

Morgan Stanley

## 4th Quarter 2015 Review

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# GIC Markets Library

From the Global Investment Committee



# Market Performance

GIC ChartBook – Markets Library

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## Capital Markets Overview: 4Q 2015

### Introduction

As of 4Q 2015

- Risk assets generated positive returns during the fourth quarter of 2015, despite disappointing performance among broad asset classes over the year in its entirety. Currency volatility, oil turbulence, emerging market woes, and the much-anticipated Fed rate hike in December dominated headlines throughout the quarter. For the quarter, US and Japanese equities registered the best returns, while Diversified Commodities and Master Limited Partnerships (MLPs) posted the weakest performance among major asset classes. For the one-year period ended December 31, 2015, Japanese equities were the strongest asset class, while Diversified Commodities, MLPs and Emerging Market equities trailed the field.
- The Dow Jones Industrial Average increased 7.7% in the fourth quarter. The NASDAQ Composite Index was up 8.8% for the quarter. The S&P 500 Index increased 7.0% for the quarter.
- All sectors within the S&P 500 generated positive returns in the fourth quarter of 2015. The top-performing sector was Materials, which was up 9.7%. Health Care and Technology both rose 9.2% and were also among the top-performing sectors. The biggest laggards were Energy, which had a modest increase of 0.2%, and Utilities, which rose 1.1%.
- Morgan Stanley & Co. economists expect U.S. real GDP will be 2.4% in 2015, 1.9% in 2016 and 1.8% in 2017. They forecast global GDP growth to be 3.1% in 2015, 3.3% in 2016 and 3.7% in 2017.
- Commodities registered negative returns in the fourth quarter; the Bloomberg Commodity Index fell 10.5%. For the quarter, gold was down 5.0%.
- For the fourth quarter of 2015, global mergers and acquisitions (M&A) deal volume was \$1.4 trillion, compared to \$881 billion for the fourth quarter of 2014. Global M&A activity increased to \$4.3 trillion in 2015 from \$3.3 trillion in 2014.

Source: FactSet, Bloomberg, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management GIC

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## Capital Markets Overview: 4Q 2015

### The US Economy

As of 4Q 2015

The Department of Commerce estimated that Gross Domestic Product increased at an annual rate of 2.0% in the third quarter of 2015, in comparison to a 3.9% increase in the second quarter of 2015. Morgan Stanley & Co. economists forecast U.S. Real GDP will be 2.4% in 2015, 1.9% in 2016 and 1.8% in 2017.

The seasonally adjusted unemployment rate for November 2015 was unchanged at 5.0%. Job gains occurred in construction, professional and technical services, and health care. Mining and information lost jobs. The number of unemployed persons (7.9 million) was essentially unchanged in November 2015. The number of long-term unemployed was also little changed at 2.1 million, and has shown little movement since June. In November, these individuals accounted for 25.7 percent of the unemployed.

According to the most recent estimate from the Bureau of Economic Analysis, corporate profits decreased 1.6% between the second quarter of 2015 and the third quarter of 2015, and fell 5.1% between the third quarter of 2014 and the third quarter of 2015.

Inflation remained low in the U.S. According to the Bureau of Labor Statistics, the seasonally adjusted Consumer Price Index increased 0.2% in October and was flat in November. Morgan Stanley & Co. economists forecast a 0.5% inflation rate for 2015, 1.9% for 2016 and 2.4% for 2017.

The Census Bureau reported that private-sector housing starts in November 2015 were at a seasonally adjusted annual rate of 1,173,000—16% above November 2014 housing starts. The rise in housing starts over the past several years indicates that despite some intermittent setbacks, the housing market is rebounding.

The Census Bureau also reported that seasonally adjusted retail and food services sales increased 0.2% between October 2015 and November 2015, and increased 1.4% between November 2014 and November 2015.

In December, the Institute for Supply Management's Purchasing Managers' Index (PMI), a manufacturing sector index, contracted as the PMI registered 48.2 percent, a decrease of 0.4 percentage point from the November reading of 48.6 percent. This indicates a contraction in manufacturing for the second consecutive month, and is the lowest reading since June 2009 when the PMI registered 45.8 percent. Overall, PMI has been above 43 for 81 consecutive months. Generally speaking, a PMI or NMI (ISM Non-Manufacturing Index) over 50 indicates that the sector is expanding and a PMI below 50 but over 43 indicates that the sector is shrinking but the overall economy is expanding.

The NMI increased 2.2 points to 59.1 between September 2015 and October 2015, and fell 3.2 points to 55.9 between October 2015 and November 2015. The index has now been above 50 for 69 consecutive months.

Source: FactSet, Bloomberg, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management GIC

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## Capital Markets Overview: 4Q 2015

### US Equity Markets

As of 4Q 2015

The Dow Jones Industrial Average increased 7.7% in the fourth quarter. The NASDAQ Composite Index was up 8.8% for the quarter. The S&P 500 Index increased 7.0% for the quarter.

All sectors within the S&P 500 generated positive returns in the fourth quarter of 2015. The top performing sector was Materials, which was up 9.7%. Health Care and Technology both rose 9.2% and were also among the top-performing sectors. The biggest laggards were Energy, which had a modest increase of 0.2%, and Utilities, which rose 1.1%.

Growth-style stocks of large-cap companies increased during the fourth quarter. The large-cap Russell 1000 Growth Index rose 7.3%. The Russell 1000 Index, a large-cap index, increased 6.5% for the quarter.

The Russell 1000 Value Index, also a large-cap index, increased 5.6% for the quarter. The Russell Midcap Growth Index rose 4.1% for the quarter. The Russell Midcap Index also increased 3.6% for the quarter. The Russell Midcap Value Index increased 3.1% for the quarter. The Russell 2000 Growth Index, a small-cap index, increased 4.3% for the quarter. The small-cap Russell 2000 Index rose 3.6% for the quarter. The Russell 2000 Value Index, also a small-cap index, increased 2.9% for the quarter.

Key US Stock Market Index Returns (%) for the Period Ending 12/31/2015				
INDEX IN USD	Quarter	12 Months	5-Years (Annualized)	7-Years (Annualized)
S&P 500	7.0%	1.4%	12.6%	14.8%
Dow Jones	7.7%	0.2%	11.3%	13.3%
Russell 2000	3.6%	-4.4%	9.2%	14.0%
Russell Midcap	3.6%	-2.4%	11.4%	17.1%
Russell 1000	6.5%	0.9%	12.4%	15.1%

Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC

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## Capital Markets Overview: 4Q 2015

### Global Equity Markets

As of 4Q 2015

In the fourth quarter, emerging markets (EM) and global equities generated positive returns. The MSCI EAFE Index (a benchmark for developed markets) increased 4.7% for U.S.-currency investors and 6.4% for local-currency investors, as the U.S. dollar strengthened in relation to the currencies of many nations in the index. In the third quarter of 2015, the MSCI EAFE Index fell 10.2% in U.S. dollar terms and decreased 8.9% in local currency terms.

For the fourth quarter, the MSCI Emerging Markets Index increased 0.7% for U.S.-currency investors and 1.6% for local-currency investors, as the U.S. dollar strengthened in relation to emerging-market currencies. In the previous quarter, the MSCI Emerging Markets Index decreased 17.8% for U.S.-dollar-based investors and also fell 12.0% for local-currency investors.

The MSCI Europe Index increased 2.5% for U.S.-currency investors and 5.2% for local-currency investors during the fourth quarter of 2015. In the previous quarter, the MSCI Europe Index decreased 8.7% for U.S.-dollar-based investors and fell 7.0% for local-currency investors.

The S&P 500 Index increased 7.0% for the quarter.

Emerging economy equity market indices were also up in the fourth quarter. The MSCI BRIC (Brazil, Russia, India and China) Index rose 1.3% for the quarter in U.S. dollar terms and 2.0% in terms of local currencies. In comparison, for the fourth quarter, the MSCI EM Asia Index was up 3.5% in U.S. dollar terms and fell 2.9% in local terms.

Key Global Equity Market Index Returns (%) for the Period Ending 12/31/2015				
INDEX IN USD	Quarter	12 Months	5-Years (Annualized)	7-Years (Annualized)
MSCI EAFE	4.7%	-0.4%	4.1%	8.3%
MSCI EAFE Growth	6.7%	4.5%	5.0%	9.3%
MSCI EAFE Value	2.7%	-5.2%	3.1%	7.3%
MSCI Europe	2.5%	-2.3%	4.5%	8.6%
MSCI Japan	9.4%	9.9%	4.6%	6.4%
S&P 500	7.0%	1.4%	12.6%	14.8%
MSCI Emerging Markets	0.7%	-14.6%	-4.5%	7.8%

Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC

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## Capital Markets Overview: 4Q 2015

### The US Bond Market

As of 4Q 2015

The bond market struggled in the fourth quarter of 2015. The Barclays U.S. Aggregate Bond Index, a general measure of the bond market, fell 0.6% for the quarter. Interest rates increased during the fourth quarter, as the yield on the 10-Year U.S. Treasury note rose to a quarter-end 2.27% from 2.04% at the end of the third quarter of 2015.

Riskier parts of the bond market such as U.S. High Yield debt declined in the fourth quarter. The Barclays Capital High Yield Index, a measure of lower-rated corporate bonds, fell 2.1%.

Mortgage-backed securities were flat during the fourth quarter. The Barclays Capital Mortgage Backed Index fell 0.1% for the quarter. During the fourth quarter, the municipal bond market increased. As a result, the Barclays Capital Muni Index generated a 1.5% return for the quarter.

Key US Bond Market Index Returns (%) for the Period Ending 12/31/2015				
INDEX IN USD	Quarter	12 Months	5-Years (Annualized)	7-Years (Annualized)
Barclays Capital US Aggregate	-0.6%	0.5%	3.2%	4.1%
Barclays Capital High Yield	-2.1%	-4.5%	5.0%	12.8%
Barclays Capital Government/Credit	-0.8%	0.3%	3.4%	4.0%
Barclays Capital Government	-0.9%	0.8%	2.9%	2.4%
Barclays Capital Intermediate Govt/Credit	-0.7%	1.1%	2.6%	3.4%
Barclays Capital Long Govt/Credit	-0.9%	-3.3%	7.0%	6.7%
Barclays Capital Mortgage Backed Securities	-0.1%	1.5%	3.0%	3.7%
Barclays Capital Muni	1.5%	3.3%	5.3%	6.0%

Source: FactSet, Bloomberg, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management GIC

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## Capital Markets Overview: 4Q 2015

### Hedge Funds

As of 4Q 2015

**HFRX Equity Hedge Index:** 4Q = 0.82% YTD = -2.33%

- Equity Hedge strategies were flat-footed during the quarter given heightened volatility in broader equity markets
- Managers that were particularly net long large-cap Financial, Energy and Consumer sectors generated negative performance

**HFRX Event-Driven Index:** 4Q = -0.60% YTD = -6.94%

- Event Driven strategies started the quarter off strong due to increased deal activity and spreads of several large deals tightening
- However, the strategy succumbed to broader market weakness, especially in distressed names as spreads widened in the Energy, Consumer and Industrial sectors toward the end of the year

**HFRX Macro/CTA Index:** 4Q = -0.41% YTD = -1.96%

- Macro/CTA strategies were able to protect capital against heightened volatility in broader markets
- Managers benefited from gains in the U.S. dollar and continued declines in Energy, Precious Metals and Agricultural Commodities in November, and were partially insulated from broad declines in major equity markets in December

**HFRX Relative Value Arbitrage Index:** 4Q = -2.30% YTD = -3.10%

- Relative Value managers had a difficult quarter as high yield credit and arbitrage deal spreads widened as volatility remained elevated

**HFRX Global Hedge Fund Index:** 4Q = -0.61% YTD = -3.64%

- Fund of funds managers are broadly outperforming the HFRI Fund Weighted Composite Index YTD highlighting the value of manager selection and portfolio tilts
- The performance differential may also be due to less directional bets within portfolios

Source: HFRX Hedge Fund Indices; Morgan Stanley Wealth Management GIC

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# Capital Markets Overview: 3Q 2015

## Private Equity and Real Estate

As of 3Q 2015

### Venture Capital<sup>1</sup>

- 43 funds raised a total of \$9.1bn across the various stages of venture capital financings.
- The Q3 aggregate deal value of \$4.2bn is almost twice the deal value at the same time last year.
- North America accounted for over 44% of the total number of deals with angel/seed financing accounting for the highest proportion (22%).

### Real Estate<sup>2</sup>

- 33 funds raised \$3.8bn of which \$2.9.3bn came from 18 North America focused funds; Europe and Asia only accounted for \$6.9bn across 10 funds. Opportunistic and value-add funds raised the most capital with \$2.8.2bn and \$5.1bn, respectively.
- At the end of Q3 there was \$2.44bn in Real Estate dry powder compared to the previous high of \$1.97bn at the end of 2014. Opportunistic strategies accounted for the most dry powder.

### Private Debt<sup>3</sup>

- \$1.9.3bn raised across 27 funds in Q3 compared to \$1.7.8bn by 27 funds in Q2. Direct lending and mezzanine focused funds accounted for the most capital raised.
- Dry powder reached a record high of \$1.91bn with direct lending accounting for the highest proportion. Europe focused funds have \$6.1bn of dry powder, which is a new high.

Source: (1) Preqin: "Preqin Quarterly Update: Private Equity, Q3 2015" October 2015 (2) Preqin: "Preqin Quarterly Update: Real Estate, Q3 2015" October 2015 (3) "Preqin: "Preqin Quarterly Update: Private Debt, Q3 2015" October 2015

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# Asset Class Index Performance

## Capital Market Returns

As of December 31, 2015; Private Real Estate as of September 30, 2015

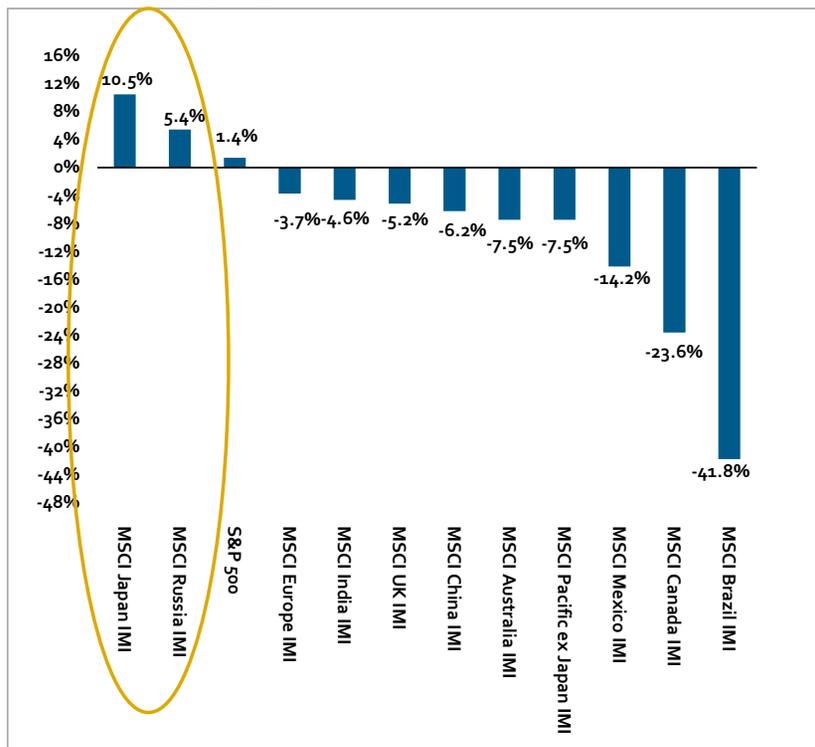
ASSET CLASS	INDEX IN USD	1-MONTH	YTD	1-YR	3-YR ANN	5-YR ANN
<b>Global Equity</b>						
Global Equity	MSCI All Country World	-1.8%	-1.8%	-1.8%	8.3%	6.7%
US Equity	S&P 500	-1.6%	1.4%	1.4%	15.1%	12.6%
International Equity	MSCI World ex US	-1.9%	-5.3%	-5.3%	1.9%	1.5%
Emerging Markets Equity	MSCI Emerging Markets	-2.5%	-17.0%	-17.0%	-9.0%	-7.2%
<b>Global Fixed Income</b>						
Investment Grade Fixed Income	Barclays Global Aggregate (H)	-0.3%	1.0%	1.0%	2.8%	3.9%
Inflation-Linked Securities	Barclays Universal Govt Inflation-Linked	-1.7%	-7.2%	-7.2%	-3.4%	1.4%
High Yield	Barclays Global High Yield (H)	-2.3%	-0.7%	-0.7%	2.7%	6.0%
Emerging Markets Fixed Income	JP Morgan EM Bonds (UH in USD)	-2.2%	-14.9%	-14.9%	-10.0%	-3.5%
<b>Alternative Investments</b>						
Global REITs	FTSE EPRA/NAREIT Global REITs	1.0%	-0.4%	-0.4%	5.3%	6.9%
Commodities	Bloomberg Commodities	-3.1%	-24.7%	-24.7%	-17.3%	-13.5%
MLPs	Alerian MLP	-3.6%	-32.6%	-32.6%	-3.4%	1.5%
Hedged Strategies	HFRX Global Hedge Fund Index	-1.2%	-3.5%	-3.5%	0.8%	-0.7%
Managed Futures	HFRX Macro/CTA Index	-0.9%	-1.4%	-1.4%	0.6%	-0.8%
Private Real Estate	NCREIF Private Real Estate	-	10.1%	10.1%	11.0%	11.5%
<b>Global Cash</b>						
Cash	Citigroup 3-month Treasury Bill	0.0%	0.0%	0.0%	0.0%	0.1%
<b>Other Fixed Income</b>						
Municipal Fixed Income	Barclays Municipal Bond	0.7%	3.3%	3.3%	3.2%	5.3%

Source: FactSet, Morgan Stanley Wealth Management GIC. For more information about the risks to Master Limited Partnerships (MLPs), please refer to the Risk Considerations section at the end of this material. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material. This slide sourced from Market Performance section.

# Japan and Russia Outperformed; Discretionary Led in US

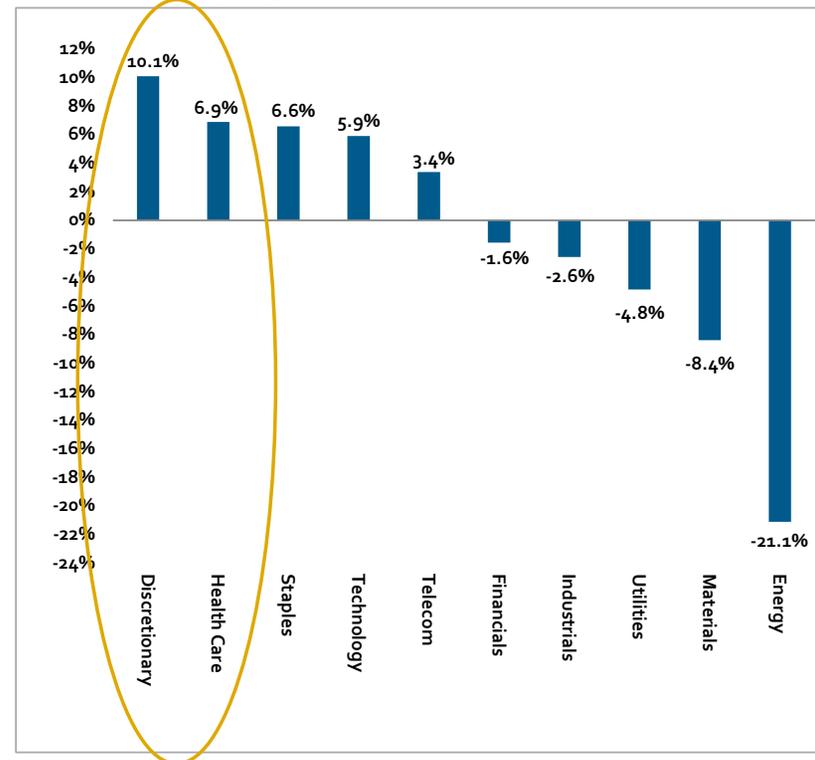
## 2015 Total Return

As of December 31, 2015



## S&P 500 Sectors – 2015 Total Returns

As of December 31, 2015



Source: Bloomberg, Morgan Stanley Wealth Management GIC

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# Asset Class Performance Heat Map

As of January 29, 2016

Asset Class	Annualized Returns (%)							Yield	Valuation		Volatility (%)		Correlation to Global Equities		
	YTD	1-Yr	2015	3-Yr*	5-Yr*	10-Yr*	20-Yr*		Current YTM	Current YTM	Avg YTM	30 Days	20 Yrs.*	30 Days	
Cash								Current YTM	Current YTM	Avg YTM	30 Days	20 Yrs.*	30 Days	20 Yrs.*	
90-Day US Treasury Bills	0.0	0.0	0.0	0.0	0.1	1.1	2.4	0.18	0.18	2.39	0.0	0.63	-0.05	-0.01	
<b>Global Equities</b>								Current Dividend Yield	Current P/E	Avg. P/E**					
US Large-Cap Growth	-5.8	0.2	5.8	13.5	12.5	7.9	7.2	1.41	18.0	21.4	23.9	18.1	0.85	0.89	
US Large-Cap Value	-4.1	-3.0	-1.7	9.5	9.6	5.4	7.4	3.20	14.8	13.7	23.1	14.6	0.90	0.89	
US Mid-Cap Growth	-8.5	-7.6	-0.1	9.0	9.3	6.1	7.3	1.01	19.3	26.5	24.7	23.7	0.84	0.81	
US Mid-Cap Value	-5.7	-9.0	-4.1	8.8	9.5	6.1	9.6	2.99	15.0	14.1	22.7	16.5	0.86	0.88	
US Small-Cap Growth	-9.1	-10.4	-2.2	7.9	8.4	7.1	8.9	0.81	23.2	23.7	26.9	22.8	0.81	0.82	
US Small-Cap Value	-6.6	-10.5	-5.1	6.8	8.3	6.4	9.8	3.03	17.1	16.6	25.4	17.3	0.85	0.84	
Europe Equity	-6.6	-9.7	-2.3	0.8	2.3	2.6	6.4	3.61	14.7	14.8	23.3	18.3	0.85	0.94	
Japan Equity	-8.2	-1.0	9.9	6.1	2.8	-0.3	0.2	2.07	13.1	22.5	32.2	18.0	0.30	0.67	
Asia Pacific ex Japan Equity	-8.8	-16.4	-8.4	-5.7	-0.6	4.8	5.4	4.72	13.7	14.6	22.8	21.6	0.73	0.85	Cheap
Emerging Markets*****	-6.5	-21.6	-14.6	-8.9	-5.2	2.2	4.7	2.96	11.0	11.6	27.1	23.7	0.78	0.85	Moderate
<b>Global Fixed Income</b>								Current YTM	Current Spread	Avg. Spread**					
Short-Term Fixed Income	0.9	1.1	1.0	1.2	1.7	3.4	4.3	1.41	42.0	31.0	1.1	2.1	-0.40	-0.08	Low Volatility
US Fixed Income	1.4	0.2	0.5	2.1	3.5	4.7	5.4	2.34	63.0	54.0	2.7	3.5	-0.33	-0.01	High Volatility
International Fixed Income	0.5	-3.3	-5.3	-3.0	-0.3	3.2	4.0	1.13	56.0	52.0	5.5	8.0	-0.56	0.28	
Inflation-Linked Securities	0.7	-7.2	-7.2	-3.4	1.1	3.8	6.4	-	-	-	5.2	7.5	0.10	0.43	
High Yield	-1.5	-3.3	-2.7	0.5	4.4	6.9	7.8	8.64	706.0	496.5	6.4	10.2	0.67	0.76	Low Correlation
Emerging Markets Fixed Income	0.3	-15.7	-14.9	-10.1	-3.1	3.9	7.7	6.88	430.0	369.0	11.4	13.0	0.75	0.69	High Correlation
<b>Alternative Investments</b>								Current Dividend Yield							
REITs	-5.0	-10.6	-0.4	2.4	5.7	3.9	7.8	3.79	-	-	19.7	18.4	0.89	0.79	
Master Limited Partnerships***	-11.1	-37.8	-32.6	-10.7	-1.5	7.0	-	9.60	-	-	68.4	19.0	0.62	0.57	
Commodities ex Prec. Metals	-3.0	-23.5	-27.1	-19.2	-15.4	-8.5	0.0	-	-	-	21.8	16.9	0.73	0.43	
Precious Metals	4.8	-12.7	-11.5	-15.8	-6.5	5.5	5.1	-	-	-	15.5	19.0	-0.44	0.20	
Hedged Strategies*****	-3.2	-6.6	-3.6	-1.0	-1.5	-0.5	-	-	-	-	4.0	6.3	0.85	0.64	
Managed Futures*****	0.5	-3.3	-2.0	0.6	-0.9	-0.5	-	-	-	-	5.8	8.2	-0.49	0.17	
<b>S&amp;P 500</b>	-5.0	-2.0	1.4	11.3	10.9	6.5	7.7	2.21	15.6	16.3	23.0	15.4	0.89	0.95	
<b>Russell 2000</b>	-8.8	-11.8	-4.4	6.1	7.3	4.9	7.5	1.51	19.5	20.8	27.5	20.1	0.80	0.82	
<b>MSCI EAFE</b>	-7.2	-8.5	-0.4	1.1	2.0	2.1	4.4	3.37	14.1	15.9	21.5	16.8	0.78	0.96	
<b>MSCI AC World</b>	-6.0	-7.2	-1.8	4.5	5.0	4.2	5.9	2.73	14.6	15.7	19.5	15.8	1.00	1.00	

Source: Bloomberg, Morgan Stanley Wealth Management GIC. \*January 31, 2016. \*\*20-year average as of January 31, 2016. \*\*\*Volatility and Correlation: June 30, 2006 - Present. \*\*\*\*Volatility and Correlation: February 28, 1998 - Present. Hedged strategies consist of hedge funds and managed futures. \*\*\*\*\*Values calculated using USD. \*\*\*\*\*Volatility and Correlation: Jan 31, 1998 - Present. Cheap = Below -0.5 standard deviation; Moderate = Between +0.5 standard deviation and -0.5 standard deviation; Expensive = Above +.5 std dev. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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# US Equity Index Performance, Volatility and Valuation

As of December 31, 2015 (performance and volatility in percent form)

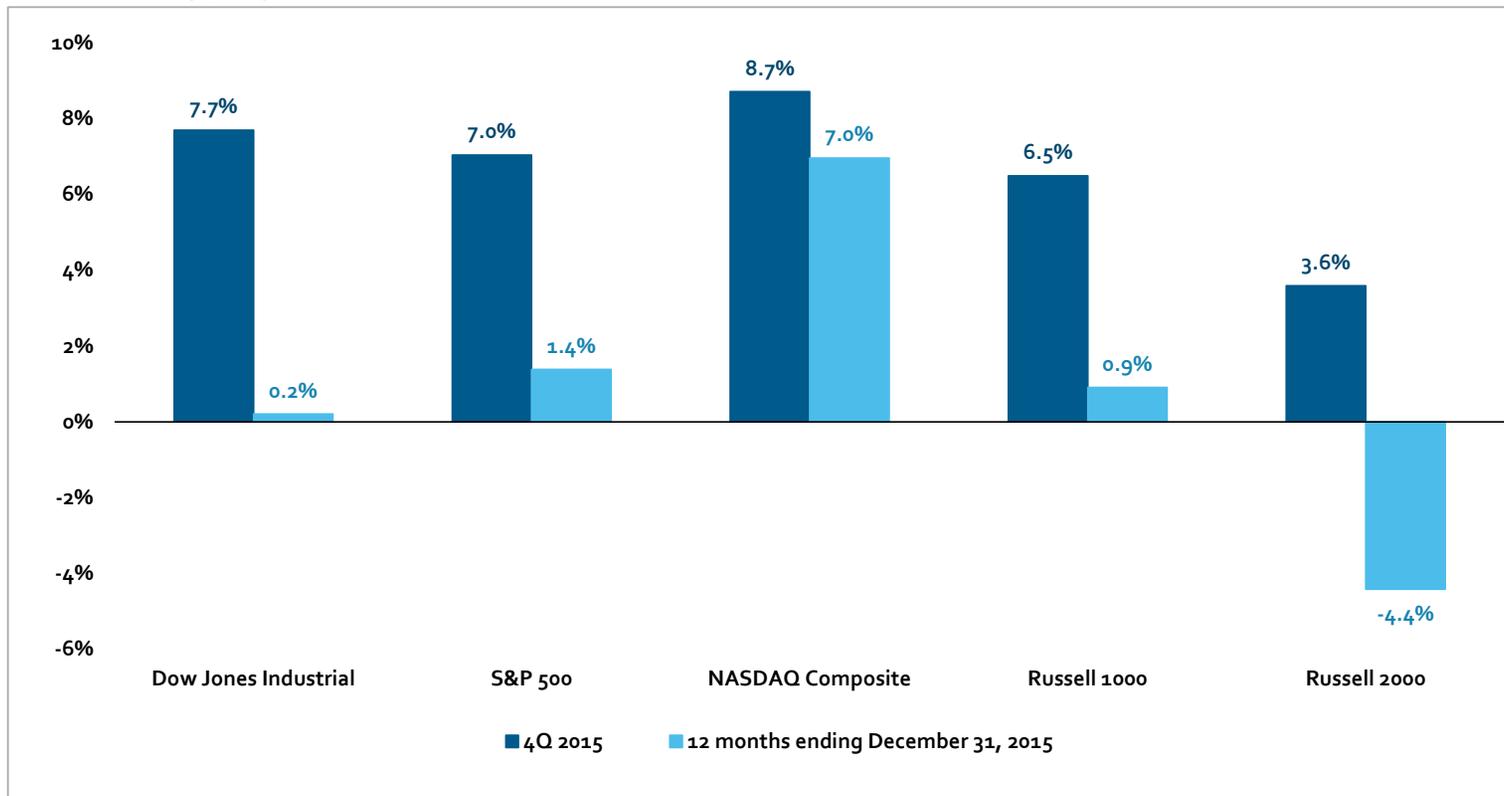
Index in USD	Performance as of 12/31/2015						Volatility <sup>1</sup>			Valuation		
	MTD	3M	YTD	12M	Ann	Ann	12M	3YR	5YR	12M		
					3YR	5YR				P/E	P/B	Div Yld
<b>All Cap</b>												
Russell 3000	-2.1	6.3	0.5	0.5	14.7	12.2	12.7	10.6	12.0	22.4	2.7	2.0
Russell 3000 Growth	-1.7	7.1	5.1	5.1	16.6	13.3	13.4	10.8	12.1	25.4	5.6	1.5
Russell 3000 Value	-2.4	5.4	-4.1	-4.1	12.8	11.0	12.2	10.7	12.2	19.9	1.8	2.5
<b>Large Cap</b>												
S&P 500	-1.6	7.0	1.4	1.4	15.1	12.6	13.1	10.5	11.6	18.0	2.9	1.9
Russell 1000	-1.8	6.5	0.9	0.9	15.0	12.4	12.8	10.5	11.8	21.7	2.8	2.0
Russell 1000 Growth	-1.5	7.3	5.7	5.7	16.8	13.5	13.4	10.7	11.9	24.4	5.7	1.6
Russell 1000 Value	-2.2	5.6	-3.8	-3.8	13.1	11.3	12.4	10.7	12.0	19.4	1.8	2.6
<b>Mid Cap</b>												
Russell Mid	-2.7	3.6	-2.4	-2.4	14.2	11.4	11.3	10.8	12.9	26.5	2.6	1.7
Russell Mid Growth	-2.3	4.1	-0.2	-0.2	14.9	11.5	12.3	11.3	13.6	28.6	5.4	1.1
Russell Mid Value	-3.1	3.1	-4.8	-4.8	13.4	11.3	10.4	10.7	12.5	24.6	1.7	2.3
<b>Small Cap</b>												
Russell 2000	-5.0	3.6	-4.4	-4.4	11.7	9.2	13.9	14.0	15.8	36.3	2.2	1.4
Russell 2000 Growth	-4.8	4.3	-1.4	-1.4	14.3	10.7	15.8	14.9	16.8	53.9	4.2	0.7
Russell 2000 Value	-5.3	2.9	-7.5	-7.5	9.1	7.7	12.4	13.5	15.2	27.1	1.5	2.1

Source: Bloomberg, S&P, Russell, FactSet. (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Volatility is measured using price only returns.

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# Total Returns on Major US Stock Market Indices

As of December 31, 2015

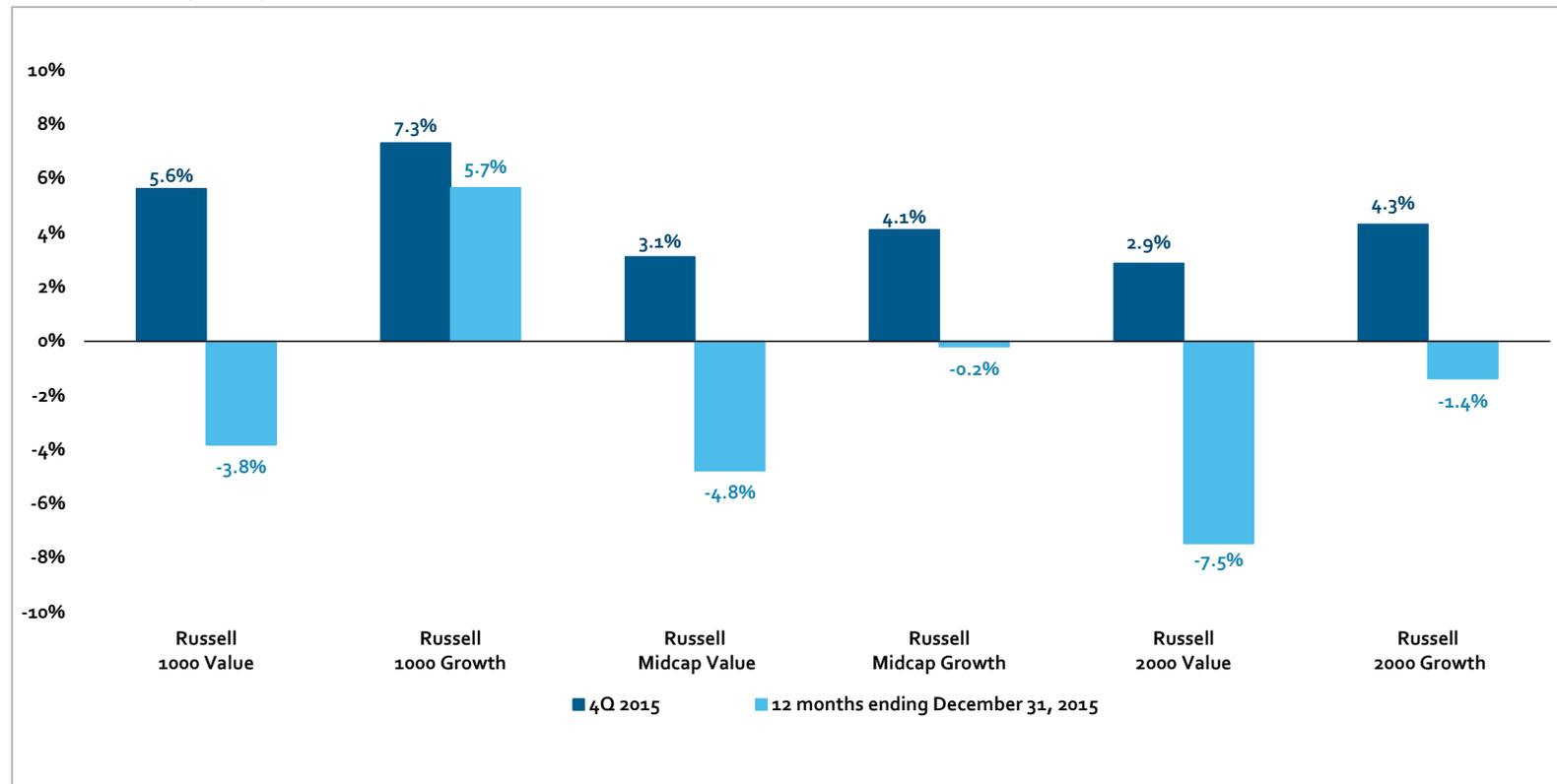


Source: Bloomberg

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# Russell Style and Market Capitalization Indices

As of December 31, 2015

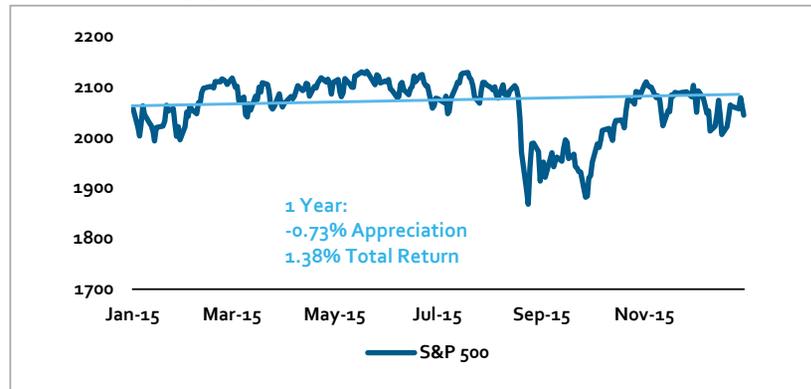


Source: Bloomberg

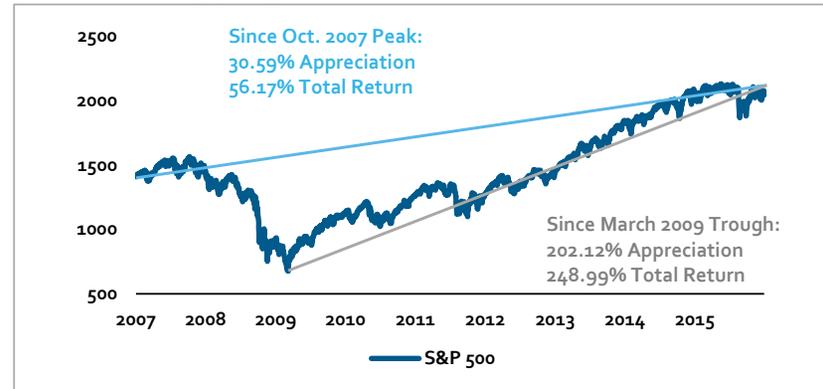
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# US Large Cap Equity Market Performance and Fundamentals

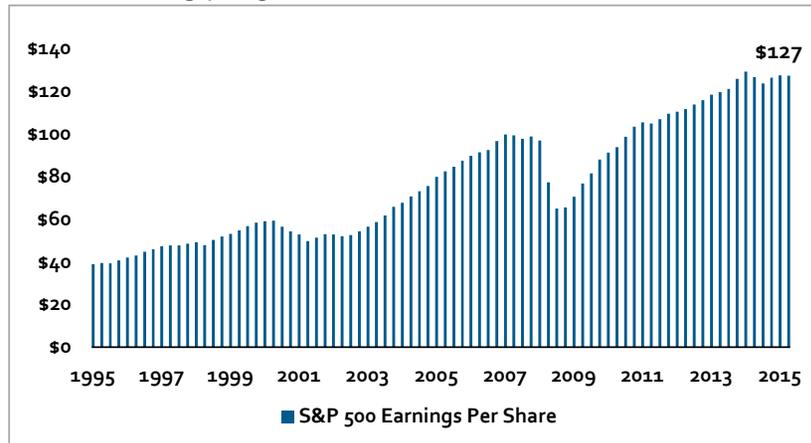
S&P 500 Last 12 Months<sup>1</sup>  
As of December 31, 2015



S&P 500 Since Financial Crisis<sup>1</sup>  
As of December 31, 2015



S&P 500 EPS Estimates  
As of December 31, 2015



Implied S&P 500 Index Levels  
As of December 31, 2015

Hypothetical Operating Earnings Per Share	Hypothetical P/E							
	12	13	14	15	16	17	18	19
\$70	840	910	980	1050	1120	1190	1260	1330
\$80	960	1040	1120	1200	1280	1360	1440	1520
\$90	1080	1170	1260	1350	1440	1530	1620	1710
\$100	1200	1300	1400	1500	1600	1700	1800	1900
\$110	1320	1430	1540	1650	1760	1870	1980	2090
\$120	1440	1560	1680	1800	1920	2040	2160	2280
\$130	1560	1690	1820	1950	2080	2210	2340	2470
\$140	1680	1820	1960	2100	2240	2380	2520	2660

Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC. (1) Represents index level change. For more information about the risks to hypothetical performance please refer to the Risk Considerations section at the end of this material.

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# US Equity Size and Style Performance

## 2015 Performance

As of December 31, 2015

	Value	Blend	Growth
Large	-1.7%	1.9%	5.8%
Mid	-4.1%	-1.6%	-0.1%
Small	-5.1%	-3.6%	-2.2%

## 2014 Performance

As of December 31, 2015

	Value	Blend	Growth
Large	12.2%	13.6%	15.0%
Mid	13.2%	12.4%	11.9%
Small	9.7%	7.5%	5.5%

## Current Fwd. P/E Vs. 10-year Avg. P/E

As of December 31, 2015

	Value	Blend	Growth
Large	14.8	16.4	18.5
	<i>Avg.: 12.3</i>	<i>Avg.: 13.7</i>	<i>Avg.: 15.8</i>
Mid	15.2	18.0	20.4
	<i>Avg.: 14.1</i>	<i>Avg.: 16.2</i>	<i>Avg.: 17.8</i>
Small	17.8	20.8	24.9
	<i>Avg.: 18</i>	<i>Avg.: 19.6</i>	<i>Avg.: 21.3</i>

Expensive: Above +1 Std. Dev.		
Neutral		
Cheap: Below -1 Std. Dev.		

## Performance Since Market Peak (Oct. 2007)

As of December 31, 2015

	Value	Blend	Growth
Large	33.2%	56.6%	84.5%
Mid	57.4%	61.5%	63.7%
Small	70.0%	70.7%	74.2%

## Performance Since Market Low (March 2009)

As of December 31, 2015

	Value	Blend	Growth
Large	220.5%	240.4%	264.0%
Mid	308.0%	297.0%	286.0%
Small	310.6%	309.8%	308.5%

Source: FactSet, Morgan Stanley Wealth Management GIC. Indices used for this analysis include: MSCI US Large Value, MSCI US Large Blend, MSCI US Large Growth, MSCI US Mid Value, MSCI Mid Blend, MSCI Mid Growth, MSCI Small Value, MSCI Small Blend, and MSCI Small Growth. "Blend" indices include both Value and Growth stocks. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material. This slide sourced from Market Performance section.

## S&P 500 Sector/Industry Group Overview Part 1 of 2

As of December 31, 2015 (performance and volatility in percent form)

S&P 500 Index in USD	Weight	Performance as of 12/31/2015						Volatility <sup>1</sup>			Valuation			Contribution to Return
		MTD	3M	YTD	12M	Ann 3YR	Ann 5YR	12M	3YR	5YR	P/E	P/B	Div Yld	MTD
<b>Consumer Discretionary</b>	<b>12.9%</b>	<b>-2.8</b>	<b>5.8</b>	<b>10.1</b>	<b>10.1</b>	<b>20.0</b>	<b>17.8</b>	<b>15.2</b>	<b>12.8</b>	<b>13.3</b>	<b>22.1</b>	<b>5.0</b>	<b>1.5</b>	<b>-0.36</b>
Automobiles & Components	1.0%	-4.9	5.8	-4.6	-4.6	10.9	3.2	20.0	18.5	21.9	12.3	2.2	3.2	-0.05
Cons. Durables & Apparel	1.4%	-4.8	-0.5	-0.8	-0.8	13.9	14.1	15.5	12.5	15.7	22.8	4.1	1.5	-0.07
Consumer Services	1.9%	0.4	6.1	16.1	16.1	17.0	14.2	12.3	10.5	11.5	28.6	7.2	2.0	0.01
Media	3.0%	-6.3	2.4	-4.3	-4.3	17.4	19.7	17.6	16.4	17.2	15.8	3.5	1.6	-0.20
Retailing	5.5%	-0.9	9.5	25.6	25.6	26.7	21.8	16.0	14.5	14.1	31.3	8.6	1.0	-0.05
<b>Consumer Staples</b>	<b>10.1%</b>	<b>2.9</b>	<b>7.6</b>	<b>6.6</b>	<b>6.6</b>	<b>16.0</b>	<b>14.5</b>	<b>11.5</b>	<b>11.2</b>	<b>10.1</b>	<b>24.6</b>	<b>5.4</b>	<b>2.6</b>	<b>0.27</b>
Food & Staples Retailing	2.4%	3.7	3.5	-1.6	-1.6	17.2	16.0	15.2	13.3	12.0	20.7	3.4	1.8	0.08
Food Beverage & Tobacco	5.6%	1.7	8.3	14.7	14.7	17.5	15.7	13.2	12.3	11.2	24.8	7.2	2.9	0.09
Household & Personal Prod.	2.1%	5.2	11.0	-3.7	-3.7	10.7	9.9	13.6	12.8	11.5	31.0	5.3	2.9	0.10
<b>Energy</b>	<b>6.5%</b>	<b>-9.9</b>	<b>0.2</b>	<b>-21.1</b>	<b>-21.1</b>	<b>-3.1</b>	<b>-0.1</b>	<b>20.8</b>	<b>17.1</b>	<b>18.9</b>	<b>41.9</b>	<b>1.4</b>	<b>3.8</b>	<b>-0.70</b>
<b>Financials</b>	<b>16.5%</b>	<b>-2.1</b>	<b>6.0</b>	<b>-1.5</b>	<b>-1.5</b>	<b>15.4</b>	<b>10.5</b>	<b>14.0</b>	<b>11.8</b>	<b>15.8</b>	<b>15.3</b>	<b>1.3</b>	<b>2.0</b>	<b>-0.35</b>
Banks	6.0%	-2.2	6.9	0.8	0.8	16.5	11.9	18.8	13.3	15.9	13.4	1.1	2.0	-0.14
Diversified Financials	5.0%	-3.9	3.1	-9.1	-9.1	14.4	8.2	16.6	14.7	21.5	15.8	1.5	1.2	-0.20
Insurance	2.7%	-2.7	6.7	2.3	2.3	17.6	12.2	15.4	14.1	15.5	12.5	1.1	2.1	-0.07
Real Estate	2.8%	2.2	8.6	4.7	4.7	11.5	13.1	14.7	13.6	15.4	32.2	3.2	3.2	0.06

Source: S&P, FactSet. (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Volatility is measured using price only returns.

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## S&P 500 Sector/Industry Group Overview Part 2 of 2

As of December 31, 2015 (performance and volatility in percent form)

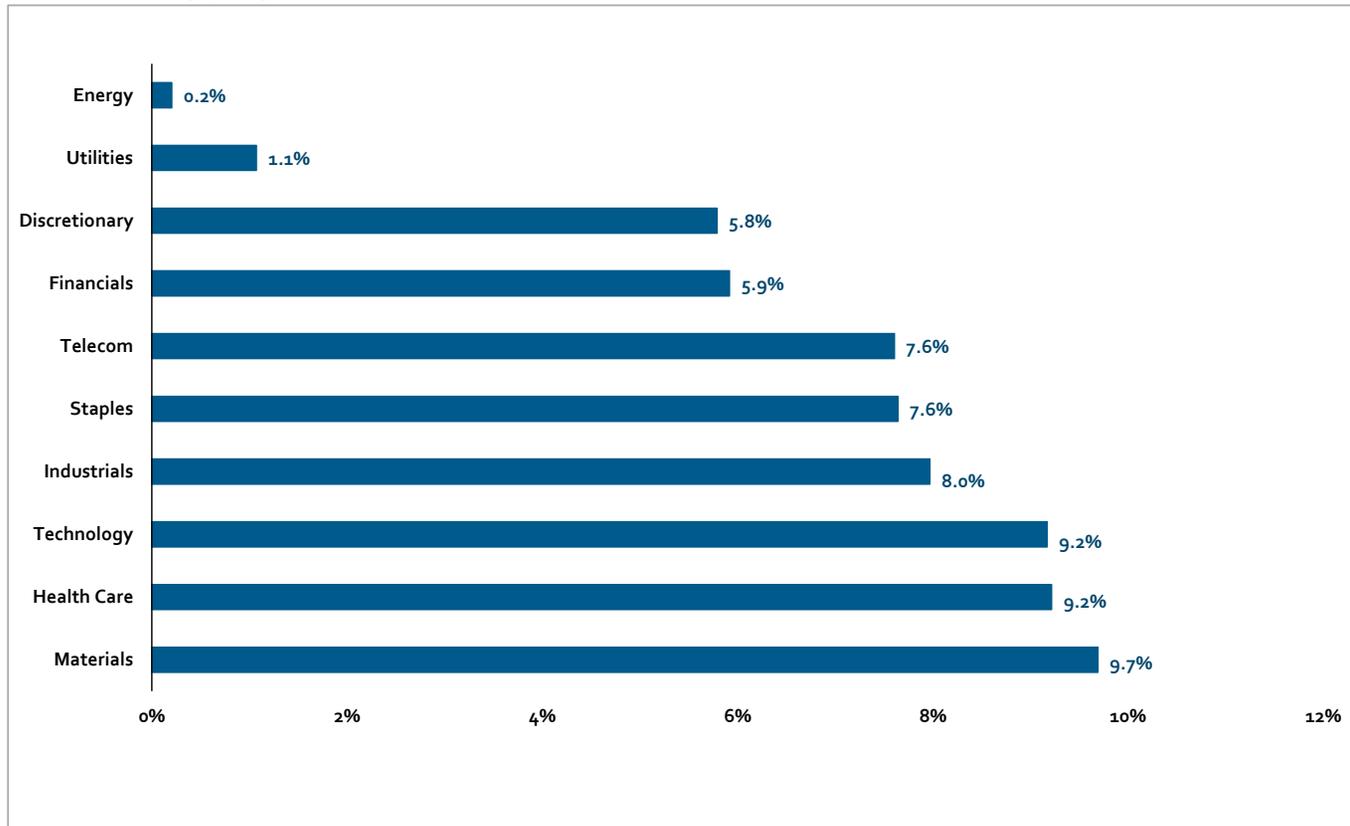
S&P 500 Index in USD	Weight	Performance as of 12/31/2015						Volatility <sup>1</sup>			Valuation			Contribution to Return
		MTD	3M	YTD	12M	Ann	Ann	12M	3YR	5YR	P/E	P/B	Div Yld	MTD
						3YR	5YR							
<b>Health Care</b>	<b>15.2%</b>	<b>1.8</b>	<b>9.2</b>	<b>6.9</b>	<b>6.9</b>	<b>23.8</b>	<b>20.3</b>	<b>14.3</b>	<b>12.0</b>	<b>11.3</b>	<b>25.7</b>	<b>3.8</b>	<b>1.7</b>	<b>0.26</b>
Health Care Equip. & Srvc.	5.0%	2.6	7.0	8.7	8.7	23.0	18.1	13.6	11.7	12.6	25.4	3.3	1.1	0.12
Pharmaceuticals & Biotech.	10.2%	1.4	10.3	6.0	6.0	24.1	21.5	16.6	13.2	12.1	25.8	4.2	2.0	0.14
<b>Industrials</b>	<b>10.0%</b>	<b>-2.0</b>	<b>8.0</b>	<b>-2.5</b>	<b>-2.5</b>	<b>14.6</b>	<b>11.5</b>	<b>13.4</b>	<b>11.9</b>	<b>13.9</b>	<b>20.6</b>	<b>3.6</b>	<b>2.2</b>	<b>-0.20</b>
Capital Goods	7.3%	-1.2	10.9	2.6	2.6	14.6	11.9	16.1	12.5	15.1	21.7	3.5	2.3	-0.09
Consumer Srvs. & Supplies	0.7%	-1.9	2.8	-0.2	-0.2	14.5	10.4	13.0	10.9	11.9	25.7	4.0	2.0	-0.01
Transportation	2.1%	-4.8	0.6	-18.6	-18.6	15.6	10.7	17.9	13.2	14.8	16.6	3.9	2.0	-0.10
<b>Information Technology</b>	<b>20.7%</b>	<b>-2.3</b>	<b>9.2</b>	<b>5.9</b>	<b>5.9</b>	<b>17.8</b>	<b>14.0</b>	<b>16.7</b>	<b>12.0</b>	<b>13.7</b>	<b>20.0</b>	<b>4.2</b>	<b>1.5</b>	<b>-0.48</b>
Software & Services	12.4%	-0.3	14.3	17.3	17.3	20.5	16.5	18.5	12.2	13.1	28.1	5.2	1.0	-0.03
Technology Hardware	5.9%	-6.7	-1.6	-9.6	-9.6	11.8	10.5	21.2	16.0	17.5	13.3	3.2	2.3	-0.42
Semis. & Semi Equipment	2.5%	-1.1	13.5	-0.7	-0.7	22.8	12.8	22.7	16.0	18.1	16.8	3.3	2.1	-0.03
<b>Materials</b>	<b>2.8%</b>	<b>-4.2</b>	<b>9.7</b>	<b>-8.4</b>	<b>-8.4</b>	<b>7.2</b>	<b>5.0</b>	<b>20.6</b>	<b>14.8</b>	<b>17.7</b>	<b>25.2</b>	<b>3.1</b>	<b>2.1</b>	<b>-0.12</b>
<b>Telecomm. Services</b>	<b>2.4%</b>	<b>1.7</b>	<b>7.6</b>	<b>3.4</b>	<b>3.4</b>	<b>5.9</b>	<b>8.3</b>	<b>13.4</b>	<b>13.0</b>	<b>12.4</b>	<b>25.2</b>	<b>3.2</b>	<b>5.0</b>	<b>0.04</b>
<b>Utilities</b>	<b>3.0%</b>	<b>2.2</b>	<b>1.1</b>	<b>-4.8</b>	<b>-4.8</b>	<b>11.6</b>	<b>11.0</b>	<b>12.3</b>	<b>13.9</b>	<b>11.8</b>	<b>17.0</b>	<b>1.7</b>	<b>3.8</b>	<b>0.06</b>
<b>S&amp;P 500 Index</b>	<b>100.0%</b>	<b>-1.6</b>	<b>7.0</b>	<b>1.4</b>	<b>1.4</b>	<b>15.1</b>	<b>12.6</b>	<b>13.1</b>	<b>10.5</b>	<b>11.6</b>	<b>18.0</b>	<b>2.9</b>	<b>1.9</b>	<b>-1.58</b>

Source: S&P, FactSet. (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Volatility is measured using price only returns.

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# S&P 500 Sectors

4Q 2015 Total Return  
As of December 31, 2015



Source: Bloomberg

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## S&P 500 Sector Performance and Valuation

As of December 31, 2015

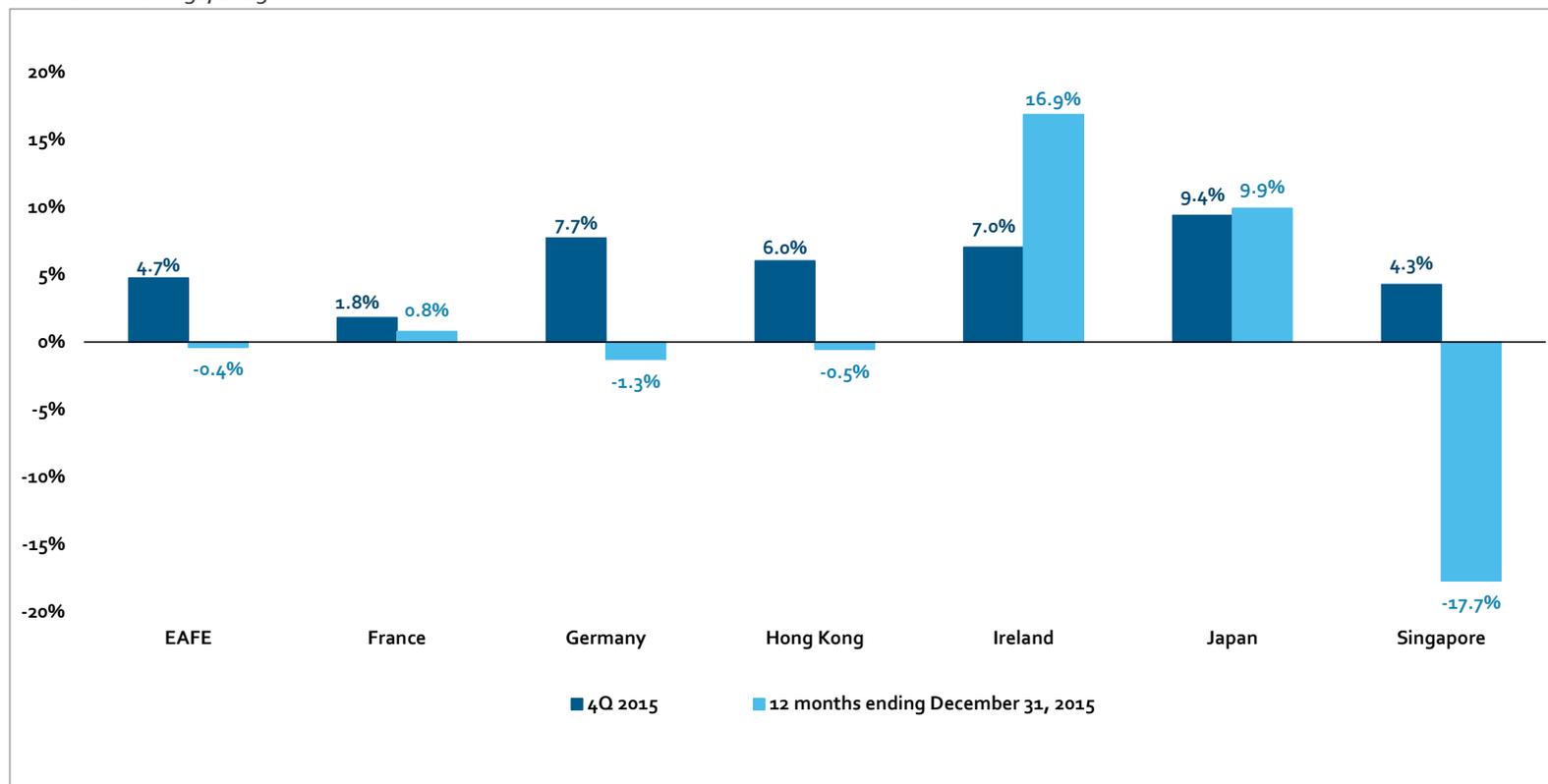
	S&P 500 Index	Financials	Tech.	Healthcare	Industrials	Energy	Consumer Disc.	Consumer Staples	Telecom	Utilities	Materials
<b>S&amp;P Weight</b>	100.0%	16.5%	20.5%	15.1%	10.1%	6.6%	12.8%	10.1%	2.5%	3.0%	2.8%
<b>YTD Return</b>	1.4%	-1.5%	5.9%	6.9%	-2.5%	-21.1%	10.1%	6.6%	3.4%	-4.8%	-8.4%
<b>4Q 2015 Return</b>	7.0%	6.0%	9.2%	9.2%	8.0%	0.2%	5.8%	7.6%	7.6%	1.1%	9.7%
<b>Return Since Market Top (October 2007)</b>	56.2	-20.9	89.2	133.8	48.6	-7.8	137.6	126.3	26.6	46.4	22.3
<b>Return Since Market Low (March 2009)</b>	249.0	332.0	296.4	276.9	308.3	68.9	449.9	217.3	141.9	156.3	191.3
<b>Beta to S&amp;P 500</b>	1.00	1.41	1.11	0.72	1.19	1.00	1.12	0.58	0.62	0.48	1.27
<b>Forward P/E Ratio</b>	16.1x	12.7x	16.0x	16.0x	15.5x	28.0x	18.1x	19.9x	12.3x	15.4x	15.3x
10-Yr Average	14.2x	12.0x	15.6x	14.3x	14.7x	13.2x	16.4x	16.7x	14.6x	14.4x	14.7x
<b>Price-to-Book Ratio</b>	2.6	1.2	4.0	3.8	3.7	1.5	4.9	4.9	2.7	1.6	3.0
10-Yr Average	2.3	1.2	3.8	3.2	2.9	2.0	2.7	3.9	2.0	1.6	2.7
<b>Dividend Yield</b>	2.2%	2.0%	1.5%	1.7%	2.2%	3.8%	1.5%	2.6%	5.0%	3.8%	2.1%
10-Yr Average	2.1%	2.2%	1.1%	1.9%	2.3%	2.1%	1.5%	2.8%	4.7%	3.9%	2.3%

Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC

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# MSCI Developed Market Returns for USD Investors

As of December 31, 2015



Source: Bloomberg. Returns are in USD (unhedged).

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# MSCI All Country World Overview – Part 1 of 2

As of December 31, 2015 (performance and volatility in percent form)

Net Official Index in USD	Weight	Performance as of 12/31/2015						Volatility <sup>1</sup>			Valuation			Foreign Exchange			Contribution to Return
		MTD	3M	YTD	12M	Ann 3YR	Ann 5YR	Ann 12M	Ann 3YR	Ann 5YR	P/E	P/B	Div Yld	Quote	Spot	Return	MTD
<b>MSCI All Country World</b>	<b>100.00%</b>	<b>-1.8</b>	<b>5.0</b>	<b>-2.4</b>	<b>-2.4</b>	<b>7.7</b>	<b>6.1</b>	<b>13.3</b>	<b>10.8</b>	<b>13.0</b>	<b>18.3</b>	<b>2.0</b>	<b>2.6</b>				<b>-1.80</b>
<b>United States</b>	<b>53.06%</b>	<b>-1.7</b>	<b>6.6</b>	<b>0.7</b>	<b>0.7</b>	<b>14.4</b>	<b>11.8</b>	<b>13.0</b>	<b>10.5</b>	<b>11.7</b>	<b>20.5</b>	<b>2.8</b>	<b>2.1</b>				<b>-0.93</b>
<b>Canada</b>	<b>2.76%</b>	<b>-7.1</b>	<b>-5.1</b>	<b>-24.2</b>	<b>-24.2</b>	<b>-6.7</b>	<b>-5.0</b>	<b>16.9</b>	<b>13.9</b>	<b>15.6</b>	<b>20.3</b>	<b>1.7</b>	<b>3.2</b>	<b>USD/CAD</b>	<b>1.39</b>	<b>19.93</b>	<b>-0.20</b>
<b>Europe</b>	<b>22.26%</b>	<b>-2.6</b>	<b>2.5</b>	<b>-2.8</b>	<b>-2.8</b>	<b>4.5</b>	<b>3.9</b>	<b>14.8</b>	<b>13.7</b>	<b>16.7</b>	<b>18.1</b>	<b>1.8</b>	<b>3.4</b>	<b>EUR/USD</b>	<b>1.09</b>	<b>-10.23</b>	<b>-0.58</b>
Austria	0.06%	-1.7	6.8	3.5	3.5	-6.2	-8.0	24.9	20.8	24.5	13.2	1.1	1.9	EUR/USD	1.09	-10.23	0.00
Belgium	0.49%	-1.2	13.6	12.1	12.1	14.2	13.2	15.1	14.1	16.5	19.3	2.5	3.0	EUR/USD	1.09	-10.23	-0.01
Denmark	0.66%	3.0	6.7	23.4	23.4	18.0	12.6	13.7	16.0	18.4	25.9	4.1	1.6	USD/DKK	6.87	11.64	0.02
Finland	0.31%	-0.1	9.6	2.0	2.0	13.9	2.9	14.3	17.0	21.8	17.9	2.3	3.6	EUR/USD	1.09	-10.23	0.00
France	3.37%	-3.3	1.7	-0.1	-0.1	4.4	2.8	16.3	15.9	19.5	21.2	1.5	3.1	EUR/USD	1.09	-10.23	-0.11
Germany	3.14%	-2.6	7.7	-1.9	-1.9	4.9	4.4	16.6	15.7	21.2	17.5	1.7	2.8	EUR/USD	1.09	-10.23	-0.08
Ireland	0.14%	0.2	7.0	16.5	16.5	18.9	15.1	18.3	18.9	19.8	23.1	2.0	1.3	EUR/USD	1.09	-10.23	0.00
Italy	0.81%	-3.4	-2.3	2.3	2.3	3.7	-0.7	13.9	20.5	24.5	29.8	1.0	3.0	EUR/USD	1.09	-10.23	-0.03
Netherlands	0.99%	-2.7	3.1	1.3	1.3	8.7	6.4	15.9	15.2	17.1	21.2	2.1	2.2	EUR/USD	1.09	-10.23	-0.03
Norway	0.19%	-6.1	-0.5	-15.0	-15.0	-10.2	-5.0	21.9	20.1	22.9	12.6	1.5	4.2	USD/NOK	8.85	18.06	-0.01
Portugal	0.05%	5.0	4.2	0.9	0.9	-11.6	-11.2	20.9	22.6	22.8	15.4	1.5	3.8	EUR/USD	1.09	-10.23	0.00
Spain	1.10%	-5.7	-2.6	-15.6	-15.6	1.8	-0.9	17.9	20.2	24.8	16.0	1.3	5.2	EUR/USD	1.09	-10.23	-0.07
Sweden	0.99%	-2.3	2.4	-5.0	-5.0	3.0	2.3	13.0	14.1	19.3	17.5	2.2	3.7	USD/SEK	8.43	7.69	-0.02
Switzerland	3.25%	1.0	2.0	0.4	0.4	8.3	7.3	13.1	12.2	14.7	18.4	2.6	3.1	USD/CHF	1.00	0.74	0.03
United Kingdom	6.70%	-3.9	0.7	-7.6	-7.6	1.8	3.5	16.8	13.9	15.5	16.1	1.7	4.2	GBP/USD	1.47	-5.47	-0.27
<b>Israel</b>	<b>0.26%</b>	<b>2.5</b>	<b>8.9</b>	<b>10.4</b>	<b>10.4</b>	<b>14.6</b>	<b>0.6</b>	<b>21.7</b>	<b>14.9</b>	<b>18.2</b>	<b>19.1</b>	<b>1.9</b>	<b>2.1</b>	<b>USD/ILS</b>	<b>3.89</b>	<b>-0.01</b>	<b>0.01</b>
<b>EM EMEA</b>	<b>1.54%</b>	<b>-7.2</b>	<b>-8.2</b>	<b>-20.0</b>	<b>-20.0</b>	<b>-13.7</b>	<b>-9.0</b>	<b>18.1</b>	<b>16.3</b>	<b>20.4</b>	<b>13.8</b>	<b>1.2</b>	<b>3.7</b>				<b>-0.11</b>
Czech Republic	0.02%	-1.6	-11.3	-18.4	-18.4	-11.3	-7.6	15.7	17.8	21.4	13.5	1.3	7.0	USD/CZK	24.88	8.61	0.00
Egypt	0.02%	12.3	-7.8	-23.7	-23.7	2.2	-3.5	24.2	24.0	29.7	14.9	1.8	2.7	USD/EGP	7.83	9.51	0.00
Greece	0.05%	-1.8	-19.0	-61.3	-61.3	-29.5	-32.9	56.3	43.1	44.3	-3.8	0.5	1.2	EUR/USD	1.09	-10.23	0.00
Hungary	0.03%	1.1	11.4	36.3	36.3	-2.3	-5.4	28.0	24.9	31.9	10.6	1.2	2.1	USD/HUF	290.90	11.48	0.00
Poland	0.12%	-1.2	-12.9	-25.4	-25.4	-13.1	-8.6	17.0	17.8	25.1	11.1	1.1	3.7	USD/PLN	3.95	11.18	0.00
Russia	0.33%	-10.3	-4.1	4.2	4.2	-17.4	-12.4	33.0	28.4	30.4	7.8	0.6	4.9	USD/RUB	73.04	21.73	-0.04
South Africa	0.66%	-10.5	-10.6	-25.5	-25.5	-9.7	-5.6	20.3	18.5	20.1	17.8	2.4	3.0	USD/ZAR	15.50	33.94	-0.08
Turkey	0.13%	-5.6	-0.3	-31.9	-31.9	-16.0	-8.9	20.1	28.1	29.1	9.6	1.2	3.5	USD/TRY	2.92	24.86	-0.01
Qatar	0.10%	4.2	-10.2	-19.5	-19.5	6.9	5.3	17.6	22.1	18.1	11.9	1.8	4.7	USD/QAR	3.64	0.03	0.00
United Arab Emirates	0.09%	1.2	-12.6	-17.9	-17.9	21.0	13.2	25.2	32.8	28.5	12.5	1.6	4.4	USD/AED	3.67	0.00	0.00

Source: MSCI, FactSet. (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Volatility is measured using price only returns. Countries are represented by MSCI regional indices. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material. This slide sourced from Market Performance section.

# MSCI All Country World Overview – Part 2 of 2

As of December 31, 2015 (performance and volatility in percent form)

Net Official Index in USD	Weight	Performance as of 12/31/2015						Volatility <sup>1</sup>			Valuation			Foreign Exchange			Contribution to Return
		MTD	3M	YTD	12M	3YR	5YR	12M	3YR	5YR	12M			12M			MTD
											P/E	P/B	Div Yld	Quote	Spot	Return	
<b>Japan</b>	<b>8.10%</b>	<b>0.3</b>	<b>9.3</b>	<b>9.6</b>	<b>9.6</b>	<b>10.2</b>	<b>4.4</b>	<b>15.4</b>	<b>13.3</b>	<b>13.9</b>	<b>16.0</b>	<b>1.4</b>	<b>1.9</b>	<b>USD/JPY</b>	<b>120.30</b>	<b>11.39</b>	<b>0.03</b>
<b>Pacific Ex. Japan</b>	<b>3.92%</b>	<b>2.2</b>	<b>8.3</b>	<b>-8.5</b>	<b>-8.5</b>	<b>-1.3</b>	<b>0.9</b>	<b>16.2</b>	<b>15.9</b>	<b>18.4</b>	<b>13.8</b>	<b>1.5</b>	<b>4.4</b>				<b>0.08</b>
Australia	2.36%	3.0	10.0	-10.0	-10.0	-3.2	-0.3	16.8	18.1	20.2	15.5	1.8	5.1	AUD/USD	0.73	-11.10	0.07
Hong Kong	1.07%	0.8	6.0	-0.5	-0.5	5.1	4.6	19.5	15.8	18.4	11.5	1.2	3.0	USD/HKD	7.75	-0.06	0.01
Singapore	0.43%	0.7	4.2	-17.7	-17.7	-4.8	-1.5	18.8	14.9	18.4	12.3	1.2	4.3	USD/SGD	1.42	7.06	0.00
New Zealand	0.05%	5.8	18.2	-6.3	-6.3	3.8	8.8	21.5	20.7	19.2	20.9	1.8	4.5	NZD/USD	0.68	-12.41	0.00
<b>EM Asia</b>	<b>6.97%</b>	<b>-0.7</b>	<b>3.5</b>	<b>-9.8</b>	<b>-9.8</b>	<b>-1.2</b>	<b>-0.8</b>	<b>17.0</b>	<b>13.0</b>	<b>16.8</b>	<b>12.5</b>	<b>1.4</b>	<b>2.6</b>				<b>-0.05</b>
China	2.56%	-1.3	4.0	-7.8	-7.8	1.0	0.7	26.4	19.2	21.4	10.9	1.4	2.8	USD/CNY	6.49	4.67	-0.03
India	0.84%	2.4	-0.9	-6.1	-6.1	3.8	-2.4	15.6	18.3	23.9	22.7	3.2	1.4	USD/INR	66.16	4.81	0.02
Indonesia	0.25%	5.1	20.8	-19.5	-19.5	-7.9	-2.8	26.1	23.2	22.3	16.8	2.9	2.6	USD/IDR	13785.00	11.30	0.01
South Korea	1.50%	-1.8	5.4	-6.7	-6.7	-4.8	-1.7	18.5	15.5	19.8	11.0	0.9	1.5	USD/KRW	1172.55	6.68	-0.03
Malaysia	0.31%	0.7	7.9	-20.1	-20.1	-8.4	-2.5	18.6	14.7	15.1	18.3	1.7	3.1	USD/MYR	4.29	22.79	0.00
Philippines	0.14%	0.7	-0.5	-6.8	-6.8	4.4	10.6	11.7	16.3	17.8	20.2	2.7	1.8	USD/PHP	47.05	5.19	0.00
Taiwan	1.17%	-0.8	1.2	-11.7	-11.7	1.7	-0.6	14.2	11.6	15.7	11.9	1.6	4.2	USD/TWD	32.85	3.94	-0.01
Thailand	0.19%	-7.7	-6.2	-23.5	-23.5	-8.7	-0.1	14.0	18.1	21.8	16.3	1.8	3.5	USD/THB	35.99	9.38	-0.02
<b>EM Latin America</b>	<b>1.14%</b>	<b>-4.3</b>	<b>-2.7</b>	<b>-31.0</b>	<b>-31.0</b>	<b>-19.4</b>	<b>-14.4</b>	<b>22.0</b>	<b>20.9</b>	<b>22.5</b>	<b>20.2</b>	<b>1.5</b>	<b>3.1</b>				<b>-0.05</b>
Brazil	0.53%	-5.1	-3.3	-41.4	-41.4	-24.9	-19.8	31.3	28.5	28.1	17.0	1.1	4.6	USD/BRL	3.96	48.83	-0.03
Chile	0.11%	1.2	-1.1	-17.7	-17.7	-17.6	-13.7	16.2	16.5	21.0	20.1	1.5	3.0	USD/CLP	708.60	16.77	0.00
Colombia	0.04%	0.3	-9.4	-41.8	-41.8	-28.3	-13.8	31.1	25.8	23.8	19.8	1.0	3.7	USD/COP	3174.50	33.58	0.00
Mexico	0.43%	-5.1	-1.2	-14.4	-14.4	-8.0	-2.5	15.2	14.7	18.0	27.6	2.6	1.5	USD/MXN	17.27	17.17	-0.02
Peru	0.03%	-4.8	-8.1	-31.7	-31.7	-19.1	-12.9	21.6	20.2	22.4	13.1	1.5	1.8	USD/PEN	3.41	14.61	0.00

Source: MSCI, FactSet. (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Volatility is measured using price only returns. Countries are represented by MSCI regional indices. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material. This slide sourced from Market Performance section.

## MSCI All Country World Sector/Industry Group Overview Part 1 of 2

As of December 31, 2015 (performance and volatility in percent form)

Net Official Index in USD	Weight	Performance as of 12/31/2015						Volatility <sup>1</sup>			Valuation			Contribution to Return
		MTD	3M	YTD	12M	3YR	5YR	Ann	Ann	12M	P/E	P/B	Div Yld	MTD
								12M	3YR					
<b>Consumer Discretionary</b>	<b>12.95%</b>	<b>-2.3</b>	<b>5.1</b>	<b>4.1</b>	<b>4.1</b>	<b>13.6</b>	<b>11.4</b>	<b>14.0</b>	<b>12.0</b>	<b>13.8</b>	<b>19.4</b>	<b>2.9</b>	<b>1.8</b>	<b>-0.30</b>
Automobiles & Components	2.94%	-1.6	10.1	-0.5	-0.5	8.9	6.6	16.4	13.4	17.4	11.3	1.5	2.5	-0.05
Cons. Durables & Apparel	1.92%	-3.4	-0.9	0.0	0.0	8.4	5.1	12.7	12.3	16.2	20.0	2.8	1.7	-0.07
Consumer Services	1.64%	1.0	6.9	4.0	4.0	12.0	10.2	14.4	12.1	13.1	25.6	5.2	2.2	0.02
Media	2.75%	-4.9	1.8	-3.2	-3.2	15.9	16.0	18.3	14.2	15.4	23.4	3.4	1.8	-0.13
Retailing	3.71%	-1.8	6.3	17.7	17.7	19.6	16.4	13.1	12.6	13.0	29.0	6.2	1.1	-0.07
<b>Consumer Staples</b>	<b>10.23%</b>	<b>0.6</b>	<b>5.5</b>	<b>5.0</b>	<b>5.0</b>	<b>9.7</b>	<b>10.3</b>	<b>11.2</b>	<b>10.7</b>	<b>10.5</b>	<b>24.0</b>	<b>4.1</b>	<b>2.6</b>	<b>0.06</b>
Food & Staples Retailing	2.09%	0.8	1.4	-3.2	-3.2	7.1	7.4	10.2	11.1	10.9	21.5	2.8	2.2	0.02
Food Beverage & Tobacco	6.01%	0.0	6.1	8.9	8.9	10.2	11.3	12.1	11.4	11.4	24.1	4.5	2.7	0.00
Household & Personal Prod.	2.12%	1.9	8.1	2.5	2.5	11.4	10.3	12.8	11.3	10.3	27.2	5.4	2.4	0.04
<b>Energy</b>	<b>6.19%</b>	<b>-9.1</b>	<b>-0.7</b>	<b>-22.2</b>	<b>-22.2</b>	<b>-8.6</b>	<b>-5.3</b>	<b>22.5</b>	<b>17.9</b>	<b>19.6</b>	<b>25.9</b>	<b>1.2</b>	<b>4.5</b>	<b>-0.56</b>
<b>Financials</b>	<b>21.52%</b>	<b>-1.8</b>	<b>3.8</b>	<b>-5.6</b>	<b>-5.6</b>	<b>6.0</b>	<b>4.4</b>	<b>14.2</b>	<b>12.0</b>	<b>16.2</b>	<b>13.8</b>	<b>1.2</b>	<b>3.1</b>	<b>-0.38</b>
Banks	10.00%	-1.9	2.5	-9.5	-9.5	2.0	1.6	16.6	13.5	16.6	12.4	1.0	3.5	-0.19
Diversified Financials	3.88%	-3.3	2.9	-6.5	-6.5	10.3	5.2	16.4	14.0	20.2	14.9	1.4	2.0	-0.13
Insurance	4.31%	-1.9	6.7	1.3	1.3	12.7	9.5	13.8	12.3	16.1	13.7	1.3	3.0	-0.08
Real Estate	3.33%	0.8	5.0	-0.5	-0.5	4.2	6.1	11.8	12.5	14.9	18.7	1.6	3.4	0.03

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## MSCI All Country World Sector/Industry Group Overview Part 2 of 2

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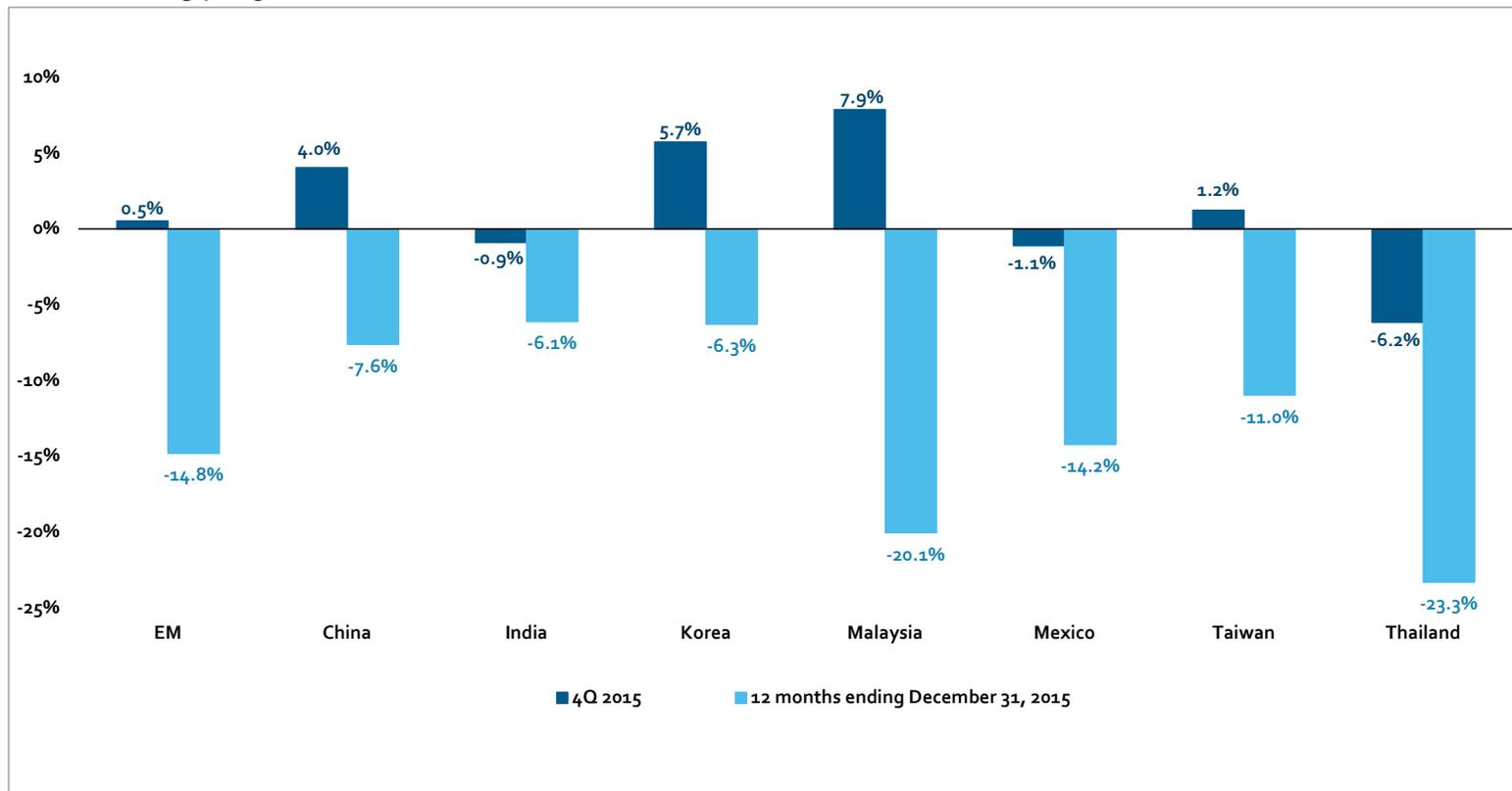
Net Official Index in USD	Weight	Performance as of 12/31/2015						Volatility <sup>1</sup>			Valuation			Contribution to Return
		MTD	3M	YTD	12M	3YR	5YR	12M	3YR	5YR	P/E	P/B	Div Yld	MTD
		Ann	Ann	Ann	Ann	Ann	Ann	Ann	Ann	Ann	Ann	Ann	Ann	Ann
<b>Health Care</b>	<b>12.52%</b>	<b>1.5</b>	<b>6.9</b>	<b>6.3</b>	<b>6.3</b>	<b>19.5</b>	<b>16.9</b>	<b>13.4</b>	<b>11.2</b>	<b>11.0</b>	<b>25.8</b>	<b>3.9</b>	<b>1.9</b>	<b>0.19</b>
Health Care Equip. & Svcs.	3.27%	1.8	7.2	8.8	8.8	20.5	16.2	12.4	10.6	11.6	23.5	3.3	1.1	0.06
Pharmaceuticals & Biotech.	9.25%	1.4	6.7	5.5	5.5	19.1	17.2	14.1	12.2	11.7	26.5	4.2	2.1	0.13
<b>Industrials</b>	<b>10.30%</b>	<b>-2.6</b>	<b>6.0</b>	<b>-3.1</b>	<b>-3.1</b>	<b>7.9</b>	<b>5.5</b>	<b>13.7</b>	<b>11.4</b>	<b>14.1</b>	<b>16.2</b>	<b>2.5</b>	<b>2.4</b>	<b>-0.27</b>
Capital Goods	7.32%	-2.5	7.6	-1.6	-1.6	7.4	5.1	14.9	12.1	15.3	19.4	2.4	2.6	-0.18
Commercial Svcs. & Supplies	0.86%	-1.6	5.6	4.0	4.0	9.0	7.7	12.2	11.2	12.0	21.0	3.6	2.0	-0.01
Transportation	2.12%	-3.4	1.0	-10.6	-10.6	9.4	6.2	12.6	11.1	12.3	9.8	2.4	2.0	-0.07
<b>Information Technology</b>	<b>14.87%</b>	<b>-2.2</b>	<b>8.6</b>	<b>3.2</b>	<b>3.2</b>	<b>14.6</b>	<b>10.6</b>	<b>15.2</b>	<b>11.2</b>	<b>13.3</b>	<b>18.1</b>	<b>3.3</b>	<b>1.6</b>	<b>-0.32</b>
Software & Services	8.14%	-0.7	12.4	14.7	14.7	19.1	15.2	16.1	11.7	12.9	27.5	5.2	1.1	-0.06
Technology Hardware	4.72%	-5.0	1.6	-8.2	-8.2	9.9	5.8	16.0	13.3	15.5	12.4	2.1	2.3	-0.24
Semis. & Semi Equipment	2.02%	-1.3	11.1	-6.0	-6.0	11.4	9.2	17.9	13.7	15.7	14.4	2.9	2.4	-0.03
<b>Materials</b>	<b>4.53%</b>	<b>-3.7</b>	<b>3.4</b>	<b>-16.2</b>	<b>-16.2</b>	<b>-8.3</b>	<b>-7.7</b>	<b>19.7</b>	<b>14.9</b>	<b>19.0</b>	<b>19.4</b>	<b>1.5</b>	<b>3.2</b>	<b>-0.17</b>
<b>Telecomm. Services</b>	<b>3.72%</b>	<b>-0.8</b>	<b>4.0</b>	<b>-2.2</b>	<b>-2.2</b>	<b>5.9</b>	<b>5.0</b>	<b>13.8</b>	<b>12.1</b>	<b>11.7</b>	<b>22.9</b>	<b>2.2</b>	<b>4.2</b>	<b>-0.03</b>
<b>Utilities</b>	<b>3.16%</b>	<b>1.4</b>	<b>1.1</b>	<b>-8.2</b>	<b>-8.2</b>	<b>4.9</b>	<b>2.4</b>	<b>11.2</b>	<b>11.5</b>	<b>10.8</b>	<b>15.7</b>	<b>1.5</b>	<b>3.9</b>	<b>0.04</b>
<b>MSCI All Country World</b>	<b>100.00%</b>	<b>-1.8</b>	<b>5.0</b>	<b>-2.4</b>	<b>-2.4</b>	<b>7.7</b>	<b>6.1</b>	<b>13.3</b>	<b>10.8</b>	<b>13.0</b>	<b>18.3</b>	<b>2.0</b>	<b>2.6</b>	<b>-1.80</b>

Source: MSCI, FactSet. (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Volatility is measured using price only returns.

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# MSCI Emerging Markets Returns for USD Investors

As of December 31, 2015



Source: Bloomberg

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# MSCI Emerging Markets Country Overview

As of December 31, 2015 (performance and volatility in percent form)

Net Official Index in USD	Weight	Performance as of 12/31/2015						Volatility <sup>1</sup>			Valuation			Foreign Exchange			Contribution to Return
		MTD	3M	YTD	12M	Ann 3YR	Ann 5YR	12M	Ann 3YR	Ann 5YR	P/E	P/B	Div Yld	Quote	12M Spot	Return	MTD
<b>Emerging Markets</b>	<b>100.00%</b>	<b>-2.2</b>	<b>0.7</b>	<b>-14.9</b>	<b>-14.9</b>	<b>-6.8</b>	<b>-4.8</b>	<b>16.9</b>	<b>14.1</b>	<b>17.6</b>	<b>13.3</b>	<b>1.4</b>	<b>2.8</b>				<b>-2.23</b>
<b>EM Asia</b>	<b>72.22%</b>	<b>-0.7</b>	<b>3.5</b>	<b>-9.8</b>	<b>-9.8</b>	<b>-1.2</b>	<b>-0.8</b>	<b>17.0</b>	<b>13.0</b>	<b>16.8</b>	<b>12.5</b>	<b>1.4</b>	<b>2.6</b>				<b>-0.52</b>
China	26.56%	-1.3	4.0	-7.8	-7.8	1.0	0.7	26.4	19.2	21.4	10.9	1.4	2.8	USD/CNY	6.49	4.67	-0.31
India	8.73%	2.4	-0.9	-6.1	-6.1	3.8	-2.4	15.6	18.3	23.9	22.7	3.2	1.4	USD/INR	66.16	4.81	0.20
Indonesia	2.56%	5.1	20.8	-19.5	-19.5	-7.9	-2.8	26.1	23.2	22.3	16.8	2.9	2.6	USD/IDR	13785.0	11.30	0.13
South Korea	15.57%	-1.8	5.4	-6.7	-6.7	-4.8	-1.7	18.5	15.5	19.8	11.0	0.9	1.5	USD/KRW	1172.6	6.68	-0.30
Malaysia	3.26%	0.7	7.9	-20.1	-20.1	-8.4	-2.5	18.6	14.7	15.1	18.3	1.7	3.1	USD/MYR	4.29	22.79	0.02
Philippines	1.43%	0.7	-0.5	-6.8	-6.8	4.4	10.6	11.7	16.3	17.8	20.2	2.7	1.8	USD/PHP	47.05	5.19	0.01
Taiwan	12.10%	-0.8	1.2	-11.7	-11.7	1.7	-0.6	14.2	11.6	15.7	11.9	1.6	4.2	USD/TWD	32.85	3.94	-0.10
Thailand	2.01%	-7.7	-6.2	-23.5	-23.5	-8.7	-0.1	14.0	18.1	21.8	16.3	1.8	3.5	USD/THB	35.99	9.38	-0.17
<b>EM EMEA</b>	<b>15.92%</b>	<b>-7.2</b>	<b>-8.2</b>	<b>-20.0</b>	<b>-20.0</b>	<b>-13.7</b>	<b>-9.0</b>	<b>18.1</b>	<b>16.3</b>	<b>20.4</b>	<b>13.8</b>	<b>1.2</b>	<b>3.7</b>				<b>-1.21</b>
Czech Republic	0.19%	-1.6	-11.3	-18.4	-18.4	-11.3	-7.6	15.7	17.8	21.4	13.5	1.3	7.0	USD/CZK	24.88	8.61	0.00
Egypt	0.19%	12.3	-7.8	-23.7	-23.7	2.2	-3.5	24.2	24.0	29.7	14.9	1.8	2.7	USD/EGP	7.83	9.51	0.02
Hungary	0.26%	1.1	11.4	36.3	36.3	-2.3	-5.4	28.0	24.9	31.9	10.6	1.2	2.1	USD/HUF	290.9	11.48	0.00
Greece	0.50%	-1.8	-19.0	-61.3	-61.3	-29.5	-32.9	56.3	43.1	44.3	-3.8	0.5	1.2	USD/EUR	1.09	11.39	0.00
Poland	1.29%	-1.2	-12.9	-25.4	-25.4	-13.1	-8.6	17.0	17.8	25.1	11.1	1.1	3.7	USD/PLN	3.95	11.18	-0.02
Russia	3.42%	-10.3	-4.1	4.2	4.2	-17.4	-12.4	33.0	28.4	30.4	7.8	0.6	4.9	USD/RUB	73.04	21.73	-0.40
South Africa	6.79%	-10.5	-10.6	-25.5	-25.5	-9.7	-5.6	20.3	18.5	20.1	17.8	2.4	3.0	USD/ZAR	15.50	33.94	-0.81
Qatar	1.01%	4.2	-10.2	-19.5	-19.5	6.9	5.3	17.6	22.1	18.1	11.9	1.8	4.7	USD/QAR	3.64	0.03	0.04
United Arab Emirates	0.90%	1.2	-12.6	-17.9	-17.9	21.0	13.2	25.2	32.8	28.5	12.5	1.6	4.4	USD/AED	3.67	0.00	0.01
Turkey	1.35%	-5.6	-0.3	-31.9	-31.9	-16.0	-8.9	20.1	28.1	29.1	9.6	1.2	3.5	USD/TRY	2.92	24.86	-0.08
<b>EM Latin America</b>	<b>11.86%</b>	<b>-4.3</b>	<b>-2.7</b>	<b>-31.0</b>	<b>-31.0</b>	<b>-19.4</b>	<b>-14.4</b>	<b>22.0</b>	<b>20.9</b>	<b>22.5</b>	<b>20.2</b>	<b>1.5</b>	<b>3.1</b>				<b>-0.55</b>
Brazil	5.46%	-5.1	-3.3	-41.4	-41.4	-24.9	-19.8	31.3	28.5	28.1	17.0	1.1	4.6	USD/BRL	3.96	48.83	-0.30
Chile	1.19%	1.2	-1.1	-17.7	-17.7	-17.6	-13.7	16.2	16.5	21.0	20.1	1.5	3.0	USD/CLP	708.60	16.77	0.01
Colombia	0.41%	0.3	-9.4	-41.8	-41.8	-28.3	-13.8	31.1	25.8	23.8	19.8	1.0	3.7	USD/COP	3174.5	33.58	0.00
Mexico	4.46%	-5.1	-1.2	-14.4	-14.4	-8.0	-2.5	15.2	14.7	18.0	27.6	2.6	1.5	USD/MXN	17.27	17.17	-0.24
Peru	0.34%	-4.8	-8.1	-31.7	-31.7	-19.1	-12.9	21.6	20.2	22.4	13.1	1.5	1.8	USD/PEN	3.41	14.61	-0.02

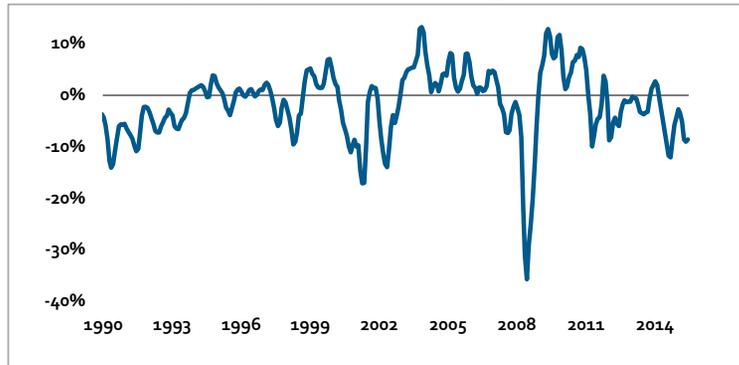
Source: MSCI, FactSet. (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Volatility is measured using price only returns. \* The weighted average PE ratio is based on an average of 75% of the constituents due to many of them having a negative EPS. Countries are represented by MSCI regional indices.

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# Global Earnings Revisions Breadth<sup>1</sup>

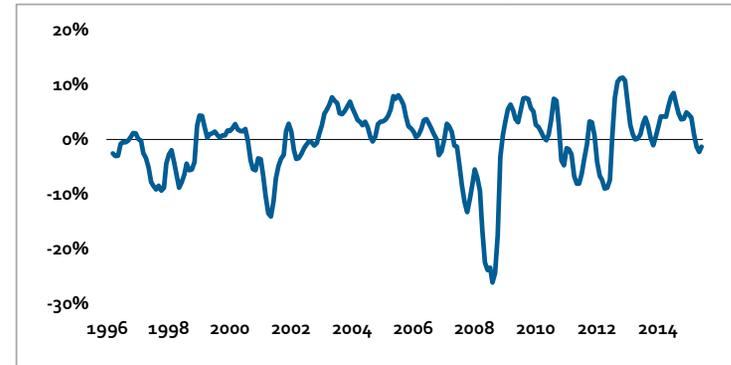
## S&P 500

As of December 31, 2015 (Three-Month Average)



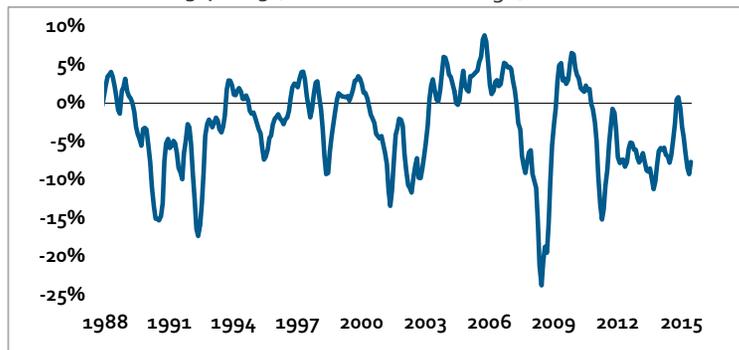
## MSCI Japan

As of December 31, 2015 (Three-Month Average)



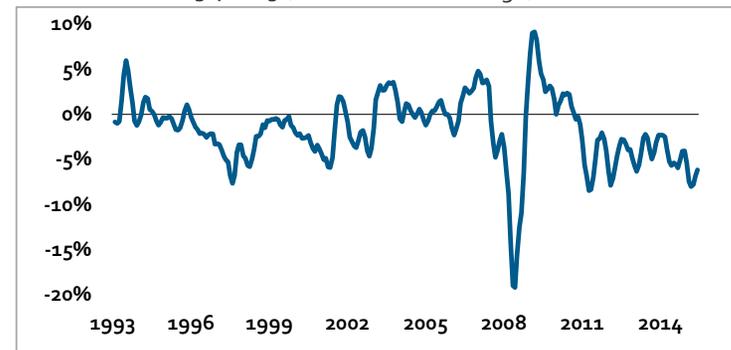
## MSCI Europe

As of December 31, 2015 (Three-Month Average)



## MSCI Emerging Markets

As of December 31, 2015 (Three-Month Average)



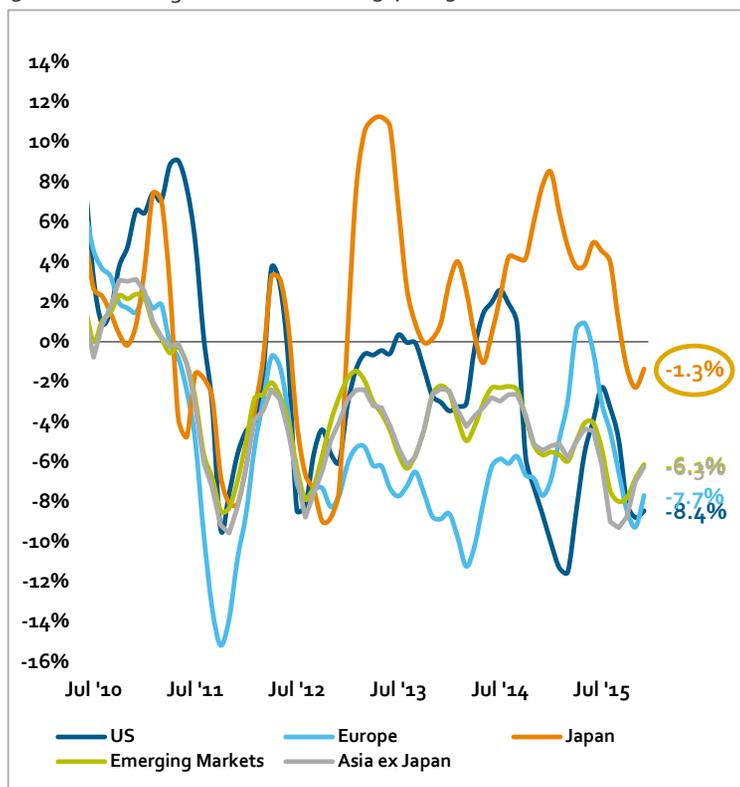
Source: FactSet, Morgan Stanley Wealth Management. (1) Earnings revisions breadth is defined as the number of positive analyst revisions minus the number of negative analyst revisions divided by the total number of revisions.

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# Earnings Growth and Revisions

## Global Earnings Revisions Breadth<sup>1</sup>

3-Month Average as of December 31, 2015



## Expected EPS Growth

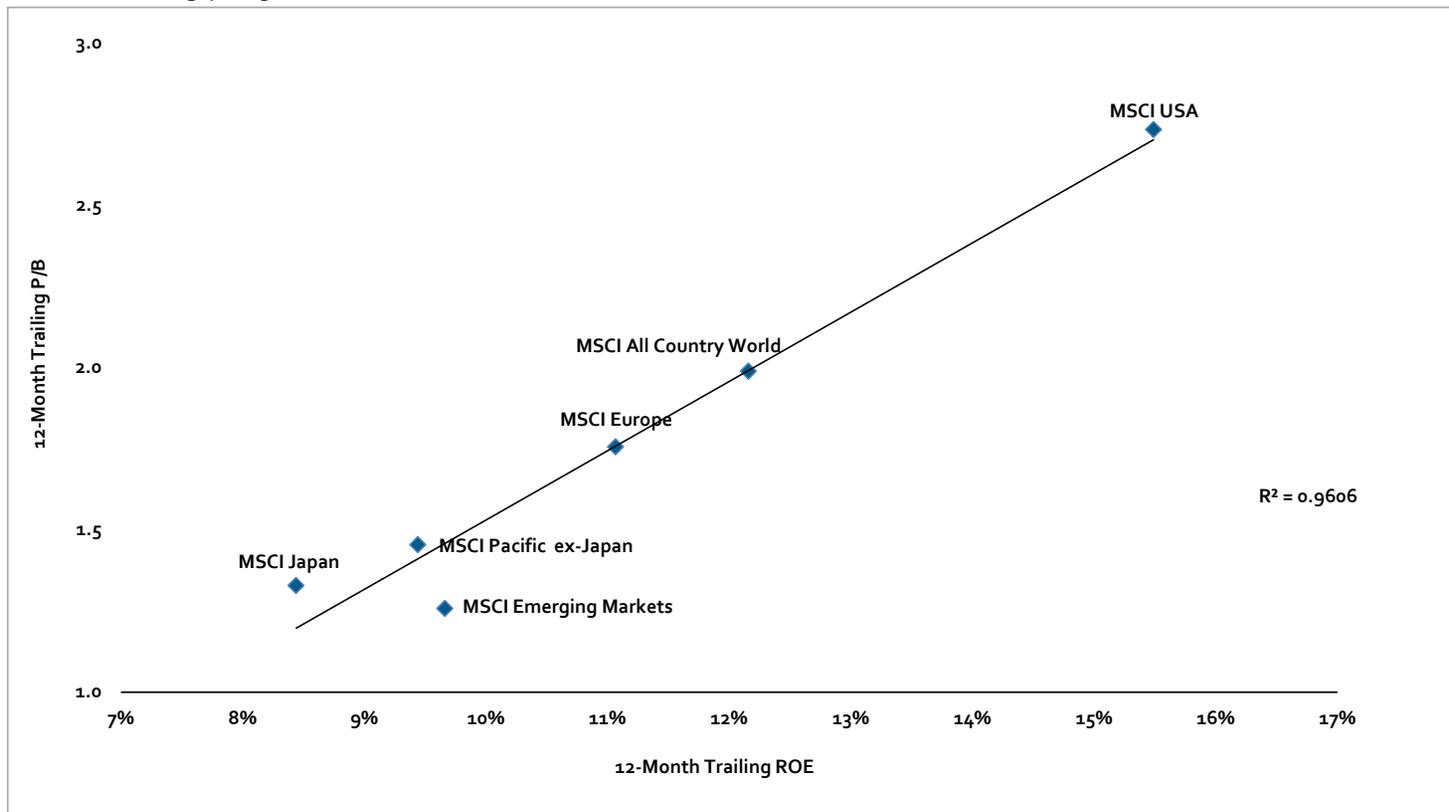
As of December 31, 2015

Regional Index	12-month Forward EPS Growth
MSCI Emerging Markets	18.4%
MSCI Japan	11.8%
MSCI All Country World	8.9%
MSCI USA	7.9%
MSCI Europe	5.6%
MSCI Asia ex Japan	5.1%

Source: FactSet, Morgan Stanley Wealth Management GIC. Indices used: MSCI USA for US, MSCI Europe for Europe, MSCI Japan for Japan, MSCI Emerging Markets for Emerging Markets, MSCI Asia ex Japan for Asia ex Japan. (1) Earnings revisions breadth is defined as the number of positive analyst revisions minus the number of negative analyst revisions divided by the total number of revisions. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material. This slide sourced from Market Performance section.

# Based on ROEs, Global Equity Relative Valuations Are Appropriate

As of December 31, 2015



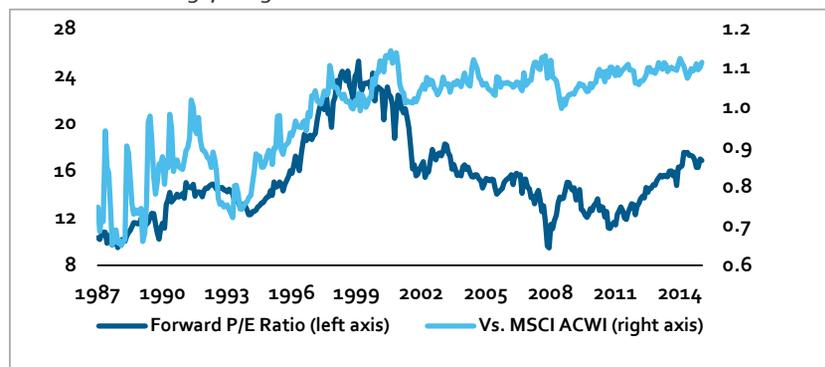
Source: FactSet, Morgan Stanley Wealth Management GIC. Return on Equity (ROE) = amount of net income returned as a percentage of shareholders' equity. Price-to-Book (P/B) = ratio used to compare a stock's market value to its book value.

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# Valuation: 12-Month Forward P/E Ratios by Region<sup>1</sup>

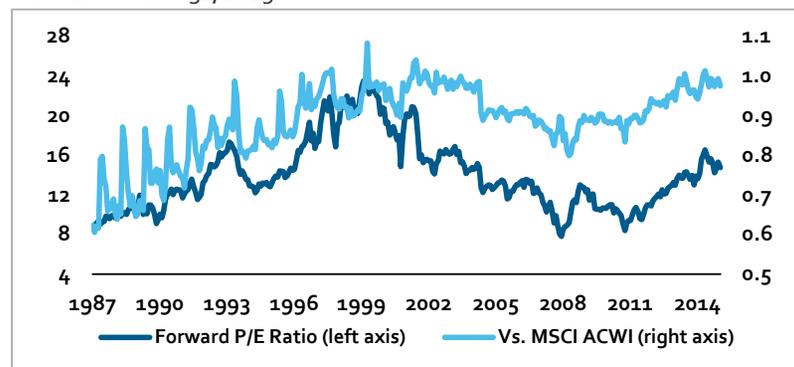
MSCI USA Forward P/E and Relative Valuation

As of December 31, 2015



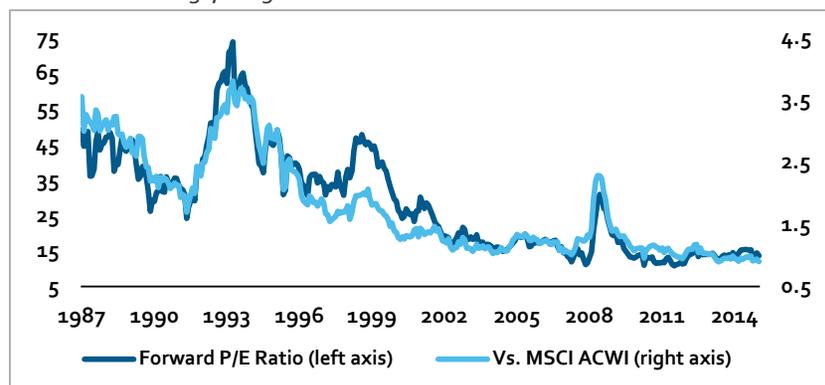
MSCI Europe Forward P/E and Relative Valuation

As of December 31, 2015



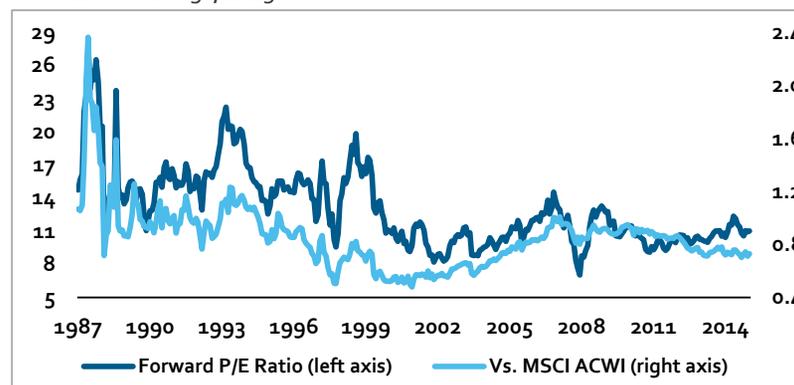
MSCI Japan Forward P/E and Relative Valuation

As of December 31, 2015



MSCI EM Forward P/E and Relative Valuation

As of December 31, 2015

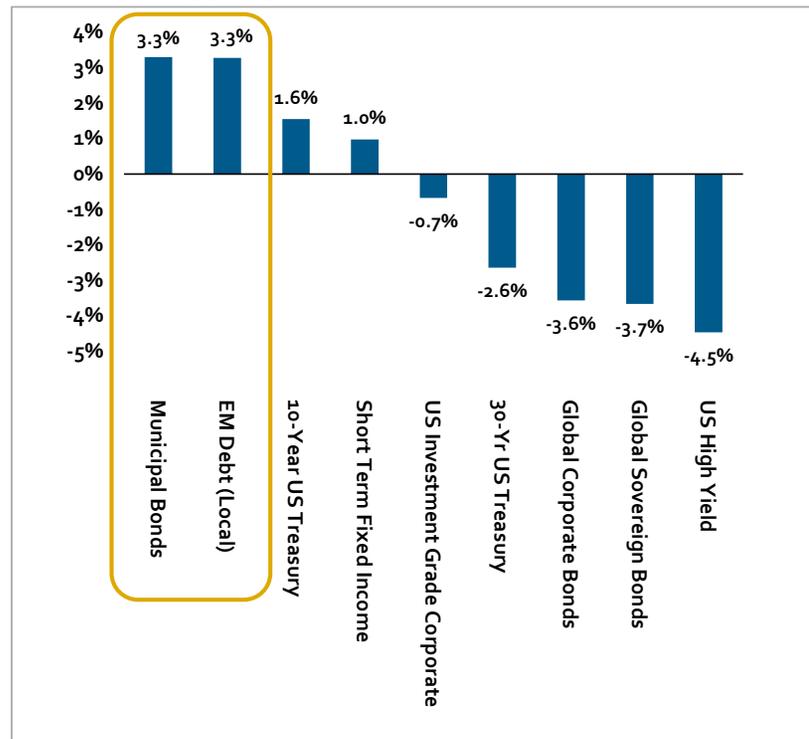


Source: FactSet, Morgan Stanley Wealth Management GIC. (1)Forward P/E = market price per share / expected earnings per share.

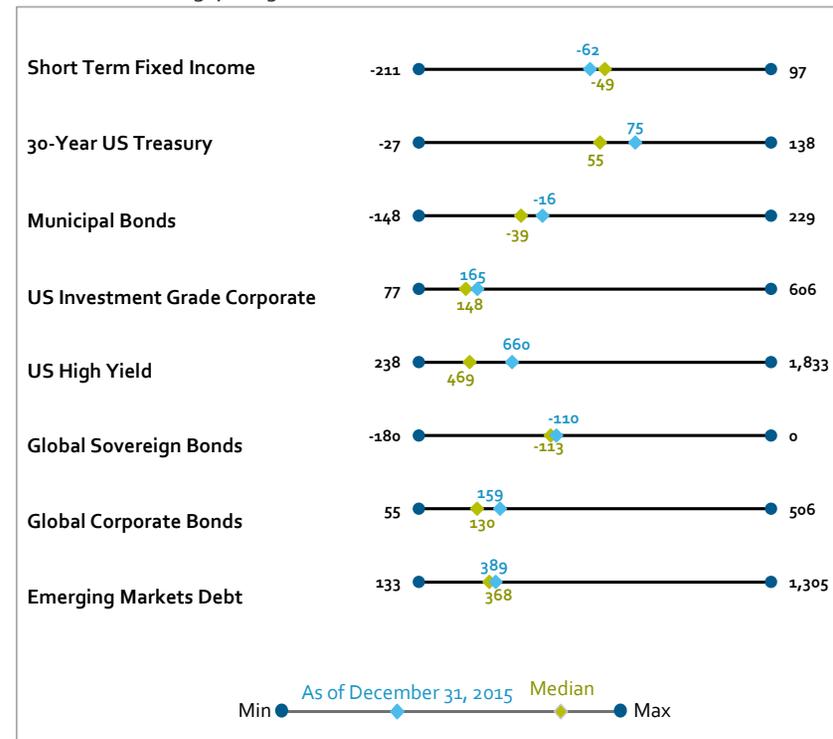
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# In Fixed Income, Municipal Bonds and EM Debt Produced Strongest Return

2015 Total Return <sup>1</sup>  
As of December 31, 2015



Yield Spreads Vs. Past 20 Years <sup>2</sup>  
As of December 31, 2015



Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC. (1) Indices used for this analysis include: Barclays US High Yield, Barclays US Gov/Credit Float Adjusted 1-5Y Bond (short duration), Barclays Global Aggregate Credit-Corporate, JP Morgan GBI-EM Global Diversified (EM debt), Barclays US Investment Grade Corporate, Barclays Muni Bond, and Barclays Global Aggregate Government (global sovereign). (2) Yield spread ranges are based on 20 years of data.

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# US Fixed Income Overview

As of December 31, 2015 (performance and YTW in percent form)

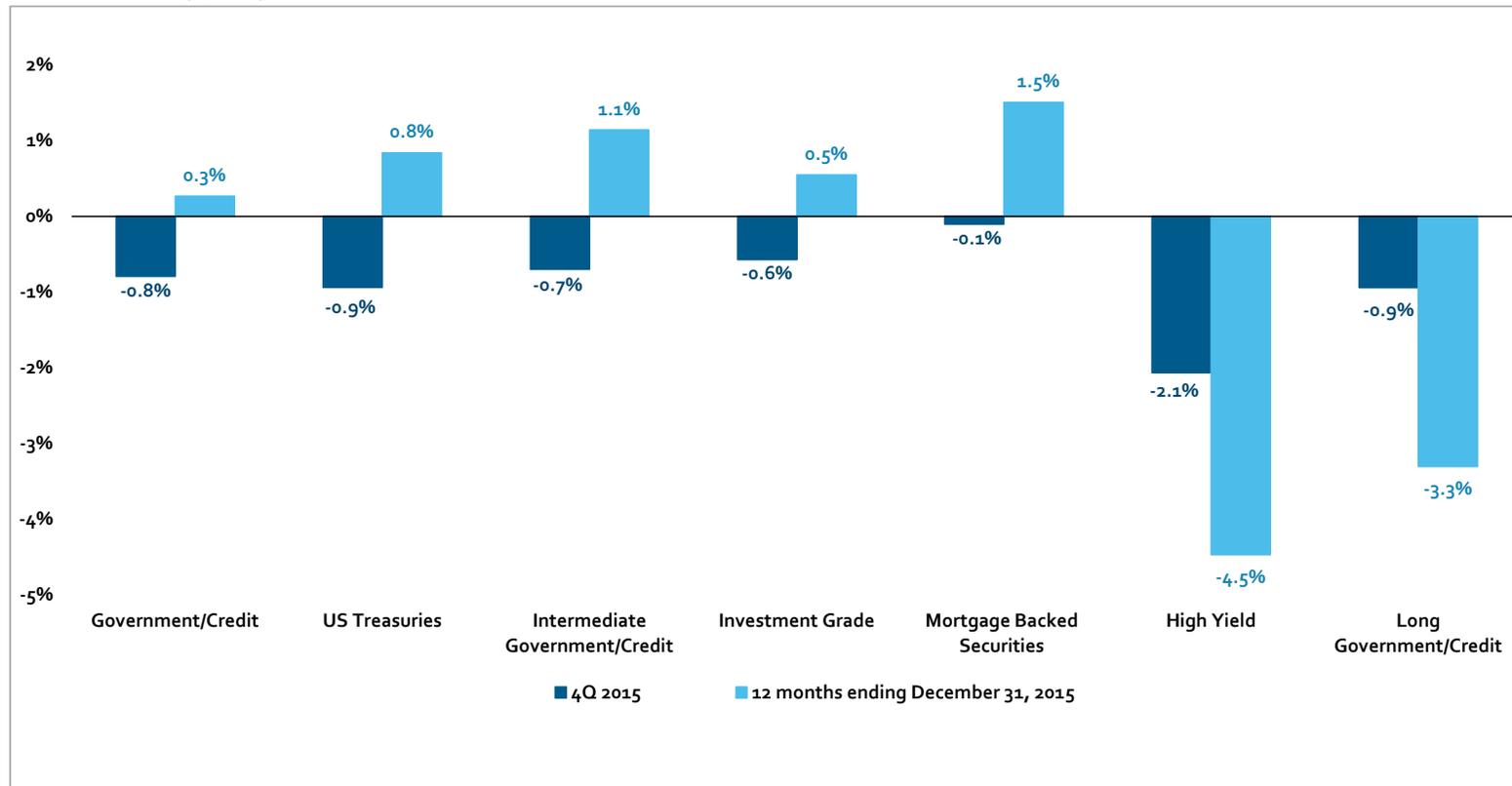
Index in USD	Characteristics			Performance as of 12/31/2015					
	Weight	Duration <sup>1</sup>	YTW <sup>2</sup>	Ann		Ann		Ann	
				MTD	3M	YTD	12M	3YR	5YR
<b>Barclays Capital U.S. Aggregate</b>		<b>5.7</b>	<b>2.6</b>	<b>-0.3</b>	<b>-0.6</b>	<b>0.5</b>	<b>0.5</b>	<b>1.4</b>	<b>3.2</b>
<b>Broken down by Quality</b>	<b>100.00%</b>								
Aaa	71.81%	5.2	2.2	-0.1	-0.6	1.1	1.1	1.4	2.8
Aa	4.43%	5.9	2.6	-0.3	-0.1	1.0	1.0	1.6	3.5
A	10.59%	7.0	3.2	-0.4	-0.1	0.5	0.5	2.0	4.8
Baa	13.17%	7.2	4.3	-1.4	-1.0	-2.7	-2.7	1.1	4.7
<b>Broken down by Maturity</b>	<b>100.00%</b>								
1-3 Yr.	22.07%	1.9	1.4	-0.1	-0.4	0.7	0.7	0.7	1.0
3-5 Yr.	20.62%	3.7	2.1	-0.3	-0.7	1.6	1.6	1.4	2.5
5-7 Yr.	18.90%	4.7	2.7	-0.2	-0.5	1.3	1.3	1.5	3.2
7-10 Yr.	23.34%	6.2	3.1	-0.3	-0.5	1.1	1.1	1.5	4.4
10+ Yr.	15.06%	14.4	4.2	-0.8	-0.9	-3.3	-3.3	1.3	6.6
<b>Broken down by Sector</b>	<b>100.00%</b>								
U.S. Treasury	<b>36.43%</b>	<b>5.9</b>	<b>1.7</b>	<b>-0.2</b>	<b>-0.9</b>	<b>0.8</b>	<b>0.8</b>	<b>1.0</b>	<b>2.9</b>
1-3 Yr.	12.63%	1.9	1.1	-0.1	-0.4	0.6	0.6	0.5	0.7
Other	23.80%								
<b>Government-Related</b>	<b>8.20%</b>	<b>5.3</b>	<b>2.5</b>	<b>-0.6</b>	<b>-0.4</b>	<b>-0.4</b>	<b>-0.4</b>	<b>0.9</b>	<b>2.9</b>
Agencies	4.27%	4.0	2.0	-0.6	-0.7	-0.4	-0.4	0.5	1.9
Local Authorities	1.16%	9.6	3.8	0.0	0.7	0.4	0.4	3.0	7.2
Sovereign	1.24%	8.0	4.1	-1.3	0.4	-2.7	-2.7	0.1	4.3
Supranational	1.53%	3.6	1.7	-0.2	-0.9	0.9	0.9	1.0	2.1
<b>Corporate</b>	<b>24.27%</b>	<b>7.0</b>	<b>3.7</b>	<b>-0.8</b>	<b>-0.6</b>	<b>-0.7</b>	<b>-0.7</b>	<b>1.7</b>	<b>4.5</b>
Industrial	14.85%	7.4	3.9	-1.1	-1.0	-1.8	-1.8	1.0	4.1
Utility	1.81%	9.3	3.8	-0.4	-0.7	-1.5	-1.5	2.1	5.3
Financials	7.61%	5.7	3.2	-0.2	0.1	1.5	1.5	2.8	5.2
<b>Securitized</b>	<b>31.10%</b>	<b>4.5</b>	<b>2.8</b>	<b>-0.1</b>	<b>-0.2</b>	<b>1.5</b>	<b>1.5</b>	<b>2.0</b>	<b>3.0</b>
<b>Barclays Capital U.S. Corp. High Yield</b>	<b>100.00%</b>	<b>4.3</b>	<b>8.7</b>	<b>-2.5</b>	<b>-2.1</b>	<b>-4.5</b>	<b>-4.5</b>	<b>1.7</b>	<b>5.0</b>
Industrial	85.34%	4.3	9.1	-2.7	-2.3	-5.3	-5.3	1.2	4.7
Utility	3.25%	5.0	8.7	-4.2	-4.5	-5.2	-5.2	2.1	5.3
Financials	11.41%	4.2	6.2	-1.0	0.9	2.4	2.4	5.4	7.9
<b>Barclays Capital U.S. Municipal Bond</b>	<b>100.00%</b>	<b>6.2</b>	<b>2.1</b>	<b>0.7</b>	<b>1.5</b>	<b>3.3</b>	<b>3.3</b>	<b>3.2</b>	<b>5.3</b>

Source: Barclays Capital, FactSet. (1) For more information about the risks to Duration please refer to the Risk Considerations section at the end of this material. (2) Yield to worst is the lowest potential yield that can be received on a bond without the issuer actually defaulting.

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# US Bond Market Indices<sup>1</sup>

As of December 31, 2015



Source: FactSet. (1) Represented by Barclays fixed income indices.

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## Fixed Income Total Returns and Spreads

### Fixed Income Performance (Total Return in USD)

As of December 31, 2015

Asset Class	Benchmark Index	1-Month	3-Month	6-Month	1-Year	3-Year	5-Year	10-Year
Investment Grade Fixed Income								
Short-Term Fixed Income	Barclays Capital US Gov/Credit Float Adjusted 1-5Y	-0.2%	-0.6%	0.0%	1.0%	2.7%	8.3%	38.6%
US Fixed Income	Barclays Capital US Aggregate	-0.3%	-0.6%	0.7%	0.5%	4.4%	17.3%	55.5%
International Fixed Income	Barclays Capital Global Aggregate ex US (H)	1.0%	-1.1%	-0.6%	-5.3%	-10.2%	-2.0%	-
Global Inflation-Linked Securities	Barclays Capital Universal Government Inflation Linked (UH)	-1.4%	-0.3%	-0.6%	0.5%	5.4%	28.5%	68.3%
Global High Yield	Barclays Capital Global High Yield (H)	-1.9%	-0.9%	-4.6%	-2.7%	4.4%	28.8%	102.2%
Emerging Markets Fixed Income	JP Morgan Emerging Market Index (UH)	-1.3%	1.8%	0.8%	1.8%	-0.9%	27.7%	91.1%

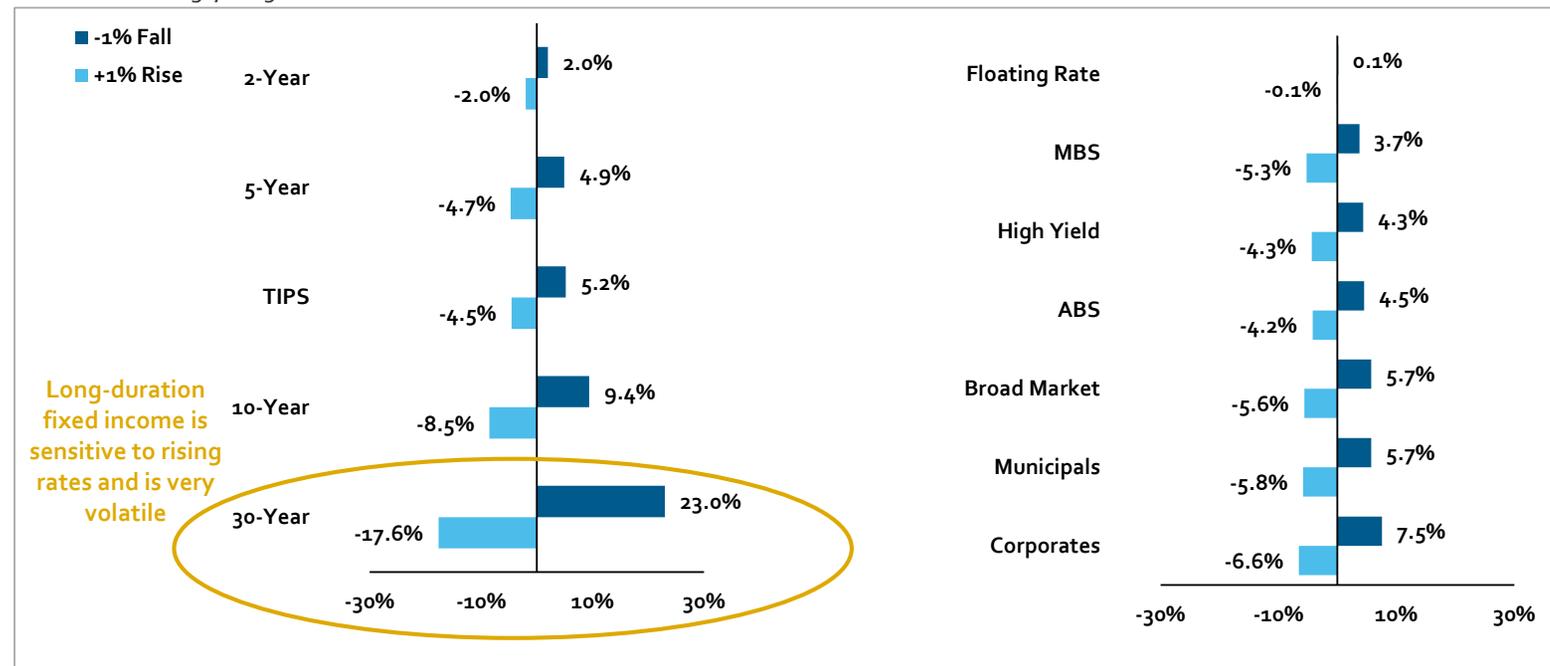
Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC

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# Long-Duration<sup>1</sup> Bonds Can Be Risky When Rates Rise

Total Return Impact of a 1% Rise/Fall in Interest Rates

As of December 31, 2015



Source: FactSet, Morgan Stanley Wealth Management GIC. The following Barclays indices were used for the sectors above : US Aggregate for Broad Market, US Aggregate Securitized – MBS Index for MBS, US Corporates for Corporate, Muni Bond 10-year Index for Municipals, Corporate High Yield Index for High Yield, US TIPS Index for TIPS, FRN (BBB) for Floating Rate, US Convertibles Composite for Convertibles and Barclays ABS + CMBS for ABS. Barclays US Treasury benchmark indices used for US Treasury data. (1) For more information about the risks to Duration please refer to the Risk Considerations section at the end of this material.

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# Global Fixed Income Overview

As of December 31, 2015 (performance and YTW in percent form)

Index in USD	Characteristics			Performance as of 12/31/2015					
	Weight	Duration <sup>1</sup>	YTW <sup>2</sup>	MTD	3M	YTD	12M	Ann 3YR	Ann 5YR
<b>Barclays Capital Global Aggregate</b>	<b>100.00%</b>	<b>6.6</b>	<b>1.8</b>	<b>0.5</b>	<b>-0.9</b>	<b>-3.2</b>	<b>-3.2</b>	<b>-1.7</b>	<b>0.9</b>
<b>Global Treasury</b>	<b>53.97%</b>	<b>7.5</b>	<b>1.2</b>	<b>0.9</b>	<b>-1.0</b>	<b>-3.3</b>	<b>-3.3</b>	<b>-2.8</b>	<b>-0.1</b>
G7 Countries represent 82.64% of Barclays Capital Global Treasury Index									
Canada	0.72%	7.2	1.1	-3.0	-2.8	-13.5	-13.5	-7.9	-2.7
France	3.38%	7.6	0.6	1.6	-2.7	-9.8	-9.8	-2.6	0.9
Germany	2.64%	7.3	0.3	1.8	-3.0	-9.9	-9.9	-3.8	0.1
Italy	3.52%	6.9	1.1	2.1	-1.1	-5.9	-5.9	2.1	3.6
Japan	14.77%	9.0	0.3	3.2	0.6	0.8	0.8	-8.1	-5.4
United Kingdom	4.18%	10.6	1.9	-3.2	-4.0	-5.0	-5.0	0.0	4.5
United States	15.38%	5.9	1.7	-0.2	-0.9	0.8	0.8	1.0	2.9
Other	9.37%								
<b>Government-Related</b>	<b>12.39%</b>	<b>5.8</b>	<b>1.8</b>	<b>0.3</b>	<b>-1.0</b>	<b>-5.1</b>	<b>-5.1</b>	<b>-2.7</b>	<b>0.5</b>
Agencies	6.06%	4.9	1.7	0.3	-1.1	-4.2	-4.2	-2.5	0.2
Local Authorities	2.93%	7.5	1.9	0.1	-0.7	-7.6	-7.6	-4.6	-0.3
Sovereign	1.20%	6.7	3.2	-0.3	0.0	-2.8	-2.8	-0.5	3.2
Supranational	2.19%	5.6	1.1	0.8	-1.7	-5.9	-5.9	-2.0	1.3
<b>Corporates</b>	<b>17.95%</b>	<b>6.3</b>	<b>3.1</b>	<b>-0.3</b>	<b>-0.8</b>	<b>-3.6</b>	<b>-3.6</b>	<b>-0.1</b>	<b>3.0</b>
Industrials	9.62%	6.8	3.4	-0.6	-1.1	-4.1	-4.1	-0.3	3.0
Utilities	1.36%	7.8	3.2	-0.3	-1.1	-4.4	-4.4	0.3	3.2
Financial	6.97%	5.2	2.6	0.1	-0.4	-2.7	-2.7	0.1	3.0
<b>Securitized</b>	<b>15.69%</b>	<b>4.5</b>	<b>2.4</b>	<b>0.3</b>	<b>-0.6</b>	<b>-0.5</b>	<b>-0.5</b>	<b>1.0</b>	<b>2.6</b>
MBS Passthrough	12.00%	4.5	2.8	0.0	-0.1	1.5	1.5	2.0	3.0
Asset Backed	0.25%	3.8	2.1	-0.7	-1.5	-1.8	-1.8	0.6	3.4
CMBS	0.47%	4.9	2.9	-1.0	-1.3	0.5	0.5	1.2	4.0
Covered	2.97%	4.6	0.6	1.9	-2.3	-7.9	-7.9	-2.6	0.9
<b>Barclays Capital Global Inflation-Linked</b>				<b>-1.8</b>	<b>-2.4</b>	<b>-5.0</b>	<b>-5.0</b>	<b>-1.7</b>	<b>2.6</b>
<b>Barclays Capital Global High Yield</b>	<b>100.00%</b>	<b>4.4</b>	<b>8.1</b>	<b>-1.9</b>	<b>-0.9</b>	<b>-2.7</b>	<b>-2.7</b>	<b>1.5</b>	<b>5.2</b>
U.S. Corp. HY	55.85%	4.3	8.7	-2.5	-2.1	-4.5	-4.5	1.7	5.0
Pan-Europe HY	17.22%	3.8	5.0	0.2	-1.2	-7.6	-7.6	-0.1	4.2
EM HY	24.27%	4.6	9.1	-2.1	2.4	6.9	6.9	1.3	6.2
Pan-Euro EMG HY	2.67%	4.2	7.0	-1.2	-0.2	-3.6	-3.6	2.9	4.7
<b>JP Morgan GBI-EM Global Diversified</b>				<b>-2.2</b>	<b>0.0</b>	<b>-14.9</b>	<b>-14.9</b>	<b>-10.0</b>	<b>-3.5</b>
<b>BBA 3-month USD LIBOR (Cash)</b>				<b>0.0</b>	<b>0.1</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>

Source: Barclays Capital, Citigroup, FactSet. (1) For more information about the risks to Duration please refer to the Risk Considerations section at the end of this material. (2) Yield to worst is the lowest potential yield that can be received on a bond without the issuer actually defaulting.

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## Hedged Strategies: Performance Indicators

As of December 31, 2015

	Relative Value	Event-Driven	Equity Long/Short	Managed Futures	Global Hedge Funds
<b>Last Twelve Months</b>					
Total Return (%)	-3.1%	-6.9%	-2.3%	-2.0%	-3.6%
Annualized Volatility (%) <sup>1</sup>	5.0%	6.5%	5.4%	6.2%	4.5%
Correlation to S&P 500	0.73	0.81	0.86	0.17	0.86
Sharpe Ratio <sup>2</sup>	-0.63	-1.08	-0.44	-0.32	-0.82
Max Drawdown (%) <sup>3</sup>	-3.2%	-6.7%	-7.1%	-7.7%	-4.6%
<b>15-Year</b>					
Annualized Return (%)	2.1%	2.7%	1.8%	2.7%	2.1%
Annualized Volatility (%)	6.9%	6.2%	6.9%	7.0%	5.3%
Correlation to S&P 500	0.52	0.69	0.69	0.01	0.61
Sharpe Ratio <sup>2</sup>	0.09	0.20	0.05	0.17	0.12
Max Drawdown (%) <sup>3</sup>	-18.0%	-24.8%	-30.6%	-13.3%	-22.2%

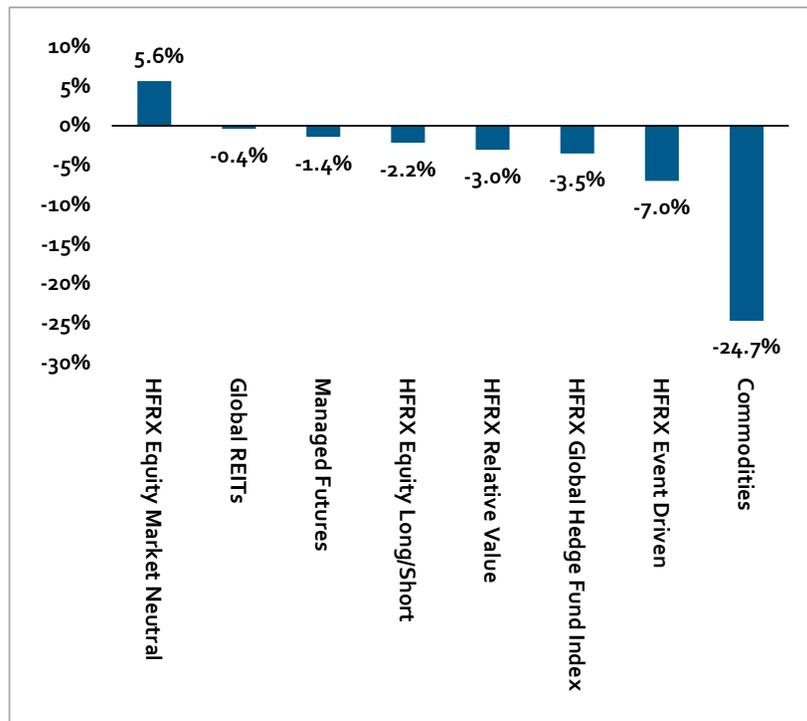
Source: Bloomberg, Morgan Stanley Wealth Management GIC; (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. (2) The Sharpe ratio is calculated by subtracting the risk-free rate - such as that of the 3-month US Treasury bill - from the rate of return for a portfolio and dividing the result by the standard deviation of the portfolio returns. (3) Max Drawdown: The peak-to-trough decline during a specific period. Indices used for this analysis include: HFRX Relative Value Index for relative value, HFRX Event-Driven Index for event-driven, HFRX Equity Hedge for equity long/short, HFRX Macro/CTA Index for managed futures and HFRX Global Hedge Fund Index for global hedge funds. Hedged strategies consist of hedge funds and managed futures.

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# Alternatives Performance Summary

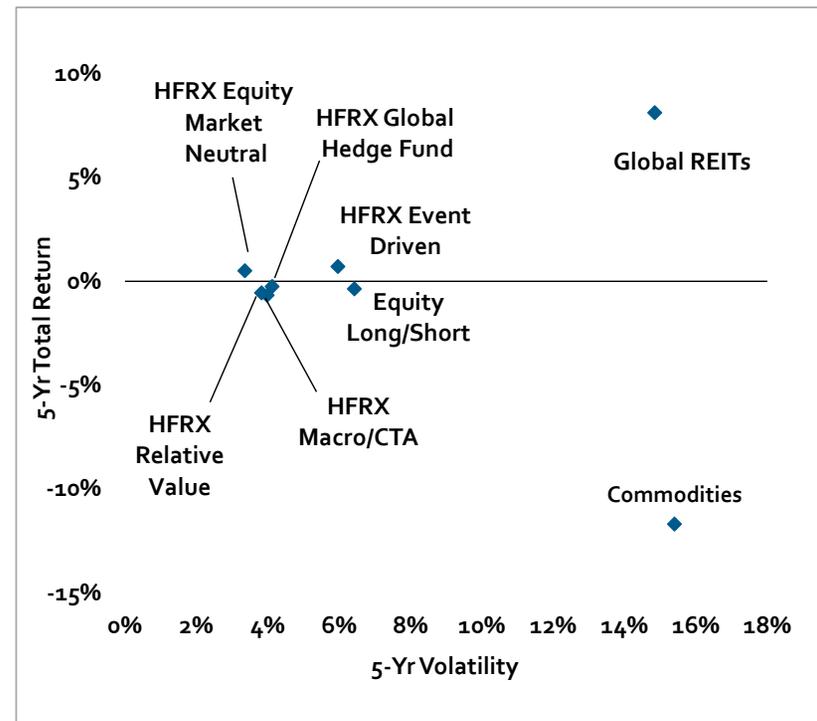
## 2015 Total Return<sup>1</sup>

As of December 31, 2015



## 5-Year Risk and Return<sup>1</sup>

As of December 31, 2015; Event driven as of November 30, 2015



Source: Bloomberg, Morgan Stanley Wealth Management GIC. (1) Indices for Global REITs, Managed Futures and Commodities are FTSE EPRA/NAREIT Global Index, HFRX Macro/CTA Index, and Bloomberg Commodity Index, respectively. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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# Hedged Strategies: Performance Indicators

As of December 31, 2015; HFRX Corporate Fixed Income as of November 30, 2015 (performance and volatility in percent form)

Index in USD	Performance as of 12/31/2015						Volatility <sup>1</sup>		
	MTD	3M	YTD	12M	Ann 3YR	Ann 5YR	12M	Ann 3YR	Ann 5YR
<b>Hedged Strategies</b>									
HFRX Global Hedge Funds	-1.33	-0.61	-3.64	-3.64	0.74	-0.72	4.49	3.73	4.02
HFRX Equity Hedge	-1.10	0.82	-2.33	-2.33	3.25	-1.36	5.37	5.09	6.04
HFRX Event Driven (ED)	-0.93	-0.60	-6.94	-6.94	0.55	0.49	6.48	6.47	6.00
HFRX ED: Merger Arbitrage	0.99	3.20	8.40	8.40	4.84	2.64	2.05	1.56	2.39
HFRX ED: Distressed Securities	-3.30	-6.72	-11.14	-11.14	-2.01	-2.67	6.45	5.23	5.72
HFRX Relative Value	-1.92	-2.30	-3.10	-3.10	-1.13	-0.79	4.97	3.61	3.82
HFRX Fixed Income - Corporate	-0.14	0.33	1.05	1.05	3.33	4.14	2.25	2.69	2.88
<b>Other Alternatives</b>									
HFRX Macro/CTA Index	-1.40	-0.41	-1.96	-1.96	0.44	-0.94	6.21	4.04	3.97
FTSE EPRA-NAREIT Global	1.05	4.87	-0.41	-0.41	5.32	6.86	11.28	12.10	14.65
Bloomberg Commodity Index	-3.09	-10.52	-24.66	-24.66	-17.29	-13.47	14.65	12.51	14.49
Alerian MLP	-3.57	-2.76	-32.59	-32.59	-3.40	1.47	21.21	18.32	16.58
<b>Performance as of 09/30/2015</b>									
Index in USD	MTD	3M	YTD	12M	Ann 3YR	Ann 5YR	12M	Ann 3YR	Ann 5YR
NCREIF Property <sup>2</sup>	0.00	0.00	10.12	10.12	9.00	8.07	5.13	4.47	4.41
<b>Performance as of 03/31/2015</b>									
Index in USD	MTD	3M	YTD	12M	Ann 3YR	Ann 5YR	12M	Ann 3YR	Ann 5YR
Venture Econ. Private Equity <sup>3</sup>	1.56	1.56	1.56	8.44	12.89	13.66	5.01	6.70	8.27

Source: Morgan Stanley & Co. Research, FactSet, HFR, NCREIF, Venture Economics, Barclay Hedge. (1) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Volatility is measured using price only returns. (2) Represents a three-month lag in reporting. (3) Represents a five-month lag in reporting. Hedged strategies consist of hedge funds and managed futures. Private Equity is represented by the Thomson One Venture Economics Global Private Equity Survey. This survey provides a time-weighted average of internal rates of return on a sample of US private equity funds. The data are updated quarterly with a lag of several months. For more information about the risks to Master Limited Partnerships (MLPs) please see the Risk Considerations section at the end of this material.

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## Asset Allocation Models & Insurance Products Disclosures

### GLOBAL INVESTMENT COMMITTEE (GIC) ASSET ALLOCATION MODELS

The Asset Allocation Models are created by Morgan Stanley Wealth Management's GIC.

### CLIENTS TO CONSIDER THEIR OWN INVESTMENT NEEDS

The GIC Asset Allocation Models are formulated based on general client characteristics such as investable assets and risk tolerance. This report is not intended to be a client-specific suitability analysis or recommendation, or offer to participate in any investment. Therefore, do not use this report as the sole basis for investment decisions.

Clients should consider all relevant information, including their existing portfolio, investment objectives, risk tolerance, liquidity needs and investment time horizon. Such a suitability determination may lead to asset allocation(s) results that are materially different from the asset allocation shown in this report. Clients should talk to their Financial Advisor about what would be a suitable asset allocation for them.

### HYPOTHETICAL MODEL PERFORMANCE (GROSS)

Hypothetical model performance results do not reflect the investment or performance of an actual portfolio following a GIC Strategy, but simply reflect actual historical performance of selected indices on a real-time basis over the specified period of time representing the GIC's strategic and tactical allocations as of the date of this report. The past performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation or trading strategy. Hypothetical performance results do not represent actual trading and are generally designed with the benefit of hindsight.

Actual performance results of accounts vary due to, for example, market factors (such as liquidity) and client-specific factors (such as investment vehicle selection, timing of contributions and withdrawals, restrictions and rebalancing schedules). Clients would not necessarily have obtained the performance results shown here if they had invested in accordance with any GIC Asset Allocation Model for the periods indicated.

Despite the limitations of hypothetical performance, these hypothetical performance results allow clients and Financial Advisors to obtain a sense of the risk/return trade-off of different asset allocation constructs. The hypothetical performance results in this report are calculated using the returns of benchmark indices for the asset classes, and not the returns of securities, fund or other investment products.

Performance of indices may be more or less volatile than any investment product. The risk of loss in value of a specific investment is not the same as the risk of loss in a broad market index. Therefore, the historical returns of an index will not be the same as the historical returns of a particular investment a client selects.

Models may contain allocations to Hedge Funds, Private Equity and Private Real Estate. The benchmark indices for these asset classes are not issued on a daily basis. When calculating model performance on a day for which no benchmark index data is issued, we have assumed straight line growth between the index levels issued before and after that date.

**Fees reduce the performance of actual accounts** None of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, fees) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models. The GIC Asset Allocation Models and any model performance included in this presentation are intended as educational materials. Were a client to use these models in connection with investing, any investment decisions made would be subject to transaction and other costs which, when compounded over a period of years, would decrease returns. Information regarding Morgan Stanley's standard advisory fees is available in the Form ADV Part 2, which is available at [www.morganstanley.com/adv](http://www.morganstanley.com/adv). The following hypothetical illustrates the compound effect fees have on investment returns: For example, if a portfolio's annual rate of return is 15% for 5 years and the account pays 50 basis points in fees per annum, the gross cumulative five-year return would be 101.1% and the five-year return net of fees would be 96.8%. Fees and/or expenses would apply to clients who invest in investments in an account based on these asset allocations, and would reduce clients' returns. The impact of fees and/or expenses can be material.

### INSURANCE PRODUCTS AND ETF DISCLOSURES

Morgan Stanley Smith Barney LLC offers **insurance products** in conjunction with its licensed insurance agency affiliates.

An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices.

**Variable annuities, mutual funds and ETFs are sold by prospectus only. The prospectus contains the investment objectives, risks, fees, charges and expenses, and other information regarding the variable annuity contract and the underlying investments, or the ETF, which should be considered carefully before investing. Prospectuses for both the variable annuity contract and the underlying investments, or the ETF, are available from your Financial Advisor. Please read the prospectus carefully before you invest.**

**Variable annuities** are long-term investments designed for retirement purposes and may be subject to market fluctuations, investment risk, and possible loss of principal. All guarantees, including optional benefits, are based on the financial strength and claims-paying ability of the issuing insurance company and do not apply to the underlying investment options.

Optional riders may not be able to be purchased in combination and are available at an additional cost. Some optional riders must be elected at time of purchase. Optional riders may be subject to specific limitations, restrictions, holding periods, costs, and expenses as specified by the insurance company in the annuity contract.

If you are investing in a **variable annuity** through a tax-advantaged retirement plan such as an IRA, you will get no additional tax advantage from the variable annuity. Under these circumstances, you should only consider buying a variable annuity because of its other features, such as lifetime income payments and death benefits protection.

Taxable distributions (and certain deemed distributions) are subject to ordinary income tax and, if taken prior to age 59½, may be subject to a 10% federal income tax penalty. Early withdrawals will reduce the death benefit and cash surrender value.

## Asset Class Risk Considerations

**For index definitions to the indices referenced in this report please visit the following:** <http://www.morganstanleyfa.com/public/projectfiles/id.pdf>

**Equity securities** may fluctuate in response to news on companies, industries, market conditions and general economic environment.

**Investing in foreign markets** entails risks not typically associated with domestic markets, such as currency fluctuations and controls, restrictions on foreign investments, less governmental supervision and regulation, and the potential for political instability. These risks may be magnified in countries with **emerging markets and frontier markets**, since these countries may have relatively unstable governments and less established markets and economies.

**Investing in small- to medium-sized companies** entails special risks, such as limited product lines, markets and financial resources, and greater volatility than securities of larger, more established companies.

The value of **fixed income securities** will fluctuate and, upon a sale, may be worth more or less than their original cost or maturity value. Bonds are subject to interest rate risk, call risk, reinvestment risk, liquidity risk, and credit risk of the issuer.

**High yield bonds (bonds rated below investment grade)** may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk, price volatility, and limited liquidity in the secondary market. High yield bonds should comprise only a limited portion of a balanced portfolio.

Interest on **municipal bonds** is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence.

**Treasury Inflation Protection Securities' (TIPS)** coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

**Ultrashort-term fixed income** asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

**Alternative investments** may be either traditional alternative investment vehicles, such as hedge funds, fund of hedge funds, private equity, private real estate and managed futures or, non-traditional products such as mutual funds and exchange-traded funds that also seek alternative-like exposure but have significant differences from traditional alternative investments. The risks of traditional alternative investments may include: can be highly illiquid, speculative and not suitable for all investors, loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than open-end mutual funds, and risks associated with the operations, personnel and processes of the manager. Non-traditional alternative strategy products may employ various investment strategies and techniques for both hedging and more speculative purposes such as short-selling, leverage, derivatives and options, which can increase volatility and the risk of investment loss. **Master Limited Partnerships (MLPs)** Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk. The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value. MLPs carry interest rate risk and may underperform in a rising interest rate environment. **Investing in commodities** entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention. **Physical precious metals** are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be suitable for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. **REITs** investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions.

Risks of **private real estate** include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage.

Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds.

**Asset-backed securities** generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

## Asset Class Risk Considerations (cont'd)

**Floating-rate securities** The initial interest rate on a floating-rate security may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk.

**Yields** are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

**Credit ratings** are subject to change.

Companies paying **dividends** can reduce or cut payouts at any time.

**Asset allocation and diversification** do not assure a profit or protect against loss in declining financial markets.

The **indices** are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Wealth Management retains the right to change representative indices at any time.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies.

**Growth investing** does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

**Value investing** does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

**Rebalancing** does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.

**Duration**, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates.

Besides the general risk of holding securities that may decline in value, **closed-end funds** may have additional risks related to declining market prices relative to net asset values (NAVs), active manager underperformance, and potential leverage. Some funds also invest in foreign securities, which may involve currency risk.

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# Monthly Perspectives

From the Global Investment Committee  
January 2016



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## From Rebalancing to Convergence

As of January 5, 2016

- Our rebalancing thesis from last year is happening: A rebalancing of growth from the US to other parts of the world, a rebalancing of power from oil producers to oil consumers and a rebalancing of wealth to the middle class spurred by a stronger US dollar, lower commodity prices and more generous monetary policies outside the United States.
- Leading economic data in Europe and Japan have improved relative to the United States. As a result, these equity markets outperformed last year. Meanwhile, oil-related assets have suffered while consumer-oriented ones levered to the middle class have done well.
- Challenges to our thesis—emerging markets' economic slowdown and China's subsequent currency devaluation—continue to plague financial markets. However, global fundamental metrics—GDP, interest rates and inflation—are improving and are likely to converge in 2016.
- The GIC maintains its view that global growth and deflationary trends troughed last year and 2016 should bring a reacceleration in growth and inflation expectations.
- The United States economy remains solid and self-sustaining at this point. This is why the Fed has been tightening monetary policy starting with the exit from QE in 2014 and continuing with the December 2015 Federal Funds rate hike. This is typically a positive signal for economic growth.
- Interest rates remain low but the yield curve is still positively sloped—we think this is supportive for growth and suggests it's too soon to position conservatively and prepare for recession.

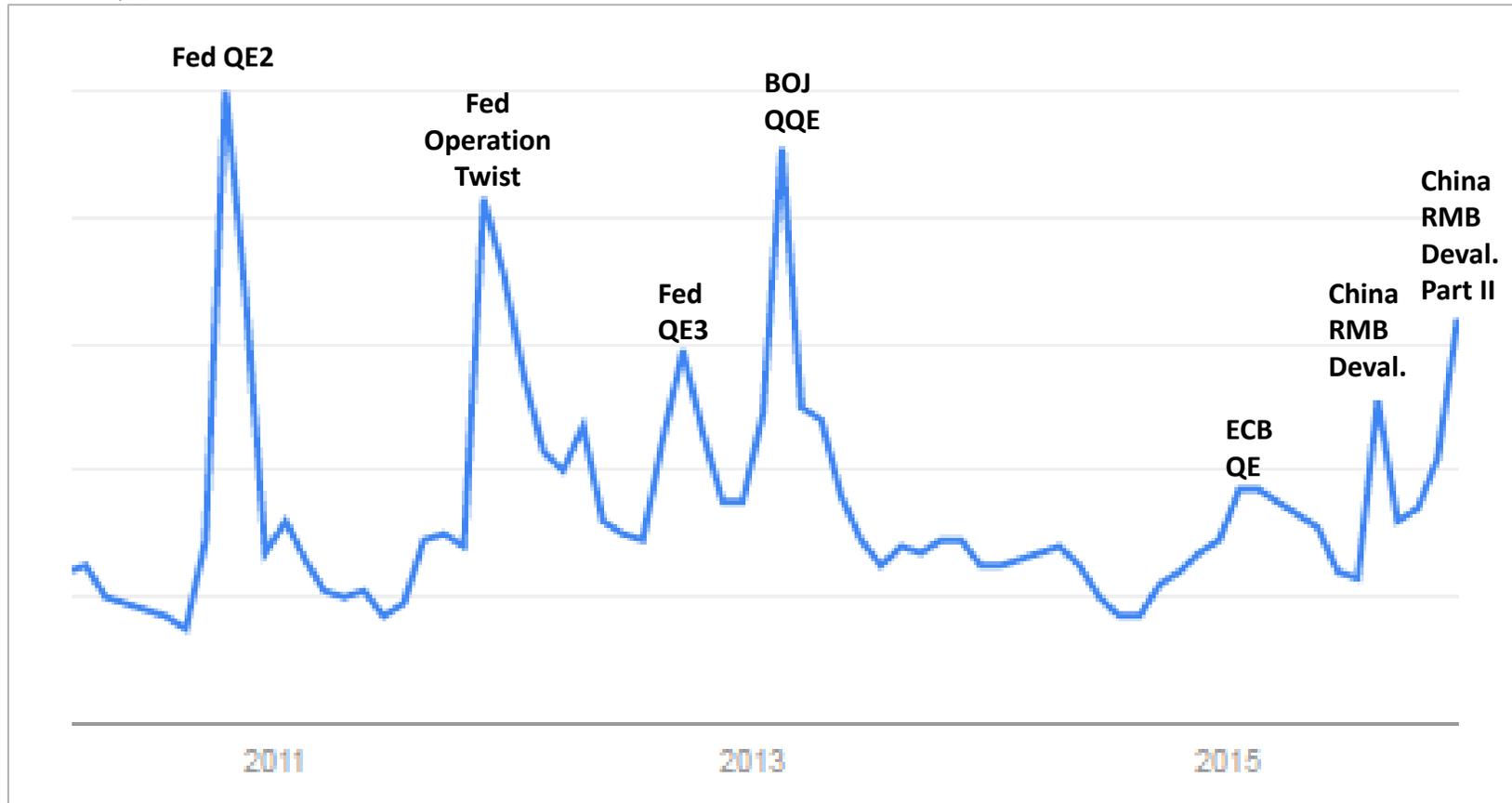
Source: Morgan Stanley Wealth Management GIC

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# Currency War Concerns Are Not New

Google Search Interest in "Currency War"

As of January 5, 2016



Source: Google, Morgan Stanley Wealth Management GIC  
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# Key Global Economic Variables Expected to Converge in 2016

As of January 7, 2016

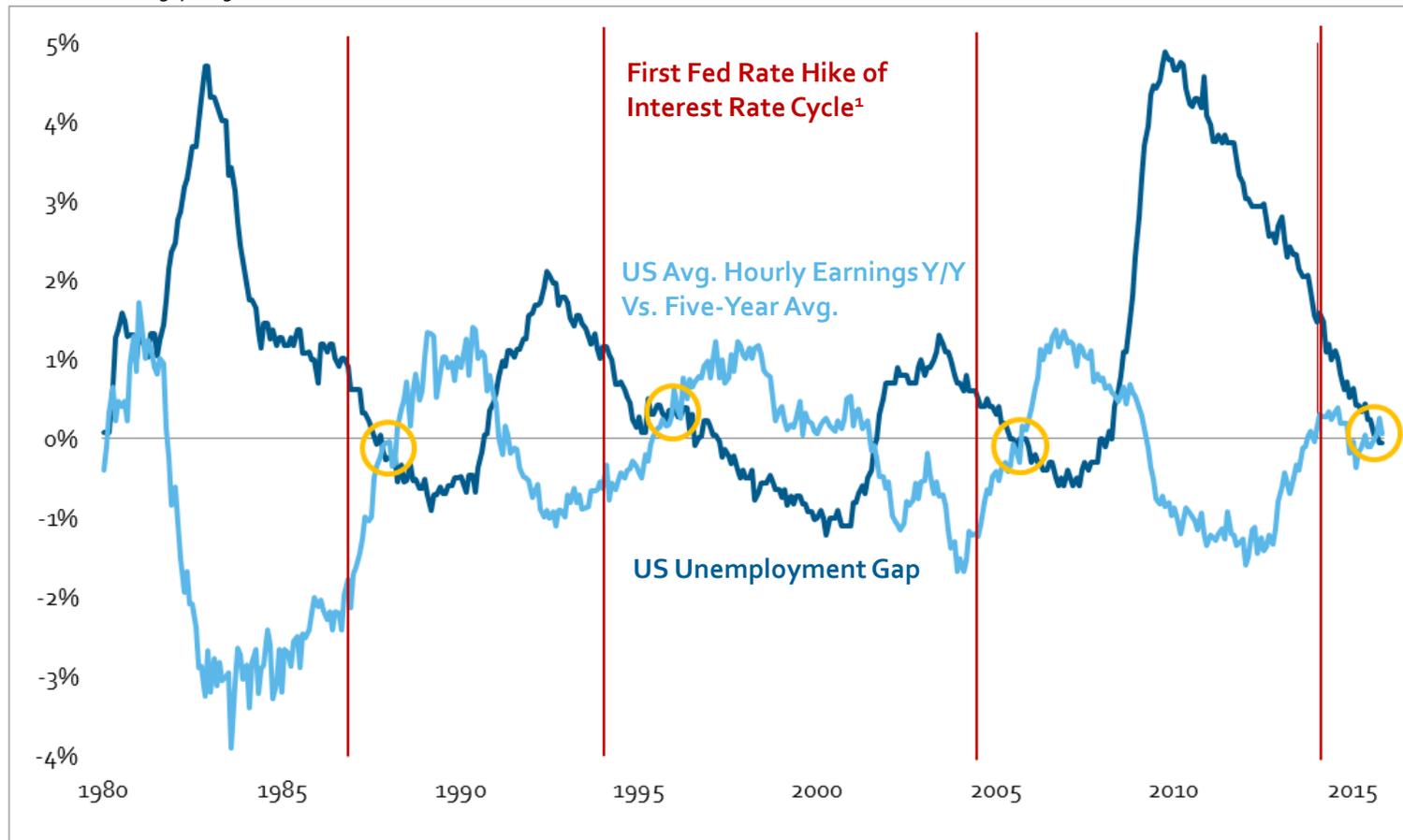
Morgan Stanley & Co. Economic and Interest Rate Forecasts and Rates of Change					
<b>Real GDP</b>	<b>2015E</b>	<b>2016E</b>	<b>2017E</b>	<b>2015E Vs. 2016E</b>	<b>2016E Vs. 2017E</b>
G10	1.8%	1.8%	1.8%	0%	0%
US	2.4%	1.9%	1.8%	-21%	-5%
Europe	1.5%	1.8%	1.8%	20%	0%
Japan	0.5%	1.2%	0.8%	140%	-33%
UK	2.4%	2.0%	2.3%	-17%	15%
Emerg Mkts	4.0%	4.4%	5.0%	10%	14%
<b>Inflation</b>					
G10	0.3%	1.5%	2.1%	400%	40%
US	0.2%	1.7%	2.3%	750%	35%
Europe	0.1%	1.3%	1.8%	1200%	38%
Japan	0.9%	1.0%	2.5%	11%	150%
UK	0.0%	1.3%	1.5%	N/A	15%
Emerg Mkts	4.4%	3.7%	3.2%	-16%	-14%
<b>Nominal GDP</b>					
G10	2.1%	3.3%	3.9%	57%	18%
US	2.6%	3.6%	4.1%	38%	14%
Europe	1.6%	3.1%	3.6%	94%	16%
Japan	1.4%	2.2%	3.3%	57%	50%
UK	2.4%	3.3%	3.8%	38%	15%
Emerg Mkts	8.4%	8.1%	8.2%	-4%	1%
<b>10-Year Bond Yld.</b>					
	<b>Current</b>	<b>4Q 2016E</b>	<b>4Q 2016E</b>	<b>Current Vs. 4Q 2016E</b>	
US	2.1%	2.7%	2.9%	29%	
Germany	0.5%	1.2%	1.4%	140%	
Japan	0.2%	0.9%	3.2%	325%	
UK	1.8%	2.6%	4.4%	44%	

Source: Bloomberg, Morgan Stanley &amp; Co. Research

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# The Fed Is “Data Dependent” and the Data Says Hike

US Unemployment Gap Vs. Wage Pressures  
As of November 30, 2015



Source: Bloomberg, Haver Analytics, Morgan Stanley Wealth Management GIC. (1) 2014=tapering of QE.  
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## Oil Prices Have Risen and US Dollar Has Fallen After First Fed Hike

WTI Crude and US Dollar Index Price Change Following First Fed Rate Hike in Cycle

WTI Crude Price Change Following First Fed Rate Hike in Cycle							
<b>First Hike</b>	<b>1M</b>	<b>3M</b>	<b>6M</b>	<b>12M</b>	<b>18M</b>	<b>24M</b>	<b>36M</b>
Dec. 1986	18.6%	15.8%	25.9%	-0.9%	3.5%	3.9%	31.1%
Feb. 1994	-6.8%	7.9%	28.9%	20.2%	13.3%	13.9%	53.7%
June 1999	6.4%	27.1%	32.7%	68.5%	38.9%	36.1%	39.2%
June 2004	18.2%	34.0%	17.3%	52.5%	64.8%	99.5%	90.8%
<b>Median Return</b>	<b>12.3%</b>	<b>21.4%</b>	<b>27.4%</b>	<b>36.3%</b>	<b>26.1%</b>	<b>25.0%</b>	<b>46.5%</b>
<b>Pos. Hit Rate</b>	<b>75%</b>	<b>100%</b>	<b>100%</b>	<b>75%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

DXY Price Change Following First Fed Rate Hike in Cycle							
<b>First Hike</b>	<b>1M</b>	<b>3M</b>	<b>6M</b>	<b>12M</b>	<b>18M</b>	<b>24M</b>	<b>36M</b>
Dec. 1986	-6.9%	-8.2%	-9.1%	-17.8%	-14.4%	-14.6%	-12.1%
Feb. 1994	-1.4%	-4.2%	-6.8%	-8.6%	-15.0%	-9.7%	-3.4%
June 1999	-3.1%	-4.3%	-1.0%	3.8%	6.5%	16.1%	3.2%
June 2004	1.3%	-1.6%	-9.3%	0.3%	2.7%	-4.0%	-7.7%
<b>Median Return</b>	<b>-2.3%</b>	<b>-4.2%</b>	<b>-7.9%</b>	<b>-4.1%</b>	<b>-5.9%</b>	<b>-6.9%</b>	<b>-5.6%</b>
<b>Pos. Hit Rate</b>	<b>25%</b>	<b>0%</b>	<b>0%</b>	<b>50%</b>	<b>50%</b>	<b>25%</b>	<b>25%</b>

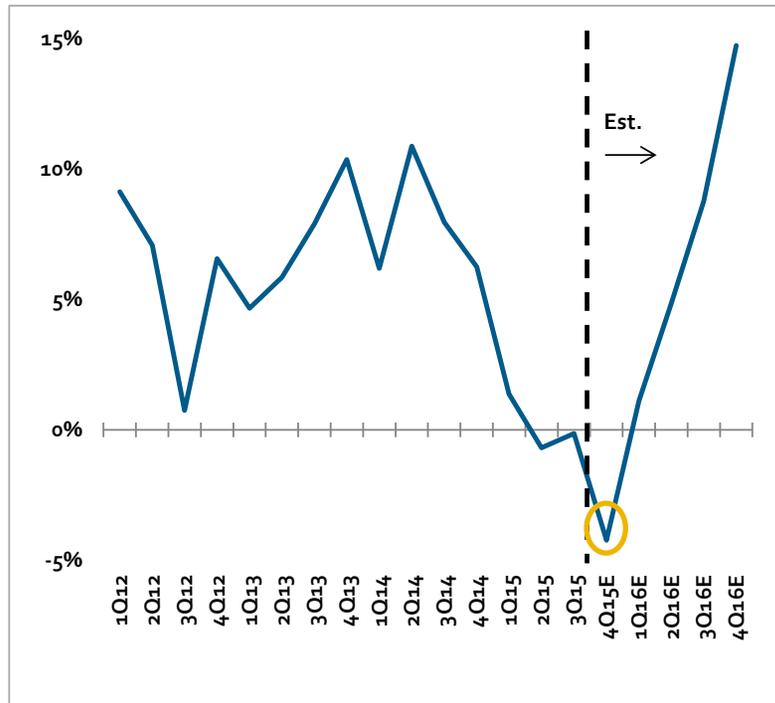
Source: FactSet, Morgan Stanley Wealth Management GIC

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# S&P 500 Earnings Growth Looks Poised to Accelerate

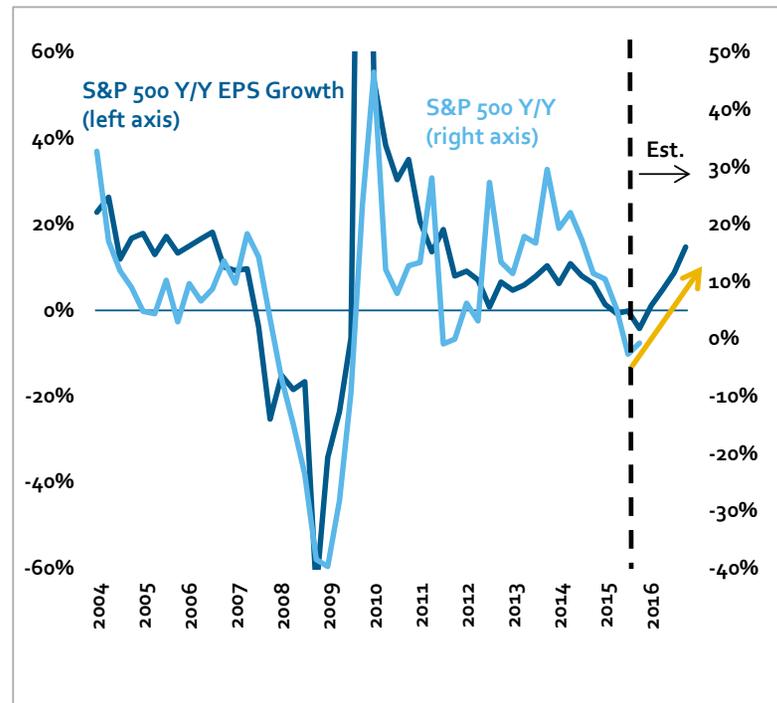
S&P 500 EPS Growth

As of December 30, 2015



S&P 500 EPS Growth Vs. S&P 500 Performance

As of December 30, 2015

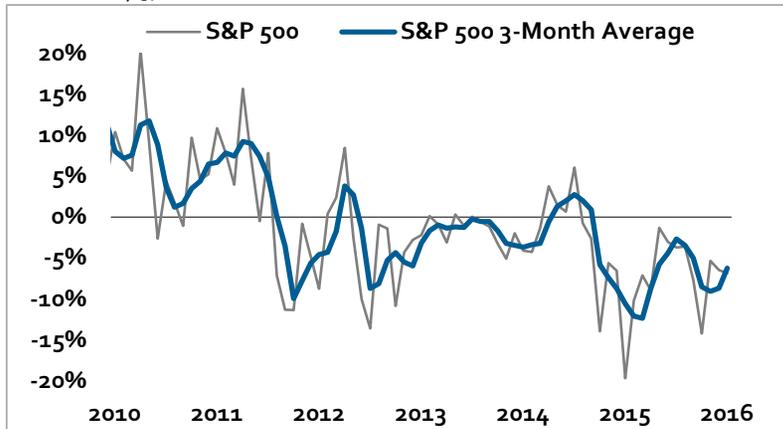


Source: Thomson Financial, S&P, Bloomberg, Morgan Stanley & Co. Research  
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# Global Earnings Revisions Breadth Starting to Inflect Up

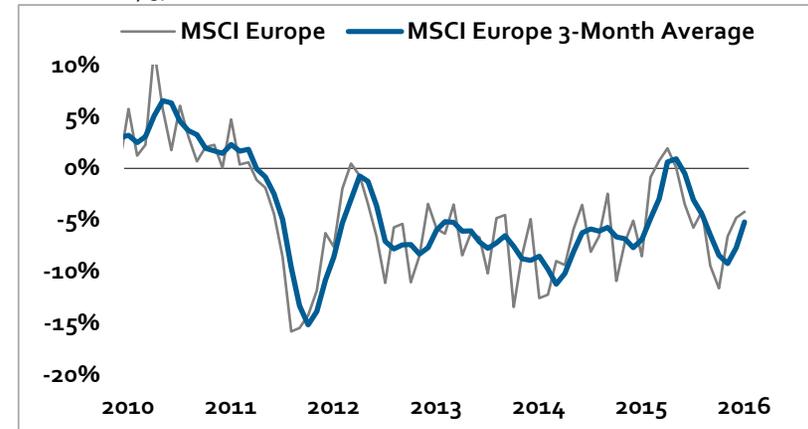
## S&P 500 Earnings Revisions Breadth

As of January 5, 2016



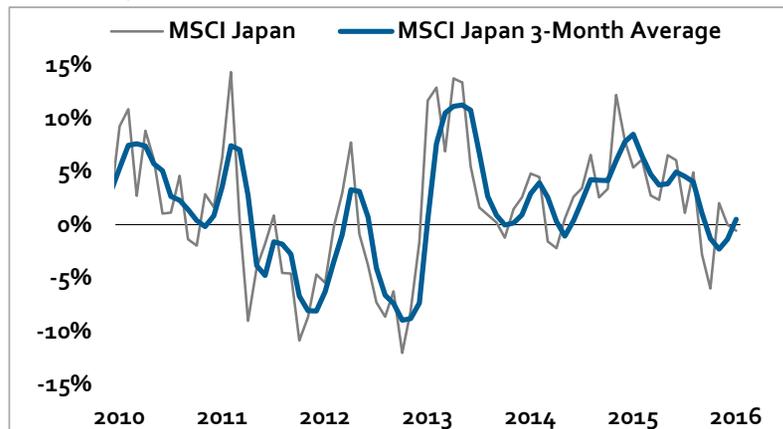
## MSCI Europe Earnings Revisions Breadth

As of January 5, 2016



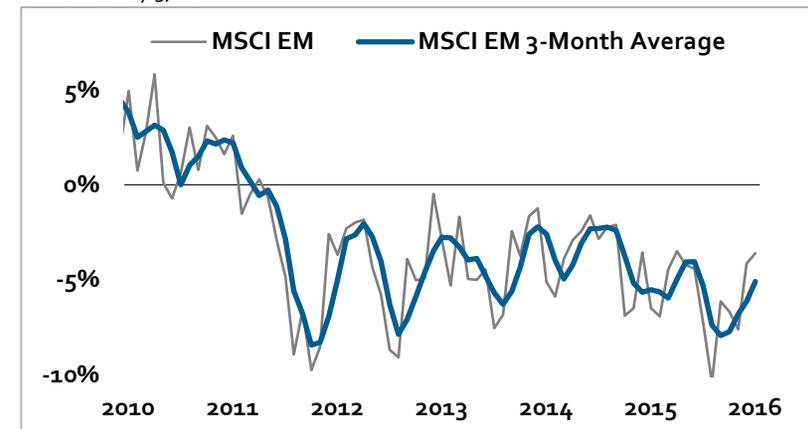
## MSCI Japan Earnings Revisions Breadth

As of January 5, 2016



## MSCI EM Earnings Revisions Breadth

As of January 5, 2016



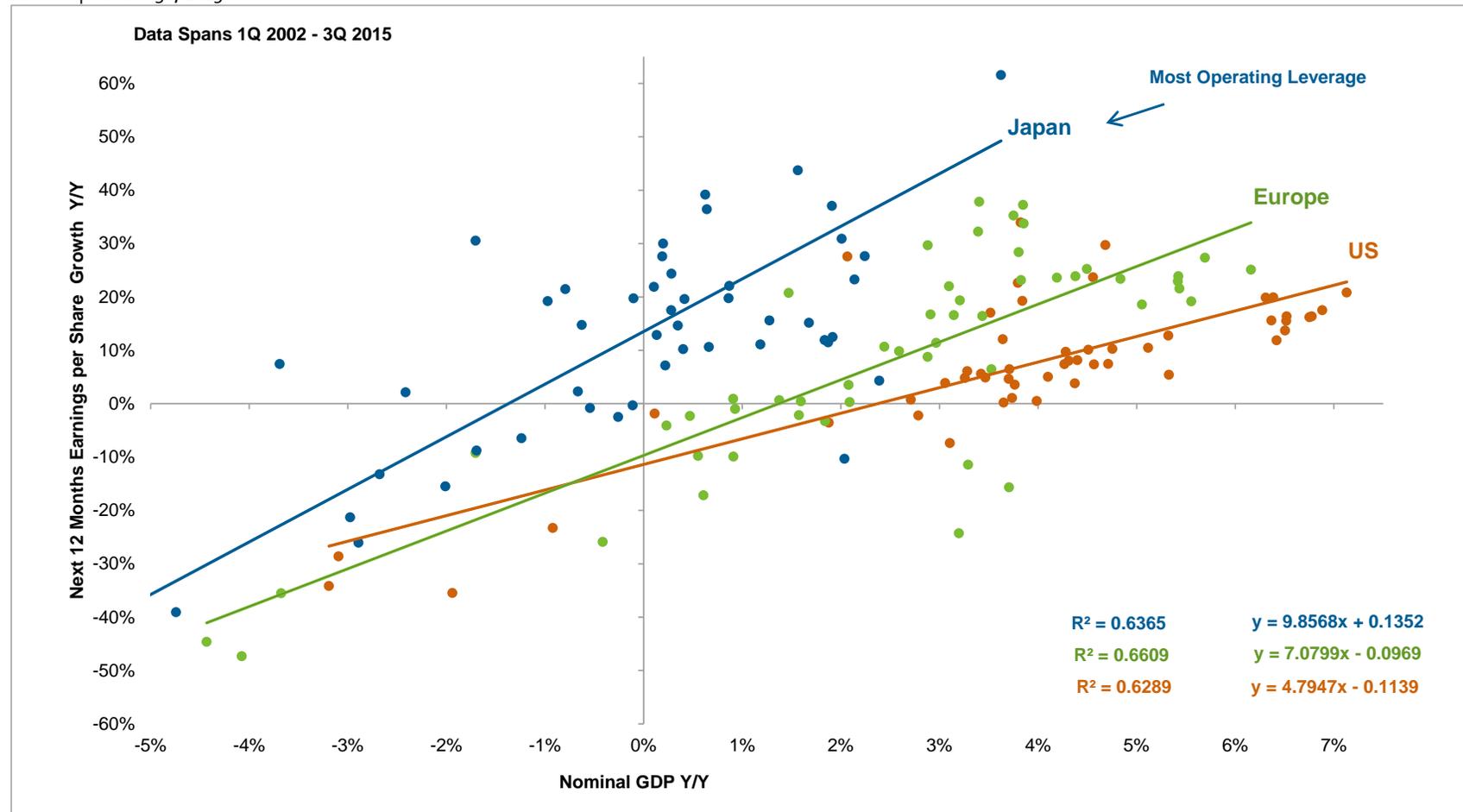
Source: FactSet, Morgan Stanley Wealth Management GIC

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# Operating Leverage Is Greater in Japan and Europe

Historical Operating Leverage of Japanese, European and US Corporations

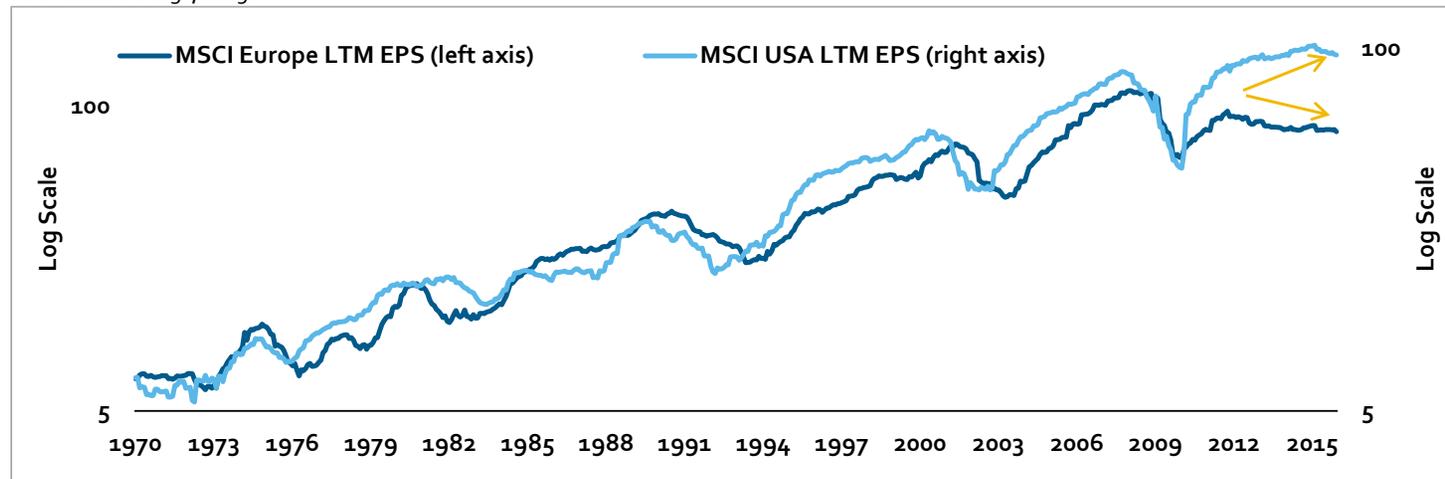
As of September 30, 2015



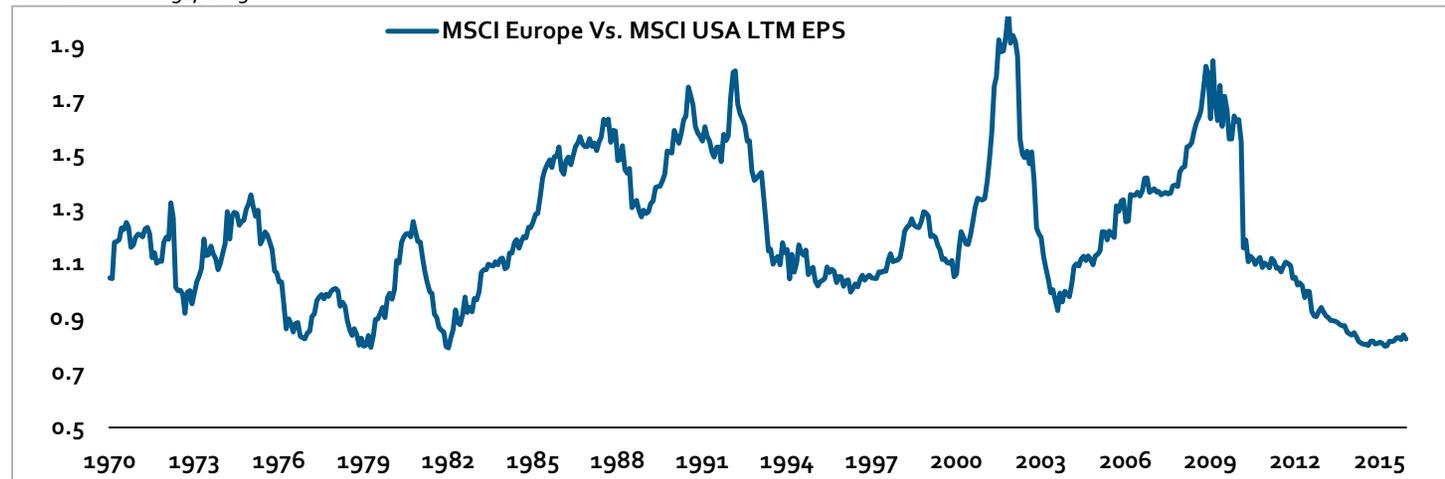
Source: FactSet, Haver Analytics, Morgan Stanley Wealth Management GIC  
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# Europe Vs. US Earnings Spread Due for a Reversion to the Mean

As of December 31, 2015



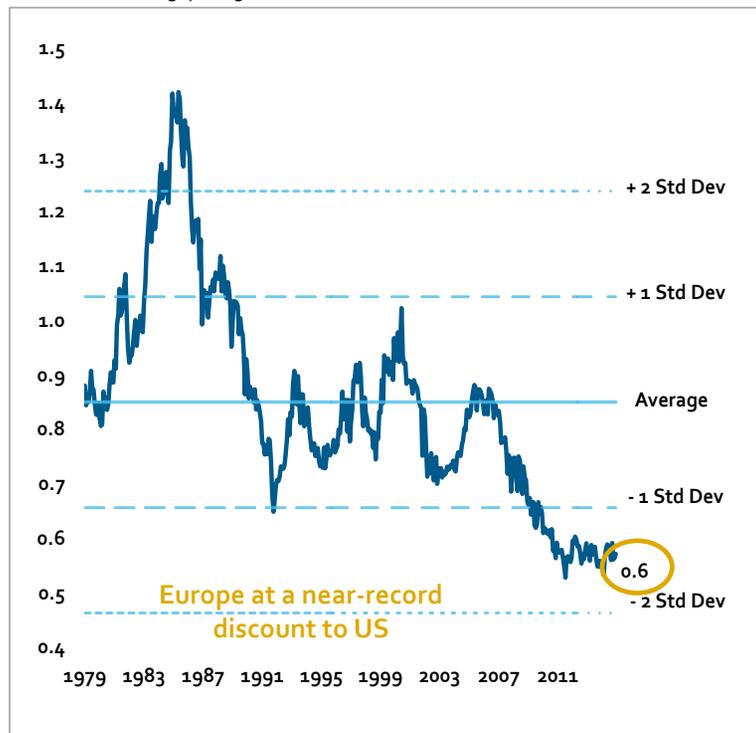
As of December 31, 2015



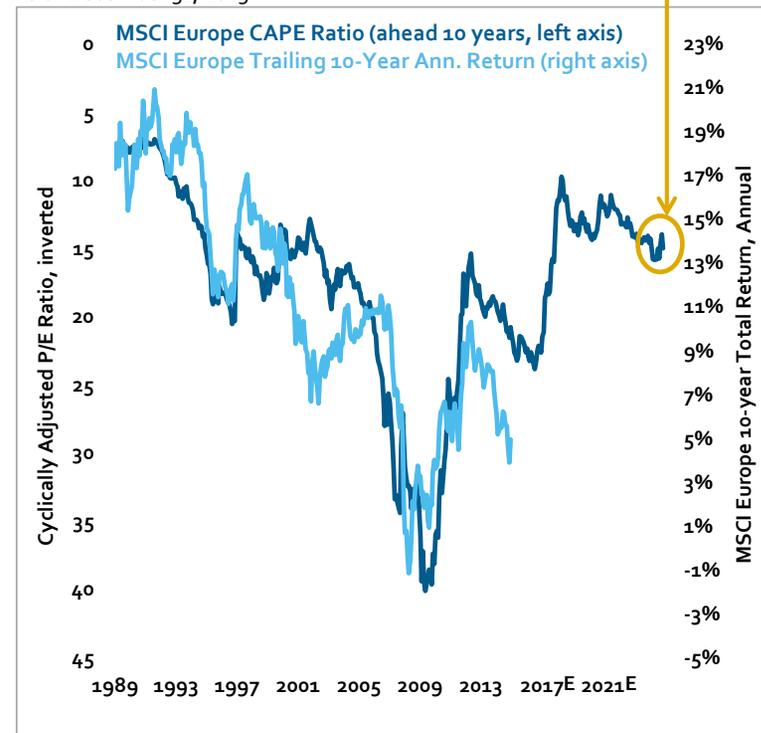
Source: FactSet, Morgan Stanley Wealth Management GIC  
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# Which Is Why European Equities Are So Cheap

CAPE Ratio<sup>1</sup>: MSCI Europe Relative to S&P 500  
As of December 31, 2015



MSCI Europe CAPE Ratio Vs. MSCI Europe  
As of December 31, 2015

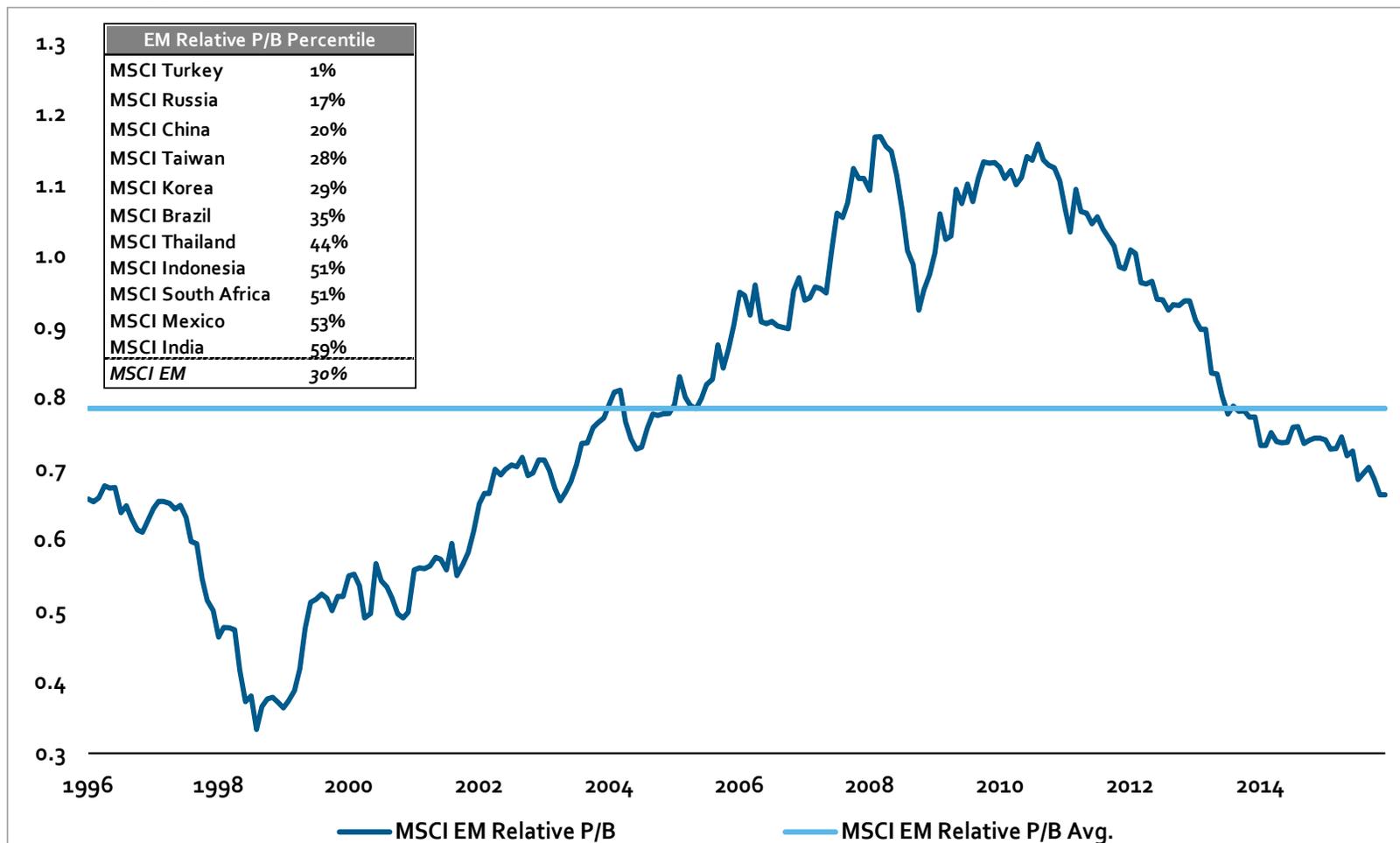


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# MSCI EM Looks Relatively Attractive on a Price/Book Basis

MSCI Emerging Market Countries' Price/Book Ratio Relative to MSCI ACWI

As of December 31, 2015

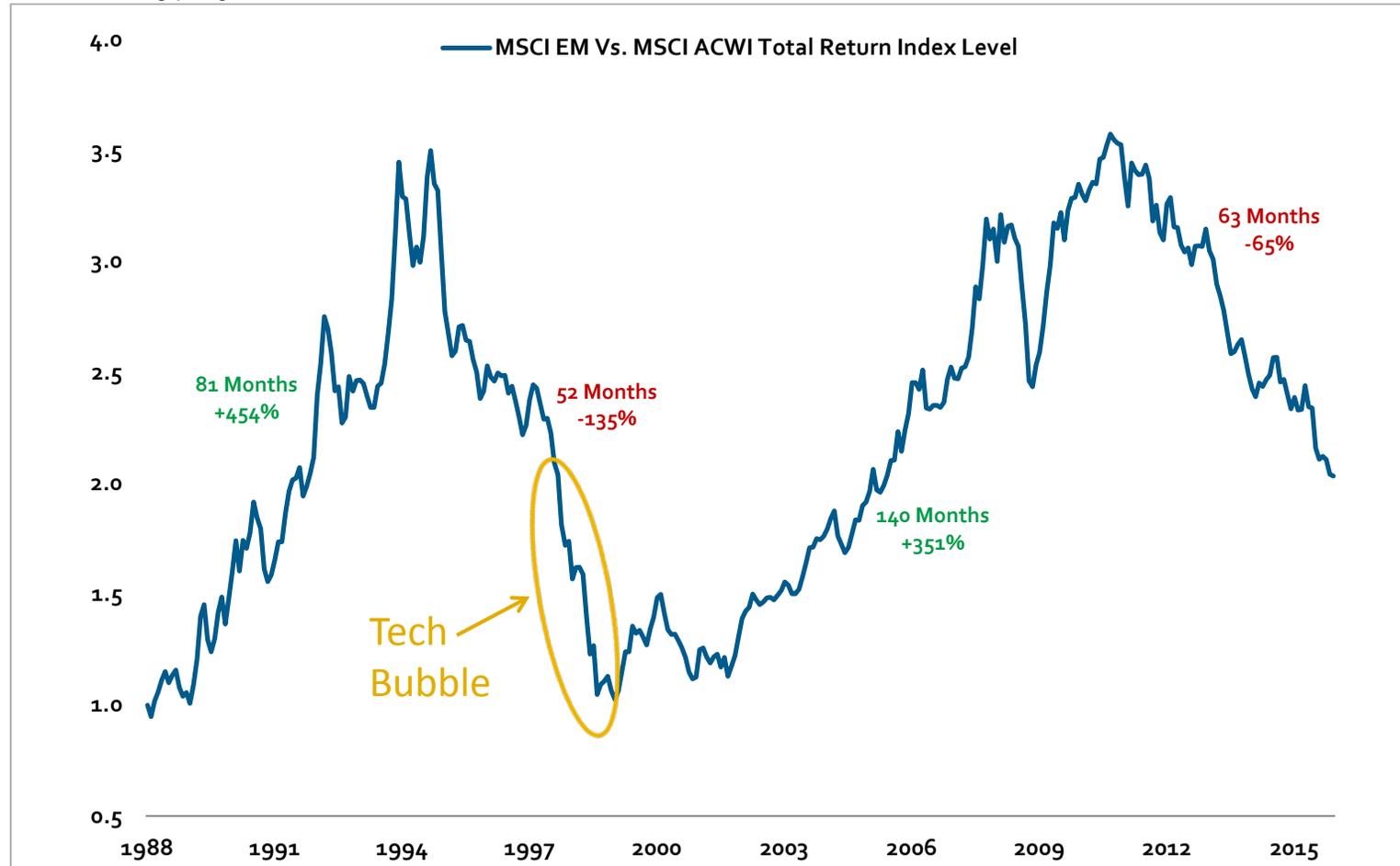


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# Emerging Markets Have Underperformed Since 2010

## MSCI Emerging Market Equities Relative Performance

As of December 31, 2015

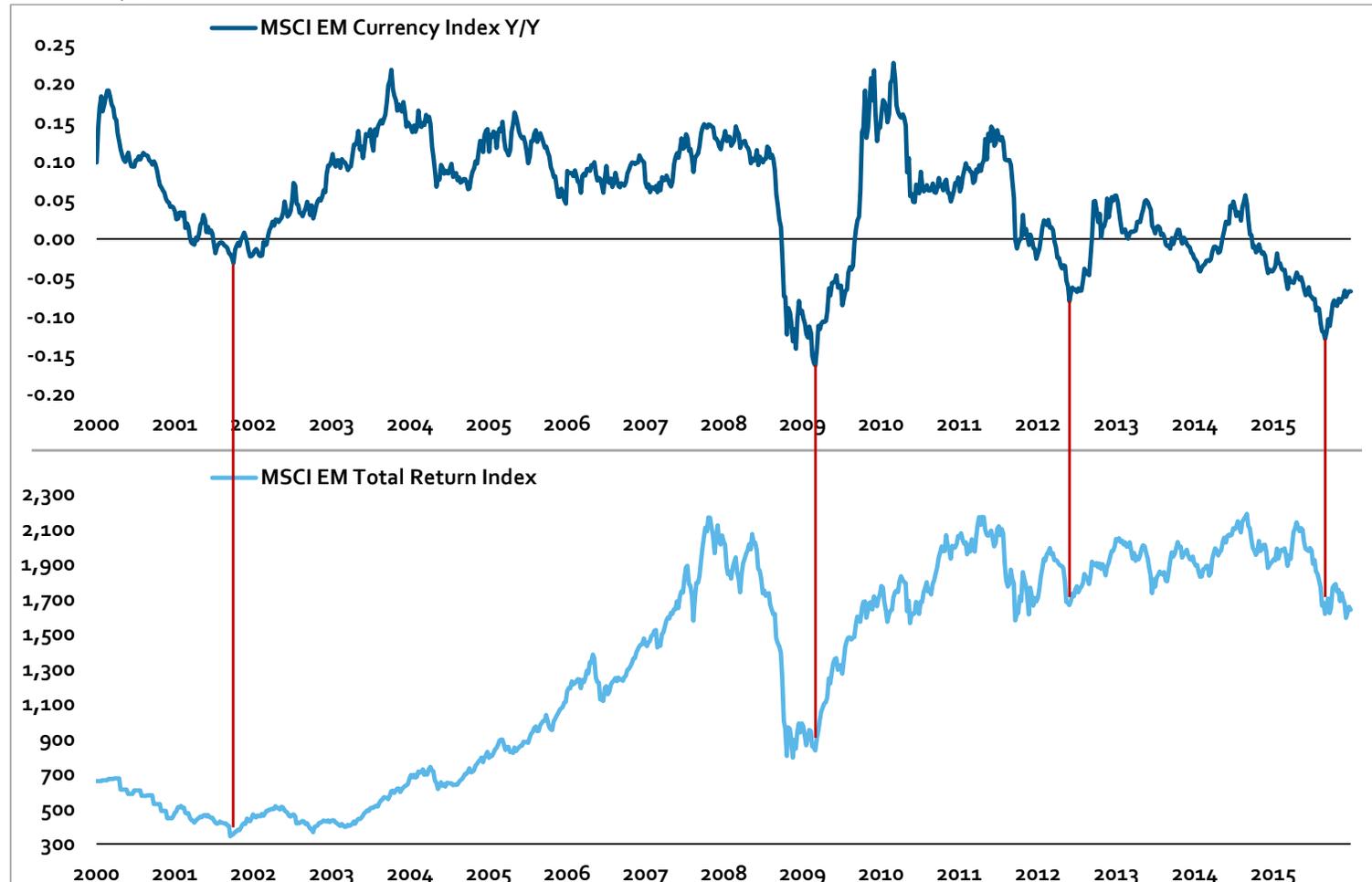


Source: FactSet, Morgan Stanley Wealth Management GIC  
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# EM Equities Tend to Bottom with Currencies' Rate of Change

MSCI EM Currencies' Rate of Change Vs. MSCI EM Equities

As of January 1, 2016



Source: Bloomberg, FactSet, Morgan Stanley Wealth Management GIC  
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# High Yield Should Deliver Positive Returns Over Next 12 Months

Projected 12-Month Returns for US High Yield Under Various Scenarios

As of January 5, 2016

Change in Spreads (basis points)	Total Return			
	Current	MS & Co. Base	MS & Co. Bull	MS & Co. Bear
	-100	12.5%	10.7%	14.2%
-50	10.9	9.0	12.7	5.8
-25	10.1	8.2	11.9	4.9
0	9.3	7.3	11.1	4.1
25	8.4	6.5	10.3	3.2
50	7.6	5.6	9.4	2.4
100	5.9	3.9	7.8	0.7
125	5.0	3.1	6.9	-0.1

Scenario	2-Yr.	3-Yr.	5-Yr.	7-Yr.	10-Yr.	30-Yr.
Base	1.65%	1.95%	2.35%	2.55%	2.70%	3.20%
Bull	0.45%	0.70%	1.20%	1.55%	1.80%	2.55%
Bear	2.50%	2.85%	3.30%	3.50%	3.65%	4.20%

Source: Morgan Stanley & Co. Research, Morgan Stanley Wealth Management GIC, The Yield Book® Software and Services. © 2016 Citigroup Index LLC. All rights reserved. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material. This slide sourced from Market Performance section.

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## Bottom Line: Our Recommendations

As of January 5, 2016

- We continue to recommend equities over fixed income. Furthermore, active managers should outperform this year in the US.
- In the US, we recommend a barbell approach with exposure in secular growth sectors like healthcare and tech offset by laggards and defensive areas with decent yields.
- Japan still in the early stages of a secular bull market—skepticism is still high / valuations low. The recent broadening out to domestically oriented sectors is a big positive for Abenomics. Near-term risk is political with July election potentially stalling new initiatives.
- Europe is finally getting the support from the ECB with QE, which could pave the way for the end of fiscal austerity—we expect European earnings to finally rebound and equities to outperform again in 2016.
- Emerging markets have been very idiosyncratic with most underperforming developed markets. We think EM is due for a rebound in 2016 and it will likely be more homogenous—i.e., beta driven.
- In fixed income, we still recommend below-benchmark duration\*. US high yield attractive and municipal bonds cheap to Treasuries. Consider TIPS and WIPS as inflation expectations recover.
- Given our reflationary view and expectation for higher interest rates, we are less sanguine about interest rate-sensitive assets in the near term. We are likely to change that view if 10-year Treasury yields rise above 2.5%. US high yield offers value, but we believe we are at the tail end of the credit cycle.

Source: Morgan Stanley Wealth Management GIC. \*For more information about the risks to Duration, please refer to the Risk Considerations section at the end of this material.

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## Asset Allocation Models & Insurance Products Disclosures

### GLOBAL INVESTMENT COMMITTEE (GIC) ASSET ALLOCATION MODELS

The Asset Allocation Models are created by Morgan Stanley Wealth Management's GIC.

### CLIENTS TO CONSIDER THEIR OWN INVESTMENT NEEDS

The GIC Asset Allocation Models are formulated based on general client characteristics such as investable assets and risk tolerance. This report is not intended to be a client-specific suitability analysis or recommendation, or offer to participate in any investment. Therefore, do not use this report as the sole basis for investment decisions.

Clients should consider all relevant information, including their existing portfolio, investment objectives, risk tolerance, liquidity needs and investment time horizon. Such a suitability determination may lead to asset allocation(s) results that are materially different from the asset allocation shown in this report. Clients should talk to their Financial Advisor about what would be a suitable asset allocation for them.

### HYPOTHETICAL MODEL PERFORMANCE (GROSS)

Hypothetical model performance results do not reflect the investment or performance of an actual portfolio following a GIC Strategy, but simply reflect actual historical performance of selected indices on a real-time basis over the specified period of time representing the GIC's strategic and tactical allocations as of the date of this report. The past performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation or trading strategy. Hypothetical performance results do not represent actual trading and are generally designed with the benefit of hindsight.

Actual performance results of accounts vary due to, for example, market factors (such as liquidity) and client-specific factors (such as investment vehicle selection, timing of contributions and withdrawals, restrictions and rebalancing schedules). Clients would not necessarily have obtained the performance results shown here if they had invested in accordance with any GIC Asset Allocation Model for the periods indicated.

Despite the limitations of hypothetical performance, these hypothetical performance results allow clients and Financial Advisors to obtain a sense of the risk/return trade-off of different asset allocation constructs. The hypothetical performance results in this report are calculated using the returns of benchmark indices for the asset classes, and not the returns of securities, fund or other investment products.

Performance of indices may be more or less volatile than any investment product. The risk of loss in value of a specific investment is not the same as the risk of loss in a broad market index. Therefore, the historical returns of an index will not be the same as the historical returns of a particular investment a client selects.

Models may contain allocations to Hedge Funds, Private Equity and Private Real Estate. The benchmark indices for these asset classes are not issued on a daily basis. When calculating model performance on a day for which no benchmark index data is issued, we have assumed straight line growth between the index levels issued before and after that date.

**Fees reduce the performance of actual accounts** None of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, fees) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models. The GIC Asset Allocation Models and any model performance included in this presentation are intended as educational materials. Were a client to use these models in connection with investing, any investment decisions made would be subject to transaction and other costs which, when compounded over a period of years, would decrease returns. Information regarding Morgan Stanley's standard advisory fees is available in the Form ADV Part 2, which is available at [www.morganstanley.com/adv](http://www.morganstanley.com/adv). The following hypothetical illustrates the compound effect fees have on investment returns: For example, if a portfolio's annual rate of return is 15% for 5 years and the account pays 50 basis points in fees per annum, the gross cumulative five-year return would be 101.1% and the five-year return net of fees would be 96.8%. Fees and/or expenses would apply to clients who invest in investments in an account based on these asset allocations, and would reduce clients' returns. The impact of fees and/or expenses can be material.

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An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices.

**Variable annuities, mutual funds and ETFs are sold by prospectus only. The prospectus contains the investment objectives, risks, fees, charges and expenses, and other information regarding the variable annuity contract and the underlying investments, or the ETF, which should be considered carefully before investing. Prospectuses for both the variable annuity contract and the underlying investments, or the ETF, are available from your Financial Advisor. Please read the prospectus carefully before you invest.**

**Variable annuities** are long-term investments designed for retirement purposes and may be subject to market fluctuations, investment risk, and possible loss of principal. All guarantees, including optional benefits, are based on the financial strength and claims-paying ability of the issuing insurance company and do not apply to the underlying investment options.

Optional riders may not be able to be purchased in combination and are available at an additional cost. Some optional riders must be elected at time of purchase. Optional riders may be subject to specific limitations, restrictions, holding periods, costs, and expenses as specified by the insurance company in the annuity contract.

If you are investing in a **variable annuity** through a tax-advantaged retirement plan such as an IRA, you will get no additional tax advantage from the variable annuity. Under these circumstances, you should only consider buying a variable annuity because of its other features, such as lifetime income payments and death benefits protection.

Taxable distributions (and certain deemed distributions) are subject to ordinary income tax and, if taken prior to age 59½, may be subject to a 10% federal income tax penalty. Early withdrawals will reduce the death benefit and cash surrender value.

## Asset Class Risk Considerations

**For index definitions to the indices referenced in this report please visit the following:** <http://www.morganstanleyfa.com/public/projectfiles/id.pdf>

**Equity securities** may fluctuate in response to news on companies, industries, market conditions and general economic environment.

**Investing in foreign markets** entails risks not typically associated with domestic markets, such as currency fluctuations and controls, restrictions on foreign investments, less governmental supervision and regulation, and the potential for political instability. These risks may be magnified in countries with **emerging markets and frontier markets**, since these countries may have relatively unstable governments and less established markets and economies.

**Investing in small- to medium-sized companies** entails special risks, such as limited product lines, markets and financial resources, and greater volatility than securities of larger, more established companies.

The value of **fixed income securities** will fluctuate and, upon a sale, may be worth more or less than their original cost or maturity value. Bonds are subject to interest rate risk, call risk, reinvestment risk, liquidity risk, and credit risk of the issuer.

**High yield bonds (bonds rated below investment grade)** may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk, price volatility, and limited liquidity in the secondary market. High yield bonds should comprise only a limited portion of a balanced portfolio.

Interest on **municipal bonds** is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence.

**Treasury Inflation Protection Securities' (TIPS)** coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

**Ultrashort-term fixed income** asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

**Alternative investments** may be either traditional alternative investment vehicles, such as hedge funds, fund of hedge funds, private equity, private real estate and managed futures or, non-traditional products such as mutual funds and exchange-traded funds that also seek alternative-like exposure but have significant differences from traditional alternative investments. The risks of traditional alternative investments may include: can be highly illiquid, speculative and not suitable for all investors, loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than open-end mutual funds, and risks associated with the operations, personnel and processes of the manager. Non-traditional alternative strategy products may employ various investment strategies and techniques for both hedging and more speculative purposes such as short-selling, leverage, derivatives and options, which can increase volatility and the risk of investment loss. **Master Limited Partnerships (MLPs)** Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk. The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value. MLPs carry interest rate risk and may underperform in a rising interest rate environment. **Investing in commodities** entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention. **Physical precious metals** are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be suitable for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. **REITs** investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions.

Risks of **private real estate** include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage.

Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds.

**Asset-backed securities** generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

## Asset Class Risk Considerations (cont'd)

**Floating-rate securities** The initial interest rate on a floating-rate security may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk.

**Yields** are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

**Credit ratings** are subject to change.

Companies paying **dividends** can reduce or cut payouts at any time.

**Asset allocation and diversification** do not assure a profit or protect against loss in declining financial markets.

The **indices** are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Wealth Management retains the right to change representative indices at any time.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies.

**Growth investing** does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

**Value investing** does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

**Rebalancing** does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.

**Duration**, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates.

Besides the general risk of holding securities that may decline in value, **closed-end funds** may have additional risks related to declining market prices relative to net asset values (NAVs), active manager underperformance, and potential leverage. Some funds also invest in foreign securities, which may involve currency risk.

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**To:** Clayton County Public Employees Retirement System  
**From:** Morgan Stanley  
**Date:** February 11, 2016  
**Subject:** Fourth Quarter 2015 Plan Review

## **Capital Markets Overview Q415**

Risk assets generated positive returns during the fourth quarter of 2015, despite disappointing performance among broad asset classes over the year in its entirety. Currency volatility, oil turbulence, emerging market woes, and the much-anticipated Fed rate hike in December dominated headlines throughout the quarter. For the quarter, US and Japanese equities registered the best returns, while Diversified Commodities and Master Limited Partnerships (MLPs) posted the weakest performance among major asset classes. For the one-year period ended December 31, 2015, Japanese equities were the strongest asset class, while Diversified Commodities, MLPs and Emerging Market equities trailed the field.

The Dow Jones Industrial Average increased 7.7% in the fourth quarter. The NASDAQ Composite Index was up 8.8% for the quarter. The S&P 500 Index increased 7.0% for the quarter.

All sectors within the S&P 500 generated positive returns in the fourth quarter of 2015. The top-performing sector was Materials, which was up 9.7%. Health Care and Technology both rose 9.2% and were also among the top-performing sectors. The biggest laggards were Energy, which had a modest increase of 0.2%, and Utilities, which rose 1.1%.

Morgan Stanley & Co. economists expect U.S. real GDP will be 2.4% in 2015, 1.9% in 2016 and 1.8% in 2017. They forecast global GDP growth to be 3.1% in 2015, 3.3% in 2016 and 3.7% in 2017.

Commodities registered negative returns in the fourth quarter; the Bloomberg Commodity Index fell 10.5%. For the quarter, gold was down 5.0%.

For the fourth quarter of 2015, global mergers and acquisitions (M&A) deal volume was \$1.4 trillion, compared to \$881 billion for the fourth quarter of 2014. Global M&A activity increased to \$4.3 trillion in 2015 from \$3.3 trillion in 2014.

## Clayton County Defined Benefit Plan 4th Quarter 2015 Review:

The Clayton County portfolio outperformed its custom benchmark during the fourth quarter, increasing 3.44% compared to the custom benchmark increase of 2.75%. The custom benchmark is composed of 10% Russell 1000 Growth Index, 7% Russell 1000 Index, 13% Russell 1000 Value Index, 4% Russell Midcap Growth Index, 6% Russell Midcap Value Index, 5% Russell 2000 Growth Index, 5% Russell 2000 Value Index, 7% MSCI EAFE Index, 3% MSCI Emerging Markets Index, 1% Citigroup 3-month T-bill Index, 32% Barclay's US Aggregate Index, and 7% Citigroup World Government Bond Index.

Table 1 shows the composition of the portfolio, reflecting the plan's allocation of 32.59% fixed income and cash equivalents, 57.16% domestic equities and 10.07% international equities. Most asset categories posted gains during the 4th quarter, with the exception of Fixed Income, which was down only slightly. Each category outperformed its respective benchmark during the quarter, with the exception of Large Cap domestic equities.

On a 1 year trailing basis through December 31st, 2015, the plan underperformed its benchmark, decreasing -1.91% versus the benchmark's decline of -0.92%. Over the 5 year trailing period the plan is outperforming the benchmark, posting a 7.89% annualized return versus the benchmark's return of 7.16%.

**Table 1**  
**Defined Benefit Plan Composition**

<u>As of December 31st, 2015</u>		<u>% of</u> <u>Portfolio</u>	<u>Defined Benefit Plan Performance</u>				<u>Benchmarks</u>			
<u>Investment Category</u>	<u>\$ Value</u>		<u>4th Q</u>	<u>1 yr</u>	<u>3 yrs</u>	<u>5 yrs</u>	<u>4th Q</u>	<u>1 yr</u>	<u>3 yrs</u>	<u>5 yrs</u>
Money Market	\$ 631,303.87	0.17%	0.03%	0.05%	0.03%	0.03%	0.01%	0.03%	0.04%	0.05%
Fixed Income	\$ 119,065,410.19	32.59%	-0.07%	-0.55%	2.00%	4.19%	-0.64%	-0.19%	0.80%	2.78%
<i>Large Cap</i>	\$ 127,041,652.31	34.78%	6.18%	-0.26%	14.38%	12.60%	6.43%	0.62%	14.85%	12.34%
<i>Mid Cap</i>	\$ 42,432,472.00	11.62%	3.88%	-3.19%	13.24%	12.01%	3.51%	-2.99%	13.98%	11.36%
<i>Small Cap</i>	\$ 39,316,147.81	10.76%	4.39%	-5.73%	12.77%	10.03%	3.63%	-4.29%	11.78%	9.23%
Domestic Equities Total	\$ 208,790,272.12	57.16%	5.37%	-1.89%	13.85%	12.00%	5.31%	-1.04%	14.09%	11.56%
International/Global	\$ 36,802,873.83	10.07%	4.32%	-0.30%	5.93%	6.17%	1.76%	-10.03%	-1.59%	-0.97%
<b>Total</b>	\$ 365,289,860.01	100.00%	3.44%	-1.91%	7.42%	7.89%				
<b>Clayton County Custom Benchmark</b>			2.75%	-0.92%	7.50%	7.16%				

Table 2 shows the fund holdings in the Clayton County Portfolio. The largest holdings were the John Hancock Bond R6 Fund followed by the Metropolitan West Total Return Bond Plan Fund and the JPMorgan Mid Cap Value fund.

**Table 2**  
**Clayton County Defined Benefit Plan Fund Holdings**

Investment Category	As of December 31st, 2015		Clayton County DB Portfolio				Benchmark Performance				Benchmark
	\$ Value	% of Portfolio	4th Q	1 yr	3 yrs	5 yrs	4th Q	1 yr	3 yrs	5 yrs	
JHancock Bond R6	\$ 43,972,970.07	12.04%	-0.60%	0.25%	2.64%	4.95%	-0.57%	0.55%	1.44%	3.25%	Barclays Capital U.S. Aggregate
Metropolitan West Total Return Bond Plan	\$ 43,593,300.84	11.93%	-0.75%	0.35%	2.35%	4.25%	-0.57%	0.55%	1.44%	3.25%	Barclays Capital U.S. Aggregate
JPMorgan Mid Cap Value Instl	\$ 25,823,525.92	7.07%	3.62%	-2.35%	14.07%	12.86%	3.12%	-4.78%	13.40%	11.25%	Russell Midcap Value
Templeton Global Bond R6	\$ 23,858,943.65	6.53%	2.29%	-3.91%	0.10%	2.55%	-0.92%	-3.15%	-1.74%	0.90%	Barclays Global Aggregate
Delaware US Growth Instl	\$ 22,858,711.05	6.26%	8.75%	5.17%	16.72%	14.78%	7.32%	5.67%	16.83%	13.53%	Russell 1000 Growth
Fidelity Focused Stock	\$ 21,469,560.38	5.88%	5.51%	1.46%	13.57%	11.42%	7.32%	5.67%	16.83%	13.53%	Russell 1000 Growth
Franklin Small Cap Growth R6	\$ 20,498,697.75	5.61%	5.74%	-4.26%	15.53%	11.02%	4.32%	-1.38%	14.28%	10.67%	Russell 2000 Growth
Paradigm Large Val	\$ 19,700,783.73	5.39%	6.04%	-1.49%	15.44%	13.30%	5.64%	-3.83%	13.08%	11.27%	Russell 1000 Value
Glenmede Large Cap Core	\$ 19,039,572.39	5.21%	5.44%	1.67%	17.61%	14.50%	6.50%	0.92%	15.01%	12.44%	Russell 1000
JPMorgan Small Cap Value R6	\$ 18,817,450.06	5.15%	2.92%	-7.34%	9.76%	8.95%	2.88%	-7.47%	9.06%	7.67%	Russell 2000 Value
HSBC Opportunity I	\$ 16,608,946.08	4.55%	4.29%	-4.49%	11.96%	10.70%	4.12%	-0.20%	14.88%	11.54%	Russell Midcap Growth
DRZ Large Cap Value	\$ 16,517,206.48	4.52%	5.41%	-9.06%	8.62%	8.64%	5.64%	-3.83%	13.08%	11.27%	Russell 1000 Value
MFS International Value R5	\$ 16,407,567.81	4.49%	5.52%	6.85%	11.54%	9.61%	1.43%	-10.06%	-0.61%	-0.06%	MSCI ACWI ex USA VALUE (Net)
TCW Relative Value Dividend Appreciation I	\$ 16,209,959.91	4.44%	5.79%	-4.76%	12.29%	10.92%	5.64%	-3.83%	13.08%	11.27%	Russell 1000 Value
Atlanta Capital Large Cap Core	\$ 11,245,858.37	3.08%	5.39%	3.70%	15.31%	14.27%	6.50%	0.92%	15.01%	12.44%	Russell 1000
Oakmark International	\$ 10,827,973.42	2.96%	5.19%	-3.83%	5.57%	5.49%	3.24%	-5.66%	1.50%	1.06%	MSCI ACWI ex USA (Net)
Virtus Emerging Markets Opportunities I	\$ 9,567,332.60	2.62%	1.28%	-8.55%	-3.30%	1.03%	0.66%	-14.92%	-6.76%	-4.81%	MSCI EM (EMERGING MARKETS) (Net)
JPMorgan Core Plus Bond R6	\$ 7,640,195.63	2.09%	-0.44%	0.25%	2.25%	4.58%	-0.57%	0.55%	1.44%	3.25%	Barclays Capital U.S. Aggregate
Vanguard Prime Money Market Inv	\$ 631,303.87	0.17%	0.03%	0.05%	0.03%	0.03%	0.01%	0.03%	0.04%	0.05%	Citigroup 3-month T-bill

Table 3 shows the performance of the individual funds relative to their benchmarks. The funds are ranked by the highest outperformers to the lowest based on their performance during the latest quarter. For the quarter, twelve funds outperformed their benchmark, five underperformed, and two funds performed in-line with their benchmark.

**Table 3**  
**Performance vs. Benchmark**

<i>As of December 31st, 2015</i>	<i>% of</i>	<i>Relative Performance vs. Benchmarks</i>				
		<i>\$ Value</i>	<i>Portfolio</i>	<i>4th Q</i>	<i>1 yr</i>	<i>3 yrs</i>
MFS International Value R5	\$ 16,407,567.81	4.49%	4.09%	16.91%	12.15%	9.67%
Templeton Global Bond R6	\$ 23,858,943.65	6.53%	3.21%	-0.76%	1.84%	1.65%
Oakmark International	\$ 10,827,973.42	2.96%	1.95%	1.83%	4.07%	4.43%
Delaware US Growth Instl	\$ 22,858,711.05	6.26%	1.43%	-0.50%	-0.11%	1.25%
Franklin Small Cap Growth R6	\$ 20,498,697.75	5.61%	1.42%	-2.88%	1.25%	0.35%
Virtus Emerging Markets Opportunities I	\$ 9,567,332.60	2.62%	0.62%	6.37%	3.46%	5.84%
JPMorgan Mid Cap Value Instl	\$ 25,823,525.92	7.07%	0.50%	2.43%	0.67%	1.61%
Paradigm Large Val	\$ 19,700,783.73	5.39%	0.40%	2.34%	2.36%	2.03%
HSBC Opportunity I	\$ 16,608,946.08	4.55%	0.17%	-4.29%	-2.92%	-0.84%
TCW Relative Value Dividend Appreciation I	\$ 16,209,959.91	4.44%	0.15%	-0.93%	-0.79%	-0.35%
JPMorgan Core Plus Bond R6	\$ 7,640,195.63	2.09%	0.13%	-0.30%	0.81%	1.33%
JPMorgan Small Cap Value R6	\$ 18,817,450.06	5.15%	0.04%	0.13%	0.70%	1.28%
Vanguard Prime Money Market Inv	\$ 631,303.87	0.17%	0.02%	0.02%	-0.01%	-0.02%
JHancock Bond R6	\$ 43,972,970.07	12.04%	-0.03%	-0.30%	1.20%	1.70%
Metropolitan West Total Return Bond Plan	\$ 43,593,300.84	11.93%	-0.18%	-0.20%	0.91%	1.00%
DRZ Large Cap Value	\$ 16,517,206.48	4.52%	-0.23%	-5.23%	-4.46%	-2.63%
Glenmede Large Cap Core	\$ 19,039,572.39	5.21%	-1.06%	0.75%	2.60%	2.06%
Atlanta Capital Large Cap Core	\$ 11,245,858.37	3.08%	-1.11%	2.78%	0.30%	1.83%
Fidelity Focused Stock	\$ 21,469,560.38	5.88%	-1.81%	-4.21%	-3.26%	-2.11%

Table 4 below shows the performance of the funds in the Clayton County Defined Benefit Plan relative to their peer group on a rolling five-year basis. The IPS targets fund performance that places them in the top quartile of their peer group. Until recently the target was performance in the top half of the peer group. The figures shown in red indicate that the fund performance was not in the top 25%. The figures in yellow are those that would not have met the less stringent standard of being in the top half.

**Table 4**  
**5 Year Rolling Peer Group Ranking**

<b>Peer Group Ranking (5yr Trailing Thru 12/31/15)</b>										
<b>5 Years Ended 12/31/15</b>	DePrince, Race: Large Cap Value (gross)	TCW Dividend Focused I	Glenmede Large Cap 100	Atlanta Capital: HQ Select Equity (Gross)	Delaware US Growth Instl	Fidelity Focused Stock	JPMorgan Mid Cap Value Instl	HSBC Opportunity I	JPMorgan Small Cap Value R6	
2015	77.43	28.62	1.20	1.63	4.28	58.39	1.73	30.27	28.80	
2014	27.97	8.32	2.33	2.78	7.52	15.49	2.01	5.82	15.28	
2013	2.30	4.21	8.13	9.45	11.92	28.42	44.26	6.97	46.19	
2012	3.89	38.55	12.40	1.58	16.79	9.32	13.81	7.93	31.73	
2011	23.18	54.35	24.70	0.91	22.64	7.84	18.56	4.75	58.84	
2010	11.25	51.04	36.90	n/a	76.15	15.49	33.73	3.63	56.58	
<b>5 Years Ended 12/31/15</b>	Franklin Small Cap Growth R6	MFS International Value I	Oakmark International I	Virtus Emerging Markets Opportunities I	JPMorgan Core Plus Bond R6	JHancock Bond R6	Metropolitan West Total Return Bond Plan	Templeton Global Bond R6	Paradigm Asset: Large Cap Value (Gross)	
2015	2.76	0.00	23.94	2.11	10.36	2.31	4.63	26.06	2.44	
2014	1.26	0.00	2.01	3.14	9.73	0.98	3.74	16.84	3.29	
2013	3.45	4.01	0.00	25.11	16.01	2.65	8.06	15.47	60.64	
2012	41.52	0.14	0.00	3.50	15.90	2.01	1.63	0.74	52.11	
2011	8.70	1.04	44.28	0.14	14.10	14.66	8.08	3.54	55.46	
2010	36.77	4.56	11.51	19.84	16.62	9.81	1.98	0.90	1.63	

**CLAYTON COUNTY**  
**COMPOSITE PORTFOLIO**  
**PERIOD ENDING December 31, 2015**

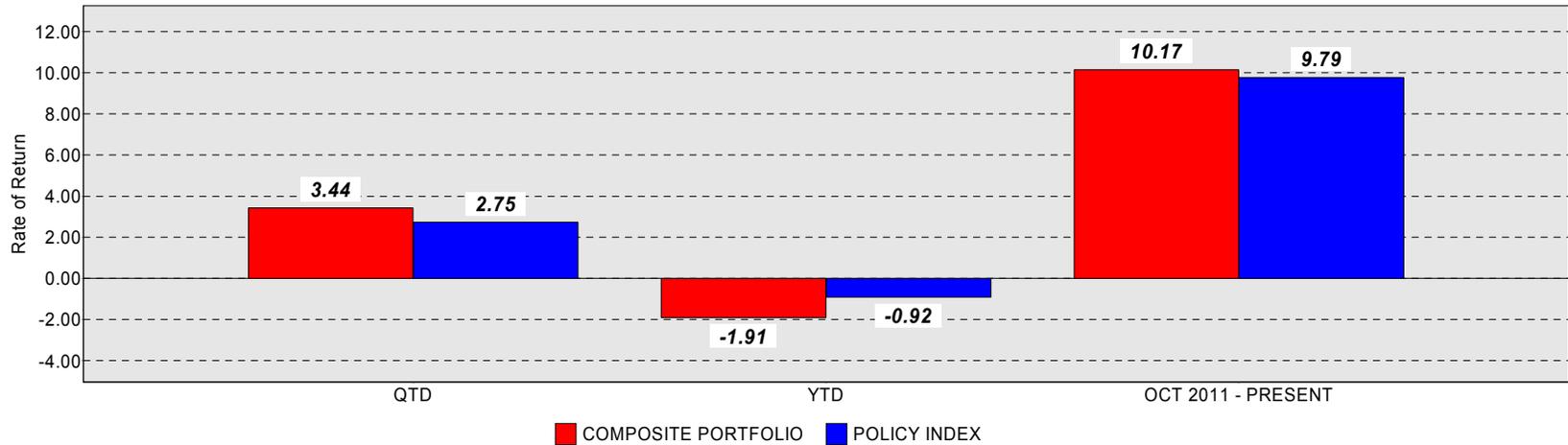
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795-000029 VIRTUS EMERGING MKT	Page 61
795-000021 JOHN HANCOCK	Page 65
795-000021 METROWEST TOTAL RET	Page 69
795-000021 TEMPLETON GLOBAL	Page 73
795-000021 VANGUARD PRIME MMKT	Page 77
795-000000 JPMORGAN CORE PLUS BOND R6	Page 81

**CLAYTON COUNTY  
COMPOSITE PORTFOLIO  
December 31, 2015 Performance Review**

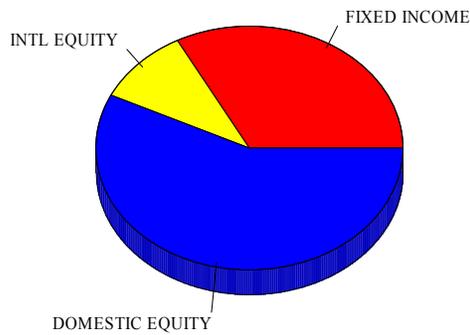


	<u>QTD</u>	<u>YTD</u>	<u>OCT 2011 - PRESENT</u>
Beginning Mkt Value	355,840,913.62	382,663,163.21	270,546,045.06
Net Contributions	(2,775,055.21)	(10,258,117.66)	(40,253,144.47)
Interest And Dividend Income	9,152,352.64	12,578,628.02	38,861,084.82
Investment Earnings	12,224,001.60	(7,115,185.54)	134,996,959.42
Ending Mkt Value	365,289,860.01	365,289,860.01	365,289,860.01
Gross Time Weighted Return	3.44	(1.91)	10.17
Policy Index	2.75	(0.92)	9.79

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.  
gross time weighted return  
Inception Date: August 30, 1989*

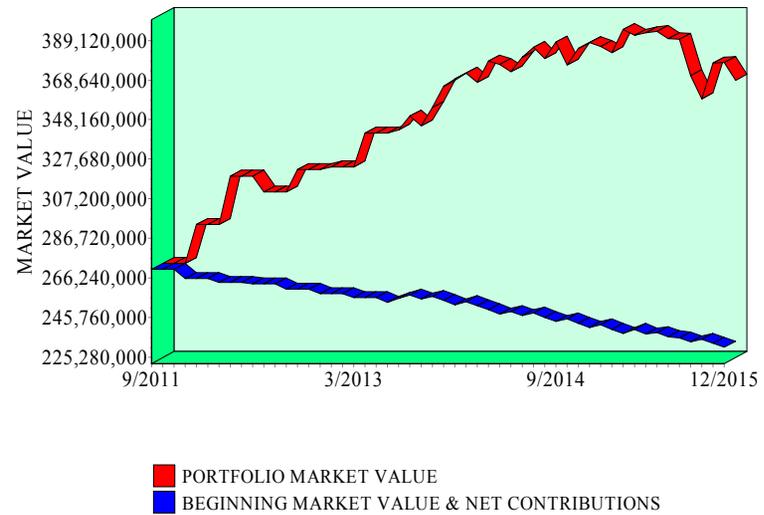
**CLAYTON COUNTY  
COMPOSITE PORTFOLIO  
SOURCE OF GROWTH ANALYSIS  
PERIOD ENDING DECEMBER 31, 2015**

**-- ASSET ALLOCATION --**



	VALUE	PERCENT
FIXED INCOME	119,696,714	32.77
DOMESTIC EQUITY	208,790,272	57.16
INTL EQUITY	36,802,874	10.07
TOTAL	365,289,860	100.00

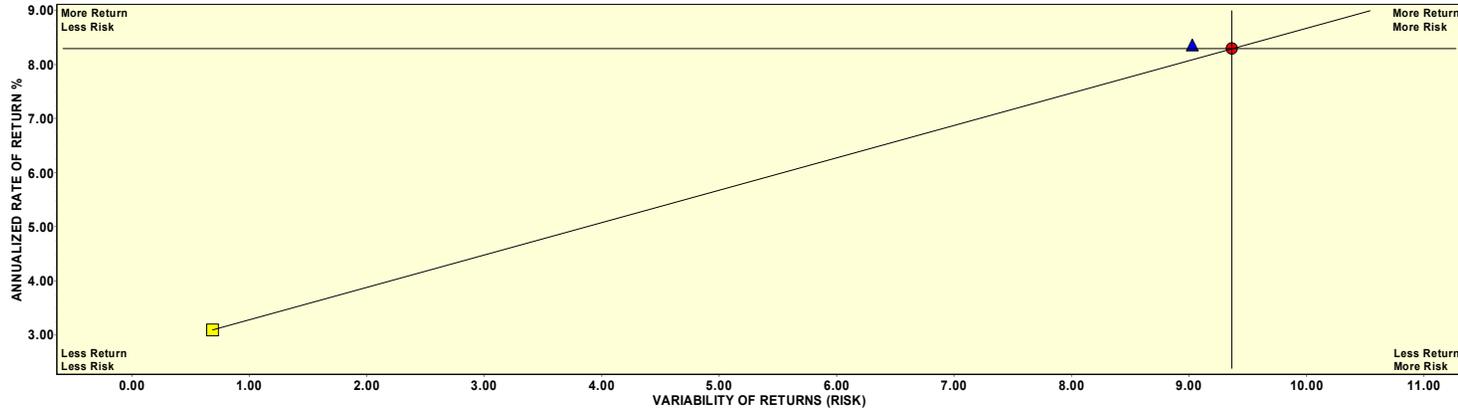
**-- SOURCE OF PORTFOLIO GROWTH --**



■ PORTFOLIO MARKET VALUE  
■ BEGINNING MARKET VALUE & NET CONTRIBUTIONS

	DOLLARS	
	9/2015-12/2015	10/2011-PRESENT
BEGINNING VALUE	355,840,914	270,546,045
NET CONTRIBUTION	-2,775,055	-40,253,144
INVESTMENT RETURN	12,224,002	134,996,959
ENDING VALUE	365,289,860	365,289,860

**CLAYTON COUNTY  
COMPOSITE PORTFOLIO  
December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	8.36	9.03	0.58	0.51	2.65	28.46
● Policy Index	8.29	9.36	0.55	1.00	0.00	100.00
■ 90 DAY US TBILL	3.09	0.69	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-1.91	8.65	-0.75	1.20	-0.13	-1.00	-10.88	120.32	112.63	10.06
12/2012-12/2015	7.42	7.80	-0.34	1.05	0.62	-0.08	-15.96	102.14	100.55	23.40
12/2010-12/2015	7.89	9.06	3.37	0.64	0.67	0.74	-13.12	74.13	89.80	22.31
12/2008-12/2015	10.01	9.60	2.98	0.69	0.84	-0.08	-15.96	72.42	83.22	27.76
8/1989-12/2015	8.36	9.03	2.65	0.51	0.71	0.07	-10.81	44.51	66.11	19.22

*gross time weighted return*  
*Portfolio Risk Index: Policy Index Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 8/30/1989*

**CLAYTON COUNTY  
COMPOSITE PORTFOLIO SUMMARY AS OF DECEMBER 31, 2015  
GROSS TIME WEIGHTED RETURN**

Name	Quarter 09/30/2015 12/31/2015	1 YEAR 12/31/2014 12/31/2015	3 YEARS 12/31/2012 12/31/2015	5 YEARS 12/31/2010 12/31/2015	10 YEARS 12/31/2005 12/31/2015	Since Inception	Inception Date
<b>TOTAL FUND</b>							
<b><u>DOMESTIC EQUITY</u></b>							
795-000021 ATLANTA CAPITAL LARGE CAP CORE	5.00%					5.00%	10/1/2011
<b>RUSSELL 1000</b>	<b>6.49%</b>	<b>0.90%</b>	<b>15.01%</b>	<b>12.44%</b>	<b>7.40%</b>	<b>6.49%</b>	
795-000021 DRZ LARGE CAP VALUE	5.38%	-9.06%				3.60%	10/1/2011
<b>RUSSELL 1000 VALUE</b>	<b>5.64%</b>	<b>-3.84%</b>	<b>13.08%</b>	<b>11.27%</b>	<b>6.16%</b>	<b>9.25%</b>	
795-000021 DELAWARE US GROWTH INSTL	8.82%	5.43%				9.83%	10/1/2011
<b>RUSSELL 1000 GROWTH</b>	<b>7.31%</b>	<b>5.68%</b>	<b>16.84%</b>	<b>13.54%</b>	<b>8.54%</b>	<b>8.50%</b>	
795-000021 FIDELITY FOC STK	5.58%	1.71%				10.38%	10/1/2011
<b>RUSSELL 1000 GROWTH</b>	<b>7.31%</b>	<b>5.68%</b>	<b>16.84%</b>	<b>13.54%</b>	<b>8.54%</b>	<b>15.27%</b>	
795-000021 FRANKLIN SMALL CAP GR	5.74%	-4.26%				8.35%	10/1/2011
<b>RUSSELL 2000 GROWTH</b>	<b>4.31%</b>	<b>-1.39%</b>	<b>14.28%</b>	<b>10.68%</b>	<b>7.95%</b>	<b>10.07%</b>	
795-000021 GLENMEDE LARGE CAP	5.55%	2.04%				15.04%	10/1/2011
<b>RUSSELL 1000</b>	<b>6.49%</b>	<b>0.90%</b>	<b>15.01%</b>	<b>12.44%</b>	<b>7.40%</b>	<b>12.27%</b>	
795-000021 HSBC OPP I	4.31%	-4.39%				8.93%	10/1/2011
<b>RUSSELL MIDCAP GR</b>	<b>4.12%</b>	<b>-0.20%</b>	<b>14.89%</b>	<b>11.55%</b>	<b>8.16%</b>	<b>11.81%</b>	
795-000021 JP MORGAN MIDCAP VAL	3.64%	-2.25%				10.48%	10/1/2011
<b>RUSSELL MIDCAP VALUE</b>	<b>3.11%</b>	<b>-4.79%</b>	<b>13.39%</b>	<b>11.25%</b>	<b>7.60%</b>	<b>9.54%</b>	
795-000021 JP MORGAN SMALL CAP VALUE	2.92%	-7.34%				4.73%	10/1/2011
<b>RUSSELL 2000 VALUE</b>	<b>2.88%</b>	<b>-7.47%</b>	<b>9.06%</b>	<b>7.67%</b>	<b>5.57%</b>	<b>5.16%</b>	
795-000021 PARADIGM LARGE VAL	6.12%	-1.66%				11.18%	10/1/2011
<b>RUSSELL 1000 VALUE</b>	<b>5.64%</b>	<b>-3.84%</b>	<b>13.08%</b>	<b>11.27%</b>	<b>6.16%</b>	<b>9.25%</b>	
795-000021 TCW DIV FOCUS	6.44%	-4.42%				7.85%	10/1/2011
<b>RUSSELL 1000 VALUE</b>	<b>5.64%</b>	<b>-3.84%</b>	<b>13.08%</b>	<b>11.27%</b>	<b>6.16%</b>	<b>9.25%</b>	
<b>Total DOMESTIC EQUITY</b>	<b>5.41%</b>	<b>-2.88%</b>	<b>12.79%</b>			<b>13.60%</b>	
<i>Equity Policy Index</i>	<i>5.27%</i>	<i>-1.22%</i>	<i>14.07%</i>	<i>11.55%</i>	<i>7.36%</i>	<i>14.30%</i>	

*gross time weighted return*

**CLAYTON COUNTY  
COMPOSITE PORTFOLIO SUMMARY AS OF DECEMBER 31, 2015  
GROSS TIME WEIGHTED RETURN**

Name	Quarter 09/30/2015 12/31/2015	1 YEAR 12/31/2014 12/31/2015	3 YEARS 12/31/2012 12/31/2015	5 YEARS 12/31/2010 12/31/2015	10 YEARS 12/31/2005 12/31/2015	Since Inception	Inception Date
<b><u>INTERNATIONAL EQUITY</u></b>							
795-000029 MFS INTL VAL	5.52%	6.85%				8.36%	10/1/2011
<b>MSCI EAFE</b>	<b>4.75%</b>	<b>-0.40%</b>	<b>5.46%</b>	<b>4.06%</b>	<b>3.50%</b>	<b>4.74%</b>	
795-000029 OAKMARK INTL	4.82%	-4.39%				3.00%	10/1/2011
<b>MSCI EAFE</b>	<b>4.75%</b>	<b>-0.40%</b>	<b>5.46%</b>	<b>4.06%</b>	<b>3.50%</b>	<b>4.74%</b>	
795-000029 VIRTUS EMERGING MKT	1.33%	-8.37%				-2.06%	10/1/2011
<b>MSCI EMERGING MARKET</b>	<b>0.74%</b>	<b>-14.59%</b>	<b>-6.48%</b>	<b>-4.51%</b>	<b>3.93%</b>	<b>-3.96%</b>	
<b>Total INTERNATIONAL EQUITY</b>	<b>4.19%</b>	<b>-0.86%</b>	<b>3.65%</b>			<b>8.01%</b>	
<i>Intl Equity Policy Index</i>	<b>3.54%</b>	<b>-4.75%</b>	<b>1.83%</b>	<b>1.53%</b>	<b>3.76%</b>	<b>6.26%</b>	
<b><u>FIXED INCOME</u></b>							
795-000021 JOHN HANCOCK	-0.60%	0.25%				3.62%	10/1/2011
<b>BC AGGREGATE BOND</b>	<b>-0.56%</b>	<b>0.57%</b>	<b>1.45%</b>	<b>3.25%</b>	<b>4.52%</b>	<b>2.75%</b>	
795-000021 METROWEST TOTAL RET	-0.44%	0.25%				3.22%	10/1/2011
<b>BC AGGREGATE BOND</b>	<b>-0.56%</b>	<b>0.57%</b>	<b>1.45%</b>	<b>3.25%</b>	<b>4.52%</b>	<b>2.75%</b>	
795-000021 TEMPLETON GLOBAL	2.29%	-3.91%				0.58%	10/1/2011
<b>CG WGBI</b>	<b>-1.23%</b>	<b>-3.57%</b>	<b>-2.69%</b>	<b>-0.08%</b>	<b>3.44%</b>	<b>-0.94%</b>	
795-000021 VANGUARD PRIME MMKT	0.02%	0.17%				0.08%	10/1/2011
<b>90 DAY US TBILL</b>	<b>0.01%</b>	<b>0.01%</b>	<b>0.02%</b>	<b>0.04%</b>	<b>1.16%</b>	<b>0.01%</b>	
795-000000 JPMORGAN CORE PLUS BOND R6	-0.73%	0.42%				0.42%	12/17/2014
<b>BC AGGREGATE BOND</b>	<b>-0.56%</b>	<b>0.57%</b>	<b>1.45%</b>	<b>3.25%</b>	<b>4.52%</b>	<b>0.57%</b>	
<b>Total FIXED INCOME</b>	<b>0.01%</b>	<b>-0.53%</b>	<b>1.27%</b>			<b>3.07%</b>	
<i>Fixed Income Policy Index</i>	<b>-0.66%</b>	<b>-0.16%</b>	<b>0.69%</b>	<b>2.59%</b>	<b>4.26%</b>	<b>1.55%</b>	
<b><u>CASH</u></b>							

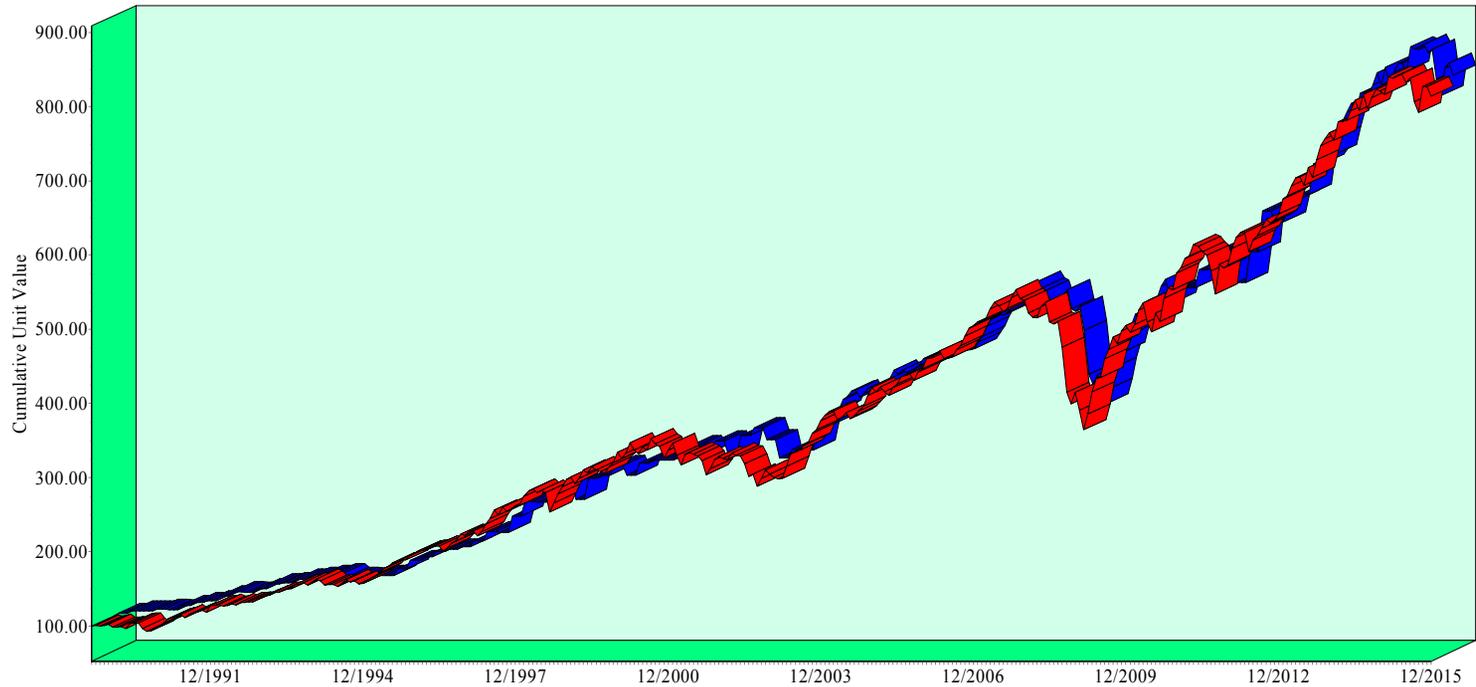
*gross time weighted return*

**CLAYTON COUNTY  
COMPOSITE PORTFOLIO SUMMARY AS OF DECEMBER 31, 2015  
GROSS TIME WEIGHTED RETURN**

Name	Quarter 09/30/2015 12/31/2015	1 YEAR 12/31/2014 12/31/2015	3 YEARS 12/31/2012 12/31/2015	5 YEARS 12/31/2010 12/31/2015	10 YEARS 12/31/2005 12/31/2015	Since Inception	Inception Date
<u>Total CASH</u>							
TOTAL:	3.44%	-1.91%	7.42%	7.89%	6.25%	8.36%	
Policy Index	2.75%	-0.92%	7.50%	7.16%	6.19%	8.29%	

*gross time weighted return*

**CLAYTON COUNTY  
COMPOSITE PORTFOLIO  
CUMULATIVE PERFORMANCE  
PERIODS ENDING DECEMBER 31, 2015**



	QUARTER TO DATE	ONE YEAR	THREE YEARS	FIVE YEARS	SINCE INCEPTION MONTH
COMPOSITE PORTFOLIO	3.44	-1.91	7.42	7.89	8.36
POLICY INDEX	2.75	-0.92	7.50	7.16	8.29

*gross time weighted return*

**CLAYTON COUNTY  
COMPOSITE PORTFOLIO  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 2.65 percent per Year

Since 8/31/1989, your fund has averaged 2.65 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.51

The volatility coefficient is known as Beta.

Since 8/31/1989, your fund has been 0.51 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( MSCI EAFE, BARCLAYS AGGREGATE BOND, MSCI EMERGING MARKETS )

RUSSELL 1000 LARGE CAP, RUSSELL 1000 LARGE CAP GROWTH, RUSSELL 1000 LARGE CAP VALUE )

DIVERSIFICATION: 28.46 percent

Since 8/31/1989, your fund has been 28.46 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-0.92		0.01		-0.93		1.20		-1.12		-1.91		0.01		-1.92		-1.12		-0.81
12/2012-12/2015	7.50		0.02		7.48		1.05		7.84		7.42		0.02		7.40		7.84		-0.44
12/2010-12/2015	7.16		0.04		7.12		0.64		4.57		7.89		0.04		7.86		4.57		3.28
8/1989-12/2015	8.29		3.09		5.20		0.51		2.67		8.36		3.09		5.27		2.67		2.60

RISK BENCHMARK IS Policy Index

**CLAYTON COUNTY  
COMPOSITE PORTFOLIO  
INVESTMENT EARNINGS  
9/2015 THRU 12/2015**

<b>MANAGER AND ASSET CLASS</b>	<b>BEGINNING MARKET VALUE</b>	<b>NEW MONEY</b>	<b>INTEREST AND DIVIDENDS</b>	<b>NET CAPITAL APPRECIATION</b>	<b>ENDING MARKET VALUE</b>	<b>TOTAL INVESTMENT EARNINGS</b>	<b>RATE OF RETURN</b>
795-000021 ATLANTA CAPITAL LARGE CAP CORE	10,710,778			535,080	11,245,858	535,080	5.00
795-000021 DRZ LARGE CAP VALUE	15,673,775			843,432	16,517,206	843,432	5.38
795-000021 DELAWARE US GROWTH INSTL	21,006,404		2,498,241	-645,933	22,858,711	1,852,307	8.82
795-000021 FIDELITY FOC STK	20,335,697		1,200,037	-66,174	21,469,560	1,133,863	5.58
795-000021 FRANKLIN SMALL CAP GR	19,386,114		390,243	722,341	20,498,698	1,112,584	5.74
795-000021 GLENMEDE LARGE CAP	18,038,251		323,949	677,372	19,039,572	1,001,322	5.55
795-000021 HSBC OPP I	15,922,064		4,208	682,674	16,608,946	686,882	4.31
795-000021 JOHN HANCOCK	44,239,096		413,051	-679,176	43,972,970	-266,126	-0.60
795-000021 JP MORGAN MIDCAP VAL	24,915,455		1,637,245	-729,174	25,823,526	908,071	3.64
795-000000 JPMORGAN CORE PLUS BOND R6	10,633,327	-2,934,929	88,783	-146,985	7,640,196	-58,203	-0.73
795-000021 JP MORGAN SMALL CAP VALUE	18,283,792		881,470	-347,812	18,817,450	533,658	2.92
795-000029 MFS INTL VAL	15,549,939		552,163	305,466	16,407,568	857,629	5.52
795-000021 METROWEST TOTAL RET	43,785,044		711,692	-903,435	43,593,301	-191,743	-0.44
795-000029 OAKMARK INTL	10,330,472			497,501	10,827,973	497,501	4.82
795-000021 PARADIGM LARGE VAL	18,565,174			1,135,610	19,700,784	1,135,610	6.12
795-000021 TCW DIV FOCUS	15,228,993		146,616	834,351	16,209,960	980,967	6.44
795-000021 TEMPLETON GLOBAL	23,323,673		209,857	325,414	23,858,944	535,271	2.29
795-000021 VANGUARD PRIME MMKT	471,201	159,874	229		631,304	229	0.02
795-000029 VIRTUS EMERGING MKT	9,441,666		94,568	31,098	9,567,333	125,666	1.33
COMPOSITE PORTFOLIO	355,840,914	-2,775,055	9,152,353	3,071,649	365,289,860	12,224,002	3.44

gross time weighted return

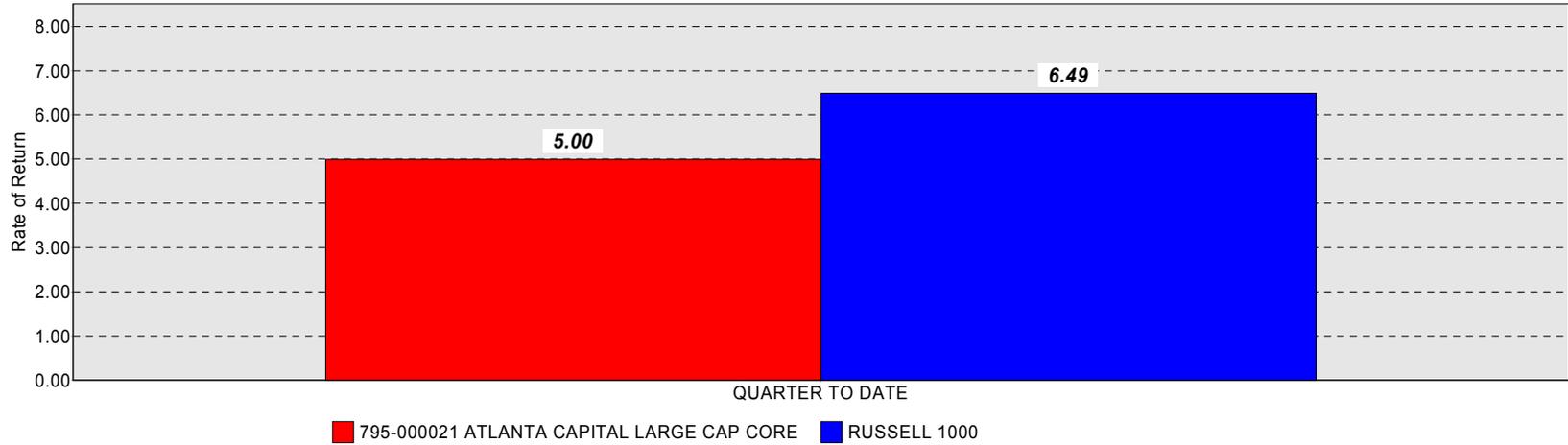
**CLAYTON COUNTY**  
**795-000021 ATLANTA CAPITAL LARGE CAP CORE**  
**PERIOD ENDING December 31, 2015**

04:45 pm 2/1/2016

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Morgan Stanley

**CLAYTON COUNTY**  
**795-000021 ATLANTA CAPITAL LARGE CAP CORE**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	10,710,777.97
Net Contributions	0.00
Interest And Dividend Income	0.00
Investment Earnings	535,080.40
Ending Mkt Value	11,245,858.37
Gross Time Weighted Return	5.00
RUSSELL 1000	6.49

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: September 30, 2015*

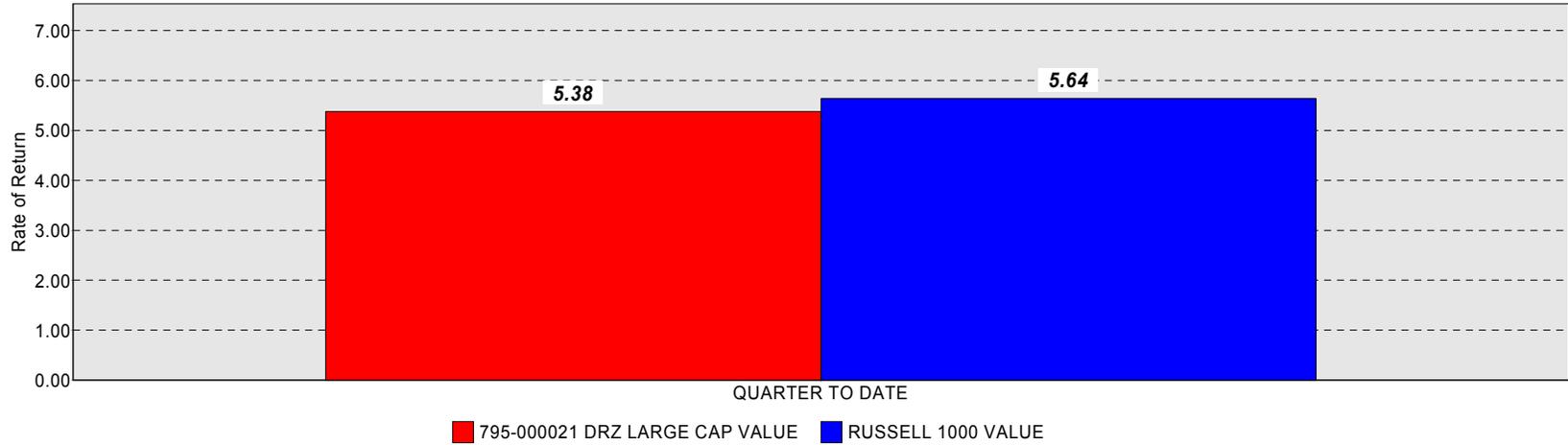
**CLAYTON COUNTY**  
**795-000021 DRZ LARGE CAP VALUE**  
**PERIOD ENDING December 31, 2015**

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13

Morgan Stanley

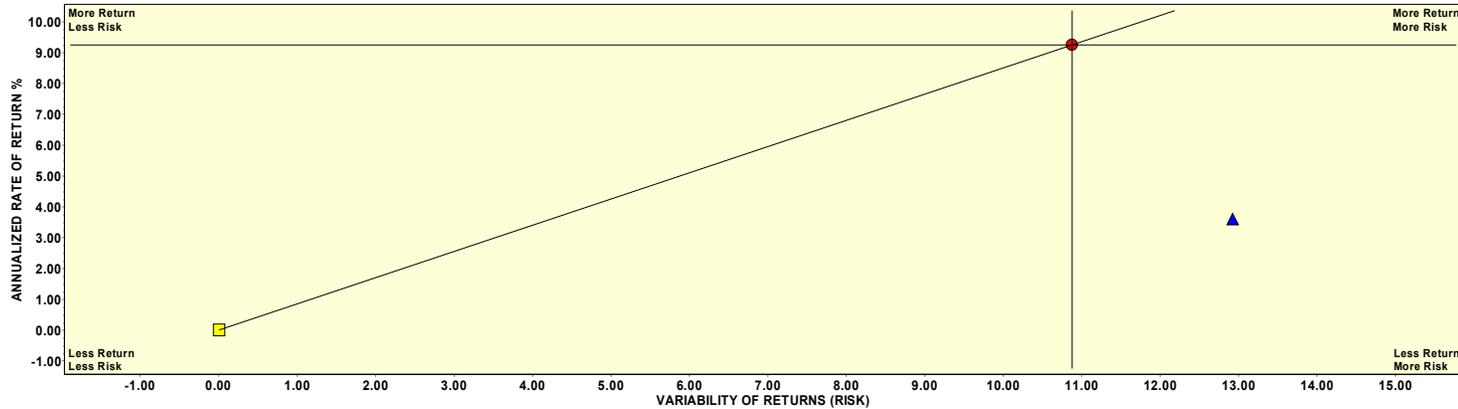
**CLAYTON COUNTY**  
**795-000021 DRZ LARGE CAP VALUE**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	15,673,774.66
Net Contributions	0.00
Interest And Dividend Income	0.00
Investment Earnings	843,431.82
Ending Mkt Value	16,517,206.48
Gross Time Weighted Return	5.38
RUSSELL 1000 VALUE	5.64

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 DRZ LARGE CAP VALUE**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	3.60	12.93	0.28	1.13	-6.35	90.70
● RUSSELL 1000 VALUE	9.25	10.88	0.85	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-9.06	16.24	-4.23	1.25	-0.68	-5.22	-22.86	133.03	111.06	17.90
6/2013-12/2015	3.60	12.93	-6.35	1.13	0.36	-5.66	-33.04	127.01	92.69	34.13

*gross time weighted return*  
*Portfolio Risk Index: RUSSELL 1000 VALUE Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY  
795-000021 DRZ LARGE CAP VALUE  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: -6.35 percent per Year

Since 6/30/2013, your fund has averaged -6.35 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 1.13

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 1.13 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( RUSSELL 1000 VALUE )

DIVERSIFICATION: 90.70 percent

Since 6/30/2013, your fund has been 90.70 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

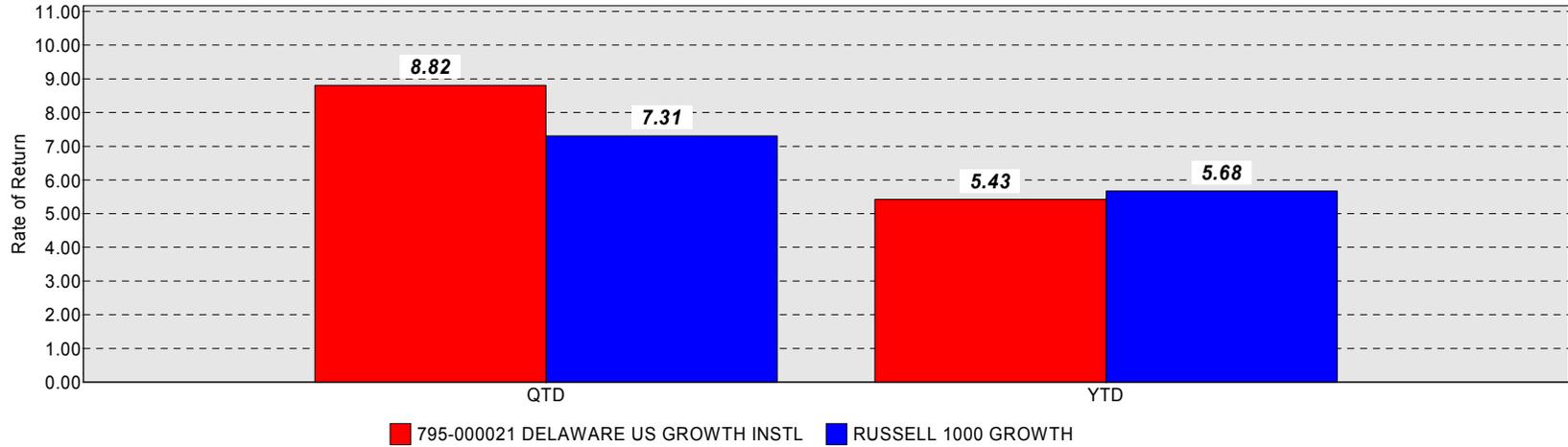
<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-3.84		0.01		-3.85		1.25		-4.79		-9.06		0.01		-9.07		-4.79		-4.27
6/2013-12/2015	9.25		0.01		9.25		1.13		10.47		3.60		0.01		3.59		10.47		-6.88

RISK BENCHMARK IS RUSSELL 1000 VALUE

**CLAYTON COUNTY**  
**795-000021 DELAWARE US GROWTH INSTL**  
**PERIOD ENDING December 31, 2015**

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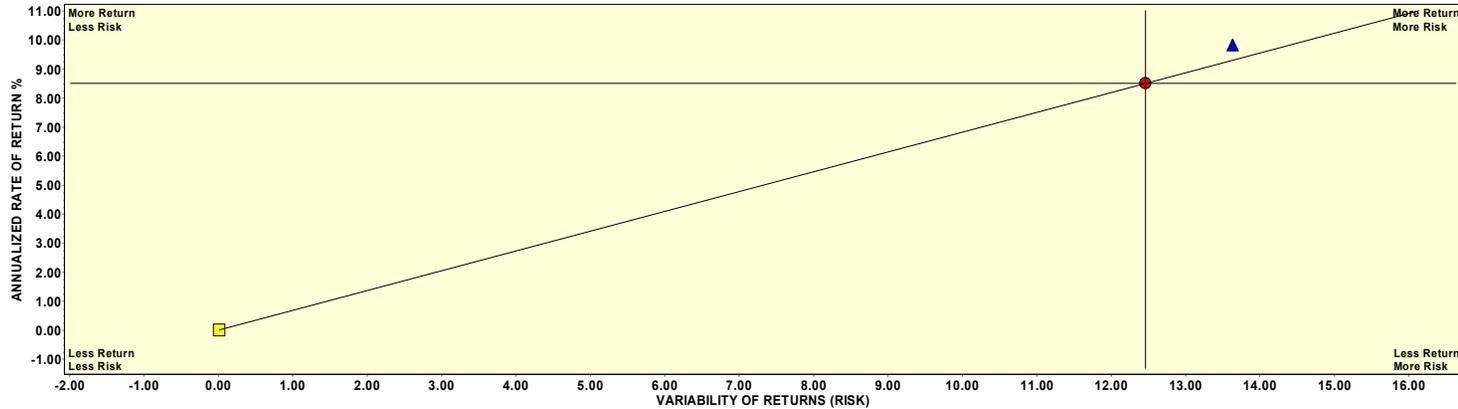
**CLAYTON COUNTY**  
**795-000021 DELAWARE US GROWTH INSTL**  
**December 31, 2015 Performance Review**



	<u>QTD</u>	<u>YTD</u>
Beginning Mkt Value	21,006,403.67	21,681,580.54
Net Contributions	0.00	0.00
Interest And Dividend Income	2,498,240.71	2,540,176.62
Investment Earnings	1,852,307.38	1,177,130.51
Ending Mkt Value	22,858,711.05	22,858,711.05
Gross Time Weighted Return	8.82	5.43
RUSSELL 1000 GROWTH	7.31	5.68

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.  
gross time weighted return  
Inception Date: September 8, 2014*

**CLAYTON COUNTY**  
**795-000021 DELAWARE US GROWTH INSTL**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	9.83	13.64	0.72	1.06	0.82	94.30
● RUSSELL 1000 GROWTH	8.50	12.46	0.68	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	5.43	14.70	-0.45	1.06	0.53	-0.25	-14.58	106.62	104.50	23.43
9/2014-12/2015	9.83	13.64	0.82	1.06	0.86	1.33	-14.88	102.10	108.30	32.09

*gross time weighted return*  
*Portfolio Risk Index: RUSSELL 1000 GROWTH Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 9/8/2014*

**CLAYTON COUNTY**  
**795-000021 DELAWARE US GROWTH INSTL**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 0.82 percent per Year

Since 9/30/2014, your fund has averaged 0.82 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 1.06

The volatility coefficient is known as Beta.

Since 9/30/2014, your fund has been 1.06 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
(RUSSELL 1000 GROWTH)

DIVERSIFICATION: 94.30 percent

Since 9/30/2014, your fund has been 94.30 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

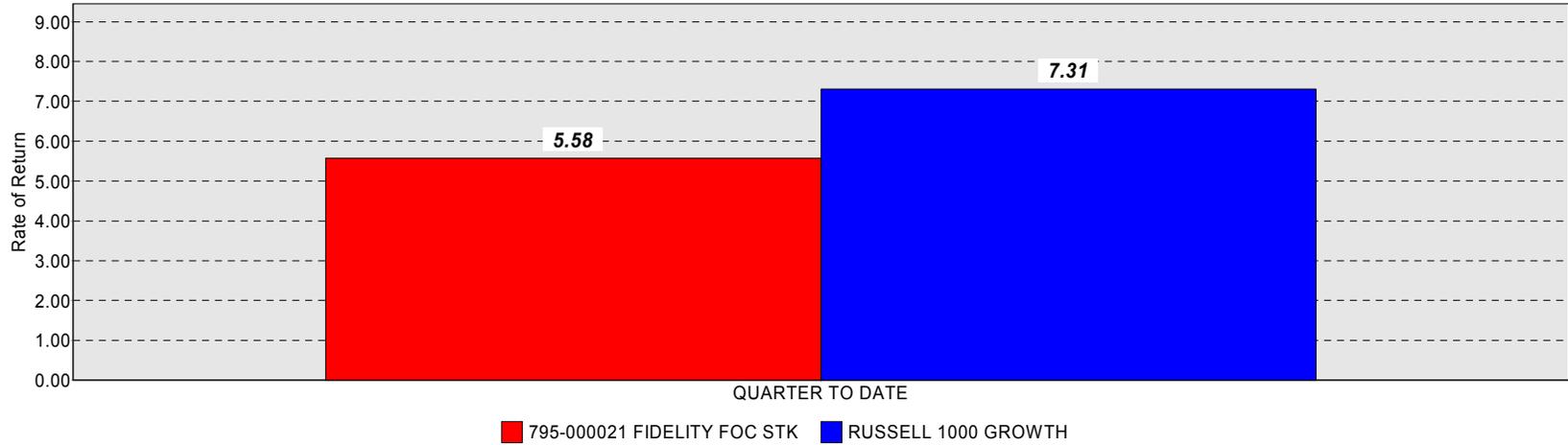
<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	5.68		0.01		5.67		1.06		6.01		5.43		0.01		5.42		6.01		-0.60
9/2014-12/2015	8.50		0.01		8.50		1.06		9.03		9.83		0.01		9.82		9.03		0.80

RISK BENCHMARK IS RUSSELL 1000 GROWTH

**CLAYTON COUNTY**  
**795-000021 FIDELITY FOC STK**  
**PERIOD ENDING December 31, 2015**

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**CLAYTON COUNTY**  
**795-00021 FIDELITY FOC STK**  
**December 31, 2015 Performance Review**

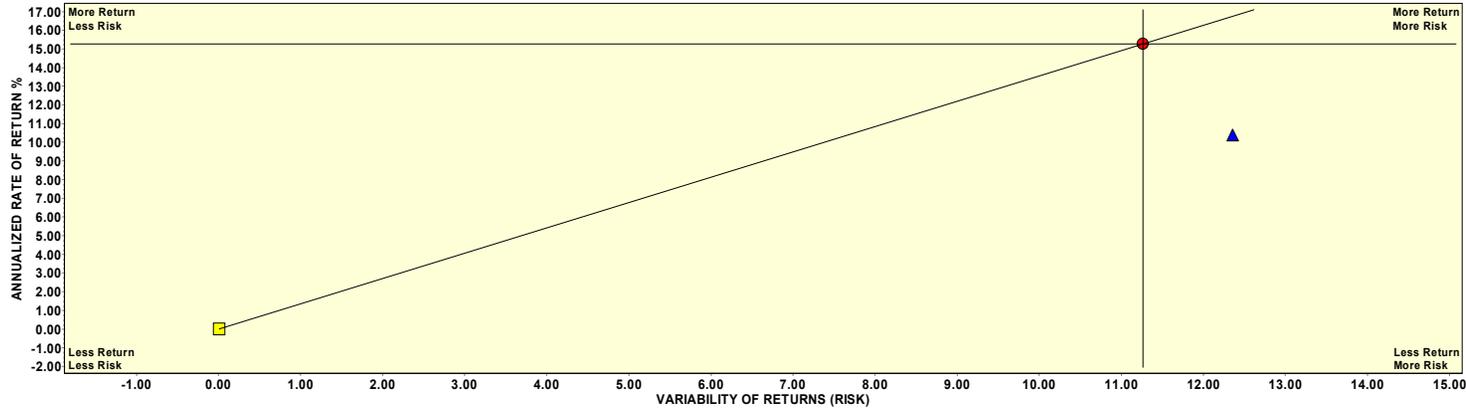


	<u>QUARTER TO DATE</u>
Beginning Mkt Value	20,335,697.25
Net Contributions	0.00
Interest And Dividend Income	1,200,037.34
Investment Earnings	1,133,863.13
Ending Mkt Value	21,469,560.38

Gross Time Weighted Return	5.58
RUSSELL 1000 GROWTH	7.31

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 FIDELITY FOC STK**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	10.38	12.36	0.84	0.98	-3.94	79.76
● RUSSELL 1000 GROWTH	15.27	11.26	1.36	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	1.71	13.51	-3.31	0.92	0.22	-3.96	-13.88	101.47	80.75	18.10
6/2013-12/2015	10.38	12.36	-3.94	0.98	0.89	-4.89	-24.84	114.78	86.81	42.62

*gross time weighted return*  
*Portfolio Risk Index: RUSSELL 1000 GROWTH Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY  
795-000021 FIDELITY FOC STK  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: -3.94 percent per Year

Since 6/30/2013, your fund has averaged -3.94 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.98

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 0.98 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
( RUSSELL 1000 GROWTH )

DIVERSIFICATION: 79.76 percent

Since 6/30/2013, your fund has been 79.76 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	5.68		0.01		5.67		0.92		5.23		1.71		0.01		1.70		5.23		-3.53
6/2013-12/2015	15.27		0.01		15.26		0.98		14.96		10.38		0.01		10.38		14.96		-4.58

RISK BENCHMARK IS RUSSELL 1000 GROWTH

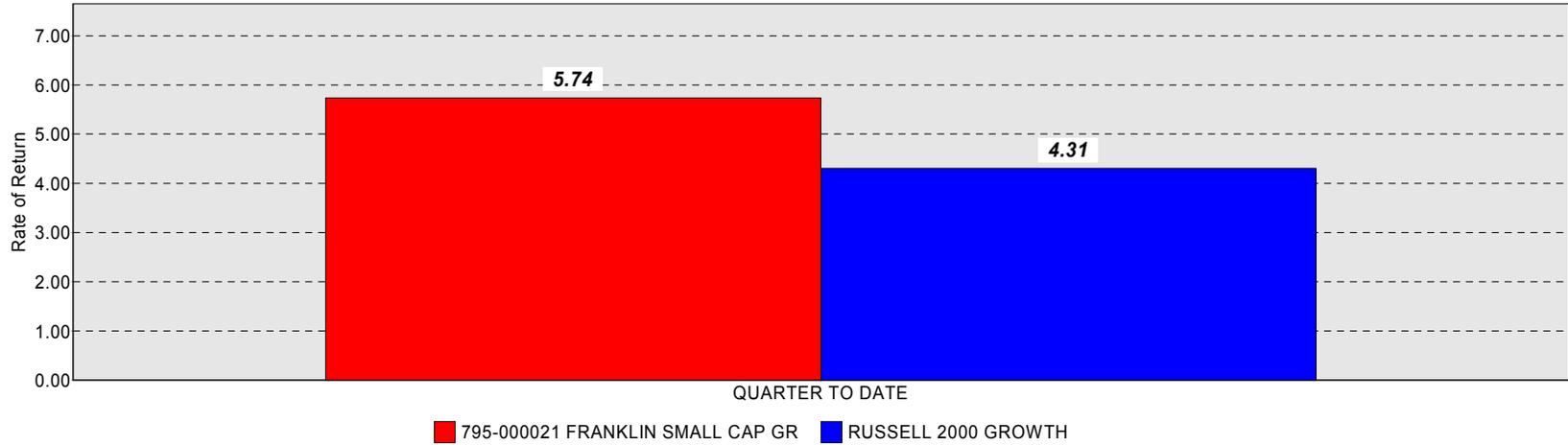
**CLAYTON COUNTY**  
**795-000021 FRANKLIN SMALL CAP GR**  
**PERIOD ENDING December 31, 2015**

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Morgan Stanley

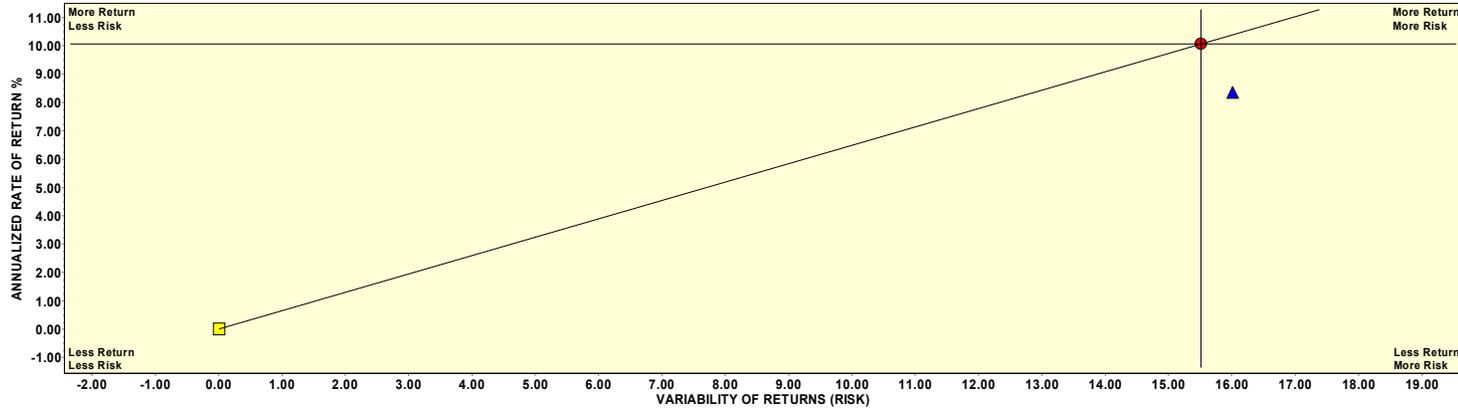
**CLAYTON COUNTY**  
**795-00021 FRANKLIN SMALL CAP GR**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	19,386,113.65
Net Contributions	0.00
Interest And Dividend Income	390,243.36
Investment Earnings	1,112,584.10
Ending Mkt Value	20,498,697.75
Gross Time Weighted Return	5.74
RUSSELL 2000 GROWTH	4.31

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 FRANKLIN SMALL CAP GR**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	8.35	16.01	0.52	0.97	-1.16	88.05
● RUSSELL 2000 GROWTH	10.07	15.51	0.65	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-4.26	17.54	-2.66	1.05	-0.23	-2.88	-23.25	106.65	94.78	24.74
6/2013-12/2015	8.35	16.01	-1.16	0.97	0.78	-1.72	-37.61	98.97	92.20	52.89

*gross time weighted return*  
*Portfolio Risk Index: RUSSELL 2000 GROWTH Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY**  
**795-000021 FRANKLIN SMALL CAP GR**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: -1.16 percent per Year

Since 6/30/2013, your fund has averaged -1.16 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.97

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 0.97 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
(RUSSELL 2000 GROWTH)

DIVERSIFICATION: 88.05 percent

Since 6/30/2013, your fund has been 88.05 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

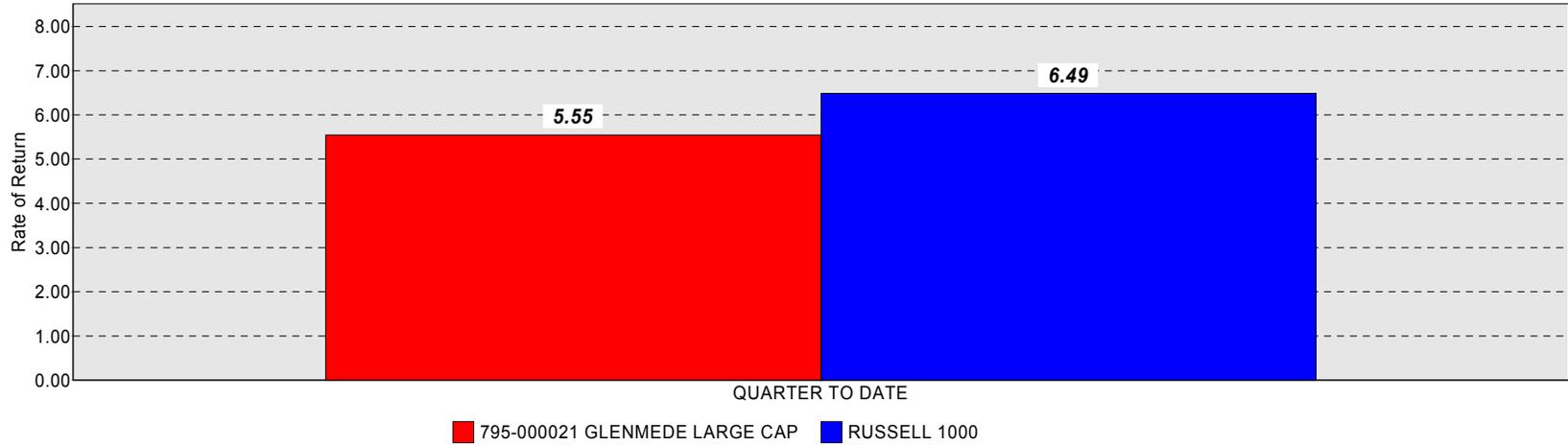
<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-1.39		0.01		-1.40		1.05		-1.46		-4.26		0.01		-4.27		-1.46		-2.81
6/2013-12/2015	10.07		0.01		10.06		0.97		9.75		8.35		0.01		8.34		9.75		-1.40

RISK BENCHMARK IS RUSSELL 2000 GROWTH

**CLAYTON COUNTY**  
**795-000021 GLENMEDE LARGE CAP**  
**PERIOD ENDING December 31, 2015**

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**CLAYTON COUNTY**  
**795-000021 GLENMEDE LARGE CAP**  
**December 31, 2015 Performance Review**

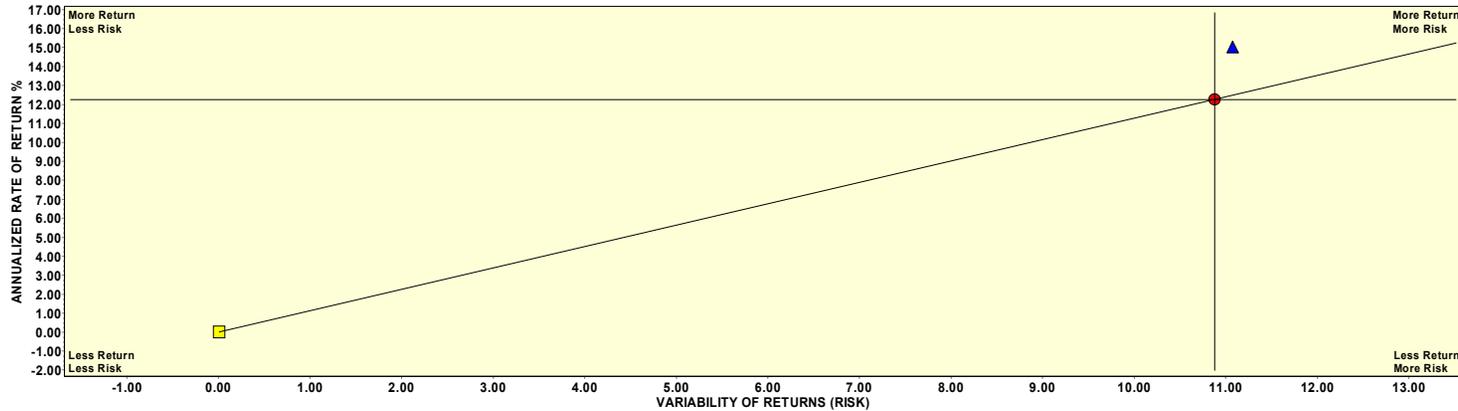


	<u>QUARTER TO DATE</u>
Beginning Mkt Value	18,038,250.73
Net Contributions	0.00
Interest And Dividend Income	323,949.36
Investment Earnings	1,001,321.66
Ending Mkt Value	19,039,572.39

Gross Time Weighted Return	5.55
RUSSELL 1000	6.49

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 GLENMEDE LARGE CAP**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	15.04	11.08	1.36	1.00	2.51	96.09
● RUSSELL 1000	12.27	10.88	1.13	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	2.04	12.31	1.16	0.94	0.23	1.14	-13.43	87.12	92.63	17.88
6/2013-12/2015	15.04	11.08	2.51	1.00	1.22	2.77	-20.82	89.68	106.53	44.57

*gross time weighted return*  
*Portfolio Risk Index: RUSSELL 1000 Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY  
795-000021 GLENMEDE LARGE CAP  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 2.51 percent per Year

Since 6/30/2013, your fund has averaged 2.51 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 1.00

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 1.00 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( RUSSELL 1000 )

DIVERSIFICATION: 96.09 percent

Since 6/30/2013, your fund has been 96.09 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

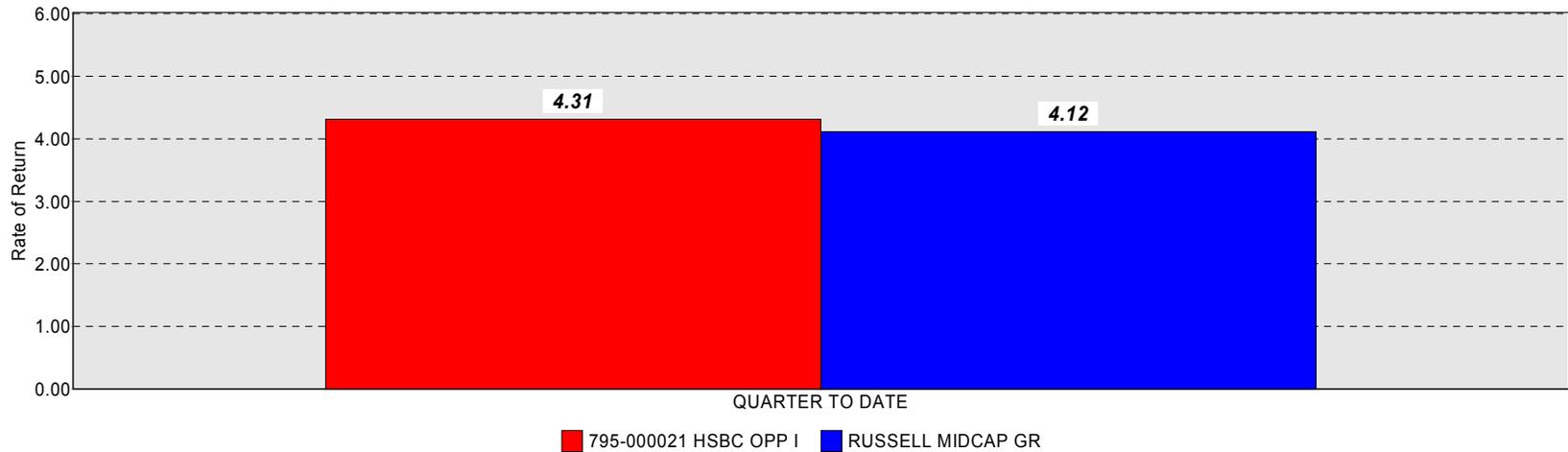
<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	0.90		0.01		0.89		0.94		0.84		2.04		0.01		2.03		0.84		1.19
6/2013-12/2015	12.27		0.01		12.26		1.00		12.24		15.04		0.01		15.03		12.24		2.79

RISK BENCHMARK IS RUSSELL 1000

**CLAYTON COUNTY**  
**795-000021 HSBC OPP I**  
**PERIOD ENDING December 31, 2015**

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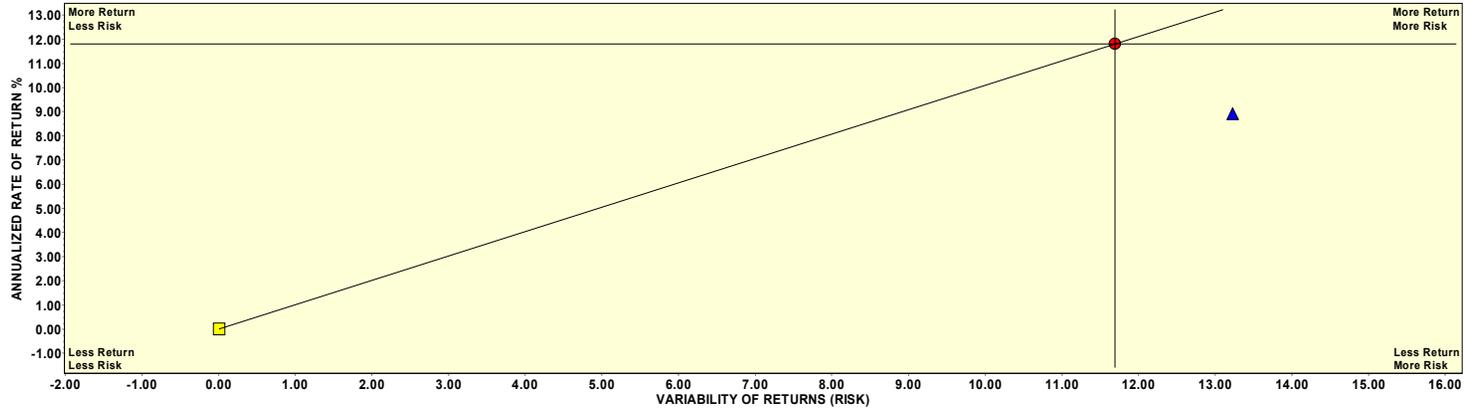
**CLAYTON COUNTY  
795-000021 HSBC OPP I  
December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	15,922,064.12
Net Contributions	0.00
Interest And Dividend Income	4,208.34
Investment Earnings	686,881.96
Ending Mkt Value	16,608,946.08
Gross Time Weighted Return	4.31
RUSSELL MIDCAP GR	4.12

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.  
gross time weighted return  
Inception Date: June 30, 2013*

**CLAYTON COUNTY  
795-000021 HSBC OPP I  
December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	8.93	13.23	0.67	1.08	-3.39	91.05
● RUSSELL MIDCAP GR	11.81	11.69	1.01	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-4.39	15.11	-3.99	1.18	-0.28	-4.20	-20.83	138.98	119.33	20.76
6/2013-12/2015	8.93	13.23	-3.39	1.08	0.79	-2.88	-28.88	119.52	100.89	50.90

*gross time weighted return*

*Portfolio Risk Index: RUSSELL MIDCAP GR Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*

*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY  
795-000021 HSBC OPP I  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: -3.39 percent per Year

Since 6/30/2013, your fund has averaged -3.39 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 1.08

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 1.08 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( RUSSELL MIDCAP GR )

DIVERSIFICATION: 91.05 percent

Since 6/30/2013, your fund has been 91.05 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-0.20		0.01		-0.21		1.18		-0.24		-4.39		0.01		-4.40		-0.24		-4.16
6/2013-12/2015	11.81		0.01		11.81		1.08		12.75		8.93		0.01		8.92		12.75		-3.83

RISK BENCHMARK IS RUSSELL MIDCAP GR

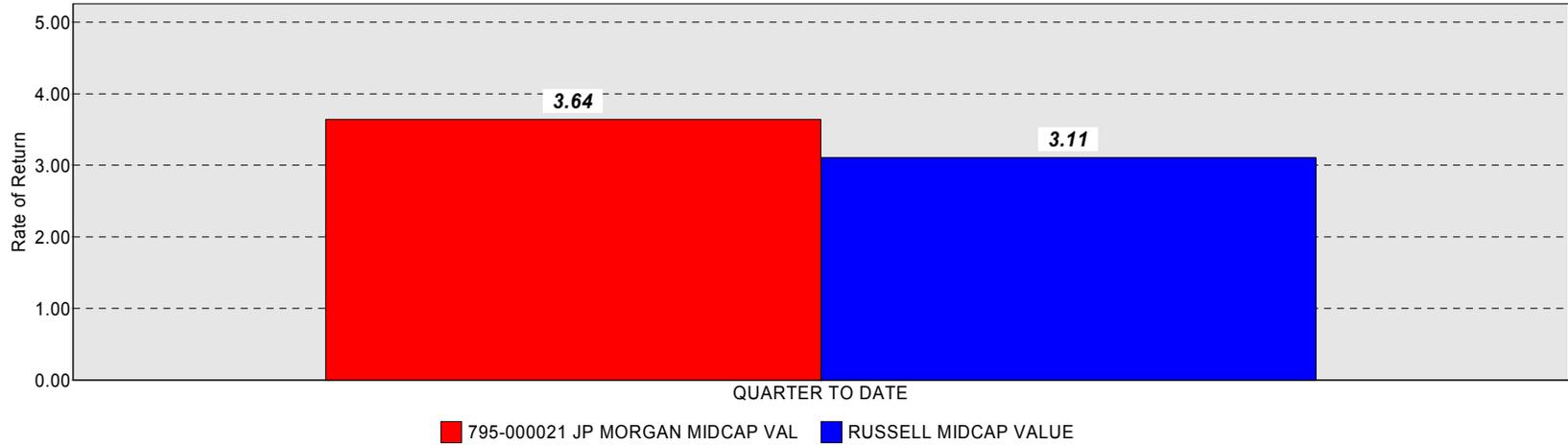
**CLAYTON COUNTY**  
**795-000021 JP MORGAN MIDCAP VAL**  
**PERIOD ENDING December 31, 2015**

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Morgan Stanley

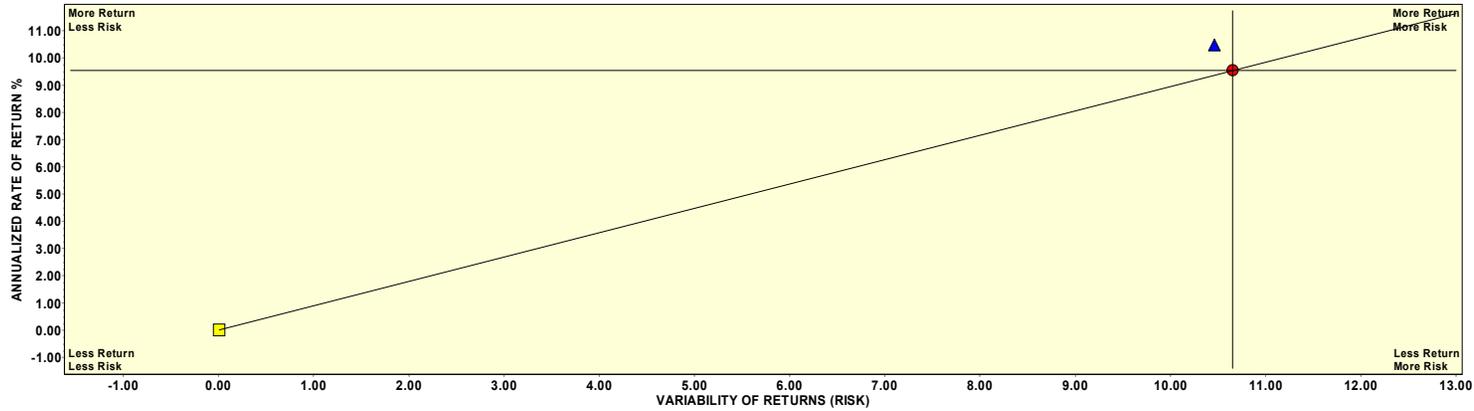
**CLAYTON COUNTY**  
**795-000021 JP MORGAN MIDCAP VAL**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	24,915,454.99
Net Contributions	0.00
Interest And Dividend Income	1,637,245.06
Investment Earnings	908,070.93
Ending Mkt Value	25,823,525.92
Gross Time Weighted Return	3.64
RUSSELL MIDCAP VALUE	3.11

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 JP MORGAN MIDCAP VAL**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	10.48	10.46	1.00	0.95	1.30	94.28
● RUSSELL MIDCAP VALUE	9.54	10.66	0.89	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-2.25	10.60	2.60	0.99	-0.14	2.54	-13.48	86.72	101.92	12.98
6/2013-12/2015	10.48	10.46	1.30	0.95	0.88	0.94	-23.56	93.61	100.04	41.23

*gross time weighted return*  
*Portfolio Risk Index: RUSSELL MIDCAP VALUE Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY**  
**795-000021 JP MORGAN MIDCAP VAL**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 1.30 percent per Year

Since 6/30/2013 , your fund has averaged 1.30 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.95

The volatility coefficient is known as Beta.

Since 6/30/2013 , your fund has been 0.95 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
 ( RUSSELL MIDCAP VALUE )

DIVERSIFICATION: 94.28 percent

Since 6/30/2013 , your fund has been 94.28 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-4.79		0.01		-4.80		0.99		-4.75		-2.25		0.01		-2.26		-4.75		2.49
6/2013-12/2015	9.54		0.01		9.54		0.95		9.09		10.48		0.01		10.48		9.09		1.39

RISK BENCHMARK IS RUSSELL MIDCAP VALUE

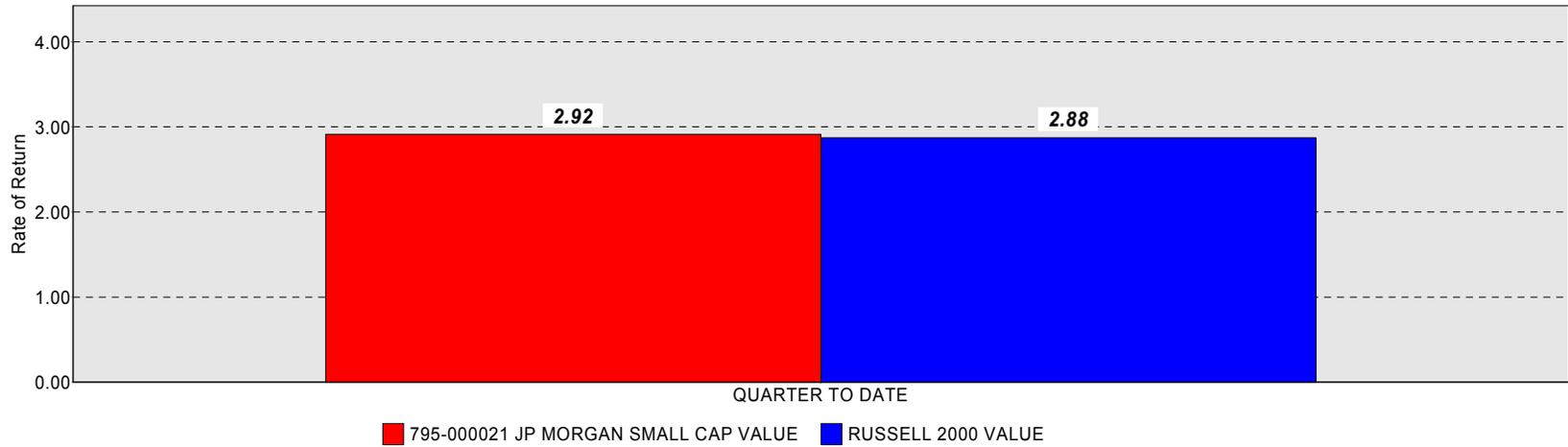
**CLAYTON COUNTY**  
**795-000021 JP MORGAN SMALL CAP VALUE**  
**PERIOD ENDING December 31, 2015**

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Morgan Stanley

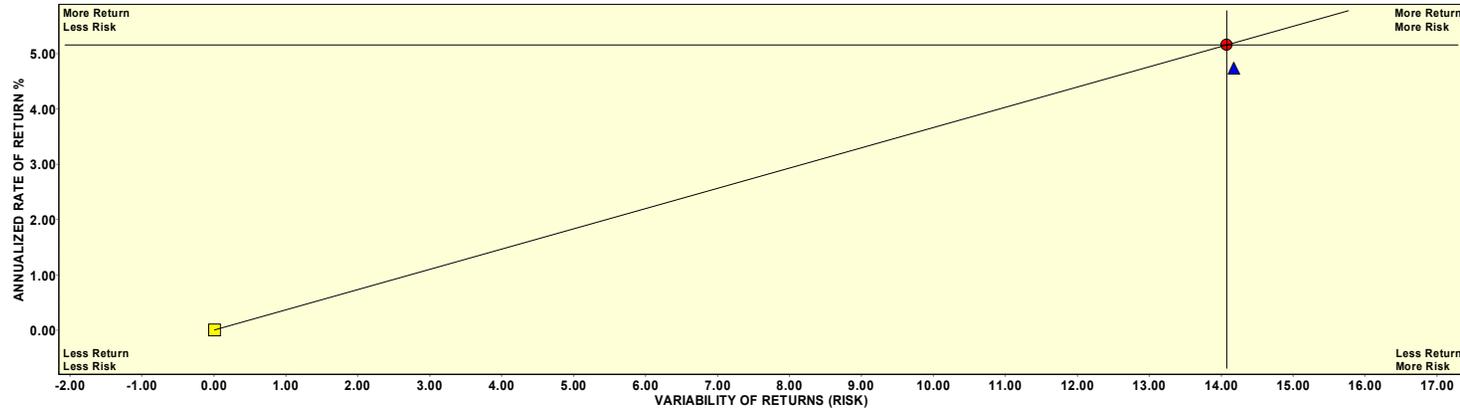
**CLAYTON COUNTY**  
**795-000021 JP MORGAN SMALL CAP VALUE**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	18,283,792.39
Net Contributions	0.00
Interest And Dividend Income	881,469.77
Investment Earnings	533,657.67
Ending Mkt Value	18,817,450.06
Gross Time Weighted Return	2.92
RUSSELL 2000 VALUE	2.88

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 JP MORGAN SMALL CAP VALUE**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	4.73	14.17	0.33	1.00	-0.39	98.56
● RUSSELL 2000 VALUE	5.16	14.08	0.37	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-7.34	12.76	0.33	1.02	-0.57	0.13	-20.95	101.26	103.32	17.22
6/2013-12/2015	4.73	14.17	-0.39	1.00	0.47	-0.43	-38.26	100.46	98.53	48.96

*gross time weighted return*

*Portfolio Risk Index: RUSSELL 2000 VALUE Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*

*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY**  
**795-000021 JP MORGAN SMALL CAP VALUE**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: -0.39 percent per Year

Since 6/30/2013 , your fund has averaged -0.39 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 1.00

The volatility coefficient is known as Beta.

Since 6/30/2013 , your fund has been 1.00 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( RUSSELL 2000 VALUE )

DIVERSIFICATION: 98.56 percent

Since 6/30/2013 , your fund has been 98.56 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

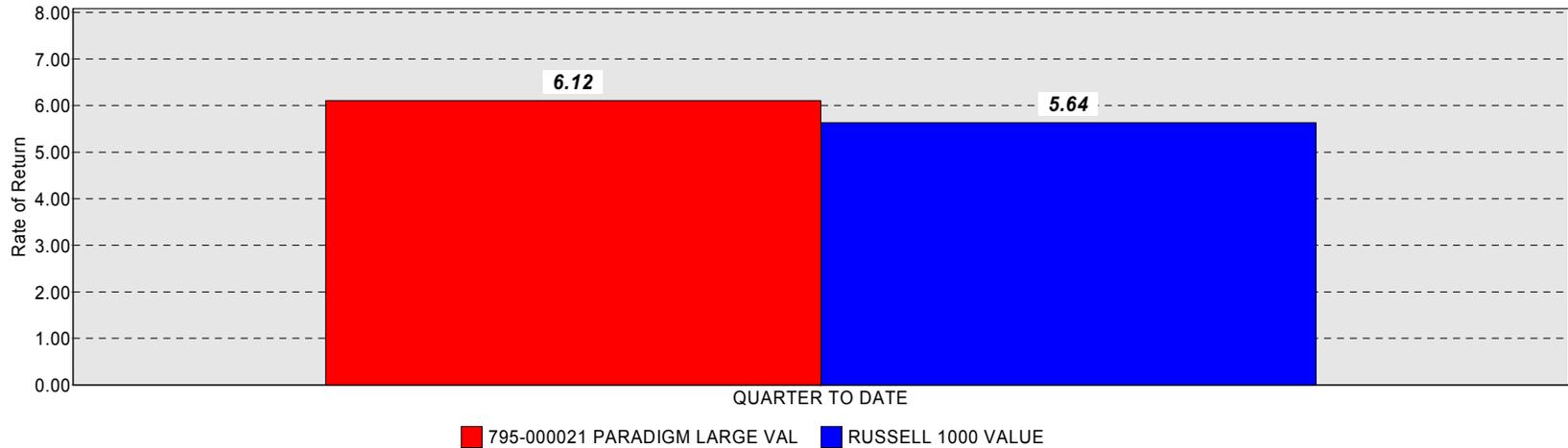
<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-7.47		0.01		-7.48		1.02		-7.64		-7.34		0.01		-7.35		-7.64		0.29
6/2013-12/2015	5.16		0.01		5.15		1.00		5.15		4.73		0.01		4.72		5.15		-0.43

RISK BENCHMARK IS RUSSELL 2000 VALUE

**CLAYTON COUNTY**  
**795-000021 PARADIGM LARGE VAL**  
**PERIOD ENDING December 31, 2015**

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**CLAYTON COUNTY  
795-000021 PARADIGM LARGE VAL  
December 31, 2015 Performance Review**

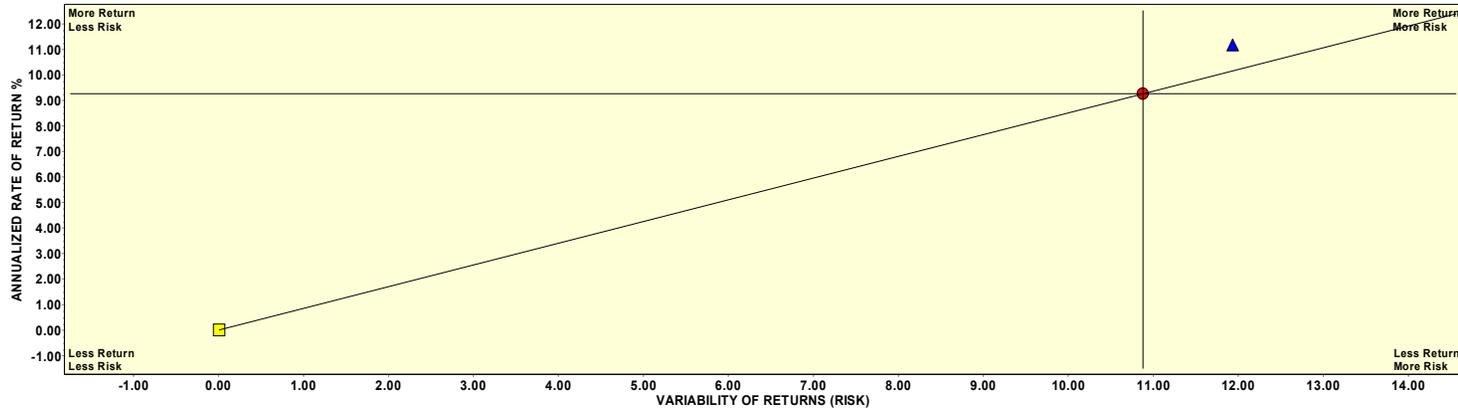


	<u>QUARTER TO DATE</u>
Beginning Mkt Value	18,565,173.82
Net Contributions	0.00
Interest And Dividend Income	0.00
Investment Earnings	1,135,609.91
Ending Mkt Value	19,700,783.73

Gross Time Weighted Return	6.12
RUSSELL 1000 VALUE	5.64

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.  
gross time weighted return  
Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 PARADIGM LARGE VAL**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	11.18	11.94	0.94	1.04	1.46	90.53
● RUSSELL 1000 VALUE	9.25	10.88	0.85	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-1.66	12.44	2.22	0.99	-0.08	2.18	-15.99	93.03	105.82	17.05
6/2013-12/2015	11.18	11.94	1.46	1.04	0.95	1.93	-26.71	102.67	112.03	41.25

*gross time weighted return*  
*Portfolio Risk Index: RUSSELL 1000 VALUE Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY  
795-000021 PARADIGM LARGE VAL  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 1.46 percent per Year

Since 6/30/2013, your fund has averaged 1.46 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 1.04

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 1.04 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( RUSSELL 1000 VALUE )

DIVERSIFICATION: 90.53 percent

Since 6/30/2013, your fund has been 90.53 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

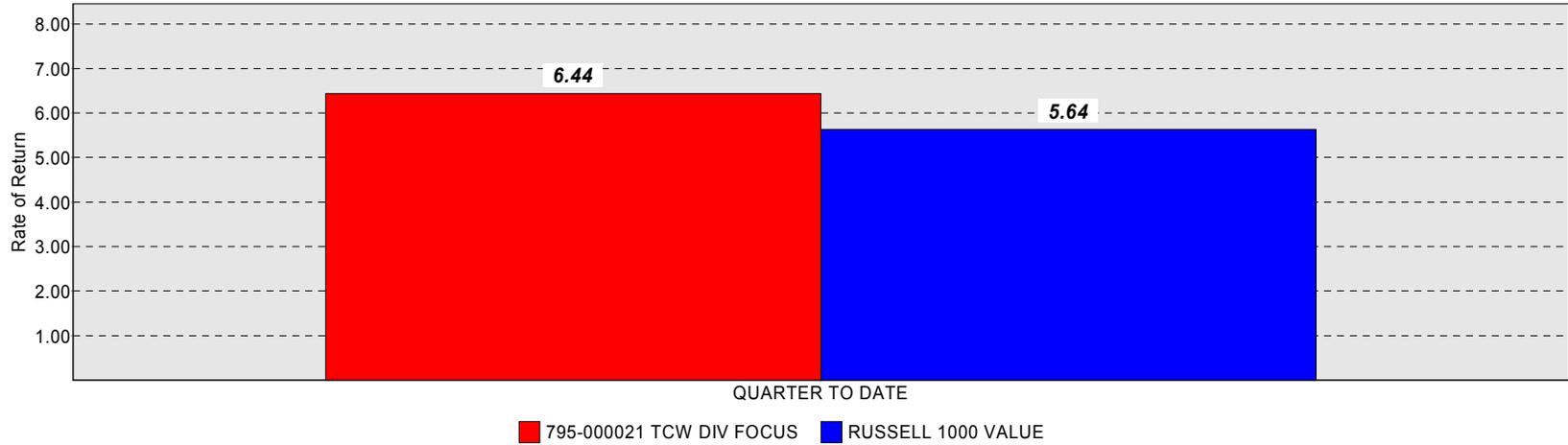
<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-3.84		0.01		-3.85		0.99		-3.82		-1.66		0.01		-1.67		-3.82		2.15
6/2013-12/2015	9.25		0.01		9.25		1.04		9.65		11.18		0.01		11.17		9.65		1.52

RISK BENCHMARK IS RUSSELL 1000 VALUE

**CLAYTON COUNTY**  
**795-000021 TCW DIV FOCUS**  
**PERIOD ENDING December 31, 2015**

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**CLAYTON COUNTY**  
**795-000021 TCW DIV FOCUS**  
**December 31, 2015 Performance Review**

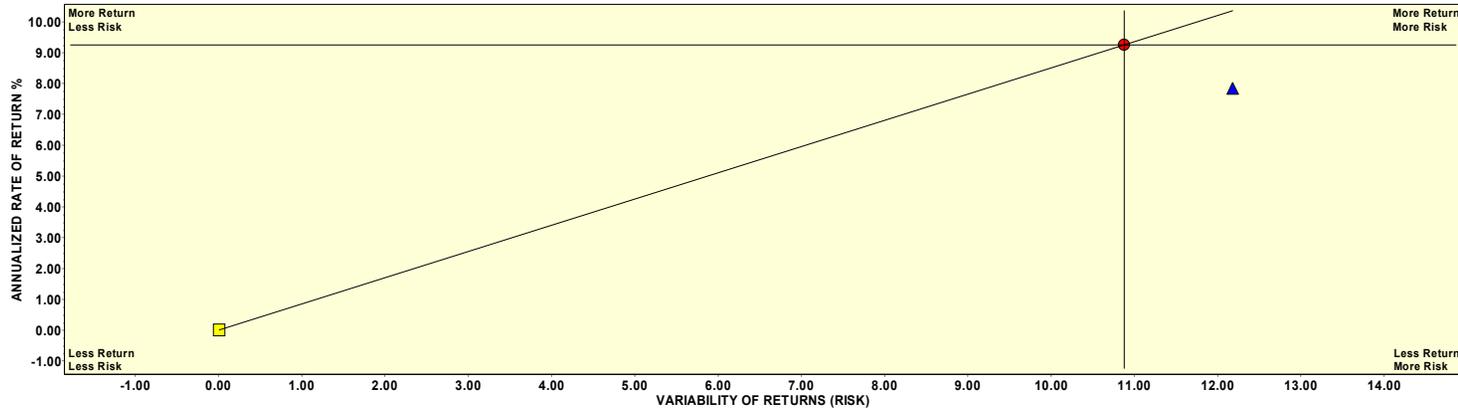


	<u>QUARTER TO DATE</u>
Beginning Mkt Value	15,228,992.60
Net Contributions	0.00
Interest And Dividend Income	146,616.03
Investment Earnings	980,967.31
Ending Mkt Value	16,209,959.91

Gross Time Weighted Return	6.44
RUSSELL 1000 VALUE	5.64

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 TCW DIV FOCUS**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	7.85	12.18	0.64	1.10	-2.13	97.00
● RUSSELL 1000 VALUE	9.25	10.88	0.85	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-4.42	14.51	0.18	1.16	-0.29	-0.58	-20.30	118.11	123.60	19.92
6/2013-12/2015	7.85	12.18	-2.13	1.10	0.69	-1.41	-29.91	114.96	104.85	38.61

*gross time weighted return*  
*Portfolio Risk Index: RUSSELL 1000 VALUE Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY**  
**795-000021 TCW DIV FOCUS**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: -2.13 percent per Year

Since 6/30/2013, your fund has averaged -2.13 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 1.10

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 1.10 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( RUSSELL 1000 VALUE )

DIVERSIFICATION: 97.00 percent

Since 6/30/2013, your fund has been 97.00 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-3.84		0.01		-3.85		1.16		-4.47		-4.42		0.01		-4.43		-4.47		0.04
6/2013-12/2015	9.25		0.01		9.25		1.10		10.20		7.85		0.01		7.84		10.20		-2.36

RISK BENCHMARK IS RUSSELL 1000 VALUE

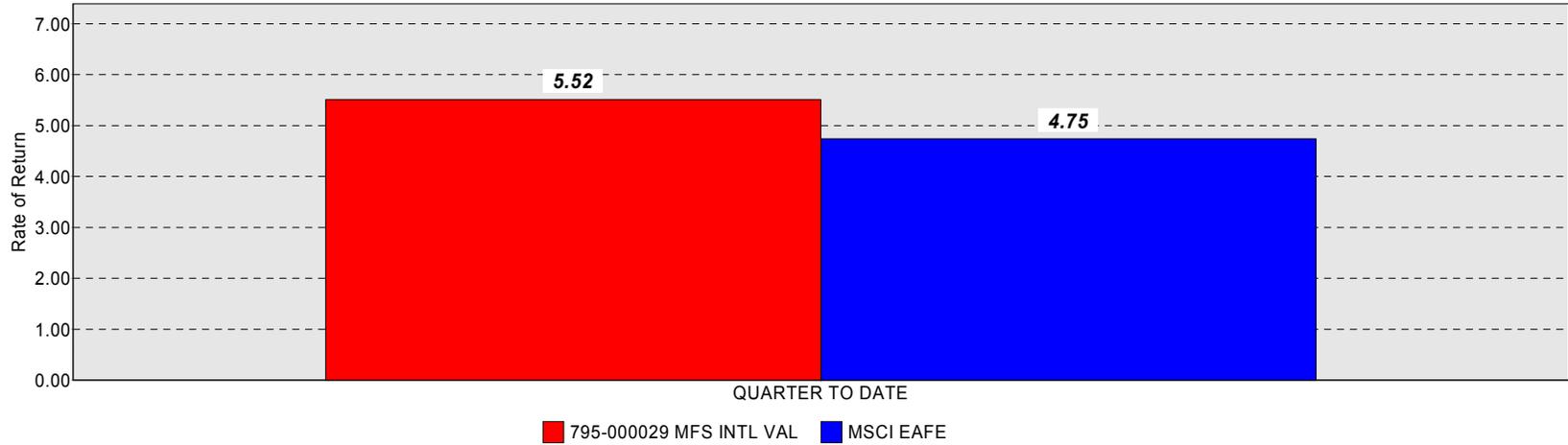
**CLAYTON COUNTY**  
**795-00029 MFS INTL VAL**  
**PERIOD ENDING December 31, 2015**

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**CLAYTON COUNTY**  
**795-000029 MFS INTL VAL**  
**December 31, 2015 Performance Review**

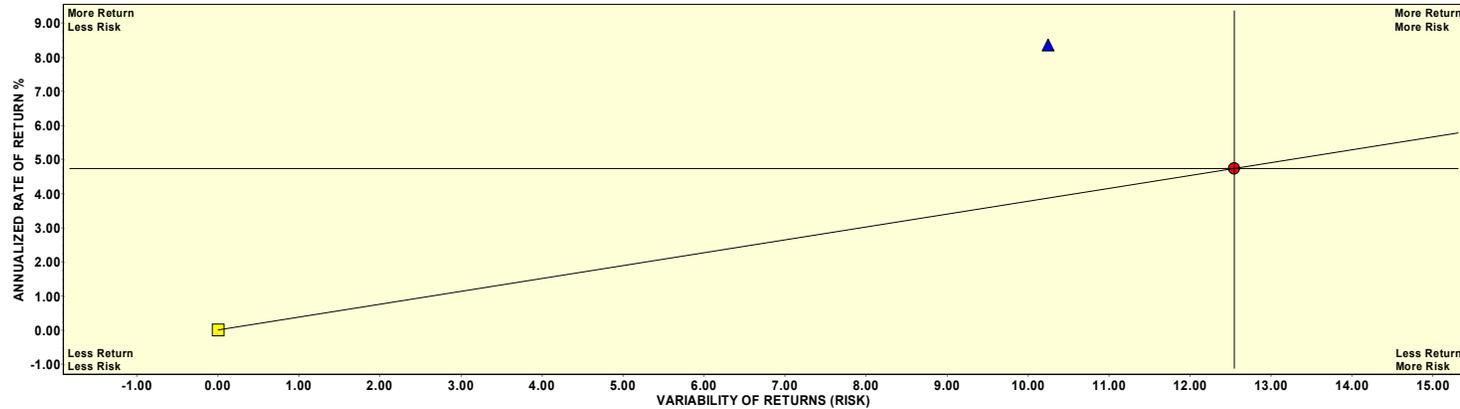


	<u>QUARTER TO DATE</u>
Beginning Mkt Value	15,549,938.85
Net Contributions	0.00
Interest And Dividend Income	552,163.02
Investment Earnings	857,628.96
Ending Mkt Value	16,407,567.81

Gross Time Weighted Return	5.52
MSCI EAFE	4.75

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY  
795-000029 MFS INTL VAL  
December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	8.36	10.25	0.82	0.77	4.41	88.72
● MSCI EAFE	4.74	12.55	0.38	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	6.85	11.06	6.78	0.72	0.60	7.25	-11.20	60.78	91.94	20.33
6/2013-12/2015	8.36	10.25	4.41	0.77	0.71	3.63	-17.90	69.31	89.84	43.03

*gross time weighted return*  
*Portfolio Risk Index: MSCI EAFE Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY**  
**795-000029 MFS INTL VAL**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 4.41 percent per Year

Since 6/30/2013 , your fund has averaged 4.41 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.77

The volatility coefficient is known as Beta.

Since 6/30/2013 , your fund has been 0.77 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
(MSCI EAFE )

DIVERSIFICATION: 88.72 percent

Since 6/30/2013 , your fund has been 88.72 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-0.40		0.01		-0.41		0.72		-0.29		6.85		0.01		6.84		-0.29		7.14
6/2013-12/2015	4.74		0.01		4.73		0.77		3.64		8.36		0.01		8.36		3.64		4.72

RISK BENCHMARK IS MSCI EAFE

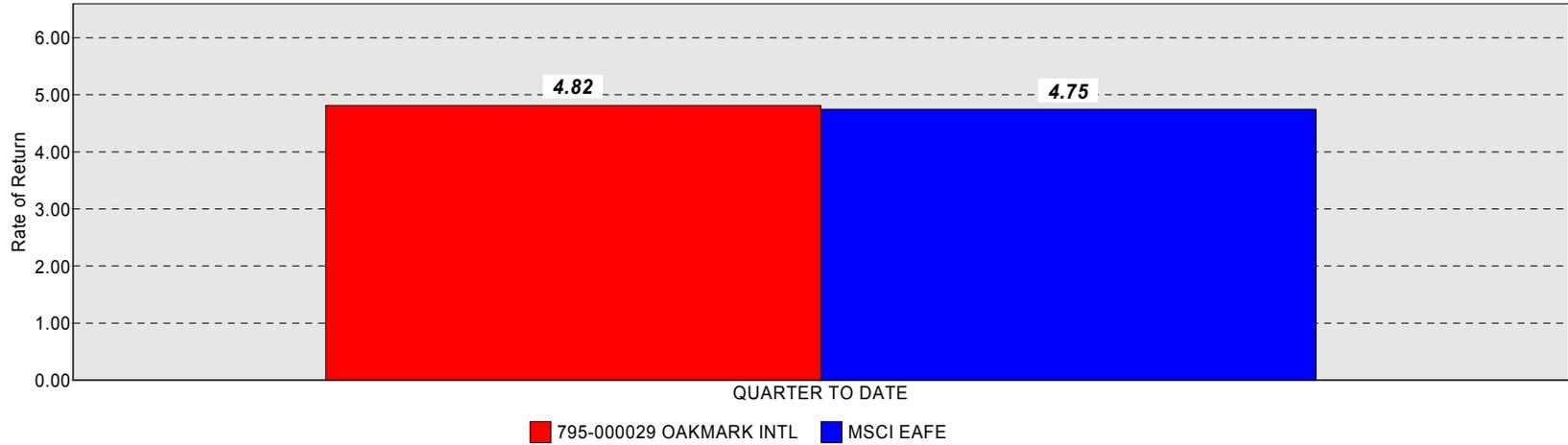
**CLAYTON COUNTY**  
**795-00029 OAKMARK INTL**  
**PERIOD ENDING December 31, 2015**

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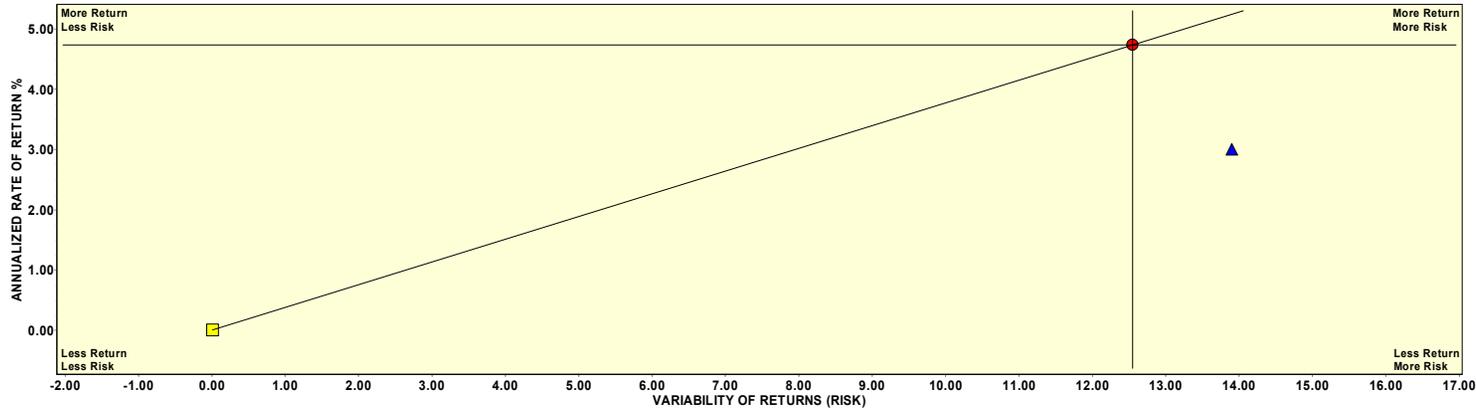
**CLAYTON COUNTY**  
**795-000029 OAKMARK INTL**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	10,330,471.94
Net Contributions	0.00
Interest And Dividend Income	0.00
Investment Earnings	497,501.48
Ending Mkt Value	10,827,973.42
Gross Time Weighted Return	4.82
MSCI EAFE	4.75

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000029 OAKMARK INTL**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	3.00	13.90	0.22	1.07	-1.88	93.47
● MSCI EAFE	4.74	12.55	0.38	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-4.39	16.88	-3.82	1.13	-0.26	-4.00	-21.09	114.37	95.64	21.15
6/2013-12/2015	3.00	13.90	-1.88	1.07	0.33	-1.73	-27.51	106.50	96.78	46.35

*gross time weighted return*  
*Portfolio Risk Index: MSCI EAFE Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY**  
**795-000029 OAKMARK INTL**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: -1.88 percent per Year

Since 6/30/2013, your fund has averaged -1.88 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 1.07

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 1.07 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
(MSCI EAFE)

DIVERSIFICATION: 93.47 percent

Since 6/30/2013, your fund has been 93.47 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-0.40		0.01		-0.41		1.13		-0.46		-4.39		0.01		-4.40		-0.46		-3.94
6/2013-12/2015	4.74		0.01		4.73		1.07		5.07		3.00		0.01		3.00		5.07		-2.07

RISK BENCHMARK IS MSCI EAFE

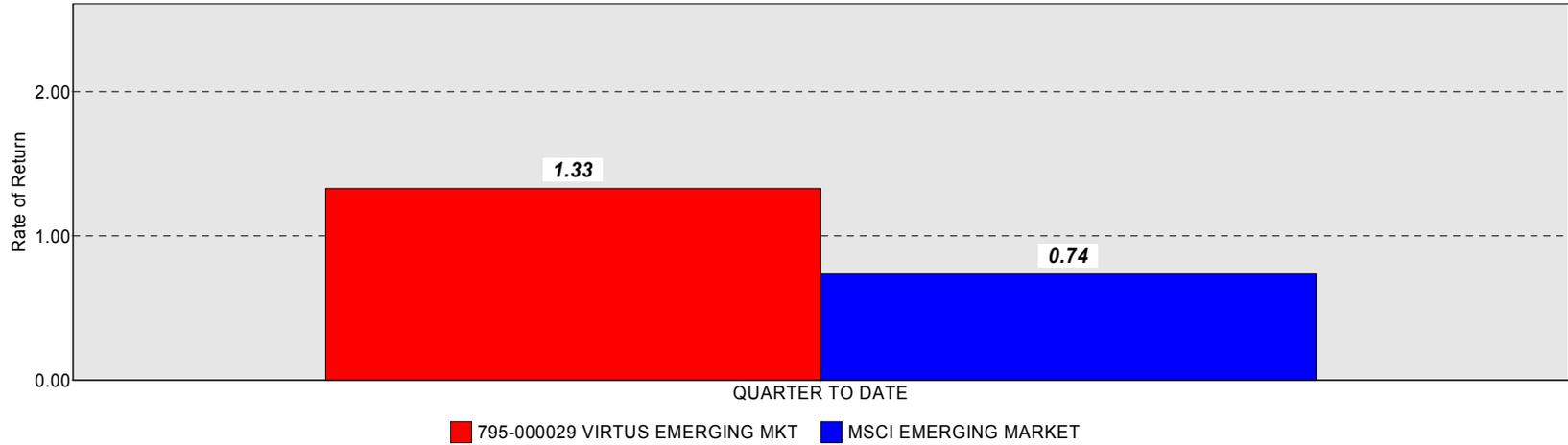
**CLAYTON COUNTY**  
**795-000029 VIRTUS EMERGING MKT**  
**PERIOD ENDING December 31, 2015**

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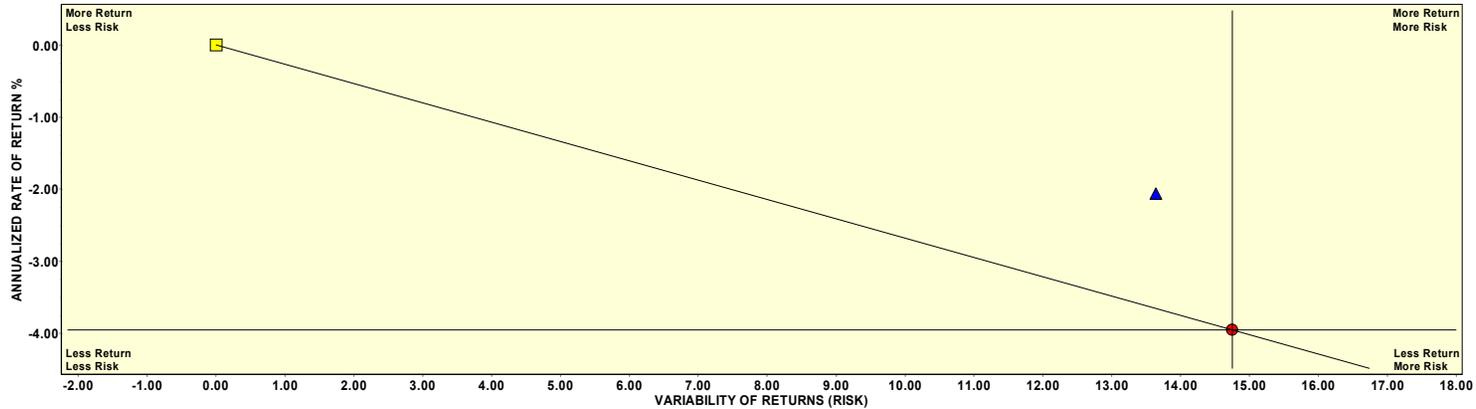
**CLAYTON COUNTY**  
**795-000029 VIRTUS EMERGING MKT**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	9,441,666.34
Net Contributions	0.00
Interest And Dividend Income	94,567.92
Investment Earnings	125,666.26
Ending Mkt Value	9,567,332.60
Gross Time Weighted Return	1.33
MSCI EMERGING MARKET	0.74

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000029 VIRTUS EMERGING MKT**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	-2.06	13.64	-0.15	0.77	1.12	69.50
● MSCI EMERGING MARKET	-3.96	14.75	-0.27	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-8.37	11.83	0.00	0.56	-0.67	6.22	-18.60	64.89	63.71	12.57
6/2013-12/2015	-2.06	13.64	1.12	0.77	-0.10	1.89	-33.05	88.46	91.54	43.25

*gross time weighted return*

*Portfolio Risk Index: MSCI EMERGING MARKET Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*

*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY  
795-000029 VIRTUS EMERGING MKT  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 1.12 percent per Year

Since 6/30/2013 , your fund has averaged 1.12 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.77

The volatility coefficient is known as Beta.

Since 6/30/2013 , your fund has been 0.77 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
( MSCI EMERGING MARKET )

DIVERSIFICATION: 69.50 percent

Since 6/30/2013 , your fund has been 69.50 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-14.59		0.01		-14.60		0.56		-8.20		-8.37		0.01		-8.38		-8.20		-0.17
6/2013-12/2015	-3.96		0.01		-3.96		0.77		-3.05		-2.06		0.01		-2.07		-3.05		0.98

RISK BENCHMARK IS MSCI EMERGING MARKET

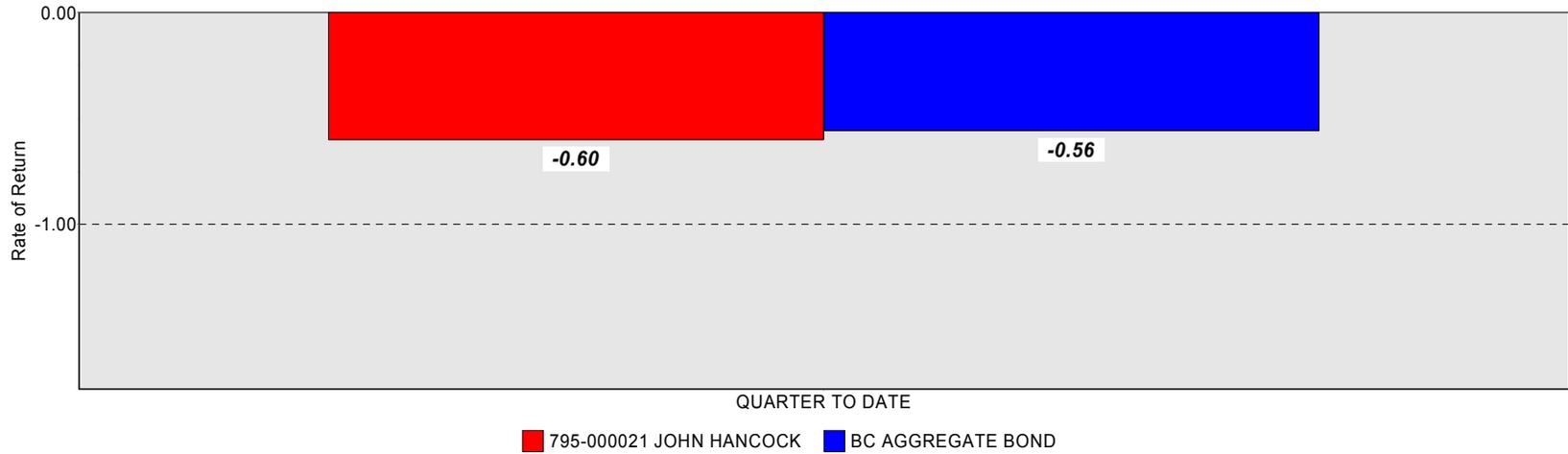
**CLAYTON COUNTY**  
**795-000021 JOHN HANCOCK**  
**PERIOD ENDING December 31, 2015**

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Morgan Stanley

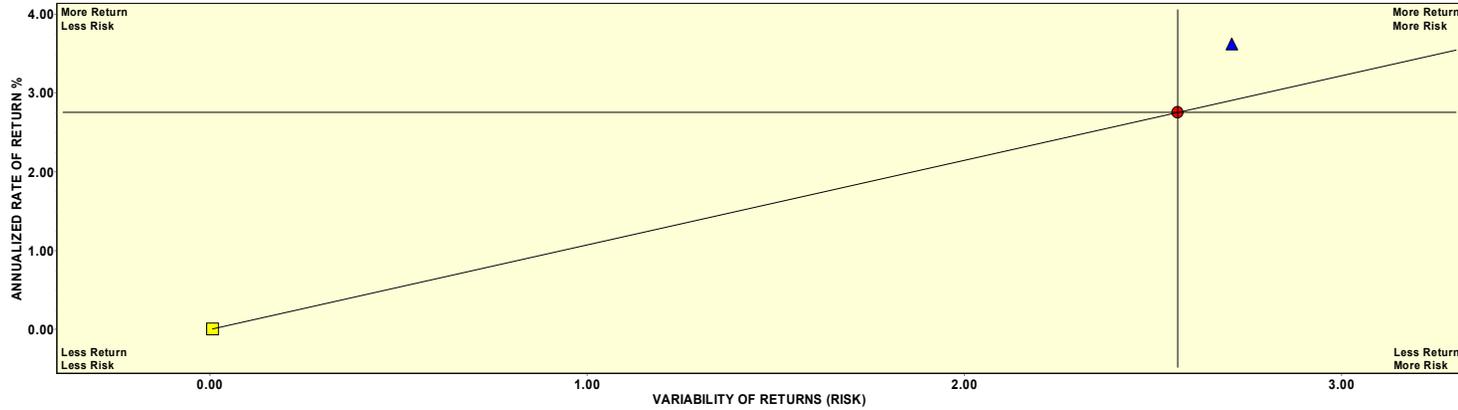
**CLAYTON COUNTY**  
**795-000021 JOHN HANCOCK**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	44,239,095.66
Net Contributions	0.00
Interest And Dividend Income	413,050.67
Investment Earnings	(266,125.59)
Ending Mkt Value	43,972,970.07
Gross Time Weighted Return	(0.60)
BC AGGREGATE BOND	(0.56)

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 JOHN HANCOCK**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	3.62	2.71	1.34	0.95	0.99	80.81
● BC AGGREGATE BOND	2.75	2.57	1.07	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	0.25	2.59	-0.22	0.82	0.02	-0.32	-3.09	93.50	86.03	3.45
6/2013-12/2015	3.62	2.71	0.99	0.95	0.30	0.87	-4.71	88.66	111.78	10.49

*gross time weighted return*  
*Portfolio Risk Index: BC AGGREGATE BOND Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY**  
**795-000021 JOHN HANCOCK**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 0.99 percent per Year

Since 6/30/2013 , your fund has averaged 0.99 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.95

The volatility coefficient is known as Beta.

Since 6/30/2013 , your fund has been 0.95 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( BC AGGREGATE BOND )

DIVERSIFICATION: 80.81 percent

Since 6/30/2013 , your fund has been 80.81 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

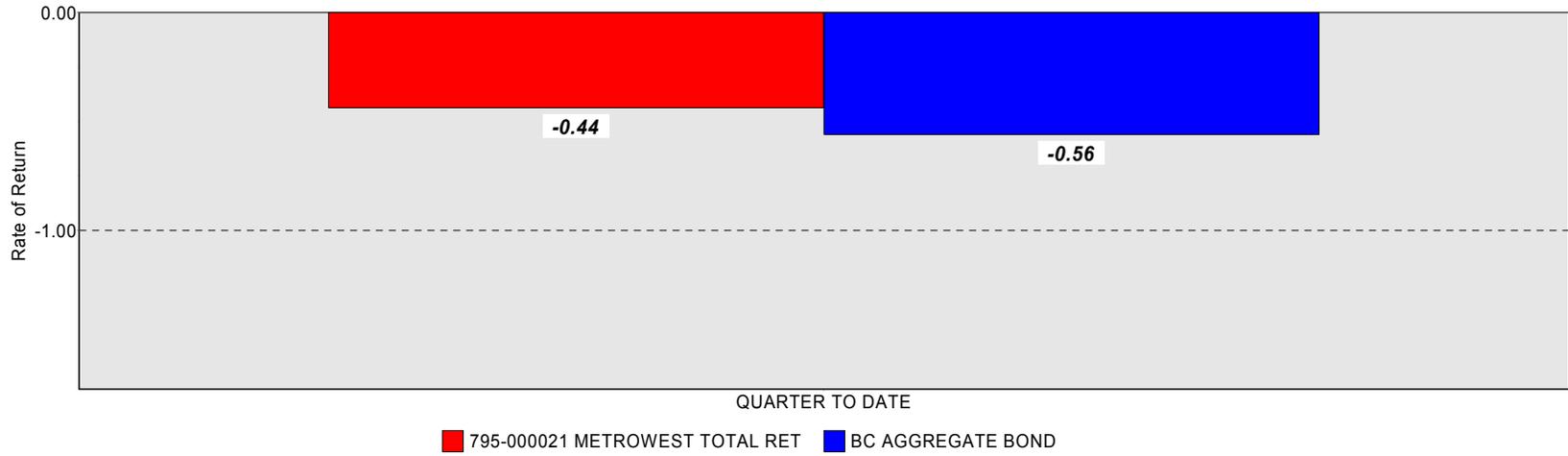
<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>=</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	0.57		0.01		0.56		0.82		0.46		0.25		0.01		0.24		0.46		-0.22
6/2013-12/2015	2.75		0.01		2.75		0.95		2.61		3.62		0.01		3.62		2.61		1.01

RISK BENCHMARK IS BC AGGREGATE BOND

**CLAYTON COUNTY**  
**795-000021 METROWEST TOTAL RET**  
**PERIOD ENDING December 31, 2015**

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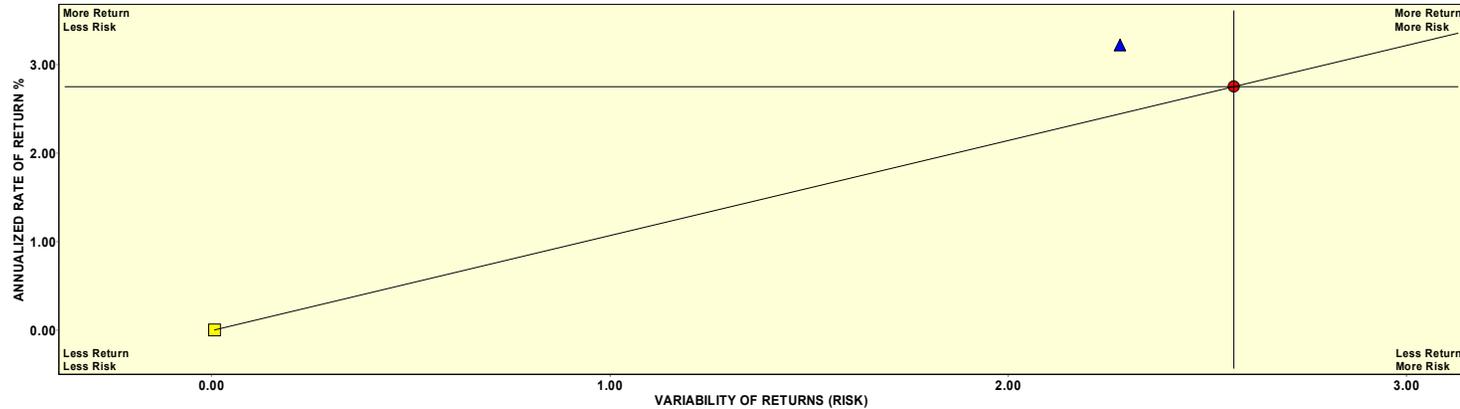
**CLAYTON COUNTY**  
**795-000021 METROWEST TOTAL RET**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	43,785,044.07
Net Contributions	0.00
Interest And Dividend Income	711,691.91
Investment Earnings	(191,743.23)
Ending Mkt Value	43,593,300.84
Gross Time Weighted Return	(0.44)
BC AGGREGATE BOND	(0.56)

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-00021 METROWEST TOTAL RET**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	3.22	2.28	1.41	0.87	0.82	95.24
● BC AGGREGATE BOND	2.75	2.57	1.07	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	0.25	2.37	-0.24	0.83	0.02	-0.33	-2.87	86.76	79.96	3.21
6/2013-12/2015	3.22	2.28	0.82	0.87	0.27	0.47	-3.95	74.28	96.66	9.07

*gross time weighted return*

*Portfolio Risk Index: BC AGGREGATE BOND Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*

*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY  
795-000021 METROWEST TOTAL RET  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 0.82 percent per Year

Since 6/30/2013 , your fund has averaged 0.82 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.87

The volatility coefficient is known as Beta.

Since 6/30/2013 , your fund has been 0.87 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
( BC AGGREGATE BOND )

DIVERSIFICATION: 95.24 percent

Since 6/30/2013 , your fund has been 95.24 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	0.57		0.01		0.56		0.83		0.47		0.25		0.01		0.24		0.47		-0.23
6/2013-12/2015	2.75		0.01		2.75		0.87		2.38		3.22		0.01		3.22		2.38		0.84

RISK BENCHMARK IS BC AGGREGATE BOND

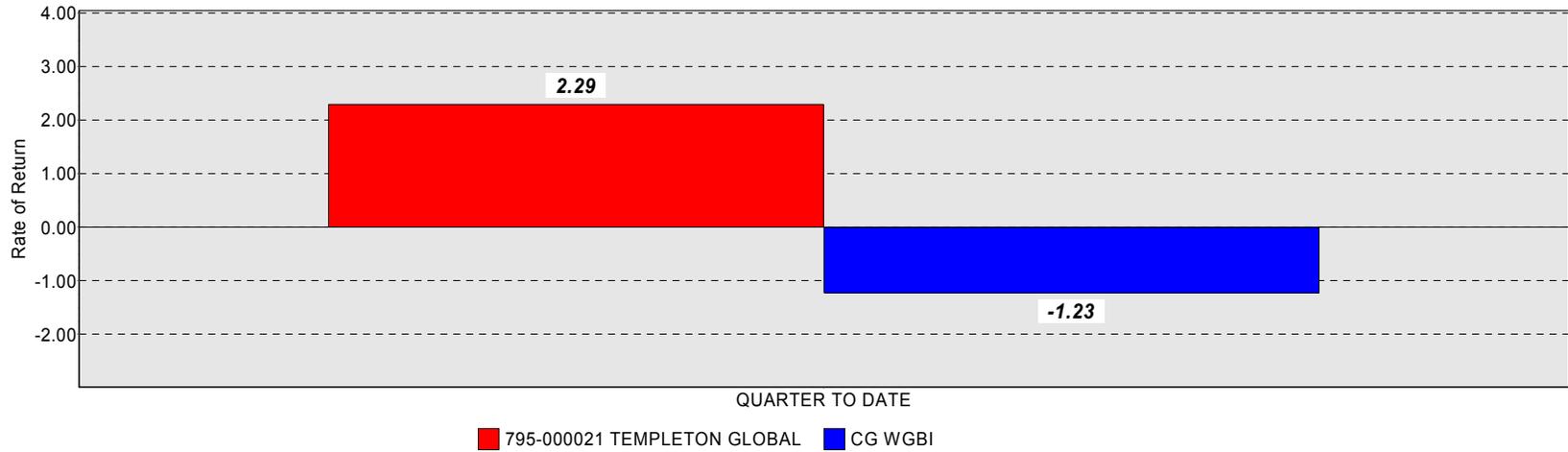
**CLAYTON COUNTY**  
**795-000021 TEMPLETON GLOBAL**  
**PERIOD ENDING December 31, 2015**

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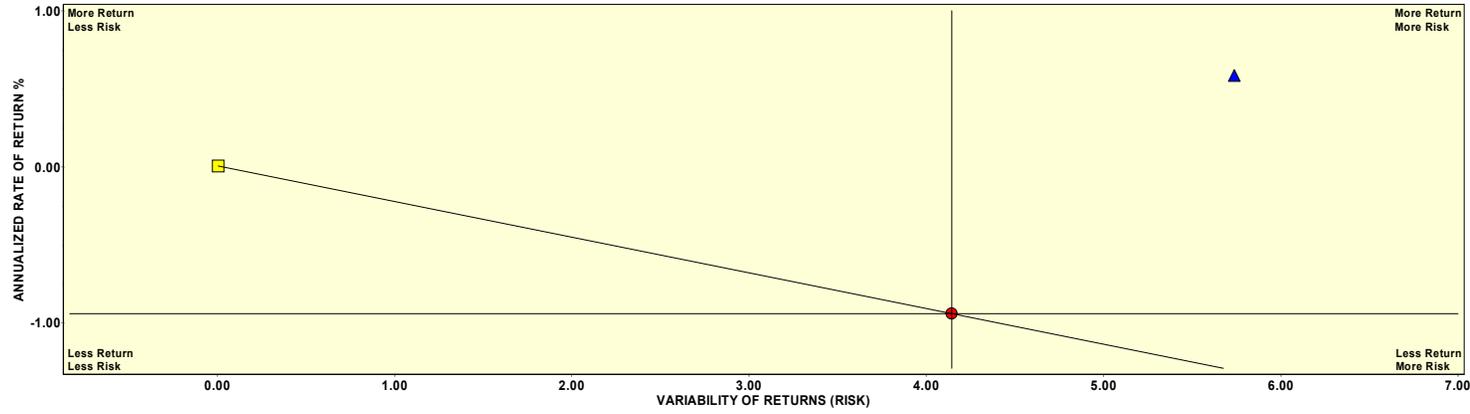
**CLAYTON COUNTY  
795-000021 TEMPLETON GLOBAL  
December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	23,323,672.96
Net Contributions	0.00
Interest And Dividend Income	209,856.90
Investment Earnings	535,270.69
Ending Mkt Value	23,858,943.65
Gross Time Weighted Return	2.29
CG WGBI	(1.23)

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.  
gross time weighted return  
Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 TEMPLETON GLOBAL**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	0.58	5.74	0.10	0.03	0.77	0.05
● CG WGBI	-0.94	4.14	-0.23	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	-3.91	6.70	-6.49	-0.76	-0.31	-0.33	4.50	-63.60	-213.18	-8.05
6/2013-12/2015	0.58	5.74	0.77	0.03	0.06	1.53	2.20	-19.75	-10.12	-1.23

*gross time weighted return*  
*Portfolio Risk Index: CG WGBI Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY  
795-000021 TEMPLETON GLOBAL  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 0.77 percent per Year

Since 6/30/2013, your fund has averaged 0.77 percent higher than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.03

The volatility coefficient is known as Beta.

Since 6/30/2013, your fund has been 0.03 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( CG WGBI )

DIVERSIFICATION: 0.05 percent

Since 6/30/2013, your fund has been 0.05 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	-3.57		0.01		-3.58		-0.76		2.74		-3.91		0.01		-3.92		2.74		-6.65
6/2013-12/2015	-0.94		0.01		-0.95		0.03		-0.03		0.58		0.01		0.58		-0.03		0.61

RISK BENCHMARK IS CG WGBI

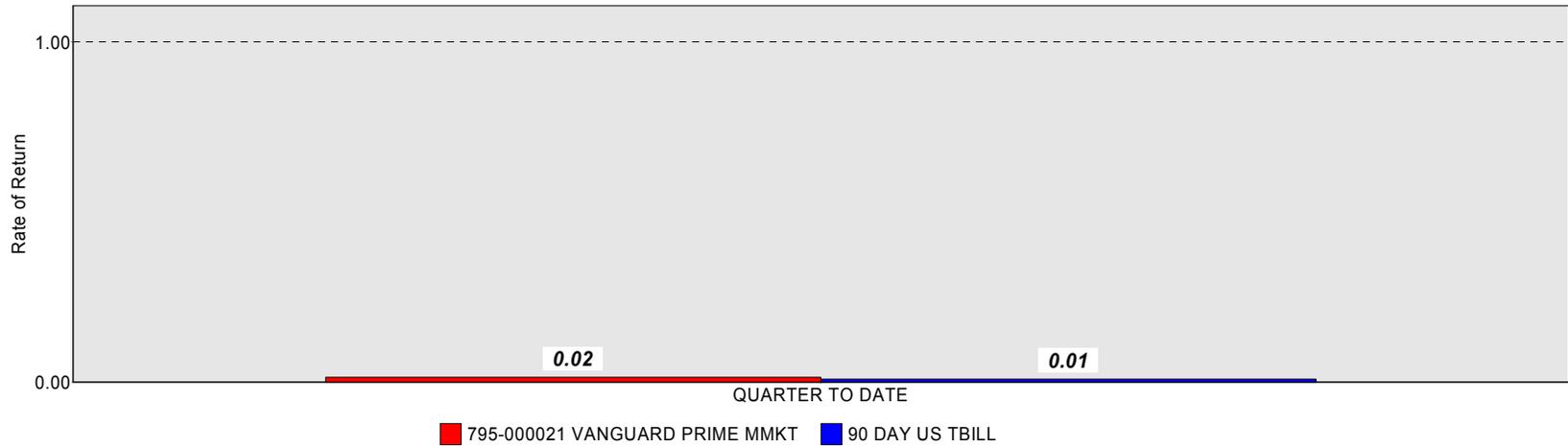
**CLAYTON COUNTY**  
**795-000021 VANGUARD PRIME MMKT**  
**PERIOD ENDING December 31, 2015**

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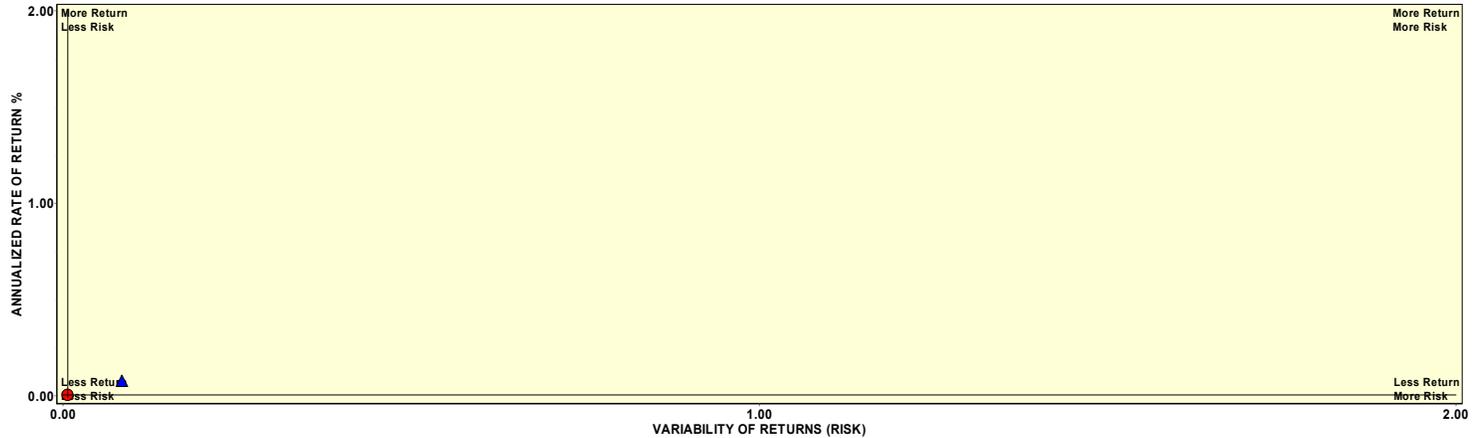
**CLAYTON COUNTY**  
**795-000021 VANGUARD PRIME MMKT**  
**December 31, 2015 Performance Review**



	<u>QUARTER TO DATE</u>
Beginning Mkt Value	471,200.75
Net Contributions	159,873.84
Interest And Dividend Income	229.28
Investment Earnings	229.28
Ending Mkt Value	631,303.87
Gross Time Weighted Return	0.02
90 DAY US TBILL	0.01

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.*  
*gross time weighted return*  
*Inception Date: June 30, 2013*

**CLAYTON COUNTY**  
**795-000021 VANGUARD PRIME MMKT**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	0.08	0.08	0.85	N/A	N/A	N/A
● 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	0.17	0.13	0.00	0.00	0.01	0.16			1,704.00	0.17
6/2013-12/2015	0.08	0.08	0.00	0.00	0.01	0.07			1,441.33	0.08

*gross time weighted return*  
*Portfolio Risk Index: 90 DAY US TBILL Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*  
*Portfolio Inception: 6/30/2013*

**CLAYTON COUNTY**  
**795-000021 VANGUARD PRIME MMKT**  
**RETURN VS. RISK - TOTAL FUND**  
**PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: 0.00 percent per Year

Since 6/30/2013 , your fund has averaged 0.00 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.00

The volatility coefficient is known as Beta.

Since 6/30/2013 , your fund has been 0.00 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:

( 90 DAY US TBILL )

DIVERSIFICATION: 0.00 percent

Since 6/30/2013 , your fund has been 0.00 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

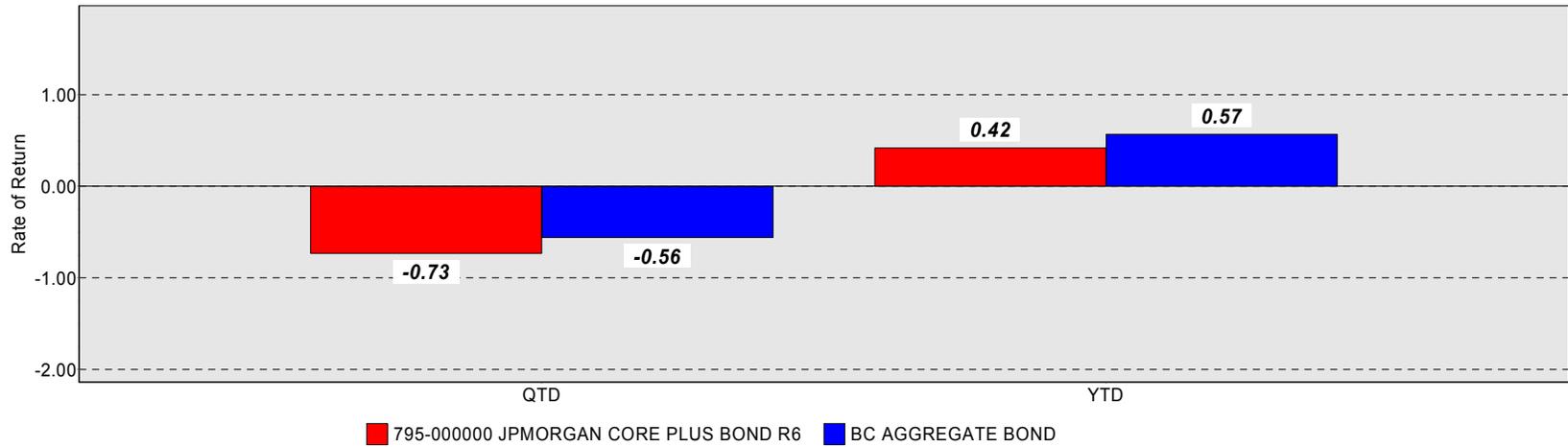
<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	0.01		0.01		0.00		N/A		N/A		0.17		0.01		0.16		N/A		0.16
6/2013-12/2015	0.01		0.01		0.00		N/A		N/A		0.08		0.01		0.07		N/A		0.07

RISK BENCHMARK IS 90 DAY US TBILL

**795-000000 JPMORGAN CORE PLUS BOND R6**  
**PERIOD ENDING December 31, 2015**

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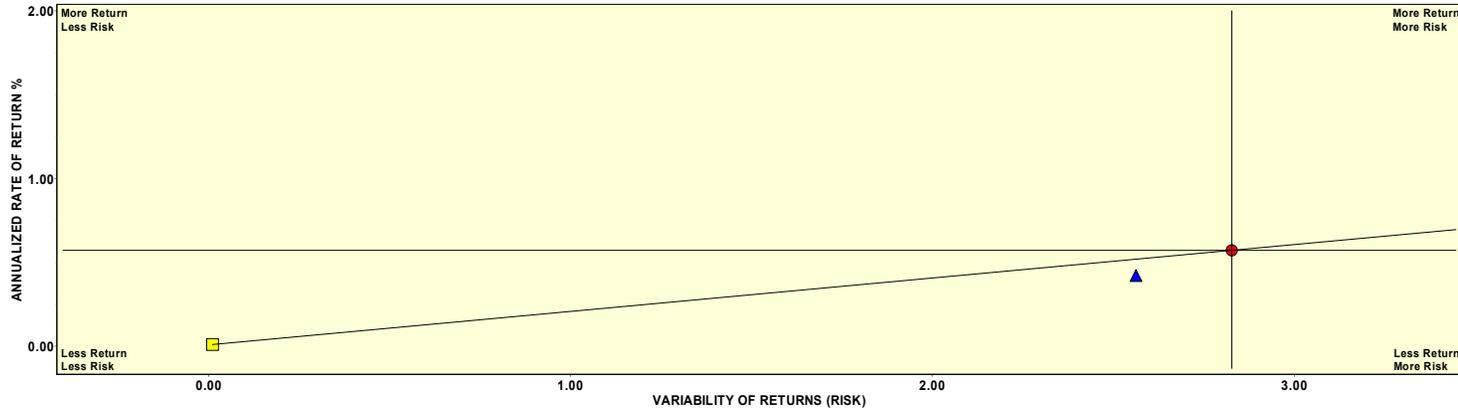
**795-000000 JPMORGAN CORE PLUS BOND R6  
December 31, 2015 Performance Review**



	<u>QTD</u>	<u>YTD</u>
Beginning Mkt Value	10,633,327.20	17,984,112.42
Net Contributions	(2,934,929.05)	(10,490,565.43)
Interest And Dividend Income	88,782.97	396,655.30
Investment Earnings	(58,202.52)	146,648.64
Ending Mkt Value	7,640,195.63	7,640,195.63
Gross Time Weighted Return	(0.73)	0.42
BC AGGREGATE BOND	(0.56)	0.57

*Interest and Dividend Income = Ending Accrual - Beginning Accrual + Income.  
gross time weighted return  
Inception Date: December 17, 2014*

**795-000000 JPMORGAN CORE PLUS BOND R6**  
**December 31, 2015 Risk Statistics**



	Return	Std Dev	Sharpe Ratio	Beta	Alpha	R-Squared
▲ TOTAL FUND	0.42	2.56	0.16	0.86	-0.07	90.12
● BC AGGREGATE BOND	0.57	2.83	0.20	1.00	0.00	100.00
■ 90 DAY US TBILL	0.01	0.01	0.00	1.00	0.00	100.00

PERIOD	Return	Std Dev	Alpha	Beta	Avg Return	Excess Return	Downside Capture ROR	Downside Capt Ratio	Upside Capture Ratio	Upside Capture ROR
12/2014-12/2015	0.42	2.56	-0.07	0.86	0.04	-0.15	-3.07	92.96	89.93	3.61

*gross time weighted return*

*Portfolio Risk Index: BC AGGREGATE BOND Riskless Index: CITIGROUP 90 DAY U.S. TREASURY BILL*

*Portfolio Inception: 12/17/2014*

**795-000000 JPMORGAN CORE PLUS BOND R6  
RETURN VS. RISK - TOTAL FUND  
PERIODS ENDING DECEMBER 31, 2015**

TOTAL FUND:

VALUE ADDED BY MANAGEMENT: -0.07 percent per Year

Since 12/31/2014, your fund has averaged -0.07 percent lower than expected, taking into account both the performance of the market as a whole and the volatility of your portfolio.

PORTFOLIO VOLATILITY: 0.86

The volatility coefficient is known as Beta.

Since 12/31/2014, your fund has been 0.86 times as volatile as the market.

The market proxy used in this comparison is a policy index calculated using the returns of the following:  
( BC AGGREGATE BOND )

DIVERSIFICATION: 90.12 percent

Since 12/31/2014, your fund has been 90.12 percent as diversified as the market index described above.

The diversification statistic is called R-Squared.

<b>Date</b>	<b>Risk Index: Market</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Market Return Premium</b>	<b>x</b>	<b>Portfolio Beta</b>	<b>=</b>	<b>Effect of Market</b>	<b>-</b>	<b>Actual Portfolio</b>	<b>-</b>	<b>90 DAY US TBILL</b>	<b>=</b>	<b>Portfolio Premium</b>	<b>-</b>	<b>Effect of Market</b>	<b>=</b>	<b>Effect of Manager</b>
12/2014-12/2015	0.57		0.01		0.56		0.86		0.48		0.42		0.01		0.41		0.48		-0.07

RISK BENCHMARK IS BC AGGREGATE BOND

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The information in this report should not be considered as the sole basis for any investment decision.

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Charts and graphs are for illustrative purposes only and are not intended to represent the performance of any Morgan Stanley Smith Barney offering.

Investments and Services offered through Morgan Stanley Smith Barney LLC, member SIPC.

Scorecard – Fourth Quarter 2015

Clayton County Defined Benefit Plan - Q4 15													
	Style			Risk/Return			Peer Group			Period			
	Style	Style Drift	R <sup>2</sup>	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	Qual.	Score Q4 15	Score Q3 15	Score Q2 15	Score Q1 15
<b>Large Cap Value</b>													
TCW Dividend Focused I	1	1	1	0	0	0	0	0	2	5	7	8	9
DePrince, Race: Large Cap Value (gross)	1	1	1	0	0	0	0	0	2	5	5	6	5
Paradigm Asset: Large Cap Value (gross)	1	1	1	1	1	1	1	1	2	10	10	10	10
<b>Large Cap Core</b>													
Glenmede Large Cap 100	1	1	1	1	1	1	1	1	2	10	10	10	10
Atlanta Capital: HQ Select Equity (Gross)	1	1	1	1	1	1	1	1	2	10	10	10	n/a
<b>Large Cap Growth</b>													
Fidelity Focused Stock	1	1	1	0	0	0	0	0	2	5	5	7	9
Delaware US Growth Instl	1	1	1	1	1	1	0	1	2	9	9	10	8
<b>Mid Cap Value</b>													
JPMorgan Mid Cap Value Instl	1	1	1	1	1	1	1	1	2	10	10	10	10
<b>Mid Cap Growth</b>													
HSBC Opportunity I	0	1	1	0	0	0	0	0	2	4	6	9	9
<b>Small Cap Value</b>													
JPMorgan Small Cap Value R6	1	1	1	1	1	1	0	1	2	9	9	9	9
<b>Small Cap Growth</b>													
Franklin Small Cap Growth R6	1	1	1	1	1	1	1	1	2	10	9	10	10
<b>International Large Value</b>													
MFS International Value R5	0	1	1	1	1	1	1	1	2	9	9	9	9
<b>International Large Core</b>													
Oakmark International I	0	0	1	1	1	1	0	1	2	7	8	9	9
<b>Emerging Markets</b>													
Virtus Emerging Markets Opportunities I	1	1	0	1	1	1	1	1	2	9	9	8	10
<b>Core Fixed Income</b>													
JPMorgan Core Plus Bond R6	1	1	1	1	1	1	1	1	1	9	9	9	9
JHancock Bond R6	1	1	1	1	1	1	1	1	2	10	10	10	10
Metropolitan West Total Return Bond Plan	1	1	1	1	1	1	1	1	2	10	10	10	10
<b>International Fixed Income</b>													
Templeton Global Bond R6	1	0	0	1	1	1	1	1	2	8	8	8	9

## Watchlist Activity Fourth Quarter 2015

Going into the fourth quarter 2015 there were two funds / managers on the Clayton County Defined Benefit Plan Watchlist. DRZ had already been on the watchlist, and at the last board meeting the decision was made to add Fidelity Focused Stock fund to the watchlist as well. The updated data for both of these managers is listed below.

Clayton County Defined Benefit Plan - Current Watchlist as of Q4'15									
	Relative Performance vs. Benchmarks				Morningstar Rating	Score			
	Q4 15	1Yr	3Yr	5 yr		Q4 15	Q3 15	Q2 15	Q1 15
<b>Large Cap Growth</b>									
Fidelity Focused Stock	-1.81%	-4.21%	-3.26%	-2.11%	***	5	5	7	9
<b>Large Cap Value</b>									
DRZ Large Cap Value	-0.23%	-5.23%	-4.46%	-2.63%	n/a	5	5	6	5

We have been concerned about the underperformance of DRZ, which we have highlighted in previous meetings this year. While DRZ has been on the watchlist we have given a greater weight to the firm's long-term track record and success, and their adherence to a disciplined value approach. During the 4<sup>th</sup> quarter they made progress and performed in-line with their respective benchmark. While DRZ has not yet definitively turned the corner and produced out-performance, we believe the market trends and dynamics that have taken shape recently should favor their style of stock selection. We recommend keeping DRZ on the Watchlist and giving the firm more time to course correct.

Separately, we do believe it is time to consider a replacement for the Fidelity Focused Fund. Part of the decision process for this fund replacement relates not only to the deterioration in relative performance, peer ranking, and scorecard, but also the positioning and style of the fund relative to the market environment. Accordingly, we are recommending the board consider the AB Large Cap Growth fund (CIT structure), which is outlined on the following page.

Additionally, as of the end of Q415, the Scorecard ranking and peer group ranking of two additional funds fell to levels that warrants deeper scrutiny. Hence, we recommend adding the **TCW Relative Value Dividend Appreciation fund** and the **HSBC Opportunity fund** to the Watchlist.

**Fidelity Focused Fund Replacement Idea:**

We recommend the board consider replacing the Fidelity Focused Fund with the AB Large Cap Growth portfolio. Alliance Bernstein has a long heritage as a growth stock manager, and this fund in particular has a strong track record over the long-term and in the recent environment. This fund reflects the output of our analysis process wherein we screen for the best in class funds / managers based on multiple metrics, ranging from relative performance, risk-adjusted performance, peer comparisons, up / down capture, style purity and consistency, and manager quality and tenure.

The AB Large Cap Growth Fund is available in a collective investment trust (CIT) structure, which will allow the plan to benefit from a lower fee rate we have been able to negotiate on its behalf.

This fund / manager has demonstrated a short and long-term track record of producing considerable alpha over its benchmark, and has done so with an even lower beta coefficient (meaning less average volatility) than its benchmark. Past results are no guarantee of future results.

The applicable data is outlined on the table below and in the Zephyr and Morningstar reports contained herein.

Clayton County Defined Benefit Plan - Recommended New Fund						
	Performance thru 12/31/15				Morningstar Rating	Score Q4 15
	4th Qtr	1Yr	3Yr	5 yr		
<b>Large Cap Growth</b>						
Fidelity Focused Stock (Current Fund)	5.51%	1.46%	13.57%	11.42%	***	5
AB Large Cap Growth (Recommendation)	7.60%	10.86%	20.17%	15.39%	*****	10
<i>Russell 1000 Growth Index (Benchmark)</i>	<i>7.32%</i>	<i>5.67%</i>	<i>16.83%</i>	<i>13.53%</i>		

## Clayton County Defined Benefit Plan

# Correlation Matrix: Returns vs. S&P 500

January 2011 - December 2015

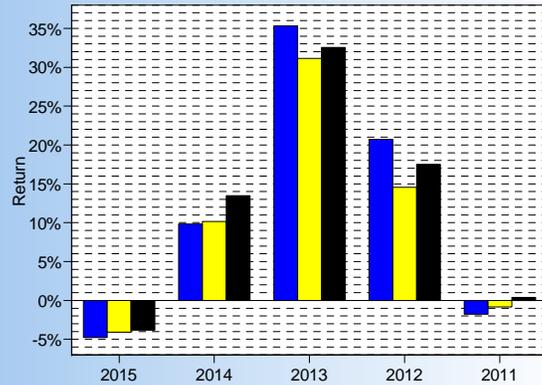
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1) JPMorgan Core Plus Bond R6	1.00																
2) JHancock Bond R6	0.90	1.00															
3) Metropolitan West Total Return Bond Plan	0.86	0.88	1.00														
4) Templeton Global Bond R6	0.32	0.63	0.39	1.00													
5) TCW Dividend Focused I	0.13	0.41	0.10	0.77	1.00												
6) Glenmede Large Cap 100	0.20	0.44	0.11	0.77	0.97	1.00											
7) Delaware US Growth Instl	0.14	0.36	0.10	0.75	0.92	0.94	1.00										
8) Fidelity Focused Stock	0.15	0.41	0.10	0.79	0.92	0.95	0.94	1.00									
9) JPMorgan Mid Cap Value Instl	0.26	0.48	0.15	0.73	0.96	0.97	0.89	0.92	1.00								
10) HSBC Opportunity I	0.21	0.45	0.13	0.82	0.93	0.98	0.92	0.97	0.94	1.00							
11) JPMorgan Small Cap Value R6	0.20	0.41	0.09	0.69	0.93	0.94	0.88	0.91	0.98	0.93	1.00						
12) Franklin Small Cap Growth R6	0.08	0.29	-0.04	0.67	0.90	0.92	0.88	0.93	0.93	0.93	0.95	1.00					
13) MFS International Value R5	0.11	0.39	0.12	0.78	0.82	0.86	0.83	0.92	0.84	0.89	0.84	0.87	1.00				
14) Oakmark International I	0.09	0.37	0.12	0.83	0.75	0.80	0.77	0.86	0.77	0.87	0.80	0.81	0.91	1.00			
15) Virtus Emerging Markets Opportunities I	0.44	0.68	0.39	0.92	0.72	0.73	0.71	0.71	0.73	0.77	0.68	0.64	0.73	0.76	1.00		
16) Cornerstone: Concentrated 30 (Gross)	0.11	0.35	0.11	0.74	0.94	0.91	0.91	0.87	0.88	0.87	0.86	0.84	0.75	0.72	0.65	1.00	
17) S&P 500	0.11	0.37	0.06	0.76	0.99	0.97	0.96	0.94	0.95	0.93	0.92	0.90	0.83	0.75	0.72	0.94	1.00

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Large Cap Value

## Calendar Year Return

As of December 2015

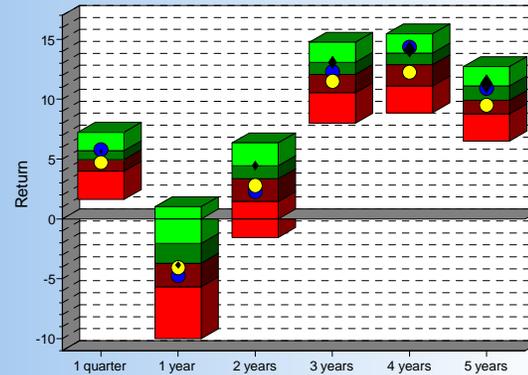


- TCW Dividend Focused I
- Morningstar Large Value
- Russell 1000 Value

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Value

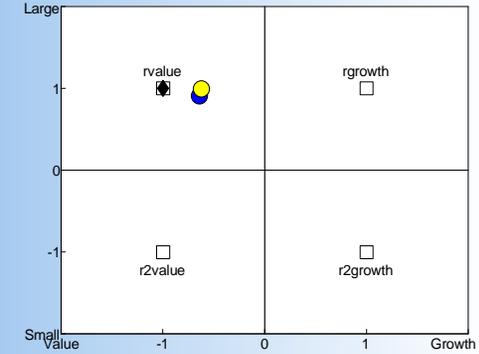


- TCW Dividend Focused I
- Morningstar Large Value
- ◆ Russell 1000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

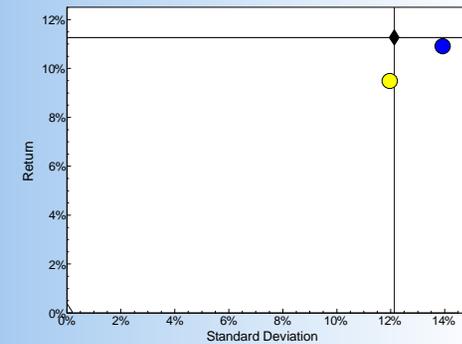
January 2011 - December 2015



## Manager Risk/Return

Single Computation

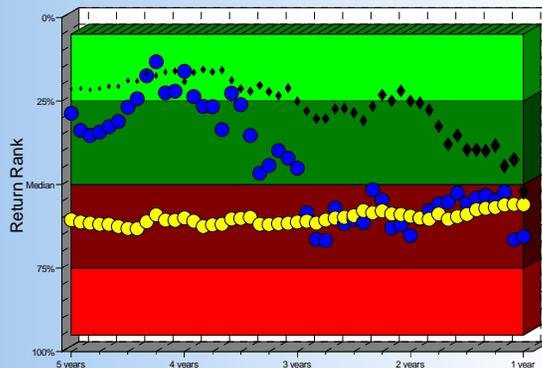
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Value



- TCW Dividend Focused I
- Morningstar Large Value
- ◆ Russell 1000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

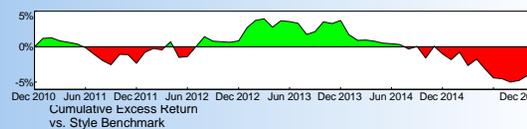
## Manager Performance

Single Computation

January 2011 - December 2015



- TCW Dividend Focused I
- Russell 1000 Value



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
TCW Dividend Focused I	13.92%	-0.35%	108.15%	112.66%
Morningstar Large Value	11.96%	-1.78%	92.73%	101.41%
Russell 1000 Value	12.12%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Large Cap Value

## Calendar Year Return

As of December 2015

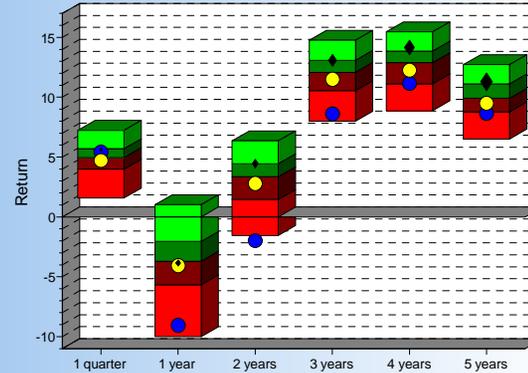


- DePrince, Race: Large Cap Value (gross)
- Morningstar Large Value
- Russell 1000 Value

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Value

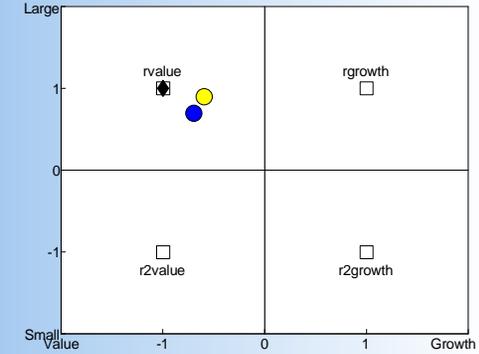


- DePrince, Race: Large Cap Value (gross)
- ◆ Russell 1000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- 75th to 95th Percentile
- Morningstar Large Value
- 5th to 25th Percentile
- Median to 75th Percentile

## Manager Style

Single Computation

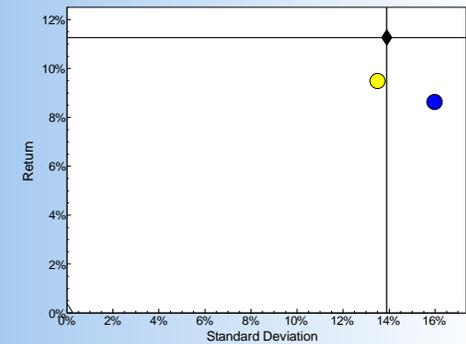
January 2011 - December 2015



## Manager Risk/Return

Single Computation

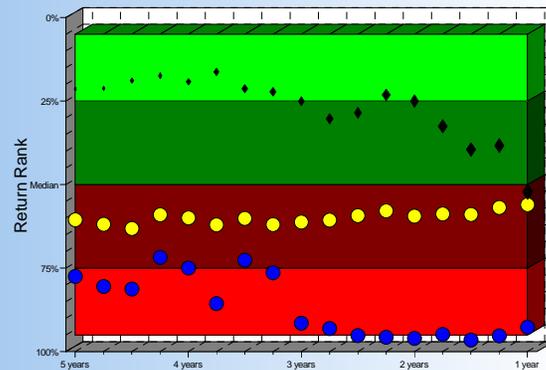
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Value



- DePrince, Race: Large Cap Value (gross)
- ◆ Russell 1000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- 75th to 95th Percentile
- Morningstar Large Value
- 5th to 25th Percentile
- Median to 75th Percentile

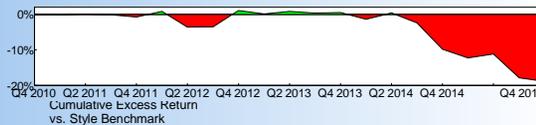
## Manager Performance

Single Computation

January 2011 - December 2015



- DePrince, Race: Large Cap Value (gross)
- Russell 1000 Value



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

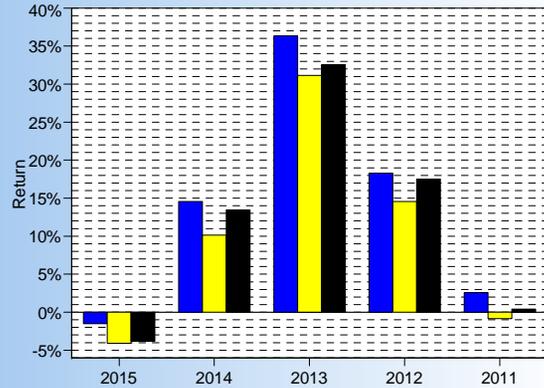
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
DePrince, Race: Large C	15.97%	-2.63%	103.46%	141.57%
Morningstar Large Valu	13.49%	-1.78%	90.37%	102.45%
Russell 1000 Value	13.89%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Large Cap Value

## Calendar Year Return

As of December 2015

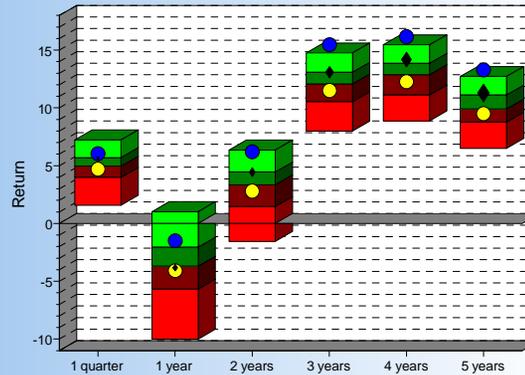


- Paradigm Asset: Large Cap Value (gross)
- Morningstar Large Value
- Russell 1000 Value

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Value

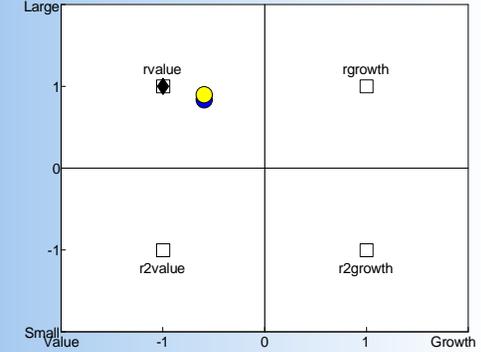


- Paradigm Asset: Large Cap Value (gross)
- ◆ Russell 1000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- 75th to 95th Percentile
- Morningstar Large Value
- Median to 75th Percentile

## Manager Style

Single Computation

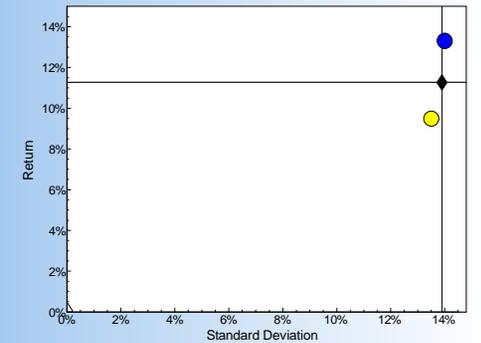
January 2011 - December 2015



## Manager Risk/Return

Single Computation

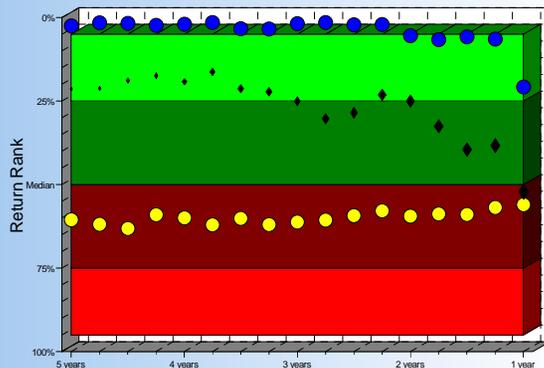
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Value



- Paradigm Asset: Large Cap Value (gross)
- ◆ Russell 1000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- 75th to 95th Percentile
- Morningstar Large Value
- Median to 75th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Paradigm Asset: Large Cap Value (gross)
- Russell 1000 Value



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

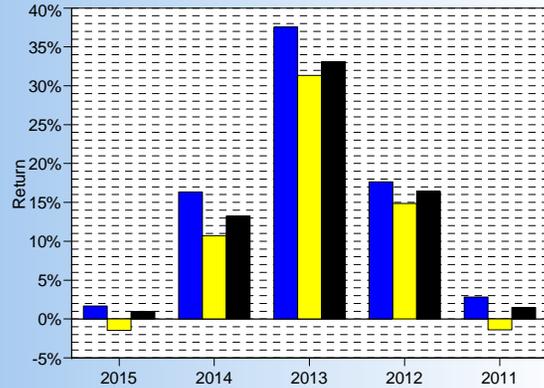
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Paradigm Asset: Large Cap Value	14.00%	2.03%	105.83%	85.57%
Morningstar Large Value	13.49%	-1.78%	90.37%	102.45%
Russell 1000 Value	13.89%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Large Cap Core

## Calendar Year Return

As of December 2015

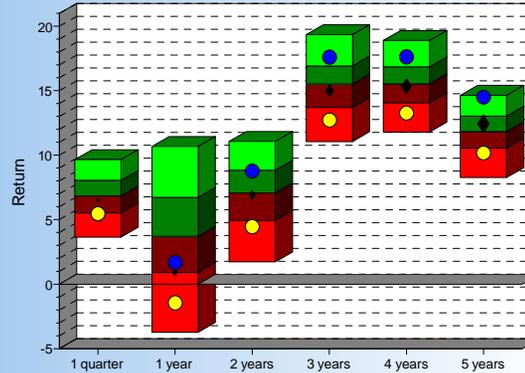


- Glenmede Large Cap 100
- Morningstar Large Blend
- Russell 1000

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth

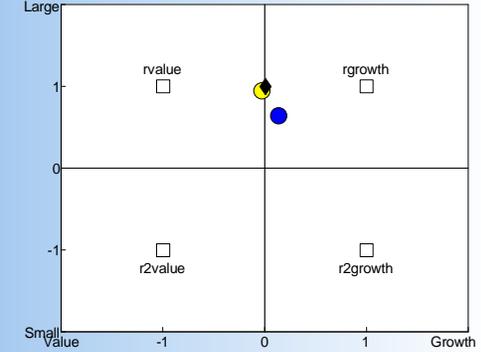


- Glenmede Large Cap 100
- Morningstar Large Blend
- ◆ Russell 1000
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

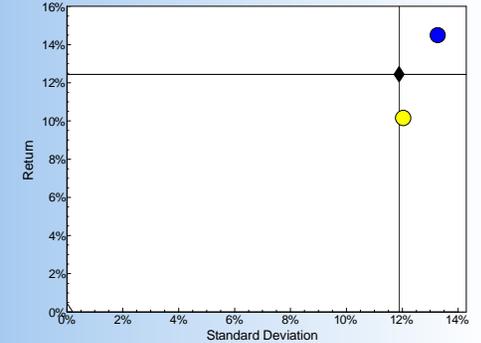
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

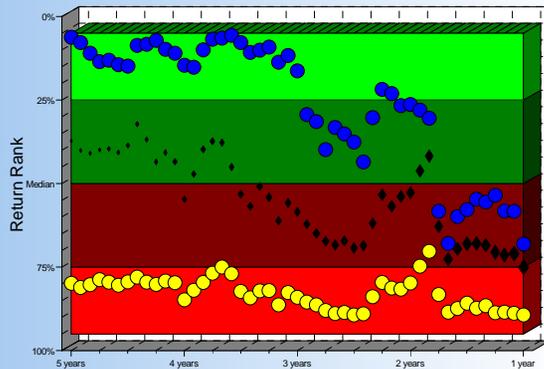
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Glenmede Large Cap 100	13.26%	2.05%	111.14%	102.28%
Morningstar Large Blend	12.03%	-2.28%	94.07%	106.80%
Russell 1000	11.88%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth



- Glenmede Large Cap 100
- Morningstar Large Blend
- ◆ Russell 1000
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Glenmede Large Cap 100
- Russell 1000

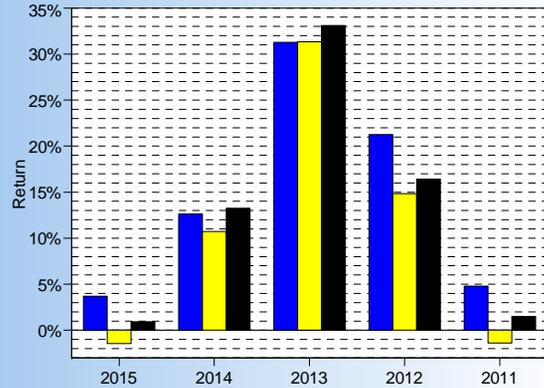


Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Large Cap Core

## Calendar Year Return

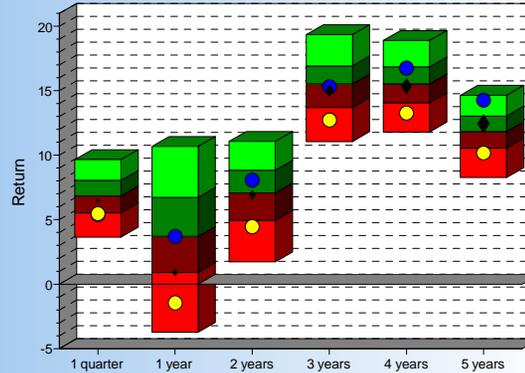
As of December 2015



- Atlanta Capital: HQ Select Equity (Gross)
- Morningstar Large Blend
- Russell 1000

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)  
Morningstar Large Growth

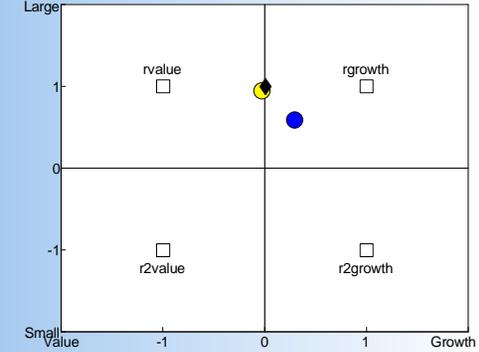


- Atlanta Capital: HQ Select Equity (Gross)
- ◆ Russell 1000
- 25th Percentile to Median
- 75th to 95th Percentile
- Morningstar Large Blend
- 5th to 25th Percentile
- Median to 75th Percentile

## Manager Style

Single Computation

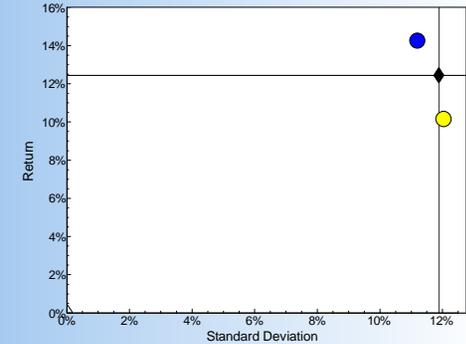
January 2011 - December 2015



## Manager Risk/Return

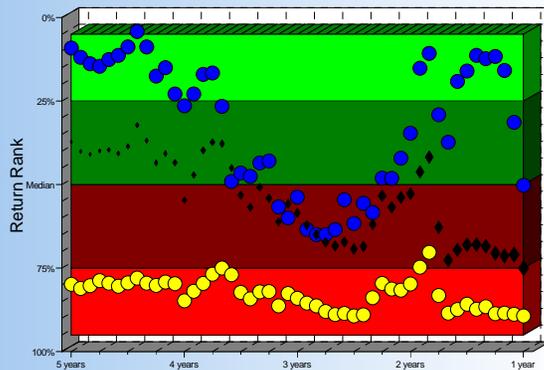
Single Computation

January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)  
Morningstar Large Growth



- Atlanta Capital: HQ Select Equity (Gross)
- Morningstar Large Blend
- ◆ Russell 1000
- 25th Percentile to Median
- 75th to 95th Percentile
- 5th to 25th Percentile
- Median to 75th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Atlanta Capital: HQ Select Equity (Gross)
- Russell 1000



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

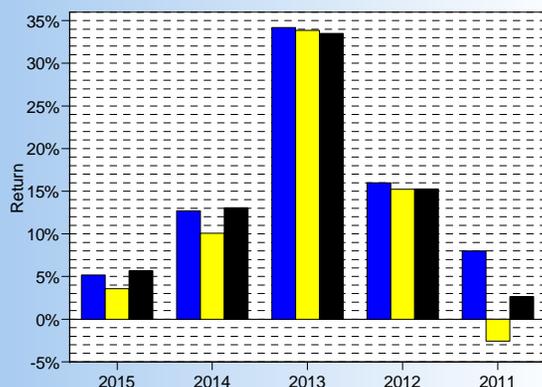
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Atlanta Capital: HQ Select Equity (Gross)	11.19%	1.82%	94.36%	78.43%
Morningstar Large Blend	12.03%	-2.28%	94.07%	106.80%
Russell 1000	11.88%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Large Cap Growth

## Calendar Year Return

As of December 2015



- Delaware US Growth Instl
- Morningstar Large Growth
- Russell 1000 Growth

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth

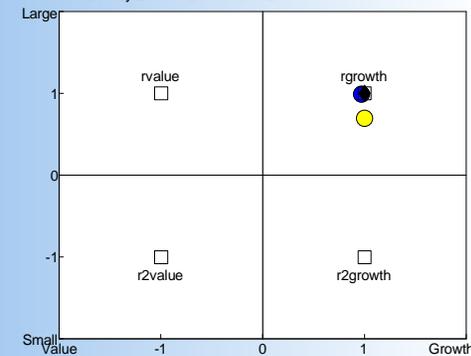


- Delaware US Growth Instl
- Morningstar Large Growth
- ◆ Russell 1000 Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

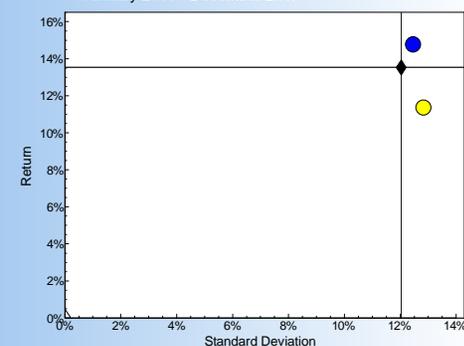
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

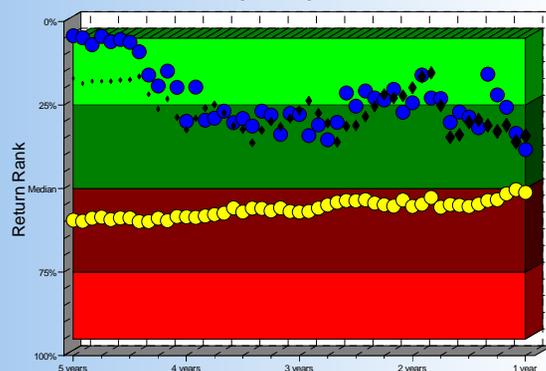
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Delaware US Growth Instl	12.45%	1.25%	99.78%	90.54%
Morningstar Large Growth	12.82%	-2.16%	98.05%	112.48%
Russell 1000 Growth	12.02%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth

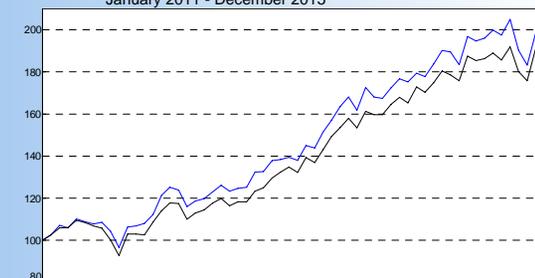


- Delaware US Growth Instl
- Morningstar Large Growth
- ◆ Russell 1000 Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Delaware US Growth Instl
- Russell 1000 Growth

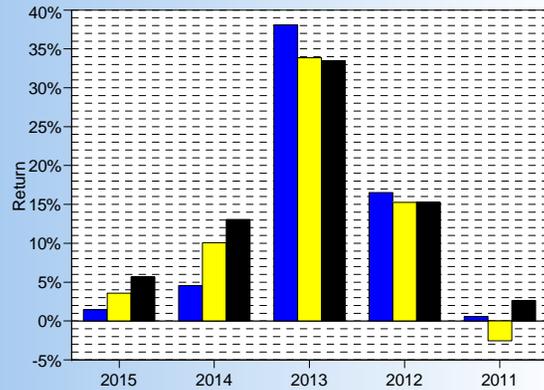


Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Large Cap Growth

## Calendar Year Return

As of December 2015

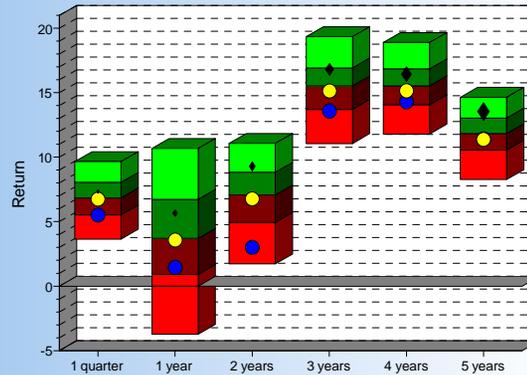


- Fidelity Focused Stock
- Morningstar Large Growth
- Russell 1000 Growth

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth

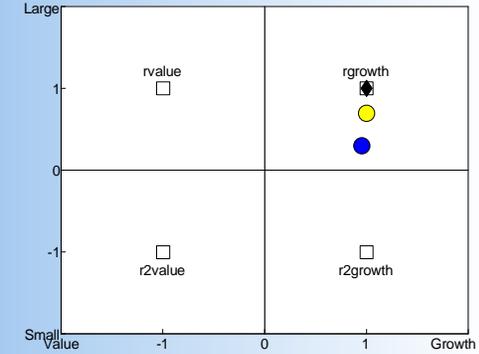


- Fidelity Focused Stock
- Morningstar Large Growth
- ◆ Russell 1000 Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

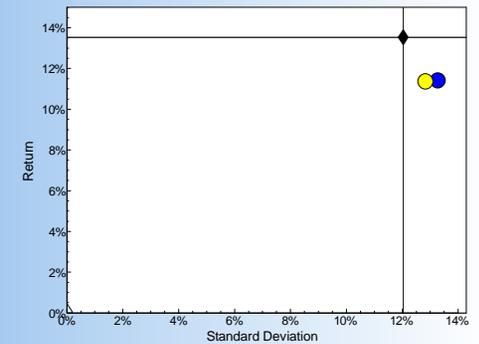
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

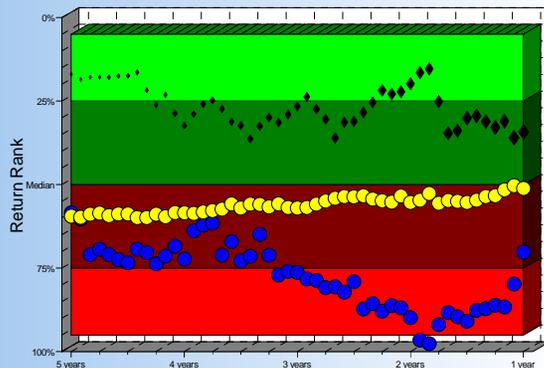
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Fidelity Focused Stock	13.26%	-2.12%	97.11%	110.71%
Morningstar Large Growth	12.82%	-2.16%	98.05%	112.48%
Russell 1000 Growth	12.02%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth



- Fidelity Focused Stock
- Morningstar Large Growth
- ◆ Russell 1000 Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Fidelity Focused Stock
- Russell 1000 Growth

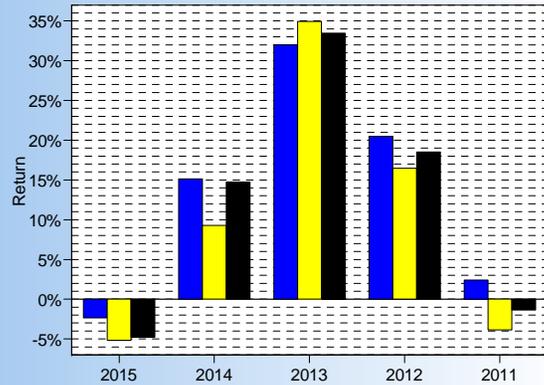


Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Mid Cap Value

## Calendar Year Return

As of December 2015

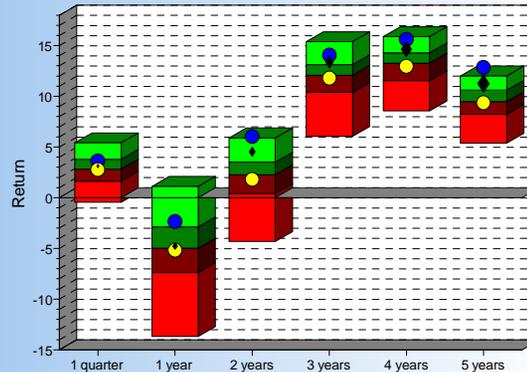


- JPMorgan Mid Cap Value Instl
- Morningstar Mid-Cap Value
- Russell Midcap Value

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Mid-Cap Value

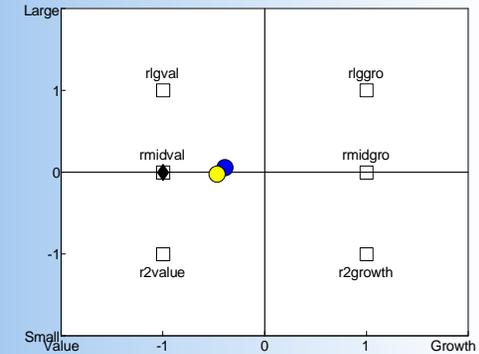


- JPMorgan Mid Cap Value Instl
- Morningstar Mid-Cap Value
- ◆ Russell Midcap Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

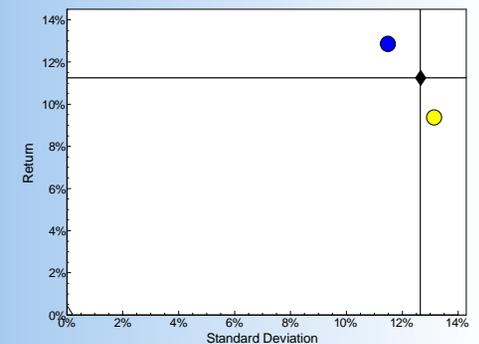
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

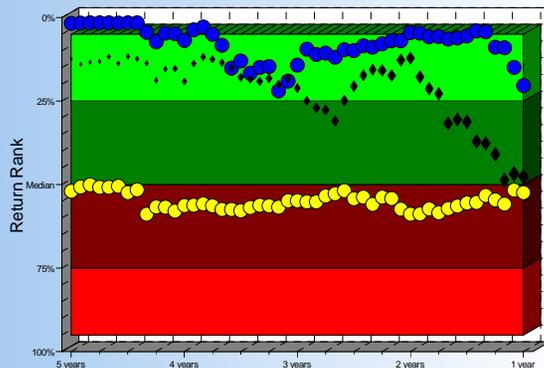
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
JPMorgan Mid Cap Value	11.48%	1.61%	95.51%	83.68%
Morningstar Mid-Cap Value	13.14%	-1.87%	96.55%	106.92%
Russell Midcap Value	12.65%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Mid-Cap Value

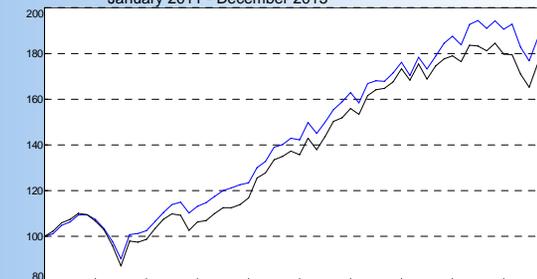


- JPMorgan Mid Cap Value Instl
- Morningstar Mid-Cap Value
- ◆ Russell Midcap Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- JPMorgan Mid Cap Value Instl
- Russell Midcap Value

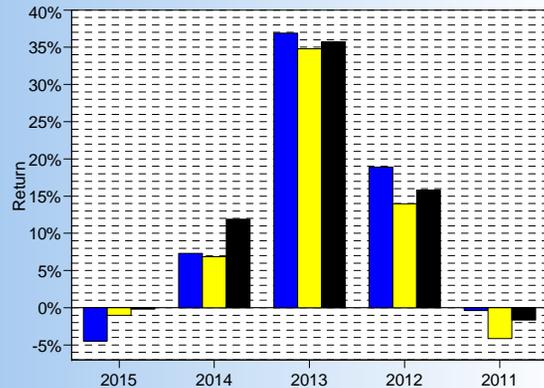


Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Mid Cap Growth

## Calendar Year Return

As of December 2015

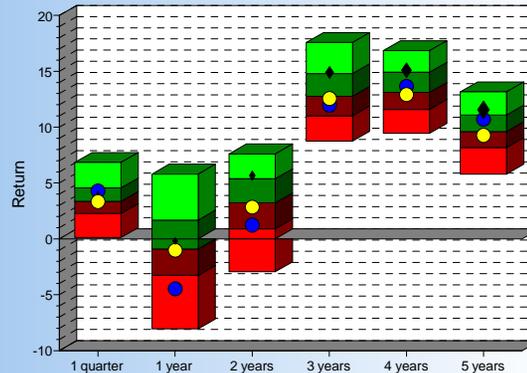


- HSBC Opportunity I
- Morningstar Mid-Cap Growth
- Russell Midcap Growth

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Mid-Cap Growth

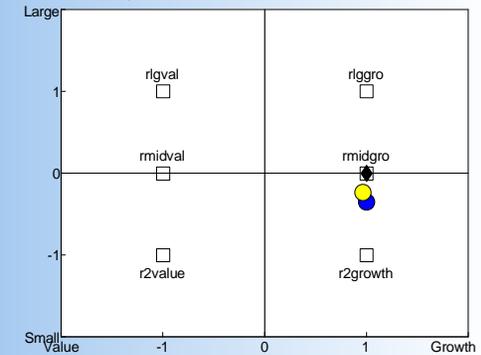


- HSBC Opportunity I
- ◆ Russell Midcap Growth
- Morningstar Mid-Cap Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

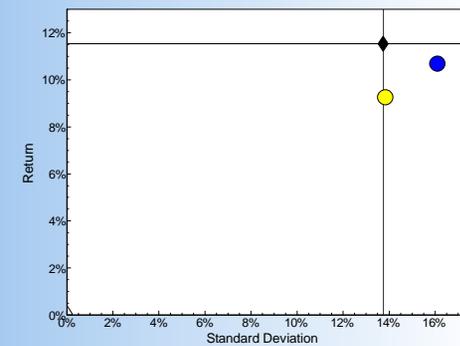
January 2011 - December 2015



## Manager Risk/Return

Single Computation

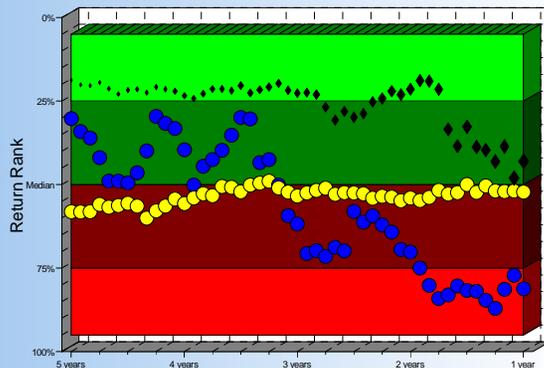
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Mid-Cap Growth



- HSBC Opportunity I
- ◆ Russell Midcap Growth
- Morningstar Mid-Cap Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

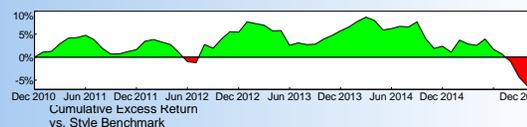
## Manager Performance

Single Computation

January 2011 - December 2015



- HSBC Opportunity I
- Russell Midcap Growth



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

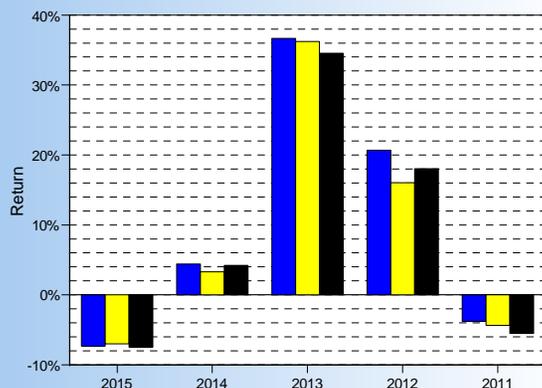
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
HSBC Opportunity I	16.09%	-0.84%	111.10%	117.95%
Morningstar Mid-Cap G	13.83%	-2.28%	95.84%	107.71%
Russell Midcap Growth	13.73%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Small Cap Value

## Calendar Year Return

As of December 2015



- JPMorgan Small Cap Value R6
- Morningstar Small Value
- Russell 2000 Value

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Small Value

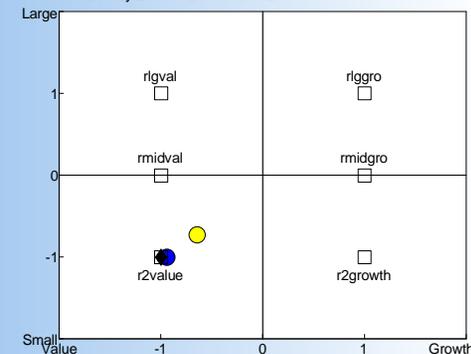


- JPMorgan Small Cap Value R6
- Morningstar Small Value
- ◆ Russell 2000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

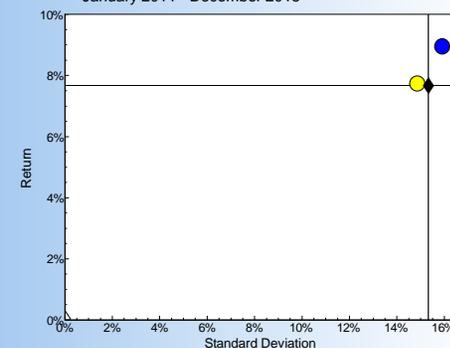
January 2011 - December 2015



## Manager Risk/Return

Single Computation

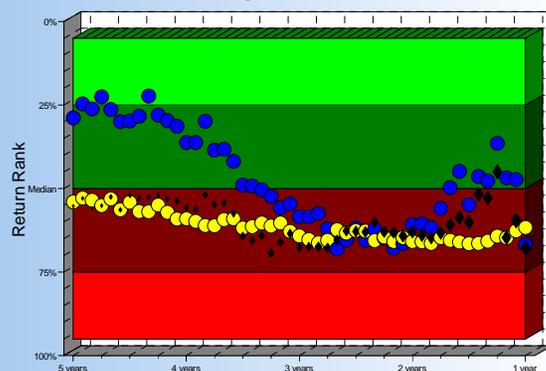
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Small Value

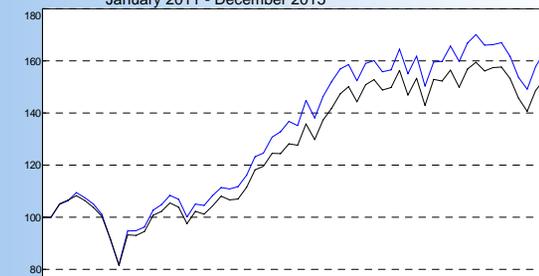


- JPMorgan Small Cap Value R6
- Morningstar Small Value
- ◆ Russell 2000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- JPMorgan Small Cap Value R6
- Russell 2000 Value



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

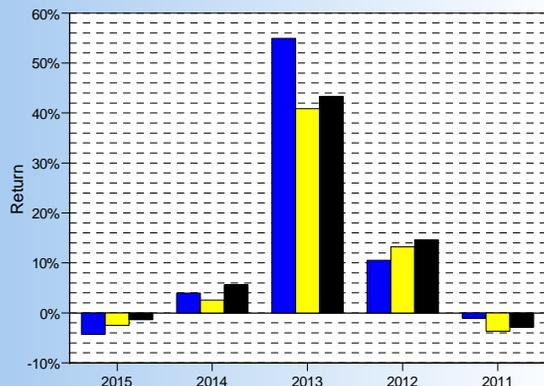
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
JPMorgan Small Cap Value	15.90%	1.28%	104.62%	98.85%
Morningstar Small Value	14.85%	0.07%	95.64%	95.55%
Russell 2000 Value	15.33%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Small Cap Growth

## Calendar Year Return

As of December 2015

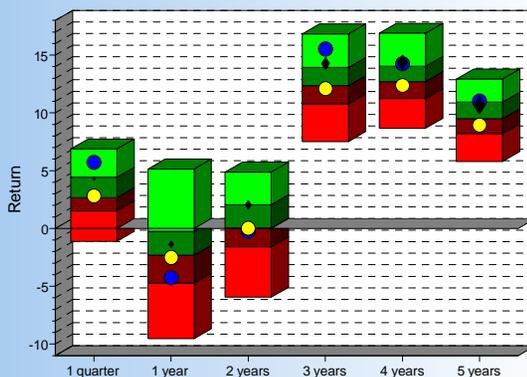


- Franklin Small Cap Growth R6
- Morningstar Small Growth
- Russell 2000 Growth

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Small Growth

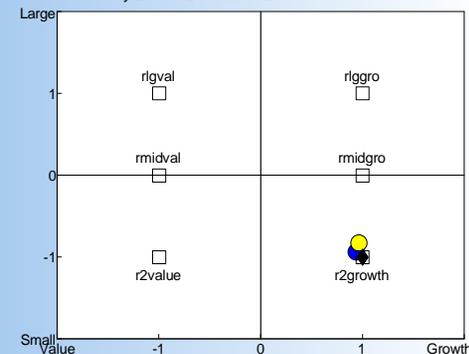


- Franklin Small Cap Growth R6
- Morningstar Small Growth
- ◆ Russell 2000 Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

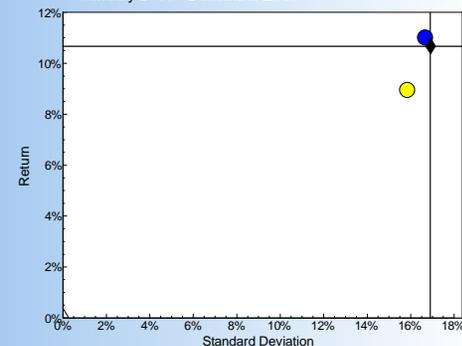
January 2011 - December 2015



## Manager Risk/Return

Single Computation

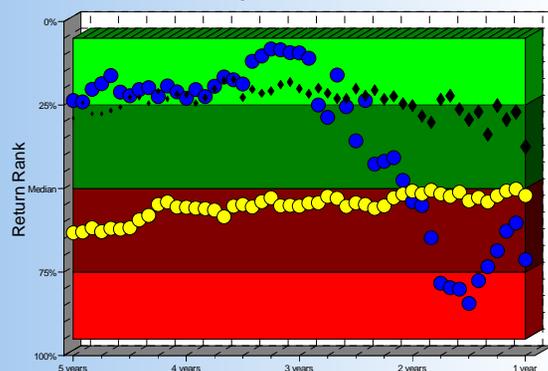
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Small Growth

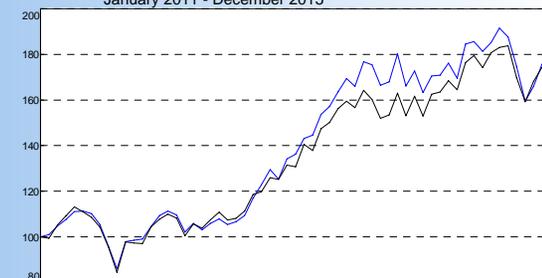


- Franklin Small Cap Growth R6
- Morningstar Small Growth
- ◆ Russell 2000 Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Franklin Small Cap Growth R6
- Russell 2000 Growth



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

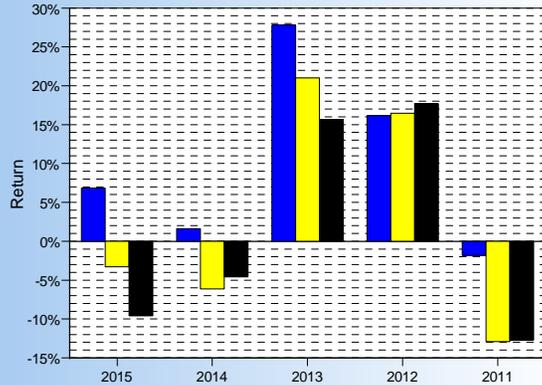
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Franklin Small Cap Gro	16.65%	0.34%	94.94%	93.65%
Morningstar Small Gro	15.82%	-1.71%	88.15%	94.83%
Russell 2000 Growth	16.90%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Foreign Large Value

## Calendar Year Return

As of December 2015

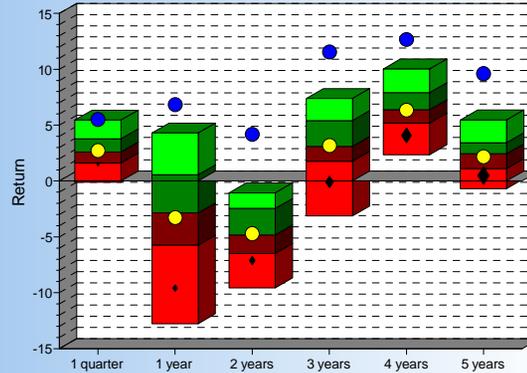


- MFS International Value R5
- Morningstar Foreign Large Value
- MSCI ACWI ex USA VALUE

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Foreign Large Value

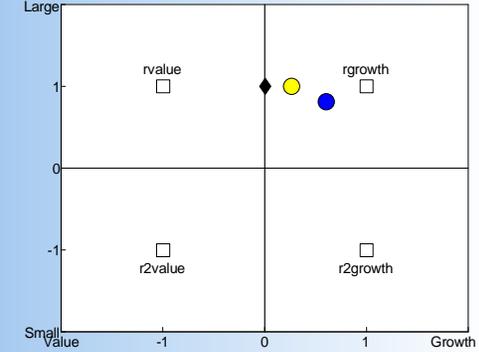


- MFS International Value R5
- Morningstar Foreign Large Value
- ◆ MSCI ACWI ex USA VALUE
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

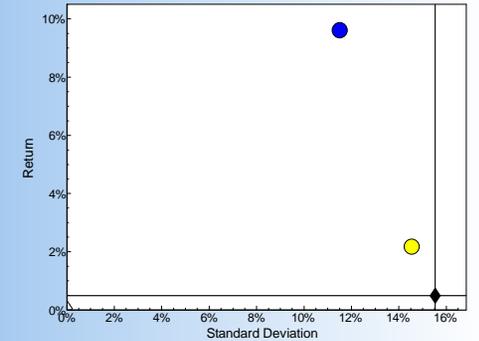
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

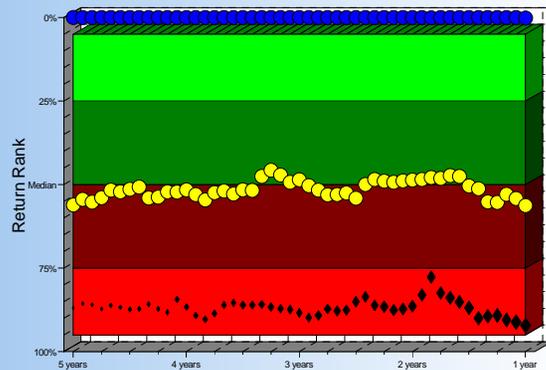
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
MFS International Value	11.50%	9.12%	77.17%	43.78%
Morningstar Foreign Large Value	14.53%	1.69%	93.63%	88.93%
MSCI ACWI ex USA VALUE	15.53%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Foreign Large Value

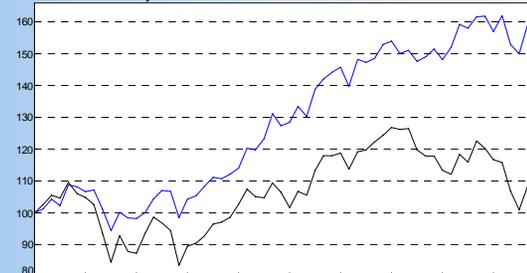


- MFS International Value R5
- Morningstar Foreign Large Value
- ◆ MSCI ACWI ex USA VALUE
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

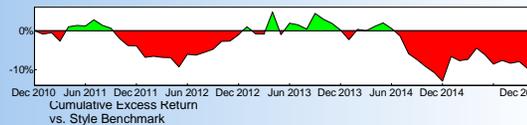
Single Computation

January 2011 - December 2015



— MFS International Value R5

— MSCI ACWI ex USA VALUE



Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Foreign Large Blend

## Calendar Year Return

As of December 2015

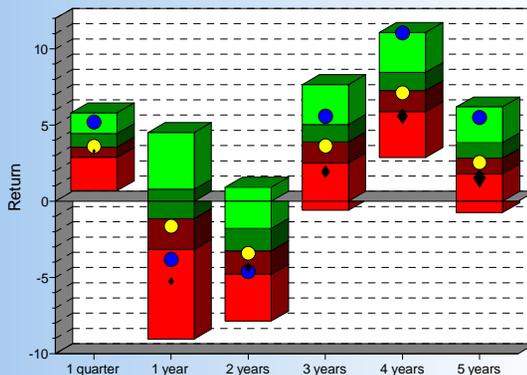


- Oakmark International I
- Morningstar Foreign Large Blend
- MSCI ACWI ex USA

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Foreign Large Blend

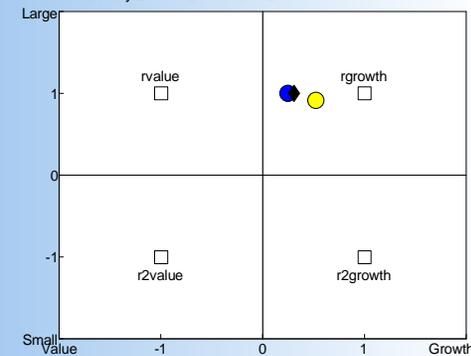


- Oakmark International I
- Morningstar Foreign Large Blend
- ◆ MSCI ACWI ex USA
- 5th to 25th Percentile
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

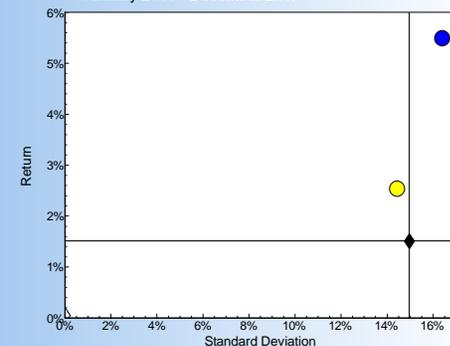
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

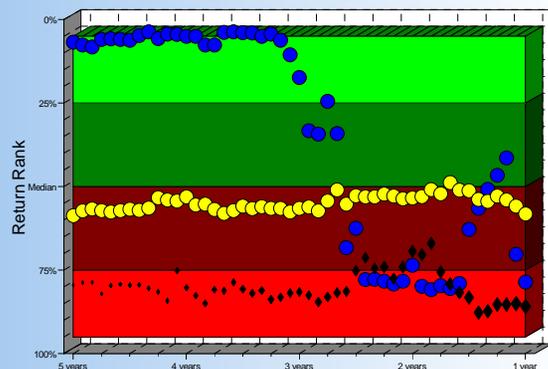
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Oakmark International	16.38%	3.98%	120.45%	97.77%
Morningstar Foreign Large Blend	14.42%	1.03%	96.89%	93.26%
MSCI ACWI ex USA	14.96%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Foreign Large Blend



- Oakmark International I
- Morningstar Foreign Large Blend
- ◆ MSCI ACWI ex USA
- 5th to 25th Percentile
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



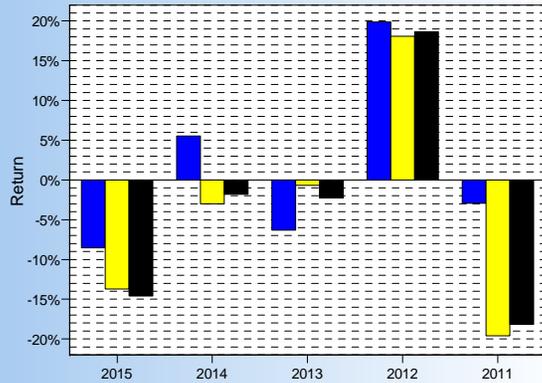
- Oakmark International I
- MSCI ACWI ex USA



# Emerging Markets

## Calendar Year Return

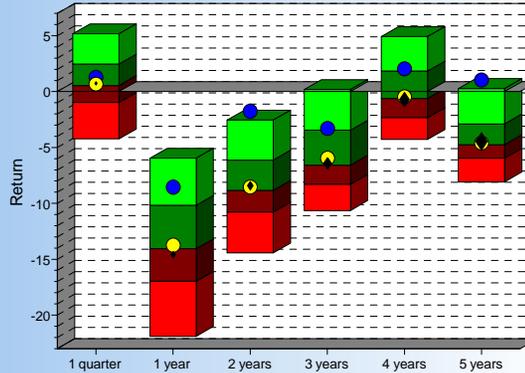
As of December 2015



- Virtus Emerging Markets Opportunities I
- Morningstar Diversified Emerging Mkts
- MSCI EM (EMERGING MARKETS)

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)  
Morningstar Diversified Emerging Mkts

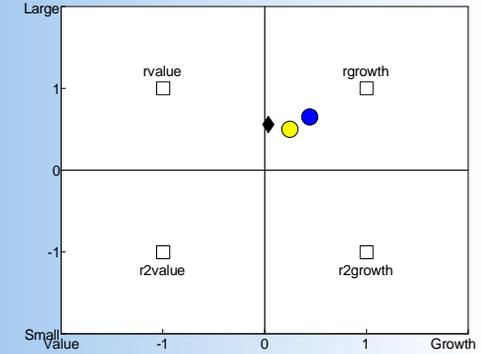


- Virtus Emerging Markets Opportunities I
- ◆ MSCI EM (EMERGING MARKETS)
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- Morningstar Diversified Emerging Mkts

## Manager Style

Single Computation

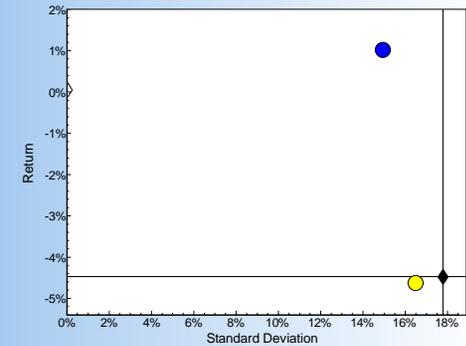
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



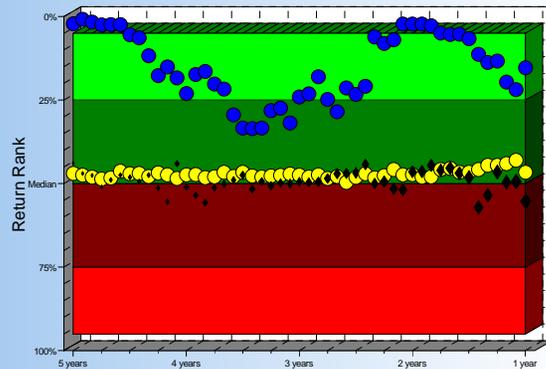
## Up/Down Capture

January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Virtus Emerging Market	14.93%	5.50%	87.10%	74.45%
Morningstar Diversified	16.47%	-0.15%	87.15%	93.59%
MSCI EM (EMERGING M)	17.78%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)  
Morningstar Diversified Emerging Mkts

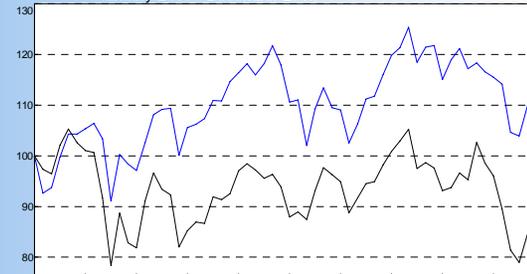


- Virtus Emerging Markets Opportunities I
- ◆ MSCI EM (EMERGING MARKETS)
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- Morningstar Diversified Emerging Mkts

## Manager Performance

Single Computation

January 2011 - December 2015



- Virtus Emerging Markets Opportunities I
- MSCI EM (EMERGING MARKETS)

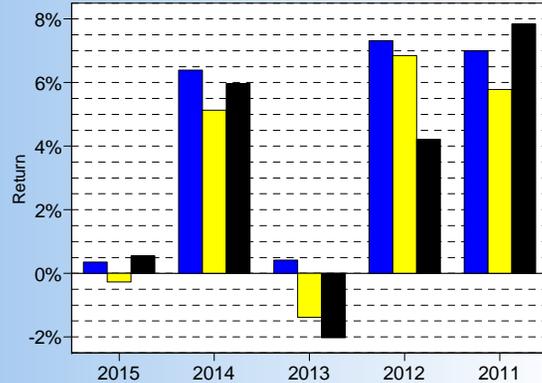


Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Core Fixed Income

## Calendar Year Return

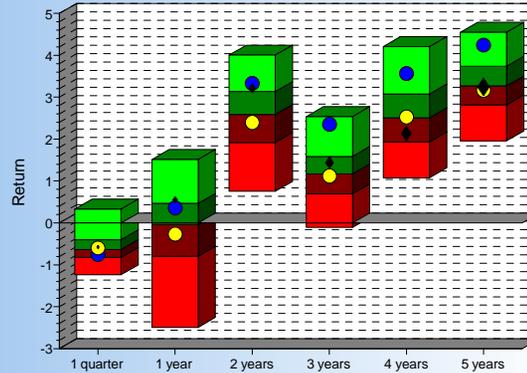
As of December 2015



- JPMorgan Core Plus Bond R6
- Morningstar Intermediate-Term Bond
- Barclays Capital U.S. Aggregate

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)  
Morningstar Intermediate-Term Bond

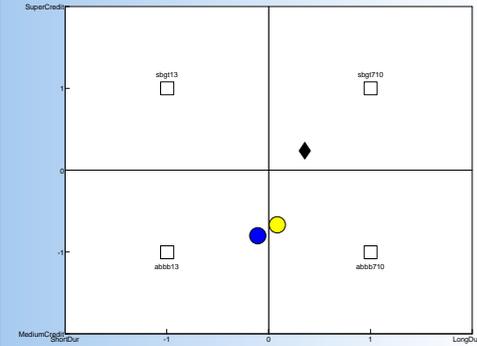


- JPMorgan Core Plus Bond R6
- ◆ Barclays Capital U.S. Aggregate
- 25th Percentile to Median
- 5th to 25th Percentile
- 75th to 95th Percentile
- Median to 75th Percentile

## Manager Style

Single Computation

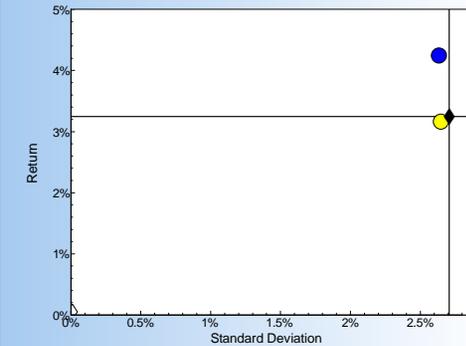
January 2011 - December 2015



## Manager Risk/Return

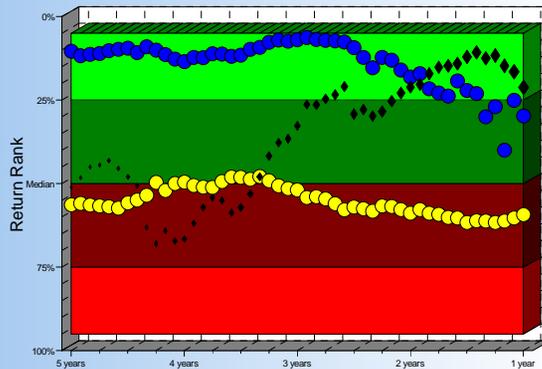
Single Computation

January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)  
Morningstar Intermediate-Term Bond

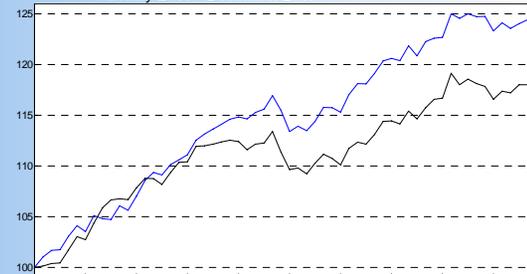


- JPMorgan Core Plus Bond R6
- ◆ Barclays Capital U.S. Aggregate
- 25th Percentile to Median
- 5th to 25th Percentile
- 75th to 95th Percentile
- Median to 75th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- JPMorgan Core Plus Bond R6
- Barclays Capital U.S. Aggregate



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

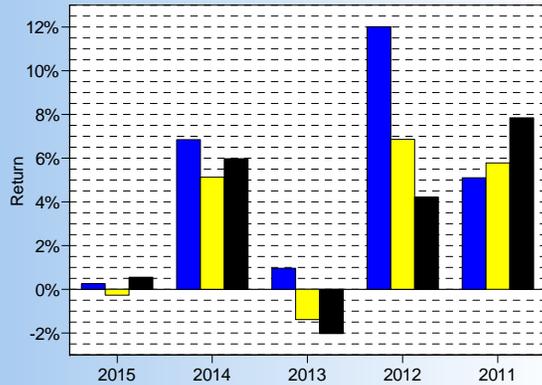
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
JPMorgan Core Plus Bond	2.63%	1.00%	108.97%	78.07%
Morningstar Intermediate-Term Bond	2.65%	-0.08%	97.67%	98.11%
Barclays Capital U.S. Aggregate	2.71%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Core Fixed Income

## Calendar Year Return

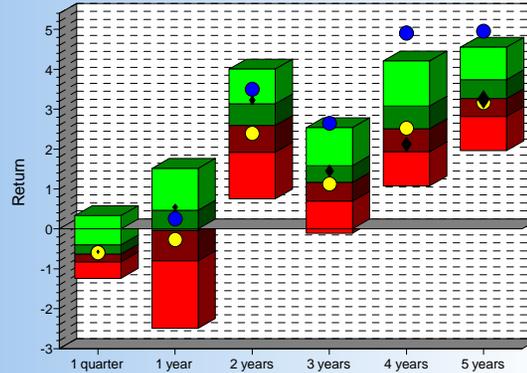
As of December 2015



- JHancock Bond R6
- Morningstar Intermediate-Term Bond
- Barclays Capital U.S. Aggregate

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)  
Morningstar Intermediate-Term Bond

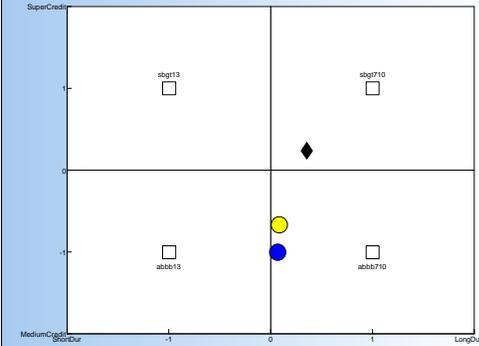


- JHancock Bond R6
- ◆ Barclays Capital U.S. Aggregate
- Morningstar Intermediate-Term Bond
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

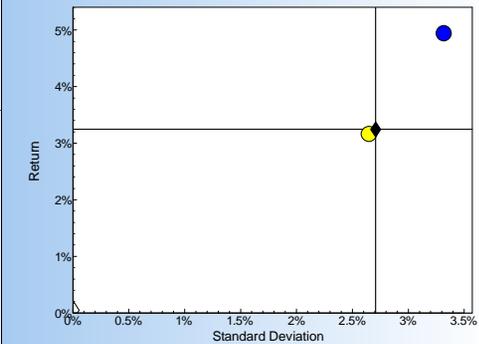
January 2011 - December 2015



## Manager Risk/Return

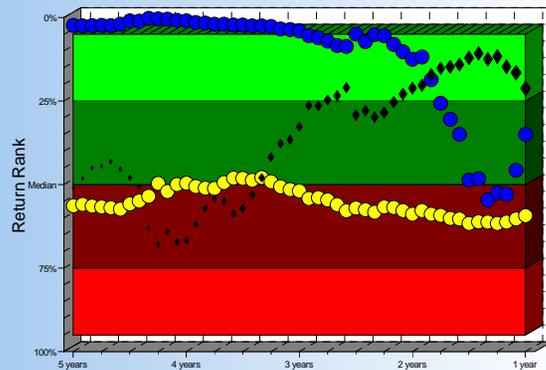
Single Computation

January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)  
Morningstar Intermediate-Term Bond



- JHancock Bond R6
- ◆ Barclays Capital U.S. Aggregate
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- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- JHancock Bond R6
- Barclays Capital U.S. Aggregate



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

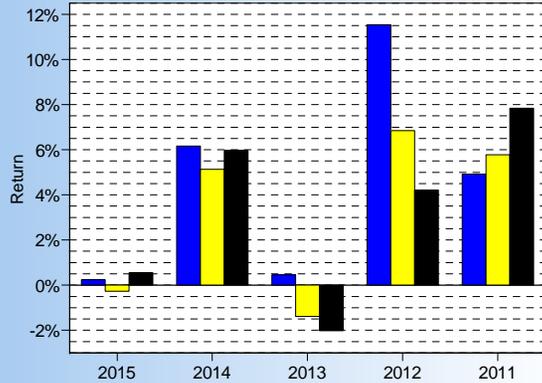
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
JHancock Bond R6	3.32%	1.70%	124.48%	83.62%
Morningstar Intermediate-Term Bond	2.65%	-0.08%	97.67%	98.11%
Barclays Capital U.S. Aggregate	2.71%	0.00%	100.00%	100.00%

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# Core Fixed Income

## Calendar Year Return

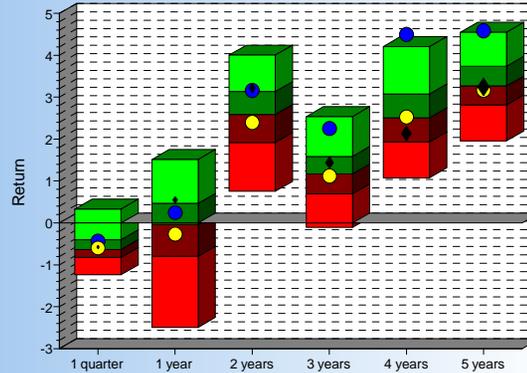
As of December 2015



- Metropolitan West Total Return Bond Plan
- Morningstar Intermediate-Term Bond
- Barclays Capital U.S. Aggregate

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)  
Morningstar Intermediate-Term Bond

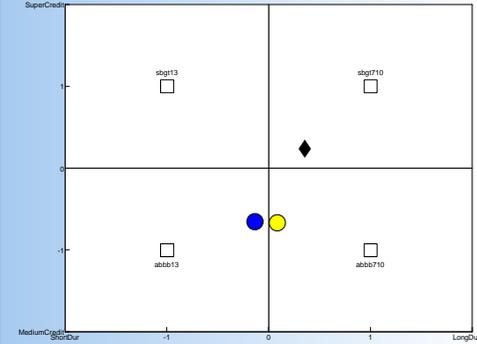


- Metropolitan West Total Return Bond Plan
- ◆ Barclays Capital U.S. Aggregate
- 5th to 25th Percentile
- 25th Percentile to Median
- 75th to 95th Percentile
- Morningstar Intermediate-Term Bond
- Median to 75th Percentile

## Manager Style

Single Computation

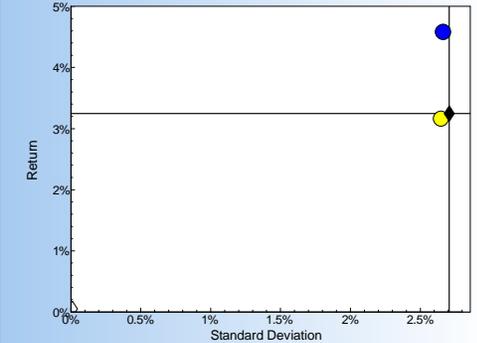
January 2011 - December 2015



## Manager Risk/Return

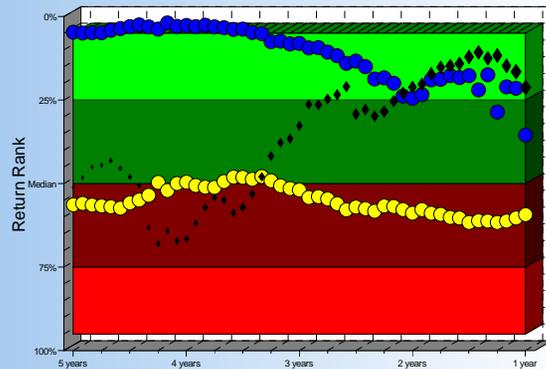
Single Computation

January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)  
Morningstar Intermediate-Term Bond



- Metropolitan West Total Return Bond Plan
- ◆ Barclays Capital U.S. Aggregate
- 5th to 25th Percentile
- 25th Percentile to Median
- 75th to 95th Percentile
- Morningstar Intermediate-Term Bond
- Median to 75th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Metropolitan West Total Return Bond Plan
- Barclays Capital U.S. Aggregate



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

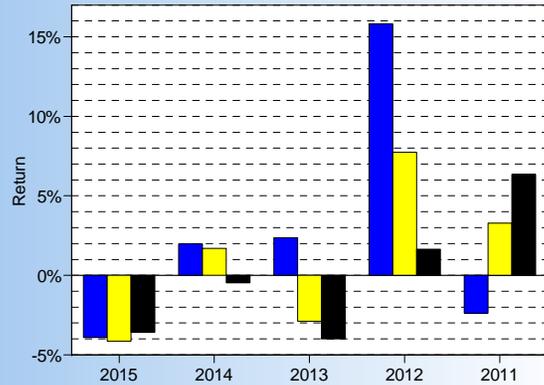
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Metropolitan West Total	2.66%	1.33%	110.72%	67.81%
Morningstar Intermediate	2.65%	-0.08%	97.67%	98.11%
Barclays Capital U.S. Ag	2.71%	0.00%	100.00%	100.00%

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# Global Bond

## Calendar Year Return

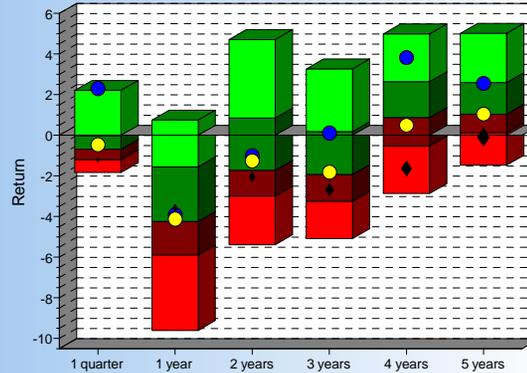
As of December 2015



- Templeton Global Bond R6
- Morningstar World Bond
- Citigroup World Government Bond Index

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)  
Morningstar World Bond

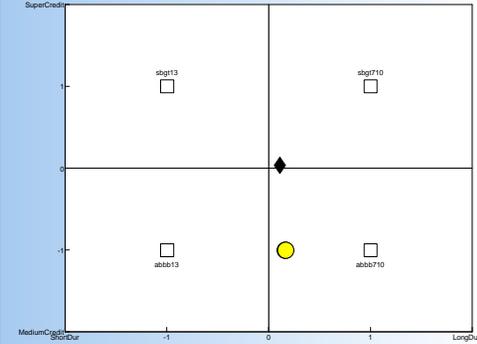


- Templeton Global Bond R6
- ◆ Citigroup World Government Bond Index
- Morningstar World Bond
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

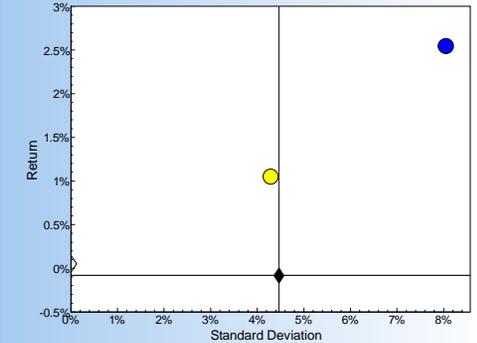
January 2011 - December 2015



## Manager Risk/Return

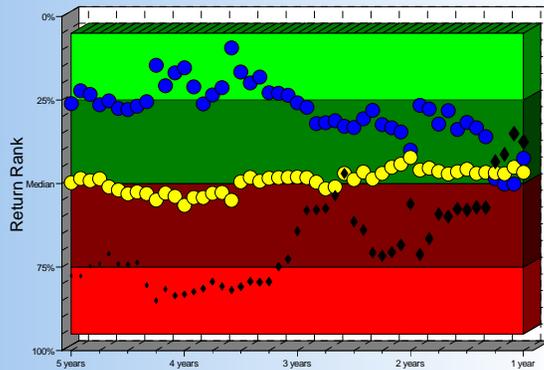
Single Computation

January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)  
Morningstar World Bond



- Templeton Global Bond R6
- ◆ Citigroup World Government Bond Index
- Morningstar World Bond
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Templeton Global Bond R6
- Citigroup World Government Bond Index



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

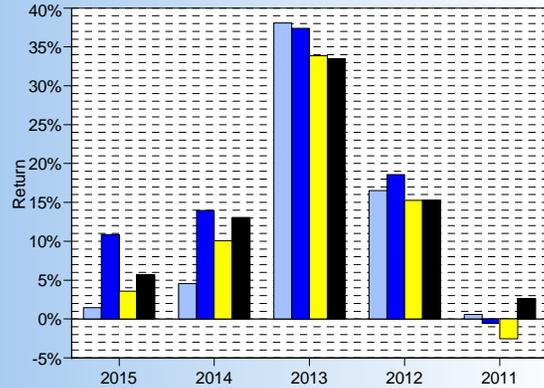
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Templeton Global Bond	8.05%	2.63%	86.31%	46.18%
Morningstar World Bond	4.28%	1.13%	86.09%	69.82%
Citigroup World Govern	4.46%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

# Large Cap Growth

## Calendar Year Return

As of December 2015

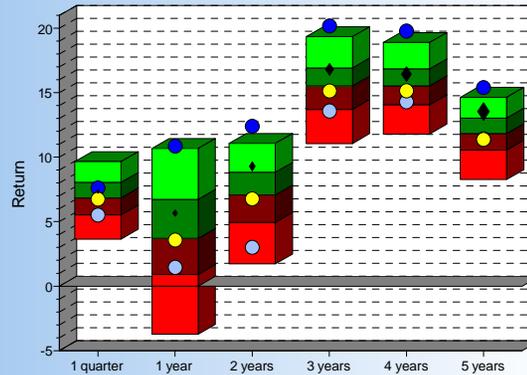


- Fidelity Focused Stock
- AB Large Cap Growth I
- Morningstar Large Growth
- Russell 1000 Growth

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth

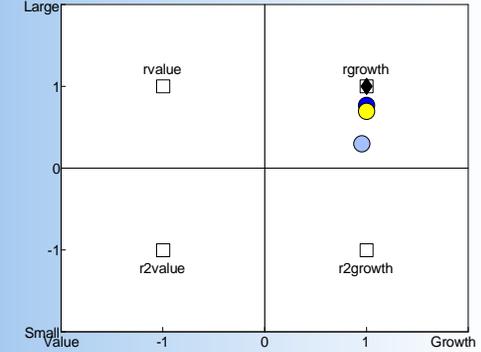


- Fidelity Focused Stock
- AB Large Cap Growth I
- Morningstar Large Growth
- ◆ Russell 1000 Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

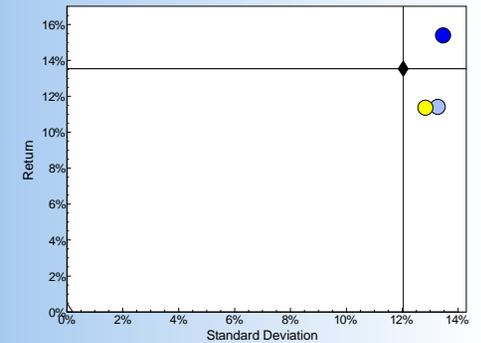
January 2011 - December 2015



## Manager Risk/Return

Single Computation

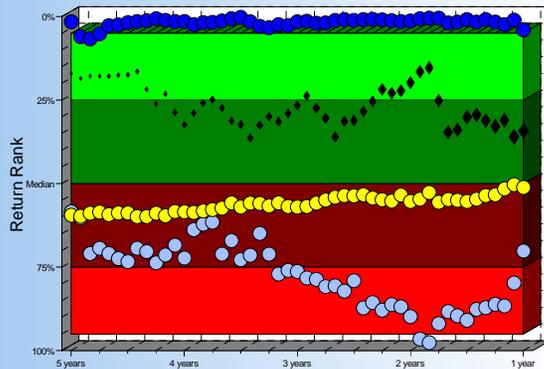
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth



- Fidelity Focused Stock
- AB Large Cap Growth I
- Morningstar Large Growth
- ◆ Russell 1000 Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Fidelity Focused Stock
- AB Large Cap Growth I
- Russell 1000 Growth

## Up/Down Capture

January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Fidelity Focused Stock	13.26%	-2.12%	97.11%	110.71%
AB Large Cap Growth I	13.45%	1.86%	109.89%	102.12%
Morningstar Large Growth	12.82%	-2.16%	98.05%	112.48%
Russell 1000 Growth	12.02%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)



US Growth

4Q 12.31.15

Overall Morningstar Rating™  
Advisor Class Shares



Rated against 1542 funds in the Large Growth Category, based on risk-adjusted returns.

## AB LARGE CAP GROWTH FUND

Advisor Class: APGYX

### OBJECTIVE

- + Long-term growth of capital

### PRIMARY INVESTMENTS

- + Large-cap US stocks, but may invest in non-US securities
- + Normally holds 50 to 70 stocks

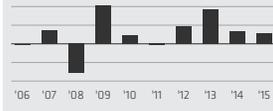
### FUND OVERVIEW

- + Seeks growth potential from a high-conviction, concentrated portfolio
- + Draws on global research to identify our equity "best ideas"
- + Led by disciplined team averaging 23 years of industry experience

### ANNUAL PERFORMANCE FOR ADVISOR CLASS SHARES<sup>1</sup>

Total Return (%)

-0.60 14.13 -31.47 41.63 9.50 -1.24 18.34 37.23 13.87 10.80



### AVERAGE ANNUAL TOTAL RETURNS: ADVISOR CLASS SHARE PERFORMANCE

	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Since Inception	Expense Ratios as of 10/30/15	
Large Cap Growth Fund <sup>1A</sup>	7.59%	10.80%	10.80%	20.08%	15.26%	9.38%	9.59%	Gross	0.95%
Russell 1000 Growth Index	7.32	5.67	5.67	16.83	13.53	8.53	8.53	Net <sup>2</sup>	-
Lipper Large-Cap Growth Funds Average	7.51	5.26	5.26	16.17	12.26	7.54	8.82		

The performance shown above represents past performance and does not guarantee future results. Current performance may be lower or higher than the performance information shown. You may obtain performance information current to the most recent month-end by visiting [www.abglobal.com](http://www.abglobal.com). The investment return and principal value of an investment in the Portfolio will fluctuate, so that your shares, when redeemed, may be more or less than their original cost. Advisor Class shares have no front-end or contingent deferred sales charges, however when purchased through a financial advisor additional fees may apply. Returns for other share classes will vary due to different charges and expenses. Performance assumes reinvestment of distributions and does not account for taxes. If applicable, high double-digit returns are highly unusual and cannot be sustained; such returns are primarily achieved during favorable market conditions.

<sup>1</sup> The performance for Advisor Class shares prior to 10/1/96, the share class's inception date, reflects Class A share performance, adjusted for differences in operating expenses. The inception date of the Class A shares is 9/28/92.

<sup>A</sup> Reflects a 2.77% and 15.92% increase in NAV on January 18, 2011 and December 23, 2008, respectively, from the proceeds of the Enron class action settlement.

<sup>2</sup> If applicable, this reflects the Adviser's contractual waiver of a portion of its advisory fee and/or reimbursement of a portion of the Fund's operating expenses. Absent reimbursements or waivers, performance would have been lower.

Russell 1000 Growth Index represents the performance of 1,000 large-cap growth companies within the US.

Investors cannot invest directly in indices or averages, and their performance does not reflect fees and expenses or represent the performance of any AB fund.

Sources: FactSet, Lipper Inc, and AB.

Effective January 20, 2015, the Fund's name changed from AllianceBernstein to AB.

The Overall Morningstar Rating for a fund is derived from a weighted average of the performance figures associated with its three-, five- and ten-year (if applicable) Morningstar Rating metrics. Past performance is no guarantee of future results. For each fund with at least a three-year history, Morningstar calculates a Morningstar Rating based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a fund's monthly performance (including the effects of sales charges, loads, and redemption fees), placing more emphasis on downward variations and rewarding consistent performance. The top 10% of funds in each category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars and the bottom 10% receive 1 star. (Each share class is counted as a fraction of one fund within this scale and rated separately, which may cause slight variations in the distribution percentages.) For the three-, five- and ten-year periods, respectively, the Fund was rated 5, 5 and 5 stars against 1542, 1326 and 933 funds in the category. Morningstar Rating is for the Advisor Class Share only; other classes may have different performance characteristics.

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## AB LARGE CAP GROWTH FUND

Advisor Class: APGYX

4Q 12.31.15

### PORTFOLIO MANAGEMENT AND YEARS OF INDUSTRY EXPERIENCE

- + Frank V. Caruso, 34 years
- + Vincent C. Dupont, 16 years
- + John H. Fogarty, 22 years

### Portfolio Characteristics & Statistics

Assets (\$mil)	\$2,869.1
Beta (Trailing 3-year) <sup>1</sup>	0.91
Standard Deviation (Trailing 3-year) <sup>2</sup>	10.18
Weighted Avg Cap	\$117.8B
Total Number of Holdings	53
Portfolio Turnover Rate (as of 10/30/15) <sup>3</sup>	74%
Advisor Class Inception Date	10/1/96

<sup>1</sup> Beta measures a fund's volatility relative to its benchmark. A fund with a beta higher than 1 has been more volatile than the benchmark over the period of measurement. Conversely, a fund with a beta less than 1 has been less volatile than the benchmark over the given period of time.

<sup>2</sup> Standard Deviation is a measure of the dispersion of a portfolio's return from its mean. The more spread apart the returns, the higher the deviation.

<sup>3</sup> Portfolio Turnover Rate is a measure of how frequently assets within a fund are bought and sold by the managers.

<sup>4</sup> Holdings are expressed as a percentage of total investments and may vary over time. They are provided for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned.

### Top Ten Equity Holdings<sup>4</sup>

Company	Sector	
Alphabet	Technology	5.74%
Apple	Technology	5.02
Facebook	Technology	4.58
Biogen	Healthcare	4.41
Intuitive Surgical	Healthcare	4.12
Home Depot	Consumer Discretionary	3.75
Visa	Financial Services	3.62
UnitedHealth	Healthcare	3.42
CVS Health	Consumer Staples	3.42
Comcast	Consumer Discretionary	3.16

### Sector Breakdown<sup>4</sup>

Technology	25.86%
Consumer Discretionary	25.86
Healthcare	20.34
Cash and Cash Equivalents	9.17
Consumer Staples	7.11
Producer Durables	5.85
Financial Services	4.99
Other	0.82

### A WORD ABOUT RISK

**Market Risk:** The market values of the portfolio's holdings rise and fall from day to day, so investments may lose value. **Focused Portfolio Risk:** Portfolios that hold a smaller number of securities may be more volatile than more diversified portfolios, since gains or losses from each security will have a greater impact on the portfolio's overall value.

**Foreign (Non-US) Risk:** Non-US securities may be more volatile because of political, regulatory, market and economic uncertainties associated with such securities.

Fluctuations in currency exchange rates may negatively affect the value of the investment or reduce returns. These risks are magnified in emerging or developing markets.

**Derivatives Risk:** Investing in derivative instruments such as options, futures, forwards or swaps can be riskier than traditional investments, and may be more volatile, especially in a down market.

Investors should consider the investment objectives, risks, charges and expenses of the Fund/Portfolio carefully before investing. For copies of our prospectus or summary prospectus, which contain this and other information, visit us online at [www.abglobal.com](http://www.abglobal.com) or contact your AB representative. Please read the prospectus and/or summary prospectus carefully before investing.

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14-3557  
LCG-0011-1215



AB LARGE CAP GROWTH FUND

Class A: APGAX / Class C: APGCX / Advisor Class: APGYX

AB LARGE CAP GROWTH FUND

Class A: APGAX / Class C: APGCX / Advisor Class: APGYX

MARKET OVERVIEW

US equities rebounded in the fourth quarter as volatility eased somewhat after a sharp third-quarter correction. During the year, investors grappled with conflicting market forces, including concerns about China's growth, ongoing falls in the price of oil and other commodities, continued monetary easing in Europe and Japan, and expectations of a US Fed rate hike.

Stocks with strong fundamentals were in favor in 2015. Internet stocks, including Amazon.com, Alphabet Inc. (Google's parent company) and Facebook, were strong performers in the US market. Unsurprisingly, large-cap stocks outperformed small-cap stocks for the quarter and the year. In 2015, the Russell 1000 Index rose 0.9% while the Russell 2000 Index fell 4.4%. In addition, growth significantly outperformed value, with the Russell 1000 Growth Index gaining 5.7% for the year versus a loss of 3.8% in the Russell 1000 Value Index.

Monetary policy took center stage during the fourth quarter. In early December, the European Central Bank cut its deposit rate to -0.30% and extended its quantitative easing program by six months. Later in the month, the US Federal Reserve decided to increase interest rates for the first time in nearly a decade, signaling the end of an era of unprecedented accommodative monetary policy, initially triggered by the global financial crisis in 2008. Markets appeared to welcome the Fed decision. The step simultaneously conveyed a vote of confidence in the US economy while removing a long-standing uncertainty that weighed on markets. Policymakers did not make any material change to their growth, employment or inflation outlook, and the future pace of hikes will likely be gradual.

Interest rates are still extremely low from a historical perspective, and the recovery remains moderate, with US GDP growth averaging 2.2% through the first three quarters of 2015. Yet unemployment is low, at 5.0%, and there have been signs of improvement in several important areas, such as consumer spending, business investment and the housing sector. These improvements in the economy should help companies increase top-line revenue growth, in our view. However, US operating margins today are about 1% higher than during the prior cycle peak and 3% above the average since the early 1950s. Potential pressures on margins include wage inflation, a rebound in commodity prices and higher interest rates, which could further strengthen the US dollar. And the direction of the dollar—as well as other currencies—is likely to play a significant role in the earnings outlook for many companies in the US and beyond.

PORTFOLIO PERFORMANCE

The US Large Cap Growth Portfolio rose in absolute terms and outperformed its benchmark, the Russell 1000 Growth, by a healthy margin in the fourth quarter. Stock selection was responsible for the premium. Sector allocation was neutral. Stock selection in the technology sector contributed most significantly to relative performance. Consumer-discretionary and industrials holdings, as well as an overweight position in the healthcare sector, also positively impacted performance. Stock selection in healthcare and financials offset some of the gains.

Our disciplined approach to growth investing is predicated on seeking out opportunities for long-term success. Growth investing is about finding exceptional companies that display strong fundamental characteristics, especially businesses that generate high and sustainable returns on investment and that have the ability to reinvest those returns above their cost of capital. These attributes are often favored by investors seeking relative safety during turbulent market periods.

In the fourth quarter, the leading contributors to the Portfolio's performance included several technology companies that are enabling change and transformation across many traditional industries, such as Alphabet Inc. and Facebook. Investors reacted favorably to robust earnings from these growth technology giants, as improved monetization from accelerating mobile traffic growth and margin improvements helped results and demonstrated the future potential of these high-return businesses. For Google, the search business results and ad revenue growth highlighted the benefit of scale. The success of the new CFO's initiatives to improve investor communications and improve returns on capital via additional share buybacks was also positively received.

Shares of Nvidia, a manufacturer of chips for mobile computing and graphics processing units, rose after beating expectations and raising guidance, driven by a 40% increase year over year from its gaming division and a 52% increase year over year from its auto division. Separately, the company raised guidance for the fourth quarter and continues to return cash back to shareholders via an 18% increase in the dividend. Long term, we believe the company is well exposed to the PC gaming market and continues to shift its business to higher growth markets, namely graphics processing units for high-performance computing and virtual reality, which are still in the early stages of adoption.

Facebook's results showed that the transition to mobile continues to gain traction and monetization of its user base is expanding. In addition, the company continues to attract advertising revenue away from traditional print, other online media and content providers.

In contrast, shares of micromessaging company Twitter declined following concerns over soft traffic trends that indicate the company is losing ground to competitors such as Instagram and Snapchat. Also in the technology sector, Cognizant, a leading provider of information technology, consulting and business process services, underperformed despite reporting strong third-quarter 2015 earnings results. Expectations were high as the company reported inline financial results, with revenue growth of 23.5% year over year. Political banter around immigration reform for skilled labor also weighed on the stock. We maintain our conviction in Cognizant, as its business is helping clients achieve operating efficiencies in technology platforms while simultaneously investing in effective, transformative digital technologies (mobile, social and cloud) that can drive higher return on investment. With a diversified customer base and a focus on digital technologies, Cognizant should continue to take a share of IT spend dollars while maintaining a high return on assets, in our view.

In the healthcare sector, UnitedHealth Group, a leading managed-care provider that participates in all segments of the market, also detracted from returns in the quarter. Although shares rebounded in

December, the share price fell in November after the company lowered 2015 guidance because of weakening public-exchange performance.

OUTLOOK

Over the past year, we have seen growth stocks outperform value and investors turn to the perceived safety of large-cap stocks over small-cap. Sector performance has been widely divergent as investors followed the momentum of tech names while shunning energy and utilities holdings.

As we enter a new year, we will carefully evaluate these trends and remain attentive to the breakdown in commodity prices and elevated scrutiny of the healthcare industry. We expect to see continued market volatility, led by domestic and international economic uncertainty, the impact of low energy prices and the ramifications for equities from the Federal Reserve's first increase in interest rates in almost a decade.

We believe we are conservatively positioned and focused on long-term success. We will continue to follow our bias towards high-quality growth stocks and affinity for companies that consistently demonstrate high and persistent profitability and strong growth characteristics, as measured by high returns on assets, revenue and earnings growth. We believe this strategy can be beneficial in today's environment.

Investors should consider the investment objectives, risks, charges and expenses of the Fund/Portfolio carefully before investing. For copies of our prospectus or summary prospectus, which contain this and other information, visit us online at www.abglobal.com or contact your AB representative. Please read the prospectus and/or summary prospectus carefully before investing.

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## AB LARGE CAP GROWTH FUND

Class A: APGAX / Class C: APGCX / Advisor Class: APGYX

4Q 12.31.15

## AB LARGE CAP GROWTH FUND

Class A: APGAX / Class C: APGCX / Advisor Class: APGYX

4Q 12.31.15

### PORTFOLIO INFORMATION

Portfolio Characteristics	Portfolio	Benchmark <sup>1</sup>
Total Number of Holdings	53	644
P/E Ratio (Stock Price/Earnings; last 12 mo)	25.42x	23.78x
P/CF Ratio (Stock Price/Cash Flow)	16.79x	14.27x
RDE (Return on Equity; next 12 mo)	22.20%	23.62%
Median Market Cap (\$ Billions)	22.7	8.4
Weighted Market Cap (\$ Billions)	117.8	123.2
EPS (Earnings per Share) Growth Rate (2016/2015)	15.63	11.96

### Portfolio Statistics (source: Morningstar)

Beta (3 yr) <sup>2</sup>	0.91
Sharpe Ratio (3 yr) <sup>3</sup>	1.83
Standard Deviation (3 yr) <sup>4</sup>	10.31
Alpha (3 yr) <sup>5</sup>	4.26

### Top Ten Equity Holdings<sup>6</sup>

Company	Sector	
Alphabet	Technology	5.74%
Apple	Technology	5.02
Facebook	Technology	4.58
Biogen	Healthcare	4.41
Intuitive Surgical	Healthcare	4.12
Home Depot	Consumer Discretionary	3.75
Visa	Financial Services	3.62
UnitedHealth	Healthcare	3.42
CVS Health	Consumer Staples	3.42
Comcast	Consumer Discretionary	3.16

### Sector Breakdown<sup>6</sup>

Sector	Portfolio	Benchmark <sup>1</sup>
Technology	25.86%	22.58%
Consumer Discretionary	25.86	22.74
Healthcare	20.34	16.91
Consumer Staples	7.11	10.45
Producer Durables	5.85	11.30
Financial Services	4.99	9.50
Materials & Processing	0.82	3.90
Cash and Cash Equivalents	9.17	-
Utilities	-	2.04
Energy	-	0.57

### Top Five Contributors

NVIDIA	Wabtec
Intuitive Surgical	Cognizant
Alphabet	Twitter
Facebook	UnitedHealth
Acuity	Comcast

### Top Five Detractors

### QUARTERLY AVERAGE ANNUAL TOTAL RETURNS AS OF 12/31/15: ADVISOR CLASS SHARE PERFORMANCE

	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Since Inception	Expense Ratios as of 10/30/15	
Large Cap Growth Fund <sup>1A</sup>	7.59%	10.80%	10.80%	20.08%	15.26%	9.38%	9.59%	Gross	0.95%
Russell 1000 Growth Index	7.32	5.67	5.67	16.83	13.53	8.53	8.53	Net <sup>†</sup>	-
Lipper Large-Cap Growth Funds Average	7.51	5.26	5.26	16.17	12.26	7.54	8.82		

The performance shown above represents past performance and does not guarantee future results. Current performance may be lower or higher than the performance information shown. You may obtain performance information current to the most recent month-end by visiting [www.abglobal.com](http://www.abglobal.com). The investment return and principal value of an investment in the Portfolio will fluctuate, so that your shares, when redeemed, may be worth more or less than their original cost. Advisor Class shares have no front-end or contingent deferred sales charges, however when purchased through a financial advisor additional fees may apply. Returns for other share classes will vary due to different charges and expenses. Performance assumes reinvestment of distributions and does not account for taxes. If applicable, high double-digit returns are highly unusual and cannot be sustained; such returns are primarily achieved during favorable market conditions.

<sup>†</sup> The performance for Advisor Class shares prior to 10/1/96, the share class's inception date, reflects Class A share performance, adjusted for differences in operating expenses. The inception date of the Class A shares is 9/28/92.

<sup>‡</sup> Reflects a 2.77% and 15.92% increase in NAV on January 18, 2011 and December 23, 2008, respectively, from the proceeds of the Enron class action settlement.

<sup>§</sup> If applicable, this reflects the Adviser's contractual waiver of a portion of its advisory fee and/or reimbursement of a portion of the Fund's operating expenses. Absent reimbursements or waivers, performance would have been lower.

Russell 1000 Growth Index represents the performance of 1,000 large-cap growth companies within the US.

Investors cannot invest directly in indices or averages, and their performance does not reflect fees and expenses or represent the performance of any AB fund.

Sources: FactSet, Lipper Inc. and AB.

References to specific securities are presented to illustrate our investment philosophy and are not to be considered advice or recommendations.

Effective January 20, 2015, the Fund's name changed from AllianceBernstein to AB.

### A WORD ABOUT RISK

**Market Risk:** The market values of the portfolio's holdings rise and fall from day to day, so investments may lose value. **Focused Portfolio Risk:** Portfolios that hold a smaller number of securities may be more volatile than more diversified portfolios, since gains or losses from each security will have a greater impact on the portfolio's overall value. **Foreign (Non-US) Risk:** Non-US securities may be more volatile because of political, regulatory, market and economic uncertainties associated with such securities. Fluctuations in currency exchange rates may negatively affect the value of the investment or reduce returns. These risks are magnified in emerging or developing markets. **Derivatives Risk:** Investing in derivative instruments such as options, futures, forwards or swaps can be riskier than traditional investments, and may be more volatile, especially in a down market.



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16-0098  
LCG-11EC-1215

**To:** Clayton County Public Employees Retirement System  
**From:** Morgan Stanley  
**Date:** February 11, 2016  
**Re:** 4th Quarter 2015 457 Deferred Compensation Plan Review

#### **4th Quarter 2015 Report:**

The funds that comprise the Clayton County 457 Deferred Compensation Pension VOYA portfolio are displayed in the two tables on the following pages. Performance within the actively managed and / or index fund options for the quarter was good, with all investment options posting gains for the quarter with the exception of the SSgA Bond Index Fund, which was down only slightly for the quarter. Furthermore, all of the funds except for the American Beacon Large Cap Value fund, outperformed their respective benchmark for the quarter.

Overall, the SSgA target date retirement series of funds all posted gains for the quarter and performed in-line with their respective benchmarks.

Clayton County Public Employees 457(B) Plan - Active and Passive Funds									
Performance and Assets as of 12/31/2015									
Fund / Index	Net Expense	3 months	YTD	1 Year	3 Years	5 Years	10 Years	Balance	% Weighting
MetLife Stable Value CL 75 Fund	1.13%	0.40	1.65	1.65	1.56	1.78	2.88	\$ 834,923	11.62%
91 Day Treasury Bill		0.03	0.05	0.05	0.05	0.07	1.24		
<b>Variance 91 Day Treasury Bill</b>		<b>0.37</b>	<b>1.60</b>	<b>1.60</b>	<b>1.51</b>	<b>1.71</b>	<b>1.64</b>		
SSgA U.S. Bond Index SL Fund - Class XII	0.06%	(0.55)	0.59	0.59	1.44	3.23	4.52	\$ 265,605	3.70%
Barclays U.S. Aggregate Bond Index		(0.57)	0.55	0.55	1.44	3.25	4.51		
Morningstar Intermediate-Term Bond		(0.60)	(0.27)	(0.27)	1.12	3.17	3.98		
<b>Variance Barclays U.S. Aggregate Bond Index</b>		<b>0.02</b>	<b>0.04</b>	<b>0.04</b>	<b>(0.00)</b>	<b>(0.02)</b>	<b>0.01</b>		
<b>Variance Morningstar Intermediate-Term Bond</b>		<b>0.05</b>	<b>0.86</b>	<b>0.86</b>	<b>0.32</b>	<b>0.06</b>	<b>0.54</b>		
American Beacon Lg Cap Value Inv	0.94%	3.93	(6.38)	(6.38)	11.53	9.88	5.55	\$ 77,019	1.07%
Russell 1000 Value Index		5.64	(3.83)	(3.83)	13.08	11.27	6.16		
Morningstar Large Value		4.70	(4.08)	(4.08)	11.49	9.50	5.23		
<b>Variance Russell 1000 Value Index</b>		<b>(1.71)</b>	<b>(2.55)</b>	<b>(2.55)</b>	<b>(1.55)</b>	<b>(1.39)</b>	<b>(0.61)</b>		
<b>Variance Morningstar Large Value</b>		<b>(0.77)</b>	<b>(2.30)</b>	<b>(2.30)</b>	<b>0.04</b>	<b>0.38</b>	<b>0.32</b>		
SSgA S&P 500 Index SL Fund - Class IV	0.13%	7.03	1.26	1.26	15.00	12.44	7.21	\$ 644,908	8.98%
S&P 500 Index		7.04	1.38	1.38	15.13	12.57	7.31		
Morningstar Large Blend		5.46	(1.46)	(1.46)	12.74	10.16	5.95		
<b>Variance S&amp;P 500 Index</b>		<b>(0.01)</b>	<b>(0.12)</b>	<b>(0.12)</b>	<b>(0.13)</b>	<b>(0.13)</b>	<b>(0.10)</b>		
<b>Variance Morningstar Large Blend</b>		<b>1.57</b>	<b>2.72</b>	<b>2.72</b>	<b>2.26</b>	<b>2.28</b>	<b>1.26</b>		
Touchstone Sands Capital Select Growth Y	1.01%	9.00	0.25	0.25	15.17	13.93	8.88	\$ 299,313	4.17%
Russell 1000 Growth Index		7.32	5.67	5.67	16.83	13.53	8.53		
Morningstar Large Growth		6.74	3.57	3.57	15.13	11.37	6.70		
<b>Variance Russell 1000 Growth Index</b>		<b>1.68</b>	<b>(5.42)</b>	<b>(5.42)</b>	<b>(1.66)</b>	<b>0.40</b>	<b>0.35</b>		
<b>Variance Morningstar Large Growth</b>		<b>2.26</b>	<b>(3.32)</b>	<b>(3.32)</b>	<b>0.04</b>	<b>2.56</b>	<b>2.18</b>		
SSgA Midcap Index SL Fund - Class XII	0.06%	2.62	(2.19)	(2.19)	12.76	10.69	8.28	\$ 405,462	5.64%
S&P 400 Index		2.60	(2.18)	(2.18)	12.76	10.68	8.18		
Morningstar Mid-Cap Blend		2.49	(4.51)	(4.51)	11.43	8.97	6.38		
<b>Variance S&amp;P 400 Index</b>		<b>0.02</b>	<b>(0.01)</b>	<b>(0.01)</b>	<b>0.00</b>	<b>0.01</b>	<b>0.10</b>		
<b>Variance Morningstar Mid-Cap Blend</b>		<b>0.13</b>	<b>2.32</b>	<b>2.32</b>	<b>1.33</b>	<b>1.72</b>	<b>1.90</b>		
Goldman Sachs Small Cap Value Inst	0.94%	2.89	(5.39)	(5.39)	12.11	10.60	8.14	\$ 166,155	2.31%
Russell 2000 Value Index		2.88	(7.47)	(7.47)	9.06	7.67	5.57		
Morningstar Small Value		2.00	(7.01)	(7.01)	9.37	7.74	5.75		
<b>Variance Russell 2000 Value Index</b>		<b>0.01</b>	<b>2.08</b>	<b>2.08</b>	<b>3.05</b>	<b>2.93</b>	<b>2.57</b>		
<b>Variance Morningstar Small Value</b>		<b>0.89</b>	<b>1.62</b>	<b>1.62</b>	<b>2.74</b>	<b>2.86</b>	<b>2.39</b>		
ClearBridge Small Cap Growth A	1.26%	7.57	(4.83)	(4.83)	12.55	11.25	8.27	\$ 141,352	1.97%
Russell 2000 Growth Index		4.32	(1.38)	(1.38)	14.28	10.67	7.95		
Morningstar Small Growth		2.82	(2.52)	(2.52)	12.09	8.96	6.20		
<b>Variance Russell 2000 Growth Index</b>		<b>3.25</b>	<b>(3.45)</b>	<b>(3.45)</b>	<b>(1.73)</b>	<b>0.58</b>	<b>0.32</b>		
<b>Variance Morningstar Small Growth</b>		<b>4.75</b>	<b>(2.31)</b>	<b>(2.31)</b>	<b>0.46</b>	<b>2.29</b>	<b>2.07</b>		
MFS International Value R3	1.03%	5.41	6.46	6.46	11.16	9.30	7.08	\$ 404	0.01%
MSCI EAFE Index - Net Div		4.71	(0.81)	(0.81)	5.01	3.60	3.03		
Morningstar Foreign Large Blend		3.59	(1.64)	(1.64)	3.63	2.54	2.56		
<b>Variance MSCI EAFE Index - Net Div</b>		<b>0.70</b>	<b>7.27</b>	<b>7.27</b>	<b>6.15</b>	<b>5.70</b>	<b>4.05</b>		
<b>Variance Morningstar Foreign Large Blend</b>		<b>1.82</b>	<b>8.10</b>	<b>8.10</b>	<b>7.53</b>	<b>6.76</b>	<b>4.52</b>		
Manning & Napier World Opportunity A	1.08%	5.14	(5.91)	(5.91)	0.28	0.10	3.50	\$ 142,559	1.98%
MSCI EAFE Index - Net Div		4.71	(0.81)	(0.81)	5.01	3.60	3.03		
Morningstar Foreign Large Blend		3.59	(1.64)	(1.64)	3.63	2.54	2.56		
<b>Variance MSCI EAFE Index - Net Div</b>		<b>0.43</b>	<b>(5.10)</b>	<b>(5.10)</b>	<b>(4.73)</b>	<b>(3.50)</b>	<b>0.47</b>		
<b>Variance Morningstar Foreign Large Blend</b>		<b>1.55</b>	<b>(4.27)</b>	<b>(4.27)</b>	<b>(3.35)</b>	<b>(2.44)</b>	<b>0.94</b>		

Clayton County Public Employees 457(B) Plan - Target Date Investments Performance and Assets as of 12/31/2015										
Fund / Index	Net Expense	3 months	YTD	1 Year	3 Years	5 Years	10 Years	Balance	% Weigthing	
SSgA Target Retirement Income SL Fund CL VI	0.47%	0.65	(1.71)	(1.71)	2.10	3.96	4.14	\$ 527,228	7.34%	
SSgA Income Custom Index		0.81	(1.35)	(1.35)	2.56	4.41	4.55			
Morningstar Target Retirement Income		0.90	(1.75)	(1.75)	3.16	3.95	3.79			
<b>Variance SSgA Income Custom Index</b>		<b>(0.16)</b>	<b>(0.36)</b>	<b>(0.36)</b>	<b>(0.46)</b>	<b>(0.45)</b>	<b>(0.41)</b>			
<b>Variance Morningstar Target Retirement Income</b>		<b>(0.25)</b>	<b>0.04</b>	<b>0.04</b>	<b>(1.06)</b>	<b>0.01</b>	<b>0.35</b>			
SSgA Target Retirement 2015 SL Fund CL VI	0.47%	1.23	(1.91)	(1.91)	3.76	6.06	N/A	\$ 470,030	6.54%	
SSgA 2015 Custom Index		1.39	(1.58)	(1.58)	4.22	6.47	N/A			
Morningstar Target-Date 2011-2015		1.66	(1.39)	(1.39)	4.13	4.57	N/A			
<b>Variance SSgA 2015 Custom Index</b>		<b>(0.16)</b>	<b>(0.33)</b>	<b>(0.33)</b>	<b>(0.46)</b>	<b>(0.41)</b>	<b>N/A</b>			
<b>Variance Morningstar Target-Date 2011-2015</b>		<b>(0.43)</b>	<b>(0.52)</b>	<b>(0.52)</b>	<b>(0.37)</b>	<b>1.49</b>	<b>N/A</b>			
SSgA Target Retirement 2020 SL Fund CL VI	0.47%	1.90	(2.21)	(2.21)	5.26	6.92	5.49	\$ 296,387	4.13%	
SSgA 2020 Custom Index		2.10	(1.90)	(1.90)	5.74	7.33	5.71			
Morningstar Target-Date 2016-2020		1.98	(1.60)	(1.60)	4.77	5.05	4.19			
<b>Variance SSgA 2020 Custom Index</b>		<b>(0.20)</b>	<b>(0.31)</b>	<b>(0.31)</b>	<b>(0.48)</b>	<b>(0.41)</b>	<b>(0.22)</b>			
<b>Variance Morningstar Target-Date 2016-2020</b>		<b>(0.08)</b>	<b>(0.61)</b>	<b>(0.61)</b>	<b>0.49</b>	<b>1.87</b>	<b>1.30</b>			
SSgA Target Retirement 2025 SL Fund CL VI	0.47%	2.44	(2.35)	(2.35)	6.20	7.38	N/A	\$ 506,626	7.05%	
SSgA 2025 Custom Index		2.66	(2.03)	(2.03)	6.69	7.79	N/A			
Morningstar Target-Date 2021-2025		2.60	(1.59)	(1.59)	6.02	5.76	N/A			
<b>Variance SSgA 2025 Custom Index</b>		<b>(0.22)</b>	<b>(0.32)</b>	<b>(0.32)</b>	<b>(0.49)</b>	<b>(0.41)</b>	<b>N/A</b>			
<b>Variance Morningstar Target-Date 2021-2025</b>		<b>(0.16)</b>	<b>(0.76)</b>	<b>(0.76)</b>	<b>0.18</b>	<b>1.62</b>	<b>N/A</b>			
SSgA Target Retirement 2030 SL Fund CL VI	0.47%	2.84	(2.35)	(2.35)	6.89	7.64	5.72	\$ 1,232,805	17.16%	
SSgA 2030 Custom Index		3.09	(2.03)	(2.03)	7.39	8.04	5.96			
Morningstar Target-Date 2026-2030		2.96	(1.81)	(1.81)	6.36	5.91	4.31			
<b>Variance SSgA 2030 Custom Index</b>		<b>(0.25)</b>	<b>(0.32)</b>	<b>(0.32)</b>	<b>(0.50)</b>	<b>(0.40)</b>	<b>(0.24)</b>			
<b>Variance Morningstar Target-Date 2026-2030</b>		<b>(0.12)</b>	<b>(0.54)</b>	<b>(0.54)</b>	<b>0.53</b>	<b>1.73</b>	<b>1.41</b>			
SSgA Target Retirement 2035 SL Fund CL VI	0.47%	3.17	(2.45)	(2.45)	7.31	7.57	N/A	\$ 397,814	5.54%	
SSgA 2035 Custom Index		3.42	(2.14)	(2.14)	7.81	7.97	N/A			
Morningstar Target-Date 2031-2035		3.56	(1.74)	(1.74)	7.44	6.58	N/A			
<b>Variance SSgA 2035 Custom Index</b>		<b>(0.25)</b>	<b>(0.31)</b>	<b>(0.31)</b>	<b>(0.50)</b>	<b>(0.40)</b>	<b>N/A</b>			
<b>Variance Morningstar Target-Date 2031-2035</b>		<b>(0.39)</b>	<b>(0.71)</b>	<b>(0.71)</b>	<b>(0.13)</b>	<b>0.99</b>	<b>N/A</b>			
SSgA Target Retirement 2040 SL Fund CL VI	0.47%	3.37	(2.66)	(2.66)	7.66	7.57	5.76	\$ 581,869	8.10%	
SSgA 2040 Custom Index		3.64	(2.34)	(2.34)	8.16	7.96	6.04			
Morningstar Target-Date 2036-2040		3.67	(1.98)	(1.98)	7.37	6.43	4.53			
<b>Variance SSgA 2040 Custom Index</b>		<b>(0.27)</b>	<b>(0.32)</b>	<b>(0.32)</b>	<b>(0.50)</b>	<b>(0.39)</b>	<b>(0.28)</b>			
<b>Variance Morningstar Target-Date 2036-2040</b>		<b>(0.30)</b>	<b>(0.68)</b>	<b>(0.68)</b>	<b>0.29</b>	<b>1.14</b>	<b>1.23</b>			
SSgA Target Retirement 2045 SL Fund CL VI	0.47%	3.48	(2.76)	(2.76)	7.64	7.56	N/A	\$ 192,604	2.68%	
SSgA 2045 Custom Index		3.76	(2.45)	(2.45)	8.14	7.95	N/A			
Morningstar Target-Date 2041-2045		4.00	(1.81)	(1.81)	8.06	6.93	N/A			
<b>Variance SSgA 2045 Custom Index</b>		<b>(0.28)</b>	<b>(0.31)</b>	<b>(0.31)</b>	<b>(0.50)</b>	<b>(0.39)</b>	<b>N/A</b>			
<b>Variance Morningstar Target-Date 2041-2045</b>		<b>(0.52)</b>	<b>(0.95)</b>	<b>(0.95)</b>	<b>(0.42)</b>	<b>0.63</b>	<b>N/A</b>			
								\$ 7,183,064		

**Table 3**  
**457 Plan Scorecard**

Clayton County 457 Plan - Q4 15													
	Style			Risk/Return			Peer Group			Period			
	Style	Style Drift	R <sup>2</sup>	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio	Qual.	Score Q4 15	Score Q3 15	Score Q2 15	Score Q1 15
<b>Large Cap Value</b>													
American Beacon Lg Cap Value Inv	1	1	1	0	0	0	0	0	2	5	5	7	7
<b>Large Cap Core</b>													
SSgA S&P 500 Index Instl	1	1	1	1	1	0	1	1	2	9	8	8	8
<b>Large Cap Growth</b>													
Touchstone Sands Capital Select Growth Y	1	1	1	1	0	1	0	1	2	8	8	9	10
<b>Small Cap Value</b>													
Goldman Sachs Small Cap Value Inst	1	1	1	1	1	1	1	1	2	10	10	10	10
<b>Small Cap Core</b>													
Legg Mason ClearBridge Small Cap Gr A	1	1	1	1	1	1	1	1	2	10	5	6	7
<b>International</b>													
Manning & Napier World Opportunities A	1	1	1	0	0	0	0	0	2	5	5	5	5
MFS International Value R3	1	1	1	1	1	1	1	1	2	10	10	10	10

## Watchlist Activity Fourth Quarter 2015

The Manning & Napier World Opportunities Fund had been on the Watchlist for a few quarters, and continued to post a score of 5 in the fourth quarter. As articulated last quarter, the newly added MFS International Value fund (R3 share class) was scheduled to fully replace the Manning & Napier World Opportunity fund at the end of the fourth quarter.

Additionally, last quarter we recommended adding the Legg Mason ClearBridge Small Cap Growth fund to the watchlist given that its score had slipped to a 5. We are pleased to report that this fund produced a significant outperformance during the fourth quarter, rising 7.57% versus the benchmark (Russell 200 Growth index) rise of 4.32%. Given this outperformance, and the improvement of several of other metrics, the fund's score has risen back to 10 as of the end of the quarter. Therefore, we recommend removing the fund from the watchlist.

Finally, last quarter the American Beacon Large Cap Value fund score fell to a 5, and has remained at that level through the end of Q415. The fund's relative performance has continued to struggle versus its peer group and its relevant benchmark. Hence, we recommend adding the American Beacon Large Cap Value fund to the watchlist.

## Clayton County 457 Plan

### Correlation Matrix: Returns vs. S&P 500

January 2011 - December 2015

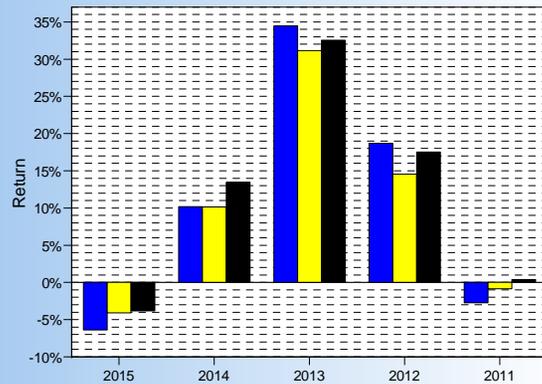
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1) American Beacon Lg Cap Value Inv	1.00							
2) SSgA S&P 500 Index Instl	0.98	1.00						
3) Touchstone Sands Capital Select Growth Y	0.82	0.86	1.00					
4) Goldman Sachs Small Cap Value Inst	0.89	0.89	0.79	1.00				
5) Legg Mason ClearBridge Small Cap Gr A	0.85	0.85	0.85	0.92	1.00			
6) Manning & Napier World Opportunities A	0.89	0.87	0.80	0.78	0.75	1.00		
7) MFS International Value R3	0.82	0.84	0.77	0.71	0.67	0.88	1.00	
8) S&P 500	0.98	1.00	0.86	0.89	0.85	0.87	0.84	1.00

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc.

# Large Cap Value

## Calendar Year Return

As of December 2015

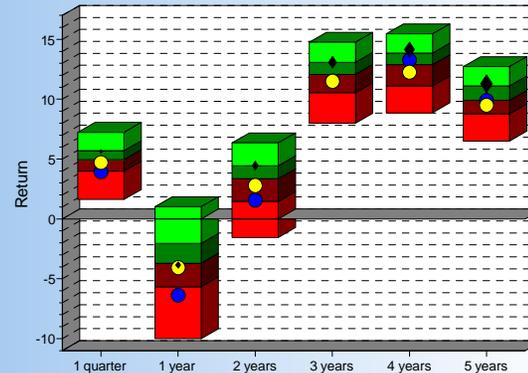


- American Beacon Lg Cap Value Inv
- Morningstar Large Value
- Russell 1000 Value

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Value

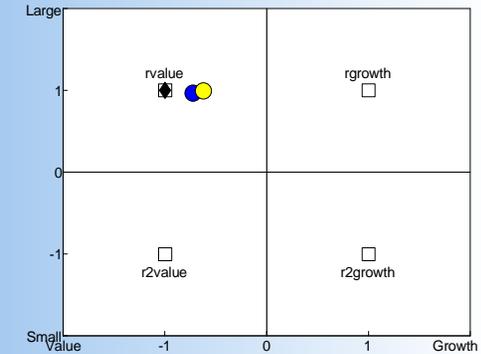


- American Beacon Lg Cap Value Inv
- Morningstar Large Value
- ◆ Russell 1000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

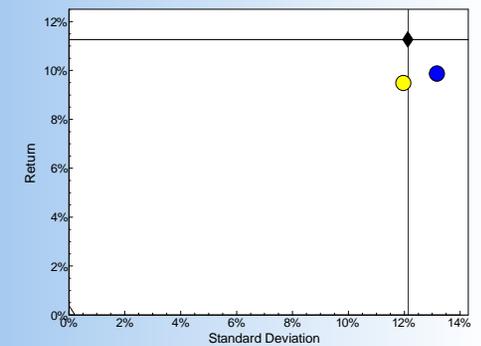
January 2011 - December 2015



## Manager Risk/Return

Single Computation

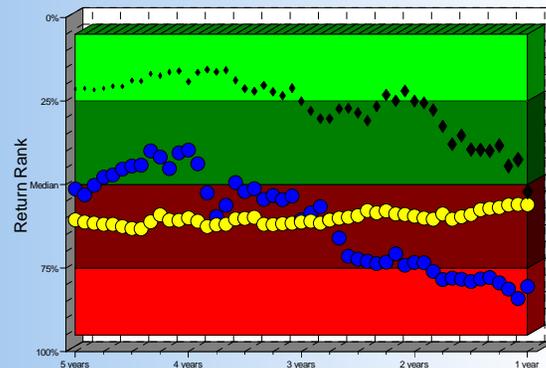
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Value



- American Beacon Lg Cap Value Inv
- Morningstar Large Value
- ◆ Russell 1000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- American Beacon Lg Cap Value Inv
- Russell 1000 Value



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

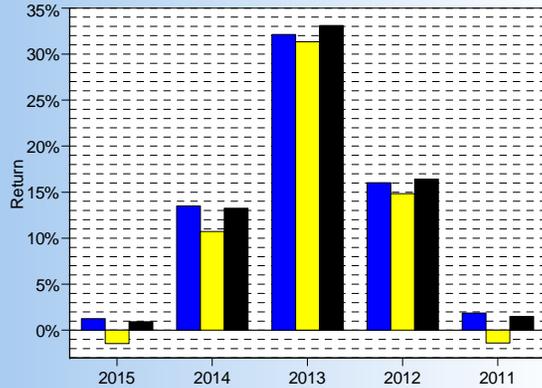
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
American Beacon Lg Cap Value Inv	13.16%	-1.40%	102.49%	111.85%
Morningstar Large Value	11.96%	-1.78%	92.73%	101.41%
Russell 1000 Value	12.12%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc.

# Large Cap Core

## Calendar Year Return

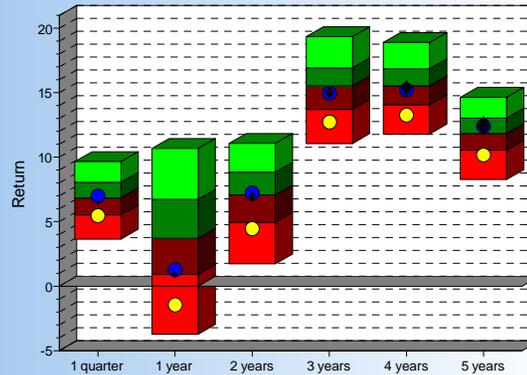
As of December 2015



- SSgA S&P 500 Index Instl
- Morningstar Large Blend
- Russell 1000

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)  
Morningstar Large Growth

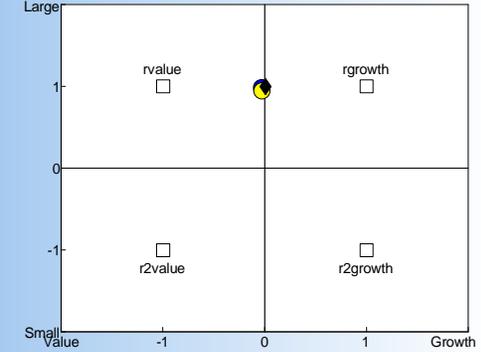


- SSgA S&P 500 Index Instl
- Morningstar Large Blend
- ◆ Russell 1000
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

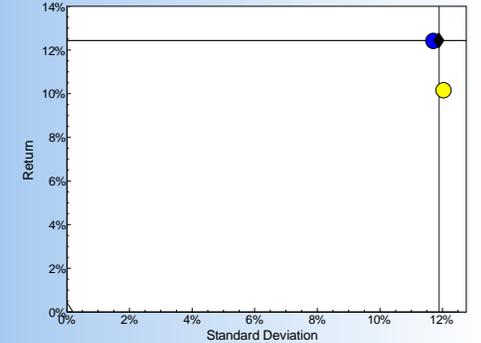
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



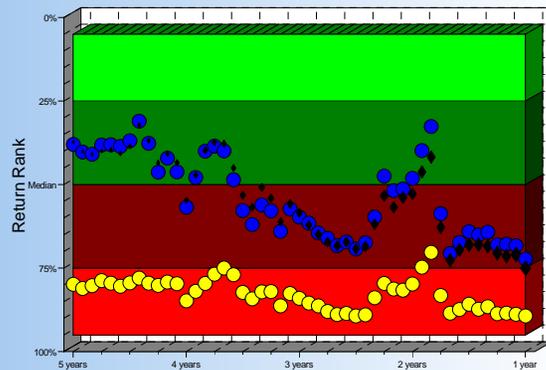
## Up/Down Capture

January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
SSgA S&P 500 Index Instl	11.69%	-0.03%	98.90%	98.58%
Morningstar Large Blend	12.03%	-2.28%	94.07%	106.80%
Russell 1000	11.88%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)  
Morningstar Large Growth



- SSgA S&P 500 Index Instl
- Morningstar Large Blend
- ◆ Russell 1000
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- SSgA S&P 500 Index Instl
- Russell 1000

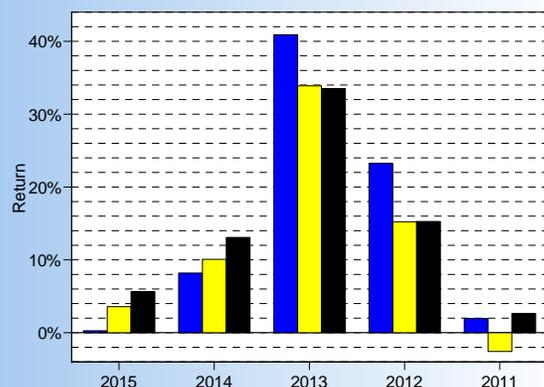


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# Large Cap Growth

## Calendar Year Return

As of December 2015

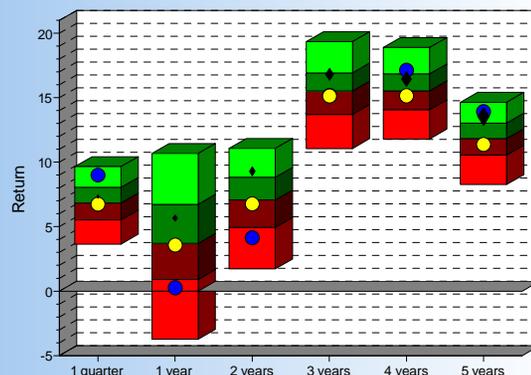


■ Touchstone Sands Capital Select Growth Y  
■ Morningstar Large Growth  
■ Russell 1000 Growth

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth

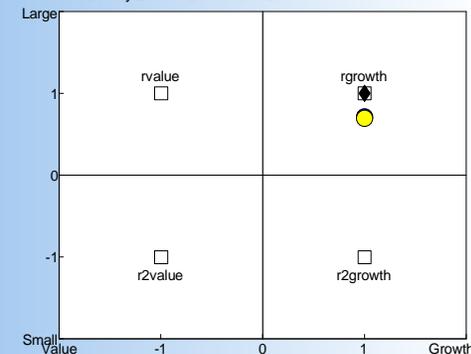


● Touchstone Sands Capital Select Growth Y  
● Morningstar Large Growth  
◆ Russell 1000 Growth  
■ 5th to 25th Percentile  
■ 25th Percentile to Median  
■ Median to 75th Percentile  
■ 75th to 95th Percentile

## Manager Style

Single Computation

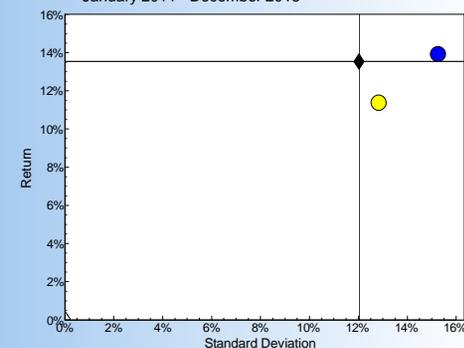
January 2011 - December 2015



## Manager Risk/Return

Single Computation

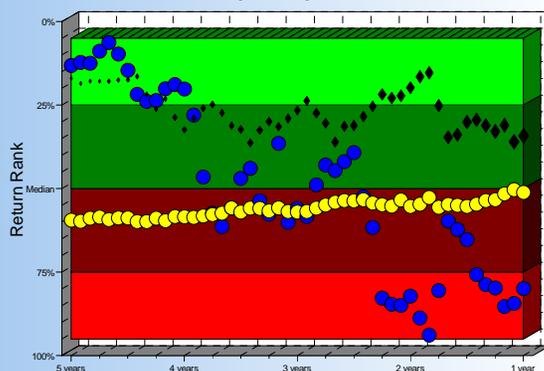
January 2011 - December 2015



## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Large Growth

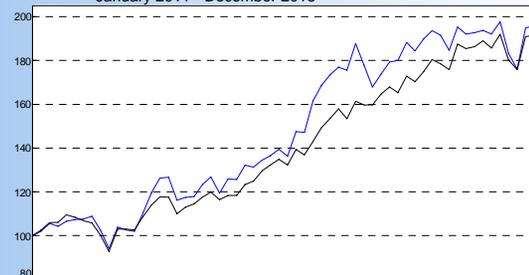


● Touchstone Sands Capital Select Growth Y  
● Morningstar Large Growth  
◆ Russell 1000 Growth  
■ 5th to 25th Percentile  
■ 25th Percentile to Median  
■ Median to 75th Percentile  
■ 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



— Touchstone Sands Capital Select Growth Y  
— Russell 1000 Growth



## Up/Down Capture

January 2011 - December 2015: Summary Statistics

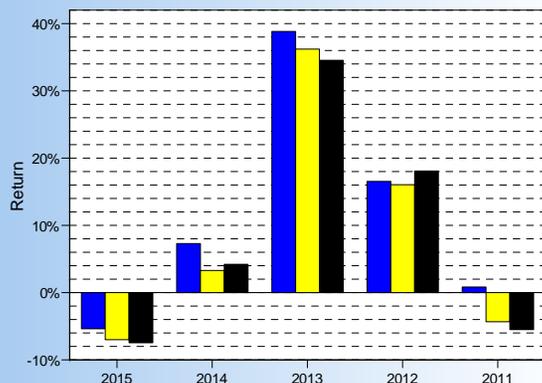
	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Touchstone Sands Capital Select Growth Y	15.25%	0.40%	109.24%	111.39%
Morningstar Large Growth	12.82%	-2.16%	98.05%	112.48%
Russell 1000 Growth	12.02%	0.00%	100.00%	100.00%

Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc.

# Small Cap Value

## Calendar Year Return

As of December 2015

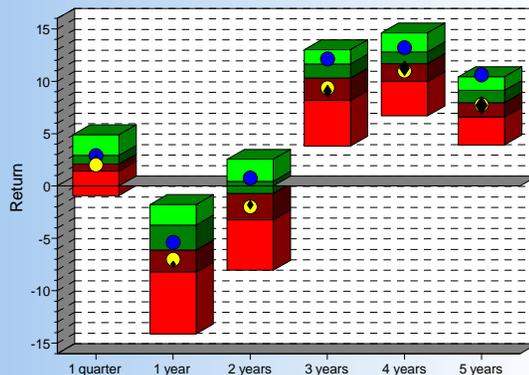


- Goldman Sachs Small Cap Value Inst
- Morningstar Small Value
- Russell 2000 Value

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Small Value

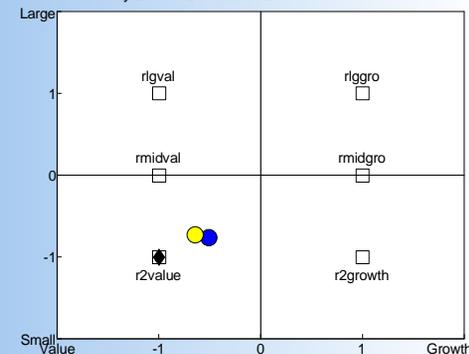


- Goldman Sachs Small Cap Value Inst
- Morningstar Small Value
- ◆ Russell 2000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

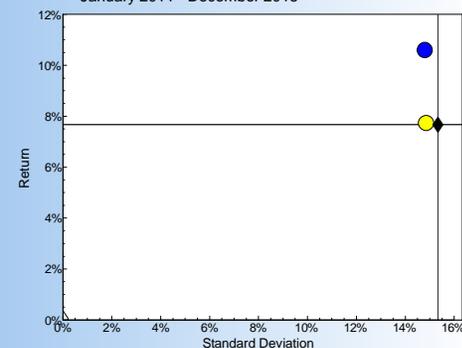
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

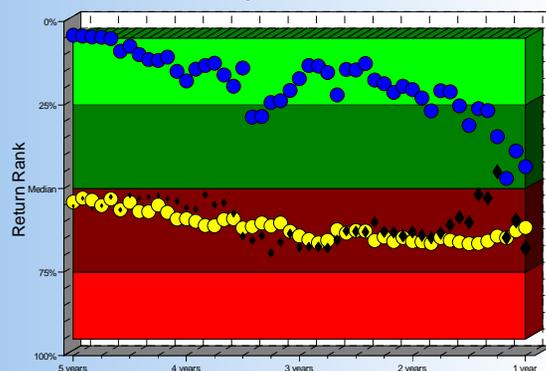
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Goldman Sachs Small C	14.79%	2.93%	100.22%	87.50%
Morningstar Small Valu	14.85%	0.07%	95.64%	95.55%
Russell 2000 Value	15.33%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Small Value

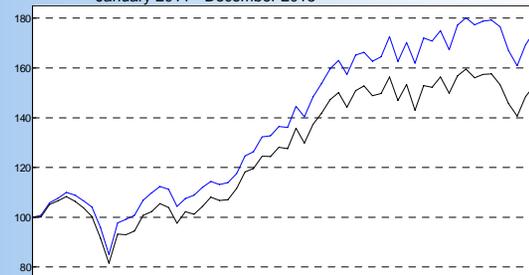


- Goldman Sachs Small Cap Value Inst
- Morningstar Small Value
- ◆ Russell 2000 Value
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Goldman Sachs Small Cap Value Inst
- Russell 2000 Value

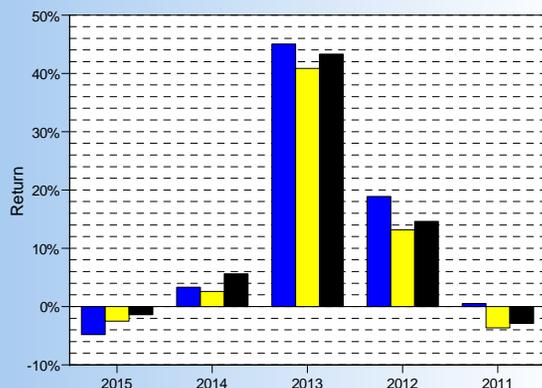


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# Small Cap Growth

## Calendar Year Return

As of December 2015

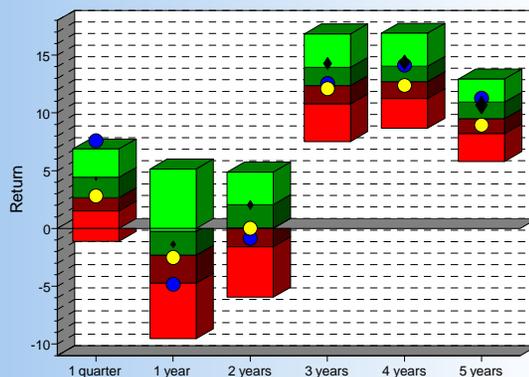


- Legg Mason ClearBridge Small Cap Gr A
- Morningstar Small Growth
- Russell 2000 Growth

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Small Growth

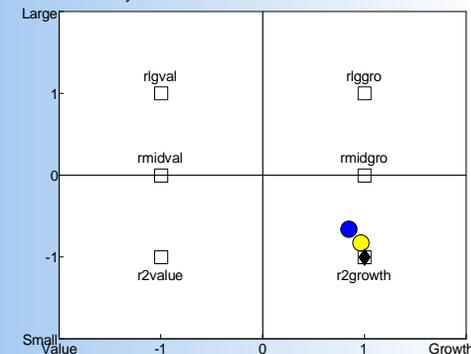


- Legg Mason ClearBridge Small Cap Gr A
- ◆ Russell 2000 Growth
- Morningstar Small Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

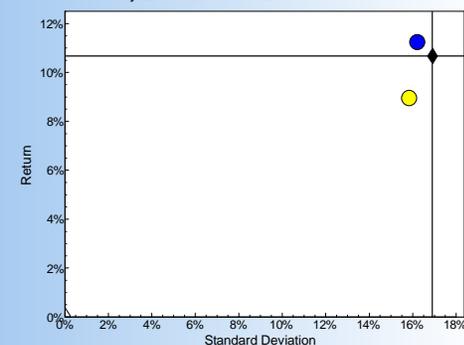
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

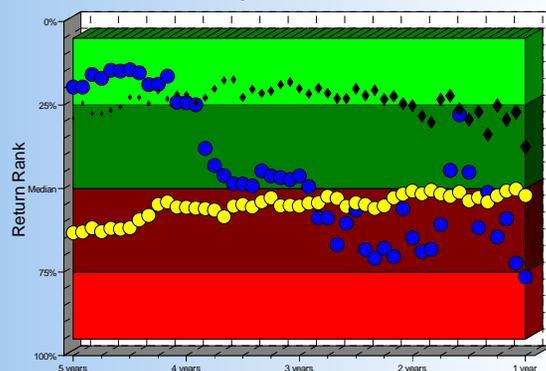
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Legg Mason ClearBridge	16.20%	0.58%	91.17%	88.81%
Morningstar Small Growth	15.82%	-1.71%	88.15%	94.83%
Russell 2000 Growth	16.90%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Small Growth

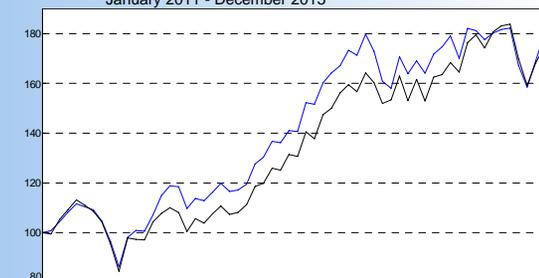


- Legg Mason ClearBridge Small Cap Gr A
- ◆ Russell 2000 Growth
- Morningstar Small Growth
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Legg Mason ClearBridge Small Cap Gr A
- Russell 2000 Growth

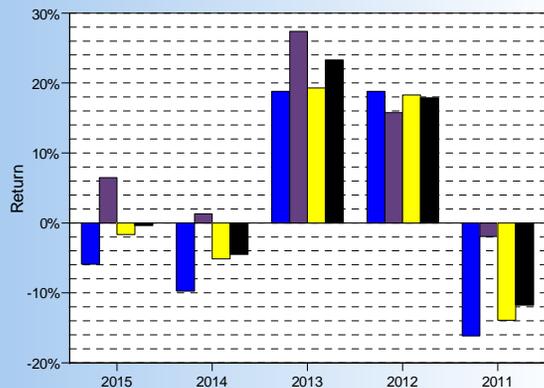


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# Foreign Large Blend

## Calendar Year Return

As of December 2015

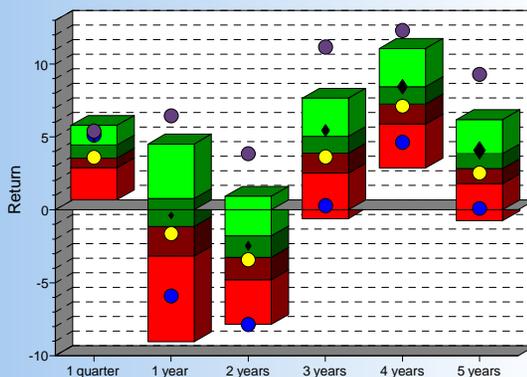


- Manning & Napier World Opportunities A
- MFS International Value R3
- Morningstar Foreign Large Blend
- MSCI EAFE

## Manager vs Universe: Return through December 2015

(not annualized if less than 1 year)

Morningstar Foreign Large Blend

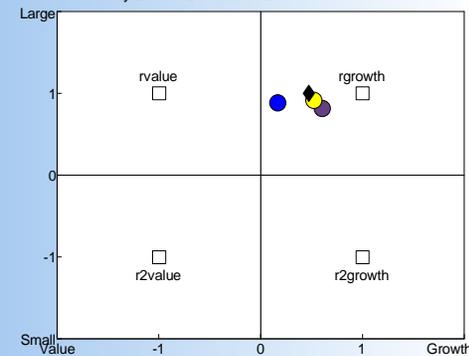


- Manning & Napier World Opportunities A
- MFS International Value R3
- Morningstar Foreign Large Blend
- MSCI EAFE
- 5th to 25th Percentile
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Style

Single Computation

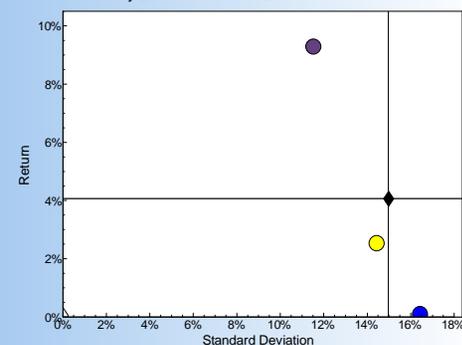
January 2011 - December 2015



## Manager Risk/Return

Single Computation

January 2011 - December 2015



## Up/Down Capture

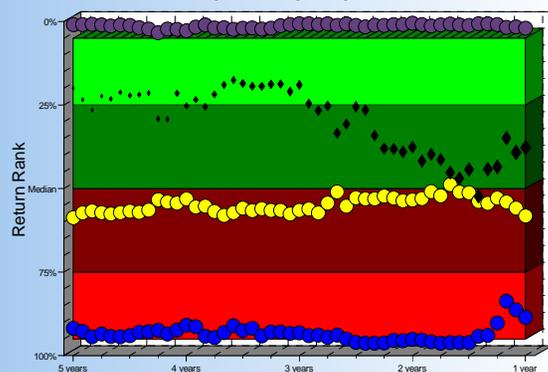
January 2011 - December 2015: Summary Statistics

	Standard Deviation	Excess Return vs. Market	Up Capture vs. Market	Down Capture vs. Market
Manning & Napier World Opportunities A	16.42%	-3.97%	93.21%	111.55%
MFS International Value R3	11.51%	5.23%	83.55%	61.14%
Morningstar Foreign Large Blend	14.42%	-1.53%	88.11%	96.75%
MSCI EAFE	14.97%	0.00%	100.00%	100.00%

## Manager vs Universe: Return Rank through December 2015

(not annualized if less than 1 year)

Morningstar Foreign Large Blend

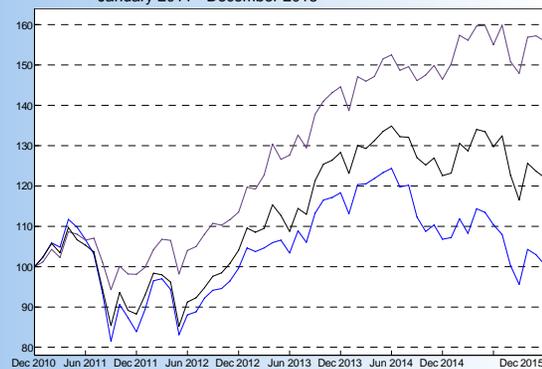


- Manning & Napier World Opportunities A
- MFS International Value R3
- Morningstar Foreign Large Blend
- MSCI EAFE
- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

## Manager Performance

Single Computation

January 2011 - December 2015



- Manning & Napier World Opportunities A
- MFS International Value R3
- MSCI EAFE

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# On the Markets

MICHAEL WILSON

Chief Investment Officer  
Morgan Stanley Wealth Management

## A Rough Start

Whew! The financial markets just completed one of the worst Januaries on record. It was a broad-based affair with prices for most risk assets appearing to correct indiscriminately. This sell-off has not been about one particular concern but rather a confluence of them, which has left market participants worried we may be tipped over into a global recession. While such high correlations between risk markets often suggest recession is near, the Global Investment Committee (GIC) does not subscribe to the view that such an outcome is inevitable. Instead, our position is that the global economy will avoid such a fate and continue to grow at a modest rate this year but below the levels seen in prior expansions—in other words, more of the same subpar growth we have witnessed since 2009.

The main difference we see is that the US economy may be contributing more to this particular global slowdown than in the other growth scares of the past seven years. Though it would be difficult for the global economy to avoid a recession if its largest engine sputters and fails, it's important to recall the GIC expected the US to experience more slowing than other regions this year, which suggests that January's market volatility is perhaps the consensus simply dialing down their more optimistic outlooks for 2016. Before the past week's rally, markets were pricing in roughly a 50% chance of recession; in our view, the odds are about 20%.

We think the key to a positive resolution depends on the consumer's ability to keep spending in the face of a corporate-profits recession caused by a stronger US dollar, weaker growth from China and collapsing oil prices. On that score, labor markets, real wage growth and confidence will determine if the consumer can keep things going. So far, none of these variables has been affected by market volatility. However, confidence is a fragile beast, which means policymakers need to remain vigilant and react to the tightening of financial conditions before they create a negative feedback loop in the real economy.

The past week's aggressive action by the Bank of Japan—it imposed a negative interest rate on banks' excess reserves—suggests its central bankers are not complacent. Indeed, we anticipate others to respond accordingly as necessary. We also expect this particular market setback to take another few months to resolve. That should leave markets volatile and with limited upside into the spring, but it does create some tactical trading opportunities. ■

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6	<b>When Private Equity Shines</b> Private equity funds often fare best when public equities are struggling.
7	<b>It's All About Oil</b> What's really rocking the markets is the plunge in oil, and its inability to recover.
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11	<b>Q&amp;A: Striking a Balance in Bonds</b> Even if rates rise, credit will still be in good shape, says Zane Brown of Lord Abbett.

# The Four D's of Recession

ELLEN ZENTNER

Chief US Economist  
Morgan Stanley & Co.

We introduced a recession as a bear-case scenario last September and gave it a 20% probability. That was higher than the Blue Chip Economic Indicators' 15%—and our assessment still feels right. What's more, our overall baseline GDP forecast is much lower than that of our peers, at 1.8% from fourth-quarter 2015 to fourth-quarter 2016 versus 2.6% in the January Blue Chip and 2.4% in the Federal Reserve's December *Summary of Economic Projections*. That said, jitters are increasing and our tracking of the data suggests the economy has gotten off to a slow start in 2016, which threatens even our below-consensus forecast.

Given the markdown in growth, the four interest rate hikes envisioned by the Fed for this year seem implausible. We expect headline growth to come in below the policymakers' expectations and it's difficult to see how they can be reasonably

confident on inflation with the trade-weighted US dollar making new highs each week. Market pricing suggests investors are in line with our expectation that the Fed does not move rates higher at its March meeting, but signs of domestic slowing and threats from abroad suggest our expectations for three rate hikes after March are more likely than not to face an even higher bar.

Stall speed in the US, or even a shift to a lower channel of growth, would likely stop the Fed in its tracks—precipitating a "one and done" scenario for this tightening cycle. We would imagine this channel to be GDP growth anywhere from 1.0% to 1.5%. A recession, even if mild in nature, would likely cause the Fed to claw back the one rate hike it has executed.

When determining a business-cycle recession, simple rules around deceleration, diffusion, depth and duration—the "four D's"—provide a good framework. Importantly, every

criterion need not be met exactly, and that is where recession models—such as the Morgan Stanley Recession Risk Model (MSRISK), a proprietary indicator—can be useful, too. Below, we run through the four rules and examine what the current data suggest. It seems clear there is a recession in the industrial sector, which is about 10% of the economy. Will that drag down the broader economy? MSRISK suggests the risk of a broad recession in the next six months is low, but rising.

Now, let's look closer at the four D's:

### Deceleration

*Every classical business cycle slows before it contracts, so look for a pronounced slowdown first.*

Judging from our fourth-quarter tracking model, growth has slowed. Our tracking for fourth-quarter GDP was -0.1% annualized in mid January, down substantially from as high as 1.4% in late November. Much of the hit to growth stems from an inventory correction, which cost about 0.75 percentage points in the third and fourth quarters. Net exports also weighed on growth, reflecting weakness in global demand accompanied by renewed upward pressure on the trade-weighted US dollar. In the domestic economy, final private domestic demand also appears to have slowed materially, to 1.5% in the fourth quarter from an average annualized 3.0% in the first three quarters of 2015.

Looking through the lens of the National Bureau of Economic Research (NBER)—the official arbiter of recession dating—any sign of a pronounced slowdown is difficult to see. Coincident indicators of the real economy on the NBER's watch list are: nonfarm payrolls; inflation-adjusted personal income (excluding transfer payments); inflation-adjusted manufacturing, business and retail sales; and industrial production. These four also comprise the Conference Board Coincident Economic Indicators (CEI), which has yet to show signs of material slowing (see chart).

## Coincident Indicators Are Not Slowing Materially

Conference Board Coincident Economic Indicators Index (three-month moving average, year-over-year change)  
US Recession



Source: The Conference Board, Morgan & Co. Stanley Research as of Nov. 30, 2015

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February 2016 2

Indeed, during the past five years, the average annualized growth rate of the CEI has remained fairly steady around 2.4%; the latest reading in November indicated a smoothed annualized rate of 2.2%.

In trying to gauge recession risk today, we'd generally need to see a more pronounced slowdown in coincident indicators in the economy to wring our hands more vigorously. We'd also want to see the slowdown spread across more sectors. As yet, the drag is mainly in the industrial side of the economy.

**Diffusion**

*The weakness in the economy must be widespread, with less than 50% of industries growing.*

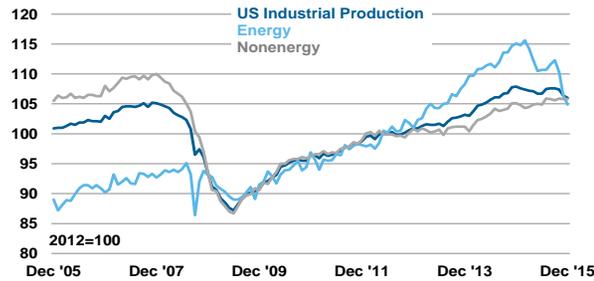
When we examine the CEI's components, only industrial production has clearly peaked and has been negative for the past six months (see chart). Energy has dropped sharply while nonenergy sectors have had a slow expansion.

To be sure, the slowdown in industrial production is worrisome. Since the autumn of 2014 US industrial production has fallen victim to a deceleration in global trade that has been transmitted to the US economy via an incredibly rapid rise in the trade-weighted US dollar and a concurrent drop in energy prices that has damaged what had been the fastest-growing segment of US capital spending. Industrial production is a highly cyclical, well-established and stable data series and its descent cannot be ignored. So, does it matter? Can an industrial decline alone drag the whole of the US economy into recession? A comparison of the ISM manufacturing and nonmanufacturing indexes is helpful here.

In the past, the US economy has only entered recession when services—about 90% of the economy—contracted. Of course, there have been times when both the manufacturing and nonmanufacturing surveys have contracted without a subsequent recession, but no recession has occurred without both ISM indexes showing contraction.

What about jobs? The US labor market ended 2015 on a high note. While the six-

**Due to Energy, Industrial Production Has Peaked**



Source: Federal Reserve Board, Morgan Stanley & Co. Research as of Dec. 31, 2015

month moving average of monthly job gains slowed on the back of manufacturing and energy layoffs beginning in early 2015, it remained at a very respectable 229,000 through December 2015, with the three-month moving average moving above that level to 284,000.

With regard to diffusion, the three-month average has remained historically high during the most recent labor-market recovery when looking at total private workers, and it briefly fell below its longer-run average for manufacturing industries. Coinciding with the decline in energy and rise in the US dollar, the breadth of job growth across private industries suffered, falling to 60.3 in October 2015 from a cyclical high of 78.5 in December 2014. It recovered to 66.2 by December, all the while remaining well above its longer-run average of 58.1.

Finally, what about regional diffusion? Here, the Philadelphia Federal Reserve's state coincident indexes are important. In November 2015, the latest data available, the indexes increased in 40 states, declined in five and remained steady in five, bringing the one-month level of diffusion to 70. While historically high when compared with its longer-run average of 64, it has slowed since hitting a high note in October 2014. Not surprisingly, the data show that all states in contraction or experiencing no growth have been those heavily influenced by energy.

The takeaway is that we must watch the geographical diffusion of growth across states in addition to the national aggregate data. Contraction in the Philly Fed's one-month diffusion of its state coincident indexes has always preceded a recession in the US economy, albeit by a fairly short four-month average lead time. All told, while we may be getting mixed signals on an economic slowdown, the diffusion of weakness is not yet widespread and remains in the industrial economy.

**Depth**

*Coincident indicators of the economy need to contract by at least 1.5% from their cyclical peaks.*

Of the four broad coincident indicators included in the CEI, only industrial production has exhibited a clear peak; after peaking in December 2014 the index has fallen 1.8%, meeting the criteria of at least a 1.5% contraction. Digging deeper, the energy side of industrial production is clearly in recession, dropping by 9.3% thus far from a cyclical top in February 2015, while the nonenergy side has shown no clear top.

**Duration**

*The NBER looks for a period of at least six months of contraction in the economy to be convinced that the episode was a recession.*

When thinking about a recession framework, forget the so-called "two-quarter GDP rule," which is referred to as a "technical" recession. If that rule held true, the NBER would not have declared a US recession in 2001 as there were no back-to-back quarters of negative growth. Moreover, since World War II, the NBER has identified 41 quarters of recession, but the two-quarter rule would have only indicated 14. The problem with such a simple rule is that any non-negative growth, however meager, would prevent the identification of a recession.

Instead, the NBER uses a broader definition of recession that "examines and compares the behavior of various measures of broad activity: real GDP measured on the product and income sides, economy-wide employment and real income.... [They] also may consider indicators that do not cover the entire economy, such as real sales and the Federal Reserve's index of industrial production." Identifying a recession must, therefore, consider a wider variety of data than just GDP.

As underscored in our discussion of deceleration, diffusion and depth, it appears we can check the box when looking at industrial production—and the final box, duration, can also be checked as industrial production has contracted for a period of one year, handily meeting the NBER's minimum criteria of six months.

While several of the broad coincident indicators are not exhibiting signs of deceleration, broad weakness or a cycle peak, it appears increasingly clear that the industrial side of the economy is in recession—led by a collapse in energy. ■

**MS Risk Radar: Pivots to Watch**

**Our base case is for a continued, moderate expansion of the global economy, but we acknowledge that risks to our growth forecast—up 3.3% in 2016 versus 2015's estimated 3.1%—may have risen in recent weeks. Here are situations we are watching in the largest economies.**

—Elga Bartsch, Co-Head of Global Economics and Chief Europe Economist, Morgan Stanley & Co.

Country	Risk Factor	Key Risk Scenario	Domestic Impact
US	Financial conditions in the US and Federal Reserve policy action	Rapid dollar appreciation does not abate; despite sluggish core inflation, the Fed tightens more aggressively than expected	Further drags on growth from net exports and weaker domestic demand
Euro Zone	Politics in the periphery, UK-EU vote and refugee crisis, weak global growth and tightening of financial conditions	Downside risks to exports could be countered by upside domestic-demand surprises via higher government spending in response to the refugee crisis	Pro-cyclical budgets could boost domestic demand but rising political uncertainties could weigh on investment and hurt consumption
Japan	Global demand conditions and pace of policy reforms needed to achieve Abenomics	The progress of reforms over the course of 2016 will be slow, in particular considering the political background of an Upper House election this year	Capital spending recovery falters, export demand falls, financial markets correct; fiscal policy might ride to the rescue
China	Elevated real interest rates and effectiveness of easing measures	Capital outflows accelerate increasing depreciation pressures forcing the central bank to tighten monetary policy at a time when underlying disinflationary pressures are persistent	Weak external demand affects export growth and capital spending, while the slow pace of reforms lowers market and corporate confidence, leading to slower domestic demand
India	Pace of policy actions to revive the productivity dynamics	Government abandons fiscal-consolidation plan, starts redistribution spending; efforts on critical policy reforms stall	Investor confidence wanes, resulting in slowdown in capital inflows, rupee will weaken and investment cycle will slow down further
Brazil	Relapse to old policy mix in the face of political turbulences	Government decides to cut taxes and rates, hoping to stimulate growth and to avoid further credit downgrades	Rising bond yields push the country even deeper into recession; weaker currency causes inflation to spike higher
Russia	Further standoff between Russia and the West, falling oil prices, deteriorating fiscal position	Falling oil prices destabilize fiscal accounts, oil funds depleted in one year, fresh sanctions trigger capital outflows, strong foreign exchange pass-through forces central bank to hike rates	Fiscal and monetary tightening pushes economy deeper into recession; the government increases its control over the economy

Source: Morgan Stanley & Co. Research as of Jan. 19, 2016

## Favor Quality Growth With Catalysts

DAN SKELLY

Senior Equity Strategist  
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Growth stocks outpaced value in 2015 by some 10 percentage points, one of the widest spreads in recent years (see chart). Many macro trends have supported growth stocks, including pressure on commodity sectors, rising concerns regarding China's potentially negative impact on the global economy and low interest rates that have pressured financial stocks, which are heavily weighted in value indexes.

Given the market's swoon so far this year, we would emphasize quality growth stocks that are trading closer to market multiples and possess clear, identifiable catalysts and strong, company-specific fundamentals. Indeed, this quality growth tilt is consistent with the contention of Adam Parker, Morgan Stanley & Co. chief US equity strategist, that it is prudent to skew toward higher-quality growth stocks that offer earnings upside potential. Additionally, Parker notes that quality

stocks are not widely owned. Below is a framework for considering quality growth ideas.

Here are the quality factors:

**Pricing power.** Look for companies that aren't just buying growth, say, through mergers and acquisitions, but those that grow because of their pricing power. These are often consumer and technology companies that are able to leverage brand equity and innovation. Also, while political rhetoric may weigh on drug firms this year, we believe certain health care ideas in life-science tools, medical technology and pharma/biotech will continue to garner strong pricing relative to the rest of the equity market.

**Strong cash flows.** Companies that produce quality earnings with concurrent strong cash-flow growth are valuable. These types of companies may be market-share leaders and operate in duopolies or oligopolies or capital-light industries, which are all supportive of higher margins and superior cash-flow profiles.

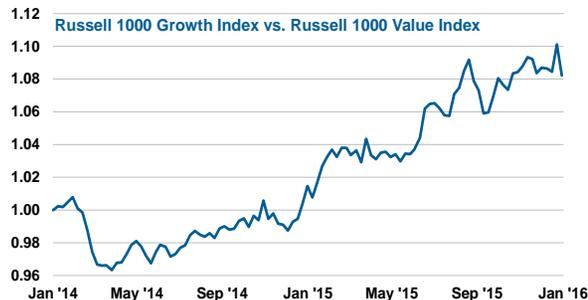
**Self-help margin growth.** Seek companies that are benefitting from idiosyncratic bottom-up developments that can boost earnings growth in the face of slow revenue growth. Examples include companies that have recently gone through technology, productivity or sales-force overhauls; a management transition with a renewed focus on utilizing balance sheet flexibility; or companies that have acquisition-driven synergies to boost their profits—particularly those that use capital trapped overseas for accretive acquisitions.

The catalysts are:

**Sustainable secular or technology drivers.** Several important sustainable secular and technology trends that appeal to us include China's investments in health-care spending and air/food quality testing, as well as payment processors, given the ongoing transition from paper to plastic transactions globally. Notably, a valuation discipline is particularly warranted in assessing secular growth trends, as many pure play or smaller-cap stocks with these exposures trade at rich valuations and leave limited margin for error.

**Athletic and political events.** Momentum stocks without clear catalysts can come under pressure when that momentum exhausts itself or if global growth falters dramatically. Therefore, we wouldn't focus on momentum stocks broadly but rather on growth stocks with compelling event catalysts on the horizon. Athletic retail spending and related companies may see an uptick this year with global sporting events such as the summer Olympics or the European soccer championships. Moreover, Jay Sole, who covers footwear and apparel for MS & Co., sees increased spending on athletic gear as a long-term trend given the focus from millennials and rising health and wellness awareness globally. Sole expects global activewear sales to grow at 5.3% per year through 2020. Also, select media-related companies may have a catalyst in the US election later this year. Beneficiaries may include traditional media plays and Internet advertising leaders. ■

### Growth Stocks Have Long Outperformed Value Stocks



Source: Morgan Stanley &amp; Co. Research as of Jan. 29, 2016

## Private Equity: Beating the S&P 500 in a Down Market

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Timing the markets is tricky, if not ill-advised, and even more so for private equity investors. Instead, those pursuing this alternatives strategy should structure a long-term commitment and stick to it. To be sure, given the long life of private equity funds, it is nearly impossible to avoid being invested during declining markets. Given the current sell-off in the public equity market, just how has private equity fared during such periods?

Since 2000, we found that in periods of declining public markets the US buyout portion of private equity has outperformed, according to Cambridge Associates. In the four years with negative total returns for the S&P 500 Index, private equity beat the index by as little as 69 basis points and as much as 1,500 (see chart).

Private equity managers were able to

achieve this because of their discretion over capital deployment, control of company decision making and the benefit of having long-term investment horizons.

**PATIENCE MATTERS.** Importantly, private equity's long investment periods have allowed managers to be patient. In stock market declines, private equity managers are not obligated to invest their capital, allowing for "dry powder" to accumulate—and it's now at a record high (see *On the Markets*, December 2015). They can wait until they feel prices have settled before putting money to work. The drawdown structure works well, too, as managers "call" for capital only when they are ready to make a transaction, and until the fund is 100% invested they have capital at their disposal. In the public markets, individuals who remain 100% invested through the downturn would need to take capital from another portion of their portfolio to make new investments.

Private equity managers, conversely, have money on the sidelines that they can put to

work once they see prices bottoming.

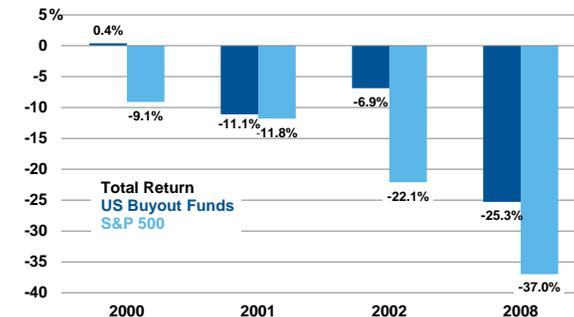
Next, private equity funds have the advantage of control. In fact, the goal of many private equity investments is to gain such control of a company, which allows the company to react more quickly to business conditions. For example, if a portfolio company's revenue starts to decline due to macroeconomic factors, a fund manager can take measures to "right size" the business—such as restructuring the balance sheet—faster than management of a publicly held company because of a single decision maker and without the added oversight of shareholders. In addition, larger private equity firms often have ownership in a variety of sectors, which allows them to combine services across companies to gain scale in purchasing, as well as to make strategic connections between the different companies. Funds also have access to top-tier executives, and that allows them to make quick changes if needed.

**AVOIDING PROFIT PRESSURE.**

Furthermore, companies taken private don't have to meet Wall Street's earnings estimates. Without that pressure, managers can focus on the company's long-term growth rather than try to quick-solve short-term issues before the quarter ends. And while funds have a responsibility to their limited partners, unlike public companies, they are not at the mercy of shareholders.

The illiquid nature of private equity may help reduce investor irrationality. Public market funds are often drained of liquidity by investors cashing out as prices decline. Without the ability to redeem from a private equity fund, investor psychology is not a factor. This illiquidity forces an investor to stay the course and see an investment to the end rather than sell because of short-term volatility. A study by financial services market research firm DALBAR, Inc., which examines average investor performance in mutual funds, finds that buying and selling driven by emotion has a negative impact on ultimate returns. ■

### Private Has Outperformed Public Equity in Down Years



Source: Thomson ONE; Cambridge Associates, Bloomberg

ON THE MARKETS / COMMODITIES

## Recession or Not, It's All About Oil

LISA SHALETT

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Morgan Stanley Wealth Management

With global equities down roughly 5% so far this year, the Global Investment Committee (GIC) has been rigorously reviewing what has caused such a swift and spectacular drop in sentiment. Macro news has been mixed at worst, punctuated by an excellent US jobs report. Meanwhile bonds, gold and the US dollar saw volatility but were ultimately range-bound. Blunders by Chinese policymakers in their stock and currency markets certainly contributed, as did negative headlines, hawkish rhetoric from Federal Reserve officials and a backdrop of negative earnings revisions. Falling markets and widening credit spreads caused financial conditions to tighten.

The truly noteworthy development came in the oil market, where the price of a barrel fell below \$27 on Jan. 20, a 12-year low, before recovering to nearly \$34 on Jan. 29. The decline was exacerbated by rising tensions between Saudi Arabia and Iran, which, rather than leading to a price-enhancing risk premium, produced an unexpected discount. Their actions made it clear that not only was OPEC's power greatly diminished, but that their increasing enmity for each other could lead them to use oil supply as a weapon.

**MORE PAIN AHEAD?** Secondarily, the data on oil showed that, despite low prices, production was not coming down fast enough, suggesting that the pain in oil would need to be even more severe to mark a bottom and set a turn. Contemplating the implications of such a scenario are important, and we believe it is what has rightly rattled markets and potentially extended pain to financials, to those

industries linked to capital spending and, ultimately, to jobs and the consumer. This is a thesis first posited by Don Luskin of Trend Macrolytics in October and recently summarized in a *Wall Street Journal* op-ed piece.

While the GIC is not ready to embrace the energy-led recession idea, let's explore it. To start, this oil decline has now reached historic proportions, not only for its severity but for its duration. The spot price for West Texas Intermediate (WTI) has fallen nearly 70% in 19 months—a cycle that is only rivaled by that of 1998 (see chart). As a result: Earnings for energy companies in the S&P 500 Index have dropped by 60% to 80%; energy-sector spreads in the high yield market have widened by more than 1,000 basis points; US drilling rigs have plummeted to 516 from nearly 1,600 in mid-2014, according to the Baker Hughes Rig Count; and energy-related capital spending has fallen by an estimated \$500 billion to \$600

billion, shaving nearly 0.5 to 0.7 percentage points off US GDP growth. Importantly, US production is down only 400,000 barrels per day, or about 4%, while global production is still up.

**NEW FUNDING MECHANISM.** Although fracking technology allows production to stop and start more quickly than with conventional drilling, an important reason why production has not responded to the price plunge is the change in the industry's funding mechanism. Historically, banks provided the bulk of lending to the oil patch, and while that would cause regional bank failures and systemic risk in past cycles, the cycles were swift because lenders were quick to take action. In this cycle, nearly two-thirds of the energy-related spending was financed in the capital markets, and a particularly large share of that was high yield debt. What's more, investors in private equity have made funds available to distressed players. Taken together, incentives to cut production have been short-circuited, making it even more difficult for the market to self-correct. Importantly, as bears are quick to point out, this price plunge has taken place while global demand climbed 1.8 million barrels per day to 80.2 million barrels.

### This Energy Downturn Really Is Different



What if oil demand were to actually slip? One theory is that this would create a self-feeding decline, tipping the world into recession because of the interconnectivity of low oil prices and the specific blend of emerging market (EM) growth and debt financing that has characterized this cycle. Specifically, as Michael Goldstein of Empirical Partners has noted, half of EM capital spending is linked to commodity businesses and these companies account for roughly 45% of all EM debt outstanding. In the 1997 EM debt crisis, EM growth was roughly one-third of the world's total; now, it's nearly two-thirds.

**PRICED-IN RECESSION.** The counter argument is that, in many cases, a recession is already priced in. EM equities, as well as global energy and capital-spending-related stocks, are down more than 30% from their highs. Furthermore, we see no current indicators of impending recession, though some early warning lights like widening credit spreads and flatter yield curves have begun to signal caution. Similarly, looking back nearly 90 years, we find no examples of low oil

prices causing a recession: in fact, nearly every recession in the period has been associated with high oil prices, with 1974 to 1975, 1980 to 1981 and 1990 to 1991 being the best examples.

Rather than lead to recession, we believe that low energy prices are a stimulus for 80% of global GDP contributors and that we are in a multiyear rebalancing in which wealth is shifting to consumers from producers. Although the US consumption response to cheap oil has been weaker than expected, 2015 consumption growth accelerated to about 3.0% from the 2.2% average annual rate logged since the financial crisis. Low gasoline prices have supported a booming US auto market in which not only total units are at multidecade highs but the mix tilts toward higher-margin SUVs.

**STRONG JOB MARKET.** Current US labor-force and income-growth momentum shows sustainability despite the industrial recession and job losses in oil fields, in mining and materials, and among equipment makers. US nonfarm payrolls in December were up a whopping

292,000, with better labor-force participation and the prior months' revisions of 50,000 jobs. The three-month moving average of job growth rose to 284,000, the best in nearly a year. While monthly wage growth didn't show acceleration, year-over-year wages are growing at 2.5%, up from 1.7% at year-end 2014. Also important is that more than 700,000 of the jobs created in the past three months were full time, not just temporary seasonal jobs. What's more, global leading economic indicators are heading higher, with momentum solid in Europe and stabilizing in Japan, China and the rest of the emerging markets. Finally, we doubt that central bankers will stand by idly if oil-driven deflation reaccelerates.

While we don't think that the global economy is heading for recession, the inability of oil to find a bottom concerns us. We are clearly in uncharted territory in which oversupply could conceivably cause a recession—especially if it undermines confidence. That's why we'll be watching for oil prices to stabilize. ■

ON THE MARKETS / FIXED INCOME

## Recalculating the Route to Higher Interest Rates

SUZANNE LINDQUIST

Fixed Income Strategist  
Morgan Stanley Wealth Management

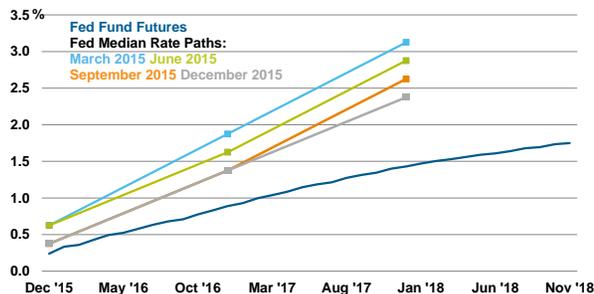
When embarking on a road trip, we rely on GPS to guide us to our destination and, depending on changing road conditions, update us on estimated arrival time. Similarly, the Federal Open Markets Committee (FOMC) incorporates changing market and economic conditions when making monetary policy. While the FOMC does not telegraph the precise timing of hikes in the federal funds rate, it does provide guideposts. For instance, its *Summary of Economic Projections* summarizes where members think the federal funds rate should be at various times. It's based on a quarterly survey in which the members estimate GDP, inflation and unemployment.

Of course, the fed funds futures market has its own idea, which differs significantly from that of the Fed (see chart). The FOMC members see a sharper increase, whereas the futures imply a slower rise. Recently, the market has been the better predictor. In March 2015, the

market projected the rate at 0.43% in December 2015, while the Fed members projected 0.75%. The FOMC hiked the rate to 0.25% in December.

Some divergence is to be expected, as the Fed survey plots the optimal path of rates while the market presents a probability-weighted outcome. In the December data, the committee members project a fed funds rate target range of 1.25% to 1.50% by the end of 2016—the equivalent of a quarter-point rate hike at each of the next four quarterly meetings—versus market expectations of just 0.75%. Since US economic growth is solid but not strong, this scenario seems unlikely. We think the path is somewhere in the middle. In our view, the best way to position fixed income portfolios for this environment is through sector diversification and security selection. Importantly, we prefer a blend of high-quality securities that provide portfolio ballast during times of illiquidity and high-yielding securities that have been overly penalized in the recent spread-widening environment.

### The Fed vs. the Market Projections for Interest Rates



Note: Squares indicate FOMC members' median projection for interest rates.  
Source: Federal Reserve, Bloomberg as of Dec. 31, 2015

**Preferreds.** Bank-issued preferred securities provide both quality and incremental yield. The banks continue to increase their capital and decrease their leverage, and they stand to benefit from dialing down their volatile capital-markets businesses, improved balance sheets and overall credit growth. While the asset class has held firm on a relative basis, spreads widened in the recent equity downdraft—presenting an entry point.

**Securitized Debt.** Mortgage-backed securities (MBS) and commercial mortgage-backed securities (CMBS) are very high-quality investments that tend to offer stable returns without the issuer-specific risk of corporate bonds. While MBS spreads have remained in check, we believe securitized debt will remain stable barring a sharp interest rate rally. Despite recent widening of the highest-quality tranches, CMBS remain fundamentally attractive. AAA-rated 10-year CMBS trade around 120 basis points above US Treasuries, which is a significantly better value than similarly rated unsecured corporate bonds. In addition, these securities generate monthly payments, providing cash to be opportunistically redeployed.

**High Yield.** In our view, the recent sell-off in the broad high yield market has provided attractive entry points even in such relatively strong sectors as housing and broad consumer discretionary, which have been beneficiaries of the weak oil prices that bedevil the market's commodities sector. We expect weakness in commodity prices, fears of slow global growth and geopolitical event risk to remain in place. However, the significant spread widening and outflows seen in 2015 may be behind us. In addition, bond dealers' year-end balance sheet constraints are apt to loosen up and allow for increased market liquidity. Away from commodity-related credits, fundamentals appear relatively steady. The US consumer is spending, and leverage and coverage ratios ex commodities appear fairly stable.

ON THE MARKETS / MUNICIPALS

## Too Strong, or Shelter From the Storm?

JOHN DILLON

Chief Municipal Bond Strategist  
Morgan Stanley Wealth Management

During mid January, the municipal market was strong—perhaps too strong. Global market turbulence then triggered a flight to safety that strengthened US Treasuries and lowered yields. As a result, munis backed away from a seemingly overbought position by mildly underperforming Treasuries, rendering tax exempts just fully valued. Indeed, the ratio of the 10-year AAA muni yield to the 10-year US Treasury yield is 89% (as of Jan. 29). Just three months ago, this relative-value ratio was 100%, meaning investors could earn as much in a tax-free muni as in a taxable Treasury (see chart).

What should muni investors do now? We suggest approaching this market very carefully. Viewed in isolation, munis would not appear very compelling at these

levels, but nothing trades in a vacuum. The environment matters greatly. Despite Morgan Stanley & Co.'s base-case economic forecast for tepid 1.8% US GDP growth this year and not recession, such concerns and second-guessing the Federal Reserve have become fashionable once again.

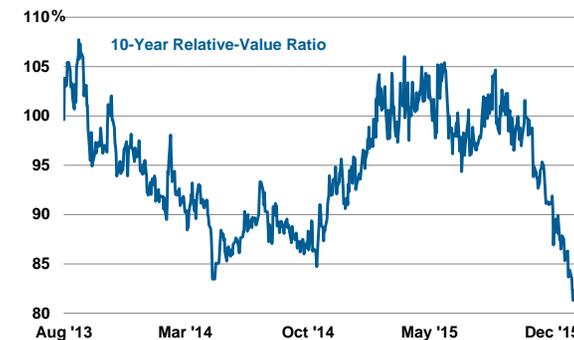
**PRUNE PORTFOLIOS.** Individual investors will need to strike a balance between targeting value should the storm pass and maintaining ample credit quality should it endure or intensify. Strong markets like this provide opportunities to prune portfolios and even take profits. Better entry points may materialize in the coming weeks, as the primary market develops further, muni demand wanes due to recent price gains and global markets find their footing. If the US Treasury rally reverses course rapidly, tax exempts could be left in a lonely place.

Given relatively tight credit spreads for

most issuers and the fact that munis did not participate in last year's corporate credit sell-off, the time may be right to take advantage of market strength to do some selective selling or bond swapping. For those who do, it's important to keep credit parity. As for muni credit in general, we remain comfortable with all states' ability to pay debt service and access markets, but volatility and spread widening may continue. Continued declines in oil prices also could prove challenging for select state and local budgets.

**USING MARKET STRENGTH.** We further suggest using the current market strength to manage call features and duration risk. When considering selective selling, also be careful not to exit valuable positions unnecessarily as replacing yield may be challenging. For yield-curve positioning, keep in mind that 70% to 90% of a 30-year yield can be captured within the 11-to-18-year maturities. Also, bonds with above-market coupons—the 4%-to-5% range—will likely hold their value most effectively in a rising interest rate environment. Callable above-market coupon securities may help to further offset any such volatility. ■

### Strong Market Drives Down Relative-Value Ratio



Source: Thomson Reuters MMD as of Jan. 29, 2016

Please refer to important information, disclosures and qualifications at the end of this material.

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Please refer to important information, disclosures and qualifications at the end of this material.

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## Striking the Right Balance in Bonds

Does the Federal Reserve's first interest rate hike in nine years mark an end to the multidecade bond bull market and, more important, a dearth of fixed income opportunities? Not necessarily, according to Zane Brown, fixed income strategist at Lord Abbett. "A lot of the characteristics that we [would] expect to see, were this the end of a credit cycle, just are not appearing," he explains. He recently shared his thoughts on the current environment and areas of opportunity with Andrew Pauker of Morgan Stanley Wealth Management's market strategy team. The following is an edited version of their conversation.

**ANDREW PAUKER (AP):** What is your outlook for US rates, credit markets and monetary policy for 2016?

**ZANE BROWN (ZB):** Our view is based on the perception that the US economy has the potential to grow a little bit more rapidly in 2016 than it did in 2015.

Why? We have finally started to see wages increase at 2.3% to 2.5% over the last couple of months, after being stuck at 1.8% to 2.0%. Wages are higher because companies are competing for workers; we've taken some of the slack out of the labor market. We also have 20 states that have increased the minimum wage. That will help push wages a little bit higher in 2016, and we would expect that all to get spent. So consumption should be a little bit better in 2016 than 2015.

We also still have a spike up in household formation, so housing is likely to remain a pillar of strength. Finally, when we look at government spending, Congress finally put sequestration and budget constraints aside and actually

passed a budget late last year that adds \$50 billion in government spending in 2016 and another \$30 billion in 2017.

The economy could grow 2.3% to 2.5% in 2016. That potentially would allow a pretty decent stock market this year, despite the fact that we've had a horrible start—and it would also allow for better performance from credit-sensitive fixed income.

**AP:** Your view is moderately constructive for economic growth in 2016. What could go wrong?

**ZB:** The key negative catalyst is likely to be the response from China to its slowdown. If China stabilizes its economy by controlling bad loans, creating a bad bank and a good bank and isolating a lot of that bad debt elsewhere, and if they provide additional liquidity and incentives for spending and investment, those are solutions that I think would be very effective. But if depreciating their currency by 15% to 20% becomes their primary solution, that would really change our expectations for global growth.

**AP:** Wage pressures are starting to pick up and you've written in the past that we could see the Consumer Price Index above 2% in early 2016. Can you expand on your inflation expectations?

**ZB:** I think three issues—wages, energy prices and US-dollar strength—are likely to present less downward pressure on inflation than what we've had in the past year or so.

We already discussed the idea that wages are likely to be a little bit higher, that we actually have taken some of the slack out of the labor force, and that's evident in some of the JOLTS [Job Openings and Labor Turnover Survey]

numbers, which show only 1.4 applicants per job. Typically, once that ratio falls below two to one, inflation begins, with a six-month lag. It's taken a little bit longer than that this time, but we think we are likely to continue to see improvement in wages and that will contribute to inflation.

If we just stabilize energy prices, the year-over-year numbers in the first quarter will not be nearly as favorable as they were in 2015 relative to 2014. So instead of getting that huge benefit of lower energy prices, the year-over-year comparison is likely to be very close, especially if in the second half of 2016 we stabilize along the lines of \$40 a barrel.

Finally, look at the US Dollar Index. It increased dramatically, about 15% to 20% in 2015 relative to 2014. In the first quarter of 2015 it was at about 95 to 100, which is right where we are today. The year-over-year benefits that we got last year as a result of cheaper imports are not likely to be repeated in 2016. Even if the dollar does continue to appreciate some, it's not likely to be as aggressive as it was in 2015.

**AP:** We've seen notable equity sell-offs in August and then again at the start of this year. In that context, rates have remained relatively stable. What do you think is driving that stability?

**ZB:** Inflation expectations and the activities of the European Central Bank [ECB] are primary influences capping yields on the 10-year US Treasury.

Inflation expectations continue to be very low. Despite the fact that we think we may actually see some increases in 2016, investors do not seem to share our expectation. Expectations for low inflation are helping to keep a lid on the 10-year yield.

In addition, we have the ECB spending €60 billion a month to buy sovereign debt in Europe, and a lot of those issues are now down to negative yields. We'd suggest that some of that is influencing high-quality securities here in the US because whenever the ECB buys these

securities—if they buy them from insurance companies or pension funds, for example—those institutions may reinvest proceeds in US debt to improve quality of credit, pick up a substantial amount of yield and maybe even get an equity kicker in the form of a stronger currency.

**AP:** Where are we in the credit cycle?

**ZB:** What is happening with yield spreads and defaults in high yield is what happens at the end of a credit cycle, but, just like equity prices have forecast nine of the last five recessions, high yield spreads can also widen out for reasons other than recession. We would suggest that those other reasons involve concern about the energy sector—primarily oil-service firms and some exploration-and-production firms. We believe there will be more defaults there, but during periods of stress correlation increases across all assets and certainly that has been the case across all sectors in high yield.

Spreads have widened out dramatically, but other market metrics differ substantially from the characteristics that we tend to see at the end of a credit cycle. The increase in leverage and decline in interest rate coverage that have characterized credit-cycle ends is not apparent today.

Also the quality of issues being offered is not symptomatic of the end of a cycle, either. Usually you find deterioration in the quality. At the end of the past three credit cycles, we've seen a 25%/75% split, with 25% being single-B and higher and the rest single-B minus and lower. Right now you have almost the opposite—a 60%/40% split in favor of higher quality.

Just because we're seven years into this cycle does not necessarily mean we've run out of steam. As economists have said, recoveries don't end of old age. They're murdered by aggressive central banks. I think that the Fed is well aware of that—and they're anything but aggressive this time around.

**AP:** Where do you see attractive opportunities?

**ZB:** High yield spreads have widened dramatically—north of 850 basis points—which implies an 11%-to-12% default rate.

That just seems to be a little unrealistic given the level of US growth. We'd certainly suggest that there is value in high yield, but we would encourage investors to stay away from a product that replicates a broad index, that essentially assures participation in index defaults.

Aside from high yield securities, the lower tiers of investment grade, including single As and triple Bs also appear attractive. A portfolio or fund of such securities can offer a very respectable income stream with slightly less volatility than the Barclays US Aggregate Bond Index.

Keep in mind that a 50-basis-point increase in the yield of the Barclay's Aggregate over one year will deliver a negative return because of the sparseness of yield compared to its duration or level of volatility. An actively managed short-duration portfolio that has attractive income characteristics might also be a way to take advantage of some of the sell-off that we've seen so far this year in credit. At the same time, this type of strategy potentially avoids some of the volatility that longer-term, high-quality securities will invariably offer whenever interest rates do rise.

**AP:** What do you think we can expect from the muni market this year?

**ZB:** Municipal securities did not have the downward pressure that many other parts of the fixed income universe experienced in 2015, and we expect that to continue in 2016. If rates rise, some of that will be expressed in municipal securities. But historically—and last year is a great example—tax-free bonds are not under the same selling pressure as taxable bonds of comparable quality and maturity.

The municipal market, which typically benefits from less volatility because investors tend to hold onto these securities for longer periods of time, is one area where investors can find really attractive investment grade securities and stay away from some of the fray affecting other fixed income securities. Along similar lines, high yield munis are often undervalued relative to their taxable counterparts

because many investors who think of municipals as their "safe money" don't even consider lower-quality tax-free securities.

**AP:** Are there areas within fixed income that you're avoiding?

**ZB:** Long-term, high-quality credits are areas that we would avoid, which is consistent with our expectation for economic growth this year. Even though short maturities are subject to more yield movement than longer maturities, as in most previous rate hike cycles, the difference in duration will cause greater price erosion and poorer performance among longer maturities. The low yield of high-quality securities is not enough cushion to absorb much adverse price movement.

**AP:** What do you think about the Fed's decision to hike rates in December, and what are you anticipating from the Fed in 2016?

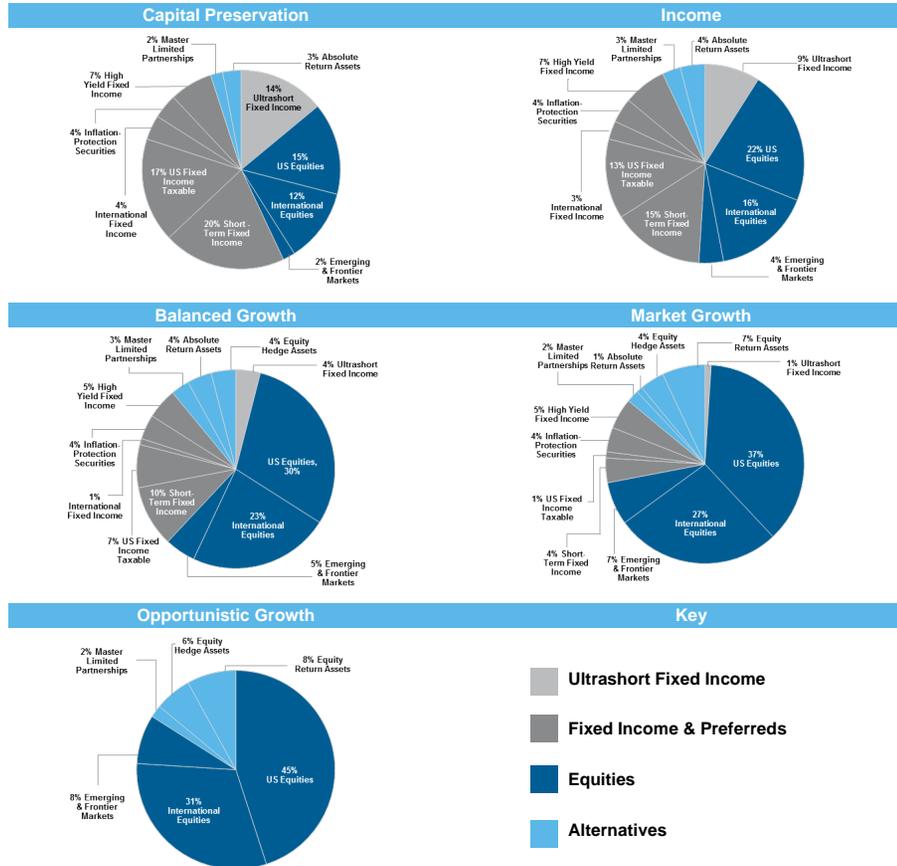
**ZB:** After the Fed delayed their movement in September, the market actually improved. When they raised rates in December, the market improved then as well. I think we're hard-pressed to suggest that the Fed did the wrong thing, especially since their action hasn't had an adverse impact on economic strength here in the US.

Global economic and financial conditions may delay a March rate hike until the following meeting or so. Depending on the progress toward 2% inflation, the Fed may have one other opportunity before the end of 2016, but it seems unlikely to us that global developments will allow the Fed the four rate hikes that they initially suggested back in December. ■

*Zane Brown is not an employee of Morgan Stanley Wealth Management. Opinions expressed by him are solely his own and may not necessarily reflect those of Morgan Stanley Wealth Management or its affiliates.*

## Global Investment Committee Tactical Asset Allocation

The Global Investment Committee provides guidance on asset allocation decisions through its various models. The five models below are recommended for investors with up to \$25 million in investable assets. They are based on an increasing scale of risk (expected volatility) and expected return.



Source: Morgan Stanley Wealth Management GIC as of Jan. 29, 2016

## Tactical Asset Allocation Reasoning

Global Equities	Relative Weight Within Equities	
US	Overweight	While US equities have done exceptionally well since the global financial crisis, they are now in the latter stages of a cyclical bull market. This bull market is currently being challenged by fears of recession. We believe the US will avoid recession in 2016, making it premature to abandon our overweight rating for US equities.
International Equities (Developed Markets)	Overweight	We maintain a positive bias for Japanese and European equity markets given the political and structural changes taking place in Japan and our expectation for an improving economic outlook in Europe. European and Japanese central banks are now engaged in much more aggressive monetary policy than the US, while also moving away from fiscal austerity. Both of these markets are earlier in their recovery from the financial crisis than the US.
Emerging Markets	Equal Weight	Emerging market (EM) equities have been big underperformers for the past few years. However, the region now offers better value and, with the severe currency depreciation during the past year, there is a greater likelihood EM equities will perform better in 2016. Still, we expect volatility to remain high so we give it an equal weight. Several EM countries are likely to exit recession this year, which argues for a broader rebound in the region, especially if China continues its stimulative fiscal and monetary policies.
Global Fixed Income	Relative Weight Within Fixed Income	
US Investment Grade	Overweight	We have recommended shorter-duration* (maturities) since March 2013 given the extremely low yields and potential capital losses associated with rising interest rates from such low levels. We have subsequently reduced the size of our overweight in short duration, with short-term interest rates now expected to move higher this year along with the Fed's tightening cycle. Within investment grade, we prefer BBB-rated corporates and A-rated municipals to US Treasuries.
International Investment Grade	Underweight	Yields are even lower outside the US, leaving very little value in international fixed income, particularly as the global economy begins to recover more broadly. While interest rates are likely to stay low, the offsetting diversification benefits do not warrant much, if any, position, in our view.
Inflation-Protected Securities	Overweight	With deflationary fears having become extreme in 2015, we believe these securities now offer relative value in the context of our forecasted acceleration in global growth and expectations for oil prices and US-dollar year-over-year rate of change to revert back toward 0%.
High Yield	Overweight	The sharp decline in oil prices has created significant dislocations in the US high yield market. Broadly speaking, we believe default rates are likely to remain contained as the economy avoids recession, while corporate and consumer behavior continue to be conservative. This should lead to better performance over the next six to 12 months along with lower volatility than equities.
Emerging Market Bonds	Underweight	The Fed's rate-hike cycle will likely be a disproportionate headwind for emerging market (EM) debt. Much like EM equities, EM debt exposure should be selective. For investors who want to own EM debt, the GIC recommends US-dollar-denominated debt with a focus on China, India and Mexico.
Alternative Investments	Relative Weight Within Alternative Investments	
REITs	Underweight	With our expectation for rising interest rates and an increasing risk of economic slowdown, we believe REITs are now fairly to slightly overvalued, especially relative to other high-yielding asset categories. Therefore, we are underweight REITs in our tactical asset allocation. Non-US REITs should be favored relative to domestic REITs.
Commodities	Underweight	Most commodities have underperformed in the past few years, with energy leading the charge lower. We believe commodities are likely to perform better in 2016 as global growth reaccelerates and the oil market comes into better supply/demand balance.
Master Limited Partnerships*	Equal Weight	Master limited partnerships (MLPs) were devastated during 2015 due to collapsing oil prices and a less hospitable financing market. Tax-loss selling and window dressing hit MLPs excessively in the fourth quarter and, while we expect MLPs to rebound, it will likely be a rally to sell.
Hedged Strategies (Hedge Funds and Managed Futures)	Equal Weight	This asset category can provide uncorrelated exposure to traditional risk-asset markets. It tends to outperform when traditional asset categories are challenged by growth scares and/or interest rate volatility spikes. Within this asset category, we favor event-driven strategies, given our expectation for increased mergers-and-acquisitions activity.

Source: Morgan Stanley Wealth Management GIC as of Jan. 29, 2016

\*For more about the risks to Master Limited Partnerships (MLPs) and Duration, please see the Risk Considerations section beginning on page 16 of this report.

## Index and Survey Definitions

**BAKER HUGHES RIG COUNT** This is a weekly count of operating drilling rigs in the US and Canada, and is an important barometer for the drilling industry and its survivors.

**BARCLAYS US AGGREGATE BOND INDEX** This index tracks US-dollar-denominated investment grade fixed rate bonds. These include US Treasuries, US-government-related, securitized and corporate securities.

**CONFERENCE BOARD COMPOSITE INDEX OF LEADING ECONOMIC INDICATORS** This index provides a monthly view of the business cycle through its compilation of 10 high-frequency data series, such as average weekly hours of manufacturing production workers, manufacturers' new orders and building permits for new private housing.

**CONSUMER PRICE INDEX** This index examines the weighted average of prices on a basket of consumer goods and services.

**INSTITUTE OF SUPPLY MANAGEMENT (ISM) MANUFACTURING INDEX** This index is based on surveys of more than 300 manufacturing firms by the Institute of Supply Management. The ISM Manufacturing Index monitors employment, production inventories, new orders and supplier deliveries.

**INSTITUTE OF SUPPLY MANAGEMENT (ISM) NONMANUFACTURING INDEX** This is an index based on surveys of more than 400 non-manufacturing firms' purchasing and supply executives, within 60 sectors across the nation, by the Institute of Supply Management (ISM).

**JOBS OPENINGS AND LABOR TURNOVER SURVEY (JOLTS)** This monthly survey, conducted by the Bureau of Labor Statistics, collects data on job openings, hires and separations from some 16,000 US businesses. It covers all nonagricultural industries in the public and private sectors for the 50 states and the District of Columbia.

**PHILADELPHIA FEDERAL RESERVE STATE COINCIDENT INDEXES** These indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the Consumer Price Index (US city average). The trend for each state's index is set to the trend of its GDP, so long-term growth in the state's index matches long-term growth in its GDP.

**RUSSELL 1000 GROWTH INDEX** This index measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth.

**RUSSELL 1000 VALUE INDEX** This index measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth.

**S&P 500 INDEX** Regarded as the best single gauge of the US equities market, this capitalization-weighted index includes a representative sample of 500 leading companies in leading industries in the US economy.

**US DOLLAR INDEX** This index indicates the general international value of the US dollar by averaging exchange rates between the US dollar and major world currencies.

## Risk Considerations

### MLPs

Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk.

Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk.

The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value.

MLPs carry interest rate risk and may underperform in a rising interest rate environment. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be a tax-deferred return of capital and for any net operating gains as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV; and, as a result, the MLP fund's after-tax performance could differ significantly from the underlying assets even if the pre-tax performance is closely tracked.

### Duration

Duration, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates. Generally, if interest rates rise, bond prices fall and vice versa. Longer-term bonds carry a longer or higher duration than shorter-term bonds; as such, they would be affected by changing interest rates for a greater period of time if interest rates were to increase. Consequently, the price of a long-term bond would drop significantly as compared to the price of a short-term bond.

**International investing** entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies.

**Alternative investments** which may be referenced in this report, including private equity funds, real estate funds, hedge funds, managed futures funds, and funds of hedge funds, private equity, and managed futures funds, are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification, absence and/or delay of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and risks associated with the operations, personnel and processes of the advisor.

**Managed futures investments** are speculative, involve a high degree of risk, use significant leverage, have limited liquidity and/or may be generally illiquid, may incur substantial charges, may subject investors to conflicts of interest, and are usually suitable only for the risk capital portion of an investor's portfolio. Before investing in any partnership and in order to make an informed decision, investors should read the applicable prospectus and/or offering documents carefully for additional information, including charges, expenses, and risks. Managed futures investments are not intended to replace equities or fixed income securities but rather may act as a complement to these asset categories in a diversified portfolio.

**Investing in commodities** entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention.

**Physical precious metals** are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. If sold in a declining market, the price you receive may be less than your original investment. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be suitable for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. The Securities Investor Protection Corporation ("SIPC") provides certain protection for customers' cash and securities in the event of a brokerage firm's bankruptcy, other financial difficulties, or if customers' assets are missing. SIPC insurance does not apply to precious metals or other commodities.

**Bonds** are subject to interest rate risk. When interest rates rise, bond prices fall; generally the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that principal and/or interest payments from a given investment may be reinvested at a lower interest rate.

**Bonds rated below investment grade** may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. High yield bonds should comprise only a limited portion of a balanced portfolio.

**Interest on municipal bonds** is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence.

**Treasury Inflation Protection Securities (TIPS)** coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. Yields and average lives are estimated based on prepayment assumptions and are subject to change based on actual prepayment of the mortgages in the underlying pools. The level of predictability of an MBS/CMO's average life, and its market price, depends on the type of MBS/CMO class purchased and interest rate movements. In general, as interest rates fall, prepayment speeds are likely to increase, thus shortening the MBS/CMO's average life and likely causing its market price to rise. Conversely, as interest rates rise, prepayment speeds are likely to decrease, thus lengthening average life and likely causing the MBS/CMO's market price to fall. Some MBS/CMOs may have "original issue discount" (OID). OID occurs if the MBS/CMO's original issue price is below its stated redemption price at maturity, and results in "imputed interest" that must be reported annually for tax purposes, resulting in a tax liability even though interest was not received. Investors are urged to consult their tax advisors for more information.

The majority of \$25 and \$1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per \$25 or \$1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price.

The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk.

The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield.

Some \$25 or \$1000 par **preferred securities** are QDI (Qualified Dividend Income) eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional "dividend paying" perpetual preferred securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180 day window period, beginning 90 days before the ex-dividend date.

**Ultrashort-term fixed income** asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. Yields and average lives are estimated based on prepayment assumptions and are subject to change based on actual prepayment of the mortgages in the underlying pools. The level of predictability of an MBS/CMO's average life, and its market price, depends on the type of MBS/CMO class purchased and interest rate movements. In general, as interest rates fall, prepayment speeds are likely to increase, thus shortening the MBS/CMO's average life and likely causing its market price to rise. Conversely, as interest rates rise, prepayment speeds are likely to decrease, thus lengthening average life and likely causing the MBS/CMO's market price to fall. Some MBS/CMOs may have "original issue discount" (OID). OID occurs if the MBS/CMO's original issue price is below its stated redemption price at maturity, and results in "imputed interest" that must be reported annually for tax purposes, resulting in a tax liability even though interest was not received. Investors are urged to consult their tax advisors for more information.

**Asset-backed securities** generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

**Rebalancing** does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

**Equity securities** may fluctuate in response to news on companies, industries, market conditions and general economic environment.

**Value investing** does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

**Growth investing** does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

**Investing in smaller companies** involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

**Stocks of medium-sized companies** entail special risks, such as limited product lines, markets, and financial resources, and greater market volatility than securities of larger, more-established companies.

**Asset allocation and diversification** do not assure a profit or protect against loss in declining financial markets.

The **indices** are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Smith Barney LLC retains the right to change representative indices at any time.

**REITs investing** risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies.

**Investing in foreign emerging markets** entails greater risks than those normally associated with domestic markets, such as political, currency, economic and market risks. These risks are magnified in **frontier markets**.

**Investing in foreign markets** entails greater risks than those normally associated with domestic markets, such as political, currency, economic and market risks. **Investing in currency** involves additional special risks such as credit, interest rate fluctuations, derivative investment risk, and domestic and foreign inflation rates, which can be volatile and may be less liquid than other securities and more sensitive to the effect of varied economic conditions. In addition, international investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies.

**Yields** are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

**Credit ratings** are subject to change.

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