



Annual Analysis of Foundation Investment Pool Returns: Calendar Year 2015

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Annual Analysis of Foundation
Investment Pool Returns:
Calendar Year 2015

William Prout | Elizabeth Cheever

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Annual Analysis of Foundation Investment Pool Returns

This report summarizes portfolio returns, asset allocation, investment management structures, and payout characteristics for 113 foundations as of calendar year 2015. The majority of participants are private foundations, 96 of which are classified as non-operating foundations and four as operating foundations. The remaining 13 participants are community foundations. The 113 participants in this study reported investment pool assets as of December 31, 2015, totaling \$143.5 billion. The investment pool size of participants ranged from \$6.4 million to \$39.5 billion. The mean investment pool size was \$1.3 billion and the median was \$235.5 million. Twenty-five foundations reported investment pool assets greater than \$1 billion, and they controlled 85.7% of the aggregate investment pool assets.

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

Investment Portfolio Returns

Returns in 2015

After three straight years of positive investment performance, most foundations posted negative returns for calendar year 2015. Returns were disappointing across all of the key marketable asset classes. US equity was among the best performing of these asset classes, yet was barely positive for the year on an index basis. Global ex US equities finished the year in the red in USD terms, with emerging markets returns declining by double-digits. Hedge fund

and bond returns were weak, while natural resources and commodities were both down by more than 20%.

With the exception of natural resources, private investments were a bright spot for most investors in 2015. Venture capital again posted the highest annual return among the private investment asset classes on an index basis. Private real estate and non-venture private equity also contributed gains to most portfolios.

The mean nominal total return earned by participating foundations was -1.3% in 2015 (Figure 1). With inflation (as

Figure 1. Summary of Investment Pool Returns
Years Ended December 31, 2015 • Percent (%)

Nominal Total Returns				
	Average Annual Compound Nominal Return			
	1 Year	3 Years	5 Years	10 Years
Responding Institutions				
High	8.4	11.6	11.2	8.9
Low	-5.4	1.3	1.6	2.5
Mean	-1.3	5.9	5.5	5.3
Median	-2.0	5.6	5.2	5.2
<i>n</i>	113	111	109	95
Mean After Spending	-6.2	0.9	0.6	0.7
<i>n</i>	83	59	47	29
Benchmarks				
70% Russell 3000® / 30% Barclays Govt/Credit	0.5	10.7	9.7	6.9
70% MSCI ACWI / 30% Barclays Govt/Credit	-1.1	6.2	5.9	5.5
Real Total Returns				
	Average Annual Compound Real Return			
	1 Year	3 Years	5 Years	10 Years
Responding Institutions				
High	7.6	10.5	9.6	6.9
Low	-6.1	0.3	0.1	0.6
Mean	-2.0	4.9	3.9	3.4
Median	-2.7	4.6	3.6	3.3
<i>n</i>	113	111	109	95
Mean After Spending	-6.9	-0.1	-0.9	-1.1
<i>n</i>	83	59	47	29
Benchmarks				
70% Russell 3000® / 30% Barclays Govt/Credit	-0.2	9.6	8.1	4.9
70% MSCI ACWI / 30% Barclays Govt/Credit	-1.8	5.2	4.3	3.6

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

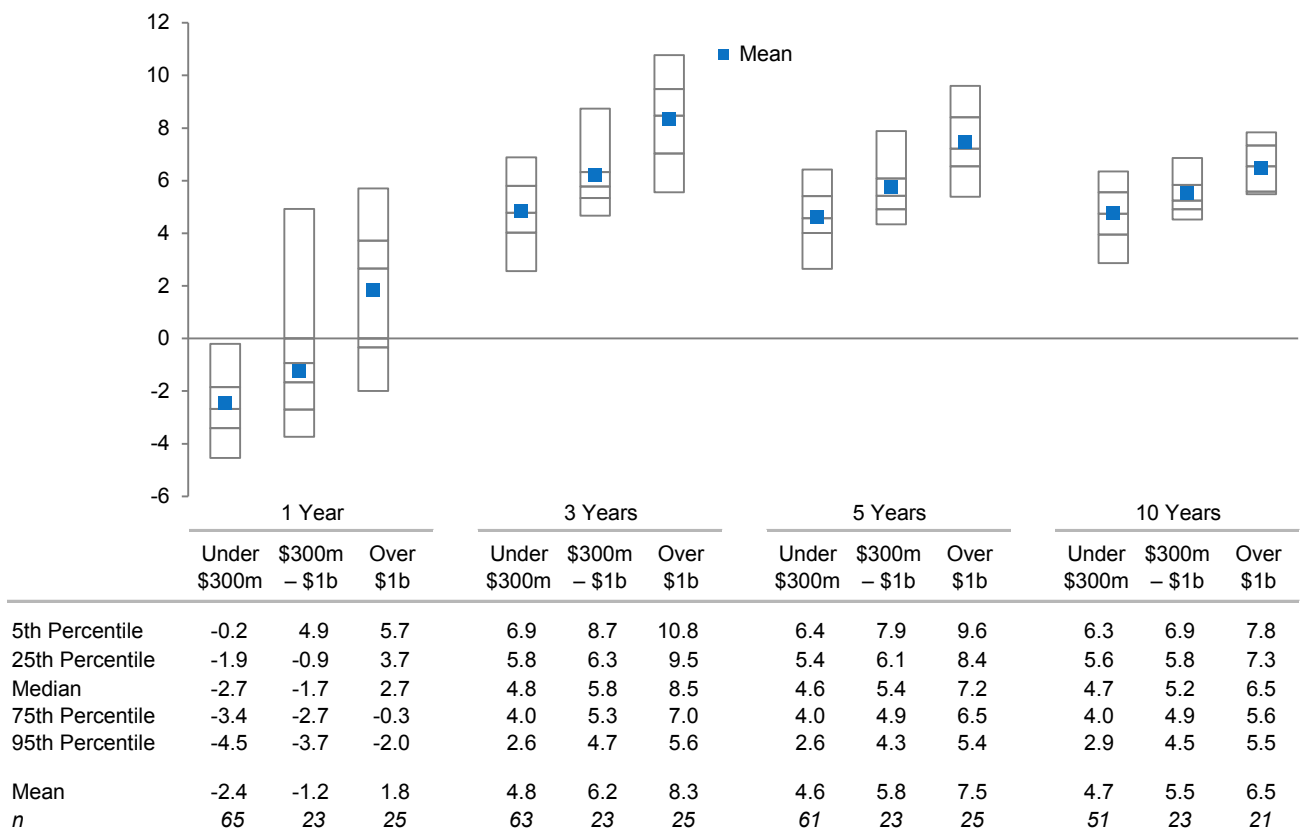
Note: Real returns are adjusted for inflation as measured by the Consumer Price Index.

measured by the Consumer Price Index) at 0.7% for the year, the mean real return for all respondents is adjusted to -2.0%. Splitting the participant group into three broad asset size groups reveals a significant amount of disparity in trailing one-year nominal returns. Participants with assets over \$1 billion reported the highest average performance (1.8%) (Figure 2). Foundations with assets between \$300 million and \$1 billion reported an average return of -1.2%, followed by those with assets under \$300 million (-2.4%). Throughout this section, we will explore the factors that contributed to this variation of returns across foundations.

Survey participants were asked to provide composite returns for the major asset classes in their portfolio. Figure 3 displays the range of participants' returns across marketable asset classes for 2015, while Figure 4 shows the same information for private investment asset classes. The marketable asset class returns are reported as time-weighted returns while the private investment data are horizon internal rates of return (IRR).¹ The charts in this section provide 2015 median performance for the

¹ A time-weighted return (TWR) captures the total return earned over time on the initial investment and eliminates the impact of future cash flows. TWRs are appropriate where the investor controls the timing of cash flows. An IRR extracts a return from a cash flow stream composed of the beginning net asset value (NAV) for the time horizon, all inflows and outflows within the period, and the final NAV of the period. IRRs are more appropriate for investments where the fund managers control the decisions of when to call and return capital.

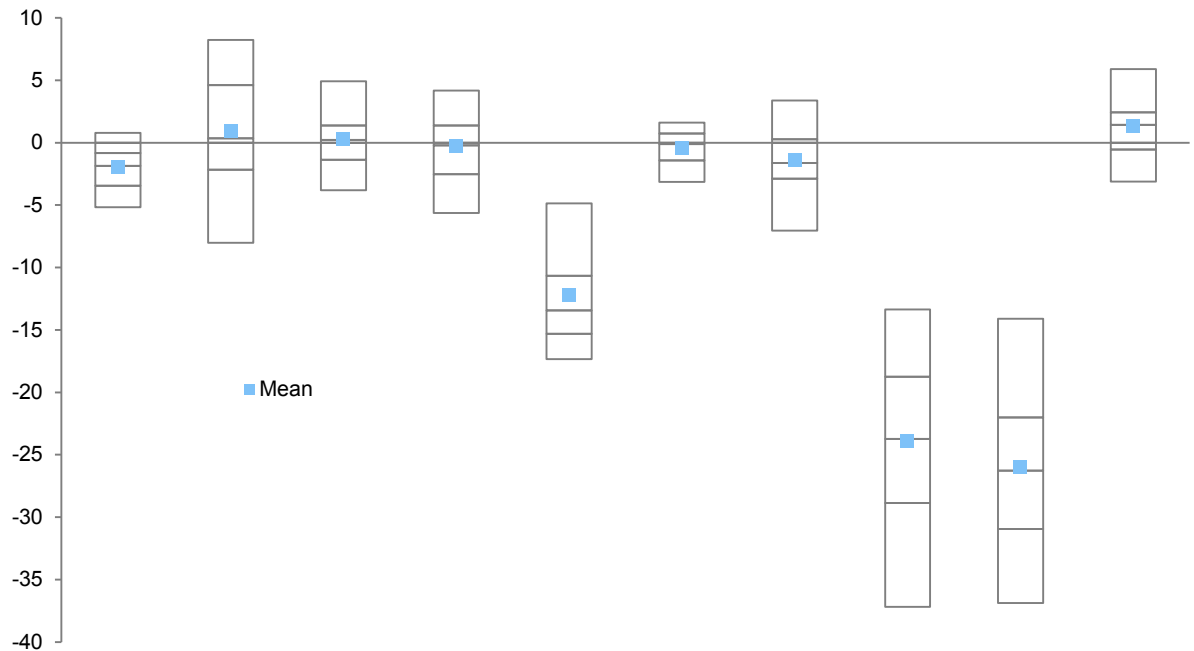
Figure 2. Summary of Long-Term Investment Pool Return Percentiles by Asset Size
Years Ended December 31, 2015 • Percent (%)



Source: Foundation data as reported to Cambridge Associates LLC.

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

Figure 3. Dispersion of Participants' Asset Class Returns: Marketable Investments (One-Year)
Trailing One-Year as of December 31, 2015



	Public Equity ¹	Global Equity ²	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Public Real Assets ³	Commodities and Natural Resources	Public Real Estate
5th Percentile	0.8	8.2	4.9	4.2	-4.9	1.6	3.4	-13.4	-14.1	5.9
25th Percentile	-0.8	4.6	1.4	1.4	-10.7	0.7	0.3	-18.8	-22.0	2.4
Median	-1.9	0.4	0.2	-0.2	-13.4	-0.1	-1.6	-23.7	-26.3	1.4
75th Percentile	-3.5	-2.2	-1.4	-2.5	-15.3	-1.4	-2.9	-28.9	-31.0	-0.5
95th Percentile	-5.2	-8.0	-3.8	-5.6	-17.3	-3.1	-7.1	-37.2	-36.9	-3.1
Mean	-1.9	0.9	0.3	-0.3	-12.2	-0.4	-1.4	-23.9	-26.0	1.4
<i>n</i>	101	56	97	96	94	96	99	85	87	18
Median by Asset Size										
Under \$300mm	-2.3	-0.3	0.3	-0.6	-13.7	-0.2	-2.0	-23.8	-26.2	1.4
<i>n</i>	63	34	61	60	58	60	60	55	57	9
\$300mm to \$1bn	-1.9	2.3	-0.2	-0.6	-13.6	0.3	-2.1	-20.2	-26.3	1.4
<i>n</i>	21	12	22	22	21	20	22	20	19	5
Over \$1bn	-1.0	0.2	0.4	2.7	-7.5	-0.3	0.4	-22.6	-27.1	-0.4
<i>n</i>	17	10	14	14	15	16	17	10	11	4

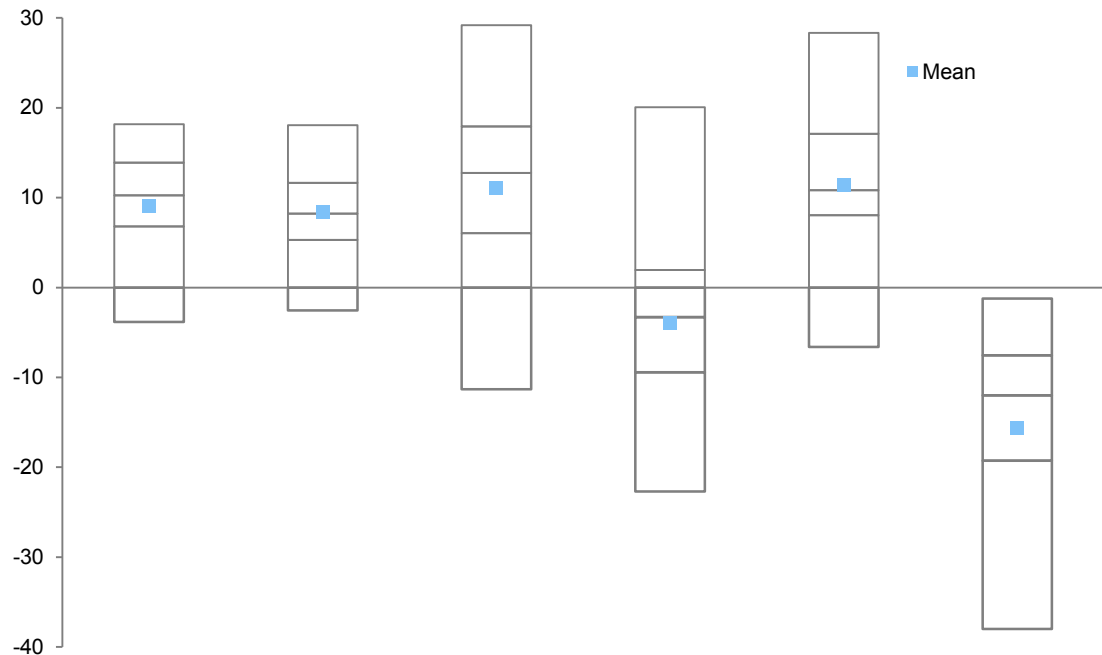
Source: Foundation data as reported to Cambridge Associates LLC.

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

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

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

Figure 4. Dispersion of Participants' Asset Class Returns: Private Investments (One-Year)
Trailing One-Year as of December 31, 2015



	Private Equity ¹	Non-Venture Private Equity ²	Venture Capital	Private Real Assets ³	Private Real Estate	Private Natural Resources
5th Percentile	18.2	18.1	29.2	20.1	28.3	-1.2
25th Percentile	13.9	11.6	17.9	1.9	17.1	-7.5
Median	10.3	8.2	12.8	-3.3	10.8	-12.0
75th Percentile	6.8	5.3	6.0	-9.4	8.0	-19.3
95th Percentile	-3.8	-2.6	-11.3	-22.7	-6.6	-38.0
Mean	9.1	8.4	11.1	-3.9	11.3	-15.7
<i>n</i>	80	79	62	66	59	61
Median by Asset Size						
Under \$300mm	8.4	8.2	11.6	-2.4	10.2	-10.1
<i>n</i>	47	46	32	39	29	33
\$300mm to \$1bn	11.7	8.0	12.9	-4.4	9.7	-12.4
<i>n</i>	18	19	16	15	14	13
Over \$1bn	13.5	8.4	15.9	-3.3	13.2	-14.9
<i>n</i>	15	14	14	12	16	15

Source: Foundation data as reported to Cambridge Associates LLC.

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

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

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

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

participant group across these asset classes alongside returns for relevant indexes (all index returns are in USD terms unless otherwise noted).

Private Equity. Private equity generally made positive contributions to total returns in 2015. For participants in this study, the median IRR for the total private equity composite was 10.3% (Figure 5). Foundations with portfolios greater than \$1 billion reported the highest median composite IRR (13.5%) (Figure 4). Leading the way for this composite again this year was venture capital, which produced a median IRR of 12.8% among participants. While non-venture private equity returns were not as strong, the median IRR (8.2%) was still one of the few asset classes to show positive performance for the year.

Historically, private equity fund returns have varied considerably more than public equities, underscoring the importance of manager selection within this strategy. Excluding outliers that make up the top and

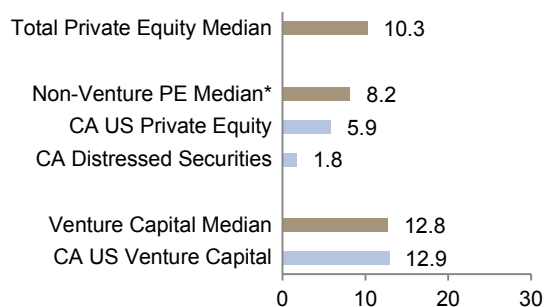
bottom 5% of participants, private equity composite IRRs in 2015 ranged from 18.2% to -3.8% (Figure 4). The range for venture capital was even wider, with a handful of participants reporting IRRs near 30%.

Public Equity. Global public equities had a down year in 2015. Median performance among participants for the total public equity composite was -1.9%, slightly lagging the MSCI All Country World Index in USD terms (Figure 6). Participant returns varied from 0.8% at the 5th percentile to -5.2% at the 95th percentile (Figure 3).

While US equity was the best-performing public equity asset class, the median participant return was just 0.2% (Figure 3). Growth outperformed value, with the Russell 3000® Growth Index outperforming the Russell 3000® Value Index by over 900 basis points (bps). Among participants, returns ranged from 4.9% at the 5th percentile to -3.8% at the 95th percentile, and there was little variation in the median returns of the three asset size groups (Figure 3).

A strong dollar in 2015 was detrimental to global ex US equity returns for unhedged USD investors. The MSCI EAFE Index returned 5.3% in local currency terms (Figure 6). However, the median participant return for developed ex US equities was negative (-0.2%) and just slightly higher than the same index in USD terms (-0.8%). Similarly, the MSCI Emerging Markets Index in local currency terms returned -5.4%, substantially higher than the return in USD terms (-14.6%). The median participant return for emerging markets equity was -13.4%.

Figure 5. Private Equity: Median Participant Return Versus Index Returns
Trailing One-Year as of December 31, 2015



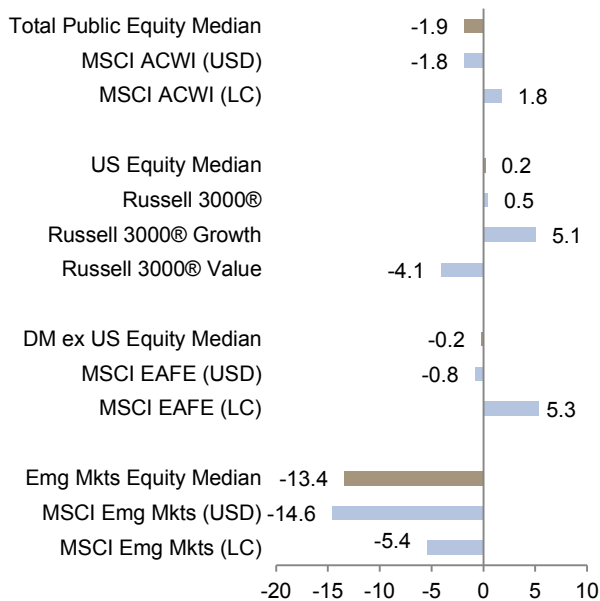
Sources: Cambridge Associates LLC and foundation data as reported to Cambridge Associates LLC.

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

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

Figure 6. Public Equity: Median Participant Return Versus Index Returns

Trailing One-Year as of December 31, 2015



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

Participants with larger portfolios reported developed ex US equity returns that were considerably better relative to those with smaller portfolios. Foundations with assets greater than \$1 billion reported a median return of 2.7% for developed ex US equities, more than 300 bps higher than the median of the other two asset size groups (Figure 3). The gap was even wider in emerging markets equities, where the largest portfolios posted a median return of -7.5%, over 600 bps higher than the median reported by smaller portfolios. Presumably, some of the return differential is attributable to currency hedging, which is likely to be more prevalent among larger portfolios.

Real Assets. Real assets consists of a diversified group of investments, including commodities, natural resources, inflation-linked bonds, and real estate. Natural resources and real estate are broken out between public and private investments in this area. Analysis of index returns for private real estate and private natural resources using the CA Modified Public Market Equivalent (mPME) shows that the private strategies outperformed the reference public indices for 2015 (Figure 11).²

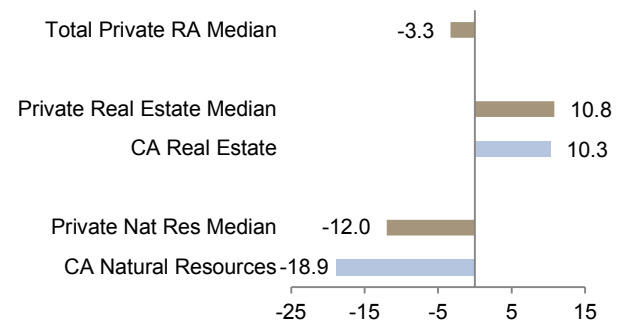
The sharp decline in commodities and natural resources led to a down year for real assets. For participants in this study, the median IRR for the private real assets composite was -3.3% for 2015 (Figure 7). This fell in between the median IRRs for private natural resources (-12.0%) and private real estate (10.8%), reflecting the balance in asset allocations between these strategies.³

² Under the CA mPME methodology, the public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows 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.

³ For foundations that provided a composite IRR for private real assets, the mean allocation to private real estate was 2.7% and the mean allocation to private natural resources was 2.3%.

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

Trailing One-Year as of December 31, 2015



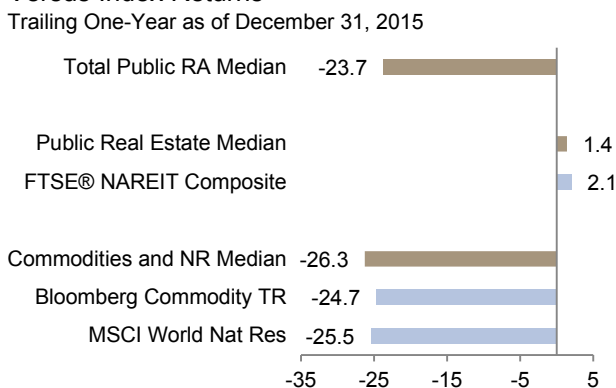
Sources: Foundation data as reported to Cambridge Associates LLC. Index data are provided by Cambridge Associates LLC. Note: Private investment return statistics are reported as horizon internal rates of return (IRRs).

In public real assets, allocations among participants tend to be weighted more heavily toward natural resources and commodities.⁴ Consequently, the performance for the public real assets composite was driven primarily by these strategies. The median participant return for the public real assets composite was -23.7% (Figure 8), just slightly higher than median return for commodities and natural resources (-26.3%).

The varying asset mixes across the diverse substrategies of these composites contributed to a wide range in returns reported across participants. The range of private real assets IRRs from the 5th percentile to the 95th percentile was 43 ppts (Figure 4). The range of public real assets returns was smaller, although still substantial at 24 ppts (Figure 3). For both composites, foundations at the top end of the return distribution had the highest proportional allocations to the outperforming real estate asset classes.

⁴ For foundations that provided a composite return for public real assets, the mean allocation to commodities and public natural resources was 4.3%; the mean allocation to public real estate was 0.5%; and the mean allocation to inflation-linked bonds was 0.3%.

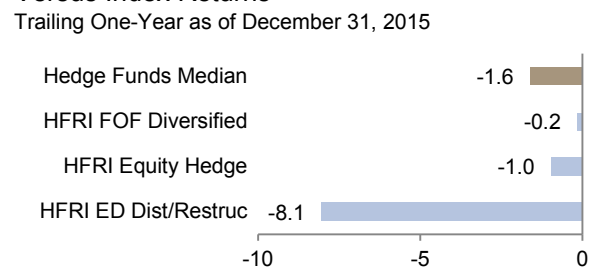
Figure 8. Real Assets: Median Participant Return Versus Index Returns



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

Hedge Funds. Hedge funds had another lackluster year in 2015. The median hedge fund composite return among participants was -1.6% (Figure 9). On an index basis, diversified funds-of-funds that invest across a variety of strategies performed slightly better than equity-oriented funds (-0.2% versus -1.0%). The HFRI ED: Distressed/Restructuring Index had a particularly bad year, returning -8.1%. The variation in hedge fund returns among participants was considerably lower than that of private equity and real assets, ranging from 3.4% to -7.1% excluding outliers making up the top and bottom 5% (Figure 3). The group of foundations with portfolios over \$1 billion was the only of the three asset size groups to report a positive median hedge fund return (0.4%).

Figure 9. Hedge Funds: Median Participant Return Versus Index Returns

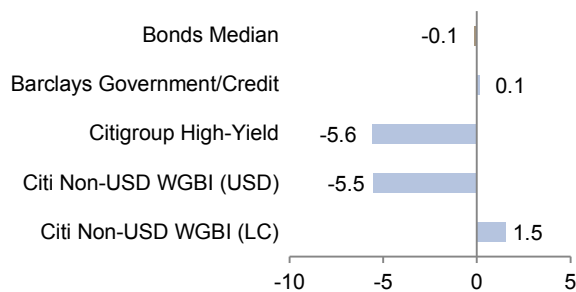


Sources: Foundation data as reported to Cambridge Associates LLC. Index data are provided by Hedge Fund Research, Inc.

Bonds. Median participant performance for bonds was nearly flat (-0.1%) in 2015 (Figure 10). US bonds, as represented by the Barclays Government/Credit Bond Index, did just slightly better, returning 0.1%. The Citigroup Non-US Dollar World Government Bond Index returned 1.5% in local currency terms, but posted a negative return (-5.5%) on a USD basis.

Figure 10. Bonds: Median Participant Return Versus Index Returns

Trailing One-Year as of December 31, 2015



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

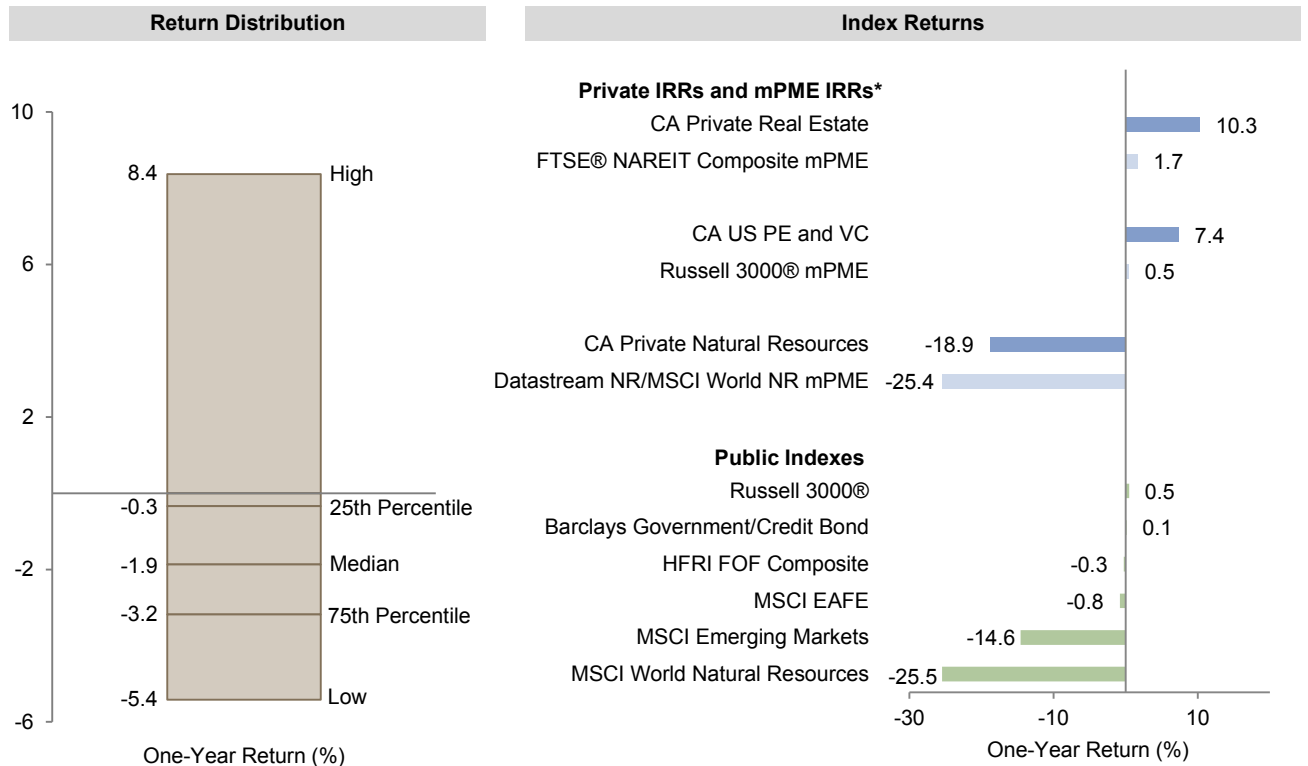
Analysis of Top and Bottom Performers in 2015

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

Asset Allocation. Asset allocation is a key contributor to the total return that a portfolio earns. Figure 11 explores this relationship and illustrates how asset allocation structures tend to vary across the four performance quartiles of the overall participant group. In this exhibit, 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 of the foundations within each quartile.

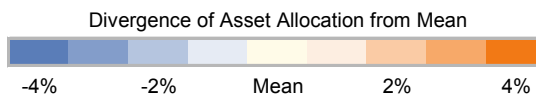
The chart of index returns in Figure 11 provides the context of the market environment for the period. Private investment indexes are pooled horizon IRRs net of fees, expenses, and carried interest, while public indexes are time-weighted returns. Included alongside the private benchmark IRRs are public market returns on a modified public market equivalent basis. The CA mPME replicates private investment performance under public market conditions and allows for an appropriate comparison of private and public market returns. Each of the private strategies outperformed their mPME reference index by a wide margin in 2015.

Figure 11. Analysis of Top and Bottom Quartile Performers: One-Year Asset Allocation
As of December 31, 2015



Mean Asset Allocation by Performance Quartile (%): December 31, 2014 to December 31, 2015

Quartile	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Dist Sec	PE & VC	Private RA	Public RA & ILBs	Cash	Other
Top Quartile	16.5	11.3	7.4	7.7	19.4	3.4	19.1	8.9	2.3	4.2	0.0
2nd Quartile	22.5	14.6	6.7	11.9	18.2	3.3	9.0	4.3	4.3	4.7	0.5
3rd Quartile	21.3	17.4	7.4	12.8	20.2	2.6	6.1	3.1	5.5	3.7	0.0
Bottom Quartile	26.8	18.5	7.9	12.7	16.8	2.5	2.3	0.9	6.6	4.5	0.3
Fdn Universe Mean	21.7	15.4	7.4	11.2	18.7	3.0	9.2	4.3	4.6	4.3	0.2



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

Notes: Performance quartiles are based on the long-term investment portfolio's (LTIP) trailing one-year return as of December 31, 2015. Mean allocations are for the two December 31 time periods from 2014–2015. Analysis includes 109 foundations.

* 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. The Russell 3000® mPME IRR is calculated against CA Private Equity and Venture Capital combined.



The greatest disparity between top and bottom performers continues to be the way in which the overall equity portfolio is allocated. Foundations that posted a trailing one-year return in the top quartile had the highest average allocation to the outperforming PE/VC asset classes (19.1%). Those in the bottom quartile of performers reported an average allocation of just 2.3%. Conversely, the top quartile of performers reported the lowest average allocation to public equities, while the bottom quartile of performers had the highest average allocation.

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

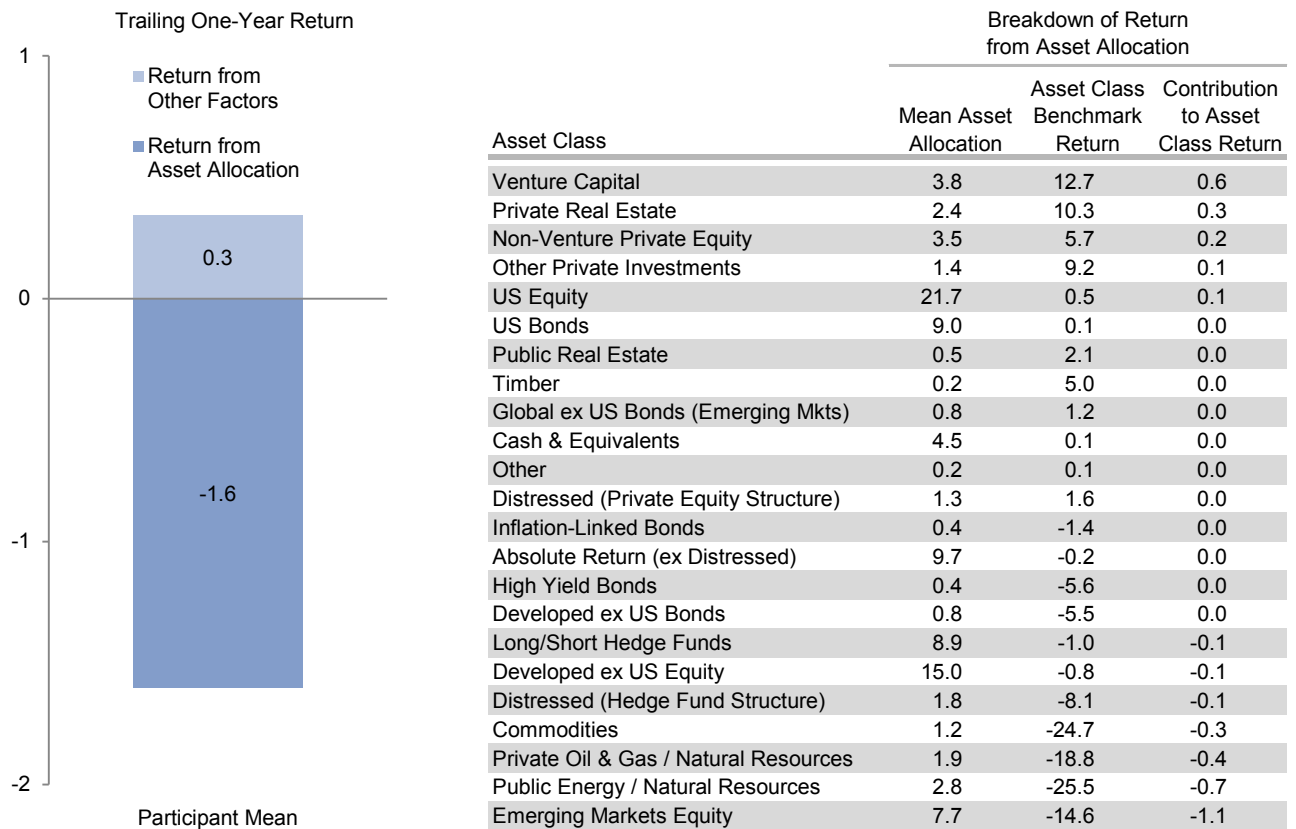
Attribution. While asset allocation is a key driver of performance, it does not fully explain the variation of returns reported across different foundations. The execution or implementation of an asset allocation strategy also contributes to the total returns that portfolios earn. While we do not have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

Figure 12 illustrates the results of an estimated attribution analysis based on the one-year return and beginning fiscal year asset allocation of 109 respondents that provided sufficient data. The darker shading on the bar chart represents the portion of the mean participant return that can be attributed to asset allocation and is calculated using a blend of representative asset class benchmarks weighted according to each institution's asset allocation. The lighter shading of the bar is calculated by subtracting the mean asset allocation return from the mean participant return and is the portion of the total return that cannot be explained by asset allocation. This "other" portion of returns is principally driven by implementation or execution decisions, which can include active management and manager selection.⁵

The attribution analysis estimates that the majority of the mean total return for the participant group could be explained by asset allocation in 2015. Emerging markets equities, which returned -14.6% on an index basis and had an average beginning year allocation of 7.7%, had the greatest impact of all the asset class return contributors (-1.1%). Venture capital, which represented just under 4% of the mean portfolio, had the largest positive asset class return contribution due to its top performance on an index basis. Private real estate and non-venture private equity also made notable positive contributions to returns, while natural resources and commodities detracted from portfolio performance.

⁵ This model assumes that flows to and from investment managers take place on the last day of the 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 12. Attribution Analysis
As of December 31, 2015 • Percent (%)



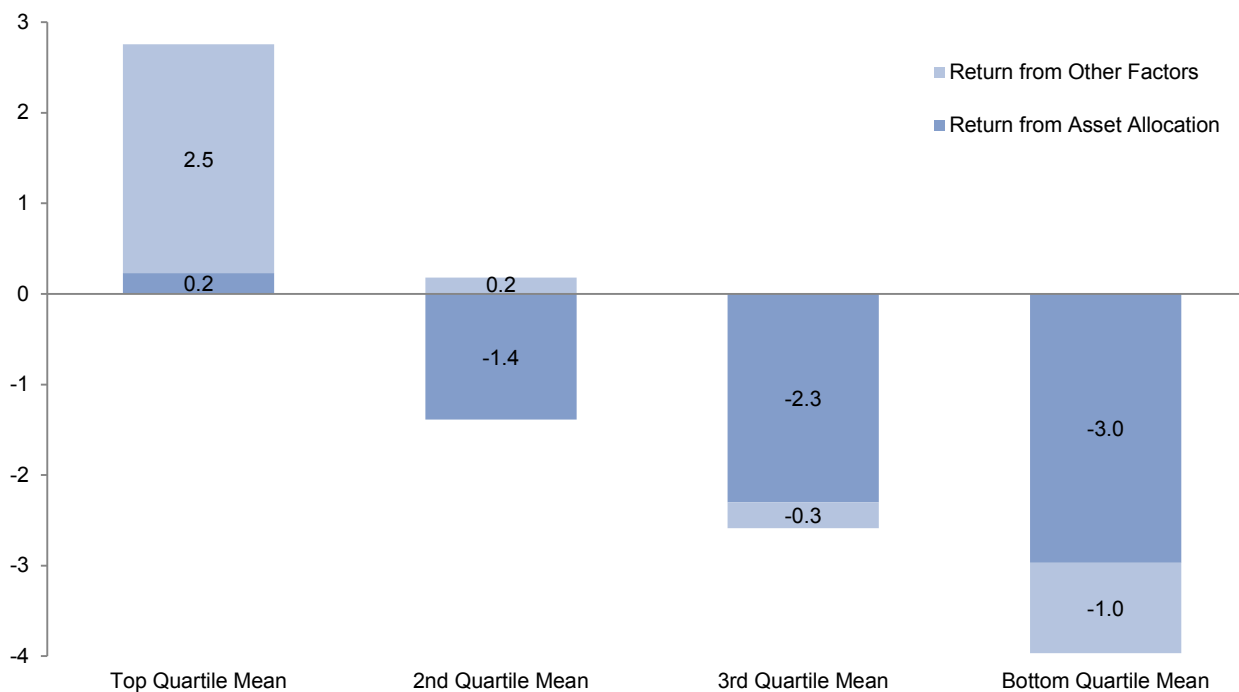
Sources: Foundation data as reported to Cambridge Associates LLC. Index data provided by Barclays, Bloomberg L.P., BofA Merrill Lynch, Cambridge Associates LLC, Citigroup Global Markets, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., J.P. Morgan Securities, Inc., MSCI Inc.,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

Notes: Includes data for 109 foundations that provided beginning fiscal year asset allocation. Mean asset allocation is as of December 31, 2014. The sum of the contribution to asset class return for all categories in the table equals the amount of the total return that was explained by asset allocation. To be consistent with the methodology in which private investment returns are incorporated into the total portfolio composite calculation, private investment benchmark returns are linked quarterly horizon returns.

A breakdown of the attribution data into the four performance quartiles of the overall group highlights the different experiences among institutions (Figure 13). The model estimates that the top performance quartile was the only quartile with a positive mean asset allocation return in 2015. As displayed previously in Figure 11, these institutions had the highest allocations to the outperforming private investment asset

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

Figure 13. Attribution Analysis by Performance Quartile: Trailing One-Year Return
As of December 31, 2015 • Percent (%)



Source: Foundation data as reported to Cambridge Associates LLC.

Note: Includes data for 109 foundations that provided beginning fiscal year asset allocation.

Return Calculation Methodologies.

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

Private Investments. Foundations used two main methodologies to account for private investments in their 2015 total portfolio return. The most frequently used methodology was to report returns on a current basis, meaning the total portfolio return incorporated private investment valuations for the entire calendar year period. The second most frequently used methodology to account for private investments was the lagged basis. Under this methodology, private investment valuations lag other

assets in the portfolio by one quarter. In essence, the private investment portion of the 2015 total return represents performance for the period of October 1, 2014, to September 30, 2015.

When assessing the impact of these two methodologies, it is important to consider private investment returns for both fourth quarter 2014 and fourth quarter 2015. With the lagged basis methodology, performance for the former period will be included in the 2015 total return calculation, while performance for the latter period will be excluded. The Cambridge Associates private investment index returns for fourth quarter 2014 were significantly stronger than fourth quarter 2015 returns for venture capital, but weaker for natural resources. Among the

other private strategies, the return differential was smaller but favored the fourth quarter 2014 period.

For a blended private investment benchmark weighted according to the overall participant group's average asset allocation, the return for fourth quarter 2014 was 2.6% (Figure 14), 280 bps higher than the return for fourth quarter 2015. For a portfolio with a 14.5% allocation to private investments weighted according to the average asset mix, the differential in benchmark returns between the two periods could impact the total portfolio return by approximately 40 bps.⁶ The actual impact for each portfolio will vary depending on each foundation's allocation to the various private strategies as well as its investment return within these strategies.

⁶ This impact on the total return is estimated by multiplying the overall participant group's mean beginning year private investment allocation (14.5%) by the difference in the fourth quarter 2014 and fourth quarter 2015 blended benchmark return (280 bps).

Figure 14. Cambridge Associates Private Investment Index Returns

	One Quarter Horizon Pooled Return		Beginning Year Mean Asset Allocation
	Q4 2014	Q4 2015	
US Private Equity	0.9	0.5	4.2
US Venture Capital	10.1	1.6	4.5
Distressed Securities	0.2	-0.1	1.3
Real Estate	4.7	2.4	2.4
Natural Resources	-11.4	-8.2	2.1

Blended Benchmark Return	
Q4 2014	2.6
Q4 2015	-0.2

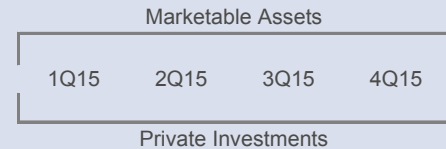
Source: Foundation data as reported to Cambridge Associates LLC.

Note: Blended benchmark incorporates the return for each asset class and is weighted according to the beginning year mean allocation of private investments for the total participant group.

Performance Reporting Methodologies

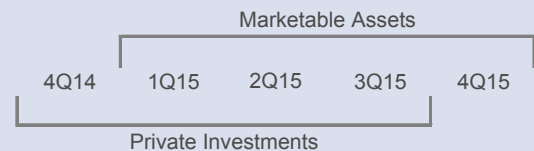
Current Basis

Total investment pool return for 2015 includes marketable asset and private investment performance for January 1, 2015, to December 31, 2015. Of the 72 institutions using this methodology, 69 used confirmed private investment valuations and 3 used estimated valuations.



Lagged Basis

Total investment pool return for 2015 includes marketable asset performance for January 1, 2015, to December 31, 2015, and private investment performance for October 1, 2014, to September 30, 2015.



Methodologies Used by Participants

Asset Size	Current Basis	Lagged Basis	Other	No PI Allocation
Under \$300mm	69%	0%	5%	26%
<i>n</i>	45	0	3	17
\$300mm to \$1bn	83%	9%	0%	9%
<i>n</i>	19	2	0	2
Over \$1bn	32%	64%	4%	0%
<i>n</i>	8	16	1	0
All Institutions	64%	16%	4%	17%
<i>n</i>	72	18	4	19

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. Foundations with no significant private investment allocations (<1% of their total investment portfolios) are reflected in the right-hand column.

Net of Fee Calculations. Nearly all participating foundations (112 of 113) in this study provided performance on a net-of-fee basis. The vast majority (88%) of respondents deduct only asset- and performance-based management fees while another 10% also deduct custody expenses. Only two foundations deducted other investment oversight costs such as staff salaries, travel expenses, and overhead costs (Figure 15).

Figure 15. Calculation of Net Returns 2015

<i>Number of Institutions</i>	96	11	2
<i>% of Institutions</i>	88	10	2
Asset-Based Management Fees	x	x	x
Perf-Based Management Fees	x	x	x
Custody Fees		x	x
Consulting Fees			x
Staff Salaries			x
Travel Expenses			x
Legal Expenses			x
Accounting Expenses			x
IC Meetings Costs			x
Rents/Space Costs			x

Source: Foundation data as reported to Cambridge Associates LLC.

Note: Three foundations did not provide detail on the types of fees deducted.

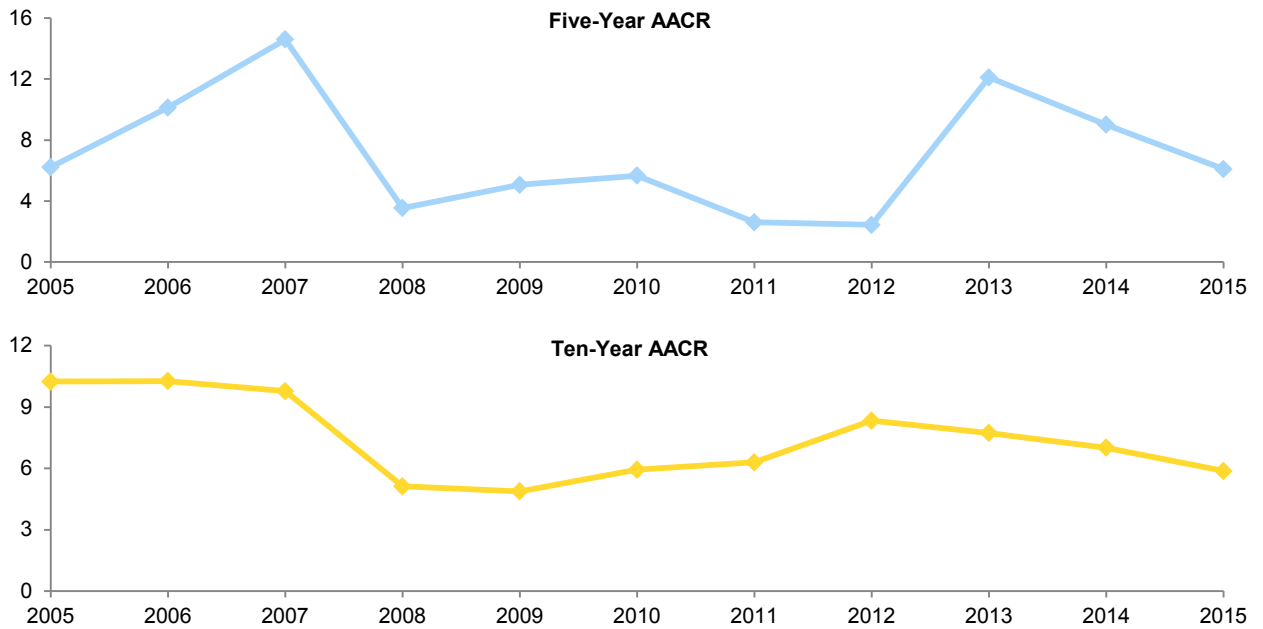
Long-Term Returns

The mean average annual compound return (AACR) was 5.5% for the five-year period ending December 31, 2015 (Figure 1). Foundations with assets greater than \$1 billion reported the highest average five-year return (7.5%) (Figure 2). For a constant group of foundations that have consistently reported historical performance, the return for the most recent five-year period lies in the middle of those which have been observed over the last decade (Figure 16).

The mean nominal AACR for the ten-year period was 5.3% (Figure 1), with the largest portfolios again reporting the highest mean return (6.5%) (Figure 2). For the constant group of institutions, the most recent ten-year period is one of the lowest return periods reported over the last decade, surpassing only the ten-year periods ending in 2008 and 2009 (Figure 16).

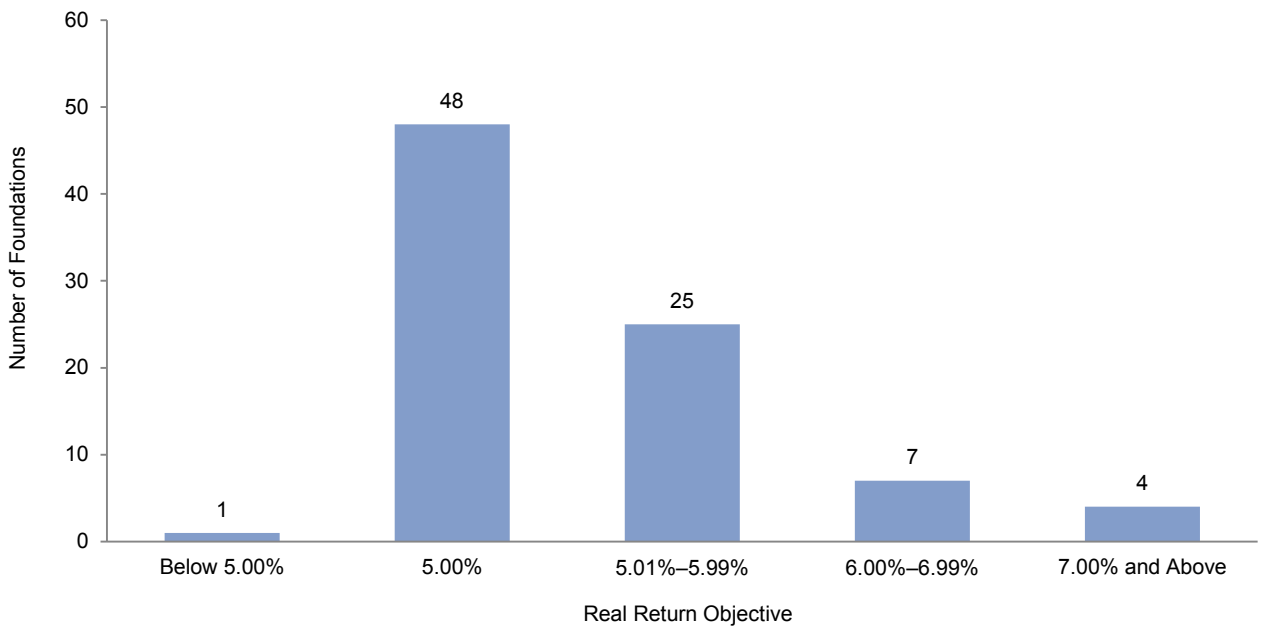
Most foundations, particularly private non-operating foundations that are influenced by government-mandated spending requirements, generally aim to distribute approximately 5% of their portfolio on an annual basis. To maintain purchasing power over the long term, foundations must achieve a real return that offsets this spending rate. Of the foundations that provided a long-term real total return objective, a majority (48 of 85) aim to earn 5% (Figure 17). Virtually all of the remaining foundations (36 of 85) have an objective to achieve a long-term real return above 5%. Through the trailing ten-year period ending December 31, 2015, the average real return for participating foundations was

Figure 16. Rolling Five-Year and Ten-Year Mean Average Annual Compound Returns
Years Ended December 31 • Percent (%)



Source: Foundation data as reported to Cambridge Associates LLC.
Note: Analysis includes data for 47 institutions that provided returns for the last 20 years.

Figure 17. Real Total Portfolio Return Objectives



Source: Foundation data as reported to Cambridge Associates LLC.
Note: Graph includes data for 85 foundations that provided a real total portfolio return objective.



just 3.4% (Figure 1). For the foundations that provided spending rates for the last ten years, the average ten-year real return after spending was -1.1%.

Relative Returns: Simple Portfolio

Benchmark. A simple portfolio benchmark helps evaluate the decision to adopt the endowment model of investing where a portion of assets are allocated across non-traditional less liquid assets. In recent years, most foundations have underperformed a simple 70/30 benchmark that uses a US index for the equity component, reflecting the asset class's strong performance relative to most other investment strategies. The average return for participants underperformed this simple benchmark by 420 bps for the trailing five-year period and by 160 bps for the trailing ten-year period. Foundations have fared better against a 70/30 benchmark that uses a global equity index, underperforming by just 40 bps and 20 bps over the five- and ten-year periods, respectively (Figure 1).

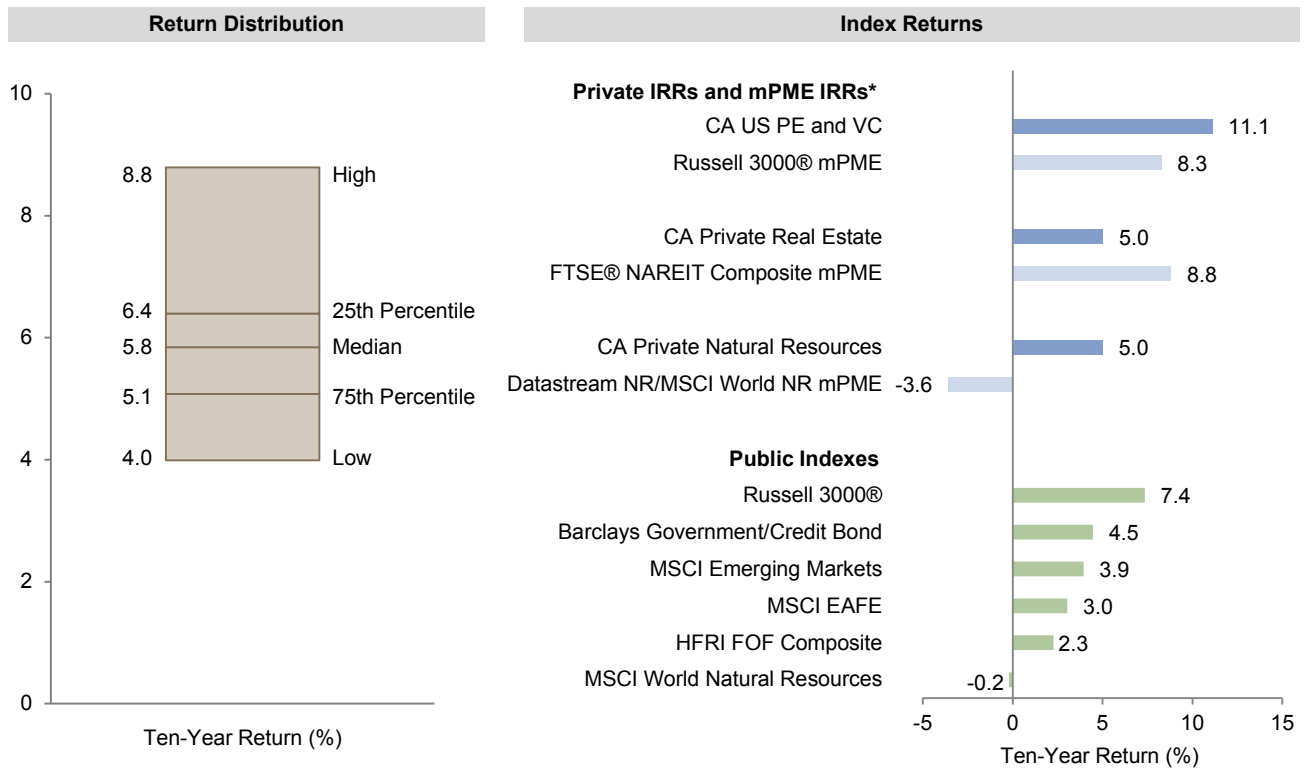
Private equity was the only major asset class strategy that outperformed US equities over the trailing ten-year period. The Cambridge Associates US Private Equity and Venture Capital Index outperformed the Russell 3000® mPME by 280 bps over the past ten years. Foundations with higher allocations to these private strategies generally posted the best returns over the last decade.

Figure 18 breaks out foundations that provided asset allocation data over the last decade into four quartiles based on the trailing ten-year return. Each foundation's asset allocation data was averaged across the eleven December 31 periods that fell from

2005 to 2015. The four quartiles in the heat map table represent the average of the foundations that fall within each quartile. Foundations that posted a trailing ten-year return in the top quartile had the highest average allocation to the outperforming PE/VC asset classes (12.0%). Those in the bottom quartile of performers reported an average allocation of just 4.4%.

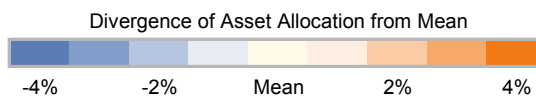
The attribution model also points to an outperforming asset allocation structure for the top performance quartile over the last decade. However, the model also suggests that implementation decisions were responsible for most of the dispersion in performance between top and bottom performers. Figure 19 shows that the top performance quartile had a mean asset allocation return of 5.4%, approximately 0.9 ppts higher than the bottom performance quartile. The top performance quartile also added another 1.7% through implementation decisions while the bottom performance quartile added just 0.2%. 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 18. Analysis of Top and Bottom Quartile Performers: Trailing Ten-Year Asset Allocation
As of December 31, 2015



Mean Asset Allocation by Performance Quartile (%): December 31, 2005 to December 31, 2015

Quartile	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Dist Sec	PE & VC	Private RA	Public RA & ILBs	Cash	Other
Top Quartile	21.4	12.2	7.6	10.6	16.9	3.2	12.0	7.5	3.8	4.7	0.1
2nd Quartile	22.0	14.0	5.9	11.7	18.5	3.9	8.8	5.4	4.9	4.6	0.4
3rd Quartile	23.9	15.4	5.8	13.7	17.8	2.2	7.0	3.6	7.7	2.8	0.1
Bottom Quartile	25.7	17.5	6.4	16.8	14.5	2.4	4.4	2.6	7.1	2.6	0.1
Fdn Universe Mean	23.2	14.7	6.5	13.1	16.9	2.9	8.1	4.8	5.8	3.7	0.1

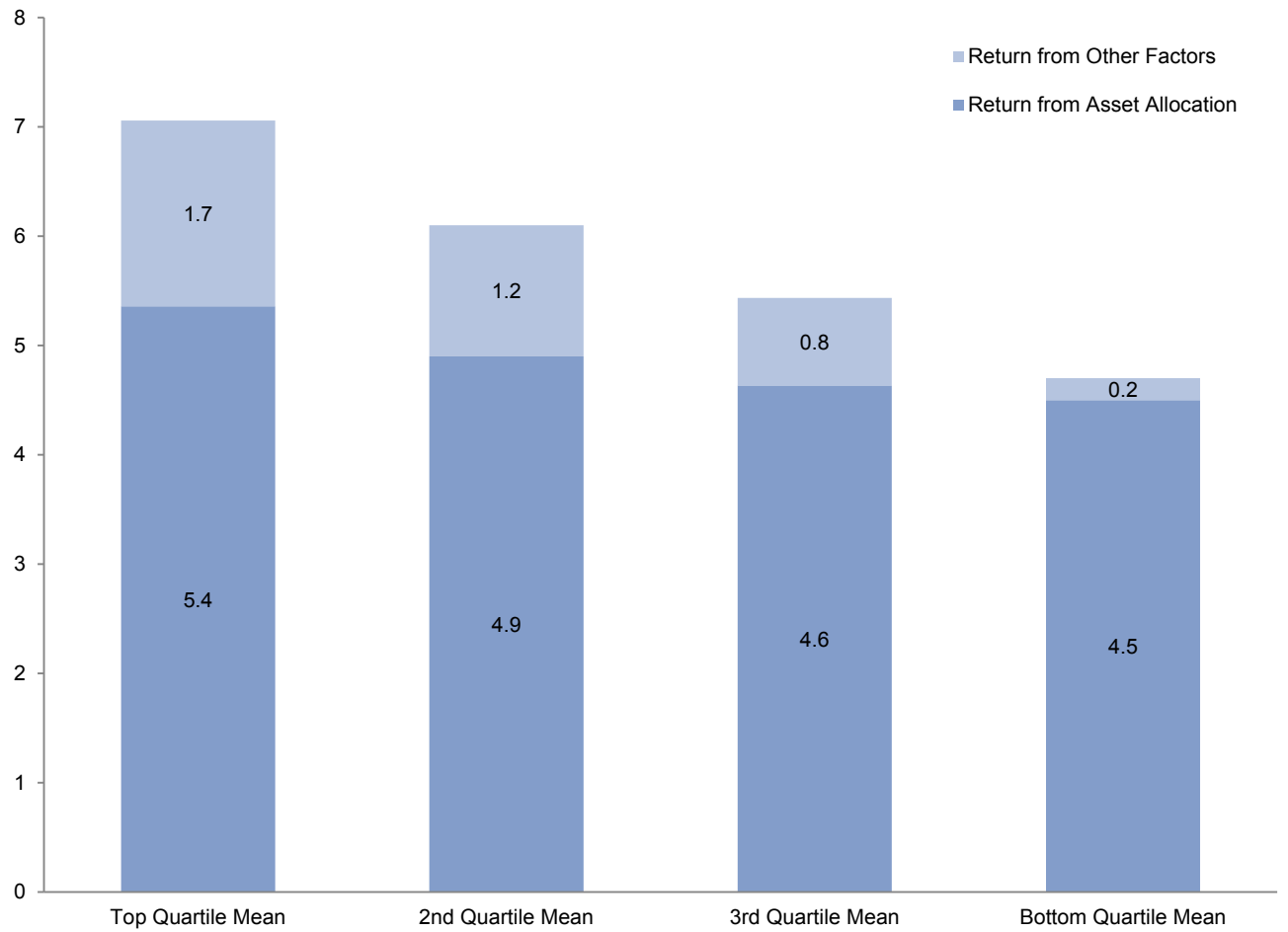


Sources: Foundation data as reported to Cambridge Associates LLC. Index data are provided by Barclays, Cambridge Associates LLC, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., MSCI Inc., the National Association of Real Estate Investment Trusts, and Thomson Reuters Datastream.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

Notes: Performance quartiles are based on the long-term investment portfolio's (LTIP) trailing ten-year return as of December 31, 2015. Mean allocations are for the 11 December 31 periods from 2005 to 2015. Analysis includes 49 foundations.

* 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. The Russell 3000® mPME is calculated against CA Private Equity and Venture Capital combined.

Figure 19: Attribution Analysis by Performance Quartile: Trailing Ten-Year Return
 As of December 31, 2015 • Percent (%)



Source: Foundation data as reported to Cambridge Associates LLC.
 Note: Includes data for 49 foundations.

Figure 20. Dispersion of Participants' Asset Class Returns: Marketable Investments (Trailing Five- and Ten-Year)
As of December 31, 2015

	Public Equity ¹	Global Equity ²	US Equity	DM ex US Equity	EM Equity	Bonds	Hedge Funds	Public Real Assets ³	Commodities and Natural Resources	Public Real Estate
Trailing Five-Year										
5th Percentile	9.2	12.8	15.3	7.2	2.5	4.6	6.4	-1.2	-3.1	11.9
25th Percentile	7.3	11.4	13.2	5.7	-1.7	3.5	5.1	-5.1	-7.4	10.5
Median	6.7	9.2	11.8	4.2	-3.4	2.9	4.2	-8.1	-10.1	9.6
75th Percentile	5.7	7.5	10.7	3.4	-5.0	2.4	3.4	-11.7	-12.8	6.5
95th Percentile	4.6	2.7	8.2	1.9	-7.0	1.3	2.0	-14.1	-15.5	4.7
Mean	6.8	8.8	11.8	4.5	-2.9	2.9	4.3	-8.3	-10.0	8.6
<i>n</i>	94	33	90	88	78	90	92	68	64	9
Trailing Ten-Year										
5th Percentile	7.8	10.1	9.9	6.5	8.5	5.9	7.0	1.3	0.2	9.4
25th Percentile	6.2	8.8	8.2	5.0	5.7	5.1	6.1	-0.2	-0.5	6.7
Median	5.5	8.2	7.1	4.1	4.7	4.5	5.2	-2.0	-2.6	6.4
75th Percentile	4.9	7.1	6.4	2.9	3.4	3.8	4.4	-3.8	-4.2	6.3
95th Percentile	3.4	2.6	5.4	1.5	2.1	2.7	3.2	-6.3	-7.9	4.9
Mean	5.6	7.4	7.4	4.0	4.8	4.4	5.3	-2.2	-2.9	6.7
<i>n</i>	79	12	75	67	53	68	65	41	32	7

Source: Foundation data as reported to Cambridge Associates LLC.

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

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

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

Figure 21. Dispersion of Participants' Asset Class Returns: Private Investments
(Trailing Five- and Ten-Year)

As of December 31, 2015

	Private Equity ¹	Non-Venture Private Equity ²	Venture Capital	Private Real Assets ³	Private Real Estate	Private Natural Resources
Trailing Five-Year						
5th Percentile	20.3	23.8	29.0	13.7	21.1	9.0
25th Percentile	15.2	13.6	20.7	9.7	13.4	3.9
Median	13.1	11.9	16.2	6.2	11.5	1.1
75th Percentile	11.3	10.3	13.1	3.1	9.4	-1.1
95th Percentile	5.7	5.4	1.1	-1.9	1.3	-9.1
Mean	13.1	12.3	16.0	6.0	11.3	0.8
<i>n</i>	70	70	55	55	52	51
Trailing Ten-Year						
5th Percentile	15.2	17.2	24.4	14.8	13.2	15.8
25th Percentile	12.8	12.7	16.0	7.0	5.9	8.1
Median	11.3	10.6	12.5	4.3	3.1	5.5
75th Percentile	9.4	8.9	9.3	2.5	1.0	2.5
95th Percentile	5.4	4.9	4.7	-1.5	-7.5	1.2
Mean	11.2	11.1	12.7	6.7	7.4	6.3
<i>n</i>	53	54	39	41	38	33

Source: Foundation data as reported to Cambridge Associates LLC.

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

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

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

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

Policy Portfolio Benchmarks

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

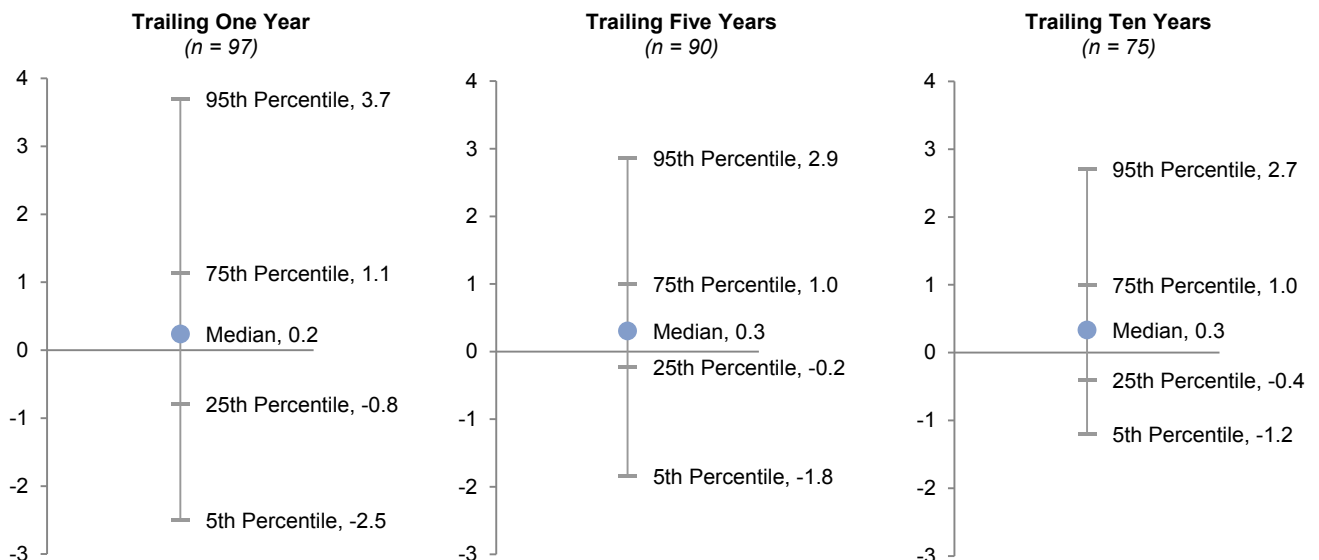
The comparison of an institution's return to its policy portfolio benchmark is the true mark for determining whether a portfolio is being successfully managed against its target investment policy. For the foundations that provided performance for their policy portfolio benchmark, the median difference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

return and the benchmark was 0.2% for 2015 (Figure 22). Approximately 53% of these foundations (51 of 97) earned a return that surpassed their policy portfolio benchmark for the trailing one-year period. The median difference between the total portfolio AACR and the policy benchmark was 0.3 ppts for both the trailing five- and ten-year periods.

Policy Portfolio Benchmark

Components. Nearly all of the respondents (98 of 105) that provided a policy portfolio benchmark use a detailed, asset class-specific benchmark to evaluate the performance of the total portfolio. Figure 23 summarizes the most frequently used benchmarks in policy portfolios by asset class/strategy.

Figure 22. Range of Out/Underperformance of Total Return Versus Policy Portfolio Benchmark
As of December 31, 2015 • Percentage Points



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.

Figure 23. Frequently Used Components of Policy Portfolio Benchmarks
As of December 31, 2015

Simple Policy Benchmarks (n = 7)		
	Benchmark Description	Percent (%) of Institutions
Simple Benchmark Combinations	Combination: MSCI All Country World and Barclays Aggregate Bond indexes	28.6
	5 Other Unique Benchmarks/Combinations	71.4
Detailed Policy Benchmarks (n = 98)		
Asset Class/Strategy	Benchmark Description	Percent (%) of Institutions
Global Equity (n = 36)	MSCI All Country World Index	70.3
	Combination: MSCI World and MSCI Emerging Markets indexes	10.8
	MSCI World Index	10.8
	3 Other Unique Benchmarks/Combinations	8.1
US Equity (n = 60)	Russell 3000® Index	45.0
	Wilshire 5000 Index	23.3
	S&P 500 Index	16.7
	7 Other Unique Benchmarks/Combinations	15.0
Global ex US Equity (n = 60)	Combination: MSCI EAFE and MSCI Emerging Markets indexes	55.0
	MSCI All Country World ex US Index	21.7
	Combination: MSCI All Country World ex US and MSCI Emerging Markets indexes	8.3
	6 Other Unique Benchmarks/Combinations	15.0
Bonds (n = 98)	Barclays Aggregate Bond Index	28.3
	Barclays Government/Credit Bond Index	6.1
	Combination: Barclays Aggregate Bond and Citigroup WGBI indexes	5.1
	44 Other Unique Benchmarks/Combinations	60.6
Hedge Funds (n = 87)	HFRI Fund of Funds Diversified Index	33.3
	HFRI Fund of Funds Composite Index	27.6
	91-Day Treasury Bills + 5%	6.9
	25 Other Unique Benchmarks/Combinations	32.2
Private Investments (n = 56)	Cambridge Associates LLC Private Equity® and/or Venture Capital® indexes	44.6
	S&P 500 Index + prespecified percentage	14.3
	Russell 3000® Index + prespecified percentage	12.5
	10 Other Unique Benchmarks/Combinations	28.6

Source: Foundation data as reported to Cambridge Associates LLC.

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

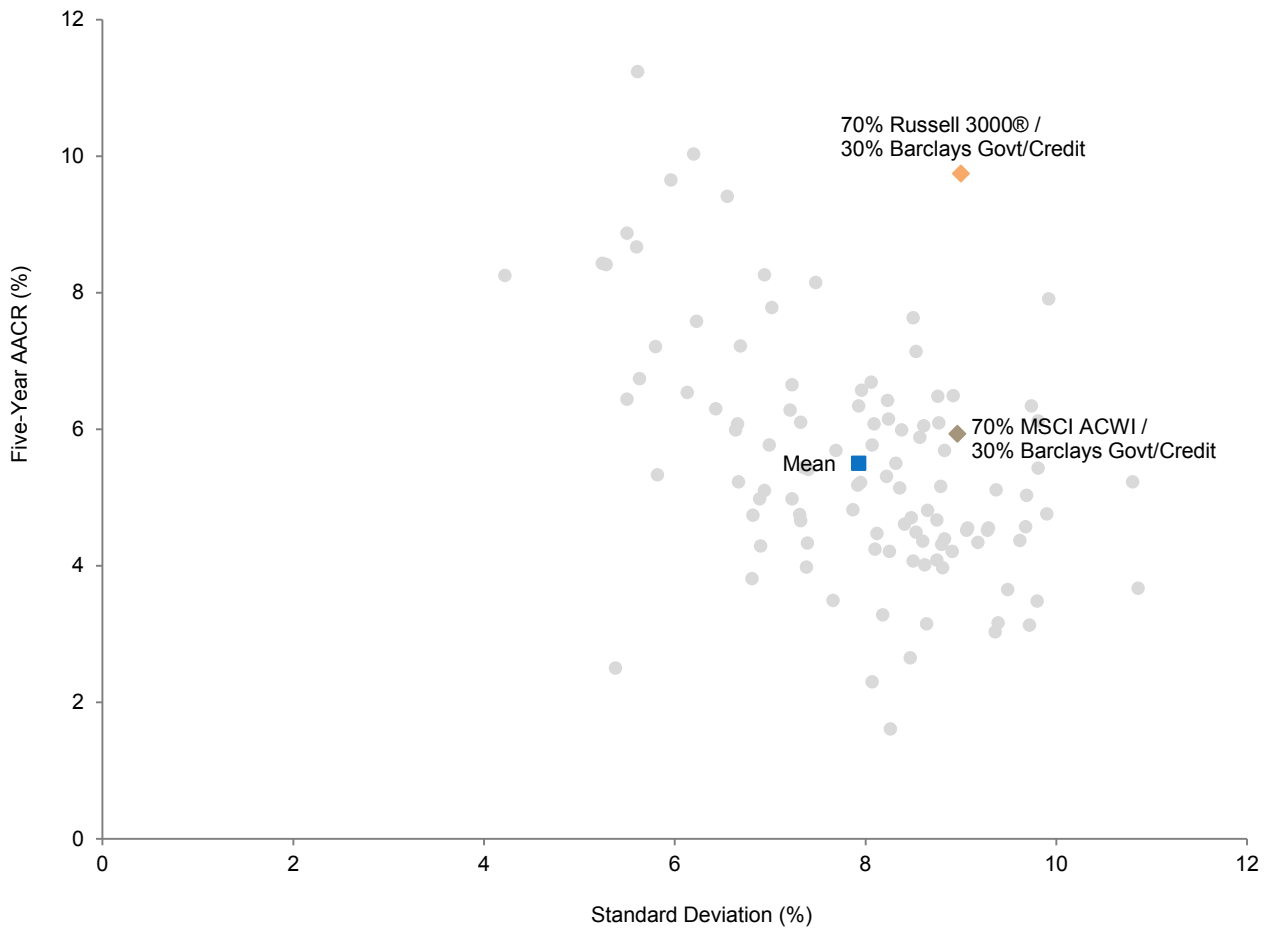
The most commonly cited benchmark used to evaluate the US equity portion of the portfolio was the Russell 3000® Index. Global ex US equity was most often measured by a blend of the MSCI EAFE and MSCI Emerging Markets indexes. The Cambridge Associates LLC Private Equity and Venture Capital indexes were the most frequently used benchmarks for private investments. Many foundations incorporate a global equity component into their policy benchmark, which in some cases is used to measure their entire equity portfolio (including private equity). For foundations using a global equity component, the most common is the MSCI All Country World Index.

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

Risk-Adjusted Performance

The most common approach to measuring risk-adjusted performance is by the Sharpe ratio, which shows how much return above the risk-free rate (T-bills) the investor has earned per unit of risk (defined as the standard deviation of returns). The higher the Sharpe ratio, the more the investor has been compensated for each unit of risk taken. While the average standard deviation among foundations was lower compared to a simple 70/30 benchmark containing a US equity component, the group's average return underperformed the simple benchmark by over 400 bps (Figure 24). As a result, the average Sharpe ratio of respondents over the trailing five-year period (0.75) was lower than that of the domestic 70/30 benchmark (1.08). The Sharpe ratio for a 70/30 benchmark with a global equity component was 0.68. ■

Figure 24. Risk/Return and Sharpe Ratio
Five Years Ended December 31, 2015



	Five-Year AACR (%)	Standard Deviation (%)	Sharpe Ratio
5th Percentile	8.6	9.8	1.56
25th Percentile	6.4	8.8	0.84
75th Percentile	4.4	7.0	0.53
95th Percentile	3.1	5.5	0.37
Mean	5.5	7.9	0.75
Median	5.2	8.2	0.67
<i>n</i> = 107			
70% Russell 3000® / 30% Barclays Govt/Credit	9.7	9.0	1.08
70% MSCI ACWI / 30% Barclays Govt/Credit	5.9	9.0	0.68

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

Note: Analysis includes only institutions that provided underlying quarterly returns, and excludes those that provided only annual returns.



Portfolio Asset Allocation

2015 Asset Allocation

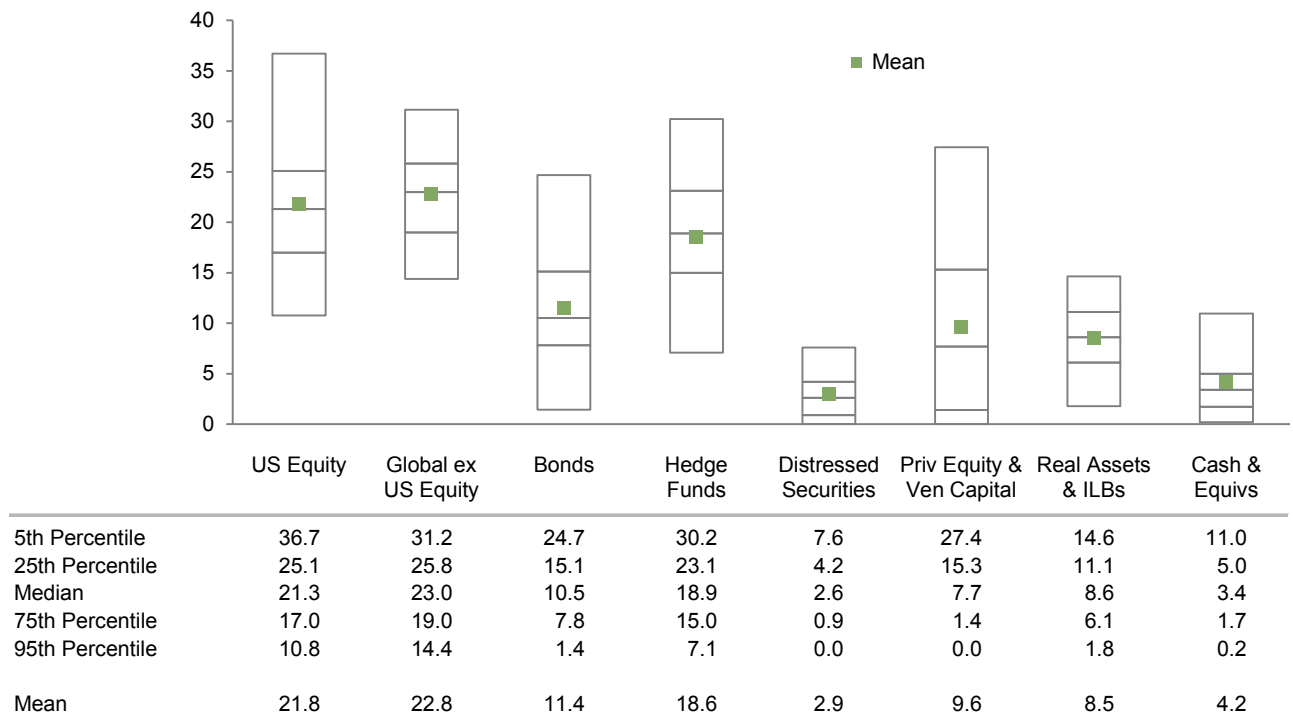
Nearly 45% of the average long-term investment portfolio (LTIP) consisted of public equities at December 31, 2015. On average, allocations to global ex US equities (22.8%) were slightly higher than those to US equities (21.8%). Portfolios had significant exposure to alternative assets, with 18.6% allocated to hedge funds and 9.6% allocated to private equity/venture capital, on average. Another 2.9% 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 8.5% of portfolios, on average. Average allocations to bonds and cash were 11.4% and 4.2%, respectively (Figure 25).

As Figure 26 shows, allocations to these broad asset classes vary considerably. A key factor in the variation of asset allocations continues to be the total value of assets under management. Smaller portfolios continue to maintain higher allocations to public equities and bonds, while larger portfolios have higher allocations to private investments.

Figure 25. Asset Allocation Distribution by Asset Class

As of December 31, 2015 • Percent (%) • $n = 113$



Source: Foundation data as reported to Cambridge Associates LLC.

Figure 26. Summary Asset Allocation by Asset Size

As of December 31, 2015 • Percent (%)

	Under \$300mm (n = 65)		From \$300mm to \$1bn (n = 23)		Over \$1bn (n = 25)	
	Mean	Median	Mean	Median	Mean	Median
US Equity	23.7	22.7	20.2	19.8	18.4	17.5
Global ex US Equity	24.6	24.6	21.9	22.7	19.0	18.4
Developed Markets	17.7	17.6	14.7	15.1	11.8	10.7
Emerging Markets	6.9	7.2	7.2	7.6	7.2	6.6
Bonds	13.5	12.6	10.3	9.5	7.0	6.7
US Bonds	11.6	11.5	9.3	9.3	5.7	6.7
Global ex US Bonds (Developed)	1.0	0.3	0.4	0.0	0.5	0.0
Global ex US Bonds (Emerging)	0.6	0.0	0.5	0.0	0.4	0.0
High-Yield Bonds	0.3	0.0	0.2	0.0	0.5	0.0
Hedge Funds	17.9	18.1	19.9	19.5	19.0	19.4
Long/Short Hedge Funds	8.8	8.3	9.4	8.1	7.8	8.0
Absolute Return (ex Distressed)	9.1	8.8	10.5	9.0	11.2	9.4
Distressed Securities	2.4	2.0	3.1	3.8	4.1	3.4
Hedge Fund Structure	1.6	1.4	1.5	1.5	2.4	2.0
Private Equity Structure	0.8	0.2	1.6	1.7	1.8	0.9
Private Equity & Venture Capital	5.6	3.1	12.0	10.5	17.9	16.1
Venture Capital	2.0	0.4	6.9	5.8	9.4	8.5
Non-Venture Private Equity	2.1	0.5	4.5	4.1	7.8	7.5
Other Private Investments	1.5	0.4	0.6	0.4	0.7	0.0
Real Assets & Infl-Linked Bonds	7.8	8.0	8.7	8.8	10.0	9.9
Private Real Estate	1.5	0.3	2.1	1.9	4.4	4.2
Public Real Estate	0.5	0.0	0.7	0.0	0.3	0.0
Commodities	1.1	0.4	0.6	0.3	0.6	0.0
Inflation-Linked Bonds	0.3	0.0	0.3	0.0	0.5	0.0
Private Oil & Gas/Natural Resources	1.0	0.3	2.3	2.5	3.0	3.4
Timber	0.1	0.0	0.3	0.0	0.3	0.0
Public Energy/Natural Resources	3.3	3.3	2.5	2.1	0.9	0.0
Cash & Equivalents	4.1	3.6	4.0	3.4	4.5	3.1
Other	0.2	0.0	0.0	0.0	0.3	0.0

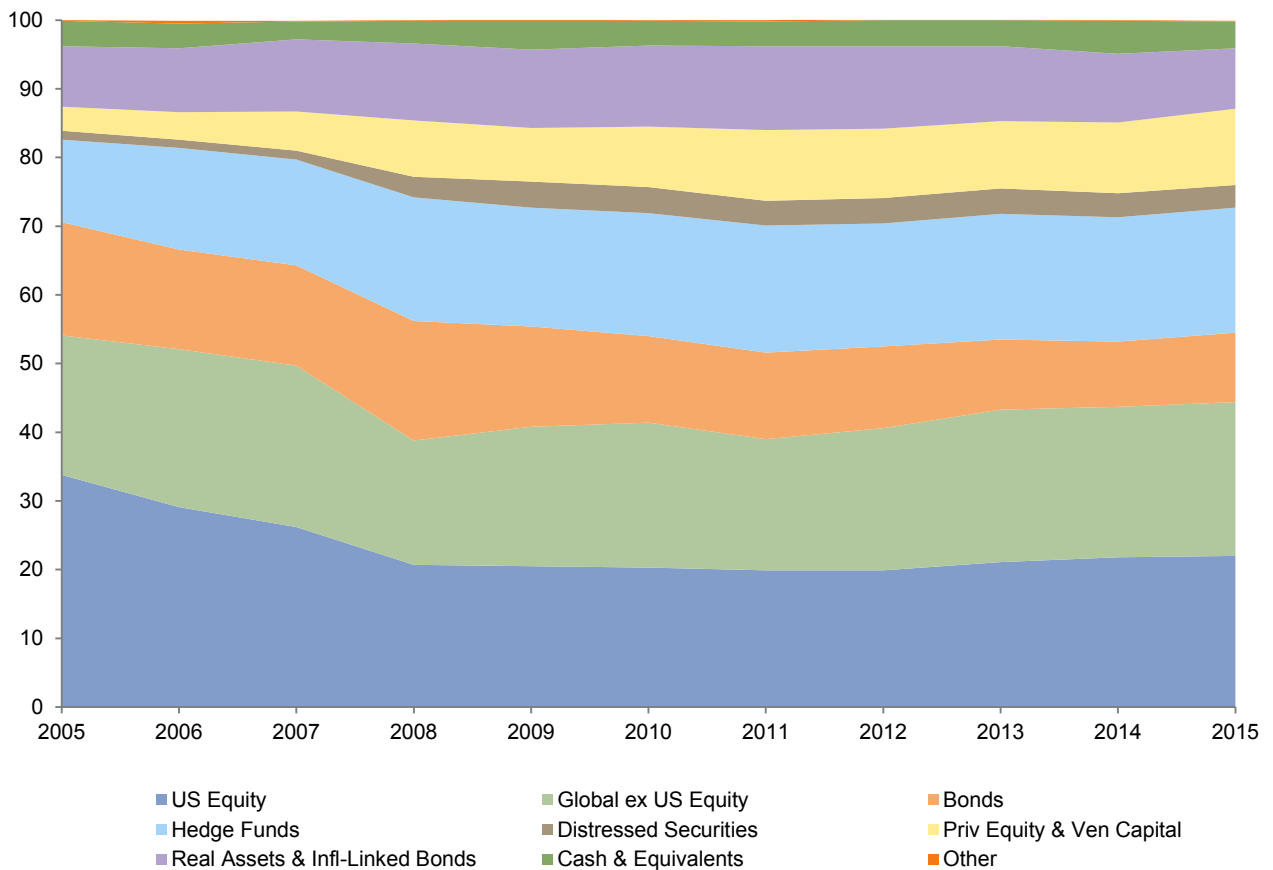
Source: Foundation data as reported to Cambridge Associates LLC.

Historical Asset Allocation

Average asset allocations at year-end 2015 look considerably different than those reported a decade ago. In general, allocations to US equities and bonds are substantially lower, while allocations to global ex US equities, hedge funds, and private equity have increased. In several asset classes, the greatest extent of changes occurred in the years leading up to the 2008–09 financial crisis (Figure 27).

Figure 28 shows the average asset allocation of foundations in 2005, 2010, and 2015. Institutions are divided into three broad asset size groups: those with assets under \$300 million, from \$300 million to \$1 billion, and over \$1 billion. Over the full ten-year period, US equity allocations declined the most, dropping by at least 10 ppts for all three peer groups. Allocations to bonds also decreased considerably, falling by more than 5 ppts across the board. All

Figure 27. Historical Mean Asset Allocation Trends
 Years Ended December 31 • Percent (%)



	Constant Universe											All Fdns
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2015
US Equity	33.8	29.1	26.2	20.7	20.5	20.3	19.9	19.9	21.1	21.8	22.0	21.8
Global ex US Equity	20.3	23.0	23.5	18.1	20.3	21.1	19.1	20.7	22.2	21.9	22.4	22.8
<i>Developed Markets</i>	15.6	17.5	17.1	13.8	14.0	14.0	12.5	13.2	14.7	14.1	15.2	15.8
<i>Emerging Markets</i>	4.7	5.5	6.4	4.3	6.3	7.2	6.6	7.5	7.5	7.8	7.2	7.0
Bonds	16.5	14.5	14.6	17.4	14.6	12.6	12.6	11.9	10.2	9.5	10.1	11.4
Hedge Funds	12.0	14.8	15.4	18.0	17.3	17.9	18.5	17.9	18.3	18.1	18.2	18.6
Distressed Securities	1.3	1.2	1.3	3.0	3.8	3.8	3.6	3.7	3.7	3.5	3.3	2.9
Priv Equity & Ven Capital	3.5	4.0	5.7	8.2	7.8	8.8	10.3	10.1	9.8	10.3	11.1	9.6
Real Assets & Infi-Linked Bonds	8.8	9.3	10.5	11.2	11.4	11.8	12.2	12.0	10.9	10.0	8.8	8.5
Cash & Equivalents	3.7	3.6	2.6	3.3	4.2	3.6	3.6	3.8	3.8	4.8	3.9	4.2
Other	0.1	0.4	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2

Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Constant universe represents 49 foundations that provided asset allocation data for each year from 2005 to 2015. All foundations represents 113 foundations that provided 2015 data.

Figure 28. Trends in Asset Allocation by Asset Size
Means as of December 31 • Percent (%)

	US	Global ex US		Bonds	Hedge Funds	Dist Sec	PE/VC	RA & ILBs	Cash & Equiv	
	Equity	Total	DM							EM
Under \$300mm (n = 21)										
2005	35.2	20.4	16.1	4.4	17.3	10.7	1.0	2.4	9.0	4.0
2010	21.6	22.2	16.0	6.2	14.7	17.1	3.2	6.5	10.7	4.0
2015	24.0	24.2	17.2	7.0	12.0	17.0	3.2	8.4	7.7	3.5
Change (ppt)										
2010–15	2.4	2.0	1.2	0.8	-2.7	-0.1	0.0	1.9	-3.0	-0.4
2005–15	-11.2	3.7	1.1	2.6	-5.3	6.3	2.2	6.1	-1.3	-0.5
From \$300mm to \$1bn (n = 11)										
2005	36.7	21.0	16.6	4.5	17.0	10.5	1.2	1.4	9.2	3.1
2010	22.6	22.9	15.9	6.9	13.9	18.1	3.9	5.3	11.4	2.0
2015	22.8	23.9	16.4	7.5	10.1	19.7	2.8	8.5	9.2	3.0
Change (ppt)										
2010–15	0.2	1.0	0.5	0.6	-3.8	1.6	-1.1	3.2	-2.1	1.0
2005–15	-13.9	2.8	-0.2	3.0	-7.0	9.2	1.6	7.1	0.1	0.0
Over \$1bn (n = 17)										
2005	30.2	19.7	14.5	5.3	15.2	14.7	1.8	6.3	8.4	3.7
2010	17.1	18.7	10.2	8.5	9.1	18.7	4.6	13.8	13.6	4.3
2015	18.9	19.2	11.9	7.4	7.9	18.6	3.9	16.2	10.0	4.9
Change (ppt)										
2010–15	1.8	0.6	1.7	-1.1	-1.3	-0.1	-0.8	2.4	-3.5	0.6
2005–15	-11.3	-0.5	-2.6	2.1	-7.4	4.0	2.1	9.9	1.7	1.2

Source: Foundation data as reported to Cambridge Associates LLC.
Note: Asset sizes are based on December 31, 2015 data.

asset size groups saw considerable increases to alternative assets. The largest portfolios reported the largest increase in allocations to private equity and venture capital (9.9 ppts) while midsize portfolios reported the largest increase to hedge funds (9.2 ppts).

Changes in average portfolio allocations were generally more modest over the second half of the decade, and in some cases a reverse of the longer-term trends. Since 2010, US equity allocations have increased for all three asset size groups (Figure 28). After increasing over the first part of the last decade, allocations to real assets have declined for all asset size groups since 2010.

Target Asset Allocation

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

Approximately 95% of survey participants (107 of 113) provided target asset allocation data. Foundations construct their target asset allocation mix under different frameworks. Of the 107 foundations that provided target asset allocation data, 94 reported data that fits into our traditional asset allocation framework. 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. Many of these foundations use a “growth” bucket, which reflects the policy allocation to all public and private equities in just one category.

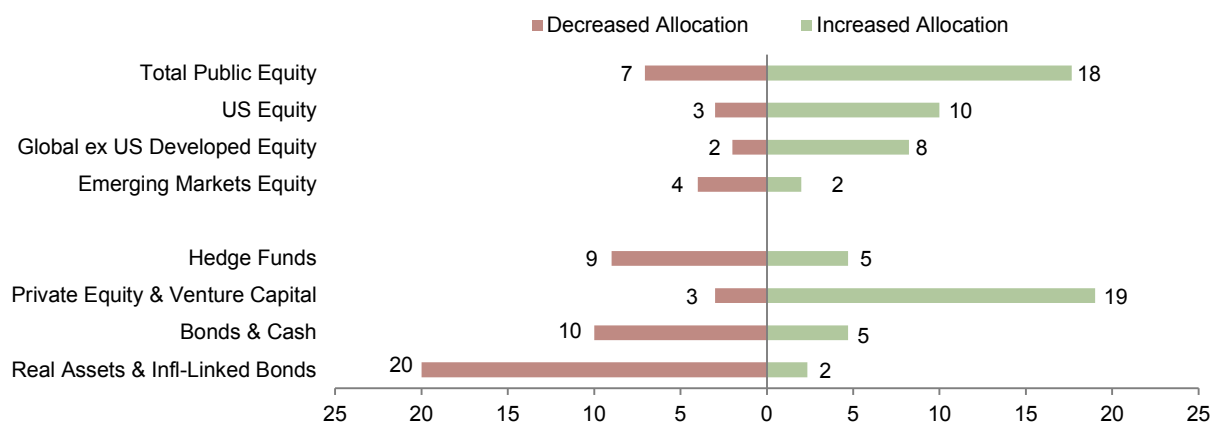
Our trend analysis on this topic focuses on foundations whose data fit within the traditional asset allocation–centered framework. A little over one-third (35%) of these

foundations made a change to their policy targets in 2015. Larger foundations were most likely to make changes to their policy targets (70%) followed by midsized foundations (33%) and smaller foundations (25%).

As shown in Figure 29, the most striking change in 2015 was within real assets, where 20% of foundations lowered targets while only 2% reported an increase. The proportion of foundations lowering their targets to bonds and hedge funds also outpaced the proportion that increased their target allocations. Increases to policy allocations in 2015 were most often reported in equity-oriented asset classes. Policy allocations to private equity and venture capital were increased by 19% of participants. A similar proportion (18%) raised target allocations to public equity. Foundations were more likely to increase their targets to US and global ex US developed markets than emerging markets. Figure 30 shows detailed data by asset size.

Figure 29. Changes in Target Asset Allocation

December 31, 2014 – December 31, 2015 • Percentage of Foundations Increasing or Decreasing Targets



Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Exhibit represents data for 88 foundations that provided target asset allocation data for 2014 and 2015. Only foundations that provided targets by geographic region are included in the statistics for US equity, global ex US equity, and emerging markets equity. Real assets includes targets to both public and private assets.

Figure 30. Changes in Target Asset Allocation by Asset Size
December 31, 2014 – December 31, 2015

	Total Equity	US Equity	Global ex US		Hedge Funds	PE/VC	Bonds & Cash	RA & ILBs	Other
			DM	EM					
Under \$300mm (n = 53)									
Mean Target AA (%)									
2014	46.1	21.9	17.0	7.2	18.6	7.0	17.0	11.1	0.2
2015	46.6	22.1	17.4	7.2	18.5	7.2	16.8	10.5	0.4
% of Fdn Making Changes to Targets									
Increased	13	12	14	3	6	8	4	2	2
Decreased	6	0	6	8	6	4	4	13	0
From \$300mm to \$1bn (n = 18)									
Mean Target AA (%)									
2014	42.3	19.5	13.8	8.0	17.1	13.0	13.9	13.0	0.8
2015	42.6	18.9	13.8	7.9	17.1	13.9	13.8	11.8	0.8
% of Fdn Making Changes to Targets									
Increased	17	7	0	8	6	28	0	0	0
Decreased	0	14	0	8	11	0	17	28	6
Over \$1bn (n = 17)									
Mean Target AA (%)									
2014	37.5	19.5	13.8	8.0	20.7	14.3	10.9	14.3	2.4
2015	38.6	18.9	13.8	7.9	20.0	15.4	1.7	12.9	2.5
% of Fdn Making Changes to Targets									
Increased	35	7	0	8	0	47	12	6	18
Decreased	18	14	0	8	18	6	24	35	0

Source: Foundation data as reported to Cambridge Associates LLC.

Note: Asset sizes are based on December 31, 2015, data. Only foundations that provided targets by geographic region are included in the statistics for US equity, global ex US equity, and emerging markets equity.

Private Investments and Uncalled Capital Commitments

One of the core principles of the endowment model is the use of private investments that, in part due to their illiquid nature, offer the potential for higher long-term returns than those of public equities. Participating foundations, particularly those with larger asset sizes, continue to allocate a significant portion of their portfolios to private investments.⁷ The average allocation to private investments for all participants was 15.0%, while those with portfolios greater than \$1

billion had an average allocation of 27.3% (Figure 26).

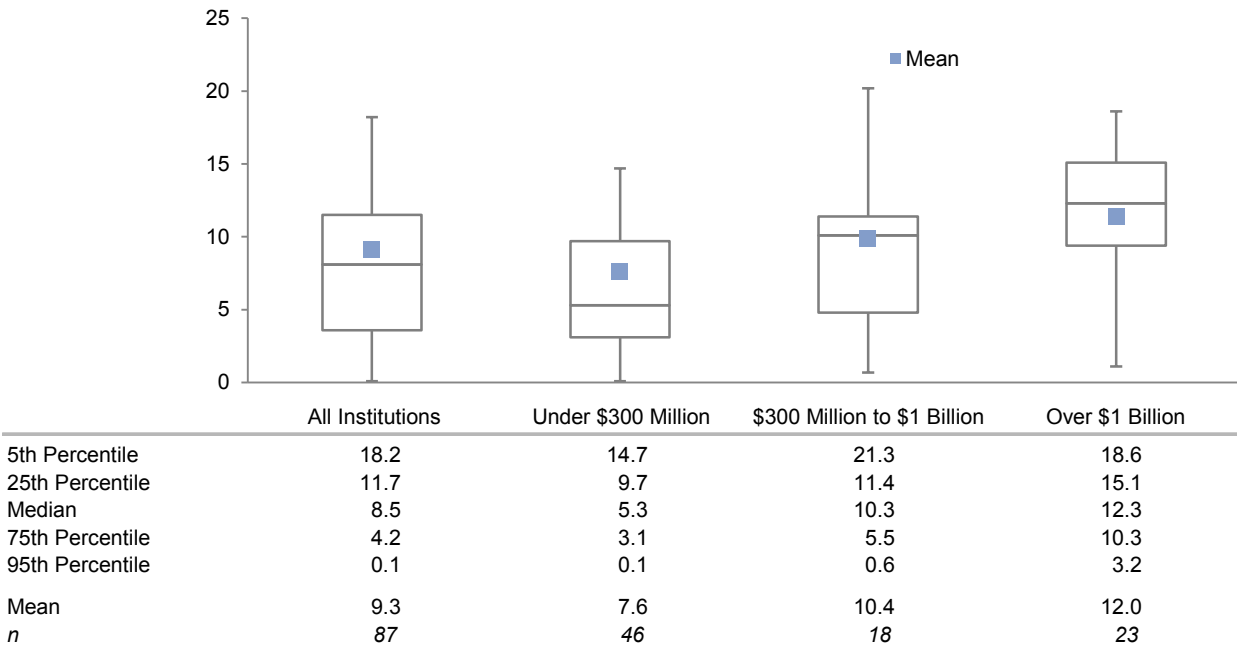
Investors should be mindful of the liquidity implications of investing in and funding a private investment program. Uncalled capital represents a commitment of capital to be funded in the future. While annual spending distributions usually represent the biggest liquidity need of a portfolio, foundations 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

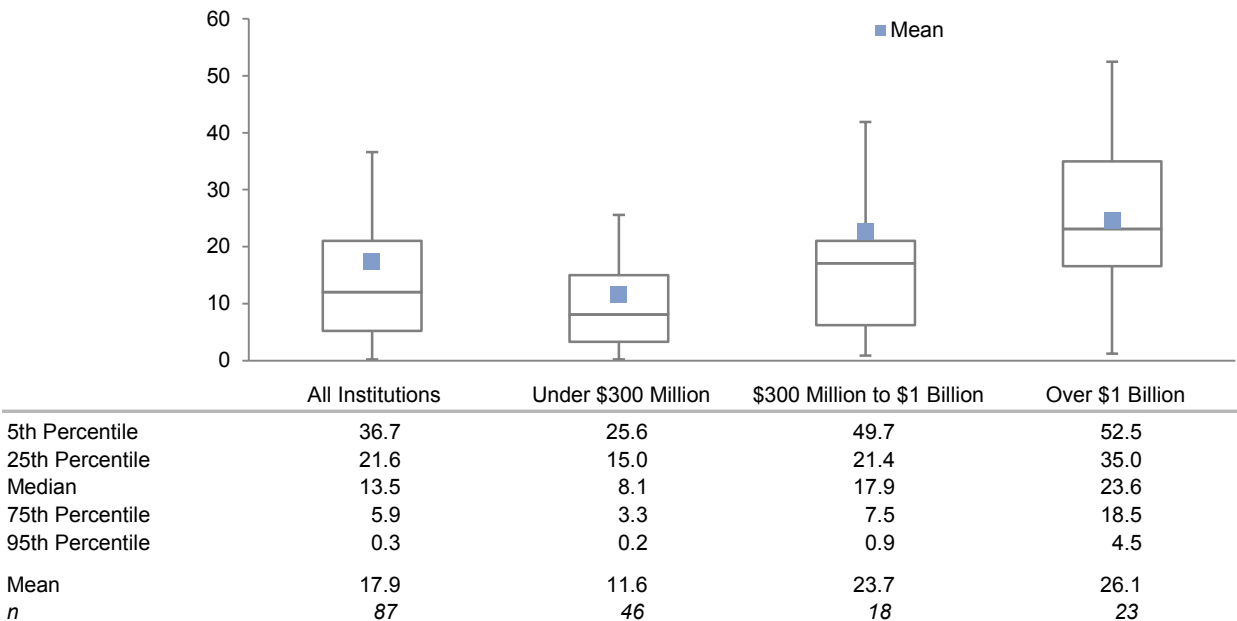
⁷ Private investments include private equity, venture capital, private distressed securities, private real estate, private oil & gas/natural resources, and timber.

Figure 31. Uncalled Capital Committed to Private Investment Funds
As of December 31, 2015 • Percent (%)

Uncalled Capital Commitments as a Percentage of the Total LTIP



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



Source: 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.

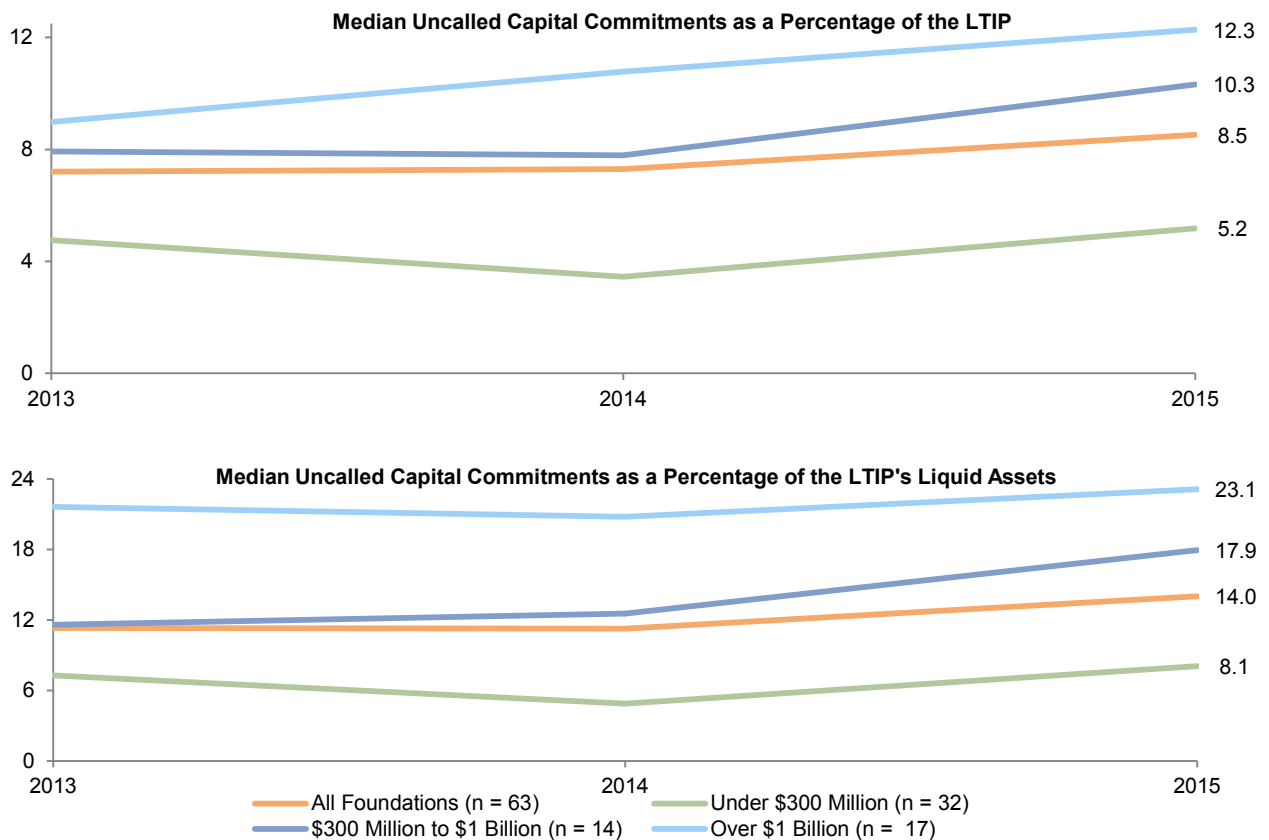
capital commitments as a percentage of the total LTIP value was 8.5% at the end of 2015 (Figure 31). Predictably, foundations with larger asset sizes tend to have a higher ratio. For those with asset sizes greater than \$1 billion, the median ratio of uncalled capital commitments to the LTIP market value was 12.3% (ranging from 3.2% to 18.6%, excluding outliers).

Larger foundations also tend to have a higher ratio of uncalled capital commitments to the LTIP's total liquid assets, which exclude hedge funds and private

investments. For foundations with asset sizes greater than \$1 billion, the median ratio of uncalled capital commitments as a percentage of the liquid assets was 23.6%. For foundations with asset sizes under \$300 million, the median ratio was 8.1% (Figure 31).

Of the participants that have provided consistent historical data, approximately 70% (44 of 63) reported an increase in the dollar amount of uncalled capital commitments over the last three years. Over the same period, the market value of the LTIP and the portfolio's liquid assets declined for

Figure 32. Trend in Median Uncalled Capital Commitments to Private Investment Funds
Years Ended December 31 • Percent (%)



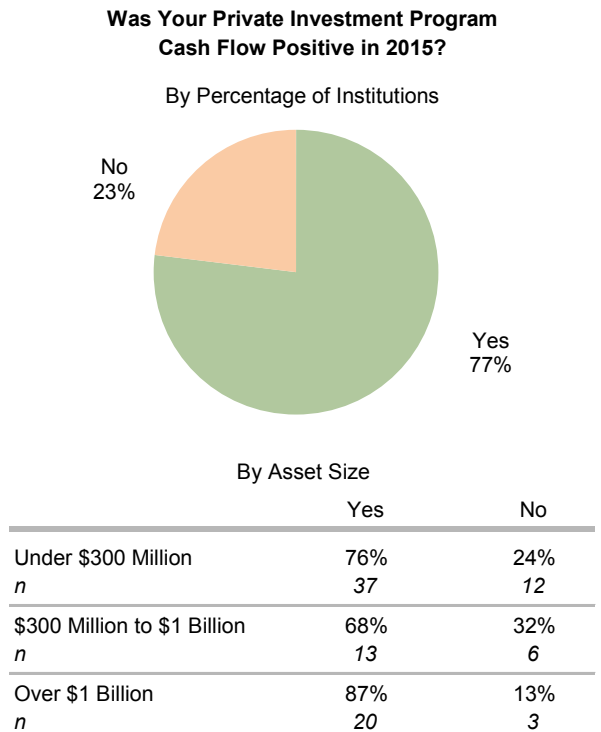
Source: Foundation data as reported to Cambridge Associates LLC.

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.

most foundations. As a result, both of the aforementioned ratios increased for most foundations. The trend in the median ratios for all foundations and the three asset size groups are displayed in Figure 32.

As the ratios of unfunded capital commitments to assets rise, the potential liquidity risks associated with funding future capital calls can increase as well. In recent years, these risks have been mitigated for most foundations due to the self-funding nature of private investment program cash flows. In 2015, private investment programs for most participants (77%) were cash flow positive, meaning the amount of fund distributions was higher than paid-in capital calls (Figure 33). For foundations 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 33. Private Investment Program Cash Flow
As of December 31, 2015 • *n* = 91



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 2015.

Investment Management Structures

Number of External Managers

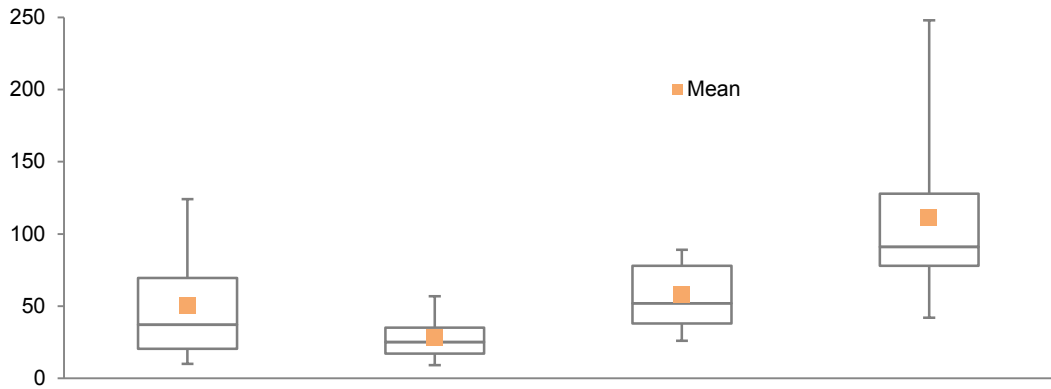
Many factors contribute to the number of managers employed within an investment portfolio. The scale of total assets under management is a primary factor, as portfolios with more assets generally spread their assets across a greater number of managers. On average, foundations with assets over \$1 billion employed 111 external investment managers in 2015 (Figure 34). In contrast, mid-sized portfolios had an average of 58 managers, while smaller portfolios reported even fewer (28). The number of investment vehicles is even higher for each peer group, mainly because of the allocation of capital across multiple funds of the same investment manager in private investment asset classes. For a constant group of foundations that has provided historical data, the average number of external managers has trended higher over the last five years (Figure 35).

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 (35) is more than twice the amount used at the 75th percentile (17) (Figure 34). For portfolios over \$1 billion,

there are 248 managers employed at the 5th percentile compared to just 42 at the 95th percentile. Much of the variation can be attributed to the management of alternative asset classes. As Figure 36 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 37.

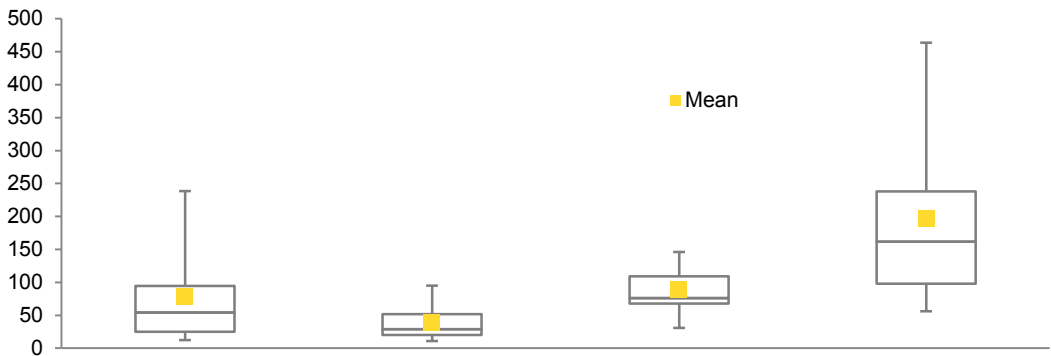
Figure 34. Number of External Managers and Investment Vehicles
As of December 31, 2015

External Managers



	All Institutions	Under \$300 Million	\$300 Million to \$1 Billion	Over \$1 Billion
5th Percentile	124	57	89	248
25th Percentile	70	35	78	128
Median	37	25	52	91
75th Percentile	21	17	38	78
95th Percentile	10	9	26	42
Mean	50	28	58	111
<i>n</i>	107	65	21	21

Investment Vehicles

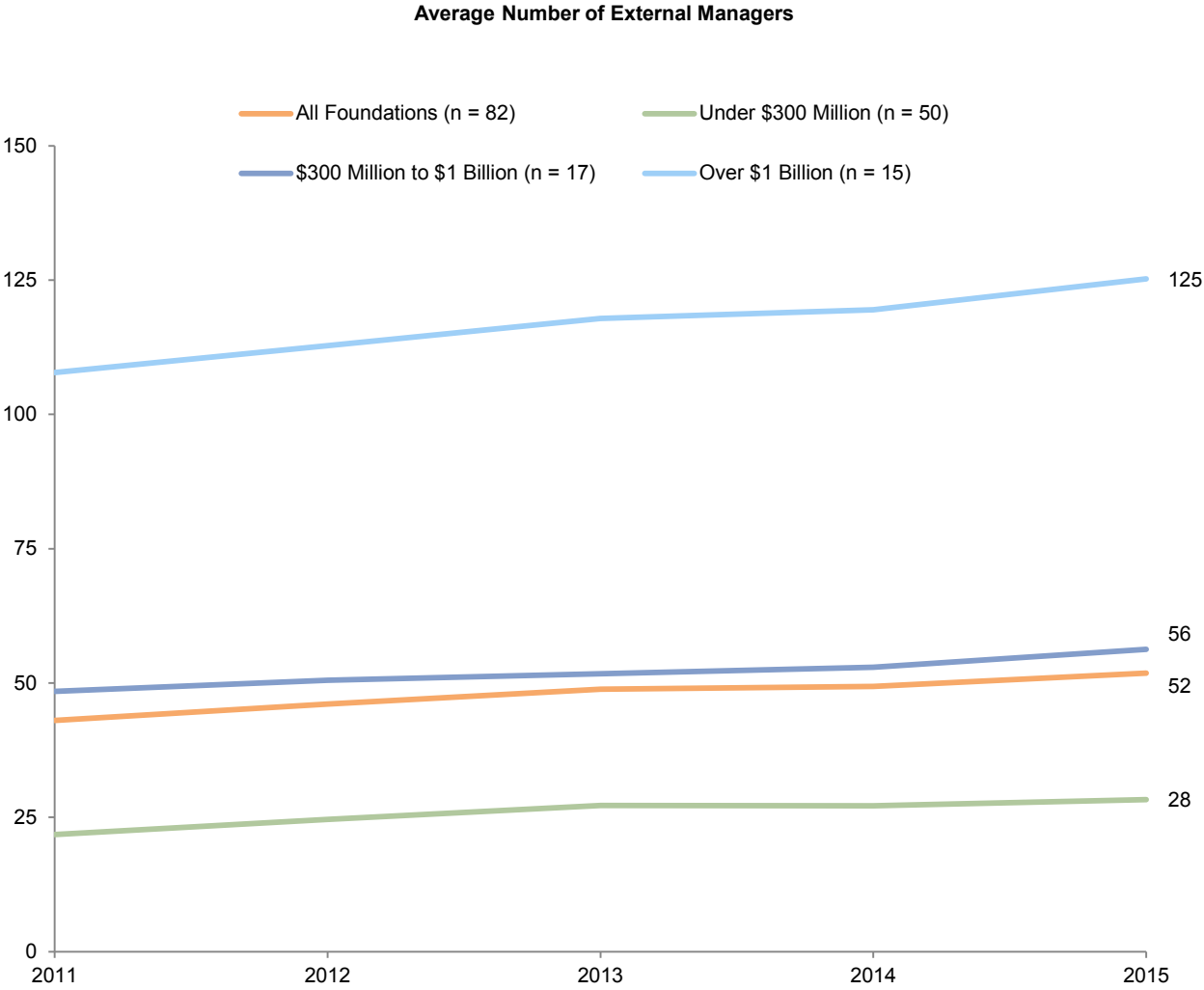


	All Institutions	Under \$300 Million	\$300 Million to \$1 Billion	Over \$1 Billion
5th Percentile	238	95	146	464
25th Percentile	95	52	109	238
Median	54	29	76	162
75th Percentile	25	20	68	98
95th Percentile	12	11	31	56
Mean	78	38	89	196
<i>n</i>	106	65	21	20

Source: Foundation data as reported to Cambridge Associates LLC.

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

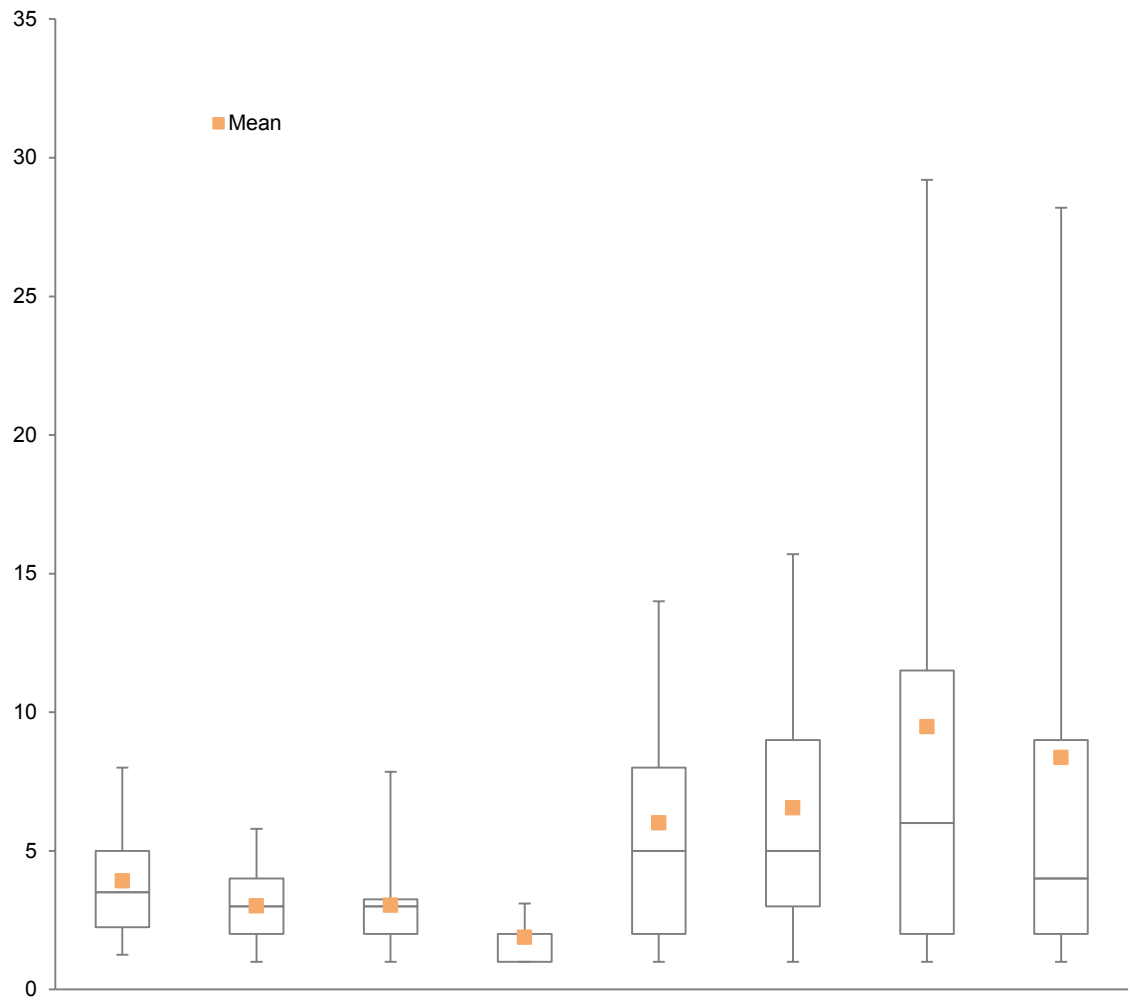
Figure 35. Trend in Number of External Managers
2011–15



Source: Foundation data as reported to Cambridge Associates LLC.



Figure 36. Dispersion in Number of Managers for Selected Asset Classes
As of December 31, 2015



	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	8	6	8	3	14	16	29	28
25th Percentile	5	4	3	2	8	9	12	9
Median	4	3	3	2	5	5	6	4
75th Percentile	2	2	2	1	2	3	2	2
95th Percentile	1	1	1	1	1	1	1	1
Mean	4	3	3	2	6	7	9	8
<i>n</i>	106	105	104	99	81	103	79	77

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 37. Externally Managed Investment Pool Holdings by Strategy
As of December 31, 2015

Strategy	Under \$300 Million			\$300 Million to \$1 Billion			Over \$1 Billion		
	Average Number of			Average Number of			Average Number of		
	Managers	Vehicles	<i>n</i>	Managers	Vehicles	<i>n</i>	Managers	Vehicles	<i>n</i>
Traditional Equity									
Global Equity	2	2	35	2	2	15	3	3	14
US Equity	3	4	64	4	4	21	5	6	21
DM ex US Equity	2	2	63	3	3	21	5	5	21
Emerging Markets Equity	2	2	62	3	3	21	5	6	21
Traditional Bonds									
Global Bonds	1	1	28	1	1	7	2	2	6
US Bonds	2	2	62	2	2	21	3	3	16
DM ex US Bonds	1	1	1	—	—	—	1	1	2
Emerging Markets Bonds	1	1	3	1	1	1	1	1	4
High-Yield Bonds	1	1	7	1	1	1	3	3	2
Hedge Funds									
Long/Short Hedge Funds	4	4	42	8	8	20	9	9	19
Absolute Return (ex Dist Securities)	5	5	62	9	10	21	10	11	20
Distressed Securities									
Distressed (Hedge Fund Structure)	2	2	26	2	2	17	3	4	16
Distressed (Private Equity Structure)	2	3	34	4	7	16	9	16	13
Private Investments									
Non-Venture Private Equity	3	6	39	7	15	19	23	43	21
Venture Capital	3	6	39	8	17	18	19	48	20
Other Private Investments	2	4	37	3	5	15	3	7	10
Real Assets & ILBs									
Private Real Estate	3	5	32	5	9	17	13	25	21
Public Real Estate	1	1	10	1	1	5	1	1	6
Commodities	1	1	18	1	1	10	2	3	8
Inflation-Linked Bonds (TIPS)	1	1	1	1	1	4	1	1	4
Private Oil & Gas / Natural Resources	2	4	34	6	11	15	11	23	19
Timber	1	2	5	1	2	7	2	3	10
Public Energy/Natural Resources	2	2	50	2	2	16	2	2	9
Diversified (Multi-Strategy) RA	1	1	15	1	1	2	1	1	1
Cash (Dedicated Cash Managers Only)	1	2	37	1	1	11	1	2	15
Tactical Asset Allocation	2	2	7	1	1	2	1	1	3
Other	1	3	1	—	—	—	1	1	3

Source: Foundation data as reported to Cambridge Associates LLC.

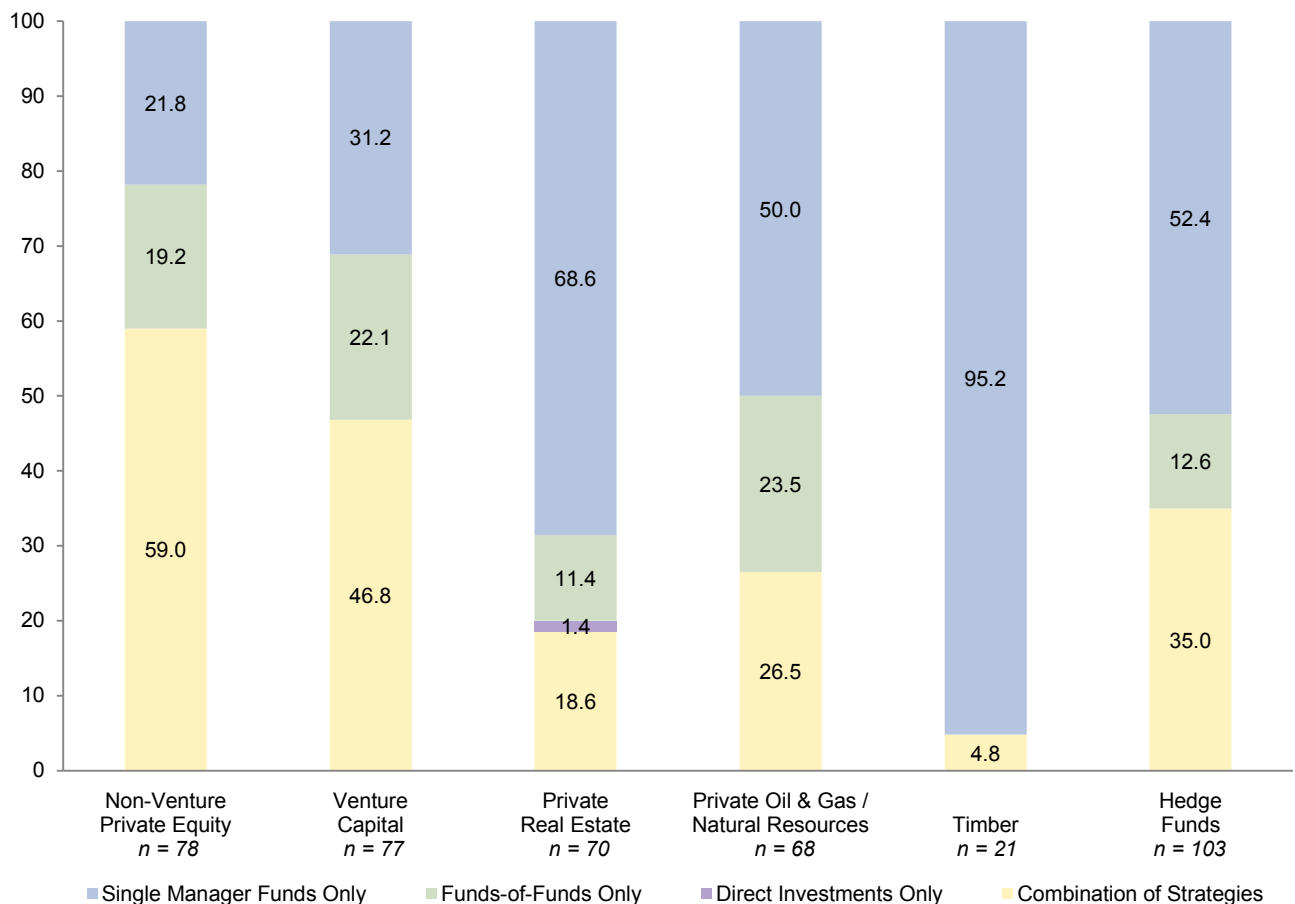
Notes: *n* indicates the number of colleges and universities that are included in the average number of managers and average number of vehicles. Only those institutions with an allocation to the specific asset class are included in each category. As a result, the sum of the individual asset classes will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

Asset Class Implementation

Alternative Assets. Just over half of participants (52%) have constructed a hedge fund program that solely uses single manager funds, while 13% rely only on funds-of-funds. The remaining foundations employ a combination of single manager funds and funds-of-funds (Figure 38). Implementation practices also vary across private investment asset classes. The use of a combination of strategies was most common for the imple-

mentation of private equity and venture capital portfolios. A sole reliance upon single manager funds was most prevalent in timber (95%), real estate (69%), and private oil & gas/natural resources (50%). Smaller portfolios generally employ more funds-of-funds managers than larger portfolios in all alternative asset classes, which is not surprising given the typically high minimum investments for alternative asset funds.

Figure 38. Portfolio Implementation: Private Investments and Hedge Funds
As of December 31, 2015 • Percent (%)

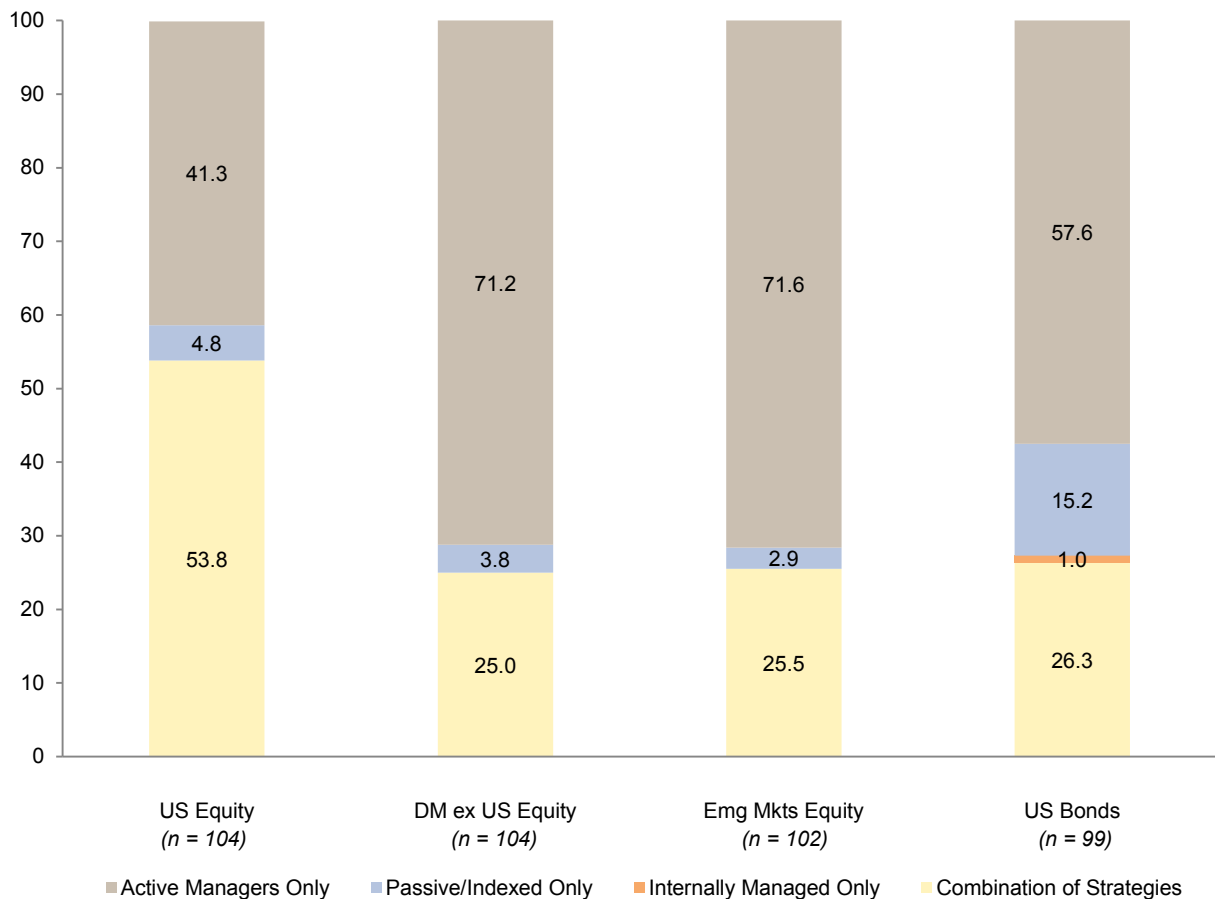


Source: Foundation data as reported to Cambridge Associates LLC.

Note: *n* represents the number of institutions that provided the portfolio implementation for each asset class.

Public Equities and Bonds. Of the foundations that provided data on their portfolio implementation, 41% used active managers for all of their US equity allocation (Figure 39). The proportion was higher for global ex US equity allocations, where developed markets and emerging markets allocations were achieved solely through active managers for 71% and 72% of respondents, respectively. For bonds, a majority of respondents used only active managers for their total allocation to US markets (58%). ■

Figure 39. Portfolio Implementation: Traditional Equities and Bonds
As of December 31, 2015



Source: Foundation data as reported to Cambridge Associates LLC.

Notes: *n* represents the number of institutions that provided the portfolio implementation for each asset class. All foundations with an allocation to global ex US bonds used active management only.



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, which generally receive funding from a single donor, are defined by the IRS as one of two types: operating or non-operating. While 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

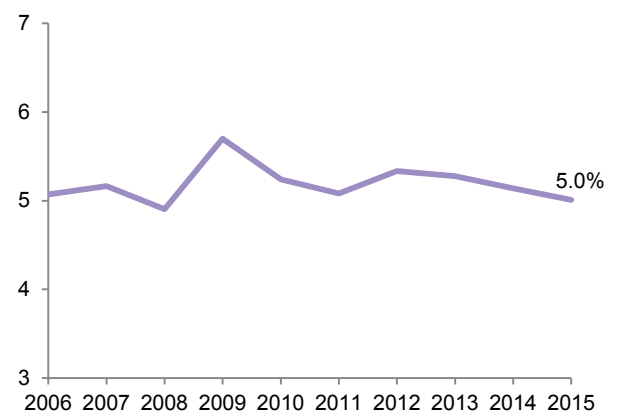
as grant-making organizations, funding charitable support in the immediate region or locality where they are located. Community foundations are not subject to a minimum spending requirement.

Payout Rates

Annual spending distributions are withdrawn from investment assets to fund grants, direct charitable programs, program-related investments, and administrative expenses related to charitable purposes. 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 68 private non-operating foundations that provided data in 2015, the median payout rate was 5.2%. As shown in Figure 40, when looking at a constant universe of 24 foundations that provided data from 2006 to 2015, the median payout rate peaked at 5.7% in 2009. Payout rates have

Figure 40. Median Annual Payout Rate
2006–15 • Percent (%)



Source: Foundation data as reported to Cambridge Associates LLC.

Note: Data represent the average of 24 private non-operating foundations that provided payout rates for each year from 2006 to 2015.

varied modestly in the years since 2009 and the median rate in 2015 (5.0%) was the second lowest of the past decade for this constant group. The median payout rate for the 12 community foundations that provided data for 2015 was 6.4%, while the median for the three operating foundations was 3.2%.

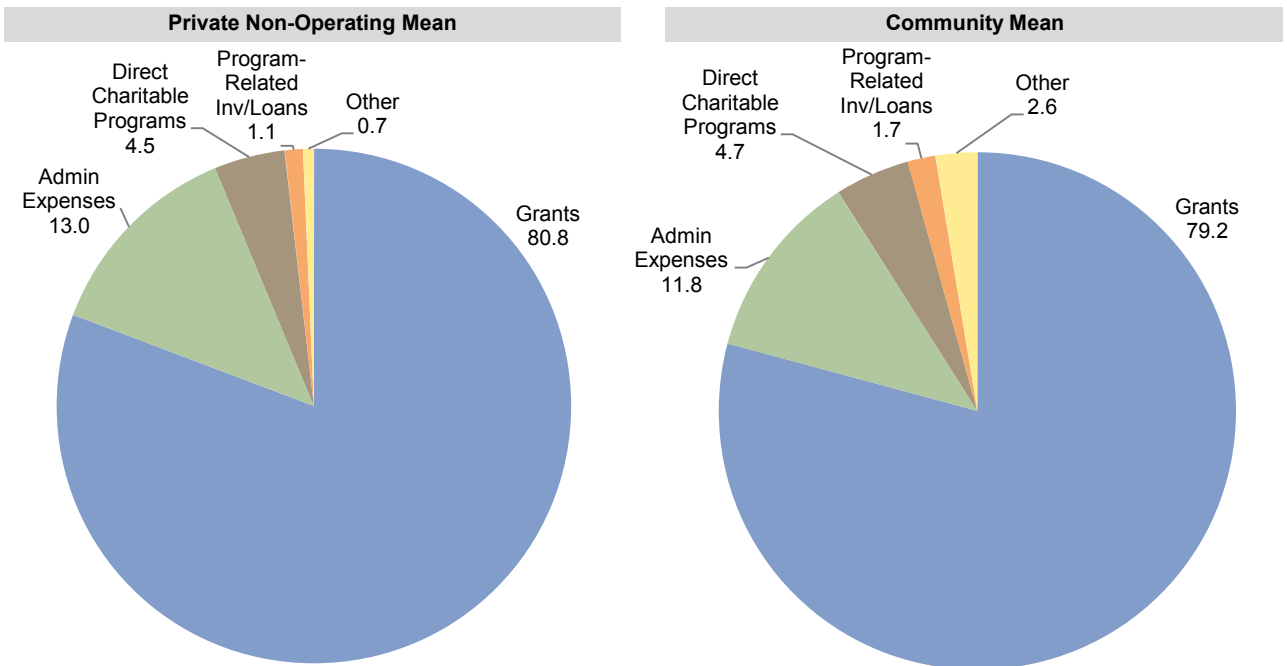
Components of Payout. Figure 41 takes a detailed look at the different components that compose a foundation’s annual payout distribution. For both private non-operating and community foundations, grants are the single largest component of annual payout, making up an average of 81% and 79% of the total payout distribution, respectively. Administrative expenses were the next largest component for both types of foundations. For the three private operating

foundations in this study that provided data, the largest component of payout were expenses associated with operating their own charitable programs.

Payout Objectives

Of the 70 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, 21% had an objective shaped mainly by program goals, 6% had a payout objective shaped mainly by investment performance, and 10% reported their objective was something other than the aforementioned objectives (Figure 42).

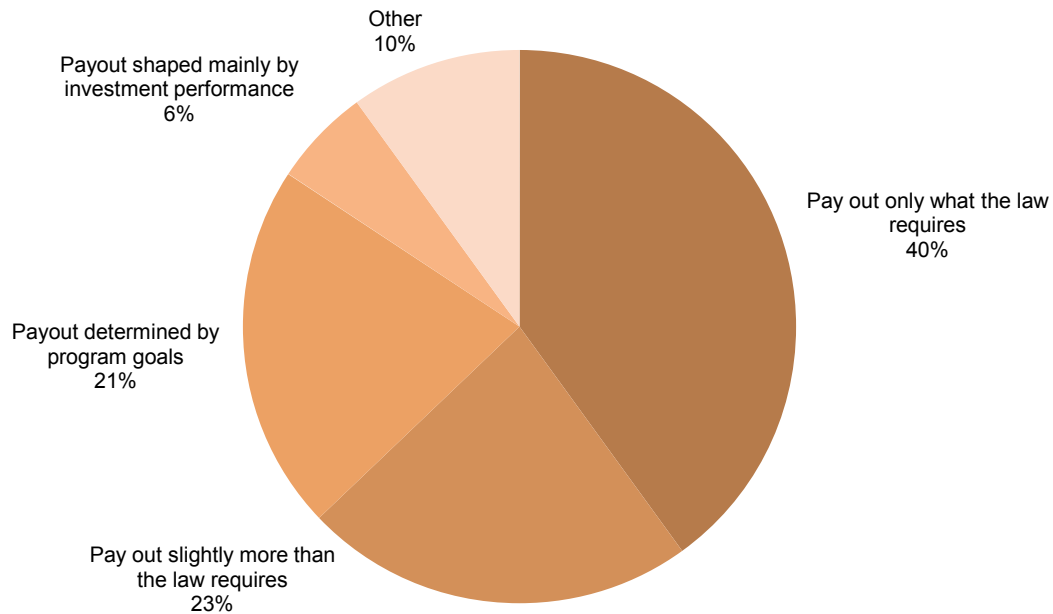
Figure 41. Components of Payout Distribution for Foundation Types
2015 • Percentage (%) of Total Payout



Source: Foundation data as reported to Cambridge Associates LLC.
Note: For the three private operating foundations that provided details on their payout distribution, expenses associated with their own direct charitable programs represented the largest component of payout.



Figure 42. Payout Policy Objectives for Private Non-Operating Foundations
2015 • $n = 70$



Source: Foundation data as reported to Cambridge Associates LLC.

Of the 12 community foundations in this study that provided a payout objective, five indicated that their objective was shaped mainly by investment performance and another five stated that payout was shaped mainly by program goals. The remaining two community foundations reported some other objective.

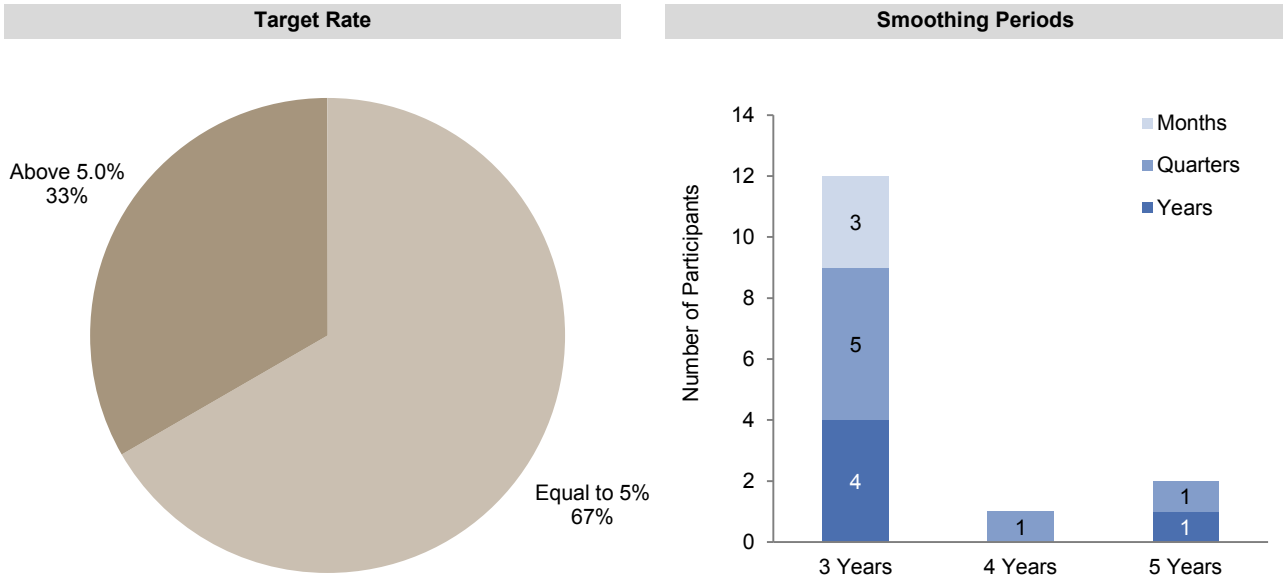
The three private operating foundations that provided their payout objective stated that it was to pay out slightly more than the legal requirement.

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. The use of carryover credits and payments assists private foundations in avoiding penalties in years where underspending may occur.

There were 15 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. As shown in Figure 43, a target spending rate of 5.0% was used by two-thirds of these foundations, while the remaining foundations reported a target rate above 5.0%. Smoothing periods ranged from three to five years. ■

Figure 43. Characteristics of Market Value–Based Smoothing Rules
December 31, 2015



Source: Foundation data as reported to Cambridge Associates LLC

Note. Data for the Target Rate chart represent 15 private non-operating foundations that indicated the use of a market value–based smoothing rule.

Data Collection and Results

This report includes data for 113 foundations. All participants provided investment pool data as of December 31, 2015. The notation of n denotes the number of institutions included in each analysis.

The majority of participants are private foundations, 96 of which are classified as non-operating foundations and four as operating foundations. The remaining 13 participants are community foundations.

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 for the 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:

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

Calculation of the Sharpe Ratio

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

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

Where:

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

Blended Portfolio Benchmarks

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

Absolute Return	The use of different strategies (e.g., global macro, market neutral, open mandate) to produce a positive return regardless of the direction and fluctuation of capital markets. Common techniques include using arbitrage, derivatives, futures, leverage, options, short selling, and unconventional assets.
Bonds (Fixed Income)	Includes long-term promissory notes that cannot be exchanged for other assets, government bonds, preferred stock, structured debt, and derivatives where bonds are the underlying assets. Generally earn interest paid semiannually and are repaid at the principal (par) value. Does not include mortgage real estate.
Cash & Equivalents	Highly liquid, virtually risk-free assets with maturities of less than one year (e.g., certificates of deposit, commercial paper, nonconvertible bonds, and Treasury bills).
Co-investments	A direct investment made into a company alongside a general partner that originates the transaction.
Commodities	Diversified baskets of fully collateralized, long-only, commodity futures contracts. Includes funds whose value is based on the spot price of a commodity.
Community Foundation	Public charity, deriving funds from many donors rather than a single source. Mainly function as grant-making organizations, funding charitable support in the immediate region or locality where they are located. Not subjected to a minimum spending requirement.
Developed Markets	Markets within countries that have an established economic infrastructure.
Distressed Securities	Securities of companies that are currently in default, bankruptcy, financial distress, or a turnaround situation.
Emerging Markets Debt	Debt instruments of emerging markets countries and issuers, including USD-denominated and local currency bonds.
Emerging Markets Equity	Equity securities of emerging markets countries; considered emerging even if the equity market is fully functional and well regulated.

Equities	Ownership positions in companies that can be traded in public markets. Often produce current income, which is paid in the form of quarterly dividends. The holders' claims are subordinate to the claims of preferred stockholders and bondholders. Includes convertible bonds if they are held as an opportunistic means of eventually acquiring a company's stock. Also includes futures, options, rights, and warrants where the underlying assets are equities.
High-Yield Bonds	Bonds regarded, on balance, as predominantly speculative with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation. Typically, these bonds have a credit rating of BB or lower and pay higher yields because they are more risky than investment-grade bonds. Also includes collateralized bond obligations (CBOs).
Inflation-Linked Bonds	Fixed coupon bonds that earn interest paid semi-annually on inflation-adjusted principal.
Long/Short Hedge Funds	Portfolios with long positions in undervalued companies and short positions in overvalued companies to capture the disparity in prospective returns, while maintaining a low level of overall market risk.
Long-Term Investment Portfolio	The group of assets that an institution deems best represents its investment policies and endowment asset allocation and returns. These assets should be subject to frequent market valuation and may include operating funds. Pooled income funds and charitable remainder trusts should be excluded if the investment strategy varies from the institution's asset allocation policy. Assets that cannot be fairly valued such as artwork, copyrights, and patents should also be excluded.
Non-Venture Private Equity	Through negotiation or tender offer, a takeover of a majority percentage of a company's equity with the purpose of acquiring its assets and operations. Includes leveraged buyouts (LBOs).
Other Assets	Should only include assets that cannot be classified as one or more of the other asset classes.

Other Private Investments	Includes funds that are invested across multiple private investments and cannot be allocated to a single asset class. Includes multi-strategy funds-of-funds and secondary market private investments.
Payout Rate	The payout rate in this study is calculated using the annual spending distribution as a percentage of the beginning market value of the long-term investment portfolio.
Private Investments	Investments that are not traded in the public market including, but not limited to, leveraged buyouts, venture capital, private real estate, private distressed securities, and private energy and natural resources.
Private Non-Operating Foundation	Tax-exempt charitable organization that primarily makes grants to other charitable organizations, rather than operating its own programs. Typically funded from one source, usually an individual, family, or business, with ongoing revenue derived from foundation investments.
Private Oil & Gas/ Natural Resources	Funds created to invest in the exploration or development of energy-related reserves and natural resources.
Private Operating Foundation	Tax-exempt charitable organization that makes its required expenditures by sponsoring and managing its own programs, rather than making grants to other charitable organizations.
Private Real Estate	Includes ownership positions in land and buildings as well as private operating companies. May also include equity-like investments in mortgages or land leases that include substantial participation in revenues and capital appreciation. Does not include equity mortgages such as collateralized mortgage obligations (CMOs), mortgage-backed securities, publicly traded REITs, or other public real estate.
Public Energy/ Natural Resources	Includes marketable energy funds and natural resources.
Public Real Estate	Includes REITs and other public real estate equity such as umbrella partnership REITs (UPREITs), and other public operating companies (REOCs).
Single Manager Fund	A fund in which the fund manager makes the investment decisions for the assets/securities/companies held within the fund.

Standard Deviation	The standard deviation of a portfolio's return is used as a measure of its total risk (measured by variability of returns). It is a measure of the extent to which returns vary from their average. The larger the standard deviation, the wider the range of likely returns and the greater the risk implicit in the portfolio.
Timber	Funds created to invest in timber-related business. Usually limited partnerships.
Total Return	The sum of income earned and appreciation, both realized and unrealized, for a specified period of time. Preferred method uses time-weighted cash flows.
Traditional Assets	Includes US equities, non-US equities (including emerging markets), US investment-grade bonds, non-dollar bonds, high-yield bonds, emerging markets debt, and all cash and cash equivalents.
Venture Capital	Investments in private securities of new companies or companies considered to be in the early stages of growth; these investments may have high risk and the potential for high return.

Access Strategies Fund
 Albany Foundation
 The James B. and Lois R. Archer Charitable Foundation
 Associated Jewish Community Federation of Baltimore
 Atherton Family Foundation
 Baltimore Community Foundation
 Claude Worthington Benedum Foundation
 Marion and Henry Bloch Family Foundation
 The Herb Block Foundation
 Buena Vista Foundation
 California Community Foundation
 The California Endowment
 James & Abigail Campbell Family Foundation
 Carnegie Corporation of New York
 The Annie E. Casey Foundation
 Central Indiana Community Foundation, Inc.
 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
 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 Fdn and Ethics and Excellence in Journalism
 InFaith Community Foundation
 The Robert Wood Johnson Foundation
 Johnson Scholarship Foundation
 The Fletcher Jones Foundation
 The Shimon Ben Joseph 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
 Josiah Macy Jr. Foundation
 Maine Community Foundation
 Mathile Family Foundation
 McGregor Fund
 The Andrew W. Mellon Foundation
 Eugene and Agnes E. Meyer Foundation
 Meyer Memorial Trust
 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
 New York Community Trust
 New York State Health Foundation
 The Oregon Community Foundation
 Osprey Cove Foundation
 The David and Lucile Packard Foundation
 The Ralph M. Parsons Foundation
 Virginia G. Piper Charitable Trust
 The Pittsburgh Foundation
 Nina Mason Pulliam Charitable Trust
 The Queen Lili'uokalani Trust
 The REACH Healthcare Foundation
 Regenstrief Foundation
 The RICBAC Foundation
 Winthrop Rockefeller Charitable Trust
 The Rockefeller Foundation
 Rocky Road Foundations
 The Scherman Foundation Inc.
 Caroline & Sigmund Schott Fund
 Norton Simon Art Foundation
 The Norton Simon Foundation
 The Skoll Foundation
 Alfred P. Sloan Foundation
 Square One Foundation
 The Starr Foundation
 The Steelcase Foundation
 W. Clement & Jessie Stone Foundation
 Stoneman Family Foundation
 The Aaron & Lillie Straus Foundation, Inc.
 Surdna Foundation Inc.
 TDC Foundation
 Communities Foundation of Texas
 The Tinker Foundation
 The Wallace Foundation
 The Robert A. Welch Foundation
 Wenner-Gren Foundation
 Zellerbach Family Foundation

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