



Annual Analysis of Museum and Library  
Investment Pool Returns: 2012–13

Jeremy Parsels | William Prout



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- ◆ Nearly 80% of respondents indicated that the primary role of the long-term investment pool (LTIP) is to provide intergenerational equity, whereby the long-term purchasing power is maintained so that current and future programs receive comparable support. The remaining 20% were primarily focused on growing assets to support an increased role for the endowment—through higher returns, lower payout, or both—in the future.
- ◆ Of the nine respondents that provided complete data, four (or 44%) invest a portion of their operating funds alongside the endowment in the LTIP.
- ◆ On average, 49% of endowment assets for respondents were classified as permanently restricted.
- ◆ The mean nominal total return earned by respondents for the fiscal year ended June 30, 2013, was 12.2%, outperforming a simple benchmark weighted 70% in the MSCI All Country World Index and 30% in the Barclays Government/Credit Bond Index (11.6%).
- ◆ When nominal returns are adjusted to reflect inflation, the mean real return for respondents falls to 10.3%. After both inflation and spending are deducted, the mean real return after spending was a robust 5.1% for fiscal year 2013.
- ◆ As of June 30, 2013, the average real return after spending for respondents was negative for both the trailing five-year (-1.9%) and ten-year (-0.3%) periods.
- ◆ Over the year, average allocations to U.S. bonds, real assets, private equity, and venture capital fell while allocations to U.S. equities and global ex U.S. equities increased.
- ◆ The average allocation to U.S. equities and global ex U.S. equities was 23.0% and 23.8%, respectively. For global ex U.S. equities, the average allocation to developed markets was 16.8% and the average allocation to emerging markets was 7.0%
- ◆ The average allocation to hedge funds was 19.0% and the average allocation to private equity and venture capital was 5.4%. Distressed securities, which can be invested through both hedge fund and private equity-type vehicles, accounted for an average of 3.3% of the total asset allocation.
- ◆ The proportion of institutions that increased their target (21%) to long-only equities in fiscal year 2013 was nearly double the proportion that decreased their target (11%). Institutions were more likely to increase policy targets to emerging markets than other geographic regions.
- ◆ In fiscal year 2013, institutions in this study reported an average gift flow rate of 2.4%. After accounting for other types of inflows, total additions to the LTIP averaged 2.5% for the fiscal year.
- ◆ For all respondents, total withdrawals as a percentage of the beginning market value of the LTIP averaged 5.1%. When looking at a constant universe of institutions that provided data from 2009 to 2013, the average effective spending rate was 8 basis points higher than fiscal year 2012, and 30 basis points higher than the rates reported in 2009.

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*Other contributors to this report include Jason Tkach, Courtney Larson, Geoff Bollier, and Abby Shoemaker.*

- ◆ The majority (71%) of responding institutions use a market value–based spending policy, which dictates spending a percentage of a moving average of endowment market values. A target spending rate of 5% was used by 50% of institutions with a market value–based policy. Only one institution uses a target rate below 5% while the remaining institutions use a rate above 5%.
- ◆ Support from the LTIP as a percentage of the total operating expenses averaged 46.8% for responding institutions in fiscal year 2013.
- ◆ On average, institutions in this report have 30 external investment managers. Institutions with assets over \$300 million employed an average of 45 external investment managers while institutions with assets under \$100 million employed an average of 15 managers. ■

### Data Collection and Results

This report includes data for 30 museums and libraries. All participants provided investment pool data as of June 30. The notation of *n* denotes the number of institutions included in each analysis. Total asset allocation figures may not sum to 100% due to rounding.

In Exhibits 1 and 2, bonds include U.S. bonds, global ex U.S. bonds, and high-yield bonds; hedge funds include long/short hedge funds and absolute return hedge funds (ex distressed securities); private equity and venture capital also includes multi-strategy private investment funds-of-funds; and real assets and inflation-linked bonds include public and private real estate, commodities, inflation-linked bonds, private oil & gas/natural resources, timber, and public energy/natural resources.

In Exhibit 4, asset classes are represented by the following benchmark indices: U.S. equity, Wilshire 5000; global ex U.S. equity (developed markets), MSCI World ex U.S.; global ex U.S. equity (emerging markets), MSCI Emerging Markets; U.S. bonds, Barclays Government/Credit Bond Index; global ex U.S. bonds (developed markets), Citigroup Non-U.S. Dollar World Government Bond Index; global ex U.S. bonds (emerging markets), J.P. Morgan Emerging Markets Bond Index Global; high-yield bonds, Citigroup High-Yield Market Index; hedge funds, 50% HFRI Equity Hedge (Total)/50% HFRI Diversified FOF; distressed securities, 67% HFRI Event Driven Distressed/Restructuring/33% Cambridge Associates LLC Distressed Private Index; venture capital, Cambridge Associates LLC Global Venture Capital Index; non-venture private equity, Cambridge Associates LLC Global Private Equity Index; private real estate, Cambridge Associates

LLC Real Estate Index; public real estate, FTSE® NAREIT Index; commodities, Dow Jones-UBS Commodity Total Return Index; inflation-linked bonds, Barclays U.S. TIPS Index; private oil & gas/natural resources, Cambridge Associates LLC Energy Upstream & Royalties and Private Equity Energy Index; timber, NCREIF Timberland Index; public energy/natural resources, MSCI World Natural Resources Index; and cash & equivalents, BofA Merrill Lynch 91-Day Treasury Bill Index.

### Calculation of the Real Rate of Return

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

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

### Calculation of the Return After Spending

The rate of return after spending for a given investment is calculated by dividing the total return by the spending rate for the time period. The spending rate is the dollar amount of spending for a fiscal year as a percentage of the beginning market value of assets. Note that simply subtracting the spending rate from the total return does not result in an accurate computation of total return after spending. The formula is:

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

### Calculation of the Sharpe Ratio

The Sharpe ratio is defined as the excess return, or the return over the risk-free rate, on a portfolio divided by the total volatility as measured by the standard deviation of the portfolio. The most common approach to measuring risk 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 standard deviation of returns). The higher the Sharpe ratio, the more the investor has been compensated for each unit of risk taken. The ratio is a measure of reward relative to total volatility. The formula is:

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

Where:

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

### Blended Portfolio Benchmarks

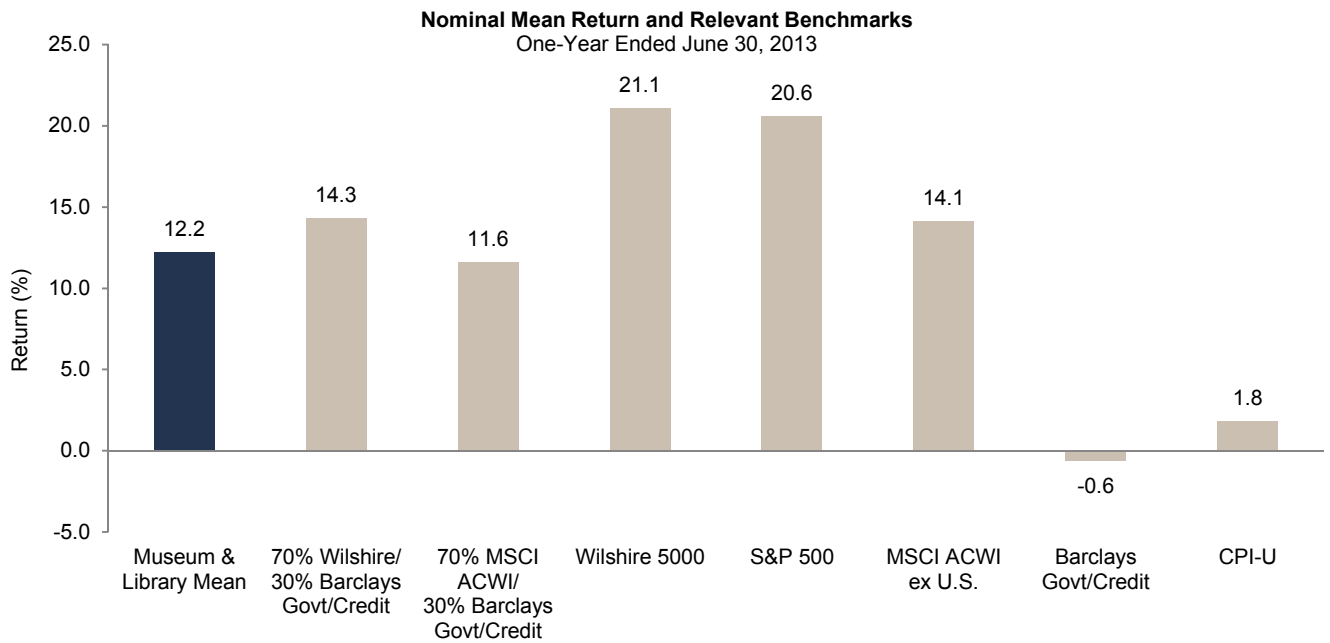
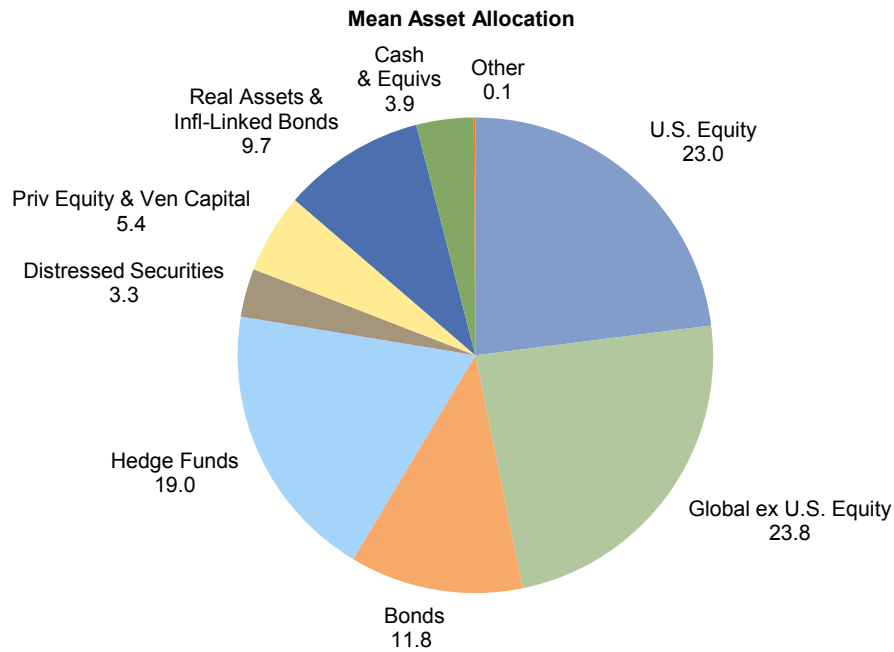
Throughout the report, the 70/30 simple portfolio benchmarks are calculated assuming rebalancing occurs on the final day of each quarter.

### Data Sources

Index data are provided by Barclays, BofA Merrill Lynch, Cambridge Associates LLC, Citigroup Global Markets, Dow Jones Indexes, FTSE International Limited, Hedge Fund Research, J.P. Morgan Securities, Inc., MSCI Inc., the National Association of Real Estate Investment Trusts, the National Council of Real Estate Investment Fiduciaries, Standard & Poor's, Thomson Reuters Datastream, U.S. Department of Labor - Bureau of Labor Statistics, and Wilshire Associates, Inc. MSCI data provided "as is" without any express or implied warranties. ■



**Exhibit 1**  
**Investment Portfolio Mean Asset Allocation and Total Return**  
 As of June 30, 2013 • Percent (%)



Sources: Index data provided by Barclays, MSCI Inc., Standard & Poor's, Thomson Reuters Datastream, U.S. Department of Labor - Bureau of Labor Statistics, and Wilshire Associates, Inc. MSCI data provided "as is" without any express or implied warranties.

### Historical Asset Allocation

Institutions have made significant shifts in their asset allocation over the last decade. In general, allocations to U.S. equities and bonds decreased substantially while allocations to global ex U.S. equities, hedge funds, private investments, and real assets increased. The greatest extent of these changes occurred in the years leading up to the 2008–09 financial crisis. Changes in portfolio allocations were more modest over the second half of the decade, although diversification among equity categories continued at the expense of bond allocations (Exhibit 2).

### Fiscal Year 2013 Asset Allocation

Smaller institutions continue to maintain higher allocations to U.S. equities and global ex U.S. equities, in part because smaller asset sizes may preclude a meaningful degree of diversification into alternative assets (particularly private investments). The average allocation to private equity and venture capital is highest among institutions with assets over \$300 million, while the average allocation to hedge funds is highest for midsized institutions (Exhibit 3).

Exhibit 4 uses benchmarks as proxy returns to extrapolate an asset allocation based on a buy and hold strategy over the past year. While the assumed asset allocation based on market-induced changes is merely an estimate, comparing this to the actual mean asset allocation of the museum and library universe on June 30, 2013, lends some insight into which asset classes were most affected by cash flow decisions and which were primarily affected by market movements.

The largest change in the average allocation of assets from June 30, 2012, to June 30, 2013, was the 2.3 ppt decrease in U.S. bonds. Based on this simplified cash flow analysis, it appears that the decrease was equally attributable to market movements and cash flow decisions. The largest

increase of any asset class was the 1.8 ppt increase in global ex U.S. equity (developed markets), which also appears equally attributable to market movements and cash flow decisions.

Institutions transferred an estimated 1.9 ppts out of U.S. equity over the fiscal year, the highest estimated outflow of cash from any asset class. However, because of the outperformance of U.S. equities in fiscal year 2013, the average allocation increased by 0.2 ppt. The largest cash inflows were to cash and equivalents (1.7 ppts), though a closer look reveals that this number is partially skewed by a few institutions whose allocations rose sharply as of June 30, 2013, with cash-in-transition. The increase was temporary; however, as this cash was deployed shortly thereafter to fund new managers in other parts of the portfolio.

### Target Asset Allocation

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

Over 90% of survey participants (28 of 30) provided target asset allocation data. Institutions use a varying amount of detail in constructing their target asset allocation mix. Thus, target asset allocation data throughout this study are displayed in a broader framework than actual asset allocation data.

Our trend analysis on this topic focuses on institutions that reported under the traditional asset allocation–centered framework. Less than

half (36%) of these institutions made a change to their policy targets in fiscal year 2013. While actual asset allocations to long-only equities have trended lower for much of the last decade, Exhibit 6 shows that the proportion of institutions that increased their target (21%) to these assets in fiscal year 2013 was nearly double the proportion that decreased their target (11%). As the figure below shows, institutions were more likely to increase policy targets to emerging markets than other geographic regions.

Among the other broad asset allocation categories, 25% of respondents lowered their policy target to bonds and cash in fiscal year 2013, while just 4% reported an increase. For hedge funds, the same proportion of institutions reported lowering or raising the target (7%). Some institutions increased their target to private equity and venture capital (14%), while none decreased their target. Similarly, 4% of respondents increased their target to real assets while none reported a decrease.

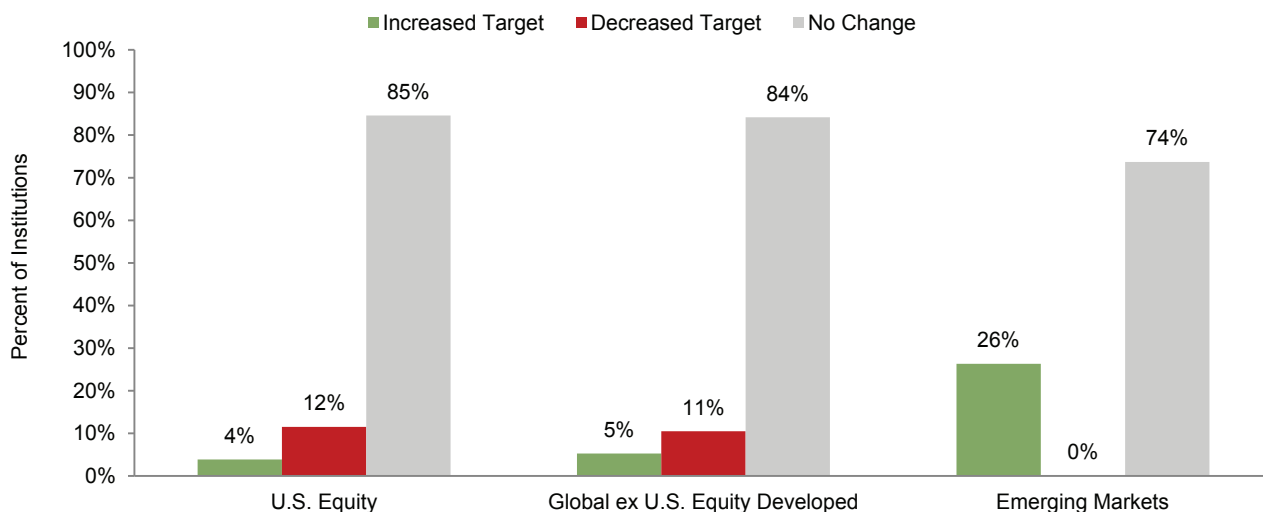
### Uncalled Private Investment Commitments

As the 2008–09 financial crisis demonstrated, consideration of the variables that affect portfolio liquidity is imperative for endowments. While annual spending distributions usually represent the biggest liquidity need of the portfolio, a host of other liquidity factors have risen in importance to institutions, as many investors have achieved diversified portfolios with significant allocations to alternative assets. In last year's survey, we began asking about the amount of uncalled capital institutions have committed to private investment funds.

Of the 25 institutions in this study that had private investment programs, 22 reported the amount of uncalled capital they had committed to private investments. These 22 institutions had, in aggregate, \$545.5 million in uncalled capital committed to private investment funds as of June 30, 2013. Uncalled capital is the amount committed, but not yet paid in, to private investment funds. Among these 22 institutions, uncalled capital represented an

### Changes in Traditional Equity Policy Targets by Geographic Region

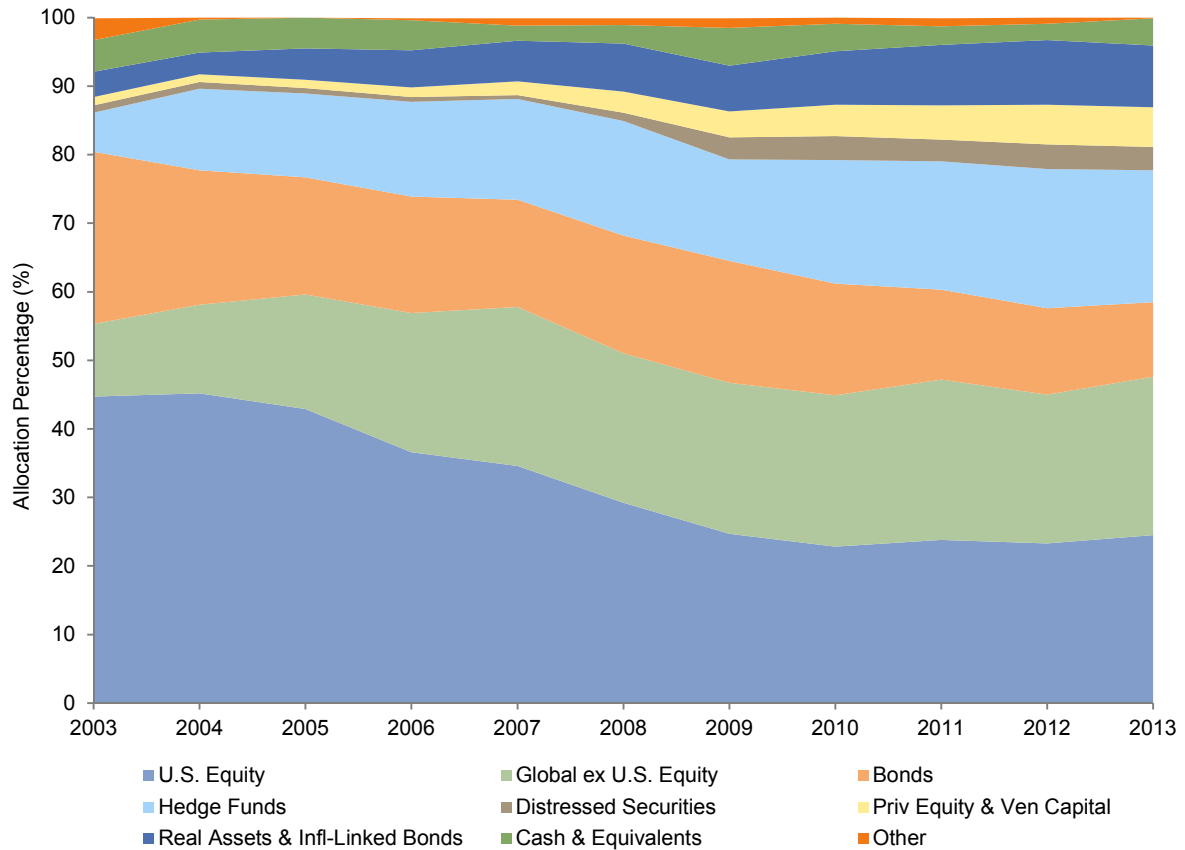
As of June 30, 2013



average of 5.7% of their long-term investment portfolio (LTIP) value (ranging from 0.5% to 12.8%, excluding outliers making up the top and bottom 5% of institutions), as shown in Exhibit 8. When considering the ratio of uncalled capital commitments to total liquid assets, which exclude hedge funds and private investments, among these institutions uncalled capital commitments represented an average of 9.1% of their total liquid assets (ranging from 0.6% to 20.6%, excluding outliers).

Exhibit 9 shows the estimated annual liquidity requirements for institutions as a percentage of their total liquid assets. In addition to an annual spending payout of 5% of the total LTIP, this estimated liquidity requirement also assumes that one-third of unfunded private investment capital commitments will be called over an annual period. Given these assumptions, the average annual liquidity requirement equals 10.8% of liquid assets for institutions with private investments. Exhibit 9 further breaks out this ratio by showing the estimated annual liquidity requirement by component. On average, the annual spending payout represents 7.8% of liquid assets, while the average annual liquidity requirement for private investment capital commitments is 3.0% of liquid assets. Institutions can use a variety of sources to fund capital calls, including private investment fund distributions, cash reserves, and proceeds from sales of other investment assets. ■

**Exhibit 2**  
**Historical Mean Asset Allocation Trends**  
 Years Ended June 30 • Percent (%)



	Constant Universe (n=17)											All Inst
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2013
U.S. Equity	44.7	45.2	42.9	36.6	34.6	29.2	24.7	22.8	23.8	23.3	24.5	23.0
Global ex U.S. Equity	10.6	12.9	16.7	20.3	23.2	21.8	22.0	22.1	23.4	21.7	23.1	23.8
<i>Developed Markets</i>	9.6	11.2	13.5	16.7	18.2	16.7	17.1	16.6	17.0	15.2	16.5	16.8
<i>Emerging Markets</i>	1.0	1.8	3.2	3.7	5.0	5.2	4.9	5.5	6.4	6.5	6.6	7.0
Bonds	25.1	19.6	17.1	17.0	15.6	17.2	17.8	16.3	13.1	12.6	10.9	11.8
Hedge Funds	5.7	11.9	12.2	13.8	14.7	16.7	14.8	18.0	18.7	20.3	19.2	19.0
Distressed Securities	1.1	1.0	0.8	0.7	0.6	1.2	3.2	3.5	3.2	3.6	3.4	3.3
Priv Equity & Ven Capital	1.2	1.1	1.2	1.4	2.0	3.1	3.8	4.6	5.0	5.8	5.8	5.4
Real Assets & Inflation-Linked Bonds	3.7	3.2	4.6	5.4	5.9	7.0	6.7	7.8	8.8	9.4	9.0	9.7
Cash & Equivalents	4.6	4.8	4.5	4.4	2.2	2.7	5.5	4.0	2.7	2.4	4.0	3.9
Other	3.2	0.3	0.0	0.3	1.1	1.0	1.4	0.9	1.2	0.9	0.1	0.1

Notes: Constant universe represents 17 institutions that provided asset allocation data for each year from 2003–13. All Institutions mean represents 30 institutions that provided 2013 data.

**Exhibit 3**  
**Summary Asset Allocation by Asset Size**  
 As of June 30, 2013 • Percent (%)

	Under \$100 mm (n=9)				From \$100 mm to \$300 mm (n=10)				Over \$300 mm (n=11)			
	Low	Mean	Median	High	Low	Mean	Median	High	Low	Mean	Median	High
<b>U.S. Equity</b>	<b>16.6</b>	<b>25.5</b>	<b>22.8</b>	<b>38.1</b>	<b>14.3</b>	<b>20.8</b>	<b>20.1</b>	<b>28.7</b>	<b>14.0</b>	<b>22.9</b>	<b>20.8</b>	<b>45.1</b>
<b>Global ex U.S. Equity</b>	<b>19.3</b>	<b>25.7</b>	<b>26.5</b>	<b>31.3</b>	<b>17.7</b>	<b>25.1</b>	<b>25.8</b>	<b>33.1</b>	<b>15.9</b>	<b>21.1</b>	<b>21.1</b>	<b>25.9</b>
Developed Markets	9.6	19.0	18.5	29.4	9.5	17.8	18.7	24.5	10.4	14.2	13.9	20.7
Emerging Markets	0.0	6.7	7.5	11.0	4.9	7.4	7.2	10.8	3.6	6.9	7.4	9.3
<b>Bonds</b>	<b>7.8</b>	<b>15.8</b>	<b>15.0</b>	<b>23.9</b>	<b>2.2</b>	<b>12.0</b>	<b>12.9</b>	<b>17.7</b>	<b>0.0</b>	<b>8.3</b>	<b>8.3</b>	<b>15.7</b>
U.S. Bonds	3.1	11.9	10.1	23.9	2.2	8.7	8.7	13.7	0.0	6.9	7.3	12.2
Global ex U.S. Bonds (Developed)	0.0	1.2	0.0	4.2	0.0	1.0	1.0	3.4	0.0	0.5	0.0	1.7
Global ex U.S. Bonds (Emerging)	0.0	1.5	1.2	4.6	0.0	1.6	1.2	4.4	0.0	0.6	0.2	2.2
High-Yield Bonds	0.0	1.2	0.0	4.1	0.0	0.7	0.0	4.0	0.0	0.4	0.0	2.1
<b>Hedge Funds</b>	<b>0.0</b>	<b>14.4</b>	<b>15.0</b>	<b>26.3</b>	<b>12.8</b>	<b>22.3</b>	<b>19.6</b>	<b>49.3</b>	<b>2.3</b>	<b>19.7</b>	<b>21.2</b>	<b>30.8</b>
Long/Short Hedge Funds	0.0	9.5	11.6	17.1	5.9	9.9	9.1	17.9	0.0	8.3	7.9	14.6
Absolute Return (ex Distressed)	0.0	4.8	4.8	9.2	5.8	12.4	11.1	31.4	0.0	11.4	10.1	22.2
<b>Distressed Securities</b>	<b>0.0</b>	<b>2.1</b>	<b>1.7</b>	<b>5.0</b>	<b>1.3</b>	<b>3.6</b>	<b>3.0</b>	<b>10.2</b>	<b>1.1</b>	<b>4.1</b>	<b>3.6</b>	<b>8.3</b>
Hedge Fund Structure	0.0	1.3	1.3	3.2	0.0	2.0	2.2	3.8	0.0	1.7	1.5	3.6
Private Equity Structure	0.0	0.7	0.0	3.2	0.0	1.6	1.0	7.4	0.0	2.4	2.0	5.4
<b>Private Equity &amp; Venture Capital</b>	<b>0.0</b>	<b>2.6</b>	<b>0.0</b>	<b>15.4</b>	<b>0.0</b>	<b>3.0</b>	<b>3.2</b>	<b>7.3</b>	<b>3.0</b>	<b>9.9</b>	<b>8.2</b>	<b>18.7</b>
Non-Venture Private Equity	0.0	1.8	0.0	10.6	0.0	1.3	1.4	3.5	1.6	5.8	5.0	13.3
Venture Capital	0.0	0.6	0.0	4.8	0.0	0.6	0.3	1.7	0.0	2.2	2.2	5.5
Other Private Investments	0.0	0.2	0.0	1.5	0.0	1.1	0.4	3.3	0.0	1.8	0.8	8.7
<b>Real Assets &amp; Infl-Linked Bonds</b>	<b>7.5</b>	<b>10.2</b>	<b>9.9</b>	<b>13.9</b>	<b>4.0</b>	<b>8.8</b>	<b>9.2</b>	<b>13.4</b>	<b>4.1</b>	<b>10.1</b>	<b>10.1</b>	<b>16.9</b>
Private Real Estate	0.0	0.4	0.0	3.1	0.0	0.6	0.8	1.5	0.1	3.0	2.7	7.8
Public Real Estate	0.0	1.3	0.6	4.2	0.0	0.8	0.0	3.7	0.0	0.4	0.0	2.3
Commodities	0.0	1.4	1.4	3.1	0.0	1.1	1.1	3.5	0.0	0.8	0.5	2.8
Inflation-Linked Bonds	0.0	1.1	1.1	2.8	0.0	0.4	0.4	1.0	0.0	0.4	0.0	1.5
Private Oil & Gas/Natural Resources	0.0	0.5	0.0	4.8	0.0	1.1	0.1	4.5	0.3	3.2	2.4	8.2
Timber	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4	0.0	2.2
Public Energy/Natural Resources	3.1	5.5	5.5	7.6	1.5	4.6	4.6	8.3	0.0	1.9	2.2	4.3
<b>Cash &amp; Equivalents</b>	<b>0.0</b>	<b>3.6</b>	<b>3.0</b>	<b>13.3</b>	<b>0.1</b>	<b>4.2</b>	<b>2.1</b>	<b>15.3</b>	<b>0.0</b>	<b>3.9</b>	<b>3.3</b>	<b>10.7</b>
<b>Other</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>0.0</b>	<b>2.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

**Exhibit 4**  
**Change in Investment Portfolio Asset Allocation**  
 June 30, 2012 Versus June 30, 2013 • Percent (%)

	Mean Allocation as of 6/30/12	Asset Class Return for 6/30/12–6/30/13	Imputed Allocation (From Market- Induced Change)	Mean Allocation as of 6/30/13	Change From Cash Flow Decisions	Change Attributable to Performance
<b>Traditional Equity</b>						
U.S. Equity	22.8	21.1	24.9	23.0	-1.9	2.1
Global ex U.S. Equity (Developed)	15.0	17.1	15.9	16.8	0.9	0.9
Global ex U.S. Equity (Emerging)	6.6	3.2	6.1	7.0	0.9	-0.5
<b>Bonds</b>						
U.S. Bonds	11.3	-0.6	10.1	9.0	-1.1	-1.2
Global ex U.S. Bonds (Developed)	1.2	-5.7	1.0	0.9	-0.1	-0.2
Global ex U.S. Bonds (Emerging)	1.0	1.2	0.9	1.2	0.3	-0.1
High-Yield Bonds	0.3	9.2	0.3	0.7	0.4	0.0
<b>Hedge Funds</b>	19.8	8.8	19.4	19.0	-0.4	-0.4
<b>Distressed Securities</b>	3.5	15.6	3.7	3.3	-0.4	0.2
<b>Private Equity &amp; Venture Capital</b>						
Non-Venture Private Equity	3.2	13.6	3.3	3.1	-0.2	0.1
Venture Capital	1.4	8.3	1.4	1.2	-0.2	0.0
Other Private Investments	1.0	11.0	1.0	1.1	0.1	0.0
<b>Real Assets &amp; Infl-Linked Bonds</b>						
Private Real Estate	1.4	11.9	1.4	1.4	0.0	0.0
Public Real Estate	0.9	9.2	0.9	0.8	-0.1	0.0
Commodities	1.7	-8.0	1.4	1.1	-0.3	-0.3
Inflation-Linked Bonds	1.0	-4.8	0.9	0.6	-0.3	-0.1
Private Oil & Gas/Natural Resources	1.7	7.9	1.7	1.7	0.0	0.0
Timber	0.2	9.4	0.2	0.2	0.0	0.0
Public Energy/Natural Resources	3.1	3.1	2.9	3.9	1.0	-0.2
<b>Cash &amp; Equivalents</b>	2.4	0.1	2.2	3.9	1.7	-0.2

Notes: This universe represents the 30 institutions that provided asset allocation data in 2012 and 2013. See Notes on the Data for a list of benchmarks used in this analysis. Due to the lack of a comparable index, analysis excludes "other assets" (0.1% of total portfolio as of June 30, 2013).

**Exhibit 5**  
**Detailed Asset Allocation by Institution**

As of June 30, 2013 • Percent (%)

Code	Traditional Equity			Bonds				Hedge Funds		Distressed Securities	
	U.S.	Global ex U.S.		U.S.	Global ex U.S.		HY	Long/ Short	Abs Ret (ex Distr)	HF Structure	Priv Eq Structure
		Dev Mkt	Emg Mkt		Dev Mkt	Emg Mkt					
1	45.1	10.4	5.5	5.1	0.0	0.0	0.0	0.0	2.3	0.0	1.1
2	20.8	15.9	8.9	7.3	1.5	1.3	2.1	7.5	10.1	1.3	4.1
3	34.5	18.2	5.5	18.1	0.0	0.0	3.8	12.3	0.0	0.0	0.0
4	26.0	24.5	6.6	7.9	0.0	4.4	0.0	7.0	5.8	2.5	1.6
5	18.1	20.5	4.5	10.1	1.1	3.9	0.0	7.0	3.8	1.2	0.4
6	16.6	15.2	7.5	9.4	4.2	1.2	0.0	6.9	8.1	1.9	3.2
7	20.3	22.3	10.8	13.7	1.2	0.5	0.0	5.9	12.0	2.0	0.0
8	28.7	16.4	7.5	5.4	0.0	1.8	2.7	9.8	14.7	2.1	0.5
9	38.1	29.4	0.0	17.7	0.0	2.0	0.0	0.0	0.0	0.0	0.0
10	27.7	17.1	10.0	5.9	0.0	1.9	0.0	14.0	4.8	1.6	0.0
11	22.8	20.3	11.0	5.8	3.2	0.0	0.0	12.1	6.4	3.2	0.0
12	18.7	18.4	6.7	9.4	2.0	3.4	0.0	8.5	11.0	2.7	0.7
13	19.9	19.6	6.8	11.7	0.9	0.7	0.3	10.7	8.9	1.3	0.0
14	22.6	13.9	9.2	5.4	0.7	0.5	1.6	7.9	8.1	3.6	2.4
15	21.7	18.5	7.9	12.6	0.0	0.0	3.2	11.6	7.5	2.0	0.0
16	23.0	16.3	8.2	8.6	0.0	0.0	0.0	4.3	19.5	3.0	0.0
17	20.5	9.6	9.7	3.1	2.6	4.6	4.1	17.1	9.2	0.9	2.9
18	14.4	11.2	6.8	4.0	0.8	0.6	0.0	8.6	22.2	0.7	2.8
19	19.2	19.3	7.4	13.7	0.0	0.0	4.0	12.8	11.2	0.0	1.6
20	14.0	11.7	7.4	7.7	0.0	0.0	0.0	14.6	0.0	2.9	5.4
21	23.1	19.0	7.7	11.2	1.2	1.8	0.0	7.9	7.5	2.3	2.3
22	29.8	22.1	4.6	23.9	0.0	0.0	0.0	4.8	3.9	1.3	0.0
23	15.2	12.3	7.1	4.5	3.4	0.1	0.1	7.9	12.9	3.8	0.7
24	15.2	11.9	9.3	6.0	0.0	2.2	0.0	6.2	15.0	2.2	5.0
25	19.8	15.2	3.6	12.2	1.7	1.3	0.5	7.4	16.2	1.3	0.7
26	25.2	16.3	8.0	8.7	0.2	0.2	0.0	13.3	7.9	2.5	1.3
27	14.3	9.5	8.1	2.2	0.0	0.0	0.0	17.9	31.4	0.0	1.3
28	37.2	12.7	4.1	0.0	0.0	0.0	0.0	12.9	16.5	0.0	1.3
29	14.8	20.7	5.2	10.6	0.0	0.0	0.0	8.7	7.6	1.5	2.0
30	22.2	16.3	4.9	7.2	1.1	2.7	0.1	10.9	8.6	2.8	7.4

High	45.1	29.4	11.0	23.9	4.2	4.6	4.1	17.9	31.4	3.8	7.4
Mean	23.0	16.8	7.0	9.0	0.9	1.2	0.7	9.2	9.8	1.7	1.6
Median	21.3	16.4	7.4	8.3	0.1	0.6	0.0	8.5	8.4	1.7	1.2
Low	14.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>n</i> = 30											



**Exhibit 5 (continued)**  
**Detailed Asset Allocation by Institution**

As of June 30, 2013 • Percent (%)

Code	Priv Equity & Venture Cap			Real Assets & Inflation-Linked Bonds								Cash & Equiv	Other
	Non-Ven	Ven	Other	Real Estate		Comm	Infl-Link Bonds	Private O&G/NR	Timber	Public Engy/NR			
	Priv Eq	Cap	Priv Inv	Private	Public								
1	13.3	1.2	0.4	3.2	1.2	0.0	0.0	5.8	0.0	0.0	5.4	0.0	
2	1.6	0.6	0.8	4.9	0.0	0.9	0.6	1.9	0.0	3.6	4.1	0.0	
3	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	4.6	0.0	0.0	
4	1.7	0.9	3.3	1.5	0.0	0.8	0.5	0.0	0.0	2.1	2.6	0.0	
5	10.6	4.8	0.0	0.0	0.6	0.6	0.8	4.8	0.0	3.1	4.1	0.0	
6	0.0	0.0	0.0	0.0	0.0	3.0	1.9	0.0	0.0	7.6	13.3	0.0	
7	1.5	0.0	2.6	0.8	0.0	0.0	0.0	0.3	0.0	5.1	1.0	0.0	
8	3.5	0.7	1.4	1.1	0.0	0.0	0.0	1.8	0.0	1.5	0.4	0.0	
9	0.0	0.0	0.0	0.0	2.9	0.0	2.1	0.0	0.0	3.9	4.0	0.0	
10	0.0	0.0	0.0	0.0	1.4	3.1	2.8	0.0	0.0	6.7	3.0	0.0	
11	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	5.7	5.3	0.0	
12	0.0	0.0	0.5	0.0	0.0	3.5	0.7	0.0	0.0	6.7	6.9	0.0	
13	1.4	1.7	0.0	0.8	3.7	1.3	0.9	1.0	0.0	5.7	2.7	0.0	
14	5.0	3.9	1.7	1.6	0.0	2.8	0.9	2.4	0.0	2.5	3.3	0.0	
15	2.3	0.8	1.5	0.0	0.0	1.7	1.4	0.0	0.0	5.4	1.8	0.0	
16	6.0	0.0	0.7	0.1	0.0	0.0	0.0	1.5	0.0	4.3	4.5	0.0	
17	3.5	0.0	0.0	3.1	0.0	1.4	1.1	0.1	0.0	5.5	0.9	0.0	
18	5.7	2.2	3.6	4.5	0.0	1.9	0.0	5.1	0.2	2.2	2.5	0.0	
19	0.0	0.0	0.0	0.0	2.3	1.6	1.0	0.0	0.0	4.1	1.6	0.0	
20	10.7	5.5	0.0	7.8	0.0	0.0	0.0	8.2	0.8	0.0	3.2	0.0	
21	0.0	0.0	0.0	1.3	0.0	2.5	0.9	0.0	0.0	8.3	0.8	2.2	
22	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	7.0	0.0	0.0	
23	2.9	1.5	2.9	0.0	1.6	1.4	0.0	3.9	0.0	2.6	15.3	0.0	
24	4.7	1.3	0.2	2.0	1.1	0.5	0.0	1.6	1.5	3.5	10.7	0.0	
25	3.0	2.2	3.1	3.0	0.0	0.4	0.3	1.9	2.2	0.9	3.3	0.0	
26	5.1	2.3	0.0	1.4	2.3	1.1	0.7	0.3	0.0	3.1	0.2	0.0	
27	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	4.0	10.9	0.0	
28	4.0	0.2	1.0	1.5	0.0	0.0	0.0	2.6	0.0	0.0	5.9	0.0	
29	5.0	5.0	8.7	2.7	0.0	1.0	1.5	3.8	0.0	1.2	0.0	0.0	
30	2.1	1.2	0.0	1.0	0.0	0.0	0.3	4.5	0.3	6.2	0.1	0.0	

High	13.3	5.5	8.7	7.8	4.2	3.5	2.8	8.2	2.2	8.3	15.3	2.2
Mean	3.1	1.2	1.1	1.4	0.8	1.1	0.6	1.7	0.2	3.9	3.9	0.1
Median	2.2	0.6	0.2	0.9	0.0	0.9	0.4	0.6	0.0	4.0	3.1	0.0
Low	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>n</i> = 30												

**Exhibit 6****Changes in Target Asset Allocation**

June 30, 2012 – June 30, 2013 • Percentage of Institutions Making Changes to Targets

	Mean Target AA (%)		Institutions Making Changes to Targets (%)	
	2012	2013	Increased	Decreased
Traditional Equity Total	44.0	44.1	21%	11%
<i>U.S. Equity</i>	21.3	20.7	4%	12%
<i>Global ex U.S. Equity Developed Markets</i>	15.3	14.9	5%	11%
<i>Emerging Markets</i>	7.3	8.0	26%	0%
Hedge Funds	19.2	19.3	7%	7%
Private Equity & Venture Capital	6.1	6.9	14%	0%
Bonds and Cash	17.0	16.2	4%	25%
Real Assets & Infl-Linked Bonds	11.8	11.9	4%	0%
Other	1.9	1.7	0%	4%

Notes: Exhibit includes data for 28 institutions that provided target asset allocation data for 2012 and 2013. Geographic breakouts within the traditional equity category were not provided by all respondents. Therefore, the sum mean targets to U.S. equity, global ex U.S. equity developed markets, and emerging markets will not equal the traditional equity total. Other includes target allocations to distressed securities, opportunistic investing, tactical asset allocation, and other special situations.

**Exhibit 7**  
**Target Asset Allocation by Institution: Asset Allocation Framework**  
 As of June 30, 2013 • Percent (%)

Code	Total	Traditional Equity			Hedge Funds <sup>1</sup>	Priv Equity & Ven Cap <sup>2</sup>	Bonds & Cash <sup>3</sup>	Real Assets & Infl-Link Bonds <sup>4</sup>	Other <sup>5</sup>
		U.S.	Global ex U.S. Dev Mkts	Global ex U.S. Emg Mkts					
1	40.0	25.0	10.0	5.0	10.0	15.0	10.0	15.0	10.0
2	40.0	—	—	—	20.0	10.0	15.0	15.0	0.0
3	60.0	27.0	—	—	10.0	0.0	20.0	10.0	0.0
4	49.0	24.0	20.0	5.0	15.0	10.0	20.0	6.0	0.0
5	45.0	22.5	—	—	15.0	15.0	15.0	10.0	0.0
6	40.0	15.0	15.0	10.0	20.0	0.0	17.5	17.5	5.0
7	45.0	17.5	17.5	10.0	10.0	5.0	15.0	5.0	20.0
8	40.0	20.0	15.0	5.0	25.0	10.0	15.0	10.0	0.0
9	65.0	35.0	—	—	0.0	0.0	25.0	10.0	0.0
10	50.0	24.0	16.0	10.0	20.0	0.0	15.0	15.0	0.0
11	52.5	22.5	—	—	22.5	0.0	15.0	10.0	0.0
12	—	—	—	—	—	—	—	—	—
13	44.0	19.0	17.5	7.5	20.0	5.0	16.0	15.0	0.0
14	45.0	22.0	13.0	10.0	20.0	10.0	13.0	12.0	0.0
15	46.0	20.0	18.0	8.0	20.0	4.0	20.0	10.0	0.0
16	46.0	23.0	13.0	10.0	25.0	9.0	12.0	8.0	0.0
17	40.0	20.0	10.0	10.0	20.0	10.0	15.0	15.0	0.0
18	34.0	13.0	13.0	8.0	25.0	10.0	13.0	18.0	0.0
19	45.0	22.0	16.0	7.0	25.0	0.0	20.0	10.0	0.0
20	32.0	16.0	16.0	—	18.0	12.0	14.0	16.0	8.0
21	46.0	17.5	20.0	8.5	19.0	0.0	15.0	15.0	5.0
22	55.0	28.0	22.0	5.0	10.0	0.0	25.0	10.0	0.0
23	40.0	10.0	8.0	10.0	20.0	10.0	15.0	15.0	0.0
24	40.0	15.0	10.0	15.0	18.0	15.0	12.0	15.0	0.0
25	35.0	20.0	11.0	4.0	25.0	10.0	20.0	10.0	0.0
26	49.0	22.0	17.5	9.5	24.0	7.0	10.0	10.0	0.0
27	30.0	—	—	5.0	45.0	0.0	15.0	10.0	0.0
28	—	—	—	—	—	—	—	—	—
29	40.0	17.5	17.5	5.0	18.0	15.0	15.0	12.0	0.0
30	40.0	20.0	—	—	20.0	10.0	20.0	10.0	0.0
<b>All Institutions (n = 28)</b>									
High	65.0	—	—	—	45.0	15.0	25.0	18.0	20.0
Mean	44.1	—	—	—	19.3	6.9	16.2	11.9	1.7
Median	44.5	—	—	—	20.0	9.5	15.0	10.0	0.0
Low	30.0	—	—	—	0.0	0.0	10.0	5.0	0.0
<b>Institutions with Policy Target to Category</b>									
Mean	44.1	20.7	15.0	8.0	20.0	10.1	16.2	11.9	9.6
n	28	26	21	21	27	19	28	28	5

<sup>1</sup> Includes long/short hedge funds and absolute return hedge funds (ex distressed securities).

<sup>2</sup> Includes non-venture private equity and venture capital.

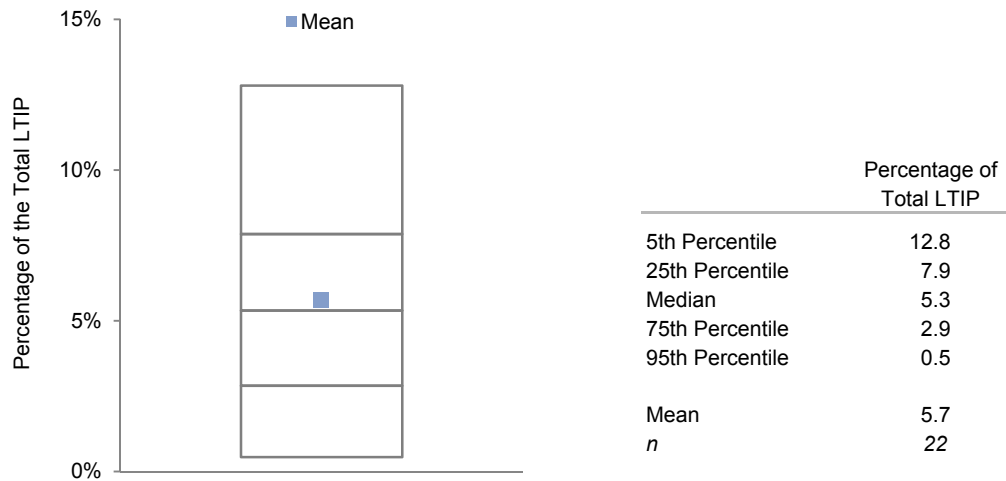
<sup>3</sup> Includes U.S. bonds, global ex U.S. bonds, high-yield bonds, and cash.

<sup>4</sup> Includes private oil & gas/natural resources, public and private real estate, commodities, timber, inflation-linked bonds, and public energy/natural resources.

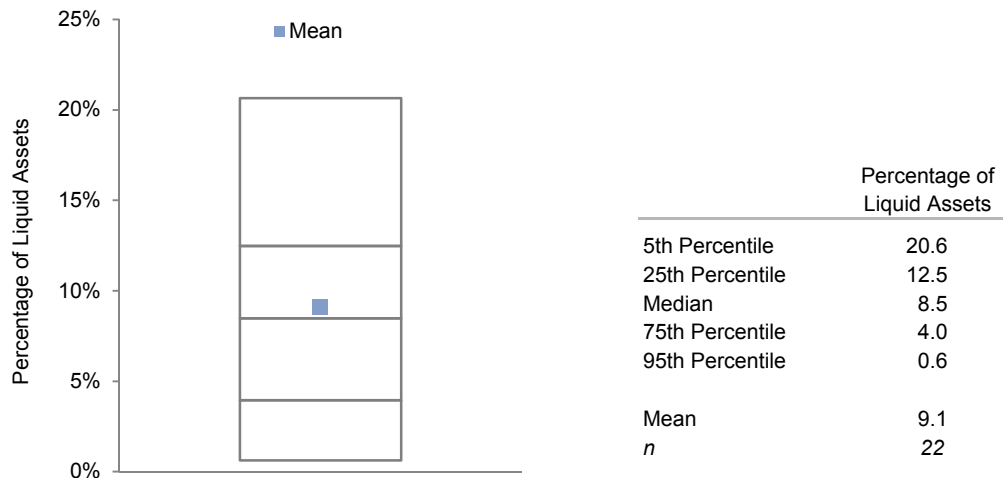
<sup>5</sup> Includes target allocations to distressed securities, opportunistic investing, tactical asset allocation, and other special situations.

**Exhibit 8**  
**Uncalled Capital Committed to Private Investment Funds**  
 As of June 30, 2013 • Percent (%)

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



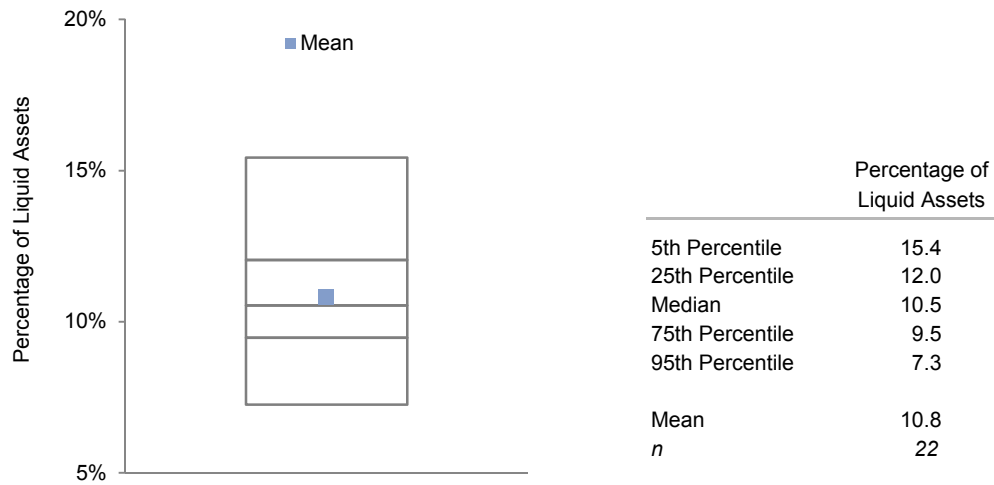
**Uncalled Capital Commitments as a Percentage of LTIP's Liquid Assets**



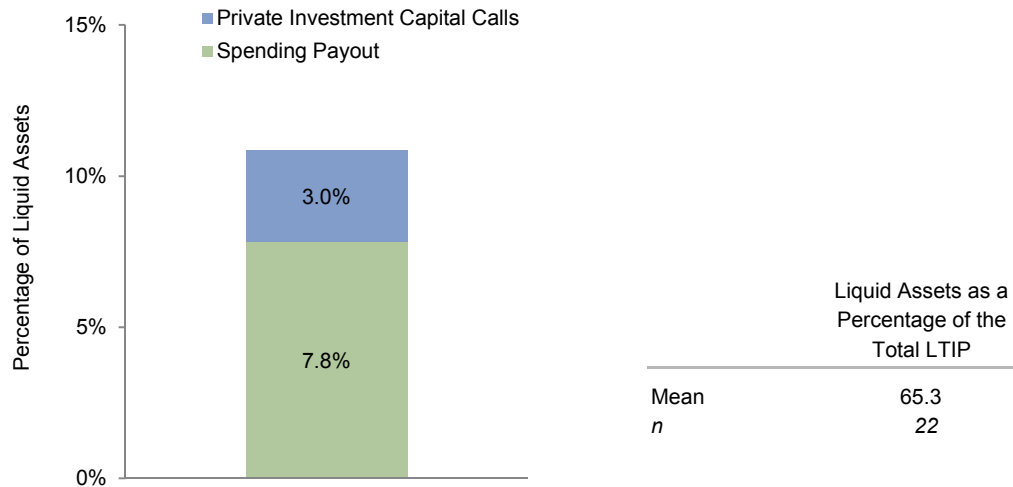
Notes: Uncalled capital is the amount committed, but not yet paid in, to private investment funds as of June 30, 2013. Liquid assets consist of all LTIP assets excluding hedge funds and private investments. Private investments include non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, private real estate, and timber.

**Exhibit 9**  
**Estimated Annual Liquidity Requirements**  
 As of June 30, 2013 • Percent (%)

**Estimated Annual Liquidity Requirements as a Percentage of Liquid Assets**



**Average Annual Liquidity Requirement as a Percentage of Liquid Assets**



Notes: Estimated annual liquidity requirements consist of a spending payout amount and an amount forecasted for unfunded private investment commitments. Private investments include non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, private real estate, and timber. Assumptions in analysis:

- Annual spending payout is assumed to be 5% of the total LTIP for each institution.
- One-third of unfunded private investment commitments will be called over the annual period for each institution.
- Liquid assets consist of all LTIP assets excluding hedge funds and private investments, as of June 30, 2013.

## Fiscal Year 2013 Returns

The mean nominal total return earned by respondents for the fiscal year ended June 30, 2013, was 12.2% (Exhibit 10), slightly outperforming a simple benchmark weighted 70% in the MSCI All Country World Index and 30% in the Barclays Government/Credit Bond Index (11.6%).

Inflation as measured by the Consumer Price Index was 1.8% in fiscal year 2013. When nominal returns are adjusted to reflect inflation, the mean real return for respondents falls to 10.3% (Exhibit 10). After both inflation and spending are deducted, the mean real return after spending was a robust 5.1%.

## 2013 Returns in Context

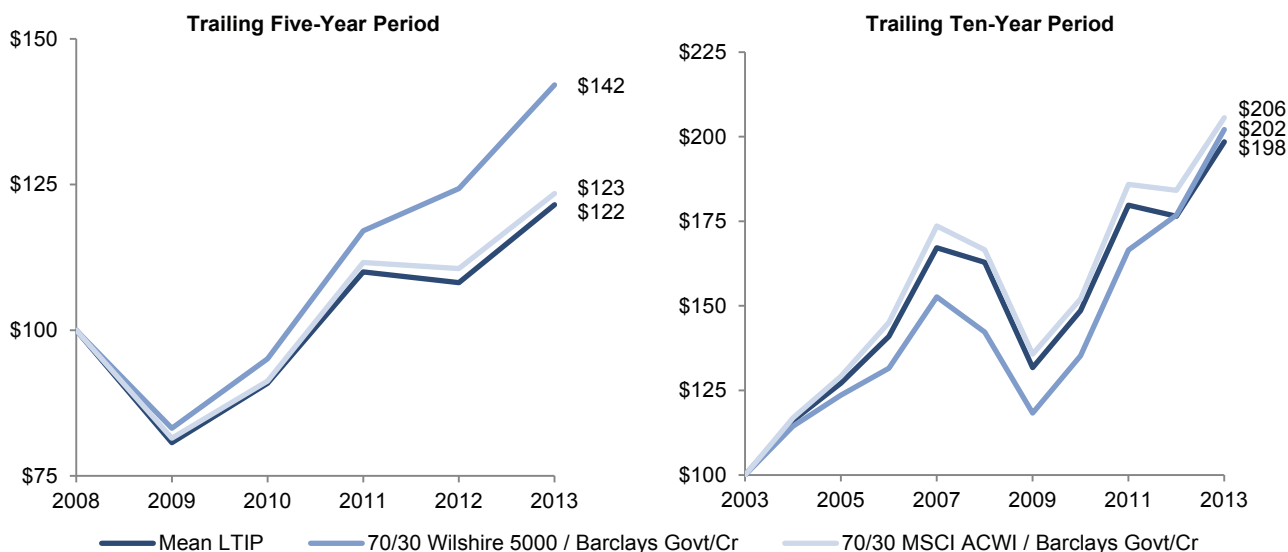
Despite the inclusion of the biggest stock market decline since the 1930s, the mean average annual compound return (AACR) of the long-term investment portfolio (LTIP) was 7.0% for the ten-year period ended June

30, 2013 (Exhibit 10). The average ten-year return underperformed a pair of simple 70/30 portfolio benchmarks—one containing a global benchmark for the equity component (7.5%) and another containing a U.S. benchmark for the equity component (7.3%).<sup>1</sup> Over a shorter period, the average five-year LTIP return was 4.0%, about 30 basis points lower than the 70/30 portfolio containing a global equity benchmark (4.3%).<sup>2</sup> Because of the outperformance of the U.S. public stock market over the same period, the average LTIP return signifi-

<sup>1</sup> The global equity benchmark is the MSCI All Country World Index and the U.S. equity benchmark is the Wilshire 5000 Index.

<sup>2</sup> By 2008, institutions of all asset sizes had reached a level of diversification in which the long-only equity portion of the portfolio was split more evenly between U.S. and global ex U.S. markets (Exhibit 2). For institutions that have achieved global diversification across the equity-oriented investments in the portfolio, the 70/30 benchmark that uses the MSCI All Country World Index as the equity component will be a more appropriate benchmark for this five-year period.

## Nominal Cumulative Growth Over the Trailing Five- and Ten-Year Periods



Notes: Analysis displays the cumulative growth of the average LTIP based on an initial \$100 investment at the beginning of the period. The change in value over time is due solely to investment performance and does not include the impact of additions and withdrawals. Includes 29 institutions in the five-year graph and 28 institutions in the ten-year graph.

cantly lagged the 70/30 portfolio containing a U.S. equity benchmark (7.3%). In the charts on the previous page, the nominal cumulative growth effect of an initial \$100 dollar investment in the average LTIP versus the simple 70/30 benchmark is displayed over the trailing five- and ten-year periods.

For the vast majority of institutions, the primary goal of the LTIP is to maintain intergenerational equity, making the degree of inflation and the annual spending rate from the portfolio important factors for institutions to consider. A long-term annual real return after spending above 0% is necessary to preserve the purchasing power of the portfolio. As of June 30, 2013, the average real return after spending for respondents was negative for both the trailing five-year (-1.9%) and ten-year (-0.3%) periods (Exhibit 10).

### Risk-Adjusted Returns

Although investors spend much time and effort analyzing the returns of their portfolios, they generally pay less attention to understanding how much risk they have incurred. Measuring risk is important, however, as investors should only take risks for which they are compensated and should recognize whether any incremental return they have earned is simply the result of their having taken more risk. The most common approach to measuring risk 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.

The average Sharpe ratio of respondents over the trailing five-year period (0.32) is identical to that of the 70/30 portfolio containing a global equity benchmark, but lower than the

### A Note on Performance Results

In 2013, 23 of 25 (92%) institutions reported their private investment performance on a current basis, meaning the return represents the period of July 1, 2012, to June 30, 2013 (Exhibit 12). Two institutions reported their private investment performance on a lagged basis. Under this methodology, the private investment portion of the 2013 investment portfolio return represents performance for the period of April 1, 2012, to March 31, 2013.

All of the 30 participating institutions provided performance on a net-of-fees basis, our preferred method of reporting. Twenty-eight of these respondents (93%) deduct only asset- and performance-based management fees (Exhibit 13). Of the remaining two institutions, one also deducts legal expenses, while the other deducts a variety of investment office oversight expenses.

ratio for the 70/30 portfolio with a U.S. equity benchmark (0.52). Over the ten-year period, the average Sharpe ratio of the LTIP is identical to that of the 70/30 global equity benchmark as well (0.50), but slightly lower than the simple 70/30 U.S. equity benchmark portfolio (0.52) (Exhibit 20).

### Policy Portfolio Benchmarks

Of the 28 respondents that provided a policy portfolio benchmark, 25 (89%) use a detailed, asset class-specific benchmark to evaluate the performance of the total portfolio (Exhibit 21). Exhibit 22 summarizes the most frequently used benchmarks in policy portfolios by asset class/strategy. The most commonly cited benchmark used to evaluate the U.S. equity portion of the portfolio was the Russell 3000® Index, followed by the S&P 500 Index. Global ex U.S. equity was most often measured by a blend of the MSCI EAFE and MSCI Emerging Markets indices followed by the MSCI All Country World ex U.S. Index. Some institutions prefer to measure

their long-only equities against a global index instead of benchmarking the domestic and international equities separately. For these institutions, the MSCI All Country World Index is the most frequently used benchmark.

The most frequently used bond benchmark was the Barclays Aggregate Bond Index, though many institutions use unique index combinations to better reflect their underlying bond exposure. This was also the case with the portion of the portfolio invested in inflation-hedging/real assets. While the most common benchmark used is the CPI-U plus a premium (e.g., CPI-U + 5%), the majority of institutions use a unique combination of indices to evaluate their exposure to these assets.

For hedge funds, the most common benchmarks were the HFRI Fund of Funds Composite Index and HFRI Fund of Funds Diversified Index. Private equity and venture capital were most often measured against the Cambridge Associates LLC Private Equity and Venture Capital indices.■



**Exhibit 10**  
**Summary of Investment Portfolio Returns**  
 Years Ended June 30, 2013 • Percent (%)

**Nominal Total Returns**

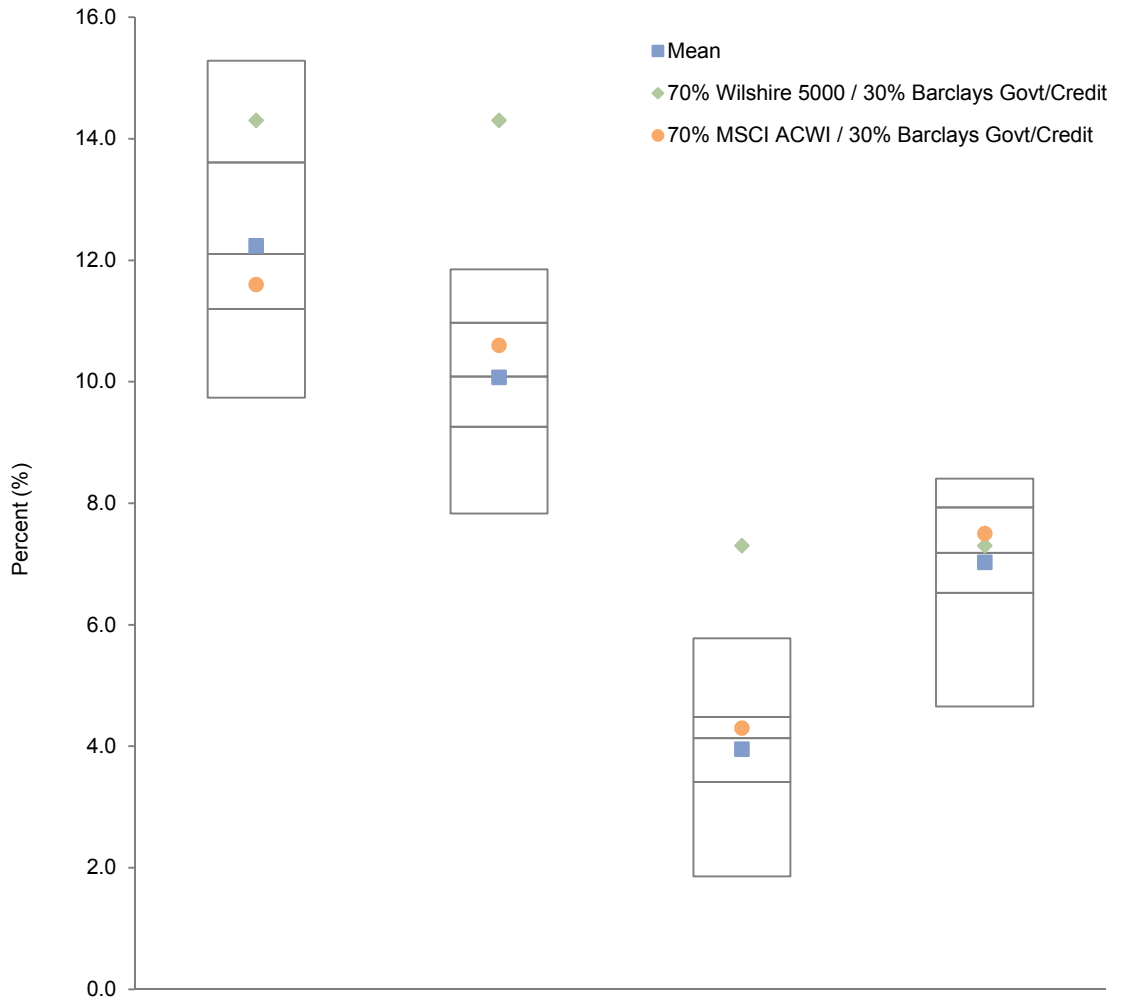
	Average Annual Compound Nominal Return			
	1 Year	3 Years	5 Years	10 Years
<b>Responding Institutions</b>				
High	17.7	12.1	6.0	9.3
Low	9.7	7.6	0.6	3.2
Mean	12.2	10.1	4.0	7.0
Median	12.1	10.1	4.1	7.2
<i>n</i>	30	30	29	28
Mean After Spending	6.9	5.1	-0.6	2.2
<i>n</i>	15	10	9	5
<b>Benchmarks</b>				
70% Wilshire 5000 / 30% Barclays Govt/Credit	14.3	14.3	7.3	7.3
70% MSCI ACWI / 30% Barclays Govt/Credit	11.6	10.6	4.3	7.5
Wilshire 5000	21.1	18.4	7.2	8.0
S&P 500	20.6	18.5	7.0	7.3
MSCI ACWI ex U.S.	14.1	8.5	-0.3	9.1
Barclays Govt/Credit	-0.6	3.9	5.3	4.4
CPI-U	1.8	2.3	1.3	2.4

**Real Total Returns**

	Average Annual Compound Real Return			
	1 Year	3 Years	5 Years	10 Years
<b>Responding Institutions</b>				
High	15.7	9.6	4.6	6.7
Low	7.8	5.2	-0.7	0.7
Mean	10.3	7.6	2.6	4.5
Median	10.2	7.6	2.8	4.6
<i>n</i>	30	30	29	28
Mean After Spending	5.1	2.7	-1.9	-0.3
<i>n</i>	15	10	9	5
<b>Benchmarks</b>				
70% Wilshire 5000 / 30% Barclays Govt/Credit	12.3	11.7	5.9	4.7
70% MSCI ACWI / 30% Barclays Govt/Credit	9.7	8.1	3.0	4.9
Wilshire 5000	19.0	15.8	5.8	5.4
S&P 500	18.5	15.8	5.6	4.8
MSCI ACWI ex U.S.	12.2	6.0	-1.6	6.5
Barclays Govt/Credit	-2.3	1.5	3.9	2.0

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

**Exhibit 11**  
**Investment Portfolio Nominal Return Percentiles**  
 Years Ended June 30, 2013 • Percent (%)

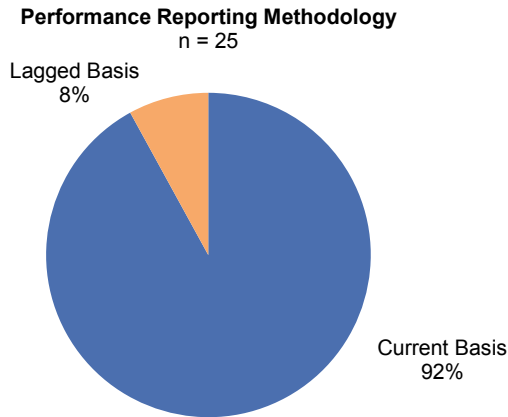


	1 Year	3 Years	5 Years	10 Years
5th Percentile	15.3	11.8	5.8	8.4
25th Percentile	13.6	11.0	4.5	7.9
Median	12.1	10.1	4.1	7.2
75th Percentile	11.2	9.3	3.4	6.5
95th Percentile	9.7	7.8	1.9	4.7
Mean	12.2	10.1	4.0	7.0
<i>n</i>	30	30	29	28
Wilshire 5000/Barclays Govt/Credit <sup>1</sup>	14.3	14.3	7.3	7.3
MSCI ACWI/Barclays Govt/Credit <sup>2</sup>	11.6	10.6	4.3	7.5

Note: Three, five-, and ten-year returns are annualized.  
<sup>1</sup> 70% Wilshire 5000 / 30% Barclays Government/Credit Bond Index.  
<sup>2</sup> 70% MSCI ACWI / 30% Barclays Government/Credit Bond Index.

**Exhibit 12**  
**Performance Reporting Methodologies**

Illustrations of Methods Commonly Used to Account for Performance of Private Investments



**By Asset Size**

	Current Basis	Lagged Basis
Under \$100 Million	100% (n = 4)	0% (n = 0)
\$100 Million to \$300 Million	100% (n = 10)	0% (n = 0)
Over \$300 Million	82% (n = 9)	18% (n = 2)

**Current Basis**

Total investment pool return for fiscal year 2013 includes marketable asset and private investment performance for July 1, 2012, to June 30, 2013.



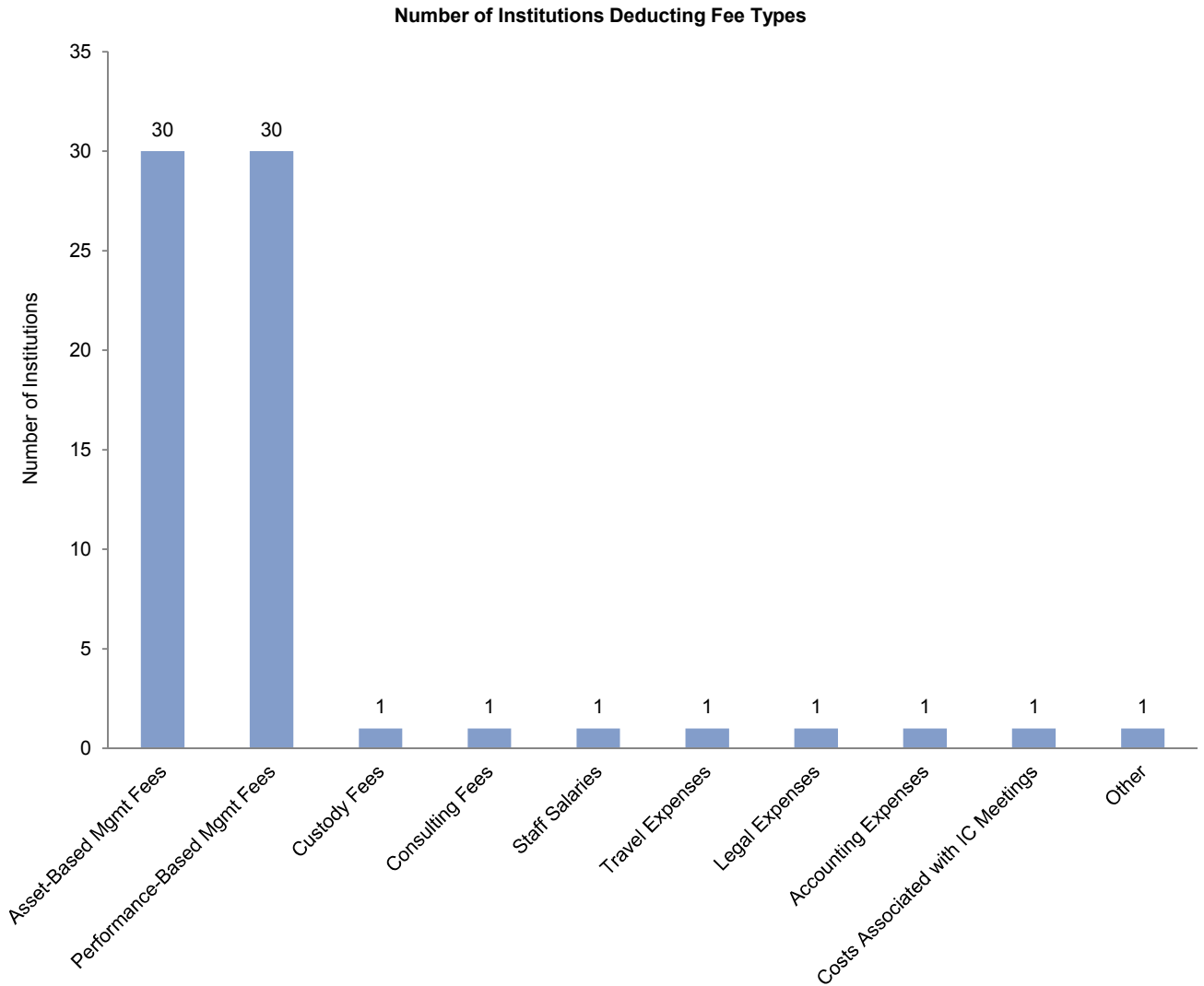
**Lagged Basis**

Total investment pool return for fiscal year 2013 includes marketable asset performance for July 1, 2012, to June 30, 2013, and private investment performance for April 1, 2012, to March 31, 2013.



Notes: Private investments include total allocation to non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, timber, private real estate, and other private investments. Five institutions have no significant private investment allocations (<1% of their total investment portfolios) and are excluded from this exhibit.

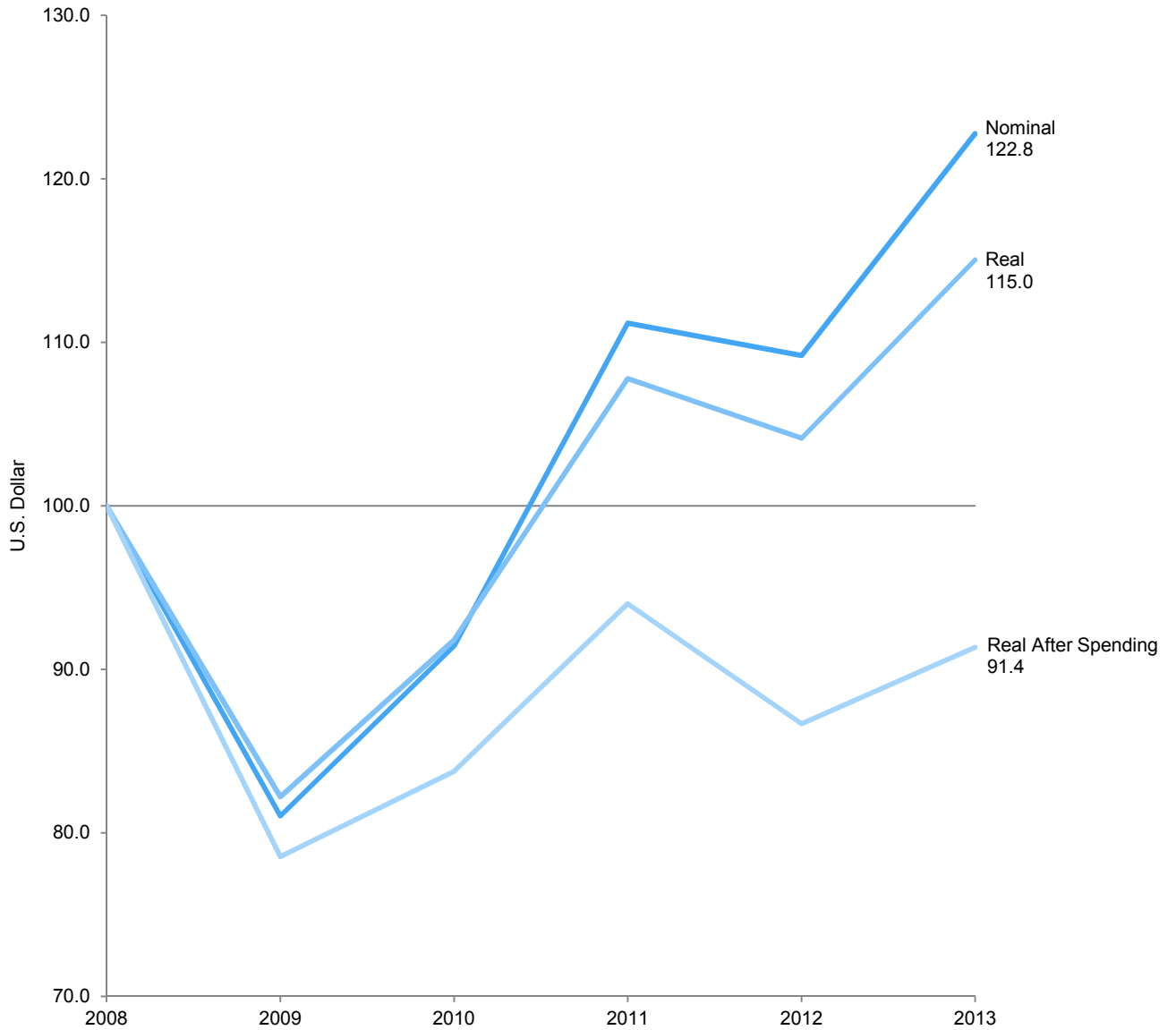
**Exhibit 13**  
**Calculation of Net Returns**  
 Fiscal Year 2013



**Combination of Fees Deducted**

Asset-Based Mgmt Fees	Perf-Based Mgmt Fees	Custody Fees	Consulting Fees	Staff Salaries	Travel Expenses	Legal Expenses	Accounting Expenses	Costs Assoc with IC Meetings	Other	Number of Institutions	%
x	x									28	93.3
x	x					x				1	3.3
x	x	x	x	x	x		x	x	x	1	3.3

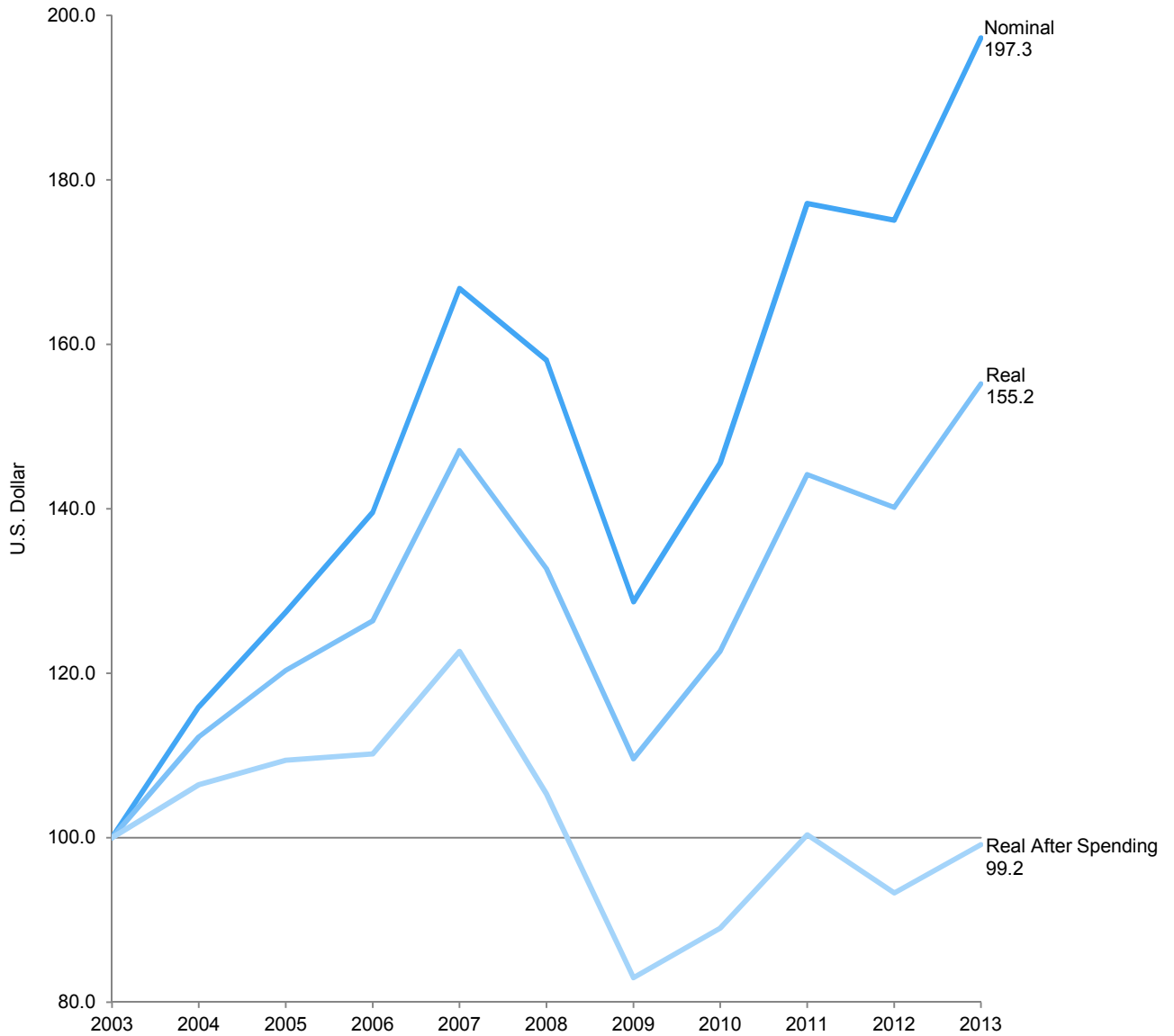
**Exhibit 14**  
**Five-Year Cumulative Dollar Growth After Inflation and Spending**  
 Years Ended June 30 • Base Year 2008 = 100



	Five Years (2009–13)
Mean Nominal AACR	4.2%
Mean Annual Spending Rate	4.8%
Mean Annual Inflation (CPI-U)	1.3%
Mean Real After Spending AACR	-1.9%
<i>n</i>	9

Note: This analysis includes nine institutions that provided returns and spending rates for the past five years.

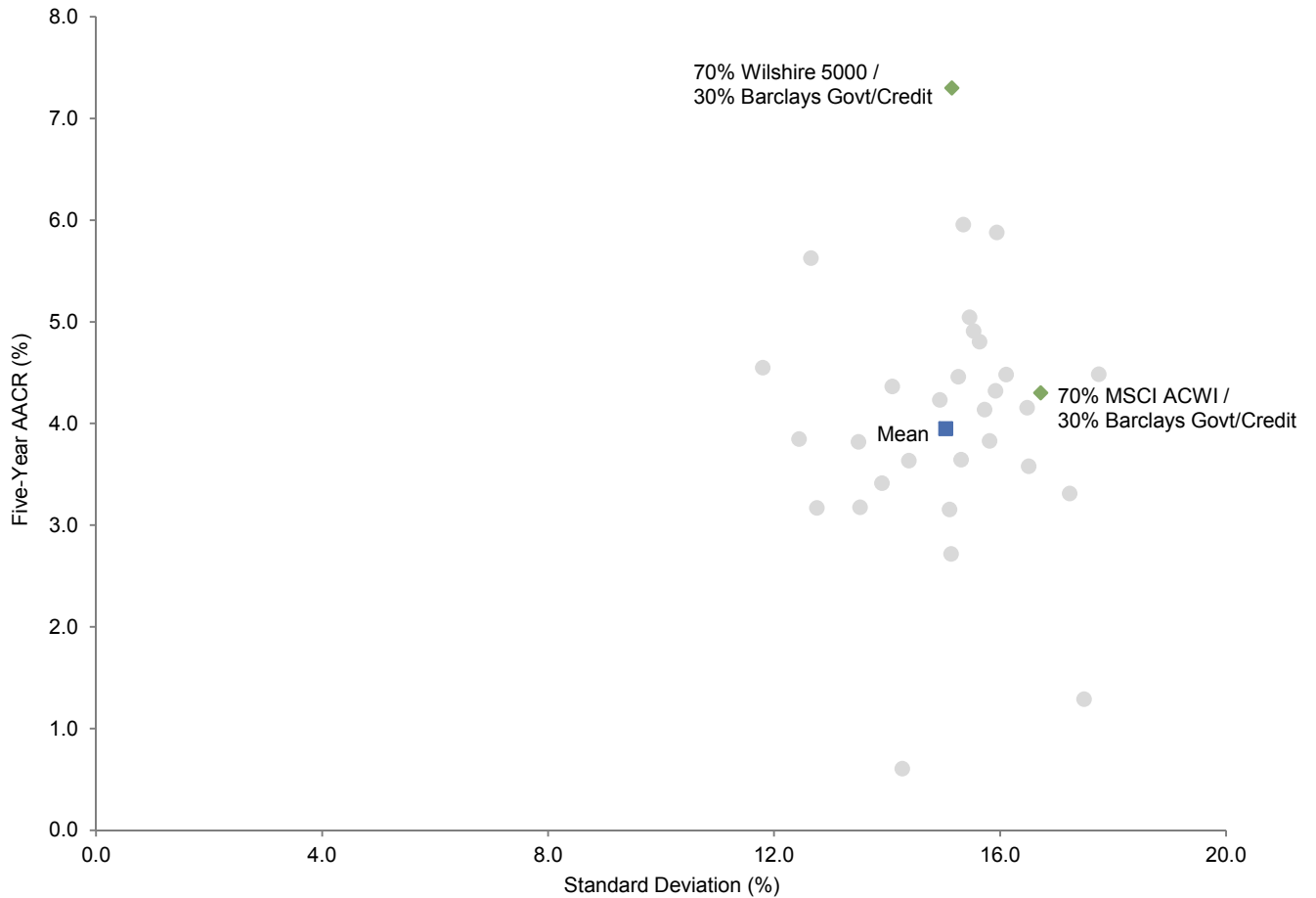
**Exhibit 15**  
**Ten-Year Cumulative Dollar Growth After Inflation and Spending**  
 Years Ended June 30 • Base Year 2003 = 100



	Ten Years (2004–13)
Mean Nominal AACR	7.0%
Mean Annual Spending Rate	4.8%
Mean Annual Inflation (CPI-U)	2.4%
Mean Real After Spending AACR	-0.3%
<i>n</i>	5

Note: This analysis includes five institutions that provided returns and spending rates for the past ten years.

**Exhibit 16**  
**Nominal Total Return Versus Standard Deviation by Institution**  
 Five Years Ended June 30, 2013



	Five-Year AACR (%)	Standard Deviation (%)	Sharpe Ratio
Mean	4.0	15.0	0.32
Median	4.1	15.3	0.32
<i>n</i> = 29			
70% Wilshire 5000 / 30% Barclays Govt/Credit	7.3	15.1	0.52
70% MSCI ACWI / 30% Barclays Govt/Credit	4.3	16.7	0.32

Notes: This exhibit includes only those institutions that have provided trailing quarterly returns. AACR is the average annual compound return, calculated as a geometric average. Annualized standard deviations are based on quarterly returns. Sharpe Ratio = (Composite Performance - Risk-Free Rate) ÷ Annualized Standard Deviation. The risk-free assets are 91-day Treasury bills.

**Exhibit 17****Total Return by Institution**

12 Months Ended June 30, 2013 • Percent (%)

Code	Private Investment Allocation	Nominal	Real	Nominal After Spending	Real After Spending
<i>Current Basis with Confirmed Valuations</i>					
2	13.9	15.1	13.1	9.1	7.2
4	9.1	12.4	10.5	7.5	5.6
5	20.7	11.3	9.4	—	—
6	3.2	9.7	7.8	4.5	2.7
7	5.2	12.3	10.4	4.3	2.5
8	8.9	17.7	15.7	—	—
12	1.3	9.7	7.8	9.7	7.8
13	4.9	11.5	9.5	5.5	3.7
14	17.0	12.9	11.0	7.2	5.4
15	4.6	9.8	7.9	—	—
16	8.4	11.3	9.3	—	—
17	9.7	9.8	7.9	—	—
18	24.1	10.3	8.4	3.7	1.9
19	1.6	9.8	7.9	4.7	2.9
21	3.6	12.6	10.7	7.2	5.3
23	11.9	11.8	9.9	—	—
24	16.3	13.8	11.9	—	—
25	15.9	11.7	9.7	5.5	3.7
26	10.5	12.6	10.6	—	—
27	1.6	13.6	11.6	8.6	6.8
28	10.6	15.4	13.4	9.7	7.8
29	27.2	14.2	12.2	—	—
30	16.6	13.6	11.7	—	—

## All Institutions

High	38.5	17.7	15.7	11.9	10.0
Low	0.0	9.7	7.8	3.7	1.9
Mean	10.3	12.2	10.3	6.9	5.1
Median	9.0	12.1	10.2	7.2	5.3
<i>n</i>	30	30	30	15	15

Notes: Please see Exhibit 12, Performance Reporting Methodologies, for more information on these reporting methodologies. Private investment allocation includes total allocation to non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, timber, private real estate, and other private investments. Real returns are adjusted for inflation as measured by the Consumer Price Index. After-spending returns use the effective spending rates in the calculation. Effective spending rates are fiscal year 2013 spending as a percentage of beginning (July 1, 2012) market value.



**Exhibit 17 (continued)****Total Return by Institution**

12 Months Ended June 30, 2013 • Percent (%)

Code	Private Investment Allocation	Nominal	Real	Nominal After Spending	Real After Spending
<i>Lagged Basis</i>					
1	25.0	9.8	7.9	4.7	2.9
20	38.5	13.7	11.7	—	—
<i>Private Investment Allocation Less Than 1.0%</i>					
3	0.0	13.9	11.9	—	—
9	0.0	12.4	10.5	11.9	10.0
10	0.0	11.2	9.3	—	—
11	0.0	11.9	10.0	—	—
22	0.0	11.4	9.5	—	—
<i>All Institutions</i>					
High	38.5	17.7	15.7	11.9	10.0
Low	0.0	9.7	7.8	3.7	1.9
Mean	10.3	12.2	10.3	6.9	5.1
Median	9.0	12.1	10.2	7.2	5.3
<i>n</i>	30	30	30	15	15

Notes: Please see Exhibit 12, Performance Reporting Methodologies, for more information on these reporting methodologies. Private investment allocation includes total allocation to non-venture private equity, venture capital, distressed securities (private equity structure), private oil & gas/natural resources, timber, private real estate, and other private investments. Real returns are adjusted for inflation as measured by the Consumer Price Index. After-spending returns use the effective spending rates in the calculation. Effective spending rates are fiscal year 2013 spending as a percentage of beginning (July 1, 2012) market value.

**Exhibit 18****Nominal and Real Total Return by Institution**

Average Annual Compound Returns for Periods Ended June 30, 2013 • Percent (%)

Code	1 Year		3 Years		5 Years		10 Years	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
1	9.8	7.9	12.1	9.6	4.2	2.9	6.9	4.4
2	15.1	13.1	10.9	8.4	4.5	3.1	7.4	4.9
3	13.9	11.9	10.5	8.0	6.0	4.6	8.0	5.4
4	12.4	10.5	10.3	7.8	4.1	2.8	7.2	4.7
5	11.3	9.4	11.9	9.3	3.4	2.1	—	—
6	9.7	7.8	8.1	5.6	0.6	-0.7	3.2	0.7
7	12.3	10.4	9.2	6.7	4.4	3.0	6.5	4.0
8	17.7	15.7	11.8	9.3	5.9	4.5	7.5	5.0
9	12.4	10.5	11.6	9.0	4.5	3.1	6.5	3.9
10	11.2	9.3	10.2	7.7	3.3	2.0	5.2	2.7
11	11.9	10.0	9.7	7.3	3.6	2.2	6.7	4.1
12	9.7	7.8	7.6	5.2	—	—	—	—
13	11.5	9.5	9.4	6.9	2.7	1.4	6.9	4.4
14	12.9	11.0	10.5	8.0	4.2	2.8	6.9	4.4
15	9.8	7.9	9.0	6.5	1.3	-0.0	4.4	1.9
16	11.3	9.3	9.7	7.2	3.8	2.5	7.9	5.4
17	9.8	7.9	7.6	5.2	3.2	1.8	6.9	4.4
18	10.3	8.4	9.2	6.7	3.8	2.5	6.5	4.0
19	9.8	7.9	8.7	6.3	3.1	1.8	6.1	3.6
20	13.7	11.7	11.5	9.0	4.6	3.2	8.2	5.6
21	12.6	10.7	10.4	7.9	4.3	3.0	8.3	5.7
22	11.4	9.5	9.7	7.3	3.6	2.3	5.3	2.8
23	11.8	9.9	10.1	7.6	4.9	3.6	8.3	5.7
24	13.8	11.9	9.4	6.9	3.2	1.8	8.3	5.7
25	11.7	9.7	9.2	6.7	3.8	2.5	7.1	4.6
26	12.6	10.6	11.0	8.5	4.8	3.4	7.6	5.0
27	13.6	11.6	9.6	7.1	5.0	3.7	7.7	5.2
28	15.4	13.4	11.2	8.6	3.6	2.3	7.5	4.9
29	14.2	12.2	11.8	9.2	5.6	4.3	9.3	6.7
30	13.6	11.7	10.1	7.6	4.5	3.1	8.5	5.9

Mean	12.2	10.3	10.1	7.6	4.0	2.6	7.0	4.5
Median	12.1	10.2	10.1	7.6	4.1	2.8	7.2	4.6
<i>n</i>	30	30	30	30	29	29	28	28

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

**Exhibit 19****Nominal and Real Total Return After Spending by Institution**

Average Annual Compound Returns for Periods Ended June 30, 2013 • Percent (%)

Code	1 Year		3 Years		5 Years		10 Years	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
1	4.7	2.9	6.6	4.2	-1.2	-2.5	1.5	-0.9
2	9.1	7.2	5.3	2.9	-0.9	-2.2	2.2	-0.2
3	—	—	—	—	—	—	—	—
4	7.5	5.6	—	—	—	—	—	—
5	—	—	—	—	—	—	—	—
6	4.5	2.7	—	—	—	—	—	—
7	4.3	2.5	1.3	-1.0	-2.7	-4.0	-1.2	-3.6
8	—	—	—	—	—	—	—	—
9	11.9	10.0	10.4	7.9	3.4	2.0	5.1	2.6
10	—	—	—	—	—	—	—	—
11	—	—	—	—	—	—	—	—
12	9.7	7.8	—	—	—	—	—	—
13	5.5	3.7	3.5	1.2	-2.7	-3.9	—	—
14	7.2	5.4	6.4	4.0	0.4	-0.9	—	—
15	—	—	—	—	—	—	—	—
16	—	—	—	—	—	—	—	—
17	—	—	—	—	—	—	—	—
18	3.7	1.9	—	—	—	—	—	—
19	4.7	2.9	3.9	1.5	—	—	—	—
20	—	—	—	—	—	—	—	—
21	7.2	5.3	5.2	2.8	-0.6	-1.8	—	—
22	—	—	—	—	—	—	—	—
23	—	—	—	—	—	—	—	—
24	—	—	—	—	—	—	—	—
25	5.5	3.7	3.6	1.2	-1.4	-2.7	—	—
26	—	—	—	—	—	—	—	—
27	8.6	6.8	5.0	2.6	0.6	-0.7	3.2	0.7
28	9.7	7.8	—	—	—	—	—	—
29	—	—	—	—	—	—	—	—
30	—	—	—	—	—	—	—	—

Mean	6.9	5.1	5.1	2.7	-0.6	-1.9	2.2	-0.3
Median	7.2	5.3	5.1	2.7	-0.9	-2.2	2.2	-0.2
<i>n</i>	15	15	10	10	9	9	5	5

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

**Exhibit 20****Nominal Total Return, Standard Deviation, and Sharpe Ratio by Institution**

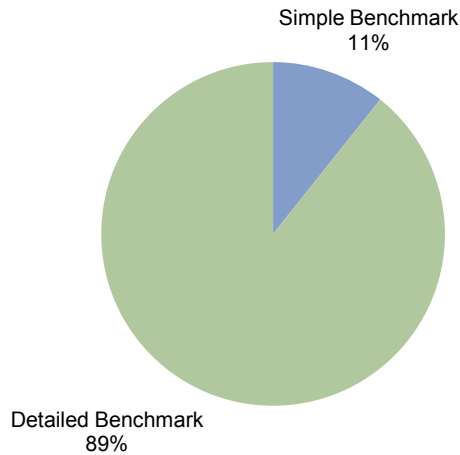
Years Ended June 30, 2013

Code	5 Years (n=29)			10 Years (n=27)		
	AACR (%)	Standard Dev (%)	Sharpe Ratio	AACR (%)	Standard Dev (%)	Sharpe Ratio
1	4.2	14.9	0.33	6.9	11.7	0.49
2	4.5	16.1	0.33	7.4	12.7	0.50
3	6.0	15.3	0.43	8.0	11.9	0.56
4	4.1	15.7	0.32	7.2	12.0	0.50
5	3.4	13.9	0.29	—	—	—
6	0.6	14.3	0.09	3.2	11.0	0.19
7	4.4	14.1	0.35	6.5	10.7	0.49
8	5.9	15.9	0.42	7.5	12.1	0.52
9	4.5	17.8	0.32	6.5	13.6	0.41
10	3.3	17.2	0.26	5.2	13.1	0.33
11	3.6	16.5	0.28	6.7	12.8	0.44
12	—	—	—	—	—	—
13	2.7	15.1	0.23	6.9	11.6	0.49
14	4.2	16.5	0.31	6.9	13.1	0.45
15	1.3	17.5	0.14	4.4	13.2	0.26
16	3.8	15.8	0.30	7.9	12.5	0.54
17	3.2	12.8	0.28	6.9	10.4	0.54
18	3.8	13.5	0.32	—	—	—
19	3.1	15.1	0.26	6.1	11.7	0.42
20	4.6	11.8	0.41	8.2	9.5	0.70
21	4.3	15.9	0.33	8.3	12.2	0.58
22	3.6	14.4	0.30	5.3	11.1	0.37
23	4.9	15.5	0.37	8.3	12.0	0.59
24	3.2	13.5	0.28	8.3	10.7	0.65
25	3.8	12.4	0.34	7.1	10.0	0.58
26	4.8	15.6	0.36	7.6	11.9	0.53
27	5.0	15.5	0.38	7.7	11.6	0.56
28	3.6	15.3	0.29	7.5	11.9	0.53
29	5.6	12.7	0.47	9.3	10.2	0.76
30	4.5	15.3	0.34	8.5	11.6	0.62
Mean	4.0	15.0	0.32	7.0	11.7	0.50
Median	4.1	15.3	0.32	7.2	11.9	0.52
70% Wilshire 5000 / 30% Barclays Govt/Credit	7.3	15.1	0.52	7.3	11.6	0.52
70% MSCI ACWI / 30% Barclays Govt/Credit	4.3	16.7	0.32	7.5	12.8	0.50

Note: This exhibit includes only those institutions that have provided trailing quarterly returns for each time period. AACR is the average annual compound return, calculated as a geometric average. Annualized standard deviations are based on quarterly returns. Sharpe Ratio = (Composite Performance - Risk-Free Rate) ÷ Annualized Standard Deviation. The risk-free assets are 91-day Treasury bills.

**Exhibit 21**  
**Policy Portfolio Benchmarking**  
 As of June 30, 2013

**Proportion of Institutions Using Simple Policy Portfolio Benchmarks Versus Detailed Benchmarks**  
 (n = 28)



**Breakdown by Investment Pool Size**

	Simple Benchmark	Detailed Benchmark
Under \$100 Million	11% (n = 1)	89% (n = 8)
\$100 Million to \$300 Million	10% (n = 1)	90% (n = 9)
Over \$300 Million	11% (n = 1)	89% (n = 8)

**Description of Policy Portfolio Benchmark Types**

**Simple Benchmark:** The use of broad market indices to benchmark the performance of the total portfolio. Typically, an equity/fixed income blend is used (e.g., 80% MSCI ACWI / 20% Barclays Aggregate Bond Index), with the equity weighting used as a rough approximation of the portfolio's allocation to equities and equity-like investments.

**Detailed Benchmark:** The use of asset class-specific benchmarks, with weights typically reflective of policy portfolio targets, to benchmark the performance of the total portfolio.

**Exhibit 22**  
**Frequently Used Components of Detailed Policy Portfolio Benchmarks**  
As of June 30, 2013

Asset Class/ Strategy	Benchmark Description	Number of Institutions
Global Equity <i>n</i> = 5	MSCI All Country World Index	3
	Combination: MSCI World and MSCI Emerging Markets indices	2
U.S. Equity <i>n</i> = 18	Russell 3000® Index	12
	S&P 500 Index	3
	Wilshire 5000 Index	3
Global ex U.S. Equity <i>n</i> = 19	Combination: MSCI EAFE and MSCI Emerging Markets indices	13
	MSCI All Country World ex U.S. Index	3
	Combination: MSCI ACWI ex U.S. and MSCI Emerging Markets indices	1
	Combination: MSCI ACWI ex U.S. Unhedged and FTSE® Emerging Markets Transition indices	1
	Combination: MSCI EAFE and S&P Emerging Frontier Super Composite BMI indices	1
Bonds <i>n</i> = 25	Barclays Aggregate Bond Index	10
	Barclays Government/Credit Bond Index	2
	Barclays Government Bond Index	1
	Barclays Intermediate-Term U.S. Government/Credit Bond Index	1
	Barclays Long-Term Government/Credit Bond Index	1
	Barclays Long-Term Treasury Bond Index	1
	Barclays U.S. Treasury Bond Index	1
	Combination: Barclays Aggregate and Citigroup WGBI indices	1
	Combination: Barclays Aggregate and Barclays 5-10 Year Treasury indices	1
	Combination: Barclays Aggregate and Barclays Mortgage-Backed Securities indices	1
	Combination: Barclays Intermediate-Term Treasury and J.P. Morgan EMBI+ indices	1
	Combination: Barclays 5-10 Year Treasury, Barclays Government/Credit, and Barclays Global Aggregate indices	1
	Combination: Barclays Aggregate, Barclays Interim Treasury, and Citigroup Non-U.S. Dollar WGBI indices	1
	Combination: Barclays Long-Term Treasury Bond, Barclays 1-3 Year Treasury, and Barclays 3-10 Year Treasury indices	1
	Combination: BofA Merrill Lynch Treasury Master and Citigroup Non-U.S. Dollar WGBI indices	1
Hedge Funds <i>n</i> = 23	HFRI Fund of Funds Composite Index	9
	HFRI Fund of Funds Diversified Index	8
	HFRI Fund of Funds Conservative Index	2
	HFRI Fund Weighted Composite Index	1
	BofA Merrill Lynch T-Bills + 5%	1
	Combination: MSCI World Index and 91-Day T-Bills	1
	Combination: S&P 500 Index and BofA Merrill Lynch 91-Day T-Bills + 5%	1

**Exhibit 22 (continued)**  
**Frequently Used Components of Detailed Policy Portfolio Benchmarks**  
As of June 30, 2013

Asset Class/ Strategy	Benchmark Description	Number of Institutions
Private Investments <i>n</i> = 12	Cambridge Associates LLC Private Equity® and/or Venture Capital® indices	4
	MSCI World Index	2
	Russell 3000® Index + 3%	1
	Russell 3000® Index (with 0% for current quarter)	1
	Russell 2000® Index	1
	S&P 500 Index + 5% (with 0% for current quarter)	1
	S&P 500 Index + 2%	1
	Combination: MSCI World and Russell 3000® indices	1
Inflation-Hedging/ Real Assets <i>n</i> = 25	Consumer Price Index (CPI-U) + 5%	4
	Combination: DJ-UBS Commodity Total Return and Barclays U.S. TIPS indices	2
	Combination: DJ-UBS Commodity Total Return and MSCI World Natural Resources indices	2
	Combination: DJ-UBS Commodity Total Return, MSCI World Natural Resources, and Barclays U.S. TIPS indices	2
	Wellington Diversified Inflation Hedges Benchmark	1
	Wellington Strategic Real Assets Benchmark	1
	Combination: Cambridge Associates Private Real Estate and Private Natural Resources indices and Wellington Strategic Real Assets Benchmark	1
	Combination: FTSE® EPRA/NAREIT Developed Real Estate and S&P 500 Energy indices	1
	Combination: FTSE® EPRA/NAREIT Developed Real Estate Index and Wellington Diversified Inflation Hedges Benchmark	1
	Combination: MSCI U.S. REIT and S&P NA Natural Resources indices	1
	Combination: MSCI U.S. REIT Index and Wellington Diversified Inflation Hedges Benchmark	1
	Combination: S&P NA Natural Resources and Lipper Global Natural Resources indices	1
	Combination: Barclays U.S. TIPS, MSCI All Country World Energy, and MSCI U.S. REIT indices	1
	Combination: Barclays U.S. TIPS, MSCI World Natural Resources, and S&P GSCI™ Equal Weight Select indices	1
	Combination: FTSE® NAREIT Index, S&P NA Natural Resources Index, and Wellington Diversified Inflation Hedges Benchmark	1
	Combination: NCREIF Property Index, FTSE® NAREIT Index, and Wellington Diversified Inflation Hedges Benchmark	1
	Combination: DJ-UBS Select REIT, S&P Global Large/Mid Cap Commodity and Res, DJ-UBS Commodity Total Return, and Barclays U.S. TIPS indices, and Wellington Diversified Inflation Hedges Benchmark	1
	Combination: DJ-UBS Commodity Total Return, MSCI World Natural Resources, FTSE®/EPRA NAREIT Developed Real Estate, Cambridge Associates Private Real Estate and Private Natural Resources indices	1
	Combination: MSCI World Energy, MSCI World Metals & Mining, DJ-UBS Commodity Total Return, and Barclays U.S. TIPS indices, and Custom Private Real Assets Benchmark	1

**Exhibit 23**  
**Frequently Used Components of Simple Policy Portfolio Benchmarks**  
As of June 30, 2013

Strategy	Benchmark Description	Number of Institutions
Simple Benchmark <i>n</i> = 3	Combination: MSCI World and Barclays Aggregate Bond indices	1
	Combination: Russell 3000® and Barclays Aggregate Bond indices	1
	Combination: MSCI ACWI and CPI-U + 5% indices	1



**Exhibit 24**  
**Calculation of Net Returns by Institution**  
 As of June 30, 2013

Code	Asset-Based Mgmt Fees	Performance-Based Mgmt Fees	Custody Fees	Consulting Fees	Staff Salaries	Travel Expenses	Legal Expenses	Accounting Expenses	Costs Associated with IC Meetings	Other
1	x	x	x	x	x	x		x	x	x
2	x	x								
3	x	x								
4	x	x								
5	x	x								
6	x	x								
7	x	x								
8	x	x								
9	x	x								
10	x	x								
11	x	x								
12	x	x								
13	x	x								
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21	x	x								
22	x	x								
23	x	x								
24	x	x								
25	x	x								
26	x	x								
27	x	x								
28	x	x								
29	x	x								
30	x	x								

### Additions

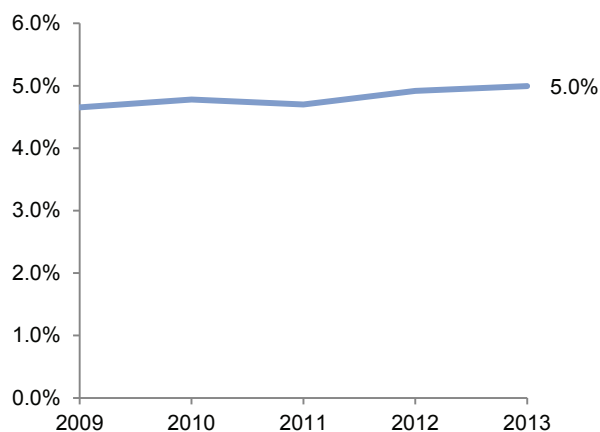
In fiscal year 2013, institutions in this study reported an average gift flow rate of 2.4%. After accounting for other types of inflows, total additions to the long-term investment portfolio (LTIP) averaged 2.5% for the fiscal year (Exhibit 25).

An institution's gift flow rate is a relative number and should not be confused with the absolute dollar value of the gifts it receives. For the six institutions that provided data for both years, gift dollars for fiscal year 2013 increased over the previous year's level for half of respondents.

### Withdrawals

For all respondents, total withdrawals as a percentage of the beginning market value of the LTIP averaged 5.1% for fiscal year 2013 (Exhibit 25). When looking at a constant universe of institutions that provided data from 2009 to 2013, as the chart below shows, the average effective spending rate was 8 basis points higher than fiscal year 2012, and 30 basis points higher than the rates reported in 2009.

**Mean Annual Effective Spending Rate**  
2009–13



Notes: Data represents the average of nine museums and libraries that provided effective spending rates for each year from 2009 to 2013.

The majority of withdrawals consisted of distributions under the endowment spending policy, which averaged 4.6% for institutions. Beyond the endowment spending rule distributions, some institutions reported additional appropriations to cover administrative costs, provide supplemental support of the institution's operating budget, and to service outstanding debt. These appropriations averaged 0.5% in fiscal year 2013.

### Spending Policies

The majority (71%) of responding institutions use a market value–based policy, which dictates spending a percentage of a moving average of endowment market values (Exhibit 26). All but one institution (92%) citing this rule type use a prespecified target rate. The remaining institution allows some discretion by setting a prespecified percentage range within which the target spending rate may fall. For the purposes of analyzing target spending rates, the midpoint is used for the institution that specified a discretionary range.

A target spending rate of 5% was used by 50% (6 of 12) of institutions with a market value–based policy. Only one institution uses a target rate below 5% while the remaining institutions use a rate above 5% (Exhibit 27).

While 11 of 12 (92%) institutions use a smoothing period of three years to determine the average market value used in the spending calculation, the time interval (i.e., monthly, quarterly, or annual market values) varies. The most common unit of time measurement is 12 quarters (43% of those with a market value–based policy) (Exhibit 27).

Constant growth spending policies increase the prior year's spending amount by a measure of inflation and/or a prespecified percentage. Two respondents (12%) have a constant growth

spending policy (Exhibit 26). For the two institutions using this rule type, one increases annual spending by a prespecified percentage while the other uses the CPI-U plus a prespecified percentage as a growth rate (Exhibit 28).

Hybrid spending policies are used by three (18%) of institutions (Exhibit 26). This policy type blends the predictable spending element of a constant growth policy with the asset preservation principle of a market value–based policy and allows an institution to set the appropriate mix that best meets its needs. Hybrid spending policies essentially have the effect of spending a prespecified percentage of an exponentially weighted average market value. The rule is expressed as a weighted average of a constant growth rule and a percentage-of-market-value (or average market value over a period of time) rule, with the greater weighting usually applied to the constant growth component. Inputs to the calculation of both the constant growth and market value–based components are shown in Exhibit 28.

### **LTIP Support of Operations**

For the 13 institutions that provided data, support from the LTIP as a percentage of the total operating expenses averaged 46.8% in fiscal year 2013 (Exhibit 29). While some institutions' reliance on LTIP support is low, for others it is the largest single source of revenue. ■

**Exhibit 25**  
**Additions to and Withdrawals from the Long-Term Investment Portfolio**  
 Fiscal Year 2013

**Additions (n=10)**

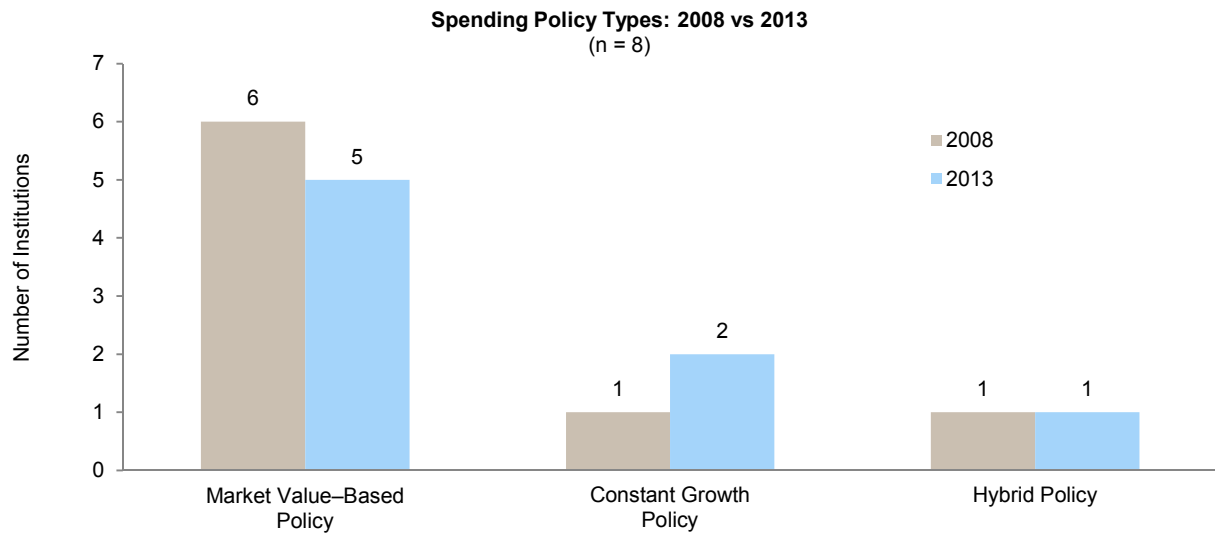
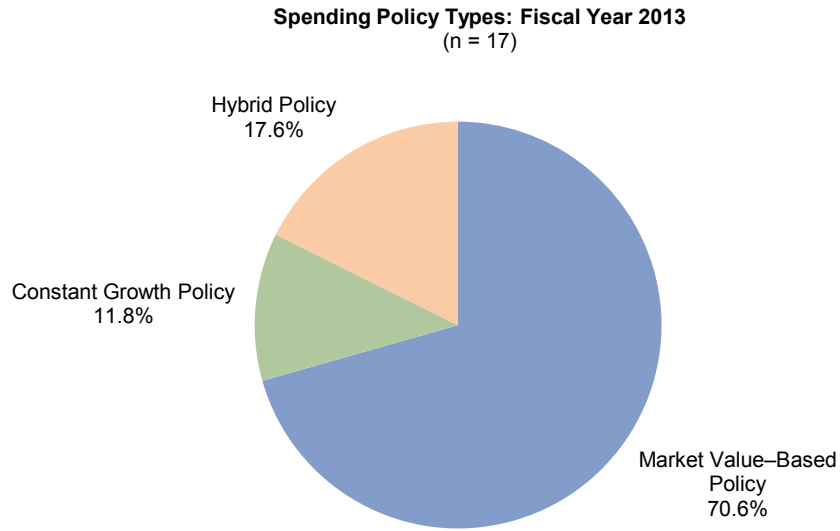
Responding Institutions	Endowment Gifts			Other Additions	Total Additions
	Restricted	Unrestricted	Total Gifts		
Mean	2.1	0.3	2.4	0.1	2.5
5th Percentile	8.4	1.0	9.1	0.6	9.3
25th Percentile	1.8	0.4	2.0	0.1	2.6
Median	0.6	0.1	0.9	0.0	0.9
75th Percentile	0.4	0.0	0.4	0.0	0.4
95th Percentile	0.1	0.0	0.3	0.0	0.3

**Withdrawals (n=13)**

Responding Institutions	Endowment Spending Policy Distribution	Withdrawals Not Included in Endowment Spending Distribution		Total Withdrawals
		Recurring Annual Appropriations	Special / One-Time Appropriations	
Mean	4.6	0.1	0.4	5.1
5th Percentile	5.8	0.3	1.8	6.9
25th Percentile	5.2	0.2	0.5	5.6
Median	5.0	0.0	0.0	5.0
75th Percentile	4.5	0.0	0.0	5.0
95th Percentile	2.2	0.0	0.0	2.9

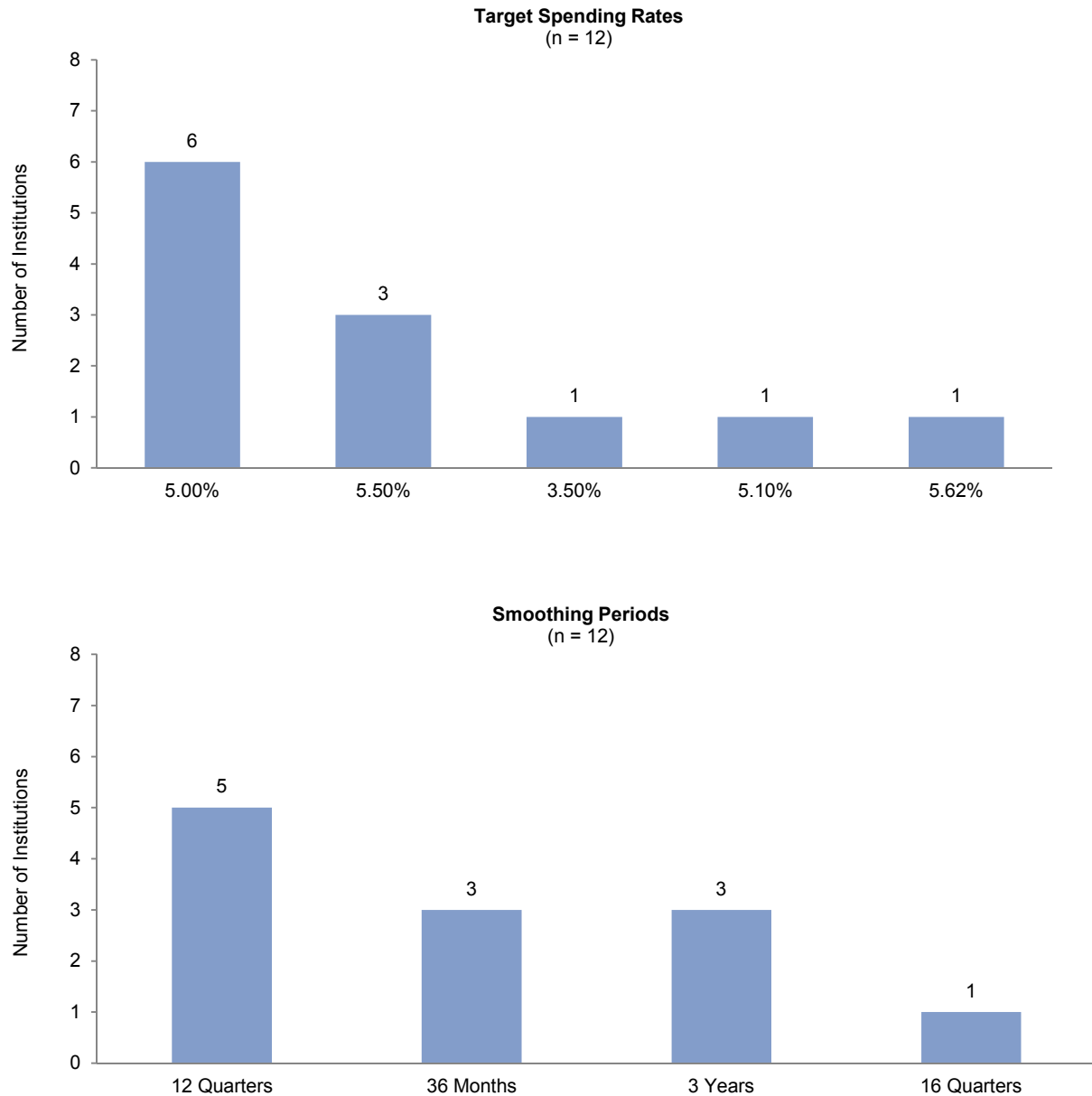
Notes: Figures are calculated as a percentage of the market value of the long-term investment portfolio as of June 30, 2012. Investment manager fees are not included in the withdrawals section.

**Exhibit 26**  
**Spending Policy Types**  
 Fiscal Year 2013



Notes: Pie chart represents the 17 institutions that provided a spending policy in 2013. Bar graph represents the eight institutions who provided a spending policy in both 2008 and 2013. Market value-based spending policies base spending on a prespecified percentage of a moving average of market values. Constant growth policies increase prior year's spending by a prespecified percentage. Hybrid policies are those that incorporate a weighted average of a constant growth rule and a percentage of market value rule.

**Exhibit 27**  
**Target Spending Rates and Smoothing Periods for Market Value–Based Spending Policies**  
 Fiscal Year 2013



Notes: Market value–based spending policies base spending on a prespecified percentage of a moving average of market values. The graphs reflect data for the 12 institutions that provided detailed data on their target spending rate and unit of time measurement used in their spending calculation. If a range was provided, the target spending rate was calculated using the midpoint of the range.

**Exhibit 28**  
**Characteristics of Constant Growth and Hybrid Spending Policies**  
 Fiscal Year 2013

**Constant Growth Spending Policies**

Institution	Growth Measure	Collars, Caps & Floors
A	3.0%	4.5%–5.5% of 3-year average market value
B	CPI-U + 1.0%	3.0%–6.0% of 12/31 market value of previous calendar year

**Hybrid Spending Policies**

Institution	Weighting	Constant Growth Component	Market Value–Based Component	Collars, Caps & Floors
D	60%: Constant Growth 40%: Market Value–Based	CPI-U	4.75% of 12/31 MV	—
E	80%: Constant Growth 20%: Market Value–Based	CPI-U	4.5% of prior year MV	3.0%–6.0% of prior year-end MV
F	75%: Constant Growth 25%: Market Value–Based	CPI-U	5.0% of 12/31 MV	4.0%–6.0% of 12/31 MV

Notes: Constant growth policies increase prior year's spending by a prespecified percentage. Hybrid policies essentially have the effect of spending a prespecified percentage of an exponentially weighted average market value (MV). The rule is expressed as a weighted average of a constant growth policy and a percentage of market value policy. Data for this exhibit are provided on a blind-coded basis.

**Exhibit 29**  
**Long-Term Investment Portfolio (LTIP) Support of Operations**  
 Fiscal Year 2013

Institution	LTIP Support of Operating Budget (%)
A	88.5
B	84.0
C	79.9
D	72.7
E	50.2
F	49.2
G	48.7
H	37.2
I	26.4
J	20.8
K	19.1
L	16.1
M	15.5

Mean	46.8
Median	48.7
<i>n</i>	13

Notes: LTIP support of operations is the proportion of the operating budget that is funded from LTIP payout. Data for this exhibit are provided on a blind-coded basis.



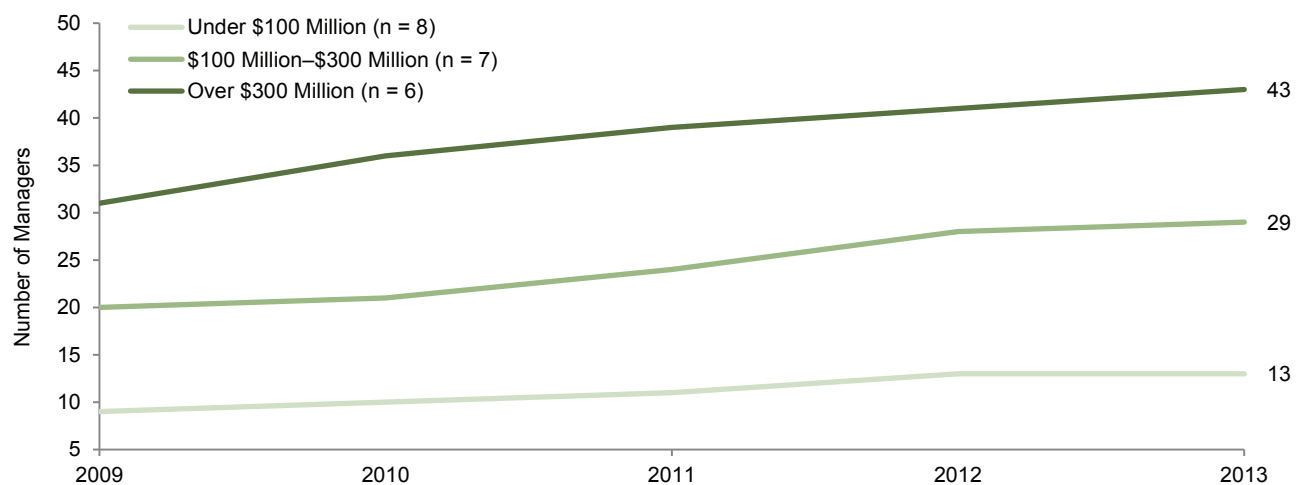
It is impossible to make generalizations about the appropriate number of external managers and investment vehicles an institution should employ for each asset class without evaluating the specific objectives of the institution, the assets they have dedicated to each asset class, the resources they have available to monitor their investments, and the mandates of the individual managers hired. Nonetheless, it is instructive to observe the number of investment vehicles employed by institutions in aggregate and by investment pool asset size.

On average, museums and libraries in this report have 30 external investment managers and 40 external investment vehicles (Exhibits 30 and 31). Excluding outliers making up the top and bottom 5% of institutions, the range of managers employed varied from 8 to 53 and the range of vehicles employed varied from 11 to 79. Institutions with assets over \$300 million employed an average of 45 external investment managers (ranging from 23 to 65, excluding outliers) and an average of 61 investment vehicles (ranging from 37 to 83, excluding

outliers). Institutions with assets under \$100 million employed an average of 15 external investment managers (ranging from 5 to 25, excluding outliers) and an average of 21 investment vehicles (ranging from 10 to 41 excluding outliers). As the chart below shows, the total number of managers employed has steadily increased over the last five years.

For some asset classes, such as U.S. equities, global ex U.S. equities, and bonds, most managers tend to take measured bets away from asset class benchmarks, maintaining a highly diversified portfolio. There are notable exceptions to this generalization, as some equity managers hold concentrated portfolios with a limited number of holdings or holdings in a limited number of economic sectors or geographical regions. Portfolios with concentrated managers would require a greater number of managers to achieve a higher degree of diversification than would portfolios that include more diversified managers or index funds. Institutions often employ a strategy of hiring a combination of diversified

#### Trend in the Total Number of External Managers 2009–13



Note: Analysis displays the total number of external managers for a constant universe of institutions that provided data from 2009 to 2013.

and concentrated managers in a core/satellite manager structure, such that the core exposure to equities or bonds is achieved through hiring an index fund manager or a manager that closely tracks the asset class benchmark, and diversification is achieved through a variety of concentrated managers that take significant bets away from the index.<sup>1</sup> Some institutions use internal investment staff to implement all or a portion of their traditional equity and bond allocation through their own trading of assets, derivatives, or both.

Of the institutions that provided data on their portfolio implementation, only 45% (13 of 29) used active managers for all of their U.S. equity allocation. The proportion was higher for global ex U.S. equity allocations, where developed markets and emerging markets allocations were achieved solely through active managers for 83% and 75% of respondents. For bonds, a majority of respondents used active managers only for their total allocation to U.S. markets (64%), global ex U.S. developed markets (100%), and emerging markets (88%). Exhibit 34 displays data on the mean allocation of assets for institutions that use a combination of strategies to implement their traditional equity and bond allocations.

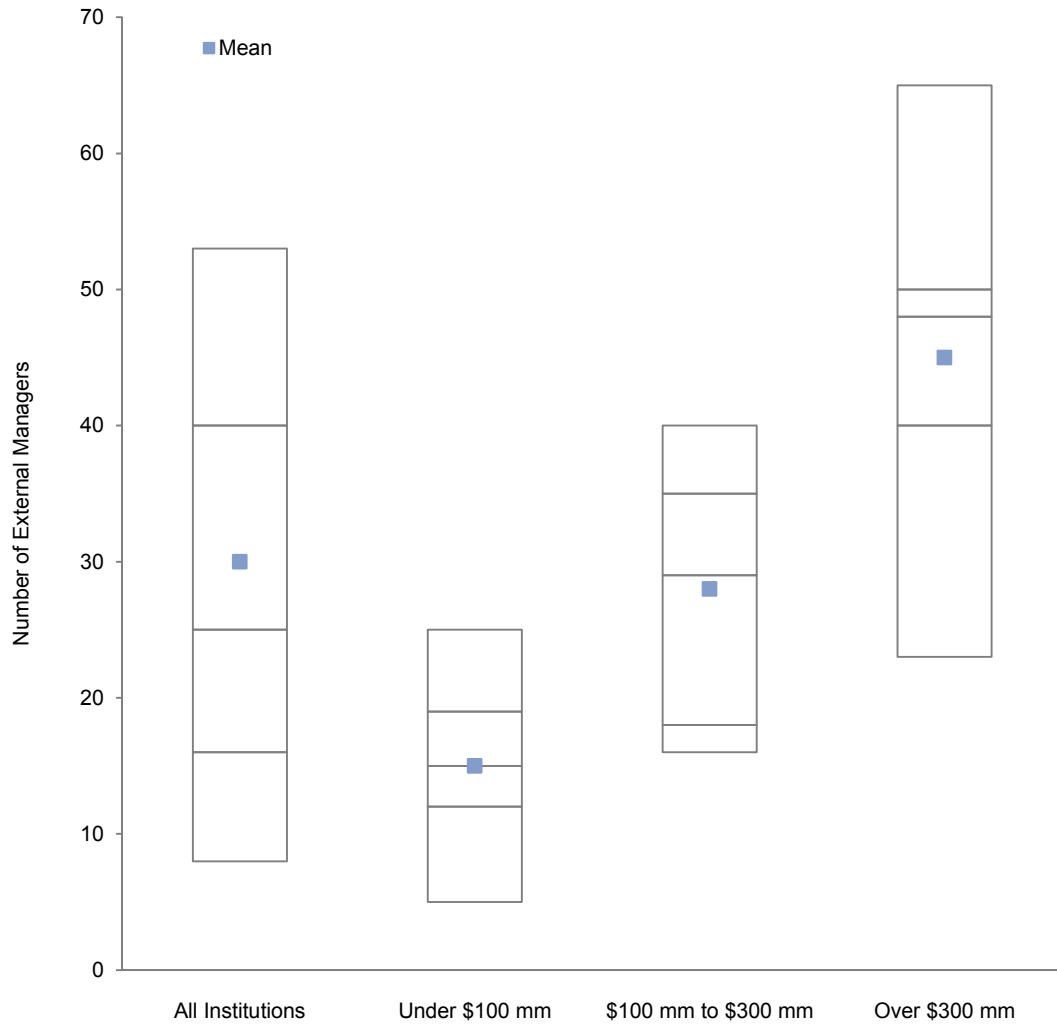
Managers in other asset classes, such as hedge funds and private investments, have a much higher degree of manager-specific risk than do most U.S. equity or bond managers, requiring a higher number of managers to achieve appropriate diversification. However, this diversification could be achieved by hiring a fund-of-funds manager that hires many managers to create a diversified portfolio. Additionally, managers that

have multiple mandates, commonly found in the hedge fund manager universe, often have less manager-specific risk, as they serve as an internal fund-of-funds captive to that manager. Inclusion of this type of a hedge fund manager in a portfolio would reduce the number of managers typically required to achieve a diversified portfolio.

As shown in Exhibit 33, the number of managers hired for alternative asset strategies varies significantly. Museums and libraries employed between one and ten long/short hedge fund managers, one and 11 absolute return managers, one and six non-venture private equity managers, and one and five venture capital managers. As shown in Exhibit 35, 32% of institutions (nine of 28) relied solely on funds-of-funds for hedge funds and 39% used only single manager funds. For the management of private equity, five of 18 institutions (28%) relied solely on funds-of-funds while three institutions (17%) used only single manager funds. For the management of venture capital, ten of 16 institutions (63%) relied solely on fund-of-funds while only one institution used single manager funds only. ■

<sup>1</sup> See our report *An Evaluation of U.S. Equity Manager Structures* for a more detailed discussion of manager structures.

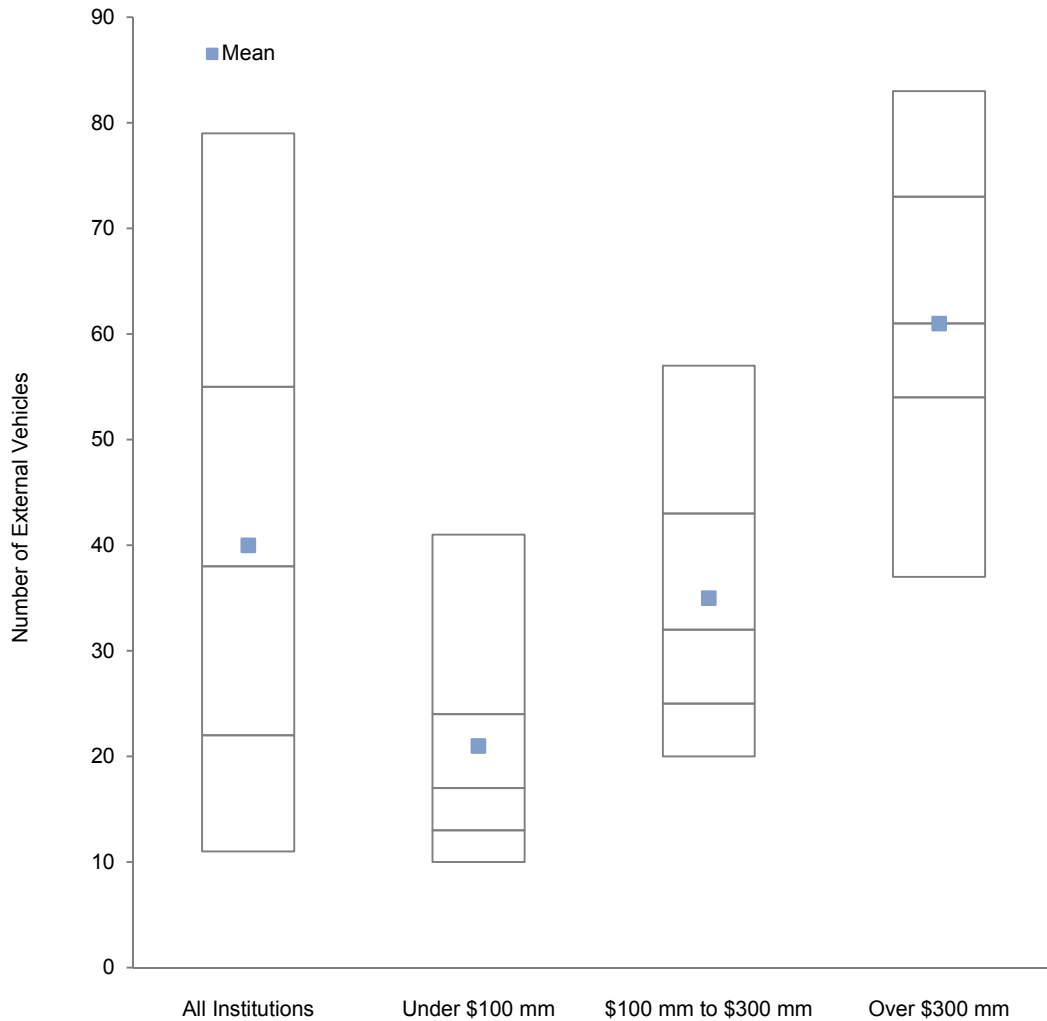
**Exhibit 30**  
**Number of External Managers**  
 As of June 30, 2013



	Total Managers			
	All Institutions	Under \$100 mm	\$100 mm to \$300 mm	Over \$300 mm
5th Percentile	53	25	40	65
25th Percentile	40	19	35	50
Median	25	15	29	48
75th Percentile	16	12	18	40
95th Percentile	8	5	16	23
Mean	30	15	28	45
<i>n</i>	29	9	10	10

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

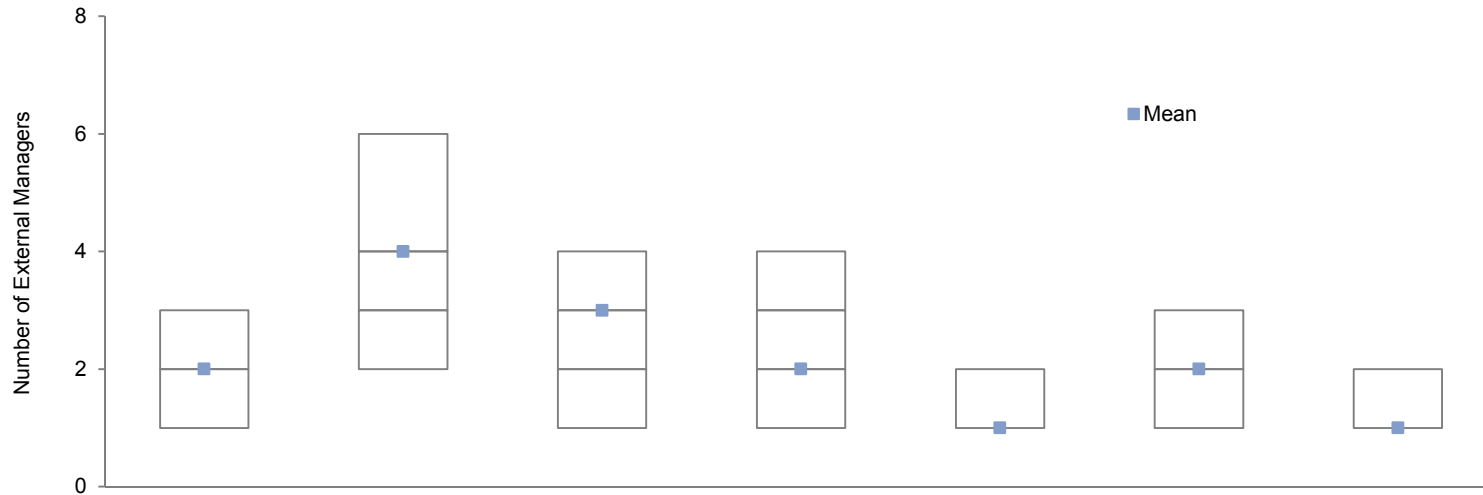
**Exhibit 31**  
**Number of Externally Managed Investment Vehicles**  
 As of June 30, 2013



	Total Vehicles			
5th Percentile	79	41	57	83
25th Percentile	55	24	43	73
Median	38	17	32	61
75th Percentile	22	13	25	54
95th Percentile	11	10	20	37
Mean	40	21	35	61
<i>n</i>	29	9	10	10

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

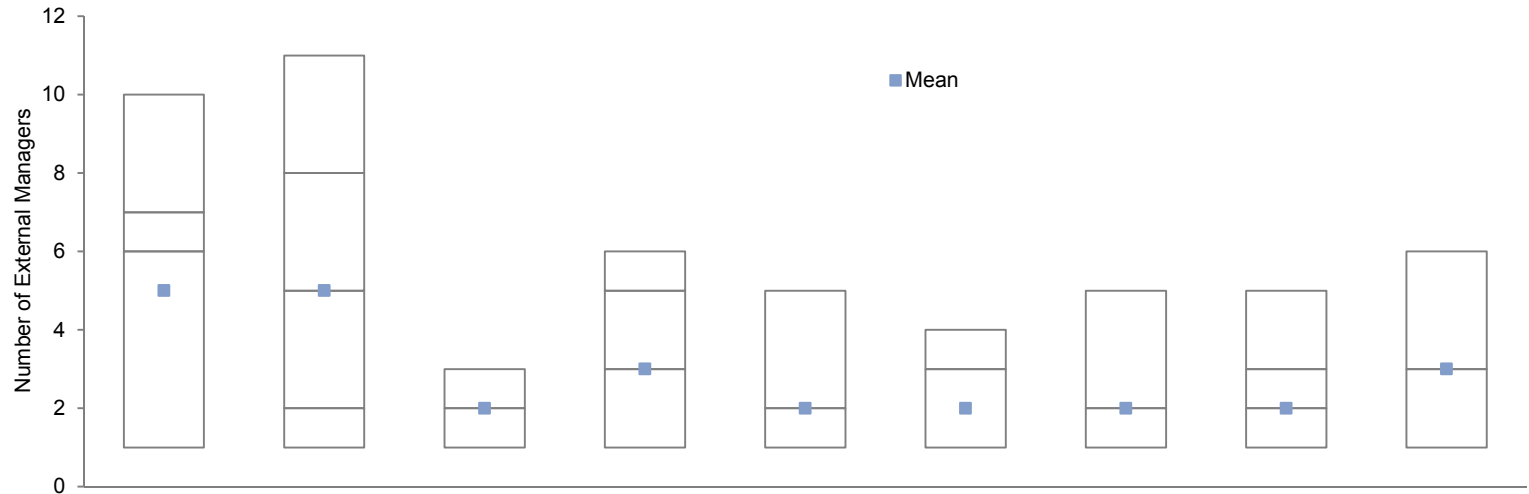
**Exhibit 32**  
**Number of External Managers for Traditional Equities and Bonds**  
 As of June 30, 2013



	Traditional Equities				Traditional Bonds		
	Global Equity	U.S. Equity	Global ex U.S. Developed Markets	Global ex U.S. Emerging Markets	Global Bonds	U.S. Bonds	Global ex U.S. Emg Mkts
5th Percentile	3	6	4	4	2	3	2
25th Percentile	2	4	3	3	1	2	1
Median	1	4	2	2	1	1	1
75th Percentile	1	3	2	2	1	1	1
95th Percentile	1	2	1	1	1	1	1
Mean	2	4	3	2	1	2	1
<i>n</i>	12	29	29	28	10	27	8

Notes: Only those institutions with an allocation to the specific asset class have been included. Global ex U.S. bonds developed markets is not included in this analysis, as only two institutions have a dedicated manager.

**Exhibit 33**  
**Number of External Managers for Hedge Funds and Private Investments**  
 As of June 30, 2013



	Hedge Funds			Private Investments					
	Long/Short Hedge Funds	Absolute Return (ex Distr)	Distr Sec - HF Structure	Non-Ven Private Equity	Venture Capital	Distr Sec - PE Structure	Other Private Investments	Private Real Estate	Private Oil & Gas/Natural Resources
5th Percentile	10	11	3	6	5	4	5	5	6
25th Percentile	7	8	2	5	2	3	2	3	3
Median	6	5	2	3	2	1	2	2	3
75th Percentile	1	2	1	1	1	1	1	1	1
95th Percentile	1	1	1	1	1	1	1	1	1
Mean	5	5	2	3	2	2	2	2	3
<i>n</i>	22	27	12	18	16	20	16	17	16

Notes: Only those institutions with an allocation to the specific asset class have been included. Funds-of-funds are counted as one manager. Other Private Investments represents allocations to multi-strategy private investment fund-of-funds and secondary private market investments. Timber is not included in this analysis, as only four institutions have a dedicated manager.

**Exhibit 34**  
**Portfolio Implementation: Traditional Equities and Bonds**  
 As of June 30, 2013

	Percentage (%) of Respondents				Mean Allocation of Assets for Institutions Using Combination of Strategies		
	Active Managers Only	Passive/Indexed Only	Internally Managed Only	Combination of Strategies	Active Managers	Passive/Indexed	Internally Managed
U.S. Equity (n=29)	44.8%	0.0%	0.0%	55.2%	60.3%	38.9%	0.7%
Global ex U.S. Equity - Dev Mkts (n=29)	82.8%	0.0%	0.0%	17.2%	62.9%	37.1%	0.0%
Global ex U.S. Equity - Emg Mkts (n=28)	75.0%	3.6%	0.0%	21.4%	67.1%	32.9%	0.0%
U.S. Bonds (n=28)	64.3%	17.9%	3.6%	14.3%	68.0%	30.3%	1.7%
Global ex U.S. Bonds - Dev Mkts (n=2)	100.0%	0.0%	0.0%	0.0%	—	—	—
Global ex U.S. Bonds - Emg Mkts (n=8)	87.5%	12.5%	0.0%	0.0%	—	—	—

Notes: *n* represents the number of institutions that provided the portfolio implementation for each asset class. No institutions indicated the use of derivatives in their traditional equity and bond implementation.

**Exhibit 35**  
**Portfolio Implementation: Hedge Funds and Private Investments**  
 As of June 30, 2013

	Percentage (%) of Respondents				Mean Allocation of Assets for Institutions Using Combination of Strategies		
	Fund Commitments		Direct Solo Investments Only	Combination of Strategies	Single Manager Funds	Fund-of-Funds	Direct Solo Investments
	Single Manager Funds Only	Fund-of-Funds Only					
Hedge Funds (n=28)	39.3%	32.1%	—	28.6%	52.4%	47.6%	—
Non-Venture Private Equity (n=18)	16.7%	27.8%	0.0%	55.6%	32.4%	67.7%	0.0%
Venture Capital (n=16)	6.3%	62.5%	0.0%	31.3%	16.1%	83.9%	0.0%
Private Real Estate (n=17)	64.7%	23.5%	0.0%	11.8%	62.1%	19.6%	18.3%
Private Oil & Gas/Natural Resources (n=16)	37.5%	25.0%	0.0%	37.5%	41.3%	56.3%	2.2%
Timber (n=4)	100.0%	0.0%	0.0%	0.0%	—	—	—

Note: *n* represents the number of institutions that provided the portfolio implementation for each asset class. Solo investments are direct investments made into a company in which the institutional investor originates and invests in a transaction, which is not associated with a manager in the investor's portfolio. No institutions indicated the use of direct co-investments, which are direct investments made into a company alongside a general partner that originates the transaction.



**Absolute Return:** The use of different strategies (e.g., global macro, market neutral, open mandate) to produce a positive return regardless of the direction and fluctuation of capital markets. Common techniques include using arbitrage, derivatives, futures, leverage, options, short selling, and unconventional assets.

**Bonds (Fixed Income):** Includes long-term promissory notes that cannot be exchanged for other assets, government bonds, preferred stocks, structured debt, and derivatives where bonds are the underlying assets. Generally earn interest paid semiannually and are repaid at the principal (par) value. Does not include mortgage real estate.

**Cash & Equivalents:** Highly liquid, virtually risk-free assets with maturities of less than one year (e.g., certificates of deposit, commercial paper, nonconvertible bonds, and Treasury bills).

**Commodities:** Diversified baskets of fully collateralized, long-only, commodity futures contracts.

**Co-Investments:** A direct investment made into a company alongside a general partner that originates the transaction.

**Developed Markets:** Markets within countries that have an established economic infrastructure.

**Distressed Securities:** Securities of companies that are currently in default, bankruptcy, financial distress, or a turnaround situation.

**Emerging Markets:** Typically includes countries that have an underdeveloped or developing infrastructure with significant potential for economic growth and increased capital markets participation by foreign investors. These countries generally possess some of the following characteristics: per capita GNP less than \$9,000, recent economic liberalization,

debt ratings below investment grade, recent liberalization of the political system, and non-membership in the OECD.

**Emerging Markets Debt:** Debt instruments of emerging markets countries and issuers, including US\$-denominated and local currency bonds.

**Emerging Markets Equity:** Equity securities of emerging markets countries; considered emerging even if the equity market is fully functional and well regulated.

**Endowment:** As defined in FASB SFAS No. 117, an endowment is a fund of cash, securities, or other assets established to provide income for the maintenance of a not-for-profit organization. The use of the assets of the fund may be permanently restricted, temporarily restricted, or unrestricted. Donor-restricted gifts and bequests to provide a permanent endowment, which is to provide a permanent source of income, or a term endowment, which is to provide income for a specified period, generally establish endowment funds. The principal of a permanent endowment must be maintained permanently—not used up, expended, or otherwise exhausted—and is classified as permanently restricted net assets. The principal of a term endowment must be maintained for a specified term and is classified as temporarily restricted net assets. An organization's governing board may earmark a portion of its unrestricted net assets as a board-designated endowment (sometimes referred to as funds functioning as endowment or quasi-endowment funds) to be invested to provide income for a long but unspecified period. The principal of a board-designated endowment, which results from internal designation, is not donor restricted and is classified as unrestricted net assets.

**Equities:** Ownership positions in companies that can be traded in public markets. Often produce current income, which is paid in the form of quarterly dividends. The holders' claims are subordinate to the claims of preferred stock-holders and bondholders. Includes convertible bonds if they are held as an opportunistic means of eventually acquiring a company's stock. Also includes futures, options, rights, and warrants where the underlying assets are equities.

**Externally Managed Assets:** Assets, including pooled assets, managed by individuals or firms outside an institution.

**Fund-of-Funds:** A fund that invests in a collection of underlying funds.

**High-Yield Bonds:** Bonds regarded, on balance, as predominantly speculative with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation. Typically, these bonds have a credit rating of BB or lower and pay higher yields because they are more risky than investment-grade bonds. Also includes collateralized bond obligations (CBOs).

**Inflation-Linked Bonds:** Fixed coupon bonds that earn interest paid semi-annually on inflation-adjusted principal.

**Long/Short Hedge Funds:** Portfolios with long positions in undervalued companies and short positions in overvalued companies, to capture the disparity in prospective returns, while maintaining a low level of overall market risk.

**Long-Term Investment Portfolio (LTIP):** The group of assets that an institution deems best represents its investment policies and endowment asset allocation and returns. These assets should be subject to frequent market

valuation and may include operating funds. Pooled income funds and charitable remainder trusts should be excluded if the investment strategy varies from the institution's asset allocation policy. Assets that cannot be fairly valued such as artwork, copyrights, and patents should also be excluded.

**Non-Venture Private Equity:** Through negotiation or tender offer, a takeover of a majority percentage of a company's equity with the purpose of acquiring its assets and operations. Includes leveraged buyouts (LBOs).

**Operating Funds:** Operating funds include operating surpluses, stabilization reserves, depreciation funds, working capital, etc. Operating funds consist of cash and investment assets and are separate from the endowment. In some instances, a portion of operating funds are invested alongside the endowment in the LTIP.

**Other Assets:** Should only include assets that cannot be classified as one or more of the other asset classes.

**Other Private Investments:** Includes funds that are invested across multiple private investments and cannot be allocated to a single asset class. Includes multi-strategy fund-of-funds and secondary market private investments.

**Permanently Restricted Endowment:** Endowments established with donor-imposed restrictions that must be followed in perpetuity. Relevant to private institutions reporting under FASB standards.

**Private Investments:** Investments that are not traded in the public market including, but not limited to, venture capital, leveraged buyouts, private real estate, private natural resources, and timber.

**Private Oil & Gas/Natural Resources:**

Funds created to invest in the exploration or development of energy-related reserves and natural resources.

**Private Real Estate:** Includes ownership positions in land and buildings as well as private operating companies. May also include equity-like investments in mortgages or land leases that include substantial participation in revenues and capital appreciation. Does not include equity mortgages such as collateralized mortgage obligations (CMOs), mortgage-backed securities, publicly traded REITs, or other public real estate.

**Public Energy/Natural Resources:** Includes marketable energy funds and natural resources.

**Public Real Estate:** Includes REITs and other public real estate equity such as umbrella partnership REITs (UPREITs), and other public operating companies (REOCs).

**Single Manager Fund:** A fund in which the fund manager makes the investment decisions for the assets/securities/companies held within the fund.

**Solo Investments:** A direct investment made into a company in which the institutional investor originates and invests in a transaction, which is not associated with a manager in the investor's portfolio.

**Spending Rate:** The dollar amount of spending from the investment pool for a fiscal year as a percentage of the beginning market value of the investment pool.

**Spending Rule:** The guideline an institution uses to determine annual distributions from its endowment (e.g., spend all income, spend 5% of three-year moving average market value, increase spending by 5% each year).

**Temporarily Restricted Endowment:**

Endowments established with donor-imposed restrictions that expire after a specific period of time or when some other condition is met. Relevant to private institutions reporting under FASB standards.

**Timber:** Funds created to invest in timber-related business. Usually limited partnerships.

**Total Return:** The sum of income earned and appreciation, both realized and unrealized, for a specified period of time. Preferred method of calculation is GIPS compliant, using time-weighted cash flows. If unit accounting is used, the return for a period is calculated by taking the difference between the ending and beginning unit values, plus unit income earned, then dividing this amount by the beginning unit value.

**Traditional Assets:** Include U.S. equities, non-U.S. equities (including emerging markets), U.S. investment-grade bonds, non-dollar bonds, high-yield bonds, emerging markets debt, and all cash and cash equivalents.

**Unrestricted Endowment:** Funds that do not have restrictions by donors or other parties.

**Venture Capital:** Investments in private securities of new companies or companies considered to be in the early stages of growth; these investments may have high risk and the potential for high return. ■

Atlanta Historical Society  
Boston Athenaeum  
California Academy of Sciences  
Chemical Heritage Foundation  
The Children's Museum of Indianapolis  
Conner Prairie Foundation  
The Edison Institute  
The Frick Collection  
Isabella Stewart Gardner Museum  
George Washington's Mount Vernon  
The J. Paul Getty Trust  
Hagley Museum and Library  
Honolulu Museum of Art  
Houston Museum of Natural Science  
Huntington Library and Art Gallery  
Indianapolis Museum of Art Inc.  
JFK Library Foundation  
Linda Hall Library Trusts  
Longwood Gardens, Inc.  
Museum of Fine Arts, Boston  
Museum of Fine Arts, Houston  
Museum of Science, Boston  
National Gallery of Art  
National Trust for Historic Preservation  
The New York Public Library  
Philadelphia Museum of Art  
Seattle Art Museum  
Norton Simon Museum of Art  
White House Historical Association  
The Henry Francis duPont Winterthur Museum, Inc.