



# UNIVERSITY OF CALIFORNIA

Office of the Chief Investment Officer

## Total Return

Investment Review as of December 31, 2015

February 2016

**Growing Portfolios** Building Partnerships

**UC Investments**



The **investment objective** of the Total Return Investment Pool (“TRIP”) is to generate a rate of return, after all costs and fees, in excess of the policy benchmark, and consistent with liquidity, cash flow requirements, and risk budget.

As its name implies, TRIP is managed according to a total-return objective, and will be subject to interest-rate risk, credit risk, and equity risk.

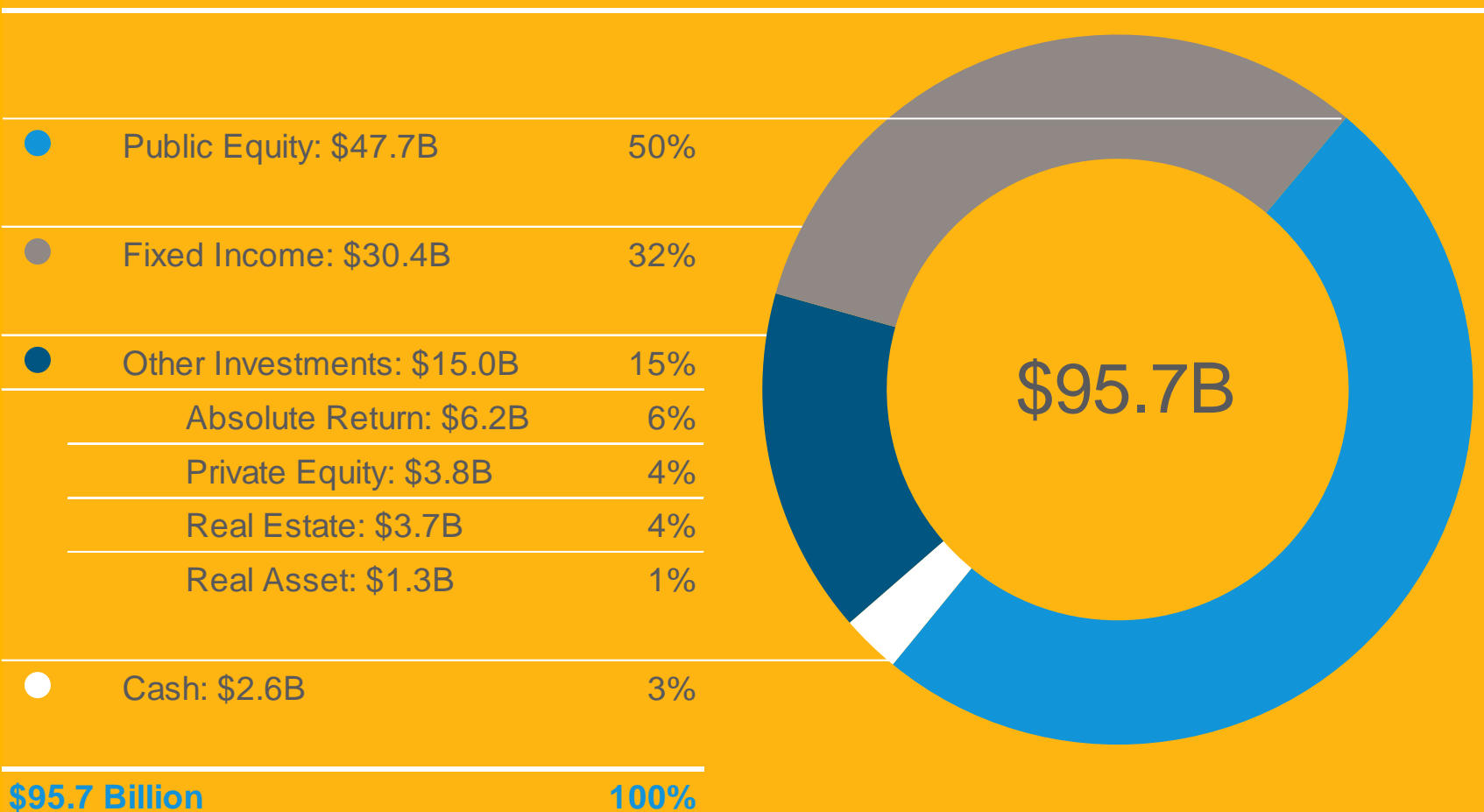
It is appropriate for longer-term investors who can accept this volatility in exchange for higher expected return.

**Delivering  
value  
through  
values.**

OUR INVESTMENT BELIEFS

# Our Products

As of December 31, 2015



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## 1

Invest for the long term. Where we can, we focus on investments over 10 years and beyond. This offers many more opportunities than those available to short- and intermediate- term investors. We aim to make the most of our scale and ability to be patient.

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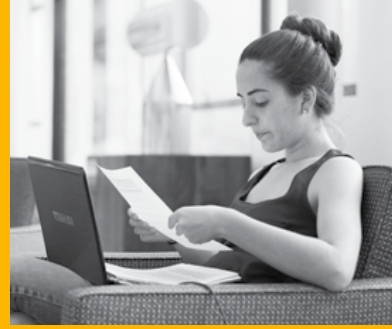
## 2

Invest in people. The contributions of talented people are among the most important drivers of success for any investment organization. So we've made the recruitment and retention of exceptional staff a cornerstone of our strategy.

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## 3

Build a high-performance culture. Every organization needs a clearly defined culture to make sure everyone is working towards the same goals and speaking the same language. Our culture is one of responsibility, accountability and high performance. We are proud of our achievements but try to be humble, as markets sometimes surge and fall without warning or logic.



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## 4

We are all risk managers. Our aim is simple: to earn the best risk-adjusted returns that meets the objectives of our various portfolios. But achieving that aim is complex. An effective risk-management function is critical, enabling the leadership to delegate authority to the investment team. Everyone on the team is in the risk-management business.

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## 5

Allocate wisely. The key to investing, and the most important driver of performance, is asset allocation. To make effective investment decisions and achieve the appropriate combination of risk and return, we have to maintain a clear and balanced understanding of stakeholders' unique objectives, time horizon, risk tolerances, liquidity and other constraints. As a globally significant investor, we also aim to make the most of our scale and patience when we allocate assets.

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## 6

Costs matter. High-quality advice comes at a cost. We get that. But we also believe fees and costs for external managers must be fully transparent and straightforward. Anything else creates potential problems — opaque fees can mask risk. Plus, cost savings can be considered a risk-free return. If we can save money through efficient, well-executed strategies, then we must. We intend to aggressively capture every dollar of this risk-free return that we can.



## 7

**Diversify with care. Act with clarity.** Diversification is invaluable, but it's not a cure-all. It allows us to spread risk and reduce the impact of any individual loss. But diversifying too broadly has the effect of producing returns that are index like and can draw investors into assets and products they don't fully understand. We prefer a more focused portfolio of assets and risks that we know extremely well. We also need to be keenly aware of our own strengths and weaknesses in the global context in order to act decisively when we believe markets are behaving irrationally or when we have a skill or knowledge advantage. That means keeping a constant, clear-eyed check on our evolving capabilities. It's not always an easy or painless process, but it's an essential one.

## 8

**Sustainability impacts investing.** Sustainability is not a "check box," but rather, a fundamental concern that we incorporate into decision making. We focus particularly on how sustainability can improve investment performance. Sustainable businesses are often more rooted in communities and resilient to future crises, which means investing in them makes good business sense. They are bound to affect portfolios in the future, and we need to consider them in our broader lens of investment decision making.



## 9

**Collaborate widely.** We are proud to be a part of the University of California, as well as the broader community of institutional investors. Through active collaboration, we aim to leverage the unique resources of the university. We also want to foster collaborative relationships with our peers to leverage our long-term competitive advantages.

## 10

**Innovation counts.** The best investors recognize that markets are constantly fluctuating and that no good idea lasts forever. We must always be innovating and identifying new opportunities. Getting in early brings rewards. Just as importantly, some of the best opportunities transcend asset-class silos. There are advantages in thinking differently and partnering with peers that are willing to work with us on innovative projects. Collaboration is one of the most powerful drivers of innovation.



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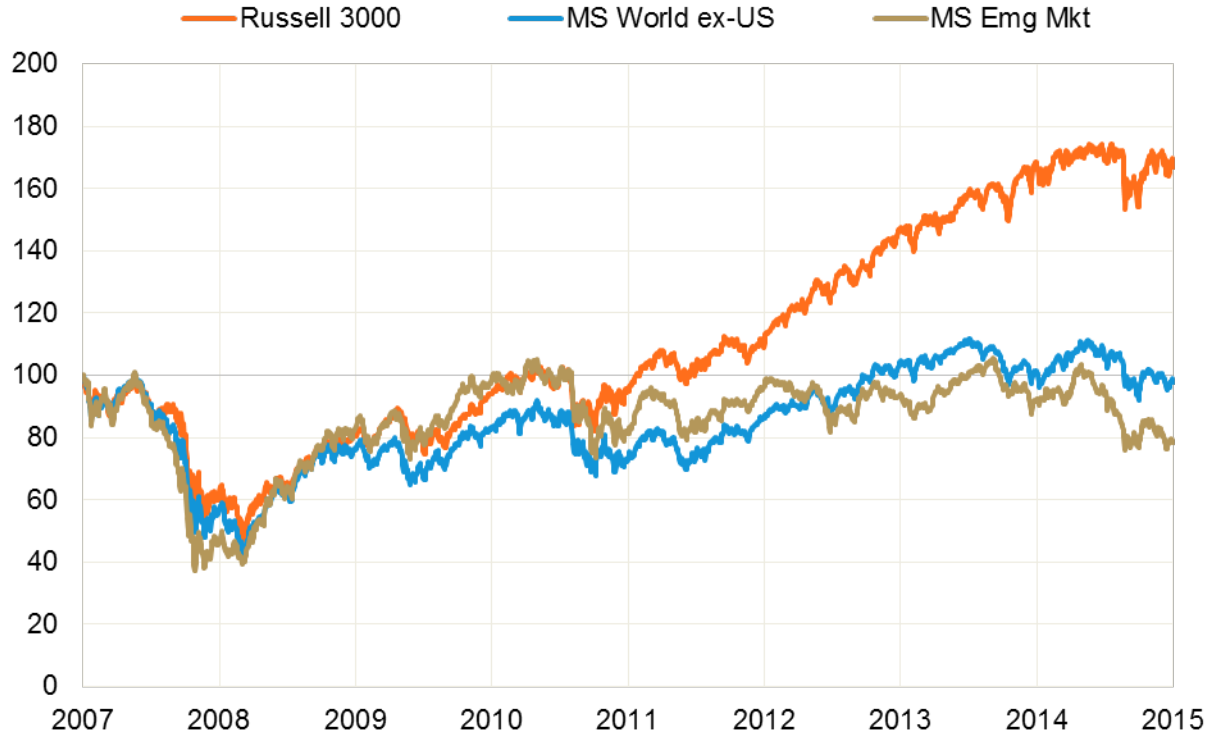
# Market Review





# Equity Markets

## Performance



### Highlights

China's stock market crash, the meltdown in commodities, the emerging market equity selloff, a Fed rate increase and the rising U.S. Dollar vis-à-vis most currencies, made the past six months memorable.

Risks from China are clearly top of mind as it attempts the largest economic transformation, morphing from a fixed asset / export driven economy to one that is consumer-led. While hiccups and policy mistakes are to be expected, two came to the forefront including: 1) A margin fueled stock market crash leading to a 20% selloff for the MSCI China; and 2) Miscommunication of foreign exchange policy leading to currency devaluation. China's transformation is also having huge global effects including contributing to decelerating global growth and much lower demand for commodities and materials.

A sustained collapse in commodity prices, slower global GDP and a rising U.S. Dollar, all helped spur the market rout in emerging markets, which were down 17.4%.

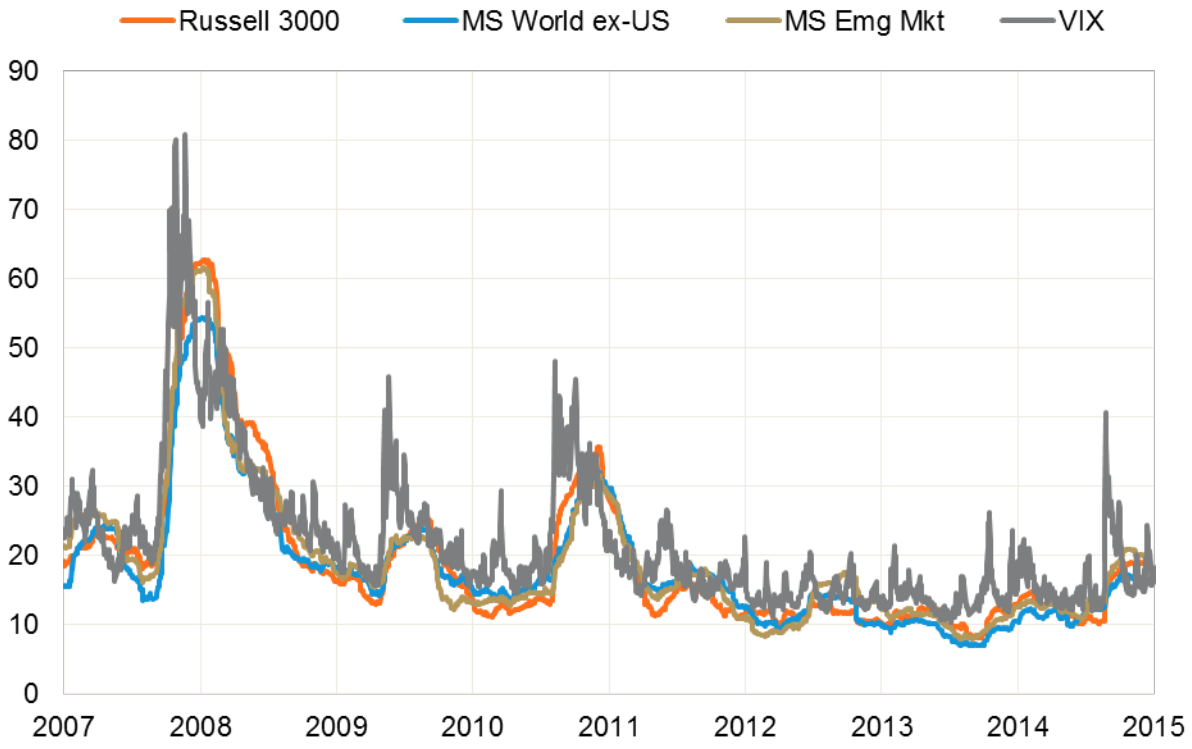
Despite a sharp selloff in August and September, developed market performance fared much better with the U.S., European and Japanese markets losing anywhere from -1.4% to -7.5%.

The business cycle continues to mature in the U.S., as evidenced by the Fed's willingness to raise rates. Compared to other developed markets, the U.S. and its equity drivers appear to be reaching peak levels such as quantitative easing, share buybacks, mergers & acquisitions, distributions, and operating margins.



# Equity Markets

## Volatility



## Highlights

Equity values remain elevated above historic averages at the same time the business cycle continues to mature and vulnerabilities and risks are rising. Many of the drivers of global growth appear to be slowing as stimulus in the form of low interest rates, quantitative easing, and currency devaluation becomes less and less effective and China's economy continues to transition. Above average valuations and rising risks, coupled with expectations for slow global growth, should lead to much lower returns and higher volatility than that of the past six years.

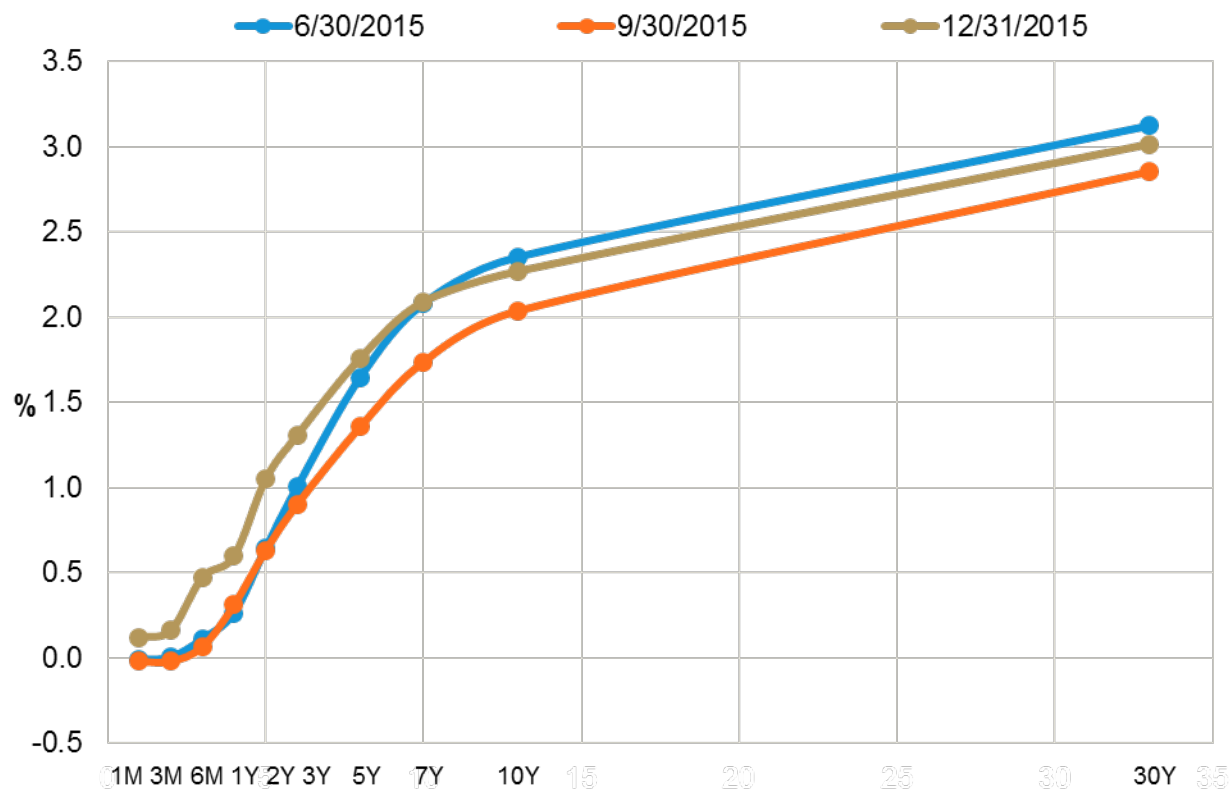
Markets are likely to remain volatile while they adjust for the (slow) removal of crisis-era policies. In other words, central banks might migrate from being a source of stability to a source of instability. So to, sovereign funds once flush with cash from high commodity prices may become 'liquidity demanders' versus 'liquidity providers'.

Volatility spiked from a long period of abnormally low levels. As we move into an average or higher level of volatility, equity investors will need to re-price risk. This has been leading to a transition in equity leadership and will likely lead to greater differentiation among stock, sector, and country selection going forward.



# Yields

## US Treasury Bond Curve



### Highlights

Treasury yields rose during the quarter and the yield curve flattened as the Federal Open Market Committee (FOMC) finally raised the Fed funds target range to 0.25% - 0.50% from 0.0% - 0.25%. Treasury yields increased 15 - 40 basis points over the past quarter with the 1 to 2 year sector underperforming along the curve.

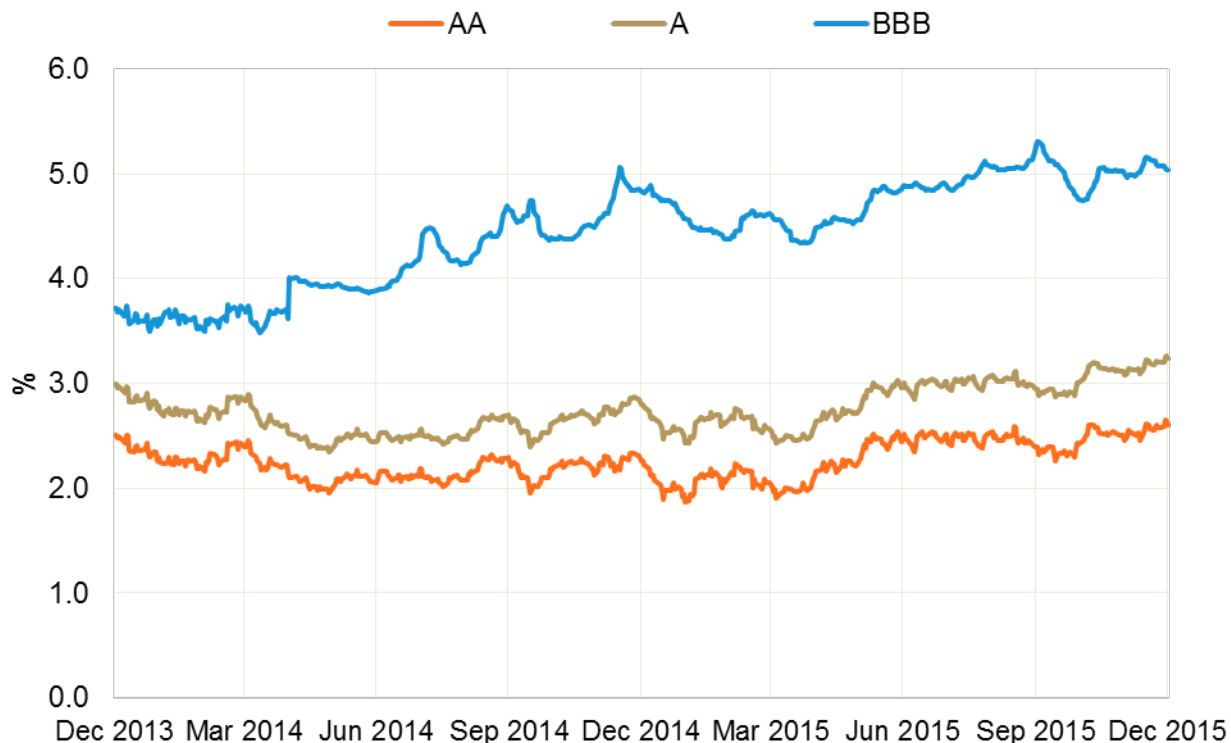
In aggregate, the FOMC's first rate hike since 2006 had a dovish quality – although their policy statement described the risks to the outlook as balanced and gave an upbeat assessment of labor market slack, it also suggested a higher threshold for progress toward inflation goals.

Economic data ended 2015 on a weak note. While the labor market continues to generate new jobs at a steady pace, retail sales and manufacturing slowed. Fourth quarter gross domestic product (GDP) growth expectations are now below 1%. If this weakness persists, 2016 GDP growth expectations of 2% may have to be revised lower.



# Spreads

## Credit Spreads by Ratings

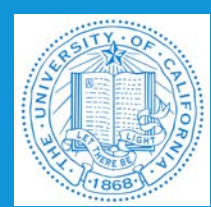


### Highlights

After a brief relief rally in the early fall, spreads continued their march wider into the end of the year. Drivers of concern in the market include the Fed rate hiking cycle, destruction in the commodity sector, the slowdown in China, record new issue supply, and the deterioration in credit fundamentals.

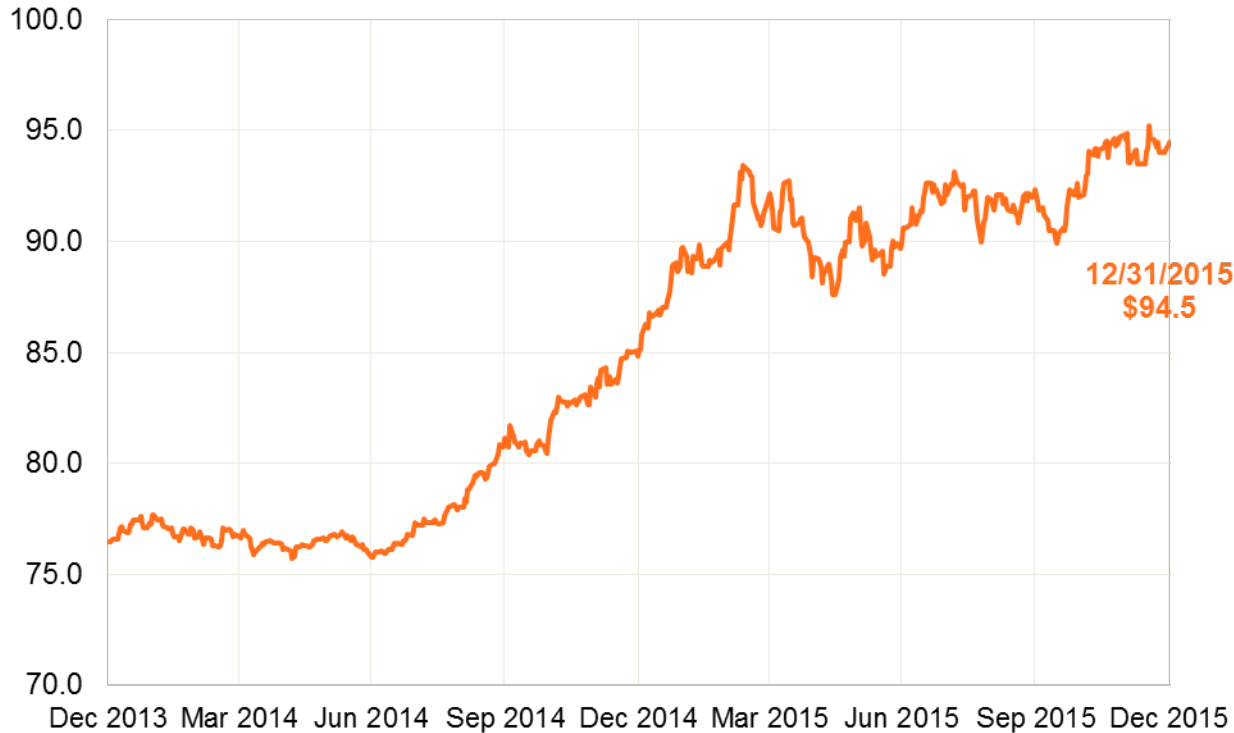
Higher quality credit continues to outperform lower rated securities. CCC rated securities have traded to distress levels and now yield approximately 20% on average.

Companies continued to engage in shareholder enhancing activity – mergers & acquisitions, share buybacks, and general re-leveraging of balance sheets.



# Currency

## US Dollar Index



### Highlights

The U.S. dollar has been the main channel to express investors' views as they adjusted to the first rate hike.

Over the past six months, the U.S. Dollar has strengthened versus many currencies.

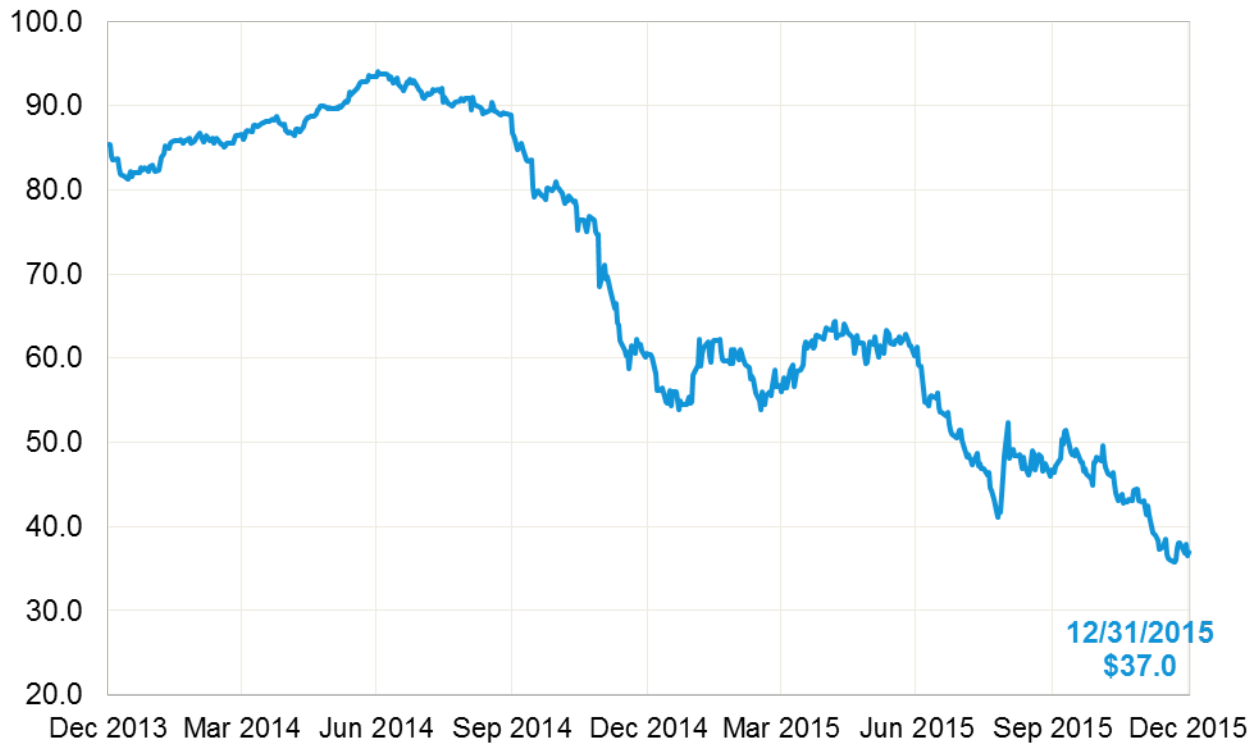
In November, the IMF included the Yuan in the SDR (Special Drawing Rights). Unfortunately, slowing growth, miscommunication of its currency strategy, and surprisingly rapid deterioration of reserves, led to a few devaluations of the Yuan compared to U.S. Dollar.

While the pace has slowed, quantitative easing driven by slow growth and very low inflation in both Japan and Europe, are expected to keep a lid on currencies vis-à-vis the U.S. Dollar.



# Crude Oil

## Crude Oil Price



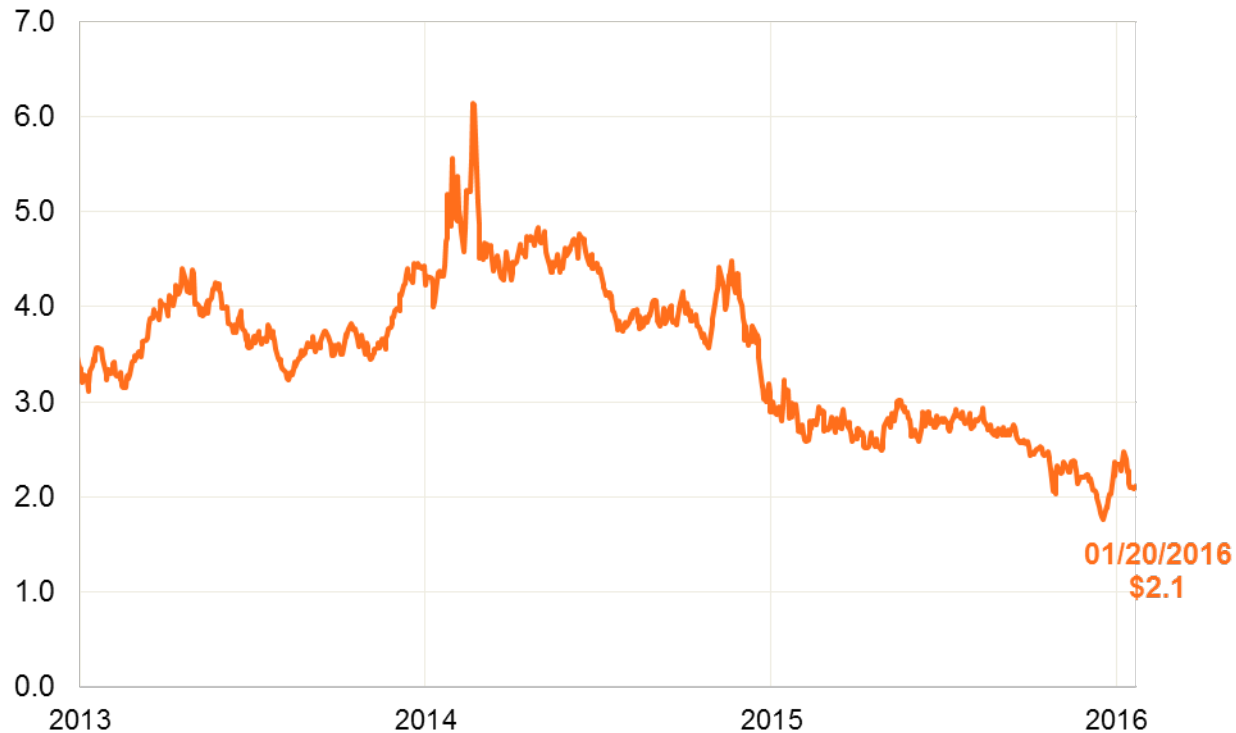
## Highlights

China's transition is having a profound impact on material prices and commodities as it demands far less of these goods. The resource and energy-intensive nature of Chinese economic growth in recent years caused a huge increase in the demand for, and the prices of, most commodities and energy, which is now unwinding at an accelerated pace.



# Natural Gas

## Natural Gas Price



## Highlights

Oil price declines have overshadowed significant declines in natural gas prices which is also having a significant impact on energy companies.

Increased production capabilities combined with a mild winter have resulted in lower natural gas prices.



# Investment Highlights





# Investment Highlights

No significant asset allocation changes since moving to the new asset allocation. Maintained cash levels of 4%.

Restructured equity portfolio to 100% low cost passive implementation prior to year-end.

Increased Private program to 5% of the portfolio, with a tilt towards mature, income producing real estate.

Maintained underweight to Absolute Return and continue to evaluate low cost non-correlated strategies to complement portfolio.

One year return of -0.2%, in line with the policy benchmark. Modest value added from fixed income and cash was offset by returns in equity and Absolute Return.



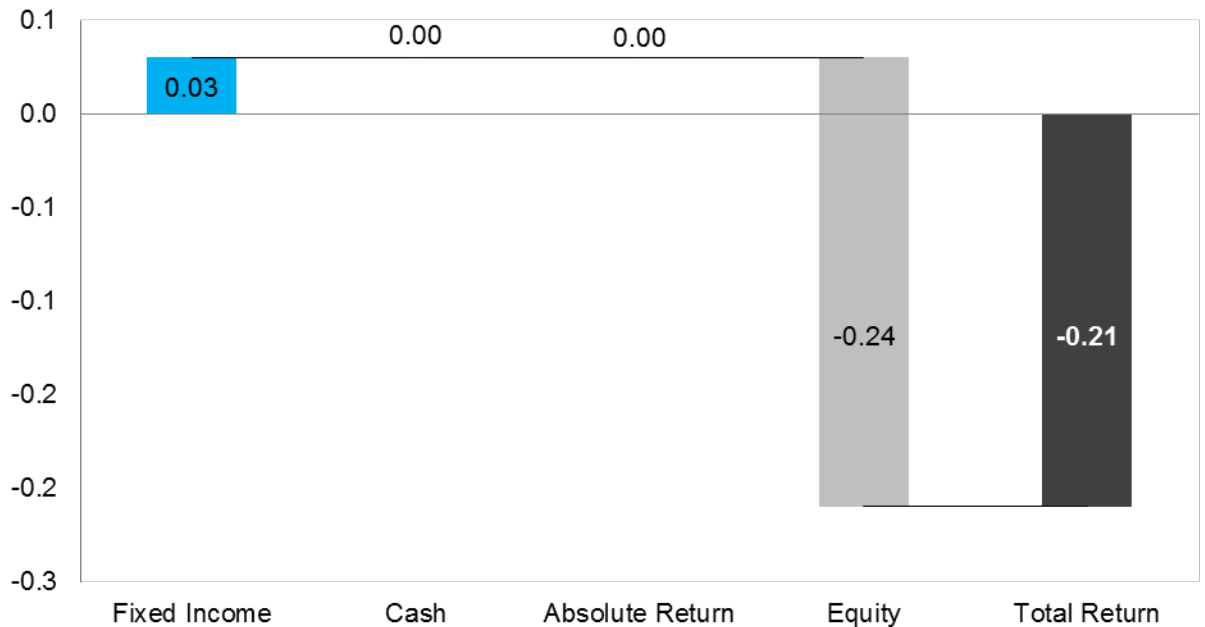
# Investment Performance

## Net Returns (%)

As of December 31, 2015

	Annualized Returns				
	6 Month	1 Year	3 Year	5 Year	7 Year
Total Return	-2.6	-0.2	5.4	6.5	8.9
Total Return Benchmark	-1.6	-0.2	5.1	6.2	8.6
<i>Value Added</i>	<i>-1.0</i>	<i>0.0</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>

## 12 Months Contribution to Return - Percentage (%)



As of December 31, 2015

## Highlights

Returns have been consistent with our outlook for a low return environment.

Fixed income generated slightly positive returns and equities returns were slightly negative

Quarterly returns were modestly above benchmark while one year returns were in-line with benchmark.



# Investment Performance

## Assets Under Management Attribution

Assets Under Management  
December 31, 2014 **\$7.3 billion**

Market Gains **(\$0.01 billion)**

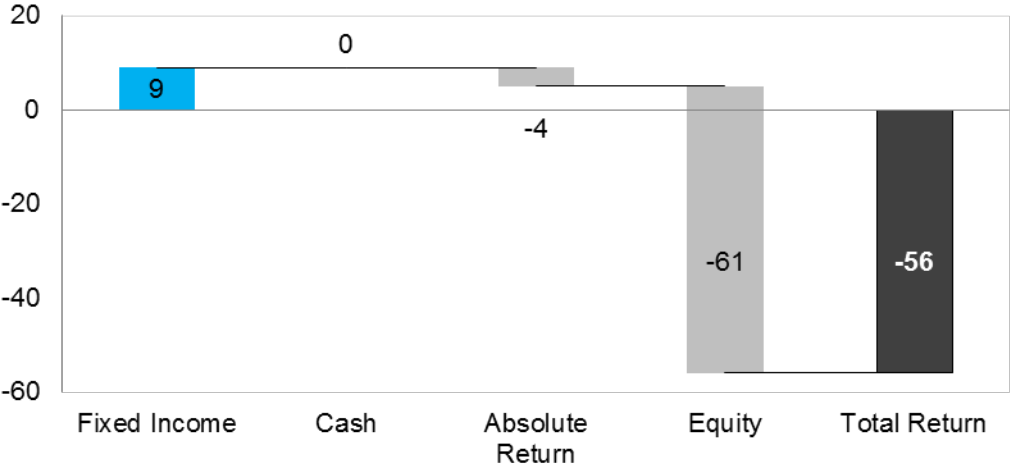
Value Added **\$0.01 billion**

Net Cash Flow **\$1.2 billion**

**Assets Under Management  
December 31, 2015 **\$8.6 billion****

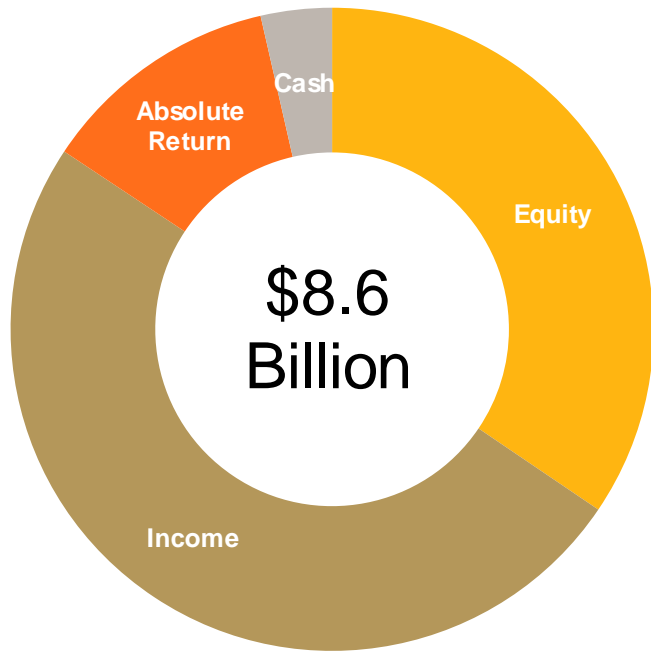
## 12 Months Contribution to Return - Millions (\$)

As of December 31, 2015





# Asset Allocation



● **Equity: 34%**  
**\$3.0B**

● **Income: 50%**  
**\$4.3B**

● **Absolute Return: 12%**  
**\$1.0B**

● **Cash: 4%**  
**\$0.3B**

As of December 31, 2015



# Asset Allocation

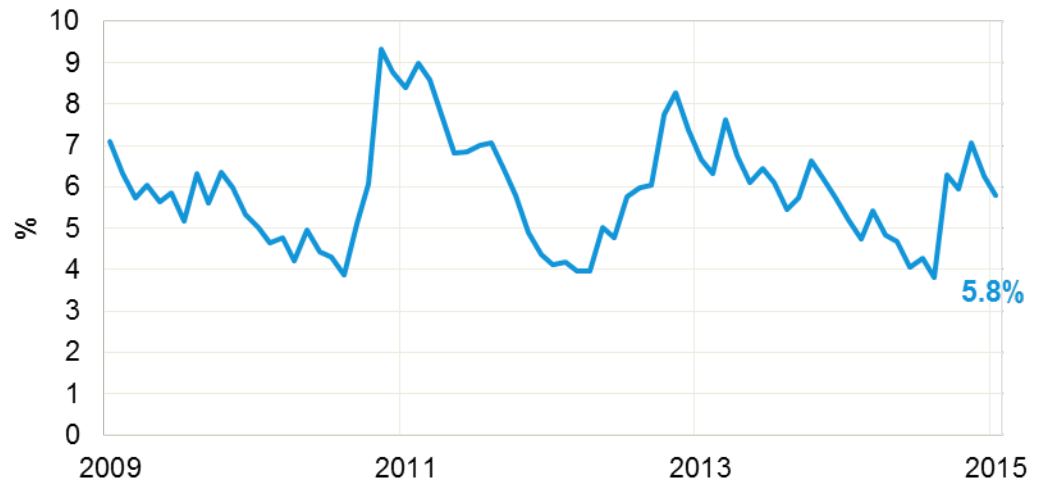
	Market Value in \$ Billions	Percentage	Over/Underweight Relative to Policy
<b>Equity</b>	<b>3.0</b>	<b>34.5%</b>	<b>-0.5%</b>
Public Equity	2.9	33.6%	
Private Growth	0.1	0.9%	
<b>Income</b>	<b>4.3</b>	<b>49.8%</b>	<b>-0.2%</b>
Core	3.2	37.6%	
High Yield	0.4	4.5%	
Emerging Market Debt	0.3	3.5%	
Private Income	0.4	4.2%	
<b>Absolute Return</b>	<b>1.0</b>	<b>12.1%</b>	<b>-2.9%</b>
<b>Cash</b>	<b>0.3</b>	<b>3.6%</b>	<b>3.6%</b>
<b>Total Return</b>	<b>8.6</b>	<b>100.0%</b>	<b>0.0%</b>

As of December 31, 2015

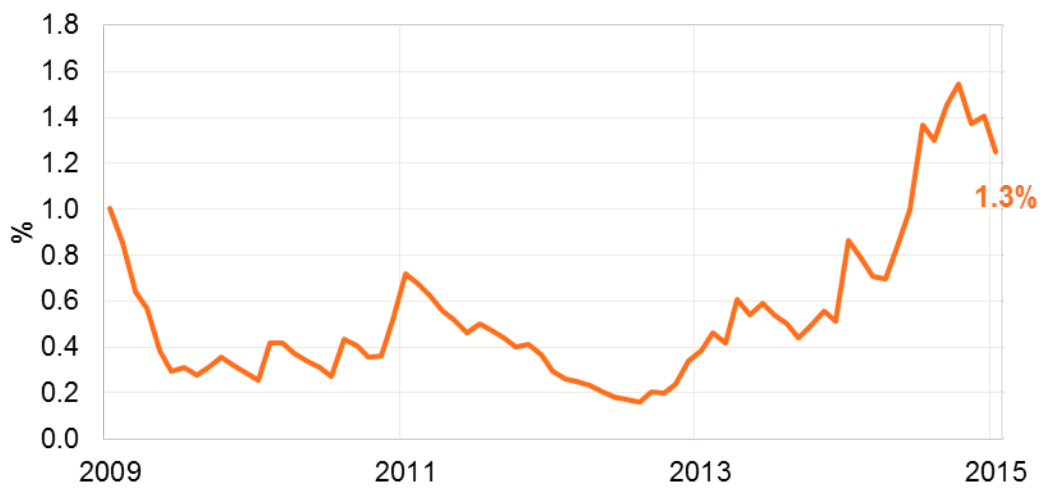


# Risk Measures

## Total Risk



## Active Risk



## Highlights

Total Risk (Volatility) is measured by standard deviation of monthly total returns; each point shows a 12 month measurement period. A standard deviation of 6% means that roughly two-thirds of the time, the realized return will be within 6% from the average return. Total Risk was 5.8% at the end of December.

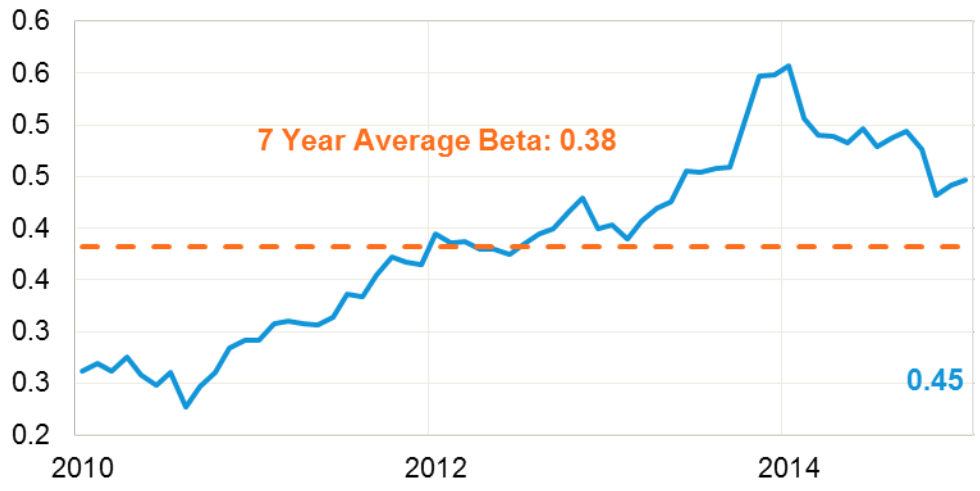
Active risk is measured by standard deviation of monthly active returns; each point or bar shows a 12 month measurement period. A standard deviation of 3% means that roughly two-thirds of the time, the realized active return will be within 3% from the average active return.

Most of the active risk is attributed to security and manager selection decisions that differ from the benchmark. The Active Risk was 1.3% at the end of December.

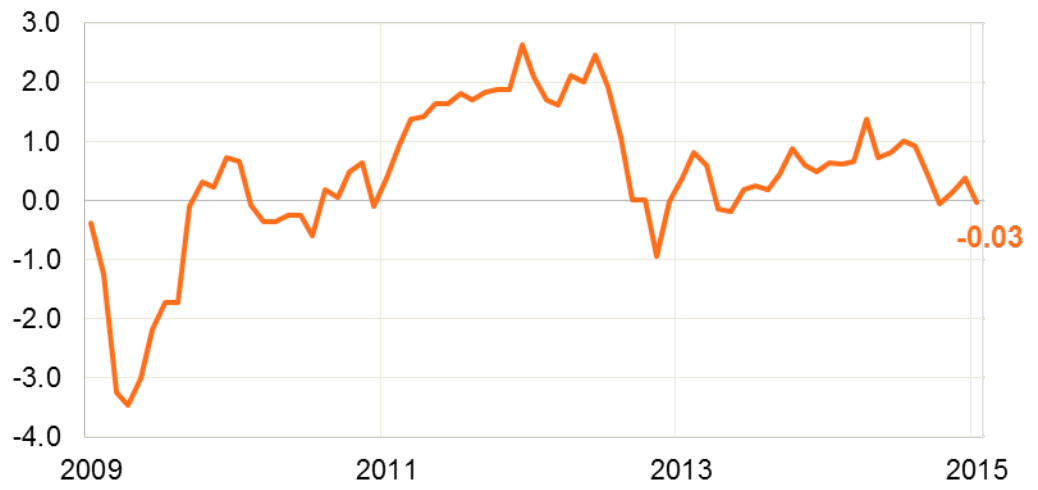


# Risk Measures

## Beta to S&P 500



## Information Ratio



## Highlights

Beta is a measure of the sensitivity of the total portfolio to the S&P 500 Index. Beta was 0.45; which means that if the S&P 500 went down 10%, we would expect the portfolio to go down by 4.5%.

Information Ratio is a ratio of Active Return over Tracking Error; Tracking Error is the standard deviation of the active return over time. The higher the information ratio, the better we are able to achieve active return against the relative risk to the policy benchmark taken.

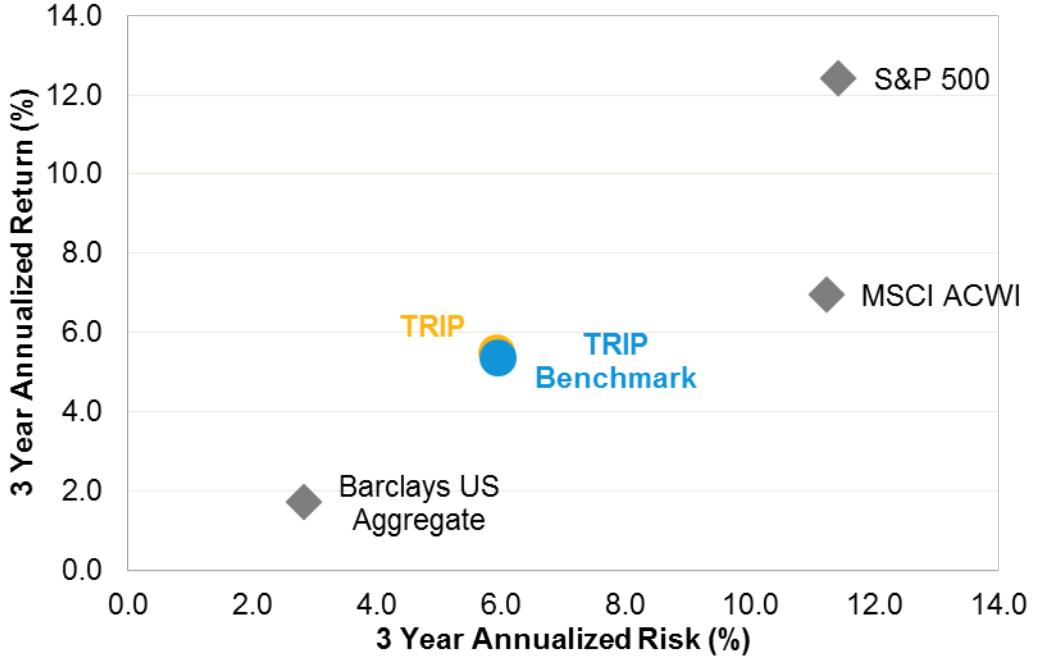
Information Ratio was -0.03 at the end of December, given our slight underperformance of -0.03 against the benchmark for the year.



# Risk Measures

## Risk vs Return 3 Year

	Return	Risk	Ratio
TRIP	5.44	5.95	0.91
TRIP Benchmark	5.31	5.99	0.89
S&P 500	12.40	11.44	1.08
MSCI ACWI	6.95	11.25	0.62
Barclays US Aggregate	1.71	2.84	0.60



As of December 31, 2015

## Highlights

Risk Return chart shows return and the amount of volatility taken to achieve it. The return to risk ratio reflects the reward per unit of risk we are achieving. For the past 3 years, for every unit of risk we took we were rewarded 0.91.

Our total risk is primarily related to our allocation between equity and bonds. At the end of December our allocation was underweight to absolute return, equity and income relative to the policy benchmark. Our total risk is similar to the benchmark but with a higher total return.

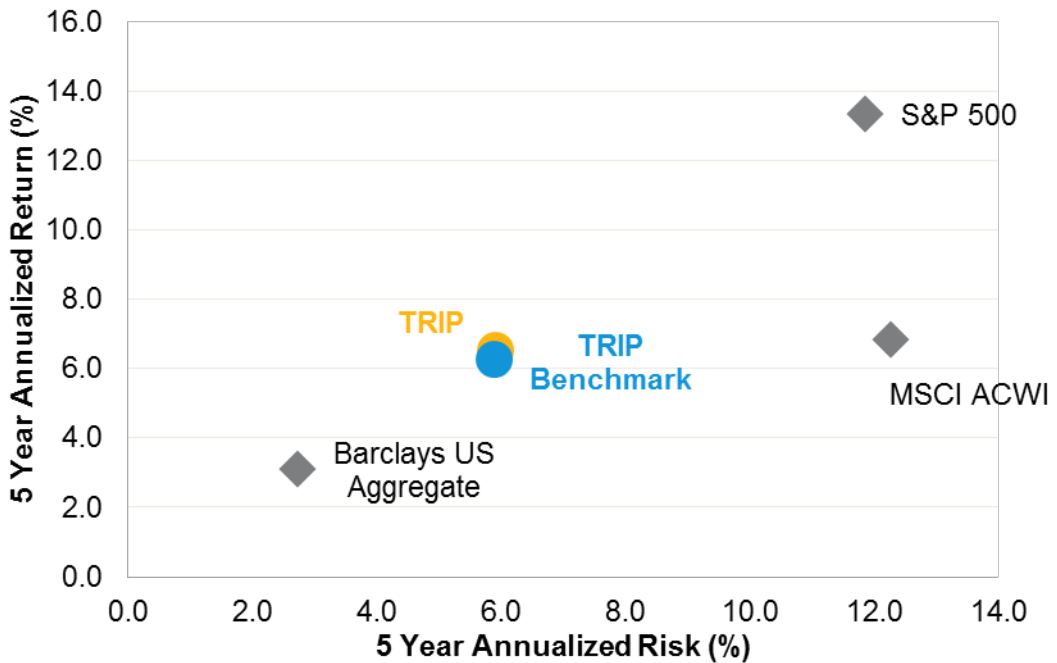




# Risk Measures

## Risk vs Return 5 Year

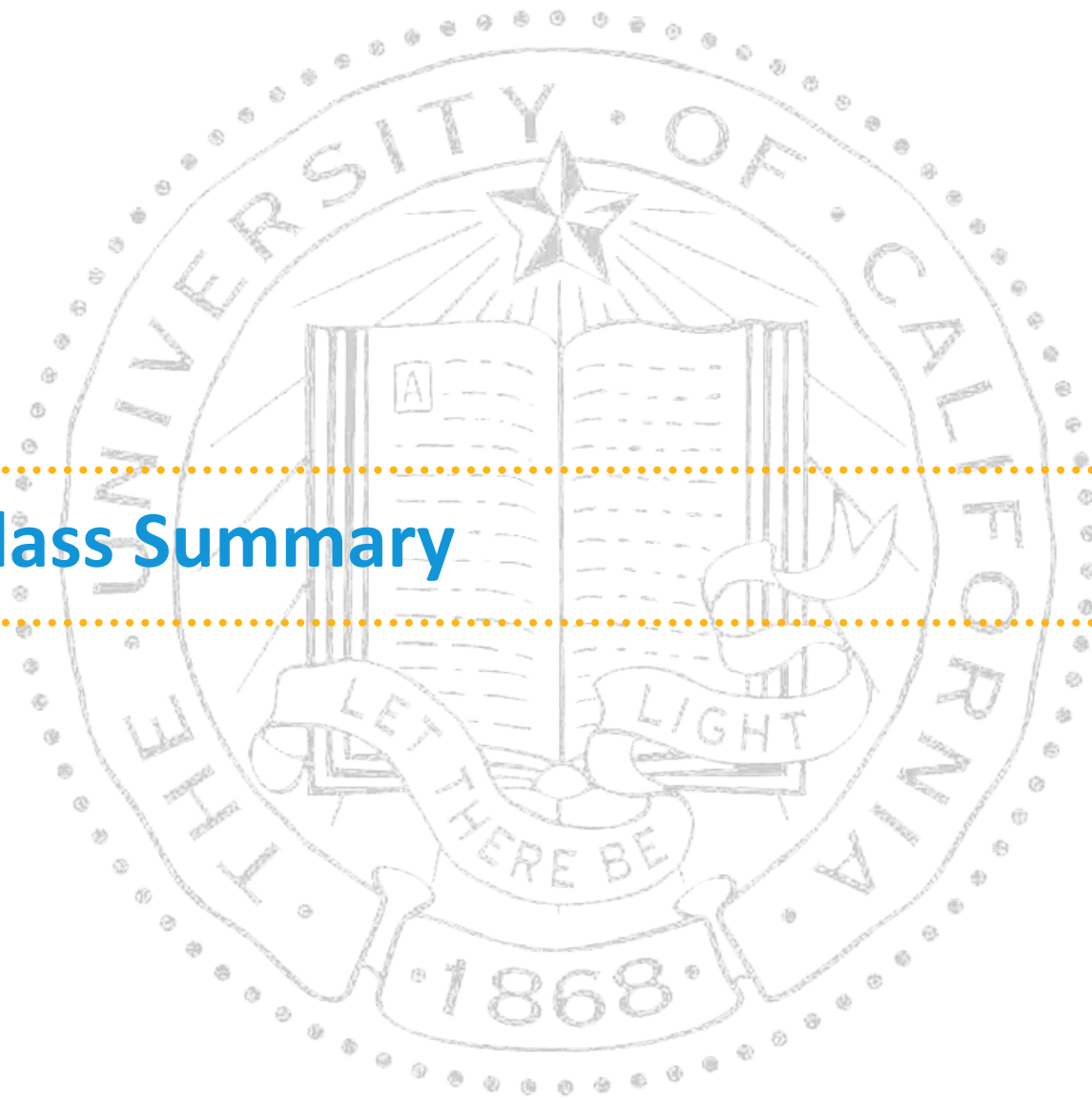
	Return	Risk	Ratio
TRIP	6.49	5.94	1.09
TRIP Benchmark	6.22	5.91	1.05
S&P 500	13.34	11.87	1.12
MSCI ACWI	6.82	12.29	0.56
Barclays US Aggregate	3.10	2.74	1.13



## Highlights

Risk Return chart shows return and the amount of volatility taken to achieve it. The return to risk ratio reflects the reward per unit of risk we are achieving. For the past 5 years, for every unit of risk we took we were rewarded 1.09 times.

Over the past 5 years the portfolio has earned almost the same return as the global stock portfolio measured by the MSCI ACWI but taken half the risk.

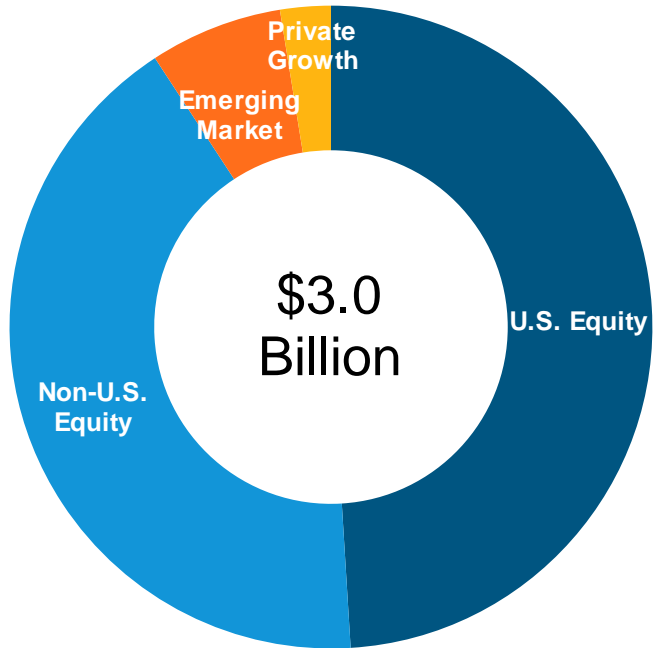


# Asset Class Summary

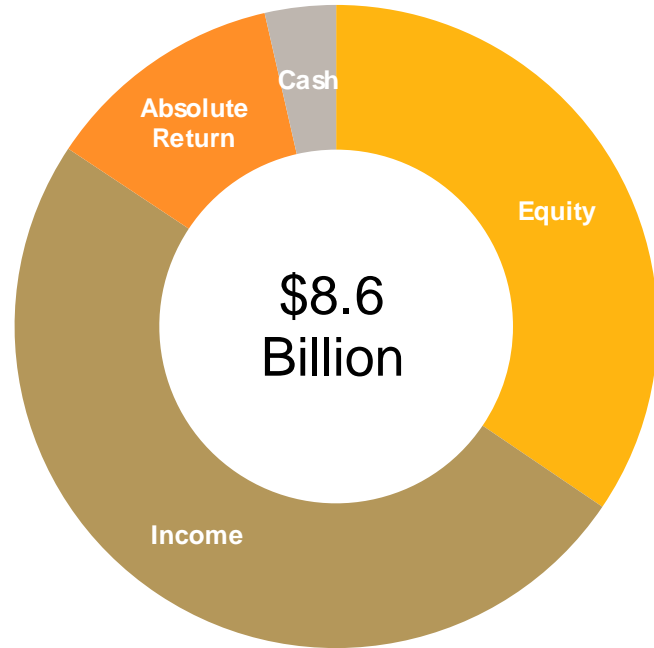


# Equity

### Equity



### Total Return



● **U.S. Equity: 49%**  
● **\$1.5B**

● **Non-U.S. Equity: 42%**  
● **\$1.2B**

● **Equity: 34%**  
● **\$3.0B**

● **Income: 50%**  
● **\$4.3B**

● **Emerging Market: 7%**  
● **\$0.2B**

● **Private Growth: 2%**  
● **\$0.1B**

● **Absolute Return: 12%**  
● **\$1.0B**

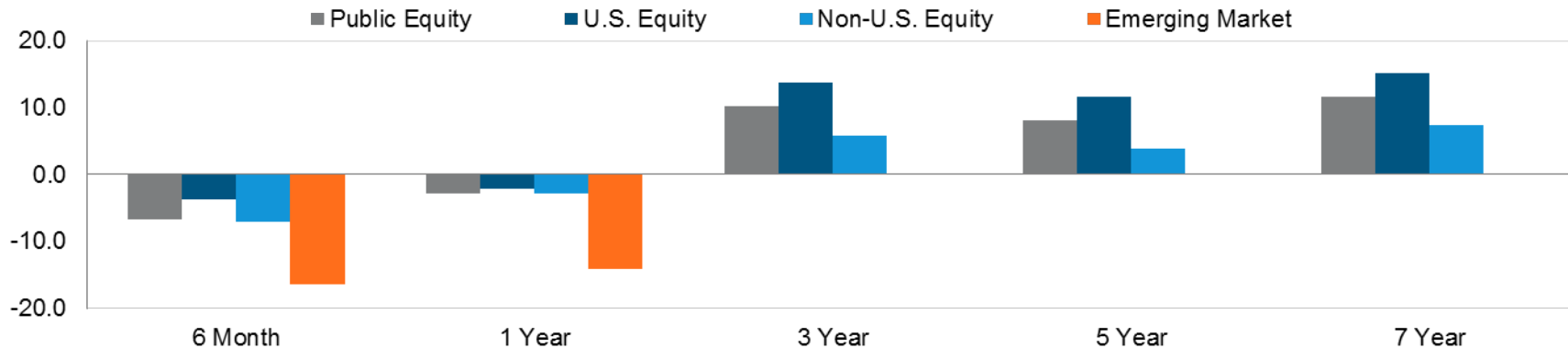
● **Cash: 4%**  
● **\$0.3B**



# Equity

Net Returns (%) As of December 31, 2015	Market Value		Annualized Returns				
	(\$ Million)	% Allocation	6 Month	1 Year	3 Year	5 Year	7 Year
<b>Equity</b>	<b>2,954</b>	<b>100%</b>	-6.8	-2.9	10.2	8.1	11.7
MSCI All Country World Index (net dividends)			-5.2	2.2	10.7	6.8	9.3
<i>Value Added</i>			<i>-1.6</i>	<i>-5.1</i>	<i>-0.5</i>	<i>1.3</i>	<i>2.4</i>
<b>U.S. Equity</b>	<b>1,448</b>	<b>50%</b>	-3.8	-2.1	13.7	11.6	15.1
Russell 3000 Tobacco Free Index			-1.6	0.2	14.7	12.1	15.3
<i>Value Added</i>			<i>-2.2</i>	<i>-2.3</i>	<i>-1.0</i>	<i>-0.5</i>	<i>-0.2</i>
<b>Non-U.S. Equity</b>	<b>1,234</b>	<b>43%</b>	-7.1	-2.8	5.7	3.9	7.4
MSCI World ex-U.S. (net dividends) Tobacco Free			-7.3	-3.3	5.6	3.8	7.2
<i>Value Added</i>			<i>0.2</i>	<i>0.5</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>
<b>Emerging Market</b>	<b>197</b>	<b>7%</b>	-16.4	-14.2	-	-	-
MSCI Emerging Market (net dividends)			-17.4	-14.9	-	-	-
<i>Value Added</i>			<i>1.0</i>	<i>0.7</i>	<i>-</i>	<i>-</i>	<i>-</i>
<b>Private Growth</b>	<b>75</b>	<b>3%</b>	-	-	-	-	-
MSCI All Country World Index (net dividends)			-	-	-	-	-
<i>Value Added</i>			<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>

\* Private Growth was incepted in November 1, 2015





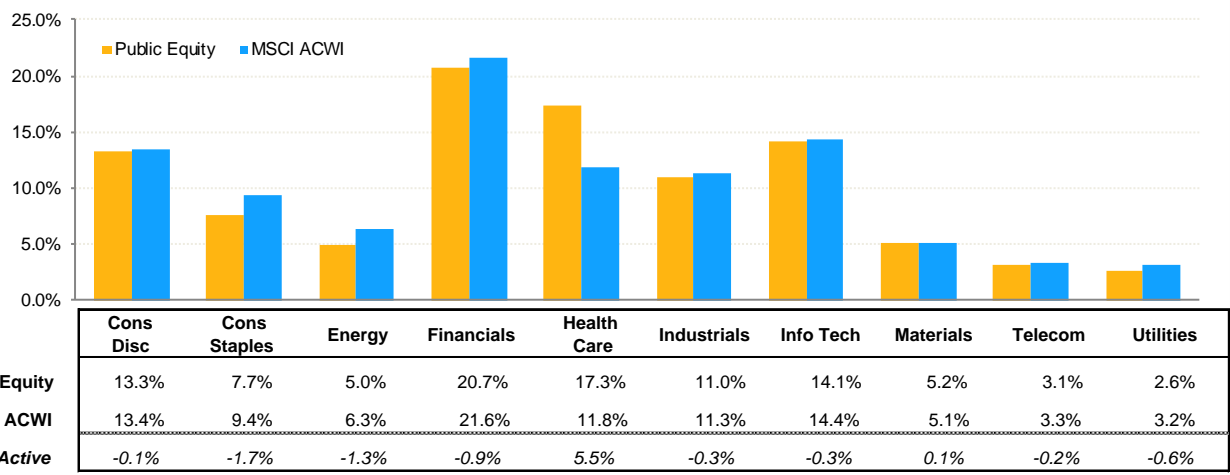
# Equity Highlights

- Returns across major equity markets were all negative over the past six months with the global benchmark (MSCI ACWI IMI Index) down -5.2%. Emerging markets, China, small cap biotech stocks and small cap stocks were down the most. The correlated move down across regions and low cross-sectional volatility created a difficult environment for active management.
- We have been expecting higher than average equity valuations combined with rising risks would create an environment of low returns and higher volatility. So it is not surprising to see that we are transitioning from an abnormal period of extremely low volatility to one that is normal. Accordingly, risks across global equities are being re-priced during this transition phase.
- Began implementing a fully passive equity portfolio in the 4Q15, transitioning active management to GEP and UCRP.
- Removed overweight position in emerging markets and increased allocation to Non-U.S. developed.



# Public Equity – Sectors

## Sector Exposures



## Highlights

Losses in the MSCI ACWI IMI Index were led by materials, energy and financials sectors.

Healthcare stock selection was the largest detractor over the past six months. Hospitals and healthcare insurers fell significantly more than the market due to anti-trust concerns and negative comments from presidential candidates during election primaries.

Underweight to energy sector was the largest contributor. While the energy sector has continued to fall significantly, we remain underweight as low commodity prices are not yet fully reflected in valuations.

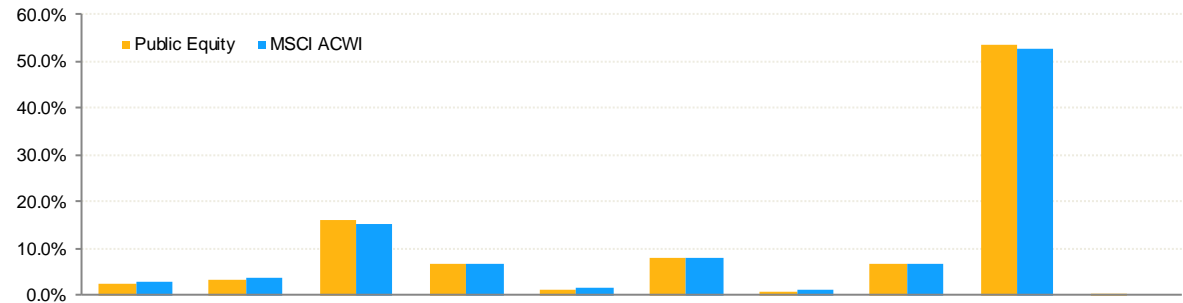
However, midstream energy infrastructure companies are beginning to look cheap.

Strong stock selection by our managers in the materials segment generated the second largest positive contribution relative to benchmark, despite headwinds in the sector.



# Public Equity – Regions

## Regional Exposures



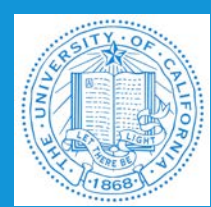
	Canada	Asia ex-JP	Europe ex-UK	Emerg Asia	Emerg EU	Japan	Latin Amer	UK	US	Rest of World
<b>Public Equity</b>	2.7%	3.5%	16.3%	6.8%	1.1%	8.1%	0.9%	6.7%	53.7%	0.1%
<b>MSCI ACWI</b>	3.0%	3.8%	15.5%	6.9%	1.6%	8.2%	1.2%	7.0%	52.9%	0.0%
<b>Active</b>	-0.3%	-0.3%	0.8%	-0.1%	-0.5%	-0.1%	-0.3%	-0.3%	0.8%	0.1%

## Highlights

Underweight to Canada was the largest positive contributor to country allocation, primarily due to foreign exchange weakness.

While underweight to Japan was a slight positive contributor, we removed some of the underweight as the market sold off. Focus on corporate governance has strong potential to create value for active management, given large cash balances and ample free cash flow generation of companies.

Removed overweight in emerging markets and increased allocation to international developed.



# Public Equity – Characteristics

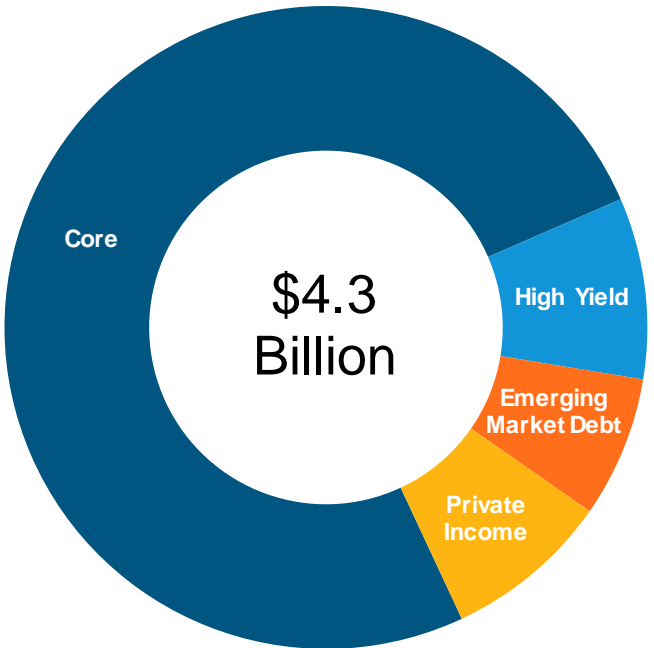
	Dividend Yield (%)	Dividend per Share	EPS	Price To Book Value	Price To Cash Earnings	Price To Earnings	Price To Sales	Payout Ratio	ROE
<b>Public Equity</b>	<b>2.22</b>	<b>1.62</b>	<b>4.84</b>	<b>2.11</b>	<b>11.23</b>	<b>19.61</b>	<b>1.29</b>	<b>26.42</b>	<b>19.97</b>
U.S. Equity	1.83	1.26	4.06	2.72	12.34	22.18	1.45	36.38	20.18
Non-U.S. Equity	3.05	2.26	4.56	1.63	9.30	17.19	1.06	24.48	16.13
EM Equity	2.29	0.92	5.85	1.64	9.83	15.42	1.14	25.04	15.65
MSCI ACWI	2.52	1.76	4.80	2.08	10.74	18.19	1.37	37.37	22.75
S&P 500	2.12	1.54	4.62	2.81	12.46	19.94	1.79	46.05	25.89
MSCI EM	2.81	1.22	7.71	1.43	7.87	13.02	0.99	31.66	16.03
MSCI ACWI ex U.S.	3.03	2.04	5.15	1.60	8.97	16.16	1.06	27.28	17.35



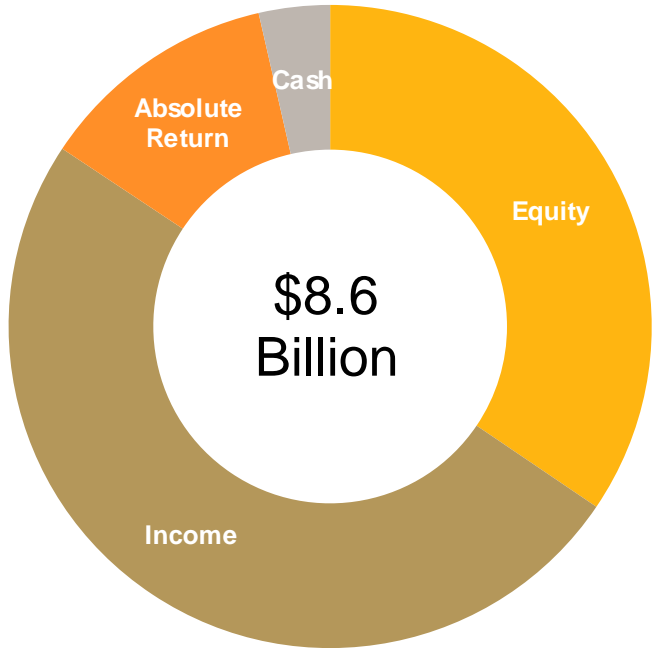


# Income

### Income



### Total Return



● Core: 76%  
\$3.2B

● High Yield: 9%  
\$0.4B

● Equity: 34%  
\$3.0B

● Income: 50%  
\$4.3B

● Emerging Market Debt: 7%  
\$0.3B

● Private Income: 8%  
\$0.4B

● Absolute Return: 12%  
\$1.0B

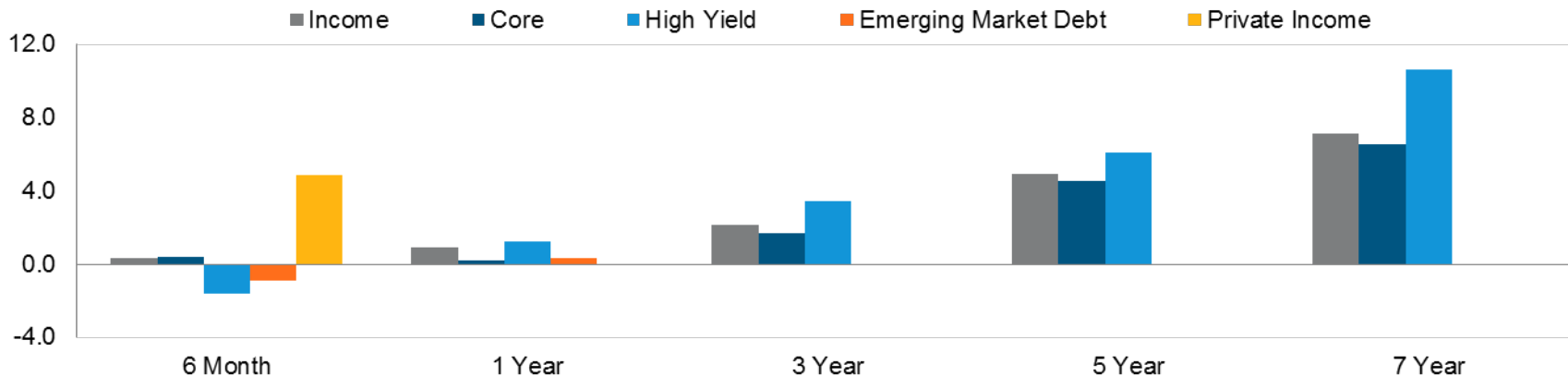
● Cash: 4%  
\$0.3B

As of December 31, 2015



# Income

Net Returns (%) As of December 31, 2015	Market Value		Annualized Returns				
	(\$ Million)	% Allocation	6 Month	1 Year	3 Year	5 Year	7 Year
<b>Income</b>	4,272	100%	0.3	0.9	2.2	4.9	7.1
Barclays U.S. Aggregate Bond Index			0.7	0.5	1.4	3.2	4.1
<i>Value Added</i>			<i>-0.4</i>	<i>0.4</i>	<i>0.8</i>	<i>1.7</i>	<i>3.0</i>
<b>Core</b>	3,221	76%	0.4	0.2	1.7	4.6	6.5
Barclays U.S. Aggregate Bond Index			0.7	0.0	1.6	4.2	5.7
<i>Value Added</i>			<i>-0.3</i>	<i>0.2</i>	<i>0.1</i>	<i>0.4</i>	<i>0.8</i>
<b>High Yield</b>	390	9%	-1.6	1.2	3.4	6.1	10.6
BofA Merrill Lynch High Yield BB/B Rated Index			-5.4	-2.9	2.2	5.3	12.6
<i>Value Added</i>			<i>3.8</i>	<i>4.1</i>	<i>1.2</i>	<i>0.8</i>	<i>-2.0</i>
<b>Emerging Market Debt</b>	303	7%	-0.9	0.3	-	-	-
JP Morgan Emerging Markets Bond Index Global Diversified			-0.5	1.2	-	-	-
<i>Value Added</i>			<i>-0.4</i>	<i>-0.9</i>	<i>-</i>	<i>-</i>	<i>-</i>
<b>Private Income</b>	358	8%	4.9	-	-	-	-
Barclays U.S. Aggregate Bond Index			0.7	-	-	-	-
<i>Value Added</i>			<i>4.2</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>





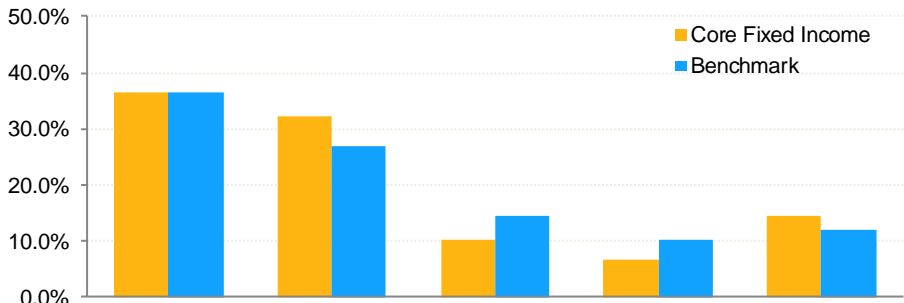
# Income Highlights

- We continue to have a bias to higher rates and we expect the Fed to be very gradual in the normalization of rates.
- We have trimmed our growth and inflation targets for 2016 due to a weaker than anticipated Chinese economy and lower than expected energy prices. As such, we expect the increasing rate movement to be well contained.
- We believe that an environment of slowly rising rates and 1.5% to 2% U.S. GDP growth will lead to spread product outperforming Treasuries on the carry advantage. With lower growth expectations and a Fed hiking cycle, volatility can be expected and credit selection will be critical.
- The High Yield market has sold off significantly, however, excluding the commodities sectors, we believe High Yield will continue to benefit from a slow growth economy and the higher yield now offered across the market.



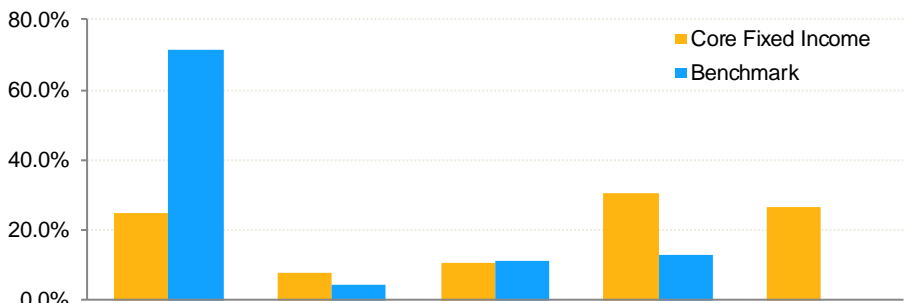
# Income – Core

## Summary of Duration Buckets



	0 to 3	3 to 5	5 to 7	7 to 10	10 to +INF
<b>Core Fixed Income</b>	36.5%	32.2%	10.3%	6.6%	14.4%
<b>Benchmark</b>	36.4%	26.8%	14.5%	10.2%	12.2%
<b>Active</b>	0.1%	5.4%	-4.2%	-3.6%	2.2%

## Summary of Credit Rating



	AAA	AA	A	BBB	BB or lower
<b>Core Fixed Income</b>	24.7%	7.7%	10.5%	30.4%	26.7%
<b>Benchmark</b>	71.5%	4.4%	11.4%	12.7%	0.0%
<b>Active</b>	-46.8%	3.3%	-0.9%	17.7%	26.7%

## Highlights

Core Fixed Income is positioned short of benchmark duration.

Curve exposure is weighted to the front end of the curve and underweight the long-end of the curve.

The portfolio is underweight Treasury securities and overweight spread product – investment grade credit and structured product.

The spread product overweight leaves the portfolio underweight high quality AAA government and Agency securities and overweight lower credit quality.

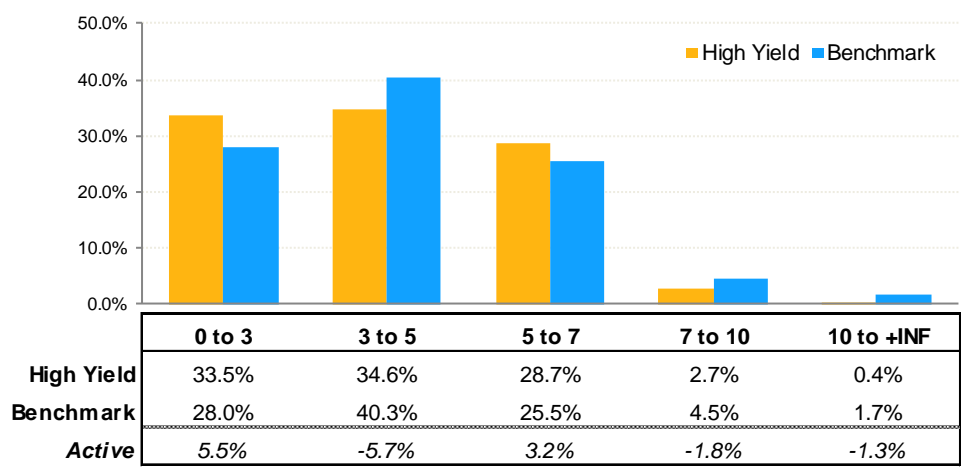
The underweight to Treasury securities detracted from performance as government returns were higher than returns of corporate bonds.

The losses from sector weightings were offset by outperformance in the credit portfolio.

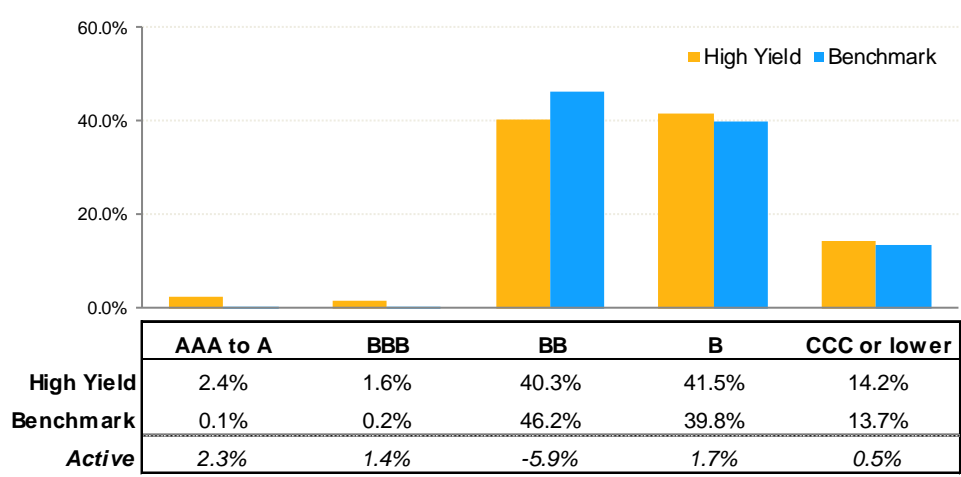


# Income – High Yield

## Summary of Duration Buckets



## Summary of Credit Rating



## Highlights

High yield is positioned in-line with the benchmark on overall duration with slightly less exposure to the longer end of the high yield curve.

A significant underweight to energy and metals/mining contributed to outperformance.

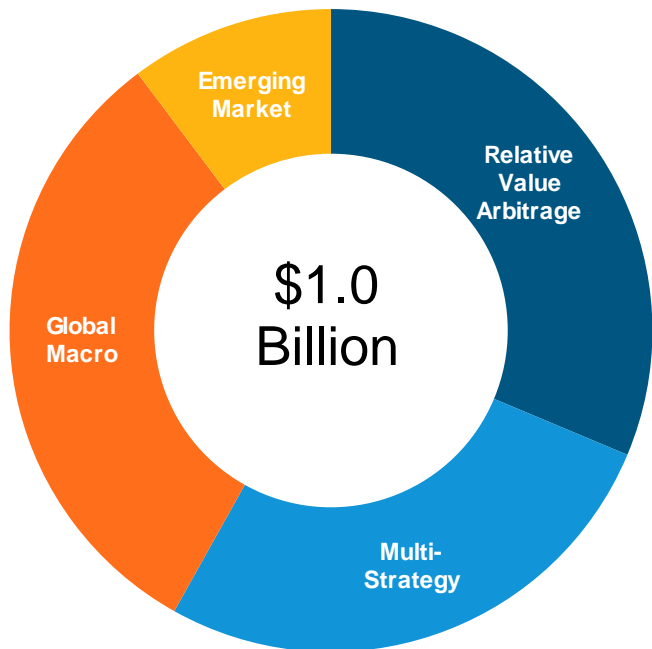
Security selection focused on better balance sheets for corresponding rating and stable business able to weather an economic downturn and positioned in stronger credits with less overall yield than the benchmark. This positioning has helped performance for several quarters as higher quality has consistently outperformed lower quality.

Given the selloff in high yield and our expectations for a benign default scenario ex-energy, we believe there is value in the high yield market. Fundamental credit research and security selection will be the key to success in a volatile and at times illiquid market.

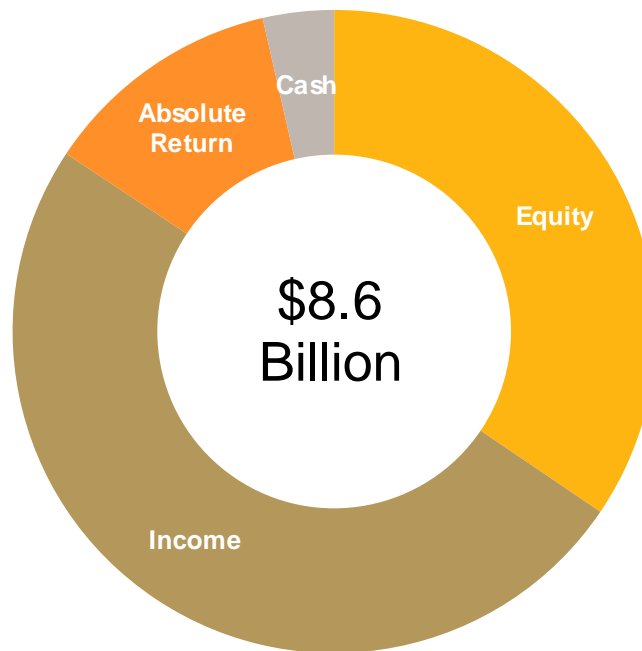


# Absolute Return

### Absolute Return



### Total Return



● **Relative Value Arbitrage: 31%** ● **Multi-Strategy: 27%**  
 \$0.3B \$0.3B

● **Equity: 34%**  
 \$3.0B

● **Income: 50%**  
 \$4.3B

● **Global Macro: 32%** ● **Emerging Market: 10%**  
 \$0.3B \$0.1B

● **Absolute Return: 12%**  
 \$1.0B

● **Cash: 4%**  
 \$0.3B

As of December 31, 2015

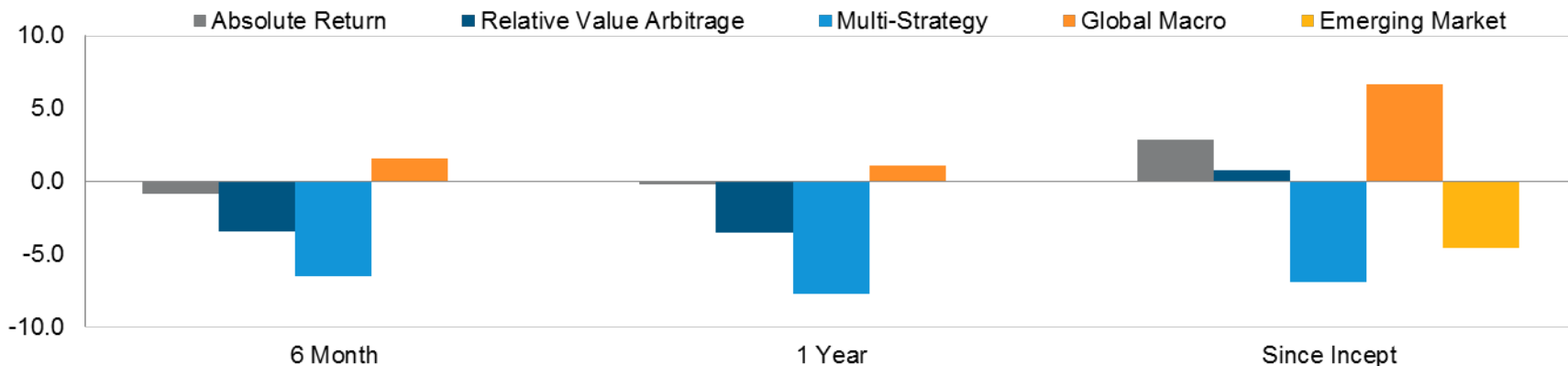


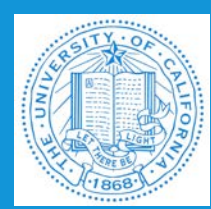
# Absolute Return

Net Returns (%) As of December 31, 2015	Market Value		Annualized Returns		
	(\$ Million)	% Allocation	6 Month	1 Year	Since Incept
Absolute Return	1,037	100%	-0.9	-0.3	2.8
HFRX Absolute Return			0.8	3.2	3.6
<i>Value Added</i>			<i>-1.7</i>	<i>-3.5</i>	<i>-0.8</i>
Relative Value Arbitrage	325	31%	-3.5	-3.5	0.7
Global Macro	328	32%	1.5	1.1	6.7
Multi-Strategy	278	27%	-6.5	-7.7	-6.9
Emerging Market	106	10%	-	-	-4.6

\* Prior to July 1, 2015, the portfolio benchmark was 50% HFRX Absolute Return + 50% HFRX Market Directional;

\* TRIP Absolute Return program started in August 2013;





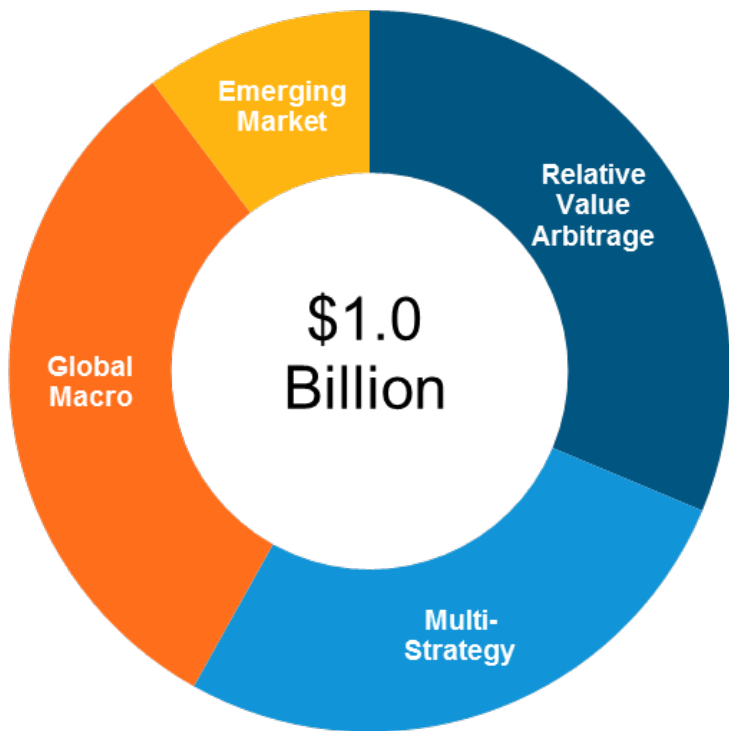
# Absolute Return Highlights

- Absolute return strategies were challenged in this risk-off environment as risk positioning, crowding, exogenous and idiosyncratic events all culminated in a perfect storm.
- Since inception, the Absolute Return portfolio has generated annualized returns of 2.4%, underperforming the benchmark by 80 basis points.
- The Absolute Return team continues to evaluate new opportunities to create a cost-effective portfolio that can deliver modest correlations to stocks and bonds and that is aligned with the risk and return objectives of the Total Return Investment Pool.





# Absolute Return – Investment Strategies



As of December 31, 2015

## Highlights

Absolute return strategies were challenged in this risk-off environment as risk positioning, crowding, exogenous and idiosyncratic events all culminated in a perfect storm.

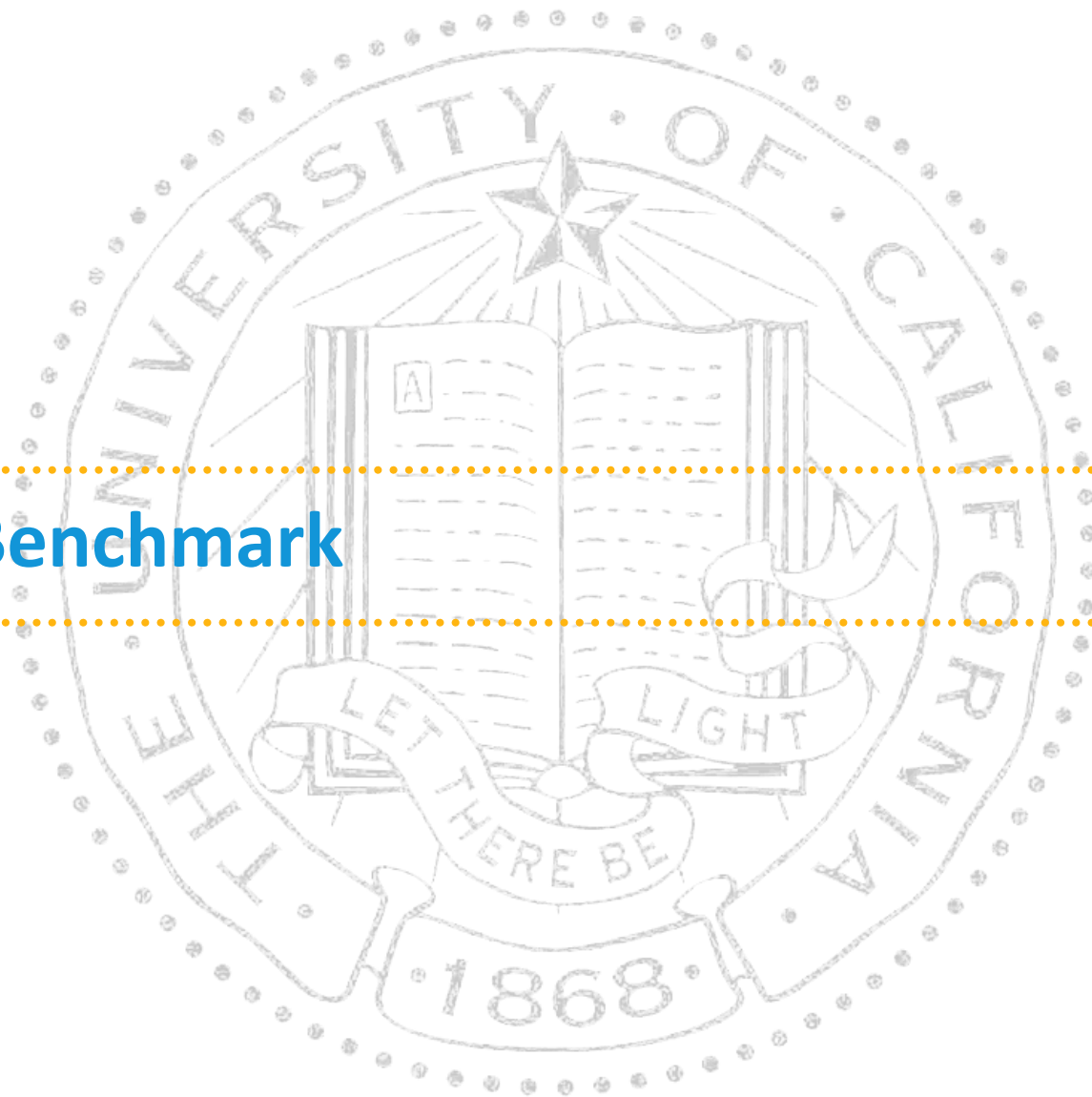
Since inception, the Absolute Return portfolio has annualized 2.8%, underperforming the benchmark by 80 basis points.

The Team has repositioned Absolute Return Portfolio to better align with the risk and return objectives of TRIP.

As a result, the portfolio was more insulated from the downdraft that the broader industry experienced.

Relative value managers took advantage of technical dislocations in structured credit to add to risk. Overall, relative value managers managed the volatility well and were modestly down during the half.

Macro managers benefitted the most during this period of volatility and in particular from their positioning in select commodities within the energy and metals complexes as well as in currencies and rates.



**Policy Benchmark**



# Total Return Policy Benchmark

Asset Class	Benchmark Component	Target
Equity	MSCI All Country World Index (net dividends)	35.00%
Income	Barclays U.S. Aggregate	50.00%
Absolute Return	HFRX Absolute Return Index	15.00%