

# City of Hollywood

# **ANALYSIS OF INVESTMENT PERFORMANCE**

# **Employees' Retirement Fund**

Third Quarter 2018

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#### **ANALYSIS OF INVESTMENT PERFORMANCE**

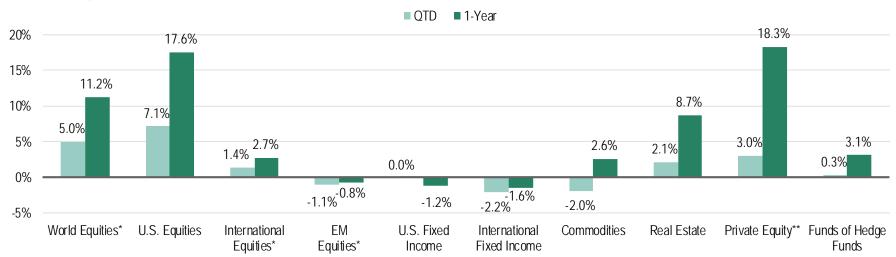
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**Financial Market Conditions** 

## Q3 2018 In Review

#### **Summary of Investment Returns**



#### **Quarterly Synopsis**

- World equity markets rose in Q3. Solid economic and earnings data outweighed global policy uncertainty among investors.
- U.S. equity gained during the quarter. A healthy economy and robust earnings led stocks to rise despite global trade concerns.
- International equity was boosted by stronger economic news and the European Central Bank's statement that it would not hike interest rates until at least the summer of 2019.
- Emerging market equity declined again in Q3 amid U.S. dollar strength, slowing growth in China and nervousness about the collapse of the Turkish lira.
- U.S. fixed income was flat for the quarter. Short-term interest rates rose again in Q3, though longer-term yields increased as well.
- Non-U.S. fixed income declined in Q3 as Italian bonds slid.
- Hedge funds were slightly positive in the quarter. Multi-strategy and macro funds were among the best YTD performers.

<sup>\*</sup> Net of Dividends

<sup>\*\*</sup> Performance as of Q1 2018 because Q2 2018 and Q3 2018 performance data is not yet available. Sources: Investment Metrics, Thomson One, FactSet

# **Q3 2018 Index Returns**

Asset Class	Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World Equity	MSCI World <sup>1</sup>	4.98	5.43	11.24	13.54	9.28	8.56
U.S. Equity	Russell 3000	7.12	10.57	17.58	17.07	13.46	12.01
Non-U.S. Equity	MSCI EAFE <sup>1</sup>	1.35	-1.43	2.74	9.23	4.42	5.38
Emerging Market Equity	MSCI EM <sup>1</sup>	-1.09	-7.68	-0.81	12.36	3.61	5.40
U.S. Fixed Income	Bloomberg Barclays U.S. Aggregate	0.02	-1.60	-1.22	1.31	2.16	3.77
Non-U.S. Fixed Income	FTSE <sup>2</sup> Non-U.S. WGBI (Unhedged)	-2.19	-3.09	-1.57	2.39	-0.23	1.99
Commodities	Bloomberg Commodity Index	-2.02	-2.03	2.59	-0.11	-7.18	-6.24
Private Real Estate	NFI-ODCE	2.09	6.48	8.68	8.80	10.72	5.58
Private Equity	Thomson Reuters Private Equity <sup>3</sup>	3.03	3.03	18.32	12.43	13.96	9.51
Hedge Funds	HFRI Fund of Funds Composite	0.27	0.99	3.08	3.29	3.18	2.55

<sup>&</sup>lt;sup>1</sup> Net of Dividends

FTSE Russell is a unit of LSEG's Information Services Division and a wholly owned subsidiary of LSEG.

3 Performance as of Q1 2018 because Q2 2018 and Q3 2018 performance data is not yet available.

Sources: Investment Metrics, Thomson One, FactSet

# Q3 2018 In Review: U.S. Economy

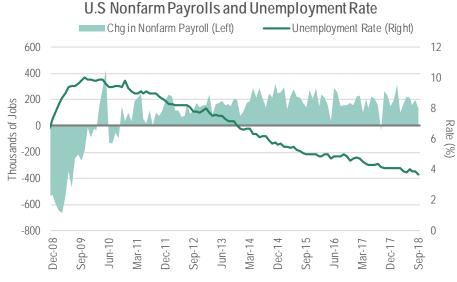
#### **GDP Growth**

- Real GDP grew at a rate of 3.5% in Q3 2018. Real GDP growth for Q2 was revised upward from 4.1% to 4.2%.
- GDP growth in Q3 came from personal consumption expenditures (PCE), state and local government spending, federal government spending and nonresidential fixed investment.
- These contributions were offset by reductions in exports and residential fixed investment. Imports increased in Q3.



#### **Employment Picture**

- The unemployment rate fell to 3.7% in September. Nonfarm payrolls rose by 569,000 over the quarter.
- Employment grew across almost all sectors, led by gains in professional and business services, health care, transportation, construction, mining, and manufacturing. Employment in hospitality and leisure fell.



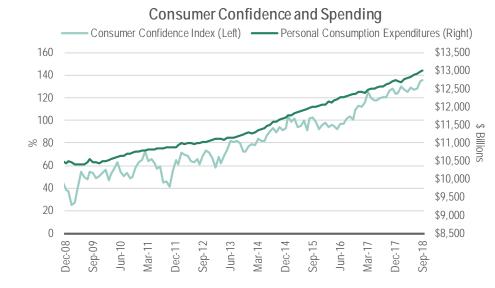
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\*Segal Marco Advisors

# Q3 2018 In Review: U.S. Economy

#### **Consumer Confidence and Spending**

- Sentiment rose in Q3, as the Conference Board's Consumer Confidence Index increased from 126.4 at the end of June to 135.3 at the end of September.
- Personal consumption expenditures increased during the quarter.
- Consumer confidence improved as trade worries eased somewhat and the U.S. economic backdrop remained solid.



#### **Retail Sales**

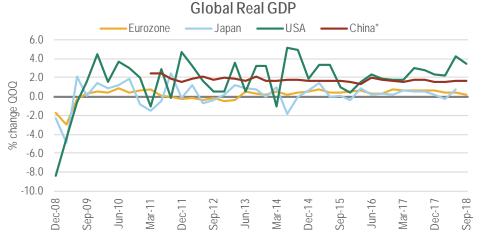
- Retail sales slowed in August\*, but ended the month up 6.1% from one year ago.
- The deceleration was largely due to fewer motor vehicle and clothing purchases.
- July retail sales data was revised upward, keeping expectations in place for strong results overall for Q3.



# Q3 2018 In Review: Global Economy

#### World GDP Growth

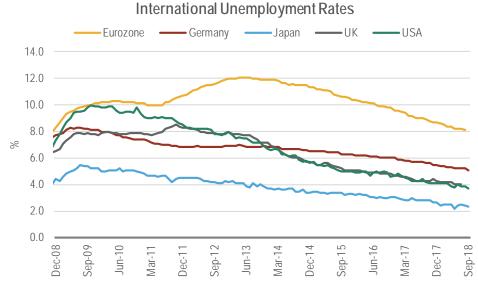
- Eurozone GDP growth slowed in Q3 to its weakest rate in four years amid worries about Italy's budget crisis and a strong USD. The Eurozone's annual growth rate fell to 1.7% in Q3.
- China's GDP growth declined by 0.2% quarter over quarter (QoQ) to 1.6%. The country's annual growth rate fell to 6.5%.
- Japan's GDP rose 0.74% QoQ in Q2\*\*. The Japanese economy's annual growth rate is 1%.



Note that the figures in the graph above represent the percent change in real GDP from the previous quarter, not the annual growth rate of these economies.

#### **Global Employment Picture**

- Eurozone unemployment fell to 8.1% in August 2018\*\*, the region's lowest-recorded rate since November 2008. The Eurozone's recent economic strength has led to this reduction in unemployment, although economic momentum has slowed there this year.
- Japan's unemployment rate ticked down to 2.3% in September. While a bit higher than its earlier historic low of 2.2%, unemployment remained quite modest in Japan.



Source this page: FactSet

<sup>\*</sup>Quarter over quarter data calculations began in 2011.

<sup>\*\*</sup>Most recent data av ailable.

# Q3 2018 In Review: Global Equity Overview

Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	7.71	10.56	17.91	17.31	13.95	11.97
MSCI Europe, Australasia and Far East (EAFE)*	1.35	-1.43	2.74	9.23	4.42	5.38
MSCI Emerging Markets (EM)*	-1.09	-7.68	-0.81	12.36	3.61	5.40

All data in the table are percentages.

#### **Global Equity Performance and Valuations**

- U.S. equities outperformed international and emerging equity markets in Q3. Positive earnings momentum and supportive economic data in the U.S. helped to lift domestic equities despite uncertainty about global trade disputes. U.S. dollar strength was a headwind to international and emerging market equities.
- Over the 3-, 5-, and 10-year periods, U.S., non-U.S. developed, and emerging market equities are all in positive territory.
- The current P/E multiple for U.S. large cap is above median and its 10-year average, indicating it may be overvalued. U.S. small cap appears to be slightly overvalued compared to its median and longterm average multiple, while mid cap seems to be near fair value.
- The current MSCI EAFE P/E multiple is below its median and slightly above its 10-year average. As such, international equities appear to be close to fairly valued according to this measure.
- The MSCI EM P/E multiple at the end of Q3 was just north of its median and exactly at its 10-year average; therefore, emerging market equities look as if they are close to fair value by this measure.

#### Price to Earnings



	S&P 500	S&P 400	S&P 600	MSCI EAFE	MSCI EM
High	24.1	20.6	19.9	27.2	14.4
Low	10.3	11.1	12.6	9.4	8.3
Median	15.0	16.2	16.6	13.9	11.0
Current	16.8	16.3	17.5	13.6	11.2
10-Year Av.	14.5	15.8	17.0	13.1	11.2

Data range is from 12/31/99-9/30/18. P/E ratios are forward 12 months.



<sup>\*</sup> Net of dividends

# Q3 2018 In Review: U.S. Equity

U.S. Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	7.71	10.56	17.91	17.31	13.95	11.97
Russell 1000	7.42	10.49	17.76	17.07	13.67	12.09
Russell 1000 Growth	9.17	17.09	26.30	20.55	16.58	14.31
Russell 1000 Value	5.70	3.92	9.45	13.55	10.72	9.79
Russell 2000	3.58	11.51	15.24	17.12	11.07	11.11
Russell 2000 Growth	5.52	15.76	21.06	17.98	12.14	12.65
Russell 2000 Value	1.60	7.14	9.33	16.12	9.91	9.52
Russell 3000	7.12	10.57	17.58	17.07	13.46	12.01

All data in the tables are percentages.

#### **Performance**

- Strong corporate earnings and positive U.S. economic data continued to benefit U.S. equities in Q3.
- Large cap stocks outpaced small cap stocks during the quarter, a reversal from Q1 and Q2.
- Growth continued to outperform value over the short and long term.
- All sectors of the S&P 500 Index were positive in Q3, but Healthcare posted the strongest return. Energy and Materials' returns were muted due to uncertainty surrounding tariffs imposed by China.

S&P 500 Sector Returns	QTD	1-Year
Consumer Discretionary	8.07	32.00
Consumer Staples	5.45	2.02
Energy	0.40	12.95
Financials	4.21	8.14
Healthcare	14.38	17.76
Industrials	9.84	10.54
Information Technology	8.71	30.99
Materials	0.21	3.39
Telecommunications Services*	9.47	2.71
Utilities	2.12	1.85

<sup>\*</sup>At the end of September 2018, the Telecommunications Sector sector was renamed Communications Services and was expanded to include some companies from the Consumer Discretionary and Information Technology sectors. Sources this page: Investment Metrics, FactSet

# Q3 2018 In Review: International Equity

MSCI International Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World ex. U.S.	1.31	-1.50	2.67	9.32	4.24	5.18
EAFE	1.35	-1.43	2.74	9.23	4.42	5.38
EAFE Local Currency	2.36	1.38	5.09	9.38	7.87	6.70
Europe	0.80	-2.46	-0.30	7.71	3.70	4.85
Europe ex U.K.	1.77	-2.38	-1.49	8.33	4.33	4.76
U.K.	-1.66	-2.69	2.87	6.19	2.23	4.92
Pacific ex Japan	-0.55	-2.56	4.27	12.73	3.86	7.66
Japan	3.68	1.58	10.20	12.13	6.76	5.96

All data in the tables are percentages and net of dividends.

#### **Performance**

- International equity markets had a restrained third quarter, which was characterized by political uncertainty and trade issues.
- The U.K. equity market suffered as the outcome of Brexit remains cloudy. European financial stocks were subdued following a challenging Italian budget announcement and concerns over potential spillover of issues in emerging markets. Japan was the strongest major region, with exporters benefiting from a weaker yen.
- In a continuation of the trend we saw in Q2, many major currencies, including the euro, British pound, and Japanese yen, weakened against the U.S. dollar, which was a drag on USD-denominated returns.
- Sector returns were mixed in Q3. Healthcare posted a strong return, and Telecom also performed well. The Energy and Industrials sectors delivered returns in line with long-term averages. All other sectors were flat or negative, but the traditionally defensive Utilities sector fared the worst, as rising oil prices continued to drag on corporate profit margins.

MSCI EAFE Sector Returns	QTD	1-Year
Consumer Discretionary	-0.70	0.77
Consumer Staples	-0.55	-0.30
Energy	2.21	18.79
Financials	0.12	-8.05
Healthcare	5.20	4.31
Industrials	2.07	1.42
Information Technology	0.06	4.95
Materials	-0.52	2.55
Telecommunications Services	3.22	-7.71
Utilities	-1.40	-3.22

# Q3 2018 In Review: Emerging Market Equity

MSCI EM Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Emerging Markets	-1.09	-7.68	-0.81	12.36	3.61	5.40
EM Local Currency	-0.04	-2.86	2.65	12.18	7.26	7.72
Asia	-1.83	-6.79	1.00	13.50	6.74	8.23
EMEA	-1.63	-12.48	-2.22	6.26	-2.34	1.14
Latin America	4.77	-6.91	-9.09	13.67	-2.27	0.66

All data in the tables are percentages and net of dividends.

#### **Performance**

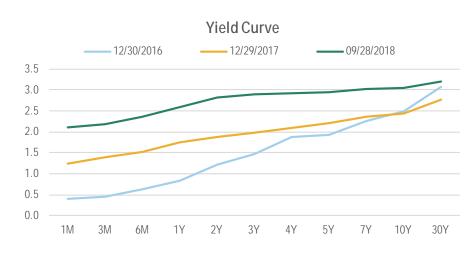
- Emerging market equities were volatile in Q3 and ultimately declined in the quarter.
- The EM Index gained in July, but fell in August and September, as Turkey and Argentina's economic and currency crises emerged and global tensions persisted, such as the ongoing trade disputes between the U.S. and China.
- Latin America was a bright spot for emerging markets, as Brazil and Mexico posted strong returns in Q3.
- U.S. dollar strength continued to be a headwind to returns. Though they
  were both negative, the EM local currency index finished the quarter
  1.05% ahead of the USD-based index.
- Sector returns were mixed in Q3. Energy posted the strongest gain and Consumer Discretionary registered the steepest loss.

MSCI EM Sector Returns	QTD	1-Year
Consumer Discretionary	-10.46	-14.91
Consumer Staples	-2.78	-2.09
Energy	14.30	26.35
Financials	1.31	-0.34
Healthcare	-7.15	10.01
Industrials	3.13	-4.54
Information Technology	-4.58	-0.96
Materials	4.07	7.71
Telecommunications Services	1.62	-8.97
Utilities	-1.90	-5.81

# Q3 2018 In Review: Fixed Income Overview

#### **Yield Curve**

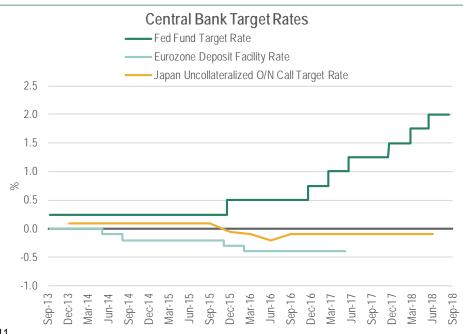
- Treasury yields rose across all maturities in Q3 as the Fed continued to tighten monetary policy.
- Global demand accentuated the yield curve's flattening trajectory, with long-term Treasury yields failing to rise at the same pace as short-term yields.
- The 30-year Treasury ended the quarter yielding 3.20%, 21 basis points (bps) higher than it was at the end of Q2, while the 2-year Treasury ended the quarter at 2.81%, which was 29 bps higher than the prior quarter.



#### **Monetary Policies/Global Interest Rates**

- Central bank deposit rates remained negative in the Eurozone and Japan.
- The U.S. is the exception—the Federal Reserve (Fed) raised rates again in September, the third hike of 2018.
- The Fed indicated that a fourth rate hike is likely this year.

Interest Rates	Fed Funds Rate	EZ Deposit Facility Rate
Average	5.72% (1971-2018)	1.28% (1999-2018)
Max	20.0% (Mar. 1980)	3.75% (Oct. 2000)
Min	0.25% (Dec. 2008)	-0.40% (Mar. 2016)



\*Segal Marco Advisors

# Q3 2018 In Review: U.S. Fixed Income

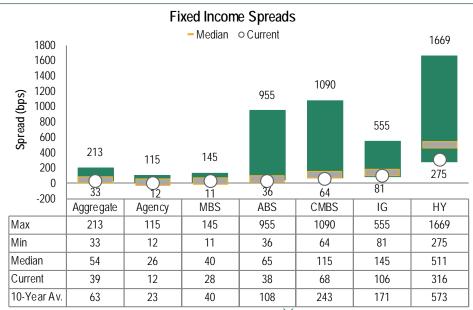
U.S. Fixed Income Indices*	QTD	YTD	1-Year	3-Year	5-Year	10-Year
U.S. Aggregate	0.02	-1.60	-1.22	1.31	2.16	3.77
Government/Credit	0.06	-1.85	-1.37	1.45	2.23	3.95
Government	-0.57	-1.62	-1.57	0.26	1.34	2.66
Investment Grade Corporate	0.97	-2.33	-1.19	3.12	3.54	6.35
Investment Grade CMBS	0.55	-0.63	-0.24	1.66	2.41	5.64
U.S. Corporate High Yield	2.40	2.57	3.05	8.15	5.54	9.46
FTSE** 3-Month T-Bill	0.50	1.29	1.57	0.80	0.49	0.32
Hueler Stable Value	0.56	1.63	2.15	1.94	1.85	2.29

<sup>\*</sup> Bloomberg Barclays Indices, unless otherwise noted.

All data in the table are percentages.

#### **Performance and Spreads**

- The U.S. Aggregate Index was modestly positive in Q3.
   Performance was driven by the Investment Grade Corporate sector, where spreads fell 17 bps.
- High yield generated a 2.40% return in Q3 as interest rates rose while credit fundamentals remained strong.
- Domestic fixed income spreads are low by historical measures. Absent from current market conditions are some of the themes that would signal the end of a credit cycle (e.g., aggressive central bank rate hikes, economic deterioration, and rapidly rising debt levels), so the environment for credit remains positive despite elevated valuations.



<sup>\*\*</sup> Formerly Citigroup. Citigroup's fixed income indices were purchased by London Stock Exchange Group (LSEG) and will all be rebranded to FTSE by July 31, 2018. FTSE Russell is a unit of LSEG's Information Services Division and a wholly owned subsidiary of LSEG.

# Q3 2018 In Review: International Fixed Income

Global Fixed Income Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Barclays Global Aggregate	-0.92	-2.36	-1.31	1.98	0.75	2.89
Bloomberg Barclays Global Aggregate (Hgd)	-0.05	0.02	0.83	2.36	3.13	4.07
FTSE Non-U.S. WGBI*	-2.19	-3.09	-1.57	2.39	-0.23	1.99
FTSE Non-U.S. WGBI (Hgd)	-0.55	1.17	2.29	2.97	3.98	4.08
JPM EMBI Global Diversified**	2.30	-3.04	-1.92	6.04	5.38	7.55
JPM GBI-EM Global Diversified***	-1.83	-8.15	-7.40	5.17	-1.68	2.70

All data in the table are percentages.

#### **Global Performance and Yields**

- Currency depreciation negatively impacted both developed and emerging market economies in Q3.
- In developed markets, the euro, British pound, and Japanese yen all depreciated relative to the U.S. dollar. In emerging markets, steep currency depreciation occurred in Turkey, South Africa and Argentina.
- The European Central Bank announced it will likely end its quantitative easing program in December and it will taper down asset purchases from €30 billion to €15 billion per month in Q4. The BOJ made a few changes to policy to make its stimulus program more flexible, causing the 10-year Japanese government bond to break 10 bps for the first time in over 2 years.

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<sup>\*</sup> Formerly Citigroup. The FTSE Non-U.S. World Government Bond Index (WGBI) measures the performance of fixed-rate, local currency, investment grade sovereign bonds excluding the U.S.

<sup>\*\*</sup> The JP Morgan Emerging Market Bond Index (EMBI) Global Diversified index measures government bonds in hard currencies.

<sup>\*\*\*</sup> The JP Morgan Government Bond Index – Emerging Markets (GBI-EM) Global Diversified index measures government bonds in local currencies.

# Q3 2018 In Review: Absolute Return Strategies

HFRI Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Fund of Funds Composite	0.27	0.99	3.08	3.29	3.18	2.55
Fund Weighted Composite	0.55	1.37	3.98	5.34	4.11	4.56
Event Driven	0.78	2.79	4.76	6.79	4.35	5.58
Equity Hedge	0.48	1.66	5.07	7.31	5.09	5.16
Macro	-0.03	-1.82	0.54	0.41	1.48	1.64
Emerging Markets	-3.19	-6.78	-3.19	6.75	3.05	3.69
Relative Value	1.31	2.99	4.09	5.16	4.36	6.01

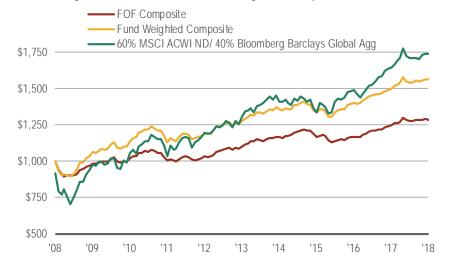
All data in the table are percentages.

Returns for periods greater than one year are annualized.

#### **Hedge Fund Performance**

- The HFRI Fund Weighted Composite gained 0.6%. Strong performance from Technology and Event-Driven strategies was somewhat offset by the volatility associated with trade and tariffs towards the end of Q3.
- Relative Value led all major hedge fund strategies during the quarter. Yield alternatives gained in areas such as MLPs and REITS due to their floating rate dividends and low-duration nature.
- Emerging Markets' performance was negative in Q3. Currency declines and fears of a spillover from the crisis in Turkey, as well underperformance by Asian stocks due to ongoing U.S.-China trade uncertainties, contributed to the losses.
- The Fund Weighted and Fund of Funds Composite indices gained during Q3 but underperformed the 60/40 Balanced MSCI ACWI\*/Bloomberg Barclays Global Aggregate index, which increased 2.3% during the quarter.

#### HFR Hedge Fund and Fund of Fund Weighted Composite Growth of



# Q3 2018 In Review: Private Equity

#### **Performance**

- The total return for private equity funds, comprising performance across all regions and strategies, was 3.0% in Q1 2018\* and 18.3% over the 1-year period ending Q1.
- The 3-, 5- and 20-year returns for private equity funds were 12.4%, 14.0% and 12.6%, respectively, at the end of Q1. The 10-year return of 9.5% was lower than other time periods due to the impact of the Global Financial Crisis.
- All funds from recent vintage years are performing in line with our longer-term expectations for private equity.

# Vintage Year: All Regions Total PE Venture Capital Buyouts 25.0% 20.0% 15.0% 10.0%

Private Equity Performance by Investment Horizon and

2015

2014

\*\* Segal Marco Advisors

2013

2012

Investment Horizon Vintage Year "Vintage year" refers to the first year that capital was committed in a particular fund. Vintage-year performance is calculated as the median percentile returns of all funds reporting as pooled IRRs.

20 Yr.

5.0%

0.0%

#### **Fundraising**

- U.S. private equity funds raised approximately \$275.5 billion across 864 funds through September 17, 2018\*.
- With continued strong fundraising levels, the amount of private equity dry powder globally has exceeded \$1 trillion.
- Increasing competition for high quality assets has driven up purchase price multiples causing private equity funds to be more selective when putting capital to work. This is one explanation for the record growth in dry powder.



#### **Exit Activity**

- There were 1,066 private equity-backed exit deals completed during the first three quarters of 2018, on par with the same period last year. Aggregate deal value, however, increased significantly to \$43.9 billion from \$25.6 billion over the same period in 2017, largely due to a few major IPOs and M&A deals in China and the United States.
- The largest IPO in this quarter, Chinese tech company Meituan-Dianping, made a strong stock market debut in September raising \$4.2 billion from investors. The newly issued shares were priced near the top of its target range.

#### Private Equity Exit: All Regions Number of Deals 500,000 3,000 400,000 \$ Millions Number of Deals 2,000 300,000 200,000 100,000 2010 2011 2012 2013 2014 15

\*The most recent data available. \*\*Dry powder is capital raised that hasn't yet been invested. Sources this page: Thomson Reuters, *Private Equity Analyst,* Pregin

# Q3 2018 In Review: Real Estate

#### **Real Estate Performance**

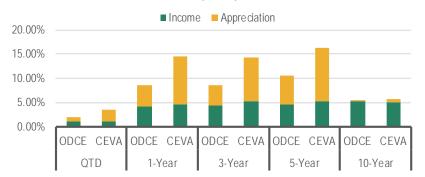
- Comparing the most recent performance of core real estate, as measured by the NFI-ODCE index (Q3 2018), and value add real estate, as measured by the CEVA index (Q2 2018), the CEVA outperformed the ODCE by 149 bps. Most of the CEVA's outperformance came from the appreciation component of the return.
- Income for both ODCE and CEVA remains in lock step, with both experiencing minimal decreases QoQ. Appreciation's contribution to returns increased by 100 bps for CEVA with only a 5 bps increase in the ODCE.
- The CEVA Index continued to outperform the ODCE over the QTD, 1, 3, 5, and 10-year rolling periods, on a gross basis. However, over the same trailing periods, the CEVA has a much wider gross/net return spread relative to the ODCE, with a median spread of 2.83%.
- On an equal-weighted basis for Q3 2018, the CEVA gross/net returns are 2.55%/2.06% relative to the ODCE's 2.09%/1.88%.

#### **Real Estate Capitalization Rates vs. Treasuries**

- Prime assets have seen strong capital flow, which has kept investment values generally stable. However, there are concerns that values may have peaked or are even poised to decline after significant appreciation and due to higher interest rates. Lower quality assets are at the greatest risk of price declines.
- Prevailing cap rates\* have been buoyed by historically wide spreads versus financing costs and persistent demand for real estate.
- Further compounding the cap rate spread issue, there is a record level of capital available to invest in real estate.

# \*A cap rate is the potential rate of return on a real estate investment. Assuming no change in net operating income, real estate valuations rise when cap rates fall. Comparing cap rates to the 10-year U.S. Treasury provides investors with an estimated spread for expected returns from real estate (higher risk) vs. fixed rate bond (lower risk) investments. Sources this page: NCREIF, Bloomberg

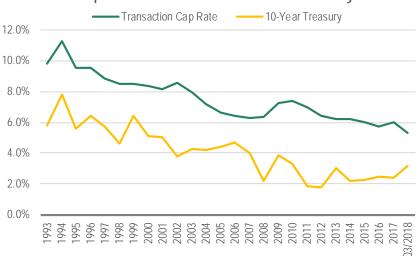
# NCREIF Fund Index (NFI) Open-End Diversified Core (ODCE) and Closed End Value-Add (CEVA) Real Estate Performance



The NFI-ODCE (Open-end Diversified Core Equity) is defined by NCREIF as a fund-level cap-weighted, gross of fee, time-weighted returnindex with an inception date of December 31, 1977.

The NFI-CEVA Index, which is a quarter lagged in performance reporting, is defined by NCREIF as a capitalization-weighted, gross of fees, time-weighted return index. Funds included in the index must be closed-end with a value-add strategy operated for U.S. institutional investors and must comply with NCREIF's data collection and reporting standards.

#### Capitalization Rates & 10-Year U.S. Treasury

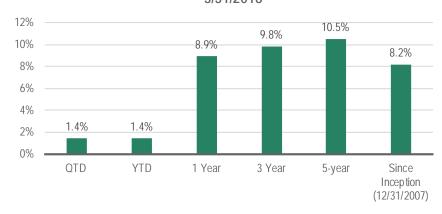


# Q3 2018 In Review: Infrastructure

#### Infrastructure Performance

- Private infrastructure gained 1.4% in Q1 2018\*. The 1-year return is in line with private infrastructure's annual return expectations.
- The 1-, 3-, and 5-year results exceeded the since-inception return, indicating the asset class has recovered well from the global financial crisis. Private infrastructure started off 2018 with returns below expectations, partly because the number of deals dropped from a historic high of 942 in Q4 2017 to 695 in Q1 2018.
- Public infrastructure rose 0.70% in Q3 2018, as per the FTSE Global Infrastructure 50/50 Index. The Communications and Utilities sectors gained, while Transportation and Energy declined.

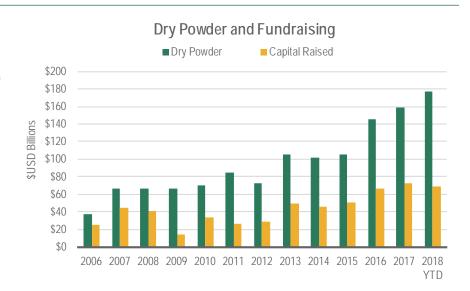
# Preqin Infrastructure Annualized Return as of 3/31/2018\*



According to Preqin, the Preqin Infrastructure Index captures the average returns earned by investors in their infrastructure portfolios, based on the actual amount of money invested. The Preqin Infrastructure index is calculated on a guarterly basis using data from Preqin's Infrastructure Online services.

#### **Dry Powder and Fundraising**

- Infrastructure fundraising in Q3 2018 soared to a record high of \$37.9 billion. The previous record was \$31.6 billion in Q1 2017.
   The average fund size on a quarterly basis also hit a high of \$1.9 billion in Q3 2018 relative to the average quarterly fund size of \$832.1 million.
- Dry powder\*\* increased slightly in Q3 amid strong fundraising globally. Funds raised \$37.9 billion during the quarter and dry powder increased by \$2 billion.
- The average deal size increased from \$334.9 million in 2017 to \$395.8 million in 2018, which helped managers deploy more capital and keep dry powder growth in check. Despite this, dry powder still stands at \$177 billion YTD.





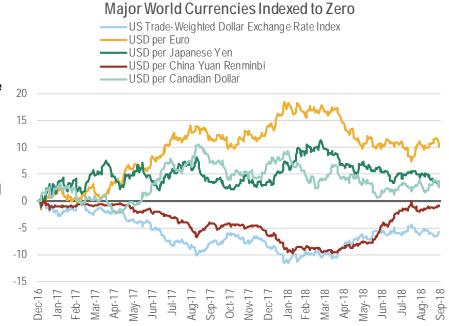
<sup>\*\*</sup>Dry powder is capital raised that hasn't yet been invested. Sources this page: Pregin

# Q3 2018 In Review: Commodities and Currencies

BCOMIndices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Commodity Index (BCOM)	-2.02	-2.03	2.59	-0.11	-7.18	-6.24
Energy	4.39	17.63	28.13	0.39	-12.72	-16.06
Agriculture	-5.45	-10.92	-12.71	-7.50	-10.03	-4.54
Industrial Metals	-6.88	-11.82	-2.36	7.87	-1.35	-2.75
Precious Metals	-6.00	-10.66	-8.83	1.02	-4.16	2.25
Livestock	2.88	-2.38	0.85	-1.83	-2.70	-4.48

#### **Commodity and Currency Highlights**

- The Bloomberg Commodity Index fell during Q3 with mixed performance across the underlying sectors.
- The Energy sector was the top performer. The price of crude oil and petroleum products increased, while inventories dropped due to OPEC's decision not to increase production and the first round of U.S. sanctions on Iran took effect.
- Industrial Metals fell as a result of global trade disputes. The
  prospects of higher tariffs and weakening demand from China
  contributed to declines in nickel, lead, zinc and copper. Precious
  Metals lost ground due to a strong U.S. economy and the Federal
  Reserve raising short-term interest rates, as higher interest rates
  lessen the appeal of holding gold and silver.
- The U.S. dollar continued to strengthen in Q3, though not at the pace it did during Q2.
- The euro stabilized in Q3 as trade tensions between the U.S. and Eurozone eased.

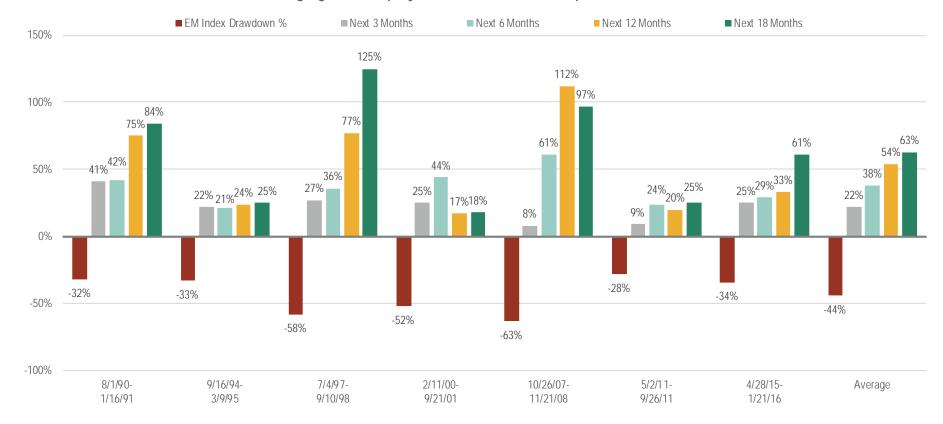


# **Q3 2018 In Review: Noteworthy Developments**

#### **Emerging Market Equity - Rebounds After Drawdowns**

- Emerging market equity returns have been extremely volatile over the last 30 years, but most major declines have been followed by recoveries that have often been nearly as robust as the declines were precipitous.
- The message with EME, therefore, is clear patience seems to be rewarded over time, but investors with sensitivity to extremes should be aware of that requirement.

#### Emerging Market Equity Bear Markets and Subsequent Performance



# **Q3 2018 In Review: Noteworthy Developments**

#### Revised Life Expectancy's Impact on Plans

- A Bloomberg study measured the health care efficiency of almost 200 economies, using average lifespan, determining medical costs both as a percentage of income and in absolute dollars.
- Americans' life expectancy declined for the second year in a row. Per the CDC, deaths from drug overdoses, chronic liver disease, suicide, Alzheimer's and blood infections have all gone up, resulting in a shortened average life span.
- Impact on pension plans: Lower life expectancy results in higher mortality tables, which reduces pension liabilities.
- The Society of Actuaries (SOA) annually updates the mortality improvement scale for pension plans. For 2017 and 2018 (which reflects age-adjusted U.S. population mortality rates for 2014-15 and 2015-16, respectively), the mortality rates suggest that life expectancies declined slightly each year. Declines two years in a row are rare the last time life expectancy fell two years in a row, was 1962-63:
  - The 2017 study suggests the new rates could reduce a pension plan's obligations by 0.7% to 1.0% (using a 4% discount rate).
  - The 2018 study suggests the new rates could reduce a pension plan's obligations by 0.3% to 0.5% (using a 4% discount rate).

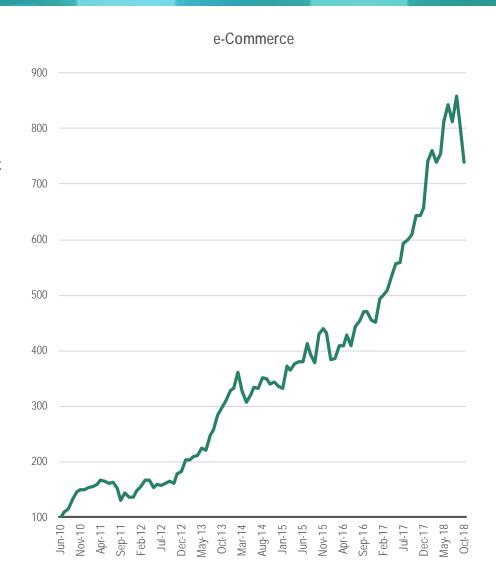
#### Bloomberg Health Care Efficiency

Rank	Rank 1 Year Ago	Change	Economy	Efficiency Score	Life Expectancy	Relative Cost %	Absolute Cost\$
1	1	-	Hong Kong	87.3	84.3	5.7	2,222
2	2	-	Singapore	85.6	82.7	4.3	2,280
3	3	-	Spain	69.3	82.8	9.2	2,354
4	6	+2	Italy	67.6	82.5	9.0	2,700
5	4	-1	South Korea	67.4	82.0	7.4	2,013
6	7	+1	Israel	67.0	82.1	7.4	2,756
7	5	-2	Japan	64.3	83.8	10.9	3,733
8	10	2	Australia	62.0	82.4	9.4	4,934
54	50	-4	U.S.	29.6	78.7	16.8	9,536

# **Q3 2018 In Review: Noteworthy Developments**

#### Is e-Commerce in Bubble Territory?

- The Dow Jones Internet Commerce Index, which measures the 15 biggest and most actively traded e-commerce stocks (chart at right), is up more than 8x since June 2010 and may now be in bubble territory.
- Increased central bank liquidity, i.e. easier access to credit, could be creating an environment for an asset price bubble. Also, the free cash flow yield of the Internet Commerce Index is lower than that of the tech sector in the late 90s (dot-com bubble), making e-Commerce valuations appear frothy in comparison.
- On the other hand, the digital era has fostered business models that lower marginal costs. Many digital technologies are scalable, in that they can be replicated at low or no cost, which is beneficial for the company and, ultimately, the consumer. Improved and less expensive AI capabilities could translate into more product sales, higher subscription premiums or better-focused advertising for internet companies.
- As outlined above, there are points and counterpoints to the question of whether e-Commerce is in a valuation bubble.
   But it seems likely that investors will see changes to the top players in e-Commerce as technology continues to evolve and digital disruptions keep occurring.

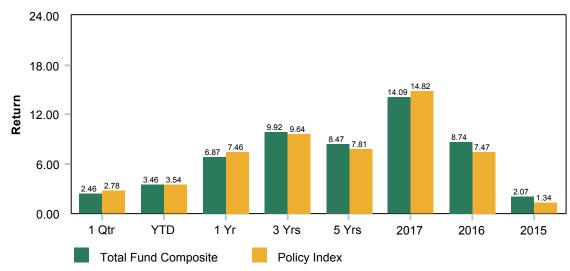


**Total Fund Composite** 

#### **Asset Allocation by Segment**

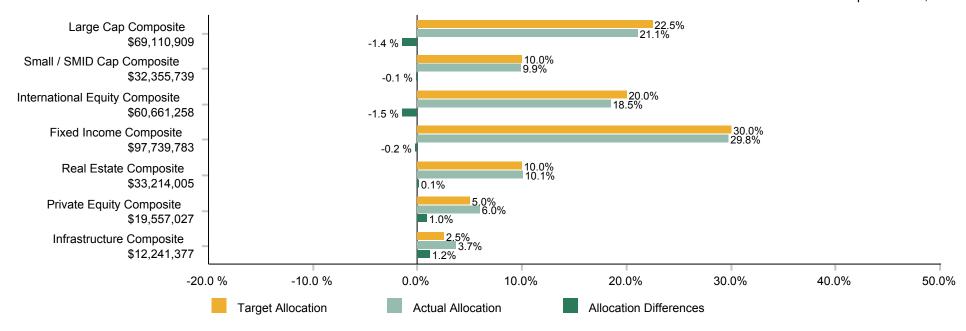
	Market Value	Allocation
Segments	(\$)	(%)
Domestic Equity	100,862,794	30.74
Domestic Fixed Income	87,600,443	26.70
International Equity	60,661,146	18.49
Real Estate	33,214,005	10.12
Private Equity	29,696,354	9.05
Alternative Investment	12,241,377	3.73
Cash	3,822,328	1.16

#### **Performance Bar Chart**



#### Gain / Loss

	1 Qtr	YTD 1 Yr		3 Yrs	5 Yrs
Total Fund Composite					
Beginning Market Value	329,943,973	339,527,131	315,828,589	275,038,799	258,341,871
Net Cash Flows	-10,272,907	10,013,311	22,869,172	-2,947,562	-18,389,317
Income	909,595	2,970,955	3,883,755	13,278,372	21,484,373
Gain/Loss	7,517,785	-24,412,951	-14,483,069	42,728,838	66,661,519
Ending Market Value	328,098,446	328,098,446	328,098,446	328,098,446	328,098,446



	Asset Allocation (\$)	Asset Allocation (%)	Interim Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)
Total Fund Composite	328,098,446	100.00	100.00	0.00	N/A	N/A
Large Cap Composite	69,110,909	21.06	22.50	-1.44	15.00	30.00
Small / SMID Cap Composite	32,355,739	9.86	10.00	-0.14	7.00	15.50
International Equity Composite	60,661,258	18.49	20.00	-1.51	15.00	25.00
Fixed Income Composite	97,739,783	29.79	30.00	-0.21	25.00	37.50
Real Estate Composite	33,214,005	10.12	10.00	0.12	7.00	14.00
Private Equity Composite	19,557,027	5.96	5.00	0.96	0.00	15.00
Infrastructure Composite	12,241,377	3.73	2.50	1.23	0.00	5.00

	Total Fu	nd
	(\$)	%
Total Fund Composite	328,098,446	100.00
Domestic Equity Composite	101,466,648	30.93
Large Cap Composite	69,110,909	21.06
Northern Trust S&P 500	69,110,909	21.06
Small / SMID Cap Composite	32,355,739	9.86
TSW - SMID Value	15,211,877	4.64
Northern Trust Extended Equity Market Index	17,143,847	5.23
International Equity Composite	60,661,258	18.49
Brandes International Small Cap	14,578,584	4.44
Wellington International	46,082,674	14.05
Fixed Income Composite	97,739,783	29.79
Baird Core Plus Bond	41,857,513	12.76
Neuberger & Berman Short Duration	33,200,690	10.12
AG Direct Lending Fund II, L.P.	10,139,327	3.09
GoldenTree Multi-Sector LP	12,542,254	3.82
Real Estate Composite	33,214,005	10.12
Morgan Stanley	22,363,991	6.82
Principal Enhanced Property Fund	10,850,014	3.31
Private Equity Composite	19,557,027	5.96
NB Crossroads Fund XXI	12,435,405	3.79
HarbourVest Dover Fund IX	4,345,942	1.32
GoldPoint Co-Investment VI	2,775,680	0.85
Infrastructure Composite	12,241,377	3.73
IFM Global Infrastructure	12,241,377	3.73
Investment Cash Account	3,218,348	0.98

					Perform	ance (%)				
	1 Quarter	Year To Date	Oct-2017 To Sep-2018	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Total Fund Composite	2.46	3.46	6.87	6.87	9.92	8.47	10.81	8.17	7.92	02/01/1991
Policy Index	2.78	3.54	7.46	7.46	9.64	7.81	10.10	7.94	8.04	
Large Cap Composite	7.70	10.62	17.97	17.97	17.31	13.95	16.95	11.54	9.40	09/01/2002
S&P 500	7.71	10.56	17.91	17.91	17.31	13.95	16.91	11.97	9.68	
Small / SMID Cap Composite	2.07	5.92	9.51	9.51	14.56	10.94	15.80	9.90	10.86	09/01/2002
Small / SMID Policy	4.70	10.41	16.19	16.19	16.13	11.21	16.53	11.18	11.07	
International Equity Composite	-0.90	-4.81	-1.52	-1.52	7.98	5.46	N/A	N/A	5.61	05/01/2013
MSCI AC World ex USA (Net)	0.71	-3.09	1.76	1.76	9.97	4.12	7.25	5.18	4.34	
Fixed Income Composite	0.82	0.15	0.71	0.71	2.26	2.52	2.30	3.72	7.22	02/01/1991
Bond Index	0.02	-1.60	-1.22	-1.22	0.82	1.62	1.67	3.27	5.16	
Real Estate Composite	2.21	6.40	8.65	8.65	9.91	11.75	12.29	6.29	5.91	04/01/2008
Real Estate Policy	1.98	6.20	8.39	8.39	8.74	10.54	10.91	5.64	5.38	

					Perform	ance (%)			·	
	1 Quarter	Year To Date	Oct-2017 To Sep-2018	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Large Cap Composite	7.70	10.62	17.97	17.97	17.31	13.95	16.95	11.54	9.40	09/01/2002
S&P 500	7.71	10.56	17.91	17.91	17.31	13.95	16.91	11.97	9.68	
Northern Trust S&P 500	7.70	10.57	17.92	17.92	17.29	13.94	N/A	N/A	15.40	11/01/2012
S&P 500	7.71	10.56	17.91	17.91	17.31	13.95	16.91	11.97	15.42	
IM U.S. Large Cap Core Equity (SA+CF) Median	7.13	9.92	17.33	17.33	16.25	13.63	16.86	12.04	15.40	
Northern Trust S&P 500 Rank	36	38	40	40	31	43	N/A	N/A	50	
Small / SMID Cap Composite	2.07	5.92	9.51	9.51	14.56	10.94	15.80	9.90	10.86	09/01/2002
Small / SMID Policy	4.70	10.41	16.19	16.19	16.13	11.21	16.53	11.18	11.07	
TSW - SMID Value	1.34	6.84	9.85	9.85	11.79	N/A	N/A	N/A	9.27	11/01/2013
Russell 2500 Value Index	2.67	5.75	10.24	10.24	14.51	9.99	15.33	10.53	9.27	
IM U.S. SMID Cap Value Equity (SA+CF) Median	2.93	5.01	10.07	10.07	14.04	10.47	15.98	12.13	9.66	
TSW - SMID Value Rank	78	34	53	53	78	N/A	N/A	N/A	65	
Northern Trust Extended Equity Market Index	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.75	09/01/2018
Dow Jones U.S. Completion Total Stock Market Indx	4.33	10.66	16.02	16.02	15.96	11.29	16.43	12.34	-1.75	
IM U.S. SMID Cap Core Equity (SA+CF) Median	4.80	10.50	16.29	16.29	16.08	12.68	16.93	12.94	-1.52	
Northern Trust Extended Equity Market Index Rank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	74	
International Equity Composite	-0.90	-4.81	-1.52	-1.52	7.98	5.46	N/A	N/A	5.61	05/01/2013
MSCI AC World ex USA (Net)	0.71	-3.09	1.76	1.76	9.97	4.12	7.25	5.18	4.34	
Brandes International Small Cap	-1.90	-7.50	-6.08	-6.08	6.72	N/A	N/A	N/A	4.17	05/01/2015
MSCI EAFE Small Cap (Net)	-0.88	-2.19	3.73	3.73	12.39	7.96	11.46	9.68	8.45	
IM International Small Cap Equity (SA+CF) Median	-1.35	-2.32	3.70	3.70	13.02	8.46	12.32	10.90	8.43	
Brandes International Small Cap Rank	69	92	98	98	98	N/A	N/A	N/A	95	
Wellington International	-0.58	-3.88	0.10	0.10	8.42	N/A	N/A	N/A	4.85	11/01/2013
MSCI AC World ex USA (Net)	0.71	-3.09	1.76	1.76	9.97	4.12	7.25	5.18	3.43	
IM International Core Equity (SA+CF) Median	0.67	-1.59	2.40	2.40	10.22	5.93	9.82	6.94	5.30	
Wellington International Rank	78	77	81	81	83	N/A	N/A	N/A	60	

				Performance (%)								
	1 Quarter	Year To Date	Oct-2017 To Sep-2018	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date		
Fixed Income Composite	0.82	0.15	0.71	0.71	2.26	2.52	2.30	3.72	7.22	02/01/1991		
Bond Index	0.02	-1.60	-1.22	-1.22	0.82	1.62	1.67	3.27	5.16			
Baird Core Plus Bond	0.34	-1.41	-0.91	-0.91	N/A	N/A	N/A	N/A	0.10	06/01/2017		
Blmbg. Barc. U.S. Aggregate	0.02	-1.60	-1.22	-1.22	1.31	2.16	2.02	3.77	-0.36			
IM U.S. Broad Market Core+ Fixed Income (MF) Median	0.26	-1.52	-1.24	-1.24	2.15	2.42	2.90	4.88	-0.05			
Baird Core Plus Bond Rank	42	44	38	38	N/A	N/A	N/A	N/A	42			
NB Fixed Income Composite	0.68	-0.63	-0.78	-0.78	0.88	1.30	N/A	N/A	0.91	01/01/2013		
Neuberger & Berman Short Duration	0.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.04	02/01/2018		
NB Blended Benchmark*	0.43	0.95	1.03	1.03	0.79	0.64	0.59	0.87	0.98			
IM U.S. Short Duration Fixed Income (MF) Median	0.52	0.69	0.69	0.69	1.12	0.94	1.08	1.79	0.79			
Neuberger & Berman Short Duration Rank	22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	94			
GoldenTree Multi-Sector LP	1.65	3.16	4.52	4.52	N/A	N/A	N/A	N/A	4.52	10/01/2017		
GT Blended Index**	1.88	3.06	3.88	3.88	6.13	4.46	N/A	N/A	3.88			
Blmbg. Barc. U.S. Aggregate	0.02	-1.60	-1.22	-1.22	1.31	2.16	2.02	3.77	-1.22			
IM U.S. Broad Market Core+ Fixed Income (MF) Median	0.26	-1.52	-1.24	-1.24	2.15	2.42	2.90	4.88	-1.24			
GoldenTree Multi-Sector LP Rank	1	2	2	2	N/A	N/A	N/A	N/A	2			
Real Estate Composite	2.21	6.40	8.65	8.65	9.91	11.75	12.29	6.29	5.91	04/01/2008		
Real Estate Policy	1.98	6.20	8.39	8.39	8.74	10.54	10.91	5.64	5.38			
Morgan Stanley	1.96	5.88	8.09	8.09	9.04	11.21	11.90	6.04	5.66	04/01/2008		
NCREIF ODCE Equal Weighted	2.08	6.52	8.81	8.81	9.07	10.87	11.22	5.36	5.11			
Principal Enhanced Property Fund	2.86	7.71	10.08	10.08	12.47	N/A	N/A	N/A	13.59	11/01/2013		
NCREIF Property Index	1.67	5.27	7.16	7.16	7.75	9.57	9.98	6.42	9.57			
Infrastructure Composite	6.18	14.86	19.78	19.78	N/A	N/A	N/A	N/A	20.61	09/01/2017		
IFM Global Infrastructure	6.18	14.86	19.78	19.78	N/A	N/A	N/A	N/A	20.61			

				Oct-2017						
	Market Value		1	То	1	3	5	7	Since	Inception
	(\$)	%	Quarter	Sep-2018	Year	Years	Years	Years	Inception	Date
Private Equity										
Private Equity Composite	19,557,027	5.96	2.79	14.89	14.89	N/A	N/A	N/A	15.02	06/23/2016
NB Crossroads Fund XXI	12,435,405	3.79	4.56	15.38	15.38	N/A	N/A	N/A	11.88	06/23/2016
HarbourVest Dover Fund IX	4,345,942	1.33	-0.50	26.43	26.43	N/A	N/A	N/A	45.91	12/16/2016
GoldPoint Co-Investment VI	2,775,680	0.85	-0.71	N/A	N/A	N/A	N/A	N/A	-10.21	04/23/2018
Private Debt										
AG Direct Lending Fund II, L.P.	10,139,327	3.09	2.18	9.90	9.90	N/A	N/A	N/A	10.82	05/31/2017

											, 10 0. 00
					Perf	ormanc	e (%)				
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2006
<b>Total Fund Composite</b>	14.09	8.74	2.07	8.14	19.47	12.40	0.74	13.24	15.81	-23.72	11.23
Policy Index	14.82	7.47	1.34	6.92	17.92	11.54	2.70	13.36	16.85	-22.38	11.61
Large Cap Composite	21.83	11.89	1.41	13.67	32.30	17.06	-3.31	16.46	29.59	-40.76	15.25
S&P 500	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00	15.79
Small / SMID Cap Composite	13.57	20.32	-3.16	10.71	36.00	12.94	1.91	21.00	14.96	-36.71	15.33
Small / SMID Policy	16.81	17.59	-2.90	7.07	37.79	16.35	-4.18	26.85	27.17	-33.79	18.37
International Equity Composite	21.90	4.08	3.39	-2.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA (Net)	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45	-45.53	26.65
<b>Fixed Income Composite</b>	4.16	3.14	0.76	4.57	-1.85	4.44	6.64	6.20	6.02	3.36	4.52
Bond Index	2.65	1.97	1.21	4.12	-1.02	3.56	5.97	6.15	6.46	4.86	4.57
<b>Real Estate Composite</b>	8.88	10.28	15.88	14.03	16.03	11.68	16.33	15.15	-33.00	N/A	N/A
Real Estate Policy	7.59	8.94	14.71	12.24	12.76	10.91	15.53	15.38	-27.37	-9.40	16.26

					Perf	ormanc	e (%)				
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2006
Large Cap Composite	21.83	11.89	1.41	13.67	32.30	17.06	-3.31	16.46		-40.76	15.25
S&P 500	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00	15.79
Northern Trust S&P 500	21.83	11.89	1.41	13.67	32.30	N/A	N/A	N/A	N/A	N/A	N/A
S&P 500	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00	15.79
IM U.S. Large Cap Core Equity (SA+CF) Median	21.83	10.51	1.43	13.42	32.98	15.66	2.03	14.82	26.50	-35.96	15.56
Northern Trust S&P 500 Rank	50	34	51	44	61	N/A	N/A	N/A	N/A	N/A	N/A
Small / SMID Cap Composite	13.57	20.32	-3.16	10.71	36.00	12.94	1.91	21.00	14.96	-36.71	15.33
Small / SMID Policy	16.81	17.59	-2.90	7.07	37.79	16.35	-4.18	26.85	27.17	-33.79	18.37
TSW - SMID Value	7.51	19.19	-1.03	8.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2500 Value Index	10.36	25.20	-5.49	7.11	33.32	19.21	-3.36	24.82	27.68	-31.99	20.18
IM U.S. SMID Cap Value Equity (SA+CF) Median	14.62	19.46	-3.06	7.03	35.75	16.96	-2.01	25.58	35.58	-35.76	17.87
TSW - SMID Value Rank	92	53	28	38	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Northern Trust Extended Equity Market Index	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dow Jones U.S. Completion Total Stock Market Indx	18.12	15.75	-3.42	7.63	38.05	17.89	-3.76	28.62	37.45	-39.02	15.29
IM U.S. SMID Cap Core Equity (SA+CF) Median	17.97	16.93	0.10	7.84	37.82	17.88	-1.00	26.61	34.91	-37.17	14.01
Northern Trust Extended Equity Market Index Rank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
International Equity Composite	21.90	4.08	3.39	-2.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA (Net)	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45	-45.53	26.65
Brandes International Small Cap	12.81	10.63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI EAFE Small Cap (Net)	33.01	2.18	9.59	-4.95	29.30	20.00	-15.94	22.04	46.78	-47.01	19.31
IM International Small Cap Equity (SA+CF) Median	34.97	1.13	10.04	-3.38	31.13	23.53	-13.55	23.68	46.07	-47.08	29.39
Brandes International Small Cap Rank	100	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wellington International	25.40	1.76	1.86	-2.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA (Net)	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45	-45.53	26.65
IM International Core Equity (SA+CF) Median	28.38	1.54	1.12	-3.45	24.09	19.74	-12.40	12.04	34.19	-44.15	27.77
Wellington International Rank	75	48	46	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A

					Perf	ormanc	e (%)			•	IIIDEI 30
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2006
Fixed Income Composite	4.16	3.14	0.76	4.57	-1.85	4.44	6.64	6.20	6.02	3.36	4.52
Bond Index	2.65	1.97	1.21	4.12	-1.02	3.56	5.97	6.15	6.46	4.86	4.57
Baird Core Plus Bond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Aggregate	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93	5.24	4.34
IM U.S. Broad Market Core+ Fixed Income (MF) Median	4.48	4.19	-0.26	5.23	-1.06	8.18	5.98	8.28	15.06	-3.49	4.31
Baird Core Plus Bond Rank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NB Fixed Income Composite	2.06	1.65	0.99	2.43	-1.24	N/A	N/A	N/A	N/A	N/A	N/A
Neuberger & Berman Short Duration	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NB Blended Benchmark*	0.85	0.71	0.29	0.33	0.30	0.57	0.70	1.19	1.64	3.22	4.61
IM U.S. Short Duration Fixed Income (MF) Median	1.34	1.46	0.27	0.64	0.24	2.37	1.14	3.17	5.94	-1.06	4.06
Neuberger & Berman Short Duration Rank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GoldenTree Multi-Sector LP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GT Blended Index**	5.45	12.01	-1.94	2.01	5.70	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Aggregate	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93	5.24	4.34
IM U.S. Broad Market Core+ Fixed Income (MF) Median	4.48	4.19	-0.26	5.23	-1.06	8.18	5.98	8.28	15.06	-3.49	4.31
GoldenTree Multi-Sector LP Rank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Real Estate Composite	8.88	10.28	15.88	14.03	16.03	11.68	16.33	15.15	-33.00	N/A	N/A
Real Estate Policy	7.59	8.94	14.71	12.24	12.76	10.91	15.53	15.38	-27.37	-9.40	16.26
Morgan Stanley	8.75	9.23	14.59	14.15	16.20	11.68	16.33	15.15	-33.00	N/A	N/A
NCREIF ODCE Equal Weighted	7.80	9.27	15.17	12.38	13.36	11.03	15.96	16.14	-30.65	-10.37	16.15
Principal Enhanced Property Fund	9.21	13.34	20.25	13.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NCREIF Property Index	6.96	7.97	13.33	11.82	10.98	10.54	14.26	13.11	-16.85	-6.46	16.60
Infrastructure Composite	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IFM Global Infrastructure	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<sup>\*</sup>NB Blended Benchmark consists of 40% Bloomberg Barclays 1-3 Year Gov/Credit and 60% BofA Merrill Lynch 3 Month T-Bill.

\*\*GT Blended Index consists of 33.34% BofA Merrill Lynch High Yield Master II, 33.33% HFRI RV: Fixed Income-Corporate Index, and 33.33% S&P/LSTA Leveraged Loan Index.

#### **Comparative Performance**

	Allocation							Perform	ance (%)						
		Oct-2004	Oct-2005	Oct-2006	Oct-2007	Oct-2008	Oct-2009	Oct-2010	Oct-2011	Oct-2012	Oct-2013	Oct-2014	Oct-2015	Oct-2016	Oct-2017
	Market Value	To	То	То	To	То	То	To	To	To	То	To	То	То	To
	(\$000)	Sep-2005	Sep-2006	Sep-2007	Sep-2008	Sep-2009	Sep-2010	Sep-2011	Sep-2012	Sep-2013	Sep-2014	Sep-2015	Sep-2016	Sep-2017	Sep-2018
<b>Total Fund Composite</b>	328,098	9.78	7.74	12.55	-12.76	-2.12	8.82	0.36	20.29	13.62	11.04	1.80	11.33	11.64	6.87
Policy Index		8.25	7.64	11.79	-11.28	-1.82	9.29	2.00	19.44	12.76	9.80	0.64	9.85	11.66	7.46

	Performance (%)										
	1 Quarter	Year To Date	Oct-2017 To Sep-2018	1 Year	3 Years	5 Years					
Total Fund Composite	2.41	3.28	6.61	6.61	9.59	8.14					
Policy Index	2.78	3.54	7.46	7.46	9.64	7.81					
Northern Trust S&P 500	7.70	10.57	17.92	17.92	17.29	13.92					
S&P 500	7.71	10.56	17.91	17.91	17.31	13.95					
TSW - SMID Value	1.06	6.11	8.95	8.95	10.86	N/A					
Russell 2500 Value Index	2.67	5.75	10.24	10.24	14.51	9.99					
Northern Trust Extended Equity Market Index	N/A	N/A	N/A	N/A	N/A	N/A					
Dow Jones U.S. Completion Total Stock Market Indx	4.33	10.66	16.02	16.02	15.96	11.29					
Brandes International Small Cap	-2.14	-8.15	-6.97	-6.97	5.70	N/A					
MSCI EAFE Small Cap (Net)	-0.88	-2.19	3.73	3.73	12.39	7.96					
Wellington International	-0.75	-4.46	-0.67	-0.67	7.64	N/A					
MSCI AC World ex USA (Net)	0.71	-3.09	1.76	1.76	9.97	4.12					
Baird Core Plus Bond	0.34	-1.41	-0.91	-0.91	N/A	N/A					
Blmbg. Barc. U.S. Aggregate	0.02	-1.60	-1.22	-1.22	1.31	2.16					
Neuberger & Berman Short Duration	0.68	N/A	N/A	N/A	N/A	N/A					
NB Blended Benchmark*	0.43	0.95	1.03	1.03	0.79	0.64					
GoldenTree Multi-Sector LP	1.65	3.16	4.52	4.52	N/A	N/A					
GT Blended Index**	1.88	3.06	3.88	3.88	6.13	4.46					
Blmbg. Barc. U.S. Aggregate	0.02	-1.60	-1.22	-1.22	1.31	2.16					
Morgan Stanley	1.96	5.88	8.09	8.09	9.04	11.21					
NCREIF ODCE Equal Weighted	2.08	6.52	8.81	8.81	9.07	10.87					
Principal Enhanced Property Fund	2.86	7.71	10.08	10.08	12.47	N/A					
NCREIF Property Index	1.67	5.27	7.16	7.16	7.75	9.57					
IFM Global Infrastructure	6.18	14.86	19.78	19.78	N/A	N/A					

<sup>\*</sup>NB Blended Benchmark consists of 40% Bloomberg Barclays 1-3 Year Gov/Credit and 60% BofA Merrill Lynch 3 Month T-Bill.

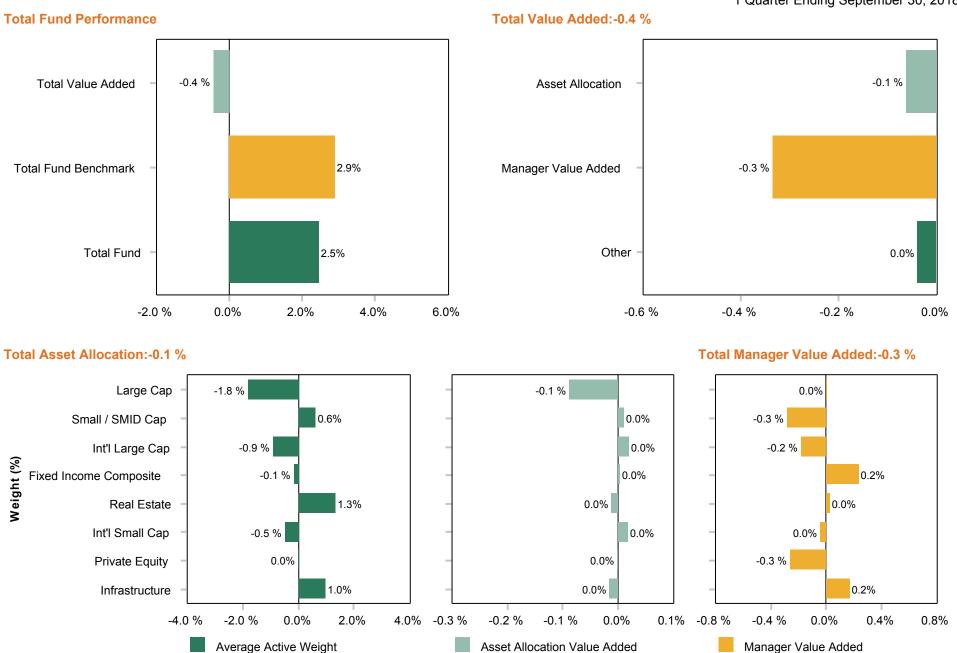
\*\*GT Blended Index consists of 33.34% BofA Merrill Lynch High Yield Master II, 33.33% HFRI RV: Fixed Income-Corporate Index, and 33.33% S&P/LSTA Leveraged Loan Index.

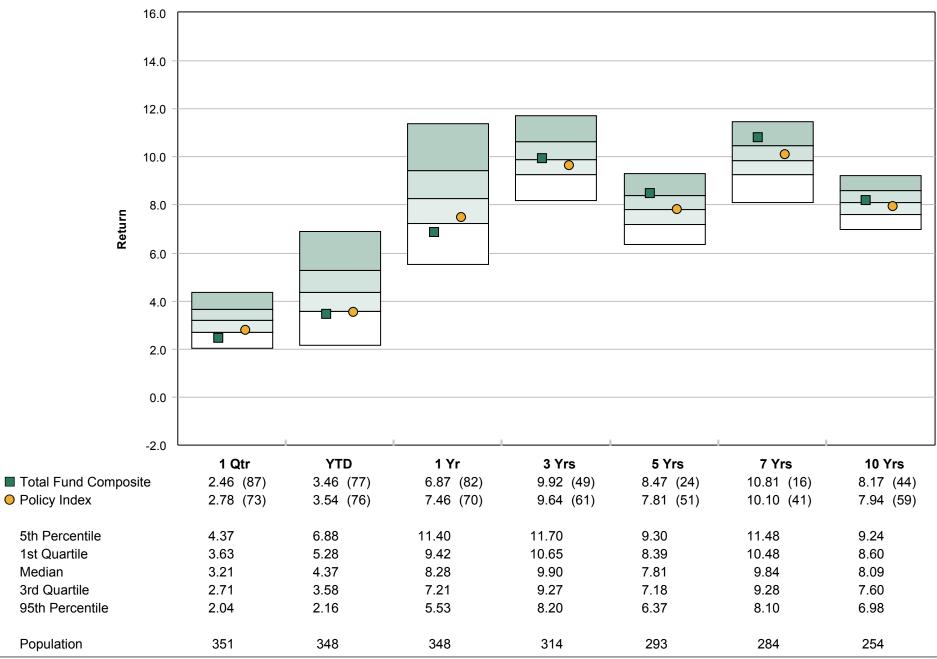
# Watch List – September 30, 2018

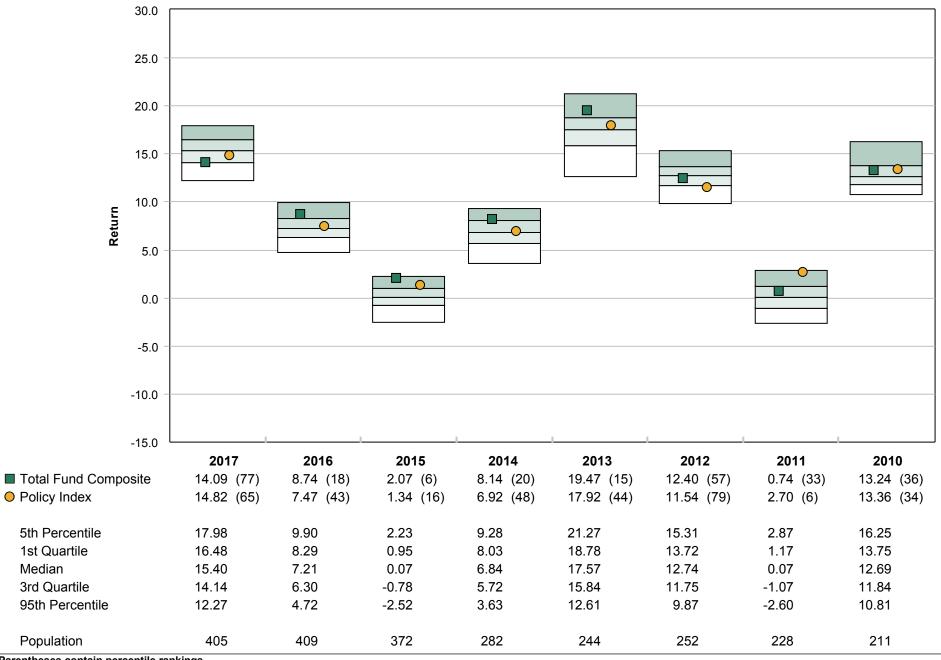
Equity Managers Strategy Rating				Performance Criteria  Benchmark Criteria							Comments		
		3-Yr	Manager Returns %	Benchmark Returns %	5-Yr	Manager Returns %	Benchmark Returns %	Inception*	Manager Returns %	Benchmark Returns %		5-Yr	
Intl Small Cap Equity	Recommended	No	5.7	12.4	N/A	N/A	N/A	No	3.2	8.5	No	N/A	Performance
	-		3-Yr	Manager Returns 3-Yr %	Manager Benchmark Returns 3-Yr % %	Strategy Rating  Manager Benchmark Returns Returns % 5-Yr	Strategy Rating  Manager Returns Returns Returns % 5-Yr %	Strategy Rating  Manager Returns 3-Yr % % 5-Yr % %	Strategy Rating  Manager Returns Returns Returns % 5-Yr % % 5-Yr % %	Strategy  Rating  Manager Returns Returns 8-Yr % % 5-Yr % % Panager Returns % % 10-ception*  Benchmark Criteria  Manager Returns Returns % 10-ception*  Manager Returns % % 5-Yr % % % % 10-ception*  Returns % % 10-ception*	Strategy  Rating  Manager Returns Returns % 5-Yr % % 5-Yr % % Inception*  Benchmark Criteria  Manager Returns Returns Returns % 6 Inception*  Manager Returns % 6 Mana	Strategy Rating    Manager   Benchmark   Manager   Benchmark   Manager   Returns   S-Yr   %   S-Yr   %   S-Yr   %   Manager   Returns   Manager   Returns   Manager   Returns   Manager   Returns   Manager   Returns   Manager   Manager	Strategy Rating    Rating   Benchmark Criteria   Exceed Peer Median

<sup>\*</sup> Brandes placed on "Watch List" August 23, 2018. Performance is Net of Fees. Inception Date - Brandes: 5/1/2015

1 Quarter Ending September 30, 2018



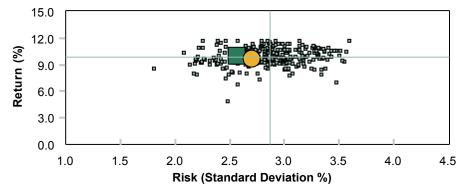




The City of Hollywood

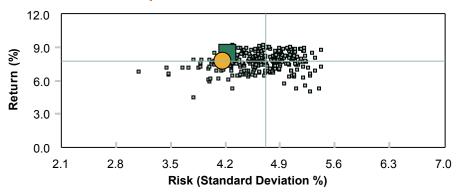
As of September 30, 2018

# Risk & Return Plan Sponsor — 3 Years



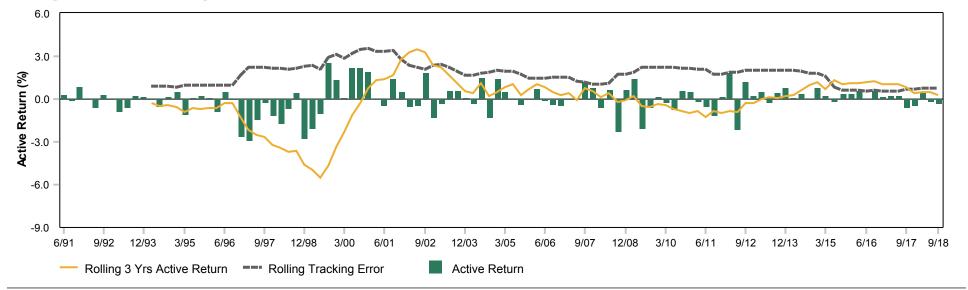
		Standard
	Return	Deviation
■ Total Fund Composite	9.92	2.57
<ul><li>Policy Index</li></ul>	9.64	2.70
Median	9.90	2.87

# Risk & Return Plan Sponsor — 5 Years



	Return	<b>Deviation</b>
■ Total Fund Composite	8.47	4.24
<ul><li>Policy Index</li></ul>	7.81	4.17
Median	7.81	4.71

# **Rolling Return and Tracking Error**



only of Honywood			As of September 30, 2018
Policy Index	Weight (%)	Policy Index	Weight (%)
Jan-1973		Apr-2008	
Blmbg. Barc. Intermed. U.S. Government/Credit	45.00	S&P 500	40.00
Blmbg. Barc. U.S. Government: Intermediate	25.00	Blmbg. Barc. U.S. Intermediate Aggregate	35.00
S&P 500	25.00	Russell 2000 Index	15.00
90 Day U.S. Treasury Bill	5.00	MSCI EAFE (Net)	5.00
Law 4005		NCREIF ODCE Equal Weighted	5.00
Jan-1995	00.00	00040	
Blmbg. Barc. Intermed. U.S. Government/Credit	26.00	Sep-2010	40.00
Blmbg. Barc. U.S. Government: Intermediate	14.00	S&P 500	40.00
S&P 500	55.00	Blmbg. Barc. U.S. Intermediate Aggregate	35.00
Russell 2000 Index	5.00	Russell 2000 Index	15.00
Jan-2003		90 Day U.S. Treasury Bill	5.00
Blmbg. Barc. Intermed. U.S. Government/Credit	29.00	NCREIF ODCE Equal Weighted	5.00
Blmbg. Barc. U.S. Government: Intermediate	16.00	Oct-2010	
S&P 500	40.00	S&P 500	40.00
Russell 2000 Index	15.00	Blmbg. Barc. U.S. Intermediate Aggregate	35.00
- 1.0000H <u>-</u> 000 H.007		Russell 2000 Index	15.00
Oct-2004		MSCI AC World ex USA (Net)	5.00
Blmbg. Barc. Intermed. U.S. Government/Credit	30.00	NCREIF ODCE Equal Weighted	5.00
Blmbg. Barc. U.S. Government: Intermediate	15.00	Tronce oboe Equal Troiginou	0.00
S&P 500	40.00	May-2013	
Russell 2000 Index	15.00	S&P 500	32.50
0-4-0005		Blmbg. Barc. U.S. Intermediate Aggregate	32.50
Oct-2005	40.00	Russell 2000 Index	12.50
S&P 500	40.00	MSCI AC World ex USA (Net)	15.00
Russell 2000 Index	15.00	NCREIF ODCE Equal Weighted	7.50
Blmbg. Barc. U.S. Intermediate Aggregate	45.00	Nov. 0040	
Jul-2006		Nov-2013	20.00
S&P 500	40.00	S&P 500	30.00
Russell 2000 Index	15.00	Blmbg. Barc. U.S. Intermediate Aggregate	32.50
Blmbg. Barc. U.S. Intermediate Aggregate	40.00	Russell 2500 Index	12.50
MSCI EAFE (Net)	5.00	MSCI AC World ex USA (Net)	15.00
( 7)		NCREIF ODCE Equal Weighted	7.50
		NCREIF Property Index	2.50

Policy Index	Weight (%)
May-2015	
S&P 500	25.00
Blmbg. Barc. U.S. Intermediate Aggregate	32.50
Russell 2500 Index	12.50
MSCI AC World ex USA (Net)	15.00
MSCI EAFE Small Cap (Net)	5.00
NCREIF ODCE Equal Weighted	7.50
NCREIF Property Index	2.50
Sep-2017	
S&P 500	22.50
Blmbg. Barc. U.S. Aggregate	30.00
Russell 2500 Index	10.00
MSCI AC World ex USA (Net)	15.00
MSCI EAFE Small Cap (Net)	5.00
NCREIF ODCE Equal Weighted	7.50
NCREIF Property Index	2.50
Russell 3000 + 300 bps	5.00
CPI + 350 bps	2.50
Aug-2018	
S&P 500	22.50
Blmbg. Barc. U.S. Aggregate	30.00
Russell 2500 Value Index	5.00
MSCI AC World ex USA (Net)	15.00
MSCI EAFE Small Cap (Net)	5.00
NCREIF ODCE Equal Weighted	7.50
NCREIF Property Index	2.50
Russell 3000 + 300 bps	5.00
CPI + 350 bps	2.50
Dow Jones U.S. Completion Total Stock Market Indx	5.00

Since Inception Ending September 30, 2018

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	%Return
From 02/1991	70,755,814	-989,948	12,022,401	81,788,267	17.12
1992	81,788,267	-1,336,854	5,335,405	85,786,818	6.61
1993	85,786,818	-1,701,361	6,296,512	90,381,969	7.40
1994	90,381,969	-2,167,186	-604,142	87,610,641	-0.65
1995	87,610,641	-7,369,636	28,373,068	108,614,073	26.80
1996	108,614,073	-3,018,593	12,427,929	118,023,409	11.61
1997	118,023,409	-3,547,921	18,037,393	132,512,881	15.53
1998	132,512,881	-3,098,858	18,542,125	147,956,148	14.15
1999	147,956,148	-3,767,247	19,605,945	163,794,846	13.48
2000	163,794,846	-3,956,267	8,750,636	168,589,215	5.40
2001	168,589,215	-4,286,260	-2,541,460	161,761,495	-1.45
2002	161,761,495	-3,046,457	-16,516,527	142,198,511	-10.18
2003	142,198,511	-2,782,412	28,678,451	168,094,550	20.38
2004	168,094,550	-3,400,914	15,868,038	180,561,674	9.61
2005	180,561,674	-2,378,899	6,433,750	184,616,525	3.61
2006	184,616,525	-1,930,035	20,325,723	203,012,213	11.23
2007	203,012,213	-1,809,758	15,134,283	216,336,738	7.47
2008	216,336,738	-518,994	-51,672,638	164,145,106	-23.72
2009	164,145,106	12,591,369	25,994,218	202,730,693	15.81
2010	202,730,693	-1,203,962	25,533,405	227,060,136	13.24
2011	227,060,136	-17,100,000	1,847,245	211,807,381	0.74
2012	211,807,381	5,708,540	26,036,403	243,552,324	12.40
2013	243,552,324	-19,856,941	45,832,555	269,527,938	19.47
2014	269,527,938	14,261,469	19,462,684	303,252,091	8.14
2015	303,252,091	-11,289,150	6,253,257	298,216,198	2.07
2016	298,216,198	-18,200,974	24,105,719	304,120,942	8.74
2017	304,120,942	-8,545,375	43,951,564	339,527,131	14.09
To 09/2018	339,527,131	10,013,311	-21,441,996	328,098,446	3.46

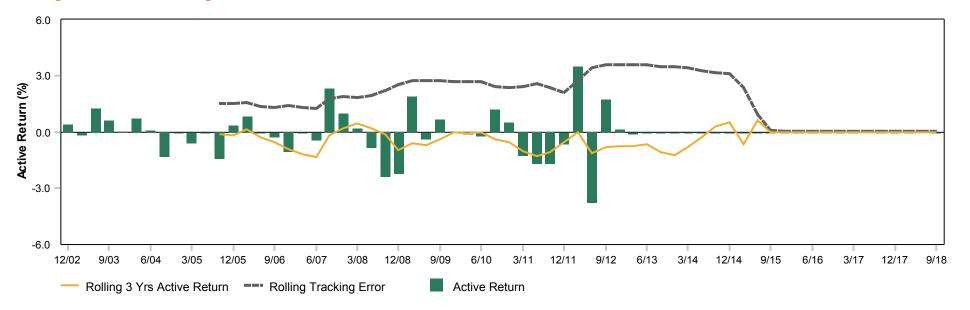
**Investment Manager Performance** 

**Domestic Equity** 

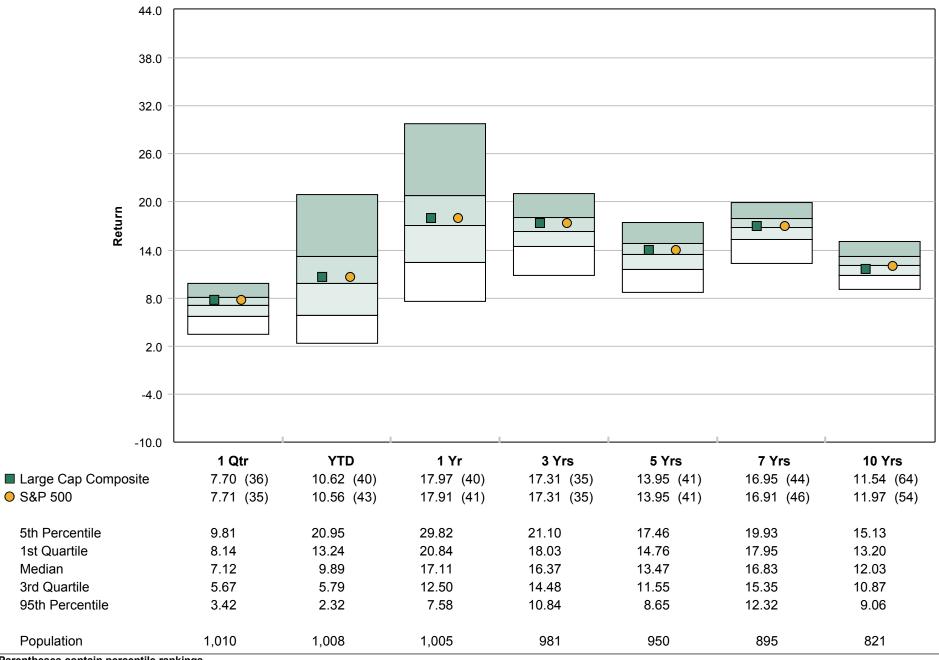
### Gain / Loss

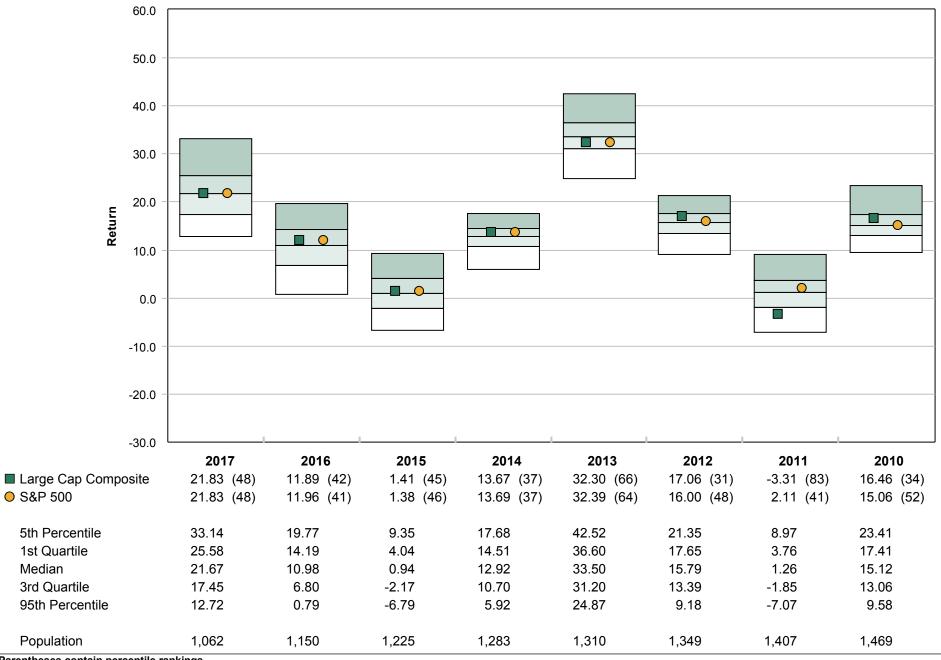
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Large Cap Composite					
Beginning Market Value	68,217,001	75,917,694	71,186,582	69,034,607	88,381,417
Net Cash Flows	-4,501,771	-14,201,822	-14,201,823	-35,452,784	-72,552,949
Income	6	26	35	577	577
Gain/Loss	5,395,673	7,395,011	12,126,115	35,528,509	53,281,864
Ending Market Value	69,110,909	69,110,909	69,110,909	69,110,909	69,110,909

# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Large Cap Composite	7.70	10.62	17.97	17.31	13.95	16.95	11.54
S&P 500	7.71	10.56	17.91	17.31	13.95	16.91	11.97
Difference	-0.01	0.06	0.06	0.00	0.00	0.04	-0.43

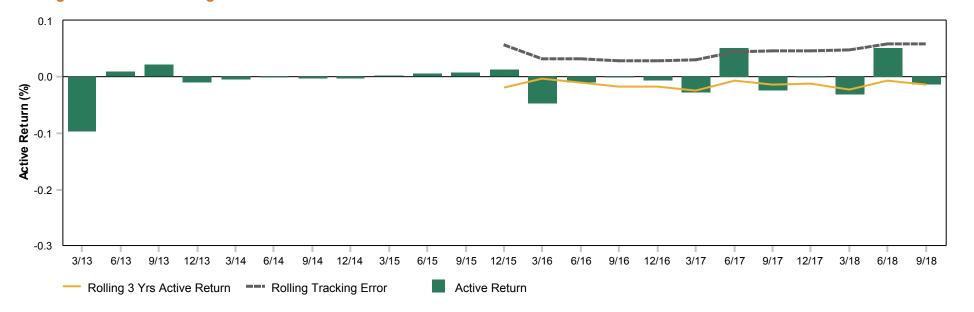




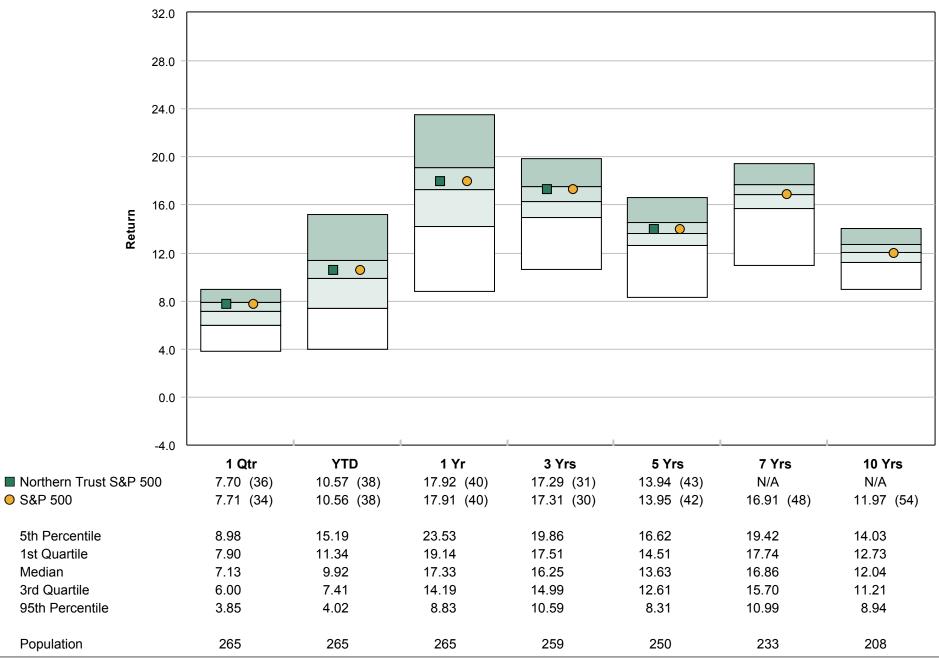
### Gain / Loss

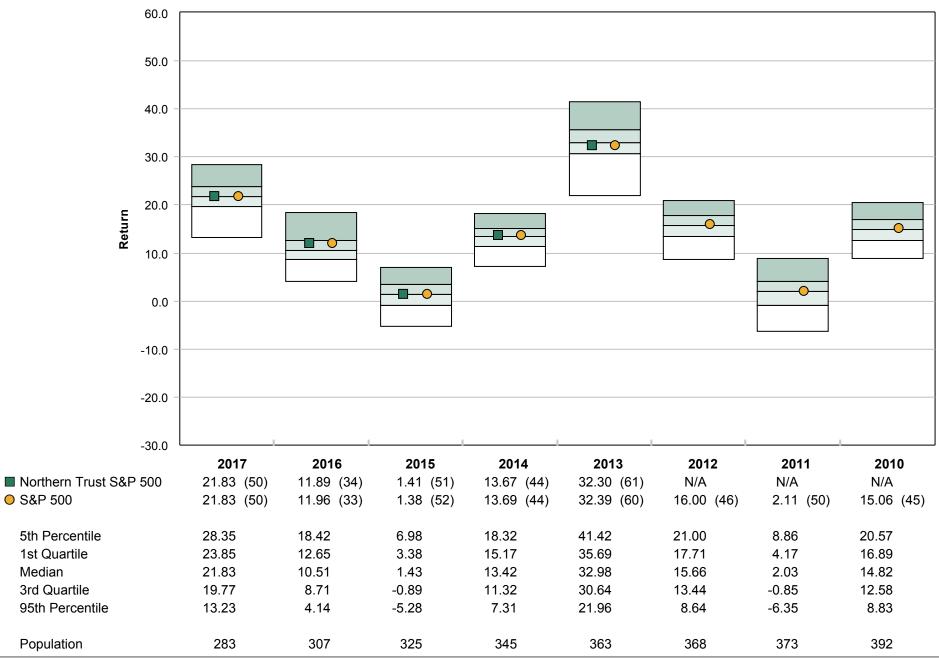
	1 Qtr		1 Yr	3 Yrs	5 Yrs
Northern Trust S&P 500					
Beginning Market Value	68,217,001	75,917,694	71,186,582	69,034,607	88,381,417
Net Cash Flows	-4,501,771	-14,201,822	-14,201,823	-35,452,784	-72,552,949
Income	6	26	35	577	577
Gain/Loss	5,395,673	7,395,011	12,126,115	35,528,509	53,281,864
Ending Market Value	69,110,909	69,110,909	69,110,909	69,110,909	69,110,909

# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Northern Trust S&P 500	7.70	10.57	17.92	17.29	13.94	N/A	N/A
S&P 500	7.71	10.56	17.91	17.31	13.95	16.91	11.97
Difference	-0.01	0.01	0.01	-0.02	-0.01	N/A	N/A

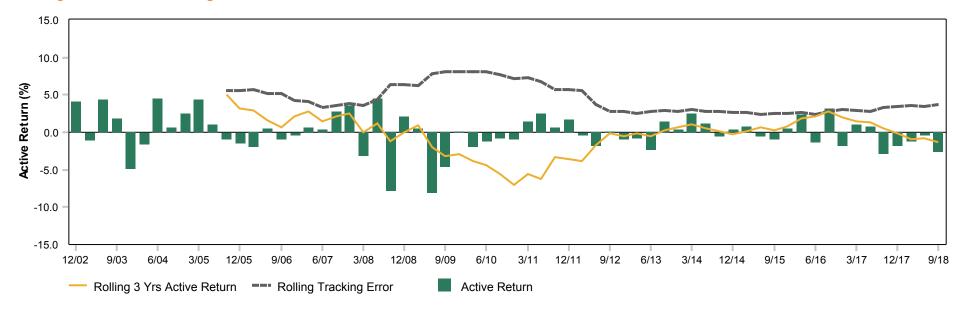




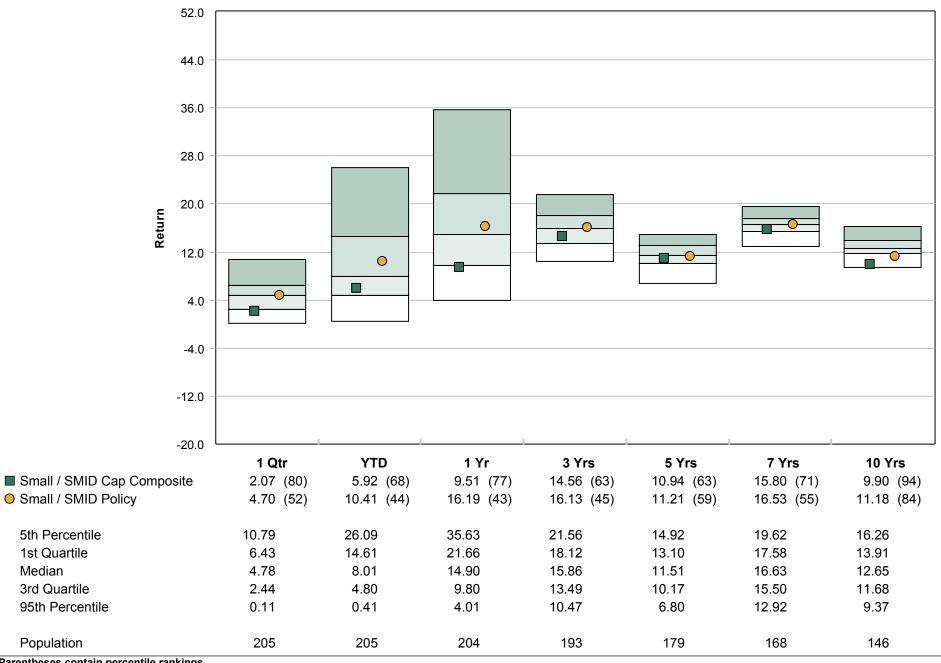
#### Gain / Loss

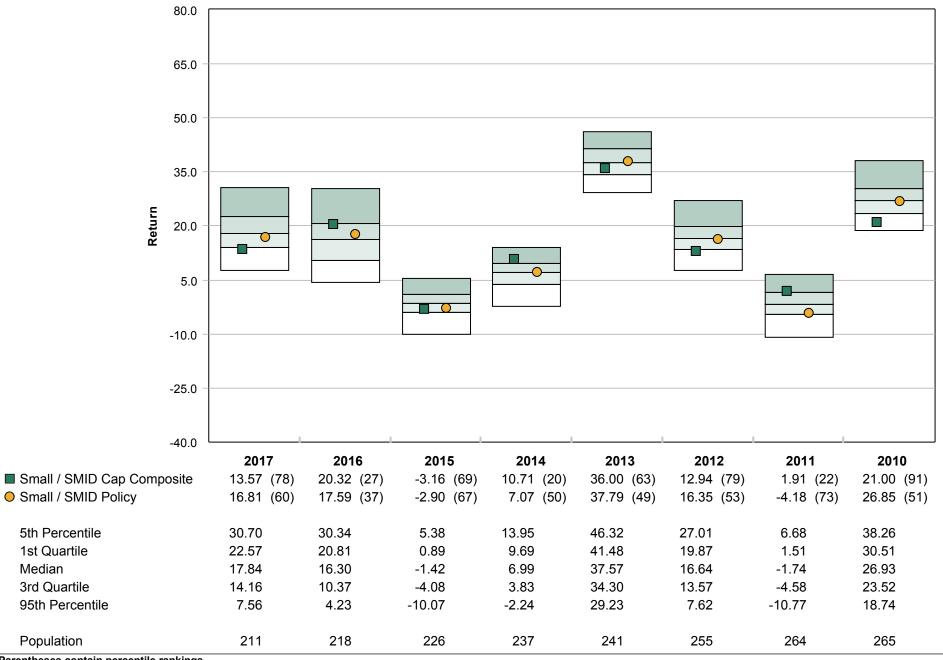
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Small / SMID Cap Composite					
Beginning Market Value	35,029,077	36,344,261	37,641,246	36,373,262	35,435,599
Net Cash Flows	-3,359,104	-5,883,351	-8,383,677	-19,383,476	-22,565,890
Income	86,149	285,061	382,333	1,299,272	1,753,037
Gain/Loss	599,617	1,609,767	2,715,836	14,066,681	17,732,993
Ending Market Value	32,355,739	32,355,739	32,355,739	32,355,739	32,355,739

# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Small / SMID Cap Composite	2.07	5.92	9.51	14.56	10.94	15.80	9.90
Small / SMID Policy	4.70	10.41	16.19	16.13	11.21	16.53	11.18
Difference	-2.63	-4.49	-6.68	-1.57	-0.27	-0.73	-1.28

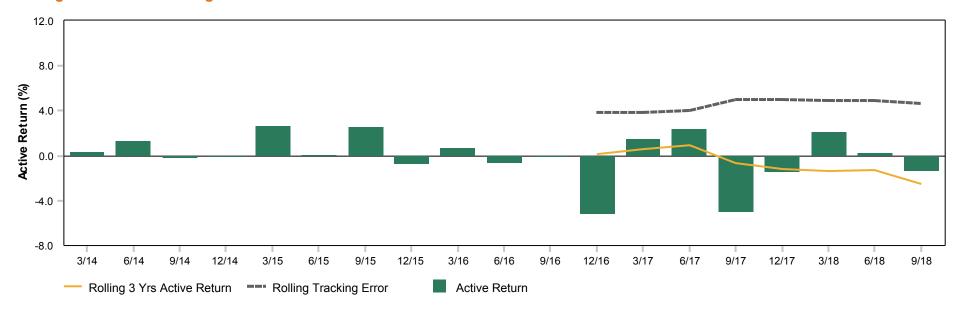




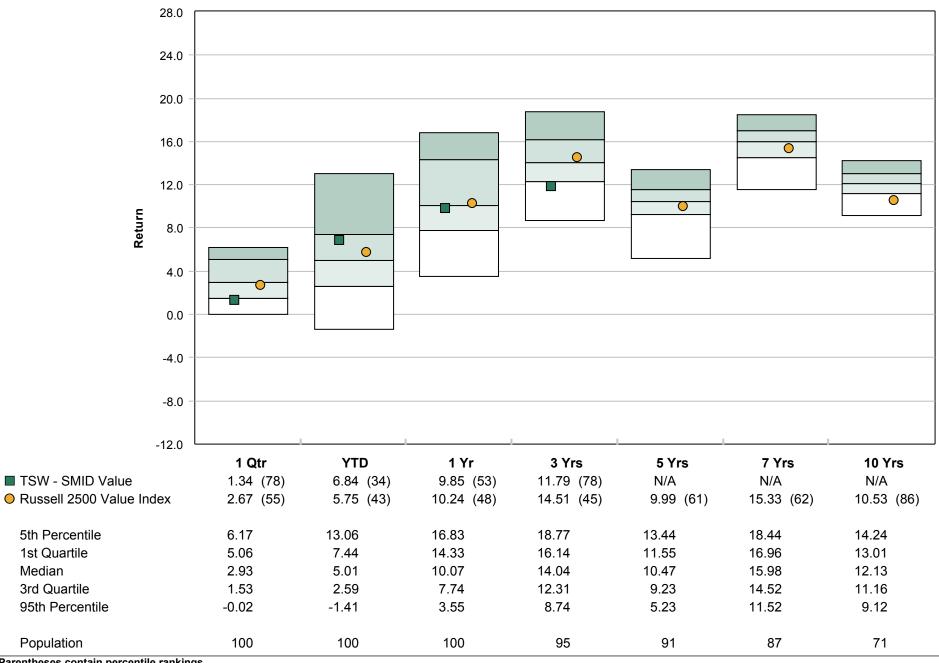
### Gain / Loss

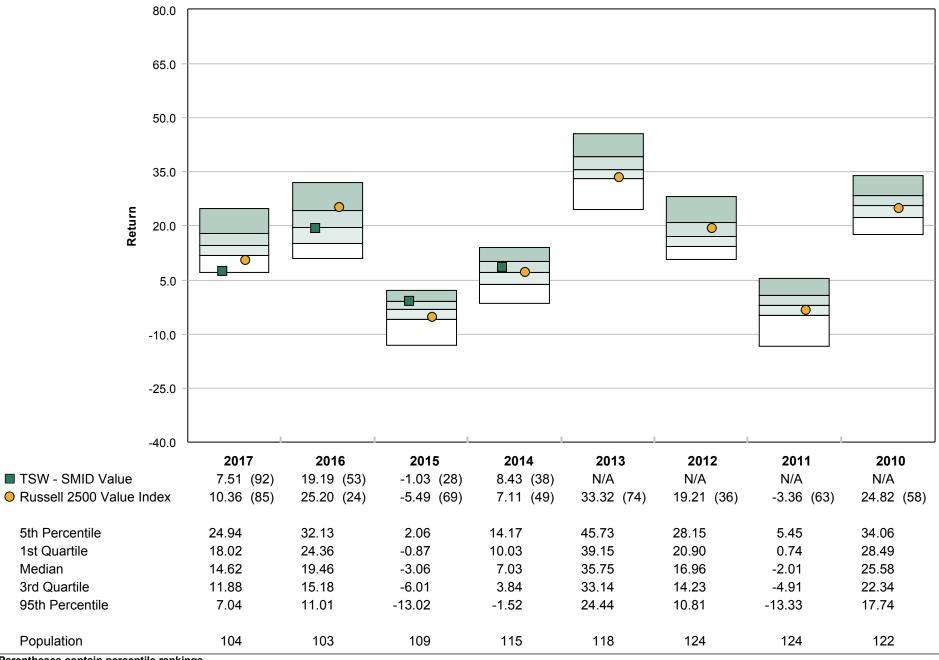
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
TSW - SMID Value					
Beginning Market Value	17,760,862	16,848,133	18,853,959	18,137,837	19,037,531
Net Cash Flows	-2,797,069	-2,797,438	-5,297,676	-9,295,564	-12,296,458
Income	86,115	284,944	382,102	1,284,767	1,736,235
Gain/Loss	161,970	876,238	1,273,492	5,084,836	6,734,569
Ending Market Value	15,211,877	15,211,877	15,211,877	15,211,877	15,211,877

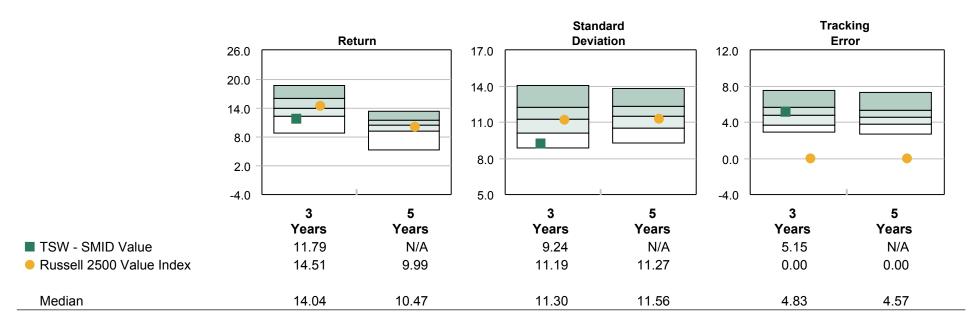
# **Rolling Return and Tracking Error**



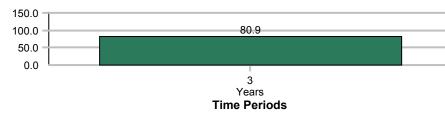
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
TSW - SMID Value	1.34	6.84	9.85	11.79	N/A	N/A	N/A
Russell 2500 Value Index	2.67	5.75	10.24	14.51	9.99	15.33	10.53
Difference	-1.33	1.09	-0.39	-2.72	N/A	N/A	N/A



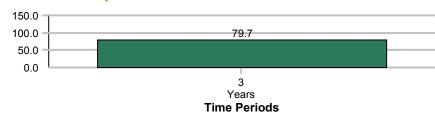


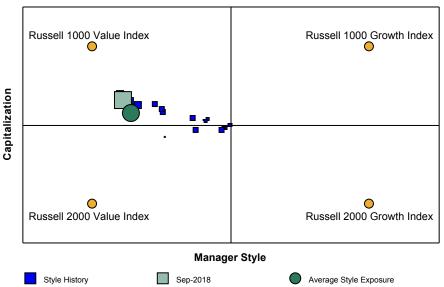


# **Up Market Capture**



# **Down Market Capture**



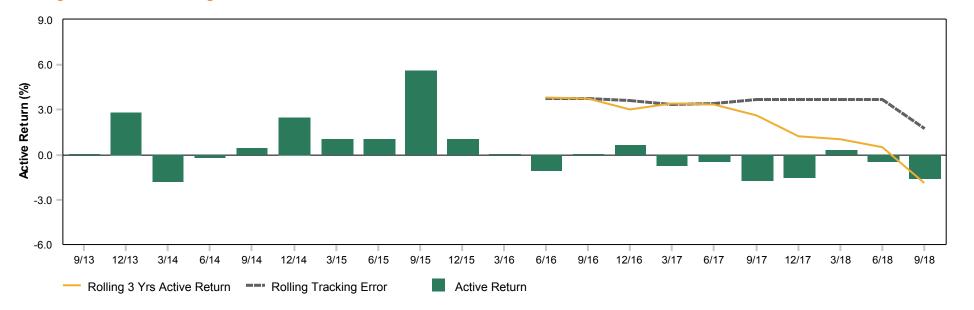


**International Equity** 

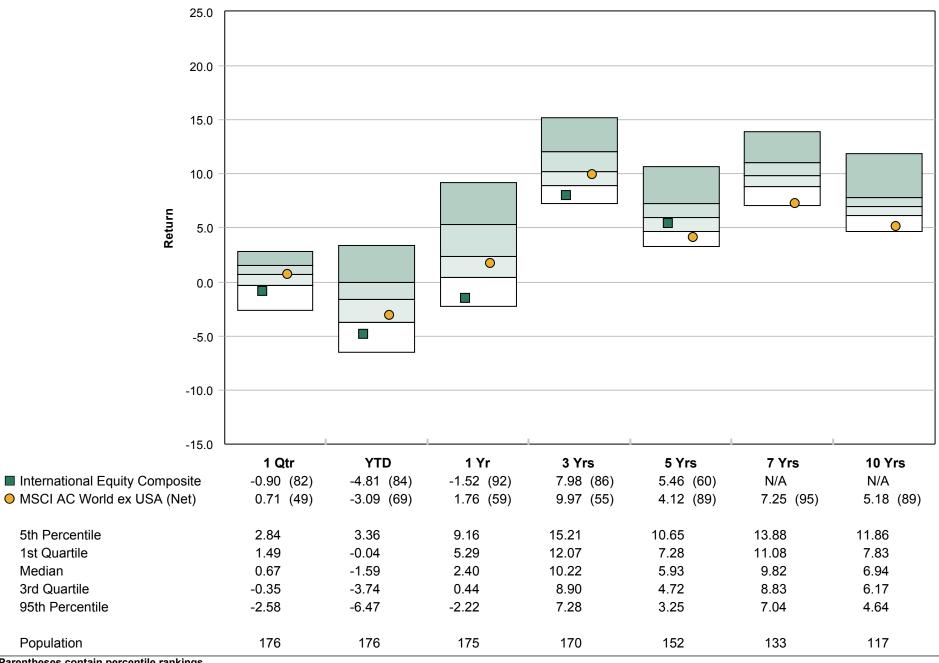
### Gain / Loss

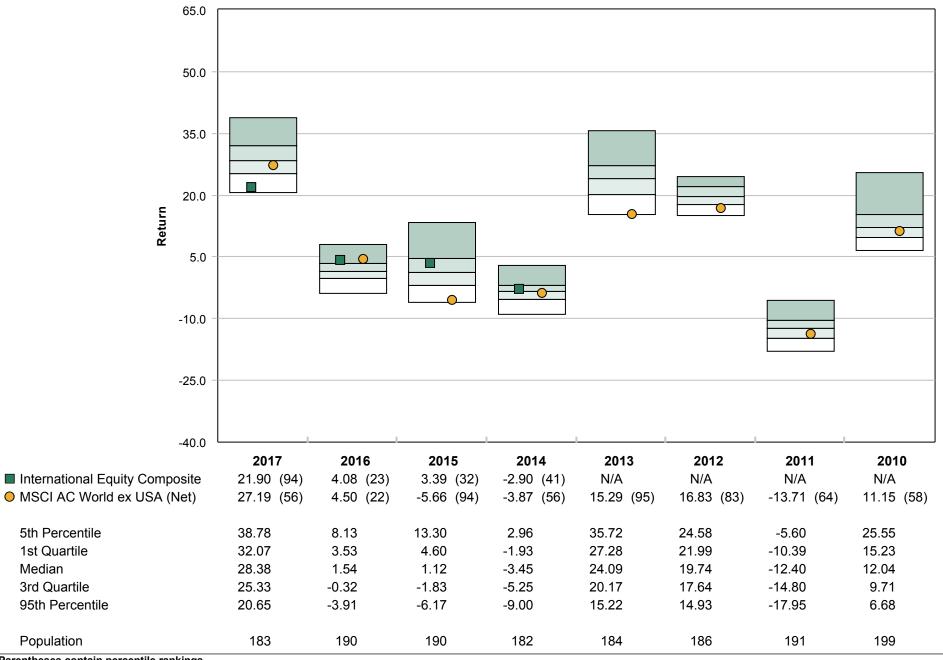
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
International Equity Composite					
Beginning Market Value	61,297,171	72,894,196	70,451,656	55,043,196	41,075,514
Net Cash Flows	-84,687	-9,160,313	-9,155,046	-9,083,430	7,116,527
Income	207,137	861,215	947,652	2,865,057	4,407,989
Gain/Loss	-758,363	-3,933,841	-1,583,003	11,836,435	8,061,229
Ending Market Value	60,661,258	60,661,258	60,661,258	60,661,258	60,661,258

# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
International Equity Composite	-0.90	-4.81	-1.52	7.98	5.46	N/A	N/A
MSCI AC World ex USA (Net)	0.71	-3.09	1.76	9.97	4.12	7.25	5.18
Difference	-1.61	-1.72	-3.28	-1.99	1.34	N/A	N/A

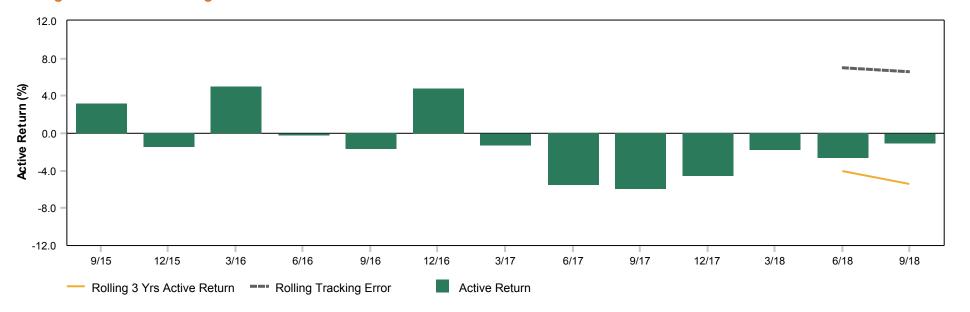




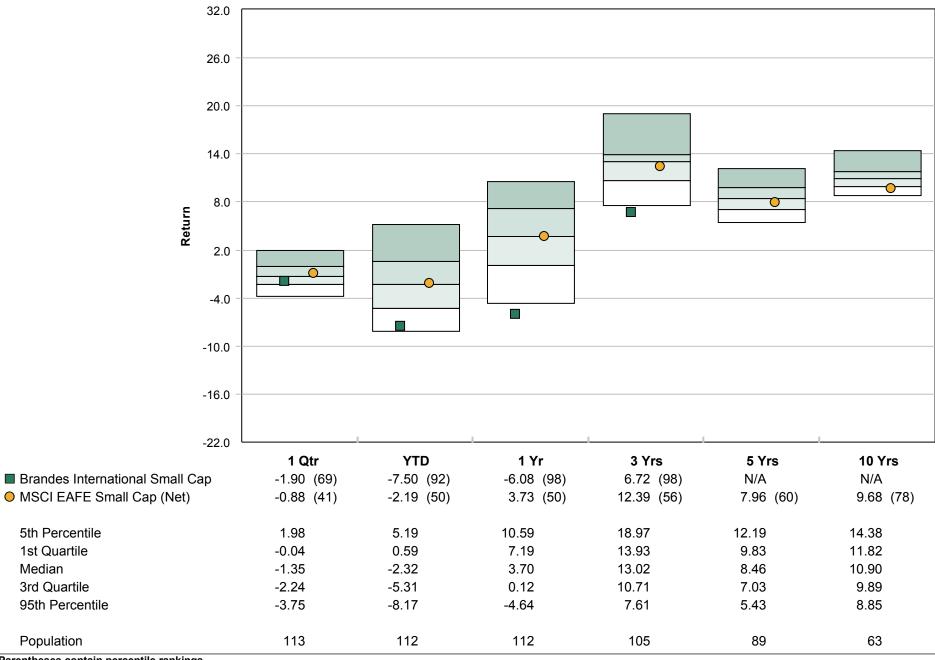
### Gain / Loss

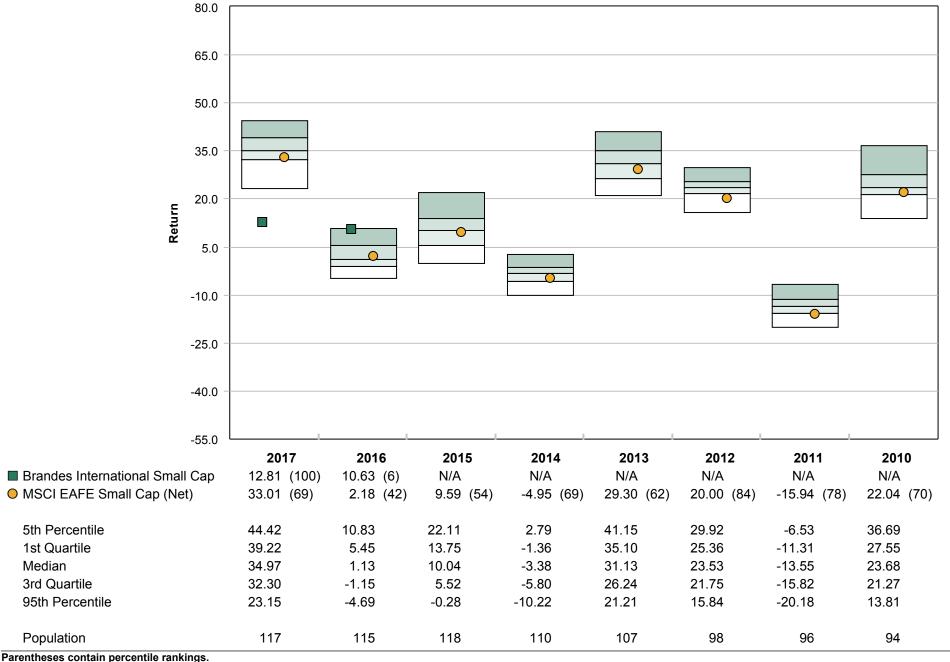
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Brandes International Small Cap					
Beginning Market Value	14,861,535	18,754,540	18,471,060	14,274,136	-
Net Cash Flows	-32	-3,000,032	-3,000,032	-3,000,032	-
Income	-	-	-	1	-
Gain/Loss	-282,919	-1,175,925	-892,445	3,304,478	-
Ending Market Value	14,578,584	14,578,584	14,578,584	14,578,584	-

# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Brandes International Small Cap	-1.90	-7.50	-6.08	6.72	N/A	N/A	N/A
MSCI EAFE Small Cap (Net)	-0.88	-2.19	3.73	12.39	7.96	11.46	9.68
Difference	-1.02	-5.31	-9.81	-5.67	N/A	N/A	N/A

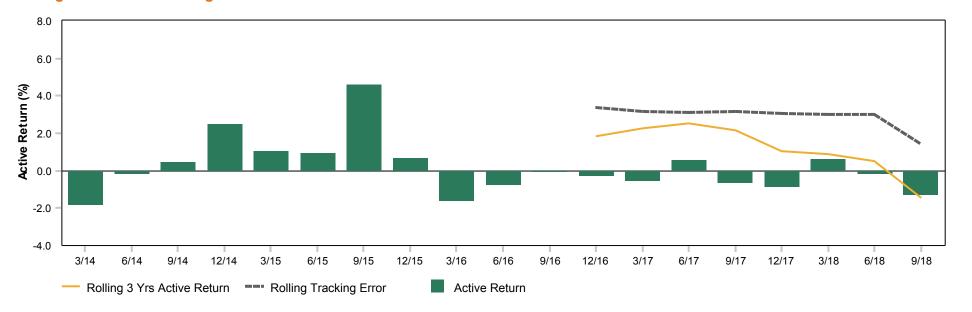




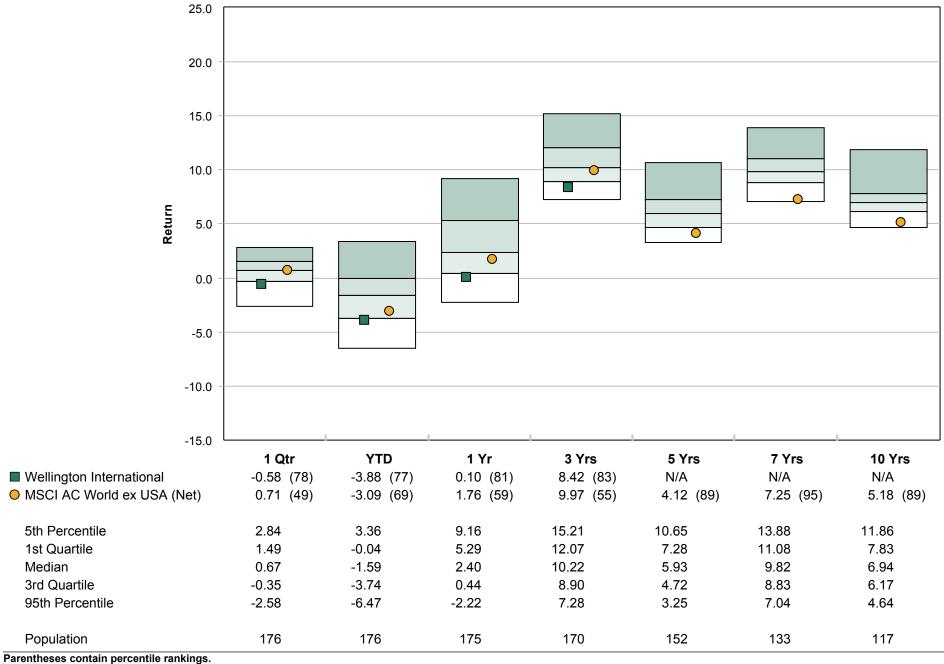
#### Gain / Loss

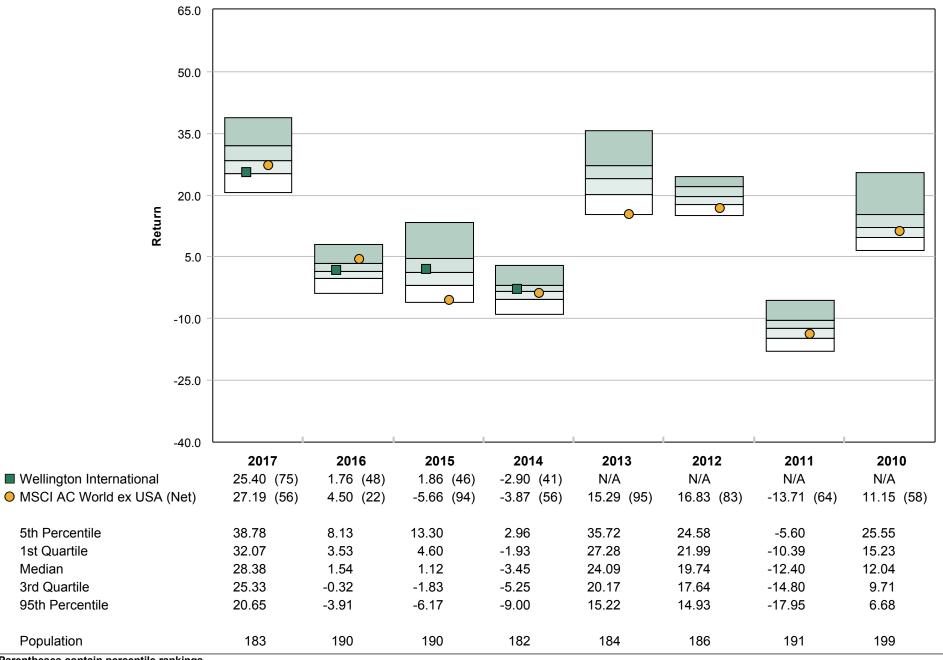
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Wellington International					
Beginning Market Value	46,435,636	54,139,656	51,980,596	40,769,060	-
Net Cash Flows	-84,655	-6,160,281	-6,155,015	-6,083,398	-
Income	207,137	861,215	947,651	2,865,056	-
Gain/Loss	-475,444	-2,757,916	-690,558	8,531,956	-
Ending Market Value	46,082,674	46,082,674	46,082,674	46,082,674	-

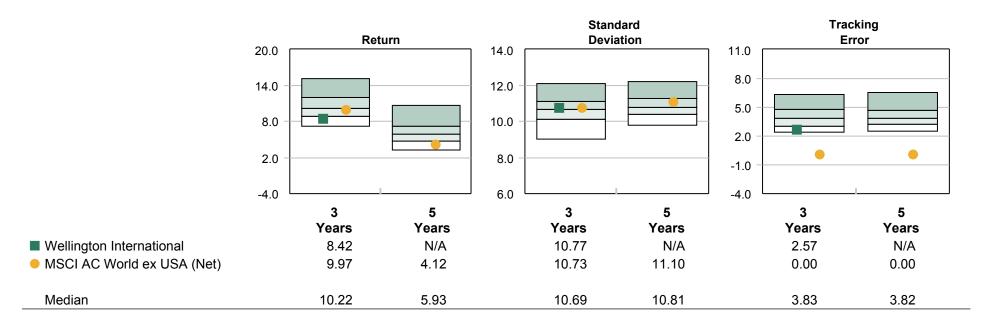
# **Rolling Return and Tracking Error**



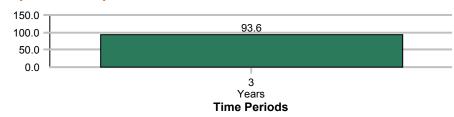
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Wellington International	-0.58	-3.88	0.10	8.42	N/A	N/A	N/A
MSCI AC World ex USA (Net)	0.71	-3.09	1.76	9.97	4.12	7.25	5.18
Difference	-1.29	-0.79	-1.66	-1.55	N/A	N/A	N/A



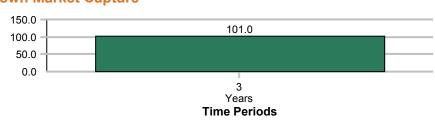


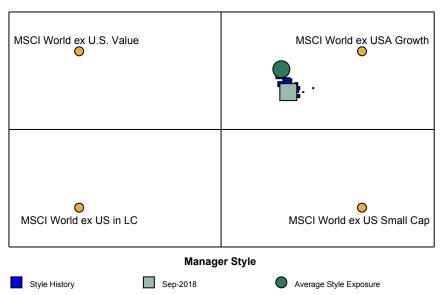


### **Up Market Capture**



### **Down Market Capture**





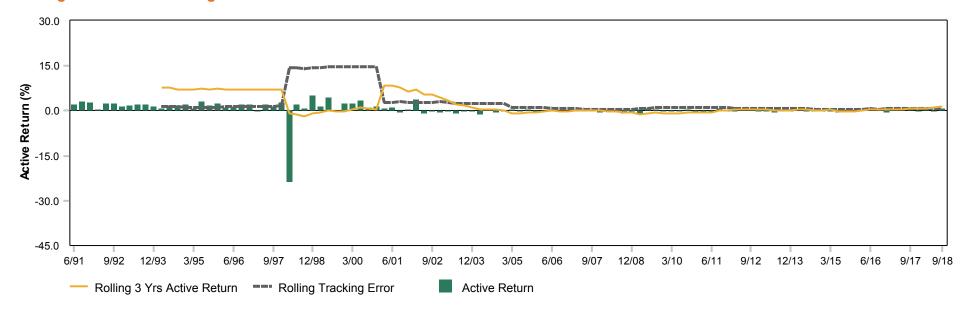


**Fixed Income** 

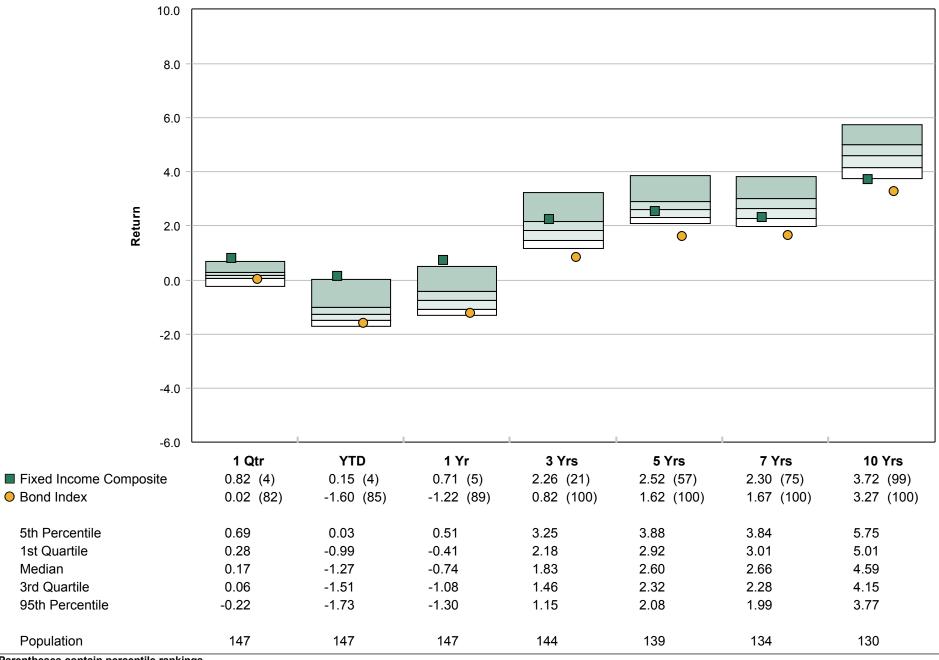
# Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Fixed Income Composite					
Beginning Market Value	98,497,685	95,777,709	81,374,376	78,133,537	71,451,280
Net Cash Flows	-1,576,471	34,998,622	48,917,464	44,937,185	47,233,268
Income	345,911	1,032,564	1,512,100	6,025,348	10,316,577
Gain/Loss	472,659	-34,069,112	-34,064,157	-31,356,285	-31,261,341
Ending Market Value	97,739,783	97,739,783	97,739,783	97,739,783	97,739,783

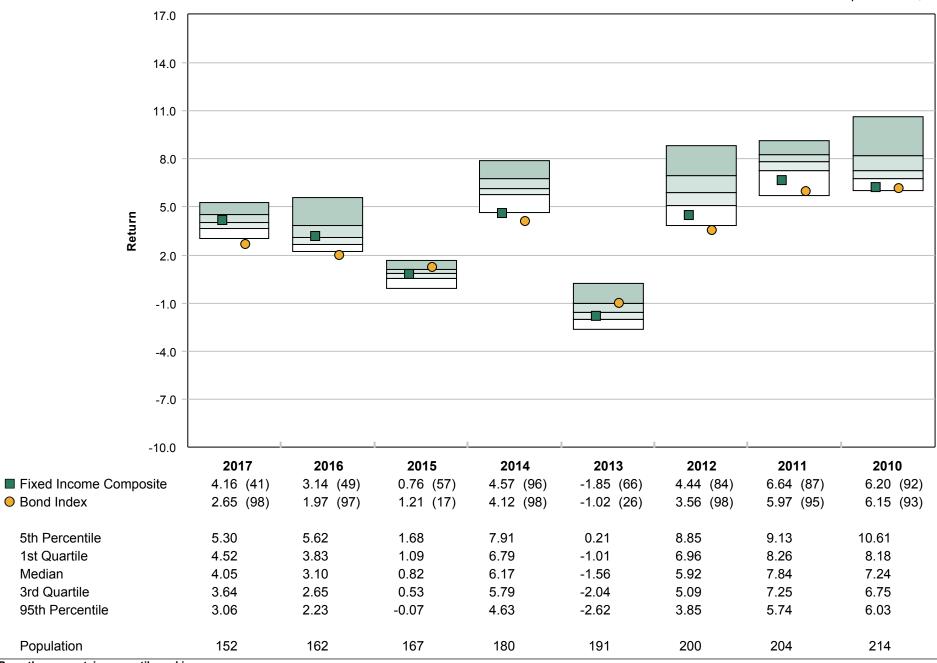
# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Fixed Income Composite	0.82	0.15	0.71	2.26	2.52	2.30	3.72
Bond Index	0.02	-1.60	-1.22	0.82	1.62	1.67	3.27
Difference	0.80	1.75	1.93	1.44	0.90	0.63	0.45



Parentheses contain percentile rankings. Calculation based on quarterly periodicity.

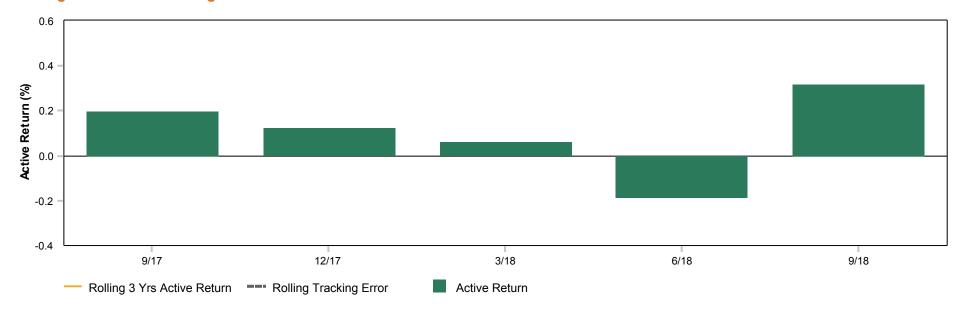


Parentheses contain percentile rankings. Calculation based on monthly periodicity.

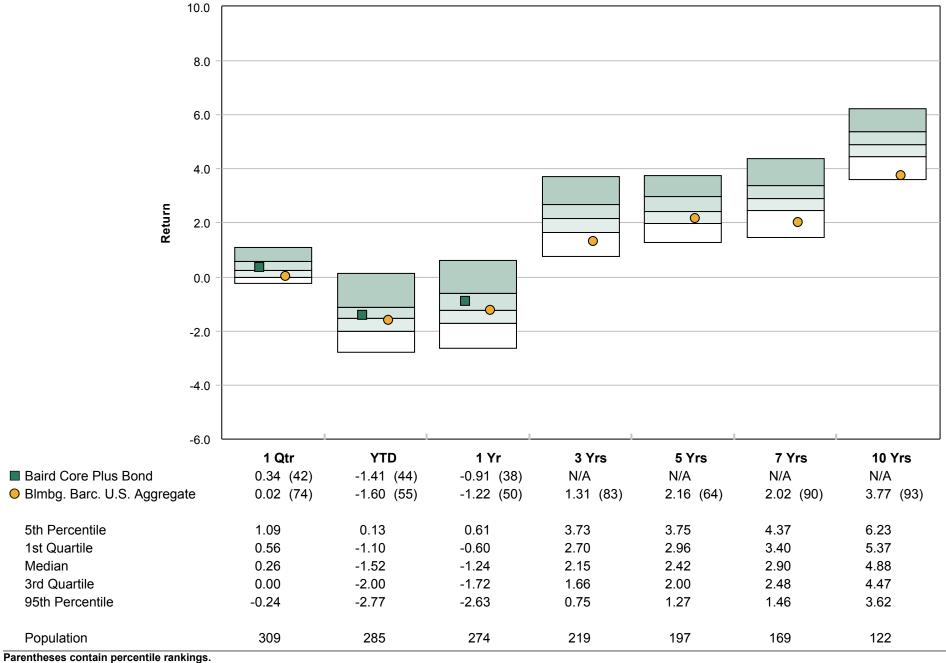
### Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Baird Core Plus Bond					
Beginning Market Value	43,705,758	44,363,445	50,143,743	-	-
Net Cash Flows	-2,006,744	-2,052,176	-8,052,431	-	-
Income	345,911	924,584	1,245,865	-	-
Gain/Loss	-187,413	-1,378,340	-1,479,664	-	-
Ending Market Value	41,857,513	41,857,513	41,857,513	-	-

# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Baird Core Plus Bond	0.34	-1.41	-0.91	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Aggregate	0.02	-1.60	-1.22	1.31	2.16	2.02	3.77
Difference	0.32	0.19	0.31	N/A	N/A	N/A	N/A



Parentheses contain percentile rankings. Calculation based on monthly periodicity.

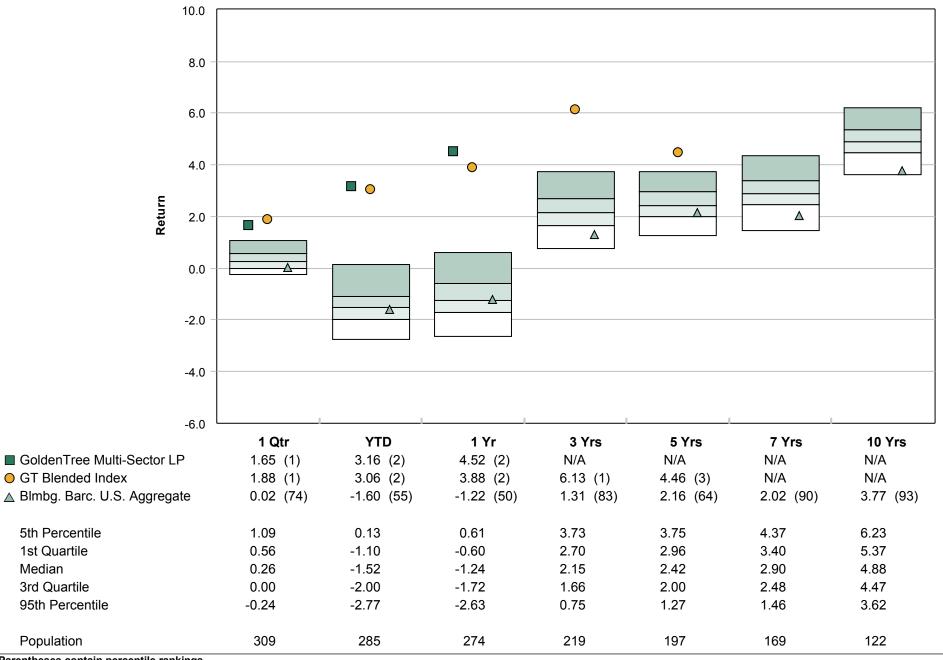
#### Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
GoldenTree Multi-Sector LP					
Beginning Market Value	12,339,208	12,158,597	12,000,000	-	-
Net Cash Flows	-	-	-	-	-
Income	-	51,112	51,112	-	-
Gain/Loss	203,045	332,545	491,142	-	-
Ending Market Value	12,542,254	12,542,254	12,542,254	-	-

# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
GoldenTree Multi-Sector LP	1.65	3.16	4.52	N/A	N/A	N/A	N/A
GT Blended Index	1.88	3.06	3.88	6.13	4.46	N/A	N/A
Difference	-0.23	0.10	0.64	N/A	N/A	N/A	N/A



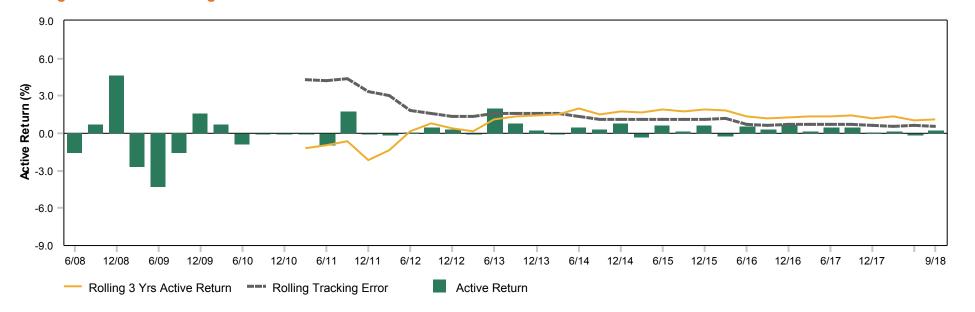
Parentheses contain percentile rankings. Calculation based on monthly periodicity.

**Real Estate** 

### Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Real Estate Composite					
Beginning Market Value	37,386,863	35,903,467	35,160,326	36,454,197	21,369,737
Net Cash Flows	-5,036,851	-5,095,573	-5,131,033	-13,648,087	-7,303,302
Income	264,188	779,204	1,028,751	3,075,233	4,993,297
Gain/Loss	599,804	1,626,908	2,155,961	7,332,662	14,154,272
Ending Market Value	33,214,005	33,214,005	33,214,005	33,214,005	33,214,005

## **Rolling Return and Tracking Error**

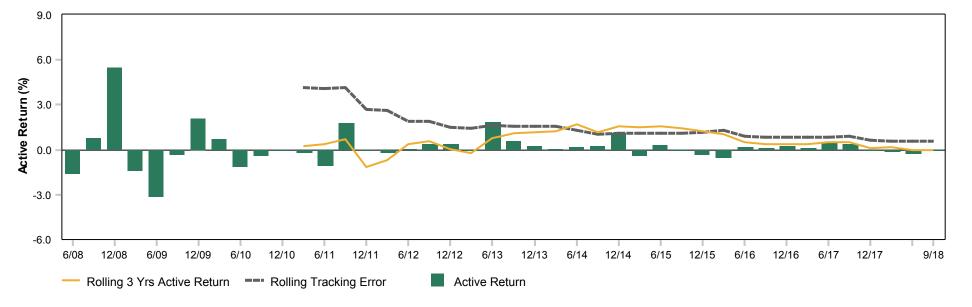


	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Real Estate Composite	2.21	6.40	8.65	9.91	11.75	12.29	6.29
Real Estate Policy	1.98	6.20	8.39	8.74	10.54	10.91	5.64
Difference	0.23	0.20	0.26	1.17	1.21	1.38	0.65

### Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Morgan Stanley					
Beginning Market Value	26,839,340	25,843,858	25,316,857	28,030,322	21,369,737
Net Cash Flows	-5,000,152	-5,000,152	-5,000,152	-12,500,152	-12,500,153
Income	264,188	779,204	1,028,751	3,075,233	4,993,297
Gain/Loss	260,616	741,081	1,018,536	3,758,588	8,501,109
Ending Market Value	22,363,991	22,363,991	22,363,991	22,363,991	22,363,991

# **Rolling Return and Tracking Error**

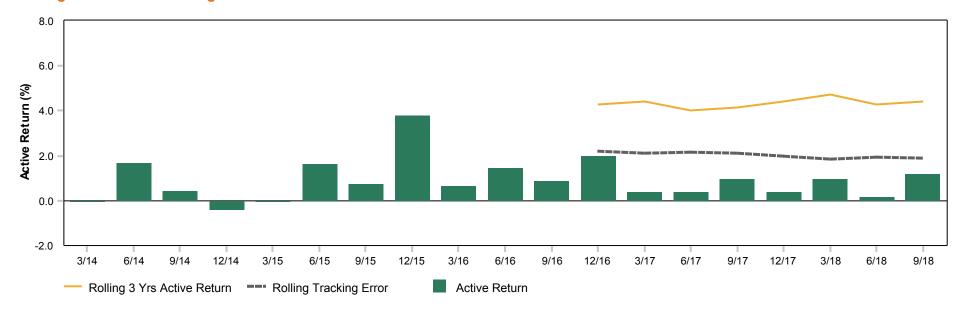


	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Morgan Stanley	1.96	5.88	8.09	9.04	11.21	11.90	6.04
NCREIF ODCE Equal Weighted	2.08	6.52	8.81	9.07	10.87	11.22	5.36
Difference	-0.12	-0.64	-0.72	-0.03	0.34	0.68	0.68

### Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Principal Enhanced Property Fund					
Beginning Market Value	10,547,524	10,059,608	9,843,470	8,423,875	-
Net Cash Flows	-36,698	-95,421	-130,881	-1,147,935	-
Income	-	-	-	-	-
Gain/Loss	339,188	885,827	1,137,425	3,574,073	-
Ending Market Value	10,850,014	10,850,014	10,850,014	10,850,014	-

## **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Principal Enhanced Property Fund	2.86	7.71	10.08	12.47	N/A	N/A	N/A
NCREIF Property Index	1.67	5.27	7.16	7.75	9.57	9.98	6.42
Difference	1.19	2.44	2.92	4.72	N/A	N/A	N/A

**Private Equity** 

### **Cash Flow Summary**

Capital Committed: \$40,000,000
Total Contributions: \$17,782,963
Remaining Capital Commitment: \$22,217,037

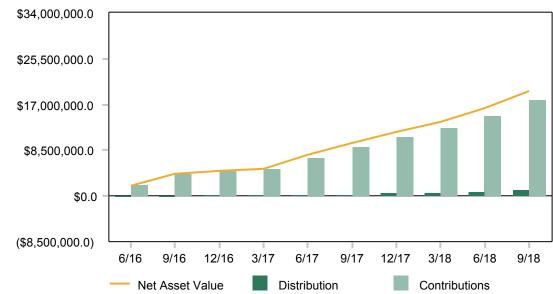
Total Distributions: \$1,088,069 Market Value: \$19,557,027

 Inception Date:
 06/23/2016

 Inception IRR:
 15.02

 TVPI:
 1.16

## **Cash Flow Analysis**



#### **Private Equity Portfolio**

Partnerships	Investment Type	Investment Strategy	Capital Committed (\$)	Total Contribution (\$)	Total Distribution (\$)	Market Value (\$)	IRR (%)	TVPI Multiple
NB Crossroads Fund XXI	Fund Of Funds	Other	20,000,000	10,600,000	-	12,435,405	11.88	1.17
HarbourVest Dover Fund IX	Fund Of Funds	Secondaries	10,000,000	4,200,000	1,088,069	4,345,942	45.91	1.29
GoldPoint Co-Investment VI	Co-Investment	Other	10,000,000	2,982,963	-	2,775,680	-10.21	0.93
Private Equity Composite	Total Fund	Hybrid	40,000,000	17,782,963	1,088,069	19,557,027	15.02	1.16

**Fund Information** 

Type of Fund: Fund Of Funds Vintage Year: 2015

Strategy Type: Other Management Fee: Based on Commitments: Year 1: 20bps, Years 2-4: 40

bps, Years 5-8: 40 bps, Years 9-10: 5 bps, Years 11-12:

0 bps

Size of Fund: 650,000,000 Preferred Return: 8.0%

Inception: 04/15/2015 General Partner: Neuberger Berman Group LLC

**Final Close:** 10/15/2016

Investment Strategy: NB Crossroads Fund XXI ("Crossroads Fund XXI") is an investment fund formed by affiliates of Neuberger Berman Group LLC

("Neuberger Berman" or the "Firm") that seeks to achieve attractive risk-adjusted returns on capital (primarily through long-term capital gains) by investing in a diversified global portfolio of high-performing private equity funds. Crossroads Fund XXI will also seek to purchase limited partner interests in more mature private equity funds in the secondary market and to co-invest directly in transactions alongside high-performing private equity firms. Crossroads Fund XXI will be diversified across four strategic asset classes: (i) small and mid-cap buyout; (ii) large-cap buyout; (iii) special situations (primarily distressed debt, turnaround and restructuring strategies); and (iv) venture and growth capital. While each fund has a target allocation, clients are able to customize their commitment's allocation between

investment types, even at a <\$1m commitment level.

#### **Cash Flow Summary**

Capital Committed:\$20,000,000Total Contributions:\$10,600,000Remaining Capital Commitment:\$9,400,000

Total Distributions:

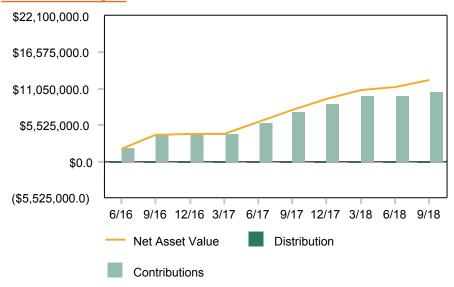
Market Value: \$12,435,405

 Inception Date:
 06/23/2016

 Inception IRR:
 11.88

 TVPI:
 1.17

#### **Cash Flow Analysis**



**Fund Information** 

**Type of Fund:** Fund Of Funds **Vintage Year:** 2016

Strategy Type: Secondaries Management Fee: The average annual management fee is 0.75% on

committed capital. Year 1: 0.25%, Year 2: 0.50%, Year 3: 0.85%, Years 4-7: 1.25%, Year 8: 1.20%, Year 9: 1.15%, Year 10: 1.10%. (0.70% of capital commitments -

average annual management fee)

Preferred Return: 8% compounded annually Inception: 06/01/2016

General Partner: HarbourVest Partners

Investment Strategy: The Dover Street Fund IX will seek to be diversified across transaction type, geography, stage, vintage year and industry and is expected

to have approximately 25 - 40 transactions with an average size expected to be between \$100 - \$150 million. The team has the ability to commit 10% to primary funds, however this option has seldom been utilized in predecessor funds and the expectation is that it will not be used in Dover Street IX. HarbourVest anticipates that there will not be co-investment opportunities for Limited Partners. HarbourVest has the ability to commit up to 30% of proceeds received in new transactions, which may result in more than 100% of the limited partner's commitment being called over the life of the Fund. HarbourVest may also invest up to 5% in secondary transactions of real estate and

infrastructure assets and debt.

#### **Cash Flow Summary**

Capital Committed:\$10,000,000Total Contributions:\$4,200,000Remaining Capital Commitment:\$5,800,000

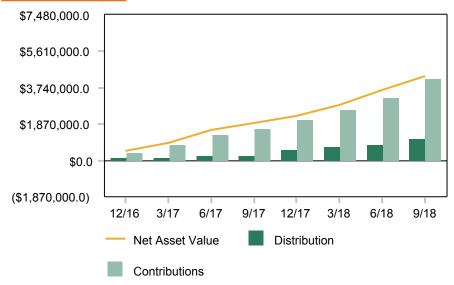
**Total Distributions:** \$1,088,069 **Market Value:** \$4,345,942

 Inception Date:
 12/16/2016

 Inception IRR:
 45.91

 TVPI:
 1.29

#### **Cash Flow Analysis**



**Fund Information** 

Type of Fund: Co-Investment Vintage Year: 2017

Strategy Type: Other Management Fee: 1.0% on committed capital during investment period;

1.0% on invested capital thereafter

Preferred Return: 8% Inception: 07/01/2017

**General Partner:** 

**Investment Strategy:** The Fund will seek a highly diversified portfolio of middle market transactions by primarily targeting Co-investments alongside Core

Partners with fund sizes less than \$5 billion. The Fund will typically invest \$10 million to \$40 million in any given transaction, although smaller or larger investments may be made where appropriate. The Fund targets opportunities where the sponsor has relevant expertise, a quantifiable history of successful investing, and a proven ability to add tangible value to the target company. The Fund seeks to invest in companies that have proven management teams, strong and sustainable cash flows, and competitive advantages in industries with barriers to entry. A high priority will be placed on companies that have minimal exposure to cyclical downturns, a low threat of

obsolescence or rapid technological change, and limited customer and geographic concentrations.

#### **Cash Flow Summary**

Capital Committed:\$10,000,000Total Contributions:\$2,982,963Remaining Capital Commitment:\$7,017,037

Total Distributions:

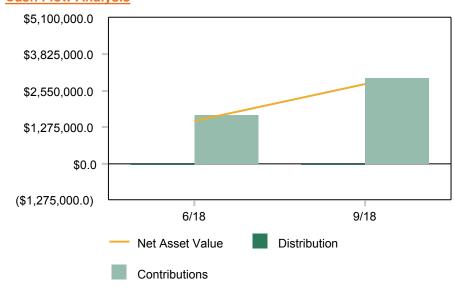
**Market Value:** \$2,775,680

 Inception Date:
 04/23/2018

 Inception IRR:
 -10.21

 TVPI:
 0.93

#### **Cash Flow Analysis**





**Private Debt** 

#### **Fund Information**

Type of Fund: Vintage Year: 2016

Strategy Type: Other Management Fee: 1% of cost basis of investments

Size of Fund: 1,600,000,000 Preferred Return: 79

Inception: 10/28/2016 General Partner: Angelo Gordon

**Final Close:** 7/14/2017

Investment Strategy: We seek to capitalize on the long-term investment opportunity in middle market direct lending. The investment strategy is to source,

underwrite and actively manage a diversified portfolio of middle market, floating rate, senior secured loans with a focus on first lien

secured debt with a loan-to-value target of 40-55%.

#### **Cash Flow Summary**

Capital Committed:\$12,000,000Total Contributions:\$9,683,388Remaining Capital Commitment:\$2,340,000

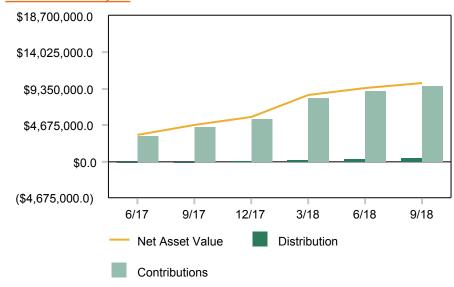
**Total Distributions:** \$461,447 **Market Value:** \$10,139,327

 Inception Date:
 05/26/2017

 Inception IRR:
 10.77

 TVPI:
 1.10

#### **Cash Flow Analysis**





Infrastructure

#### Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
IFM Global Infrastructure					
Beginning Market Value	11,529,257	10,657,727	10,227,788	-	-
Net Cash Flows	-	-	-7,990	-	-
Income	-	-	-	-	-
Gain/Loss	712,121	1,583,650	2,021,579	-	-
Ending Market Value	12,241,377	12,241,377	12,241,377	-	-

# **Rolling Return and Tracking Error**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
IFM Global Infrastructure	6.18	14.86	19.78	N/A	N/A	N/A	N/A
CPI + 350 bps	1.32	4.30	5.85	5.57	5.09	5.08	4.97
Difference	4.86	10.56	13.93	N/A	N/A	N/A	N/A