# Plymouth County Retirement Association

## Investment Review
## October 26, 2017



MEKETA INVESTMENT GROUP

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| Boston<br>Massachusetts | Chicago<br>Illinois | Miami<br>Florida | Portland<br>Oregon | San Diego<br>California | London<br>United Kingdom |

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# Agenda

1. **Global Equity Manager Search**
2. **Private Equity Search**
3. **Performance Update as of September 30, 2017**
4. **Disclaimer, Glossary, and Notes**

# Global Equity Manager Search

## Background

- At the August 2017 meeting, Meketa Investment Group presented an overview of the 42 responses from the global equity managers.
  - The Board voted to include two core managers, two growth managers, and three value managers in the finalist search.
- The following pages of this document detail seven managers that Meketa Investment Group believes could, when grouped together, fulfill the Board’s potential global equity allocation.
- This document presents overviews of each investment manager in order of style (core, growth, and value).

# Global Equity Core Managers

# LMCG Investments
As of June 30, 2017

| | LMCG |
|---|---|
| Firm Location | Boston, MA |
| Firm Inception | 2000 |
| Ownership Structure | 18% Employee Owned, 21% Founder Owned, 61% owned by RBC |
| Assets Under Management (Firm) | $8.0 billion |
| Strategy Inception | September 2007[1] |
| Assets Under Management (Strategy) | $352 million |

## Firm Overview

- LMCG Investments was founded in 2000 by Lee Munder and is based in Boston, MA. Previously, the firm was majority owned by City National Corporation; however, in November 2015, the Royal Bank of Canada (“RBC”) acquired City National Corporation and absorbed its stake in LMCG. Today, the firm is majority-owned by RBC (61%), while Mr. Munder and current employees own 21% and 18% of the stock, respectively.
- LMCG manages $8 billion in assets across domestic, global, and international equity strategies as of June 2017. The Global MultiCap strategy, which was incepted in September 2007, has $352 million under management.

[1] The team first began managing client assets in this strategy in 2010.

## LMCG Investments (continued)

### Investment Team Overview

- The investment team is led by LMCG's Chief Investment Officer, Jeff Davis. Mr. Davis joined the firm in 2005 and has 34 years of investment experience. Prior to joining LMCG, Mr. Davis worked as a CIO at Rockefeller & Company and State Street, and served as an international equity analyst and portfolio manager at several other asset management firms.
- Mr. Davis is supported by two additional portfolio managers, Dan Singh and Chris Sabo. Dan Singh joined the investment team in 2011 and has 15 years of investment experience. Chris Sabo is a more recent addition to the team; he joined LMCG in 2016 and has seven years of investment experience. Mr. Sabo is responsible for risk analysis on the investment team.

### Investment Philosophy

- The LMCG team seeks to provide clients with an efficient and diversified portfolio of global stocks. The investment team believes that a quantitative, asset allocation-based investment approach can add value over time. LMCG endeavors to build a global equity portfolio by combining LCMG's suite of equity products with passive exposures.

## LMCG Investments (continued)

### Investment Process

- The investment process begins with an analysis of the MSCI ACWI IMI ("Investable Market Index"). They decompose the index by its sub-components (e.g. country and sectors) as a baseline for framing their desired asset allocation. From there, LMCG will determine target asset allocation weights based on relative valuation parameters. The team seeks to allocate to "cheaper" sub-component exposures within the index.
- Additionally, the team will make a determination as to areas of the global equity market where active management is more likely to add value. In areas where active management is more likely to add value, the team will allocate to internally-managed LMCG equity products. These products are managed independently of the Global MultiCap strategy by other investment teams at LMCG. LMCG currently offers U.S. small, mid, and large cap, international small cap, emerging markets equity, and emerging markets small cap products. In areas where the team believes active management is less likely to add value, they will use passive exposures.
- LMCG will make adjustments to actively-managed and passive exposures based on how LMCG's portfolios have performed over time. In general, the team will attempt to counter-cyclically allocate away from a strategy that have outperformed recently, and increase their allocations to a strategies that have experienced underperformance. They believe alpha is cyclical and mean-reverting over time.
- Lastly, the team will optimize portfolio exposures using an MSCI Barra risk model. The optimizer pares the portfolio's underlying holdings down to approximately 150-200 holdings. On a monthly basis, the team will make small tactical adjustments to their strategic asset allocation based on changes in relative valuations and their overall view of the market environment.

**Hexavest**
As of June 30, 2017

| | Hexavest |
|---|---|
| Firm Location | Montreal, Canada |
| Firm Inception | 2004 |
| Ownership Structure | 51% Employee Owned, 49% Owned by Eaton Vance |
| Assets Under Management (Firm) | $15.0 billion |
| Strategy Inception | January 1999 |
| Assets Under Management (Strategy) | $9.2 billion |

## Firm Overview

- Hexavest was founded in 2004 by the global/international equity team from National Bank of Canada. Hexavest was initially 100% employee-owned, but sold 49% of the firm to Eaton Vance (NYSE: EV) in August 2012. Hexavest employees maintain control of the firm, while Eaton Vance acts as the firm's marketing and distribution partner outside of Canada.
- Eaton Vance has an option to purchase an additional 25% stake in Hexavest this year, which would bring its ownership stake to approximately 75%. Though this event is material given that Hexavest's partners would no longer have a majority stake in the firm, Eaton Vance has a stable long-term track record as a parent of majority-owned managers such as Parametric Portfolio Associates and Calvert Research and Management.
- Hexavest manages roughly $15 billion in assets. The Global Equity strategy was incepted in 1999[1] and has roughly $9 billion in assets.

[1] The strategy's track record prior to 2004 is the team's track record from their prior firm, Natcan Investment Management.

## Hexavest (continued)

### Investment Team Overview

- Hexavest's investment team consists of nine professionals. The team is led by Vital Proulx, who serves as Hexavest's co-Chief Investment Officer. Mr. Proulx has 28 years of investment experience and was the original founder of the Natcan Investment Management international equity investment team in 1991. Mr. Proulx left Natcan in 2004 to co-found Hexavest. While all investment decisions are team-based, Mr. Proulx continues to retain final decision-making authority as co-CIO of the team.
- Hexavest's Strategy Team, which includes Mr. Proulx, Jean-Rene Adam, and Jean-Pierre Couture, is tasked with developing the firm's top-down views. Mr. Adam joined the firm in 2006 and serves as co-Chief Investment Officer alongside Mr. Proulx, while Mr. Couture serves as the team's Chief Economist. Though Mr. Proulx is a generalist, Messrs. Adam and Couture also have regional investment coverage responsibilities. Supporting them are six other team members, also segmented by region, and one macroeconomist.

### Investment Philosophy

- Hexavest is a top-down core manager that utilizes macroeconomic insights to position their portfolio. They believe that the best way to add value over the long-term is to focus on macro factors that are largely ignored or misunderstood by the majority of asset managers.
- The Hexavest approach focuses on three main factors – the macroeconomic environment, valuation of global financial markets, and the sentiment of investors. Consistent with their macro focus, Hexavest believes that currencies are often overlooked as an alpha source by bottom-up investors, and can be a meaningful source of added value in a top-down approach.

## Hexavest (continued)

### Investment Process

- In contrast to most peers, the Hexavest investment process starts with top-down research. Portfolio managers determine which regions, countries, currencies, sectors, and industries are attractive based on their analysis of the macroeconomic environment, valuation factors, and investor sentiment. Each of these three pillars receives a score ranking from triple positive (+++) to triple negative (---). This score serves as a high level guide for portfolio positioning.
- The first pillar, macroeconomic research, consists of a comprehensive assessment of economic conditions across investable countries. Hexavest often uses unique data sources as a test for data that may be incomplete or questionable. For example, they often aggregate trading partner export data to assess a particular country's trend in demand. Valuation, the second pillar, is assessed in the context of very long term historical averages and trends, as well as a review of forward-looking earnings estimates. The final pillar, Sentiment, is based on a review of sentiment indicators, relative performance of various market sectors, and trend changes across financial markets that are generally indicative of risk behavior.
- The end result of this research is a portfolio that still includes every stock in the benchmark, but with adjusted weights that reflect the team's macroeconomic views. In the second stage of their process, Hexavest uses Barra to build an optimized portfolio that replicates the characteristics of the macro portfolio, utilizing a smaller number of holdings (approximately 300 to 5000 stocks).
- In the final stage of the process, Hexavest portfolio managers use a combination of quantitative and qualitative tools to make additional portfolio adjustments. The team will allocate to cash opportunistically, with a maximum weight of 10%, and will take active currency positions using futures contracts.

**Portfolio Characteristics[1]**
As of June 30, 2017

| | LMCG | | Hexavest | | MSCI ACWI | |
|---|---|---|---|---|---|---|
| Trailing Price-Earnings Ratio | 16.7x | | 13.7x | | 18.3x | |
| Dividend Yield | 2.1% | | 2.7% | | 2.4% | |
| Price-Book Value Ratio | 2.0x | | 1.8x | | 2.2x | |
| Weighted Average Market Cap | $97.6 billion | | $106.7 billion | | $133.3 billion | |
| Median Market Cap | $19.6 billion | | $19.9 billion | | $9.9 billion | |
| Number of Holdings | 184[2] | | 460 | | 2,501 | |
| Annual Expected Turnover Rate | 50-80% | | 50% | | NA | |
| Active Share | 78.0% | | 61.7% | | NA | |
| Top 3 Country Weightings: | U.S. | 57% | U.S. | 50% | U.S. | 53% |
| | EM | 13% | Japan | 15% | EM | 12% |
| | U.K. | 5% | EM | 5% | Japan | 8% |
| Top 3 Sector Weightings: | Financials | 25% | Financials | 21% | Financials | 19% |
| | Info. Tech. | 18% | Healthcare | 17% | Info. Tech. | 17% |
| | Cons. Disc. | 12% | Cons. Disc. | 13% | Cons. Disc. | 12% |
| % of Portfolio in Top 10 Holdings: | 12.8% | | 15.7% | | 9.3% | |

- LMCG's portfolio characteristics are also similar to the index. However, the portfolio has higher active share than Hexavest. The portfolio's weighted average market cap is lower than Hexavest and the index.
- Hexavest manages a diversified, core portfolio. While the portfolio's country and sector weights were similar to the index, as of June 2017, Hexavest will often make significant industry, sector, country, and regional adjustments on a tactical basis. Hexavest's portfolio that trades at a significant discount to the index on a price/earnings and price/book basis, which reflects the team's defensive, contrarian positioning.

[1] Source: eVestment Alliance Database, MSCI.
[2] LMCG's portfolio also holds ETFs; therefore, the true number of underlying holdings is much larger. Meketa's estimate of the portfolio's true number of underlying holdings, as of June 30, 2017, is 1,931 stocks.

## Risk Characteristics[1]

Common period (September 2007 – June 2017)

| | LMCG[2] | Hexavest | MSCI ACWI |
|---|---|---|---|
| **Common Period Performance:** | | | |
| Common Period Performance (%) | 5.7 | 6.0 | 4.0 |
| Best 3 Months (%) | 29.9 | 38.1 | 33.1 |
| Worst 3 Months (%) | -31.1 | -26.2 | -34.4 |
| **Risk Measures:** | | | |
| Standard Deviation (%) | 17.8 | 15.6 | 18.1 |
| Tracking Error (%) | 3.6 | 5.6 | NA |
| Beta | 0.95 | 0.81 | 1.00 |
| Correlation to Benchmark | 0.98 | 0.95 | NA |
| Downside Deviation (%) | 8.6 | 8.1 | 9.3 |
| Upside Capture (%) | 101.4 | 82.6 | NA |
| Downside Capture (%) | 94.5 | 77.4 | NA |
| **Risk-Adjusted Performance:** | | | |
| Jensen's Alpha (%) | 1.91 | 2.68 | NA |
| Sharpe Ratio | 0.29 | 0.35 | 0.19 |
| Information Ratio | 0.49 | 0.36 | NA |

- Over the common period, both Hexavest and LMCG have outperformed the index with lower risk. Hexavest's defensive, "win by not losing" approach bears out in its risk statistics, as the portfolio has a low beta (0.81), a standard deviation well below the index, and downside capture of 77%. Hexavest's tracking error is modest, at 5.6%, which is higher than LMCG. The strategy's performance is likely to be strongest during down markets, but will likely lag the index in up markets, on average.
- While LMCG has outperformed the index over the common period, it has underperformed Hexavest. Additionally, LMCG's risk has been similar to the index. LMCG's portfolio has a higher beta (0.95) and lower tracking error (3.6%) than Hexavest. LMCG's upside capture ratio of 101% and downside capture ratio of 95%, suggest the portfolio's performance will be more index-like in up and down markets, compared to Hexavest.

1 All returns are net of fees. Source: eVestment Alliance Database, MSCI.

2 LMCG's returns represent a blend of a separate account composite and a recently introduced mutual fund. Unlike separate accounts, the mutual fund does not utilize ETFs, as the team includes the underlying ETF holdings in the portfolio instead. Performance for the composite is utilized from September 2007-September 2013, and returns for the mutual fund are included from its October 2013 inception to June 2017.

## Trailing and Calendar Year Performance (net of fees)[1]

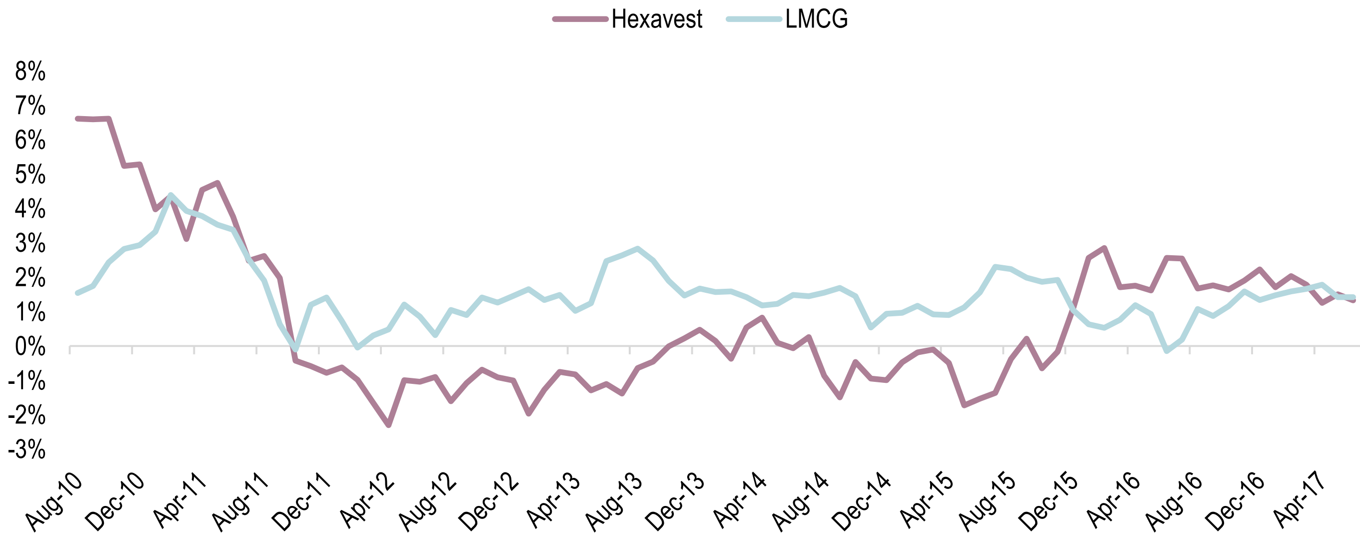
As of June 30, 2017

| | LMCG | Hexavest | MSCI ACWI |
|---|---|---|---|
| **Trailing Period Returns (%):** | | | |
| YTD 2017 | 10.4 | 6.8 | *11.5* |
| 1 Year | 23.0 | 10.2 | *18.8* |
| 3 Years | 6.2 | 6.2 | *4.8* |
| 5 Years | 11.9 | 10.3 | *10.5* |
| 7 Years | 12.0 | 10.0 | *10.5* |
| 10 Years | 5.6 | 5.7 | *3.7* |
| **Calendar Year Returns (%):** | | | |
| 2016 | 11.7 | 12.0 | *7.9* |
| 2015 | -0.7 | -0.4 | *-2.4* |
| 2014 | 2.9 | 4.9 | *4.2* |
| 2013 | 25.9 | 23.3 | *22.8* |
| 2012 | 17.5 | 11.9 | *16.1* |
| 2011 | -6.6 | -3.0 | *-7.3* |
| 2010 | 15.0 | 8.5 | *12.7* |
| 2009 | 35.8 | 30.7 | *34.6* |
| 2008 | -38.5 | -27.4 | *-42.2* |

- Both Hexavest and LMCG have outperformed the MSCI ACWI Index over the trailing ten-year period. Given their defensive approach and low active share, we would expect Hexavest's performance to be sluggish in low volatility market environments, which has been the case for much of the most recent market cycle since the 2008/2009 Great Financial Crisis. LMCG has consistently added value over longer trailing periods, but with a more index-like return profile in both up and down markets.

[1] All returns are net of fees. Source: eVestment Alliance Database, MSCI.

**Rolling Three-Year Excess Returns**[1]
Common Period as of June 30, 2017




| As of 6/30/2017 | Total Periods | Periods Outperformed | Percentage (%) | Average Ann. Excess Return (%) | Max (%) | Min (%) | Range (%) |
|---|---|---|---|---|---|---|---|
| Hexavest | 83 | 41 | 49.4 | 0.8 | 6.6 | -2.3 | 8.9 |
| LMCG | 83 | 80 | 96.4 | 1.5 | 4.4 | -0.1 | 4.5 |

- Though LMCG's rolling three-year excess returns have been much more consistent than Hexavest's over the common period, its magnitude of excess returns has been relatively low, which has resulted in similar average excess returns for the two strategies. While Hexavest's frequency of outperformance has been low, the strategy performs its strongest relative to the index during volatile market environments. Low realized volatility across global equity markets, which has characterized the most recent market cycle, has been a headwind for Hexavest's approach, as a result.

[1] Returns are net of fees. Source: eVestment Alliance Database, MSCI. Common period runs from September 2007 through June 2017.

## Comparative Manager Assessment

| | LMCG | Hexavest |
|---|---|---|
| Strengths | • LMCG is a partially employee owned investment firm focused on domestic, global, and international equity portfolio management.<br>• LMCG has consistently produced returns modestly above the benchmark. | • Hexavest is a top-down-focused investment management firm with a differentiated approach to global equities.<br>• The investment team's leadership has been stable, with founder and CIO, Vital Proulx, leading the team since Hexavest's inception in 2004.<br>• The team's approach is contrarian and defensive. This style results in favorable risk statistic and strong capital protection during the stock market drawdown in 2008. |
| Weaknesses | • The strategy has been managed with limited client assets since inception. Less than 10% of the assets invested in the strategy are derived from institutional clients.<br>• LMCG is majority owned by RBC a diversified financial services firm headquartered in Canada.<br>• The LMCG strategy allocates assets to underlying LMCG portfolios. Changes to the investment teams or process on these underlying portfolios could have a material impact on the Global MultiCap strategy's performance profile. | • Hexavest is partially owned by Eaton Vance, which has an option to expand its stake in the company to a majority position. Ownership by a parent company is suboptimal. However, Eaton Vance has a reasonably good track record as an owner of investment managers, reducing the risk of adverse organizational changes.<br>• Hexavest has lagged the index over more recent trailing periods. Given the team's defensive positioning in the context of the 2010s bull market however, this return profile is within our expectations. |
| Fees | • Estimated all-in fee of 0.55%. | • Estimated all-in fee of 0.64%. |

# Global Equity Growth Managers

**Artisan Partners**
As of June 30, 2017

| | Artisan |
|---|---|
| Firm Location | Milwaukee, WI |
| Firm Inception | 1994 |
| Ownership Structure | 60% Publicly Held, 22% Employee Owned, 15% Initial Investor Owned, 3% Other |
| Assets Under Management (Firm) | $109.4 billion |
| Strategy Inception | April 2010 |
| Assets Under Management (Strategy) | $1.3 billion |

## Firm Overview

- Artisan Partners (NYSE: APM) is a large, multi-boutique investment management firm based in Milwaukee, WI. Artisan is 60% publicly traded, with the remainder divided among current employees holding 22%, initial investors holding 15%, and former employees holding 3%.
- Artisan consists of eight investment franchises that operate autonomously. The Global Equity team is Artisan's first international equity investment team. They joined Artisan after being lifted out of Waddell and Reed in 1996. The Global Equity Team operates out of the firm's New York City and San Francisco offices.
- Artisan Partners manages approximately $109 billion in assets across 15 investment strategies as of June 2017. The Global Equity strategy was incepted in April 2010 and has just over $1 billion in assets.

## Artisan Partners (continued)

### Investment Team Overview

- The Artisan Global Equity team manages the Global Equity product. This team joined Artisan in 1996 and is led by portfolio manager Mark Yockey. Mr. Yockey is the primary decision maker and has 36 years of investment experience.
- Mr. Yockey is supported by two co-portfolio managers, Charles Hamker and Andrew Euretig. Messrs. Hamker and Euretig have 27 and 13 years of experience, respectively. This team of three portfolio managers is supported by 13 research analysts who average 18 years of industry experience.

### Investment Philosophy

- Artisan seeks to invest in companies with sustainable long-term earnings and free cash flow growth. The team aims to construct a diversified global portfolio of companies with sustainable long-term growth characteristics at valuations that don't fully reflect their long-term potential.
- A critical component of Artisan's approach is a focus on secular growth trends or "themes" that the team believes will drive long-term above-trend growth for individual companies. The team seeks to invest in high quality companies that are positioned to monetize these secular growth tailwinds over the long-term.

## Artisan Partners (continued)

### Investment Process

- The investment process starts with the identification of long-term growth trends that should persist over long time periods. Artisan then uses a combination of quantitative and qualitative metrics to narrow their research focus.
- Quantitative analysis focuses on both growth and valuation characteristics, while qualitative analysis focuses on a company's sustainable competitive advantages, business model, and quality of management. The team favors companies with a 1) dominant market position, brand strength and pricing power, 2) significant free cash flow and favorable profit margins, and 3) management teams that have a clear strategy and proven track records.
- The team holds a weekly meeting to discuss research priorities and identify potential new ideas. Potential opportunities are evaluated more thoroughly using historical company research, third party analysis, and other sources. Once attractive stocks are identified, portfolio managers and analysts will work together to assign a target price range relative to the company's growth potential. This analysis allows the team to evaluate new ideas relative to current portfolio holdings. Stocks trading at the cheapest valuation relative to their growth potential are included in the portfolio.
- Artisan's portfolio is concentrated and generally holds between 40-80 stocks, diversified by economic exposure as opposed to country of domicile. They use a benchmark-agnostic portfolio construction approach; therefore, regional/sector exposures are a result of the team's bottom-up, fundamental research.

**Wellington**
As of June 30, 2017

| | Wellington |
|---|---|
| Firm Location | Boston, MA |
| Firm Inception | 1928 |
| Ownership Structure | 100% Employee Owned |
| Assets Under Management (Firm) | $1,021.3 billion |
| Strategy Inception | February 2016 |
| Assets Under Management (Strategy) | $174 million |

### Firm Overview

- Wellington Management Company is a global asset management firm headquartered in Boston, MA. The firm was founded in 1928 and is 100% employee owned by 163 partners.
- Wellington has roughly $1.0 trillion in total assets under management across a broad range of equity, fixed income, and alternatives products. The Durable Enterprises strategy was incepted in February 2016 and has $174 million under management. The Durable Enterprises strategy is a large/mid-cap cap version of the team's flagship strategy, Durable Companies. Durable Companies was incepted in July 2012, is managed with the same team/process, and has $2 billion in assets. The Durable Companies strategy is closed to new investors. Durable Enterprises mirrors the Durable Companies strategy; however, its market cap exposures do not include the smallest cap stocks held within the flagship product.

### Investment Team Overview

- The investment team comprises one portfolio manager, a dedicated research analyst, and 56 global industry analysts. Portfolio manager Dan Pozen is the key decision maker for Durable Enterprises. He has worked at Wellington for 11 years and has 16 years of industry experience. Prior to joining Wellington, Mr. Pozen worked as a research analyst at a Guatemalan development bank and served as an analyst at Putnam Investments.
- Mr. Pozen is supported by a dedicated analyst, Catherine Gunn, who has 10 years of investment experience and has worked at Wellington for 7 years. These two investors also draw input from Wellington's broader team of 56 global industry analysts.

## Wellington (continued)

### Investment Philosophy

- The investment team believes that durable businesses exhibit stability and outperform the market over time. They argue that stability is particularly undervalued in smaller companies, volatile sectors, and disfavored geographies. Ultimately, the team believes that investing in stable businesses at attractive valuations should generate compelling returns in all market environments.
- The team aims to invest for the long term in companies with durable cash flows to generate a portfolio return of 10% per annum with lower volatility than the MSCI ACWI Index. Though the index serves as a volatility target, their approach is entirely benchmark agnostic from a security selection standpoint.

### Investment Process

- The process begins with screens for consistent returns on capital (as measured by 3- and 5-year ROIC between 10-15%), prudent capital allocation (share repurchases, smart acquisitions), and low valuation (as measured by free cash flow yield). The team generally looks to invest in a subset of these companies with moderate but predictable growth (0-5%).
- After arriving at this short list of stocks, the team spends time researching companies' economic sensitivities, product cycles, and competitive dynamics. The team favors businesses where growth is not overly geared to economic and product cycles.
- Next, the team researches a company's history of capital allocation in great detail to determine whether a management team is able to deploy cash in the most efficient way possible. The team also meets with all management teams for portfolio companies and prospective companies. Portfolio manager Dan Pozen believes that understanding management teams' strategic goals, their tendencies in decision making, and their alignment with shareholders is critical to long-term performance. Mr. Pozen argues that capital allocation is the key differentiating feature among stable businesses; good capital allocators will dispassionately choose to deploy cash to maximize long-term returns.
- The team purchases stocks that offer quality and stable cash flows at a reasonable valuation. The portfolio typically holds 25-50 stocks with a cap of 10% in any one holding. Turnover ranges from 25-50% per annum.

## Portfolio Characteristics

| | Artisan | Wellington | MSCI ACWI |
|---|---|---|---|
| Trailing Price-Earnings Ratio | 25.2x | 21.3x | 18.3x |
| Dividend Yield | 1.3% | 1.9% | 2.4% |
| Price-Book Value Ratio | 8.9x | 3.0x | 2.2x |
| Weighted Average Market Cap | $125.8 billion | $23.2 billion | $133.3 billion |
| Median Market Cap | $36.3 billion | $14.5 billion | $9.9 billion |
| Number of Holdings | 58 | 34 | 2,501 |
| Annual Expected Turnover Rate | 30-50% | 50-100% | NA |
| Active Share | 89.0% | 99.0% | NA |
| Top 3 Country Weightings: | U.S. 54%<br>EM 12%<br>Germany 11% | U.S. 65%<br>Canada 10%<br>Japan 9% | U.S. 53%<br>EM 12%<br>Japan 8% |
| Top 3 Sector Weightings: | Info. Tech 38%<br>Financials 18%<br>Cons. Disc. 15% | Industrials 20%<br>Materials 14%<br>Healthcare 13% | Financials 19%<br>Info. Tech. 17%<br>Cons. Disc. 12% |
| % of Portfolio in Top 10 Holdings: | 35.0% | 39.0% | 9.3% |

- As expected for a growth manager, Artisan's Global Equity portfolio trades at a price/earnings and price/book premium relative to the MSCI ACWI Index. These price premiums can also be attributed to Artisan's overweight in information technology companies, which tend to trade at higher price multiples. The portfolio is fairly concentrated with 58 holdings, and active share is relatively high at 89.0%.
- Wellington's portfolio also trades at a price premium relative to the MSCI ACWI Index, though the portfolio skews toward smaller capitalization companies. The strategy is also more concentrated than Artisan with only 34 stocks and 39.0% in the top ten holdings, and is benchmark agnostic with an active share of 99.0%.

**Risk Characteristics[1]**
Common period (July 2012 – June 2017)

| | Artisan | Wellington[2] | MSCI ACWI |
|---|---|---|---|
| **Common Period Performance:** | | | |
| Common Period Performance (%) | 12.6 | 18.3 | 10.5 |
| Best 3 Months (%) | 11.7 | 14.3 | 10.9 |
| Worst 3 Months (%) | -11.9 | -4.1 | -9.4 |
| **Risk Measures:** | | | |
| Standard Deviation (%) | 12.6 | 10.1 | 11.0 |
| Tracking Error (%) | 5.4 | 5.9 | NA |
| Beta | 0.99 | 0.72 | 1.00 |
| Correlation to Benchmark | 0.88 | 0.83 | NA |
| Downside Deviation (%) | 6.5 | 4.5 | 5.8 |
| Upside Capture (%) | 107.3 | 105.9 | NA |
| Downside Capture (%) | 93.3 | 38.3 | NA |
| **Risk-Adjusted Performance:** | | | |
| Jensen's Alpha (%) | 2.20 | 10.65 | NA |
| Sharpe Ratio | 0.99 | 1.79 | 0.94 |
| Information Ratio | 0.38 | 1.32 | NA |

- Both Artisan and Wellington have added value relative to the MSCI ACWI index over the common period. Artisan has a more favorable upside capture profile, but its worst three month drawdown is significantly higher and detracts from long-term risk-adjusted returns relative to Wellington. The portfolio's absolute risk, as measured by standard deviation, is also higher than Wellington and the index.
- Wellington has outperformed the index with favorable risk profile, resulting in compelling Sharpe and information ratios. The strategy's beta, downside deviation, and downside capture are indicative of Wellington's focus on defensive, high quality companies.

1 All returns are net of fees. Source: eVestment Alliance Database, MSCI.

2 Wellington Durable Enterprises' inception date is March 2016. For comparison, returns for the Wellington Durable Companies strategy, which is managed by portfolio manager Dan Pozen using the same approach with a skew towards smaller capitalization companies than Durable Enterprises, are included for the period from July 2012 to February 2016.

## Trailing and Calendar Year Performance (net of fees)[1]

As of June 30, 2017

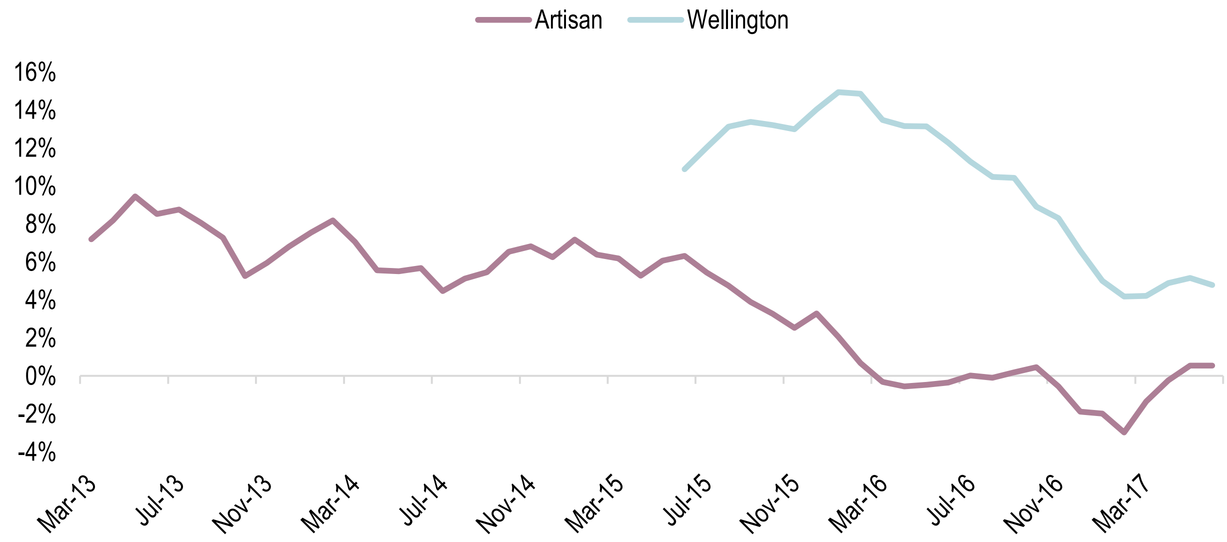
| | Artisan | Wellington[2] | MSCI ACWI |
|---|---|---|---|
| **Trailing Period Returns (%):** | | | |
| YTD 2017 | 15.6 | 10.3 | *11.5* |
| 1 Year | 15.4 | 9.8 | *18.8* |
| 3 Years | 5.4 | 9.6 | *4.8* |
| 5 Years | 12.6 | 18.3 | *10.5* |
| 7 Years | 13.4 | NA | *10.5* |
| 10 Years | NA | NA | *3.7* |
| **Calendar Year Returns (%):** | | | |
| 2016 | -1.3 | 5.1 | *7.9* |
| 2015 | 1.3 | 7.8 | *-2.4* |
| 2014 | 3.8 | 16.6 | *4.2* |
| 2013 | 29.9 | 43.5 | *22.8* |
| 2012 | 29.2 | NA | *16.1* |
| 2011 | -5.8 | NA | *-7.3* |
| 2010 | NA | NA | *12.7* |
| 2009 | NA | NA | *34.6* |
| 2008 | NA | NA | *-42.2* |

- Artisan and Wellington have both added value over the trailing five-year period, net of fees. Both strategies have protected capital effectively, generating positive absolute returns in 2015, a negative year for the index.

1 All returns are net of fees. Source: eVestment Alliance Database, MSCI.

2 Wellington Durable Enterprises' inception date is March 2016. For comparison, returns for the Wellington Durable Companies strategy, which is managed by portfolio manager Dan Pozen using the same approach with a skew towards smaller capitalization companies than Durable Enterprises, are included for the period from July 2012 to February 2016.

**Rolling Three-Year Excess Returns**[1,2]
Common Period as of June 30, 2017




| As of 6/30/2017 | Total Periods | Periods Outperformed | Percentage (%) | Average Ann. Excess Return (%) | Max (%) | Min (%) | Range (%) |
|---|---|---|---|---|---|---|---|
| Artisan | 52 | 41 | 78.8 | 3.9 | 9.4 | -3.0 | 12.4 |
| Wellington | 25 | 25 | 100.0 | 10.2 | 14.9 | 4.2 | 10.8 |

- Despite a recent drawdown, Artisan has outperformed the index in roughly 80% of rolling three-year periods by an average of 3.9%. Wellington's rolling period returns have been strong. However, it is difficult to make any definitive conclusions, given the product's relatively limited track record.

1 Returns are net of fees. Source: eVestment Alliance Database, MSCI. Common period runs from July 2012 through June 2017.
2 Wellington Durable Enterprises' inception date is March 2016. For comparison, returns for the Wellington Durable Companies strategy, which is managed by portfolio manager Dan Pozen using the same approach with a skew towards smaller capitalization companies than Durable Enterprises, are included for the period from July 2012 to February 2016.

## Comparative Manager Assessment

| | Artisan | Wellington |
|---|---|---|
| Strengths | • Artisan Partners' multi-boutique investment structure allows the growth team to operate autonomously within the broader firm.<br>• Artisan's growth equity team has an impressive depth of experience and resources. Portfolio manager Mark Yockey leads a deep team of portfolio managers and analysts.<br>• Artisan's long-term return profile is favorable. The strategy has outperformed the MSCI ACWI Index over the common period and since inception. | • Though Wellington is one of the larger asset managers, the firm remains 100% employee owned.<br>• Portfolio manager Dan Pozen's investment approach, predicated on absolute returns and capital protection, is differentiated relative to benchmark aware peers.<br>• The strategy's return profile is extremely favorable relative to the index and the peer group. The portfolio's low downside capture and quality bias have resulted in significant outperformance. |
| Weaknesses | • The portfolio has been volatile relative to Wellington and the MSCI ACWI index over the common period. This volatility results in lower risk-adjusted returns.<br>• Artisan is partially publicly traded, which is not an optimal organizational structure. Though each of the firm's eight investment teams operate with a high degree of autonomy, public ownership reduces investment team members' ability to participate as stakeholders. | • Though the portfolios' returns have been highly favorable, we would temper expectations moving forward.<br>• The Durable Enterprises strategy is a new addition to Wellington's roster (inception in March 2016). Though Wellington's Durable Companies strategy is managed by Mr. Pozen using the same approach, the strategy's track record is shorter.<br>• Wellington is employee owned, but ownership is very broadly distributed among 163 employees, reducing the availability of ownership shares for new employees looking to gain equity participation in the company. |
| Fees | • Estimated all-in fee of 0.85%. | • Estimated all-in fee of 0.85%. |

# Global Equity Value Managers

## Aristotle Capital Management
As of June 30, 2017

| | Aristotle |
|---|---|
| Firm Location | Los Angeles, CA |
| Firm Inception | 2010 |
| Ownership Structure | 70% Employee Owned, 29% Owned by Former Employees, 1% Owned by Laurel Holdings |
| Assets Under Management (Firm) | $12.9 billion |
| Strategy Inception | January 2015[1] |
| Assets Under Management (Strategy) | $102 million |

### Firm Overview

- Aristotle Capital Management is a Los Angeles-based asset management firm focused on global and international equity investment management. The firm was founded in 2010 by Howard Gleicher and is 70% employee owned. The remainder of the firm is held by former employees, board members, and a third party private firm. Aristotle Capital Management also serves as a parent company for three other independent investment firms, Aristotle Credit Partners and Aristotle Capital Boston, and Aristotle Atlantic Partners.
- Aristotle Capital Management has $13 billion under management, though the firm's Value Equity (U.S. large cap) strategy represents roughly 90% of firm assets at $11 billion. Assets under management in the Global Opportunities strategy, incepted in January 2015, total $102 million.

[1] Global Opportunities was previously managed by Howard Gleicher. He ceded his portfolio management responsibilities to Greg Padilla and Alberto Crespo in January 2015.

## Aristotle Capital Management (continued)

### Investment Team Overview

- Portfolio managers Alberto Crespo and Greg Padilla lead the Global Opportunities investment team and are jointly responsible for investment decisions. Messrs. Crespo and Padilla joined Aristotle in 2014 and have 17 and 11 years of investment experience, respectively. Mr. Crespo began his investment career at Salomon Smith Barney and Merrill Lynch before joining value investor Dave Iben at Tradewinds Global Investors in 2006. Mr. Padilla began his investment career at Tradewinds in 2006, around the same time that Mr. Crespo joined the team. The two investors worked together for Dave Iben for the majority of their investment careers at Tradewinds and Vinik Asset Management before joining Aristotle.
- Messrs. Crespo and Padilla are supported by a team of 10 analysts who average 15 years of investment experience and 8 years at the firm, making this an experienced group. Analysts on the team are sector specialists but are encouraged to rotate sector coverage responsibilities over time to broaden out their perspective and investment knowledge.

### Investment Philosophy

- The Aristotle Global Opportunities team seeks to invest in quality stocks irrespective of country, sector, or market capitalization. They believe that they can create value by conducting rigorous, independent, bottom-up fundamental analysis while taking a long-term, global view. The team aims to construct a focused, benchmark agnostic, and diversified portfolio of attractively valued, high-quality companies.
- A key input to the team's process is a focus on companies in situations where changing company or industry fundamentals may catalyze future value creation and may be unappreciated by the market. These changes generally occur at the sector or industry levels. Uniquely, the Global Opportunities strategy retains the ability to invest across the capital structure and use cash and precious metals to preserve capital. Additionally, the strategy hedges back 50% of its foreign currency exposure to U.S. Dollars.

## Aristotle Capital Management (continued)

### Investment Process

- The team typically sources opportunities organically through competitive analysis on portfolio companies. Through their reviews of portfolio companies' competitive ecosystems (suppliers, competitors, customers, etc.), the team may uncover stocks that present as interesting new opportunities or that might ultimately displace a stock currently in the portfolio. The team meets formally twice per month to set analyst research priorities.
- The team then seeks to evaluate the quality of a company in the context of company financials, the efficacy of their business model, and the skill and track record of management. They spend an outsized amount of time on cash flow and balance sheet analysis.
- A critical component of the research process is the team's focus on companies that possess catalysts for future value creation both at the company level and the industry/sector level. Examples include restructuring, industry consolidation, resolution of past issues, or an improving business mix. The team conducts industry and sector research to determine whether a particular company is positioned to monetize these evolving dynamics.
- The Global Opportunities team's valuation discipline is predicated on assuming an owner's mentality. The team emphasizes absolute valuation, focusing on long-term earnings power and cash flow in determining company valuations.
- The portfolio generally holds 30-50 stocks across three broad quality segments: 1) Underappreciated Quality or more expensive, lower volatility, higher quality up-cap stocks, 2) Overlooked Quality, which includes cheaper, down-cap stocks with low to moderate debt and slightly higher volatility, and 3) Out of Favor Quality, or stocks trading at a large discount that may have high debt and a lower return on equity

## First Eagle Investment Management

As of June 30, 2017

| | First Eagle |
|---|---|
| Firm Location | New York, NY |
| Firm Inception | 1864 |
| Ownership Structure | 17% Employee Owned, 58% Private Equity Owned, 25% Family Owned |
| Assets Under Management (Firm) | $109.9 billion |
| Strategy Inception | January 1979[1] |
| Assets Under Management (Strategy) | $74.0 billion |

### Firm Overview

- First Eagle is a large global investment management firm based in New York, NY. The firm is 58% owned by private equity firms Blackstone and Corsair Capital, 25% owned by the firm's founding family members, and 17% owned by employees.
- First Eagle manages approximately $110 billion in assets across global equity and fixed income strategies as of June 2017. The team's flagship Global Value strategy, first incepted in 1979, has $74 billion in assets.

[1] Portfolio manager Matt McLennan's tenure on the strategy begins in September 2008, which is the inception date of the strategy for the performance comparison that follows in this document.

## First Eagle (continued)

### Investment Team Overview

- The investment team is led by Head of the Global Value Team, Matt McLennan, and Deputy Head of the Global Value Team, Kimball Brooker. Mr. McLennan retains final decision-making authority of the portfolio and has managed the strategy since 2008.
- Messrs. McLennan and Brooker each have more than 25 years of investment experience and are supported by 16 analysts. Analysts are segmented by global sector coverage, and average 15 years of experience in the investment industry.

### Investment Philosophy

- First Eagle believes that investors persistently fail to recognize a company's intrinsic value. The investment team attempts to exploit this anomaly using a bottom-up, capital preservation-based approach, while recognizing the future is uncertain. They seek quality businesses with above-average, sustainable profitability that are trading at a discount to intrinsic value.
- First Eagle's uniqueness comes from their dynamic positioning in either "Ben Graham" (i.e. deep value) or "Warren Buffett" (i.e. franchise value) type stocks. Additionally, First Eagle retains the flexibility to invest across the capital spectrum, to hold gold for downside protection, and to hold material amounts of cash if they don't see sufficient investment opportunities. The combined non-equity allocation can be around 30%, or greater, at times.

## First Eagle (continued)

### Investment Process

- First Eagle's investment process is predicated on deep fundamental analysis. As value investors, they take a contrarian approach to idea generation, focusing on cash flow and balance sheet metrics. When analyzing a business, First Eagle constantly asks "what can go wrong?" They are continually on the lookout for areas where unforeseen problems may arise, both within companies and more broadly in the macroeconomic environment that impacts those companies.
- The team seeks out companies that meet both the Ben Graham and Warren Buffett definitions of value independently. For Graham-like, deep value stocks, the team emphasizes hidden assets, underestimated earnings, and extremely low valuations. In Buffett-like, quality businesses, the team seeks to invest in companies with sustainable competitive advantages as proxied by brand strength, customer stickiness, and local market dominance. The team takes fundamental analysis very seriously; they seek to review *all* available information for any given company.
- The team's valuation and security selection process is conservative. Though traditional valuation criteria like P/E and P/B are considered, they value stocks using cash follow and balance sheet valuation metrics. The team also pays attention to private transaction multiples and absolute valuations.
- The team demands that portfolio candidates trade at a minimum 30% discount to their estimate of intrinsic value (i.e. a "margin of safety"). The final portfolio is broadly diversified with 100 to 150 stocks. First Eagle's gold position will typically be around 10%, as a hedge on systemic risk in the financial system. Cash will fluctuate from 0-20%. This is purely a function of how many stocks they can find that meet their investment criteria.

**Kopernik Global Investors**
As of June 30, 2017

| | Kopernik |
|---|---|
| Firm Location | Tampa, FL |
| Firm Inception | 2013 |
| Ownership Structure | 100% Employee Owned |
| Assets Under Management (Firm) | $2.7 billion |
| Strategy Inception | July 2013 |
| Assets Under Management (Strategy) | $2.6 billion |

## Firm Overview

- Kopernik Global Investors is a global equity and real assets investment management firm headquartered in Tampa, FL. The firm was founded in 2013 by CIO David Iben and is 100% employee owned. Mr. Iben owns the majority of the firm, with the remainder distributed among 27 other current employees.
- Kopernik manages just under $3 billion in assets across four global and international equity and real assets strategies. The Global All-Cap strategy, incepted in July 2013, represents the majority of firm assets with $2.6 billion under management.

## Investment Team Overview

- The investment team comprises 12 investment professionals. The team is led by Chief Investment Officer and lead portfolio manager Dave Iben. Mr. Iben is the key decision maker for the strategy. Previously, Mr. Iben led the Global Value team at Vinik Asset Management, and prior to that, he was the CIO of Tradewinds Global Investors, where he managed the Global All Cap fund from 1998 to 2012.
- Mr. Iben is supported by three co-portfolio managers and eight research analysts. Many of these analysts have substantial investment expertise; the analyst team averages 20 years of industry experience.

## Kopernik Global Investors (continued)

### Investment Philosophy

- Kopernik views each potential investment as a tradeoff between the quality of the underlying business and the valuation of the stock. All else equal, they would prefer to own a higher quality company, but they are willing to move down the quality scale if they are compensated for the additional risk.
- Kopernik is 100% benchmark-agnostic and willing to concentrate the portfolio in areas of the market which are the most attractive from a valuation perspective. Unlike most global equity peers, when markets become increasingly bifurcated, Kopernik often finds value in the mining and resource sectors. Most recently, Kopernik has committed significant investments to the gold mining industry.
- The combination of Kopernik's unconstrained execution and willingness to invest in areas most global equity managers cannot or will not invest produces a differentiated portfolio in absolute, but also potentially large diversification benefits for multi-manager global equity portfolios.

### Investment Process

- Kopernik's investment process is primarily bottom-up, and idea generation is driven by the team's global sector analysts. Significant discretion is given to the expertise and industry knowledge of the analysts. Idea generation is the result of industry-specific screens used by the analysts.
- For stocks that screen as favorable, the first step for analysts is to estimate the company's intrinsic value with an emphasis on industry-specific valuation metrics. Specifically, Kopernik analysts tend to de-emphasize the use of P/E ratios in their valuation process, due in part to the short-comings of P/E as a valuation measure for cyclical businesses and companies/industries that are undergoing structural change or temporarily distressed earnings.
- Once an estimate of intrinsic value has been arrived upon, analysts then analyze the company's "Franchise Quality," using a Porter's Five Forces analysis. Their competitive analysis is often in the context of whether or not a business model can be easily replicated. In an attempt to avoid value traps, Kopernik emphasizes discussing "value drivers and forces of change" (i.e. catalysts) for each investment idea. Examples include restructurings, misperceived fundamentals (i.e. mining cost curves and "incentive prices"), management changes, and M&A. Final buy and sell decisions are based on the risk/reward tradeoff between value and quality (with more weight given to the former as a requisite for investment).
- Kopernik's approach is entirely unconstrained and benchmark-agnostic, with exposures that are extremely different from the index and the vast majority of global equity peers. The portfolio typically holds 50-100 stocks with position sizes limited to 5%. Turnover ranges from 30-80% per annum, depending on the market environment.

## Portfolio Characteristics[1]

As of June 30, 2017

| | Aristotle | | First Eagle | | Kopernik | | MSCI ACWI | |
|---|---|---|---|---|---|---|---|---|
| Trailing Price-Earnings Ratio | 28.0x | | 18.8x | | 7.3x | | 18.3x | |
| Dividend Yield | 2.0% | | 2.0% | | 2.5% | | 2.4% | |
| Price-Book Value Ratio | 3.1x | | 3.1x | | 0.6x | | 2.2x | |
| Weighted Average Market Cap | $53.4 billion | | $67.8 billion | | $11.0 billion | | $133.3 billion | |
| Median Market Cap | $20.1 billion | | $19.7 billion | | $2.1 billion | | $9.9 billion | |
| Number of Holdings | 39 | | 138 | | 74 | | 2,501 | |
| Annual Expected Turnover Rate | 20-40% | | 10-20% | | 20% | | NA | |
| Active Share | 96.3% | | 90.7% | | 99.7% | | NA | |
| Top 3 Country Weightings: | U.S. | 49% | U.S. | 44% | U.S. | 36% | U.S. | 53% |
| | Japan | 13% | Japan | 16% | EM | 36% | EM | 12% |
| | Canada | 12% | Other[2] | 8% | Canada | 30% | Japan | 8% |
| Top 3 Sector Weightings: | Cons. Stap. | 14% | Materials | 17% | Materials | 25% | Financials | 19% |
| | Info. Tech. | 13% | Financials | 17% | Energy | 17% | Info. Tech. | 17% |
| | Materials | 13% | Industrials | 16% | Industrials | 16% | Cons. Disc. | 12% |
| % of Portfolio in Top 10 Holdings: | 31.0% | | 21.0%[3] | | 35.0% | | 9.3% | |

- Aristotle's portfolio is slightly more expensive than the index on a price/earnings and price/book basis. This is reflective of Aristotle's flexibility across different types of value opportunities, which includes both undervalued, high-quality business that tend to justify relatively higher price multiples and undervalued, temporarily depressed businesses where profitability levels are likely to improve. Aristotle's portfolio is more concentrated than First Eagle and Kopernik. The portfolio has a high active share of 96%.
- First Eagle manages a more diversified portfolio (greater than 100 stocks). The portfolio's valuation trades near the index and it also has a slight tilt toward smaller cap companies. The strategy's country weights and sector allocations skew towards traditional cyclical sectors, such as materials and industrials, due to these sectors being largely out of favor. The portfolio is benchmark-agnostic and will utilize cash, gold, and small amounts of fixed income to preserve client capital and reduce downside risks.
- Kopernik's portfolio has a high active share of >99%, an indication that there is very little overlap with the index, consistent with their "go anywhere", unconstrained approach. Kopernik's portfolio trades at a substantial valuation discount relative to Aristotle, First Eagle and the index. The portfolio's price-to-book ratio is extremely low, at 0.6x versus 2.2x for the index. The portfolio is diversified across 74 stocks.

1 Source: eVestment Alliance Database, MSCI.
2 Other includes First Eagle's exposure to gold bullion and fixed income securities.
3 Excludes cash.

## Risk Characteristics[1]

Common period (January 2015 – June 2017)

| | Aristotle | First Eagle | Kopernik | MSCI ACWI |
|---|---|---|---|---|
| **Common Period Performance:** | | | | |
| Common Period Performance (%) | 8.0 | 6.6 | 11.4 | 6.6 |
| Best 3 Months (%) | 11.4 | 10.6 | 42.5 | 9.1 |
| Worst 3 Months (%) | -8.9 | -7.0 | -16.8 | -9.4 |
| **Risk Measures:** | | | | |
| Standard Deviation (%) | 10.7 | 8.8 | 26.9 | 12.1 |
| Tracking Error (%) | 5.7 | 5.1 | 20.7 | NA |
| Beta | 0.76 | 0.66 | 1.20 | 1.00 |
| Correlation to Benchmark | 0.87 | 0.91 | 0.58 | NA |
| Downside Deviation (%) | 3.7 | 4.1 | 6.5 | 6.2 |
| Upside Capture (%) | 75.3 | 64.2 | 119.8 | NA |
| Downside Capture (%) | 58.0 | 52.5 | 88.8 | NA |
| **Risk-Adjusted Performance:** | | | | |
| Jensen's Alpha (%) | 2.85 | 2.14 | 3.56 | NA |
| Sharpe Ratio | 0.72 | 0.72 | 0.41 | 0.52 |
| Information Ratio | 0.23 | 0.00 | 0.23 | NA |

- All three value strategies have very distinct risk and return profiles, which is reflective of each manager's unique approach to valuation and portfolio construction. That said, the common period shown above is quite short, due to the Aristotle PMs limited track record, thus far. Therefore, it is difficult to draw any firm conclusions based solely on the statistics above.
- Aristotle has had lower risk than the index, and low beta as well. First Eagle's portfolio has had the lowest risk, owed, in part, to allocations to cash and gold bullion. However, these exposures have been a drag on relative performance during the period, as the strategy has matched the index. Kopernik has outperformed Aristotle, First Eagle, and the index over the common period, but with much higher absolute volatility and tracking error. The combination of extreme active and absolute risk, over shorter term periods, suggests that investors must have a long-term investment horizon when allocating to this strategy.

[1] All returns are net of fees. Source: eVestment Alliance Database, MSCI. Common period starting point in January 2015 represents the beginning of the current portfolio management team's tenure on the strategy.

## Trailing and Calendar Year Performance (net of fees)[1]

As of June 30, 2017

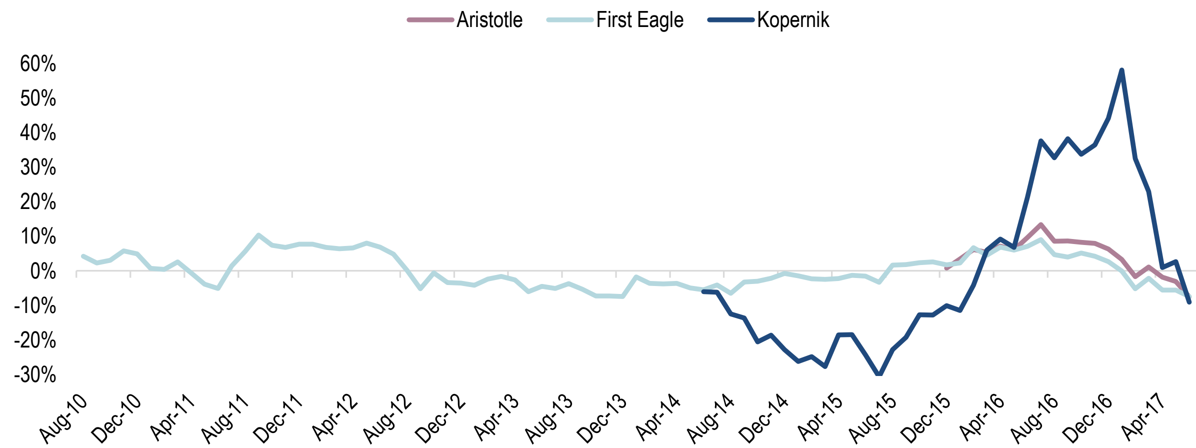
| | Aristotle | First Eagle | Kopernik | MSCI ACWI |
|---|---|---|---|---|
| **Trailing Period Returns (%):** | | | | |
| YTD 2017 | 7.3 | 6.9 | -1.6 | *11.5* |
| 1 Year | 11.5 | 11.4 | 9.7 | *18.8* |
| 3 Years | NA | 4.5 | -0.5 | *4.8* |
| 5 Years | NA | 8.5 | NA | *10.5* |
| 7 Years | NA | 9.5 | NA | *10.5* |
| 10 Years | NA | NA | NA | *3.7* |
| **Calendar Year Returns (%):** | 8.0 | | | |
| 2016 | | 10.6 | 52.0 | *7.9* |
| 2015 | 14.4 | -0.6 | -12.4 | *-2.4* |
| 2014 | -1.4 | 3.4 | -18.6 | *4.2* |
| 2013 | NA | 15.4 | NA | *22.8* |
| 2012 | NA | 12.6 | NA | *16.1* |
| 2011 | NA | 0.4 | NA | *-7.3* |
| 2010 | NA | 17.6 | NA | *12.7* |
| 2009 | NA | 23.2 | NA | *34.6* |
| 2008 | NA | NA | NA | *-42.2* |

- Though all three strategies have lagged the index over the trailing one-year period, each has performed in-line with our knowledge of, and expectations for, their respective approaches. In general, value-oriented strategies have struggled in the post-Global Financial Crisis market environment, where a significant bifurcation between growth (outperforming) and value (underperforming) stocks has been a headwind for value managers.

- Importantly, all three managers added significant value during the 2016 rally in deep cyclical stocks. Kopernik, in particular, excelled during this period with a return of 52% for the year.

1 All returns are net of fees. Source: eVestment Alliance Database, MSCI.

**Rolling One-Year Excess Returns[1]**
Common Period as of June 30, 2017




| As of 6/30/2017 | Total Periods | Periods Outperformed | Percentage (%) | Average Ann. Excess Return (%) | Max (%) | Min (%) | Range (%) |
|---|---|---|---|---|---|---|---|
| Aristotle | 19 | 15 | 78.9 | 4.5 | 13.6 | -7.3 | 20.9 |
| First Eagle | 91 | 42 | 46.2 | -0.4 | 10.4 | -19.9 | 30.2 |
| Kopernik | 37 | 15 | 40.5 | 0.3 | 58.2 | -30.7 | 88.9 |

- Aristotle has added value since inception, outperforming in 80% of rolling one-year periods since inception. However, the strategy's performance history is relatively short.
- First Eagle has generated benchmark-like returns over rolling one-year periods since inception, and has underperformed the index on average over these periods. This is in-line with our expectations for the strategy given the team's defensive posture with material investments in cash and gold.
- Kopernik's returns are clearly the most volatile of the three strategies on a relative basis, with a range of 88.9%. Though Kopernik has outperformed the index in less than half of rolling one-year periods since inception, the strategy has outperformed the index on average.

[1] Returns are net of fees. Source: eVestment Alliance Database, MSCI.

## Comparative Manager Assessment

| | Aristotle | First Eagle | Kopernik |
|---|---|---|---|
| Strengths | • Aristotle is an employee-owned boutique asset management firm focused on global equity portfolio management.<br>• Aristotle's Global Opportunities team, led by Alberto Crespo and Greg Padilla, is deep and experienced.<br>• The investment team's flexible, defensive, value-oriented approach is differentiated relative to peers. The strategy is benchmark agnostic and the team is willing to utilize cash to protect capital. | • First Eagle is an established global equity and fixed income manager focused on value-oriented investment strategies.<br>• Portfolio managers Matt McLennan and Kimball Brooker lead one of the deepest, most seasoned value investment teams in the global value space.<br>• The team's willingness to allocate assets to cash during periods of excessive market valuations is a key differentiator.<br>• The team allocates a portion of portfolio assets (typically 5-10%) to gold and gold equities, which may provide incremental diversification benefits for investors during market risk-off periods. | • Kopernik is a focused global equity long and long-short asset manager. The firm is 100% employee owned and was founded by respected value investor Dave Iben in 2013.<br>• The Kopernik investment team is impressively well staffed and has significant industry experience.<br>• Kopernik's value-oriented, benchmark-agnostic investment process results in a unique return stream that may add significant diversification benefits for global equity investors. |
| Weaknesses | • The Global Opportunities team only recently joined Aristotle. Portfolio managers Alberto Crespo and Greg Padilla joined Aristotle from Vinik Asset Management in 2014 and began managing the strategy in January 2015.<br>• Assets under management in the strategy are fairly low at $100 million. | • The Global Equity strategy, First Eagle's flagship investment strategy, has grown to $70 billion in assets, reducing the team's ability to invest in less liquid, smaller-cap stocks.<br>• Though the team's allocation to cash (and gold) serves to reduce portfolio volatility and may function as a hedge during a bear market, the strategy will likely match or trail the index during these periods. | • Kopernik's benchmark agnostic approach and willingness to concentrate the portfolio in high conviction stocks results in a differentiated return profile but also significant volatility relative to the index.<br>• Kopernik is a relatively new asset management firm, having been founded in 2013. A mitigating factor is that the team has managed to scale up assets under management to a profitable level. |
| Fees | • Estimated all-in fee of 0.39%. | • Estimated all-in fee of 0.75%. | • Estimated all-in fee of 0.75%. |

# Correlation Analysis

## Overview

- While we believe that any pairing of high conviction managers should enhance the diversification of a global equity portfolio, some investment strategies tend to serve as stronger complements than others.

**Excess Return Correlations 1**[1]

Common period (January 2015 – June 2017)

| | Hexavest | LMCG | Artisan | Wellington | Aristotle | First Eagle | Kopernik |
|---|---|---|---|---|---|---|---|
| Hexavest | 1.00 | | | | | | |
| LMCG | **-0.33** | 1.00 | | | | | |
| Artisan | **-0.16** | 0.05 | 1.00 | | | | |
| Wellington | **0.63** | **-0.20** | 0.20 | 1.00 | | | |
| Aristotle | **0.56** | **-0.24** | **-0.05** | 0.25 | 1.00 | | |
| First Eagle | **0.58** | **-0.06** | **-0.01** | 0.47 | **0.83** | 1.00 | |
| Kopernik | 0.17 | **-0.14** | **-0.16** | **-0.31** | **0.64** | 0.41 | 1.00 |

- The median excess return correlation among the managers in this search is -0.01 over the common period, suggesting that most combinations of strategies result in material diversification benefits. The bolded correlations in the table above are below this median.
- As shown, most combinations of the candidate investment strategies offer significant diversification benefits when paired together. Only a few manager combinations (Aristotle and First Eagle, Wellington and Hexavest, Kopernik and Aristotle) result in an excess return correlation exceeding 0.60.

[1] Common period beginning in January 2015 represents the start of Greg Padilla and Alberto Crespo's tenure as portfolio managers of the Aristotle Global Opportunities strategy.

**Excess Return Correlations 2[1]**
Common period (July 2013 – June 2017)

| | Hexavest | LMCG | Artisan | Wellington | First Eagle | Kopernik |
|---|---|---|---|---|---|---|
| Hexavest | 1.00 | | | | | |
| LMCG | **-0.37** | 1.00 | | | | |
| Artisan | **-0.15** | 0.17 | 1.00 | | | |
| Wellington | 0.38 | **-0.09** | 0.38 | 1.00 | | |
| First Eagle | **0.58** | **-0.06** | **-0.02** | 0.35 | 1.00 | |
| Kopernik | 0.12 | **-0.10** | **-0.16** | **-0.25** | 0.43 | 1.00 |

- The median excess return correlation among the managers in this search is -0.02 over this common period, indicating that combinations of these strategies tend to result in significant diversification benefits relative to the index. The bolded correlations in the table above are below this median.
- As shown, most combinations of the candidate investment strategies offer significant diversification benefits when paired together. Only one combination of managers (First Eagle and Hexavest) results in an excess return correlation above 0.50.

[1] Common period beginning in January 2015 represents the start of Greg Padilla and Alberto Crespo's tenure as portfolio managers of the Aristotle Global Opportunities strategy.

## Excess Return Correlations 3[1]

Common period (July 2012 – June 2017)

| | Hexavest | LMCG | Artisan | Wellington | First Eagle |
|---|---|---|---|---|---|
| Hexavest | 1.00 | | | | |
| LMCG | **-0.34** | 1.00 | | | |
| Artisan | **-0.10** | 0.10 | 1.00 | | |
| Wellington | 0.40 | 0.04 | 0.35 | 1.00 | |
| First Eagle | **0.57** | 0.02 | **-0.03** | 0.39 | 1.00 |

- The median excess return correlation among the managers over this common period is 0.07, suggesting that most combinations of strategies result in material diversification benefits. The bolded correlations in the table are below this median.
- Most combinations of the candidate investment strategies offer significant diversification benefits when paired together over this common period. Only one manager combination (First Eagle and Hexavest) results in an excess return correlation exceeding 0.50.

[1] Common period beginning in January 2015 represents the start of Greg Padilla and Alberto Crespo's tenure as portfolio managers of the Aristotle Global Opportunities strategy.

## Management Fees

| | Hexavest | LMCG | Artisan | Wellington | Aristotle | First Eagle | Kopernik |
|---|---|---|---|---|---|---|---|
| Vehicle Name | Hexavest Global Equity | Global MultiCap | Global Equity Trust | Durable Enterprises | Global Opportunities | First Eagle Global Value | Global All-Cap |
| Vehicle Type | Commingled Fund | Separate Account | Commingled Fund | Separate Account | Commingled Fund[1] | Commingled Fund | Commingled Fund |
| Minimum Account Size | $5 million | $500,000 | NA | $25 million | $10 million | $5 million | $1 million |
| Liquidity | Daily | NA | Daily | NA | NA | Monthly | Daily |
| Management Fee | 0.60% on first $10mm, 0.50%on next $30mm, 0.40% thereafter | 0.45% on all assets | 0.85% on all assets | 0.75% on all assets | 0.39% on all assets | 0.75% on all assets | 0.75% on first $50mm, 0.70% on next $100mm, 0.65% on next $100mm, 0.60% thereafter |
| Other Expenses[2] | 0.10% | 0.10% | NA | 0.10% | NA | NA | NA |
| All-In Fee[3] | 0.64% | 0.55% | 0.85% | 0.85% | 0.39% | 0.75% | 0.75% |

- The median fee for a $30 million investment is 0.75% for a separate account and 0.75% for a commingled fund in the eVestment Alliance Global All Cap peer group. Please note that these peer group medians are imperfect benchmarks as managers typically report management fees only and exclude operating expenses.

1 Aristotle has offered this fee for PCRA to seed a commingled vehicle. Aristotle originally proposed a separate account mandate with a 0.49% management fee.
2 Separate Account expenses estimated at 0.10% for all managers.
3 Assumes mandate size of $30 million.

# Appendix

**Information Ratio:** This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

**Sharpe Ratio:** A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

**Standard Deviation:** A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

**Jensen's Alpha:** The difference between a portfolio's actual return and its statistically derived expected return. Jensen's Alpha is a measure of a manager's ability to achieve returns above those that are purely a reward for bearing market risk (beta).

**Tracking Error:** This statistic measures the standard deviation of excess returns relative to a benchmark. Tracking error is calculated by multiplying the standard deviation of the monthly excess returns of a portfolio relative to a benchmark by the square root of twelve in order to annualize. The higher the tracking error, the greater the volatility of excess returns relative to a benchmark.

Sources: www.businessdictionary.com
www.liabilityinsurance.org
http://www.naplia.com/employeedishonesty/Employee_Dishonesty_FAQ.shtml
Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
Modern Investment Management, Litterman, Bob, 2003.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991.
Investment Manager Analysis, Travers, Frank J., 2004

# Private Equity
# Search Summary

## Background

- To reach and maintain a 13% target to private equity, the Retirement Association should commit an average of $36 million per year, targeting two to three new investments.
- To help execute this strategy, Meketa issued an RFP for middle market buyout managers on September 27, 2017, with responses due on October 10, 2017.
- Meketa Investment Group received 6 responses; these responses are reviewed on the following pages.

# Manager Search Respondent Reviews

# Manager Respondents Composite Rating Overview

## Traditional Partnership Respondents

| Manager | Score | Rationale |
|---|---|---|
| Trilantic Capital Partners | Highly Advantageous | • Strong team with a high level of stability and continuity; impressive track record with consistently strong returns. |
| Palladium Equity Partners | Advantageous | • Large team; prior fund performance is variable. |
| Vestar Capital Partners | Advantageous | • Robust organizational history; prior fund performance is variable. |

## Direct / Co-investment Respondents

| Manager | Score | Rationale |
|---|---|---|
| Constitution Capital Partners | Highly Advantageous | • Stable team with good continuity; strong track record featuring consistent prior fund performance. |
| Hamilton Lane Advisors | Advantageous | • Large, global platform; relatively strong performance across two most recent vehicles raised. |
| Performance Equity Management | Advantageous | • Broad mandate; prior fund performance is variable. |

# Trilantic Capital Partners VI (North America)

| Rating Criteria | Score | Rationale |
|---|---|---|
| Overall | Highly Advantageous | • Capable team backed by solid management; impressive track record with consistently strong returns. |
| Organization | Advantageous | • Trilantic was founded in 2009 and is a global private equity manager headquartered in New York, NY.<br>• Trilantic currently has approximately $7.7 billion under management, including approximately $6.3 billion managed by Trilantic North America. |
| Team | Advantageous | • The team consists of 44 employees based out of New York, NY and Austin, TX with significant operational and investment expertise.<br>• Trilantic has experienced limited turnover throughout its history with only one senior departure occurring in the last five years. |
| Investment Philosophy & Process | Highly Advantageous | • The Fund will make buyout and growth equity investments in middle market companies across North America.<br>• The Fund will focus mainly on businesses operating within the consumer, business services, and energy industries with enterprise values of between $100 million and $1.0 billion. |
| Performance[1] | Highly Advantageous | • Fund III: 2004 vintage year, 16.6% net IRR.<br>• Fund IV Global: 2007 vintage year, 15.6% net IRR.<br>• Fund V North America: 2013 vintage year, 15.3% net IRR.<br>• Trilantic Energy Partners I North America: 2014 vintage year, 27.6% net IRR. |
| Fees | Advantageous | • 1.75% of commitments during the Commitment Period; thereafter, 1.25% of unrealized contributions. |

[1] As of 6/30/2017.

# Palladium Equity Partners V

| Rating Criteria | Score | Rationale |
|---|---|---|
| Overall | Advantageous | • Large team; prior fund performance is variable. |
| Organization | Advantageous | • Palladium was founded in 1997 and is a middle market private equity firm headquartered in New York, NY.<br>• The firm currently manages assets of approximately $2.0 billion. |
| Team | Advantageous | • The IIF team comprises 27 investment professionals and senior professionals have worked together at the firm for ten years.<br>• Palladium has experienced some meaningful turnover recently with nine senior employees leaving the firm in the past five years. |
| Investment Philosophy & Process | Advantageous | • The Fund will execute a diversified buyout strategy, focusing on U.S. middle market companies with EBITDA ranging from $10 million to $75 million.<br>• The Fund intends to diversify investments across industry and geography while adding value to portfolio companies through operational improvement, enhanced leadership, and consolidation initiatives.<br>• Palladium will employ a special focus on founder and family-owned businesses as well as the U.S. Hispanic market, where it has observed unique growth potential. |
| Performance[1] | Not Advantageous | • Fund II: 2000 vintage year, 8.8% net IRR.<br>• Fund III: 2005 vintage year, 15.5% net IRR.<br>• Fund IV: 2014 vintage year, 9.5% net IRR. |
| Fees | Not Advantageous | • 2.0% of commitments during the Commitment Period and 2.0% of invested capital for two years thereafter; finally, 1.5% of invested capital. |

[1] As of 6/30/2017.

# Vestar Capital Partners VII

| Rating Criteria | Score | Rationale |
|---|---|---|
| Overall | Advantageous | • Robust organizational history; historical performance is variable. |
| Organization | Advantageous | • Vestar was founded in 1988 and is a private equity firm headquartered in New York, NY with additional offices in Denver, CO and Boston, MA.<br>• The firm currently has approximately $6.9 billion under management across six prior funds raised. |
| Team | Advantageous | • The team consists of 22 total investment professionals and is led by the firm's twelve Managing Directors, who combine for more than 300 years of private equity experience.<br>• Vestar has experienced notable employee turnover with four Managing Directors (including one Founder) leaving the firm in the past five years. |
| Investment Philosophy & Process | Advantageous | • The Fund will make buyout investments in U.S. middle market companies across the consumer, industrial, business services, and healthcare industries.<br>• The Fund intends to add value to portfolio companies through operational improvements and the implementation of strategic initiatives. |
| Performance[1] | Advantageous | • Fund IV: 1999 vintage year, 13.0% net IRR.<br>• Fund V: 2005 vintage year, 4.0% net IRR.<br>• Fund VI: 2011 vintage year, 33.0% net IRR. |
| Fees | Not Advantageous | • 2.0% of commitments during the Commitment Period; thereafter, 2.0% pa of invested capital. |

[1] As of 6/30/2017.

# Ironsides Direct Investment Fund V (Constitution Capital Partners)

| Rating Criteria | Score | Rationale |
|---|---|---|
| Overall | Highly Advantageous | • Stable team with solid continuity; strong track record featuring consistent prior fund performance. |
| Organization | Advantageous | • Constitution Capital is an alternative asset management firm founded in 2008 with headquarters in Andover, MA.<br>• The firm currently manages approximately $2.7 billion across fourteen prior vehicles. |
| Team | Advantageous | • The team consists of 17 investment professionals with over 210 years of collective investment experience.<br>• Constitution has not experienced any senior or mid-level turnover over the history of the organization. |
| Investment Philosophy & Process | Advantageous | • The Fund will make lower middle buyout and growth equity co-investments in North American businesses across the consumer, industrials, business services, and healthcare industries.<br>• The Fund will focus on companies with enterprise values of between $100 million and $1.0 billion.<br>• The Fund expects to complete 11-13 direct investments ranging from $10 million to $40 million in size. |
| Performance[1] | Highly Advantageous | • Ironsides Co-Investment Fund II: 2011 vintage year, 22.6% net IRR.<br>• Ironsides Co-Investment Fund III: 2013 vintage year, 15.8% net IRR.<br>• Ironsides Direct Investment Fund IV: 2016 vintage year, performance is not meaningful. |
| Fees | Highly Advantageous | • 0.5% of committed capital during the Commitment Period; thereafter, 0.5% of invested capital. (Reflects 50% fee discount for first close investors.) |

[1] As of 6/30/2017.

# Hamilton Lane Co-Investment Fund IV

| Rating Criteria | Score | Rationale |
|---|---|---|
| Overall | Advantageous | • Large, global platform; relatively strong performance across two most recent vehicles raised. |
| Organization | Highly Advantageous | • Hamilton Lane was founded in 1991 and is a global investment firm headquartered in Philadelphia, PA.<br>• The firm has fifteen global office locations and currently manages approximately $45.8 billion in discretionary assets. |
| Team | Advantageous | • The Hamilton Lane team comprises 62 investment professionals who are supported by additional business development, finance, operational, and legal personnel.<br>• Hamilton Lane has endured some noteworthy turnover with six senior investment professionals departing in the last five years. |
| Investment Philosophy & Process | Advantageous | • The Fund will target buyout and growth capital co-investment opportunities mainly within the U.S. and Western Europe as well as Asia and Australia to a lesser extent.<br>• The Fund will diversify investments across manager, geography, industry, deal type, and size.<br>• Target return of 25% gross IRR. |
| Performance[1] | Advantageous | • Co-Investment Fund I: 2005 vintage year, 0.3% net IRR.<br>• Co-Investment Fund II: 2008 vintage year, 16.7% net IRR.<br>• Co-Investment Fund III: 2014 vintage year, 18.6% net IRR. |
| Fees | Advantageous | • 1.0% of capital commitments during the Investment Period; thereafter, 1.0% of invested capital. |

[1] As of 6/30/2017.

# Performance Direct Investments IV

| Rating Criteria | Score | Rationale |
|---|---|---|
| Overall | Advantageous | • Broad mandate; prior fund performance is variable. |
| Organization | Advantageous | • Performance Equity Management was founded in 2005 and is a global private investment firm with headquarters in Greenwich, CT.<br>• The firm currently manages assets of approximately $9.5 billion. |
| Team | Advantageous | • The investment team consists of 17 professionals and is led by a group of seven Managing Directors with five working together at the firm since 1998.<br>• Charles Froland (former CEO) represents the only significant personnel departure in the past five years. |
| Investment Philosophy & Process | Advantageous | • The Fund will invest in growth equity and lower middle market buyout co-investment opportunities mainly within the U.S. as well as Western Europe to a lesser extent.<br>• The Fund will avoid exposure to emerging markets, venture capital, direct lending (mezzanine and senior), distressed, turnaround, fund of funds, and secondary transactions. |
| Performance[1] | Advantageous | • Direct Investments I: 2001 vintage year, 13.0% net IRR.<br>• Direct Investments II: 2006 vintage year, 12.1% net IRR.<br>• Direct Investments III: 2014 vintage year, 9.7% net IRR. |
| Fees | Advantageous | • 1.0% of aggregate capital commitments during the Investment Period; post-Investment Period management fee rate not disclosed. |

[1] As of 3/31/2017.

# Summary

| | Trilantic Capital Partners | Palladium Equity Partners | Vestar Capital Partners |
|---|---|---|---|
| Location | New York, NY | New York, NY | New York, NY |
| Fund Name | Trilantic Capital Partners VI (North America) | Palladium Equity Partners V | Vestar Capital Partners VII |
| Fund Size | $2.25 billion target | $1.5 billion target | $1.0 billion target |
| Track Record | As of 6/30/2017<br>• Fund III: 2004 vintage year, 16.6% net IRR.<br>• Fund IV Global: 2007 vintage year, 15.6% net IRR.<br>• Fund V North America: 2013 vintage year, 15.3% net IRR. | As of 6/30/2017<br>• Fund II: 2000 vintage year, 8.8% net IRR.<br>• Fund III: 2005 vintage year, 15.5% net IRR.<br>• Fund IV: 2014 vintage year, 9.5% net IRR. | As of 6/30/2017<br>• Fund IV: 1999 vintage year, 13.0% net IRR.<br>• Fund V: 2005 vintage year, 4.0% net IRR.<br>• Fund VI: 2011 vintage year, 33.0% net IRR. |
| Strategy | The Fund will make buyout and growth equity investments in middle market companies across North America. The Fund will focus mainly on businesses operating within the consumer, business services, and energy industries with enterprise values between $100 million and $1.0 billion. | The Fund will execute a diversified buyout strategy, focusing on U.S. middle market companies with EBITDA ranging from $10 million to $75 million. The Fund intends to diversify across industry and geography while adding value through operational improvements and consolidation initiatives. | The Fund will make buyout investments in U.S. middle market companies across the consumer, industrial, business services, and healthcare industries. The Fund intends to add value to portfolio companies through operational improvements and the implementation of strategic initiatives. |
| Geographic Focus | North America | North America | North America |
| Management Fee | 1.75% of aggregate commitments; 1.25% of invested capital. | 2.0% of aggregate commitments; 2.0% (declining to 1.5% over time) of invested capital. | 2.0% of aggregate commitments; 2.0% of invested capital. |
| Preferred Return | 8.0% | 8.0% | 8.0% |
| Carried Interest | 20.0% | 20.0% | 20.0% |

## Summary (continued)

| | Constitution Capital Partners | Hamilton Lane Advisors | Performance Equity Management |
|---|---|---|---|
| Location | Andover, MA | Philadelphia, PA | Greenwich, CT |
| Fund Name | Ironsides Direct Investment Fund V | Co-Investment Fund IV | Performance Direct Investments IV |
| Fund Size | $300.0 million target | $1.5 billion target | $300.0 million target |
| Track Record | As of 6/30/2017<br>• Ironsides Co-Investment Fund II: 2011 vintage year, 22.6% net IRR.<br>• Ironsides Co-Investment Fund III: 2013 vintage year, 15.8% net IRR.<br>• Ironsides Direct Investment Fund IV: 2016 vintage year, performance is not meaningful. | As of 6/30/2017<br>• Co-Investment Fund I: 2005 vintage year, 0.3% net IRR.<br>• Co-Investment Fund II: 2008 vintage year, 16.7% net IRR.<br>• Co-Investment Fund III: 2014 vintage year, 18.6% net IRR. | As of 3/31/2017<br>• Direct Investments I: 2001 vintage year, 13.0% net IRR.<br>• Direct Investments II: 2006 vintage year, 12.1% net IRR.<br>• Direct Investments III: 2014 vintage year, 9.7% net IRR. |
| Strategy | The Fund will make buyout and growth equity co-investments in small to mid-cap businesses across the consumer, industrials, business services, and healthcare industries. The Fund expects to complete 11-13 direct investments ranging from $10 million to $40 million in size. | The Fund will target buyout and growth capital co-investment opportunities mainly within the U.S. and Western Europe as well as Asia and Australia to a lesser extent. The Fund will diversify investments across manager, geography, industry, deal type, and size with a gross target return of 25%. | The Fund will seek to make growth equity and buyout co-investments in lower middle market companies operating within the U.S. and (to a lesser extent) Western Europe. The Fund will avoid exposure to emerging markets, venture capital, direct lending, distressed, turnaround, fund of funds, and secondary transactions. |
| Geographic Focus | North America | Global | Global |
| Management Fee | 0.5% of aggregate commitments; 0.5% of invested capital.<br>(Reflects 50% discount for first close investors) | 1.0% of aggregate commitments; 1.0% of invested capital. | 1.0% of aggregate commitments; post-Investment Period fee rate not disclosed. |
| Preferred Return | 8.0% | 8.0% | 8.0% |
| Carried Interest | 15.0% | 20.0% (10.0% for first close investors) | 10.0% |

## Summary & Recommendation

- Based upon our review and evaluation of each respondent, Meketa Investment Group has ranked:
  - Trilantic Capital Partners VI (North America) as highly advantageous.
  - Ironsides Direct Investment Fund V as highly advantageous relative to respondents offering co-investment exposure.
- We recommend the Board consider interviewing Trilantic Capital Partners at the November meeting.
- We recommend considering co-investments at a later date following additional education and discussion.

# Performance Review
# As of September 30, 2017

## Asset Class Performance Summary

| | Market Value ($) | % of Portfolio | 1 Mo (%) | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Return (%) | Since |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Retirement Association** | **994,880,141** | **100.0** | **1.8** | **4.0** | **12.4** | **13.8** | **7.4** | **8.7** | **4.9** | **8.3** | **Nov-89** |
| *Custom Benchmark - Policy Benchmark (1)* | | | *1.6* | *4.0* | *11.3* | *12.8* | *7.6* | *9.2* | *6.1* | *--* | *Nov-89* |
| **Domestic Equity Assets** | **327,449,814** | **32.9** | **3.5** | **4.2** | **13.0** | **20.0** | **--** | **--** | **--** | **16.1** | **Jan-16** |
| *Russell 3000* | | | *2.4* | *4.6* | *13.9* | *18.7* | *10.7* | *14.2* | *7.6* | *15.4* | *Jan-16* |
| **International Developed Market Equity Assets** | **194,886,365** | **19.6** | **2.5** | **7.0** | **24.1** | **21.5** | **--** | **--** | **--** | **13.8** | **Jan-16** |
| *MSCI EAFE* | | | *2.5* | *5.4* | *20.0* | *19.1* | *5.0* | *8.4* | *1.3* | *11.6* | *Jan-16* |
| **International Emerging Market Equity Assets** | **74,213,935** | **7.5** | **-0.8** | **7.2** | **27.8** | **22.1** | **--** | **--** | **--** | **20.0** | **Jan-16** |
| *MSCI Emerging Markets* | | | *-0.4* | *7.9* | *27.8* | *22.5* | *4.9* | *4.0* | *1.3* | *22.2* | *Jan-16* |
| **Domestic Fixed Income** | **79,791,814** | **8.0** | **-0.4** | **0.9** | **3.0** | **0.7** | **--** | **--** | **--** | **3.9** | **Jan-16** |
| *75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year* | | | *-0.5* | *0.8* | *2.7* | *0.0* | *2.4* | *1.6* | *--* | *3.3* | *Jan-16* |
| **Value Added Fixed Income** | **71,927,852** | **7.2** | **0.6** | **1.4** | **5.1** | **6.7** | **--** | **--** | **--** | **9.6** | **Jan-16** |
| *50% BBgBarc US High Yield/ 50% Credit Suisse Leveraged Loans* | | | *0.7* | *1.5* | *5.0* | *7.1* | *4.9* | *5.4* | *6.2* | *10.5* | *Jan-16* |
| **International Fixed Income** | **51,141,055** | **5.1** | **0.2** | **3.2** | **9.3** | **3.9** | **--** | **--** | **--** | **9.5** | **Jan-16** |
| *Custom Benchmark - Global Fixed Income* | | | *-0.5* | *2.6* | *8.9* | *1.8* | *4.3* | *2.7* | *--* | *9.2* | *Jan-16* |
| **Hedge Fund** | **39,453,840** | **4.0** | **0.3** | **1.9** | **9.9** | **12.0** | **4.7** | **6.3** | **--** | **5.1** | **Feb-10** |
| *HFRI Fund of Funds Composite Index* | | | *0.5* | *2.3* | *5.6* | *6.5* | *2.2* | *3.9* | *1.1* | *3.0* | *Feb-10* |
| **Real Estate** | **105,069,534** | **10.6** | **0.7** | **1.2** | **3.7** | **3.7** | **--** | **--** | **--** | **4.3** | **Jan-16** |
| *Custom Benchmark - Real Estate (2)* | | | *1.1* | *1.3* | *4.7* | *5.4* | *10.4* | *10.7* | *5.4* | *7.9* | *Jan-16* |
| **Private Equity** | **32,102,433** | **3.2** | **4.8** | **4.9** | **8.7** | **11.0** | **--** | **--** | **--** | **2.5** | **Jan-16** |
| *Cambridge Associates Fund of Funds Composite 1-Quarter Lag* | | | *3.5* | *3.5* | *8.2* | *11.2* | *8.4* | *10.9* | *7.7* | *7.4* | *Jan-16* |
| **Real Assets** | **17,608,093** | **1.8** | **1.5** | **1.5** | **2.6** | **1.5** | **--** | **--** | **--** | **-3.8** | **Jan-16** |
| *CPI+3%* | | | *0.8* | *1.5* | *4.5* | *5.3* | *4.2* | *4.3* | *4.7* | *5.5* | *Jan-16* |
| **Cash and Cash Equivalent** | **1,235,406** | **0.1** | | | | | | | | | |

(1) The Custom Benchmark – Policy Benchmark reflects the target allocations set forth in the investment policy statement, weighted for the performance of the following indexes: Russell 3000, MSCI EAFE, MSCI Emerging Markets, Cambridge Associates Fund of Funds (1-Quarter lag), Bbg Barclays High Yield, S&P LSTA Leveraged Loan, Bbg Barclays Global Agg, JP Morgan GBI-EM Global Diversified USD, 90 day T-bill, Bbg Barclays Aggregate, Bbg Barclays US Tips, NCREIF ODCE(net), S&P Global Natural Resources and CPI + 3%.

(2) Custom RE Benchmark is 75% NCREIF ODCE net (lagged one quarter) and 25% NARIET Equity.

# Total Retirement Association

As of September 30, 2017

## Trailing Performance

| | Market Value ($) | % of Portfolio | % of Sector | 1 Mo (%) | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Return (%) | Since |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Retirement Association** | **994,880,141** | **100.0** | **--** | **1.8** | **4.0** | **12.4** | **13.8** | **7.4** | **8.7** | **4.9** | **8.3** | **Nov-89** |
| *Custom Benchmark - Policy Benchmark* | | | | *1.6* | *4.0* | *11.3* | *12.8* | *7.6* | *9.2* | *6.1* | *--* | *Nov-89* |
| **Domestic Equity Assets** | **327,449,814** | **32.9** | **32.9** | **3.5** | **4.2** | **13.0** | **20.0** | **--** | **--** | **--** | **16.1** | **Jan-16** |
| *Russell 3000* | | | | *2.4* | *4.6* | *13.9* | *18.7* | *10.7* | *14.2* | *7.6* | *15.4* | *Jan-16* |
| Rhumbline Russell 1000 Value | 57,742,288 | 5.8 | 17.6 | 3.0 | 3.1 | 7.8 | 14.9 | 8.4 | -- | -- | 11.2 | Apr-13 |
| *Russell 1000 Value* | | | | *3.0* | *3.1* | *7.9* | *15.1* | *8.5* | *13.2* | *5.9* | *11.3* | *Apr-13* |
| *eA US Large Cap Value Equity Net Median* | | | | *3.3* | *3.9* | *10.2* | *17.0* | *8.4* | *12.9* | *6.4* | *11.4* | *Apr-13* |
| *eA US Large Cap Value Equity Net Rank* | | | | *63* | *78* | *83* | *72* | *51* | *--* | *--* | *55* | *Apr-13* |
| Rhumbline Russell 1000 Growth | 57,655,821 | 5.8 | 17.6 | 1.3 | 5.9 | 20.7 | 21.9 | 12.7 | 15.2 | -- | 15.6 | Jul-09 |
| *Russell 1000 Growth* | | | | *1.3* | *5.9* | *20.7* | *21.9* | *12.7* | *15.3* | *9.1* | *15.6* | *Jul-09* |
| *eA US Large Cap Growth Equity Net Median* | | | | *1.3* | *5.3* | *20.1* | *20.3* | *11.0* | *14.2* | *8.2* | *14.4* | *Jul-09* |
| *eA US Large Cap Growth Equity Net Rank* | | | | *50* | *34* | *46* | *32* | *21* | *20* | *--* | *16* | *Jul-09* |
| Fisher Midcap Value | 52,523,873 | 5.3 | 16.0 | 2.5 | 4.4 | 16.7 | 25.9 | 12.3 | 14.1 | 8.7 | 8.6 | Apr-07 |
| *Russell MidCap Value* | | | | *2.7* | *2.1* | *7.4* | *13.4* | *9.2* | *14.3* | *7.9* | *7.2* | *Apr-07* |
| *eA US Mid Cap Value Equity Net Median* | | | | *3.4* | *3.0* | *8.2* | *15.5* | *9.5* | *13.9* | *8.1* | *7.5* | *Apr-07* |
| *eA US Mid Cap Value Equity Net Rank* | | | | *90* | *19* | *2* | *2* | *3* | *46* | *37* | *20* | *Apr-07* |
| Geneva Capital | 36,338,711 | 3.7 | 11.1 | 2.9 | 2.2 | 16.8 | 16.6 | 10.2 | -- | -- | 11.3 | Apr-13 |
| *Russell MidCap Growth* | | | | *2.8* | *5.3* | *17.3* | *17.8* | *10.0* | *14.2* | *8.2* | *12.6* | *Apr-13* |
| *eA US Mid Cap Growth Equity Gross Median* | | | | *2.4* | *4.5* | *18.3* | *18.8* | *10.0* | *13.5* | *8.2* | *12.5* | *Apr-13* |
| *eA US Mid Cap Growth Equity Gross Rank* | | | | *33* | *92* | *62* | *67* | *46* | *--* | *--* | *79* | *Apr-13* |
| Boston Company Small Growth | 53,018,154 | 5.3 | 16.2 | 4.8 | 6.5 | 16.7 | 22.8 | 15.0 | 15.6 | -- | 15.8 | Aug-09 |
| *Russell 2000 Growth* | | | | *5.4* | *6.2* | *16.8* | *21.0* | *12.2* | *14.3* | *8.5* | *15.0* | *Aug-09* |
| *eA US Small Cap Growth Equity Net Median* | | | | *4.9* | *5.9* | *18.7* | *21.1* | *12.2* | *13.9* | *8.0* | *15.4* | *Aug-09* |
| *eA US Small Cap Growth Equity Net Rank* | | | | *53* | *38* | *61* | *35* | *16* | *29* | *--* | *38* | *Aug-09* |

| | Market Value ($) | % of Portfolio | % of Sector | 1 Mo (%) | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Return (%) | Since |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LMCG Small Cap Value | 70,165,489 | 7.1 | 21.4 | 5.8 | 3.1 | 5.4 | 18.9 | 13.6 | 14.7 | -- | 10.9 | Mar-11 |
| *Russell 2000 Value* | | | | *7.1* | *5.1* | *5.7* | *20.5* | *12.1* | *13.3* | *7.1* | *10.3* | *Mar-11* |
| *eA US Small Cap Value Equity Net Median* | | | | *6.7* | *5.0* | *6.6* | *19.8* | *11.1* | *14.0* | *7.9* | *10.7* | *Mar-11* |
| *eA US Small Cap Value Equity Net Rank* | | | | *75* | *82* | *67* | *58* | *13* | *33* | *--* | *43* | *Mar-11* |
| **International Developed Market Equity Assets** | **194,886,365** | **19.6** | **19.6** | **2.5** | **7.0** | **24.1** | **21.5** | **--** | **--** | **--** | **13.8** | **Jan-16** |
| *MSCI EAFE* | | | | *2.5* | *5.4* | *20.0* | *19.1* | *5.0* | *8.4* | *1.3* | *11.6* | *Jan-16* |
| HGK TS International Equity | 61,713,621 | 6.2 | 31.7 | 3.3 | 9.2 | 30.9 | 29.7 | 8.3 | 13.6 | -- | 7.9 | Feb-11 |
| *MSCI EAFE* | | | | *2.5* | *5.4* | *20.0* | *19.1* | *5.0* | *8.4* | *1.3* | *4.9* | *Feb-11* |
| *eA EAFE All Cap Equity Net Median* | | | | *2.3* | *5.6* | *20.3* | *17.6* | *6.4* | *8.8* | *1.8* | *5.9* | *Feb-11* |
| *eA EAFE All Cap Equity Net Rank* | | | | *13* | *2* | *1* | *1* | *13* | *1* | *--* | *20* | *Feb-11* |
| Denver Investments | 37,763,063 | 3.8 | 19.4 | 2.0 | 9.1 | 25.6 | 18.1 | 6.3 | -- | -- | 3.2 | Oct-13 |
| *MSCI EAFE Small Cap* | | | | *2.9* | *7.5* | *25.4* | *21.8* | *11.1* | *12.8* | *4.6* | *8.4* | *Oct-13* |
| *eA EAFE Small Cap Equity Net Median* | | | | *3.3* | *8.4* | *28.4* | *24.3* | *11.3* | *13.7* | *4.7* | *8.9* | *Oct-13* |
| *eA EAFE Small Cap Equity Net Rank* | | | | *99* | *30* | *78* | *99* | *99* | *--* | *--* | *99* | *Oct-13* |
| KBI Master Account | 95,409,681 | 9.6 | 49.0 | 2.2 | 4.8 | 18.9 | 17.7 | 3.2 | 7.2 | 0.4 | 4.4 | Jul-05 |
| *MSCI EAFE* | | | | *2.5* | *5.4* | *20.0* | *19.1* | *5.0* | *8.4* | *1.3* | *5.0* | *Jul-05* |
| *eA EAFE Core Equity Net Median* | | | | *2.6* | *6.4* | *22.2* | *20.4* | *6.3* | *9.7* | *2.5* | *5.7* | *Jul-05* |
| *eA EAFE Core Equity Net Rank* | | | | *74* | *83* | *79* | *72* | *99* | *94* | *96* | *97* | *Jul-05* |
| **International Emerging Market Equity Assets** | **74,213,935** | **7.5** | **7.5** | **-0.8** | **7.2** | **27.8** | **22.1** | **--** | **--** | **--** | **20.0** | **Jan-16** |
| *MSCI Emerging Markets* | | | | *-0.4* | *7.9* | *27.8* | *22.5* | *4.9* | *4.0* | *1.3* | *22.2* | *Jan-16* |
| LMCG Emerging Markets | 74,213,935 | 7.5 | 100.0 | -0.8 | 7.2 | 27.8 | 22.1 | 3.4 | -- | -- | 3.1 | Sep-13 |
| *MSCI Emerging Markets* | | | | *-0.4* | *7.9* | *27.8* | *22.5* | *4.9* | *4.0* | *1.3* | *4.8* | *Sep-13* |
| *eA Emg Mkts Equity Net Median* | | | | *-0.3* | *7.8* | *28.6* | *22.0* | *5.4* | *5.2* | *2.3* | *5.4* | *Sep-13* |
| *eA Emg Mkts Equity Net Rank* | | | | *73* | *61* | *57* | *50* | *82* | *--* | *--* | *93* | *Sep-13* |

| | Market Value ($) | % of Portfolio | % of Sector | 1 Mo (%) | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Return (%) | Since |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Domestic Fixed Income** | **79,791,814** | **8.0** | **8.0** | **-0.4** | **0.9** | **3.0** | **0.7** | **--** | **--** | **--** | **3.9** | **Jan-16** |
| *75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year* | | | | *-0.5* | *0.8* | *2.7* | *0.0* | *2.4* | *1.6* | *--* | *3.3* | *Jan-16* |
| IR&M Core Bonds | 79,791,814 | 8.0 | 100.0 | -0.4 | 0.9 | 3.1 | 0.8 | 2.7 | 2.2 | 4.7 | 4.6 | Nov-04 |
| *75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year* | | | | *-0.5* | *0.8* | *2.7* | *0.0* | *2.4* | *1.6* | *--* | *--* | *Nov-04* |
| **Value Added Fixed Income** | **71,927,852** | **7.2** | **7.2** | **0.6** | **1.4** | **5.1** | **6.7** | **--** | **--** | **--** | **9.6** | **Jan-16** |
| *50% BBgBarc US High Yield/ 50% Credit Suisse Leveraged Loans* | | | | *0.7* | *1.5* | *5.0* | *7.1* | *4.9* | *5.4* | *6.2* | *10.5* | *Jan-16* |
| Eaton Vance High Yield | 37,816,410 | 3.8 | 52.6 | 0.8 | 1.8 | 6.7 | 8.2 | 6.5 | 6.8 | 7.9 | 8.0 | Apr-06 |
| *BofA Merrill Lynch High Yield Master* | | | | *0.9* | *2.0* | *7.0* | *9.1* | *5.9* | *6.4* | *7.7* | *7.8* | *Apr-06* |
| *eA US High Yield Fixed Inc Net Median* | | | | *0.8* | *1.9* | *6.6* | *8.2* | *5.0* | *5.7* | *7.0* | *7.1* | *Apr-06* |
| *eA US High Yield Fixed Inc Net Rank* | | | | *45* | *54* | *48* | *52* | *6* | *16* | *15* | *13* | *Apr-06* |
| THL Bank Loan Select Fund | 34,111,442 | 3.4 | 47.4 | 0.4 | 1.1 | 3.7 | 5.5 | 4.8 | 5.4 | -- | 5.9 | Sep-10 |
| *Credit Suisse Leveraged Loans* | | | | *0.4* | *1.1* | *3.0* | *5.4* | *4.0* | *4.4* | *4.4* | *5.0* | *Sep-10* |
| *Bank Loan MStar MF Median* | | | | *0.4* | *1.0* | *2.8* | *5.0* | *3.7* | *4.1* | *4.0* | *4.6* | *Sep-10* |
| *Bank Loan MStar MF Rank* | | | | *56* | *37* | *12* | *37* | *2* | *1* | *--* | *7* | *Sep-10* |
| **International Fixed Income** | **51,141,055** | **5.1** | **5.1** | **0.2** | **3.2** | **9.3** | **3.9** | **--** | **--** | **--** | **9.5** | **Jan-16** |
| *Custom Benchmark - Global Fixed Income* | | | | *-0.5* | *2.6* | *8.9* | *1.8* | *4.3* | *2.7* | *--* | *9.2* | *Jan-16* |
| McDonnell Foreign Bonds | 14,934,661 | 1.5 | 29.2 | -1.3 | 2.2 | 8.1 | -2.4 | 0.2 | -1.3 | 3.1 | 4.5 | May-95 |
| *Citi WGBI ex US* | | | | *-1.4* | *2.6* | *8.6* | *-3.1* | *0.5* | *-1.1* | *2.7* | *3.8* | *May-95* |
| *eA All EAFE Fixed Inc Net Median* | | | | *-0.6* | *2.5* | *9.4* | *3.1* | *1.1* | *1.4* | *4.8* | *6.1* | *May-95* |
| *eA All EAFE Fixed Inc Net Rank* | | | | *96* | *63* | *70* | *93* | *94* | *97* | *94* | *99* | *May-95* |

## Total Retirement Association

As of September 30, 2017

| | Market Value ($) | % of Portfolio | % of Sector | 1 Mo (%) | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Return (%) | Since |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Franklin Templeton Emerging Market Bonds | 36,206,395 | 3.6 | 70.8 | 1.0 | 3.5 | 9.7 | 8.6 | 4.8 | 4.5 | 6.6 | 7.4 | May-06 |
| *JP Morgan EMBI Global Diversified* | | | | *0.0* | *2.6* | *9.0* | *4.6* | *6.5* | *4.9* | *7.5* | *7.8* | *May-06* |
| *eA Emg Mkt Fixed Inc Unhedged Net Median* | | | | *0.1* | *3.2* | *10.4* | *7.0* | *4.6* | *3.1* | *6.0* | *7.6* | *May-06* |
| *eA Emg Mkt Fixed Inc Unhedged Net Rank* | | | | *7* | *35* | *56* | *27* | *44* | *21* | *38* | *63* | *May-06* |
| **Hedge Fund** | **39,453,840** | **4.0** | **4.0** | **0.3** | **1.9** | **9.9** | **12.0** | **4.7** | **6.3** | **--** | **5.1** | **Feb-10** |
| *HFRI Fund of Funds Composite Index* | | | | *0.5* | *2.3* | *5.6* | *6.5* | *2.2* | *3.9* | *1.1* | *3.0* | *Feb-10* |
| ABS Offshore SPC - Global Segregated Portfolio | 16,457,397 | 1.7 | 41.7 | 0.6 | 3.4 | 10.6 | 10.8 | 4.5 | 6.9 | -- | 5.9 | Aug-10 |
| *HFRI Fund of Funds Composite Index* | | | | *0.5* | *2.3* | *5.6* | *6.5* | *2.2* | *3.9* | *1.1* | *3.2* | *Aug-10* |
| Aetos Capital Prime Portfolio | 8,235,809 | 0.8 | 20.9 | 0.2 | 1.4 | 5.8 | 6.4 | 3.0 | 4.7 | -- | 4.0 | Feb-10 |
| *HFRI Fund of Funds Composite Index* | | | | *0.5* | *2.3* | *5.6* | *6.5* | *2.2* | *3.9* | *1.1* | *3.0* | *Feb-10* |
| Entrust Special Opportunities Fund III, Ltd. | 14,760,634 | 1.5 | 37.4 | 0.0 | 0.0 | 14.1 | 31.7 | -- | -- | -- | 31.7 | Oct-16 |
| *HFRI Fund of Funds Composite Index* | | | | *0.5* | *2.3* | *5.6* | *6.5* | *2.2* | *3.9* | *1.1* | *6.5* | *Oct-16* |
| **Real Estate** | **105,069,534** | **10.6** | **10.6** | **0.7** | **1.2** | **3.7** | **3.7** | **--** | **--** | **--** | **4.3** | **Jan-16** |
| *Custom Benchmark - Real Estate* | | | | *1.1* | *1.3* | *4.7* | *5.4* | *10.4* | *10.7* | *5.4* | *7.9* | *Jan-16* |
| **Core Real Estate** | **82,240,706** | **8.3** | **78.3** | **0.5** | **1.1** | **4.9** | **4.7** | **9.8** | **9.8** | **--** | **--** | |
| *NCREIF ODCE (lagged one qtr., net)* | | | | *1.5* | *1.5* | *5.0* | *6.9* | *10.3* | *10.8* | *4.3* | *--* | |
| PRISA I | 36,896,869 | 3.7 | 44.9 | 1.4 | 1.4 | 4.9 | 6.7 | 10.7 | 10.9 | 3.8 | 6.7 | Sep-04 |
| *NCREIF ODCE (lagged one qtr., net)* | | | | *1.5* | *1.5* | *5.0* | *6.9* | *10.3* | *10.8* | *4.3* | *7.1* | *Sep-04* |
| Invesco REIT | 30,142,009 | 3.0 | 36.7 | -1.1 | 0.7 | 5.7 | 2.1 | 9.5 | 9.6 | 6.5 | 12.3 | Dec-02 |
| *Wilshire REIT* | | | | *-0.1* | *0.6* | *2.4* | *0.1* | *9.7* | *9.5* | *5.6* | *10.9* | *Dec-02* |
| Multi Employer Property Trust | 15,201,828 | 1.5 | 18.5 | 1.4 | 1.4 | 4.2 | 6.2 | 9.8 | 9.5 | 3.5 | 6.6 | Mar-00 |
| *NCREIF ODCE (lagged one qtr., net)* | | | | *1.5* | *1.5* | *5.0* | *6.9* | *10.3* | *10.8* | *4.3* | *7.3* | *Mar-00* |
| **Non-Core Real Estate** | **22,828,828** | **2.3** | **21.7** | | | | | | | | | |
| Mesirow Financial International Real Estate Fund I | 5,950,983 | 0.6 | 26.1 | | | | | | | | | |

| | Market Value ($) | % of Portfolio | % of Sector | 1 Mo (%) | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Return (%) | Since |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DSF Multi-Family Real Estate Fund III | 4,635,847 | 0.5 | 20.3 | | | | | | | | | |
| DSF Capital Partners IV | 3,941,364 | 0.4 | 17.3 | | | | | | | | | |
| AEW Partners Real Estate VIII | 3,787,855 | 0.4 | 16.6 | | | | | | | | | |
| New Boston Institutional Fund, LP VII | 2,319,126 | 0.2 | 10.2 | | | | | | | | | |
| Hunt Redevelopment & Renovation | 957,365 | 0.1 | 4.2 | | | | | | | | | |
| 1921 Realty, Inc | 951,024 | 0.1 | 4.2 | | | | | | | | | |
| Berkshire Multfamily Value Fund II | 153,996 | 0.0 | 0.7 | | | | | | | | | |
| Intercontinental Real Estate Investment Fund IV | 75,146 | 0.0 | 0.3 | | | | | | | | | |
| Intercontinental Real Estate Investment Fund III | 56,122 | 0.0 | 0.2 | | | | | | | | | |
| **Private Equity** | **32,102,433** | **3.2** | **3.2** | **4.8** | **4.9** | **8.7** | **11.0** | **--** | **--** | **--** | **2.5** | **Jan-16** |
| *Cambridge Associates Fund of Funds Composite 1-Quarter Lag* | | | | *3.5* | *3.5* | *8.2* | *11.2* | *8.4* | *10.9* | *7.7* | *7.4* | *Jan-16* |
| **Private Equity General** | **23,218,991** | **2.3** | **72.3** | | | | | | | | | |
| Euro Choice V Programme | 4,890,013 | 0.5 | 21.1 | | | | | | | | | |
| Lexington Capital Partners VII | 3,726,409 | 0.4 | 16.0 | | | | | | | | | |
| TRG Growth Partnership II | 2,957,684 | 0.3 | 12.7 | | | | | | | | | |
| Landmark Equity Partners XIV | 2,289,944 | 0.2 | 9.9 | | | | | | | | | |
| Leeds Equity Partners V | 2,035,873 | 0.2 | 8.8 | | | | | | | | | |
| Summit Partners Growth Equity Fund IX | 1,732,257 | 0.2 | 7.5 | | | | | | | | | |
| Siguler Guff Distressed Opportunities Fund III, LP | 1,418,122 | 0.1 | 6.1 | | | | | | | | | |

## Total Retirement Association

As of September 30, 2017

| | Market Value ($) | % of Portfolio | % of Sector | 1 Mo (%) | QTD (%) | YTD (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Return (%) | Since |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mesirow Financial Capital Partners VII, LP | 988,214 | 0.1 | 4.3 | | | | | | | | | |
| Audax Mezzaine Debt IV | 982,091 | 0.1 | 4.2 | | | | | | | | | |
| Leeds Equity Partners IV | 847,808 | 0.1 | 3.7 | | | | | | | | | |
| DN Partners II, LP | 741,253 | 0.1 | 3.2 | | | | | | | | | |
| Euro Choice II | 293,248 | 0.0 | 1.3 | | | | | | | | | |
| RIMCO Production Company | 159,083 | 0.0 | 0.7 | | | | | | | | | |
| Charles River Partnership XI | 156,993 | 0.0 | 0.7 | | | | | | | | | |
| **Venture Capital** | **8,883,442** | **0.9** | **27.7** | | | | | | | | | |
| Ascent Ventures V | 4,656,191 | 0.5 | 52.4 | | | | | | | | | |
| Globespan Capital V | 3,821,987 | 0.4 | 43.0 | | | | | | | | | |
| Ascent Ventures IV | 405,264 | 0.0 | 4.6 | | | | | | | | | |
| **Real Assets** | **17,608,093** | **1.8** | **1.8** | **1.5** | **1.5** | **2.6** | **1.5** | **--** | **--** | **--** | **-3.8** | **Jan-16** |
| *CPI+3%* | | | | *0.8* | *1.5* | *4.5* | *5.3* | *4.2* | *4.3* | *4.7* | *5.5* | *Jan-16* |
| JP Morgan Global Maritime Investment | 6,125,342 | 0.6 | 34.8 | | | | | | | | | |
| Timbervest Partners III, LP | 5,617,811 | 0.6 | 31.9 | | | | | | | | | |
| BTG Pactual Global Timberland Resources | 4,083,231 | 0.4 | 23.2 | | | | | | | | | |
| Global Infrastructure Partners III | 1,781,708 | 0.2 | 10.1 | | | | | | | | | |
| **Cash and Cash Equivalent** | **1,235,406** | **0.1** | **0.1** | | | | | | | | | |
| Cash | 1,235,406 | 0.1 | 100.0 | | | | | | | | | |

# Total Retirement Association

As of September 30, 2017

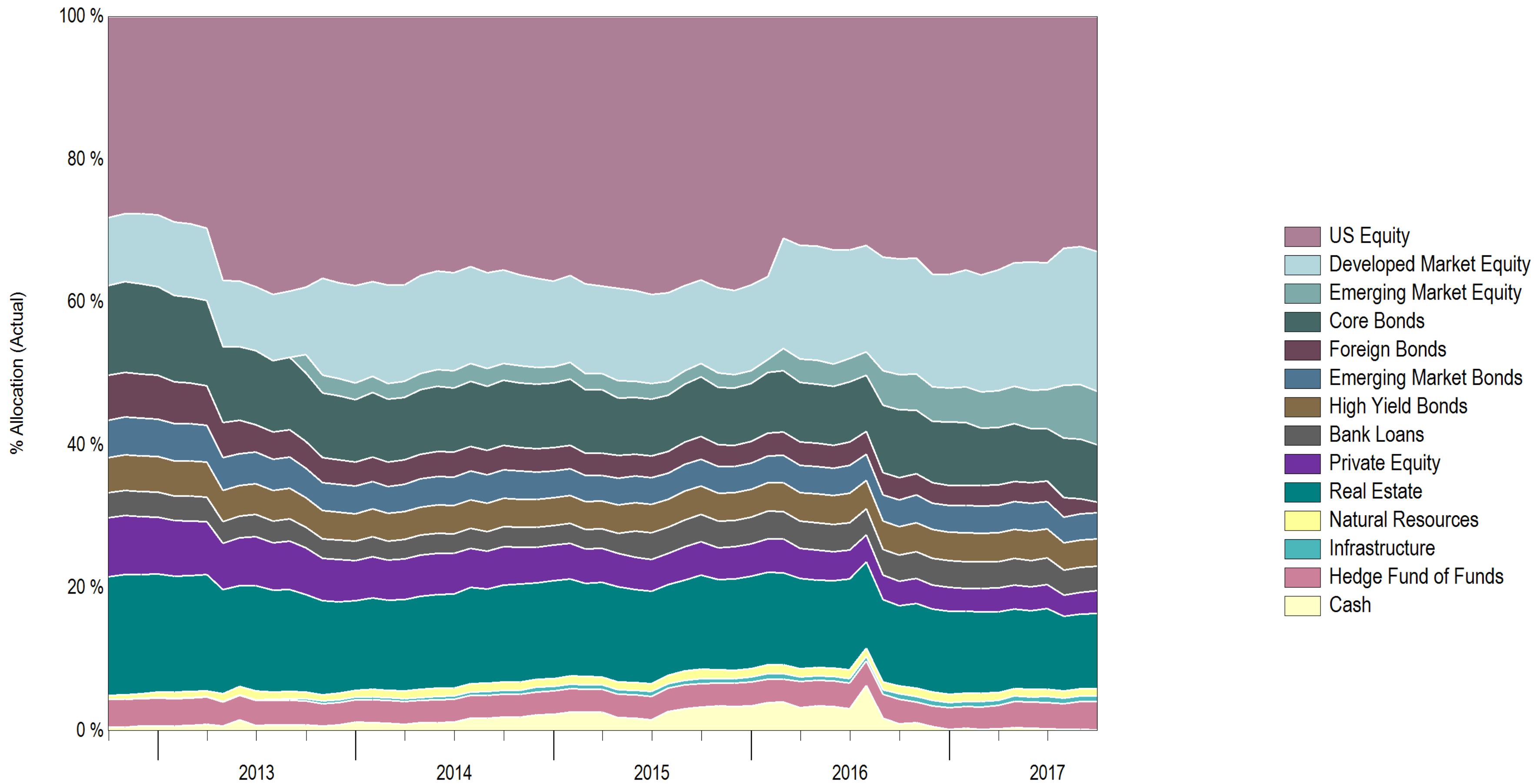
## Allocation vs. Target

| | Current Balance | Current Allocation | Policy | Policy Range | Within IPS Range? |
|---|---|---|---|---|---|
| US Equity | $327,449,814 | 33% | 26% | 21% - 36% | Yes |
| Developed Market Equity | $194,886,365 | 20% | 6% | 1% - 16% | No |
| Emerging Market Equity | $74,213,935 | 7% | 10% | 5% - 20% | Yes |
| Global Equity | -- | -- | 10% | 5% - 20% | No |
| Core Bonds | $79,791,814 | 8% | 9% | 4% - 14% | Yes |
| Foreign Bonds | $14,934,661 | 2% | -- | -- | No |
| Emerging Market Bonds | $36,206,395 | 4% | 2% | 0% - 7% | Yes |
| High Yield Bonds | $37,816,410 | 4% | 2% | 0% - 7% | Yes |
| Bank Loans | $34,111,442 | 3% | 2% | 0% - 7% | Yes |
| Private Equity | $32,102,433 | 3% | 13% | 8% - 18% | No |
| Real Estate | $105,069,534 | 11% | 10% | 5% - 15% | Yes |
| Natural Resources | $9,701,042 | 1% | 2% | 0% - 4% | Yes |
| Infrastructure | $7,907,050 | 1% | 4% | 2% - 6% | No |
| Hedge Fund of Funds | $39,453,840 | 4% | 4% | 2% - 6% | Yes |
| Cash | $1,235,406 | 0% | 0% | 0% - 3% | Yes |
| **Total** | **$994,880,141** | **100%** | **100%** | | |

| | Current Balance | Current Allocation | Policy | Policy Range | Within IPS Range? |
|---|---|---|---|---|---|
| Total Equity | $668,106,387 | 67% | 69% | 60% - 80% | Yes |
| Total Fixed Income | $202,860,722 | 20% | 15% | 5% - 25% | Yes |
| Total Real Assets | $122,677,627 | 12% | 16% | 13% - 19% | No |
| Cash | $1,235,406 | 0% | 0% | 0% - 3% | Yes |

Plymouth County Retirement Association adopted a new asset allocation as of May 2017.

## Asset Allocation History
## 5 Years Ending September 30, 2017



## Annual Investment Expense Analysis
### As Of September 30, 2017

| Name | Fee Schedule | Market Value | Estimated Fee Value | Estimated Fee |
|---|---|---|---|---|
| **Domestic Equity Assets** | | **$327,449,814** | | |
| Rhumbline Russell 1000 Value | 0.05% of First $25.0 Mil,<br>0.04% of Next $25.0 Mil,<br>0.03% Thereafter | $57,742,288 | $24,823 | 0.04% |
| Rhumbline Russell 1000 Growth | 0.05% of First $25.0 Mil,<br>0.04% of Next $25.0 Mil,<br>0.03% Thereafter | $57,655,821 | $24,797 | 0.04% |
| Fisher Midcap Value | 0.80% of First $25.0 Mil,<br>0.75% of Next $25.0 Mil,<br>0.67% Thereafter | $52,523,873 | $404,410 | 0.77% |
| Geneva Capital | 0.65% of Assets | $36,338,711 | $236,202 | 0.65% |
| Boston Company Small Growth | 0.45% of Assets | $53,018,154 | $238,582 | 0.45% |
| LMCG Small Cap Value | 0.90% of Assets | $70,165,489 | $631,489 | 0.90% |
| **International Developed Market Equity Assets** | | **$194,886,365** | | |
| HGK TS International Equity | 1.00% of Assets | $61,713,621 | $617,136 | 1.00% |
| Denver Investments | 1.00% of Assets | $37,763,063 | $377,631 | 1.00% |
| KBI Master Account | 0.65% of Assets | $95,409,681 | $620,163 | 0.65% |
| **International Emerging Market Equity Assets** | | **$74,213,935** | | |
| LMCG Emerging Markets | 0.75% of Assets | $74,213,935 | $556,605 | 0.75% |
| **Domestic Fixed Income** | | **$79,791,814** | | |
| IR&M Core Bonds | 0.25% of First $50.0 Mil,<br>0.20% of Next $50.0 Mil,<br>0.15% Thereafter | $79,791,814 | $184,584 | 0.23% |
| **Value Added Fixed Income** | | **$71,927,852** | | |
| Eaton Vance High Yield | 0.50% of Assets | $37,816,410 | $189,082 | 0.50% |
| THL Bank Loan Select Fund | 0.50% of Assets | $34,111,442 | $170,557 | 0.50% |

| Name | Fee Schedule | Market Value | Estimated Fee Value | Estimated Fee |
|---|---|---|---|---|
| **International Fixed Income** | | **$51,141,055** | | |
| McDonnell Foreign Bonds | 0.32% of First $20.0 Mil,<br>0.28% of Next $10.0 Mil,<br>0.24% of Next $10.0 Mil,<br>0.20% Thereafter | $14,934,661 | $47,791 | 0.32% |
| Franklin Templeton Emerging Market Bonds | 0.99% of Assets | $36,206,395 | $358,443 | 0.99% |
| **Total** | | **$994,880,141** | **$4,682,293** | **0.47%** |

# Disclaimer, Glossary, and Notes

The material contained in this report is confidential and may not be reproduced, disclosed, or distributed, in whole or in part, to any person or entity other than the intended recipient. The data are provided for informational purposes only, may not be complete, and cannot be relied upon for any purpose other than for discussion.

Meketa Investment Group has prepared this report on the basis of sources believed to be reliable. The data are based on matters as they are known as of the date of preparation of the report, and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available.

In general, the valuation numbers presented in this report are prepared by the custodian bank for listed securities, and by the fund manager or appropriate General Partner in the case of unlisted securities. The data used in the market comparison sections of this report are sourced from various databases. These data are continuously updated and are subject to change.

This report does not contain all the information necessary to fully evaluate the potential risks of any of the investments described herein. Because of inherent uncertainties involved in the valuations of investments that are not publicly traded, any estimated fair values shown in this report may differ significantly from the values that would have been used had a ready market for the underlying securities existed, and the differences could be material. Note that for unlisted securities the valuations may be lagged by one or more calendar quarters, or may reflect original cost.

This document may contain certain forward-looking statements, forecasts, estimates, projections, and opinions (“Forward Statements”). No representation is made or will be made that any Forward Statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results to vary materially from the Forward Statements. No representation is given that the assumptions disclosed in this document upon which Forward Statements may be based are reasonable. There can be no assurance that the investment strategy or objective of any fund or investment will be achieved, or that the Fund will receive a return of the amount invested.

In some cases, Meketa Investment Group assists the Trustees in handling capital calls or asset transfers among investment managers. In these cases, we do not make any representations as to the managers’ use of the funds, but do confirm that the capital called or transferred is within the amounts authorized by the Trustees.

**Credit Risk:** Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

**Duration:** Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

**Information Ratio:** This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

**Jensen's Alpha:** A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- [Risk Free Rate+Beta*(market return-Risk Free Rate)].

**Market Capitalization:** For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

**Market Weighted:** Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

**Maturity:** The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

**Prepayment Risk:** The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

**Price-Book Value (P/B) Ratio:** The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

**Price-Earnings (P/E) Ratio:** A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about is future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

**Quality Rating:** The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

**Sharpe Ratio:** A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

**Standard Deviation:** A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

**STIF Account:** Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

**Style:** The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

**Yield to Maturity:** The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays $5 a year interest on each $100 par value. To figure its current yield, divide $5 by $95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay $100 for the bond that can be bought now for $95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\%\ \text{(discount)}}{5\ \text{(yrs. to maturity)}} = \begin{array}{c}1\%\ \text{pro rata, plus}\\ 5.26\%\ \text{(current yield)}\end{array} = 6.26\%\ \text{(yield to maturity)}$$

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991.

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.