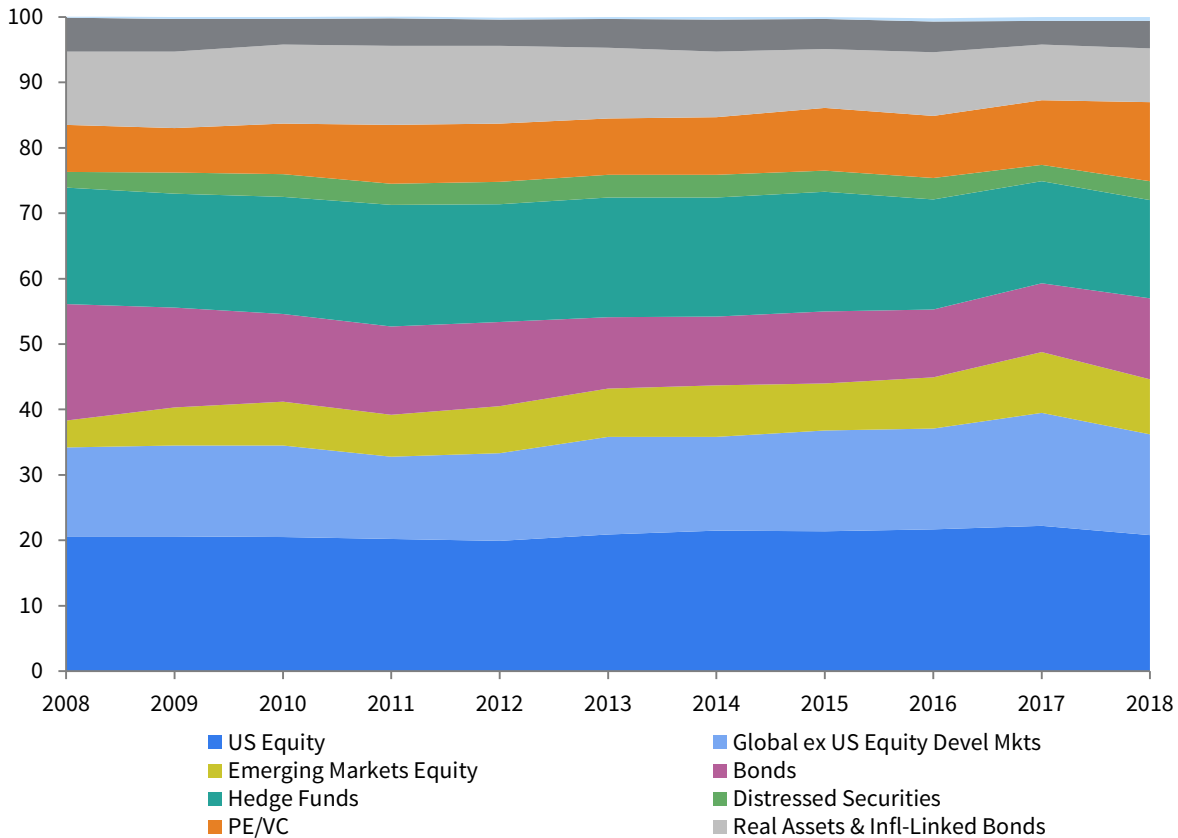
Institutional investors that have adopted the endowment model of investing have seen significant shifts in their asset allocation policies over the last few decades. Exposure to bonds has decreased while the larger equity allocation has become more diversified. The largest endowments pioneered this transition in the 1980s, with the trend spreading among other institutions in the 1990s and then accelerating throughout much of the first decade of the new millennium. By the time that the GFC occurred, many foundations in this study had already built highly diversified portfolios. While there were some meaningful shifts in asset allocations over the last ten years, the changes have been less drastic than what occurred in prior decades.

Figure 28 shows the trend in average asset allocation for the group of foundations that have participated in the study in each of the last ten years. Over this decade, the largest increases in average allocations have been to PE/VC (4.9 pts) and emerging

markets equity (4.3 ppts). Foundations with assets between \$300 million and \$1 billion reported the largest increase to PE/VC, while the smallest foundations reported the largest increase to emerging markets equities (Figure 29). The largest decrease was in bonds, which fell by an average of 5.4 ppts over the last decade. Institutions of all asset sizes reported substantial decreases to this category.

**FIGURE 28 HISTORICAL MEAN ASSET ALLOCATION TRENDS**

Years Ended December 31 • Percent (%)



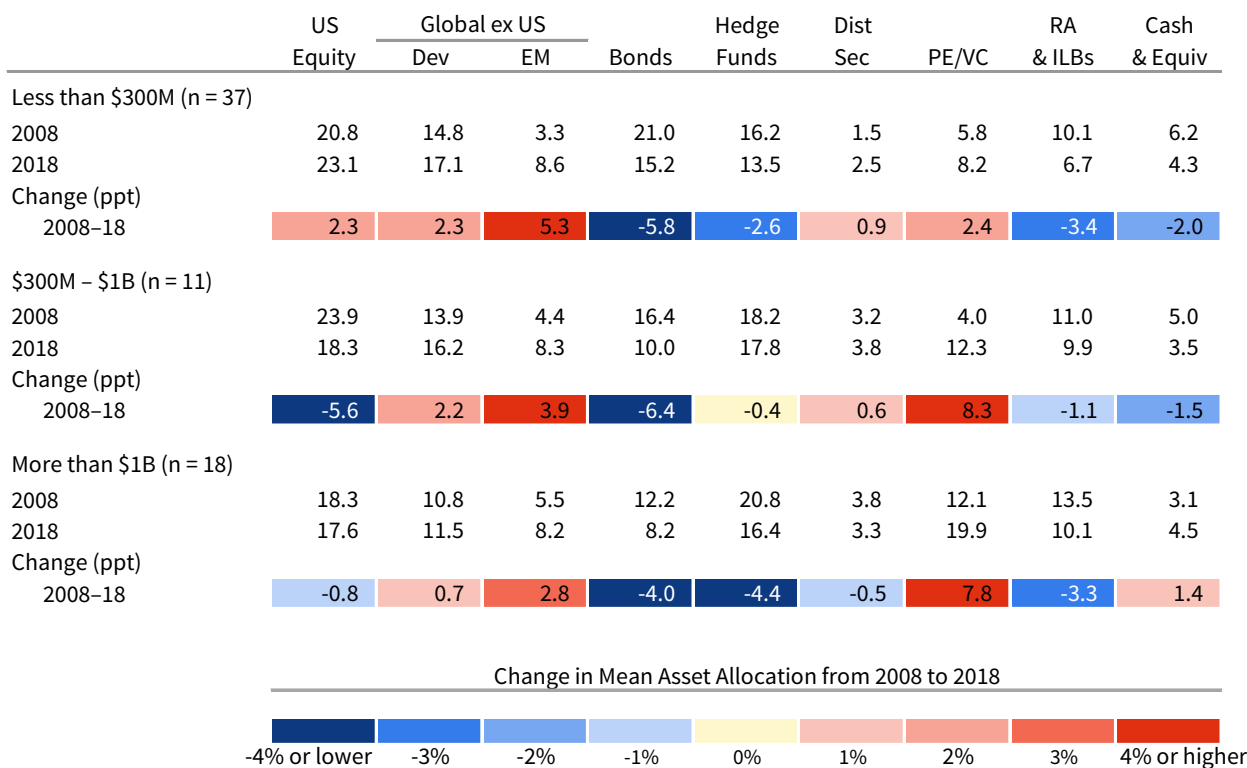
	Constant Universe										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
US Equity	20.6	20.6	20.5	20.2	19.9	20.9	21.5	21.4	21.7	22.2	20.8
Global ex US Equity Devel Mkts	13.6	13.9	14.0	12.6	13.4	14.9	14.3	15.4	15.4	17.3	15.4
Emerging Markets Equity	4.1	5.8	6.7	6.4	7.2	7.4	7.9	7.2	7.8	9.3	8.4
Bonds	17.8	15.3	13.4	13.5	12.9	10.9	10.5	11.0	10.4	10.5	12.4
Hedge Funds	17.8	17.4	17.9	18.6	18.0	18.3	18.2	18.3	16.8	15.6	15.0
Distressed Securities	2.4	3.2	3.5	3.2	3.4	3.5	3.5	3.2	3.3	2.5	2.9
PE/VC	7.2	6.8	7.7	9.0	8.9	8.6	8.8	9.6	9.5	9.9	12.1
Real Assets & Infl-Linked Bonds	11.2	11.7	12.1	12.1	11.9	10.8	10.0	9.0	9.7	8.5	8.2
Cash & Equivalents	5.2	5.0	3.9	4.2	4.0	4.4	4.9	4.6	4.7	3.6	4.2
Other	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.5	0.6	0.6

Source: Foundation data as reported to Cambridge Associates LLC.

Note: Constant universe represents 66 institutions that provided asset allocation data for each year from 2008 to 2018.

**FIGURE 29 TRENDS IN ASSET ALLOCATION BY ASSET SIZE**

Means as of December 31 • Percent (%)



Source: Foundation data as reported to Cambridge Associates LLC.

Note: Asset sizes are based on December 31, 2018, data.

### TARGET ASSET ALLOCATION

Though long-term asset allocation trends clearly show how investment policies have evolved over time, one-year changes in actual allocations can be influenced by factors such as asset returns and rebalancing flows. Using shorter-term asset allocation data can be misleading in determining whether institutions are altering their long-term asset allocation policies. For instance, from 2017 to 2018 the average allocation to global ex US developed equities declined by 1.9 ppts. Yet, the average target allocation to this category decreased by just 0.2 ppts over the same period. It was the poor performance of the asset class that was most responsible for the change in this category's average allocation year-over-year.

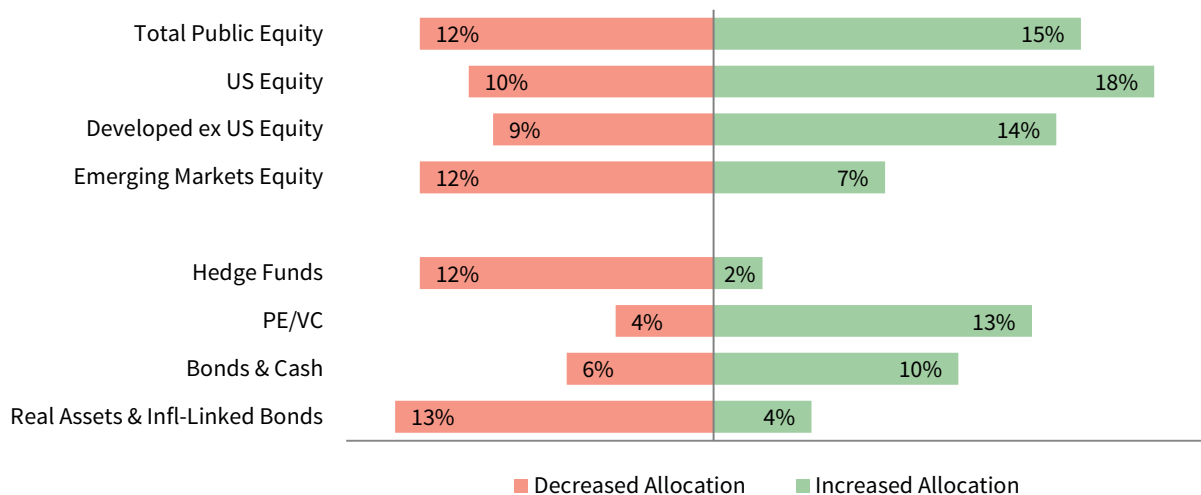
Target allocation data is more insightful in revealing how institutions have adjusted their long-term asset allocation policies over the last year. Most survey participants (102 of 109) provided target asset allocation data for 2018. Institutions construct their target asset allocation mix under different frameworks. Of the 102 foundations that provided target asset allocation data, 86% reported data using the traditional asset allocation-centered structure. The remaining foundations reported data using other frameworks, including role-in-portfolio. Under the role-in-portfolio framework, targets are set to broad categories based on the roles that certain investments are expected to play in the portfolio (e.g., growth, deflation-hedging, diversifier).

Our trend analysis on this topic focuses on foundations that reported under the traditional asset allocation–centered framework. Just over one-third of foundations (34%) made a change to their policy targets in 2018. Foundations with assets between \$300 million and \$1 billion were most likely to make changes to their policy targets (44%).

Figure 30 shows the percentage of foundations that are increasing or decreasing target allocations to the broad asset class categories. Approximately 15% of participants raised targets to total public equity while a slightly smaller percentage (12%) lowered their target. For PE/VC, 13% of respondents increased their target allocations, while just 4% reported a decrease. Meanwhile, as in the last few years, the proportion of foundations lowering targets to hedge funds and real assets is considerably higher than the proportion that reported increases. Figure 31 shows detailed data by asset size.

**FIGURE 30 CHANGES IN TARGET ASSET ALLOCATION**

December 31, 2017 – December 31, 2018 • Percentage of Foundations Increasing or Decreasing Targets



Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Figure represents data for 82 foundations that provided target asset allocation data for 2017 and 2018. Only foundations that provided targets by geographic region are included in the statistics for US equity, global ex US equity, and emerging markets equity. Total public equity is a composite of global equity and the aforementioned geographic regions. Real assets includes targets to both public and private assets.



**FIGURE 31 CHANGES IN TARGET ASSET ALLOCATION BY ASSET SIZE**

December 31, 2017 – December 31, 2018

	Total Equity	US Equity	DM ex US Equity	EM Equity	Hedge Funds	PE/VC	Bonds & Cash	RA & ILBs	Other
<b>Less than \$300M (n = 51)</b>									
Mean Target AA (%)									
2017	48.4	23.6	17.9	7.6	16.8	7.9	16.3	8.6	2.0
2018	49.1	24.8	18.3	7.0	15.8	8.3	16.9	8.2	1.7
% of Inst. Making Changes to Targets									
Increased	16	19	16	0	2	14	12	2	0
Decreased	10	10	8	13	14	2	2	14	4
<b>\$300M – \$1B (n = 16)</b>									
Mean Target AA (%)									
2017	45.2	21.4	14.7	7.7	15.1	17.2	12.6	9.5	0.5
2018	46.3	21.5	15.1	7.7	14.8	18.5	12.3	8.0	0.2
% of Inst. Making Changes to Targets									
Increased	25	9	20	20	6	13	6	6	0
Decreased	13	9	0	10	13	6	13	13	6
<b>More than \$1B (n = 15)</b>									
Mean Target AA (%)									
2017	37.5	17.2	12.5	7.0	19.6	16.3	11.3	12.2	3.1
2018	37.1	17.2	12.1	6.9	19.4	16.4	11.7	12.0	3.4
% of Inst. Making Changes to Targets									
Increased	0	22	0	11	0	13	7	7	13
Decreased	20	11	25	11	7	7	13	13	0

Source: Foundation data as reported to Cambridge Associates LLC.

**PRIVATE INVESTMENTS AND UNCALLED CAPITAL COMMITMENTS**

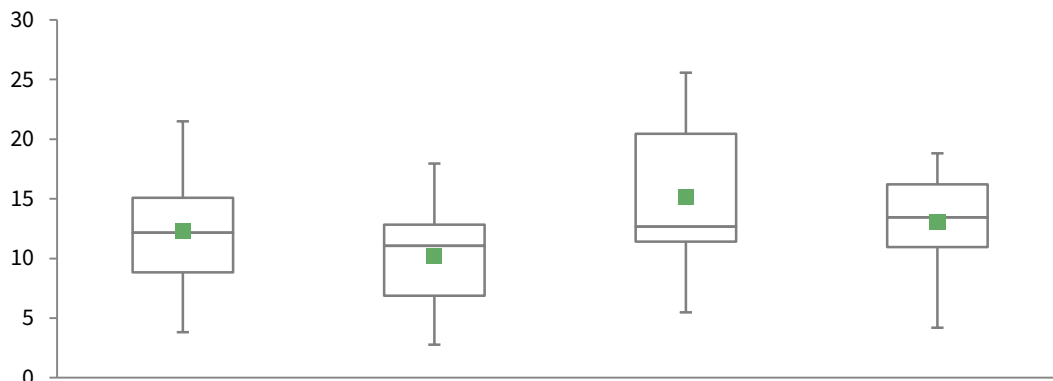
One of the core principles of the endowment model is the use of private investments that, in part due to their illiquid nature, offer the potential for higher long-term returns than those of public equities. Investors should be mindful of the liquidity implications of investing in and funding a private investments program. Uncalled capital represents amounts that have been committed to be paid into private investment funds in the future. Although annual spending distributions usually represent the biggest liquidity need of a portfolio, institutions with private investment programs must also consider the potential impact of uncalled capital commitments.

For participants with private investment programs, the median ratio of uncalled capital commitments-to-LTIP market value was 12.2% at the end of 2018 (Figure 32). Foundations with assets greater than \$1 billion had the highest median ratio (13.4%), although the other asset size groups did not lag far behind. After excluding hedge funds and private investments, the median ratio among all foundations of uncalled capital-to-liquid assets was 19.1%. There was a wide range of ratios reported across foundations, but those with the largest asset sizes again reported the highest median (27.5%).

## FIGURE 32 UNCALLED CAPITAL COMMITTED TO PRIVATE INVESTMENT FUNDS

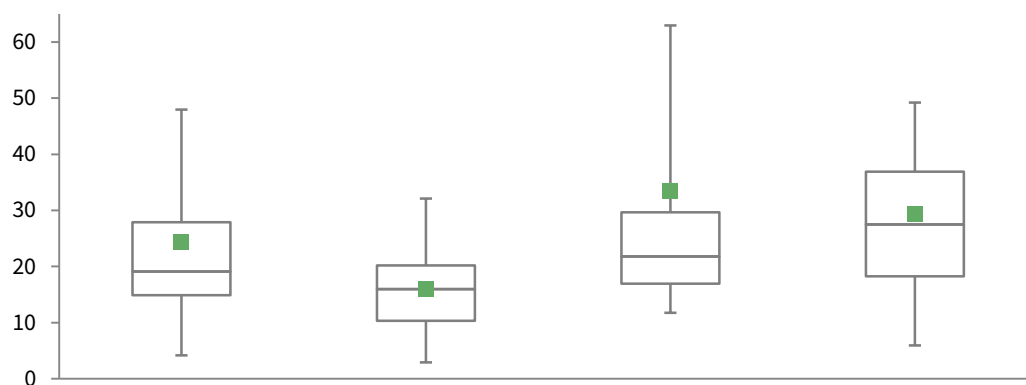
As of December 31, 2018 • Percent (%)

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



	All Institutions	Less than \$300M	\$300M – \$1B	More than \$1B
5th Percentile	21.5	17.9	25.6	18.8
25th Percentile	15.1	12.8	20.4	16.2
Median	12.2	11.1	12.7	13.4
75th Percentile	8.8	6.9	11.4	10.9
95th Percentile	3.8	2.8	5.5	4.2
Mean	12.3	10.2	15.2	13.0
<i>n</i>	78	35	19	24

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



	All Institutions	Less than \$300M	\$300M – \$1B	More than \$1B
5th Percentile	48.0	32.1	63.0	49.2
25th Percentile	27.9	20.2	29.6	36.9
Median	19.1	16.0	21.8	27.5
75th Percentile	14.9	10.3	16.9	18.2
95th Percentile	4.2	2.9	11.8	5.9
Mean	24.4	16.1	33.4	29.4
<i>n</i>	78	35	19	24

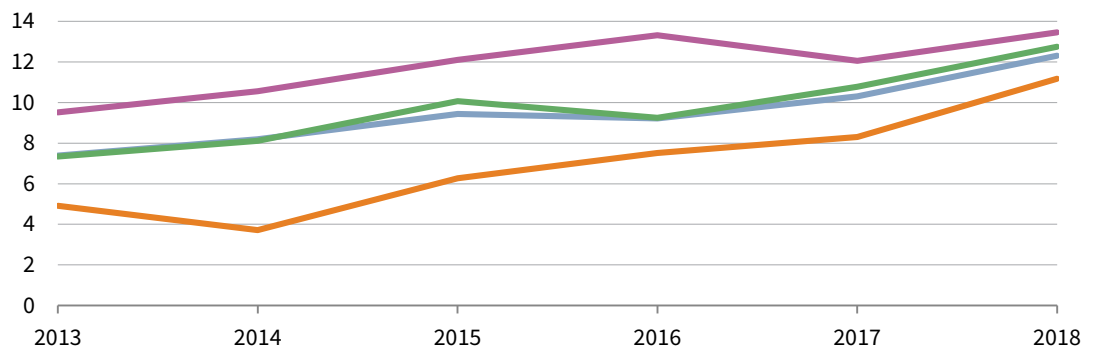
Source: Foundation data as reported to Cambridge Associates LLC.

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

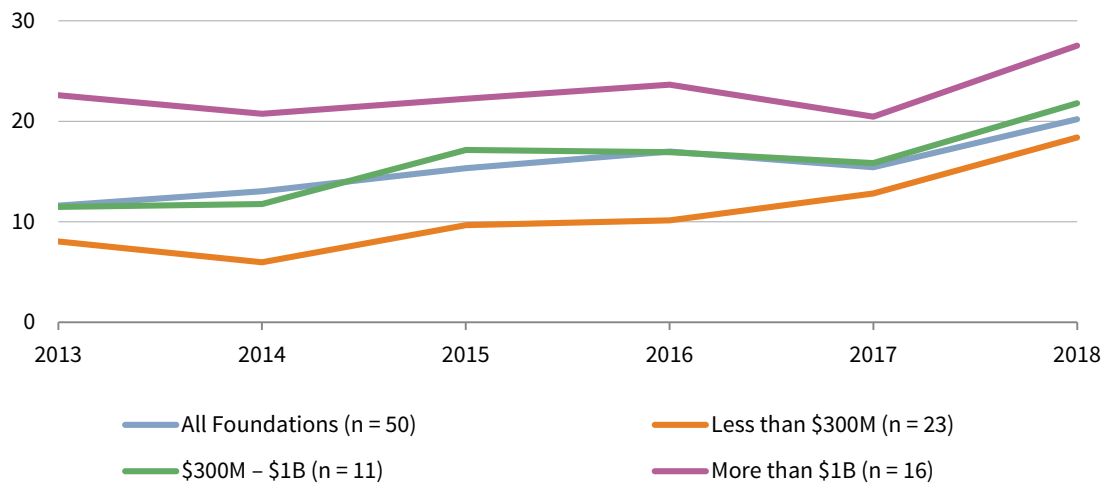
Figure 33 shows the trend over the last five years for these two ratios. The median ratios were higher in 2018 compared to each of the last five years for all of the asset size subgroups. This is a result of uncalled capital commitments growing at a higher rate than the value of the LTIP and its liquid assets. For the ratio of uncalled capital commitments-to-LTIP market value, the variation in medians across the asset size groups is much smaller than it was five years ago. The largest foundations continue to report a median ratio of uncalled capital commitments-to-liquid assets that is considerably higher than that of the other asset size subgroups.

**FIGURE 33 TREND IN UNCALLED CAPITAL COMMITMENTS TO PRIVATE INVESTMENT FUNDS**  
Years Ended December 31 • Percent (%)

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



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



Source: Foundation data as reported to Cambridge Associates LLC.

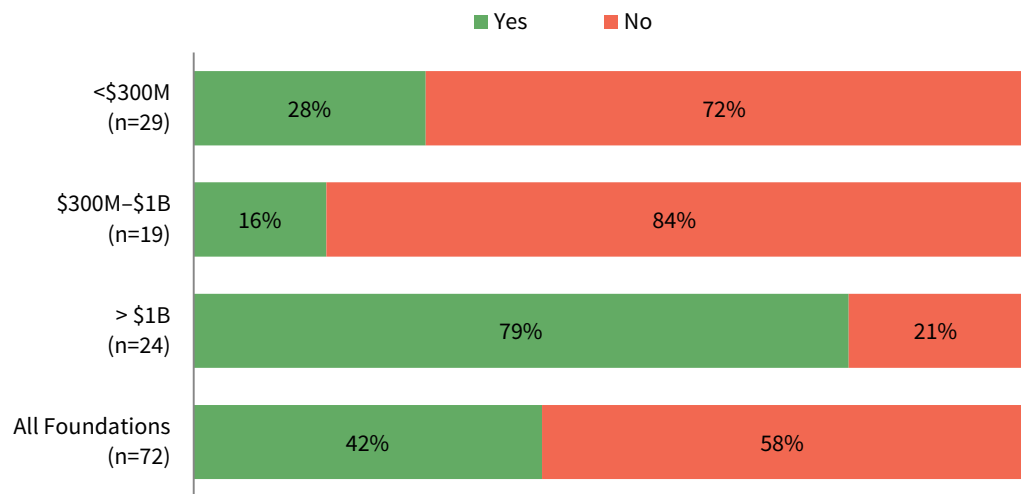
Notes: Uncalled capital is the amount committed, but not yet paid in, to private investment funds. Liquid assets consist of all LTIP assets excluding hedge funds and private investments. Private investments include non-venture private equity, venture capital, distressed securities (private equity structure),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

Despite the strong performance of private investments in 2018, a majority of foundations (58%) reported that their private investment programs were cash flow negative for the calendar year (Figure 34). This is likely due to the fact that most foundations are ramping up their private investment allocations, resulting in a phase where paid-in capital was higher than fund distributions. Nearly 80% of the largest foundations, which are more likely to have higher allocations and more mature programs, reported that their private programs were cash flow positive. For participants whose private investment fund distributions are not enough to offset new capital calls, the remaining funding of capital calls has to come from cash reserves or other liquidity sources, which could include proceeds from sales of other investment assets in the LTIP.

**FIGURE 34 PRIVATE INVESTMENT PROGRAM CASH FLOW BY ASSET SIZE**

As of December 31, 2018 • n = 72

**Was Your Private Investment Program Cash Flow Positive in 2018?**



Source: Foundation 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 2018.

## Investment Manager Structures

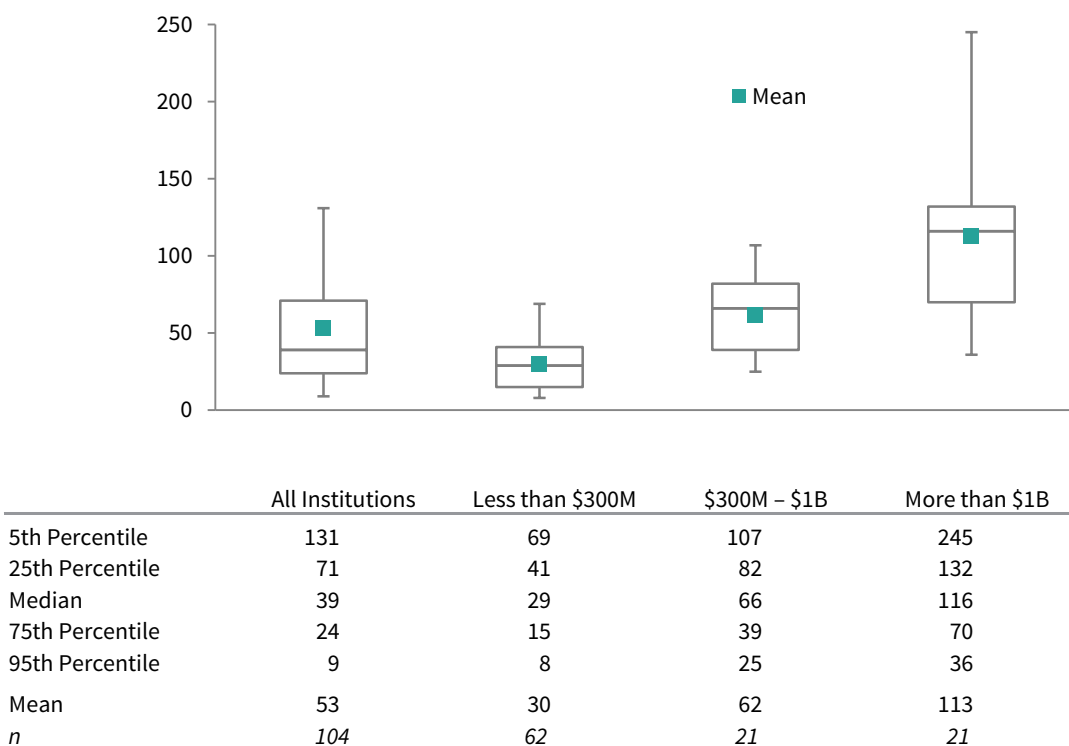
### NUMBER OF EXTERNAL MANAGERS

Many factors contribute to the number of managers employed within an investment portfolio. The scale of total assets under management is a primary factor, as portfolios with larger asset sizes generally spread their assets across a greater number of managers. On average, foundations with assets over \$1 billion employed 113 external investment managers in 2018 (Figure 35). In contrast, mid-sized foundations had an average of 62 managers, while smaller portfolios reported even fewer (30). The average number of external managers was higher in 2018 than it was five years ago for foundations of all asset size types (Figure 36). However, the average number of managers for the largest foundations has declined for the last two years.

Even within the broad asset size groups, the range of managers employed can be wide. Within the smallest portfolios, the number of managers employed at the 25th percentile (41) was more than double the number used at the 75th percentile (15). For portfolios greater than \$1 billion, 245 managers were employed at the 5th percentile compared to just 36 at the 95th percentile. Much of the variation can be attributed to the management of alternative asset classes. As Figure 37 shows, the dispersion in the number of alternative asset managers employed, particularly within private investments, is much wider than that of the more traditional equity and bond asset classes. Further detail on these and other asset classes are provided for the three broad asset size groups in Figure 38.

**FIGURE 35 NUMBER OF EXTERNAL MANAGERS**

As of December 31, 2018

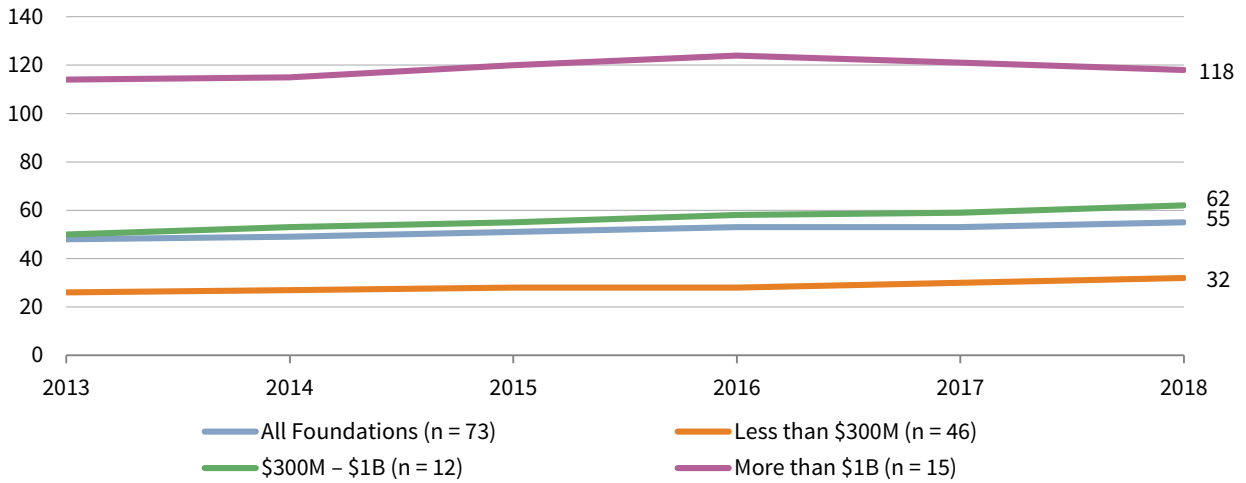


Source: Foundation data as reported to Cambridge Associates LLC.

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

**FIGURE 36 TREND IN NUMBER OF AVERAGE EXTERNAL MANAGERS**

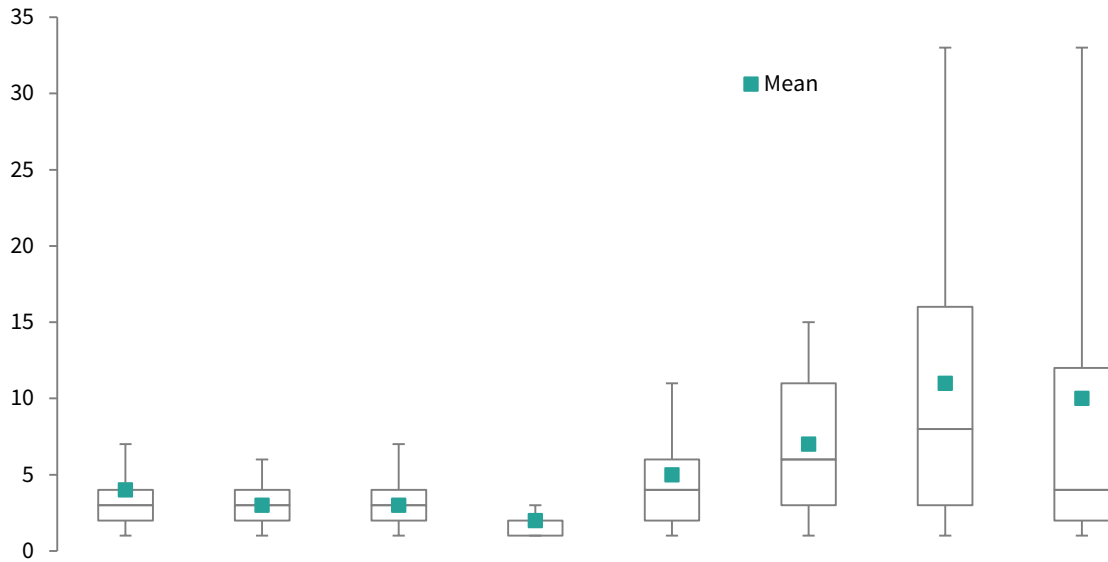
2013-18



Source: Foundation data as reported to Cambridge Associates LLC.

**FIGURE 37 DISPERSION IN NUMBER OF MANAGERS FOR SELECTED ASSET CLASSES**

As of December 31, 2018



	US Equity	DM ex US Equity	Emerging Markets Equity	US Bonds	Long/Short Hedge Funds	Ab Return Hedge Funds	Private Equity	Venture Capital
5th Percentile	7	6	7	3	11	15	33	33
25th Percentile	4	4	4	2	6	11	16	12
Median	3	3	3	2	4	6	8	4
75th Percentile	2	2	2	1	2	3	3	2
95th Percentile	1	1	1	1	1	1	1	1
Mean	4	3	3	2	5	7	11	10
n	104	103	104	96	75	97	82	83

Source: Foundation data as reported to Cambridge Associates LLC.

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

## FIGURE 38 EXTERNAL MANAGERS BY STRATEGY

As of December 31, 2018

Strategy	Less than \$300M		\$300M – \$1B		More than \$1B	
	Average Number of Managers	<i>n</i>	Average Number of Managers	<i>n</i>	Average Number of Managers	<i>n</i>
<b>Traditional Equity</b>						
Global Equity	2	41	2	13	4	17
US Equity	3	61	5	20	5	23
Developed ex US Equity	2	60	4	20	5	23
Emerging Markets Equity	3	60	3	21	5	23
<b>Traditional Bonds</b>						
Global Bonds	1	19	1	3	2	5
US Bonds	2	60	2	18	2	18
Developed ex US Bonds	—	—	1	2	1	2
Emerging Markets Bonds	1	1	—	—	1	2
High-Yield Bonds	1	7	3	2	5	3
<b>Hedge Funds</b>						
Long/Short Hedge Funds	3	37	6	18	7	20
Absolute Return (ex Dist Securities)	5	55	9	20	10	22
<b>Distressed Securities</b>						
Distressed (Hedge Fund Structure)	1	19	1	7	3	16
Distressed (Private Equity Structure)	3	34	4	20	8	17
<b>Private Investments</b>						
Non-Venture Private Equity	5	39	10	20	24	23
Venture Capital	3	42	10	19	22	22
Other Private Investments	3	40	3	14	4	5
<b>Real Assets &amp; ILBs</b>						
Private Real Estate	2	32	5	20	12	23
Public Real Estate	1	8	1	4	2	4
Commodities	1	9	1	7	2	4
Infl-Linked Bonds (TIPS)	1	5	1	5	1	3
Private Oil & Gas/Natural Resources	3	34	7	17	11	21
Timber	2	4	2	6	2	8
Public Energy/Natural Resources	2	40	2	12	2	6
Diversified (Multi-Strategy) RA	—	—	1	1	—	—
<b>Cash (Dedicated Cash Managers Only)</b>	2	54	1	19	1	16
<b>Tactical Asset Allocation</b>	1	16	1	2	1	1
<b>Other</b>	1	3	2	2	10	3

Source: Foundation data as reported to Cambridge Associates LLC.

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

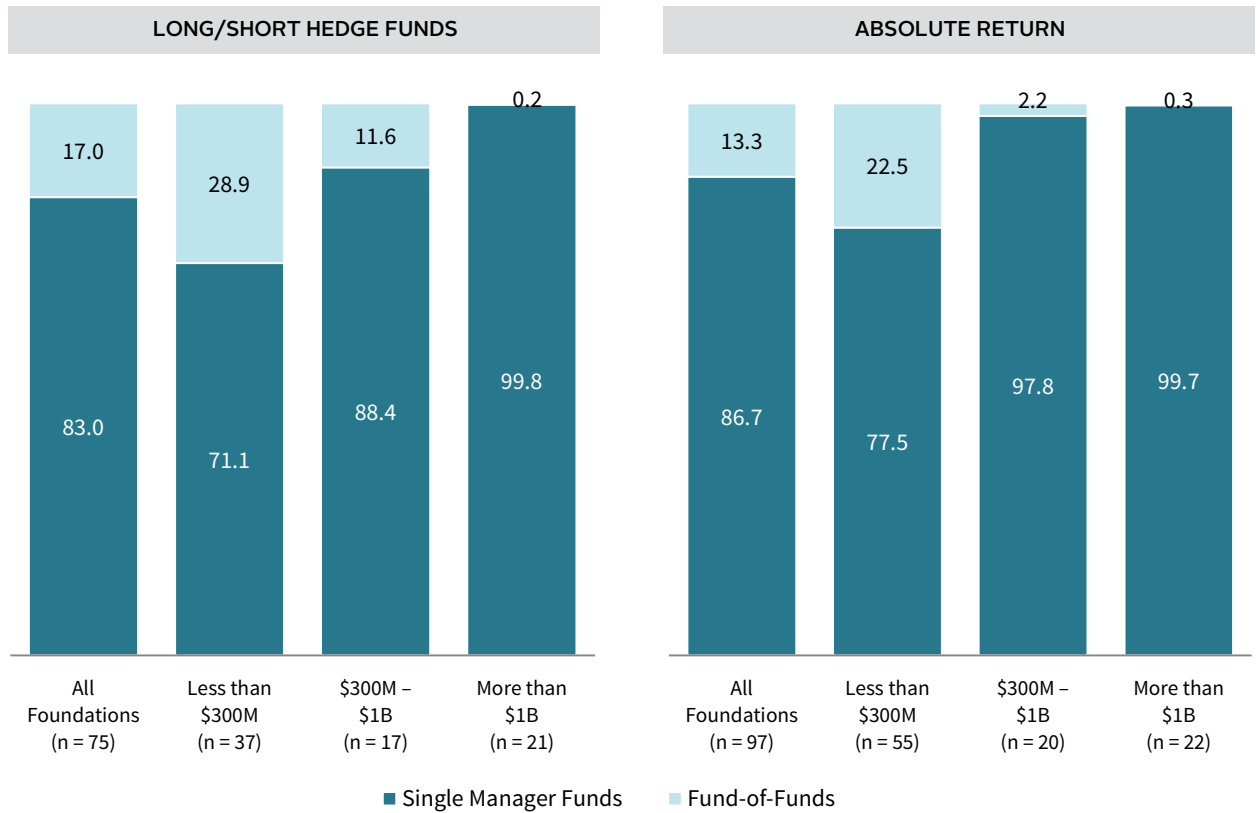
## ASSET CLASS IMPLEMENTATION

**HEDGE FUNDS.** There are two primary types of investment vehicles that institutions 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. The vast majority of participating foundations use single manager funds to implement their entire hedge funds allocation.

Figure 39 shows the average breakdown of hedge funds allocations across the two implementation categories. Among all foundations, single manager funds make up 83% of long/short hedge fund allocations and 87% of absolute return allocations. Foundations with assets greater than \$1 billion have virtually no allocations to fund-of-funds managers in these asset classes.

**FIGURE 39 PORTFOLIO IMPLEMENTATION: HEDGE FUNDS**

As of December 31, 2018 • Equal-Weighted Means (%)



Source: Foundation data as reported to Cambridge Associates LLC.

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



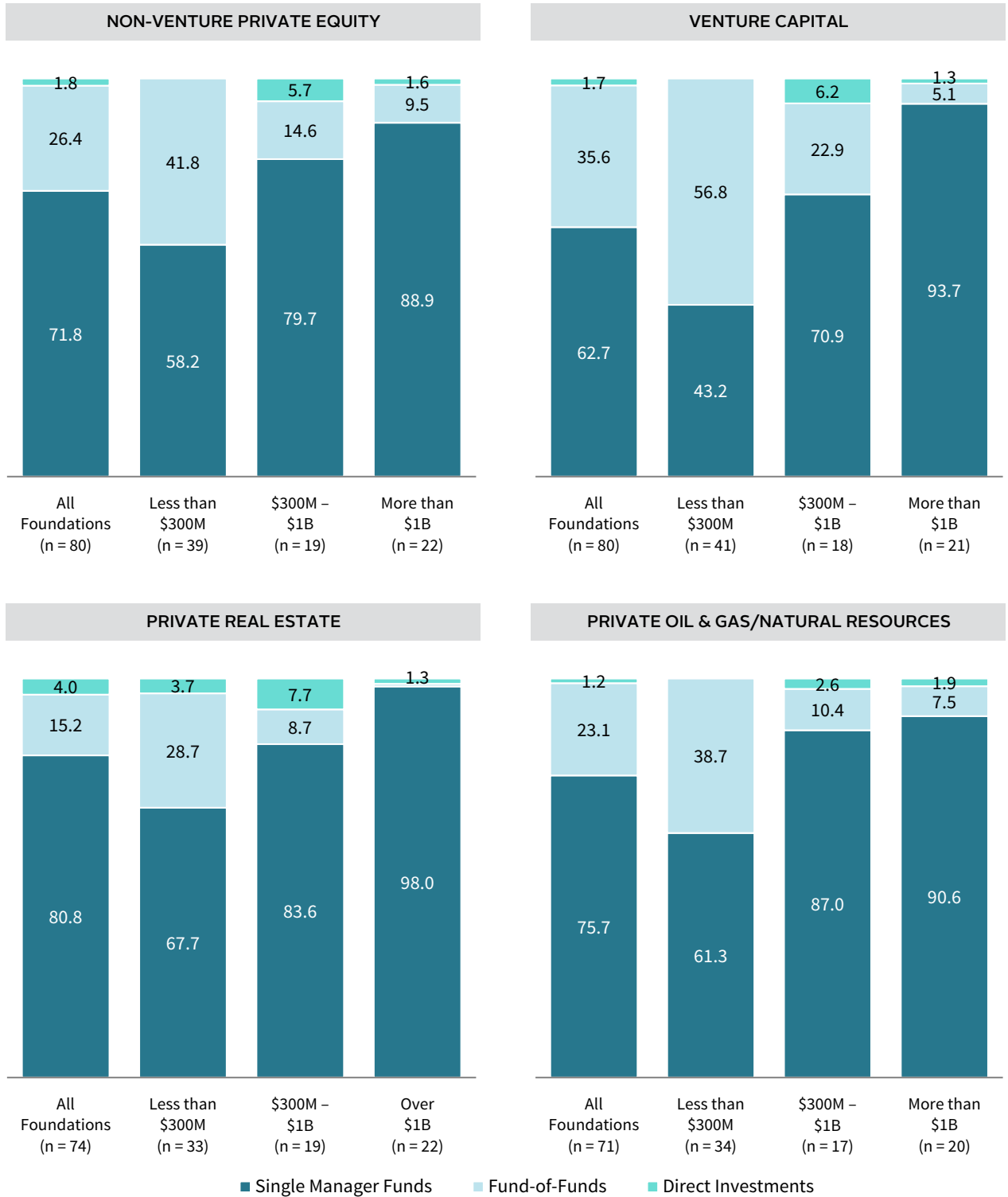
**PRIVATE INVESTMENTS.** Single manager funds and fund-of-funds are also common investment vehicles used to implement private investment allocations. In addition, some foundations use direct investments to implement some of their private investment allocations. Direct investments can take the form of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

Compared to hedge funds, implementation practices are more varied across private investment asset classes. A combination of single manager funds and funds-of-funds was most prevalent among participants for non-venture private equity and venture capital. For private real estate and private oil & gas/natural resources, just over half of foundations use single manager funds for their entire allocations.

When looking at the average breakdown of allocations by implementation category, single manager funds make up the largest proportion of allocations for each of the four private investment asset classes listed in Figure 40. Smaller portfolios generally implement more of their private investment allocations through funds-of-funds managers compared to larger portfolios. On average, direct investments make up just a small percentage of private investments across foundations of all asset sizes.

**FIGURE 40 PORTFOLIO IMPLEMENTATION: PRIVATE INVESTMENTS**

As of December 31, 2018 • Equal-Weighted Means (%)



Source: Foundation 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, foundations primarily use external managers to implement their allocations. These assets are invested either through active or passively managed investment vehicles. Some foundations also manage assets internally or use derivatives to achieve desired exposures. The use of these implementation methods is most common among the largest foundations.

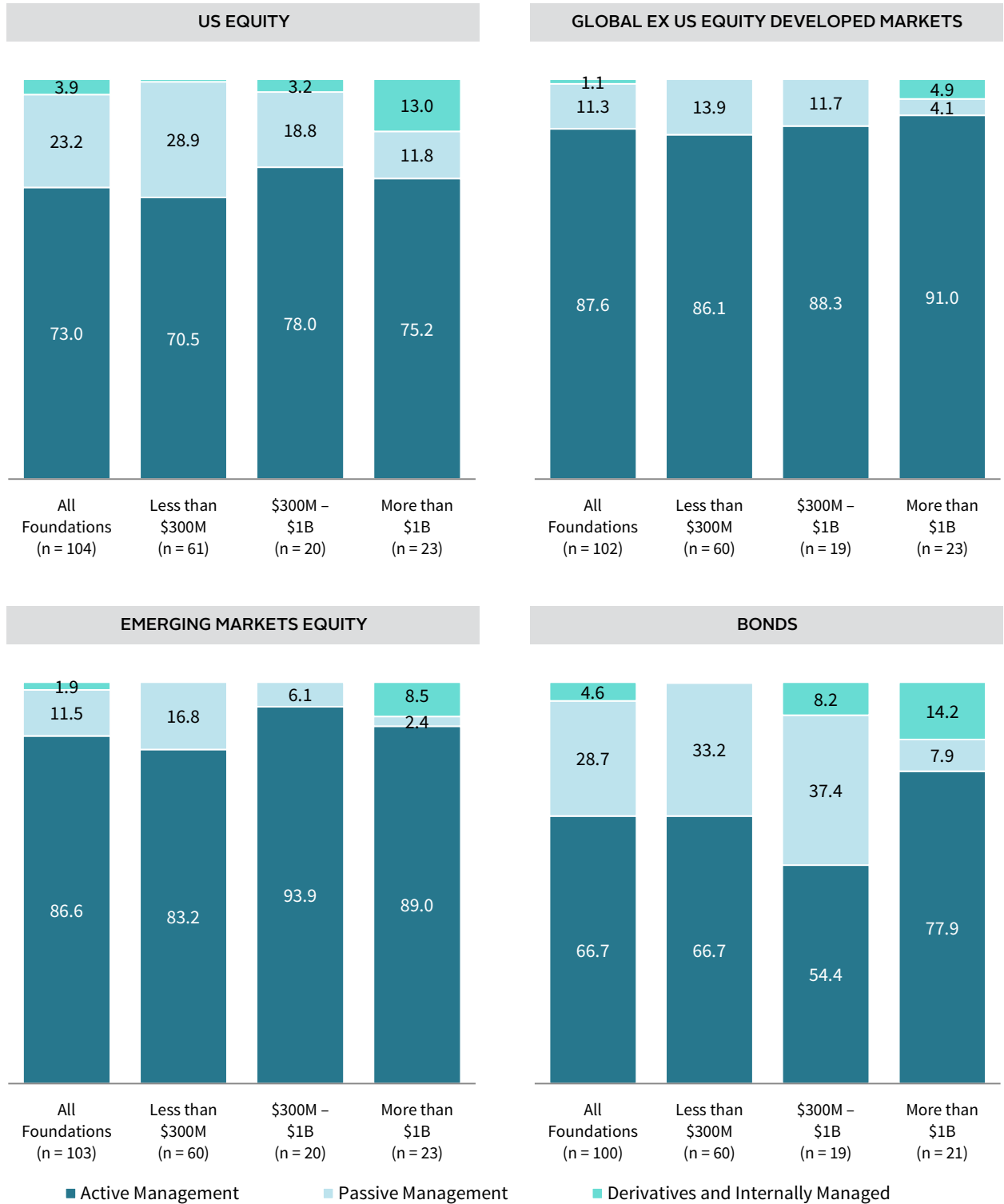
In US equity, most foundations use a combination of active and passive funds to implement their allocations. Yet when considering the average breakdown of US equity allocations, nearly three-quarters (73%) of assets are invested through active managers compared to just 23% that is passively managed. The remaining 4% is managed internally or through derivatives (Figure 41). The proportion of assets invested through active managers is similar across all asset size groups.

For global ex US equities, a majority of foundations rely solely on active managers to implement their entire allocation. On average, for the overall participant group, more than 85% of both global ex us developed equity and emerging markets equity allocations were implemented through active managers. Similar to US equity, the proportion of asset invested through active managers is similar across the various asset size groups.

On average, 67% of bonds were invested through active managers, while 29% of assets were invested through passive funds. Just 5% of assets were managed internally or through derivatives. The proportion of passive management is considerably lower for foundations with assets greater than \$1 billion; an average of just 8% was invested passively for this group of institutions.

**FIGURE 41 PORTFOLIO IMPLEMENTATION: TRADITIONAL EQUITIES AND BONDS**

As of December 31, 2018 • Equal-Weighted Means (%)



Source: Foundation data as reported to Cambridge Associates LLC.

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

## Payout from the Long-Term Investment Portfolio

### SPENDING REQUIREMENTS

While all foundations are charitable organizations, specific characteristics and objectives help to distinguish foundations into three broad classification types.

Private foundations are defined by the IRS as one of two types: operating or non-operating. Though both must meet an annual spending requirement, each is subject to different conditions that determine the minimum spending amount.

**PRIVATE NON-OPERATING FOUNDATIONS.** Private non-operating foundations, which make up the majority of participants in this study, are required to make qualifying distributions of at least 5% of their asset value every year. They function primarily as grant-making organizations, providing funding and support to other charitable organizations.

**PRIVATE OPERATING FOUNDATIONS.** In contrast, private operating foundations are established not with the intention to fund grants to outside organizations, but to provide funding and support to the foundation's own programs and activities. Bound by an annual spending requirement, private operating foundations are subject to specific guidelines that determine their minimum amount.

**COMMUNITY FOUNDATIONS.** Community foundations are a type of public charity, deriving funds from many donors rather than a single source. They mainly function as grant-making organizations, funding charitable support in the immediate region or locality where they are located. Community foundations are not subject to a minimum spending requirement.

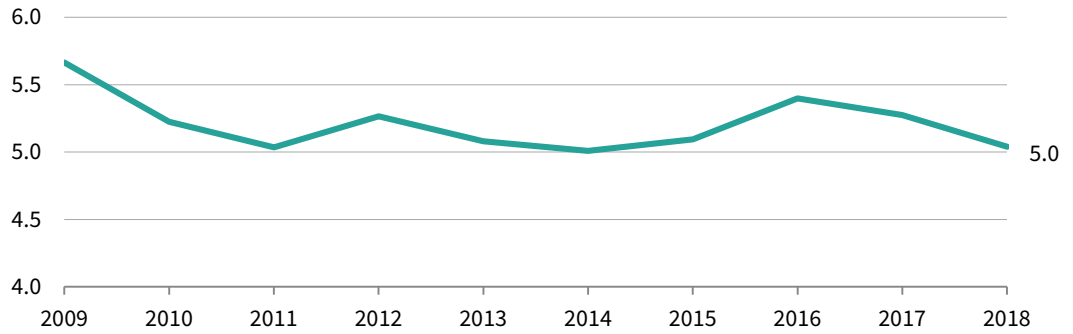
### PAYOUT RATES

Annual spending distributions are withdrawn from investment assets to fund grants, direct charitable programs, program-related investments, and administrative expenses. The payout rate in this study is calculated as the annual spending distribution as a percentage of the beginning year market value of the long-term investment portfolio.

For the 64 private non-operating foundations that provided data in 2018, the median payout rate was 5.2%. When looking at a constant universe of 25 foundations that provided data from 2009 to 2018, the median payout for 2018 was the lowest rate reported over the last ten years (Figure 42). The median payout rate for the seven community foundations that provided data for 2018 was 4.5%, while the median for the four operating foundations was 4.8%.

### FIGURE 42 MEDIAN ANNUAL PAYOUT RATE

2009-18 • Percent (%)



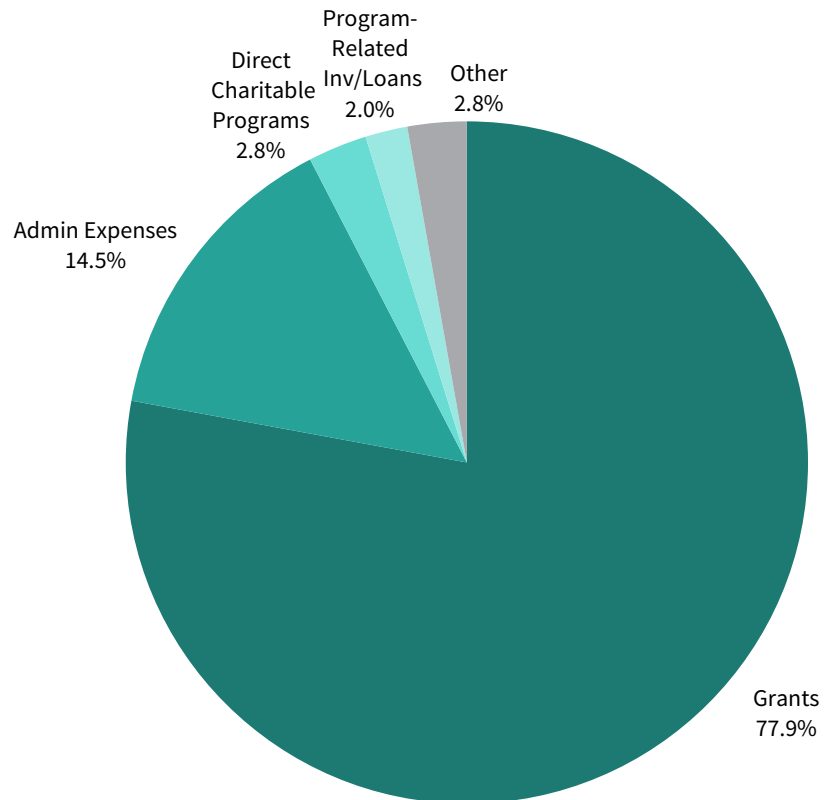
Source: Foundation data as reported to Cambridge Associates LLC.

Note: Data represent the average of 25 private non-operating foundations that provided payout rates for each year from 2009 to 2018.

**COMPONENTS OF PAYOUT.** Figure 43 takes a detailed look at the different components that comprise the annual payout distribution for private non-operating foundations. Grants are the single largest component of annual payout, making up an average of 78%. Administrative expenses were the next largest component, representing about 15% of total payout. For the four community foundations that provided data, grants also made up the vast majority of payout (92%).

### FIGURE 43 COMPONENTS OF PAYOUT DISTRIBUTION

2018 • Percent (%) of Total Payout



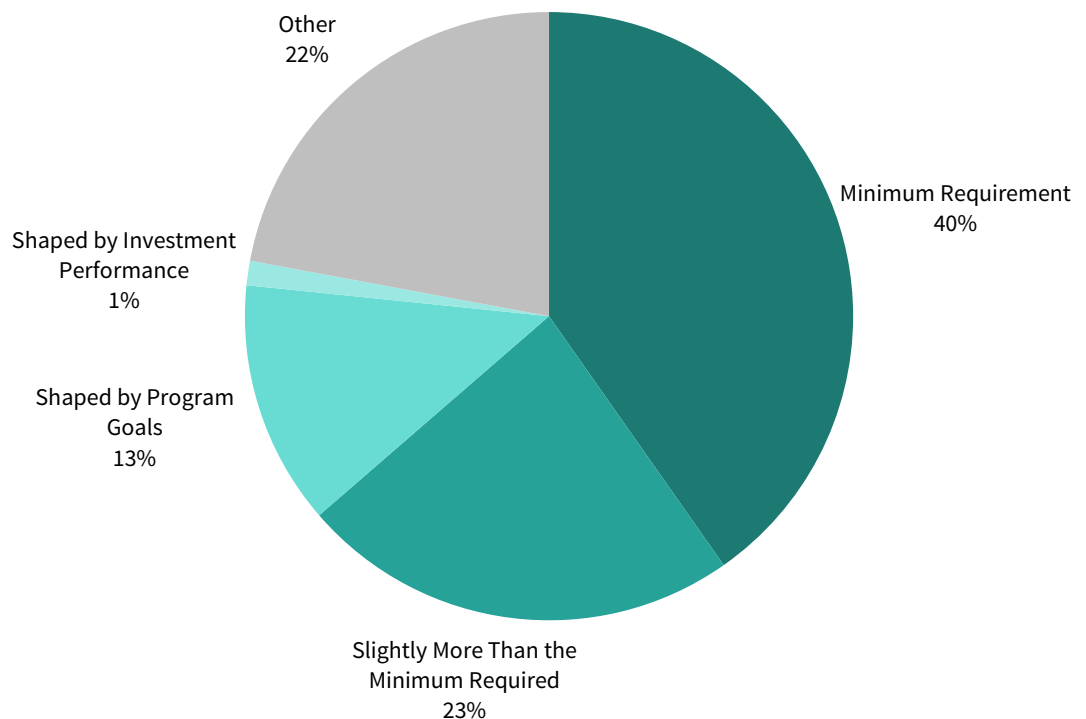
Source: Foundation data as reported to Cambridge Associates LLC.

Note: Analysis included data for 56 private non-operating foundations.

## PAYOUT OBJECTIVES

Of the 77 private non-operating foundations that provided information about their payout objective, 40% indicated that their objective is to pay out a maximum of the legal requirement. An additional 23% reported an objective of paying out slightly more than the legal requirement, 13% had an objective shaped mainly by program goals, 1% had a payout objective shaped mainly by investment performance, and 22% reported their objective was something other than the aforementioned objectives (Figure 44).

**FIGURE 44 PAYOUT POLICY OBJECTIVES FOR PRIVATE NON-OPERATING FOUNDATIONS**  
2018 • n = 77



Source: Foundation data as reported to Cambridge Associates LLC.

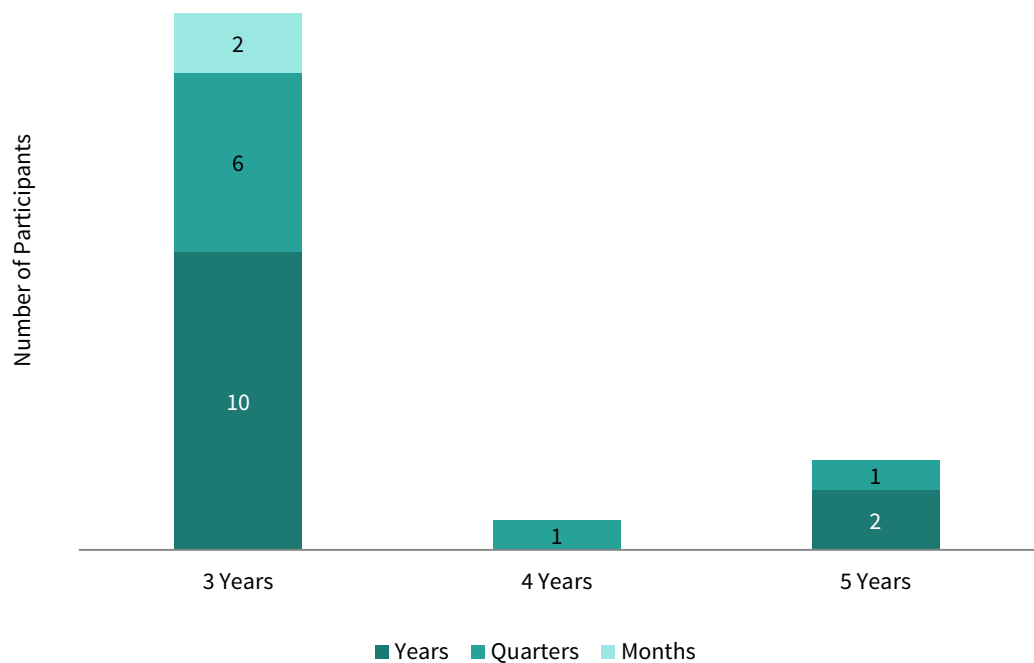
Of the eight community foundations in this study that provided a payout objective, two indicated that their objective was shaped mainly by program goals and another two stated that payout was shaped mainly by investment performance. The remaining four community foundations reported some other objective.

Three private operating foundations stated their payout objective was to pay out slightly more than the legal requirement and one reported some other objective.

**SMOOTHING RULE.** In an effort to avoid fluctuations in their annual spending budget, some foundations will employ a smoothing rule, usually spending a targeted percentage of a moving-average of market values. This helps to bring a level of stability to annual spending distributions, allowing foundations to better forecast future expenditures without the risk of compromising the long-term viability of the portfolio. Foundations have some flexibility in managing the annual distributions required by the IRS. In years where qualified distributions are less than 5%, foundations have one year to spend any undistributed amounts. In addition, carryover credits are created by having qualified distributions for a taxable year that exceed the required spending amount. These credits can be applied to spending requirements in any of the next five years from when they are created.

There were 22 private non-operating foundations in this study that indicated the use of a market value-based smoothing rule to help contain year-to-year spending. A target spending rate of 5.0% was used by 68% of these foundations, while the remaining foundations reported a target rate above 5.0%. Smoothing periods ranged from three to five years (Figure 45).

**FIGURE 45 SPENDING POLICY: SMOOTHING PERIODS**  
December 31, 2018



Source: Foundation data as reported to Cambridge Associates LLC.

Note: Data represent 22 private non-operating foundations that indicated the use of a market value-based smoothing rule.



## Investment Office Staffing and Governance

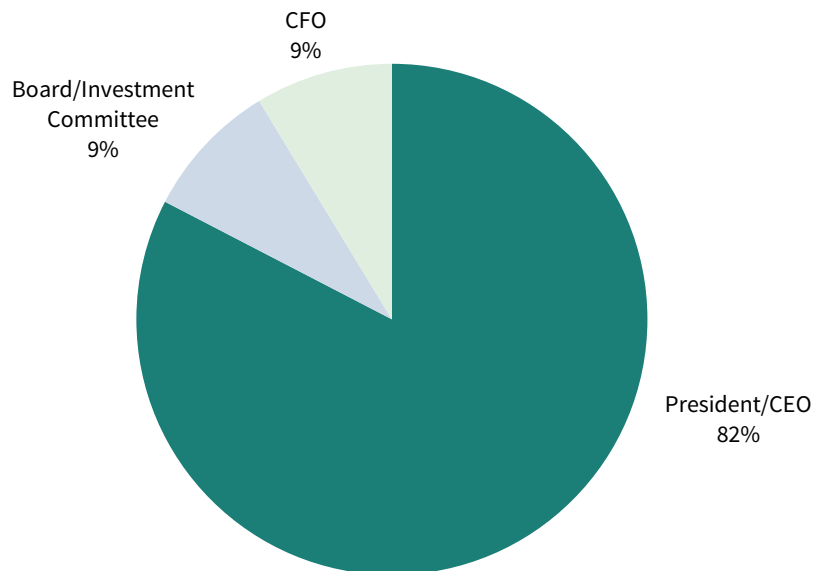
### INVESTMENT OFFICE STAFFING

The primary mission of an investment office is to assume day-to-day responsibility for the long-term assets of the foundation. 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 foundations, 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) also correlates with asset size and is most common at larger foundations. Of the 16 foundations with assets greater than \$1 billion that provided staffing data, all except one have a full-time CIO. At participating foundations with less than \$1 billion in assets, just 23% indicated they had a CIO in place. It is most common for the CIO to report directly to the CEO or President of the foundation (Figure 46).

**FIGURE 46 CHIEF INVESTMENT OFFICER REPORTING LINES**

Fiscal Year 2018 • n = 23



Source: Foundation data as reported to Cambridge Associates LLC.

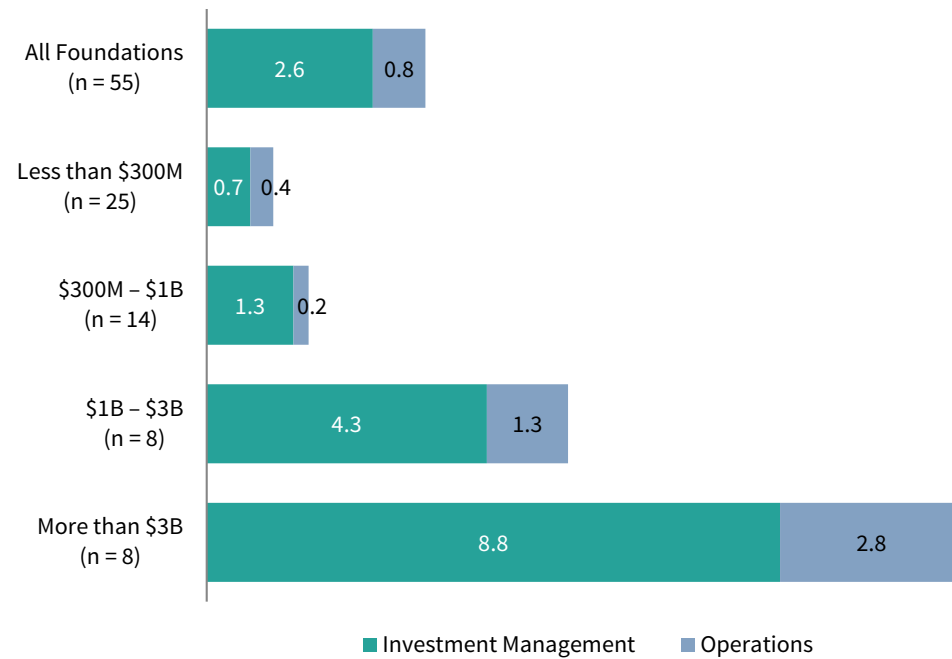
Note: Investment Committee is shorthand for governing body.

**STAFFING LEVELS.** Our survey shows that investment office staffing levels typically correlate with asset size. This is perhaps not surprising as larger portfolios tend to invest with more fund managers and favor a more active investment approach, which can require more resources. Overall, participating foundations employed an average of 3.4 full-time equivalents (FTEs) to manage their investment assets. Comparing the breakout of investment management and operations roles, we see the average investment staff consisted of 2.6 investment management and 0.8 operations personnel. Foundations with more than \$3 billion in assets employed 11.6 total FTEs on average, while the smallest institutions maintained 1.1 FTE (Figure 47).

Larger foundations (assets greater than \$3 billion) report a mixture of senior-, mid-, and junior-level investment positions. Senior investment professionals typically carry the title of Investment Director or Managing Director and have more than ten years of professional experience. Mid-level professionals can hold the titles of Investment Officer or Associate and bring five to ten years of experience. Junior-level positions are usually recent graduates or those with a few years of experience and usually carry the title of Investment Analyst or Associate. Figure 48 provides the average FTEs by asset size and position level for investment management and operations positions.

**FIGURE 47 AVERAGE STAFFING LEVELS**

As of December 31, 2018 • Average Number of Full-Time Equivalents (FTEs)



Source: Foundation data as reported to Cambridge Associates LLC.

**FIGURE 48 AVERAGE INVESTMENT STAFF BY FUNCTION**

As of December 31, 2018 • Number of Full-Time Equivalents (FTEs)

	Investment Management			Investment Operations		
	Senior	Mid	Junior	Senior	Mid	Junior
More than \$3B	3.5	2.2	2.9	1.0	1.4	2.4
<i>n</i>	8	5	7	3	5	4
\$1B – \$3B	2.0	2.0	1.5	1.0	1.0	1.0
<i>n</i>	6	4	4	2	2	3
\$500M – \$1B	1.0	—	1.0	0.3	0.5	0.5
<i>n</i>	4	—	1	1	3	1
Less than \$200M	1.0	1.0	—	0.5	0.8	0.6
<i>n</i>	1	1	—	4	3	7

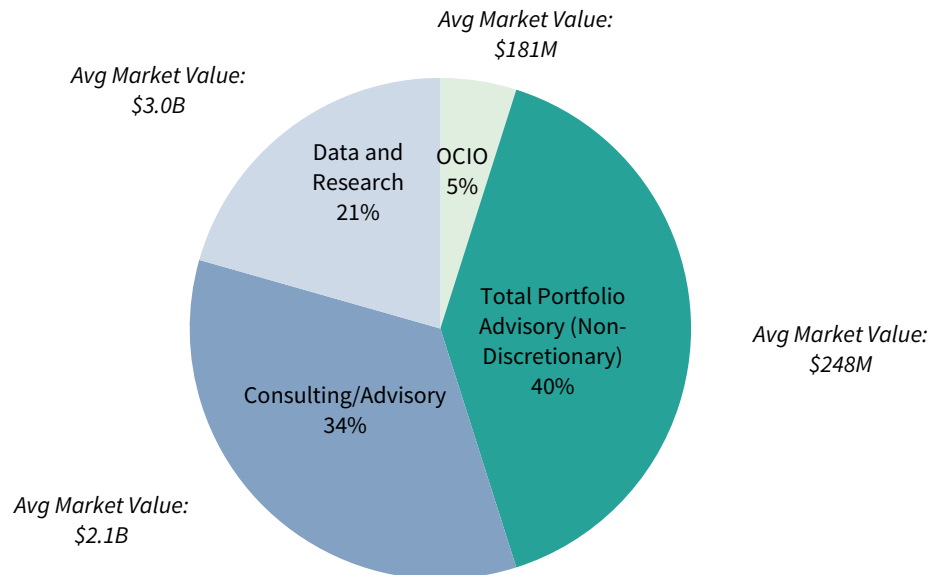
Source: Foundation data as reported to Cambridge Associates LLC.

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

**RELIANCE ON OUTSIDE CONSULTANTS AND ADVISORS.** Foundations engage external advisors and consultants in varying degrees and across a wide variety of functions. Figure 49 broadly illustrates how participants work with outside advisors or consultants. Foundations with less than \$1 billion in assets rely more heavily on external advisors to manage or help manage their investment portfolios, while larger foundations will seek outside support in the form of research, data, or asset class specialization.

**FIGURE 49 USE OF EXTERNAL ADVISORS AND CONSULTANTS**

As of December 31, 2018 • *n* = 102



Source: Foundation data as reported to Cambridge Associates LLC.

Of participating foundations, 5% use CA for discretionary portfolio management services. Also known as OCIO, this management model allows institutions to fully delegate portfolio management decision making to an outside firm. These firms are accountable for portfolio strategy, implementation, day-to-day management, and operations. Managing the portfolio within agreed upon policy guidelines, the outsourced investment team makes manager selection, manager termination, tactical asset allocation, and portfolio rebalancing decisions.

Among study participants, 40% of foundations use advisors for non-discretionary portfolio management services for the total endowment. These institutions work with an outside team of investment professionals who provide day-to-day oversight of their portfolios, while retaining final decision making on portfolio investments. This service model provides resources and expertise to contribute to portfolio management alongside an institution's investment team.

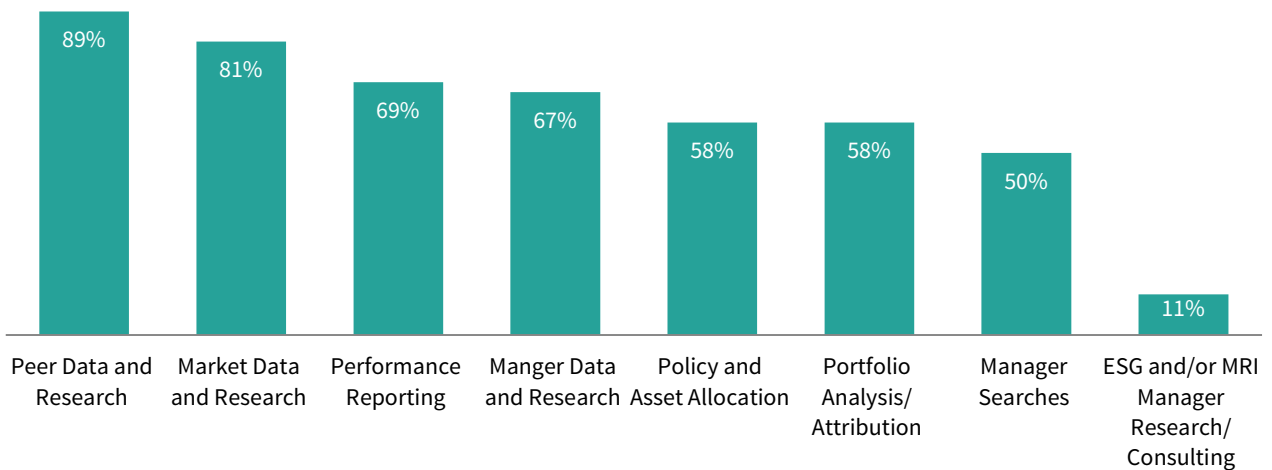
Of the foundations in our study, 21% use outside support for research, manager, peer, and benchmarking data. These endowments tend to be larger and have built their own internal investment teams to manage their portfolios. The average market value of endowments using consultants in this fashion is \$3.0 billion.

The remaining 34% of survey participants use external resources for a range of services beyond total portfolio management, including asset allocation reviews, manager searches, alternative assets management, ESG/MRI consulting, and performance reporting.

Figure 50 examines the range of services that foundations relying on outside advisors for consulting services or data and research commonly use. Reliance on advisors for peer data & research and market data & research was most common amongst this group of foundations.

**FIGURE 50 USE OF OUTSIDE CONSULTANTS**

As of December 31, 2018 • n = 36 • Percent of Institutions (%)



Source: Foundation data as reported to Cambridge Associates LLC.

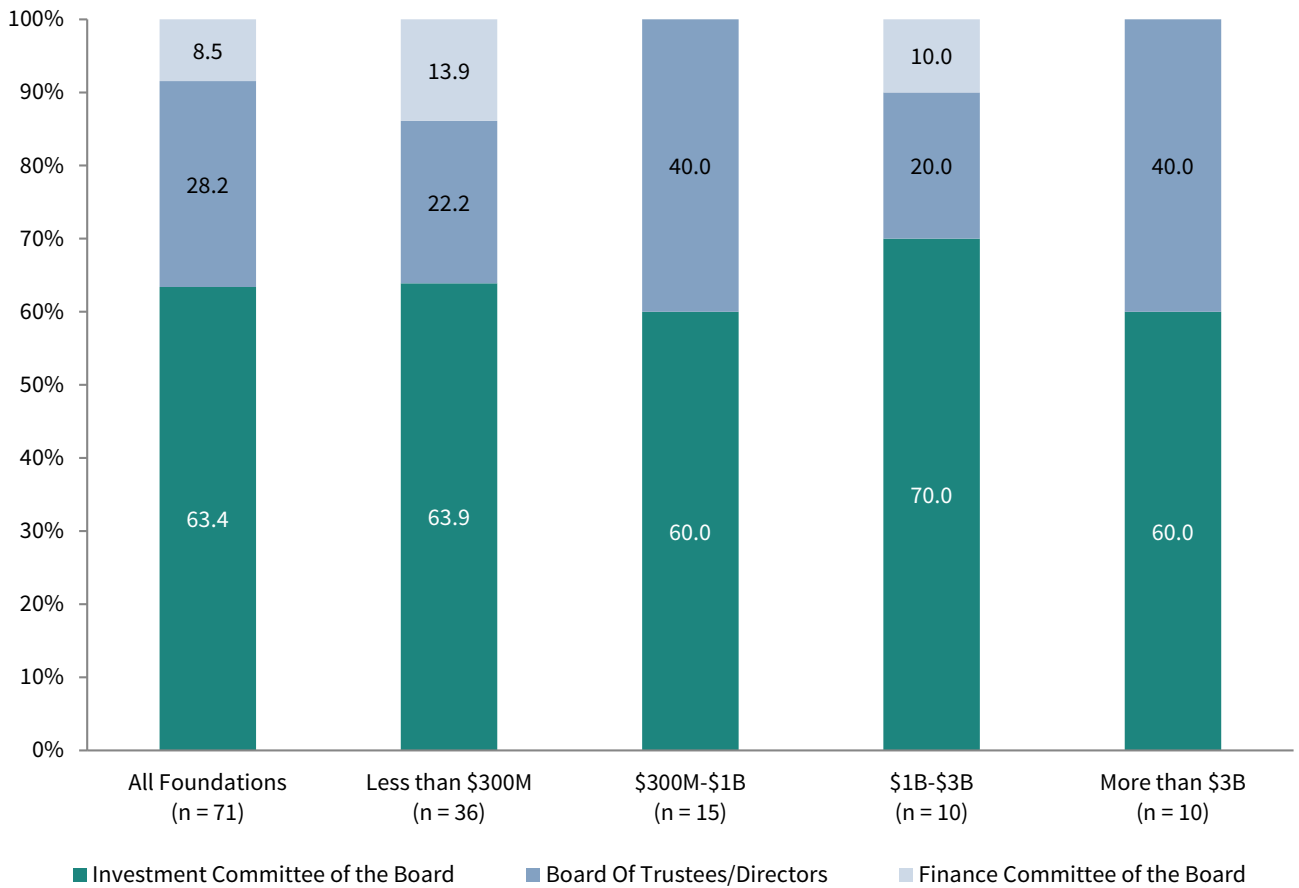
## GOVERNANCE

Good governance is one key factor to a successful investment program. To create the conditions for good governance, foundations 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 structure, process, and policies.

**GOVERNING BODY/OVERSIGHT COMMITTEE.** Among all respondents, an investment committee of the board most often has oversight over the investment office and/or outside advisors (63% of respondents). There is little variance in this proportion when looking across different asset sizes. In smaller numbers, other governing bodies cited by respondents, the board of trustees or directors (28%) and were a finance committee of the board (9%) (Figure 51).

**FIGURE 51 GOVERNING BODY OF OVERSIGHT COMMITTEE BY ORGANIZATION TYPE**

Fiscal Year 2018 • n = 71



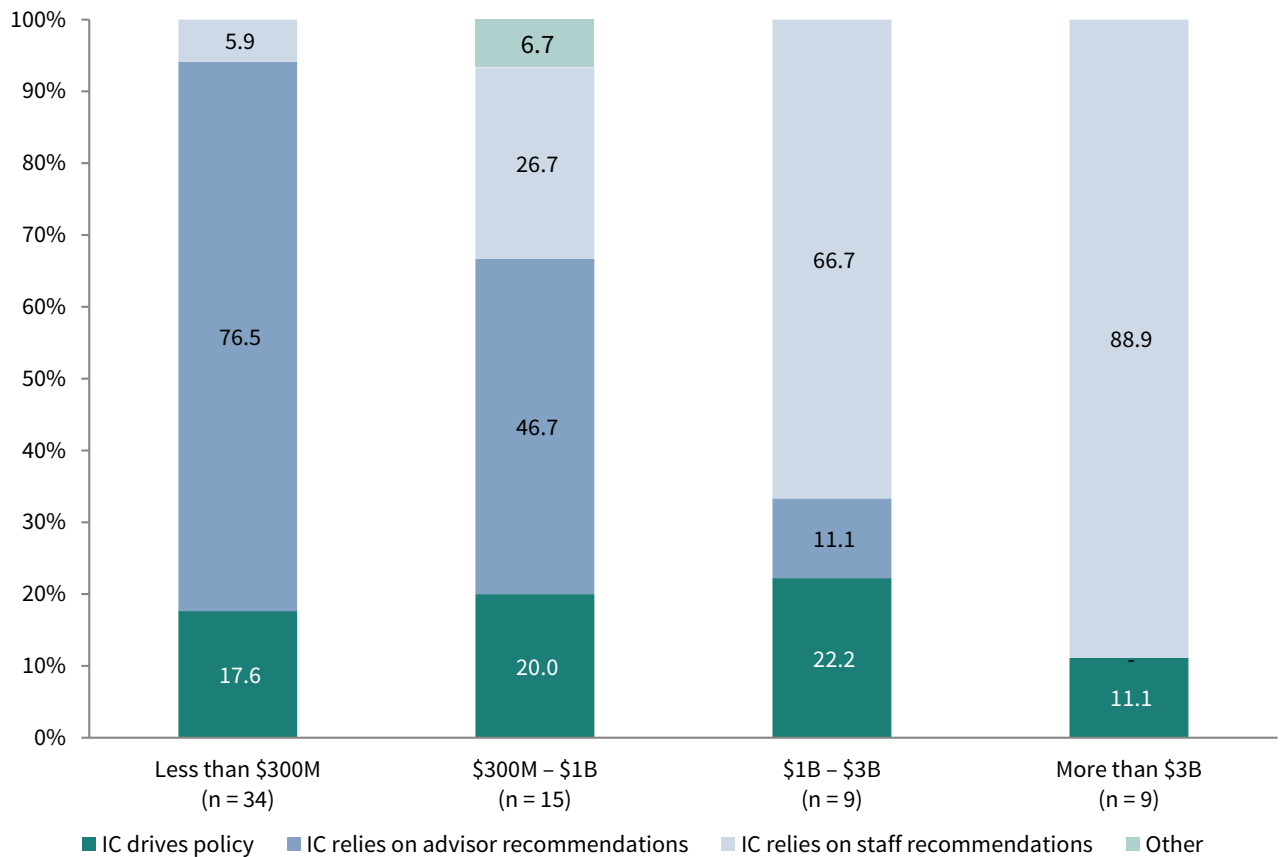
Source: Foundation data as reported to Cambridge Associates LLC.

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

For foundations with more than \$1 billion in assets, the majority of asset allocation policy is developed by committees acting on staff recommendations (Figure 52). Institutions with assets less than \$1 billion depend far more on the recommendations of outside advisors or investment committees driving policy autonomously. The role of the investment committee and advisors in portfolio rebalancing is steadily diminished as assets increase (Figure 53).

**FIGURE 52 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: ASSET ALLOCATION POLICY DEVELOPMENT**

Fiscal Year 2018 • n = 67 • Percent of Institutions (%)

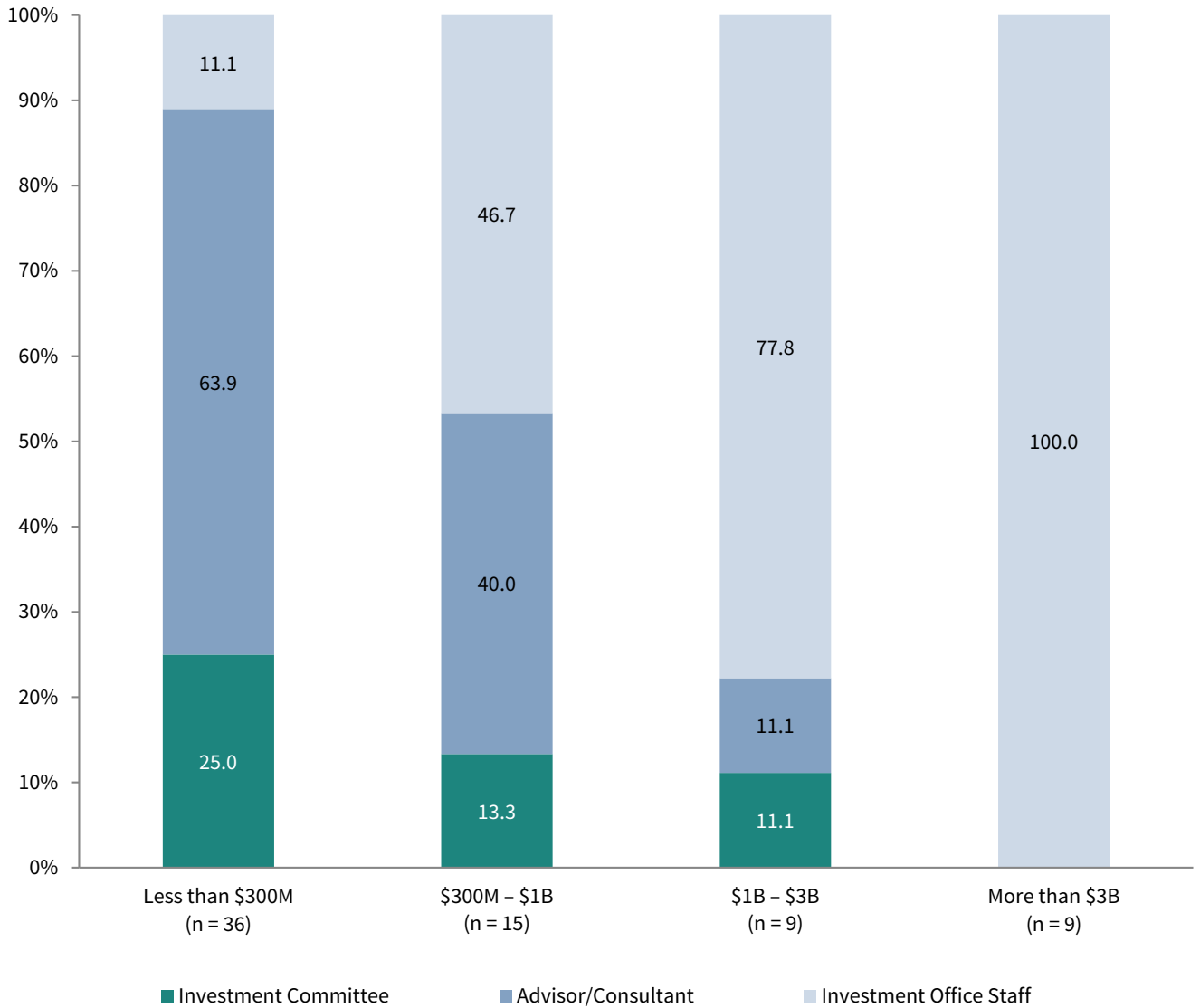


Source: Foundation data as reported to Cambridge Associates LLC.

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

**FIGURE 53 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: PORTFOLIO REBALANCING**

Fiscal Year 2018 • n = 69 • Percent of Institutions (%)



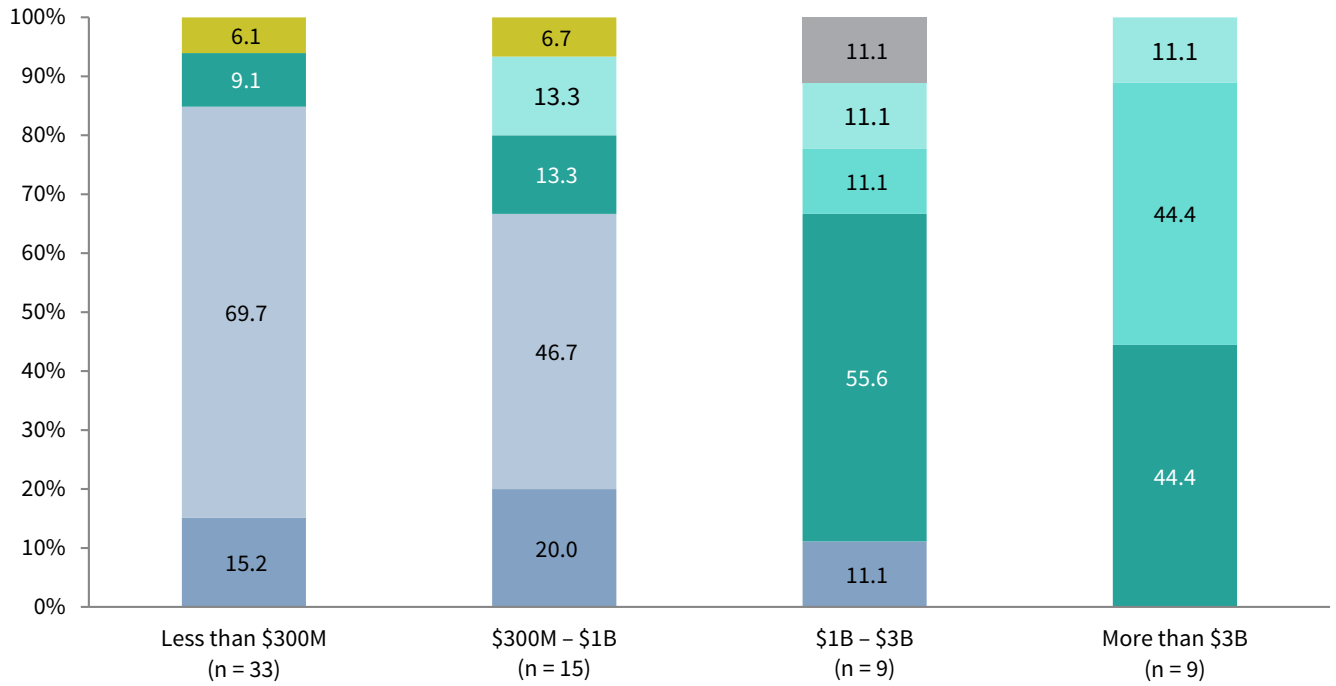
Source: Foundation data as reported to Cambridge Associates LLC.

The process of manager selection and termination also involves committees, advisors, and staff, but with different degrees of discretion (Figure 54). Advisor recommendations play a significant role in both selection and termination at foundations with less than \$300 million in assets, while staff recommendations are increasingly relied upon at foundations with assets greater than \$1 billion.

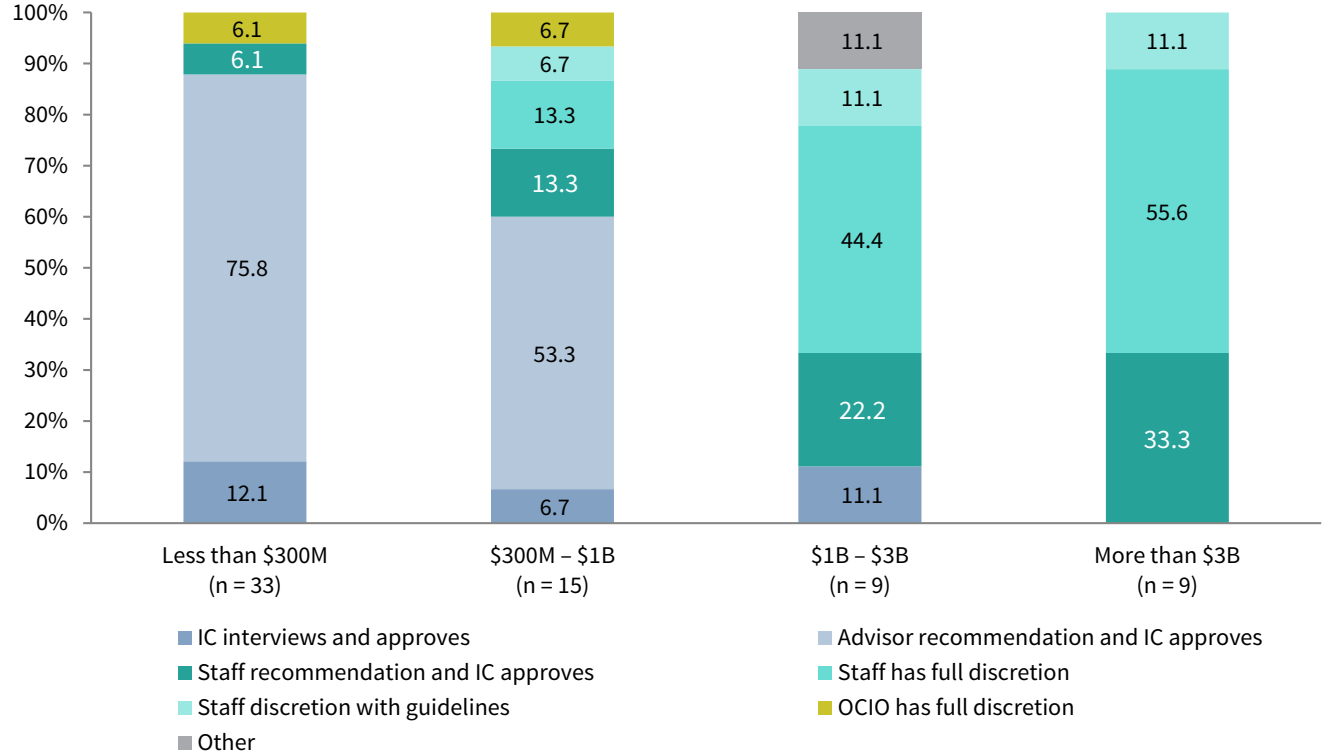
**FIGURE 54 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: MANAGER SELECTION AND TERMINATION**

Fiscal Year 2018 • n = 66 • Percent(%)

**Manager Selection**



**Manager Termination**



Source: Foundation data as reported to Cambridge Associates LLC.

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

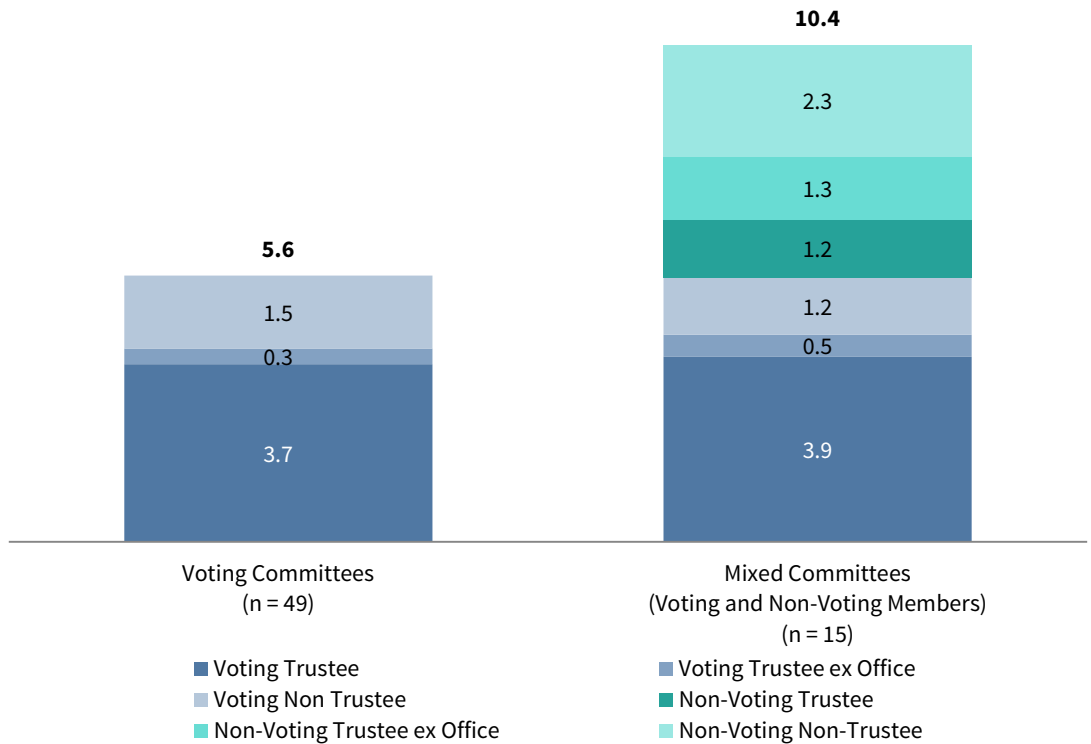


**INVESTMENT COMMITTEE COMPOSITION.** Two types of committees emerged from our survey data. We found that the majority of investment committees (49 of 64) are fully comprised of voting members, while the remaining 15 investment committees also include nonvoting members. Although mandatory voting encourages accountability, there can be good reasons to include nonvoting members. Organizations should weigh the benefit of these advisory members against the prospects of an oversized committee.

The average size of voting committees is 5.6 members, which on average consists of 3.7 trustees, 1.5 non-trustees, and 0.3 ex office members. Examples of ex-office committee members include the president of the foundation 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 10.4 people (Figure 55).

**FIGURE 55 PROFILE OF INVESTMENT COMMITTEE MEMBERS**

As of December 31, 2018 • n = 64



Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Investment committee is shorthand for any governing body. One institution that responded to the survey has only six non-voting members: one trustee and five non-voting non-trustees.

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. If the organization lacks sufficient trustees with such qualifications, the committee often includes non-trustee members with investment expertise to fulfill this role.

On average, respondents indicated that 59% of their committee members have investment experience. This composition does not change substantially when viewed by asset size. Foundations with assets greater than \$3 billion reported an average of 53% of committee membership that have investment experience. Foundations with assets between \$300 million and \$1 billion reported the highest percentage of investment experience (65%) (Figure 56).

**FIGURE 56 PERCENT OF INVESTMENT COMMITTEE WHO ARE INVESTMENT PROFESSIONALS**  
Fiscal Year 2018 • Percent (%)



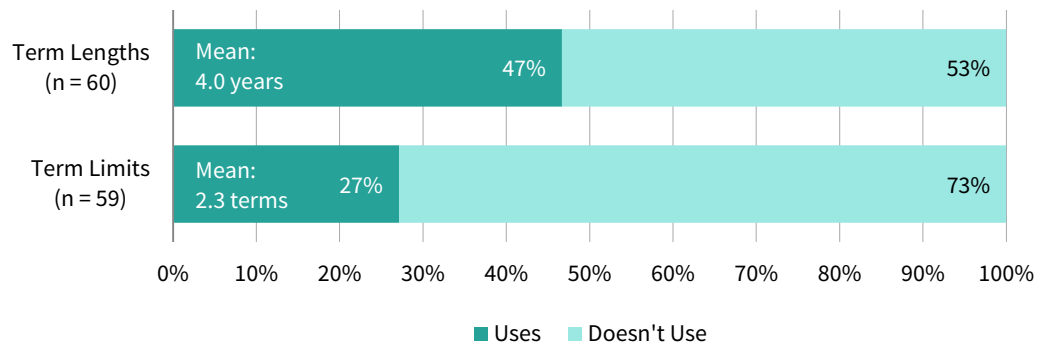
Source: Foundation data as reported to Cambridge Associates LLC.

**TERM LIMITS AND LENGTHS.** While setting guidelines for terms can help manage member turnover and mitigate committee stagnation, a majority of respondents indicated they have no term limits for the investment committee. Responses regarding term length and limit policy indicated that term length guidelines are generally more common than term limits: for committee chairs, term lengths (an average of 4.2 years) were specified by 43% of foundations, while term limits (an average of 1.8 terms) were mandated by 21% of institutions (Figure 57). Term length and limit policies applied similarly to committee members (47% and 27%, respectively). The lack of policies around term limits and lengths could suggest that foundations value the stability of a long-standing committee and view turnover as disruptive to long-term investment policy.

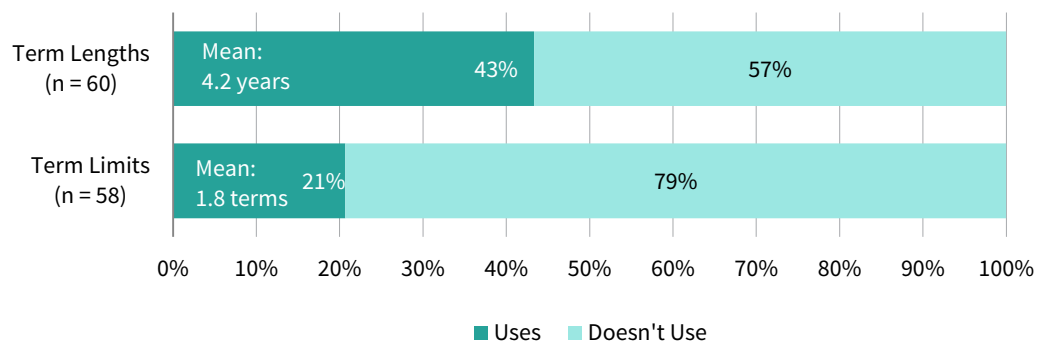
**FIGURE 57 INVESTMENT COMMITTEE TERM LENGTHS AND LIMITS**

As of December 31, 2018

**Investment Committee Member**



**Investment Committee Chair**



Source: Foundation data as reported to Cambridge Associates LLC.

**INVESTMENT COMMITTEE MEETINGS.** Our survey responses show that the majority of foundations (68%) hold quarterly meetings. Few institutions hold meetings on a more or less frequent schedule, but ad hoc conference calls are a frequently cited occurrence. Regular attendance of investment committee members is critical to proper oversight. Participants indicated that average attendance was strong, at 90%.

**REIMBURSEMENT AND CONFLICT OF INTEREST POLICY.** About two-thirds (64%) of respondents provide committee members with expense reimbursement, which generally includes travel-related and other out-of-pocket expenses. More than half of respondents (62%) also offer their committee members some sort of compensation other than expense reimbursement. This compensation most often comes in the form of charitable gifts and honorariums.

Nearly all respondents have a conflict of interest policy for investment committee members (96%). These policies can require disclosure, recusal, or both disclosure and recusal. Policies may differ by asset class, with institutions requiring disclosure for long-only equity conflicts and recusal for private equity conflicts, for example. A slightly smaller proportion of respondents (84%) have a conflict of interest policy for investment staff. ■

## Notes on the Data

### DATA COLLECTION AND RESULTS

This report includes data for 109 foundations. The majority of participants are private foundations, 94 of which are classified as non-operating foundations and four as operating foundations. Of the remaining participants, ten are community foundations and one is a public charity.

All participants provided data on their long-term investment portfolio (LTIP) as of December 31, 2018. The LTIP size of participating foundations ranged from \$6.1 million to \$46.6 billion. The mean LTIP size was \$1.4 billion and the median was \$232.1 million. Throughout the report, the notation of  $n$  denotes the number of institutions included in each analysis.

### CALCULATION OF THE REAL RATE OF RETURN

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

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

### CALCULATION OF THE RETURN AFTER SPENDING

The rate of return after spending for a given investment is calculated by dividing the total return by the effective spending rate for the time period. The effective spending rate is the dollar amount of spending (endowment spending policy distribution and other annual appropriations) for a fiscal year as a percentage of the beginning market value of assets. The effective spending rate does not include investment management fees that are netted out of returns. Note that simply subtracting the effective spending rate from the total return does not result in an accurate computation of total return after spending. The formula is:

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

## PARTICIPANTS

Access Strategies Fund  
Albany Foundation  
The James B. and Lois R. Archer Charitable Foundation  
Atherton Family Foundation  
Baltimore Community Foundation  
Marion and Henry Bloch Family Foundation  
The Herb Block Foundation  
Buena Vista Foundation  
The California Endowment  
James & Abigail Campbell Family Foundation  
Carnegie Corporation of New York  
The Annie E. Casey Foundation  
The Clarence T.C. Ching Foundation  
Circle of Service Foundation  
Connecticut Health Foundation, Inc.  
The Dana Foundation  
Doris Duke Charitable Foundation  
The Duke Endowment  
Alfred I. duPont Testamentary Trust  
The Enfranchisement Foundation  
The Erie Community Foundation  
Richard M. Fairbanks Foundation, Inc.  
Sherman Fairchild Foundation  
Fetzer Institute  
The Field Foundation of Illinois Inc.  
The Flinn Foundation  
The Ford Family Foundation  
France-Merrick Foundation  
Franklin Southampton Charities  
Bill and Melinda Gates Foundation Trust  
The Gerber Foundation  
GHR Foundation  
Gidwitz Memorial Foundation  
Eugene & Marilyn Glick Family Foundation  
John T. Gorman Foundation  
The Florence Gould Foundation  
Grantham Foundation for the Protection of the Environment  
William Caspar Graustein Memorial Fund  
The Heinz Endowments  
Clarence E. Heller Charitable Foundation  
The F.B. Heron Foundation  
The Highland Street Foundation  
Conrad N. Hilton Foundation  
The H & R Block Foundation  
The Hyams Foundation  
Inasmuch Foundation and Ethics and Excellence in Journalism  
InFaith Community Foundation  
The Robert Wood Johnson Foundation  
Johnson Scholarship Foundation  
The Fletcher Jones Foundation  
Kansas Health Foundation  
Ewing Marion Kauffman Foundation  
W.K. Kellogg Foundation Trust  
Kleberg Foundation  
John S. and James L. Knight Foundation  
The Kresge Foundation  
Forrest C. & Frances H. Lattner Foundation  
Leaves of Grass Foundation  
John and Catherine MacArthur Foundation  
Maine Community Foundation  
Mathile Family Foundation  
McGregor Fund  
The Andrew W. Mellon Foundation  
Eugene and Agnes E. Meyer Foundation  
Meyer Memorial Trust  
Milbank Memorial Fund  
The Gordon & Betty Moore Foundation  
Moorings Capital LLC  
Charles Stewart Mott Foundation  
The Mt. Cuba Center Inc.  
The Dan Murphy Foundation  
National Endowment for Financial Education  
New Hampshire Charitable Foundation  
Greater New Orleans Foundation  
New York Community Trust  
New York State Health Foundation  
Orange County Community Foundation  
The Oregon Community Foundation  
Osprey Cove Foundation  
The David and Lucile Packard Foundation  
The Ralph M. Parsons Foundation  
Virginia G. Piper Charitable Trust  
Nina Mason Pulliam Charitable Trust  
The Queen Lili'uokalani Trust  
Rainwater Charitable Foundation  
The REACH Healthcare Foundation  
Regenstrief Foundation  
The Rockefeller Foundation  
Rocky Road Foundations  
The Scherman Foundation Inc.  
Caroline & Sigmund Schott Fund  
The Skoll Foundation  
Alfred P. Sloan Foundation  
The Sontag Foundation  
Square One Foundation  
The Starr Foundation  
The Steelcase Foundation  
Steele Foundation  
W. Clement & Jessie Stone Foundation  
The Aaron Straus & Lillie Straus Foundation, Inc.  
Surdna Foundation Inc.  
The Mamoru and Aiko Takitani Foundation  
Communities Foundation of Texas  
The Tinker Foundation  
The Wallace Foundation  
Weingart Foundation  
The Robert A. Welch Foundation  
Wenner-Gren Foundation  
Zellerbach Family Foundation

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