FOUNDATION ANNUAL INVESTMENT POOL RETURNS

CALENDAR YEAR 2022

CAMBRIDGE ASSOCIATES

CONTENTS

SIDEBAR

FIGURES

This study is based on a survey that Cambridge Associates (CA) administers annually to our foundation clients. The report that follows summarizes returns, asset allocation, and other investment-related data for 106 institutions for the calendar year ended December 31, 2022. Included in this year's report are commentary and exhibits that are spread across six separate sections.

After three straight years of strong performance, foundation returns plummeted in 2022 as the US central bank pursued its most aggressive series of interest rate hikes in decades. The dispersion in returns among participating foundations actually narrowed considerably compared to the previous year, as correlations between equities and bonds turned positive in the rising interest rate environment. Still, it was a market environment where most illiquid strategies outperformed the public markets, resulting in top performers having the highest average allocations to private investments. Our **INVESTMENT PORTFOLIO RETURNS** section highlights these and other topics related to investment performance results for this past calendar year. Also included in this section are analyses on returns over longer-term periods.

Despite the negative return environment, diversified portfolios performed well compared to broad market benchmarks in 2022. Most respondents to our survey also outperformed their policy portfolio benchmarks for the year. Our **INVESTMENT POLICY** section discusses this topic and includes a breakdown of the most commonly used indexes in policy benchmarks. This section also reviews how asset allocation strategies among foundations can differ from a policy perspective as well.

The last few years have seen private equity and venture capital (PE/VC) allocations rise dramatically among foundations in our universe. The **PORTFOLIO ASSET ALLOCATION** section highlights how these fit in with asset allocation trends over the longer term. This section also incorporates data on target asset allocations to lend insights into how institutions are altering their portfolios heading into the future.

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

Meanwhile, the **PAYOUT FROM THE LONG-TERM INVESTMENT PORTFOLIO** section contains a set of analyses that look at spending objectives and policies of private nonoperating foundations. These types of foundations are required under the Federal tax code to distribute approximately 5% of their assets each year.

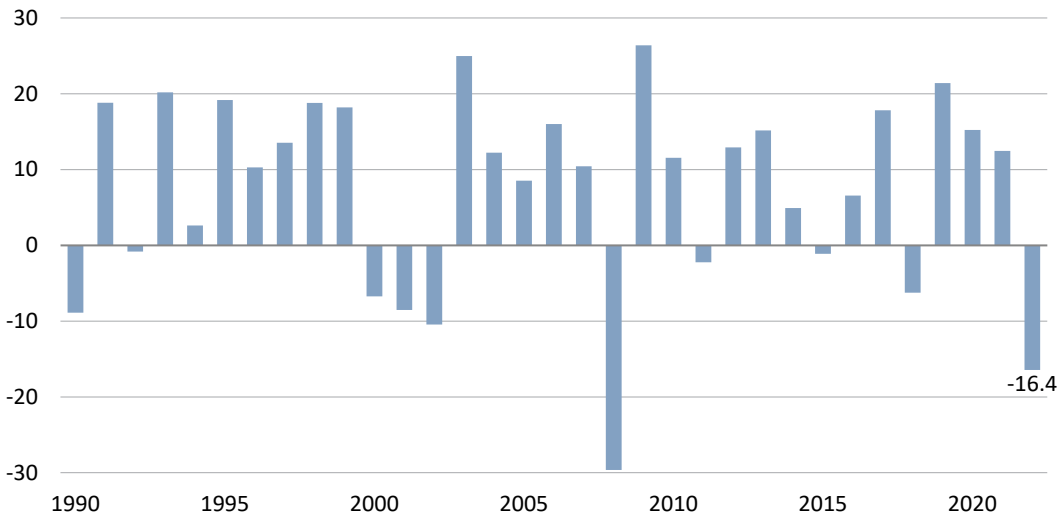
Finally, our **INVESTMENT OFFICE STAFFING AND GOVERNANCE** section of the report takes a look at topics such as the number of personnel in the investment office and investment committee structure. Also included are analyses on how foundations use outside advisors/consultants and who has decision-making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

Section 1: Investment Portfolio Returns

RETURNS IN CALENDAR YEAR 2022

Public equity markets in many countries, including the United States, entered 2022 at or near record highs. However, the market environment changed swiftly at the beginning of the year as central banks raised interest rates in response to high inflation. As a result, the global equity market—represented by the MSCI All Country World Index—ended up with its worst calendar year performance since the 2008 Global Financial Crisis. Bonds fared even worse compared to historical standards, as 2022 was the lowest returning year across the entire history of the Bloomberg Aggregate Bond Index. As shown in Figure 1, a simple benchmark consisting of 70% global equities and 30% bonds produced the second-worst return in 2022 from the last three-plus decades.

FIGURE 1 TRAILING 1-YR RETURNS FOR 70% EQUITY/30% BOND BENCHMARK
Calendar Years 1990–2022

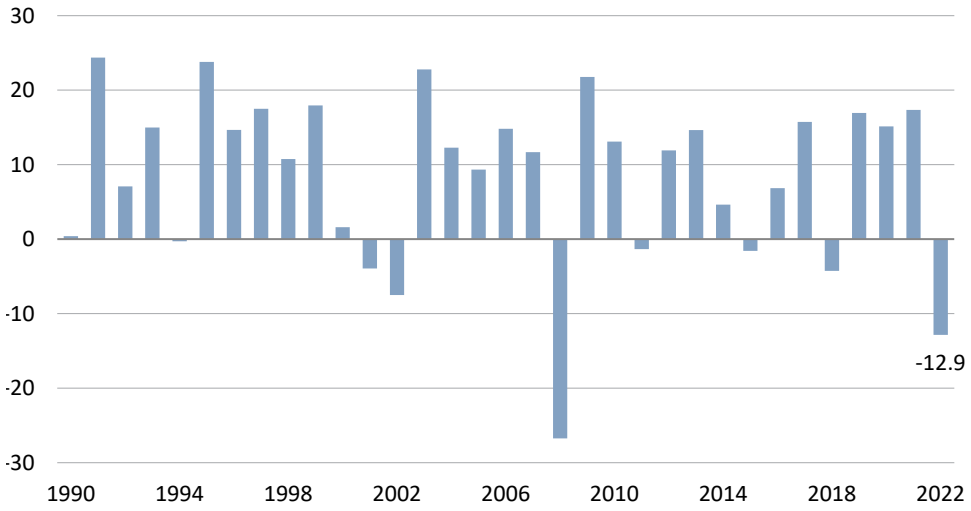


Sources: Index data are provided by Bloomberg Index Services Limited and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.
Notes: The equity component of the benchmark is represented by the MSCI ACWI (Gross) from 1/1/90 through 9/30/01 and the MSCI ACWI with USA Gross from 10/1/01 through present. The bond component is represented by the Bloomberg Aggregate Bond Index for the entire historical series.

This was the broad market backdrop that foundations had to work with in 2022. It was a contrast to recent history, as the simple benchmark had recorded strong gains in each of the three prior years. Investment performance reported by foundations followed these same trends. After three straight years in positive double-digit territory, the median return for foundations in this study plummeted to -12.9% in 2022 (Figure 2). This was the second lowest median return ever calculated for our foundation universe, ahead of only calendar year 2008.

FIGURE 2 TRAILING 1-YR MEDIAN RETURNS

Calendar Years 1990–2022

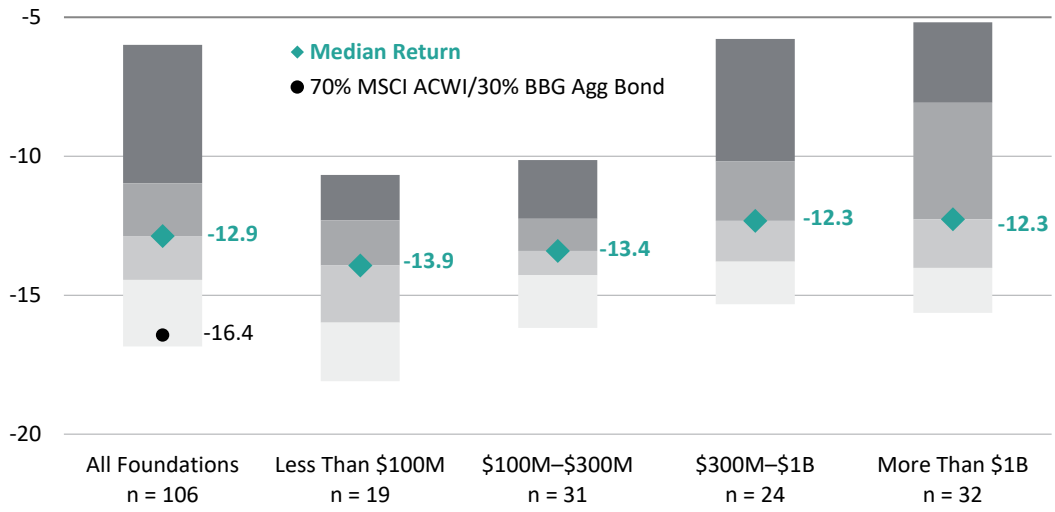


Source: Foundation data as reported to Cambridge Associates LLC.
Note: The number of institutions included in the median calculation varies from one period to the next, ranging from 20 in 1990 to 106 in 2022.

For the second straight year, the median foundation return was significantly higher than the 70/30 benchmark return. In fact, the simple benchmark return would have ranked at the 94th percentile of the overall foundation universe and landed in the bottom performance quartile for all four asset size subgroups in Figure 3. Among these various size cohorts, the two at the top end of the scale—foundations greater than $1 billion and between $300 million to $1 billion—reported the highest median return at -12.3%. Meanwhile, those with assets less than $100 million reported the lowest median return (-13.9%).

FIGURE 3 CALENDAR YEAR 2022 TOTAL RETURN PERCENTILES

Trailing 1-Yr as of December 31, 2022 • Percent (%) • By Percentile Ranking



Sources: Foundation data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.
Note: For more information, see page 51 in the Appendix.

PERCENTILE RANKINGS

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

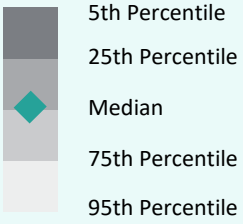
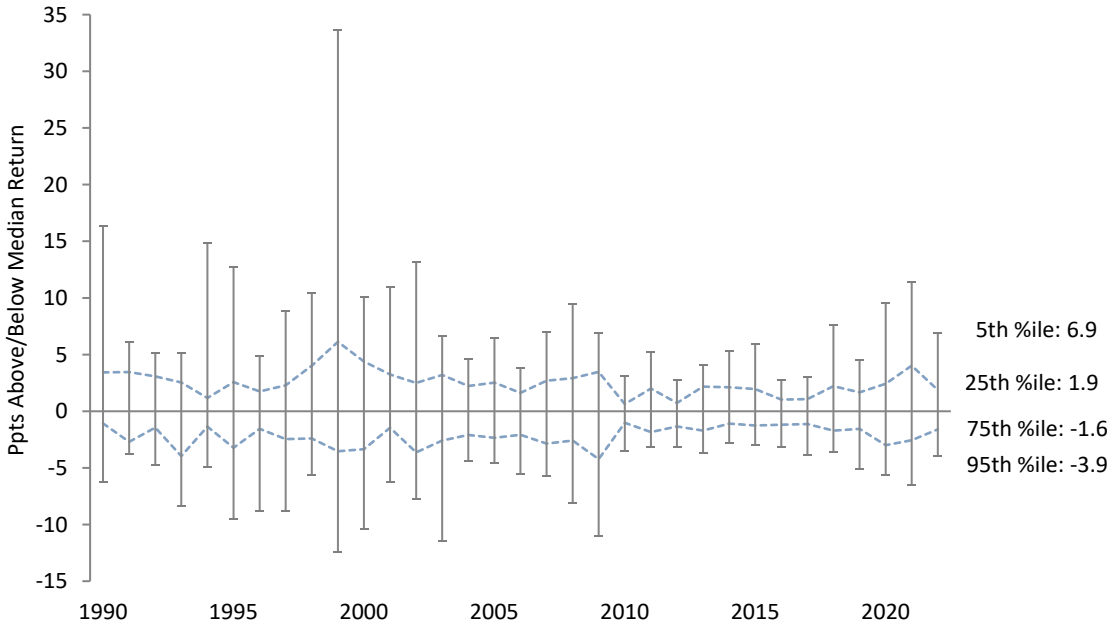


Figure 4 looks at the dispersion in returns across our foundation universe for individual years going back to 1990. After a period of relatively smaller variations in returns during the 2010s, the level of dispersion spiked in 2020 with the onset of the COVID-19 pandemic and jumped even further in 2021 as private investments produced exceptional returns. However, the range in foundation returns narrowed in 2022, as correlations between equities and bonds turned positive. The 5th percentile return (-6.0%) was 6.9 percentage points (ppts) higher than the median return in 2022. The level of dispersion was smaller in the lower half of the universe, as the 95th percentile return (-16.8%) was 3.9 ppts lower than the median mark.

FIGURE 4 DISPERSION IN TRAILING 1-YR RETURNS RELATIVE TO THE MEDIAN RETURN
Calendar Years 1990–2022



Source: Foundation data as reported to Cambridge Associates LLC.

IMPACT OF PERFORMANCE REPORTING METHODOLOGIES ON PEER COMPARISONS

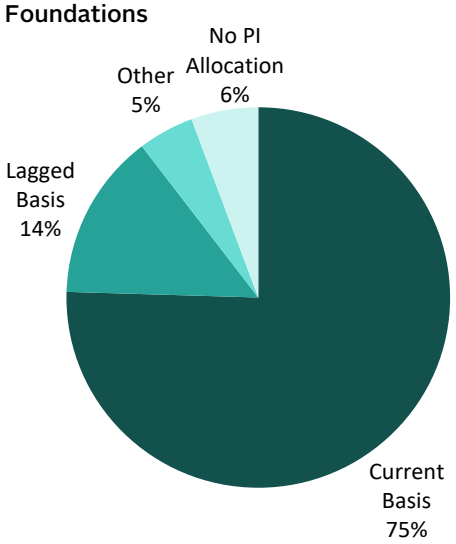
Because of the illiquid nature of private investments, valuations of these assets are not readily available following the end of a quarter. It can take several months for managers to report valuations, which delays the timing for when a foundation can calculate a calendar year return with December 31 private marks. Some foundations close out their investment reporting shortly after the end of the year, while others

have the flexibility to wait until later in the spring to calculate their final calendar year return. Consequently, the methodology for capturing private investments in the total portfolio return is not apples to apples across all foundations.

Foundations using the lagged methodology mark private investments as of September 30 when the calendar year return is reported. Private valuations are perpetually lagged by one quarter under this method, resulting in a one-year return that captures private investment performance from October 1, 2021, to September 30, 2022. Just 14% of participants in this study used the lagged basis, with most of those being foundations greater than $1 billion (12 of 15). In contrast, the majority of participants (75%) in this study incorporated private investment marks on a current basis (Figure 5). For these foundations, private investment performance is time-matched with the actual trailing one-year period and reflects investment activity from January 1, 2022, to December 31, 2022.

FIGURE 5 PERFORMANCE REPORTING METHODOLOGIES: PRIVATE INVESTMENTS
As of December 31, 2022

All Foundations



Foundations By Asset Size

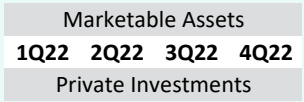
	Current Basis	Lagged Basis	Other	No PI Allocation
Less Than $100M	68%	—	5%	26%
n	*13*		*1*	*5*
$100M–$300M	87%	—	10%	3%
n	*27*		*3*	*1*
$300M–$1B	88%	13%	—	—
n	*21*	*3*		
More Than $1B	59%	38%	3%	—
n	*19*	*12*	*1*	

Source: Foundation data as reported to Cambridge Associates LLC.
Note: Institutions with no significant private investment allocations (<1% of their total investment portfolios) are reflected in the No PI Allocation category.

PERFORMANCE METHODOLOGY DESCRIPTIONS

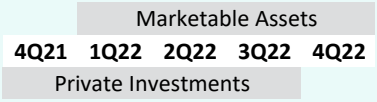
Current Basis

Total investment pool return for the trailing one-year period includes marketable asset performance and private investment performance for January 1, 2022, to December 31, 2022.



Lagged Basis

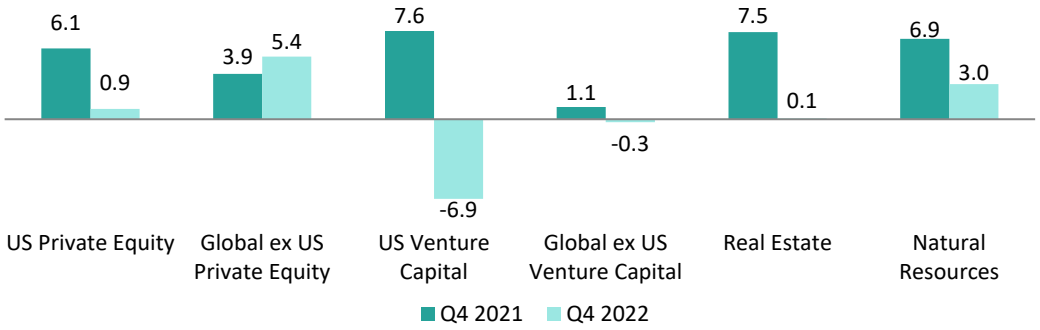
Total investment pool return for the trailing one-year period includes marketable asset performance for January 1, 2022, to December 31, 2022, and private investment performance for October 1, 2021, to September 30, 2022.



The performance impact of using one methodology over the other is substantial for this most recent year. With the lagged basis methodology, private investment performance for fourth quarter 2021 will be included in the one-year total return calculation, but performance for fourth quarter 2022 will be excluded. Figure 6 shows the returns of several CA private investment indexes for these two separate quarterly periods. The returns from the fourth quarter 2021 were higher across almost all strategies, giving the lagged methodology a significant comparative advantage over the current methodology for 2022.

FIGURE 6 CAMBRIDGE ASSOCIATES' PRIVATE INVESTMENT INDEX IRRs

Percent (%)



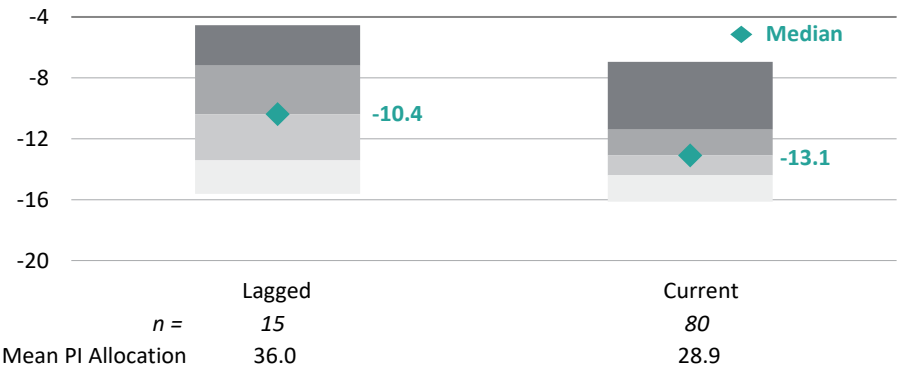
Source: Cambridge Associates LLC.

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

The differentials between fourth quarter 2021 and fourth quarter 2022 returns were substantial for US venture capital and US private equity. This is noteworthy, given that, on average, three-quarters of the total private investment allocation comes from exposure to PE/VC. With this context, one would expect that foundations using the lagged methodology would report a 2022 return that was much higher than what would have otherwise been calculated under the current basis. This is exactly what we found when we split the participant universe into subgroups based on private investment reporting methodology. The median return for lagged reporters was -10.4%, which was 270 basis points (bps) higher than the median for current reporters (-13.1%) (Figure 7).

FIGURE 7 RANGE OF CALENDAR YEAR 2022 RETURNS BY PRIVATE INVESTMENT REPORTING METHODOLOGY

As of December 31, 2022 • Percent (%) • By Percentile Ranking

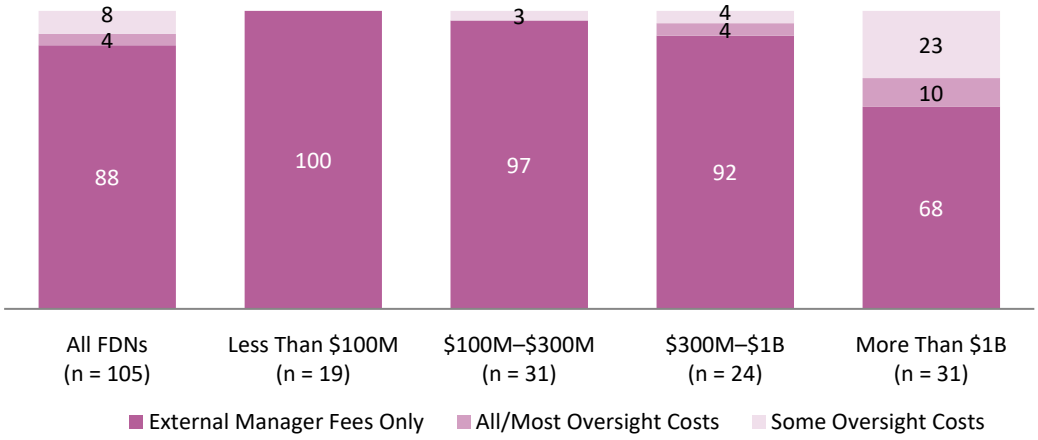


Source: Foundation data as reported to Cambridge Associates LLC.

Note: Excluded from this analysis are six foundations that had little to no private investment allocation (i.e., < 1%) and five foundations that use some other type of reporting methodology.

Another reporting issue to be aware of when conducting peer return comparisons is the method in which net returns are calculated. With the exception of one foundation, all participants in this study reported performance on a net-of-fee basis. The vast majority of these respondents (88%) reported returns net solely of external manager fees in 2022 (Figure 8). Another 8% of respondents deduct external manager fees plus some additional costs but are gross of the major oversight expense categories. The main drivers of these costs tend to be staff compensation for those institutions that have internal investment offices or consultant/advisor fees for those that rely heavily on external investment advisors. Just 4% of respondents deduct external manager fees plus all or most of investment oversight expenses.

FIGURE 8 TYPES OF FEES DEDUCTED IN CY 2022 NET RETURN CALCULATION
As of December 31, 2022 • Percent (%)



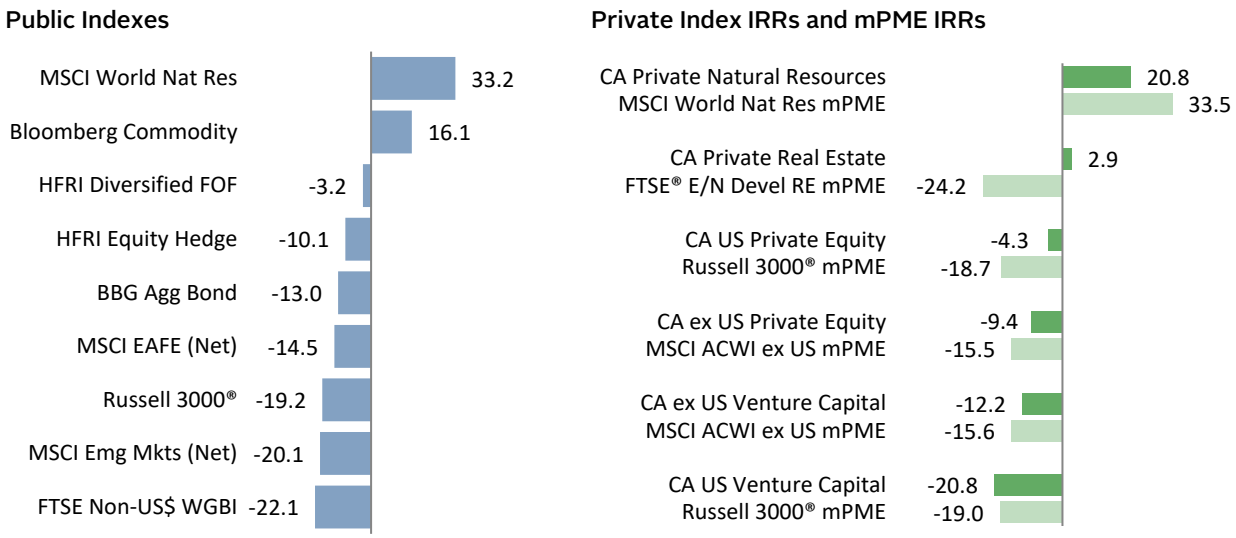
Source: Foundation data as reported to Cambridge Associates LLC.
Notes: Institutions in the All/Most Oversight Costs category net out all or the majority of oversight costs, including the major cost drives (e.g., investment staff compensation and consultant/advisor fees). Institutions in the Some Oversight Costs category deduct external manager fees and some investment oversight costs, but are gross of the major cost drivers.

RELATIONSHIP BETWEEN ASSET ALLOCATION AND PERFORMANCE IN 2022

Asset allocation has traditionally been a key factor that helps explain the dispersion in returns reported among foundations. Our analysis on this topic begins with an overview of the capital market environment for 2022. On the public side, most of the indexes listed in Figure 9 declined by double digits. Notable exceptions were the Bloomberg Commodity and MSCI World Natural Resources indexes, which returned 33.2% and 16.1%, respectively. Index returns for private strategies were substantially higher than the modified public market equivalent (mPME) benchmarks across most strategies.[1] Similar to the experience in the public markets, the best private investment returns were produced by real assets–related strategies, with the CA Private Natural Resources Index posting the top return. The CA Private Real Estate Index returned just 2.9% but outperformed its mPME benchmark by a significant margin.

1 The mPME analysis computes public market performance, which traditionally is reported as a time-weighted return, on an internal rate of return (IRR) basis and allows for a direct comparison of returns between the public and private markets. The result of the mPME calculation is the return that would have been earned had the capital invested in the private strategy been invested in the public market index instead.

FIGURE 9 1-YR INDEX RETURNS
As of December 31, 2022 • Percent (%)



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

The market backdrop provides context as we explore the differences in asset allocation structures among foundations. The heat map analysis in Figure 10 breaks the participant group into four quartiles based on 2022 performance and displays the average allocation across the one-year period for the foundations within each quartile. We typically find that the top-performing institutions had the highest allocations to the strategies that produced the best returns.

The greatest differentials in peer allocations in this analysis usually pertain to the split between public and private equities, as most foundations allocate a majority of their portfolios to these asset classes. The key part of the performance story in 2022 was non-venture private equity performing much better than public equities, particularly in the United States. Given this context, it is not surprising to see that the top quartile of performers had the highest average allocation to PE/VC (26.4%) and the lowest average allocation to public equities (33.5%). The inverse was true when looking at the allocations of the bottom quartile of performers.

Elsewhere, the gap in allocations was smaller in real assets, as these strategies make up a much smaller portion of the portfolio compared to equities. Still, top performers had a combined average allocation to public and private real assets (9.2%) that was nearly triple the average allocation of bottom performers (3.3%). In addition, top performers had the highest average allocation to hedge funds and the lowest average allocation to fixed income.

FIGURE 10 1-YR MEAN ASSET ALLOCATION BY PERFORMANCE QUARTILE

Percent (%) • n = 106

	Marketable Assets						Private Investments			
Quartile	Total Mktbl Assets	Public Equity	Hedge Funds	Public Real Assets	Fixed Income	Cash & Other	Total Private Inv	PE/VC	Private Real Assets	Private Credit
Top Quartile	64.4	33.5	15.9	2.5	7.5	5.0	35.6	26.4	6.7	2.6
2nd Quartile	71.3	40.8	15.3	2.0	9.5	3.7	28.6	20.4	6.2	2.1
3rd Quartile	77.6	48.3	13.5	2.0	11.1	2.7	22.4	18.5	2.8	1.1
Bottom Quartile	78.8	50.7	12.3	0.7	10.4	4.6	21.2	17.2	2.6	1.4
All FDN Mean	73.0	43.3	14.3	1.8	9.6	4.0	27.0	20.7	4.6	1.8

Divergence of Asset Allocation From All FDN Mean

-4% or lower | -2% | Mean | 2% | 4% or higher

Source: Foundation data as reported to Cambridge Associates LLC.

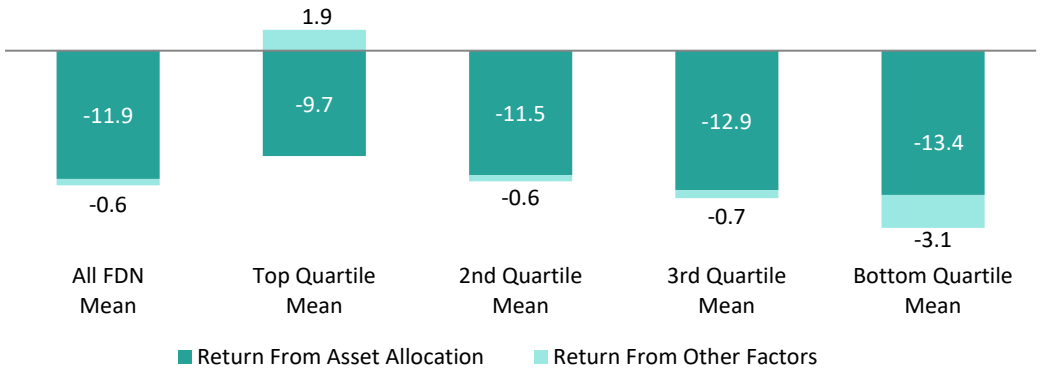
Note: Asset allocation is averaged across the two December 31 periods from 2021 to 2022 for each institution in this analysis.

Our attribution analysis in Figure 11 estimates the performance impact of these different asset allocation structures and the effect on overall peer performance. This analysis assigns a specific index return to represent each asset class in our framework. For each foundation in our universe, we have calculated a blended index return based on the portfolio's beginning year asset allocation.[2] The result of this calculation is the "return from asset allocation" and represents what the foundation would have earned if it was managed passively throughout the year. For 2022, the average asset allocation return was negative for each of the four performance quartiles. However, the average for the top quartile of performers at -9.7% was significantly better than the average for the other quartiles.

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

FIGURE 11 1-YR ATTRIBUTION ANALYSIS

Trailing 1-Yr as of December 31, 2022 • Percent (%) • n = 106



Source: Foundation data as reported to Cambridge Associates LLC.

Note: For more information, see page 51 in the Appendix.

Asset allocation alone is not the only driver of performance, as implementation of the allocations is an important piece as well. Implementation is primarily driven by the effects of active management, or alpha. In addition, there is a performance impact if an asset allocation structure is altered or rebalanced in the middle of the year. Our attribution analysis aggregates these effects into the "return from other factors" category. The analysis estimates that the top quartile of performers added an average of 1.9% to their returns from these other factors in 2022. In contrast, the average for each of the other quartiles was negative.

ASSET CLASS RETURNS IN 2022

The attribution analysis from the previous section establishes that there are differentials among institutions in the performance impact from implementation. The primary driver of these differentials is the returns that participants earn for the asset class strategies in their portfolios. Since the top quartile of performers had a higher implementation return compared to the rest of the universe, it stands to reason that this group also reported higher returns across most of the asset class composites.

Figure 12 uses our heat map–style table to display median asset class returns for each of the four performance quartiles—as defined by the 2022 total portfolio return—and the overall participant group. The dispersion in asset class returns was largest within private natural resources, where the median internal rate of return (IRR) for the top quartile (28.9%) was 740 bps higher than the median for the overall universe (21.5%). Similarly, top performers reported returns in venture capital, non-venture private equity, and private real estate strategies that were considerably higher than that of the total participant group. The return differentials for the total PE/VC composite are particularly noteworthy, given the large allocations that top performers have to these strategies.

The bottom table shows median asset class returns among participants for marketable strategies. The largest differential here was in commodities & natural resources, where the median return for the top performance quartile (16.3%) was substantially higher than the median of the overall group (2.5%). However, allocations to these strategies represent just a tiny proportion of the overall portfolio for most foundations. The differentials in returns for the total public equity composite and hedge funds were smaller in comparison, but more impactful on the overall performance story because they represent a much larger portion of the portfolio. Combined, public equity and hedge funds represented approximately half of the average portfolio for top performers in 2022. The top performance quartile had a total public equity median return (-16.6%) that was 250 bps higher than the median for the overall group (-19.1%). For hedge funds, the spread was even higher at 320 bps.

FIGURE 12 1-YR MEDIAN ASSET CLASS RETURNS BY PERFORMANCE QUARTILE
Percent (%)

Private Investment IRRs

Quartile	Total PE/VC	Venture Capital	Non-Venture Private Equity	Distressed Control-Oriented	Private Credit ex Distressed	Total Real Assets	Real Estate	Natural Resources
Top Quartile	-4.3	-13.2	0.6	4.1	2.3	15.9	6.9	28.9
2nd Quartile	-11.1	-16.6	-5.8	18.1	2.1	15.5	1.9	26.5
3rd Quartile	-9.8	-16.1	-6.3	13.9	2.2	10.5	2.9	17.6
Bottom Quartile	-11.1	-17.2	-3.7	10.1	3.0	8.4	-4.9	22.3
All FDN Median	-9.1	-14.6	-4.3	10.3	2.2	14.2	1.9	21.5

Marketable Asset Classes

Quartile	Total Public Equity	Global Equity Managers	US Equity	ex US Devel Mkts Equity	Emg Markets Equity	Fixed Income	Hedge Funds	Comm & Nat Res	Public Real Estate
Top Quartile	-16.6	-8.6	-16.8	-15.9	-19.2	-10.1	-1.8	16.3	-25.9
2nd Quartile	-19.0	-17.9	-20.4	-14.5	-18.5	-10.4	-4.1	2.5	-26.2
3rd Quartile	-19.8	-22.7	-19.4	-16.0	-18.7	-8.2	-5.7	-2.8	--
Bottom Quartile	-20.9	-23.8	-19.2	-18.2	-20.6	-11.9	-13.4	--	--
All FDN Median	-19.1	-18.8	-19.0	-16.3	-19.2	-10.2	-5.0	2.5	-25.9

Divergence From All FDN Median

-4% or lower | -2% | Median | 2% | 4% or higher

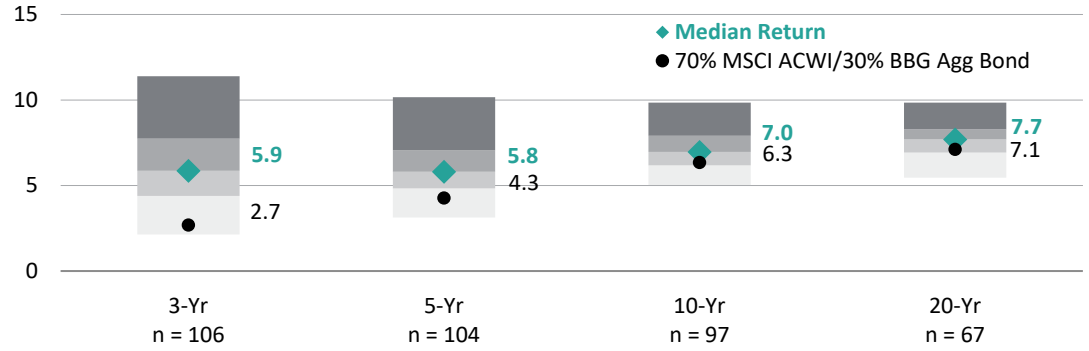
Source: Foundation data as reported to Cambridge Associates LLC.
Notes: Institutions are assigned to performance quartiles based on their 2022 total portfolio return. Data are dashed out where there were less than five foundations reporting. For more information, including the number of participants, see pages 52 and 53 in the Appendix.

LONGER-TERM RETURNS

While the absolute returns that foundations earned plunged in 2022, their relative performance was outstanding when compared to a blended 70% global equity/30% bond index. This was the second straight year of strong relative performance, and this has led to a large spread between the foundation median and the simple benchmark over longer trailing periods. The median outperformed by 320 bps and 150 bps for the trailing three- and five-year periods, respectively. The spreads were smaller, but still sizable, for the trailing ten- and 20-year periods (Figure 13).

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

Years Ended December 31, 2022 • Percent (%) • By Percentile Ranking



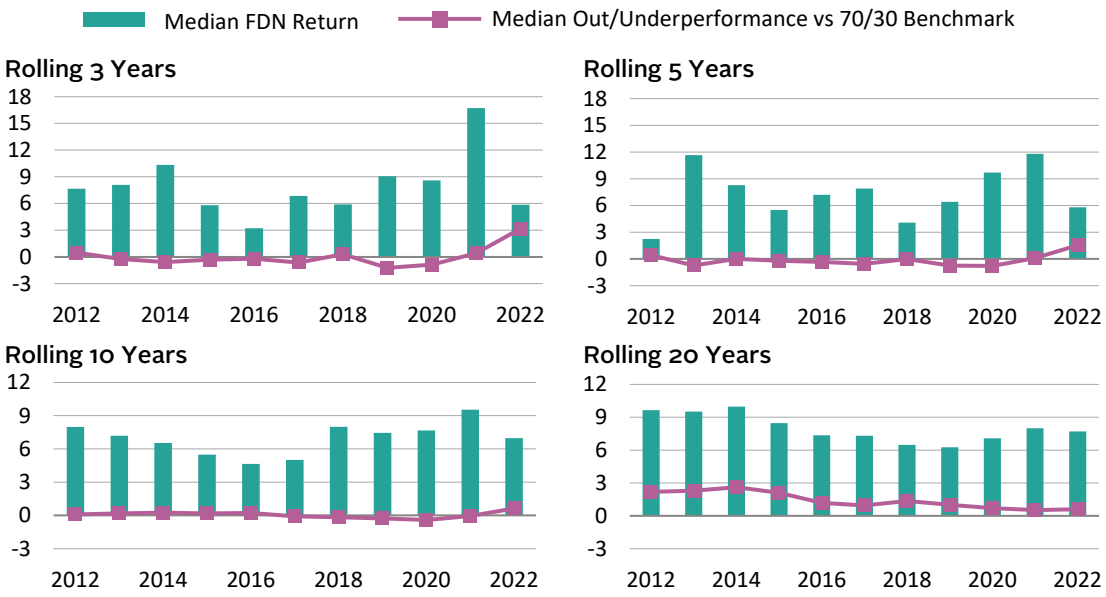
Sources: Foundation data as reported to Cambridge Associates LLC. Index data are provided by Bloomberg Index Services Limited and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

Note: For more information, please see page 54 in the Appendix.

Figure 14 shows the trend in the foundation median return across multiyear trailing periods. Also displayed is the spread between the median and the simple benchmark return for each respective period. The trailing three- and five-year returns as of this most recent December 31 were on the lower end of the results from the historical period. However, the spread between the median's trailing three- and five-year returns and the simple benchmark were much larger for 2022 than they were at any other point over the past decade. Returns from private markets have been substantially higher than those from public markets over the last couple of years, and this has been a primary driver behind the spike in the median's outperformance versus the simple benchmark. In addition, the poor performance of the public bond market component has been a significant drag on the 70/30 benchmark's return over the last two years.

FIGURE 14 ROLLING MEDIAN RETURNS AND OUT/UNDERPERFORMANCE VERSUS 70/30 BENCHMARK

Years Ended December 31 • Percent (%)



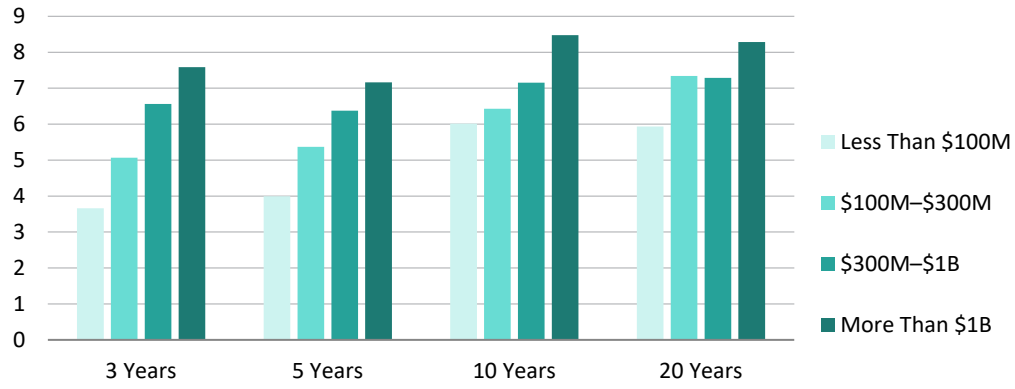
Source: Foundation data as reported to Cambridge Associates LLC.

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

The ten-year and 20-year returns for the foundation median were toward the middle of the pack of the outcomes from the historical period. On a relative basis, the trend in the median's ten-year return versus the simple benchmark closely resembles that of the shorter trailing periods, as the magnitude of outperformance jumped considerably for this most recent year end. For the trailing 20-year periods, the median's value add over the benchmark had been gradually shrinking since 2018 but ticked back up slightly in 2022.

Larger foundations outperformed smaller foundations by significant margins for the trailing periods ended December 31, 2022 (Figure 15). The spread was most striking for the trailing three-year period, where the median return for foundations more than $1 billion (7.6%) was more than double the median of foundations less than $200 million (3.7%). While the spreads between those two cohorts were narrower for longer trailing periods, it was still a considerable 230 bps for the trailing 20-year period.

FIGURE 15 MEDIAN TRAILING 3-, 5-, 10-, AND 20-YR RETURNS BY ASSET SIZE
Years Ended December 31, 2022 • Percent (%)



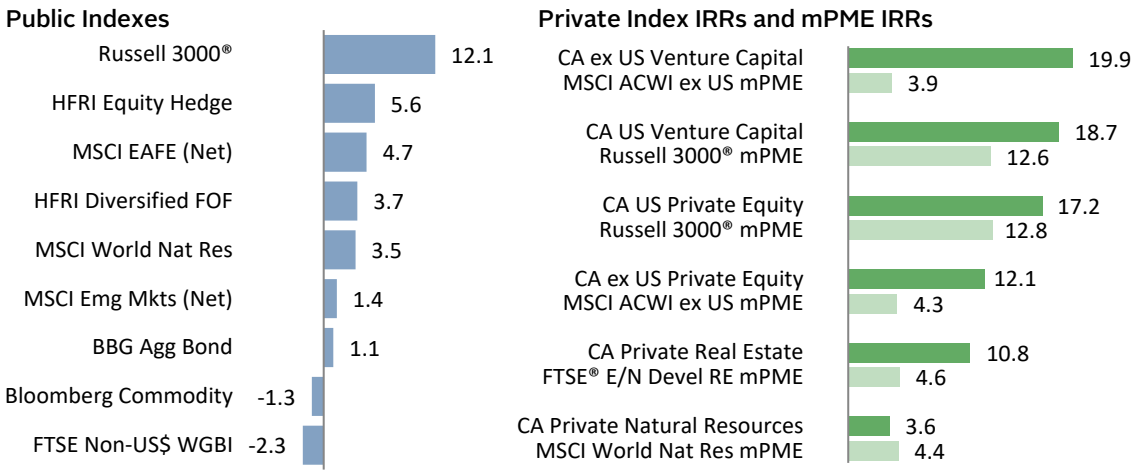
Source: Foundation data as reported to Cambridge Associates LLC.
Note: For more information, please see page 54 in the Appendix.

PERFORMANCE DRIVERS FOR THE TEN-YEAR PERIOD

The market backdrop for the trailing ten-year period shows that most private investment strategies outperformed their public market counterparts, and in some instances by very large margins. Among the indexes listed in Figure 16, venture capital strategies performed the best with both the US and ex US versions returning just below 20%. The private equity and private real estate indexes posted returns that were in excess of 10% as well. Among public indexes, the US stock market as represented by the Russell 3000® Index was by far the top-performing strategy. Meanwhile, the low interest rate environment throughout most of the last decade resulted in historically low returns for investment-grade fixed income strategies. And despite the outstanding performance produced by commodities and natural resources in 2022, the returns of these strategies were muted over the full trailing ten-year period.

FIGURE 16 10-YR INDEX RETURNS

As of December 31, 2022 • Percent (%)



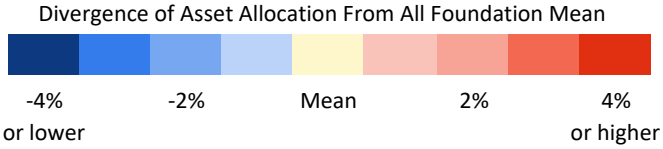
Sources: Index data are provided by Bloomberg Index Services Limited, Cambridge Associates LLC, Frank Russell Company, FTSE International Limited, Hedge Fund Research, Inc., MSCI Inc., the National Association of Real Estate Investment Trusts, Standard & Poor's, and Thomson Reuters Datastream. MSCI data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

The analysis of peer asset allocation structures over the last ten years fits right in with the takeaways from the index comparisons. The heat map analysis in Figure 17 averages asset allocation data of participating foundations across the 11 December periods from 2012 to 2022 and places each foundation into the performance quartile that aligns with their ten-year total return ranking. The top quartile of performers had the highest average allocation across the past decade to private investments (35.0%), with most of that exposure coming from PE/VC (24.8%). The average allocations gradually decline when stepping down the quartile categories, with the bottom quartile reporting the lowest allocations to private investments (7.1%). The inverse was true in traditional bonds and equities, with the combined average allocation to these strategies being just 40.6% for this group of institutions.

FIGURE 17 10-YR MEAN ASSET ALLOCATION BY PERFORMANCE QUARTILE

Percent (%) • n = 71

	Marketable Assets						Private Investments			
Quartile	Total Mktbl Assets	Public Equity	Hedge Funds	Public Real Assets	Fixed Income	Cash & Other	Total Private Inv	Private PE/VC	Private Real Assets	Private Credit
Top Quartile	65.0	33.8	18.2	2.0	6.8	4.2	35.0	24.8	7.9	2.3
2nd Quartile	78.5	44.8	15.6	3.8	10.0	4.3	21.5	14.3	5.7	1.5
3rd Quartile	83.7	47.0	19.0	3.2	10.3	4.2	16.3	10.7	3.7	1.9
Bottom Quartile	89.9	48.9	16.6	5.0	15.1	4.3	10.1	7.1	2.4	0.6
All FDN Mean	79.2	43.6	17.3	3.5	10.6	4.2	20.8	14.3	4.9	1.6



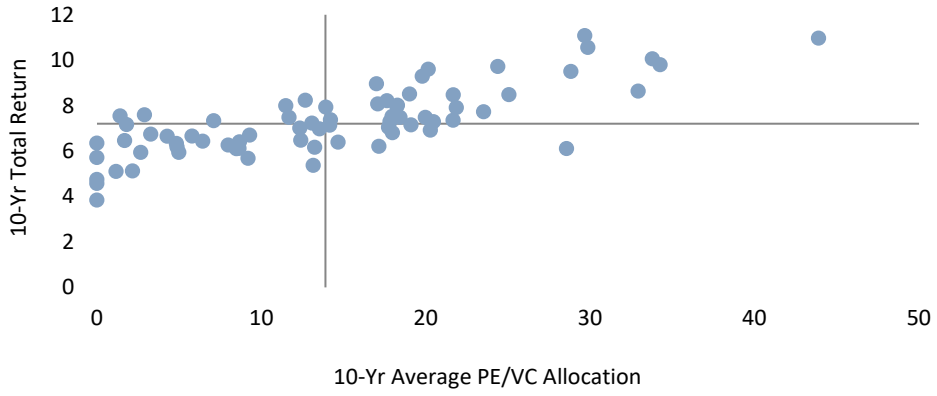
Source: Foundation data as reported to Cambridge Associates LLC.

Note: Asset allocation is averaged across the 11 December 31 periods from 2012 to 2022 for each institution in this analysis.

Of all the asset classes listed in the heat map table, PE/VC is the one that had the strongest relationship with total portfolio performance for the trailing ten-year period. A simple way to visualize this is by plotting data from foundations onto a scatterplot. In Figure 18, each foundation that reported data over the last decade is represented by a dot based on where its ten-year average allocation to PE/VC intersects with its trailing ten-year return. The data do not show a perfect relationship—some foundations that have above-median allocations to PE/VC had below-median total returns, and vice versa. However, there is a clear trend from left to right on the scatterplot, as performance tends to be higher as the allocation to PE/VC increases.

FIGURE 18 10-YR PE/VC ALLOCATION VS TOTAL RETURN

As of December 31, 2022 • n = 71



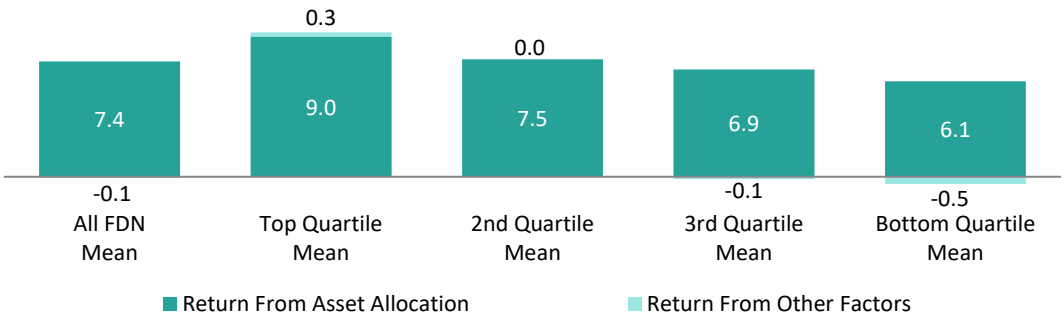
Source: Foundation data as reported to Cambridge Associates LLC.

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

The attribution model further illustrates the impact of different asset allocation structures on the trailing ten-year return. The average asset allocation return over this period for the top quartile of performers was 9.0% (Figure 19). For the bottom quartile of performers, the average asset allocation return was 290 bps lower at 6.1%. This was significantly wider than the gap in the portion of return explained by other factors such as implementation. The model estimates the average return from other factors for top performers was 0.3%, which was just 80 bps higher than the average of the bottom quartile (-0.5%).

FIGURE 19 10-YR ATTRIBUTION ANALYSIS BY PERFORMANCE QUARTILE

As of December 31, 2022 • Percent (%) • n = 71



Source: Foundation data as reported to Cambridge Associates LLC.

Figure 20 further supports the notion that asset allocation structures were responsible for most of the dispersion in foundation performance over the last decade. This analysis displays the median ten-year asset class returns for the four performance quartiles and the overall universe. There were some categories on the private side—such as venture capital, distressed securities, and private real estate—where the median of the top quartile was noticeably higher than the median of the overall universe. However, there were other categories where the spreads were relatively insignificant.

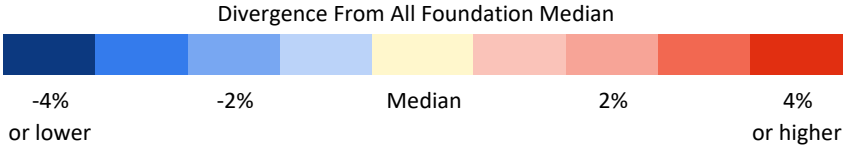
FIGURE 20 10-YR MEDIAN ASSET CLASS RETURNS BY PERFORMANCE QUARTILE
Percent (%)

Private Investment IRRs

Quartile	Total PE/VC	Venture Capital	Non-Venture Private Equity	Distressed Control-Oriented	Private Credit ex Distressed	Total Real Assets	Real Estate	Natural Resources
Top Quartile	17.3	20.7	15.3	15.3	9.6	7.5	10.7	3.6
2nd Quartile	15.6	18.6	14.5	9.1	14.4	5.1	8.9	3.2
3rd Quartile	17.7	18.7	15.7	--	12.1	4.9	11.1	2.7
Bottom Quartile	14.0	--	13.3	--	--	3.0	--	1.0
All FDN Median	16.8	18.7	14.9	9.2	10.1	5.1	9.6	3.0

Marketable Asset Classes

Quartile	Total Public Equity	Global Equity Managers	US Equity	ex US Devel Mkts Equity	Emg Markets Equity	Fixed Income	Hedge Funds	Comm & Nat Res
Top Quartile	8.4	--	11.8	6.0	2.8	0.5	4.5	--
2nd Quartile	7.8	8.5	11.8	5.1	2.0	1.3	4.4	-0.1
3rd Quartile	7.7	--	11.8	5.4	2.0	1.2	4.2	0.8
Bottom Quartile	7.4	6.9	10.8	5.0	1.4	1.0	3.2	-0.1
All FDN Median	7.7	8.0	11.7	5.2	2.0	1.1	4.0	-0.1



Source: Foundation data as reported to Cambridge Associates LLC.
Notes: Institutions are assigned to performance quartiles based on their trailing ten-year total portfolio return. Data are dashed out where there were less than five foundations reporting. For more information, including the number of participants, see pages 55 through 58 in the Appendix.

As is typically the case, there was less variation in the returns reported by participants in marketable asset classes. However, what is remarkable is the lack of blue and red in the heat map table on the bottom half of Figure 20. There was only one instance where the median of one of the performance quartiles was 100 bps more than or less than the overall universe median. More detail on asset class returns across the trailing three-, five-, and ten-year periods is included in the appendix of this report.

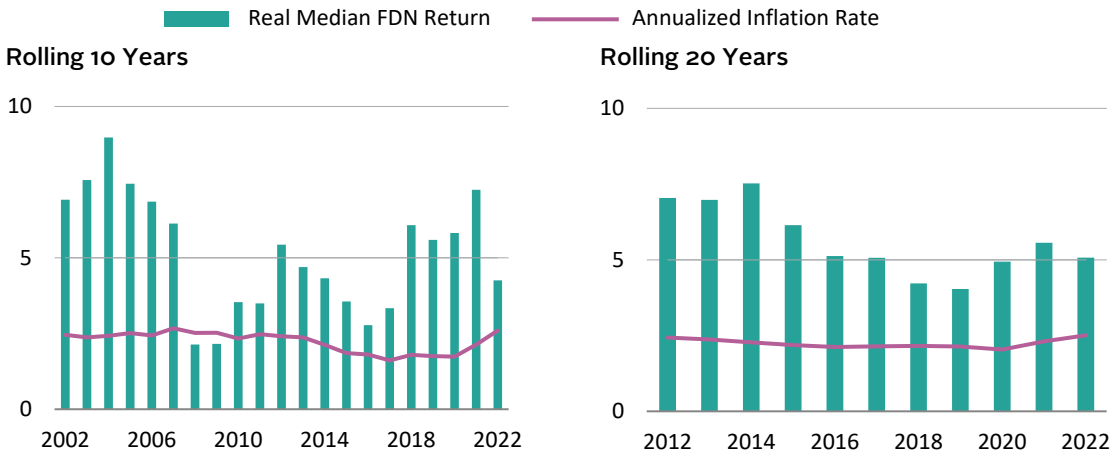
INFLATION-ADJUSTED RETURNS

Many foundations have the objective to preserve the purchasing power of their investment portfolios so they can support their missions over the long term. To achieve this goal, a foundation must earn a return that offsets the erosion of purchasing power caused by inflation and replenish the spending that is drawn from the portfolio. Most participants in this study are private nonoperating foundations that must pay out 5% of their assets on an annual basis. Consequently, most participants aim to earn at least a 5% real return because of this legal requirement.[3] The volatile nature of investment markets makes this task impossible to achieve on a year-to-year basis, so foundations aim to meet their return target over the long term.

Inflation has played a leading role in the macroeconomic story over the last two years. The rate of inflation in the United States—as represented by the Consumer Price Index - All Urban Consumers (CPI-U)—rose by 6.5% in 2022 and 7.0% in 2021. As a result, the average inflation rate over the longer term has spiked as well. The average annualized ten-year inflation rate as of December 31, 2022, was 2.6%. This was the second highest rate when looking back to 2002 on a rolling ten-year basis (Figure 21). The 20-year inflation rate of 2.5% was the highest reported over the past decade.

FIGURE 21 ROLLING MEDIAN REAL RETURNS: TRAILING 10- AND 20-YR

Years Ended December 31 • Percent (%)



Source: Foundation data as reported to Cambridge Associates LLC.

Notes: The number of institutions included in the median calculation varies from one period to the next and is smaller in earlier years compared to the present day. The inflation rate is represented by the Consumer Price Index - All Urban Consumers.

The recent spike in inflation, along with the negative return environment in 2022, has made the task of earning 5% on a real basis more challenging. The trailing ten-year real return at the end of 2022 was 4.3%. This was the first time that this metric landed below the 5% threshold since 2017. The trailing 20-year real return for the most recent year end was just above the mark at 5.1%.

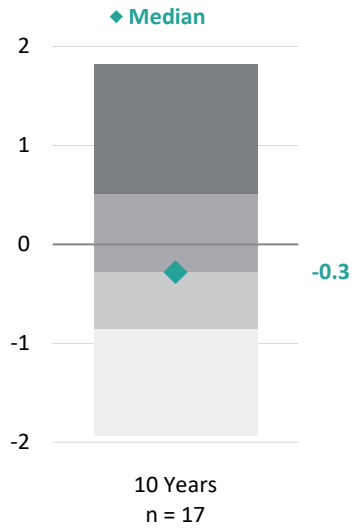
Another statistic related to this topic is the real return after spending. Our survey asks foundations to report their effective spending rate, which is the total amount of spending from the portfolio for the year divided by the beginning year market value.

3 See the Investment Policy section, and Figure 24 specifically, for more information on this topic.

The real return after spending is calculated by deducting both the inflation rate and the effective spending rate from the portfolio's nominal return. Among foundations that provided spending data over the last decade, the median ten-year real return after spending was -0.3% (Figure 22). A negative result means that a foundation saw a loss in purchasing power compared to ten years ago.

FIGURE 22 10-YR REAL RETURNS AFTER SPENDING

As of December 31, 2022 • Percent (%) • By Percentile Ranking



Source: Foundation data as reported to Cambridge Associates LLC.
Note: For more information, see page 58 in the Appendix.

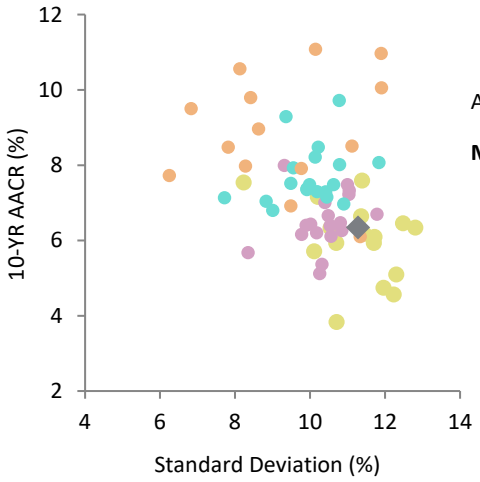
RISK-ADJUSTED RETURNS

The most common approach to measuring risk-adjusted performance is by the Sharpe ratio, which shows how much return above the risk-free rate (T-bills) the investor has earned per unit of risk (defined as the standard deviation of returns). The higher the Sharpe ratio, the more the investor has been compensated for each unit of risk taken. Risk-adjusted performance comparisons can be complicated when portfolios have significant allocations to private investments. The frequency and timing of private investment valuations can dampen the standard deviation for the returns of these assets. Thus, a portfolio with high allocations to private investments can yield a lower volatility statistic relative to portfolios that have higher public equity allocations. For this reason, we have split foundations into subcategories in Figure 23 based on their average allocations to private investments over the trailing ten-year period.

The median Sharpe ratio was 0.88 for foundations that had an allocation of 30% or more to private investments. In comparison, the median Sharpe ratio was just 0.52 for foundations that had less than 10% allocated to private investments. The better Sharpe ratio for the group with the highest private allocations is mostly a function of this group's higher median return, but it is also partly attributable to their lower median standard deviation.

FIGURE 23 10-YR STANDARD DEVIATION AND SHARPE RATIO

Periods Ended December 31, 2022



	AACR	Standard Deviation	Sharpe Ratio	*n*
All Foundation Median	7.2	10.4	0.65	*68*
Median by PI Allocation				
Less Than 10%	6.1	11.4	0.52	*16*
10%–20%	6.4	10.4	0.60	*18*
20%–30%	7.5	10.1	0.70	*19*
More Than 30%	8.6	9.5	0.88	*15*
70/30 Benchmark	6.3	11.3	0.54	

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

Section 2: Investment Policy

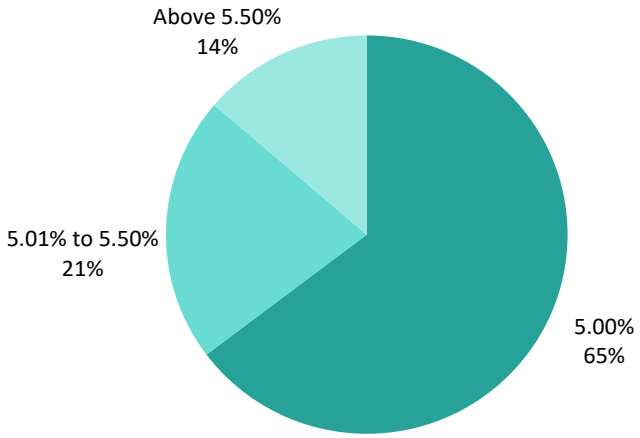
An investment policy provides guidelines for trustees, investment committee members, investment staff, advisors, and other relevant parties that are involved in the foundation's investment management and governance processes. The investment policy statement (IPS) is the formal document that outlines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

RETURN OBJECTIVE

Most foundations in this study are private, nonoperating foundations and are required by law to distribute approximately 5% of their assets on an annual basis. To comply with this requirement and maintain purchasing power over time, a foundation must achieve a real return (i.e., adjusted for inflation) that offsets their payout rate. Since investment returns are volatile from year to year, return objectives should be evaluated from the long-term perspective instead of a goal that must be met every year. Nearly two-thirds (65%) of foundations providing a real return objective reported that their target was 5%. Each of the remaining respondents have a real return objective above 5% (Figure 24).

FIGURE 24 REAL TOTAL PORTFOLIO RETURN OBJECTIVES

n = 51



Source: Foundation data as reported to Cambridge Associates LLC.

ASSET ALLOCATION POLICY

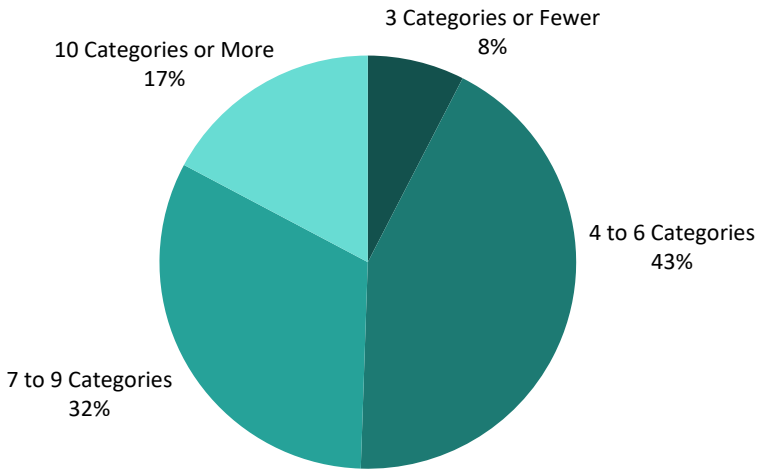
The asset allocation component of the investment policy specifies the asset classes allowed in the portfolio and assigns target allocations and/or ranges for those asset class categories. The categories and targets chosen are based on the portfolio's risk tolerance, liquidity needs, and performance objectives. Our survey requests that respondents provide the asset class categories used in their asset allocation policy.

There are differences in the policy frameworks reported among respondents, with some foundations having more detailed policies than others. Most foundations use

separate categories in their framework to distinguish between equities, hedge funds (or diversifying strategies), real assets, and fixed income. For equities, it is the most common practice to have separate targets that split public and private assets into different categories. In addition, some foundations further break out their policy allocations to public equities by separate geographic regions. Similarly, there are often multiple categories used to account for real assets based on the public versus private split and/or to distinguish between the various types of substrategies (e.g., natural resources versus real estate).

Figure 25 shows the distribution of the number of categories that foundations cited in their overall asset allocation policy. The greatest concentration was within a range of four to six categories, with 43% of respondents falling within this range. Approximately one-third (32%) of respondents reported that they use anywhere from seven to nine categories, while 17% of foundations use ten or more categories. Just 8% of respondents cited three categories or fewer in their policy framework.

FIGURE 25 NUMBER OF CATEGORIES IN THE POLICY ALLOCATION FRAMEWORK
As of December 31, 2022 • n = 93



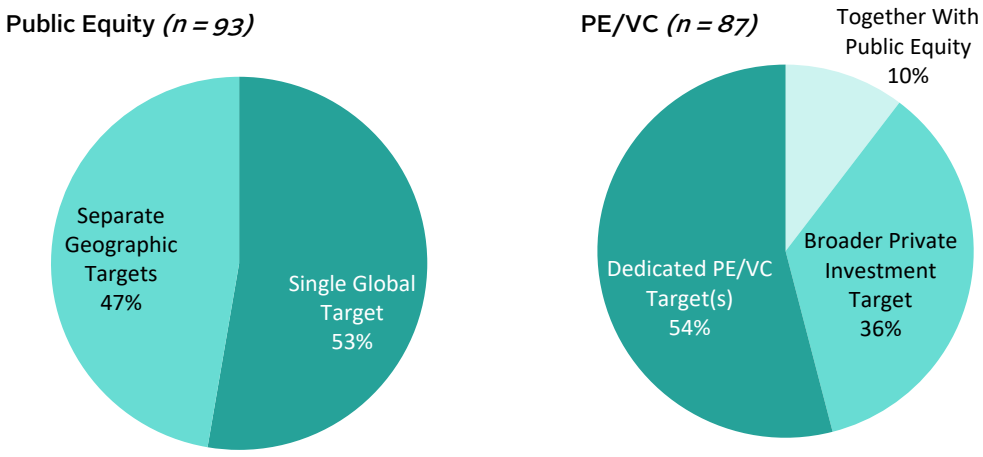
Source: Foundation data as reported to Cambridge Associates LLC.

A broad policy approach was used by a slight majority of respondents for public equities, with 53% of respondents reporting a single category that captures their entire public equity allocation (Figure 26). The remaining 47% of respondents assign multiple targets based on geographic regions, although there are various combinations of regions used across foundations. The single-category approach provides the investment management team more flexibility, while the multi-category approach puts more constraints on how the public allocations are implemented.

A small percentage (10%) of respondents roll PE/VC together with public equity into a single category in their policy framework. In these instances, a name such as "Growth" or simply "Equity" is used to capture the combined exposure. However, most foundations use separate categories for public and private equity when constructing their asset allocation policy. The most common approach—which was cited by 54% of respondents—is to have either a dedicated target for PE/VC or break out non-venture PE/VC

into two separate categories. Another 36% of foundations include PE/VC together with other private strategies into a broad "Private Investments" category in their framework.

FIGURE 26 CAPTURING EQUITIES IN THE ASSET ALLOCATION POLICY
As of December 31, 2022



Source: Foundation data as reported to Cambridge Associates LLC.

COMPONENTS OF POLICY PORTFOLIO BENCHMARKS

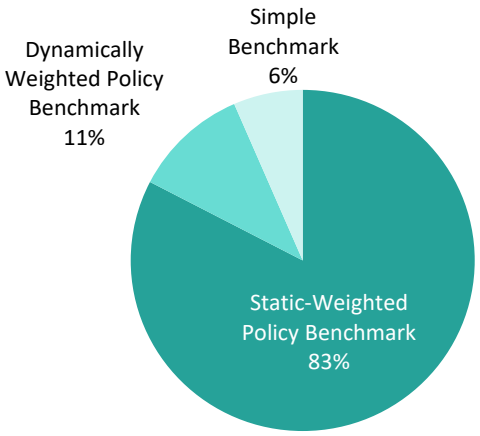
Benchmarking investment performance is an essential piece of a well-functioning governance process. The purpose of benchmarking is to answer the question "How are we doing?" in ways that are both accurate and relevant to the objectives of the portfolio being measured. No single benchmark can answer every aspect of that question, so institutions may use a variety of benchmarks in this process.

We asked participants in this study to provide the components of what they consider to be their policy portfolio benchmark. The vast majority (83%) of respondents use a static-weighted policy benchmark that matches or aligns closely with the categories and target weightings in the asset allocation policy framework (Figure 27). This approach can help a foundation evaluate whether it has outperformed a mix of indexes that represents its default or normative position. Such an evaluation not only captures the impact of manager selection decisions, but also the effect of differences between the portfolio's actual asset allocation and the policy targets. A much smaller percentage (11%) of respondents use a dynamically weighted policy benchmark, where the weightings of the indexes update frequently (e.g., monthly) to match the actual asset allocation of the portfolio. This type of benchmark is intended to focus solely on manager selection decisions and neutralizes the effect of over/underweights of asset allocation versus policy targets.

The remaining 6% of respondents use a simple benchmark that incorporates a blend of a broad-based equity benchmark and a bond index. Assuming that a portfolio has diversified into alternative asset classes, a simple benchmark evaluates whether the foundation benefited from the decision to diversify and actively manage the portfolio. The MSCI All Country World Index was used by most of the foundations that cited this type of benchmark. Similarly, the Bloomberg Aggregate Bond Index was the most common index reported for the bond component.

FIGURE 27 TYPES OF POLICY PORTFOLIO BENCHMARKS

As of December 31, 2022 • n = 92



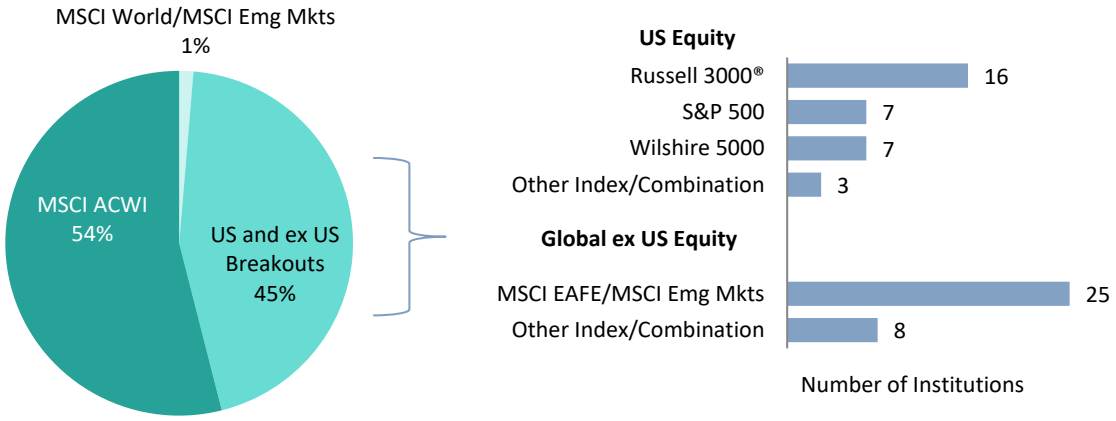
Source: Foundation data as reported to Cambridge Associates LLC.

Figure 28 narrows the universe down to the respondents that cited a static-weighted policy benchmark and shows the indexes that are most frequently used to represent public equity. Slightly more than half (54%) of this group used a version of the MSCI All Country World Index, which tracks stocks across developed and emerging market countries world-wide. Just 1% of respondents use a blend of the MSCI World Index, which tracks stocks in developed countries, and the MSCI Emerging Markets Index. The remaining 45% of respondents use separate indexes to benchmark exposure to US and global ex US categories.

The latter practice of using a US-specific index and one or more global ex US indexes in the policy benchmark has become less common in recent years. In our study from five years ago, a majority (56%) of respondents used this approach. Among this year's universe, the Russell 3000® Index was overwhelmingly the most common benchmark for those that cited US-specific index. Similarly, a combination of the MSCI EAFE and MSCI Emerging Markets indexes was by far the most prevalent practice used to represent global ex US equity.

FIGURE 28 COMPONENTS OF THE POLICY PORTFOLIO BENCHMARK: PUBLIC EQUITY

As of December 31, 2022 • n = 75

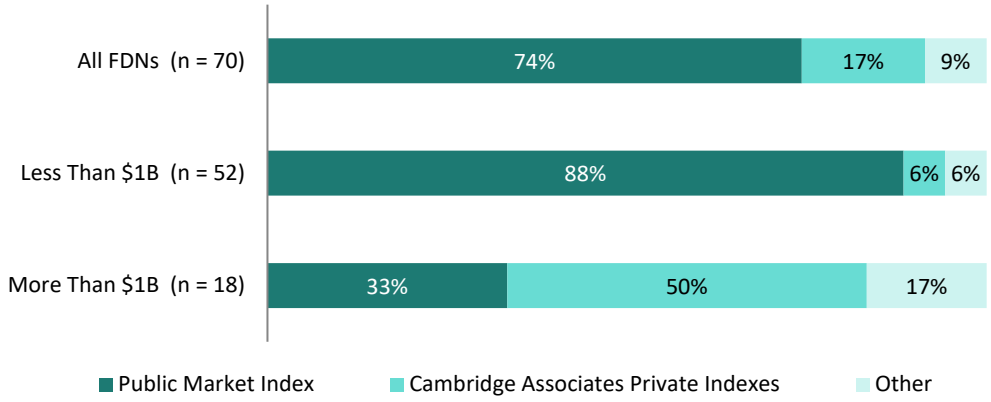


Source: Foundation data as reported to Cambridge Associates LLC.

Accounting for private equity in the policy benchmark can be challenging because there is no single index that meets all of the standards of a valid benchmark. Hence, we see different approaches used across foundations in this study. For the overall respondent group, the use of a public index is the most common approach as 74% of respondents use this method (Figure 29). The public index is by far most prevalent among foundations less than $1 billion as it was cited by 88% of this group. The rationale for using this approach is that the capital would have been invested in public equity markets if it was not invested in private equity. Therefore, the public index can help evaluate whether the decision to invest in private equity paid off for the foundation. The use of public index can also be a straightforward approach when a portfolio is still in a phase of building its private program and there is an underweight in current private allocations versus the long-term target.

While the use of a public equity index in this way can capture the opportunity cost of investing in private equity, it does not evaluate how well those private allocations are implemented. Just 17% of the total participant group uses the CA private investment indexes, which are calculated by pooling together all of the cash flows and valuation changes for the underlying private funds included in a specific strategy's index. These indexes are not investable, nor is there transparency into the names and weightings of the private companies included, and, consequently, they don't satisfy the requirements sought for an ideal benchmark. However, these indexes can be custom weighted by vintage year and provide a better evaluation of private investment fund selection compared to what a public index offers. It is likely for this reason that the approach continues to be most prevalent among larger foundations, of which many have performance-based incentive compensation programs for their investment staff.

FIGURE 29 COMPONENTS OF THE POLICY PORTFOLIO BENCHMARK: PRIVATE EQUITY
As of December 31, 2022



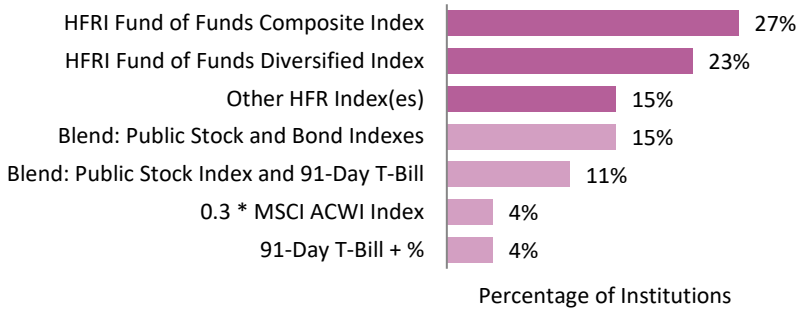
Source: Foundation data as reported to Cambridge Associates LLC.

Foundations also face similar challenges of selecting an appropriate index when accounting for hedge fund allocations in the policy benchmark. Hedge Fund Research® (HFR) produces indexes that broadly track hedge fund managers that report to their database. The HFR indexes may be defined more granularly by investment substrategies, geographic regions, and other criteria. While foundations may use this approach

to evaluate their own manager selection versus a broad universe of hedge funds, these indexes lack some of the desired qualities of a valid benchmark, such as being investable and transparent. Still, approximately two-thirds of the respondent group use one or more of the indexes calculated by HFR. The HFRI Fund of Funds (FOF) Composite Index was used by 27% of foundations, while the HFRI FOF Diversified Index was the next most commonly cited (23%). Another 15% of respondents use a different index or a combination of indexes provided by HFRI. As shown in Figure 30, most of the remaining respondents apply some beta adjustment to a public equity index, although the exact method varies across a few different options.

FIGURE 30 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: HEDGE FUNDS

As of December 31, 2022 • n = 71

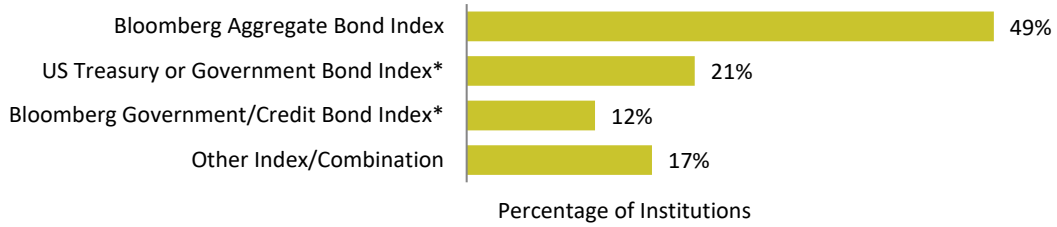


Source: Foundation data as reported to Cambridge Associates LLC.

The Bloomberg Aggregate Bond Index was the most common benchmark for fixed income but was cited by just 49% of foundations (Figure 31). The next most common methods were the use a US Treasury or US government bond index (21%) and a version of the Bloomberg Government/Credit Index (12%). There are different versions for each of these types of indexes based on range of maturity and many foundations use the specific version that reflects their portfolio's underlying fixed income exposure. The remaining 17% of respondents use some other type of index or a combination of multiple indexes. For real assets, benchmark combinations are even more unique across the participant group due to the wide variety of strategies employed under this category.

FIGURE 31 FREQUENTLY USED COMPONENTS OF POLICY PORTFOLIO BENCHMARKS: FIXED INCOME

As of December 31, 2022 • n = 75



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

Source: Foundation data as reported to Cambridge Associates LLC.

INVESTMENT PERFORMANCE VERSUS POLICY PORTFOLIO BENCHMARKS

A majority (65%) of respondents outperformed their policy benchmark return in 2022. The median spread between the actual one-year return and the policy benchmark return was 1.1 ppts (Figure 32). The trailing three-year period incorporated an even stronger year of relative performance from 2021. Hence, the median spread for the three-year period was higher at 1.7 ppts. Relative results were also impressive over the longer term, with the median value add over the policy benchmark being 0.9 ppt and 0.7 ppt for the trailing five- and ten-year periods, respectively.

FIGURE 32 RANGE OF OUT/UNDERPERFORMANCE OF TOTAL RETURN VS POLICY PORTFOLIO BENCHMARK

Years Ended December 31, 2022 • Percentage Points • By Percentile Ranking

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.

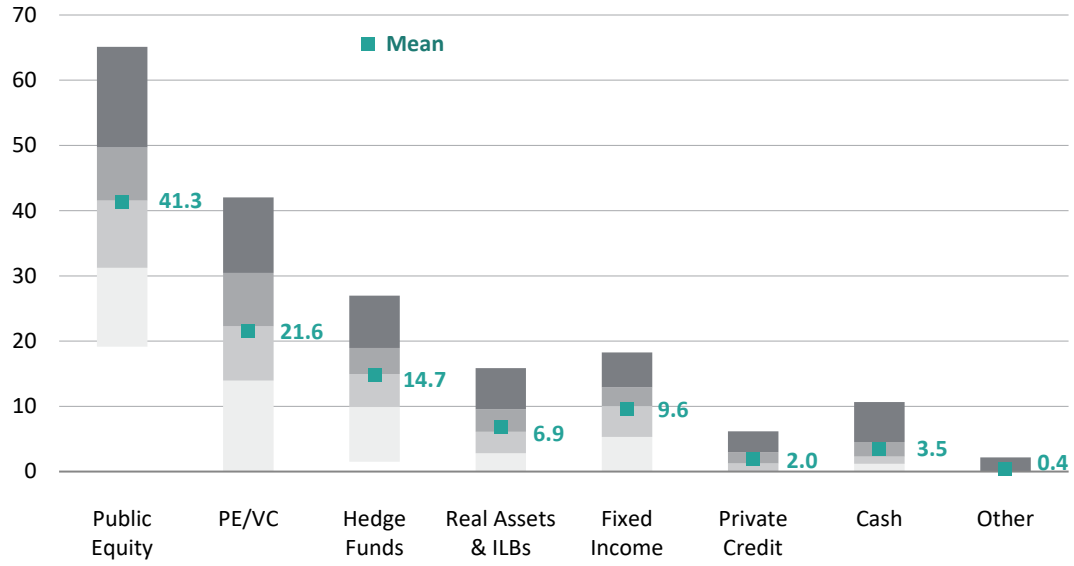
Section 3: Portfolio Asset Allocation

2022 ASSET ALLOCATION

Most foundations had significant allocations to equities at the end of 2022. On average, 41.3% of the long-term investment portfolio (LTIP) was invested in long-only public equities, and 21.6% was allocated to PE/VC (Figure 33). However, the range in allocations reported across respondents was extremely wide within these categories. Even after removing the top and bottom 5% of outliers, public equity allocations were as high as 65% at the top end of the universe and as low as 19% at the bottom end. For PE/VC, allocations ranged from 42% at the 5th percentile to no allocation at the 95th percentile.

FIGURE 33 SUMMARY ASSET ALLOCATION DISTRIBUTION

As of December 31, 2022 • Percent (%) • n = 106 • By Percentile Ranking



Source: Foundation data as reported to Cambridge Associates LLC.

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

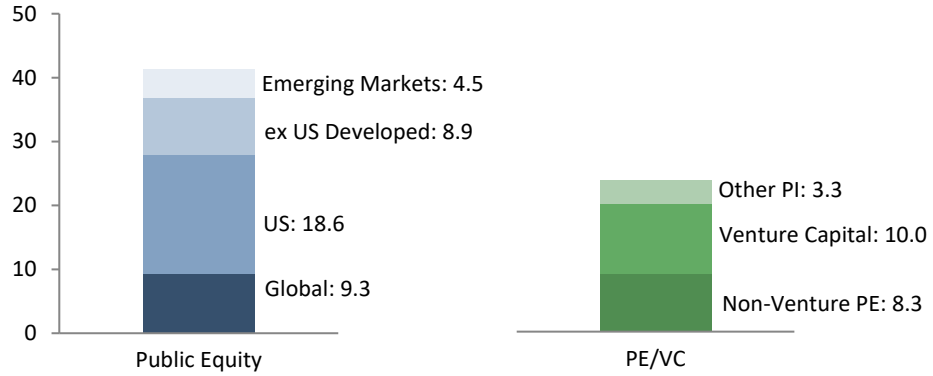
Figure 34 shows the breakdown of detailed categories that fall under public equity and PE/VC in our asset allocation framework. On the public side, we collect data based on the primary geographic region that each fund/manager is invested.[4] The highest allocations among the public categories tend to be in US-focused funds, with 18.6% of the average LTIP invested in these strategies. Foundations also have substantial allocations to equities outside of the United States, with an average of 8.9% allocated to funds that primarily invested in global ex US developed regions and another 4.5% invested with dedicated emerging markets funds. Funds invested across multiple geographic regions are included in our global category and make up 9.3% of the average LTIP.

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

The largest average allocation on the private side was to venture capital (10.0%), while the average allocation to non-venture private equity was 8.3%. Non-venture private equity in our framework consists of buyouts and growth equity, which is aligned with the way these strategies are combined in the CA Private Equity indexes. There is a third category called "Other Private Investments," which is reserved for multi-strategy fund-of-funds, secondaries, and other private funds that can't be allocated solely to either of the aforementioned categories. The average allocation to this category was 3.3%.

FIGURE 34 MEAN ASSET ALLOCATION: PUBLIC EQUITY AND PE/VC

As of December 31, 2022 • Percent (%) • n = 106



Source: Foundation data as reported to Cambridge Associates LLC.

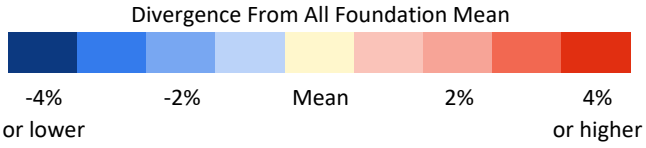
Elsewhere in the reporting framework, the average allocation to hedge funds was 14.7% (Figure 35). Real assets, which consist of a diversified group of public and private assets, made up 6.9% of portfolios, on average. Fixed income made up 9.6% of the average LTIP, while private credit accounted for just 2.0%. Rounding out the average asset allocation among participants, 3.5% was allocated to cash and 0.4% was allocated other miscellaneous assets. Average allocations for the more granular asset classes that fall under these broader categories are included in the appendix of this report.

The total asset size of the LTIP has long been a key factor in the variation of asset allocations among foundations. Smaller portfolios continue to maintain higher allocations to fixed income and public equities, while larger portfolios have the highest allocations to alternative assets. The differences are most noticeable in the breakdown of public equity versus private equity. Foundations with assets less than $100 million had an average allocation of 49.1% to public equity, while those with assets greater than $1 billion had an average of 33.4% (Figure 35). For PE/VC, the largest foundations had an average allocation of 28.2%, while the smallest foundations had an average of 13.1%.

FIGURE 35 MEAN ASSET ALLOCATION BY ASSET SIZE

As of December 31, 2022 • Percent (%)

Asset Size	Public Equity	PE/VC	Hedge Funds	Private Credit	Fixed Income	Real Assets & ILBs	Cash
Less Than $100M *n = 19*	49.1	13.1	13.8	1.1	14.2	4.0	3.8
$100M–$300M *n = 31*	44.4	20.0	15.8	1.4	10.2	5.3	2.8
$300M–$1B *n = 24*	41.8	21.5	12.3	2.3	10.0	7.4	4.2
More Than $1B *n = 32*	33.4	28.2	16.0	2.8	6.0	9.6	3.5
All Foundation Mean *n = 106*	41.3	21.6	14.7	2.0	9.6	6.9	3.5



Source: Foundation data as reported to Cambridge Associates LLC.
Note: For more information, see page 59 in the Appendix.

HISTORICAL ASSET ALLOCATION

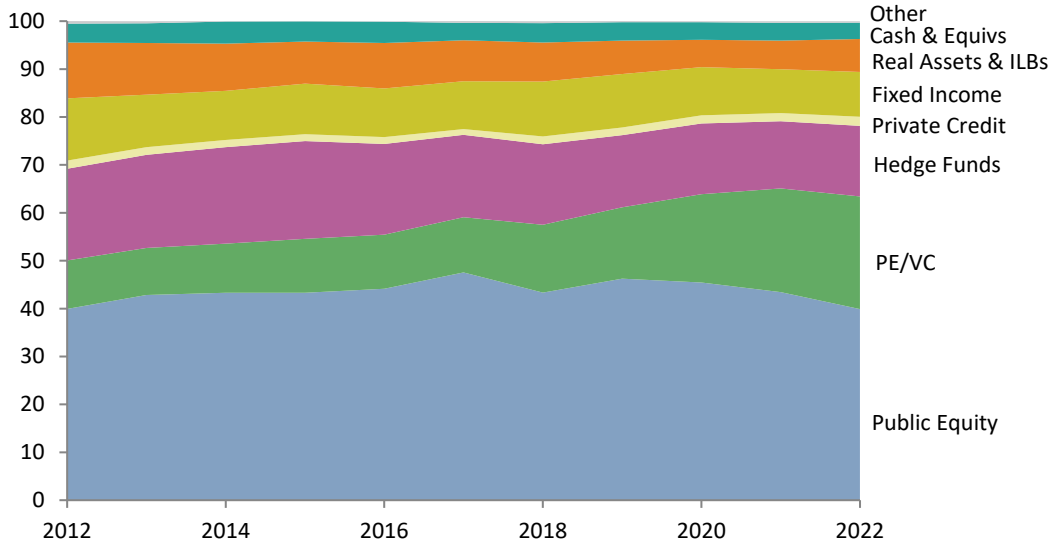
Institutional investors that have adopted the endowment model of investing have seen significant shifts in their asset allocation policies over the last few decades. The largest institutions pioneered this transition in the 1980s, with the trend spreading among other institutions in the 1990s. Allocations to alternative asset classes continued to increase throughout the first decade of the 2000s, although they were weighted more heavily toward hedge fund and inflation-hedging strategies than to private equities. The most recent decade saw a pivot in that trend, with portfolios significantly ramping up allocations to PE/VC. Figure 36 shows how average asset allocations have shifted over the last ten years for a universe of 71 foundations that provided complete historical data.

Strong returns from the US stock market drove public equity allocations higher throughout much of the 2010s, and the average public equity allocation for our foundation universe peaked in 2017 at 48%. However, these allocations have since trended down and ended 2022 with the same average allocation (40%) as ten years prior. Meanwhile, the average allocation to PE/VC strategies was 10% in 2012 and increased very little during the first half of the historical period in Figure 36. Spurred on by excellent performance and years of rising commitments to these strategies, the average allocation has more than doubled since 2017 and stood at 24% in 2022 for this constant universe of foundations.

Elsewhere, the combined allocation to hedge funds, real assets, and fixed income made up 44% of the average portfolio in 2012. Each of these strategies saw considerable declines in allocations over the ensuing ten years. At the end of 2022, these strategies accounted for 31% of the average foundation portfolio.

FIGURE 36 HISTORICAL MEAN ASSET ALLOCATION TRENDS

Years Ended December 31 • Percent (%) • n = 71



Source: Foundation data as reported to Cambridge Associates LLC.

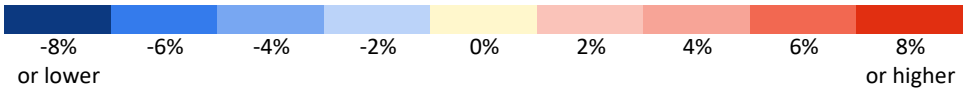
Note: For more information, see page 60 in the Appendix.

Foundations of various asset sizes followed the same overall trends for the most part (Figure 37). The average PE/VC allocations jumped sharply across the board, with each asset size cohort experiencing at least a 10-ppt increase. Foundations less than $100 million stood out from the rest of the universe in that they reported a significant increase in allocations to public equities as well. The combined exposure to public and private equities for the smallest foundations increased from an average of 46% in 2012 to 65% in 2022.

FIGURE 37 TRENDS IN MEAN ASSET ALLOCATION BY ASSET SIZE

Means as of December 31 • Percent (%)

	Public Equity	PE/VC	Hedge Funds	Private Credit	Fixed Income	RA & ILBs	Cash
Less Than $100M (n = 11)							
2012	38.8	7.7	19.1	1.1	16.5	9.3	4.8
2022	47.0	18.1	13.1	1.2	14.3	3.9	2.3
$100M–$300M (n = 21)							
2012	42.5	6.6	18.6	1.1	15.0	11.8	4.4
2022	44.6	20.0	14.9	1.6	10.3	5.4	3.1
$300M–$1B (n = 15)							
2012	46.3	6.3	17.6	2.4	14.6	10.1	2.5
2022	41.4	22.2	12.4	2.2	9.6	7.5	3.8
More Than $1B (n = 24)							
2012	34.2	16.7	20.6	2.2	8.6	13.5	4.1
2022	31.6	29.9	16.8	2.4	6.0	9.2	3.9



Source: Foundation data as reported to Cambridge Associates LLC.

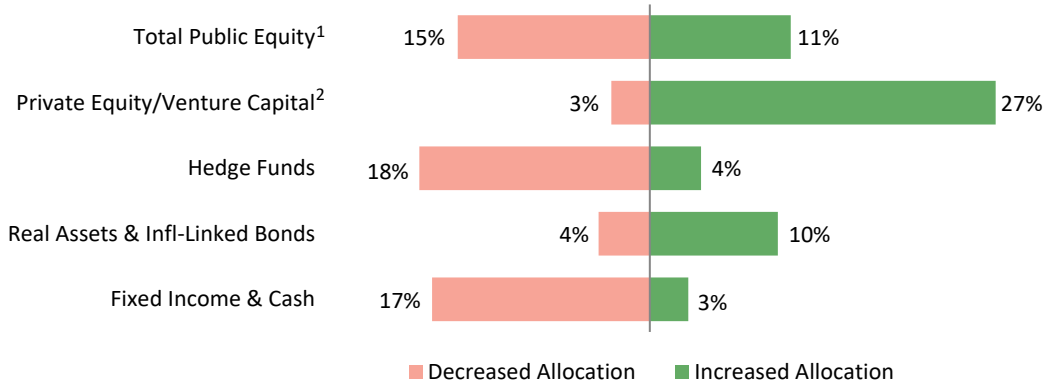
Notes: Analysis only includes respondents that provided data for the last ten years. Analysis does not include allocations to the "Other" asset class category.

TARGET ASSET ALLOCATION

Target asset allocation data can be insightful for evaluating whether institutions are altering their long-term asset allocation policies going forward. Our survey requests that participants provide their asset allocation policy exactly as stated in their investment policy statements. While there are differences in how policy frameworks are structured across institutions, we are able to make some general observations as to where foundations are tilting toward increasing or decreasing their allocations in the future. The contrast continues to stand out the most with PE/VC, where 27% of foundations reported an increase in the target allocation and just 3% reported a decrease (Figure 38). The opposite was true with hedge funds and fixed income, where the percentage of foundations reporting a decrease was much higher than those that reported an increase.

FIGURE 38 CHANGES IN TARGET ASSET ALLOCATION

December 31, 2021 – December 31, 2022 • Percentage of Institutions Increasing or Decreasing Targets



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

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

Source: Foundation data as reported to Cambridge Associates LLC.

PRIVATE INVESTMENTS AND UNCALLED CAPITAL COMMITMENTS

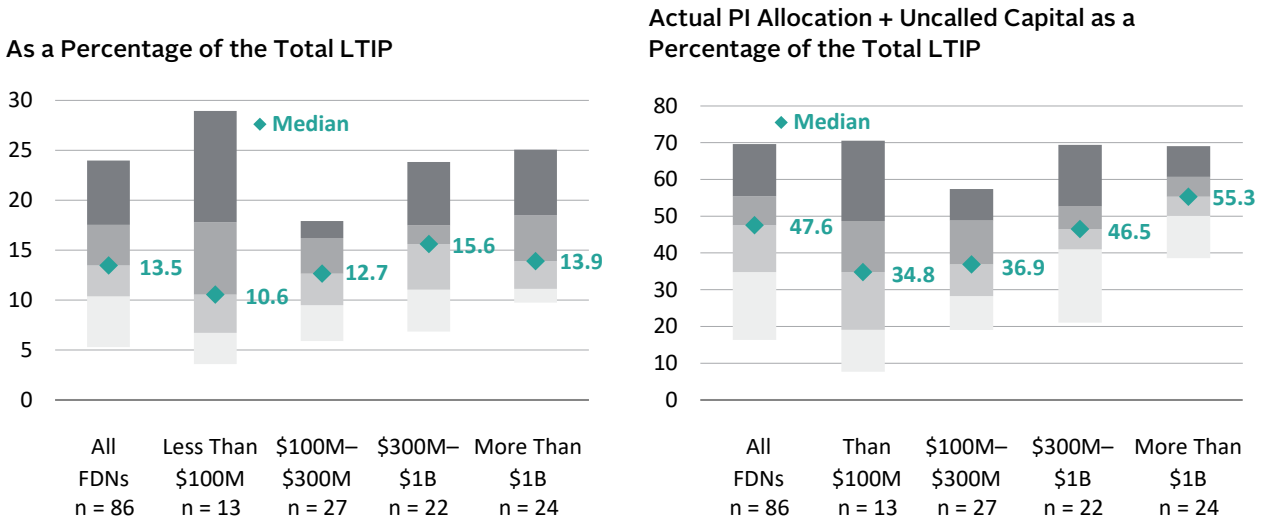
One of the core principles of the endowment model is the use of private investments that, in part due to their illiquid nature, offer the potential for higher long-term returns than those of public or marketable assets. As our analysis in this section has shown, foundations have been allocating an increasingly significant portion of their portfolios to private investments. As of the end of 2022, the average total private investment allocation for the overall participant group was 28.6%. For foundations greater than $1 billion, the average allocation was even larger at 38.8%.

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

The median ratio of uncalled capital as a percentage of the total LTIP was 13.5% at the end of 2022 for the overall foundation universe. The range of ratios varies widely across all of the asset size groups in Figure 39. The smallest foundations had the lowest median ratio (10.6%), while the cohort of foundations between $300 million and $1 billion had the highest (15.6%). The differences across the asset size groups are much greater when combining the amount of uncalled capital with the actual private investment allocation and expressing that as a percentage of the LTIP. For foundations greater than $1 billion, the median ratio for this equation was 55.3%. In contrast, the median ratio was 34.8% for foundations less than $100 million.

FIGURE 39 UNCALLED CAPITAL COMMITTED TO PRIVATE INVESTMENT FUNDS

As of December 31, 2022 • Percent (%) • By Percentile Ranking



Source: Foundation data as reported to Cambridge Associates LLC.

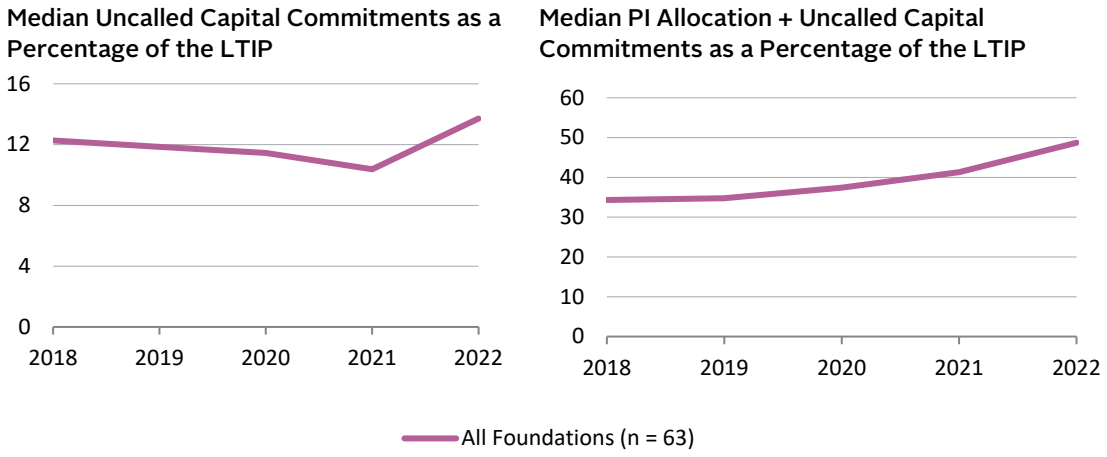
Note: For more information, see page 60 in the Appendix.

Figure 40 shows the trend in these two ratios over the last five years for the overall foundation universe. Although the ratio of uncalled capital to the LTIP market value declined from 2018 to 2021 for most foundations, it was not because the amount of uncalled capital commitments was decreasing. Rather, the rate of asset growth was higher than the growth in uncalled capital for most foundations. Essentially, the amount of uncalled capital became smaller in proportion to the overall portfolio value through these years. The opposite dynamic was in effect in 2022, a period where foundations lost value, but most continued to see their uncalled capital commitments grow.

The ratio that combines the actual private investment allocation with the amount of uncalled capital has seen more of a steady increase over time. For most foundations, the actual private allocations make up the majority of the combined amount that represents the numerator in the ratio equation. The boom in illiquid allocations in recent years, especially in PE/VC, meant that this particular ratio did not experience the dip in earlier years of this analysis as the former ratio did. In fact, the median ratio was substantially higher at the end of 2022 than it was five years earlier.

FIGURE 40 TREND IN UNCALLED CAPITAL COMMITMENTS TO PRIVATE INVESTMENT FUNDS

Years Ended December 31 • Percent (%)



Source: Foundation data as reported to Cambridge Associates LLC.

Less than half of respondents (42%) reported their private investment program was cash flow positive, meaning that the amount of distributions from private funds exceeded the amount of new capital paid in. The largest foundations—which generally have more mature private programs—were the most likely to answer "yes" to this question, with 58% of those greater than $1 billion reporting that their programs were cash flow positive.

Section 4: Investment Manager Structures

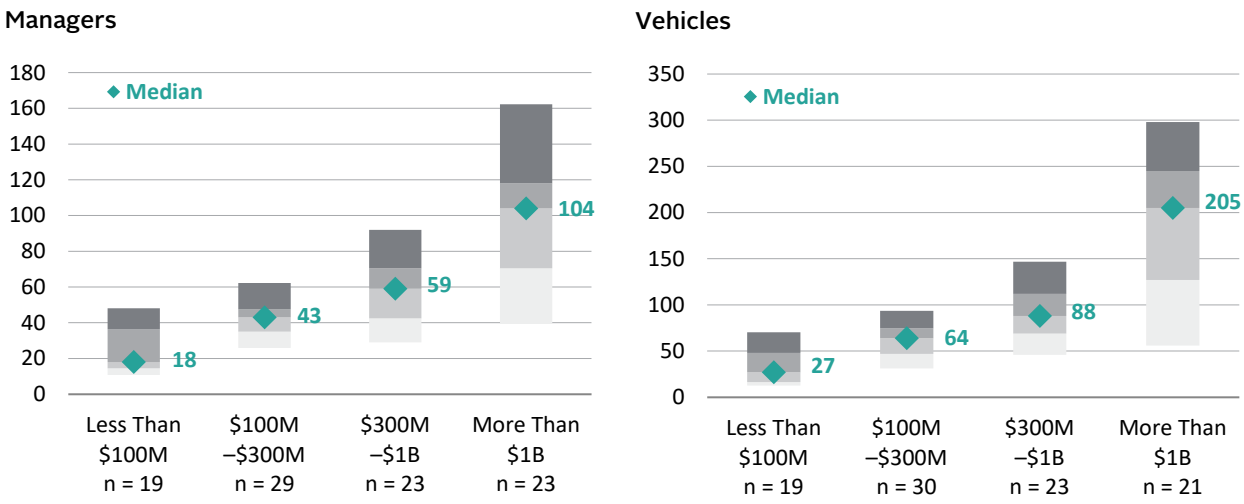
NUMBER OF EXTERNAL MANAGERS

Most of the assets under management at foundations are invested via external investment managers. There are multiple factors that contribute to the number of managers employed within a portfolio. The scale of total assets under management is the primary factor, as larger foundations generally spread their assets across a greater number of managers compared to smaller foundations. Among foundations greater than $1 billion, the median number of investment managers was 104 (Figure 41). At the opposite end of the asset size spectrum, the median for foundations less than $100 million was just 18 managers.

Our survey also asked about the number of vehicles invested in by foundations. For the purposes of our analysis, an investment vehicle represents a fund, product, or separate account that is managed by an investment manager. Foundations often invest in multiple investment vehicles of the same manager, particularly when it comes to private investment funds. Therefore, the number of vehicles foundations are invested in is much higher than the number of managers. The median number of vehicles ranged dramatically from 205 for foundations greater than $1 billion to 27 for foundations less than $100 million.

FIGURE 41 NUMBER OF EXTERNAL MANAGERS AND INVESTMENT VEHICLES

As of December 31, 2022 • Percent (%) • By Percentile Ranking



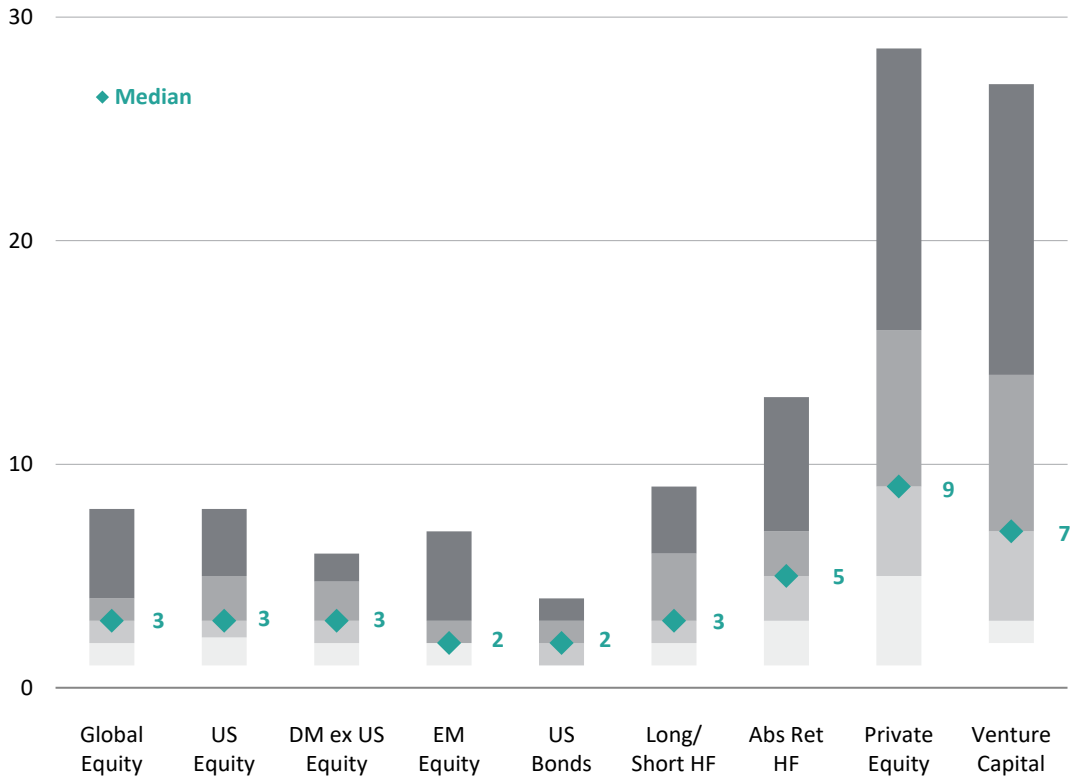
Source: Foundation data as reported to Cambridge Associates LLC.

Note: For more information, see page 61 in the Appendix.

Even within the broad asset size groups, the range of managers employed can be wide. Among the smallest foundations, the number of managers employed at the 25th percentile (37) is more than double the number used at the 75th percentile (15). For portfolios greater than $1 billion, 162 managers are employed at the 5th percentile compared to just 40 at the 95th percentile. Much of the variation can be attributed to the management of alternative asset classes. Figure 42 shows the range in number of managers across foundations for several asset classes. The dispersion in the number of alternative asset managers employed, particularly within private investments, is much

wider than that of the more traditional equity and bond asset classes. Further detail on these and other asset classes are provided for the four broad asset size groups in the Appendix of this report.

FIGURE 42 DISPERSION IN NUMBER OF MANAGERS FOR SELECTED ASSET CLASSES
As of December 31, 2022 • By Percentile Ranking



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.
For more information, see page 61 in the Appendix.

ASSET CLASS IMPLEMENTATION

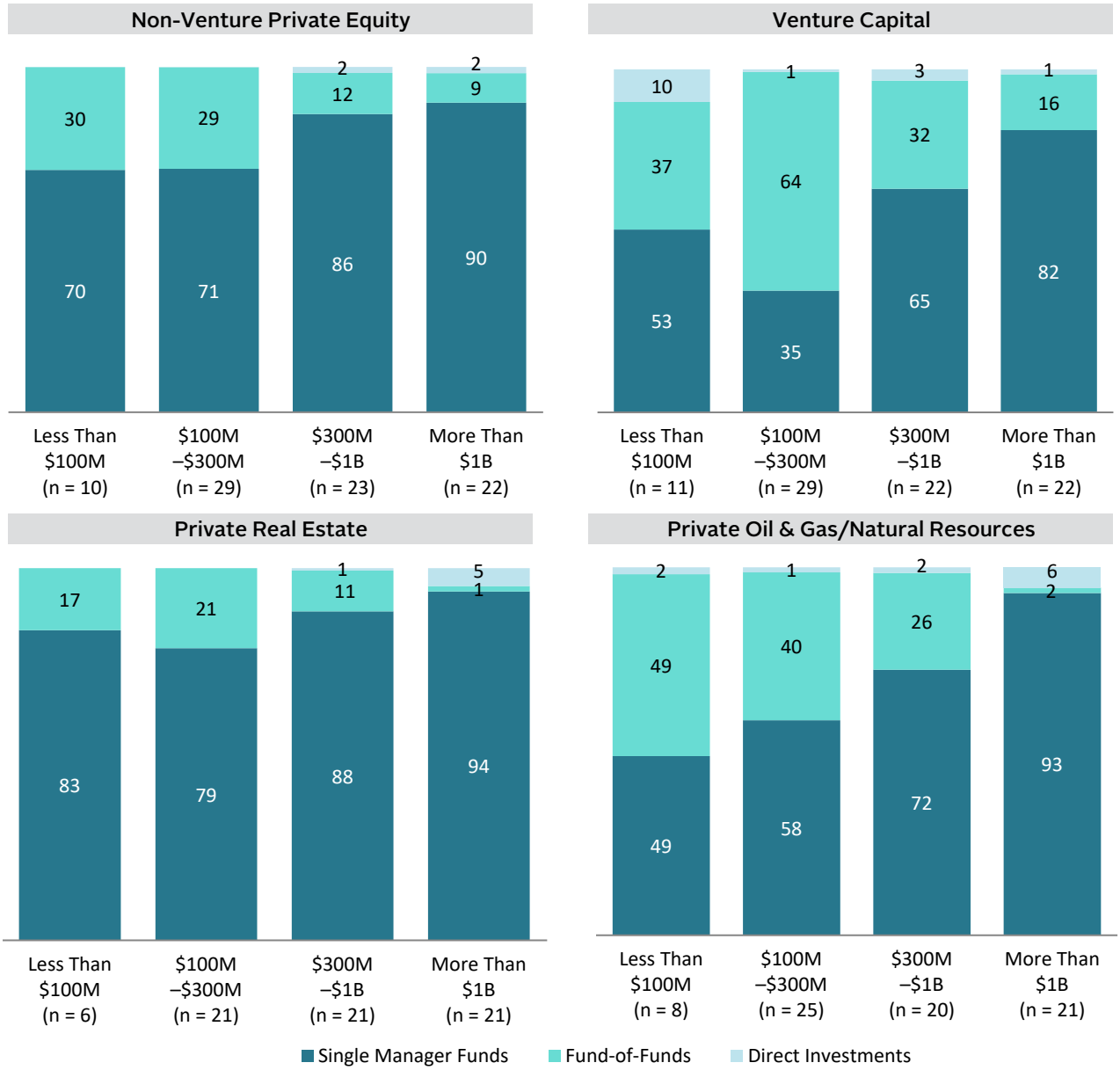
HEDGE FUNDS. There are two primary types of investment vehicles that institutions use when implementing their hedge funds allocations. A single manager fund is a type of investment vehicle where the investment manager makes the decisions for the securities and assets held within the fund. In contrast, a fund-of-funds is a type of strategy where the investment manager invests in a collection of other investment funds. Most foundations in this study rely solely or overwhelmingly on single manager funds, with more than 90% of the average hedge fund allocation coming from these types of investment vehicles.

PRIVATE INVESTMENTS. Foundations also have single manager funds and fund-of-funds at their disposal when implementing private investment allocations. In addition, some foundations make direct investments in private strategies. Direct investments can take the form of co-investments that are made alongside a general partner or solo investments that are originated by the foundation itself.

Compared to hedge funds, implementation practices are more varied across private investment asset classes. This is most evident in venture capital, where fund-of-funds are more common among smaller foundations than they are for larger foundations. On average, 64% of the venture capital allocation for foundations between $100 million and $300 million is implemented via fund-of-funds. In contrast, fund-of-funds make up just 16% of the average venture capital allocation for foundations greater than $1 billion. Figure 43 shows the average breakdown of allocations by implementation category for venture capital and other private strategies.

FIGURE 43 PORTFOLIO IMPLEMENTATION: PRIVATE INVESTMENTS

As of December 31, 2022 • Equal-Weighted Means (%)



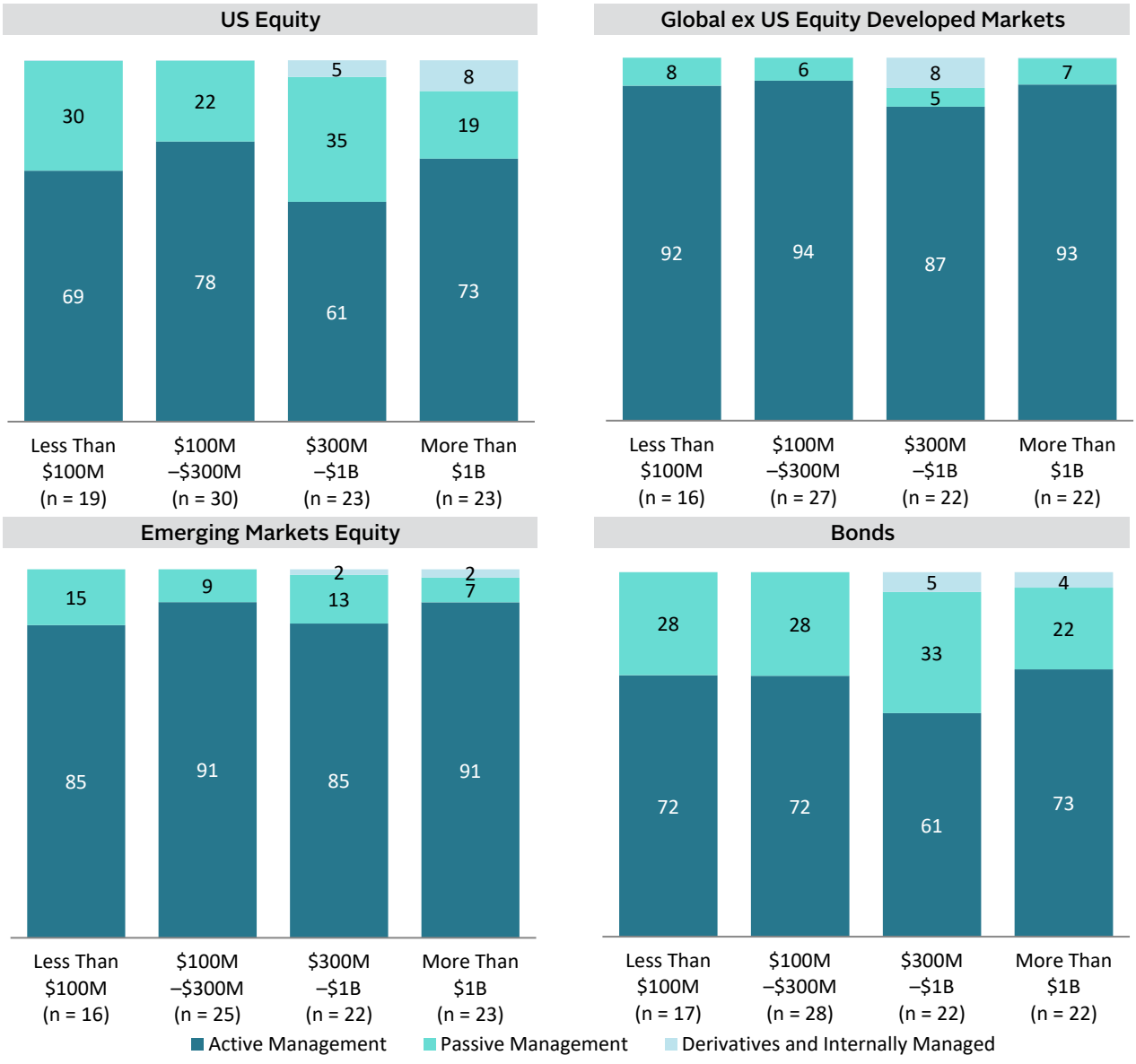
Source: Foundation data as reported to Cambridge Associates LLC.

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

PUBLIC EQUITIES AND BONDS. For traditional bonds and equities, foundations primarily use external managers to implement their allocations. These assets are invested either through active or passively managed investment vehicles. Some foundations also manage assets internally or use derivatives to achieve desired exposures. The use of these implementation methods is most common among the largest portfolios (Figure 44).

FIGURE 44 PORTFOLIO IMPLEMENTATION: TRADITIONAL EQUITIES AND BONDS

As of December 31, 2022 • Equal-Weighted Means (%)



Source: Foundation data as reported to Cambridge Associates LLC.

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

Section 5: 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 nonoperating. Though both must meet an annual spending requirement, each is subject to different conditions that determine the minimum spending amount.

PRIVATE NONOPERATING FOUNDATIONS. Private nonoperating foundations, which make up the majority of participants in this study, are required to make qualifying distributions that amount to approximately 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 not established with the intention to fund grants to outside organizations, but to provide funding and support to the foundation's own programs and activities. Bound by an annual spending requirement, private operating foundations are subject to specific guidelines that determine their minimum amount.

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

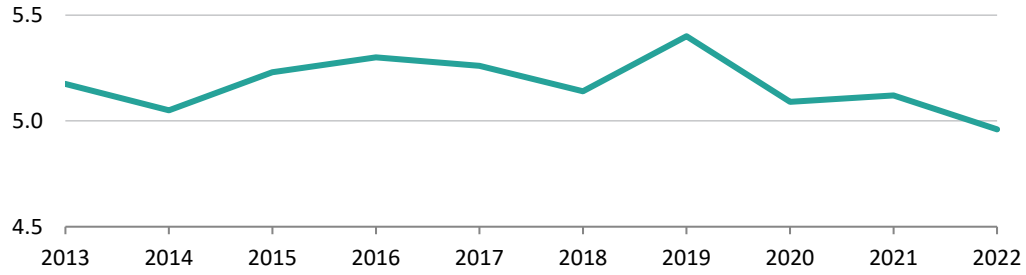
PAYOUT RATES

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

For the 43 private nonoperating foundations that provided data in 2022, the median payout rate was 5.0%. While the dollar amount of payout in 2022 was higher than the previous year for most foundations, the growth rate in spending dollars did not keep pace with the denominator of the payout rate calculation. The market value used for this year's calculation was from year-end 2021 and represented the peak in market values for foundations, as portfolios experienced significant asset declines throughout 2022. The effect of having this larger market value in the denominator pushed the payout rate down in 2022 for most foundations. In fact, the median payout in 2022 was the lowest figure reported across the last decade for our universe (Figure 45).

FIGURE 45 TREND IN MEDIAN ANNUAL PAYOUT RATE

2013–22 • Percent (%)



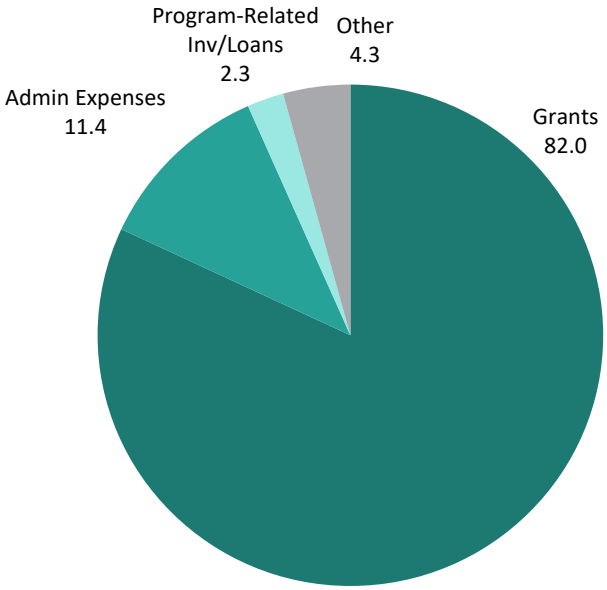
Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Analysis only includes data for private nonoperating foundations. The number for foundations included varies from year to year. There were 43 foundations in the 2022 median calculation.

COMPONENTS OF PAYOUT. Figure 46 takes a detailed look at the different components that make up the annual payout distribution for private nonoperating foundations. Grants are the single largest component of annual payout, making up an average of 82%. Administrative expenses were the next largest component, representing 11.4% of total payout.

FIGURE 46 COMPONENTS OF PAYOUT DISTRIBUTION

2022 • Percent (%) of Total Payout



Source: Foundation data as reported to Cambridge Associates LLC.

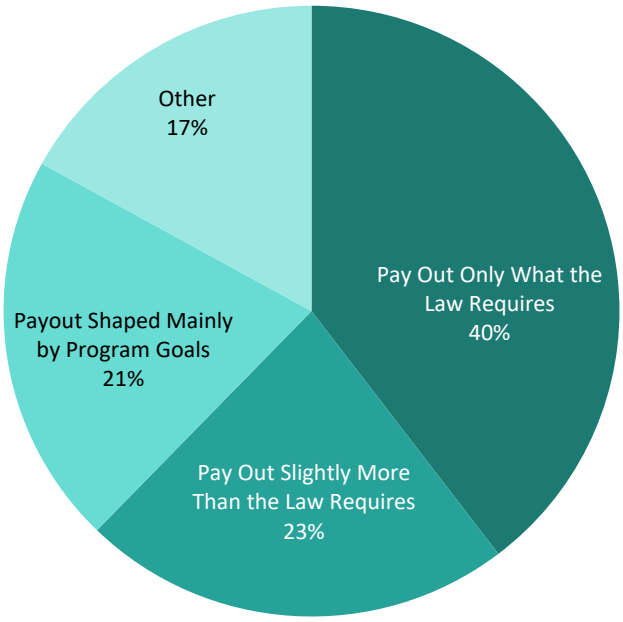
Note: Analysis included data for 36 private nonoperating foundations.

PAYOUT OBJECTIVES

Of the 53 private nonoperating foundations that provided information about their payout objective, 40% indicated that their objective is simply to meet the minimum requirement, while 23% aim for slightly more than the 5% requirement. Another 21% had an objective shaped mainly by program goals, while 17% reported their objective was something other or a combination of the aforementioned objectives (Figure 47).

FIGURE 47 PAYOUT POLICY OBJECTIVES FOR PRIVATE NONOPERATING FOUNDATIONS

2022 • n = 53



Source: Foundation data as reported to Cambridge Associates LLC.

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

Of the 53 private nonoperating foundations that provided information on their payout objectives, just 17 indicated that they use a smoothing rule to help contain year-to-year spending. All but one of these foundations used a market value–based spending rule where a prespecified percentage is applied against an average portfolio value. Target rates reported by foundations ranged from 5% to 6% and the average market value period ranged from three to five years. The one remaining foundation uses a hybrid policy that combines a market value–based component with a constant growth/inflationary component in a spending formula.

Section 6: Investment Office Staffing and Governance

In this section, we provide a snapshot of foundation management in 2022. In this section of our survey, 39 foundations responded, including 17 foundations with assets greater than $1 billion and 22 with assets less than $1 billion. Some foundations chose not to respond to every question within this section or the question was not applicable to them. The universe size for each analysis is noted in the subsequent figures.

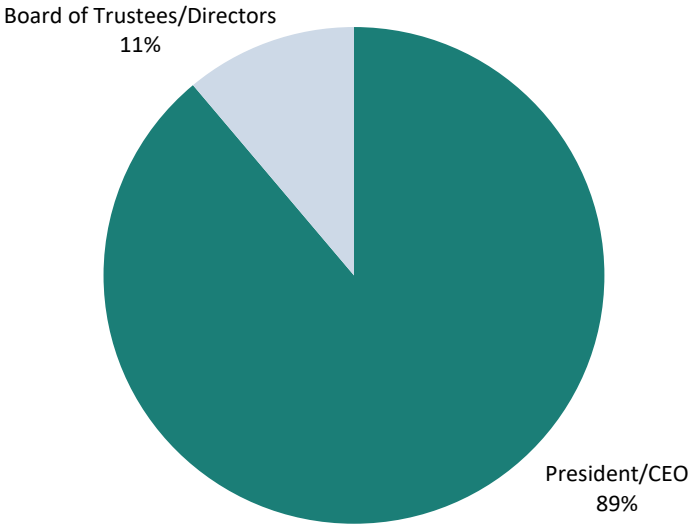
INVESTMENT OFFICE STAFFING AND OUTSIDE RESOURCES

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

CHIEF INVESTMENT OFFICER. The presence of a dedicated chief investment officer (CIO) correlates with asset size and is most common at larger foundations. All respondents with assets greater than $1 billion have a full-time CIO leading the investment program. Foundations less than $1 billion tend to rely heavily on outside advisors for portfolio management duties. Where there is a CIO, it is most common for the position to report directly to the CEO or president of the foundation (Figure 48).

FIGURE 48 CHIEF INVESTMENT OFFICER REPORTING LINES

Calendar Year 2022 • n = 18



Source: Foundation data as reported to Cambridge Associates LLC.

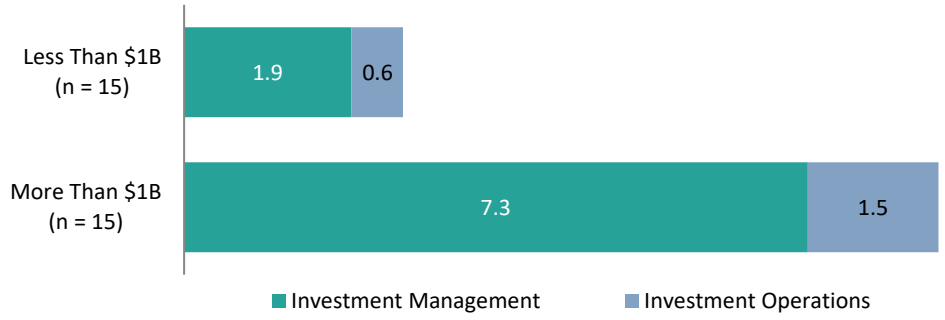
Note: One CIO reports to Chief of Staff, which is included in President/CEO category.

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

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

Our survey shows that investment office staffing typically correlates with asset size. This is perhaps not surprising as larger portfolios tend to invest with more fund managers and favor a more active investment approach, which can require more resources. On average, foundations that oversee more than $1 billion in assets employ a total of 8.8 full-time equivalent (FTE) split between investment management and investment operations, while foundations less than $1 billion have much smaller in-house investment resources (if any) and use outside professionals to manage or assist in managing the investment portfolio. Foundations with assets under $1 billion are at 2.5 total FTEs, on average (Figure 49).

FIGURE 49 AVERAGE STAFFING LEVELS
Calendar Year 2022 • Number of FTEs



Source: Foundation data as reported to Cambridge Associates LLC.

Personnel consisted of a mixture of senior-, mid-, and junior-level positions. Senior investment professionals typically carry the title of Investment Director or Managing Director and have more than ten years of professional experience. Mid-level professionals can hold the titles of Investment Officer or Associate and bring five to ten years of experience. Junior-level positions are usually recent graduates or those with a few years of experience. Junior positions usually carry the title of Investment Analyst or Associate. Figure 50 provides the average FTEs for those offices that manage more than $1 billion and have investment staff.

FIGURE 50 AVERAGE INVESTMENT STAFF BY FUNCTION

Calendar Year 2022 • Number of FTEs

	Investment Management			Investment Operations		
	Senior	Mid	Junior	Senior	Mid	Junior
More Than $1B	3.2	1.3	3.1	1.0	1.0	1.3
n	*13*	*7*	*12*	*6*	*7*	*9*

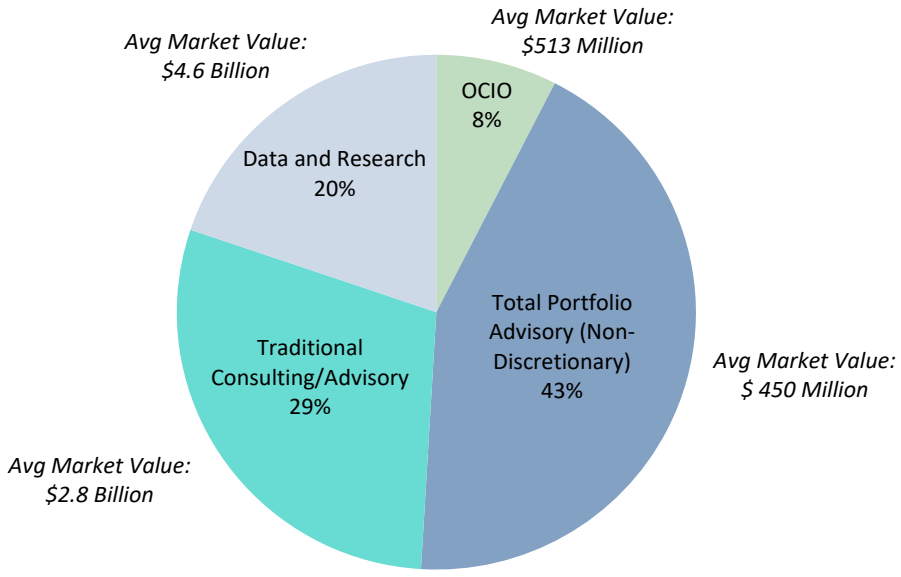
Source: Foundation data as reported to Cambridge Associates LLC.

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

RELIANCE ON OUTSIDE ADVISORS AND CONSULTANTS. Foundations engage external advisors and consultants in varying degrees and across a wide variety of functions. Based on survey responses and our understanding of how each survey participant engages with CA, Figure 51 broadly illustrates how the 106 participants in this study work with outside advisors or consultants. Foundations with assets less than $1 billion rely more heavily on external advisors to manage, or help manage, their investment portfolios, while larger foundations will seek outside support in the form of research, data, or asset class specialization.

FIGURE 51 USE OF EXTERNAL ADVISORS AND CONSULTANTS

Calendar Year 2022 • n = 106



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

Of the foundations in this study, 8% use CA for discretionary portfolio management services. Also known as OCIO, this management model allows a foundation to fully delegate portfolio management decision making to an outside firm. These firms are accountable for portfolio strategy, implementation, day-to-day management, and operations. Managing the portfolio within agreed upon policy guidelines, the outsourced investment team makes manager selection, manager termination, tactical asset allocation, and portfolio rebalancing decisions.

Another 43% of foundations in our study use advisors for non-discretionary portfolio management services for the total foundation. These foundations work with an outside team of investment professionals who provide day-to-day oversight of their portfolios, while retaining final decision making on portfolio investments. This model provides resources and expertise to contribute to portfolio management alongside foundation's staff.

Of respondents, 29% use external resources for a range of traditional consulting services, including asset allocation reviews, manger searches, alternative assets management, environmental, social, governance/mission-related investment consulting, and performance reporting. The remaining 20% of participants use outside support for research, manager, peer, and benchmarking data. These foundations tend to be larger and have built their own internal investment teams to manage their portfolios. The average market value of foundations using consultants for data and research is $4.6 billion.

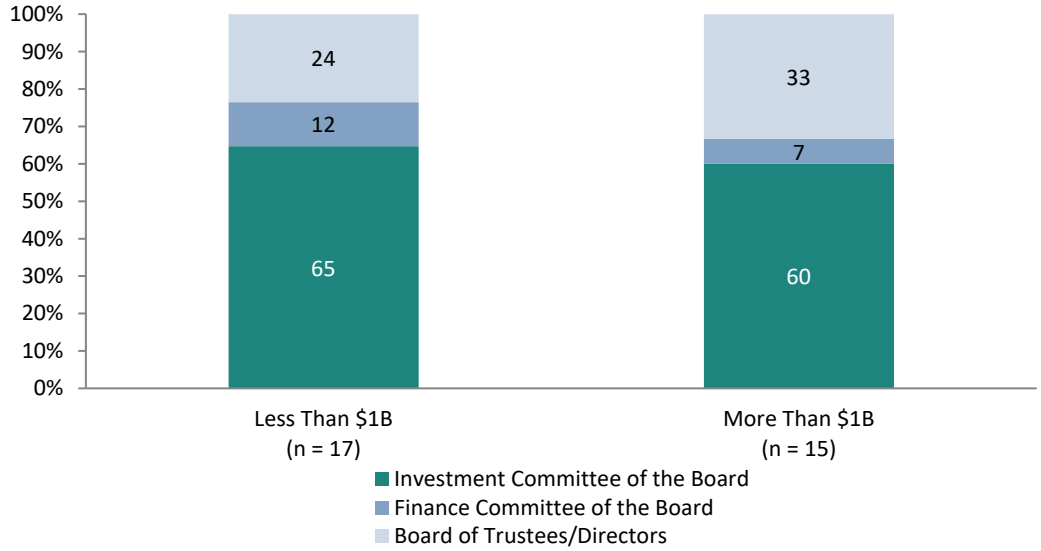
GOVERNANCE

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

GOVERNING BODY/OVERSIGHT COMMITTEE. Regardless of the foundation's size, an investment committee of the board most often has oversight over the investment office and/or outside advisors who manage the portfolio. In much smaller numbers, other governing bodies cited by respondents were a finance committee of the board and the board of trustees/directors (Figure 52).

FIGURE 52 GOVERNING BODY OF OVERSIGHT COMMITTEE BY ORGANIZATION TYPE

Calendar Year 2022 • Percent of Institutions (%)



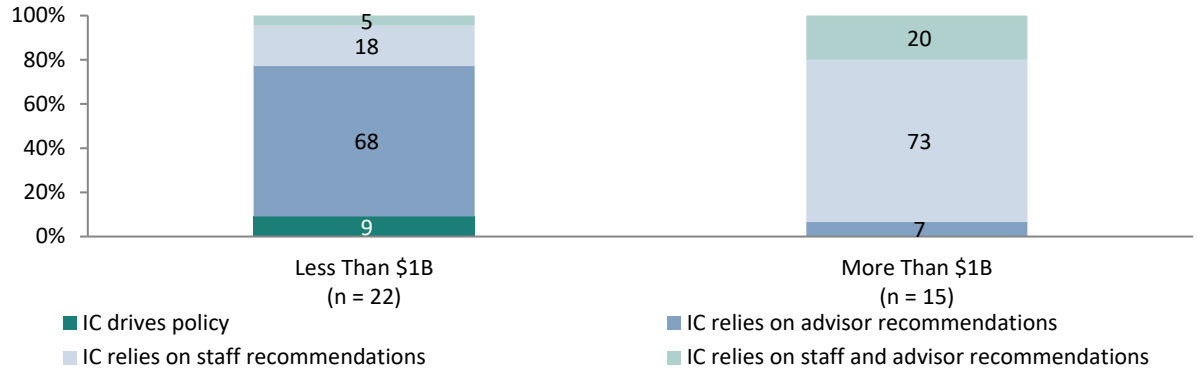
Source: Foundation data as reported to Cambridge Associates LLC.

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

For foundations greater than $1 billion, the majority of asset allocation policy is developed by committees acting on staff recommendations, while foundations less than $1 billion depend far more on the recommendations of outside advisors (Figure 53). A very similar trend is observed when looking at who is responsible for rebalancing the portfolio (Figure 54).

FIGURE 53 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: ASSET ALLOCATION POLICY DEVELOPMENT

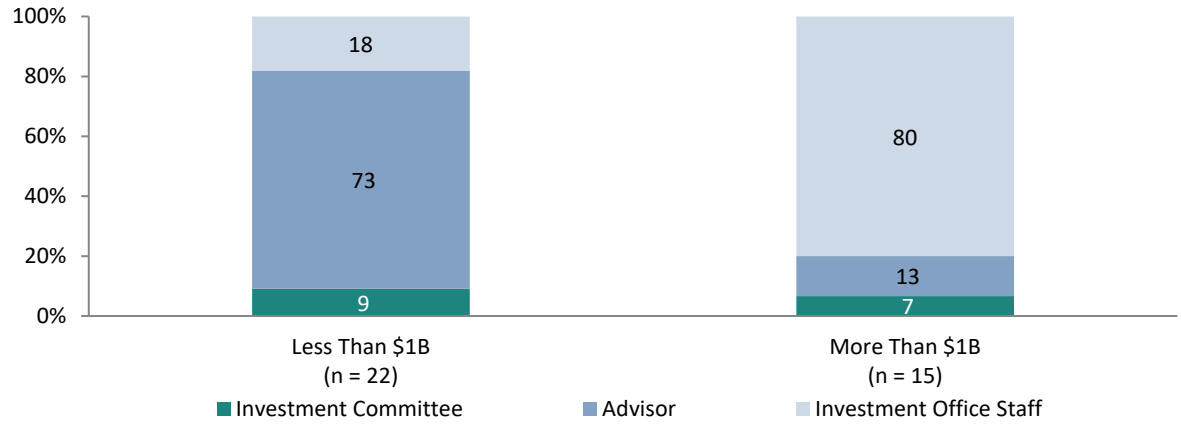
Calendar Year 2022 • Percent of Institutions (%)



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

FIGURE 54 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: PORTFOLIO REBALANCING

Calendar Year 2022 • Percent of Institutions (%)

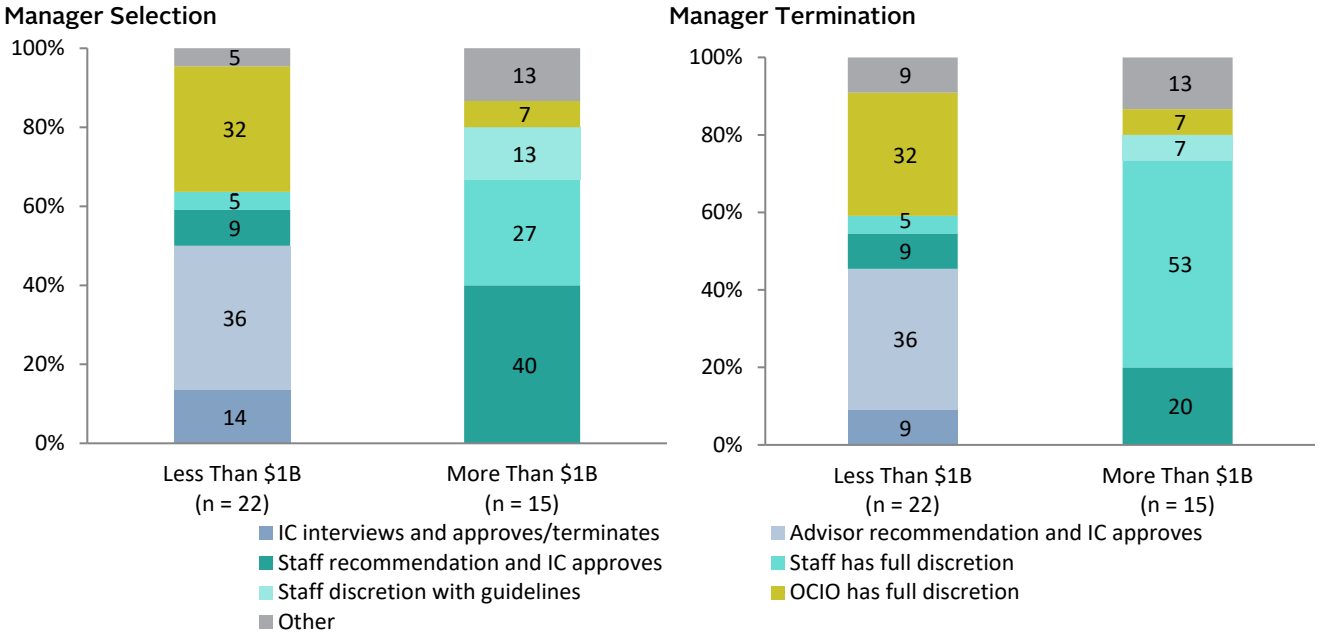


Source: Foundation data as reported to Cambridge Associates LLC.
Note: Investment committee (IC) is shorthand for governing body.

The process of manager selection and termination also involves committees, advisors, and staff, but with different degrees of discretion (Figure 55). Advisors play a significant role in both selection and termination of investment managers at foundations less than $1 billion. Among the investment committees involved in manager selection, the predominant role is to approve managers, but not interview them. Staff recommendations are increasingly relied upon at foundations greater than $1 billion accounting for most of the decision making.

FIGURE 55 DECISION-MAKING AND IMPLEMENTATION RESPONSIBILITY FOR KEY INVESTMENT FUNCTIONS: MANAGER SELECTION AND TERMINATION

Calendar Year 2022 • Percent of Institutions (%)



Source: Foundation data as reported to Cambridge Associates LLC.

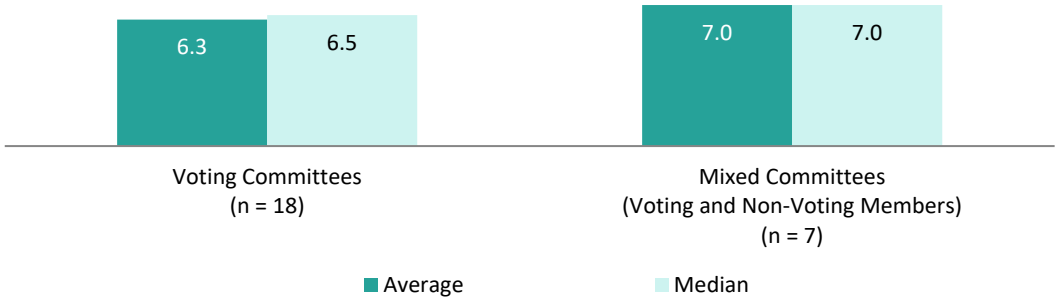
Notes: Investment committee (IC) is shorthand for governing body. "Other" includes IC approval based on staff and advisor recommendations.

In some cases, CIOs or advisors will have guidelines in place that allow them to independently make hire/fire decisions without formal approval from the investment committee. Guidelines are usually based around a percentage of market value or dollar amount and can vary by asset type (e.g., marketable versus private investments). Another broad-based guideline is structured around "negative consent." In these cases, the management team can hire and fire managers at their discretion but must inform the investment committee of their intentions prior to implementation. There is usually a short period (a few days to a week) to allow the investment committee to raise objections or concerns.

INVESTMENT COMMITTEE COMPOSITION. Two types of committees emerged from our survey data. We found that most investment committees (18 of 25) are fully composed of voting members, while seven investment committees also include non-voting members. While mandatory voting encourages accountability, there can be good reasons to include non-voting members. Organizations should weigh the benefit of these advisory members against the prospects of an oversized committee.

The average size of voting committees is 6.3 members, while those that include non-voting members average 7.0 people (Figure 56). Investment committee members include trustees, non-trustees, and ex officio members. Examples of ex officio committee members include the president of the foundation or head of program management.

FIGURE 56 PROFILE OF INVESTMENT COMMITTEE MEMBERS
Calendar Year 2022 • Number of Voting Committee Members



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

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

On average, respondents indicated that 49% of their committee members have investment experience. This composition does change slightly when viewed by asset size, with larger foundations having a higher percentage of members with investment experience (Figure 57).

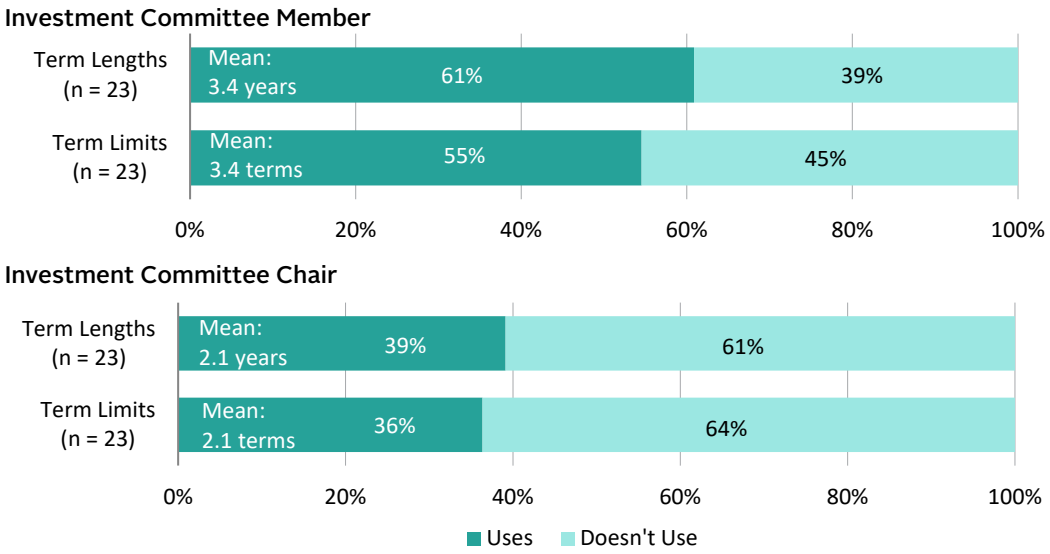
FIGURE 57 PERCENT OF INVESTMENT COMMITTEE WHO ARE INVESTMENT PROFESSIONALS
Calendar Year 2022 • Percent of Institutions (%)

Source: Foundation data as reported to Cambridge Associates LLC.

COMMITTEE TERM LENGTH AND LIMITS. Setting guidelines for terms can help manage member turnover and mitigate committee stagnation. Responses regarding term length and limit policy indicated that guidelines are generally more common for committee members than chairs: for committee members, term lengths (an average

of 3.4 years) were specified by 61% of foundations, while term limits (an average of 3.4 terms) were mandated by 55% of respondents (Figure 58). Term length and limit policies were not applied as frequently for committee chairmanship. The lack of policies around term limits and lengths at some foundations could suggest that these foundations value the stability of a long-standing committee and view turnover as disruptive to long-term investment policy.

FIGURE 58 INVESTMENT COMMITTEE TERM LENGTHS AND LIMITS
As of December 31, 2022



Source: Foundation data as reported to Cambridge Associates LLC.

INVESTMENT COMMITTEE MEETINGS. Our survey responses show that most foundations (74%) hold quarterly meetings. Other foundations cited meeting three or six times per year with ad hoc conference calls in between formal meetings. Regular attendance of investment committee members is critical to proper oversight. Participants indicated that average attendance was strong, at 93%.

REIMBURSEMENT AND CONFLICT OF INTEREST POLICY. Of respondents, 77% provide committee members with expense reimbursement, which generally includes travel-related and other out-of-pocket expenses. A majority (69%) of respondents offer their committee members some sort of compensation other than expense reimbursement. This compensation most often comes in the form of charitable gifts and honorariums.

Twenty-four of 26 responding foundations have a conflict-of-interest policy for investment committee members. These policies can require disclosure, recusal, or both disclosure and recusal. Policies may differ by asset class, with foundations requiring disclosure for long-only equity conflicts and recusal for private equity conflicts, for example. Most foundations (89%) also have a conflict-of-interest policy in place for investment staff.

Notes on the Data

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

Returns for periods greater than one-year are annualized.

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

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

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

PROFILE OF RESPONDENTS

This report includes data for 106 foundations. Most participants are private foundations, with 92 being private nonoperating foundations and four being private operating foundations. The remaining ten participants are community foundations. All participants provided investment pool data as of December 31, 2022.

The 106 participants in this study reported long-term investment portfolio (LTIP) assets as of December 31, 2022, totaling $211 billion. The mean LTIP size was $2.0 billion and the median was $340 million. Nineteen participants have an LTIP size less than $100 million, while 32 have an asset size more than $1 billion. The remaining 55 participants have an LTIP size between $100 million and $1 billion. The participants with LTIP sizes greater than $1 billion controlled 90% of the aggregate LTIP assets.

CALCULATION OF THE SHARPE RATIO

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

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

Where:

R_p is the arithmetic average of composite quarterly returns,

R_f is the arithmetic average of T-bill (risk-free) quarterly returns, and

S_p is the quarterly standard deviation of composite quarterly returns.

MODIFIED PUBLIC MARKET EQUIVALENT (MPME) INDEXES

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

Appendix: Investment Portfolio Returns

CALENDAR YEAR 2022 TOTAL RETURN PERCENTILES

Trailing 1-Yr as of December 31, 2022 • Percent (%) • By Percentile Ranking

	All FDNs	Less Than $100M	$100M–$300M	$300M–$1B	More Than $1B
5th %ile	-6.0	-10.7	-10.1	-5.8	-5.2
25th %ile	-11.0	-12.3	-12.3	-10.2	-8.1
Median	-12.9	-13.9	-13.4	-12.3	-12.3
75th %ile	-14.5	-16.0	-14.3	-13.8	-14.0
95th %ile	-16.8	-18.1	-16.2	-15.3	-15.6
Mean	-12.5	-14.5	-13.4	-11.7	-11.0
n	*106*	*19*	*31*	*24*	*32*

Source: Foundation data as reported to Cambridge Associates LLC.

1-YR ATTRIBUTION ANALYSIS: ALL FOUNDATION MEAN

As of December 31, 2022 • Percent (%) • n = 106

	Breakdown of Return From Asset Allocation			
Asset Class	Beginning Year Mean Asset Allocation	Asset Class Benchmark Return	Contribution to Asset Class Return	Index
Private Oil & Gas/Natural Resources	1.9	20.2	0.4	CA Natural Resources
Public Energy/Natural Resources	0.7	33.2	0.2	MSCI World Nat Res (N)
Private Real Estate	2.1	2.7	0.1	CA Real Estate
Cash & Equivalents	3.7	1.5	0.1	91-Day T-Bill
Commodities	0.3	16.1	0.0	Bloomberg Commodity
Private Credit ex Distressed	1.1	3.9	0.0	CA Private Credit
Distressed Control-Oriented	0.5	3.9	0.0	CA Distressed Securities
Global ex US Bonds	0.1	-22.1	0.0	FTSE Non-US$ WGBI
Distressed-Hedge Fund Structure	0.8	-4.3	0.0	HFRI ED: Dist/Rest
High-Yield Bonds	0.3	-11.2	0.0	BBG High Yield
Inflation-Linked Bonds	0.4	-11.8	0.0	BBG US TIPS
Other	0.4	-16.4	-0.1	70% Global Eq/30% Bond
Global Bonds	0.4	-18.3	-0.1	FTSE WGBI
Public Real Estate	0.4	-24.4	-0.1	FTSE NAREIT Composite
Non-Venture Private Equity	6.9	-4.4	-0.2	CA US Private Equity
Absolute Return (ex Distressed)	7.7	-3.2	-0.2	HFRI FOF Diversified
Other Private Investments	2.8	-9.1	-0.2	CA US PE/VC
Long/Short Hedge Funds	5.3	-10.1	-0.5	HFRI Equity Hedge
Global ex US Equity-Emerging Mkts	5.1	-20.1	-1.0	MSCI Emg Mkts (N)
US Bonds	8.8	-13.0	-1.1	BBG Agg Bond
Global ex US Equity-Developed Mkts	9.7	-14.5	-1.4	MSCI EAFE (N)
Venture Capital	10.0	-20.8	-1.8	CA US Venture Capital
Global Equity	10.5	-18.1	-1.9	MSCI ACWI
US Equity	19.9	-19.2	-3.8	Russell 3000®
Return From Asset Allocation (Sum of Contributions)			*-11.9*	
+/- Return From Other Factors			*-0.6*	
Mean Total Portfolio Return			**-12.5**	

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

Notes: 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. For foundations using the lagged reporting method for private investments, the analysis adjusts the privte benchmarks so that the mesurment period is aligned with that method (i.e., October 1, 2021, to September 30, 2022).

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

Trailing 1-Yr as of December 31, 2022 • Percent (%)

	Total Private Equity	Non-Venture Private Equity	Venture Capital	Distressed Control-Oriented	Private Credit ex Distressed	Total Private Real Assets	Private Real Estate	Private Natural Resources
All Foundations								
5th %ile	7.8	10.5	6.0	29.8	23.9	39.3	22.4	52.9
25th %ile	-3.6	2.9	-6.5	18.6	5.3	18.9	7.4	32.1
Median	-9.1	-4.3	-14.6	10.3	2.2	14.2	1.9	21.5
75th %ile	-15.3	-9.1	-22.2	1.9	-1.0	7.2	-6.5	14.3
95th %ile	-20.6	-17.2	-29.5	-12.5	-11.7	-12.9	-28.4	-3.5
Mean	-8.4	-3.4	-13.9	9.5	3.2	12.5	0.1	23.2
n	*75*	*73*	*69*	*37*	*58*	*64*	*59*	*62*
Median by Asset Size								
Less Than $100M	-8.1	-2.7	-6.5	--	5.3	12.3	2.9	32.0
n	*10*	*10*	*9*	--	*7*	*8*	*6*	*6*
$100M–$300M	-10.3	-5.6	-16.8	9.6	2.2	13.0	-5.9	18.3
n	*27*	*27*	*26*	*13*	*24*	*24*	*18*	*22*
$300M–$1B	-6.9	-3.5	-12.7	18.1	2.8	14.2	3.9	20.6
n	*21*	*21*	*20*	*11*	*17*	*20*	*20*	*19*
More Than $1B	-9.8	-1.1	-14.1	11.4	2.1	15.2	6.7	27.7
n	*17*	*15*	*14*	*9*	*10*	*12*	*15*	*15*
Median by Total Performance Quartile								
Top Quartile	-4.3	0.6	-13.2	4.1	2.3	15.9	6.9	28.9
n	*18*	*19*	*17*	*7*	*12*	*16*	*16*	*16*
2nd Quartile	-11.1	-5.8	-16.6	18.1	2.1	15.5	1.9	26.5
n	*21*	*19*	*18*	*12*	*18*	*18*	*17*	*17*
3rd Quartile	-9.8	-6.3	-16.1	13.9	2.2	10.5	2.9	17.6
n	*22*	*22*	*22*	*10*	*18*	*21*	*17*	*19*
Bottom Quartile	-11.1	-3.7	-17.2	10.1	3.0	8.4	-4.9	22.3
n	*14*	*13*	*12*	*8*	*10*	*9*	*9*	*10*

Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their 2022 total portfolio return. Data are dashed out where there were less than five foundations reporting. Private investment return statistics are reported as horizon IRRs.

PARTICIPANTS' 1-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 1-Yr as of December 31, 2022 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Commod & Natural Resources	Public Real Estate
All Foundations									
5th %ile	-12.8	-4.2	-9.7	-9.9	-13.0	0.7	4.2	28.9	8.0
25th %ile	-17.2	-14.3	-16.9	-13.3	-16.3	-7.4	-1.5	16.7	-25.2
Median	-19.1	-18.8	-19.0	-16.3	-19.2	-10.2	-5.0	2.5	-25.9
75th %ile	-21.1	-25.4	-21.5	-20.1	-21.7	-12.4	-12.8	-5.4	-26.2
95th %ile	-25.4	-37.2	-29.2	-27.4	-27.6	-15.8	-27.4	-11.3	-27.0
Mean	-19.1	-19.8	-19.7	-17.2	-19.2	-9.5	-7.5	6.0	-20.2
n	*91*	*69*	*89*	*79*	*84*	*91*	*88*	*29*	*15*
Median by Asset Size									
Less Than $100M	-18.0	-14.3	-17.8	-15.3	-19.2	-9.9	-11.8	0.4	--
n	*19*	*15*	*18*	*16*	*17*	*18*	*18*	*5*	--
$100M–$300M	-20.0	-23.8	-20.0	-16.3	-19.7	-8.2	-5.0	-0.6	--
n	*30*	*27*	*30*	*27*	*27*	*29*	*29*	*10*	--
$300M–$1B	-19.0	-17.2	-18.0	-18.8	-17.7	-10.7	-2.1	16.0	-25.9
n	*22*	*16*	*22*	*21*	*23*	*23*	*21*	*9*	*7*
More Than $1B	-19.2	-22.7	-19.0	-15.5	-19.1	-12.1	-6.3	2.5	--
n	*20*	*11*	*19*	*15*	*17*	*21*	*20*	*5*	--
Median by Total Performance Quartile									
Top Quartile	-16.6	-8.6	-16.8	-15.9	-19.2	-10.1	-1.8	16.3	-25.9
n	*20*	*11*	*19*	*18*	*19*	*19*	*19*	*10*	*6*
2nd Quartile	-19.0	-17.9	-20.4	-14.5	-18.5	-10.4	-4.1	2.5	-26.2
n	*25*	*20*	*23*	*19*	*21*	*26*	*24*	*7*	*5*
3rd Quartile	-19.8	-22.7	-19.4	-16.0	-18.7	-8.2	-5.7	-2.8	--
n	*25*	*21*	*25*	*24*	*25*	*25*	*25*	*9*	--
Bottom Quartile	-20.9	-23.8	-19.2	-18.2	-20.6	-11.9	-13.4	--	--
n	*21*	*17*	*22*	*18*	*19*	*21*	*20*	--	--

Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their 2022 total portfolio return. Data are dashed out where there were less than five foundations reporting.

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

Years Ended December 31, 2022 • Percent (%) • By Percentile Ranking

	Nominal AACRs			
	3-Yr	5-Yr	10-Yr	20-Yr
All Foundations				
5th %ile	11.4	10.2	9.8	9.8
25th %ile	7.7	7.1	7.9	8.3
Median	5.9	5.8	7.0	7.7
75th %ile	4.4	4.8	6.2	6.9
95th %ile	2.1	3.1	5.0	5.5
Mean	6.2	6.1	7.1	7.7
n	*106*	*104*	*97*	*67*
Less Than $100M				
5th Percentile	8.8	7.3	7.0	7.9
25th Percentile	5.3	5.0	6.3	7.3
Median	3.7	4.0	6.0	5.9
75th Percentile	2.3	3.2	5.3	5.1
95th Percentile	1.0	2.2	4.3	4.7
Mean	4.0	4.2	5.8	6.2
n	*19*	*18*	*14*	*6*
$100M–$300M				
5th Percentile	8.0	7.1	7.5	8.3
25th Percentile	6.6	6.2	7.1	8.0
Median	5.1	5.4	6.4	7.3
75th Percentile	4.5	4.9	6.0	6.7
95th Percentile	2.9	3.8	5.2	6.0
Mean	5.3	5.5	6.4	7.3
n	*31*	*31*	*30*	*19*
$300M–$1B				
5th Percentile	9.1	9.0	8.6	9.3
25th Percentile	7.8	7.0	7.6	8.0
Median	6.6	6.4	7.2	7.3
75th Percentile	4.8	5.2	6.4	6.9
95th Percentile	2.3	3.5	5.2	5.9
Mean	6.4	6.3	7.1	7.4
n	*24*	*24*	*24*	*18*
More Than $1B				
5th Percentile	12.3	11.2	10.8	9.9
25th Percentile	10.6	9.2	9.6	9.1
Median	7.6	7.2	8.5	8.3
75th Percentile	6.0	6.2	7.5	7.9
95th Percentile	4.4	4.5	6.8	7.2
Mean	8.1	7.7	8.5	8.5
n	*32*	*31*	*29*	*24*

Source: Foundation data as reported to Cambridge Associates LLC.

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

Trailing 3-Yr as of December 31, 2022 • Percent (%)

	Total Private Equity	Non-Venture Private Equity	Venture Capital	Distressed Control-Oriented	Private Credit ex Distressed	Total Private Real Assets	Private Real Estate	Private Natural Resources
All Foundations								
5th %ile	31.5	31.0	36.7	33.1	19.8	20.8	18.9	26.6
25th %ile	25.6	23.2	28.5	22.2	14.6	13.4	11.3	15.3
Median	21.7	20.5	23.9	15.1	9.8	9.2	7.9	10.6
75th %ile	19.0	17.1	19.1	8.1	5.8	5.5	0.2	7.6
95th %ile	10.7	11.0	0.9	-11.2	-3.4	-7.8	-9.8	-1.0
Mean	22.1	20.5	22.3	13.4	9.4	8.7	5.2	11.7
n	*74*	*71*	*66*	*33*	*49*	*62*	*56*	*62*
Median by Asset Size								
Less Than $100M	18.4	20.4	13.3	--	13.7	7.3	4.0	10.7
n	*10*	*10*	*9*	--	*5*	*8*	*6*	*6*
$100M–$300M	22.0	21.0	25.8	16.1	11.4	8.9	-0.4	9.0
n	*26*	*26*	*24*	*12*	*18*	*23*	*16*	*22*
$300M–$1B	19.9	19.1	22.5	10.0	9.0	11.4	10.5	12.2
n	*21*	*21*	*20*	*9*	*17*	*20*	*19*	*19*
More Than $1B	23.7	21.5	26.5	17.4	8.8	9.5	9.7	13.8
n	*17*	*14*	*13*	*9*	*9*	*11*	*15*	*15*

Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Private investment return statistics are reported as horizon IRRs. Data are dashed out where there were less than five foundations reporting.

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

Trailing 5-Yr as of December 31, 2022 • Percent (%)

	Total Private Equity	Non-Venture Private Equity	Venture Capital	Distressed Control-Oriented	Private Credit ex Distressed	Total Private Real Assets	Private Real Estate	Private Natural Resources
All Foundations								
5th %ile	27.7	26.4	31.1	31.0	16.5	15.1	15.6	19.3
25th %ile	22.8	21.1	26.3	17.1	12.4	10.8	10.8	11.5
Median	20.2	17.6	22.6	9.8	9.7	4.9	7.9	5.5
75th %ile	16.6	15.5	16.6	4.4	6.9	2.2	1.2	2.5
95th %ile	14.6	8.8	8.2	-10.3	-0.6	-2.7	-9.3	-0.9
Mean	20.0	18.0	20.9	11.0	9.1	6.0	5.5	6.6
n	*68*	*64*	*59*	*32*	*46*	*58*	*52*	*59*
Median by Asset Size								
Less Than $100M	18.6	19.7	15.2	--	11.6	3.8	3.5	3.2
n	*8*	*7*	*7*	--	*5*	*7*	*5*	*6*
$100M–$300M	20.5	17.9	23.9	14.9	10.2	4.3	0.7	4.1
n	*25*	*24*	*22*	*11*	*17*	*21*	*15*	*21*
$300M–$1B	19.2	16.7	20.2	9.5	7.8	8.2	9.6	7.8
n	*19*	*19*	*17*	*9*	*15*	*19*	*18*	*18*
More Than $1B	20.3	18.0	22.6	12.6	10.3	4.8	8.7	5.7
n	*16*	*14*	*13*	*9*	*9*	*11*	*14*	*14*

Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Private investment return statistics are reported as horizon IRRs. Data are dashed out where there were less than five foundations reporting.

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

Trailing 10-Yr as of December 31, 2022 • Percent (%)

	Total Private Equity	Non-Venture Private Equity	Venture Capital	Distressed Control-Oriented	Private Credit ex Distressed	Total Private Real Assets	Private Real Estate	Private Natural Resources
All Foundations								
5th %ile	21.1	20.2	25.6	18.5	110.9	11.2	15.3	9.8
25th %ile	18.9	16.5	21.4	13.3	42.7	8.0	11.9	5.1
Median	16.8	14.9	18.7	9.2	10.1	5.1	9.6	3.0
75th %ile	14.5	13.2	15.0	6.1	8.4	2.8	6.8	0.9
95th %ile	12.0	11.1	7.3	2.8	6.0	0.7	1.4	-1.0
Mean	16.6	15.0	17.7	9.8	32.7	5.1	8.6	3.4
n	*55*	*52*	*46*	*18*	*26*	*47*	*44*	*44*
Median by Asset Size								
Less Than $100M	15.3	14.5	15.1	--	--	4.3	--	1.7
n	*6*	*5*	*5*	--	--	*5*	--	*5*
$100M–$300M	16.8	14.4	18.8	--	43.0	5.0	9.1	3.2
n	*19*	*19*	*14*	--	*7*	*18*	*13*	*16*
$300M–$1B	17.2	15.6	15.8	11.6	9.9	6.6	9.5	3.5
n	*16*	*15*	*15*	*5*	*10*	*14*	*14*	*10*
More Than $1B	17.0	14.8	19.8	9.6	9.7	5.5	10.7	2.0
n	*14*	*13*	*12*	*7*	*6*	*10*	*13*	*13*
Median by Total Performance Quartile								
Top Quartile	17.3	15.3	20.7	15.3	9.6	7.5	10.7	3.6
n	*15*	*14*	*14*	*7*	*9*	*12*	*15*	*13*
2nd Quartile	15.6	14.5	18.6	9.1	14.4	5.1	8.9	3.2
n	*17*	*17*	*14*	*6*	*10*	*15*	*13*	*15*
3rd Quartile	17.7	15.7	18.7	--	12.1	4.9	11.1	2.7
n	*15*	*14*	*12*	--	*5*	*13*	*11*	*9*
Bottom Quartile	14.0	13.3	--	--	--	3.0	--	1.0
n	*6*	*6*	--	--	--	*6*	--	*6*

Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their trailing ten-year total portfolio return. Data are dashed out where there were less than five foundations reporting. Private investment return statistics are reported as horizon IRRs.

PARTICIPANTS' 3-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 3-Yr as of December 31, 2022 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Commod & Natural Resources
All Foundations								
5th %ile	6.5	7.5	9.7	4.6	3.3	1.4	8.1	13.6
25th %ile	4.3	4.3	7.9	2.1	1.1	-0.6	5.5	12.2
Median	3.2	2.8	6.8	1.0	-1.1	-1.6	3.3	7.2
75th %ile	2.0	0.5	4.8	-0.9	-2.6	-2.5	1.3	5.1
95th %ile	0.1	-1.7	0.5	-3.1	-7.1	-4.3	-2.5	0.7
Mean	3.0	2.5	5.6	0.5	-0.9	-1.5	3.1	8.4
n	*89*	*61*	*86*	*77*	*80*	*88*	*84*	*28*
Median by Asset Size								
Less Than $100M	3.2	3.8	7.1	1.6	-2.2	-1.0	2.9	5.7
n	*18*	*14*	*17*	*15*	*15*	*17*	*15*	*5*
$100M–$300M	2.8	2.6	6.0	1.0	-1.4	-1.4	2.9	5.9
n	*30*	*25*	*29*	*27*	*26*	*28*	*29*	*10*
$300M–$1B	3.2	3.1	6.8	1.1	-0.8	-1.8	4.1	11.2
n	*22*	*13*	*22*	*21*	*23*	*23*	*21*	*9*
More Than $1B	3.6	2.5	7.4	0.9	0.9	-2.0	3.4	--
n	*19*	*9*	*18*	*14*	*16*	*20*	*19*	--

Source: Foundation data as reported to Cambridge Associates LLC.

Note: Data are dashed out where there were less than five foundations reporting.

PARTICIPANTS' 5-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 5-Yr as of December 31, 2022 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Commod & Natural Resources
All Foundations								
5th %ile	6.2	8.0	10.5	4.3	3.2	2.7	6.7	7.5
25th %ile	5.1	6.1	9.1	2.4	0.8	0.9	4.7	6.1
Median	4.3	4.1	8.3	1.7	-0.9	0.4	3.5	4.1
75th %ile	3.7	2.4	7.1	0.6	-1.9	-0.1	2.0	2.1
95th %ile	1.9	-1.1	3.4	-1.6	-4.8	-1.1	-0.5	0.3
Mean	4.2	4.3	7.6	1.4	-0.5	0.6	3.2	4.1
n	*86*	*53*	*83*	*74*	*76*	*84*	*79*	*24*
Median by Asset Size								
Less Than $100M	4.3	4.0	8.1	1.9	-1.3	0.6	2.7	4.0
n	*18*	*12*	*17*	*15*	*15*	*17*	*14*	*5*
$100M–$300M	4.4	4.8	8.4	1.4	-1.2	0.4	2.8	4.2
n	*30*	*22*	*29*	*27*	*26*	*28*	*29*	*9*
$300M–$1B	4.3	4.7	8.0	1.8	-0.3	0.6	3.8	3.9
n	*20*	*10*	*20*	*19*	*20*	*21*	*18*	*6*
More Than $1B	4.1	4.0	8.5	1.7	0.5	0.2	4.1	--
n	*18*	*9*	*17*	*13*	*15*	*18*	*18*	--

Source: Foundation data as reported to Cambridge Associates LLC.

Note: Data are dashed out where there were less than five foundations reporting.

PARTICIPANTS' 10-YR ASSET CLASS RETURNS: MARKETABLE INVESTMENTS

Trailing 10-Yr as of December 31, 2022 • Percent (%)

	Total Public Equity	Global Equity Managers	US Equity	Dev Mkts ex US Equity	Emg Mkts Equity	Bonds	Hedge Funds	Commod & Natural Resources
All Foundations								
5th %ile	9.5	10.8	13.5	7.4	6.1	2.9	6.0	4.3
25th %ile	8.6	9.1	12.5	5.9	2.8	1.4	5.2	1.2
Median	7.7	8.0	11.7	5.2	2.0	1.1	4.0	-0.1
75th %ile	7.1	6.9	10.7	4.5	1.3	0.6	3.3	-1.7
95th %ile	6.2	5.0	8.9	3.3	-0.5	0.2	2.0	-2.7
Mean	7.8	7.9	11.3	5.2	2.3	1.2	4.1	0.4
n	*76*	*27*	*71*	*64*	*63*	*73*	*66*	*19*
Median by Asset Size								
Less Than $100M	7.2	7.5	10.7	5.6	1.7	1.2	3.5	--
n	*13*	*5*	*12*	*11*	*10*	*14*	*10*	--
$100M–$300M	7.8	8.0	11.7	5.0	1.8	1.2	3.5	0.7
n	*28*	*11*	*26*	*24*	*21*	*26*	*25*	*8*
$300M–$1B	7.6	--	11.3	5.1	2.1	0.9	4.2	-1.2
n	*19*	--	*18*	*17*	*18*	*17*	*16*	*6*
More Than $1B	8.1	8.2	11.9	6.0	3.2	0.6	4.5	--
n	*16*	*7*	*15*	*12*	*14*	*16*	*15*	--
Median by Total Performance Quartile								
Top Quartile	8.4	--	11.8	6.0	2.8	0.5	4.5	--
n	*14*	--	*14*	*11*	*13*	*16*	*14*	--
2nd Quartile	7.8	8.5	11.8	5.1	2.0	1.3	4.4	-0.1
n	*21*	*11*	*17*	*16*	*16*	*19*	*18*	*8*
3rd Quartile	7.7	--	11.8	5.4	2.0	1.2	4.2	0.8
n	*20*	--	*20*	*20*	*18*	*17*	*18*	*5*
Bottom Quartile	7.4	6.9	10.8	5.0	1.4	1.0	3.2	-0.1
n	*21*	*8*	*20*	*17*	*16*	*20*	*16*	*5*

Source: Foundation data as reported to Cambridge Associates LLC.

Notes: Institutions are assigned to performance quartiles based on their trailing ten-year total portfolio return. Data are dashed out where there were less than five foundations reporting.

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

Years Ended December 31, 2022 • Percent (%) • By Percentile Ranking

	3-Yr	5-Yr	10-Yr
All Foundations			
5th %ile	2.4	0.4	1.8
25th %ile	-1.9	-1.6	0.5
Median	-3.1	-2.3	-0.3
75th %ile	-5.0	-3.5	-0.9
95th %ile	-7.4	-4.6	-1.9
Mean	-3.0	-2.3	-0.1
n	*26*	*22*	*17*

Source: Foundation data as reported to Cambridge Associates LLC.

Appendix: Portfolio Asset Allocation

SUMMARY ASSET ALLOCATION DISTRIBUTION

As of December 31, 2022 • Percent (%) • n = 106 • By Percentile Ranking

	Public Equity	PE/VC	Hedge Funds	Real Assets & ILBs	Fixed Income	Private Credit	Cash	Other
5th %ile	65.1	42.0	27.0	15.9	18.3	6.2	10.7	2.2
25th %ile	49.7	30.5	19.0	9.6	12.9	3.0	4.5	0.0
Median	41.6	22.3	15.0	6.1	10.1	1.3	2.3	0.0
75th %ile	31.3	14.0	9.9	2.8	5.3	0.0	1.2	0.0
95th %ile	19.2	0.0	1.5	0.0	0.0	0.0	0.0	0.0
Mean	41.3	21.6	14.7	6.9	9.6	2.0	3.5	0.4

Source: Foundation data as reported to Cambridge Associates LLC.

MEAN ASSET ALLOCATION BY ASSET SIZE

As of December 31, 2022 • Percent (%)

		Asset Size			
	All Foundations	Less Than $100M	$100M –$300M	$300M –$1B	More Than $1B
	(n = 106)	*(n = 19)*	*(n = 31)*	*(n = 24)*	*(n = 32)*
Public Equity	**41.3**	**49.1**	**44.4**	**41.8**	**33.4**
Global	9.3	10.3	11.7	7.3	7.9
US	18.6	24.2	20.2	19.5	13.1
Global ex US Developed	8.9	10.2	8.9	9.7	7.6
Emerging Markets	4.5	4.3	3.6	5.2	4.9
PE/VC	**21.6**	**13.1**	**20.0**	**21.5**	**28.2**
Non-Venture Private Equity	8.3	3.4	6.4	8.4	13.0
Venture Capital	10.0	5.4	8.2	9.9	14.5
Other Private Investments	3.3	4.3	5.4	3.2	0.8
Hedge Funds	**14.7**	**13.8**	**15.8**	**12.3**	**16.0**
Long/Short	5.5	5.5	6.0	4.6	5.8
Absolute Return	8.5	8.2	9.4	6.8	9.0
Distressed	0.7	0.1	0.4	1.0	1.2
Private Credit	**2.0**	**1.1**	**1.4**	**2.3**	**2.8**
Distressed - Control Oriented	0.7	0.2	0.5	0.8	1.0
Private Credit ex Distressed	1.3	0.9	0.9	1.4	1.8
Fixed Income	**9.6**	**14.2**	**10.2**	**10.0**	**6.0**
Global	0.4	0.7	0.5	0.2	0.2
US	9.0	12.8	9.6	9.6	5.6
Global ex US	0.0	0.0	0.0	0.0	0.1
High-Yield Bonds	0.2	0.8	0.1	0.2	0.1
Real Assets & ILBs	**6.9**	**4.0**	**5.3**	**7.4**	**9.6**
Private Real Estate	2.5	1.1	1.0	3.1	4.5
Public Real Estate	0.3	0.4	0.2	0.4	0.3
Commodities	0.3	0.2	0.2	0.1	0.5
Inflation-Linked Bonds	0.5	0.1	0.7	0.4	0.6
Private O&G/Nat Resources	2.5	1.1	2.4	2.7	3.4
Public Energy/Nat Resources	0.7	1.1	0.7	0.7	0.3
Cash & Equivalents	**3.5**	**3.8**	**2.8**	**4.2**	**3.5**
Other Assets	**0.4**	**0.9**	**0.0**	**0.5**	**0.4**

Source: Foundation data as reported to Cambridge Associates LLC.

HISTORICAL MEAN ASSET ALLOCATION TRENDS

Years Ended December 31 • Percent (%)

	Constant Universe (n = 71)							
	Public Equity	PE/VC	Hedge Funds	Private Credit	Fixed Income	Real Assets & ILBs	Cash	Other
2012	39.9	10.1	19.1	1.7	13.0	11.6	3.9	0.5
2013	42.8	9.8	19.4	1.6	10.9	10.8	4.1	0.4
2014	43.3	10.3	20.1	1.5	10.3	9.9	4.6	0.1
2015	43.3	11.3	20.4	1.4	10.6	8.8	4.2	0.1
2016	44.2	11.3	19.0	1.4	10.2	9.5	4.5	0.1
2017	47.6	11.5	17.2	1.2	10.0	8.6	3.6	0.3
2018	43.4	14.2	16.8	1.6	11.4	8.2	4.0	0.4
2019	46.3	14.9	15.1	1.6	11.2	7.0	3.8	0.2
2020	45.5	18.4	14.8	1.7	10.1	5.7	3.7	0.2
2021	43.4	21.6	14.0	1.7	9.2	6.0	3.7	0.3
2022	39.9	23.5	14.7	1.9	9.3	6.9	3.4	0.3

Source: Foundation data as reported to Cambridge Associates LLC.

Note: Analysis is based on a constant universe that includes 71 institutions that provided asset allocation data for each year from 2012 to 2022.

UNCALLED CAPITAL COMMITTED TO PRIVATE INVESTMENT FUNDS

As of December 31, 2022 • Percent (%) • By Percentile Ranking

Uncalled Capital Commitments as a Percentage of the Total LTIP

	All Foundations	Less Than $100M	$100M–$300M	$300M–$1B	More Than $1B
5th %ile	24.0	28.9	17.9	23.8	25.1
25th %ile	17.5	17.8	16.2	17.5	18.5
Median	13.5	10.6	12.7	15.6	13.9
75th %ile	10.4	6.7	9.5	11.1	11.1
95th %ile	5.3	3.6	5.9	6.9	9.7
Mean	14.0	13.2	12.5	15.4	14.9
n	*86*	*13*	*27*	*22*	*24*

Actual PI Allocation + Uncalled Capital Commitments as a Percentage of the Total LTIP

	All Foundations	Less Than $100M	$100M–$300M	$300M–$1B	More Than $1B
5th %ile	69.6	70.5	57.4	69.4	69.0
25th %ile	55.4	48.7	48.8	52.7	60.7
Median	47.6	34.8	36.9	46.5	55.3
75th %ile	34.8	19.1	28.3	41.0	50.1
95th %ile	16.4	7.7	19.1	21.1	38.6
Mean	44.5	36.9	38.7	46.1	53.7
n	*86*	*13*	*27*	*22*	*24*

Source: Foundation data as reported to Cambridge Associates LLC.

Note: Uncalled capital is the amount committed, but not yet paid in, to private investment funds.

Appendix: Investment Manager Structures

NUMBER OF EXTERNAL MANAGERS AND INVESTMENT VEHICLES

As of December 31, 2022 • Percent (%) • By Percentile Ranking

Number of External Managers

	Less Than $100M	$100M–$300M	$300M–$1B	More Than $1B
5th %ile	48	62	92	162
25th %ile	37	48	71	118
Median	18	43	59	104
75th %ile	15	35	43	71
95th %ile	11	26	29	40
Mean	25	42	59	101
n	*19*	*29*	*23*	*23*

Number of Investment Vehicles

	Less Than $100M	$100M–$300M	$300M–$1B	More Than $1B
5th %ile	70	94	147	298
25th %ile	48	75	112	245
Median	27	64	88	205
75th %ile	17	47	69	127
95th %ile	13	31	46	56
Mean	35	62	91	193
n	*19*	*30*	*23*	*21*

Source: Foundation data as reported to Cambridge Associates LLC.

DISPERSION IN NUMBER OF MANAGERS FOR SELECTED ASSET CLASSES

As of December 31, 2022 • By Percentile Ranking

	Global Equity	US Equity	DM ex US Equity	EM Equity	US Bonds	Long/Short Hedge Funds	Ab Return Hedge Funds	Private Equity	Venture Capital
5th %ile	8	8	6	7	4	9	13	29	27
25th %ile	4	5	5	3	3	6	7	16	14
Median	3	3	3	2	2	3	5	9	7
75th %ile	2	2	2	2	1	2	3	5	3
95th %ile	1	1	1	1	1	1	1	1	2
Mean	4	4	3	3	2	4	6	12	11
n	*82*	*94*	*86*	*85*	*89*	*81*	*87*	*85*	*85*

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.

EXTERNAL MANAGERS AND VEHICLES BY STRATEGY

As of December 31, 2022

Strategy	Median Number of Managers				Median Number of Vehicles			
	Less Than $100M	$100M –$300M	$300M –$1B	More Than $1B	Less Than $100M	$100M –$300M	$300M –$1B	Than $1B
Traditional Equity								
Global Equity	2	3	3	4	2	3	3	4
US Equity	2	3	4	5	2	3	4	5
Developed ex US Equity	3	3	3	5	3	3	3	4
Emerging Markets Equity	2	2	2	3	2	2	2	3
Traditional Bonds								
Global Bonds	1	1	1	1	1	1	1	1
US Bonds	2	3	3	1	2	3	3	2
Global ex US Bonds	--	--	--	1	--	--	--	--
High-Yield Bonds	1	1	1	2	1	1	1	3
Hedge Funds								
Long/Short Hedge Funds	2	3	4	7	2	3	4	7
Absolute Return	2	4	5	7	2	5	5	8
Distressed Securities	1	1	1	2	1	1	1	2
Private Credit								
Distressed - Control Oriented	1	2	2	3	1	2	2	3
Private Credit ex Distressed	2	2	3	7	2	2	4	12
Private Equity								
Non-Venture Private Equity	5	6	10	21	7	10	17	46
Venture Capital	3	5	9	16	7	10	17	44
Other Private Investments	3	4	3	4	6	9	6	8
Real Assets & ILBs								
Private Real Estate	3	2	5	10	5	3	6	18
Public Real Estate	1	1	1	1	1	1	1	1
Commodities	1	1	1	1	1	1	1	1
Inflation-Linked Bonds (TIPS)	1	1	1	1	1	1	1	1
Private Oil & Gas/Nat Res	2	2	5	9	2	4	8	16
Public Energy/Nat Res	2	1	1	1	2	1	1	1
Cash	1	1	1	1	1	2	1	1
Other	1	1	1	1	1	1	1	1

Source: Foundation data as reported to Cambridge Associates LLC.

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

PARTICIPANTS

Albany Foundation
Archstone Foundation
Arkansas Community Foundation
Atherton Family Foundation
Marion and Henry Bloch Family Foundation
The Herb Block Foundation
Buena Vista Foundation
The California Endowment
California Wellness Foundation
Carnegie Corporation of New York
The Annie E. Casey Foundation
The Clarence T.C. Ching Foundation
Community Funds, Inc.
Connecticut Health Foundation, Inc.
The Dana Foundation
De Beaumont Foundation
Dogwood Health Trust
Gaylord and Dorothy Donnelley Foundation
The Duke Endowment
Alfred I. duPont Testamentary Trust
Emily Hall Tremaine Foundation
The Enfranchisement Foundation
The Erie Community Foundation
Sherman Fairchild Foundation
Fetzer Institute
Five Rings Family Foundation
The Flinn Foundation
The Ford Family Foundation
Bill and Melinda Gates Foundation Trust
The Gerber Foundation
GHR Foundation
Gidwitz Memorial Foundation
Eugene & Marilyn Glick Family Foundation
John T. Gorman Foundation
Grantham Foundation for the Protection of the Environment
William Caspar Graustein Memorial Fund
The Heinz Endowments
Clarence E. Heller Charitable Foundation
The Highland Street Foundation
Conrad N. Hilton Foundation
The H & R Block Foundation
The Hyams Foundation
Inasmuch Foundation
InFaith Community Foundation
The Robert Wood Johnson Foundation
The Fletcher Jones Foundation
The Joyce Foundation
Ewing Marion Kauffman Foundation
Anna-Maria and Stephen Kellen Foundation
W.K. Kellogg Foundation Trust
Kleberg Foundation
John S. and James L. Knight Foundation
The Kresge Foundation
Leaves of Grass Foundation
John and Catherine MacArthur Foundation
The Alexander M. and June L. Maisin Foundation
Mathile Family Foundation
The Marshall L. and Perrine D. McCune Charitable Foundation
McGregor Fund
The Andrew W. Mellon Foundation
Eugene and Agnes E. Meyer Foundation
Meyer Memorial Trust
Milbank Memorial Fund
Montana Community Foundation
The Gordon & Betty Moore Foundation
Moorings Capital LLC
Mother Cabrini Health Foundation
Charles Stewart Mott Foundation
The Mt. Cuba Center Inc.
The Dan Murphy Foundation
National Endowment for Financial Education
New Hampshire Charitable Foundation
Greater New Orleans Foundation
New York State Health Foundation
Orange County Community Foundation
The Oregon Community Foundation
The David and Lucile Packard Foundation
The Ralph M. Parsons Foundation
Virginia G. Piper Charitable Trust
Public Welfare Foundation
Nina Mason Pulliam Charitable Trust
The Queen Lili'uokalani Trust
Rainwater Charitable Foundation
Regenstrief Foundation
The Rockefeller Foundation
Rocky Road Foundations
Saint Luke's Foundation
The Scherman Foundation Inc.
The Skoll Foundation
Alfred P. Sloan Foundation
The Sontag Foundation
Square One Foundation
The Starr Foundation
The Steelcase Foundation
Steele Foundation
W. Clement & Jessie Stone Foundation
Surdna Foundation Inc.
Communities Foundation of Texas
The Wallace Foundation
The Harry and Jeanette Weinberg Foundation, Inc.
Weingart Foundation
Welborn Baptist Foundation
The Robert A. Welch Foundation
Wenner-Gren Foundation
Winthrop Rockefeller Foundation
Zellerbach Family Foundation