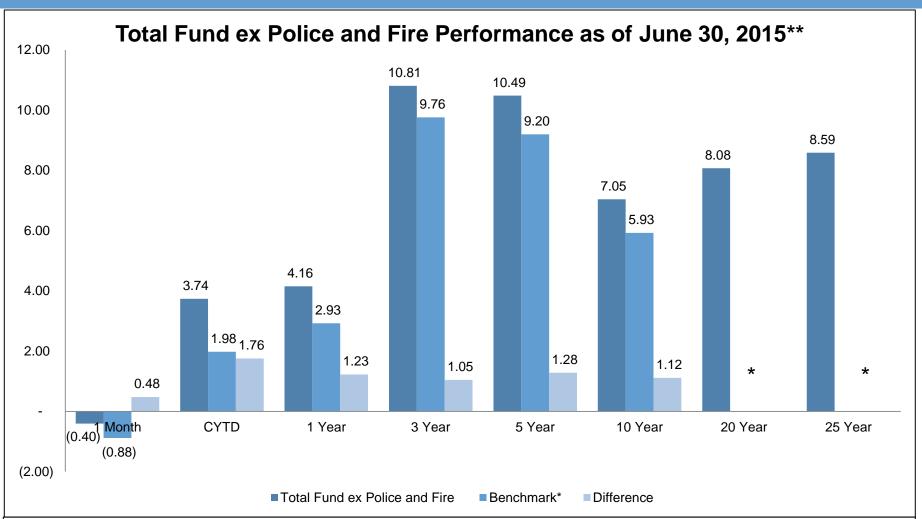
# NEW JERSEY DIVISION OF INVESTMENT

**Director's Report** 

September 23, 2015 State Investment Council Meeting

"The mission of the New Jersey Division of Investment is to achieve the best possible return at an acceptable level of risk using the highest fiduciary standards."

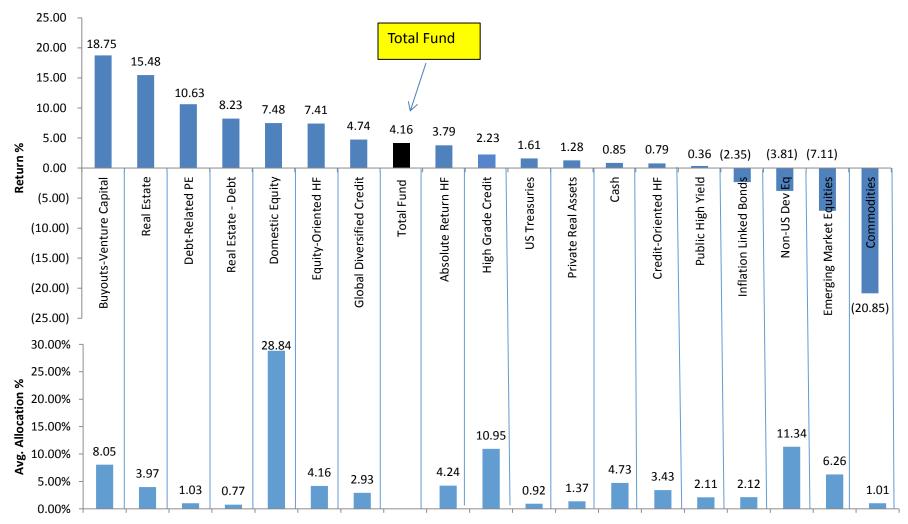


- The Total Fund ex Police and Fire Mortgages returned 4.16% for Fiscal Year 2015, outperforming the benchmark by 123 bps
- This was the 5<sup>th</sup> consecutive year the Fund has outperformed the benchmark. Over the period the Fund has
  outperformed by 128 bps on an annualized basis
- The Fund return is above the benchmark for all periods
- Total Plan assets as of June 30, 2015 were approximately \$79 billion

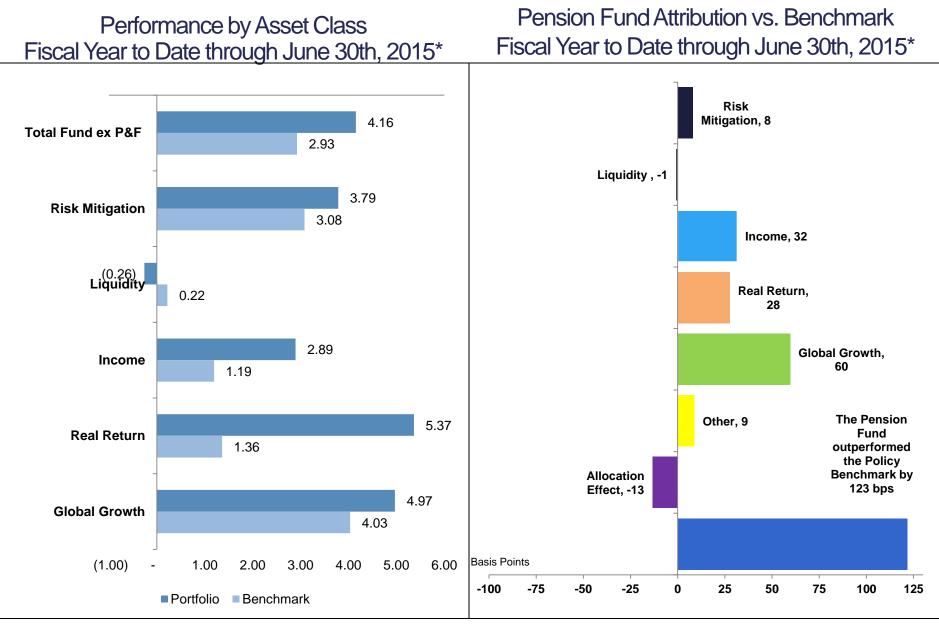
\*Benchmark return not available for 20 and 25-Year period

\*\* Returns are unaudited as of the time this report was prepared

Pension Fund Returns 4.16% for FY15 with Alternative Investments Driving Returns\* The Total Fund ex Police and Fire Mortgage Program returned 4.16% for the fiscal year ending June 30, 2015. Six of seven investment categories which outperformed the Total Fund Return are part of the Alternative Investment Program.



\* Returns are unaudited as of the time this report was prepared



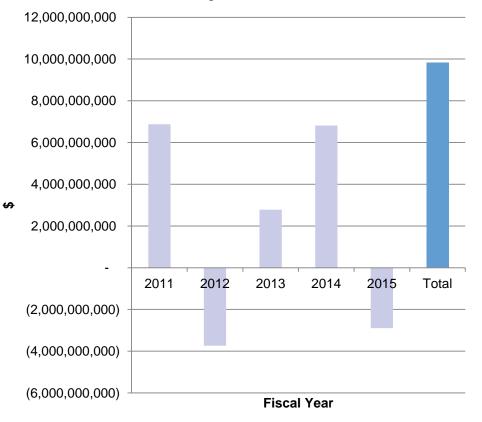
Allocation Effect indicates the effect of asset allocation bets, i.e. overweights or underweights vs. the target allocations

\* Returns are unaudited as of the time this report was prepared

# Value Added through Alpha Generation

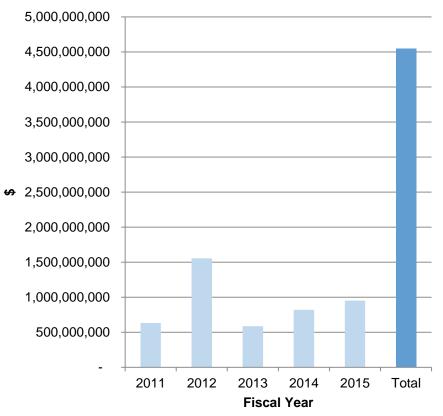
Over the last 5 fiscal years, outperformance versus the assumption rate has generated approximately \$10 billion of additional value for the Pension System.

# Value Added - Outperformance of Assumption Rate\*



Over the last 5 fiscal years, outperformance versus the Total Fund Policy Benchmark has generated \$4.5 billion of additional value for the Pension System.

# Value Added - Outperformance of the Benchmark\*

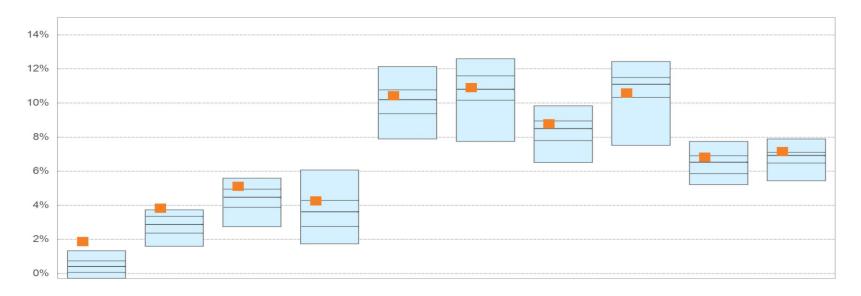


\* Based on average fund balances for each fiscal year and unaudited FY15 Total Fund return

#### New Jersey Division of Investment Performance Comparison

Total Returns of Master Trusts - Public : Plans > \$10 Billion

Cumulative Periods Ending : June 30, 2015



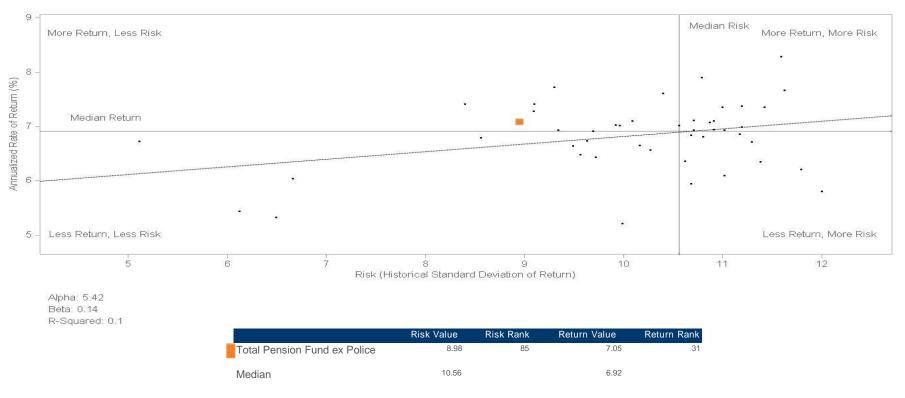
Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	1.34	3.73	5.60	6.07	12.13	12.60	9.84	12.44	7.75	7.90
25th	0.74	3.35	4.95	4.30	10.77	11.59	8.95	11.50	6.90	7.10
50th	0.41	2.87	4.48	3.61	10.20	10.80	8.50	11.10	6.53	6.92
75th	0.07	2.36	3.88	2.77	9.37	10.17	7.79	10.33	5.85	6.48
95th	-0.28	1.59	2.74	1.74	7.90	7.74	6.52	7.52	5.22	5.44
No. Of Obs	51	51	51	51	51	51	51	49	47	46
Total Pension Fund ex	1.77 (1)	3.74 (3)	5.02 (19)	4.16 (30)	10.33 (40)	10.81 (48)	8.68 (40)	10.49 (66)	6.73 (43)	7.05 (29)

The Fund ranked just outside of the top quartile for the fiscal year among public plans with assets over \$10 billion. The Fund ranks better than the median for the 1-, 2-, 3-, 4-, 7-, and 10-year periods.

#### New Jersey Division of Investment Risk vs Total Returns

Master Trusts - Public : Plans > \$10 Billion

10 Years Ending June 30, 2015



For Risk Rank- 100 is best; 1 is worst For Return Rank- 1 is best; 100 is worst

## Over the last 10 years, <u>New Jersey has generated returns better than 69% its peers</u> while taking less risk than 85% of its peers

#### The NJ Alternative Investments Program Has Outperformed on an Absolute and Risk-Adjusted Basis

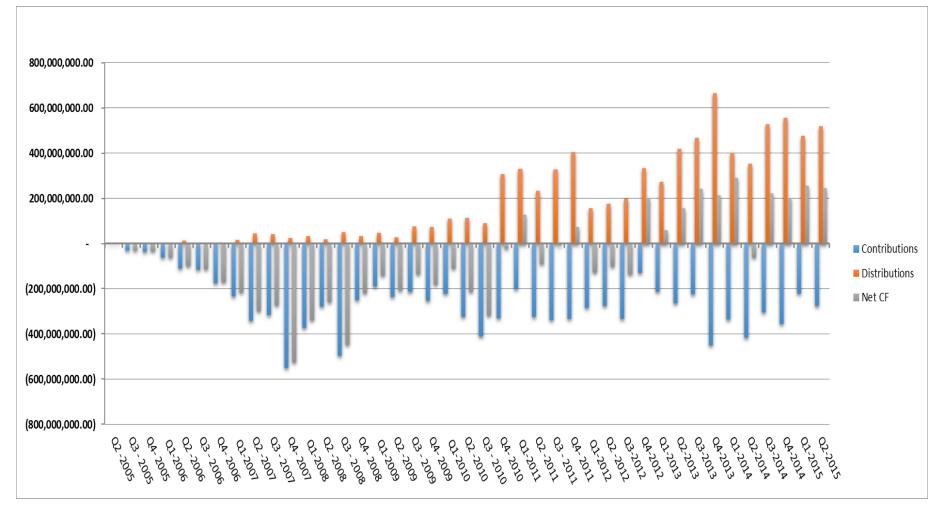
	NJ Alter	native Invest	mance Track Recor	ď		
(Periods Ending 6/30/15)	NJ Alternative Investments Program	NJ Total Fund		Broader Market Return <sup>(1)</sup> 70% Global Stocks / 30% Fixed Income	<u>Outperformance of NJ Alt</u> vs NJ Total Fund ex Alts (in basis points)	<u>ternative Investments Progr</u> am vs Broader Market Return (in basis points)
Annualized Returns (net of all fees)	(A)	(B)	(C)	(D)	(A) - (C)	(A) - (D)
One Year	7.89%	4.16%	2.30%	1.14%	559	675
Two Years	11.43%	10.33%	9.65%	8.87%	178	256
Three Years	11.69%	10.81%	10.25%	9.63%	144	206
Four Years	9.09%	8.68%	8.34%	6.60%	75	249
Five Years	10.87%	10.49%	10.17%	9.51%	70	136
Five Year Volatility	4.47%	6.27%	7.65%	9.10%		
Five Year Sharpe Ratio	2.4	1.6	1.3	1.0		

The Alternative Investments Program (net of all fees) has outperformed the broader Pension Fund and a mix of broader global public markets over all trailing time periods shown above on both an absolute and risk-adjusted basis

(1) Broader Market Return reflects performance of a portfolio comprised of 70% MSCI ACWI (net) and 30% Barclays Capital Aggregate Bond Index

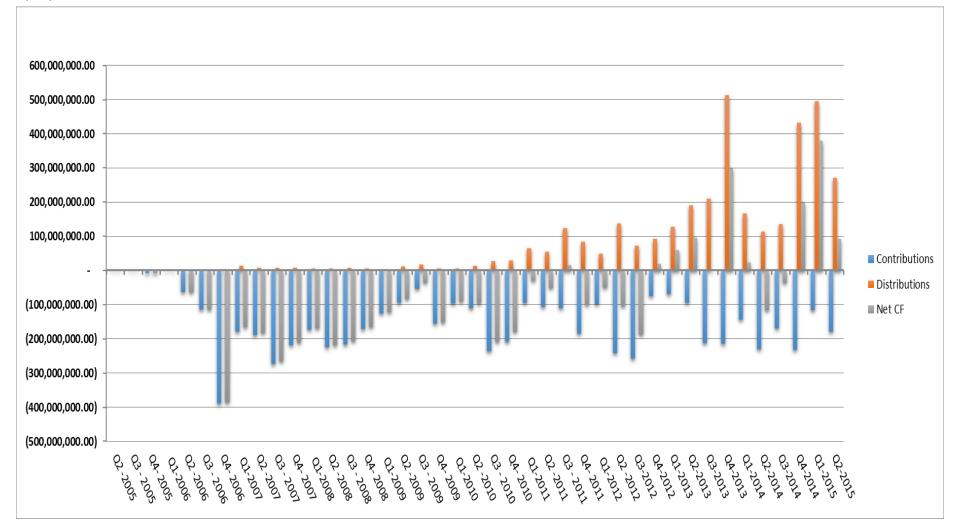
# **Private Equity Cash Flows Since Inception**

The Private Equity Portfolio has produced positive net cash flows for all four quarters of the fiscal year and for ten of the last eleven quarters overall. For the fiscal year the portfolio produced over \$900 million of net distributions and over the trailing eleven quarters, net distributions have been over \$2 billion. The positive net cash flow of \$243 million in 2Q15 was the third largest in the history of the program. Among the biggest drivers of net distributions for the quarter was Vista IV's sale of Websense, which resulted in \$66.8 million distribution to the Division. Vista's investment in Websense has produced a 81.9% gross IRR and 3.1x gross multiple.



# **Real Estate Cash Flows Since Inception**

The Real Estate Portfolio has produced positive net cash flows for three consecutive quarters and for eight of the last eleven quarters. For the fiscal year the portfolio produced over \$635 million of net distributions and over the trailing eleven quarters, net distributions have been over \$1 billion. For the quarter, the Division received \$32.3 million in distributions from the continued redemption from CT High Grade Partners II. Wheelock Street also distributed nearly \$50 million from the sale of various properties.



# Domestic Equity Portfolio Review and Outlook

## FY15 Domestic Equity Portfolio Review and FY16 Key Investment Themes

#### • Domestic Equity portfolio return of 7.48% outperformed its benchmark index by 17 basis points during FY 2015

- FY15 marks the tenth fiscal year of the past eleven that the Domestic Equity portfolio has outperformed its benchmark index
- key drivers of favorable returns included good stock selection in Technology, Consumer Staples, and Health Care
- performance also benefitted from our overweight commitment to Consumer Discretionary as the fundamental backdrop for spending improved and our underweight allocation to energy as commodity prices remained under pressure
- favorable returns were partially offset by our above market allocation to Industrials as this sector underperformed the broader equity market, as well as security selection within the energy and industrial space
- The Domestic Equity Portfolio benefitted from favorable sector selection, as well as strong stock selection within the Technology, Consumer Staples, and Healthcare sectors
- We expect to maintain our overweight commitment to the Consumer Discretionary and Consumer Staples sectors in anticipation of a favorable backdrop for consumer spending
- Key portfolio strategies include an overweight allocation to financials in anticipation of the end to the Fed's nearzero rate policy, an above market commitment to companies best positioned to capitalize on secular growth opportunities within Technology, and a below market weighting to commodity-sensitive sectors
  - we reduced our commitment to commodity-related Industrials and the Energy sector in the midst of persistent commodity pricing weakness
  - we added value to the portfolio by shifting our exposure to Technology from an underweight position at the start of FY15 to a current overweight position to capitalize on improving fundamentals, a shift toward cloud computing, and merger and acquisition activity in semiconductors
  - we also increased our allocation to financial institutions that we believe are poised to outperform in a rising interest rate environment
    - > The Domestic Equity Portfolio benefitted as we maintained a below benchmark allocation to the Energy sector in a weak pricing environment
  - We expect to maintain our overweight allocation to Technology and Financials, as well as our underweight allocation to commodity-sensitive stocks

### The Domestic Equity Portfolio Has Realized A Consistent Track Record of Outperformance

(Total Return in %)				
Fiscal Year	New Jersey Division of Investment Domestic Equity	S&P 1500 Benchmark	Relative outperformance (in basis points)	
2005	7.50	7.27	23	
2006	10.44	9.23	121	
2007	21.39	20.53	86	
2008	-10.85	-12.61	176	
2009	-24.99	-26.08	109	
2010	15.76	15.49	27	
2011	33.43	31.65	178	
2012	3.57	4.63	-106	
2013	21.93	21.13	80	
2014	26.23	24.70	153	
2015	7.48	7.31	17	
Annualized Returns (Periods Ending 6/30/15)				
One Year	7.48	7.31	17	
Three Years	17.91	17.47	44	
Five Years	17.60	17.43	17	
Ten Years	9.08	8.10	98	

The Domestic Equity portfolio has outperformed in ten of the last eleven fiscal years. The annualized outperformance has been 98 basis points over the last ten years.

# Domestic Equity Portfolio: Top Holdings as of June 30, 2015

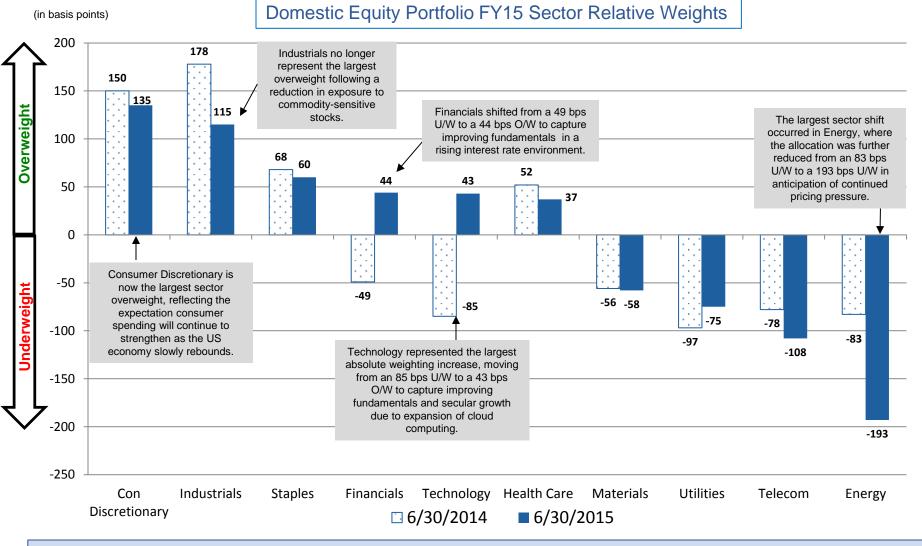
	Portfolio	S&P 1500	Overweight/
<u>Company</u>	<u>Weight</u>	<u>Weight</u>	<u>Underweight</u>
Apple	4.28%	3.52%	+75 bps
Microsoft	2.28%	1.74%	+54 bps
Walt Disney	2.20%	0.87%	+133 bps
Wells Fargo	1.71%	1.29%	+42 bps
Google	1.59%	1.49%	+10 bps
JP Morgan	1.54%	1.23%	+31 bps
Johnson & Johnson	1.41%	1.32%	+10 bps
General Electric	1.39%	1.31%	+9 bps
Merck	1.33%	0.78%	+55 bps
Pfizer	1.29%	1.01%	+29 bps

# Domestic Equity Portfolio: Key Drivers of Security Selection for FY15

	Successful Investme	ents in Domestic Ed	quity Portfolio in	FY15
Company	Average Portfolio Weight	Average Benchmark Weight	Total Return	Relative Contribution
<u>Company</u> Walt Disney	<u>1.62%</u>	0.75%	<u>Ketum</u> 34.79%	+25 bps
Schlumberger	0.00%	0.60%	-25.48%	+25 bps
Apple	3.92%	3.30%	37.33%	+16 bps
Palo Alto Networ	r <b>ks</b> 0.18%	0.00%	108.35%	+13 bps
Gilead Sciences	1.13%	0.76%	41.73%	+13 bps

	Laggards in D	Domestic Equity Po	rtfolio in FY15	
	Average	Average		
	Portfolio	Benchmark	Total	Relative
<u>Company</u>	<u>Weight</u>	<u>Weight</u>	<u>Return</u>	<b>Contribution</b>
Chart Industries	0.26%	0.00%	-56.79%	-37 bps
Chesapeake Energy	0.26%	0.05%	-61.28%	-20 bps
MasTec	0.29%	0.00%	-35.53%	-16 bps
GT Advanced Tech.	0.01%	0.00%	-98.69%	-16 bps
McDermott Intl.	0.08%	0.00%	-33.99%	-12 bps

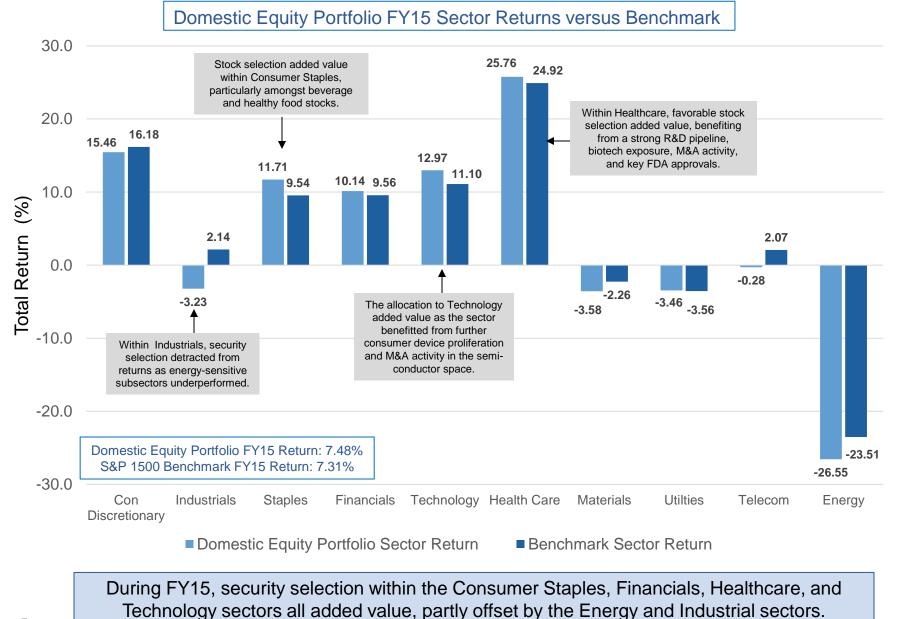
#### Domestic Equity Portfolio: Fiscal Year 2015 Performance Review



During FY15, the Domestic Equity Portfolio's commitment to Consumer Discretionary, Financials, Healthcare and Technology all added value to the Fund. The Portfolio remains positioned with an overweight allocation to each of the sectors based on valuations and fundamentals.

Source: Factset

#### Domestic Equity Portfolio: Key Sector Strategies During FY15



# International Equity Portfolio Review and Outlook

### FY15 International Equity Portfolio Review and FY16 Key Investment Themes

#### The International Equity Portfolio performed in line with its benchmark during Fiscal Year 2015

- strong relative performance from the Developed Markets (DM) portfolio and favorable returns for the currency hedging program offset underperformance within the Emerging Markets (EM) portfolio
  - During FY15, the International Equity Portfolio benefitted from its above benchmark allocation to DM and favorable returns from our currency hedging program
  - > We anticipate continued strength in the U.S. dollar, suggesting currency hedging remains an important strategy

#### • Within DM, outperformance was driven by strategic sector and country allocations

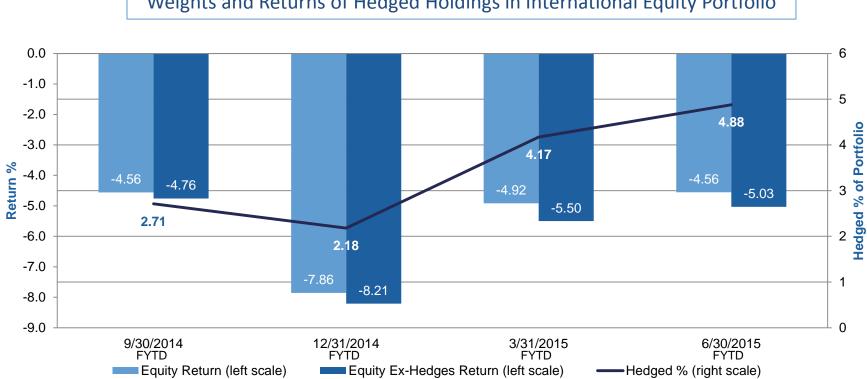
- the DM portfolio benefitted from an underweight exposure to Energy as the energy sector underperformed in an environment of declining oil prices
- the underweight allocation to Financials also benefitted relative returns as weakening fundamentals due to slow economic growth adversely impacted returns
- country selection added value as strategies were implemented to capitalize on divergent central bank monetary policies
  - > Underweight exposures to commodity sensitive countries and sectors proved favorable for the DM Portfolio
  - > The DM portfolio benefitted from an overweight to regions with more accommodative monetary policies
    - > We expect to maintain our underweight exposure to commodity exporters and energy-sensitive sectors
    - > We believe divergent monetary policies may present further opportunities to add value via country selection
- Global geopolitical turmoil and volatile commodities prices, along with a stronger US dollar, led to negative returns for EM, while our underweight allocation to the best returning country (China) drove underperformance for the EM Portfolio
  - we maintained an underweight allocation to China based on our view that its economy was weakening at the same time that equity valuations were unsustainably high and driven by government intervention and increased investor use of leverage
  - relative returns were adversely impacted by the portfolio's commitment to Russia and to Brazil as Russia underperformed in the midst of geopolitical unrest and the imposition of sanctions, while Brazil underperformed in the midst of higher inflation, weak fiscal performance and government corruption scandals
    - Notwithstanding a sharp near-term equity correction in China, we expect to maintain our below market exposure based on our view that the economy may continue to weaken and equity valuations remain high, supported by unconventional measures taken by the Chinese government
  - We expect to maintain an underweight to EM and opportunistically adjust our allocations within EM markets based on our expectations that heightened geopolitical and global economic growth risks may persist

#### International Equity Portfolio: Fiscal Year 2015 Performance Review

(Total Return in %)												
<u>Market</u>	<u>9/3</u>	0/2014	<u>12/31/2014</u>		<u>3/31</u>	3/31/2015		<u>6/30/2015</u>		<u>′ear 2015</u>		
	,											
	<u>NJDOI</u>	<u>Benchmark</u>	<u>NJDOI</u>	Benchmark	<u>NJDOI</u>	<u>Benchmark</u>	<u>NJDOI</u>	<u>Benchmark</u>	<u>NJDOI</u>	<u>Benchmark</u>		
nternational Equity with Hedges	-4.56	-4.79	-3.46	-3.50	3.19	3.32	0.38	0.56	-4.56	-4.54	-	
International Equity (ex Hedges)	-4.76	-4.79	-3.62	-3.50	2.95	3.32	0.49	0.56	-5.03	-4.54	FY'15 Targeted Allocation	
International Developed Markets	-5.23	-5.59	-3.05	-3.32	4.11	3.89	0.57	0.51	-3.81	-4.69	12.00%	
International Emerging Markets	-3.75	-3.33	-4.61	-3.92	0.82	2.20	0.35	0.56	-7.11	-4.54	6.40%	

During FY15, the International Equity Portfolio performed in line with its benchmark (-4.56% vs -4.54%). Favorable relative returns in the Developed Markets Portfolio, aided by positive currency hedges, offset underperformance in the Emerging Markets Portfolio.

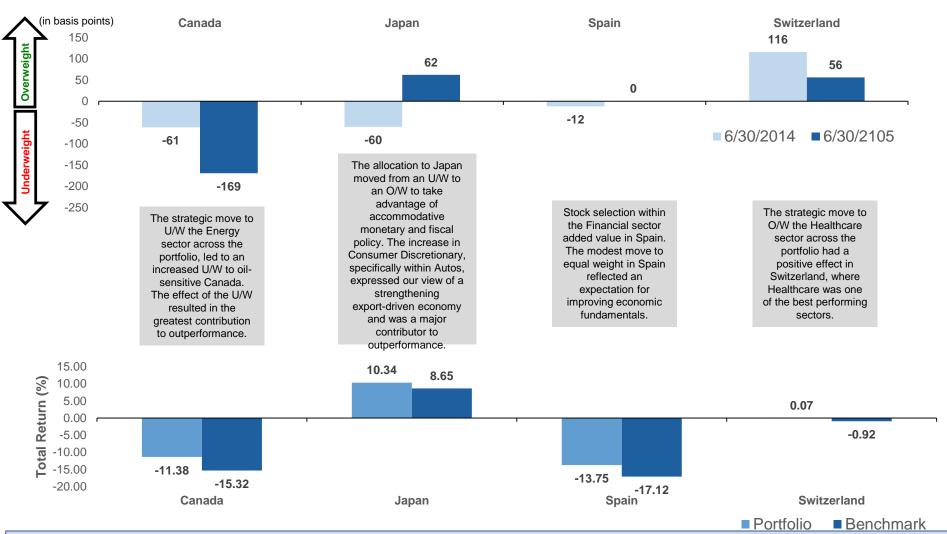
#### International Equity Portfolio Hedges



Weights and Returns of Hedged Holdings in International Equity Portfolio

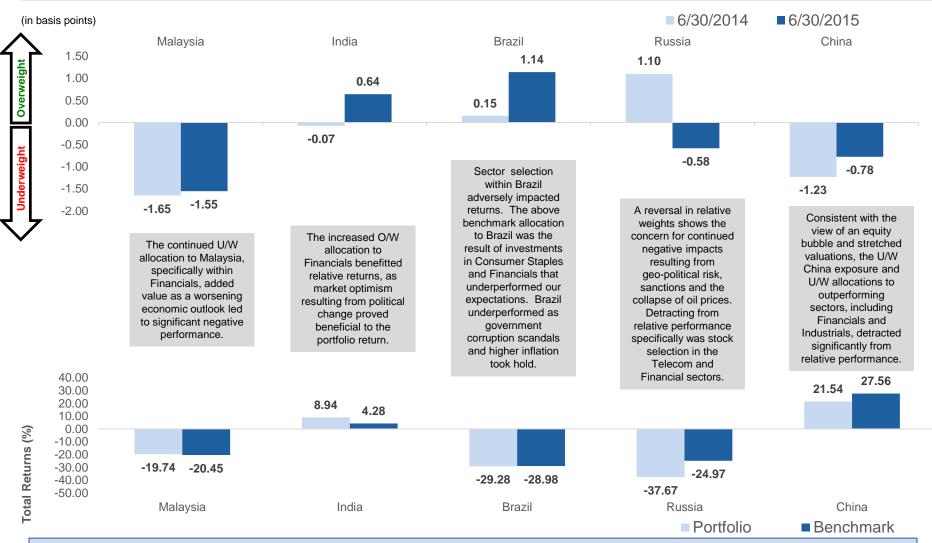
- As a percentage of the portfolio, FX hedges were increased from just under 3% at the start of FY15 to about ٠ 5% (right scale of graph), this contributed nearly 50bps to the portfolio's total return
- At the end of FY15, the International Portfolio had its Yen exposure hedged by 19% and its Euro exposure ٠ hedged by 16%
- With a likely strengthening US dollar, we expect to continue to hedge our currency exposure ٠

### Select Developed Market Country FY15 Relative Weights and Returns



For FY15, the Non-US Developed Markets Equity Portfolio outperformed its benchmark by 88 basis points: -3.81% vs.-4.69%. Drivers of outperformance included underweighting exposure to Financials and commodity-sensitive countries/sectors, maintaining exposure to the defensive Healthcare sector and adjusting country allocations to benefit from global macroeconomic dislocations, such as divergent central bank monetary policies. The Portfolio remains underweight Energy and will continue to strategically re-position based on expectations that subdued global economic growth will persist.

### Select Emerging Market Country FY15 Relative Weights and Returns



For FY15, the Emerging Markets Equity Portfolio underperformed its benchmark by 257 basis points: -7.11% vs. -4.54%. Rising geopolitical risk, the collapse in commodity prices, China's policy moves to support its equity markets, as well as uncertainty over the implications of a strengthening USD and an anticipated increase in US interest rates all contributed to a challenging investing environment for Emerging Markets. The underperformance is attributable to an increased sector exposure in a struggling Brazilian market, Financial and Telecom stock selection in the Russian market, and an underweight position to China, the best performing market in EM.

Source: FactSet

# Fixed Income Portfolio Review and Outlook

### FY15 Fixed Income Portfolio Review and FY16 Key Investment Themes

#### The Fixed Income portfolio outperformed its benchmark index by 128 basis points during Fiscal Year 2015

- FY15 marks the eighth fiscal year of the past ten that the Fixed Income portfolio has outperformed its benchmark index
- the key drivers were favorable returns within Global Diversified Credit and strong relative returns for the Investment Grade (IG) credit and High Yield (HY) corporate bond portfolios
- favorable returns were partially offset by the NJ portfolio's below target weighting and duration to U.S. Treasuries, as longdated Treasuries outperformed in a declining yield environment
- over the past six years, the target allocation to the Fixed Income portfolio has been cut by half (from 39% to 18%)

# The Fund benefited from strong relative returns within the IG and HY portfolios during FY15 We expect to opportunistically reduce the overweight position in IG corporate bonds in a low yield environment, particularly since liquidity has declined

#### • Within IG and HY, favorable quality and sector selection benefited the NJ portfolio

- within IG, the NJ portfolio emphasized higher rated securities that outperformed as lower rated credit spreads widened
- within HY, the NJ portfolio benefited from an underweight position in energy-related issuers; energy bonds underperformed as credit fundamentals weakened in the midst of a 48% decline in oil
  - > The Fund benefited from its underweight allocation to lower quality IG and HY energy bonds during FY15

Notwithstanding somewhat wider credit spreads for lower quality bonds over the past year, we expect to maintain our underweight allocation to lower quality corporate bonds as valuations do not appear compelling based on the fundamental outlook

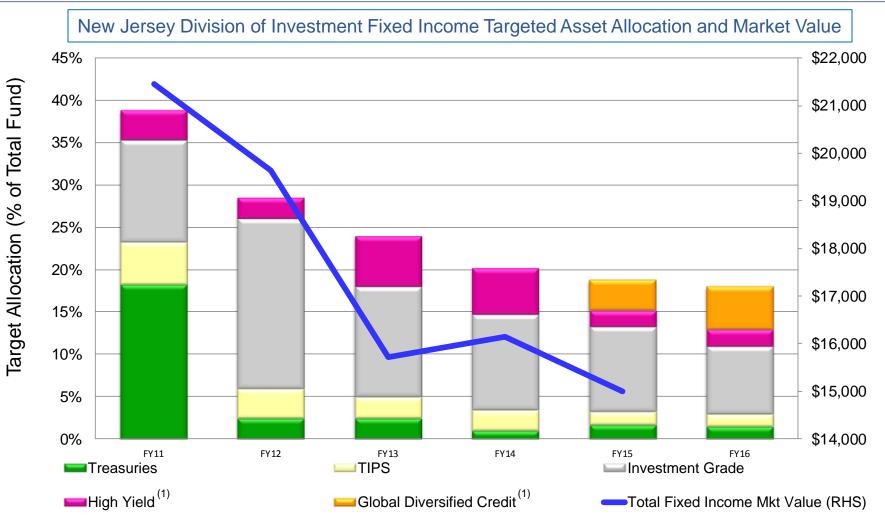
- Within Treasuries, the NJ portfolio was positioned defensively in a very low interest rate environment, consistent with the portfolio's key role to provide liquidity for the overall Fund
  - the NJ portfolio emphasized intermediate term Treasury securities, while longer-dated Treasuries outperformed
    - Below benchmark duration modestly detracted from relative returns during FY15
    - We expect to move to a more neutral duration profile over time if U.S. rates move higher

#### The Fixed Income Portfolio Has Realized A Consistent Track Record of Outperformance

(Total Return in %)			
Fiscal Year	New Jersey Division of Investment Fixed Income Portfolio	Benchmark	Outperformance (in basis points)
2006	-1.02	-6.47	545
2007	5.22	6.99	-177
2008	9.06	6.78	228
2009	6.65	5.34	131
2010	16.75	16.49	26
2011	5.98	3.20	278
2012	15.89	16.50	-61
2013	1.73	0.87	86
2014	7.66	7.45	21
2015	1.80	0.52	128
Annualized Returns (Periods Ending 6/30/15)			
One Year	1.80	0.52	128
Three Years	3.69	2.90	79
Five Years	6.49	5.55	94
Ten Years	6.83	5.56	127

The Fixed Income portfolio has outperformed in eight of the last ten fiscal years, realizing outperformance of 127 basis points (annualized) over the same horizon. Based on an average portfolio value of \$19.1 billion, the 127 basis points of outperformance over the past decade is equivalent to an additional \$2.4 billion of value for the Fund.

#### The Allocation to the Fixed Income Portfolio Has Declined Over Time



The market value of the Fixed Income portfolio has declined from \$21.5 billion to \$15.0 billion over the past four years, as the targeted allocation has declined from 39% to 18% of the Total Fund.

(1) Global Diversified Credit (GDC) was a component of High Yield from FY11 through FY14; beginning in FY15, GDC is now segmented as a distinct category

Market Value (millions)

#### New Jersey Division of Investment FY15 Fixed Income Returns By Sector

(Total Return in %)												
Sector	<u>9/30</u>	9/30/2014		Quarter <u>12/31/2014</u>		3/31/2015		2015	Fiscal Year 2015			
	<u>NJDOI</u>	Benchmark	<u>NJDOI</u>	Benchmark	<u>NJDOI</u>	Benchmark	<u>NJDOI</u>	Benchmark	<u>NJDOI</u>	Benchmark	FY15 Targeted Allocation	FY16 Targeted Allocation
Treasuries	0.04	0.34	0.67	1.93	1.33	1.64	-0.44	-1.58	1.61	2.31	1.75%	1.50%
TIPS	-2.11	-2.05	-1.12	0.25	1.09	1.47	-0.20	-1.32	-2.35	-1.68	1.50%	1.50%
Investment Grade (IG) Credit	0.40	-0.03	1.38	1.76	1.87	2.16	-1.41	-2.88	2.23	0.93	10.00%	8.00%
High Yield (HY)	-1.52	-1.87	-1.07	-1.00	2.62	2.52	0.38	0.00	0.36	-0.40	2.00%	2.00%
Global Diversified Credit (GDC)	-0.31	-1.87	2.05	-1.00	0.71	2.52	2.24	0.00	4.74	-0.40	3.50%	5.00%
Total Fixed Income	-0.22	-0.66	0.81	0.90	1.59	2.17	-0.39	-1.85	1.80	0.52		

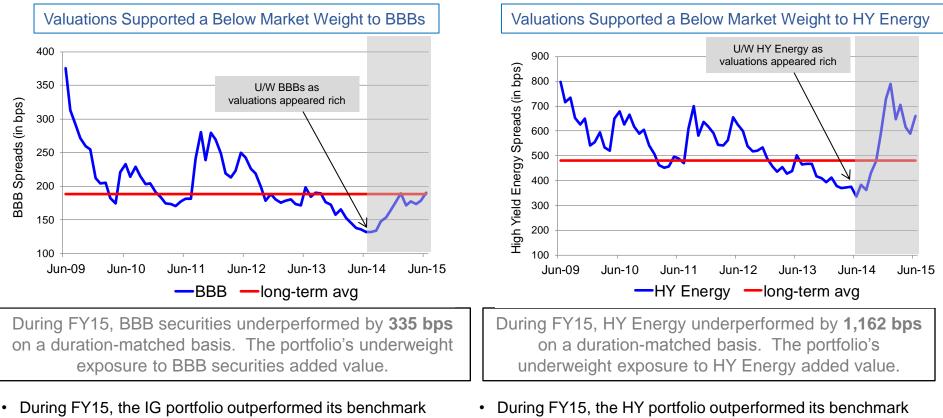
During FY15, the Fixed Income portfolio outperformed its benchmark by 128 basis points (+1.80% versus +0.52%). Within the public market portfolio, favorable relative returns are attributable to outperformance for both IG and HY.

### Fixed Income Portfolio: Treasury Portfolio is Positioned for Higher Rates Over Time

		6/30/2014	9/30/2014	12/31/2014	3/31/2015	6/30/2015	$\Delta$ Fiscal Year			
	Yields (in %)									
	2 yr	0.46	0.57	0.67	0.56	0.65	19			
	5 yr	1.63	1.76	1.65	1.37	1.65	2			
	10 yr	2.53	2.49	2.17	1.93	2.36	-18			
	30 yr	3.36	3.20	2.75	2.54	3.12	-24			
	U.S. Treasury	U.S. Treasury duration (in years)								
	NJ	2.77	2.52	2.98	4.78	5.20				
Below benchmark duration profile resulted in underperformance for	Benchmark	5.18	5.26	5.48	5.64	5.52				
Treasury portfolio when yields declined				For the qua	arter ended					
	U.S. Treasury	return (in %)	9/30/2014	12/31/2014	3/31/2015	6/30/2015	Fiscal Year			
	NJ		0.04	0.67	1.33	-0.44	1.61			
	Benchmark		0.34	1.93	1.64	-1.58	2.31			
	-Y15, the low of rising view		-		•	•	-	med in More		

periods of rising yields and underperformed in periods of declining yields. More recently, we have extended the duration profile of the portfolio as rates haven risen.

### Fixed Income Portfolio: Investment Grade and High Yield Outperformed During FY15



- During FY15, the IG portfolio outperformed its benchmark by 130 bps (+2.23% versus +0.93%)
- BBB securities comprised 20% of the IG portfolio versus 42% for the benchmark index
- During FY15, the HY portfolio outperformed its benchmark by 75 bps (+0.35% versus -0.40%)
- HY Energy securities comprised 10% of the HY portfolio versus 14% for the benchmark index

Within the HY portfolio, a commitment to bank loans and an underweight to energy bonds led to outperformance. Favorable quality selection benefited the IG portfolio during FY15, as the portfolio favored higher quality securities that outperformed. While lower quality credit spreads have moved higher toward longer-term averages, we expect to maintain a below benchmark allocation as part of our defensive portfolio strategy.

# **Capital Markets and Portfolio Update**

### Key Investment Themes

- Fiscal year-to-date most major global asset classes have realized negative returns as a confluence of events has led to global economic growth concerns and a sharp increase in volatility
  - weakness in China has permeated global financial markets, leading to somewhat indiscriminate global equity selling, lower commodity prices, more volatile currency markets
  - The Annual Investment Plan (AIP) approved by the SIC for this fiscal year is relatively conservative in light of our expectation for higher volatility and lower returns from public asset classes
- Abrupt shifts in performance across asset classes reinforces the benefit of diversification and supports a higher allocation to the Liquidity sector and to Risk Mitigation strategies
  - more volatile returns have also coincided with higher near-term correlation amongst public asset classes
  - global financial markets are increasingly complex and interrelated, leading to less predictable short-term outcomes such as declining Treasury prices in an environment otherwise expected to precipitate a flight-to-quality rally for U.S. debt
  - We have maintained a higher allocation to cash to avoid "forced selling" to meet benefit payments
  - Higher near-term correlation reiterates the role of fixed income in the Fund as a source of Liquidity and Income, and not necessarily as an asset class to diversify risk
- We have proactively sought new opportunities to expand the allocation to Risk Mitigation strategies that enhance diversification and provide less correlated returns, in line with the higher targeted allocation for the current fiscal year
- The Fed's rationale to maintain its near-zero interest rate policy is consistent with a more favorable fundamental backdrop for the U.S. relative to the global equity marketplace
  - the outlook for the U.S. economy is constructive, supported by higher consumer spending, a tightening labor market, lower energy prices and benign, but transient, inflation; the Fed is on hold partly in response to recent global market turbulence
  - emerging markets have underperformed, largely in response to concerns that a slowdown in China will adversely impact commodity-driven exporters; a stronger dollar could further weaken commodity-dependent nations
  - Within Global Growth, we have maintained a below benchmark allocation to Emerging Markets and an above benchmark allocation to U.S. Equities
    - We have remained underweight China, based on the view that speculative equity valuations were artificially supported by its government policies and by investor use of leverage

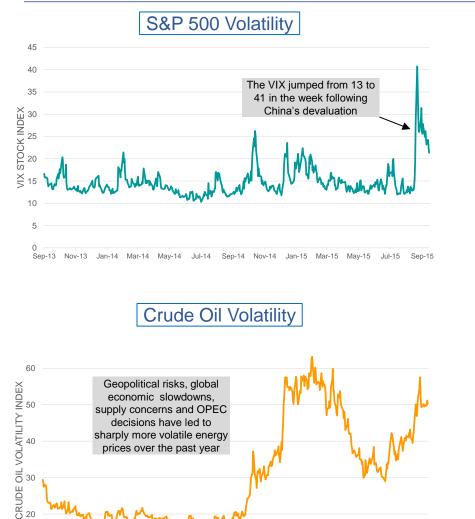
## The Financial Markets Have Experienced Heightened Volatility

	05/21/15	06/05/15	06/08/1	5	0	8/11/15	08/24	4/15 08/25/1	5	09/17/15
U.S.	Equities hit all- time high	OPEC leaves pro unchange		nghai market hits all-time high		alues - EM stocks r bear market	VIX posts large day gain e		Equities cap worst days since 2011	Fed maintains near- zero rate policy
Start End	05/21/2015 06/05/2015	06/05/2015 06/08/2015	06/08/2015 06/30/2015	06/30/2015 07/31/2015	•••••••••••••••••••••••••••••••••••••••		08/20/2015 08/25/2015	•••=•=•		05/21/2015 09/16/2015
	vix 17.34	vix 7.60	vix 19.23	EAFE 2.08	vix 13.12			VIX Crude Oil 88.19 15.09		vix 76.30
	China <b>8.13</b>	China <b>2.26</b>	Crude Oil 1.52	S&P 1500 <b>1.84</b>	China <b>4.62</b>	Gold 4.11	Treasuries -0.32	China <b>10.25</b>	S&P 1500 0.50	Treasuries 0.00
	High Yield <b>-0.57</b>	Gold 0.47	Treasuries 0.38	Treasuries 0.94	Gold 1.15	Treasuries 0.29	High Yield <b>-0.58</b>	S&P 1500 6.40	Emerging Markets 0.49	High Yield -3.43
	Treasuries -0.95				Treasuries 0.49			Gold ACWI -1.29 4.64		S&P 1500 -5.75
		High Yield <b>-0.07</b>	Gold -0.15	High Yield <b>-0.62</b>	EAFE -0.70	S&P 1500 -2.27	EAFE -4.49	Emerging Markets <b>4.03</b>	ACWI -0.11	Gold -7.31
	Crude Oil -2.62	EAFE -0.10	S&P 1500 -0.65	Gold -6.73	S&P 1500 -0.82	асмі -3.14	Emerging Markets -5.00	EAFE 1.98	Treasuries -0.66	ACWI -9.38
	ACWI -2.92	acwi -0.46	High Yield <b>-0.71</b>	Emerging Markets -6.93	ACWI -1.01	EAFE -3.61	Crude Oil -5.08	High Yield <b>0.57</b>	China -0.71	EAFE -10.75
	Gold -3.07	Emerging Markets -0.51	ACWI -0.76	China -14.18	High Yield -1.23	Emerging Markets -5.41	асмі -6.51	Treasuries -0.29	EAFE -1.04	Emerging Markets -19.23
	EAFE -4.14	S&P 1500 -0.63	EAFE -1.04	Crude Oil -21.24	Emerging Markets -2.53	Crude Oil -6.20	S&P 1500 -8.10	Gold -0.38	Gold -1.32	Crude Oil -25.60
	Emerging Markets -4.73	Crude Oil -1.65	China -16.07	vix -33.52	Crude Oil -8.24	China -8.43	China -19.38	vix -27.68	vix -18.04	China <b>-32.66</b>
I	А	brupt and	d pronoun	ced direc	tional cha	anges in p	performar	nce acros	s global a	sset

Abrupt and pronounced directional changes in performance across global asset classes reinforces our rationale to stress diversification in the Fund

Source: Bloomberg

#### Volatility Has Increased Across All Financial Asset Classes



decisions have led to sharply more volatile energy prices over the past year

Jan-14 Mar-14 May-14

Jul-14

Sep-14 Nov-14 Jan-15

Mar-15

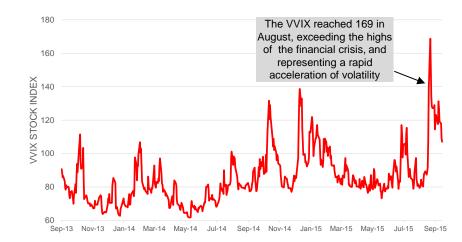
May-15

Jul-15

Sep-15

#### Euro/USD Currency Volatility 16 Divergent global monetary policies have increased 14 currency volatility over the FX EURO VOLATILITY INDEX past year 12 Sep-13 Nov-13 Jan-14 Mar-14 May-14 Jul-14 Sep-14 Nov-14 Jan-15 Mar-15 May-15 Jul-15 Sep-15

#### Volatility of VIX



Volatility increased over the past year and has accelerated in recent months

Source: Bloomberg

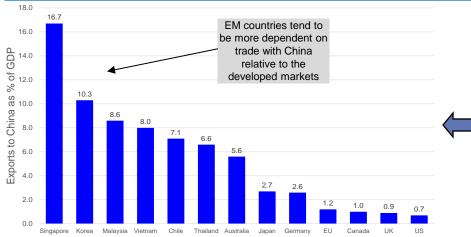
Nov-13

10

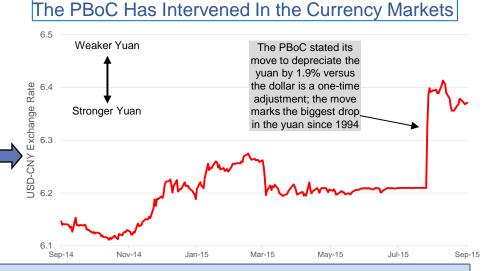
Sep-13

#### An economic slowdown in China impacts all financial asset classes

#### EM Economies Are More Sensitive to a China Slowdown



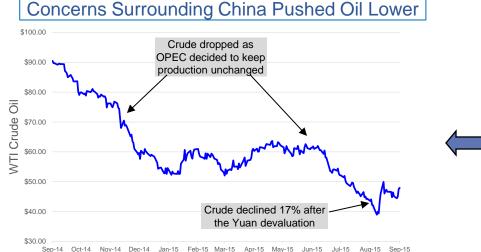
In the wake of a sharp decline in the Shanghai exchange concurrent with significant government interventions designed to stabilize the markets, and in conjunction with an apparent weakening of Chinese economic growth prospects, **on August 10<sup>th</sup> the People's Bank of China (PBoC) devalued the yuan by 1.9%, leading to the steepest one-day drop in its currency in more than two decades.** The move may have been an effort to gain yuan acceptance as a reserve currency and may have been a shift towards a more free floating currency policy that, in turn, would better enable China to implement more impactful monetary policies. The PBoC may have also entered the global "currency wars" to boost exports that had dropped more than 8.3% in July, threatening China's efforts to achieve its targeted 7% GDP growth rate. Following a quarter-century of rapid-paced expansion that has led China to become the second-largest global economy, the Chinese economy is now projected to decelerate sharply in 2015, representing the first sub 7% growth rate since 1990, with projections for further deceleration into 2016. A massive speculative equity rally fueled by a broadening investor base and use of leverage preceded a 45% peak-to-trough decline in the Shanghai exchange over a 2 ½ month time period that coincided with increasing economic growth concerns. **Global equities retreated and emerging market (EM) countries, most sensitive to a China slowdown, underperformed with the broader EM index down 27% from April to the August lows.** 



# FYTD, the Fund's below benchmark allocation to China and, more broadly, to EM has helped dampen the impact of a global equity selloff. The Fund remains underweight regions most susceptible to an economic slowdown in China.

Source: Bloomberg & International Monetary Fund

#### China's Policy Actions Have Rippled Through All Financial Markets



The surprise yuan devaluation also represented a shift from recent Chinese policymaking efforts to support the yuan to avert capital outflows. In the two weeks following the devaluation, the Shanghai exchange lost more than a quarter of its value and global equity markets were virtually universally lower, with the broadest measure (ACWI) down 9%. Over the same horizon, long-dated Treasury yields actually *rose*. **Market conjecture has pointed to China, the largest foreign holder of Treasury securities, as the possible culprit to this paradoxical outcome.** China may have divested Treasuries to avoid further capital outflows. In any event, higher Treasury yields in the midst of an environment otherwise consistent with a pronounced flight-to-quality highlights the risks of more positively correlated asset classes.

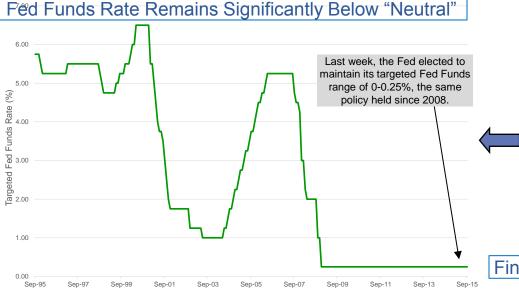
The PBoC's action reinforced how central bank interference in currency markets may intensify moves in foreign exchange and commodity markets. Other central banks may be compelled to take steps to reduce their currency exchange values to support export-driven growth. In the meantime, the threat of a global economic slowdown and more currency devaluations may have pushed commodity prices lower, most notably oil, as oil dropped 17% in the two weeks following the devaluation of the yuan. The most recent selloff in crude capped a total decline of 64% since September 2014 that has also significantly impacted equity and credit markets.



Global central bank interference continues to exacerbate financial market volatility. As the largest foreign holder of Treasuries, Chinese policymakers could potentially influence the short-term direction of the entire U.S. yield curve.

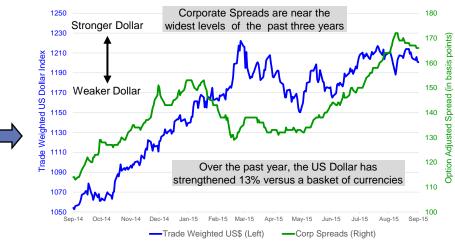
Source: Bloomberg and U.S. Treasury

## The Fed Has Maintained a Near-Zero Monetary Policy Stance



Tighter financial market conditions may have enabled the Fed to delay a move to more restrictive formal policy. **Over the past year, the stock market is lower, credit spreads are wider and the dollar is stronger.** Wider credit spreads translates into higher corporate borrowing costs ahead of any formal policy change. A stronger dollar may dampen growth by raising the price of exports and reducing the profitability of multinational corporations. The strong dollar and weak commodity prices may also keep inflation in check by lowering consumer and import prices. On September 17, the Federal Reserve elected to maintain its near-zero targeted Fed Funds rate policy, citing its expectations that "recent global economic and financial developments may restrain economic activity and are likely to put further downward pressure on inflation." The decision comes in the wake of a global equity correction and heightened financial market volatility, with the Fed noting "readings on financial and international developments" will play a role in determining when lift-off will begin.

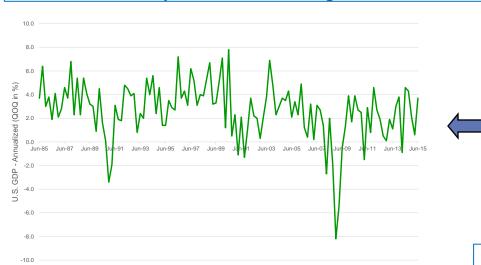
#### Financial Markets Have Done Some of the Fed's Work



Once "Lift Off" is initiated, the Federal Reserve is likely to increase the targeted Fed Funds rate at a gradual pace, with particular consideration for financial market conditions.

Source: Bank of America/Merrill Lynch, Bloomberg and Federal Reserve

# The Outlook for the U.S. Economy Remains Constructive



The U.S. Economy Accelerated During the June Quarter

Along with lower energy prices, strong gains in household wealth attributable to a equity bull market and a robust recovery in home prices is likely to continue to lift consumer spending. The labor market has also recovered, with the August 2015 unemployment rate dropping to a seven-year low of 5.1%, reaching the Fed's own estimate of Non-Accelerating Inflation Rate of Unemployment (NAIRU), and suggesting further job creation will put upward pressure on wages that have gained 2.2% on a year-over-year basis. While a decline in labor slack may prove inflationary over time, consumer prices remain somewhat subdued, with year-overyear core inflation up 1.8% in August. During the June 2015 quarter, the U.S. economy rebounded strongly, from a tepid 0.6% growth rate in the prior quarter that was hampered by inclement weather and a west coast port strike, to a favorable 3.7% annualized rate. Strong growth is attributable to both increased business (+3.2%) and consumer spending (+3.1%), supported by a downward move in commodity prices and a 8.2% increase in durable goods purchases. During the second half of 2015, higher inventory levels that supported economic growth may prove to be a headwind as the gain in stockpiles during the first half of 2015 marked the highest level on record.

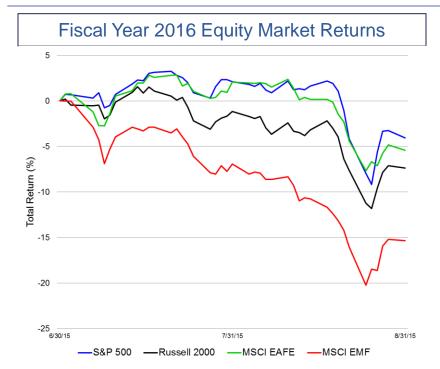


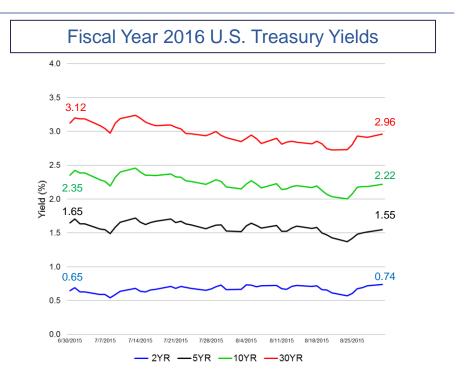
An Improving U.S. Labor Market Bodes Well for Growth

# A constructive view of U.S. economic fundamentals, along with the expectation that Fed policy will remain highly accommodative and sensitive to financial market conditions, supports the Fund's above policy benchmark commitment to U.S. Equities.

Source: Bloomberg

# Capital Markets Update (through August 31, 2015)



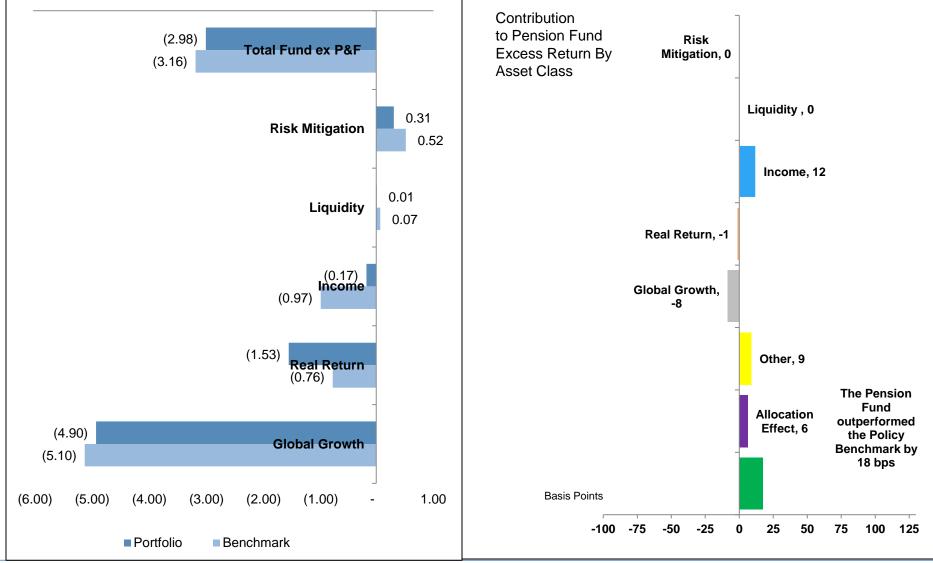


	August 31, 2015	MTD %	FYTD %	CYTD %	1 Yr %	3Yrs %	5 Yrs %	10 Yrs %		
Domestic	S&P 500	(6.03)	(4.06)	(2.88)	0.47	14.30	15.86	7.15	1	
Equity	Russell 2000	(6.28)	(7.37)	(2.97)	0.03	14.13	15.55	7.1	2	
International	MSCI EAFE	(7.36)	(5.43)	(0.21)	(7.47)	8.53	7.05	3.96	3	
Equity	MSCI EMF	(9.05)	(15.35)	(12.85)	(22.95)	(2.41)	-0.92	5.52	4	
	Barclays Agg	(0.14)	0.55	0.45	1.56	1.53	2.98	4.46	5	
Bond	Barclays HY	(1.74)	(2.31)	0.15	(2.93)	4.91	7.34	7.43	6	
	<b>Barclays US Tips</b>	(0.76)	(0.56)	(0.22)	(2.73)	(1.47)	2.79	4.06	7	
Commodity	Bloomberg	(0.93)	(11.45)	(12.84)	(28.16)	(14.61)	(7.01)	(6.11)	8	
Real Estate	Bloomberg REIT	(5.79)	(0.84)	(6.52)	(0.18)	7.66	12.29	6.29	9	

Source: Barclays Capital and Bloomberg

# Performance by Asset Class Fiscal Year to Date through August 31st, 2015

# Pension Fund Attribution vs. Benchmark Fiscal Year through August 31st, 2015



Allocation Effect indicates the effect of asset allocation bets, i.e. overweights or underweights vs. the target allocations

# Asset Allocation with Hedges as of August 31, 2015

Line#	Asset Class	Current Assets Not Adjusted for Hedges (\$ in millions)	Current Allocation Not Adjusted for Hedges	FY 2016 Target	Over/Under Weight 2016 Target (Hedge Adjusted)	Long Term Target Range
1	RISK MITIGATION	2,948	3.94%	5.00%	-1.06%	0-5%
2	Absolute Return HFs	2,948	3.94%	5.00%	-1.06%	0-5%
3	LIQUIDITY	6,614	8.84%	8.00%	0.84%	2-15%
4	Cash Eqv/Short Term	4,047	5.41%	5.00%	0.41%	0-15%
5	TIPS	1,648	2.20%	1.50%	0.70%	0-10%
6	US Treasuries	918	1.23%	1.50%	-0.27%	0-10%
7	INCOME	15,866	21.20%	21.75%	-0.55%	20-40%
8	Investment Grade Credit	6,875	9.18%	8.00%	1.18%	8-23%
9	High Yield	1,755	2.35%	2.00%	0.35%	0-8%
10	Global Diversified Credit	2,544	3.40%	5.00%	-1.60%	0-7%
11	Credit-Oriented HFs	2,649	3.54%	3.75%	-0.21%	0-6%
12	Debt-Related PE	745	1.00%	1.00%	0.00%	0-4%
13	Debt Related Real Estate	406	0.54%	0.80%	-0.26%	1-4%
14	P&F Mortgage	891	1.19%	1.20%	-0.01%	
15	REAL RETURN	5,301	7.08%	7.75%	-0.67%	3-12%
16	Commodities	544	0.73%	0.50%	0.23%	0-7%
17	Private Real Assets	1,224	1.64%	2.00%	-0.36%	0-7%
18	Equity Related Real Estate <sup>1</sup>	3,533	4.72%	5.25%	-0.53%	2-7%
19	GLOBAL GROWTH	43,776	58.48%	57.50%	0.98%	45-65%
20	US Equity	21,307	28.47%	26.00%	2.47%	15-35%
21	Non-US Dev Market Eq	8,715	11.64%	13.25%	-1.61%	8-20%
22	Emerging Market Eq	3,732	4.99%	6.50%	-1.51%	5-15%
23	Buyouts/Venture Cap	6,654	8.89%	8.00%	0.89%	4-10%
24	Equity-Oriented HFs	3,367	4.50%	3.75%	0.75%	0-8%
25	OPPORTUNISTIC PE	198	0.27%	0.00%	0.00%	0.00%
26	OTHER	152	0.20%	0.00%	0.00%	0.00%

<sup>1</sup> Current assets do not include receivables of \$350 million related to Real Estate secondary sale Based on preliminary values

# **Alternative Investment Notifications**

#### **Modification of Arden Redemption Notification:**

In the July 2015 State Investment Committee Meeting, the Division of Investment notified the Council of plans to redeem the Funds full interest from Arden Asset Management ("Arden") due to concerns about organizational stability. Subsequently, on August 4<sup>th</sup>, 2015, Aberdeen Asset Management, a \$483 billion U.K.-based investment firm, announced its plans to buy Arden Asset Management. The Arden team will join Aberdeen and expand the firm's current hedge fund offering.

If completed, the transaction should provide business stability to Arden and the merger of the two investment teams bolsters their investment capabilities. As such, the Division has modified its redemption to make it a partial withdraw (\$144 million of \$419 million market value). The Division will continue to closely monitor Arden and update the Investment Policy Committee as new developments materialize.

#### **Purpose of Notification:**

The Division is notifying the SIC of this transaction under its Modifications Procedures.

# Appendix

# NJDOI Updates (7/1/15 through 8/31/15)

# <u>US Equity</u>

- The domestic equity portfolio had net purchases of \$270 million as we used the volatility in equity markets to add to upgrade the quality of the portfolio by adding to names such as Lowes and Disney
- Overweight relative to its FY16 target remained relatively unchanged at 246 bps

# **International Equity**

- The Developed Markets portfolio was a net buyer of approximately \$235 million taking advantage of severe down
  markets to better position the portfolio. Despite the purchases, remained underweight relative to the FY16 target
  allocation by 161 bps, in line with where the allocation began the fiscal year.
- The Emerging Markets portfolio was a net seller of approximately \$58 million, as the allocation moved from an 81 bps underweight at the start of the fiscal year to a 151 bps underweight at the end of August
- Additional Yen currency future contracts were opened when the Yen strengthened, increasing the hedged position of Japan stock exposure to 23%

#### **Fixed Income**

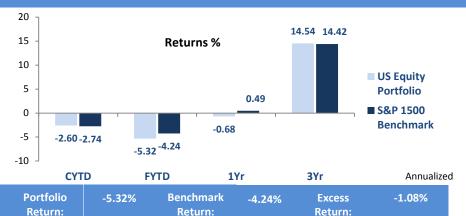
- Net sales of approximately \$692 million of investment grade bonds for the period
  - Net sales of \$625 million in corporates and net sales of \$67 million of Treasuries and TIPS
- Within Investment Grade Credit, moved from 170 bps overweight relative to the FY16 target at the start of the year to 119 overweight as of 8/31/15
- Short Term Cash Equivalent remain approximately 1% allocation. Portfolio currently has a YTW of over 2%.
- Increased High Yield exposure by approximately \$140 million on recent weakness in the market
- Duration stands at 5.1 years (ex cash) vs benchmark duration of 6.2 years. When factoring in cash, duration stands at 4.5 years

### Real Estate Updates

The Division added \$170 million of exposure through REITs

## U.S. Equity Portfolio – As of August 31<sup>st</sup> 2015

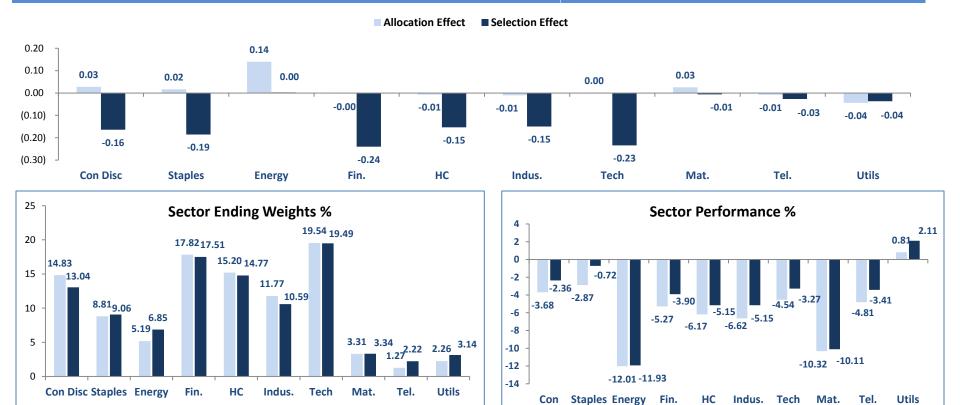
For the fiscal year through August 31st, the US Equity Portfolio returned -5.32% versus the Benchmark return of -4.24%. During this time period the markets experienced significant turmoil, as weaker than expected China economic data and its surprise devaluation of the yuan currency resulted in a sharp sell-off of risk assets. The Portfolio's underperformance can be primarily attributed to security selection within Financials, Technology, Staples and Consumer Discretionary. Oil prices came under intense pressure, falling 17%, which caused the underweight in Energy to provide the largest positive contribution to portfolio return.



US Equity Portfolio

S&P 1500

**Portfolio Sector Attribution FYTD% - Breakdown of Excess Return:** 



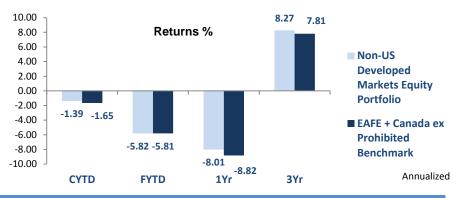
Disc

US Equity Portfolio S&P 1500

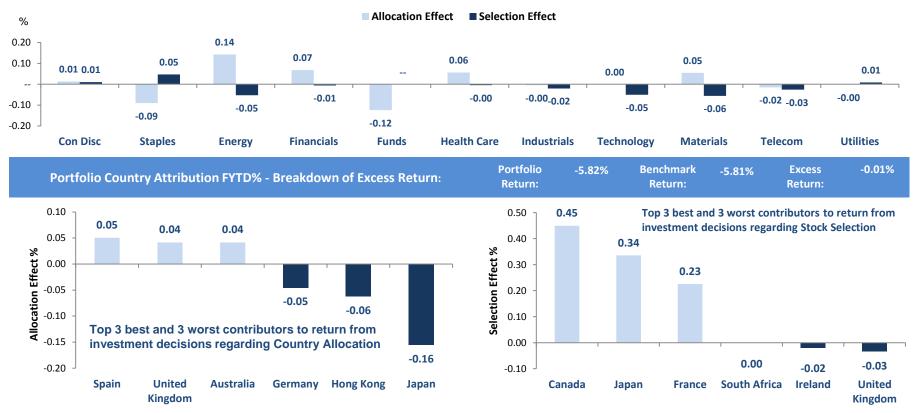
Source: State Street, Factset

**45** 

For the fiscal year through August 31st, the Non-US Developed Markets Equity Portfolio returned -5.82% versus the Benchmark return of -5.81%. Markets experienced significant volatility during these summer months as concerns over weaker China economic growth and a surprise yuan devaluation overshadowed the positive impact from the progress made regarding Greece. The Portfolio benefitted from favorable stock selection in Canada, which reflects a strategic move to underweight Energy and resulted in an underweight to this country due to its sensitivity to oil prices. The move to mitigate the impact of oil exposure in the portfolio through the Energy underweight allowed this sector to be the largest positive contributor to Sector Allocation Effect. Strong stock selection in Japan and France also added value, which was somewhat offset by stock selection in Materials, Technology and Telecom.



Portfolio -5.82% Benchmark -5.81% Excess -0.01% Return: Return: Return: Return: Return: Return:



#### --

Portfolio -14.18% Benchmark -15.18% Excess +1.00%Portfolio Sector Attribution FYTD% - Breakdown of Excess Return: **Return: Return: Return:** Allocation Effect Selection Effect % 1.00 0.51 0.27 0.30 0.25 0.50 0.02 0.13 0.12 0.08 0.05 0.01 0.01 0.00 0.02 ----0.17<sup>-0.03</sup> -0.05 -0.04 -0.02 -0.11 -0.50 -0.27 -0.53 -1.00 Con Disc **Financials** Industrials Telecom Utilities Staples Energy Funds **Health Care** Technology Materials 1971 Portfolio Benchmark +1.00 % Excess

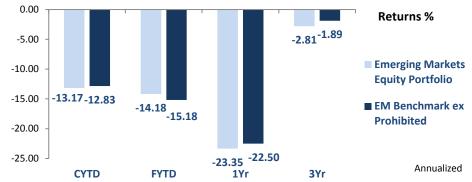
For the fiscal year through August 31st, the Emerging Markets Equity portfolio returned -14.18% versus the Benchmark return of -15.18%. The summer months were particularly challenging for the Emerging Markets as weaker economic data and an unexpected currency devaluation in China caused significant declines to occur in these markets. The Portfolio outperformed primarily because of the large, persistent underweight to China, one of the worse performing EM countries during this time period. Strong stock selection in Financials and Staples also added value. Favorable relative returns were offset by stock selection in Technology and Utilities.

-14.18% Portfolio Country Attribution FYTD% - Breakdown of Excess Return: Return: 0.60 0.23 0.25 0.49 Top 3 best and 3 worst contributors to return from 0.50 0.20 investment decisions regarding Country Allocation 0.40 0.15 0.30 0.10 Allocation Effect % Selection Effect % 0.16 0.20 0.05 0.10 0.10 0.00 0.00 -0.05 -0.10 -0.10 -0.10 -0.12 -0.20 -0.13 -0.15 China Czech Brazil Qatar Korea India -0.20 Republic

Source: State Street, Factset

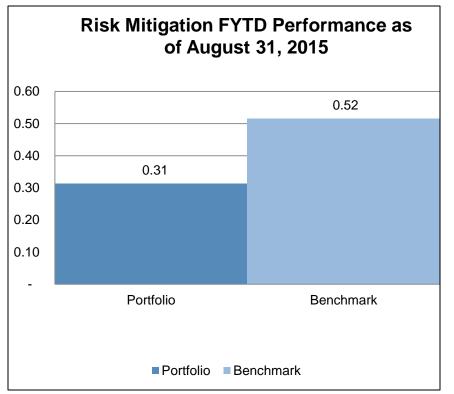


**Return:** 

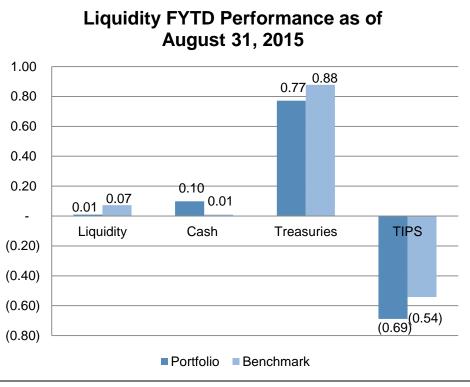


47 In USD

Return:

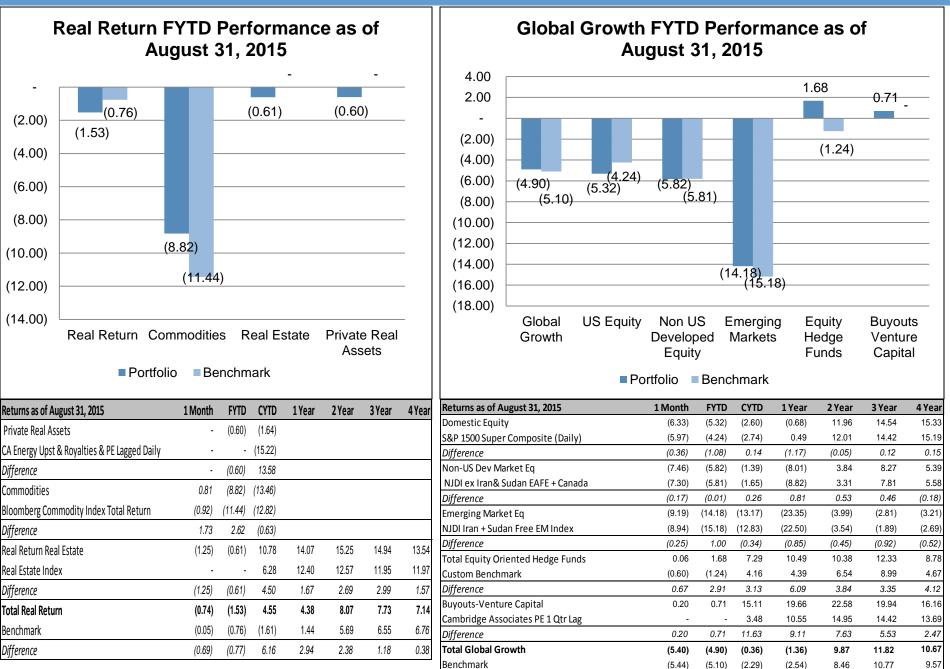


Returns as of August 31, 2015	1 Month	FYTD	CYTD	1 Year	2 Year	3 Year	4 Year
Absolute Return Hedge Funds	0.06	0.31	1.60	4.15	3.45	3.70	3.07
T-Bill + 300 BP	0.26	0.52	2.03	3.08	3.07	3.09	3.08
Difference	(0.21)	(0.20)	(0.43)	1.07	0.38	0.62	(0.01)
Total Risk Mitigation	0.06	0.31	1.60	4.15	3.45	3.70	3.07
T-Bill + 300 BP	0.26	0.52	2.03	3.08	3.07	3.09	3.08
Difference	(0.21)	(0.20)	(0.43)	1.07	0.38	0.62	(0.01)



Returns as of August 31, 2015	1 Month	FYTD	CYTD	1 Year	2 Year	3 Year	4 Year
Cash Equivalents	0.05	0.10	0.60	0.85	0.85	1.25	1.49
91 day treasury bill	0.02	0.01	0.02	0.03	0.04	0.06	0.06
Difference	0.03	0.09	0.58	0.82	0.81	1.19	1.43
US Treasuries	0.06	0.77	1.67	2.08	1.50	(1.53)	2.26
Custom Benchmark	0.04	0.88	0.91	2.30	3.99	0.44	1.70
Difference	0.02	(0.11)	0.76	(0.21)	(2.49)	(1.97)	0.56
TIPS	(0.54)	(0.69)	0.19	(2.69)	0.68	(2.15)	1.36
Custom Tips Benchmark	(0.85)	(0.54)	(0.42)	(2.85)	3.26	(2.40)	0.45
Difference	0.30	(0.15)	0.61	0.16	(2.58)	0.25	0.91
Total Liquidity	(0.09)	0.01	0.57	(0.12)	0.52	(0.80)	1.46
Benchmark	(0.14)	0.07	0.13	(0.02)	3.08	(0.53)	0.54
Difference	0.05	(0.06)	0.44	(0.10)	(2.57)	(0.27)	0.92

	Income FYTD Perform	nance as of		Returns as of August 31, 2015	1 Month	FYTD	CYTD	1 Year	2 Year	3 Year	4 Year
	August 31, 20			High Grade	(0.40)	0.08	0.52	1.01	4.88	2.03	4.54
2.50			Custom IGC Benchmark	(0.60)	0.03	(0.75)	(0.43)	3.44	1.06	3.32	
2.00		2.03	3	Difference	0.20	0.05	1.27	1.44	1.44	0.96	1.21
1.50				Public High Yield	(1.39)	(1.67)	1.28	(1.63)	4.60	5.62	7.71
1.00		0.68		Barclays Corp High Yield (Daily)	(1.74)	(2.31)	0.15	(2.93)	3.61	4.91	7.08
				Difference	0.35	0.65	1.13	1.30	0.99	0.72	0.63
0.50	0.08			Global Diversified Credit	(0.16)	0.02	2.98	5.03	11.02	12.93	10.91
-			0.05	Barclays Corp High Yield (Daily)	(1.74)	(2.31)	0.15	(2.93)	3.61	4.91	7.08
(0.50)	(0.17)	(0.28)		Difference	1.58	2.33	2.83	7.96	7.41	8.03	3.83
(1.00)		(0.97)	(0.63)	Credit-Oriented Hedge Funds	(0.04)	(0.28)	1.82	0.35	5.85	8.98	6.48
(1.50)	(0.97)			Custom Benchmark	(0.58)	(1.52)	(0.02)	(2.81)	3.51	6.98	5.35
× ,	(1.67)	(1.52)		Difference	0.54	1.25	1.83	3.16	2.34	2.00	1.13
(2.00)				Debt-Related Private Equity	0.82	0.68	9.19	11.43	12.74	15.88	13.17
(2.50)	(2.31) (2.3	1)		BarCap Corp HY (1 Qtr lag) + 300 bps	0.55	2.03	5.11	5.06	8.06	11.35	10.28
(3.00)				Difference	0.27	(1.35)	4.09	6.37	4.68	4.53	2.89
	come credit ruled credit	Funds ed PE	Debt	Real Estate-Debt	(0.43)	(0.63)	5.96	6.83	10.26		
	ne crade ichigh reifed	de Relate	tate	Barclays CMBS 2.0 Baa + 100 (Qtr lag)	0.18	0.05	8.00	10.24	9.20		
	thent public allive antedr.	Dept Real		Difference	(0.61)	(0.67)	(2.03)	(3.41)	1.06		
~	Nestnent Grade Credit Public High Vield Credit A			Total Income	(0.34)	(0.17)	1.79	1.96	6.38	5.09	6.49
	Cree			Benchmark	(0.88)	(0.97)	0.02	(0.98)	3.72	2.90	4.68
	Portfolio Benchn	nark		Difference	0.53	0.80	1.78	2.93	2.66	2.19	1.82



Difference

0.04

0.20

1.93

1.18

1.41

1.05

Difference

1.11