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Scott C. Evans  
Chief Investment Officer

SCOTT M. STRINGER  
COMPTROLLER

## MEMORANDUM

TO: Trustees  
New York City Employees' Retirement System

FROM: Scott C. Evans

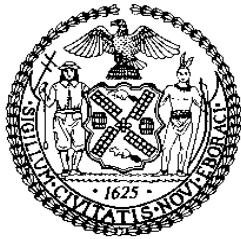
DATE: September 15, 2015

RE: NYC Employees' Retirement System Investment Meeting –  
September 22, 2015

Enclosed is a copy of the **public agenda** for the September 22, 2015 Investment Meeting. The meeting will be held at 335 Adams Street - Suite 2200, Brooklyn, N.Y., (beginning at 9:30am).

Please remember to bring your **Quarterly Performance Overview book** with you to the meeting, it will be delivered to you.

If you have questions about any agenda item, please contact me at (212) 669-8318.



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Scott M. Stringer  
COMPTROLLER

## NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM

### INVESTMENT MEETING

SEPTEMBER 22, 2015

LOCATION:  
335 Adams Street, Suite 2200  
Brooklyn, N.Y.

# NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM

## INVESTMENT MEETING

SEPTEMBER 22, 2015

## PUBLIC AGENDA

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I.     Performance Reviews: (30 Minutes)	
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## PUBLIC AGENDA

## I. Performance Reviews:

## QUARTERLY REPORTS

**Quarterly Review/Annual Review  
(To be distributed)**

## ETI Quarterly Report

# NYCERS Pension Fund - Economically Targeted Investments Quarterly Report

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## Public/Private Apartment Rehabilitation Program (PPAR)

Lenders*	BOA		CCD		CFSB		CPC		JPM		LIIF		NCBCI		NHS		Wells Fargo		LISC			
Contractual Commitment	\$80.00 MM		\$40.00 MM		\$10.00 MM		\$290.00 MM		\$145.00 MM		\$25.00 MM		\$17.00 MM		\$3.00 MM		\$70.00 MM		\$12.00 MM			
Current Market Value	\$28.84 MM		\$14.99 MM		\$2.61 MM		\$157.86 MM		\$56.89 MM		\$5.73 MM		\$2.07 MM		\$1.20 MM		\$0.00 MM		\$0.00 MM			
<b>Commitments 2Q 15 (included in total)</b>	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units		
Bronx	\$0	0	\$2,069,417	66	\$0	0	\$7,574,340	343	\$12,375,418	448	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0		
Brooklyn	0	0	868,000	50	0	0	1,314,950	41	0	0	0	0	0	0	0	0	0	0	0	0		
Manhattan	0	0	0	0	0	0	6,833,249	325	1,188,720	54	0	0	0	0	0	0	13,583,736	103	0	0		
Queens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Staten Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Outside of NYC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>\$0</b>	<b>0</b>	<b>\$2,937,417</b>	<b>116</b>	<b>\$0</b>	<b>0</b>	<b>\$15,722,539</b>	<b>709</b>	<b>\$13,564,138</b>	<b>502</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$13,583,736</b>	<b>103</b>	<b>\$0</b>	<b>0</b>		
<b>Delivered 2Q 15 (included in total)</b>	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units		
Bronx	\$0	0	\$2,694,800	86	\$0	0	\$0	0	\$4,089,600	185	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0		
Brooklyn	0	0	0	0	0	0	980,310	35	0	0	0	0	0	0	0	0	0	0	0	0		
Manhattan	0	0	0	0	0	0	2,545,280	133	0	0	0	0	0	0	0	0	0	0	0	0		
Queens	0	0	0	0	0	0	0	0	1,296,000	96	0	0	0	0	0	0	0	0	0	0	0	
Staten Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Outside of NYC	0	0	0	0	0	0	933,160	21	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>\$0</b>	<b>0</b>	<b>\$2,694,800</b>	<b>86</b>	<b>\$0</b>	<b>0</b>	<b>\$4,458,750</b>	<b>189</b>	<b>\$5,385,600</b>	<b>281</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>		
<b>Total Commitments</b>	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units		
Bronx	\$4,725,000	60	\$4,888,159	193	\$0	0	\$21,271,304	989	\$48,885,535	1,176	\$986,700	74	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
Brooklyn	6,822,633	112	868,000	50	0	0	25,124,264	1,179	3,957,551	151	4,184,388	251	0	0	0	0	0	0	0	0	0	0
Manhattan	6,048,000	100	0	0	0	0	30,150,106	1,268	7,654,391	286	5,740,214	338	0	0	0	0	13,583,736	103	2,252,832	90		
Queens	1,620,000	54	0	0	0	0	10,880,580	406	0	0	0	0	0	0	0	0	0	0	0	0	0	
Staten Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,260,000	67	0	0	0	
Outside of NYC	1,606,500	39	0	0	0	0	8,097,090	186	5,548,882	122	0	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>\$20,822,133</b>	<b>365</b>	<b>\$5,756,159</b>	<b>243</b>	<b>\$0</b>	<b>0</b>	<b>\$95,523,344</b>	<b>4,028</b>	<b>\$66,046,360</b>	<b>1,735</b>	<b>\$10,911,302</b>	<b>663</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$14,843,736</b>	<b>170</b>	<b>\$2,252,832</b>	<b>90</b>		
<b>Historical Investments</b>	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units		
Bronx	\$13,588,893	1,216	\$6,124,800	452	\$0	0	\$107,816,617	6,918	\$43,959,584	1,776	\$527,001	43	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
Brooklyn	1,909,395	88	3,962,323	252	0	0	113,850,975	4,546	23,607,913	676	2,684,121	245	0	0	660,425	7	0	0	0	0	0	0
Manhattan	1,189,310	48	3,701,658	283	3,223,614	197	89,551,049	5,034	45,657,797	1,409	2,759,905	122	1,995,989	123	504,891	15	0	0	0	0	0	0
Queens	13,553,136	239	800,000	54	0	0	20,757,831	793	16,091,260	687	0	0	0	0	0	0	0	0	0	0	0	
Staten Island	0	0	0	0	0	0	260,000	8	1,282,000	35	0	0	0	0	0	0	0	0	0	0	0	
Outside of NYC	0	0	0	0	0	0	7,385,330	238	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>\$30,240,734</b>	<b>1,591</b>	<b>\$14,588,781</b>	<b>1,041</b>	<b>\$3,223,614</b>	<b>197</b>	<b>\$339,621,802</b>	<b>17,537</b>	<b>\$130,598,554</b>	<b>4,583</b>	<b>\$5,971,027</b>	<b>410</b>	<b>\$1,995,989</b>	<b>123</b>	<b>\$1,165,316</b>	<b>22</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>		

\*Lenders :

Bank of America      Citibank Community Development      Carver Federal Savings Bank      The Community Preservation Corp      JP Morgan Chase      Low Income Investment Fund      NCB Capital Impact      Neighborhood Housing Service

Wells Fargo      Local Initiatives Support Corp

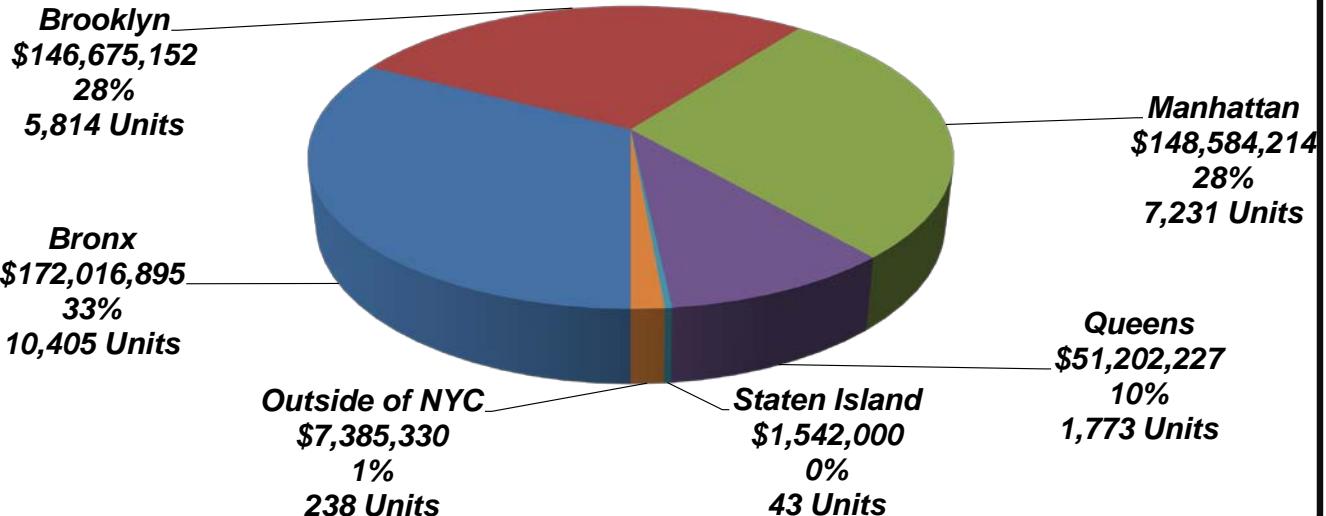
# NYCERS Pension Fund - Economically Targeted Investments Quarterly Report

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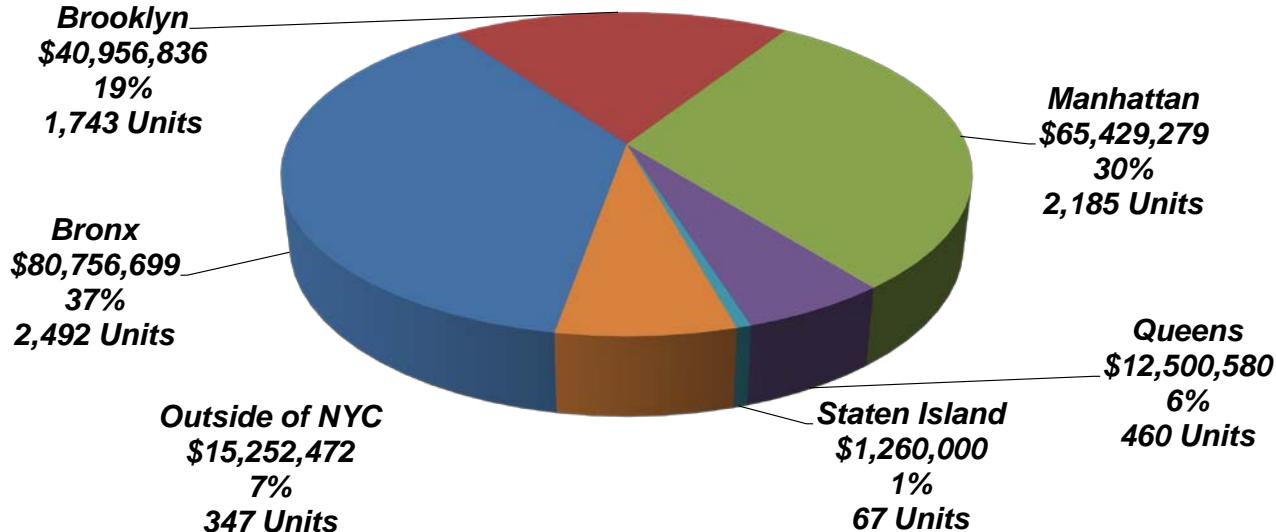
## Public/Private Apartment Rehabilitation Program (PPAR)

Lenders*	All Lender Totals	
Contractual Commitment	\$692.00 MM	
Current Market Value	\$270.19 MM	
<u>Commitments 2Q 15 (included in total)</u>	Dollars	Units
Bronx	\$22,019,175	857
Brooklyn	2,182,950	91
Manhattan	21,605,705	482
Queens	0	0
Staten Island	0	0
Outside of NYC	0	0
Total	\$45,807,829	1,430
<u>Delivered 2Q 15 (included in total)</u>		
Bronx	\$6,784,400	271
Brooklyn	980,310	35
Manhattan	2,545,280	133
Queens	1,296,000	96
Staten Island	0	0
Outside of NYC	933,160	21
Total	\$12,539,150	556
<u>Total Commitments</u>		
Bronx	\$80,756,699	2,492
Brooklyn	40,956,836	1,743
Manhattan	65,429,279	2,185
Queens	12,500,580	460
Staten Island	1,260,000	67
Outside of NYC	15,252,472	347
	\$216,155,867	7,294
<u>Historical Investments</u>		
Bronx	\$172,016,895	10,405
Brooklyn	146,675,152	5,814
Manhattan	148,584,214	7,231
Queens	51,202,227	1,773
Staten Island	1,542,000	43
Outside of NYC	7,385,330	238
Total	\$527,405,818	25,504

### *Historical Investments Since Inception All PPAR Lenders*



### *Current Commitments All PPAR Lenders*



# NYCERS Pension Fund - Economically Targeted Investments Quarterly Report

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## AFL-CIO Housing Investment Trust (HIT)

Market Value \$236.04 million\*

NYC Community Investment Initiative (NYCII)

### NYCII Phase II 2006-2013

#### Multifamily Investments Detail

Borough	Investments		Housing Units	
	2Q Investments	Since Inception	2Q Housing Units	Since Inception
Bronx	\$0	\$52,827,900	0	802
Brooklyn	0	103,890,446	0	5,616
Manhattan	0	174,075,200	0	926
Queens	0	17,760,000	0	1,260
Staten Island	0	6,414,554	0	693
Outside NYC	0	100,000,000	0	137
Total	\$0	\$454,968,100	0	9,434
Grand Total NYCII Phase II		\$454,968,100		9,434

### NYCII Phase I 2002-2005

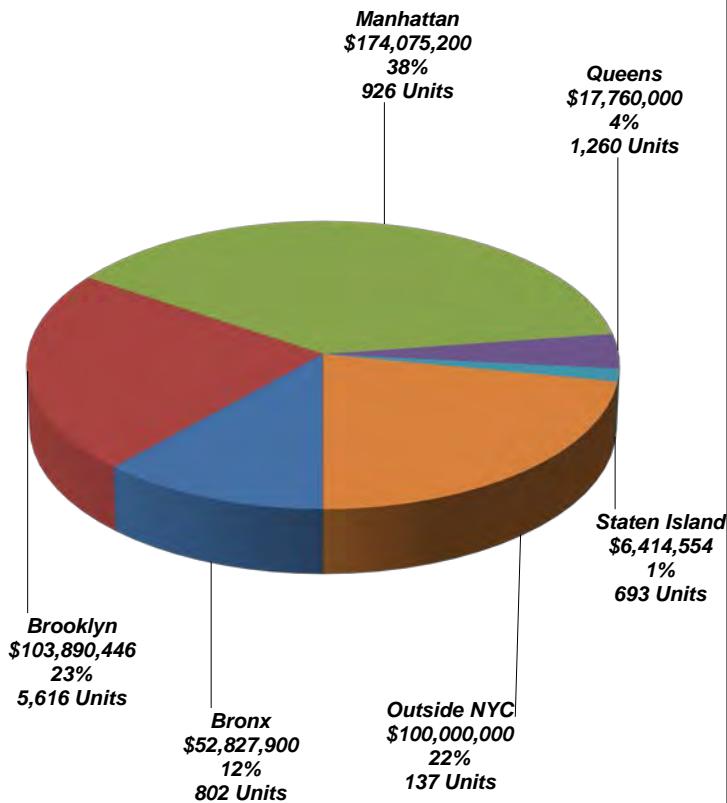
	Dollars	Units	Member Loans	Total All NYC PF's
Multifamily Investments	\$249,123,500	12,337	n/a	n/a
HIT Home Investments	348,300,563	n/a	131	446
Total NYCII Phase I	\$597,424,063	12,337	131	446

### NYCII Phases I & II

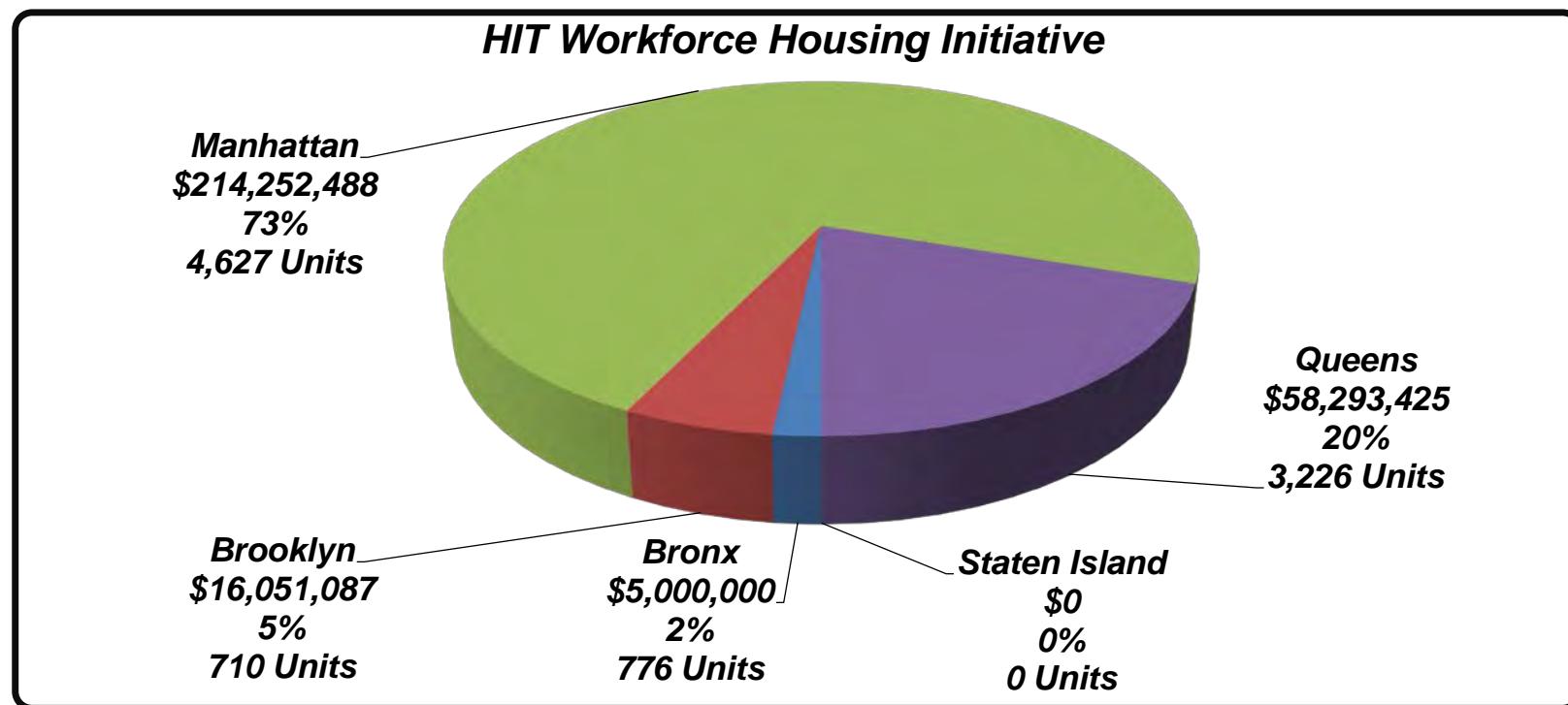
	Dollars	Units	Member Loans	Total All NYC PF's
Multifamily Investments	\$704,091,600	21,771	n/a	n/a
HIT Home Investments	2,899,899,500	n/a	131	446
Grand Total NYCII Phases I & II	\$3,603,991,100	21,771	131	446

\*Interest is reinvested

## HIT Multifamily Investments



AFL-CIO Housing Investment Trust (HIT) NYC Workforce Housing Initiative					
Investments From 2009 Through Q2 2015					
Workforce Investments Detail					
Borough	2Q Investments	Investments Since Inception	2Q Housing Units	Housing Units Since Inception	
Bronx	\$0	\$5,000,000	0	776	
Brooklyn	0	16,051,087	0	710	
Manhattan	0	214,252,488	0	4,627	
Queens	0	58,293,425	0	3,226	
Staten Island	0	0	0	0	
Total	\$0	\$293,597,000	0	9,339	



# NYCERS Pension Fund - Economically Targeted Investments Quarterly Report

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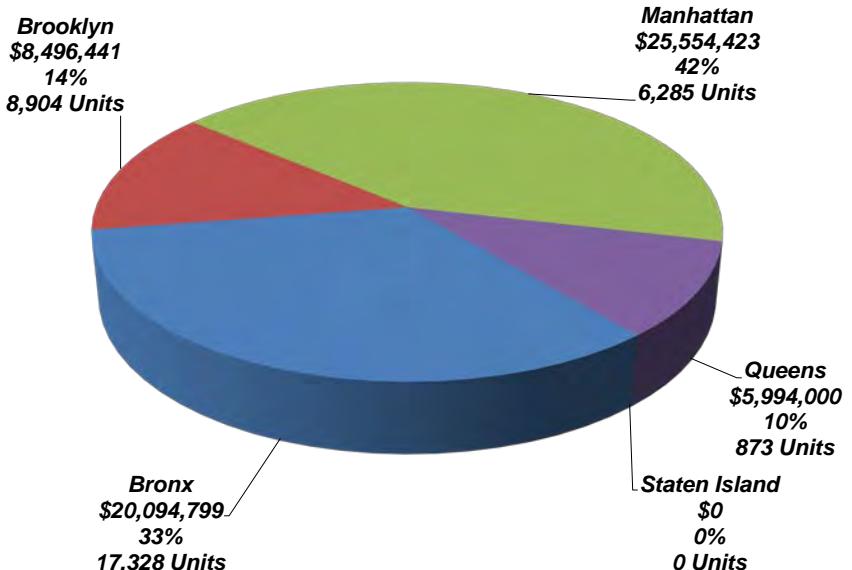
## ACCESS CAPITAL STRATEGIES (Since Inception 2/1/07)

\$108 million Allocated (36% of total account) Market Value \$123.56 million				
<u>Multifamily Investments Detail</u>				
	<u>2Q</u>	<u>\$ Invested<sup>1</sup></u>	<u>Total</u>	<u>Units<sup>2</sup></u>
Bronx		\$0	\$20,094,799	0
Brooklyn		0	\$8,496,441	8,904
Manhattan		0	\$25,554,423	6,285
Queens		0	\$5,994,000	873
Staten Island		0	\$0	0
<b>Total NYCERS Multifamily Investments</b>		<b>0</b>	<b>\$60,139,663</b>	<b>0</b>
<b>Multifamily Total All Systems</b>		<b>0</b>	<b>\$167,054,619</b>	<b>0</b>
<u>Single Family Investments Detail</u>				
	<u>2Q</u>	<u>\$ Invested</u>	<u>Units</u>	<u>Total</u>
Bronx		0	\$12,350,932	200
Brooklyn		0	\$35,193,549	501
Manhattan		0	\$3,074,115	39
Queens		0	\$50,727,436	654
Staten Island		0	\$28,364,169	371
<b>Total NYCERS Single Family Investment</b>		<b>0</b>	<b>\$129,710,200</b>	<b>0</b>
<b>Single Family Total All Systems</b>		<b>0</b>	<b>\$360,306,111</b>	<b>0</b>
<u>Other Investments Detail</u>				
	<u>2Q</u>	<u>\$ Invested</u>	<u>Units</u>	<u>Total</u>
Bronx		0	\$243,000	1
Brooklyn		0	\$1,940,545	8
Manhattan		0	\$875,846	5
Queens		0	\$195,636	3
Staten Island		0	\$0	0
<b>Total NYCERS Other Investments</b>		<b>0</b>	<b>\$3,255,026</b>	<b>0</b>
<b>Other Investments Total All Systems</b>		<b>0</b>	<b>\$9,041,740</b>	<b>0</b>
<b>Grand Total NYCERS</b>		<b>\$0</b>	<b>\$193,104,889</b>	
<b>Grand Total All Systems</b>		<b>\$0</b>	<b>\$536,402,470</b>	

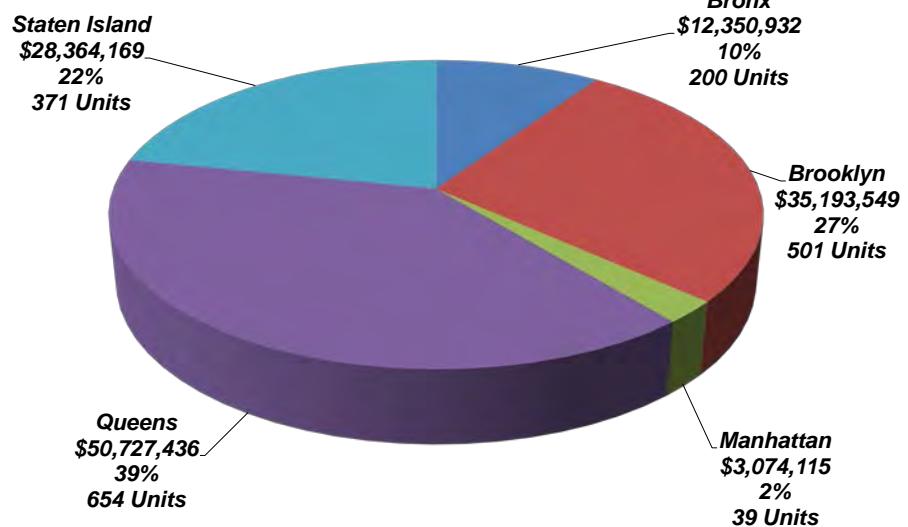
<sup>1</sup> Certain bond investment amounts are allocated pro rata across boroughs based upon unit count.

<sup>2</sup> If not indicated otherwise, superintendent units are allocated based on building size.

## Access Multifamily Investments Since Inception NYCERS



## Access Single Family Investment Since Inception NYCERS



## Private Equity Quarterly Report



## Private Equity Monitoring Report

For the period ended March 31, 2015

Report Prepared For:

New York City Employees' Retirement System



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## Important Information

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All valuations are based on current values provided by the general partners of the Underlying Funds and may include both realized and unrealized investments. Due to the inherent uncertainty of valuation, the stated value may differ significantly from the value that would have been used had a ready market existed for all of the portfolio investments, and the difference could be material. The long-term value of these investments may be lesser or greater than the valuations provided.

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**Past performance is not necessarily indicative of future results. Actual performance may vary.**

## I. Executive Summary

The New York City Employees' Retirement System ("NYCERS") established the Alternative Investment Program (the "Program") on January 1, 1997 on behalf of its beneficiaries to participate in attractive long-term investment opportunities and to provide diversification to its overall pension investment portfolio.

StepStone Group LP ("StepStone") was engaged by NYCERS on September 1, 2011 to provide private equity advisory services for prospective investment opportunities and monitoring and reporting services for existing and new investments.

Since inception through March 31, 2015, the Program has committed US\$7.6 billion to 167 partnership investments (the "Portfolio"). This quarterly monitoring report covers the performance of the Portfolio as of March 31, 2015 Pro-Forma for the Secondary Sale as well as significant activity that occurred during the first quarter of 2015.

### Performance Summary

US\$ in millions	March 31, 2015	December 31, 2014	March 31, 2014	Quarterly Change	Yearly Change
Number of Managers	105	104	99	1	6
Number of Investments	167	165	155	2	12
Committed Capital <sup>1</sup>	\$7,632.5	\$7,544.8	\$7,181.8	\$87.7	\$450.7
Contributed Capital	\$6,533.8	\$6,390.1	\$5,840.0	\$143.7	\$693.8
Distributed Capital <sup>2</sup>	\$4,662.8	\$4,484.8	\$3,868.6	\$178.0	\$794.2
Market Value <sup>2</sup>	\$4,163.3	\$4,086.9	\$3,883.0	\$76.5	\$280.4
Total Value	\$8,826.1	\$8,571.6	\$7,751.5	\$254.5	\$1,074.6
Total Gain/(Loss)	\$2,292.3	\$2,181.5	\$1,911.5	\$110.8	\$380.8
Unfunded Commitment <sup>3</sup>	\$1,976.1	\$2,017.5	\$2,152.6	(\$41.4)	(\$176.5)
Total Exposure <sup>4</sup>	\$6,139.4	\$6,104.3	\$6,035.6	\$35.1	\$103.9
DPI <sup>5</sup>	0.71x	0.70x	0.66x	0.01x	0.05x
TVM <sup>6</sup>	1.35x	1.34x	1.33x	0.01x	0.02x
IRR <sup>7</sup>	9.4%	9.4%	9.4%	+ 6 bps	+ 5 bps
TVM Net of StepStone Fees <sup>8</sup>	1.35x	1.34x	1.33x	0.01x	0.02x
IRR Net of StepStone Fees <sup>8</sup>	9.4%	9.3%	9.3%	+ 5 bps	+ 5 bps

<sup>1</sup> Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations.

<sup>2</sup> Please note that the Distributions and Market Value are presented Pro-Forma for the sale of 11 partnership investments in secondary transactions that closed during the first half of 2012.

<sup>3</sup> Unfunded Commitment represents the aggregate remaining commitments to partnership investments. Please note that the Unfunded Commitment is presented Pro-Forma for the sale of 11 partnership investments in secondary transactions that closed during the first half of 2012.

<sup>4</sup> Total Exposure represents the sum of Market Value and Unfunded Commitment.

<sup>5</sup> DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital.

<sup>6</sup> TVM, or Total Value Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVM is calculated as Total Value, which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital.

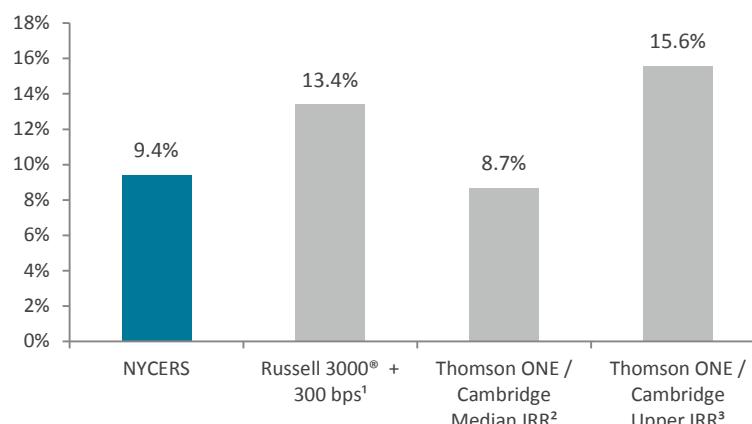
<sup>7</sup> IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund manager's fees, expenses and carried interest.

<sup>8</sup> TVM and IRR Net of StepStone fees represent TVM and IRR net of fees paid by NYCERS to StepStone.

## Portfolio Performance vs. Benchmarks

The Portfolio's performance is measured against a dollar-weighted public benchmark, which produced the return that would have been earned if NYCERS's private equity cash flows were invested in the Russell 3000® Index<sup>1</sup> plus a 300 basis point illiquidity premium (*the Opportunity Cost Benchmark*).

The following graph illustrates Portfolio IRR performance versus benchmarks as of March 31, 2015.



<sup>1</sup>Benchmark is a dollar-weighted Long-Nickels calculation of quarterly changes in the Russell 3000® Index. Russell Investment Group is the source and owner of the trademark, service marks and copyrights related to the Russell Indexes. Russell® is a trademark of Russell Investment Group.

<sup>2</sup> Benchmark is for informational purposes only and is NOT part of the Program's Policy Benchmarks. Benchmark is provided by Thomson ONE/Cambridge and reflects U.S. All Private Equity Funds Median Quartile IRR as of March 31, 2015 for funds with vintage years 1998 to 2015. Note: Thomson ONE/Cambridge data is continuously updated and is therefore subject to change.

<sup>3</sup>Benchmark is for informational purposes only and is NOT part of the Program's Policy Benchmarks. Benchmark is provided by Thomson ONE/Cambridge and reflects U.S. All Private Equity Funds Upper Quartile IRR as of March 31, 2015 for funds with vintage years 1998 to 2015. Note: Thomson ONE/Cambridge data is continuously updated and is therefore subject to change.

## Portfolio Diversification

### By Strategy

As of March 31, 2015 (US\$ in millions)	Market Value		Unfunded Commitment		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
Buyout	2,581.1	62.0%	1,298.5	65.7%	3,879.6	63.2%
Growth Equity	214.4	5.2%	92.1	4.7%	306.5	5.0%
Special Situations	292.2	7.0%	167.8	8.5%	460.1	7.5%
Energy	220.0	5.3%	30.3	1.5%	250.3	4.1%
Secondaries	278.9	6.7%	283.9	14.4%	562.8	9.2%
Co-Investment	74.2	1.8%	55.9	2.8%	130.1	2.1%
Other	502.4	12.1%	47.6	2.4%	550.0	9.0%
<b>Total</b>	<b>4,163.3</b>	<b>100.0%</b>	<b>1,976.1</b>	<b>100.0%</b>	<b>6,139.4</b>	<b>100.0%</b>

### By Fund Geographic Focus

As of March 31, 2015 (US\$ in millions)	Market Value		Unfunded Commitment		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
North America	3,177.2	76.3%	1,301.9	65.9%	4,479.1	73.0%
Global	657.4	15.8%	601.6	30.4%	1,259.1	20.5%
Western Europe	293.5	7.1%	71.8	3.6%	365.4	6.0%
Rest of World	35.2	0.8%	0.8	0.0%	35.9	0.6%
<b>Total</b>	<b>4,163.3</b>	<b>100.0%</b>	<b>1,976.1</b>	<b>100.0%</b>	<b>6,139.4</b>	<b>100.0%</b>

Prior to a fund being 75% drawn, fund geographic focus is based on the GP-stated geographic strategy. Subsequent to a fund being 75% drawn, fund geographic focus is based on actual portfolio company exposure by total invested capital. Funds with less than 75% of total invested capital allocated to one geographic region are classified as Global.

## II. Market Overview

### Executive Summary

Central banks across the globe took center stage in the first quarter, with global divergence remaining the predominant theme of financial markets. The US economy continued to demonstrate modest gains, but stock market volatility spiked, triggered by uncertainty surrounding the timing of Federal Reserve interest rate increases and concerns about corporate earnings due to the continued strength of the US dollar. Despite the S&P 500 Index hitting record highs in February, sentiment soured in March, and the index closed the quarter with a modest 1% return. In this environment, non-US markets rallied. The European Central Bank embarked on its long-anticipated quantitative easing program, involving €60 billion of bond purchases a month until at least September 2016. The size of the package surpassed the market's expectations and buoyed investor optimism, with the MSCI Europe index rising 12% in local currency and 3% in dollar terms. The Japanese stock market rose 10% in the first quarter, largely driven by expectations of further easing by the Bank of Japan. Emerging market performance varied by country, with the MSCI Emerging Markets index increasing 2%. Chinese and Russian equities rallied as both central banks cut interest rates and embarked on measures to boost economic growth. Conversely, Latin American emerging markets suffered due to weaker commodity prices and ongoing corruption scandals.

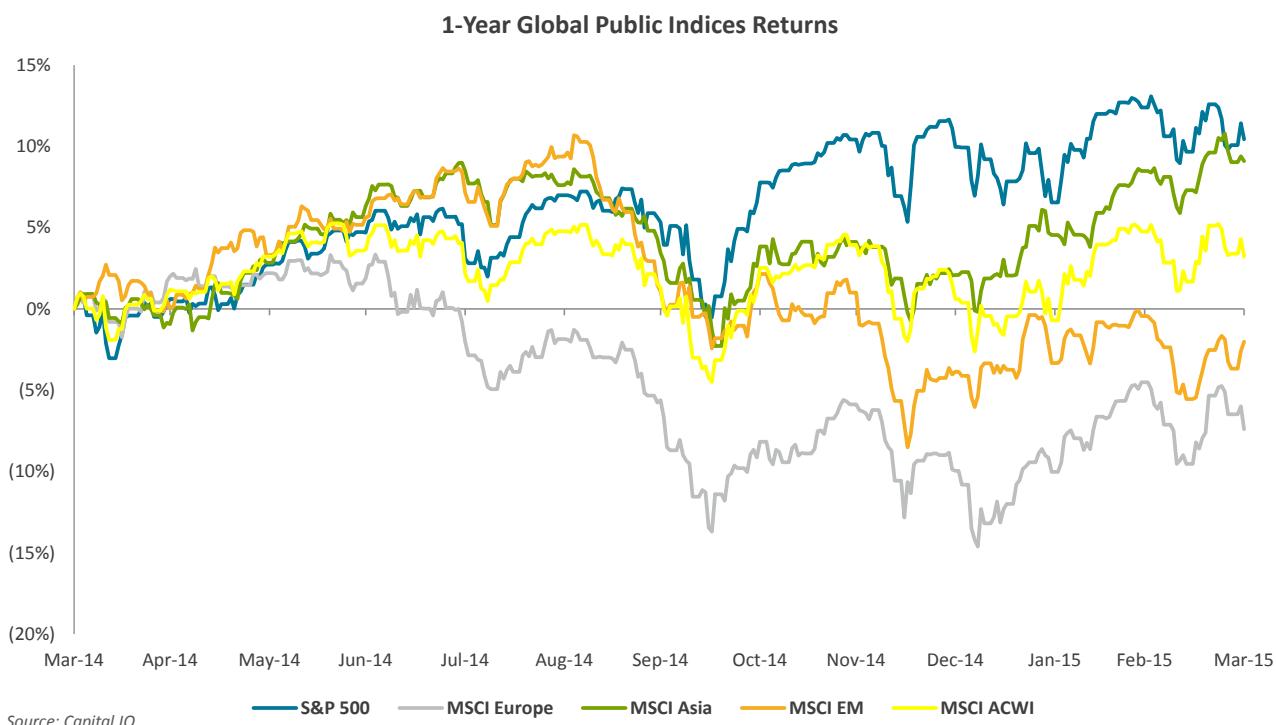
In private markets, leveraged buyout loan activity remained robust. US LBO debt volume totaled US\$20.3 billion in the first quarter, a 27% increase from the prior quarter, and above the 10-year quarterly average of US\$18.2 billion. According to data from S&P, purchase price multiples for US LBOs rose to 9.9x EBITDA in the first quarter, compared to the fourth quarter's multiple of 9.5x and the annual weighted multiple of 9.7x throughout 2014. Average debt multiples of large corporate US LBO loans remained flat quarter-over-quarter at 5.6x EBITDA. Equity contributions for US LBOs also remained relatively flat, from 39.6% in the fourth quarter of 2014 to 39.4% in the first quarter of 2015. Private equity fundraising activity fell 11% quarter-over-quarter, while private equity investment activity fell 25%. The widening capital overhang and availability of cheap debt has created a highly competitive environment characterized by increasing difficulty in closing deals.

Following an active year in 2014, the IPO market slowed dramatically in the first quarter of 2015. NYSE and NASDAQ IPO transaction volume reached US\$2.7 billion for 22 private equity-backed companies in the first quarter, representing a 74% decrease in value compared to the prior quarter. This drop is likely due to cheap and widely available private funding at high valuations, particularly for technology companies. M&A volume totaled US\$229.2 billion in deals closed during the first quarter, up 51% from the fourth quarter of 2014. The increase in M&A volume was largely driven by a single deal, Actavis PLC's US\$72.9 billion acquisition of Botox manufacturer Allergan Inc., representing 32% of the quarter's aggregate M&A volume.

## Capital Markets Overview

### Public Equity Markets

US equities lagged international developed and emerging market equities in the first quarter. The S&P 500 Total Return Index returned a modest 1.0% during the first three months of 2015, notching its ninth-consecutive quarterly gain. International developed and emerging market stocks rallied on central bank-driven optimism, with the MSCI Asia, MSCI Europe, and MSCI Emerging Markets indices returning 6.9%, 2.9%, and 1.9% in USD terms during the quarter, respectively.



The following table shows the returns of three MSCI indices and the S&P 500, as well as the S&P 500 Total Return Index, over various time horizons from three months to ten years through March 31, 2015. Returns for time periods over one year are annualized. Over the last three years, the U.S. markets have significantly outperformed the Asian, European, and emerging markets.

Regional Indices					
	3 Mo	1 Yr	3 Yr	5 Yr	10 Yr
MSCI Asia	6.9%	9.1%	5.7%	3.7%	3.9%
MSCI Europe	2.9%	(7.4%)	6.2%	3.3%	1.9%
MSCI EM	1.9%	(2.0%)	(2.2%)	(0.7%)	5.9%
S&P 500	0.4%	10.4%	13.7%	12.1%	5.8%
S&P 500 Total Return*	1.0%	12.7%	16.1%	14.5%	8.0%

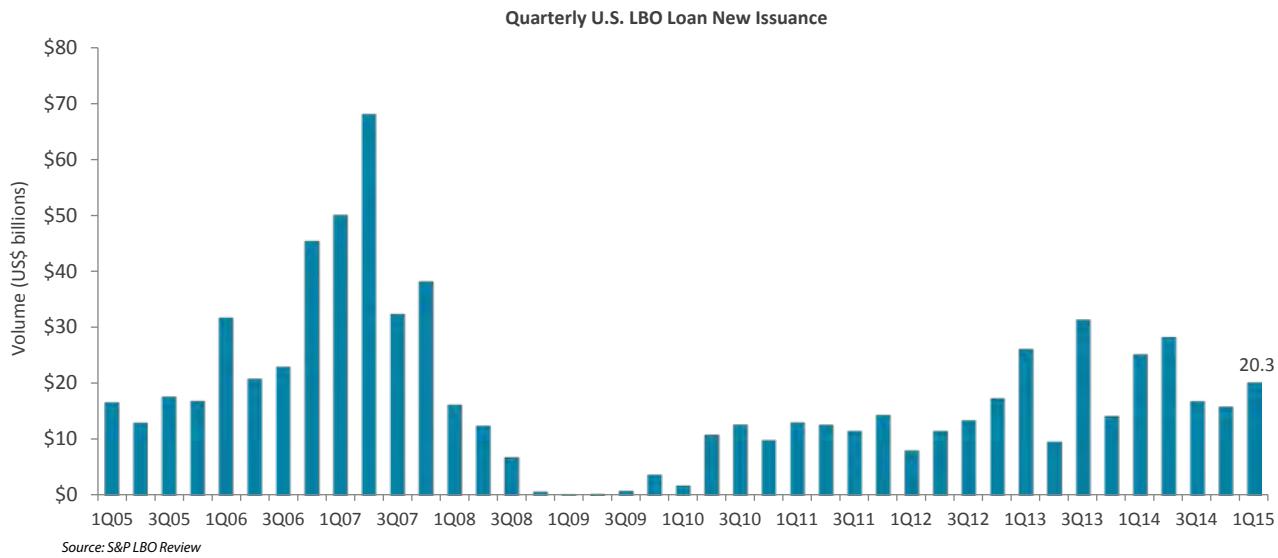
For the period ended March 31, 2015

\*Includes reinvestment of dividends.

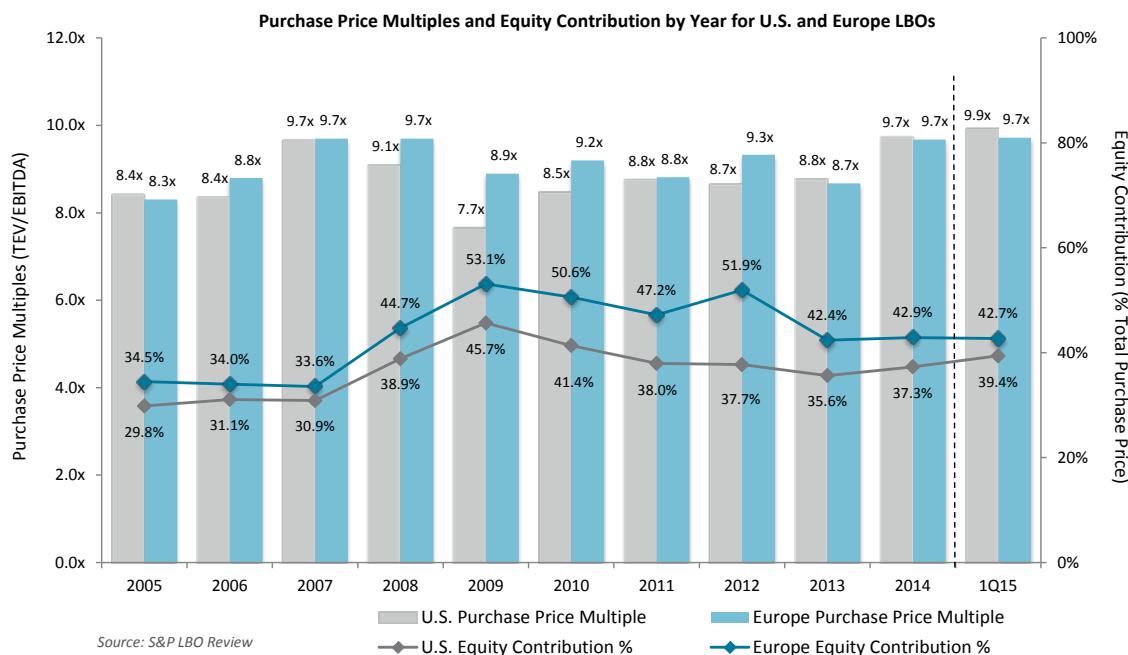
Source: Capital IQ

## Debt Markets

During the first quarter of 2015, U.S. LBO new loan issuance totaled US\$20.3 billion; this figure represents an increase of 27% from the prior quarter, and is 12% higher than the 10-year quarterly average of US\$18.2 billion. The following chart shows the quarterly volume of U.S. LBO new loan issuance for the past ten years.



In the first quarter, weighted average purchase price multiples for U.S. LBO deals increased to 9.9x total enterprise value ("TEV") to EBITDA, notably higher than the fourth quarter's multiple of 9.5x and the annual weighted multiple of 9.7x throughout 2014. Purchase price multiples for Europe LBOs remained flat at 9.7x. The average equity contribution for U.S. LBOs was 39.4% in the first quarter of 2015, in-line with the previous quarter's 39.6%. Similarly, the average equity contribution for European LBOs remained flat at 42.7%. The following chart compares purchase price multiples and equity contribution percentages for LBO deals in the U.S. and Europe.



## Private Equity Market Overview

### All Private Equity

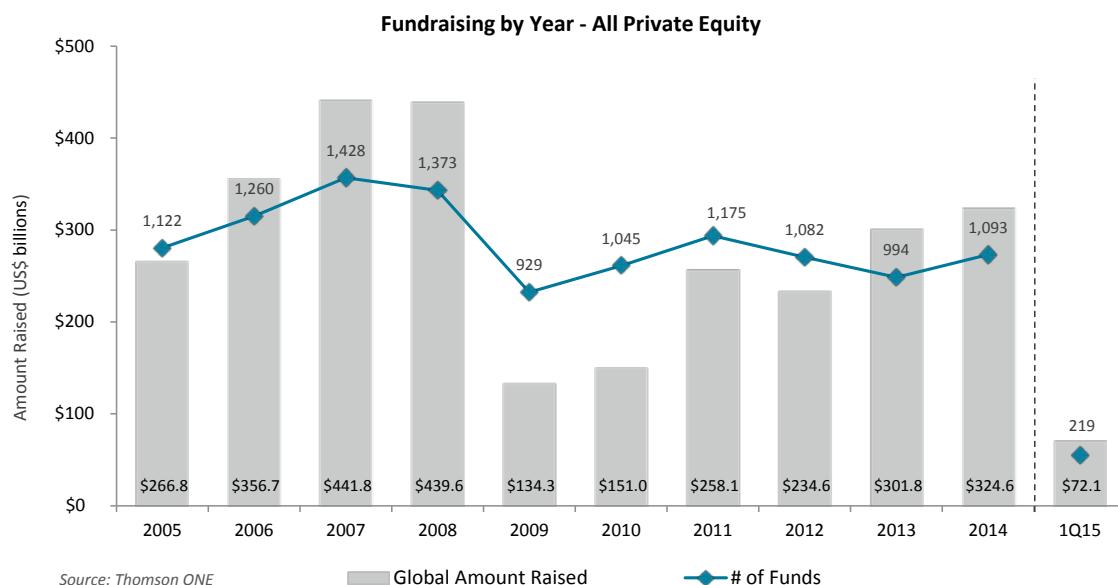
During the first quarter of 2015, the All Private Equity benchmark returned 0.4%, while the S&P 500 and S&P 500 Total Return gained 0.4% and 1.0%, respectively, during the same period. The Venture Capital sector increased 3.3%, helping to offset losses in Buyout and Mezzanine strategies. The table below shows the pooled Internal Rate of Return ("IRR") performance of global private equity investments by sector over various investment horizons from 3 months to 10 years through March 31, 2015. While Buyout and Mezzanine returns have fallen short of public markets in recent years, the Venture Capital sector has consistently outperformed the S&P 500 Total Return index over the past decade.

Sector	3 Mo	1 Yr	3 Yr	5 Yr	10 Yr
Small/Middle Buyouts (<\$3bn)	(0.5%)	6.6%	11.0%	12.5%	13.0%
Large Buyouts (>\$3bn)	(0.3%)	6.4%	13.6%	14.6%	11.1%
Mezzanine	(1.5%)	3.0%	8.2%	9.0%	8.6%
Venture Capital	3.3%	21.1%	17.3%	16.6%	11.0%
<b>All Private Equity</b>	<b>0.4%</b>	<b>7.9%</b>	<b>12.2%</b>	<b>13.2%</b>	<b>11.3%</b>

Source: Burgiss PrivateIQ

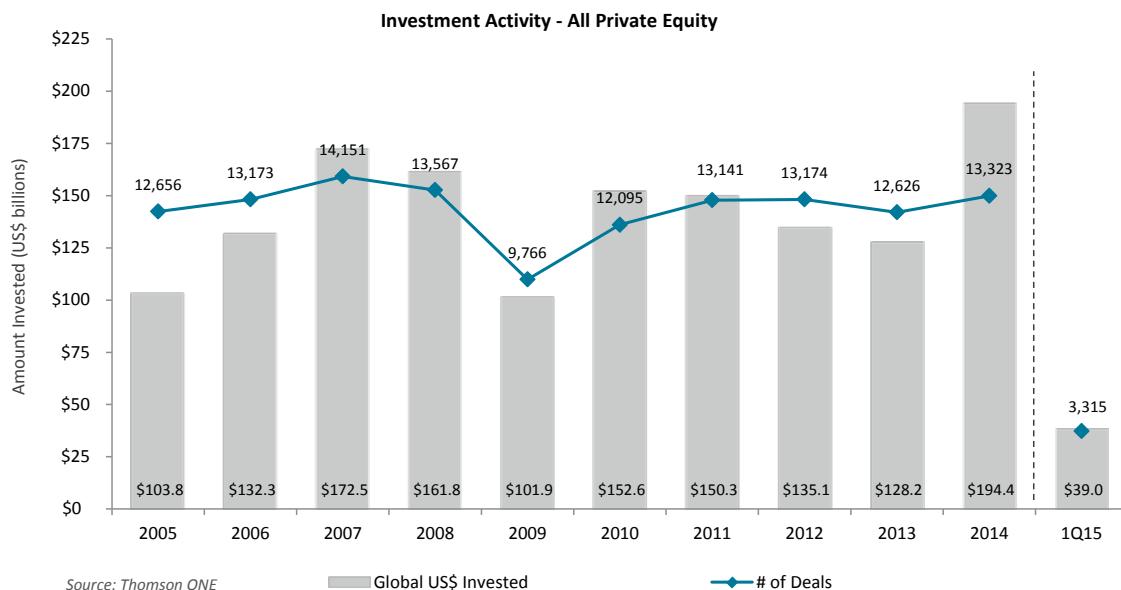
### Fundraising

Private equity fundraising totaled US\$72.1 billion in the first quarter of 2015, an 11% decrease from the prior quarter but in-line with the \$72.4 billion raised in the first quarter of 2014. Buyout fundraising fell 14% quarter-over-quarter, raising US\$44.0 billion, while Venture Capital fundraising increased 18%, raising US\$10.5 billion. Geographically, U.S. fundraising represented 73% of the total amount raised in the first quarter, while Europe, Asia, and the rest of the world accounted for 18%, 7%, and 2% of the total capital raised, respectively. The chart below shows private equity fundraising activity over the past ten years.

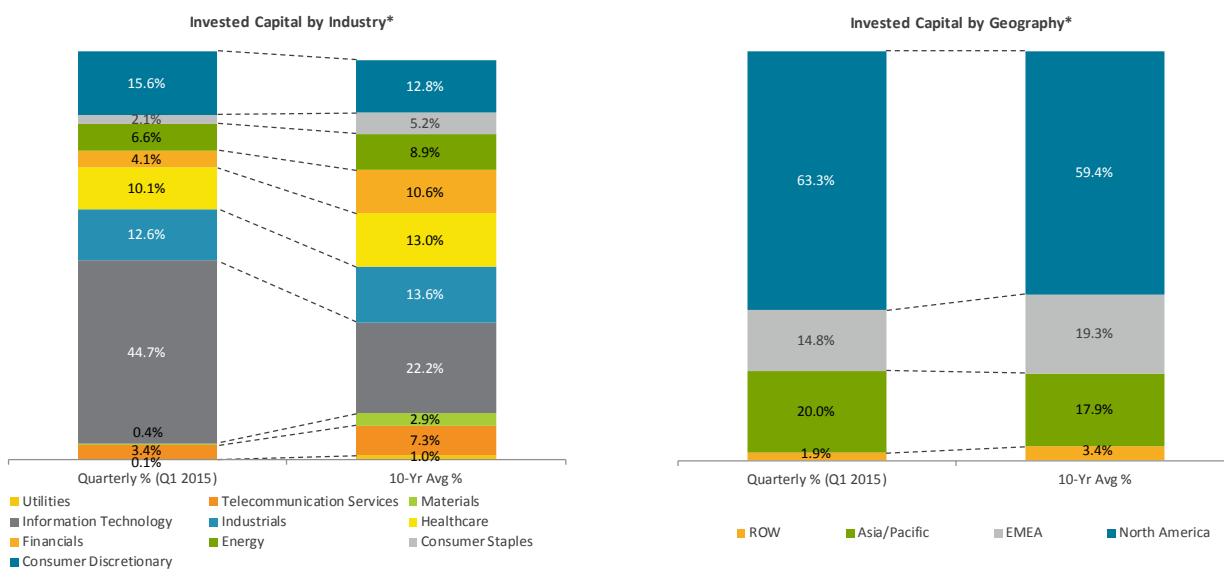


## Investment Activity

Private equity funds invested US\$39.0 billion during the first quarter, a decrease of 25% from the prior quarter. The largest deal during the first quarter belonged to the ride-hailing company Uber, which raised US\$2.6 billion in debt financing and Series E funding. The average investment size during the quarter decreased to US\$11.8 million, down 20% quarter-over-quarter.



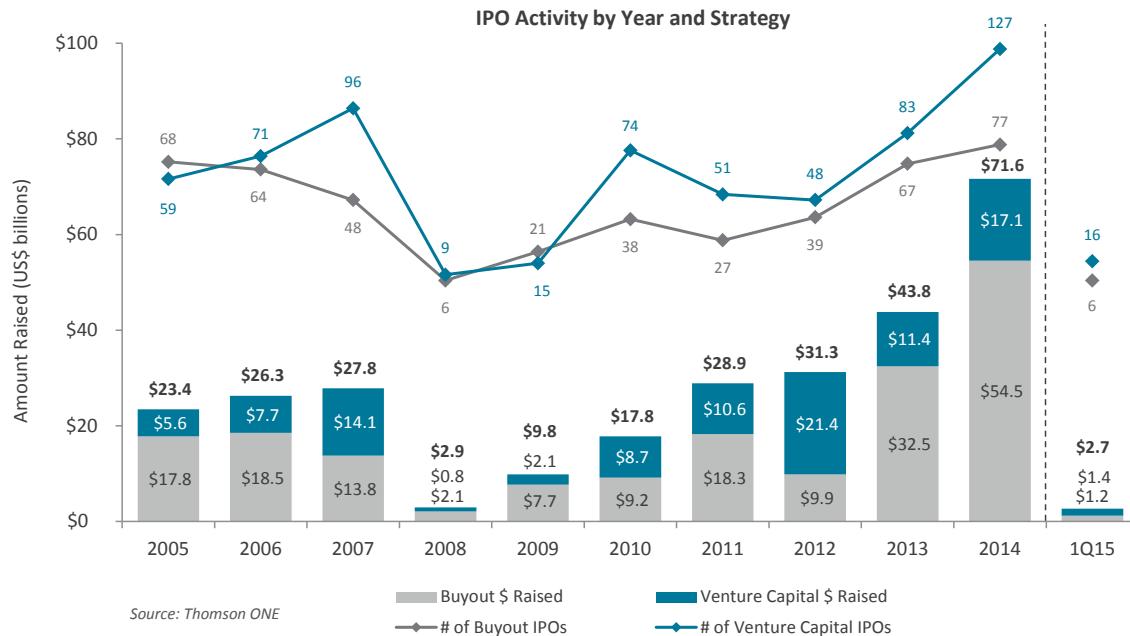
The graphs below depict the percentage of invested capital by industry and geography for the first quarter of 2015 and over the last ten years. The Information Technology sector attracted the most capital, accounting for US\$17.4 billion of transactions, or 45% of total capital invested during the first quarter by private equity firms, compared to a 10-year pro rata average of 22%. In the first quarter of 2015, investment activity in the North America region was above the historical average, representing 63% of total invested capital during the quarter compared to 59% over the last ten years.



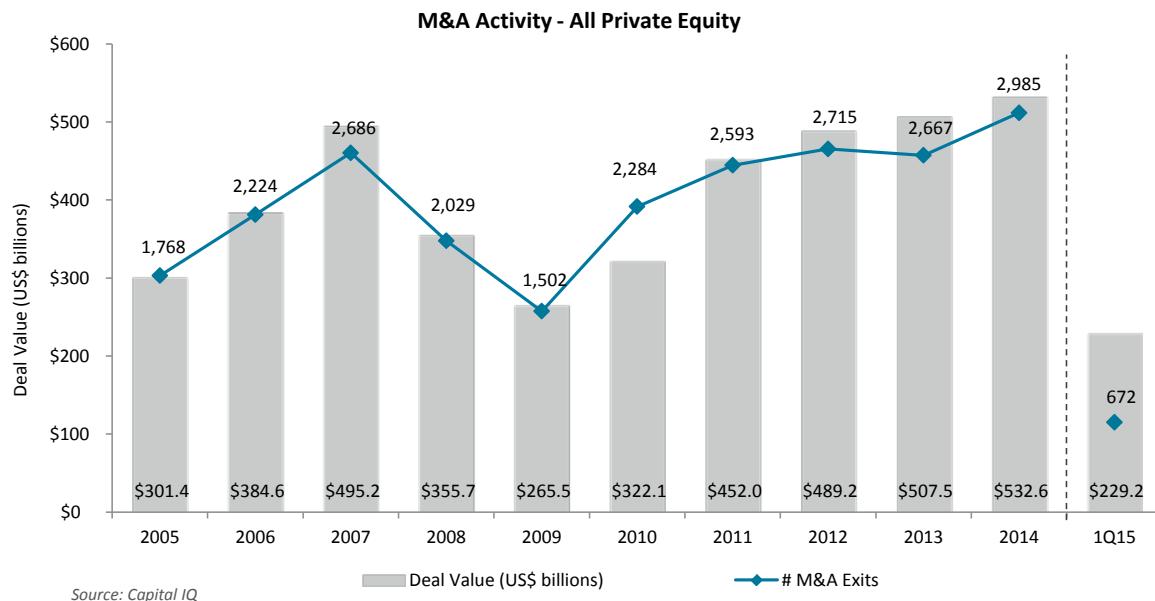
\*Note: Invested Capital is for all private equity from Q2 2005 – Q1 2015.

## Deal Environment

Following a record year in 2014, the IPO market slowed dramatically in the first quarter of 2015. During the first quarter, there were 22 private equity-backed IPOs which raised a total of US\$2.7 billion, compared to 52 IPOs which raised US\$10.3 billion in the previous quarter. The largest IPO of the first quarter was the web hosting company GoDaddy (NYSE:GDDY), which raised US\$520 million. The following graph shows the amount raised and the number of Buyout and Venture Capital IPOs on the NYSE and NASDAQ over the past ten years.



Private equity-backed Mergers and Acquisitions ("M&A") activity rose 51% quarter-over-quarter, with deal value totaling US\$229.2 billion. The largest deal of the quarter was Actavis PLC's US\$72.9 billion acquisition of Botox manufacturer Allergan Inc., representing 32% of the quarter's aggregate M&A volume.



### III. Portfolio Review

#### Quarterly Highlights

- Cash Flow Activity** – During the first quarter of 2015, the Portfolio made US\$143.7 million of contributions and received US\$178.0 million of distributions, for a net cash inflow of US\$34.4 million, compared to a net cash inflow of US\$73.9 million during the prior quarter and a net cash inflow of US\$84.9 million during the first quarter of 2014. Contributions decreased 12.8% from the prior quarter and increased 15.2% from the first quarter of 2014. The most recent four quarter average of the Program's contributions is US\$173.4 million. Distributions decreased 25.4% from the prior quarter and decreased 15.1% from the first quarter of 2014. The most recent four quarter average of the Program's distributions is US\$210.7 million.
- Recent Portfolio Activity** – During the first quarter of 2015, net of cash flow activity, the valuation of the Portfolio increased by US\$110.8 million, or 2.7%, from the prior quarter. The increase in Portfolio value is primarily attributable to strong performance of large buyout funds during the quarter, which generated a US\$29.2 million increase in valuation from the prior quarter-end. During the last twelve months, net of cash flow activity and Pro-Forma for the Secondary Sale, the valuation of the Portfolio increased by US\$380.8 million, or 10.1%, from the quarter ended March 31, 2014.
- New Investment Commitments** – During the first quarter of 2015, the Program closed on two new investment commitments, totaling US\$111.0 million.

<i>As of March 31, 2015 (US\$ in millions)</i>	<b>Month Closed</b>	<b>Sub-Strategy</b>	<b>Geographic Focus</b>	<b>Committed Capital</b>
American Securities Partners VII, L.P.	January 2015	Large Buyout	North America	\$ 80.0
Siris Partners III, L.P.	February 2015	Middle-Market Buyout	North America	31.0
<b>Total</b>				<b>\$ 111.0</b>

- Subsequent Investment Commitments** – Subsequent to quarter-end through August 25, 2015, the Program closed on six new investment commitments, totaling US\$330.8 million.

<i>As of August 25, 2015 (US\$ in millions)</i>	<b>Month Closed</b>	<b>Sub-Strategy</b>	<b>Geographic Focus</b>	<b>Committed Capital</b>
Valor Equity Partners III, L.P.	May 2015	Small Buyout	North America	\$ 10.0
Welsh, Carson, Anderson & Stowe XII, L.P.	June 2015	Large Buyout	North America	78.5
Bridgepoint Europe V	June 2015	Large Buyout	Western Europe	59.9
Bridgepoint Europe V Co-Invest	June 2015	Co/Direct Investment	Western Europe	17.4
Patriot Financial Partners II, L.P.	June 2015	Small Buyout	North America	7.5
EQT VII, L.P.	July 2015	Mega Buyout	Western Europe	157.4
<b>Total</b>				<b>\$ 330.8</b>

## Investment Performance

### Since Inception Performance

US\$ in millions	March 31, 2015	December 31, 2014	March 31, 2014	Quarterly Change	Yearly Change
<b>Active Investments</b>					
Number of Managers	93	92	88	1	5
Number of Investments	152	150	142	2	10
Committed Capital <sup>1</sup>	\$7,181.3	\$7,093.6	\$6,796.0	\$87.7	\$385.3
Contributed Capital	\$6,012.7	\$5,869.1	\$5,397.1	\$143.7	\$615.6
Distributed Capital <sup>2</sup>	\$4,044.2	\$3,866.1	\$3,394.7	\$178.0	\$649.5
Market Value <sup>2</sup>	\$4,163.3	\$4,086.9	\$3,883.0	\$76.5	\$280.4
Total Value	\$8,207.5	\$7,953.0	\$7,277.7	\$254.5	\$929.8
Total Gain/(Loss)	\$2,194.8	\$2,083.9	\$1,880.6	\$110.8	\$314.2
Unfunded Commitment <sup>3</sup>	\$1,976.1	\$2,017.5	\$2,152.6	(\$41.4)	(\$176.5)
Total Exposure <sup>4</sup>	\$6,139.4	\$6,104.3	\$6,035.6	\$35.1	\$103.9
DPI <sup>5</sup>	0.67x	0.66x	0.63x	0.01x	0.04x
TVM <sup>6</sup>	1.37x	1.36x	1.35x	0.01x	0.02x
IRR <sup>7</sup>	9.8%	9.7%	10.0%	+ 6 bps	- 23 bps
<b>Exited Investments</b>					
Number of Managers	13	13	11	-	2
Number of Investments	15	15	13	-	2
Committed Capital <sup>1</sup>	\$451.2	\$451.2	\$385.8	\$0.0	\$65.4
Contributed Capital	\$521.1	\$521.1	\$442.9	\$0.0	\$78.2
Distributed Capital <sup>2</sup>	\$618.6	\$618.6	\$473.8	\$0.0	\$144.8
Total Value	\$618.6	\$618.6	\$473.8	\$0.0	\$144.8
Total Gain/(Loss)	\$97.5	\$97.5	\$30.9	\$0.0	\$66.6
Unfunded Commitment <sup>3</sup>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
DPI <sup>5</sup>	1.19x	1.19x	1.07x	0.00x	0.12x
TVM <sup>6</sup>	1.19x	1.19x	1.07x	0.00x	0.12x
IRR <sup>7</sup>	5.6%	5.6%	2.0%	+ 0 bps	+ 354 bps
<b>Total Portfolio</b>					
Number of Managers	105	104	99	1	6
Number of Investments	167	165	155	2	12
Committed Capital <sup>1</sup>	\$7,632.5	\$7,544.8	\$7,181.8	\$87.7	\$450.7
Contributed Capital	\$6,533.8	\$6,390.1	\$5,840.0	\$143.7	\$693.8
Distributed Capital <sup>2</sup>	\$4,662.8	\$4,484.8	\$3,868.6	\$178.0	\$794.2
Market Value <sup>2</sup>	\$4,163.3	\$4,086.9	\$3,883.0	\$76.5	\$280.4
Total Value	\$8,826.1	\$8,571.6	\$7,751.5	\$254.5	\$1,074.6
Total Gain/(Loss)	\$2,292.3	\$2,181.5	\$1,911.5	\$110.8	\$380.8
Unfunded Commitment <sup>3</sup>	\$1,976.1	\$2,017.5	\$2,152.6	(\$41.4)	(\$176.5)
Total Exposure <sup>4</sup>	\$6,139.4	\$6,104.3	\$6,035.6	\$35.1	\$103.9
DPI <sup>5</sup>	0.71x	0.70x	0.66x	0.01x	0.05x
TVM <sup>6</sup>	1.35x	1.34x	1.33x	0.01x	0.02x
IRR <sup>7</sup>	9.4%	9.4%	9.4%	+ 6 bps	+ 5 bps

<sup>1</sup> Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations.

<sup>2</sup> Please note that the Distributions and Market Value are presented Pro-Forma for the sale of 11 partnership investments in secondary transactions that closed during the first half of 2012.

<sup>3</sup> Unfunded Commitment represents the aggregate remaining commitments to partnership investments. Please note that the Unfunded Commitment is presented Pro-Forma for the sale of 11 partnership investments in secondary transactions that closed during the first half of 2012.

<sup>4</sup> Total Exposure represents the sum of Market Value and Unfunded Commitment.

<sup>5</sup> DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital.

<sup>6</sup> TVM, or Total Value Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVM is calculated as Total Value, which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital.

<sup>7</sup> IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund manager's fees, expenses and carried interest.

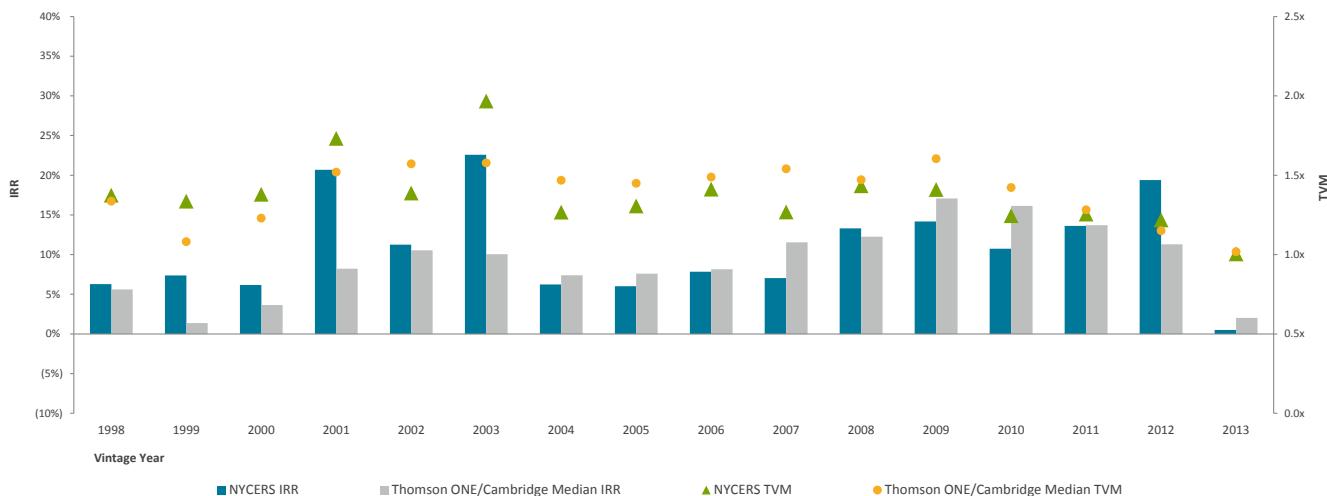
## Performance by Vintage Year

The following table and chart illustrate the Portfolio's since inception investment performance by vintage year as of March 31, 2015 relative to the median quartile U.S. All Private Equity TVM and IRR benchmarks as provided by Thomson ONE/Cambridge. Performance of funds that are less than two years old are not meaningful. Note that Thomson ONE/Cambridge data is continuously updated and is therefore subject to change.

As of March 31, 2015 (US\$ in millions)

Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Unfunded Commitment	Total Exposure	TVM	IRR	Thomson ONE / Cambridge U.S. All PE Median Quartile TVM	Thomson ONE / Cambridge U.S. All PE Median Quartile IRR
1998	\$50.0	\$50.2	\$68.7	\$0.4	\$0.0	\$0.4	1.37x	6.3%	1.34x	5.6%
1999	88.6	101.9	122.9	13.3	0.6	13.9	1.34x	7.4%	1.08x	1.4%
2000	116.9	136.8	172.1	16.6	7.7	24.3	1.38x	6.2%	1.23x	3.7%
2001	98.1	128.3	215.1	7.1	3.8	10.9	1.73x	20.7%	1.52x	8.2%
2002	190.0	238.5	264.9	66.0	5.4	71.4	1.39x	11.3%	1.57x	10.5%
2003	104.4	115.7	212.8	14.9	11.9	26.8	1.97x	22.6%	1.58x	10.0%
2004	343.6	356.9	369.1	83.1	21.1	104.2	1.27x	6.2%	1.47x	7.4%
2005	526.3	568.9	523.7	219.5	31.6	251.1	1.31x	6.0%	1.45x	7.6%
2006	997.2	1,099.6	908.9	643.6	48.1	691.7	1.41x	7.8%	1.49x	8.2%
2007	940.2	968.3	645.3	582.7	92.8	675.5	1.27x	7.0%	1.54x	11.5%
2008	1,250.0	1,297.7	838.8	1,021.6	189.4	1,210.9	1.43x	13.3%	1.47x	12.3%
2009	179.2	169.0	119.2	119.2	24.3	143.5	1.41x	14.2%	1.60x	17.1%
2010	175.0	164.3	28.3	176.3	27.3	203.6	1.25x	10.7%	1.42x	16.1%
2011	787.0	611.0	118.1	648.9	233.8	882.7	1.26x	13.6%	1.28x	13.7%
2012	610.5	307.8	52.5	322.5	319.0	641.5	1.22x	19.4%	1.15x	11.3%
2013	564.9	101.2	2.1	99.5	465.7	565.2	1.00x	0.5%	1.02x	2.0%
2014	499.7	117.5	0.2	128.4	382.7	511.0	NM	NM	NM	NM
2015	111.0	-	-	-	111.0	111.0	NM	NM	NM	NM
<b>Total</b>	<b>\$7,632.5</b>	<b>\$6,533.8</b>	<b>\$4,662.8</b>	<b>\$4,163.3</b>	<b>\$1,976.1</b>	<b>\$6,139.4</b>	<b>1.35x</b>	<b>9.4%</b>	<b>1.36x</b>	<b>8.7%</b>

As of March 31, 2015



### Portfolio Periodic Returns vs. Russell 3000® Index

As of March 31, 2015	1 Year	3 Year	5 Year	10 Year	Since Inception
NYCERS IRR	9.8%	11.5%	11.3%	9.6%	9.4%
Russell 3000® <sup>1</sup>	12.4%	16.4%	15.0%	10.7%	10.4%
Russell 3000® + 300 bps <sup>1</sup>	15.4%	19.4%	18.0%	13.7%	13.4%
<b>NYCERS Outperformance/(Underperformance)</b>					
vs. Russell 3000® + 300 bps <sup>1</sup>	(5.6%)	(7.9%)	(6.7%)	(4.2%)	(4.0%)

<sup>1</sup>Benchmark is a dollar-weighted Long-Nickels calculation of quarterly changes in the Russell 3000® Index. Russell Investment Group is the source and owner of the trademark, service marks and copyrights related to the Russell Indexes. Russell® is a trademark of Russell Investment Group.

### Performance by Strategy / Sub-Strategy

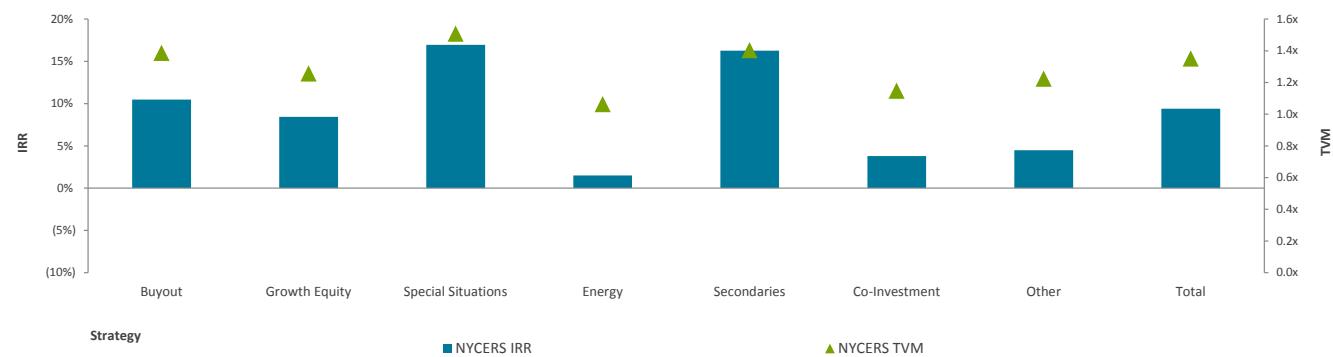
The following table and charts illustrate the Portfolio's since inception investment performance by strategy and sub-strategy as of March 31, 2015.

As of March 31, 2015 (US\$ in millions)

Strategy / Sub-Strategy	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Unfunded Commitment	Total Exposure	TVM	IRR
<b>Buyout</b>	<b>\$4,896.3</b>	<b>\$4,214.1</b>	<b>\$3,262.6</b>	<b>\$2,581.1</b>	<b>\$1,298.5</b>	<b>\$3,879.6</b>	<b>1.39x</b>	<b>10.5%</b>
Mega Buyout	1,548.8	1,172.6	816.8	766.5	526.0	1,292.5	1.35x	10.2%
Large Buyout	842.2	716.8	533.7	480.0	233.4	713.4	1.41x	16.7%
Middle-Market Buyout	1,383.8	1,214.2	1,079.8	707.2	360.1	1,067.3	1.47x	10.1%
Small Buyout	1,121.5	1,110.4	832.4	627.5	179.0	806.5	1.31x	8.6%
<b>Growth Equity</b>	<b>293.0</b>	<b>226.3</b>	<b>69.9</b>	<b>214.4</b>	<b>92.1</b>	<b>306.5</b>	<b>1.26x</b>	<b>8.4%</b>
Special Situations	539.7	484.7	438.3	292.2	167.8	460.1	1.51x	17.0%
Energy	355.0	370.4	173.6	220.0	30.3	250.3	1.06x	1.5%
Secondaries	652.1	372.2	243.5	278.9	283.9	562.8	1.40x	16.3%
Co-Investment	169.9	119.3	62.8	74.2	55.9	130.1	1.15x	3.8%
Other	726.5	747.0	412.0	502.4	47.6	550.0	1.22x	4.5%
Venture Capital	656.5	656.5	299.5	487.3	39.9	527.1	1.20x	3.8%
Mezzanine	70.0	90.4	112.6	15.2	7.7	22.9	1.41x	13.7%
<b>Total</b>	<b>\$7,632.5</b>	<b>\$6,533.8</b>	<b>\$4,662.8</b>	<b>\$4,163.3</b>	<b>\$1,976.1</b>	<b>\$6,139.4</b>	<b>1.35x</b>	<b>9.4%</b>

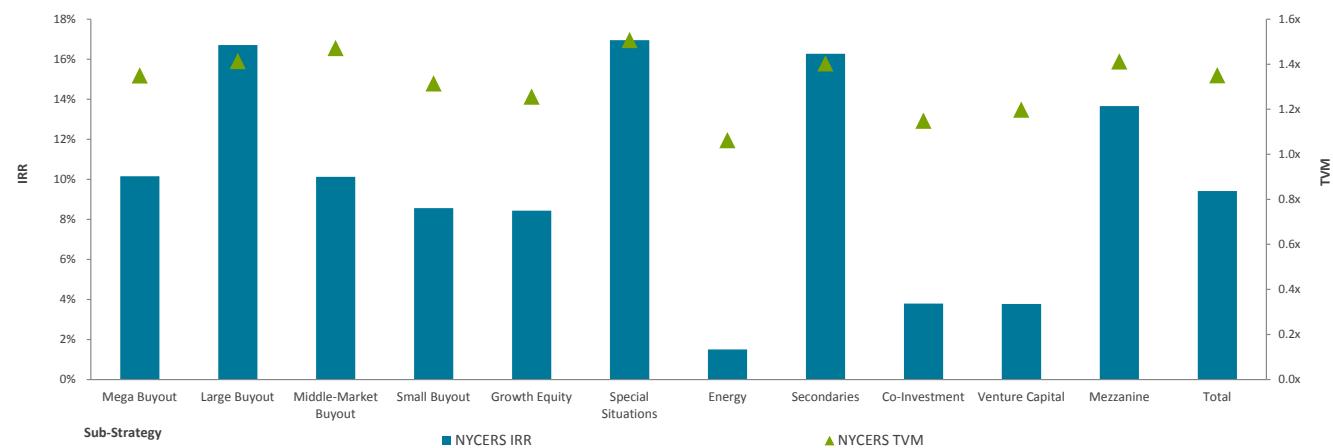
## Performance by Strategy

As of March 31, 2015



## Performance by Sub-Strategy

As of March 31, 2015



## Portfolio Diversification

The following tables illustrate the Portfolio's diversification by strategy and fund geographic focus as of March 31, 2015.

### By Strategy/Sub-Strategy

As of March 31, 2015 (US\$ in millions)	Market Value		Unfunded Commitment		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
<b>Buyout</b>	<b>2,581.1</b>	<b>62.0%</b>	<b>1,298.5</b>	<b>65.7%</b>	<b>3,879.6</b>	<b>63.2%</b>
Mega Buyout	766.5	18.4%	526.0	26.6%	1,292.5	21.1%
Large Buyout	480.0	11.5%	233.4	11.8%	713.4	11.6%
Middle-Market Buyout	707.2	17.0%	360.1	18.2%	1,067.3	17.4%
Small Buyout	627.5	15.1%	179.0	9.1%	806.5	13.1%
<b>Growth Equity</b>	<b>214.4</b>	<b>5.2%</b>	<b>92.1</b>	<b>4.7%</b>	<b>306.5</b>	<b>5.0%</b>
<b>Special Situations</b>	<b>292.2</b>	<b>7.0%</b>	<b>167.8</b>	<b>8.5%</b>	<b>460.1</b>	<b>7.5%</b>
<b>Energy</b>	<b>220.0</b>	<b>5.3%</b>	<b>30.3</b>	<b>1.5%</b>	<b>250.3</b>	<b>4.1%</b>
<b>Secondaries</b>	<b>278.9</b>	<b>6.7%</b>	<b>283.9</b>	<b>14.4%</b>	<b>562.8</b>	<b>9.2%</b>
<b>Co-Investment</b>	<b>74.2</b>	<b>1.8%</b>	<b>55.9</b>	<b>2.8%</b>	<b>130.1</b>	<b>2.1%</b>
<b>Other</b>	<b>502.4</b>	<b>12.1%</b>	<b>47.6</b>	<b>2.4%</b>	<b>550.0</b>	<b>9.0%</b>
Venture Capital	487.3	11.7%	39.9	2.0%	527.1	8.6%
Mezzanine	15.2	0.4%	7.7	0.4%	22.9	0.4%
<b>Total</b>	<b>4,163.3</b>	<b>100.0%</b>	<b>1,976.1</b>	<b>100.0%</b>	<b>6,139.4</b>	<b>100.0%</b>

### By Fund Geographic Focus

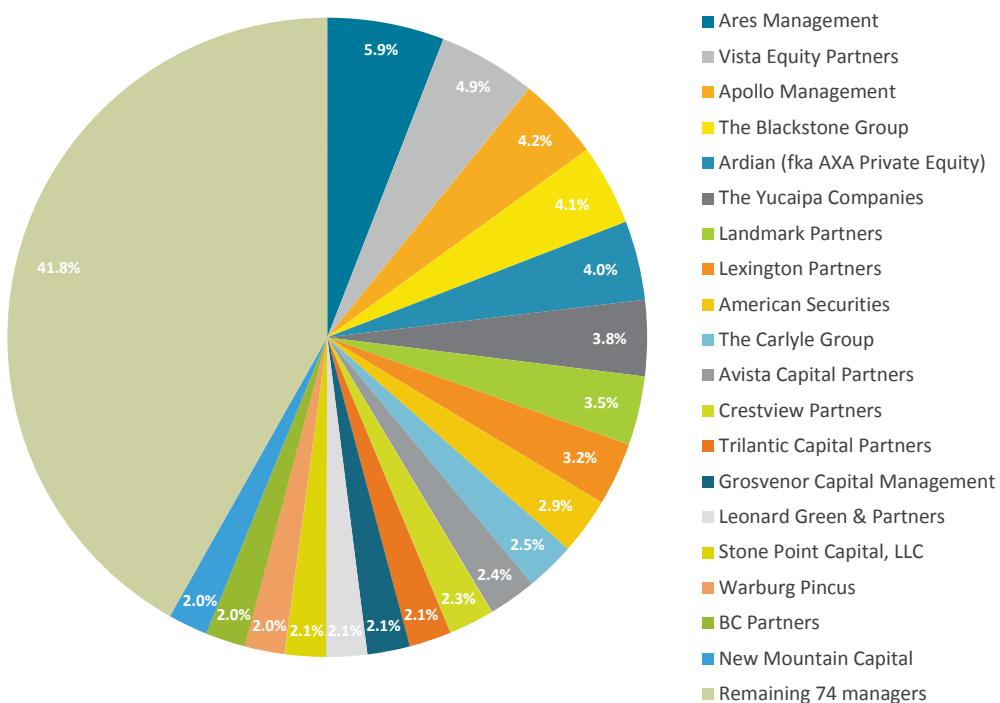
As of March 31, 2015 (US\$ in millions)	Market Value		Unfunded Commitment		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
North America	3,177.2	76.3%	1,301.9	65.9%	4,479.1	73.0%
Global	657.4	15.8%	601.6	30.4%	1,259.1	20.5%
Western Europe	293.5	7.1%	71.8	3.6%	365.4	6.0%
Rest of World	35.2	0.8%	0.8	0.0%	35.9	0.6%
<b>Total</b>	<b>4,163.3</b>	<b>100.0%</b>	<b>1,976.1</b>	<b>100.0%</b>	<b>6,139.4</b>	<b>100.0%</b>

Prior to a fund being 75% drawn, fund geographic focus is based on the GP-stated geographic strategy. Subsequent to a fund being 75% drawn, fund geographic focus is based on actual portfolio company exposure by total invested capital. Funds with less than 75% of total invested capital allocated to one geographic region are classified as Global.

### By Investment Manager

As of March 31, 2015, the Portfolio was highly diversified by investment manager, with 19 managers comprising US\$3.6 billion, or 58.2% of total exposure. The remaining 74 managers comprised 41.8% of total exposure as of quarter-end.

**Portfolio Total Exposure by Investment Manager**  
 As of March 31, 2015

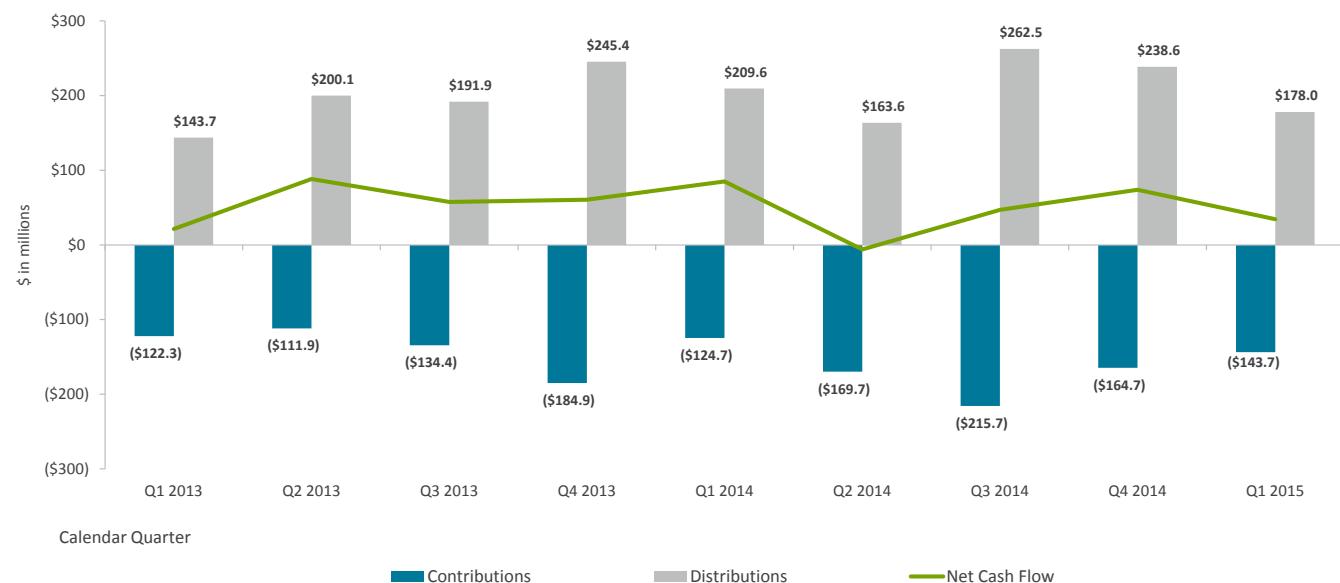


## Portfolio Cash Flow Analysis

The following yearly and quarterly cash flow analysis is based on actual Portfolio cash flows during those time periods, excluding the proceeds expected to be received from the Secondary Sale that closed in the first half of 2012.

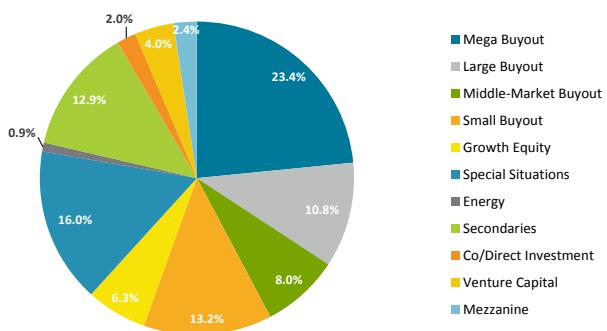
### Quarterly Cash Flow Activity

During the first quarter of 2015, the Portfolio made US\$143.7 million of contributions and received US\$178.0 million of distributions, for a net cash inflow of US\$34.4 million. The graph below illustrates recent cash flow activity by quarter.

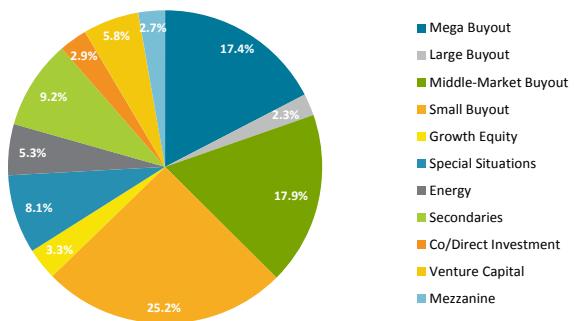


Buyout funds were the most active in terms of cash flow activity during the first quarter of 2015. Buyout funds drew down US\$79.7 million, or 55.5% of total contributions during the quarter, and distributed US\$111.7 million, or 62.7% of total distributions during the quarter.

**Q1 2015 Contributed by Sub-Strategy**

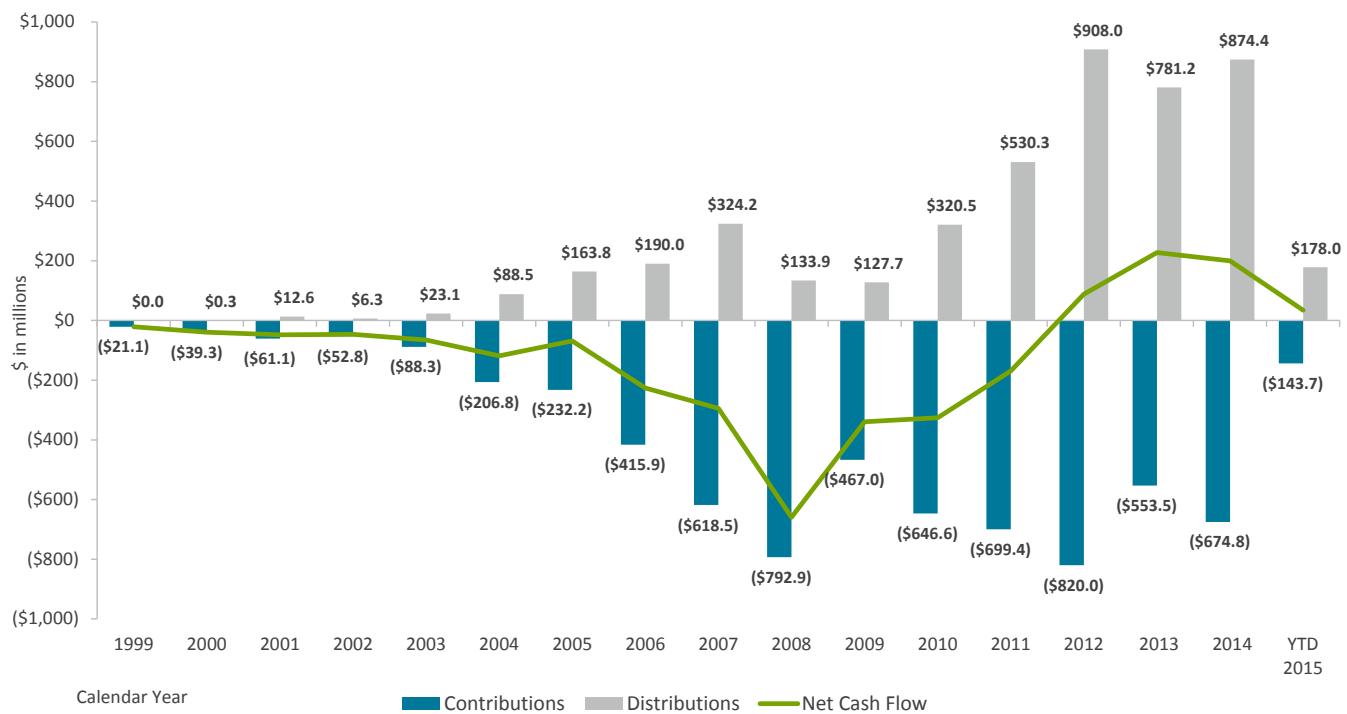


**Q1 2015 Distributed by Sub-Strategy**



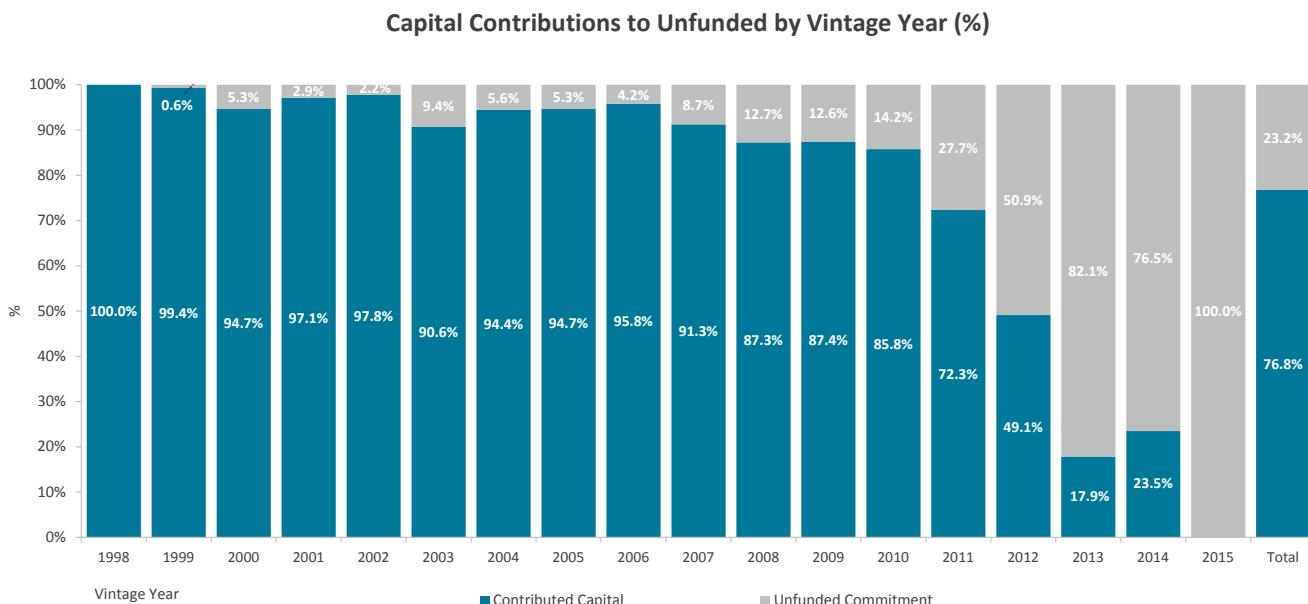
### Yearly Cash Flow Activity

The graph below illustrates cash flow activity since inception by calendar year.

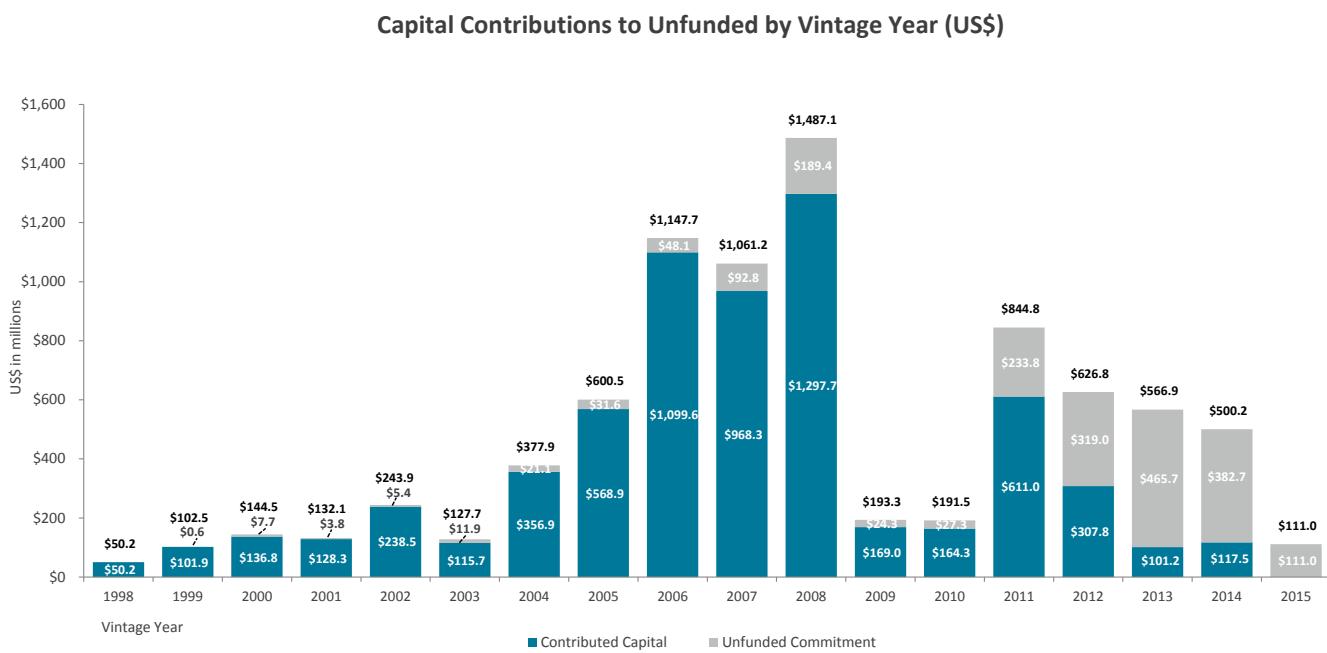


### Invested Capital by Vintage Year

The following chart illustrates cumulative capital contributions as a percentage of total capital commitments, by fund vintage year, as of March 31, 2015.



The following chart illustrates cumulative capital contributions relative to unfunded commitment, by fund vintage year, as of March 31, 2015 Pro-Forma for the Secondary Sale.



## Portfolio Company-Level Analysis

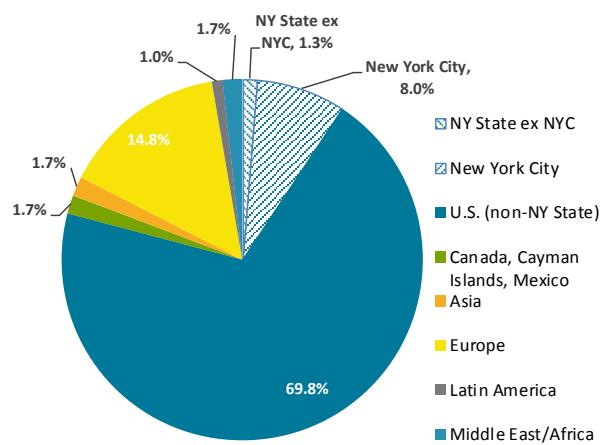
### Geographic Exposure

The following charts illustrate the Portfolio's current exposure by geography at the portfolio company level as of March 31, 2015. Please note that the geography is based upon the corporate headquarters of each portfolio company.

#### Geographic Exposure by Current Cost

As of March 31, 2015 (US\$ in millions)

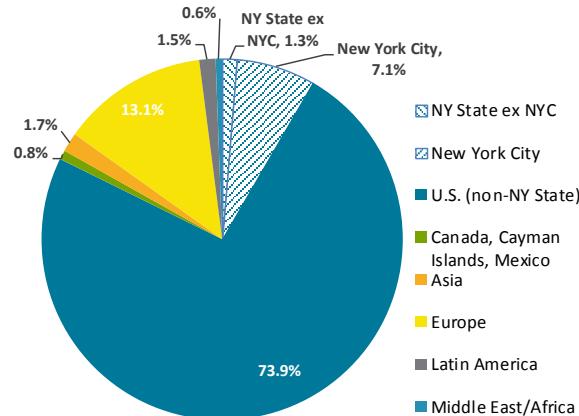
	Sum of Current Cost	% of Total
North America	\$2,580.9	80.8%
New York	\$297.5	9.3%
NY State ex NYC	40.9	1.3%
New York City	256.5	8.0%
U.S. (non-NY State)	2,230.7	69.8%
Canada, Cayman Islands, Mexico	52.8	1.7%
Asia	55.2	1.7%
Europe	473.1	14.8%
Latin America	31.1	1.0%
Middle East/Africa	55.3	1.7%
Total	\$3,195.6	100.0%



#### Geographic Exposure by Current Market Value

As of March 31, 2015 (US\$ in millions)

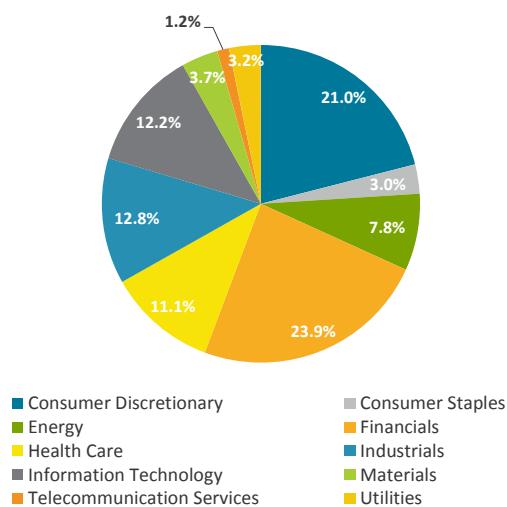
	Sum of Current Market Value	% of Total
North America	\$3,620.6	83.1%
New York	\$364.5	8.4%
NY State ex NYC	56.4	1.3%
New York City	308.1	7.1%
U.S. (non-NY State)	3,220.5	73.9%
Canada, Cayman Islands, Mexico	35.6	0.8%
Asia	74.9	1.7%
Europe	571.2	13.1%
Latin America	63.4	1.5%
Middle East/Africa	25.0	0.6%
Total	\$4,355.1	100.0%



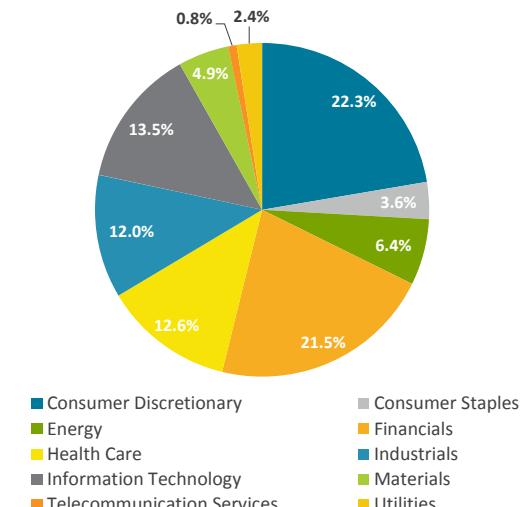
## Industry Exposure

The following charts illustrate the Portfolio's current exposure by industry at the portfolio company level as of March 31, 2015. Please note that the Financials category includes investments in various debt securities as well as certain undisclosed fund of funds investments.

**Industry Exposure by Current Cost**



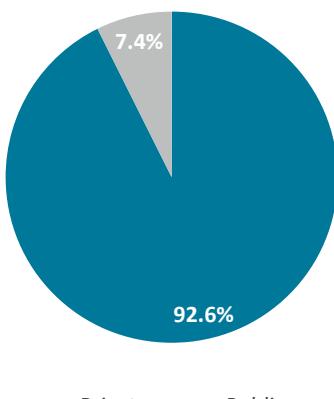
**Industry Exposure by Current Market Value**



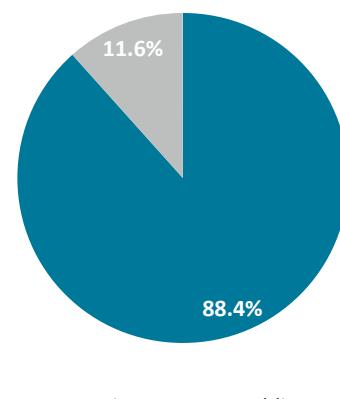
## Public Market Exposure

As of quarter-end, publicly traded investments comprised 7.4% of the Portfolio's exposed cost and 11.6% of the Portfolio's exposed market value. The following charts illustrate the current public market exposure at the portfolio company level.

**Public Market Exposure by Current Cost**



**Public Market Exposure Current Market Value**



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## IV. Appendix

**New York City Employees' Retirement System  
Private Equity Portfolio  
As of March 31, 2015 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
<b>Active Investments</b>								
1998	VS&A Communications Partners III, L.P.	12/15/1998	\$ 50,000,000	\$ 50,248,403	\$ 68,704,028	\$ 358,387	1.37x	6.3%
1999	Cypress Merchant Banking Partners II, L.P.	3/29/1999	45,172,972	53,861,600	43,440,706	7,589,861	0.95x	(1.0%)
1999	FdG Capital Partners LLC	6/2/1999	25,000,000	28,756,835	42,947,883	4,464,067	1.65x	14.6%
1999	Lincolnshire Equity Fund II, L.P.	10/20/1999	18,397,347	19,261,466	36,463,088	1,200,763	1.96x	24.6%
2000	Solera Partners, L.P.	5/26/2000	19,999,779	26,350,791	41,635,156	9,568,561	1.94x	10.1%
2000	SCP Private Equity Partners II, L.P.	6/15/2000	27,442,463	30,827,225	9,060,182	7,048,149	0.52x	(8.7%)
2001	New Mountain Partners, L.P.	3/16/2001	18,141,933	17,116,468	24,431,489	481,720	1.46x	12.4%
2001	Apollo Investment Fund V, L.P.	4/13/2001	40,000,000	62,509,880	122,768,943	1,876,660	1.99x	38.6%
2001	RRE Ventures III, L.P.	7/6/2001	19,999,999	26,134,419	31,969,988	4,724,221	1.40x	6.3%
2002	Yucaipa American Alliance Fund I, LP	7/1/2002	90,000,000	114,094,892	94,282,024	52,447,786	1.29x	6.4%
2002	Thomas, McNerney & Partners, L.P.	10/9/2002	20,000,000	19,600,000	7,003,139	5,880,570	0.66x	(8.4%)
2002	BDCM Opportunity Fund, L.P.	10/14/2002	25,000,000	52,554,619	88,799,411	1,359,251	1.72x	22.8%
2002	Landmark Equity Partners XI, L.P.	10/23/2002	55,000,000	52,284,778	74,844,687	6,331,321	1.55x	23.8%
2003	FS Equity Partners V, L.P.	1/20/2003	25,000,000	22,899,357	38,934,406	8,653,150	2.08x	16.6%
2003	Blackstone Capital Partners IV, L.P.	2/26/2003	34,418,762	38,818,058	96,545,592	1,880,488	2.54x	39.7%
2003	Ares Corporate Opportunities Fund, L.P.	4/1/2003	45,000,000	54,008,942	77,332,286	4,352,959	1.51x	13.4%
2004	Markstone Capital Partners, LP	1/30/2004	40,000,000	46,899,103	19,568,130	2,463,955	0.47x	(55.4%)
2004	FdG Capital Partners II LP	8/30/2004	35,000,000	37,115,171	41,665,122	3,460,857	1.22x	3.9%
2004	Paladin Homeland Security Fund (NY City), L.P.	9/27/2004	15,000,000	16,127,481	3,768,534	5,633,385	0.58x	(7.6%)
2004	Lincolnshire Equity Fund III, L.P.	10/1/2004	55,000,000	52,487,064	67,928,348	28,972,571	1.85x	31.7%
2004	New York/Fairview Emerging Managers Fund, L.P.-Tranche 1	10/21/2004	32,000,000	32,042,759	15,609,728	21,184,967	1.15x	2.8%
2004	Aurora Equity Partners III L.P.	11/16/2004	50,000,000	54,119,877	86,237,201	4,179,293	1.67x	14.2%
2004	Trilantic Capital Partners III L.P.	11/18/2004	45,088,848	39,477,498	58,031,997	2,030,274	1.52x	12.6%
2004	Celtic Pharmaceutical Holdings L.P.	12/23/2004	25,000,000	25,402,094	402,094	15,195,734	0.61x	(6.2%)
2005	Palladium Equity Partners III, L.P.	11/12/2004	35,000,000	34,775,263	48,566,908	25,286,184	2.12x	20.1%
2005	New Mountain Partners II, L.P.	1/12/2005	46,451,615	41,391,315	71,493,739	9,559,116	1.96x	13.7%
2005	VSS Communications Partners IV, L.P.	3/14/2005	25,000,000	28,201,361	15,172,079	6,507,196	0.77x	(4.8%)
2005	Prism Venture Partners V-A, L.P.	7/14/2005	30,000,000	30,299,779	11,824,675	11,848,103	0.78x	(5.0%)
2005	Erasmus New York City Growth Fund	8/16/2005	34,819,694	34,819,694	29,838,461	276,897	0.86x	(3.0%)
2005	Quadrangle Capital Partners II LP	8/29/2005	60,636,859	60,814,632	60,128,047	19,209,768	1.30x	5.7%
2005	Snow Phipps Group, L.P.	9/7/2005	20,000,000	22,911,125	15,018,665	14,751,564	1.30x	7.8%
2005	GI Partners Fund II L.P.	9/26/2005	35,000,000	35,337,101	40,038,905	13,505,182	1.52x	7.2%
2005	Blackstone Mezzanine Partners II, L.P.	10/10/2005	25,000,000	23,459,865	28,375,919	2,311,331	1.31x	7.2%
2005	Psilos Group Partners III, L.P.	10/24/2005	35,000,000	37,205,819	17,948,760	29,165,183	1.27x	5.3%
2005	USPF II Institutional Fund, L.P.	11/23/2005	65,000,000	85,734,194	57,349,566	54,303,062	1.30x	5.8%
2005	JP Morgan Fleming (Tranche A)	12/21/2005	43,000,000	41,011,220	25,819,877	32,750,310	1.43x	8.5%
2006	Aisling Capital II, LP	1/12/2006	6,680,102	7,750,406	3,669,442	6,472,945	1.31x	5.7%
2006	InterMedia Partners VII, L.P.	1/20/2006	25,000,000	28,671,799	16,147,308	30,269,713	1.62x	7.9%
2006	Terra Firma Capital Partners III, L.P.	3/8/2006	52,764,063	52,635,580	1,124,908	26,945,802	0.53x	(11.5%)
2006	BDCM Opportunity Fund II, L.P.	3/29/2006	25,000,000	35,655,722	31,537,456	35,728,533	1.89x	17.6%
2006	Blackstone Capital Partners V, L.P.	4/13/2006	122,052,590	128,913,662	115,853,383	92,318,420	1.61x	8.6%
2006	Avista Capital Partners, L.P.	4/27/2006	45,000,000	57,493,729	46,777,765	28,884,405	1.32x	6.4%
2006	GSC Recovery III, L.P.	5/4/2006	25,000,000	28,098,874	29,299,014	4,296,753	1.20x	4.7%
2006	Apollo Investment Fund VI, L.P.	5/10/2006	90,000,000	115,838,240	131,668,423	46,550,514	1.54x	10.0%
2006	Landmark Equity Partners XIII, L.P.	5/11/2006	50,000,000	47,643,105	39,893,862	20,430,085	1.27x	5.7%
2006	Ares Corporate Opportunities Fund II, L.P.	5/23/2006	50,000,000	54,701,856	78,512,070	14,406,463	1.70x	13.9%
2006	Fairview Ventures Fund III, L.P.	6/29/2006	25,000,000	24,586,596	13,776,360	29,330,301	1.75x	16.1%
2006	Ampersand 2006	8/14/2006	25,000,000	25,000,000	25,032,244	19,487,882	1.78x	12.6%
2006	CCMP Capital Investors II, L.P.	8/17/2006	30,000,000	32,748,549	32,450,489	18,468,216	1.55x	13.0%
2006	CLP 2014 (fka Perseus Partners VII)	8/31/2006	30,000,000	34,885,025	9,531,843	937,932	0.30x	(36.9%)
2006	Thomas, McNerney & Partners II, L.P.	11/30/2006	25,000,000	23,062,500	12,287,080	41,076,704	2.31x	18.3%
2006	Catterton Partners VI, L.P.	12/14/2006	45,000,000	49,132,820	59,555,525	31,910,617	1.86x	13.7%
2006	First Reserve Fund XI, L.P.	12/14/2006	45,000,000	47,820,682	25,516,431	13,950,605	0.83x	(4.6%)
2006	Arsenal Capital Partners II, LP	12/19/2006	22,500,000	26,528,569	15,828,745	23,682,059	1.49x	9.5%
2006	RRE Ventures IV, L.P.	12/19/2006	35,000,000	42,115,503	9,924,151	57,550,814	1.60x	10.4%
2006	MidOcean Partners III, L.P.	12/21/2006	60,000,000	65,297,055	39,980,059	52,647,132	1.42x	8.5%
2006	GF Capital Private Equity Fund, L.P.	12/22/2006	20,000,000	20,167,555	14,382,447	19,946,377	1.70x	15.6%
2006	The Fourth Cinven Fund	1/22/2007	71,463,012	71,209,741	67,985,428	28,317,555	1.35x	6.5%
2007	Pegasus Partners IV, L.P.	1/29/2007	30,000,000	34,661,019	15,876,945	20,421,344	1.05x	1.2%
2007	FTVentures III, LP	3/1/2007	24,201,990	24,651,990	21,627,186	26,470,594	1.95x	16.5%
2007	Co-Investment Partners Europe, L.P.	3/19/2007	39,965,278	41,806,331	15,627,575	35,284,438	1.22x	4.7%
2007	Montreux Equity Partners IV, L.P.	3/27/2007	20,000,000	20,000,000	6,592,834	20,804,638	1.37x	7.9%
2007	Quaker BioVentures II, L.P.	3/30/2007	20,000,000	17,058,740	10,204,154	14,486,085	1.45x	10.5%

**New York City Employees' Retirement System  
Private Equity Portfolio  
As of March 31, 2015 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
2007	SCP Vitalife Partners II Fund	4/13/2007	20,000,000	19,349,698	1,579	17,496,080	0.90x	(2.4%)
2007	Craton Equity Investors I, L.P.	4/30/2007	20,000,000	20,089,805	71,125	7,365,736	0.37x	(18.9%)
2007	Nautic Partners VI, L.P.	5/14/2007	30,000,000	33,380,831	26,864,315	32,743,094	1.79x	15.2%
2007	Constellation Venture Capital III, L.P.	5/22/2007	25,000,000	26,745,373	5,676,045	13,305,228	0.71x	(8.2%)
2007	United States Power Fund III, L.P.	6/28/2007	65,000,000	64,966,042	28,880,682	56,850,582	1.32x	6.1%
2007	Halyard Capital Fund II, L.P.	7/2/2007	25,000,000	20,810,921	6,781,845	15,078,138	1.05x	1.1%
2007	Carlyle Partners V, L.P.	7/6/2007	70,000,000	69,899,866	60,488,171	56,232,344	1.67x	14.8%
2007	PCG Clean Energy & Technology Fund (East), LLC	7/6/2007	90,000,000	78,758,190	9,345,681	43,504,760	0.67x	(8.9%)
2007	GSO Capital Opportunities Fund LP	7/16/2007	45,000,000	66,986,378	84,195,359	12,866,530	1.45x	18.4%
2007	StarVest Partners II, L.P.	8/1/2007	25,000,000	23,642,124	1,157,148	19,298,292	0.87x	(4.2%)
2007	New Mountain Partners III, L.P.	8/9/2007	100,000,000	97,104,530	37,776,469	90,843,400	1.32x	8.1%
2007	Vista Equity Partners Fund III, L.P.	10/3/2007	30,000,000	31,820,806	64,808,048	15,894,631	2.54x	29.0%
2007	Trilantic Capital Partners IV L.P.	10/22/2007	69,028,637	68,953,720	71,084,965	43,527,943	1.66x	16.6%
2007	RLJ Equity Partners Fund I, L.P.	11/30/2007	20,000,000	20,840,956	8,301,877	18,059,077	1.26x	8.7%
2007	Pine Brook Capital Partners, L.P.	1/11/2008	30,000,000	29,902,322	15,105,412	22,118,372	1.24x	8.4%
2008	Paladin III (NY City), L.P.	1/8/2008	30,000,000	32,832,220	16,523,491	23,724,738	1.23x	6.6%
2008	Relativity Fund, L.P.	1/17/2008	20,000,000	10,773,614	1,580,027	4,562,004	0.57x	(11.5%)
2008	Apollo Investment Fund VII, L.P.	1/28/2008	100,000,000	113,516,619	160,237,203	43,215,509	1.79x	25.9%
2008	NGN BioMed Opportunity II, L.P.	2/11/2008	20,000,000	18,051,821	3,758,185	10,548,679	0.79x	(6.0%)
2008	Carpenter Community BancFund-A, L.P.	2/12/2008	20,000,000	19,186,548	920,699	27,217,969	1.47x	8.1%
2008	Riverstone/Carlyle Global Energy & Power Fund IV, L.P.	3/3/2008	45,000,000	46,687,492	33,750,235	25,359,418	1.27x	8.5%
2008	Yucaipa American Alliance Fund II, LP	3/28/2008	120,000,000	159,979,857	92,202,590	157,323,191	1.56x	13.9%
2008	Levina Leichtman Capital Partners IV, L.P.	4/8/2008	35,000,000	34,919,411	38,997,342	17,356,797	1.61x	19.8%
2008	Lee Equity Partners Fund, L.P.	4/23/2008	42,500,000	45,243,512	17,540,758	39,617,000	1.26x	8.0%
2008	New York/Fairview Emerging Managers Fund, L.P.-Tranche 2	5/28/2008	45,000,000	37,480,500	15,616,325	37,620,277	1.42x	14.2%
2008	Yucaipa Corporate Initiatives Fund II, LP	6/23/2008	42,092,788	40,754,359	11,698,560	23,192,032	0.86x	(4.1%)
2008	Leeds Equity Partners V, L.P.	7/28/2008	60,000,000	50,906,383	11,055,276	63,483,839	1.46x	14.7%
2008	GI Partners Fund III L.P.	7/29/2008	45,000,000	47,654,541	44,358,348	26,666,668	1.49x	14.7%
2008	Ares Corporate Opportunities Fund III, L.P.	7/30/2008	75,000,000	87,100,403	75,683,803	71,322,203	1.69x	22.2%
2008	GCM Grosvenor NYCERS Emerging Manager Co-Investment Fund, L.P.	8/22/2008	12,875,950	14,584,469	17,295,365	7,460,551	1.70x	13.6%
2008	GCM Grosvenor NYCERS Emerging Manager Fund, L.P.	8/22/2008	116,737,374	108,079,561	49,013,947	83,347,218	1.22x	9.6%
2008	First Reserve Fund XII, L.P.	8/25/2008	45,000,000	46,392,430	18,763,832	26,071,443	0.97x	(1.0%)
2008	Landmark Equity Partners XIV, L.P.	9/19/2008	109,120,000	98,288,605	65,552,518	67,059,616	1.35x	15.7%
2008	Crestview Partners II, L.P.	10/1/2008	50,000,000	51,724,722	31,378,664	44,776,348	1.47x	14.5%
2008	Avista Capital Partners II, L.P.	11/5/2008	75,000,000	87,457,346	63,808,872	99,544,249	1.87x	20.4%
2008	Blue Wolf Capital Fund II, L.P.	11/14/2008	25,000,000	26,744,713	9,980,200	20,614,378	1.14x	5.8%
2008	Bridgepoint Europe IV	11/14/2008	26,668,033	24,454,185	14,492,404	16,403,003	1.26x	7.9%
2008	Aisling Capital III, LP	11/20/2008	14,000,000	13,312,888	9,696,903	11,579,475	1.60x	23.7%
2008	Onex Partners III LP	12/10/2008	75,000,000	80,595,916	34,937,620	73,500,165	1.35x	11.9%
2009	Welsh, Carson, Anderson & Stowe XI, L.P.	2/10/2009	40,000,000	36,372,773	22,834,246	31,022,469	1.48x	14.2%
2009	FS Equity Partners VI, L.P.	7/27/2009	32,500,000	32,702,739	18,952,494	38,327,189	1.75x	22.0%
2009	Lincolnshire Equity Fund IV, L.P.	8/5/2009	27,500,000	24,262,631	9,638,864	18,426,300	1.16x	6.6%
2009	Lexington Capital Partners VII, L.P.	12/3/2009	50,000,000	40,515,887	27,529,121	31,436,547	1.46x	17.2%
2010	Snow Phipps II, L.P.	1/8/2010	30,000,000	22,891,842	3,220,851	29,762,643	1.44x	17.9%
2010	JP Morgan Fleming (Tranche B)	2/26/2010	35,000,000	28,319,915	8,019,911	31,045,713	1.38x	13.4%
2010	Trident V, L.P.	4/29/2010	110,000,000	113,046,370	17,062,758	115,459,037	1.17x	8.1%
2011	Blackstone Capital Partners VI, L.P.	1/24/2011	120,000,000	81,097,202	14,076,982	84,179,616	1.21x	13.4%
2011	Ampersand 2011	3/11/2011	25,000,000	23,000,000	1,410,929	34,848,679	1.58x	18.7%
2011	BDCM Opportunity Fund III, L.P.	4/8/2011	45,000,000	49,895,945	20,577,598	38,257,876	1.18x	12.0%
2011	AXA Secondary Fund V B L.P.	6/16/2011	120,000,000	87,326,005	35,458,271	94,356,333	1.49x	21.4%
2011	Wellspring Capital Partners V, L.P.	7/1/2011	40,000,000	24,489,067	2,343,263	26,552,750	1.18x	10.1%
2011	EQT VI, L.P.	8/1/2011	105,356,706	87,393,421	1,058,670	82,964,102	0.96x	(2.6%)
2011	Pegasus Partners V, L.P.	8/16/2011	20,789,916	12,455,406	3,700,886	13,640,015	1.39x	13.2%
2011	BC European Capital IX	9/19/2011	130,806,042	94,301,534	13,244,406	82,719,747	1.02x	1.0%
2011	American Securities Partners VI, L.P.	11/18/2011	80,000,000	58,330,129	17,209,384	61,161,941	1.34x	21.0%
2011	Vista Equity Partners Fund IV, L.P.	11/30/2011	100,000,000	92,721,667	9,066,786	130,235,902	1.50x	22.2%
2012	Warburg Pincus Private Equity XI, L.P.	5/24/2012	110,000,000	72,446,872	12,130,030	79,420,535	1.26x	19.7%
2012	Trilantic Capital Partners V L.P.	9/20/2012	70,000,000	22,231,712	196,225	20,821,030	0.95x	(4.5%)
2012	Palladium Equity Partners IV, L.P.	10/10/2012	55,000,000	16,926,749	1,086,857	18,154,005	1.14x	9.1%
2012	Ares Corporate Opportunities Fund IV, L.P.	11/5/2012	125,000,000	82,474,519	5,689,287	84,627,268	1.10x	11.3%
2012	Green Equity Investors VI, L.P.	11/30/2012	120,000,000	59,134,882	1,380,522	66,621,372	1.15x	12.5%
2012	Platinum Equity Capital Partners III, L.P.	1/14/2013	100,000,000	39,166,608	30,884,719	37,898,548	1.76x	69.1%
2012	NYCERS - 2012 Emerging Manager Program*	6/21/2013	150,000,000	41,585,194	1,287,609	40,672,984	1.01x	NM
2013	Carlyle Partners VI, L.P.	7/3/2013	75,000,000	23,427,479	634,884	22,200,562	0.97x	NM

**New York City Employees' Retirement System  
Private Equity Portfolio  
As of March 31, 2015 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
2013	Carlyle Partners VI, L.P. (Side Car)	9/23/2014	8,250,000	1,820,369	-	1,683,145	0.92x	NM
2013	Landmark Equity Partners XV, L.P.	10/30/2013	75,000,000	15,155,746	227,930	18,175,740	1.21x	NM
2013	Landmark - NYC Fund I, L.P.	12/24/2013	25,000,000	10,482,609	-	11,427,718	1.09x	NM
2013	Apollo Investment Fund VIII, L.P.	12/11/2013	140,000,000	18,605,499	203,605	17,487,333	0.95x	NM
2013	CVC Capital Partners VI, L.P.	2/18/2014	118,051,985	11,431,065	829,561	7,599,588	0.74x	NM
2013	Crestview Partners III, L.P.	3/3/2015	66,000,000	5,835,101	181,686	5,284,433	0.94x	NM
2013	Crestview Partners III (Co-Investment B), L.P.	N/A	22,000,000	-	-	-	-	N/A
2014	Olympus Growth Fund VI, L.P.	1/21/2014	75,000,000	9,233,841	41,090	10,799,319	1.17x	NM
2014	ASF VI B L.P.	5/9/2014	83,000,000	23,253,525	-	28,702,252	1.23x	NM
2014	ASF VI B NYC Co-Invest L.P.	5/9/2014	27,000,000	15,768,881	-	18,096,996	1.15x	NM
2014	Vista Equity Partners Fund V, L.P.	9/8/2014	125,000,000	49,871,346	9,745	48,262,960	0.97x	NM
2014	Lexington Capital Partners VIII, L.P.	1/8/2015	110,000,000	7,700,000	-	12,363,747	1.61x	NM
2014	Centerbridge Capital Partners III, L.P.	5/21/2015	23,700,000	-	-	-	-	N/A
2015	Siris Partners III, L.P.	5/4/2015	31,000,000	-	-	-	-	N/A
2015	American Securities Partners VII, L.P.	N/A	80,000,000	-	-	-	-	N/A
<b>Total Portfolio<sup>1</sup></b>			<b>\$ 7,660,423,441</b>	<b>\$ 6,533,823,723</b>	<b>\$ 4,662,799,132</b>	<b>\$ 4,163,337,142</b>	<b>1.35x</b>	<b>9.4%</b>

\*Please note that the NYCERS - 2012 Emerging Manager Program total commitment amount includes the full amount allocated to the Program, of which \$139.6 million has been committed as of August 25, 2015.

<sup>1</sup>Please note that the Total Portfolio includes liquidated investments.

Note: IRRs presented are interim estimates and may not be indicative of the ultimate performance of fund investments due to a number of factors, such as the lack of industry valuation standards and the differences in the investment pace and strategy of various funds. Until a fund is liquidated, typically over 10 to 12 years, the IRR is only an interim estimated return. The IRR calculated in early years of a fund is not meaningful given the J-curve effect. The actual IRR performance of any fund is not known until all capital contributed and earnings have been distributed to the investor. The IRRs contained in this report are calculated by StepStone Group LP ("StepStone"), a consultant to the New York City Employees' Retirement System, based on information provided by the general partners (e.g. cash flows and valuations). The IRR calculations and other information contained in this report have not been reviewed or confirmed by the general partners. The result of the IRR calculation may differ from that generated by the general partner or other limited partners. Differences in IRR calculations can be affected by cash-flow timing, the accounting treatment of carried interest, fund management fees, advisory fees, organizational fees, other fund expenses, sale of distributed stock, and valuations.

**New York City Employees' Retirement System**  
**Subsequent Commitments**  
**As of March 31, 2015 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
<b>Commitments Closed Subsequent to as of Date</b>								
2015	Patriot Financial Partners II, L.P.	7/21/2015	7,500,000	-	-	-	N/A	N/A
2015	Valor Equity Partners III, L.P.	8/19/2015	10,000,000	-	-	-	N/A	N/A
2015	Welsh, Carson, Anderson & Stowe XII, L.P.	8/26/2015	78,500,000	-	-	-	N/A	N/A
2015	Bridgepoint Europe V	N/A	59,934,858	-	-	-	N/A	N/A
2015	Bridgepoint Europe V Co-Invest	N/A	17,400,443	-	-	-	N/A	N/A
2015	EQT VII, L.P.	N/A	157,432,575	-	-	-	N/A	N/A
<b>Total Commitments Closed Subsequent to as of Date</b>			<b>\$ 330,767,875</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>N/A</b>	<b>N/A</b>

Note: IRRs presented are interim estimates and may not be indicative of the ultimate performance of fund investments due to a number of factors, such as the lack of industry valuation standards and the differences in the investment pace and strategy of various funds. Until a fund is liquidated, typically over 10 to 12 years, the IRR is only an interim estimated return. The IRR calculated in early years of a fund is not meaningful given the J-curve effect. The actual IRR performance of any fund is not known until all capital contributed and earnings have been distributed to the investor. The IRRs contained in this report are calculated by StepStone Group LP ("StepStone"), a consultant to the New York City Employees' Retirement System, based on information provided by the general partners (e.g. cash flows and valuations). The IRR calculations and other information contained in this report have not been reviewed or confirmed by the general partners. The result of the IRR calculation may differ from that generated by the general partner or other limited partners. Differences in IRR calculations can be affected by cash-flow timing, the accounting treatment of carried interest, fund management fees, advisory fees, organizational fees, other fund expenses, sale of distributed stock, and valuations.

## Real Assets Quarterly Report

# The New York City Employees' Retirement System

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Executive Summary: First Quarter 2015 Performance Measurement Report

Real Estate

## Portfolio Profile

The New York City Employees' Retirement System has allocated 6.0% (+/- 2%) of the total plan to Real Assets. Real Estate investments are categorized under Real Assets. The Real Estate Portfolio's objective is to generate a total net return that exceeds the NFI-ODCE +100 bps total net return measured over full market cycles.

## Portfolio Statistics (March 31, 2015)

Total Plan Assets	\$54.3 billion
Target Real Assets Allocation (%)	6%
Target Real Assets Allocation (\$)	\$3.3 billion
Total Real Estate Market Value	\$2.5 billion
Real Estate Unfunded Commitments	\$688.2 million
Total Real Estate Exposure	\$3.2 billion
Number of Investments	47
Number of Managers	33

## Net Returns (as of March 31, 2015)

1Q15 Time-Weighted Net Return:	3.0%
1 Year Time Weighted Net Return:	14.0%
3 Year Time Weighted Net Return:	13.1%
Inception-to-Date (ITD) Time-Weighted:	7.2%
ITD Net IRR:	6.8%
ITD Net Equity Multiple:	1.3x

## Investment Guidelines

Style Sector:	Target •40-60% Core/Core Plus •40-60% Non-Core
Benchmark	NFI-ODCE Index +100 bps net over full market cycles
Region Diversification	Maximum 25% Int'l
Investment Diversification	Limit 15% to a single investment
Manager Diversification	Limit 15% to a single manager
Leverage	65%

## First Quarter Investment Activity

During the Quarter, the Board made a \$39.0 million commitment to an open end core/core plus fund and a \$151.0 million commitment to a global closed-end opportunistic fund.

## OVERVIEW

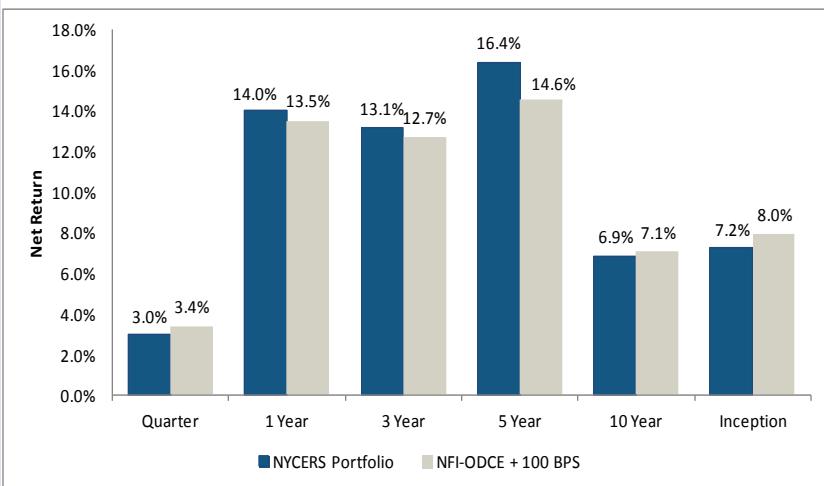
Global real estate is well positioned to continue its momentum in capital markets now supported by improving corporate demand for office and industrial space. Interest is growing in higher-yielding assets in smaller and second-tier locations, particularly in the U.S. and Europe. This demand is due, in part, to competition, yield compression and strengthening property market fundamentals. Development activity is continuing to increase as tenant expansion and tightening fundamentals further justify new construction. In Europe, investment activity in commercial real estate rose 49% in 1Q15 from 3Q14, with a cumulative increase of 32% for the year. In addition, transactional volumes in real estate reached record highs in the Asian markets of China, Japan and Australia for the First Quarter. As core markets remain frothy, the shift to secondary markets is inevitable and provides opportunities for a higher flow of national and foreign capital.

### Direct Commercial Real Estate Investment - Regional Volumes

	\$ US Billions	% Change Q4 14 - Q1 15		% Change Q1 14 - Q1 15		% Change 2013 - 2014	
		Q4 14	Q1 15	Q1 14	Q1 15	2013	2014
Americas	94	73	-22%	62	18%	241	302
EMEA	94	57	-39%	57	-1%	221	278
Asia Pacific	44	25	-43%	23	7%	127	131
Total	231	155	-33%	142	9%	589	711
							21%

Source: Jones Lang LaSalle, April 2015

The New York City Employees' Retirement System ("NYCERS") Real Estate Portfolio is, and has been, well positioned to take advantage of conditions in the real estate marketplace. Post economic downturn, in the period reflected in the rolling five-year returns, NYCERS performance exceeds the benchmark by 181 basis points. At the end of the First Quarter 2015, the Portfolio achieved a total gross return of 3.7% which was comprised of 0.9% income and 2.7% appreciation. The net return for the Quarter was 3.0%. A detailed analysis of the Portfolio's real estate performance is found later in this Executive Summary.



# The New York City Employees' Retirement System

Executive Summary: First Quarter 2015 Performance Measurement Report

Real Estate

## FUNDING AND COMPOSITION

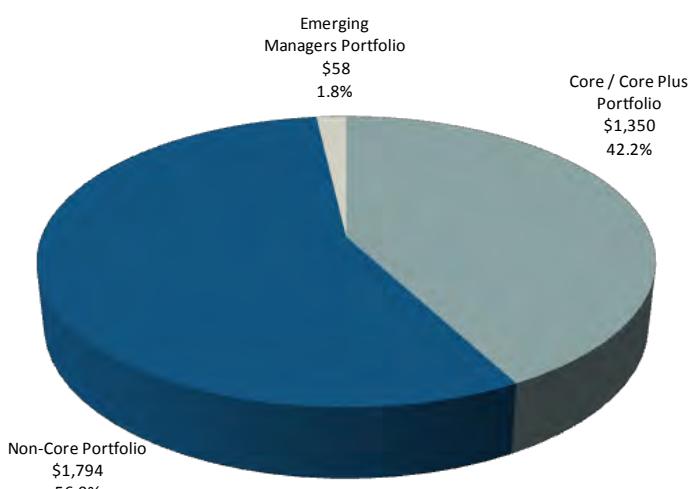
At the end of the First Quarter, the Portfolio was funded at \$2.5 billion, or 4.6% of total plan assets. A total of \$688 million in unfunded commitments are still outstanding. Unfunded commitments are down from \$716 million as of Fourth Quarter 2014. New commitment activity has accelerated over the past several months and the trend will continue throughout 2015.

New contributions for the Quarter totaled \$82.4 million, offset by \$155.2 million in distributions and withdrawals. Distributions were weighted to the Non-Core sector.

Shown in the pie chart to the right is the current risk sector exposure calculated by Market Value + Unfunded Commitments. The Core/ Core Plus component accounts for 42.2% of the Portfolio exposure during the Quarter. The Non-Core component accounts for 56.0% of the Portfolio exposure. The Emerging Manager component accounts for 1.8% of the Portfolio exposure.

A more detailed break-down of the Portfolio Composition is shown in the table below. Attached as Exhibit A is a matrix which demonstrates compliance with various Investment Policy Statement guidelines.

## Real Estate Exposure



New York City Employees' Retirement System		
Total Plan Assets	3/31/2015	54,339
Real Asset Allocation (%)		6.0
Real Asset Allocation (\$)		3,260
Style Sector Statistics		
Funded (Market Value) Core / Core Plus Portfolio		\$1,293
Funded (Market Value) Non-Core Portfolio		\$1,181
Funded (Market Value) Emerging Managers Portfolio		\$41
Unfunded Core / Core Plus Portfolio		\$57
Unfunded Non-Core Portfolio		\$613
Unfunded Emerging Managers Portfolio		\$18
Funded (Market Value) and Committed Statistics		
Core / Core Plus Portfolio		42.2%
Non-Core Portfolio		56.0%
Emerging Managers Portfolio		1.8%
\$ Committed		3,202
% Committed on Real Asset Allocation		98.2%
% Committed on Total Plan Assets		5.9%
Funded (Market Value) Statistics		
% Funded (Market Value) of Total Plan Assets		4.6%
% Funded (Market Value) of Total Real Asset Allocation		77.1%

# The New York City Employees' Retirement System

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## Executive Summary: First Quarter 2015 Performance Measurement Report

Real Estate

### PERFORMANCE

During the Quarter under review, the NYCERS Real Estate Portfolio produced a 3.7% total gross return. The total net return for the Quarter was 3.0%. On a rolling one-year basis the total gross return of 17.0% was recorded. On a net basis the total return was 14.0%. On a gross basis the NYCERS Portfolio exceeds the NFI-ODCE in all relevant time periods. The benchmark return contemplates a 100 bps premium over the ODCE net return over full market cycles. This benchmark is exceeded over the one-year, three-year and five-year time periods. The various components of the Portfolio returns are depicted in the chart below.

#### Core/Core Plus

As of March 31, 2015 the market value of the Core/ Core Plus Portfolio was \$1.3 billion, or 51.4% on an invested basis. On a funded and committed basis, the Core/ Core Plus Portfolio totaled \$1.4 billion, or 42.2% of the total Portfolio. The Core/ Core plus Portfolio generated a 3.6% total gross return for the Quarter comprised of 1.2% in income and 2.3% in appreciation. The total net return for the Quarter was 3.3%.

The most significant contributor to the Quarterly return in the Core/Core Plus sector was JP Morgan Strategic Property Fund, contributing 0.09% to the overall performance. The largest detractor from the Core/Core Plus Portfolio was UBS Trumbull Property Fund, which took away (0.11)% from the total net return.

Post economic downturn, the Core/Core Plus Portfolio achieved a 12.2% net return over the three-year period ending March 31, 2015. Of the 13 Core/Core Plus Funds, RREEF America REIT III was the largest contributor, adding 0.28% to the overall performance of the Portfolio. UBS Trumbull Property Fund was the largest detractor, taking away (0.59%) from the overall performance of the Core/Core Plus Portfolio , however, with its low leverage target, UBS historically outperforms during down cycles.

#### Non-Core

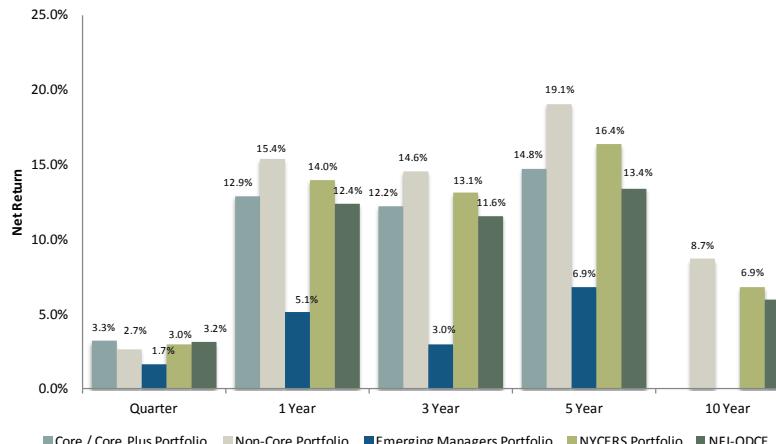
As of March 31, 2015 the market value of the Non- Core Portfolio was \$1.2 billion, or 47.0% on an invested basis. On a funded and committed basis, the Non-Core Portfolio totaled \$1.8 billion, or 56.0% of the total Portfolio. The Non-Core Portfolio generated a 3.8% total gross return for the Quarter comprised of 0.6% in income and 3.2% in appreciation. The total net return for the Quarter was 2.7%.

Of the 31 Non-Core Funds that contributed to the Quarterly return of the Portfolio, Blackstone Real Estate Partners VI was the largest contributor, adding 0.69%. The City Investment Fund I was the largest detractor for the Quarter, taking away (0.71)% from the overall performance of the Non-Core Portfolio.

The Non-Core Portfolio generated a three-year net return of 14.6%. Of the 31 non-core Funds that contributed to the three-year performance of the Portfolio, Blackstone Real Estate Partner VI was the largest contributor, adding 1.24%. The largest detractor among these Funds was The City Investment Fund, which took away (1.22%) from overall Non-Core performance.

#### Emerging Managers

As of March 31, 2015 the market value of the Emerging Managers Portfolio was \$40.9 million, or 1.6% on an invested basis. On a funded and committed basis, the Emerging Managers Portfolio totaled \$58.5 million, or 1.8% of the total Portfolio. The Emerging Managers Portfolio generated a 2.1% total gross return for the Quarter comprised of 1.7% in income and 0.4% in appreciation. The total net return for the Quarter was 1.7%. The Emerging Managers Portfolio has underperformed for a number of reasons including the fact that performance has been adversely impacted by virtue of the vintage years of these funds.



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## Executive Summary: First Quarter 2015 Performance Measurement Report

### Real Estate

## PERFORMANCE

### Portfolio Performance

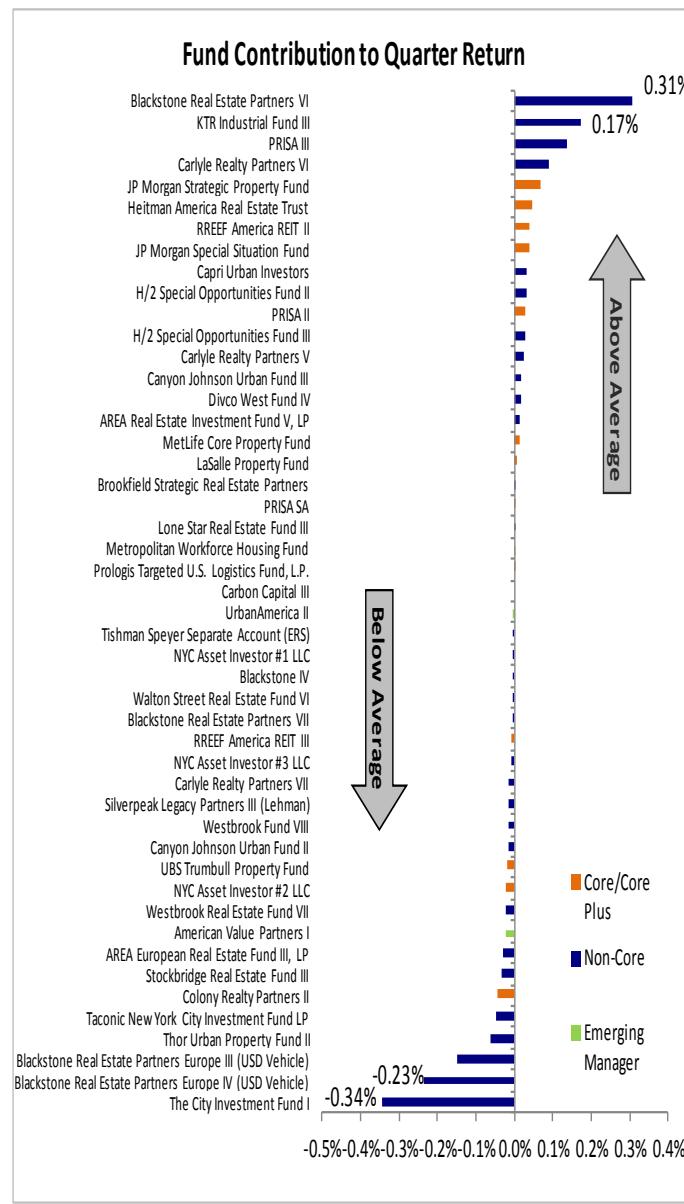
At the end of the First Quarter 2015, the Portfolio had a cumulative market value of \$2.5 billion. Total market value plus unfunded commitments was \$3.2 billion, or 98.2% of the real estate allocation. During the Quarter, the Portfolio achieved a total gross return of 3.7% which was comprised of 0.9% income and 2.7% appreciation. The Portfolio achieved a total net return of 3.0%. Since inception, the Portfolio has a net IRR of 6.8% and an equity multiple of 1.3x as of March 31, 2015. Note, attached as Exhibit B are performance metrics relating to each investment within the Portfolio.

The Quarterly return was driven Blackstone Real Estate Partners VI which contributed 0.31% to the overall performance. The primary laggard in the Portfolio was The City Investment Fund I detracting (0.34%). Brief reviews of Funds making positive contributions to performance during the Quarter are found below. Note, that attached as Exhibit C are charts relating to fund contributions to returns during different relevant periods.

**Blackstone Real Estate Partners VI (BREP VI).** BREP VI produced a total gross return during the Quarter of 11.8%, comprised of 0.1% in income and 11.7% in appreciation. The net return after fees was 9.3%. Disposition activity for the Quarter was abundant. The industrial portfolio was sold during the Quarter in addition to an office portfolio. These sales resulted in distributions of \$3.1 billion for the year to date. An industrial portfolio which was owned by both BREP VI and BREP VII, generated \$3.4 billion in proceeds, a gross IRR of 29% and a 2.4x equity multiple. Part of an office portfolio, was also sold during the Quarter. The asset was sold for the sales price of \$2.2 billion at a 4.5% capitalization rate. The Fund's valuation increased by \$1.36 billion for the Quarter.

**KTR Industrial Fund III (KTR III).** The Fund produced a total gross return of 31.0%, comprised of 1.9% in income and 29.2% in appreciation. The net return after fees was 24.4%. Due to the announcement of sale of the Fund assets during the First Quarter, the Fund experienced a significant write up in value contributing to an increase in appreciation returns. The definitive agreement to sell the KTR III assets was executed subsequent to Quarter end, but had been in process for over a year prior. Unrealized appreciation for the First Quarter of 2015 was approximately \$175.9 million.

**PRISA III.** PRISA III generated a 7.3% gross return during the Quarter, comprised of 0.9% in income and 6.4% in appreciation. The net return after fees was 6.6%. The majority of appreciation gains can be attributed to the Fund's interest in a hospitality portfolio. Additional appreciation resulted from property level leasing gains on Californian hotel. Four new investments were acquired during the First Quarter for \$128 million gross cost. The four assets include two office investments; one located in Chandler, Arizona and one in Berkeley, California, and industrial asset located in Azusa, California and an apartment asset in Charleston, South Carolina. There is the only redevelopment asset. The others are all development assets.



# The New York City Employees' Retirement System

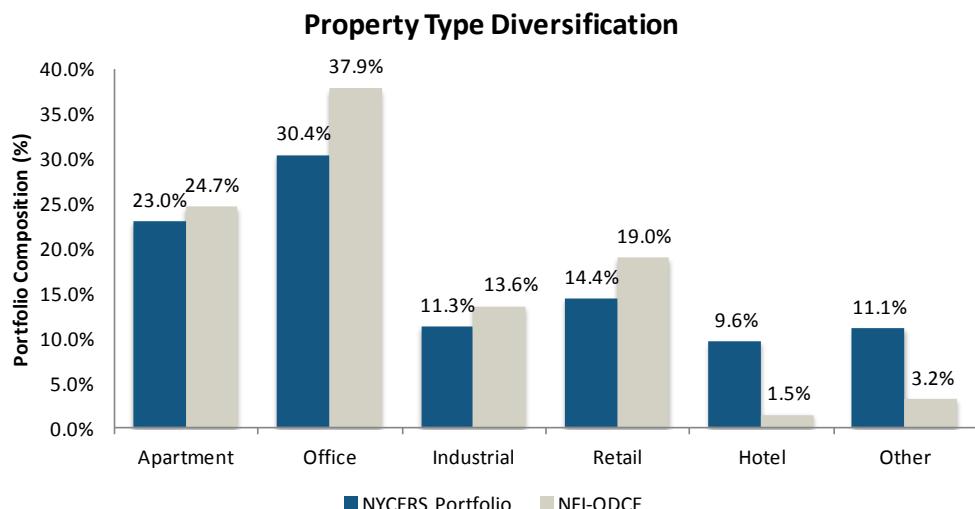
Executive Summary: First Quarter 2015 Performance Measurement Report

Real Estate

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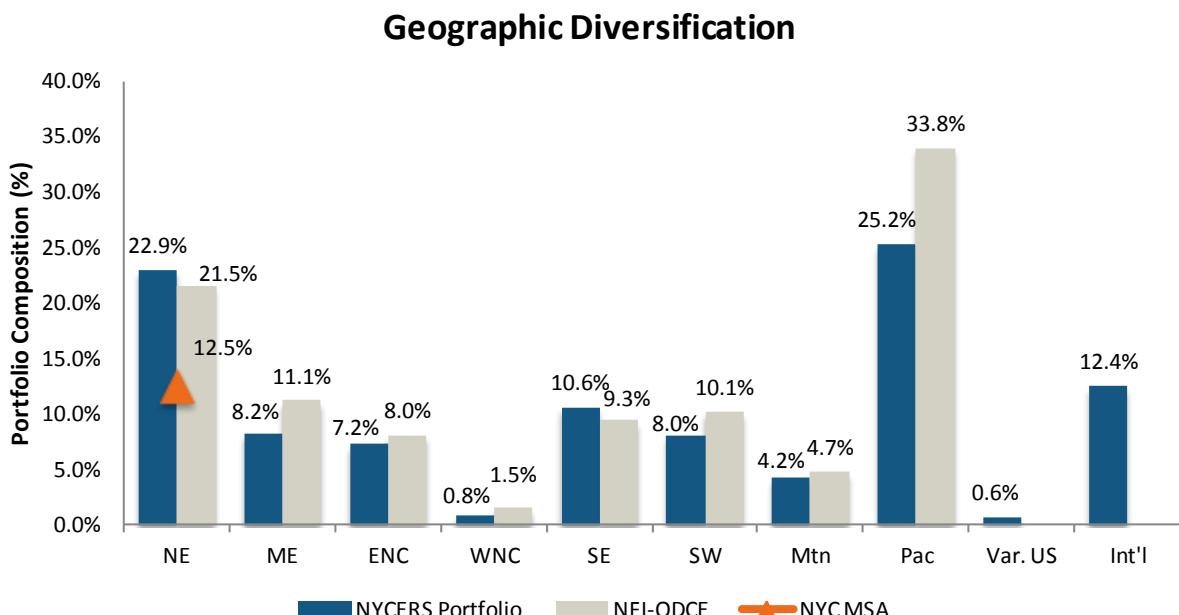
## PROPERTY TYPE DIVERSIFICATION

The diversification of the current Portfolio by property type is shown below and compared to the diversification of the NCREIF-ODCE at the end of the Quarter. Relative to the ODCE, the Portfolio is still underweight to all property sectors (excluding hotels) due to its allocation to other property types such as For Sale Residential, Self Storage, Land, Health Care, Medical Office, Data Centers, Senior Living and Student Housing.



## GEOGRAPHIC DIVERSIFICATION

The diversification of the current funded Portfolio by geographic region is shown below and compared to the diversification of the NFI-ODCE at the end of the Quarter. The ODCE is a US-only index. The domestic portion of the Portfolio is well diversified relative to the ODCE with a slight overweight to the Northeast and a slight underweight to several other geographic sectors. The 12.4% international exposure is appropriate for the risk and return profile of NYCERS and consistent with our long-term target.



# The New York City Employees' Retirement System

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## Executive Summary: First Quarter 2015 Performance Measurement Report

### Real Estate

## MARKET UPDATE

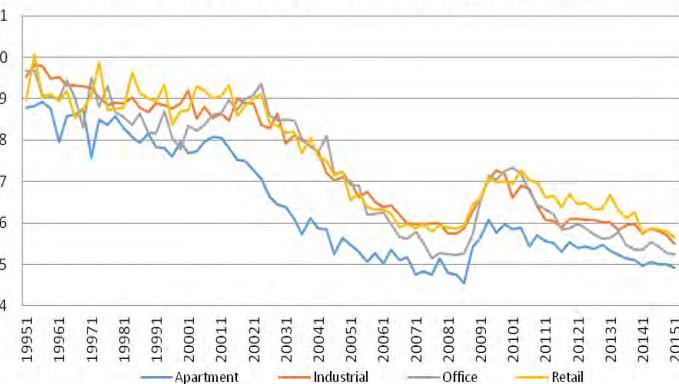
### General

- For the first quarter of 2015, real GDP contracted 0.7%, a 290 bps drop from 1Q15. This was only the third time the economy shrank since the GFC. The contraction was driven by temporary factors including harsh weather, a strong dollar, which drove exports to decrease by the most since early 2009, and a labor dispute at West Coast ports.
- As of 1Q15, consumer spending grew by 1.8%, a significant decrease from the 4.4% increase in the prior Quarter. The decrease may be due to the harsh winter and therefore is expected to rebound in the second quarter, as the weather improves. However, consumer confidence is at a six-month low as of May 2015.
- In the first quarter of 2015, lending in the securitized market remained strong, with CMBS issuance rising to \$27 billion, a 33% increase year-over-year.
- Lower energy prices boosted consumer's finances by lowering their gasoline bills, a development expected to boost the economy throughout the year. But the most dramatic effect thus far has been the drop in business investment. With energy companies holding off on drilling and equipment purchases as they deal with squeezed profits. A measure of business spending on construction, machinery and R&D fell at a 2.8% pace in the winter, the biggest decline since late 2009.
- As of 1Q15, the US realized the best job growth on a year-over-year basis since the 1990s. Additionally, the quality of jobs is improving with the potential for wage growth this year. Corporate profits are also healthy, with after tax-profits growing 3.1% over the period, with robust business spending expected to continue.

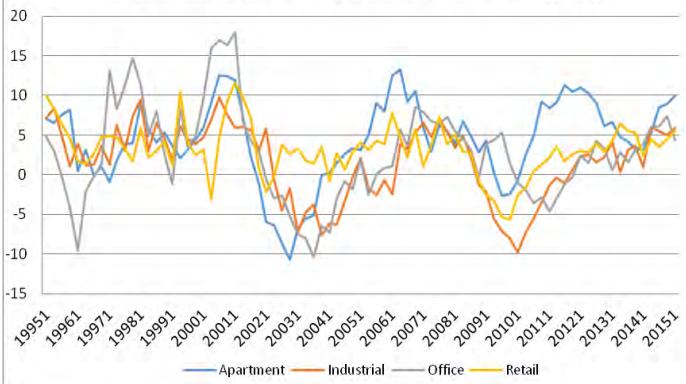
### Commercial Real Estate

- In 1Q15, commercial real estate transactions reached almost \$70 billion, a 24% increase from the same period a year ago. Current macroeconomic and financial indicators suggest ample room for continued potential growth.
- During the Quarter, portfolio and entity-level transactions were a big part of the sales activity accounting for 36% of all transactions. Historically roughly 25% of the total sales volume was in portfolio or entity-level deals. This is notable because prior to the last downturn the share of portfolio deals spiked to about half of all transactions for four consecutive quarters, along with the run-up in asset prices.
- During the Quarter, transaction cap rates from all traditional property sectors continued to decline. Suburban office cap rates fell the most, year-over-year, by 55 bps to end the Quarter at 6.8%.
- Debt market activity remains strong, but terms remain generally conservative as indicated by average loan-to-value ratios that stand at 60.5% and debt service coverage that is north of 2.0 for all property types other than multifamily.

Current Value Cap Rates by Property Type



4-Qtr Rolling NOI Growth by Property Type



# The New York City Employees' Retirement System

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## EXHIBIT A: COMPLIANCE MATRIX

Category	Requirement	Portfolio Status
Benchmark	NFI-ODCE (net) +100 bps over full market cycles (10-year)	<i>Portfolio returns underperform the benchmark.</i>
Portfolio Composition	Core/Core Plus (minimum of 40%)	<i>The portfolio is funded (market value) and committed at 98.2% of real asset allocation with a portfolio composition of 42.2% core, 56.0% non-core, and 1.8% emerging.</i>
	Non Core (minimum of 40%)	
	Non Core Emerging	
Real Asset Allocation	Target of 6.0%	<i>Funded (market value) and committed dollars place the portfolio at 5.9% of total plan assets.</i>
	Currently Funded at 4.6%	
Property Type Diversification	Up to 40% Multifamily Up to 35% Industrial Up to 45% Office Up to 35% Retail Up to 25% Hotel Up to 20% Other	<i>All property type locations are in compliance.</i>
Geographic Diversification	Diversified geographically Max 25% Ex-US	<i>All geographic type locations are in compliance</i>
LTV	65%	<i>Portfolio is in compliance (41.8%).</i>
Manager Exposure	15% of real estate allocation	<i>Manager exposure is in compliance based on market value.</i>

# The New York City Employees' Retirement System

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Executive Summary: First Quarter 2015 Performance Measurement Report

Real Estate

## EXHIBIT B: FIRST QUARTER 2015 FOIL



### New York City Employees' Retirement System

Vintage Year	Fund Name	First Draw Down	Capital Committed	Contributions	Distributions	Market Value	Equity Multiple	Net IRR
2007	Colony Realty Partners II	12/20/2006	20,000,000	21,420,211	-666,108	6,777,400	0.3	-13.6
2007	Heitman HART	3/29/2007	115,000,000	150,039,634	-35,039,634	182,160,675	1.4	7.3
2007	JP Morgan Special Situation Property Fund	1/2/2007	90,000,000	100,702,361	-21,114,918	96,623,713	1.2	2.2
2007	JP Morgan Strategic Property Fund	12/4/2006	136,000,000	146,411,646	0	221,420,982	1.5	6.4
2010	LaSalle Property Fund	7/1/2010	50,000,000	49,122,539	-6,766,782	60,634,931	1.4	12.3
2014	MetLife Core Property Fund	7/1/2014	50,000,000	34,883,719	-759,785	36,338,894	1.1	21.1
2013	NYC Asset Investor #2 LLC	7/9/2013	75,000,000	34,381,527	-913,793	38,797,500	1.2	15.2
2007	PRISA II	6/30/2007	141,518,761	148,900,451	-21,021,562	166,375,302	1.3	3.7
2006	PRISA SA	9/29/2006	86,000,000	91,604,491	-16,971,143	101,288,490	1.3	3.3
2006	Prologis Targeted U.S. Logistics Fund	10/1/2006	25,000,000	31,062,505	-6,322,765	26,545,901	1.1	0.8
2006	RREEF America REIT II	10/1/2006	86,000,000	113,537,802	-44,223,152	101,299,367	1.3	3.9
2007	RREEF America REIT III - 1410	10/1/2007	90,000,000	90,000,000	-30,180,881	20,271,239	0.6	-8.1
2006	UBS Trumbull Property Fund	9/28/2006	156,000,000	201,150,568	-35,902,739	234,048,776	1.3	5.8
<b>Core / Core Plus Portfolio</b>			<b>1,120,518,761</b>	<b>1,213,217,455</b>	<b>-219,883,262</b>	<b>1,292,583,171</b>	<b>1.2</b>	<b>3.8</b>
2008	AREA European Real Estate Fund III, LP	5/6/2008	30,000,000	30,487,500	-23,605,000	12,388,163	1.2	4.6
2006	AREA Real Estate Investment Fund V, LP	6/15/2006	25,000,000	25,000,001	-9,268,520	12,698,976	0.9	-2.3
2004	Blackstone Fund IV	5/10/2004	30,000,000	38,440,704	-40,546,483	14,708,272	1.4	11.8
2010	Blackstone Real Estate Partners Europe III (USD V)	10/24/2008	50,000,000	49,900,455	-22,190,161	44,863,575	1.3	13.3
2014	Blackstone Real Estate Partners Europe IV (USD V)	12/23/2013	169,000,000	75,561,607	-7,607,999	64,520,140	1.0	-6.6
2007	Blackstone Real Estate Partners VI	9/27/2007	110,000,000	121,009,788	-129,556,832	109,237,021	2.0	15.0
2012	Blackstone Real Estate Partners VII	3/31/2012	170,000,000	174,364,923	-87,950,367	163,057,517	1.4	26.9
2012	Brookfield Strategic Real Estate Partners	9/20/2012	100,000,000	99,486,020	-19,039,274	96,815,865	1.2	15.7
2003	Canyon Johnson Urban Fund	12/6/2002	15,000,000	13,590,364	-15,874,432	0	1.2	10.2
2005	Canyon Johnson Urban Fund II	5/11/2005	40,000,000	35,954,818	-7,727,927	11,037,183	0.5	-9.0
2010	Canyon Johnson Urban Fund III	3/29/2010	30,000,000	29,586,980	-18,563,904	20,700,940	1.3	12.3
2008	Capri Urban Investors	6/3/2008	60,000,000	59,980,707	-5,575,000	44,111,362	0.8	-3.8
2009	Carbon Capital III	7/2/2009	40,000,000	43,757,162	-53,134,591	0	1.2	8.5
2007	Carlyle Realty Partners V	8/27/2007	20,000,000	24,817,491	-25,224,924	7,878,945	1.3	8.2
2011	Carlyle Realty Partners VI	9/14/2011	70,000,000	59,654,115	-35,813,312	52,091,849	1.5	28.2
2014	Carlyle Realty Partners VII	6/30/2014	80,000,000	10,279,820	0	9,236,961	0.9	-48.8
2014	Divco West Fund IV	1/15/2014	23,000,000	18,842,163	0	20,867,751	1.1	19.4
2011	H/2 Special Opportunities Fund II	1/31/2011	40,000,000	39,999,999	-17,561,261	35,760,580	1.3	18.5
2015	H/2 Special Opportunities Fund III	12/29/2014	65,000,000	7,595,824	0	8,686,724	1.1	163.5
2009	JP Morgan Urban Renaissance Property Fund	12/18/2008	16,360,625	4,206,523	-4,206,523	0	1.0	0.0
2013	KTR Industrial Fund III	6/28/2013	40,000,000	17,479,475	-435,478	27,649,592	1.6	49.6
2014	Lone Star Real Estate Fund III	5/20/2014	100,000,000	52,469,316	-5,322,166	50,407,337	1.1	13.0
2013	NYC Asset Investor #1 LLC	6/25/2013	50,000,000	37,255,736	-1,909,156	40,209,167	1.1	20.1
2013	NYC Asset Investor #3 LLC	9/20/2013	50,000,000	7,583,291	0	8,034,376	1.1	6.6
2008	PRISA III	9/30/2008	50,000,000	55,753,084	0	98,135,119	1.8	11.8
2008	Silverpeak Legacy Partners III (Lehman)	5/28/2008	50,000,000	22,168,479	-1,920,744	7,080,203	0.4	-13.9
2008	Stockbridge Real Estate Fund III	9/9/2008	27,000,000	26,285,345	0	38,973,149	1.5	9.2
2012	Taconic New York City Investment Fund LP	7/5/2012	70,000,000	28,954,546	-636,364	38,874,233	1.4	15.1
2004	The City Investment Fund I	3/16/2004	225,000,000	221,883,300	-210,176,151	16,732,448	1.0	0.5
2009	Thor Urban Property Fund II	10/30/2008	40,000,000	51,756,666	-25,670,356	41,511,657	1.3	10.3
2004	Tishman Speyer Separate Account (ERS)	12/16/2003	100,000,000	71,066,452	-259,238,975	99,078	3.6	63.2
2009	Walton Street Real Estate Fund VI	4/27/2009	50,000,000	44,323,933	-24,075,582	40,272,721	1.5	10.6
2008	Westbrook Real Estate Fund VII	12/3/2007	40,000,000	43,273,952	-27,927,277	21,180,728	1.1	2.6
2010	Westbrook Real Estate Fund VIII	12/28/2009	50,000,000	59,025,106	-53,607,018	22,993,076	1.3	13.3
2008	American Value Partners Fund I	10/18/2007	55,000,000	39,149,355	-18,135,360	25,976,254	1.1	3.2
2007	Metropolitan Workforce Housing Fund	7/13/2007	14,000,000	14,013,027	-5,809,310	9,472,045	1.1	2.2
2007	UrbanAmerica II	1/30/2007	25,000,000	23,222,735	0	5,422,462	0.2	-18.9
<b>Non Core and Emerging Manager Portfolio</b>			<b>2,219,360,625</b>	<b>1,778,180,763</b>	<b>-1,158,310,447</b>	<b>1,221,685,469</b>	<b>1.3</b>	<b>11.3</b>
<b>New York City Employees' Retirement System</b>			<b>3,339,879,386</b>	<b>2,991,398,217</b>	<b>-1,378,193,710</b>	<b>2,514,268,640</b>	<b>1.3</b>	<b>6.8</b>

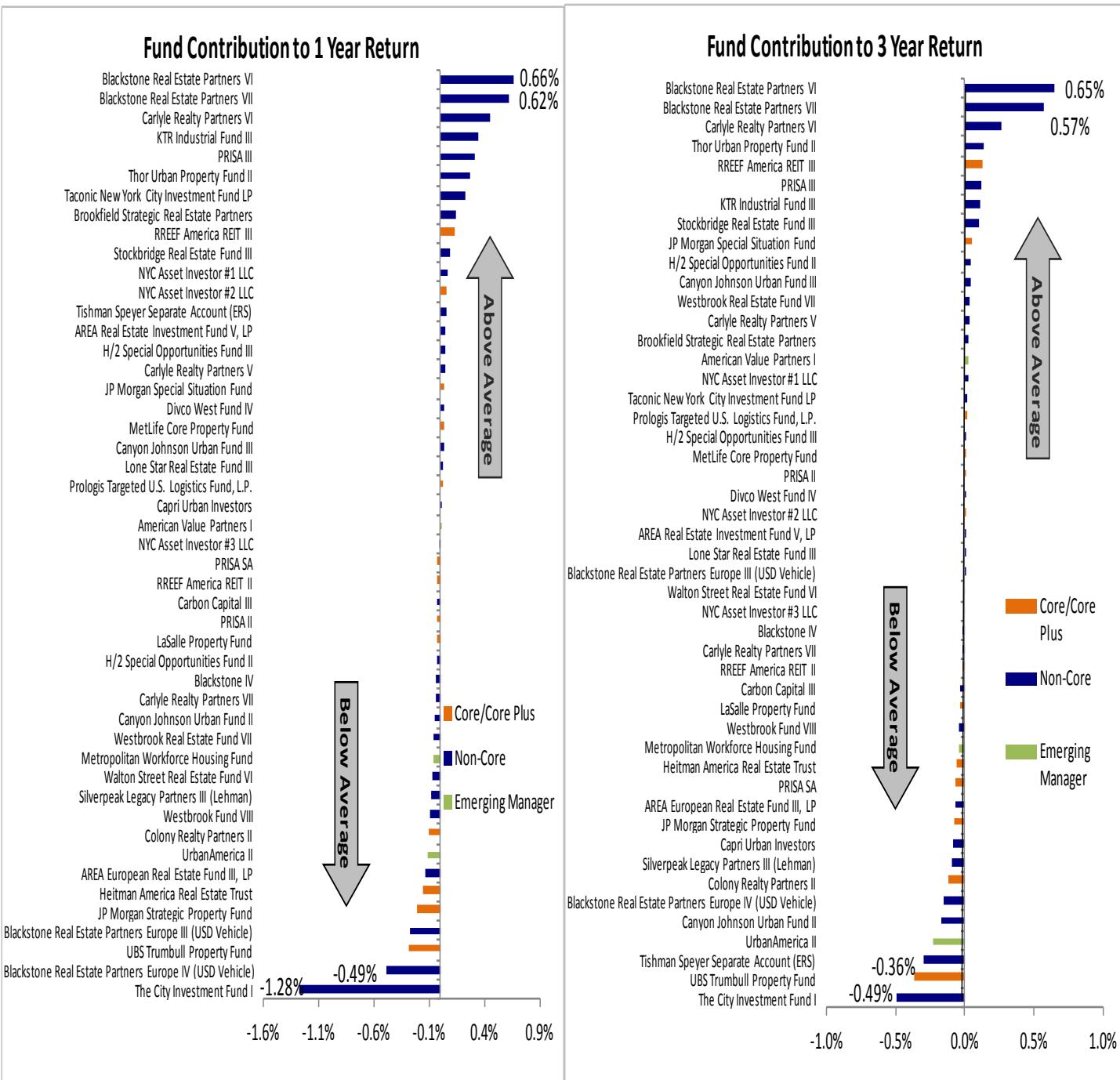
Source: PCG historical cash flow data. TTG cash flow data from Fund Managers, effective 2005. Note: The equity multiples and IRRs contained in this report are interim calculations based upon information provided by the investment managers of the New York City Retirement Systems, including cash flows and quarterly unaudited, or audited, valuations. The IRR calculated in early years of a fund life is not meaningful given the J-curve effect and can be significantly impacted by the timing of cash flows, investment strategy, investment pacing, and fund life. The calculations are not necessarily indicative of total fund performance, which can only be determined after the fund is liquidated and all capital contributed and earnings have been distributed to the investor. All data supplied is as of March 31, 2015.

# The New York City Employees' Retirement System

Executive Summary: First Quarter 2015 Performance Measurement Report

Real Estate

## EXHIBIT C : ATTRIBUTION





## Infrastructure Monitoring Report

For the period ended March 31, 2015

Report Prepared For:

New York City Employees' Retirement System



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An investment involves a number of risks and there are conflicts of interest.

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**Past performance is not necessarily indicative of future results. Actual performance may vary.**

## I. Executive Summary

New York City Employees' Retirement System ("NYCERS") established the Infrastructure Program (the "Program") in December of 2012 on behalf of its beneficiaries to participate in attractive long-term investment opportunities and to provide diversification to its overall pension investment portfolio.

The inclusion of infrastructure in the NYCERS pension portfolio allows for global investments in facilities or assets that provide core essential services critical to the operation and development of economies. Typically infrastructure investments have high barriers to entry due to significant capital expenditure requirements, exclusive long term contracts or regulatory requirements. Infrastructure investments are comprised of long useful-life assets with high tangible value and relatively low value erosion over time.

The Program seeks to invest in opportunities in a variety of infrastructure sectors, including but not limited to, transportation, energy, power, utilities, water, wastewater, communications and social infrastructure.

StepStone Group LP ("StepStone") was engaged by NYCERS on October 20, 2014 to provide infrastructure advisory services for prospective investment opportunities and monitoring and reporting services for existing and new investments.

Since inception through March 31, 2015, the Program has committed US\$195.0 million to three partnership investments (the "Portfolio"). This quarterly monitoring report covers the performance of the Portfolio as of March 31, 2015 as well as significant activity that occurred during the first quarter of 2015.

### Allocation Summary

NYCERS has a Real Assets allocation target of 6% (plus or minus 2%) of total pension assets. Infrastructure is a component asset class within the NYCERS Real Assets investment program.

As of March 31, 2015, the market value of NYCERS Real Assets Program represented approximately 4.6% of total pension assets. The market value of NYCERS Infrastructure Program represented approximately 0.1% of total pension assets, a two basis point increase from the prior quarter.

As the Program matures, the percentage of its market value relative to the total NYCERS pension assets as well as total Real Assets will continue to increase.

US\$ in millions *	March 31, 2015	December 31, 2014	March 31, 2014	Quarterly Change	Yearly Change
Total Pension Assets*	\$54,339.0	\$53,293.0	\$51,604.0	\$1,046.0	\$2,735.0
Total Real Assets*	\$2,477.0	\$2,473.0	\$2,241.0	\$4.0	\$236.0
% Allocation to Real Assets (Target of 6% +/- 2%)	4.6%	4.6%	4.3%	-8 bps	+ 22 bps
Total Infrastructure Assets	\$36.1	\$22.9	\$10.2	\$13.3	\$26.0
% Allocation to Infrastructure vs. Total Pension Assets	0.1%	0.0%	0.0%	+ 2 bps	+ 5 bps
% Allocation to Infrastructure vs. Total Real Assets	1.5%	0.9%	0.5%	+ 53 bps	+ 101 bps

\* NYCERS total Pension Assets and total Real Assets are as of quarter-end (or, if not yet available, the most recent month-end prior to quarter-end) as reported by The New York City Comptroller's Office on [www.comptroller.nyc.gov](http://www.comptroller.nyc.gov)

## Performance Summary

As of March 31, 2015, the Infrastructure Program has achieved a Total Value to Paid-In multiple of 1.1x invested capital and an IRR of 15.1%. Note that, given the relative immaturity of the Portfolio and underlying fund investments, the current performance to-date is not meaningful.

US\$ in millions*	March 31, 2015	December 31, 2014	March 31, 2014	Quarterly Change	Yearly Change
Number of Managers	3	3	2	-	1
Number of Investments	3	3	2	-	1
Committed Capital <sup>1</sup>	\$195.0	\$195.0	\$150.0	\$0.0	\$45.0
Contributed Capital	\$35.1	\$22.6	\$9.6	\$12.6	\$25.5
Distributed Capital	\$2.2	\$1.8	\$0.1	\$0.4	\$2.1
Market Value	\$36.1	\$22.9	\$10.2	\$13.3	\$26.0
Total Value	\$38.3	\$24.7	\$10.3	\$13.7	\$28.1
Total Gain/(Loss)	\$3.2	\$2.1	\$0.6	\$1.1	\$2.6
Unfunded Commitment	\$159.9	\$172.4	\$140.4	(\$12.6)	\$19.5
Exposure <sup>2</sup>	\$196.0	\$195.3	\$150.5	\$0.7	\$45.5
DPI <sup>3</sup>	0.1x	0.1x	0.0x	0.0x	0.1x
TVPI <sup>4</sup>	1.09x	1.09x	1.06x	0.00x	0.03x
IRR <sup>5</sup>	15.1%	13.9%	30.2%	1.2%	-15.2%
TVPI Net of StepStone Fees <sup>6</sup>	1.09x	1.09x	1.06x	0.00x	0.03x
IRR Net of StepStone Fees <sup>6</sup>	15.1%	13.9%	30.2%	1.2%	-15.2%

\* Note that amounts may not total due to rounding.

<sup>1</sup> Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations. Note that the Base/(US\$) committed capital for foreign currency-denominated investments as of respective quarter-end dates is calculated as follows: (total net amount funded in Base currency) + (unfunded commitment in Local currency \* quarter-end exchange rate). StepStone utilizes OANDA as the source for quarter-end exchange rates to calculate committed capital.

<sup>2</sup> Exposure represents the sum of Market Value and Unfunded Commitment.

<sup>3</sup> DPI, or Distributed to Paid-In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital.

<sup>4</sup> TVPI, or Total Value to Paid-In Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVPI is calculated as Total Value, which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital.

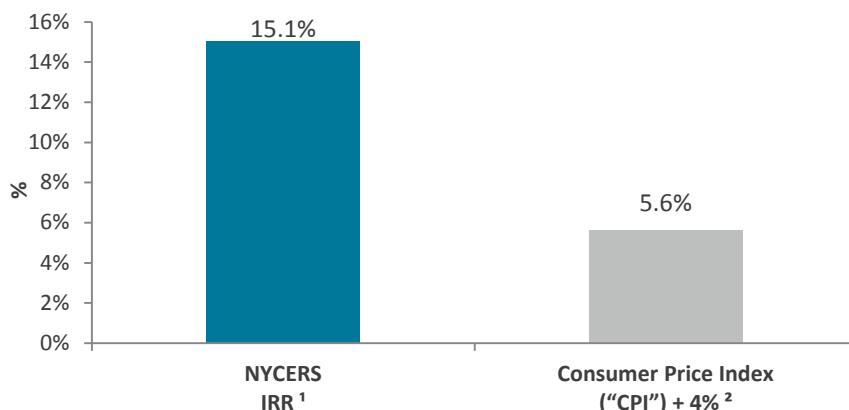
<sup>5</sup> IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund managers' fees, expenses and carried interest.

<sup>6</sup> TVPI and IRR Net of StepStone fees represent TVPI and IRR net of fees paid by NYCERS to StepStone through the quarter-end date. Note that no fees have been paid by NYCERS to StepStone as of March 31, 2015.

## Portfolio Performance vs. Benchmarks

The performance benchmark for the Infrastructure Portfolio is to meet or exceed the Consumer Price Index ("CPI") plus 4% net of fees over a rolling 5-year period. The Infrastructure Portfolio is expected to generate a total return, net of investment management fees, of at least 6.5%.

As of March 31, 2015, the Program outperformed the benchmark by 9.5%. However, as noted previously, given the relative immaturity of the Portfolio, the current performance to-date versus benchmarks is not meaningful. The following graph illustrates Portfolio IRR performance versus the benchmark as of March 31, 2015.



<sup>1</sup>NYCERS since inception Internal Rate of Return ("IRR") is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund managers' fees, expenses and carried interest.

<sup>2</sup>Consumer Price Index ("CPI") benchmark represents the compound annual growth rate of the Consumer Price Index for All Urban Consumers and All Items, as provided by the U.S. Department of Labor: Bureau of Labor Statistics, calculated over a five-year rolling period plus a 4.0% premium.

## Portfolio Diversification

The Program's objective is to build a Portfolio that is diversified by investment strategy, asset type, and geography. The target investment strategy ranges are as follows:

- Core Infrastructure Investments: 60 to 100%; and
- Non-Core Infrastructure Investments: 0% to 40%.

Actual percentages may differ substantially from these targets during the initial years of the Program. The following table illustrates the current diversification of the Portfolio by fund strategy, geography and industry focus.

As of March 31, 2015 (US\$ in millions)	Market Value		Unfunded Commitment		Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
<b>By Strategy:</b>						
Core	36.1	100.0%	159.9	100.0%	196.0	100.0%
Non-Core	-	0.0%	-	0.0%	-	0.0%
<b>Total</b>	<b>36.1</b>	<b>100.0%</b>	<b>159.9</b>	<b>100.0%</b>	<b>196.0</b>	<b>100.0%</b>
<b>By Geographic Focus:</b>						
Global	35.5	98.3%	40.9	25.6%	76.4	39.0%
OECD	0.6	1.7%	119.0	74.4%	119.6	61.0%
<b>Total</b>	<b>36.1</b>	<b>100.0%</b>	<b>159.9</b>	<b>100.0%</b>	<b>196.0</b>	<b>100.0%</b>
<b>By Industry Focus:</b>						
Diversified	35.5	98.3%	115.9	72.5%	151.4	77.3%
Energy	0.6	1.7%	44.0	27.5%	44.6	22.7%
<b>Total</b>	<b>36.1</b>	<b>100.0%</b>	<b>159.9</b>	<b>100.0%</b>	<b>196.0</b>	<b>100.0%</b>

## II. Infrastructure Market Overview

### Market Overview

Demand for infrastructure investments from institutional investors remained strong during the first quarter of 2015 ("1Q15"). This demand was primarily a result of expansionary monetary policies in most markets, which has kept interest rates at very low levels and caused investors to seek alternatives to traditional sources of investment income (e.g. fixed income). This demand continued to drive a high valuation environment for the infrastructure asset class, particularly in mature markets with a wide range of opportunities, such as Western Europe, the Nordic region and Australia.

Global economic growth was mixed during 1Q15. Among OECD countries, annualized gross domestic product ("GDP") was 1.9% higher than the prior corresponding period ("pcp"). Of the seven major economies – the United States, Canada, the United Kingdom, Germany, France, Italy and Japan – the US experienced the highest GDP growth rate of 2.7%, while Japan's GDP contracted by 1.0% mainly due to soft business and consumer spending. Germany achieved GDP growth of 1.0% year over year, although only 0.3% quarter over quarter which was below forecasts. In major emerging markets, economic activity was generally subdued during the quarter. China's economy expanded by 7.0% compared to pcp, its slowest rate of growth since 2009. In Brazil, a 5.7% gain in exports was insufficient to offset declines in domestic demand for the quarter. GDP contracted 0.2% quarter over quarter, and 1.6% year over year.

The energy sector in the US and Canada continued to produce infrastructure investment opportunities, driven by the dislocation in the energy sector and related oil price declines, insufficient midstream infrastructure, coal plant retirements, cross-border opportunities with Mexico, and the ongoing build out of renewable generation to satisfy state-level Renewable Portfolio Standards. And, fiscal constraints on public-sector funding have stimulated an increased consideration of public-private partnerships ("P3s") in the transport and social infrastructure sectors across North America.

European markets remain competitive, with a significant amount of capital targeting infrastructure investment in the region. The resulting upward pricing pressure, combined with uncertain medium-term economic growth in the Eurozone, ongoing financial sector reforms, concerns surrounding bank capital adequacy, and geopolitical risks in Eastern Europe, present an uncertain outlook for investors. Notwithstanding this, activity levels are being sustained by the ongoing unbundling of integrated utilities, commitments to renewable energy targets, balance sheet deleveraging by existing asset owners, and security of energy supply priorities.

Investment activity in parts of Latin America remains strong. In Mexico, recent changes in government policy are driving significant growth in infrastructure investment opportunities. Policy initiatives include allowing foreign investment in the energy sector and a National Infrastructure Plan that contains 743 projects requiring investment of approximately US\$600 billion from 2014 to 2018. StepStone is aware of several infrastructure fund managers reviewing opportunities in Mexico. Despite the current fiscal challenges in Brazil, infrastructure investment has remained a political and economic priority, and other parts of Latin America, particularly the Andean region, continue to provide a range of potential investment opportunities.

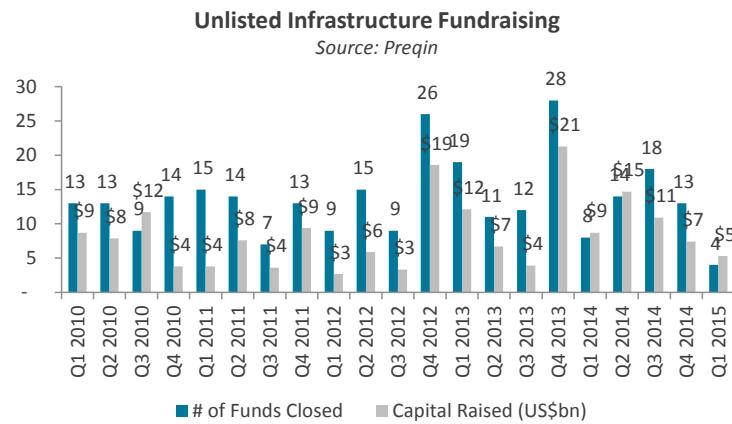
While infrastructure investment in Japan has traditionally been dominated by government-related entities and infrastructure companies with limited private participation by institutional investors, the government continues to face high debt levels. The country recently announced the privatization act for infrastructure assets including airports, and opened bidding processes for Sendai Airport and New Kansai airport. Australia's economy grew 2.3% year over year in the first quarter driven by improved consumption and exports. Fiscal constraints placed on the federal and state governments has increased the reliance on private sector capital in meeting Australia's infrastructure deficit. Government initiatives have encouraged a number of high profile asset sales/P3 transactions that expect to be continued into 2015.

## Infrastructure Fundraising

Fundraising for infrastructure strategies continues to be robust with a large number of funds in market, although the number of managers that closed new funds during the first quarter was down compared to recent periods.

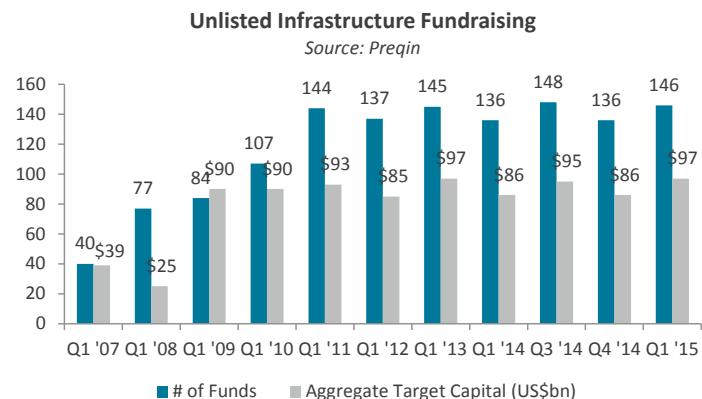
During the first quarter, five funds held final closings. Aggregate capital raised was US\$5.3 billion. The amount represented a year over year decrease of 39% compared to Q1 2014, when US\$15 billion was raised. The capital was raised by five managers.

The largest fund to reach a final closing during Q4 was First State European Diversified Infrastructure Fund, which closed at its hard cap of €2.0 billion. The fund targets core assets in Europe across gas, water and electricity networks; ports; rail and toll roads; and telecommunication network infrastructure. Additionally, P2 Brasil III closed with US\$1.7 billion of commitments. P2 is managed by a joint venture between Pátria Investimentos and Brazilian engineering company Promon. The fund is focused on South America and targets greenfield, brownfield and secondary stage assets in the energy, distribution/storage, natural resources, logistics, transportation, waste management and water sectors.



Fund	General Partner	Size	Final Close Date	Location Focus
First State European Diversified Infrastructure Fund	First State Investments	€ 2,000	Jan-15	Europe
P2Brasil III	P2Brasil	\$ 1,674	Mar-15	South America
Equis Asia Fund II	Equis Funds Group	\$ 1,000	Feb-15	Asia
Equis Direct Investment Fund	Equis Funds Group	\$ 300	Feb-15	Asia
CapAsia ASEAN Infrastructure Fund III	CapAsia	\$ 100	Mar-15	Southeast Asia

As of the end of Q1 2015, Preqin observed 146 funds in market targeting aggregate capital commitments of US\$97 billion. The largest funds in market include: Alinda Infrastructure Fund III which is targeting US\$5.0 billion for North America and Europe; Morgan Stanley Infrastructure Partners II, which is targeting \$4.0 billion in commitments for global infrastructure investments; and ArcLight Energy Partners Fund VI, also targeting US\$4.0 billion to invest in energy infrastructure across North America and Western Europe. Two dedicated European funds are each targeting €2bn: Deutsche Asset & Wealth Management's Pan-European Infrastructure Fund II, and Ardian Infrastructure Generation IV.



## Major Transactions

Several significant infrastructure transactions occurred on a global basis during the first quarter, with notable activity in the UK, Europe, Australia and North America.

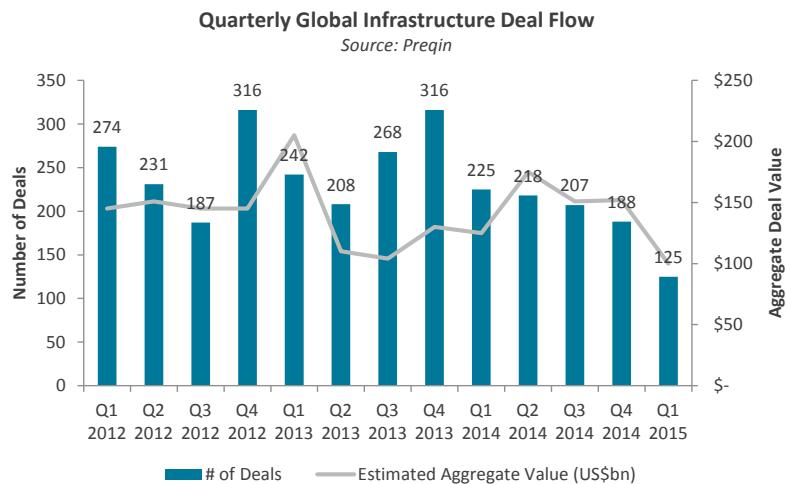
In January 2015, Cheung Kong Infrastructure Holdings reached a deal to acquire 100% of Eversholt Rail Group from 3i Infrastructure, Morgan Stanley, and STAR Capital Partners for £2.5 billion. Eversholt is one of three rolling stock companies formed in 1994 as part of the privatization of British Rail.

In February 2015, CPP Investment Board, QIC, and Transurban Group reached financial close on NorthConnex, a A\$2.9 billion toll road development project in Sydney, NSW.

In March 2015, IFM Investors announced the planned acquisition of Indiana Toll Roads for \$5.7 billion through a bankruptcy sales process. The road has 66 years of concession life remaining and serves as a transportation link between Chicago and the US east coast.

In March 2015, a consortium consisting of Borealis Infrastructure, AP-Fonden 3, AP-Fonden 1, and Folksam signed an agreement to acquire 100% of the shares of Fortum Distribution, Fortum's electricity distribution networks in Sweden for €6.6 billion. Fortum Distribution is the second largest player in the electricity distribution market in Sweden with 17% market share.

In March 2015, Canada Pension Plan Investment Board announced the acquisition of 100% of the UK student accommodation portfolio Liberty Living for £1.1 billion. Liberty Living is one of the U.K.'s largest student accommodation providers with over 40 residences located in 17 university towns and cities across the UK.



### III. Portfolio Review

#### Quarterly Highlights

- **No New Investment Commitments** – There were no new investment commitments made during the first quarter of 2015.
- **Subsequent Investment Commitments** – Subsequent to quarter-end through August 7, 2015, the Program closed on one new investment commitment totaling US\$77.0 million. This is shown in the table below.

US\$ in millions

Investment	Month and Year Closed	Vintage Year	Strategy	Geographic Focus	Industry Focus	Committed Capital
KKR Global Infrastructure Investors II L.P.	June 2015	2014	Infrastructure	OECD	Diversified	\$77.0
<b>Total</b>						<b>\$77.0</b>

- **Cash Outflow Increased** – During the first quarter of 2015, the Program made US\$12.6 million of contributions and received US\$0.4 million of distributions, for a net cash outflow of US\$12.2 million. This compared to a net cash inflow of US\$3.9 million during the prior quarter. Net cash flow is expected to remain negative for the next several years as the Program's committed capital is drawn down for investments, fees and expenses by fund managers.
- **Valuation Increased** – During the first quarter of 2015, net of cash flow activity, the valuation of the Portfolio increased by approximately US\$1.1 million, or 3.2%, from the prior quarter. The valuation increase reflects the increase in value of underlying investments in Brookfield Infrastructure Fund II.
- **Two New Investments** – During the first quarter of 2015, two new investment positions were added to the portfolio.

US\$ in millions

Company	Fund(s)	Investment Date	Stage	Industry	Country	Exposed Invested Capital	Exposed Market Value	Exposed Realized Proceed	TVM
Kingfisher Wind	First Reserve Energy Infrastructure Fund II, L.P.	Jan-15	Private	Energy	United States	0.6	0.6	-	1.0x
French Telecom Infrastructure	Brookfield Infrastructure Fund II	Mar-15	Private	Utilities	France	5.3	5.3	-	1.0x

- **No Exits** – There were no exits of investment positions during the quarter.

## Performance by Vintage Year

The following table illustrates the Portfolio's since-inception investment performance by vintage year as of March 31, 2015. Note that the performance of funds that are less than one year old is not meaningful.

*As of March 31, 2015 (US\$ in millions)*

Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Total Value	Total Gain/(Loss)	Unfunded Commitment	Exposure	DPI	TVPI	IRR
2013	\$75.0	\$34.1	\$2.2	\$35.5	\$37.7	\$3.6	\$40.9	\$76.4	0.1x	1.1x	17.2%
2014	120.0	1.0	-	0.6	0.6	(0.4)	119.0	119.6	NM	NM	NM
<b>Total</b>	<b>\$195.0</b>	<b>\$35.1</b>	<b>\$2.2</b>	<b>\$36.1</b>	<b>\$38.3</b>	<b>\$3.2</b>	<b>\$159.9</b>	<b>\$196.0</b>	<b>0.1x</b>	<b>1.1x</b>	<b>15.1%</b>

## Performance by Strategy and Industry Focus

The following table illustrates the Portfolio's since-inception investment performance by strategy and industry focus as of March 31, 2015.

*As of March 31, 2015 (US\$ in millions)*

Strategy/Industry	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Total Value	Total Gain/(Loss)	Unfunded Commitment	Exposure	DPI	TVPI	IRR
<b>Core</b>	<b>\$195.0</b>	<b>\$35.1</b>	<b>\$2.2</b>	<b>\$36.1</b>	<b>\$38.3</b>	<b>\$3.2</b>	<b>\$159.9</b>	<b>\$196.0</b>	<b>0.1x</b>	<b>1.1x</b>	<b>15.1%</b>
Diversified	150.0	34.1	2.2	35.5	37.7	3.6	115.9	151.4	0.1x	1.1x	17.2%
Energy	45.0	1.0	-	0.6	0.6	(0.4)	44.0	44.6	NM	NM	NM
<b>Total</b>	<b>\$195.0</b>	<b>\$35.1</b>	<b>\$2.2</b>	<b>\$36.1</b>	<b>\$38.3</b>	<b>\$3.2</b>	<b>\$159.9</b>	<b>\$196.0</b>	<b>0.1x</b>	<b>1.1x</b>	<b>15.1%</b>

## Performance by Geographic Focus

The following table and charts illustrate the Portfolio's since-inception investment performance by geographic focus as of March 31, 2015.

*As of March 31, 2015 (US\$ in millions)*

Geographic Focus	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Total Value	Total Gain/(Loss)	Unfunded Commitment	Exposure	DPI	TVPI	IRR
Global	\$75.0	\$34.1	\$2.2	\$35.5	\$37.7	\$3.6	\$40.9	\$76.4	0.1x	1.1x	17.2%
OECD	120.0	1.0	-	0.6	0.6	(0.4)	119.0	119.6	NM	NM	NM
<b>Total</b>	<b>\$195.0</b>	<b>\$35.1</b>	<b>\$2.2</b>	<b>\$36.1</b>	<b>\$38.3</b>	<b>\$3.2</b>	<b>\$159.9</b>	<b>\$196.0</b>	<b>0.1x</b>	<b>1.1x</b>	<b>15.1%</b>

## Portfolio Diversification

### By Strategy, Geography and Industry Focus

The Program's objective is to build a Portfolio that is diversified by investment strategy, asset type, and geography. The target investment strategy ranges are as follows:

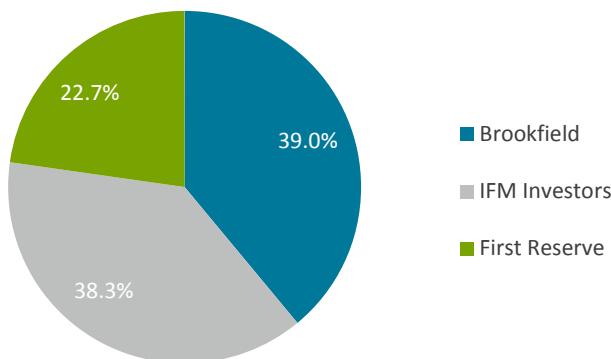
- Core Infrastructure Investments: 60 to 100%; and
- Non-Core Infrastructure Investments: 0% to 40%.

Actual percentages may differ substantially from these targets during the initial years of the Program. The following table illustrates the current diversification of the Portfolio by fund strategy, geography and industry focus.

As of March 31, 2015 (US\$ in millions)	Market Value		Unfunded Commitment		Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
<b>By Strategy:</b>						
Core	36.1	100.0%	159.9	100.0%	196.0	100.0%
Non-Core	-	0.0%	-	0.0%	-	0.0%
<b>Total</b>	<b>36.1</b>	<b>100.0%</b>	<b>159.9</b>	<b>100.0%</b>	<b>196.0</b>	<b>100.0%</b>
<b>By Geographic Focus:</b>						
Global	35.5	98.3%	40.9	25.6%	76.4	39.0%
OECD	0.6	1.7%	119.0	74.4%	119.6	61.0%
<b>Total</b>	<b>36.1</b>	<b>100.0%</b>	<b>159.9</b>	<b>100.0%</b>	<b>196.0</b>	<b>100.0%</b>
<b>By Industry Focus:</b>						
Diversified	35.5	98.3%	115.9	72.5%	151.4	77.3%
Energy	0.6	1.7%	44.0	27.5%	44.6	22.7%
<b>Total</b>	<b>36.1</b>	<b>100.0%</b>	<b>159.9</b>	<b>100.0%</b>	<b>196.0</b>	<b>100.0%</b>

### By Investment Manager

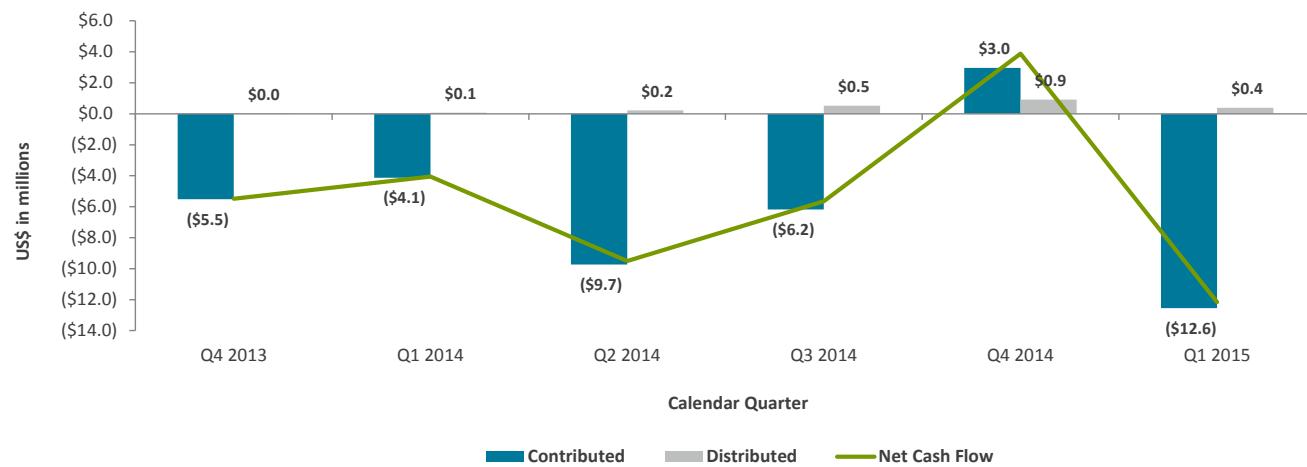
As of March 31, 2015, the Program had made three investment commitments to three managers. NYCERS seeks to limit its exposure to any single manager to no more than 10% of the total Real Assets Program when fully invested. As the Program matures and closes on additional commitments, the single manager exposure is expected to decline significantly. Below is the Portfolio's current exposure by manager.



## Portfolio Cash Flow Analysis

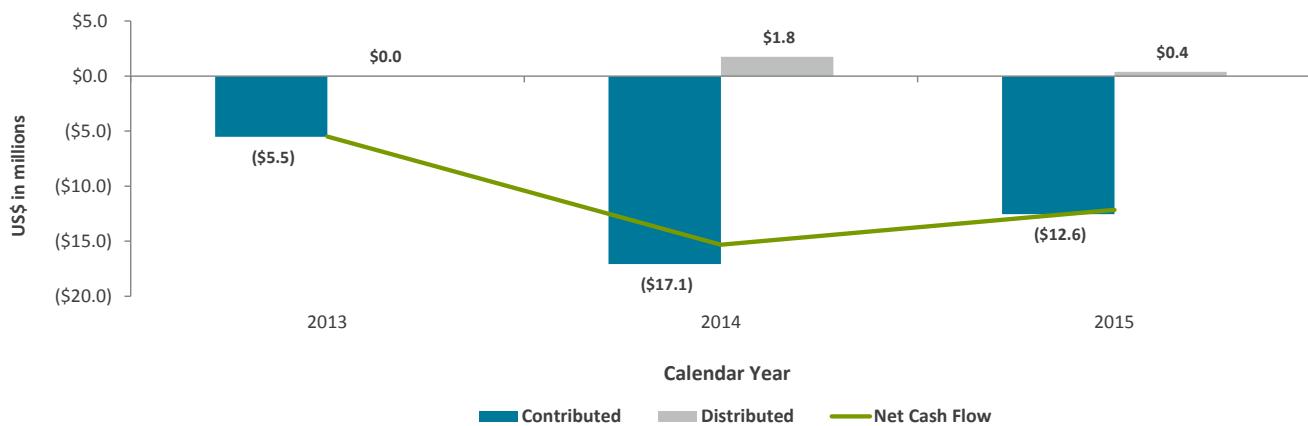
### Quarterly Cash Flow Activity

During the first quarter of 2015, the Program made US\$12.6 million of contributions and received US\$0.4 million of distributions, for a net cash outflow of US\$12.2 million. As of March 31, 2015, two fund investments in the Portfolio had cash flow activity. As the Program's commitment and investment activity increases, net cash outflow is expected to increase. The graph below illustrates cash flow activity since inception by calendar quarter.



### Annual Cash Flow Activity

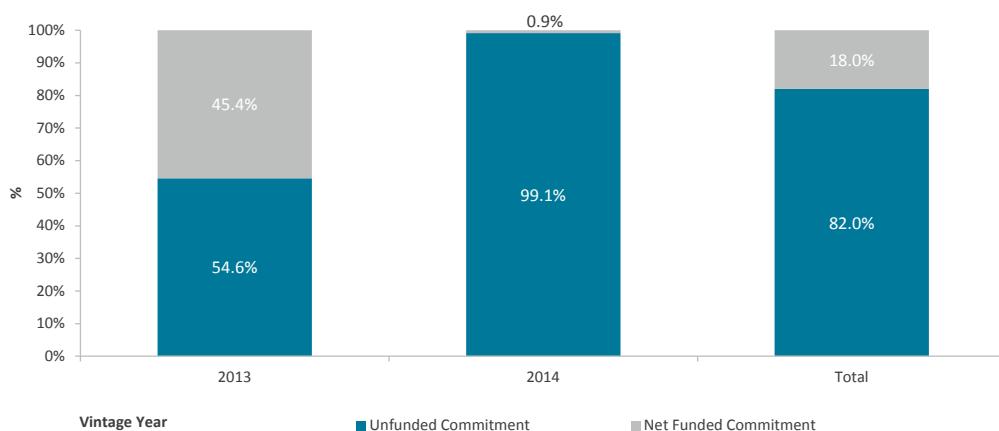
During the first three months of 2015, the Program made US\$12.6 million of contributions and received US\$0.4 million of distributions, for a net cash outflow of US\$12.2 million. The graph below illustrates cash flow activity since inception by calendar year.



### Net Funded and Unfunded Commitments by Vintage Year

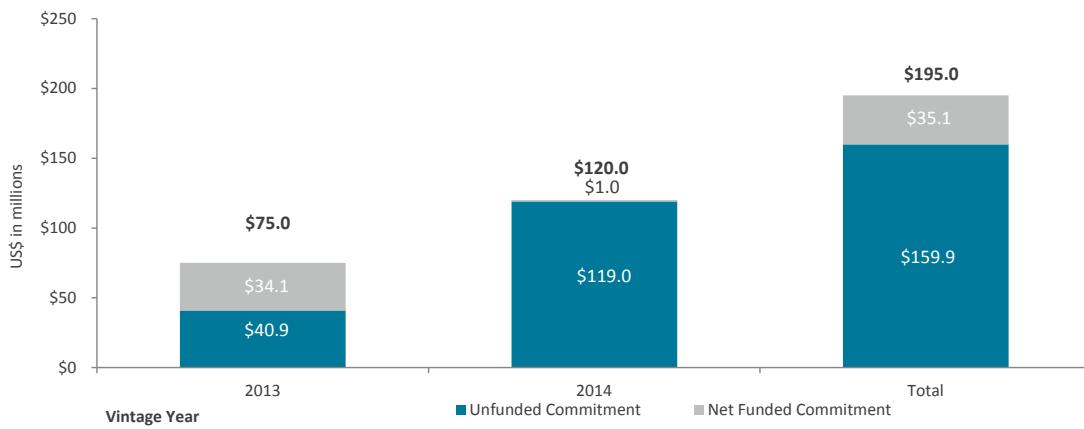
The following chart illustrates the Portfolio's net funded commitments (defined as total contributions inside commitment less any returns of excess capital and recallable distributions) as a percentage of total capital commitments, by fund vintage year, as of March 31, 2015. Overall, the Portfolio was 82.0% unfunded as of quarter-end.

**Net Funded and Unfunded Commitment by Vintage Year (%)**



The following chart illustrates the Portfolio's net funded commitments relative to total capital commitments, by fund vintage year, as of March 31, 2015. Overall, the Portfolio had US\$159.9 million of unfunded commitments as of quarter-end.

**Net Funded and Unfunded Commitment by Vintage Year (US\$ millions)**

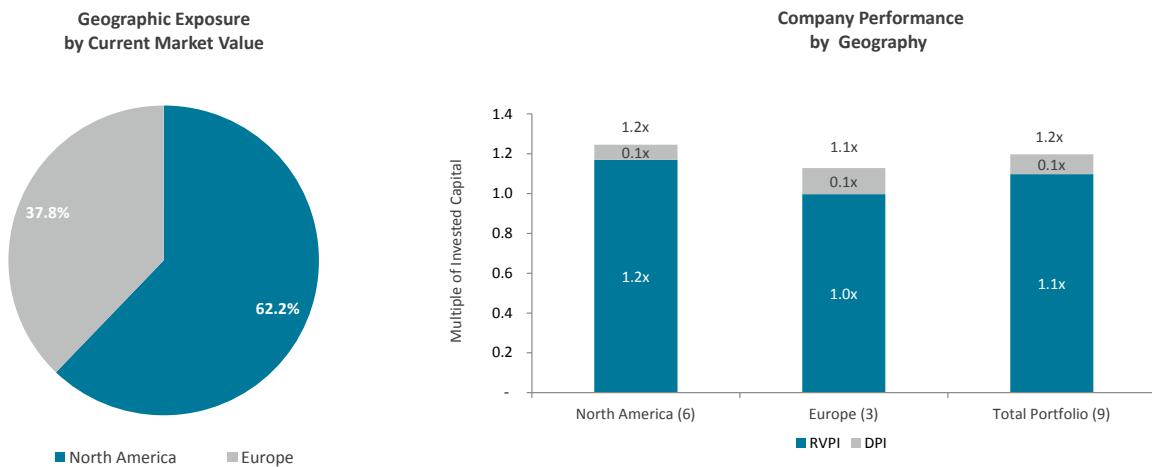


## Portfolio Company-Level Analysis

As of quarter-end, the Portfolio had exposure to nine unique portfolio companies/investment positions. As the Portfolio matures, the number of unique portfolio companies/investment positions is expected to increase significantly. On the individual fund level, all current investments are within the single investment limitation of 15% of total fund size.

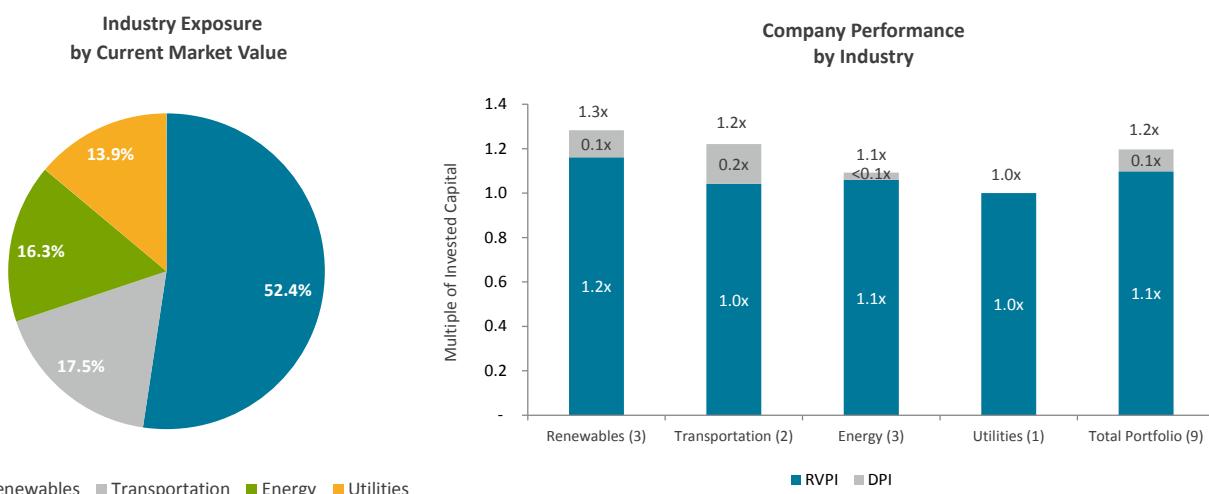
### Geographic Exposure and Performance

The following charts illustrate the Portfolio's current exposure and performance by geographic region at the portfolio company level.



### Industry Exposure and Performance

The following charts illustrate the Portfolio's current exposure and performance by industry at the portfolio company level.



### Public Market Exposure

The Portfolio had no exposure to publicly-traded investments as of the quarter-end.

## IV. Risk Management Matrix

Category	Requirement	Status	Status Notes
<b>Allocation</b>	<p>NYCERS has a Real Assets allocation target of 6% (plus or minus 2%) of total pension assets.</p> <p>Infrastructure is a component asset class within the NYCERS Real Assets investment program.</p>	✓	<p>The market value of NYCERS Real Assets Program currently represents approximately 4.6% of total pension assets and the market value of NYCERS Infrastructure Program represents approximately 0.1% of total pension assets.</p> <p>As the Program matures, its market value as a percentage of the total NYCERS pension assets and the total Real Assets Program is expected to increase.</p>
<b>Performance vs. Benchmarks</b>	<p>The performance benchmark for the Infrastructure Portfolio is to meet or exceed the Consumer Price Index ("CPI") plus 4% net of fees over a rolling 5-year period.</p> <p>The Infrastructure Portfolio is expected to generate a total return, net of investment management fees, of at least 6.5%.</p>	✓	<p>As of March 31, 2015, the Portfolio outperformed the benchmark by 9.5%.</p> <p>However, given the relative immaturity of the Portfolio, the current performance to-date versus benchmarks is not meaningful.</p>
<b>Strategy Diversification</b>	<p>Core Infrastructure Investments: 60-100%</p> <p>Non-Core Infrastructure Investments: 0-40%</p> <p>Actual percentages may differ substantially from these targets during the initial years of the Program.</p>	✓	<p>The Program is in compliance with the Core/Non-Core allocation ranges. Currently the Program only has exposure to Core investments.</p>
<b>Asset Type &amp; Location Diversification</b>	<p>The Program will seek diversification by asset type, revenue drivers, and geography. The portfolio may include a variety of assets including but not limited to electricity transmission, pipelines, airports, toll roads, communication towers and electric generators, windmills etc. to vary the sources of revenue to the portfolio.</p>	✓	<p>Given the relative immaturity of the Portfolio, it is not yet diversified by asset type.</p> <p>The asset types and geographic location of current Portfolio investments are in compliance with the Program's Investment Policy Statement and Permissible Markets.</p>
<b>Leverage</b>	<p>The average leverage of all investments in the Program is to be no higher than 65%.</p>	✓	<p>The Program is in compliance with the average leverage limitation. The current leverage level is 36.6%*.</p>
<b>Single Investment Size &amp; Manager Diversification</b>	<p>The maximum commitment to a single investment is limited to no more than 15% of the aggregate committed capital of each fund.</p> <p>The maximum commitment to a single manager is limited to 10% of the total Real Assets Program allocation when fully invested.</p>	✓	<p>On the individual fund level, all current investments are in compliance with the single investment limitation of 15% of total fund size.</p> <p>The Program is in compliance with the single manager limitation of 10% of the total Real Assets Program.</p> <p>The Program's manager exposure is currently relatively concentrated as a result of the relative immaturity of the Program. Manager diversification is expected to increase as the Program closes on new investment commitments.</p>

\*The Program's leverage level is calculated by using a weighted average of each underlying investment's leverage and Net Asset Value as of March 31, 2015.

**New York City Employees' Retirement System  
Infrastructure Portfolio  
As of March 31, 2015**

Vintage Year	Investment	Closing Date	Committed Capital	Contributed Capital	Distributed Capital	Market Value	TVPI	IRR
<b>Active Investments:</b>								
2013	Brookfield Infrastructure Fund II	7/8/2013	\$75,000,000	\$34,108,472	\$2,176,564	\$35,515,661	1.11x	17.2%
2014	IFM Global Infrastructure Fund	1/2/2014	75,000,000	-	-	-	N/A	N/A
2014	First Reserve Energy Infrastructure Fund II, L.P.	4/16/2014	45,000,000	1,038,468	-	627,783	NM	NM
<b>Total</b>			<b>\$195,000,000</b>	<b>\$35,146,940</b>	<b>\$2,176,564</b>	<b>\$36,143,444</b>	<b>1.09x</b>	<b>15.1%</b>

Note: IRRs presented are interim estimates and may not be indicative of the ultimate performance of fund investments due to a number of factors, such as the lack of industry valuation standards and the differences in the investment pace and strategy of various funds. Until a fund is liquidated, typically over 10 to 12 years, the IRR is only an interim estimated return. The IRR calculated in the early years of a fund is usually not meaningful given the J-Curve effect. The actual IRR performance of any fund is not known until all capital contributed and earnings have been distributed to the investor. The IRRs contained in this report are calculated by StepStone Group LP, a consultant to the New York City Retirement Systems, based on information provided by the general partners of each investment (e.g. cash flows and valuations). The IRR calculations and other information contained in this report have not been reviewed or confirmed by the general partners. The result of the IRR calculation may differ from that generated by the general partner or other limited partners. Differences in IRR calculations can be affected by cash-flow timing, the accounting treatment of carried interest, fund management fees, advisory fees, organizational fees, other fund expenses, sale of distributed stock, and valuations.

## Callan Performance Summary

# Callan

September 22, 2015



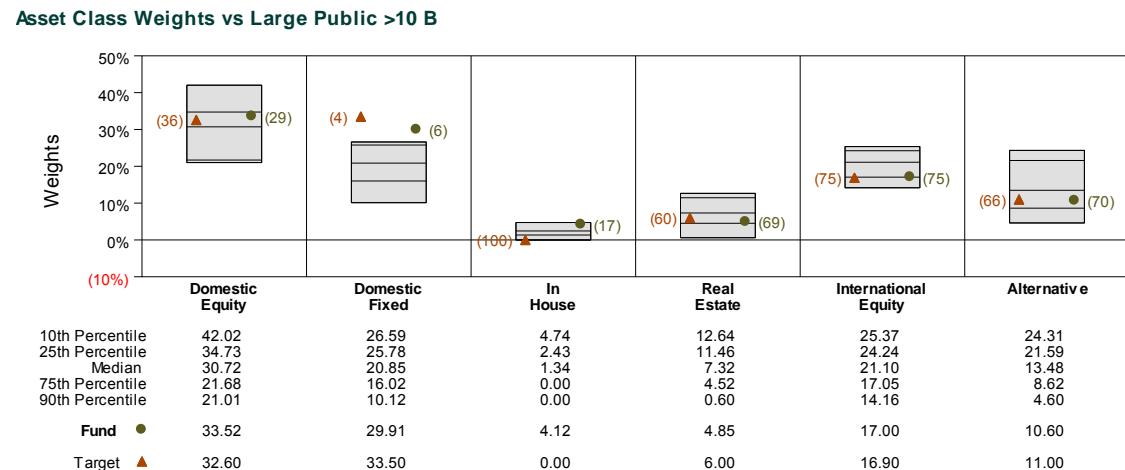
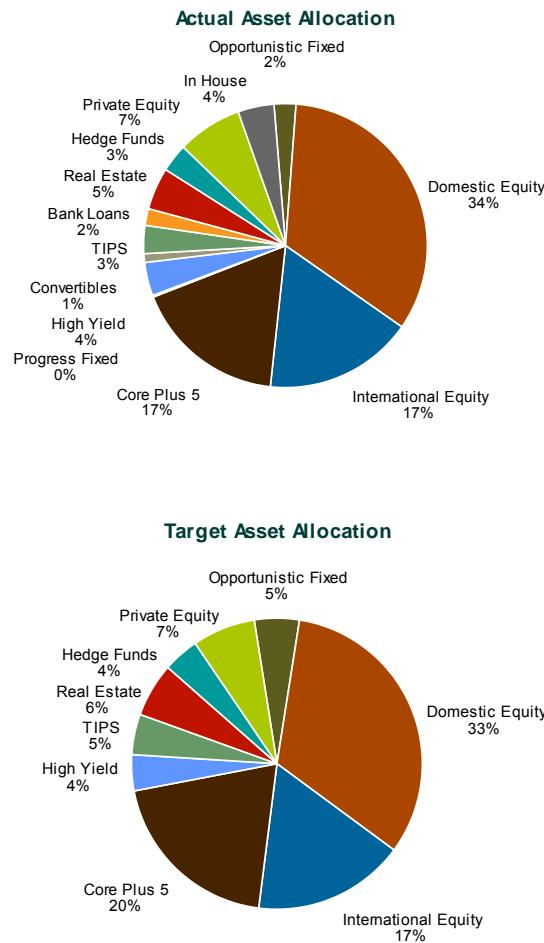
## New York City Employees' Retirement System

Performance Measurement Summary  
6/30/15

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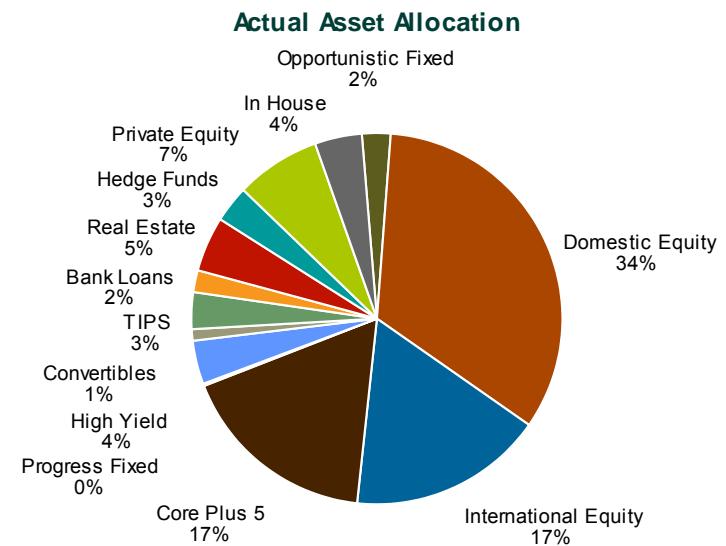
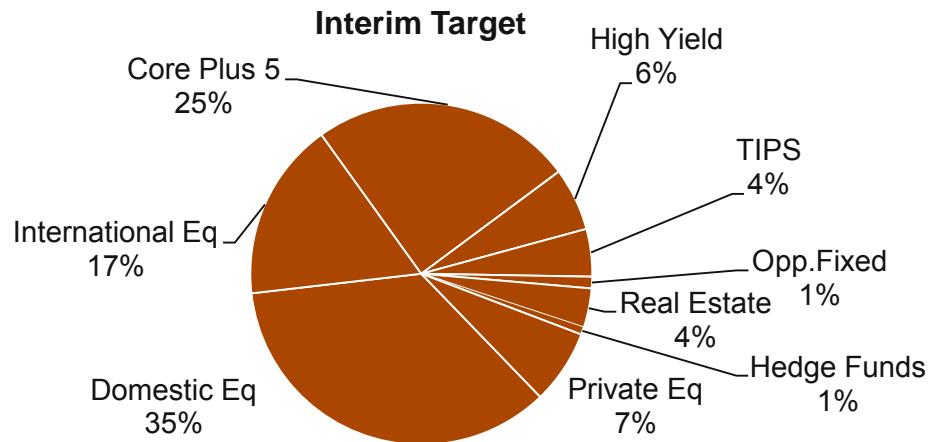
**Bud Pellecchia**  
Senior Vice President

# Total Fund Actual Asset Allocation Versus New Long Term Target



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Opportunistic Fixed	1,332,247	2.5%	5.0%	(2.5%)	(1,382,149)
Domestic Equity	18,198,080	33.5%	32.6%	0.9%	500,221
International Equity	9,226,574	17.0%	16.9%	0.1%	51,918
Core Plus 5	9,419,505	17.4%	20.0%	(2.6%)	(1,438,077)
Progress Fixed	110,665	0.2%	0.0%	0.2%	110,665
High Yield	2,069,997	3.8%	4.0%	(0.2%)	(101,520)
Convertibles	537,912	1.0%	0.0%	1.0%	537,912
TIPS	1,760,761	3.2%	4.5%	(1.3%)	(682,195)
Bank Loans	1,006,025	1.9%	0.0%	1.9%	1,006,025
Real Estate	2,632,876	4.8%	6.0%	(1.2%)	(624,398)
Hedge Funds	1,729,587	3.2%	4.0%	(0.8%)	(441,929)
Private Equity	4,024,343	7.4%	7.0%	0.4%	224,190
In House	2,239,336	4.1%	0.0%	4.1%	2,239,336
Total	54,287,909	100.0%	100.0%		

# Total Fund Actual Asset Allocation Versus Interim Target



## Interim Target

- 32.6% Russell 3000 for **Broad Domestic Equity**, 16.9% ACWI ex-US for **Global Ex-US Equity**, 20% Core Plus 5% for **Fixed Income**
- 4.5% BC US TIPS Index for **TIPS**
- 4% Citigroup High Yield Index BB & B for **High Yield Fixed Income**
- 7% Russell 3000 Index + 5% for **Private Equity**
- 3.7% NFI-ODCE Equal Weight Net +1%, 1.15% Russell 3000 Index, 1.15% Core Plus 5% Index for **Real Estate**
- 0.7% HFRI FOF Composite + 1%, 1.65% Russell 3000 Index, 1.65% Core Plus 5% Index for **Hedge Funds**
- 1.1% JP Morgan High Yield Index + 3%, 1.95% Core Plus 5%, 1.95% Citigroup HY Index BB & B for **Opportunistic Fixed Income**

Or

- 35.4% Russell 3000 Index
- 16.9% ACWI ex-US Index
- 24.75% Core Plus 5% Index
- 4.5% BC US TIPS Index
- 5.95% Citigroup High Yield Index BB & B
- 7% Russell 3000 + 3%
- 3.7% NFI-ODCE Equal Weight Net +1%
- 0.7% HFRI FOF Composite + 1%
- 1.1 % JP Morgan High Yield Index + 3%

# Total Fund Quarterly Attribution Analysis Versus New Long Term Target

With Private Equity Target Return Equal to Actual Return

**Relative Attribution Effects for Quarter ended June 30, 2015**

Style Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Style Allocation	Total Relative Return
Domestic Equity	34%	33%	(0.04%)	0.14%	(0.06%)	(0.00%)	(0.07%)
Core Plus 5	17%	20%	(1.99%)	(2.25%)	0.04%	0.07%	0.12%
High Yield	4%	4%	0.12%	0.26%	(0.01%)	0.00%	(0.01%)
TIPS	3%	5%	(1.00%)	(1.06%)	0.00%	0.02%	0.03%
Short Term	3%	0%	0.09%	0.09%	0.00%	(0.01%)	(0.01%)
Opportunistic Fixed	2%	5%	0.49%	2.22%	(0.04%)	(0.04%)	(0.09%)
Leveraged-Bank Loans	2%	0%	0.95%	0.95%	0.00%	0.01%	0.01%
Total Targeted	1%	0%	(2.56%)	(2.56%)	0.00%	(0.03%)	(0.03%)
Convertibles	1%	0%	(0.06%)	(0.06%)	0.00%	(0.00%)	(0.00%)
Progress Fixed	0%	0%	(1.79%)	(1.79%)	0.00%	(0.00%)	(0.00%)
Real Estate	5%	6%	4.48%	3.92%	0.03%	(0.05%)	(0.02%)
International Equity	17%	17%	0.34%	0.72%	(0.07%)	0.00%	(0.07%)
Private Equity	7%	7%	5.98%	5.98%	0.00%	0.01%	0.01%
Hedge Funds	3%	4%	(1.29%)	0.42%	(0.06%)	0.00%	(0.06%)
<b>Total</b>			<b>0.28% = 0.46% + (0.16%) + (0.03%)</b>				<b>(0.19%)</b>

- What Helped?
  - Strong Performance in Real Estate
  - Underweight Core Plus 5
- What Hurt?
  - Weak relative performance in Opportunistic Fixed, Domestic Equity, and International Equity
  - Underweight to Real Estate

Current Quarter Target = 32.6% Russell 3000 Index, 20.0% Citi Core Plus 5 Index, 16.9% MSCI ACWI ex-US Index, 7.0% NYC – Private Equity, 6.0% NFI-ODCE Equal Weight Net +1%, 5.0% JP Morgan Global HY Bd Idx+3.0%, 4.5% Barclays US TIPS Index, 4.0% HFRI Fund of Funds Compos+1.0% and 4.0% High Yield Idx BB & B.

# Total Fund Quarterly Attribution Analysis Versus Interim Target

With Private Equity Target Return Equal to Actual Return

**Relative Attribution Effects for Quarter ended June 30, 2015**

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	34%	35%	(0.04%)	0.14%	(0.06%)	0.00%	(0.06%)
Core Plus 5	17%	25%	(1.99%)	(2.25%)	0.04%	0.18%	0.23%
High Yield	4%	6%	0.12%	0.26%	(0.01%)	(0.00%)	(0.01%)
TIPS	3%	5%	(1.00%)	(1.06%)	0.00%	0.02%	0.02%
Short Term	3%	0%	0.09%	0.09%	0.00%	(0.00%)	(0.00%)
Opportunistic Fixed	2%	1%	0.49%	2.22%	(0.04%)	0.03%	(0.01%)
Leveraged Bank Loans	2%	0%	0.95%	0.95%	0.00%	0.01%	0.01%
Total Targeted	1%	0%	(2.56%)	(2.56%)	0.00%	(0.03%)	(0.03%)
Convertibles	1%	0%	(0.06%)	(0.06%)	0.00%	(0.00%)	(0.00%)
Progress Fixed	0%	0%	(1.79%)	(1.79%)	0.00%	(0.00%)	(0.00%)
Real Estate	5%	4%	4.48%	3.92%	0.03%	0.04%	0.06%
International Equity	17%	17%	0.34%	0.72%	(0.07%)	0.00%	(0.07%)
Private Equity	7%	7%	5.98%	5.98%	0.00%	0.01%	0.01%
Hedge Funds	3%	1%	(1.29%)	0.43%	(0.06%)	0.01%	(0.05%)
<b>Total</b>			<b>0.28% = 0.17% + (0.16%) + 0.26%</b>				<b>0.10%</b>

- What Helped?

- Strong Performance in Core Plus 5 and Real Estate
- Underweight Core Plus 5

- What Hurt?

- Weak relative performance in Domestic Equity, International Equity, and Hedge Funds

Current Quarter Target = 35.4% Russell 3000 Index, 24.8% Citi Core Plus 5 Index, 16.9% MSCI ACWI ex-US Index, 7.0% NYC – Private Equity, 6.0% High Yield Idx BB & B, 4.5% Barclays US TIPS Index, 3.7% NFI-ODCE Equal Weight Net +1%, 1.1% JP Morgan Global HY Bd Idx+3.0% and 0.7% HFRI Fund of Funds Compos+1.0%.

# Total Fund 3 ¾ Year Attribution Analysis Versus New Long Term Target

With Private Equity Target Return Equal to Actual Return

## Three and Three-Quarter Year Annualized Relative Attribution Effects

Style Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Style Allocation	Total Relative Return
Domestic Equity	37%	33%	20.24%	20.31%	(0.03%)	0.32%	0.30%
Core Plus 5	17%	20%	3.69%	2.94%	0.13%	0.25%	0.38%
High Yield	5%	4%	9.15%	8.55%	0.03%	(0.02%)	0.01%
TIPS	3%	5%	1.36%	1.16%	0.01%	0.18%	0.18%
Short Term	2%	0%	0.39%	0.39%	0.00%	(0.26%)	(0.26%)
Opportunistic Fixed	2%	5%	9.60%	15.08%	(0.07%)	(0.13%)	(0.19%)
Leveraged-Bank Loans	1%	0%	3.24%	3.24%	0.00%	(0.07%)	(0.07%)
Total Targeted	1%	0%	4.54%	4.54%	0.00%	(0.09%)	(0.09%)
Convertibles	1%	0%	11.22%	11.22%	0.00%	(0.01%)	(0.01%)
Progress Fixed	0%	0%	2.86%	2.86%	0.00%	(0.02%)	(0.02%)
Real Estate	4%	6%	14.57%	12.35%	0.09%	(0.01%)	0.08%
International Equity	17%	17%	9.04%	9.83%	(0.13%)	(0.06%)	(0.19%)
Private Equity	8%	7%	10.72%	10.72%	0.00%	(0.07%)	(0.07%)
Hedge Funds	3%	4%	4.59%	6.12%	(0.03%)	0.10%	0.07%
<b>Total</b>			<b>11.85% = 11.76% + 0.01% + 0.08%</b>			<b>0.09%</b>	

- What Helped?
  - Overweight Domestic Equity
  - Underweight Core Plus 5, TIPS and Hedge Funds
  - Strong Manager Performance in Core Plus 5 and Real Estate
- What Hurt?
  - Overweight Short Term Cash and Private Equity
  - Underweight Opportunistic Fixed
  - Weak relative performance in Opportunistic Fixed and International Equity

Current Quarter Target = 32.6% Russell 3000 Index, 20.0% Citi Core Plus 5 Index, 16.9% MSCI ACWI ex-US Index, 7.0% NYC – Private Equity, 6.0% NFI-ODCE Equal Weight Net +1%, 5.0% JP Morgan Global HY Bd Idx+3.0%, 4.5% Barclays US TIPS Index, 4.0% HFRI Fund of Funds Compos+1.0% and 4.0% High Yield Idx BB & B.

# Total Fund 3 ¾ Year Attribution Analysis Versus Interim Target

With Private Equity Target Return Equal to Actual Return

## Three and Three-Quarter Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	37%	35%	20.24%	20.31%	(0.03%)	0.09%	0.07%
Core Plus 5	17%	25%	3.69%	2.94%	0.13%	0.64%	0.77%
High Yield	5%	6%	9.15%	8.55%	0.03%	0.05%	0.08%
TIPS	3%	5%	1.36%	1.16%	0.01%	0.17%	0.18%
Short Term	2%	0%	0.39%	0.39%	0.00%	(0.26%)	(0.26%)
Opportunistic Fixed	2%	1%	9.60%	15.08%	(0.07%)	0.01%	(0.05%)
Leveraged Bank Loans	1%	0%	3.24%	3.24%	0.00%	(0.07%)	(0.07%)
Total Targeted	1%	0%	4.54%	4.54%	0.00%	(0.09%)	(0.09%)
Convertibles	1%	0%	11.22%	11.22%	0.00%	(0.01%)	(0.01%)
Progress Fixed	0%	0%	2.86%	2.86%	0.00%	(0.02%)	(0.02%)
Real Estate	4%	4%	14.57%	12.68%	0.08%	0.02%	0.09%
International Equity	17%	17%	9.04%	9.83%	(0.13%)	(0.06%)	(0.19%)
Private Equity	8%	7%	10.72%	10.72%	0.00%	(0.07%)	(0.07%)
Hedge Funds	3%	1%	4.59%	6.13%	(0.03%)	(0.07%)	(0.11%)
<b>Total</b>			<b>11.85% = 11.56% + (0.01%) + 0.29%</b>				<b>0.29%</b>

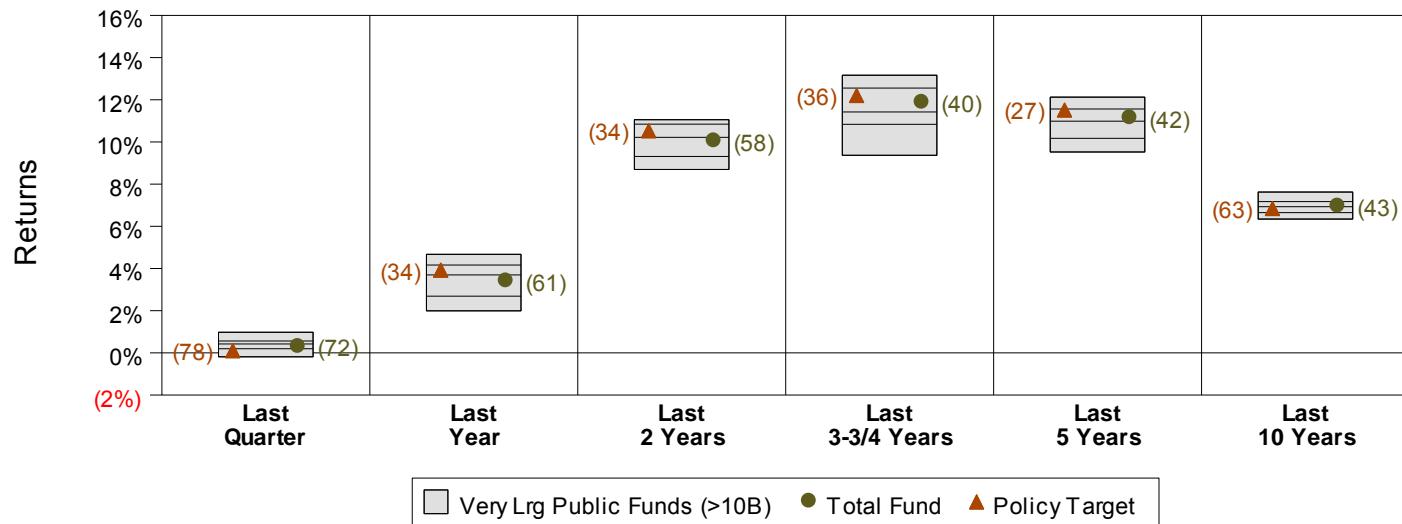
- What Helped?
  - Overweight Domestic Equity
  - Underweight Core Plus 5 and TIPS
  - Strong Manager Performance in Core Plus 5 and Real Estate
- What Hurt?
  - Overweight Short Term Cash and Private Equity
  - Weak relative performance in Opportunistic Fixed and International Equity

Current Quarter Target = 35.4% Russell 3000 Index, 24.8% Citi Core Plus 5 Index, 16.9% MSCI ACWI ex-US Index, 7.0% NYC – Private Equity, 6.0% High Yield Idx BB & B, 4.5% Barclays US TIPS Index, 3.7% NFI-ODCE Equal Weight Net +1%, 1.1% JP Morgan Global HY Bd Idx+3.0% and 0.7% HFRI Fund of Funds Compos+1.0%.

# Total Fund Peer Comparisons

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## Very Lrg Public Funds (>10B)

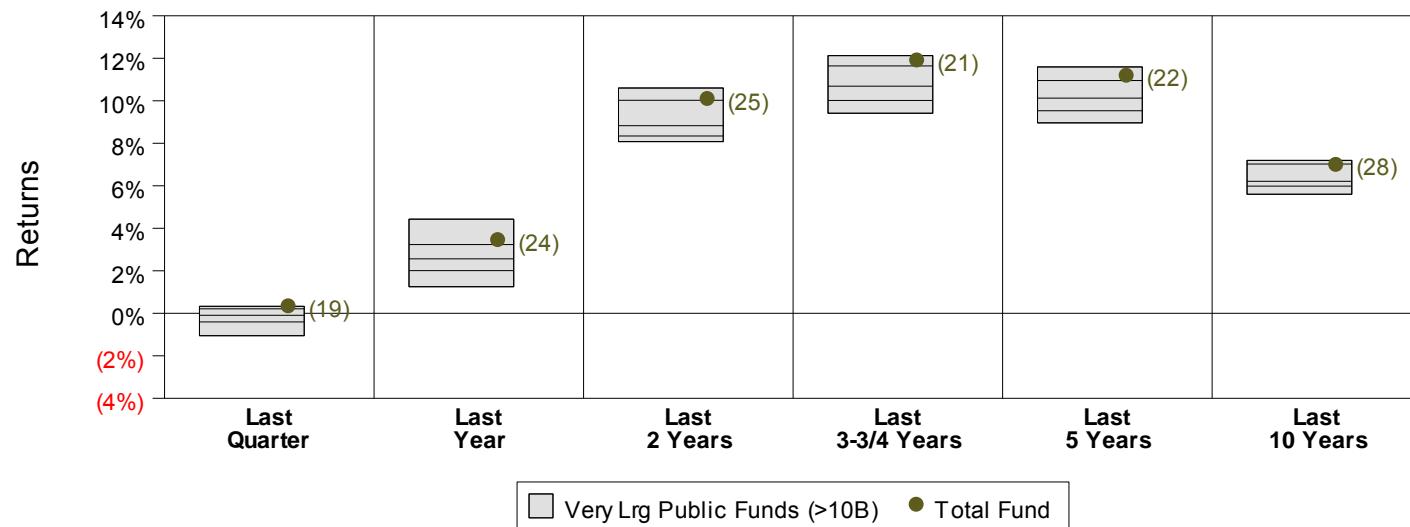


# Total Fund Peer Comparisons

## Asset Allocation Adjusted Rankings

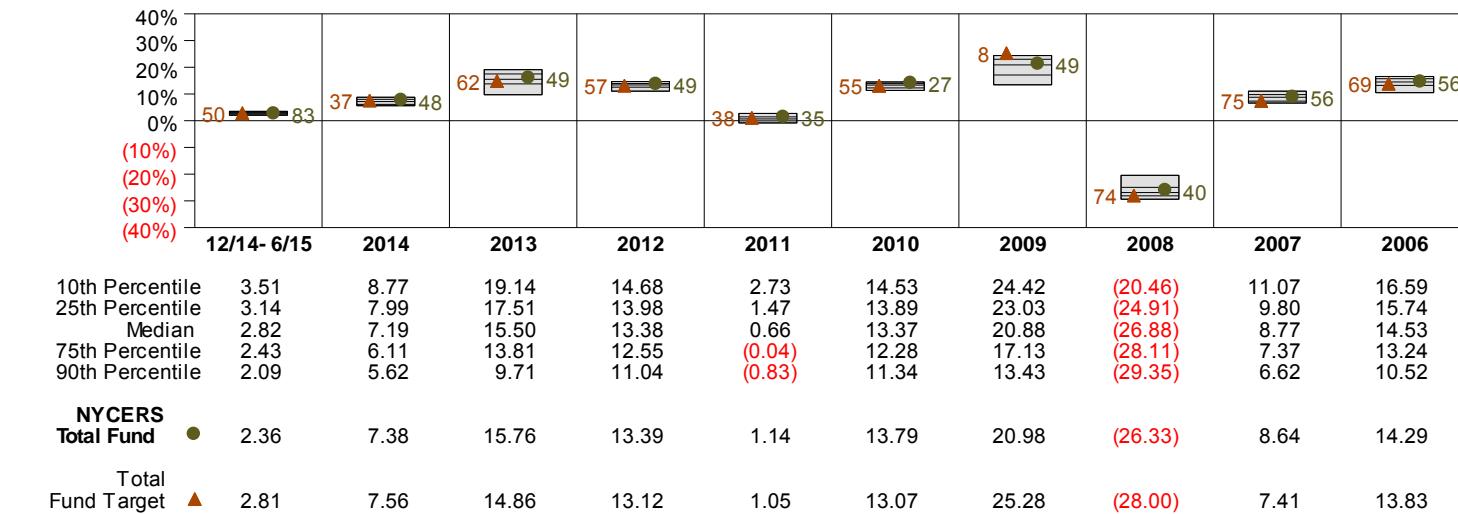
- For this comparison each fund in the Database is adjusted to have the same asset allocation as the client. This removes large asset allocation variances among plans and allows for a greater focus on manager performance.

**Asset Allocation Adjusted Ranking**

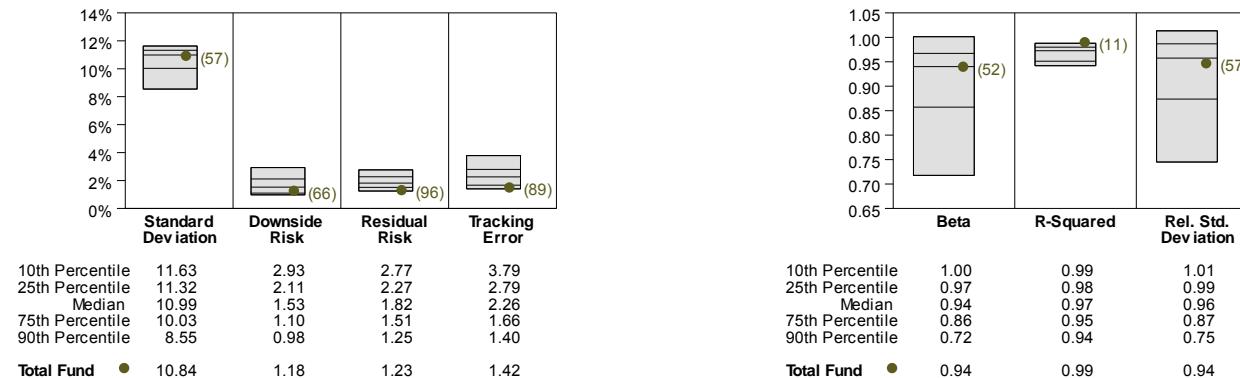


# Total Fund Peer Comparisons

## Performance vs Very Lrg Public Funds (>10B) (Gross)

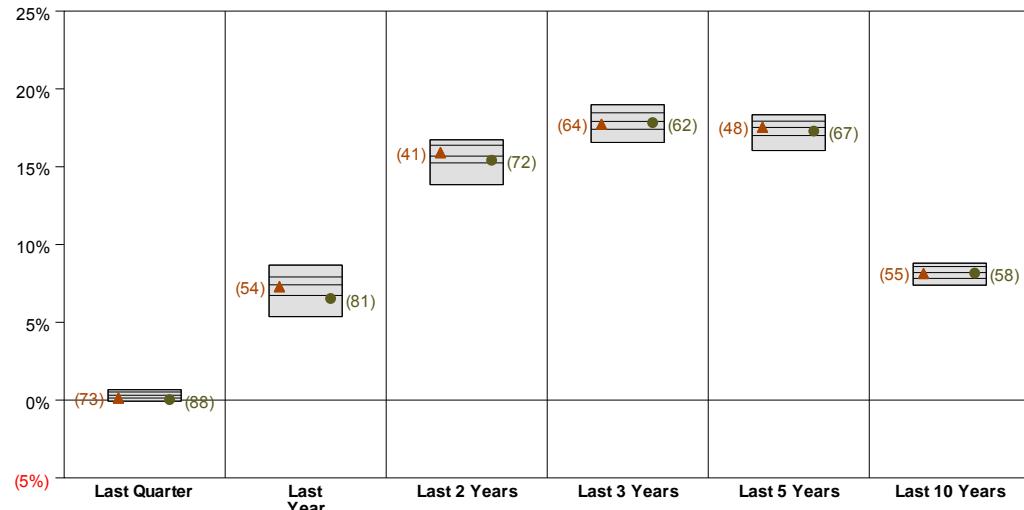


## Risk Statistics Rankings vs Total Fund Target Rankings Against Very Lrg Public Funds (>10B) (Gross) Ten Years Ended June 30, 2015

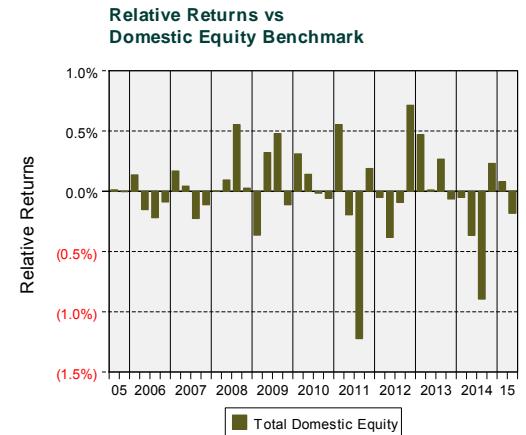


# Total Domestic Equity

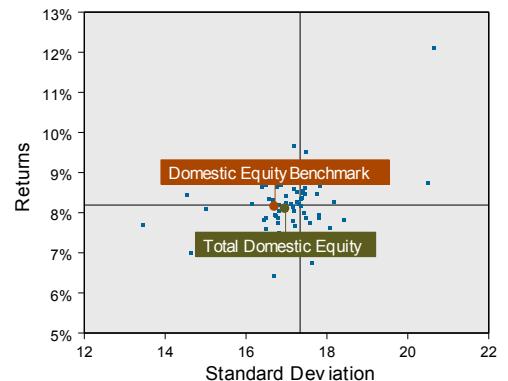
Performance vs Large Public >10 B Domestic Equity (Gross)



	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile	
10th Percentile	0.67	8.67	16.73	18.98	18.34	8.80
25th Percentile	0.52	7.92	16.38	18.46	17.93	8.59
Median	0.32	7.41	15.68	17.91	17.52	8.19
75th Percentile	0.13	6.73	15.24	17.41	17.00	7.82
90th Percentile	(0.07)	5.37	13.85	16.56	16.04	7.38
<b>Total Domestic Equity</b>	<b>(0.04)</b>	<b>6.46</b>	<b>15.34</b>	<b>17.76</b>	<b>17.22</b>	<b>8.09</b>
Domestic Equity Benchmark	0.14	7.29	15.91	17.73	17.54	8.14



Large Public >10 B Domestic Equity (Gross)  
Annualized Ten Year Risk vs Return

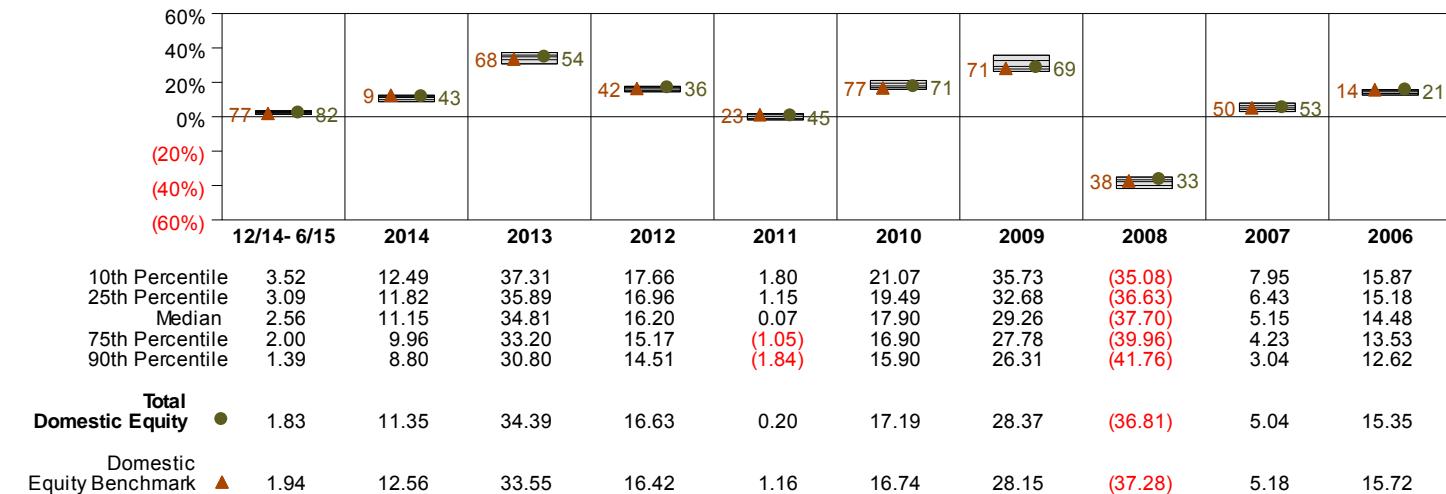


- The Domestic Equity Benchmark is comprised of 90% Russell 3000, 10% S&P 500 until September 30, 2011 and 100% Russell 3000 thereafter.

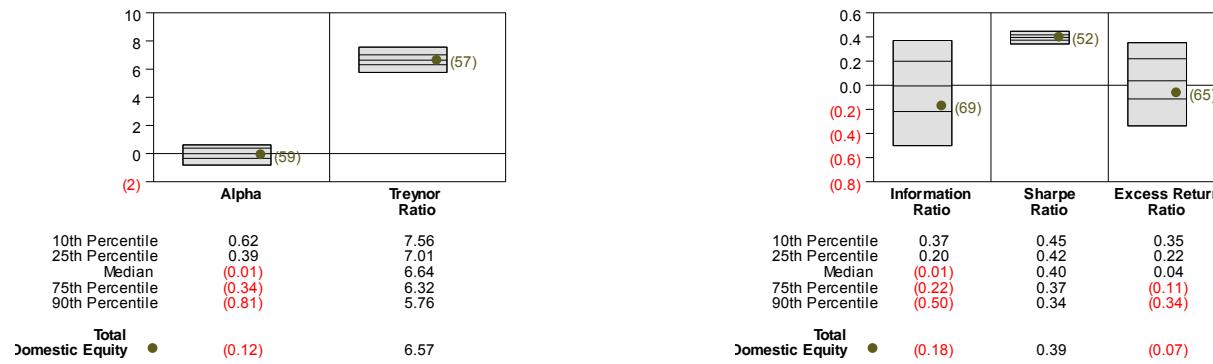
# Total Domestic Equity

Continued

## Performance vs Large Public >10 B Domestic Equity (Gross)

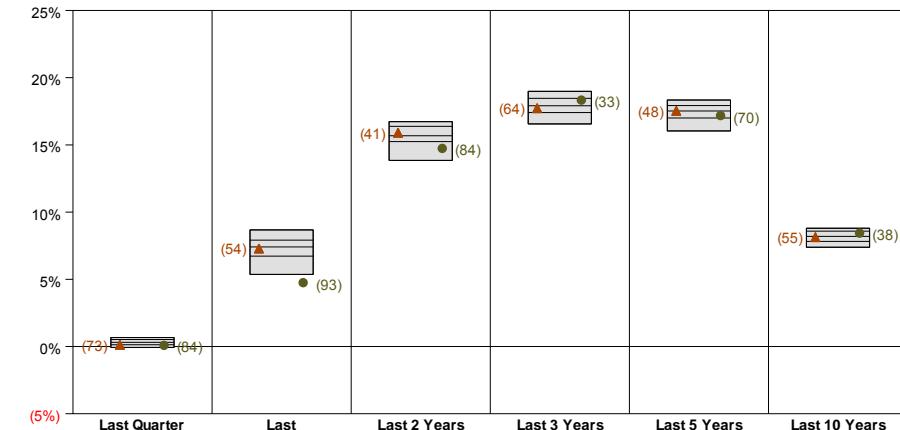


## Risk Adjusted Return Measures vs Domestic Equity Benchmark Rankings Against Large Public >10 B Domestic Equity (Gross) Ten Years Ended June 30, 2015



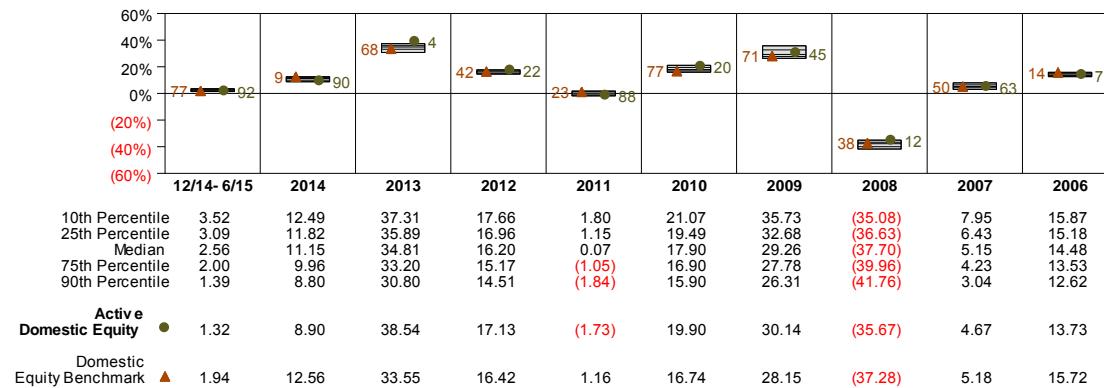
# Total Active Domestic Equity

Performance vs Large Public >10 B Domestic Equity (Gross)



- What Hurt Recently?
  - Weak Performance from Fundamental Index Managers and Attucks Managers

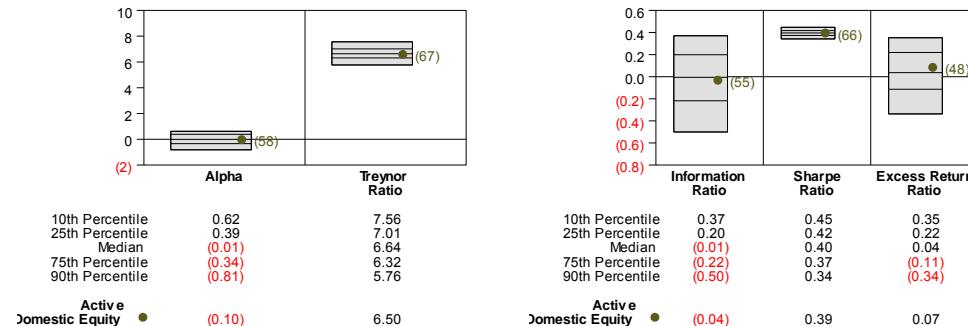
Performance vs Large Public >10 B Domestic Equity (Gross)



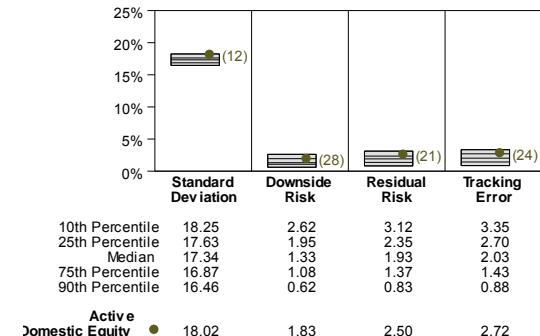
# Total Active Domestic Equity

## Continued

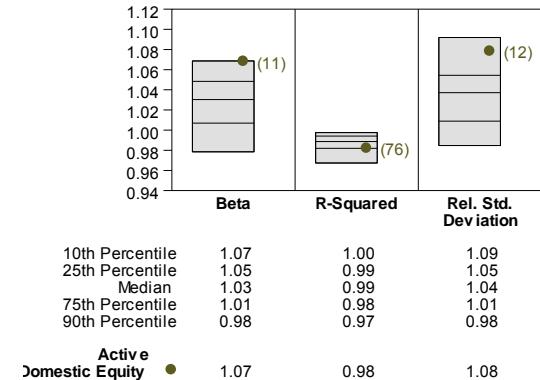
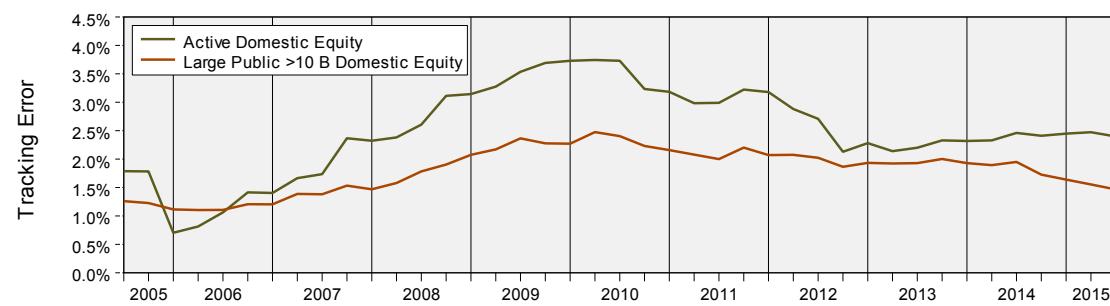
**Risk Adjusted Return Measures vs Domestic Equity Benchmark**  
**Rankings Against Large Public >10 B Domestic Equity (Gross)**  
**Ten Years Ended June 30, 2015**



**Risk Statistics Rankings vs Domestic Equity Benchmark**  
**Rankings Against Large Public >10 B Domestic Equity (Gross)**  
**Ten Years Ended June 30, 2015**

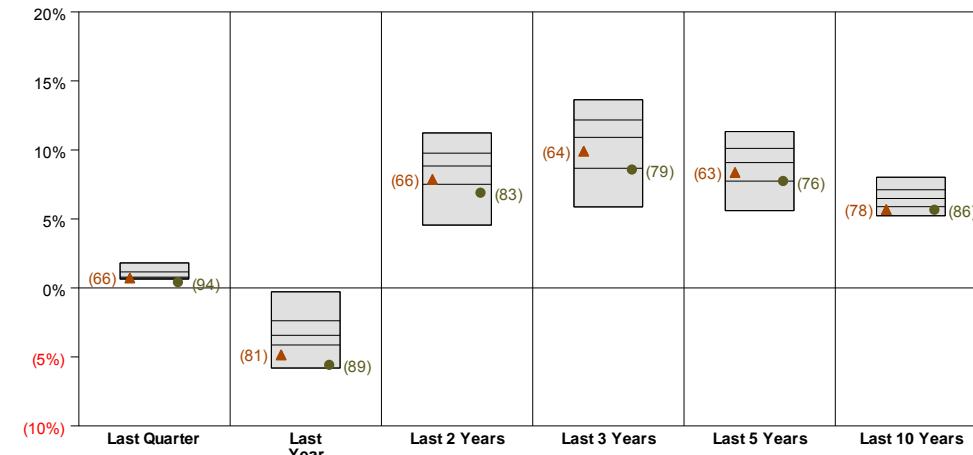


**Rolling 12 Quarter Tracking Error vs Domestic Equity Benchmark**



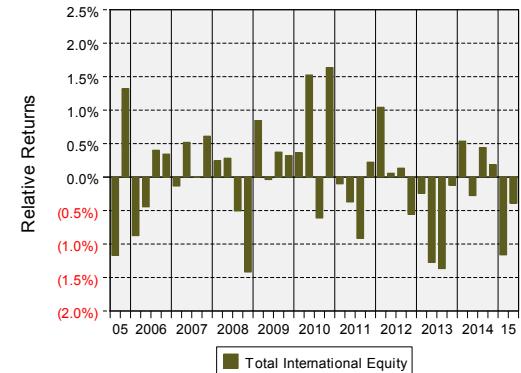
# Total International Equity

Performance vs Large Public >10 B International Equity (Gross)

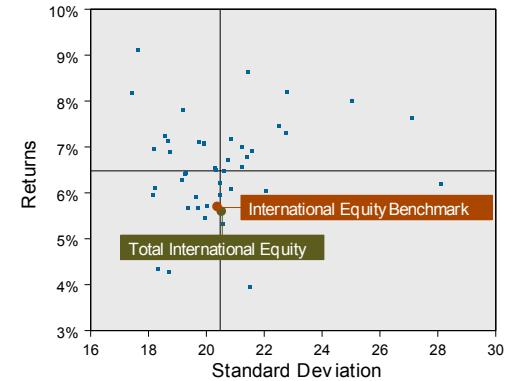


	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile	
Total International Equity	1.81	(0.28)	11.23	13.63	11.33	8.02
International Equity Benchmark	1.16	(2.38)	9.77	12.17	10.11	7.11
Median	0.78	(3.43)	8.83	10.91	9.08	6.48
75th Percentile	0.71	(4.13)	7.51	8.67	7.74	5.89
90th Percentile	0.64	(5.80)	4.55	5.88	5.60	5.23
Total International Equity	0.34	(5.66)	6.82	8.50	7.65	5.58
International Equity Benchmark	0.72	(4.85)	7.86	9.92	8.37	5.68

Relative Returns vs International Equity Benchmark



Large Public >10 B International Equity (Gross)  
Annualized Ten Year Risk vs Return

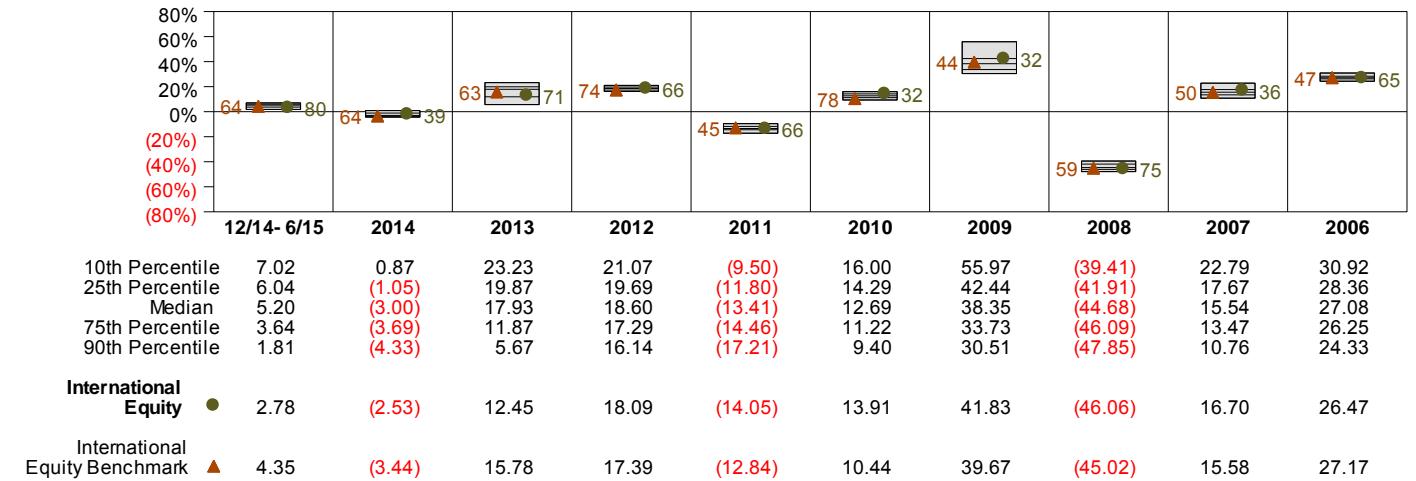


- The International Equity Benchmark is comprised of MSCI EAFE Index through June 30, 2003, 83% MSCI EAFE Index and 17% MSCI Emerging Markets Index through June 30, 2006, 83% MSCI EAFE Index and 17% FTSE Custom Benchmark through September 30, 2011, and MSCI AC World ex US Index thereafter.

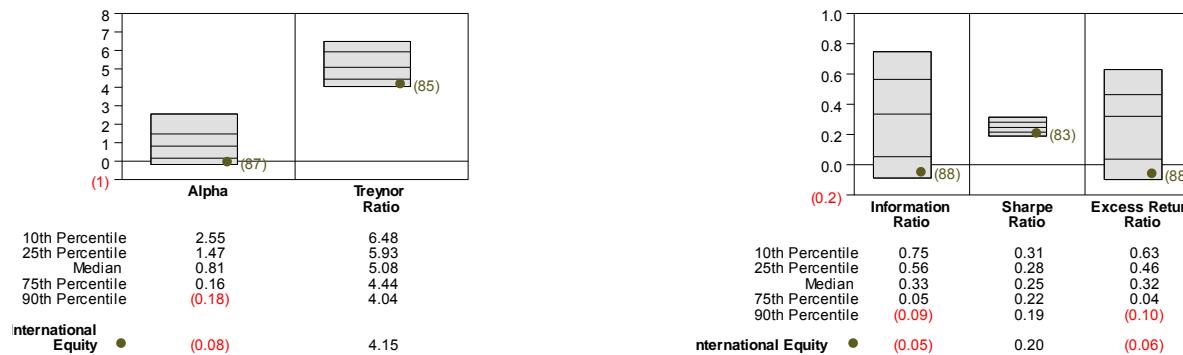
# Total International Equity

Continued

## Performance vs Large Public >10 B International Equity (Gross)

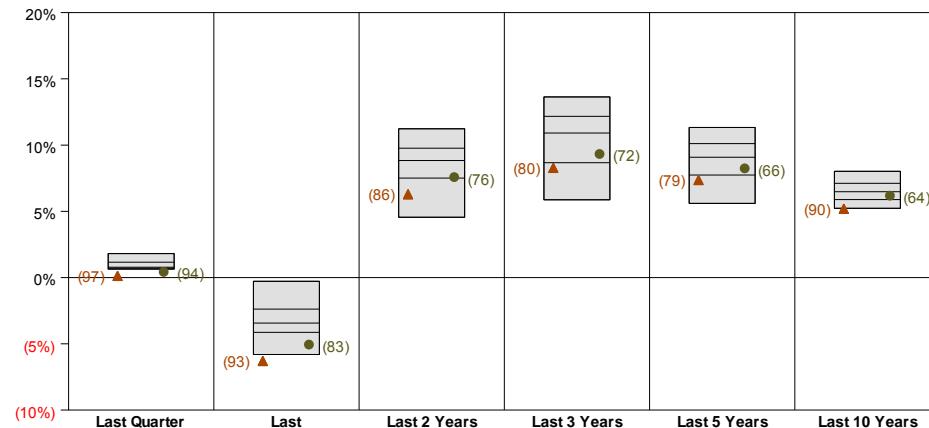


## Risk Adjusted Return Measures vs International Equity Benchmark Rankings Against Large Public >10 B International Equity (Gross) Ten Years Ended June 30, 2015



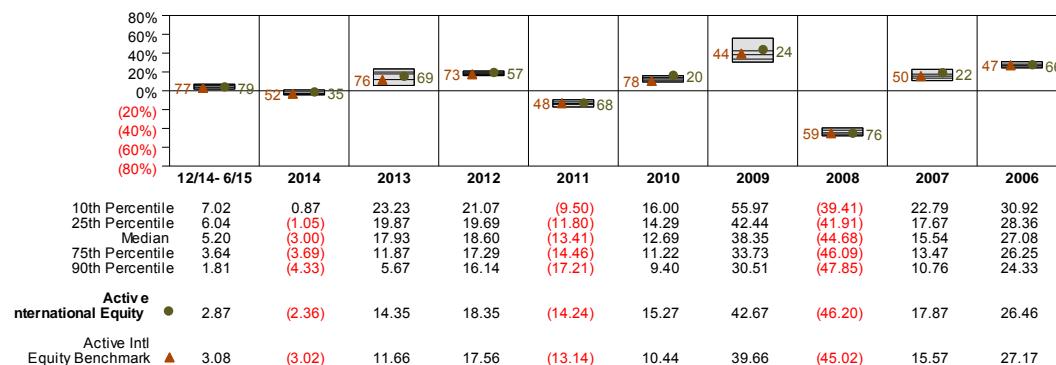
# Total Active International Equity

Performance vs Large Public >10 B International Equity (Gross)



	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile
Active International Equity	0.35	(5.14)	7.49	9.25	8.16
Active Intl Equity Benchmark	0.13	(6.29)	6.29	8.29	7.37

Performance vs Large Public >10 B International Equity (Gross)

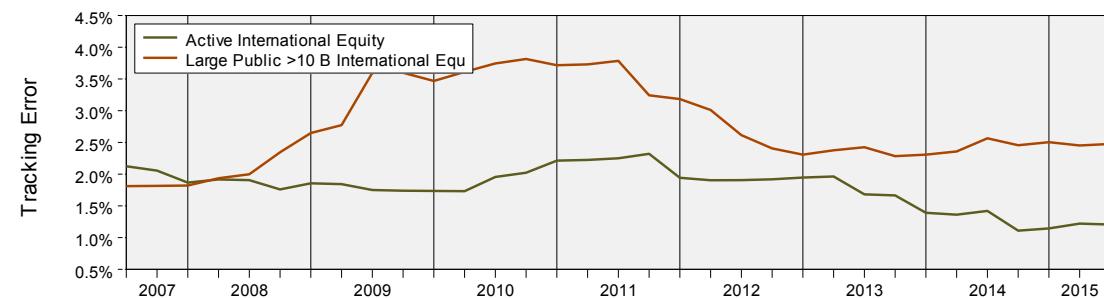


- The Active International Equity Benchmark is comprised of 83% MSCI EAFE Index and 17% MSCI Emerging Markets Index through June 30, 2006, 83% MSCI EAFE Index and 17% FTSE Custom Benchmark through September 30, 2011, and 61% MSCI EAFE Index and 39% FTSE Custom Benchmark thereafter.

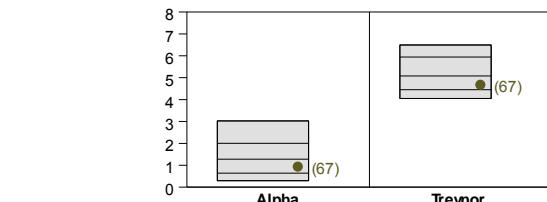
# Total Active International Equity

Continued

## Rolling 12 Quarter Tracking Error vs Active Intl Equity Benchmark

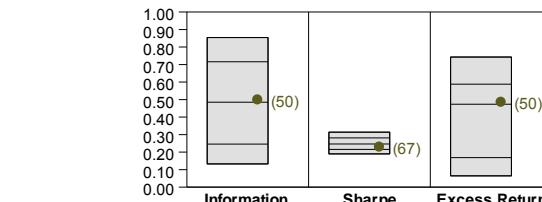


## Risk Adjusted Return Measures vs Active Intl Equity Benchmark Rankings Against Large Public >10 B International Equity (Gross) Ten Years Ended June 30, 2015



10th Percentile	3.02	6.49
25th Percentile	2.00	5.94
Median	1.28	5.08
75th Percentile	0.64	4.45
90th Percentile	0.30	4.05

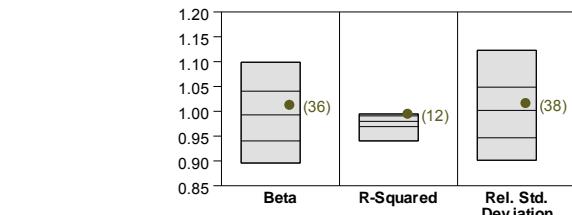
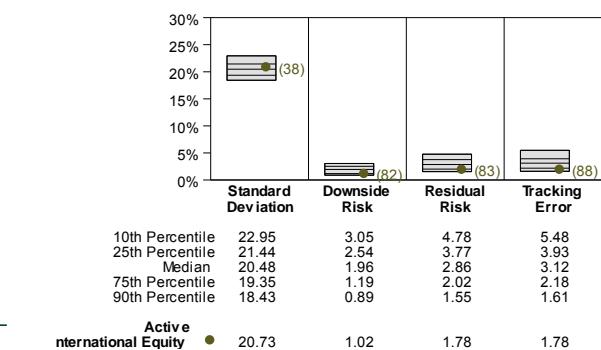
Active International Equity	●	0.88	4.63
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10th Percentile	0.85	0.31	0.74
25th Percentile	0.72	0.28	0.59
Median	0.49	0.25	0.47
75th Percentile	0.25	0.22	0.17
90th Percentile	0.13	0.19	0.06

Active International Equity	●	0.49	0.23	0.48
-----------------------------	---	------	------	------

## Risk Statistics Rankings vs Active Intl Equity Benchmark Rankings Against Large Public >10 B International Equity (Gross) Ten Years Ended June 30, 2015

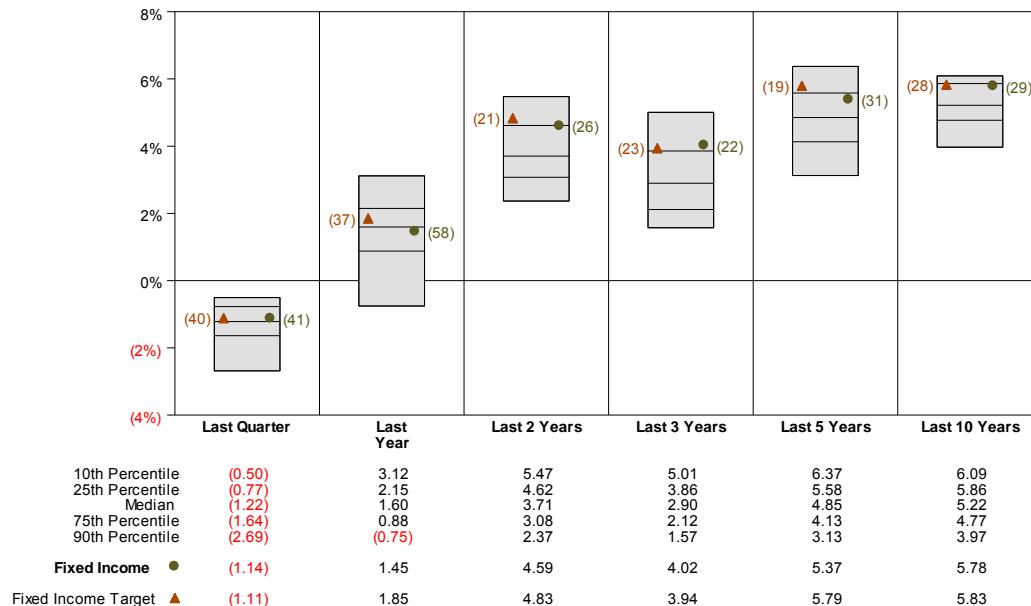


10th Percentile	1.10	0.99	1.12
25th Percentile	1.04	0.99	1.05
Median	0.99	0.98	1.00
75th Percentile	0.94	0.97	0.95
90th Percentile	0.90	0.94	0.90

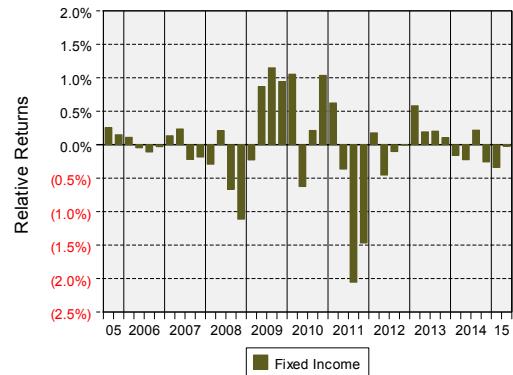
Active International Equity	●	1.01	0.99	1.01
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# Total Fixed Income Against New Long Term Fixed Income Target

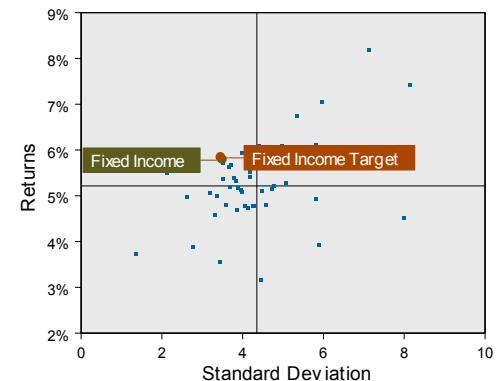
Performance vs Large Public >10 B Domestic Fixed (Gross)



Relative Return vs Fixed Income Target



Large Public >10 B Domestic Fixed (Gross)  
Annualized Ten Year Risk vs Return



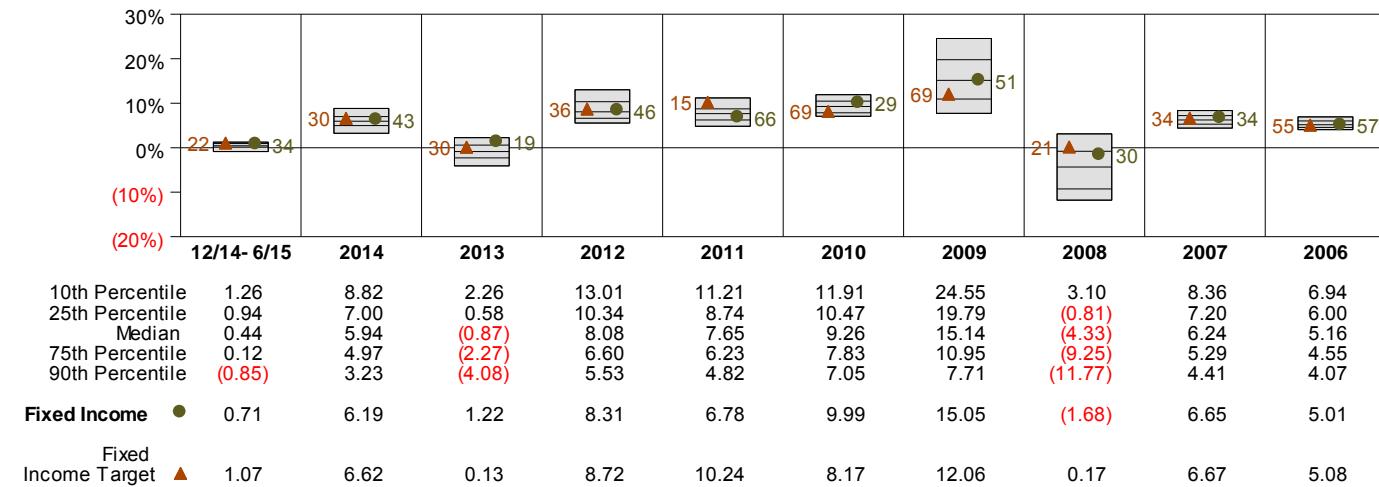
- What Helped?
  - Underweight Core Plus 5
  - Strong Performance in Core Plus 5
- What Hurt?
  - Underweight Opportunistic Fixed
  - Poor relative performance in Opportunistic Fixed Income

▲ The Fixed Income Target is comprised of 13% BC Credit High Yield Index and 87% BC Core Plus 5 NYCERS Index until June 30, 2003, 10% BC US Tips Index, 73% Citigroup Core Plus 5 Index, and 17% Citigroup High Yield BB & B Rated Index until September 30, 2011, and 60% Citigroup Core Plus 5 Index, 12% Citigroup High Yield BB & B Rated Index, 15% JP Morgan High Yield Index+3%, and 13% BC US TIPS Index thereafter.

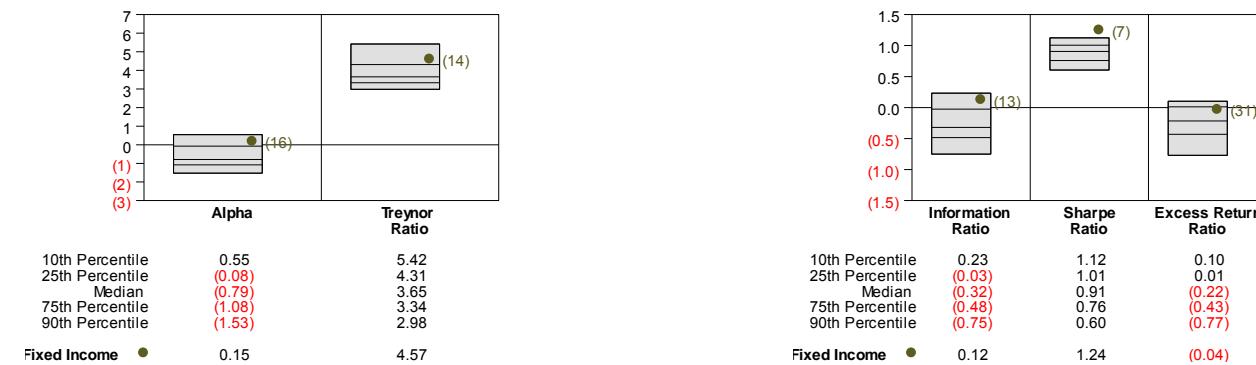
# Total Fixed Income Against New Long Term Fixed Income Target

Continued

## Performance vs Large Public >10 B Domestic Fixed (Gross)



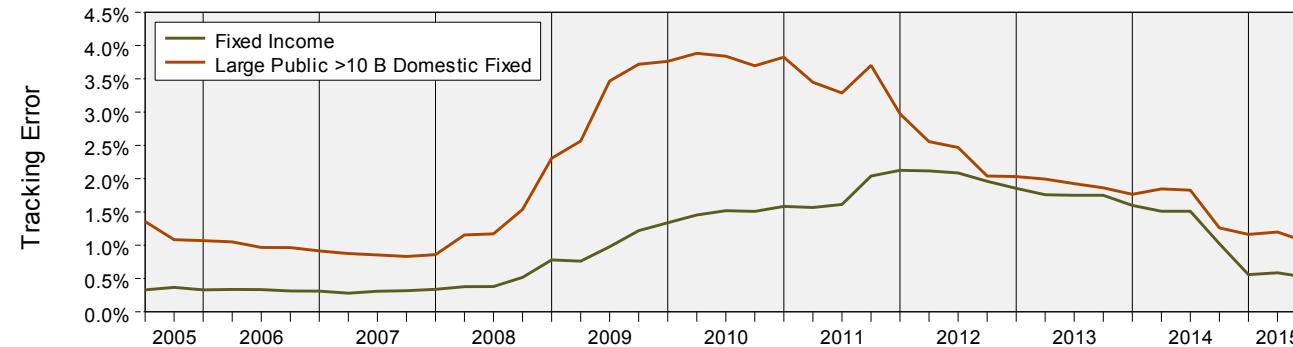
## Risk Adjusted Return Measures vs Fixed Income Target Rankings Against Large Public >10 B Domestic Fixed (Gross) Ten Years Ended June 30, 2015



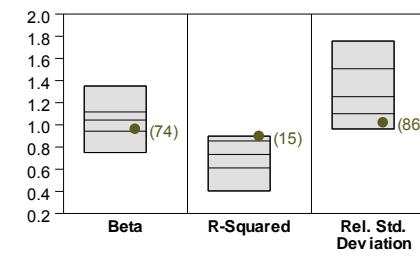
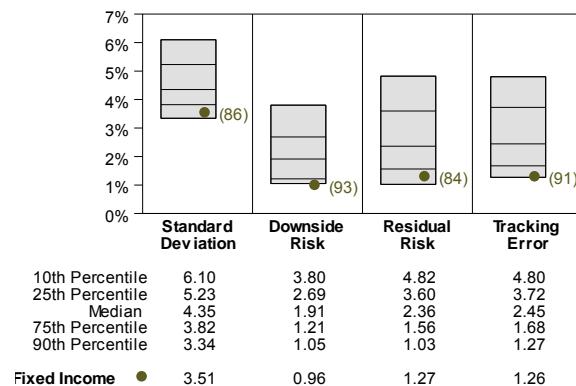
# Total Fixed Income Against New Long Term Fixed Income Target

Continued

## Rolling 12 Quarter Tracking Error vs Fixed Income Target

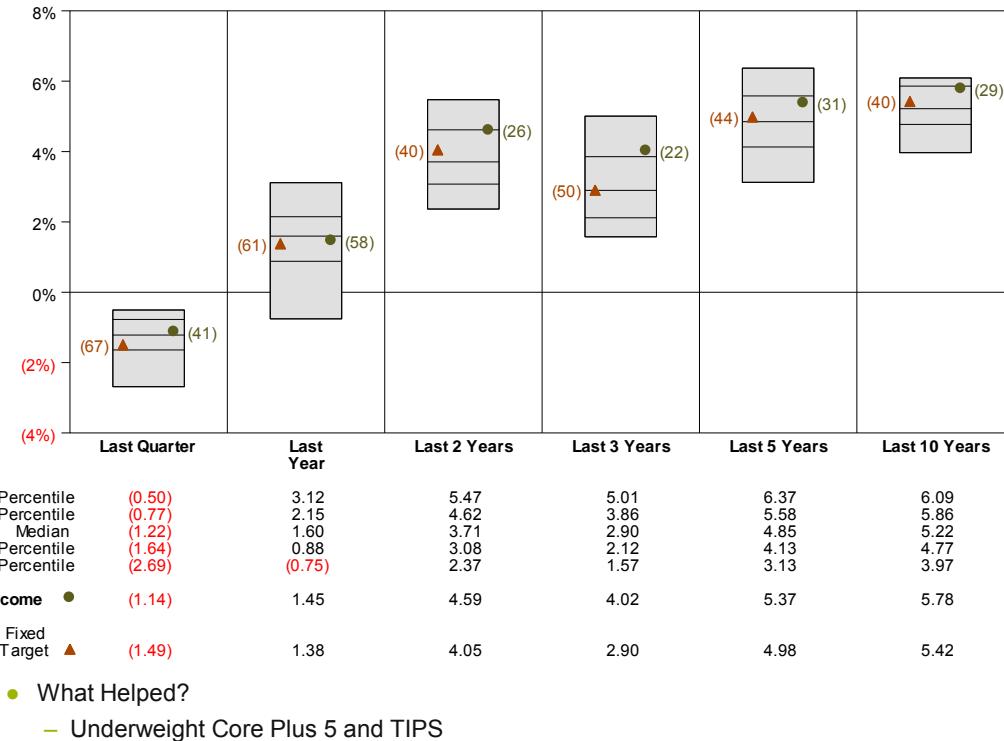


**Risk Statistics Rankings vs Fixed Income Target**  
**Rankings Against Large Public >10 B Domestic Fixed (Gross)**  
**Ten Years Ended June 30, 2015**



# Total Fixed Income Against New Interim Fixed Income Target

Performance vs Large Public >10 B Domestic Fixed (Gross)

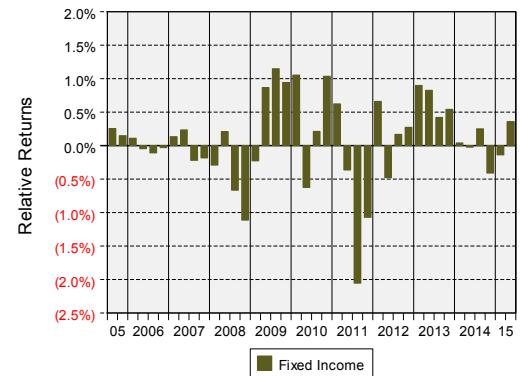


- What Helped?

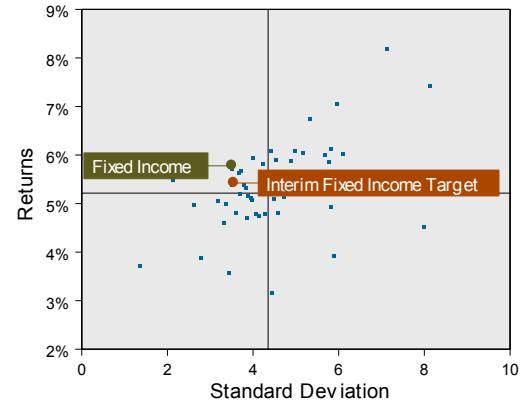
- Underweight Core Plus 5 and TIPS
- Strong Performance in Core Plus 5

▲ The Interim Fixed Income Target is comprised of 13% BC Credit High Yield Index and 87% BC Core Plus 5 NYCERS Index until June 30, 2003, 10% BC US TIPS Index, 73% Citigroup Core Plus 5 Index, and 17% Citigroup High Yield BB & B Rated Index until September 30, 2011, and 65.52% Citigroup Core Plus 5 Index, 17.76% Citigroup High Yield BB & B Rated Index, 3.28% JP Morgan High Yield Index+3%, and 13.43% BC US TIPS Index thereafter.

Relative Returns vs  
Interim Fixed Income Target



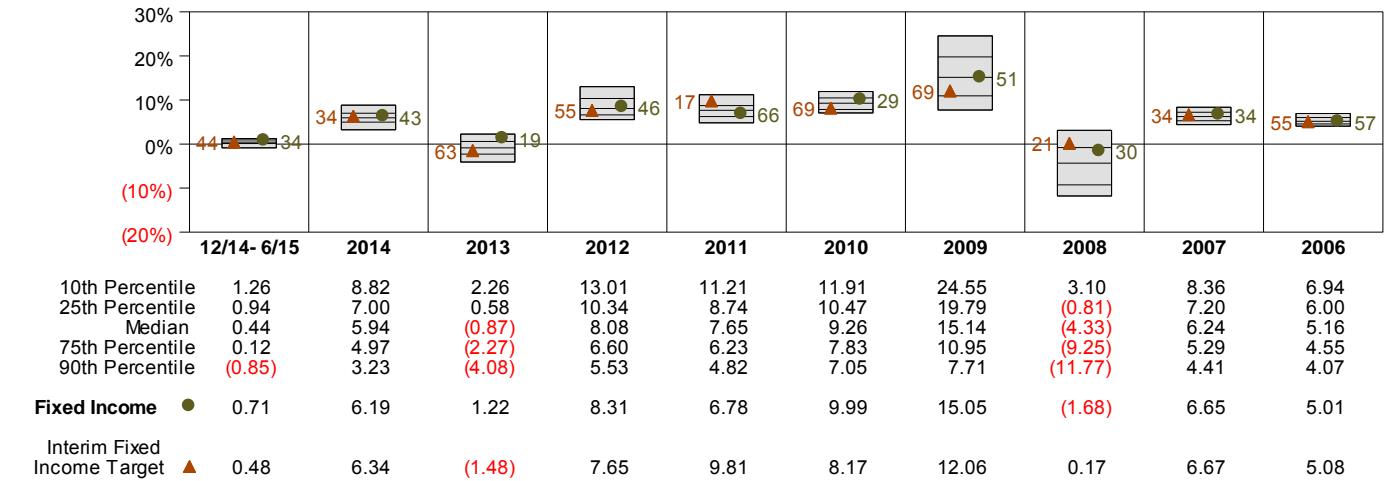
Large Public >10 B Domestic Fixed (Gross)  
Annualized Ten Year Risk vs Return



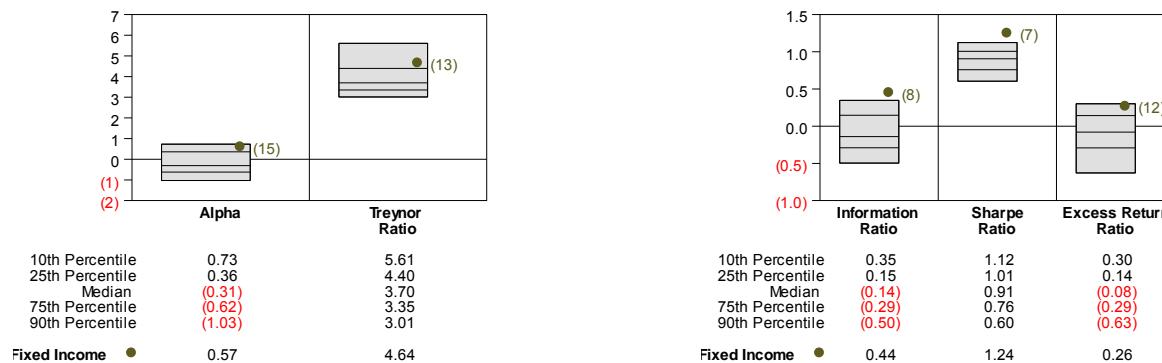
# Total Fixed Income Against New Interim Fixed Income Target

Continued

Performance vs Large Public >10 B Domestic Fixed (Gross)



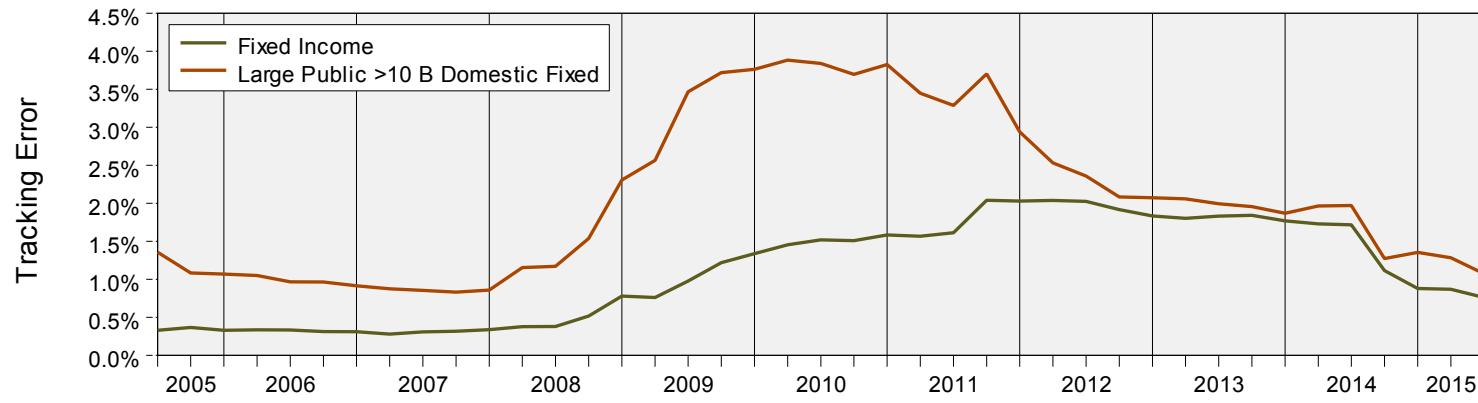
Risk Adjusted Return Measures vs Interim Fixed Income Target  
Rankings Against Large Public >10 B Domestic Fixed (Gross)  
Ten Years Ended June 30, 2015



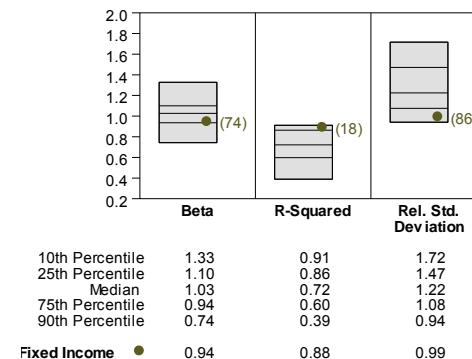
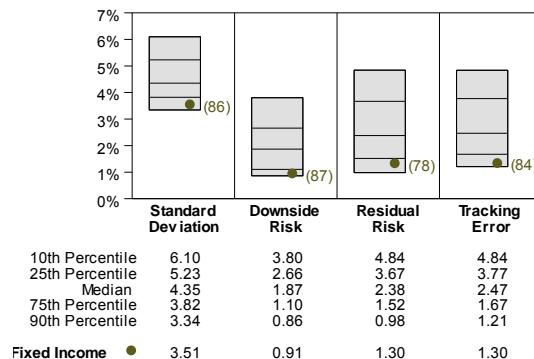
# Total Fixed Income Against New Interim Fixed Income Target

Continued

## Rolling 12 Quarter Tracking Error vs Interim Fixed Income Target



**Risk Statistics Rankings vs Interim Fixed Income Target**  
**Rankings Against Large Public >10 B Domestic Fixed (Gross)**  
**Ten Years Ended June 30, 2015**



II. July Monthly Performance Review:



# *Monthly Performance Review*

## *July 2015*

*Prepared for the New York City  
Employees' Retirement System*

*09/22/2015*



THE CITY OF NEW YORK  
OFFICE OF THE COMPTROLLER

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# ECONOMIC INDICATORS

*AS OF SEPTEMBER 2015*

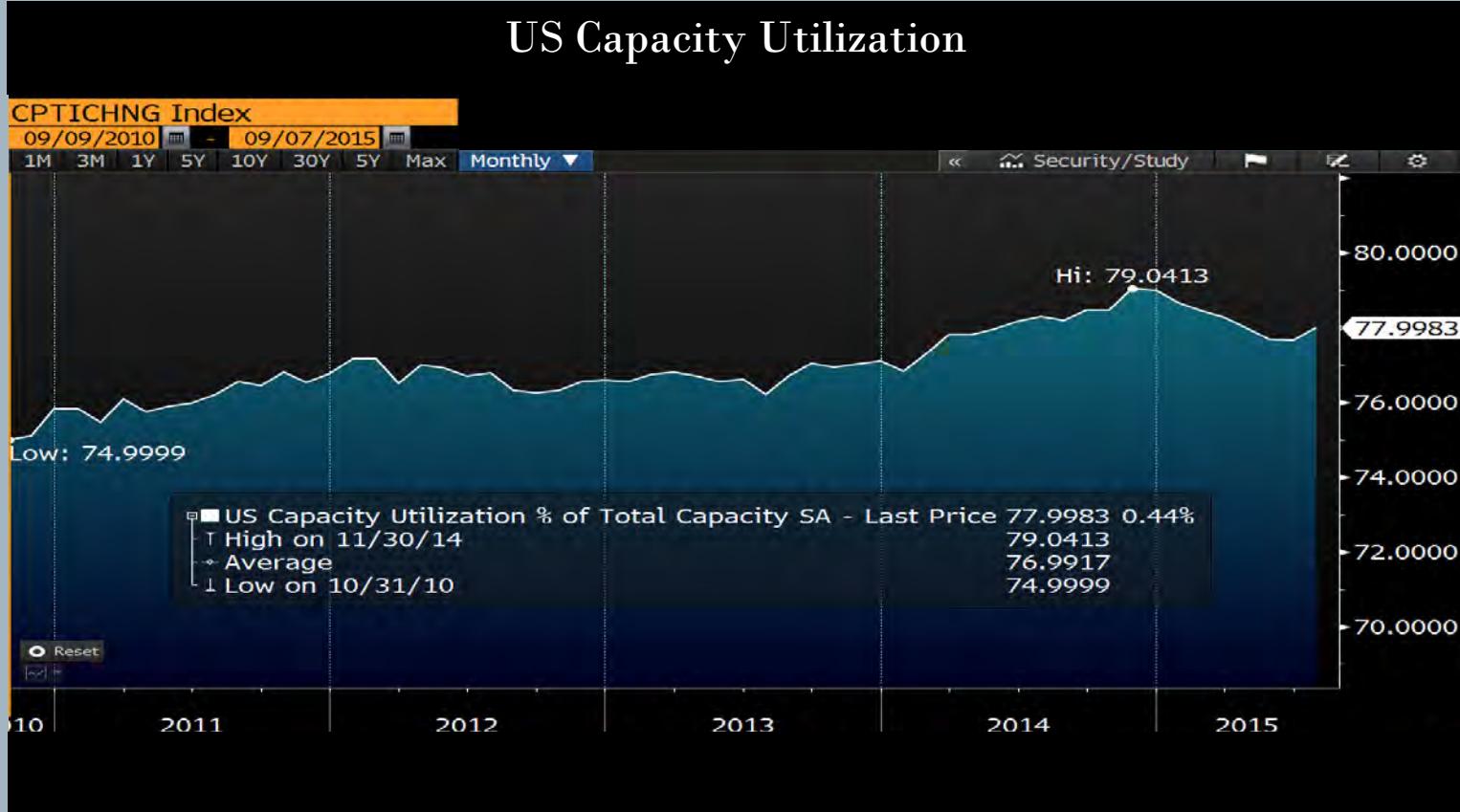


NYC OFFICE OF THE COMPTROLLER  
BUREAU OF ASSET MANAGEMENT

# CAPACITY UTILIZATION

2

## US Capacity Utilization



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# ISM MANUFACTURING INDEX

3



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# WEEKLY UNEMPLOYMENT

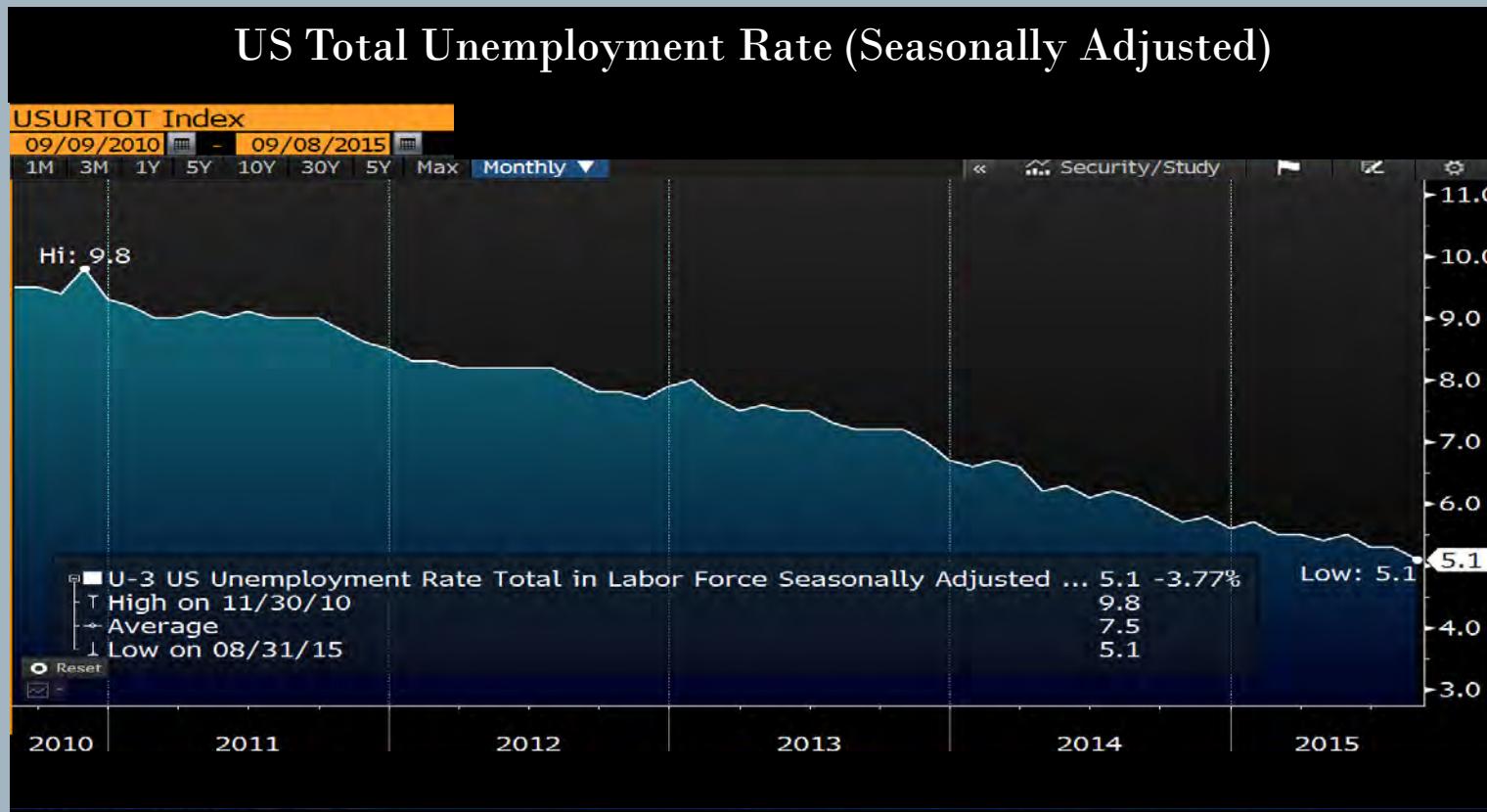
4



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# UNEMPLOYMENT RATE

5



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# CONSUMER SENTIMENT

6

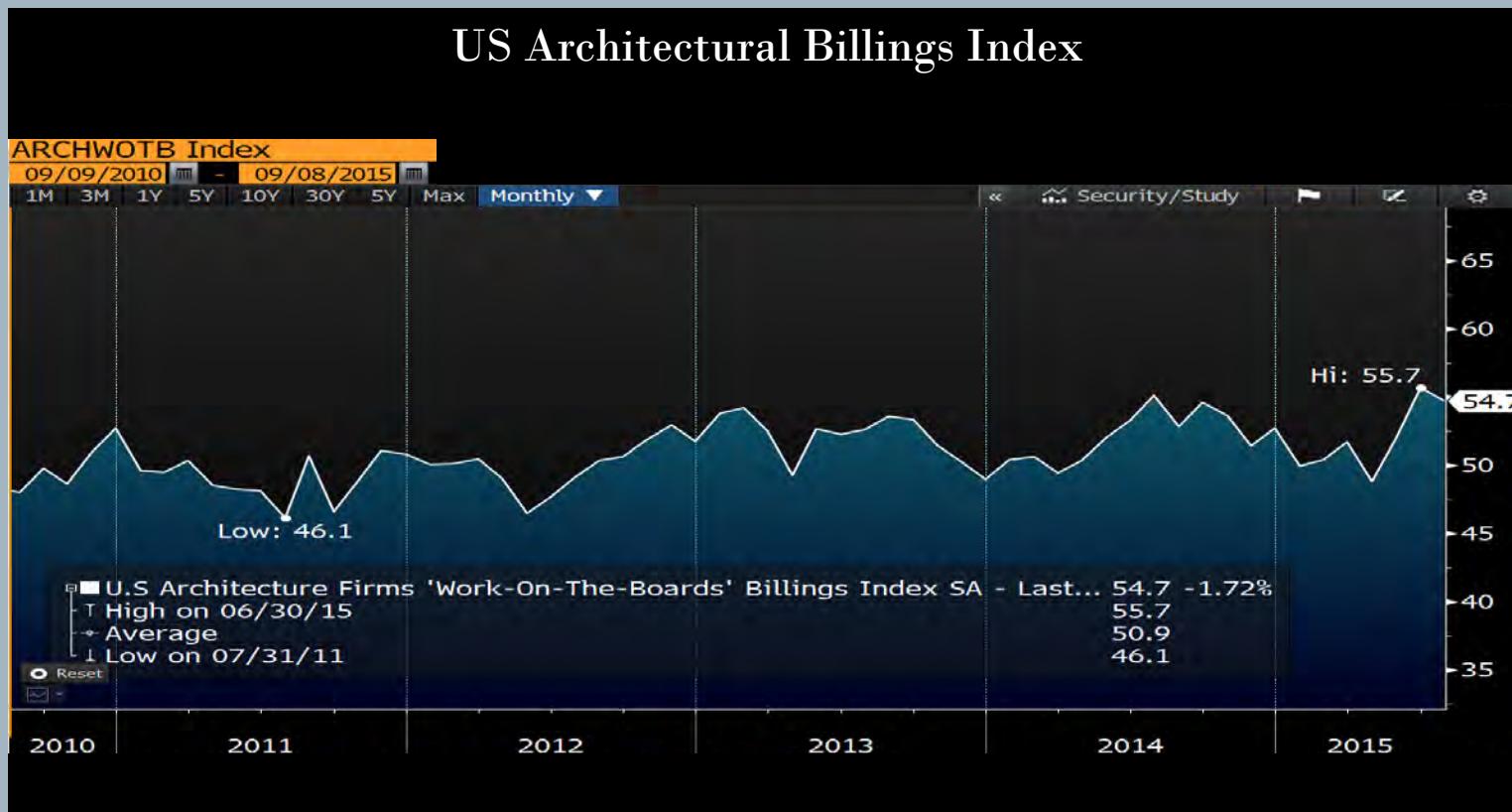


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# ARCHITECTURAL BILLINGS INDEX

7

## US Architectural Billings Index



- A SCORE ABOVE 50 INDICATES AN INCREASE IN THE BILLINGS WHILE A READING BELOW 50 INDICATE A NEGATIVE OUTLOOK;
- THIS INDEX IS CONSIDERED A LEADING INDICATOR FOR COMMERCIAL BUILDING CONSTRUCTION WITH A SIX TO NINE MONTH LAG;
- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# EXISTING HOME SALES

8

## US Existing Home Index



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# NEW HOUSING STARTS

9

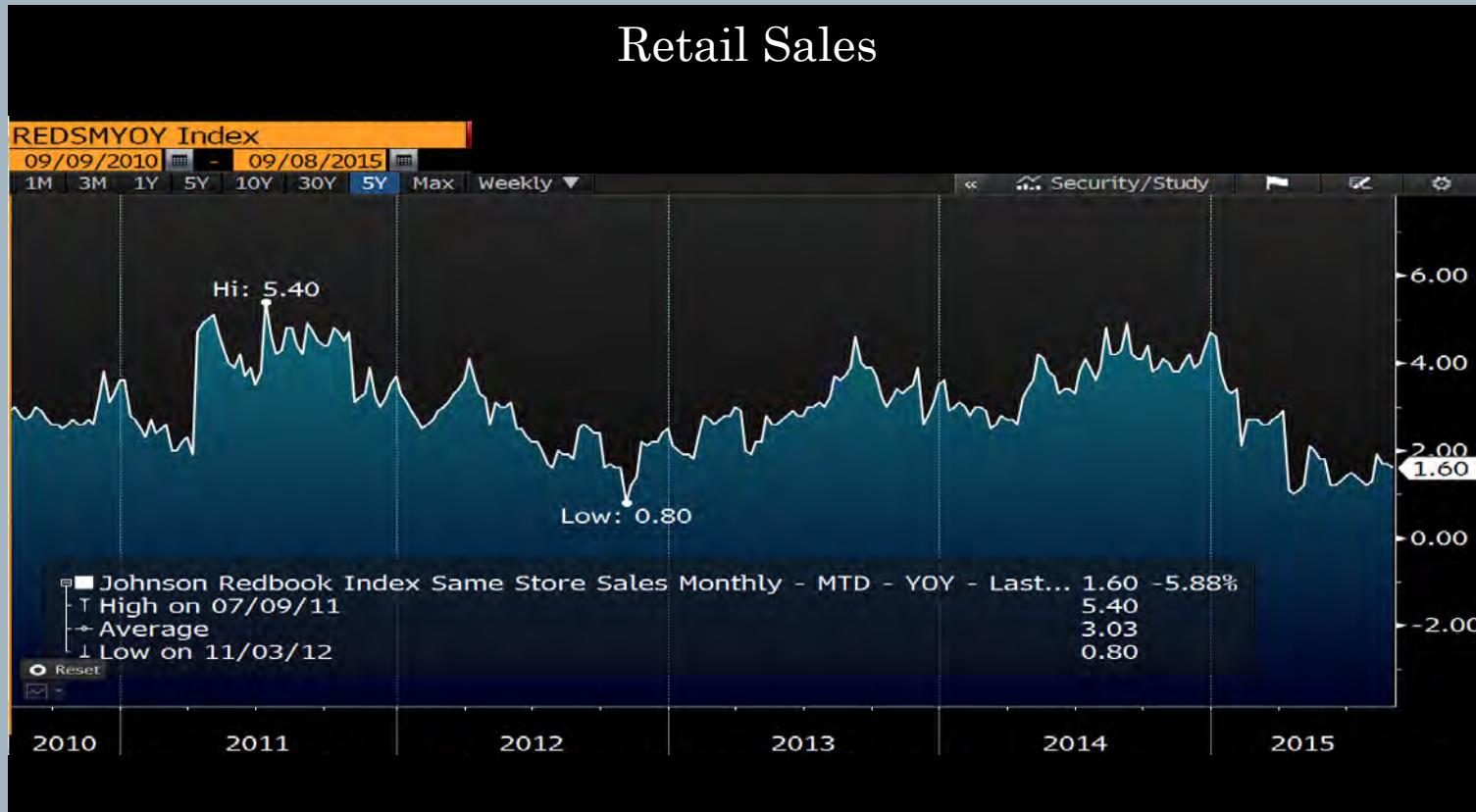


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# RETAIL SALES

10

## Retail Sales

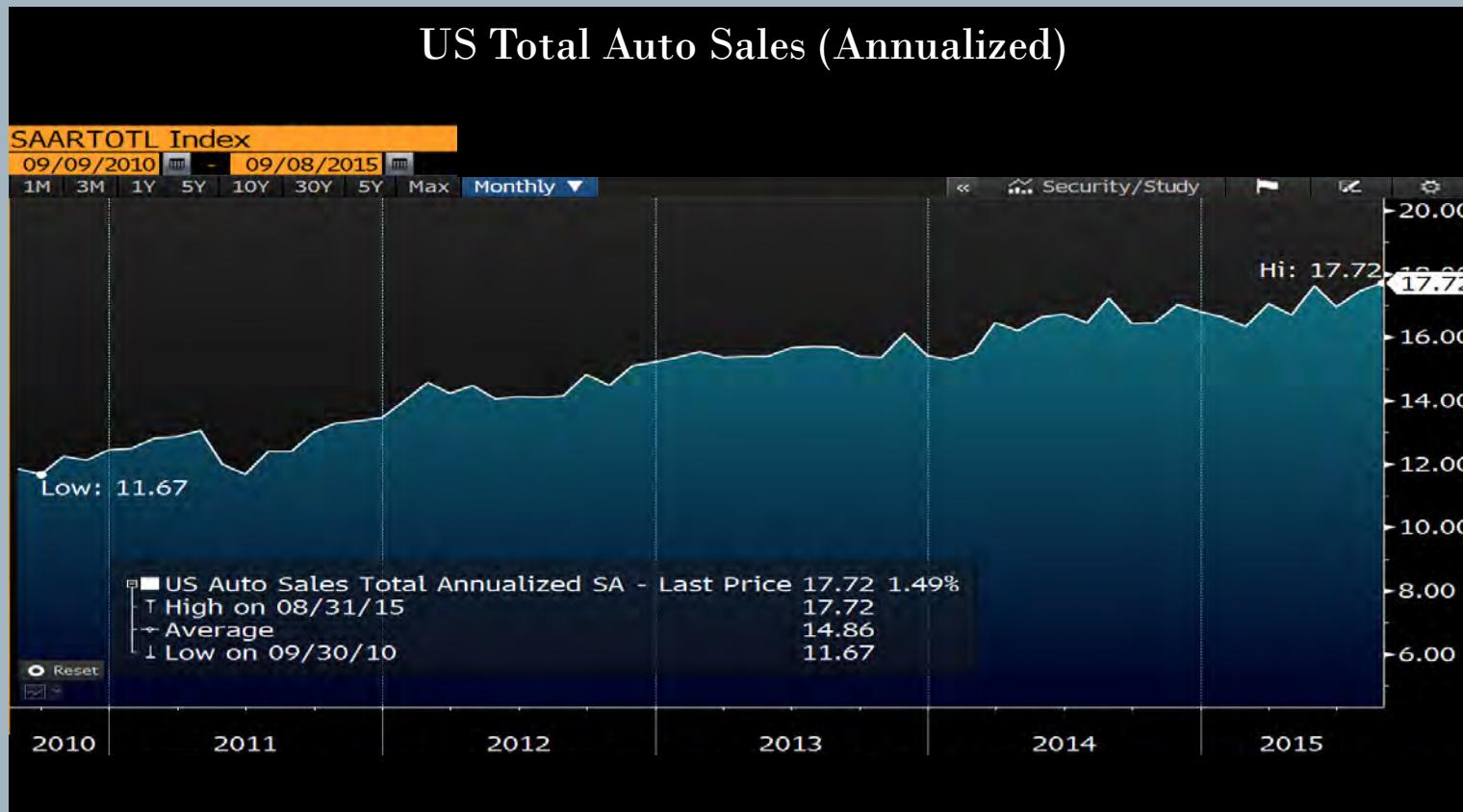


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# US AUTO SALES

11

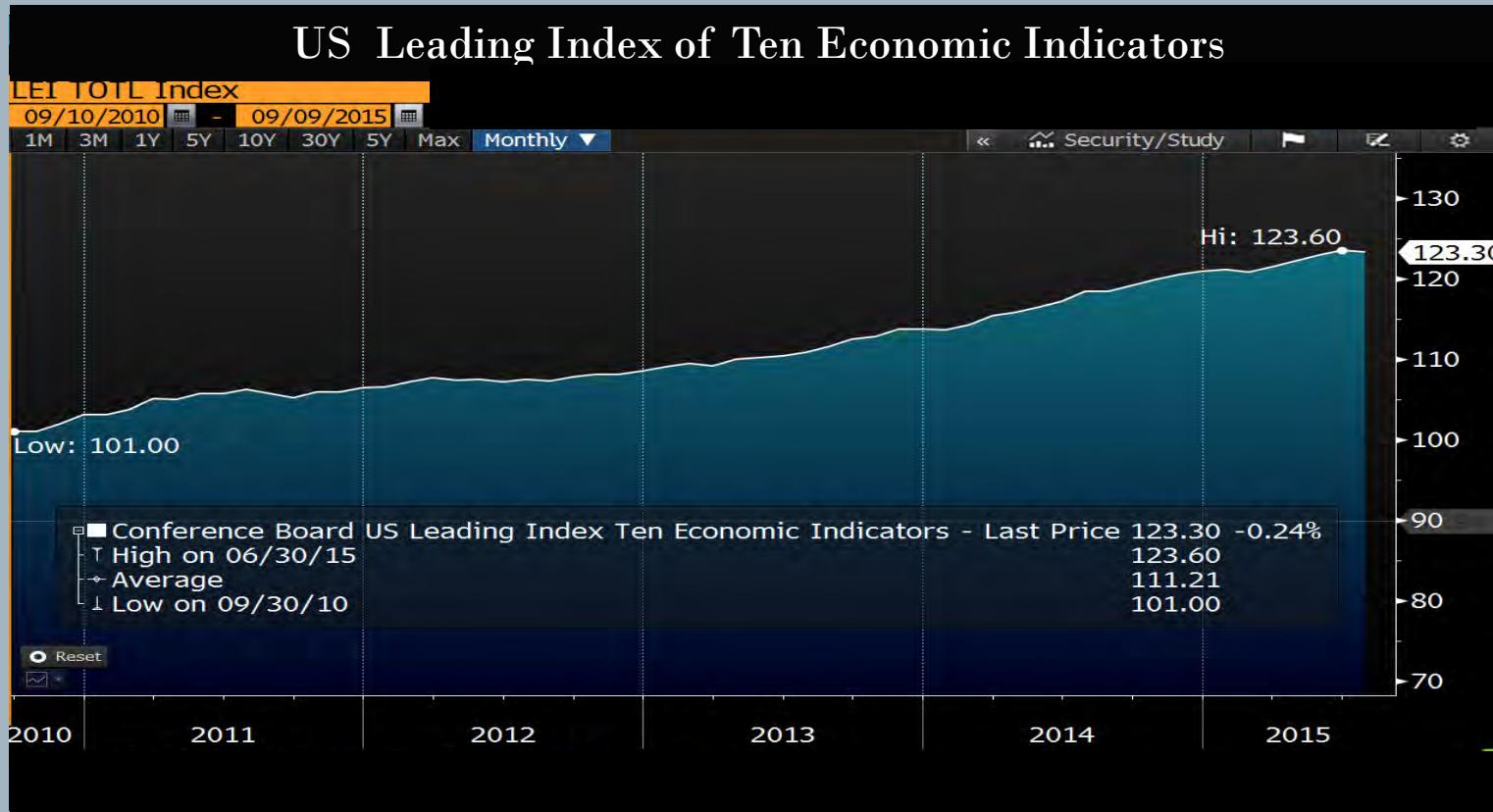
## US Total Auto Sales (Annualized)



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# INDEX OF LEADING ECONOMIC INDICATORS

12

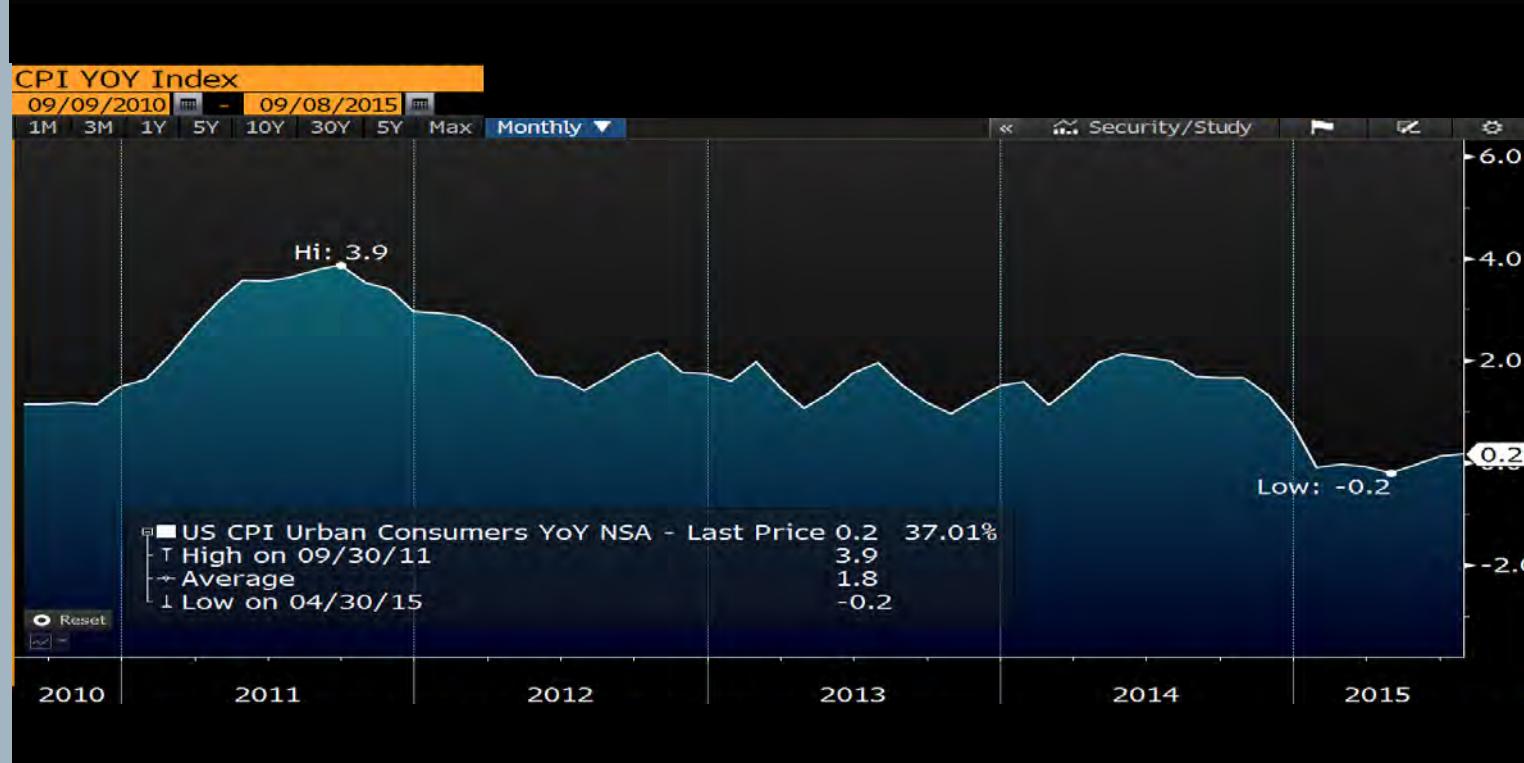


- NOTE: THE INDEX OF LEI IS COMPOSED OF: AVE. WEEKLY MANU. HRS., WEEKLY JOBLESS CLAIMS, MANU.'S NEW ORDERS, CONSUMER & CAPITAL, VENDOR PERFORMANCE, NEW BUILDING PERMITS, STOCK PRICES, MONEY SUPPLY M2, INT. RATE SPREADS & CONSUMER
- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# INFLATION- CPI

13

## US Consumer Price Index



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# **MARKET INDICATORS**

*AS OF SEPTEMBER 2015*



**NYC OFFICE OF THE COMPTROLLER  
BUREAU OF ASSET MANAGEMENT**

# TRADE WEIGHTED US DOLLAR INDEX

15

US Dollar Price Index



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# USD/EUR EXCHANGE RATE

16

## USD/Euro Exchange Rate



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# WTI CRUDE OIL PRICES

17

## West Texas Intermediate (“WTI”) Crude Oil



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# VOLATILITY INDEX (THE “VIX”)

18

## The S & P 500 Volatility Index

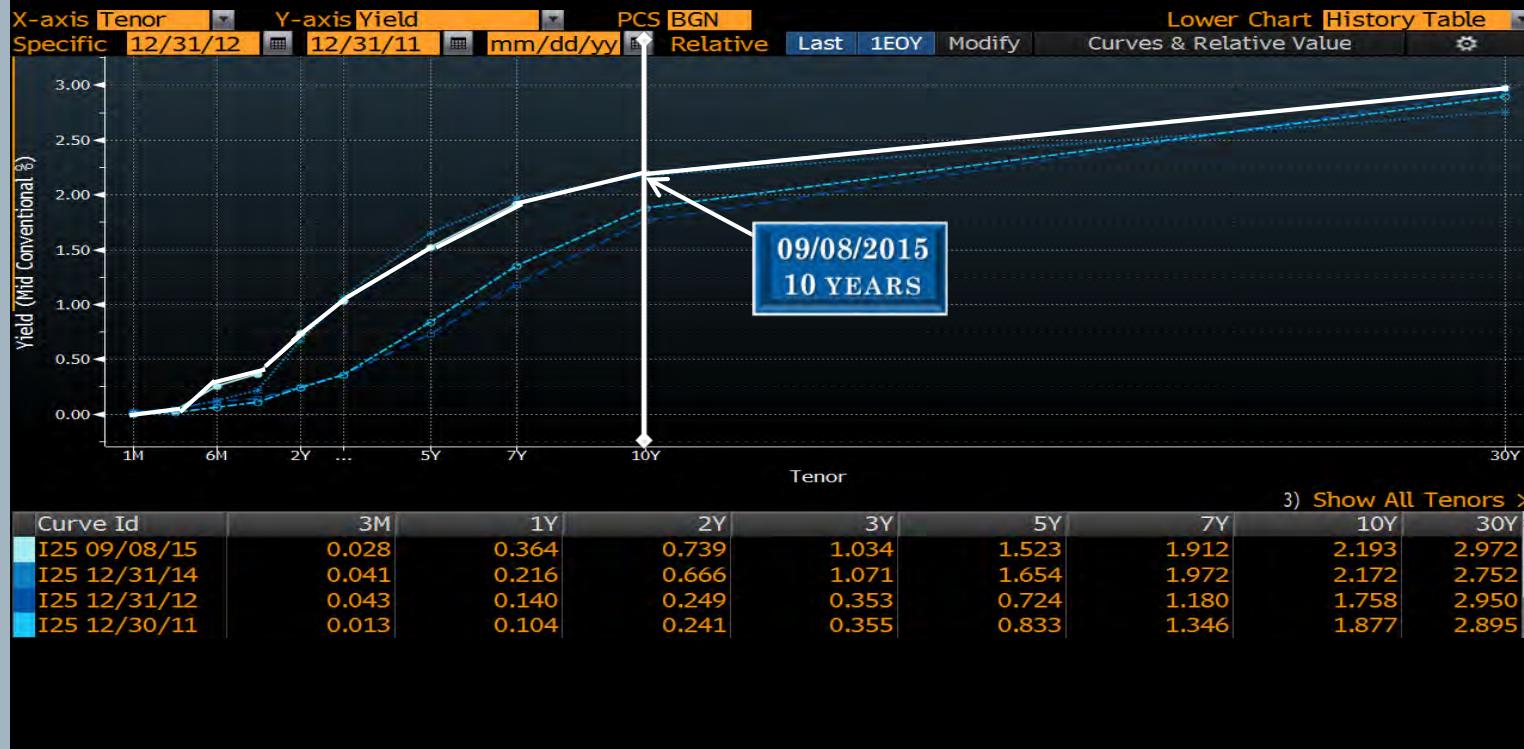


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# US HISTORICAL TREASURY YIELD CURVES

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## US RECENT HISTORICAL YIELD CURVES (YIELD V. MATURITY)

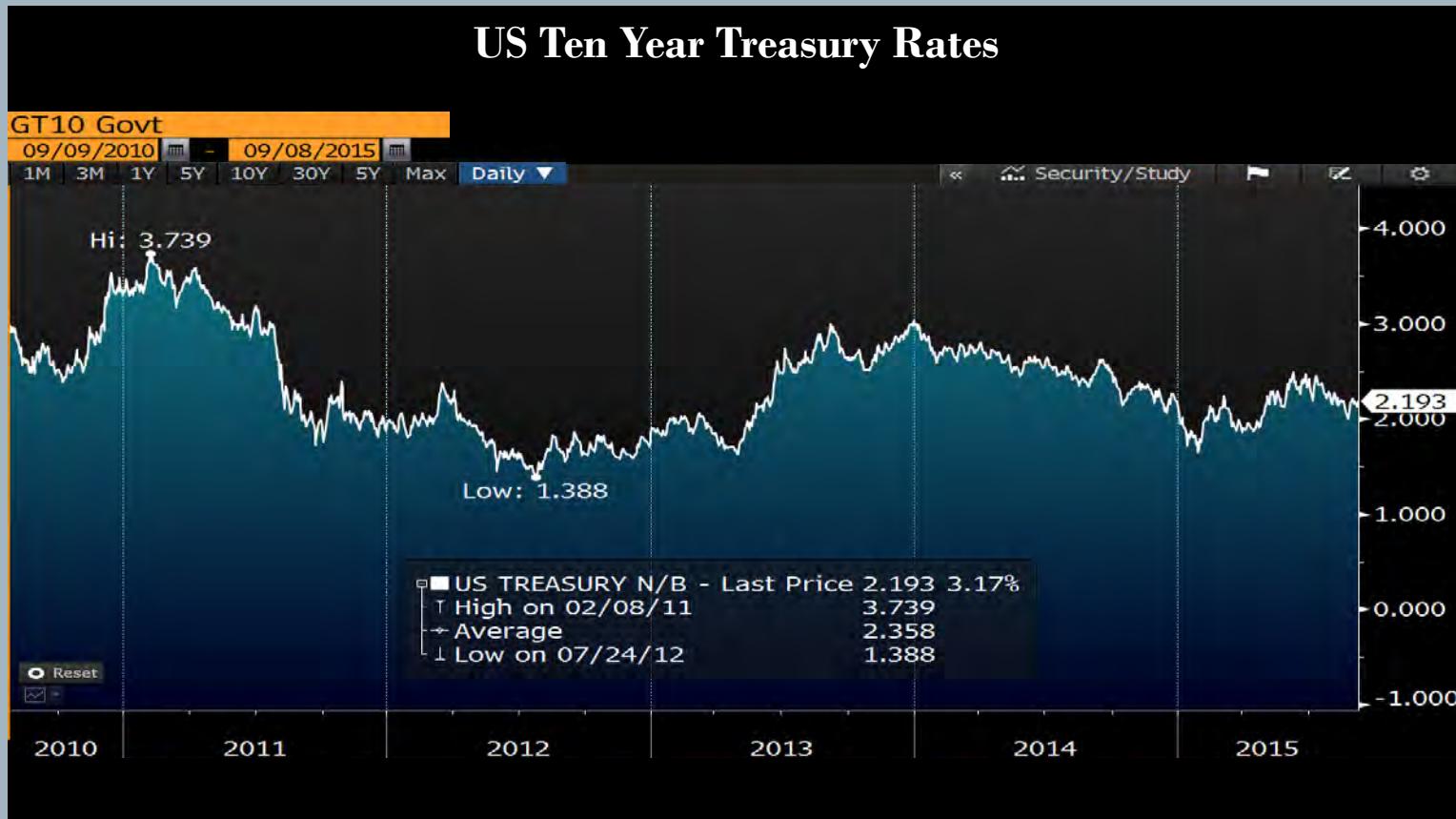


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# 10 YEAR TREASURY RATES

20

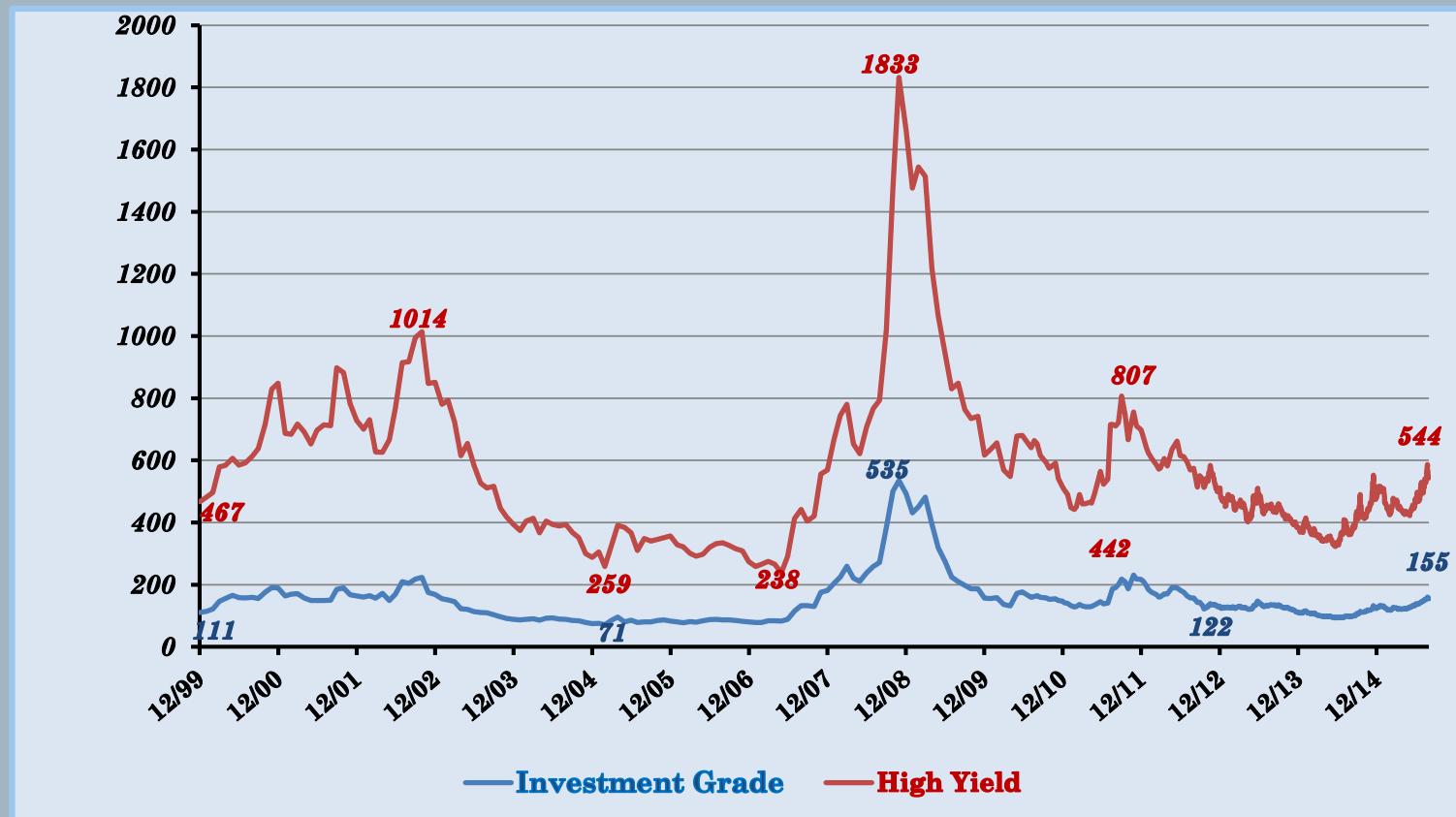
## US Ten Year Treasury Rates



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# INVESTMENT GRADE AND HY SPREADS

21



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# CORPORATE EARNINGS VS. EARNINGS PER SHARE

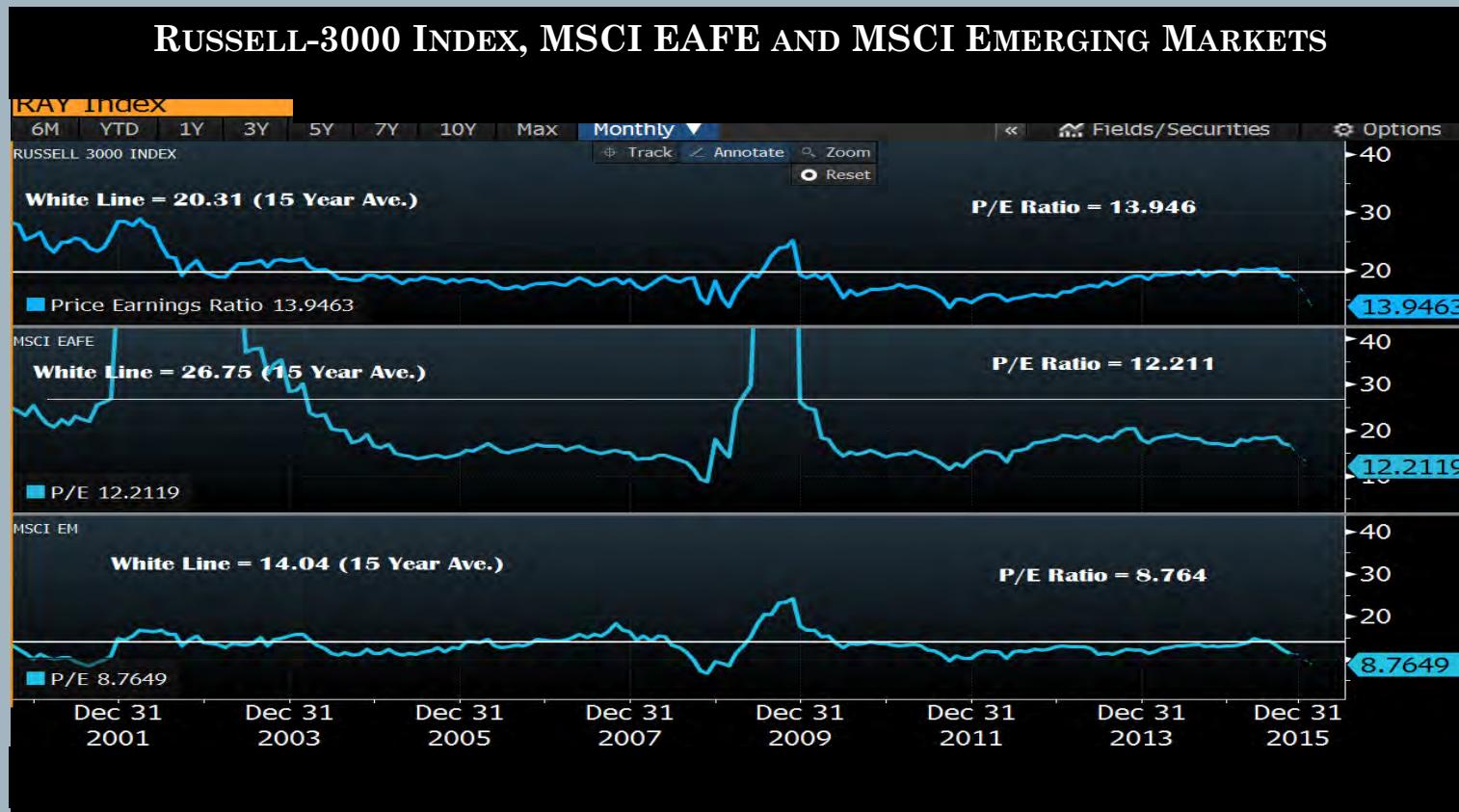
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- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# PRICE TO EARNING RATIOS INCLUDING ESTIMATES

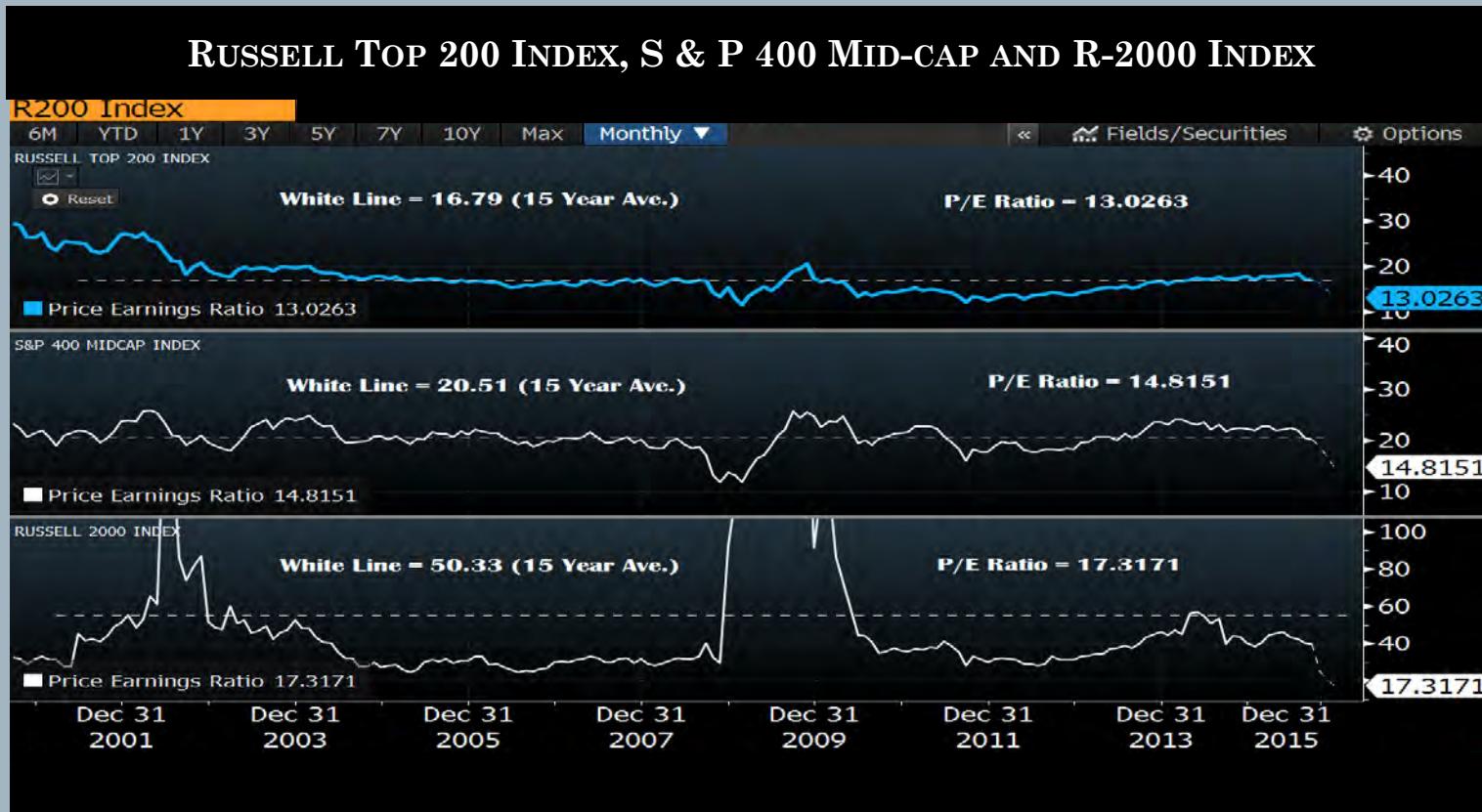
23



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# PRICE TO EARNING RATIOS INCLUDING ESTIMATES

24



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# RECENT GLOBAL EQUITY MARKET RETURNS

25



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

# MERGERS & ACQUISITIONS ACTIVITY

26

## MERGERS & ACQUISITIONS



- NOTE: THE MARKET INDICATORS CONTAINED IN THE BOARD MATERIALS ARE A SUBSET OF INDICATORS RELEVANT TO FUND PERFORMANCE AND STRATEGIC PLANNING AND ARE NOT INTENDED AS THE EXCLUSIVE INDICATORS.

**CITY OF NEW YORK**  
**NYC Employees' Retirement System**  
**Market Indicator Report**  
**July 31, 2015**



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## MARKET INDICATORS

	<b>1 Month</b>	<b>3 Month</b>	<b>Fiscal YTD</b>	<b>1 Year</b>	<b>2 Year</b>	<b>3 Year</b>	<b>5 Year</b>	<b>10 Year</b>
S&P 500	2.10	1.41	2.10	11.21	14.04	17.58	16.24	7.72
S&P 400 MIDCAP	0.14	0.57	0.14	11.30	12.09	18.67	16.29	9.20
RUSSELL 1000	1.93	1.32	1.93	11.24	14.11	18.02	16.45	7.93
RUSSELL 2000	(1.16)	1.85	(1.16)	12.03	10.28	17.90	15.27	7.61
RUSSELL 3000	1.67	1.35	1.67	11.28	13.80	18.00	16.35	7.90
RUSSELL 3000 GROWTH	3.14	3.18	3.14	16.37	17.13	18.94	17.76	8.96
RUSSELL 3000 VALUE	0.17	(0.51)	0.17	6.23	10.47	16.92	14.88	6.72
MSCI EAFE NET	2.08	(1.32)	2.08	(0.28)	7.12	12.32	8.01	5.02
MSCI EMF NET	(6.93)	(12.98)	(6.93)	(13.38)	(0.05)	0.61	0.58	6.62
FTSE CUSTOM NYCERS	(5.22)	(10.10)	(5.22)	(15.20)	(0.54)	(0.03)	0.83	7.12
MSCI WORLD NET	1.80	(0.23)	1.80	4.92	10.31	14.46	11.74	6.20
MSCI EUROPE SMID CAP NET	2.65	1.27	2.65	4.41	10.91	18.34	11.20	7.20
MSCI AC WORLD ex US NET	(0.28)	(4.57)	(0.28)	(4.57)	4.98	8.83	5.85	5.13
1 YEAR TREASURY BILL YIELD + 4%	0.35	1.06	0.35	4.33	4.29	4.29	4.36	5.93
HFRI FUND OF FUNDS COMPOSITE + 1%	0.20	0.30	0.20	5.47	6.35	7.08	5.00	4.07
NYC - TREASURY AGENCY PLUS FIVE	1.83	(0.94)	1.83	6.08	5.31	1.00	4.85	5.79
CITIGROUP MORTGAGE	0.64	(0.25)	0.64	3.58	3.82	1.85	2.87	4.72
NYC - INVESTMENT GRADE CREDIT	0.48	(1.61)	0.48	1.64	3.99	2.34	4.55	5.12
NYC - CORE PLUS FIVE	0.81	(0.98)	0.81	3.19	4.17	1.87	3.91	5.19
CITIGROUP BROAD INVESTMENT GRADE	0.65	(0.69)	0.65	2.79	3.36	1.58	3.23	4.69
BARCLAYS AGGREGATE	0.70	(0.64)	0.70	2.82	3.40	1.60	3.27	4.61

\*NCREIF NFI - ODCE NET index return calculated on a quarterly basis

Prepared by State Street Investment Analytics

**CITY OF NEW YORK**  
**NYC Employees' Retirement System**  
**Market Indicator Report**  
**July 31, 2015**

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## MARKET INDICATORS

	<u>1 Month</u>	<u>3 Month</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>2 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
CITIGROUP BB & B	(0.61)	(1.59)	(0.61)	0.99	4.23	5.46	7.51	6.30
CITIGROUP BB & B CAPPED	(0.61)	(1.59)	(0.61)	0.97	4.24	5.45	7.43	6.54
BofA ML HIGH YIELD MASTER II	(0.62)	(1.84)	(0.62)	0.16	4.14	5.91	7.54	7.52
BofAML HYM CONSTRAINED (DAILY)	(0.61)	(1.84)	(0.61)	0.17	4.15	5.91	7.52	7.56
CSFB LEVERAGED LOAN	0.09	(0.02)	0.09	2.29	3.61	4.97	5.47	4.67
BARCLAYS GLOBAL US TIPS	0.21	(1.58)	0.21	(1.56)	1.04	(1.31)	3.30	4.37
BofA ML U.S. Convertible - Yield Alternat	(2.00)	(4.03)	(2.00)	(4.00)	2.08	5.73	5.79	4.87
BofA ML US Invt Grade Conv Bond Index	(0.73)	(0.71)	(0.73)	6.58	11.81	14.37	10.72	5.33
BofA ML ALL CONVERTIBLES EX MANDATORY	(0.70)	(0.78)	(0.70)	4.72	10.79	14.40	11.68	7.81
DJ US SELECT REAL ESTATE	5.93	1.19	5.93	11.29	11.95	10.11	13.55	6.52
NCREIF NFI - ODCE NET*	0.00	3.58	0.00	13.39	12.56	12.07	13.33	5.86
CPI + 4%	0.46	1.89	0.46	4.22	5.14			
91 DAY TREASURY BILL	(0.00)	(0.00)	(0.00)	0.01	0.03	0.06	0.08	1.41

\*NCREIF NFI - ODCE NET index return calculated on a quarterly basis

**CITY OF NEW YORK**  
**NYC Employees' Retirement System**  
**Market Indicator Report**  
**August 31, 2015**

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## MARKET INDICATORS

	<b>1 Month</b>	<b>3 Month</b>	<b>Fiscal YTD</b>	<b>1 Year</b>	<b>2 Year</b>	<b>3 Year</b>	<b>5 Year</b>	<b>10 Year</b>
S&P 500	(6.03)	(5.92)	(4.06)	0.48	12.18	14.31	15.87	7.15
S&P 400 MIDCAP	(5.58)	(6.70)	(5.45)	0.01	11.02	15.10	16.14	8.69
RUSSELL 1000	(6.02)	(6.00)	(4.20)	0.40	12.18	14.68	16.07	7.35
RUSSELL 2000	(6.28)	(6.68)	(7.37)	0.03	8.50	14.12	15.55	7.12
RUSSELL 3000	(6.04)	(6.06)	(4.47)	0.36	11.88	14.63	16.03	7.33
RUSSELL 3000 GROWTH	(6.19)	(4.72)	(3.24)	4.30	14.44	15.38	17.43	8.41
RUSSELL 3000 VALUE	(5.87)	(7.44)	(5.71)	(3.60)	9.29	13.74	14.56	6.14
MSCI EAFE NET	(7.36)	(8.11)	(5.43)	(7.47)	3.80	8.53	7.05	3.96
MSCI EMF NET	(9.04)	(17.55)	(15.35)	(22.95)	(3.85)	(2.41)	(0.92)	5.52
FTSE CUSTOM NYCERS	(8.39)	(14.31)	(13.17)	(24.91)	(3.38)	(3.02)	(0.65)	6.19
MSCI WORLD NET	(6.62)	(7.15)	(4.94)	(4.13)	7.75	10.95	11.07	5.40
MSCI EUROPE SMID CAP NET	(4.87)	(4.32)	(2.34)	(0.67)	8.36	14.67	11.08	6.39
MSCI AC WORLD ex US NET	(7.64)	(10.47)	(7.90)	(12.35)	1.59	5.25	4.76	4.04
1 YEAR TREASURY BILL YIELD + 4%	0.32	1.03	0.67	4.27	4.28	4.28	4.34	5.89
HFRI FUND OF FUNDS COMPOSITE + 1%								
NYC - TREASURY AGENCY PLUS FIVE	0.16	(0.19)	1.99	3.88	5.86	1.17	4.06	5.56
CITIGROUP MORTGAGE	0.04	(0.15)	0.67	2.69	4.00	1.83	2.84	4.63
NYC - INVESTMENT GRADE CREDIT	(0.49)	(1.57)	(0.01)	(0.29)	4.12	2.07	4.03	4.92
NYC - CORE PLUS FIVE	(0.17)	(0.77)	0.64	1.60	4.39	1.78	3.54	5.02
CITIGROUP BROAD INVESTMENT GRADE	(0.13)	(0.56)	0.52	1.53	3.56	1.51	2.93	4.54
BARCLAYS AGGREGATE	(0.14)	(0.55)	0.55	1.56	3.59	1.53	2.98	4.46

\*NCREIF NFI - ODCE NET index return calculated on a quarterly basis

Prepared by State Street Investment Analytics

**CITY OF NEW YORK**  
**NYC Employees' Retirement System**  
**Market Indicator Report**  
**August 31, 2015**

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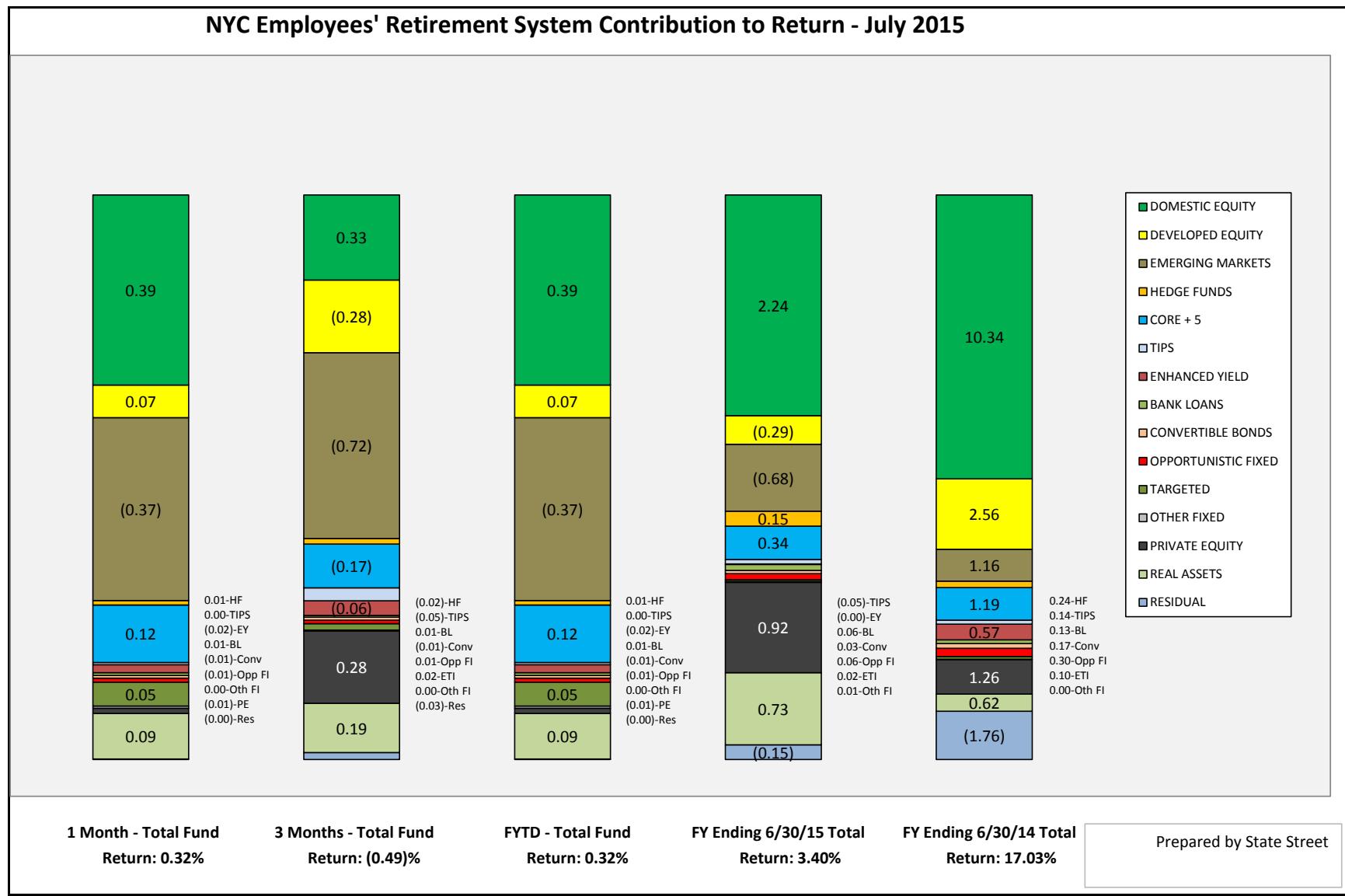


## MARKET INDICATORS

	<u>1 Month</u>	<u>3 Month</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>2 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
CITIGROUP BB & B	(1.83)	(3.84)	(2.43)	(2.49)	3.67	4.45	7.07	6.06
CITIGROUP BB & B CAPPED	(1.89)	(3.89)	(2.48)	(2.57)	3.64	4.41	6.97	6.29
BofA ML HIGH YIELD MASTER II	(1.76)	(3.86)	(2.37)	(3.07)	3.54	4.86	7.13	7.29
BofAML HYM CONSTRAINED (DAILY)	(1.77)	(3.86)	(2.37)	(3.08)	3.54	4.86	7.10	7.32
CSFB LEVERAGED LOAN	(0.65)	(0.87)	(0.56)	1.39	3.25	4.37	5.26	4.53
BARCLAYS GLOBAL US TIPS	(0.76)	(1.53)	(0.56)	(2.73)	1.40	(1.47)	2.79	4.06
BofA ML U.S. Convertible - Yield Alternat	(1.68)	(5.72)	(3.65)	(6.77)	1.49	4.58	5.30	4.69
BofA ML US Invt Grade Conv Bond Index	(2.78)	(6.00)	(3.49)	0.67	10.93	12.56	10.19	5.08
BofA ML ALL CONVERTIBLES EX MANDATORY	(3.59)	(6.42)	(4.26)	(2.54)	9.41	12.22	11.14	7.44
DJ US SELECT REAL ESTATE	(5.87)	(4.70)	(0.29)	1.88	12.51	8.00	12.50	6.31
NCREIF NFI - ODCE NET*	0.00	3.58	0.00	13.39	12.56	12.07	13.33	5.86
CPI + 4%								
91 DAY TREASURY BILL	0.01	0.01	0.01	0.03	0.04	0.06	0.08	1.38

\*NCREIF NFI - ODCE NET index return calculated on a quarterly basis

Prepared by State Street Investment Analytics

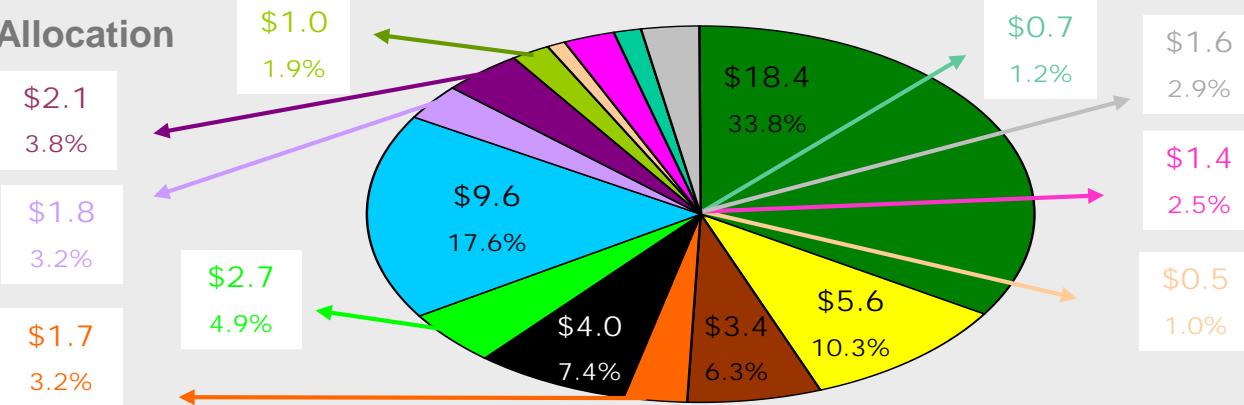


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## Portfolio Asset Allocation: July 31, 2015

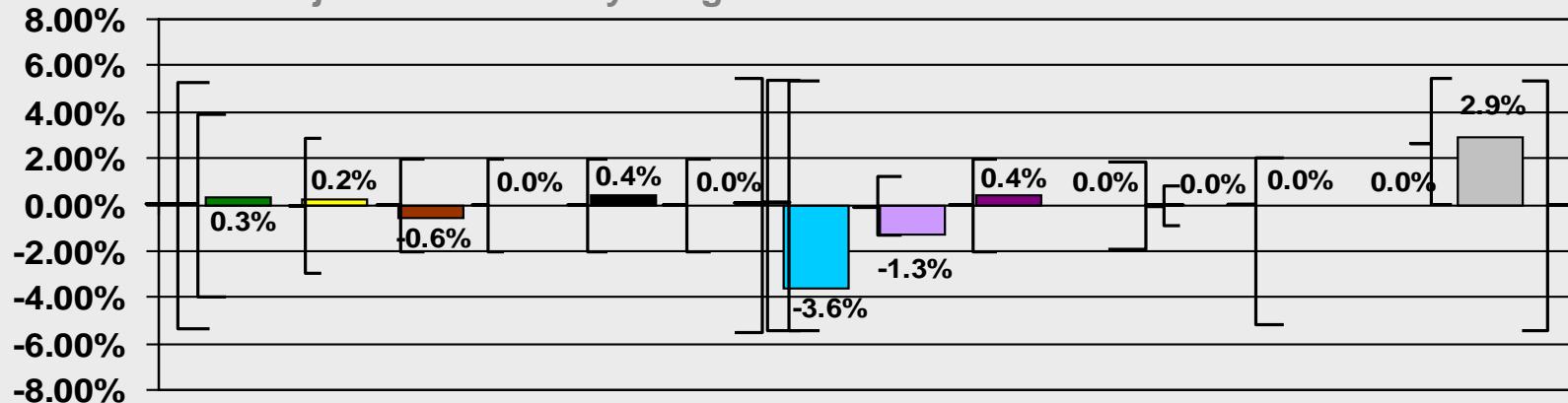
**\$54.5B Under Management**

### Asset Allocation



█ Domestic Equity   █ Developed Markets   █ Emerging Markets   █ Hedge Funds   █ Private Equity   █ Real Assets  
█ Core + 5   █ TIPS   █ Enhanced Yield   █ Bank Loans   █ Convertible Bonds   █ Opportunistic FI   █ ETI   █ Cash

### Relative Mix to Adjusted New Policy Weights



Note: Brackets represent rebalancing ranges versus policy.

New York City Employees' Retirement System

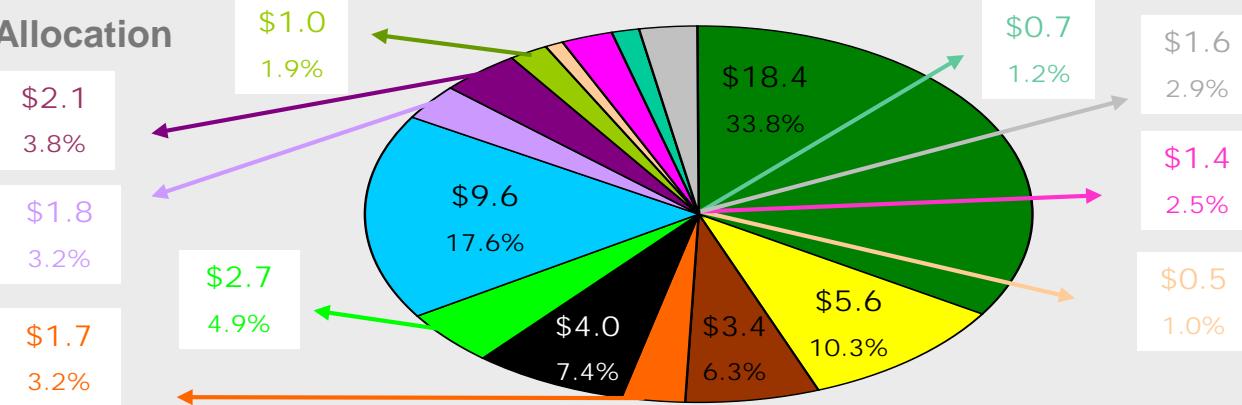
Performance Overview as of July 31 2015

Prepared by State Street

## Portfolio Asset Allocation: July 31, 2015

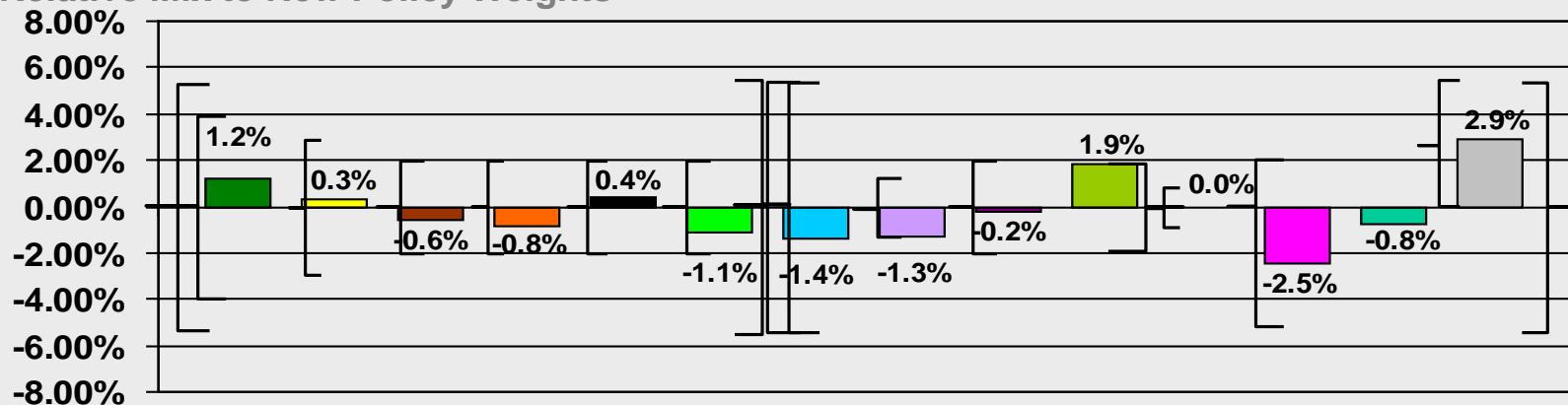
**\$54.5B Under Management**

### Asset Allocation



█ Domestic Equity   █ Developed Markets   █ Emerging Markets   █ Hedge Funds   █ Private Equity   █ Real Assets  
█ Core + 5   █ TIPS   █ Enhanced Yield   █ Bank Loans   █ Convertible Bonds   █ Opportunistic FI   █ ETI   █ Cash

### Relative Mix to New Policy Weights



Note: Brackets represent rebalancing ranges versus policy.

New York City Employees' Retirement System

Performance Overview as of July 31, 2015

Prepared by State Street

**NYC EMPLOYEES' RETIREMENT SYSTEM**  
**CLASSIFICATION OF INVESTMENTS**  
*(as of July 31st, 2015)*

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<b>ASSET CLASS ALLOCATIONS</b>		In \$MM	Actual	Policy Target	Adjustment	Adjusted Policy	Adjusted Target Range ***
<b>TOTAL EQUITIES</b>		\$35,881.5	65.9%	66.5%	NA	65.5%	60.5% - 70.5%
<b>TOTAL FIXED INCOME</b>		\$18,567.4	34.1%	33.5%	NA	34.5%	29.5% - 39.5%
<b>TOTAL ASSETS</b>		\$54,448.9	100.0%	100.0%	NA	100.0%	
		In \$MM	Actual	Policy Target	Adjustment	Adjusted Policy	Adjusted Target Range ***
US Equities		\$18,408.2	33.8%	32.6%	0.9%	33.5%	29.5% - 37.5%
Non-US Equities/EAFE		\$5,629.5	10.3%	10.0%	0.1%	10.1%	7.1% - 13.1%
Emerging Markets		\$3,424.9	6.3%	6.9%	NA	6.9%	4.9% - 8.9%
<b>TOTAL PUBLIC EQUITY</b>		<b>\$27,462.6</b>	<b>50.4%</b>	<b>49.5%</b>	<b>NA</b>	<b>50.5%</b>	
<b>HEDGE FUNDS</b>		\$1,734.3	3.2%	4.0%	NA	3.2%	2.0% - 6.0%
<b>*REAL ASSETS</b>		\$2,674.2	4.9%	6.0%	NA	4.9%	4.0% - 8.0%
<b>*PRIVATE EQUITY</b>		\$4,010.5	7.4%	7.0%	NA	7.0%	5.0% - 9.0%
<b>TOTAL EQUITIES</b>		<b>\$35,881.5</b>	<b>65.9%</b>	<b>66.5%</b>	<b>NA</b>	<b>65.5%</b>	<b>60.5% - 70.5%</b>
		In \$MM	Actual	Policy Target	Adjustment	Adjusted Policy	Adjusted Target Range ***
Core +5	US - Government	\$1,113.1	2.0%	19.0%	NA	21.2%	16.2% - 26.2%
	US - Mortgage	\$3,502.4	6.4%		NA		
	US - Investment Grade Credit	\$4,488.7	8.2%		NA		
	<b>TOTAL CORE + 5</b>	<b>\$9,593.5</b>	<b>17.6%</b>	<b>19.0%</b>	<b>2.2%</b>	<b>21.2%</b>	<b>16.2% - 26.2%</b>
	High Yield	\$2,057.8	3.8%	4.0%	NA	5.2%	3.2% - 7.2%
	Bank Loans	\$1,009.0	1.9%		NA		
<b>Total High Yield &amp; Bank Loans</b>		<b>\$3,066.8</b>	<b>5.6%</b>	<b>4.0%</b>	<b>1.2%</b>	<b>5.2%</b>	<b>3.2% - 7.2%</b>
TIPS		\$1,763.1	3.2%	4.5%	NA	4.5%	3.0% - 6.0%
Convertible Bonds		\$535.0	1.0%	1.0%	NA	1.0%	0.0% - 2.0%
** ETI		\$666.2	1.2%	** 2.0%	NA	** 1.2%	** 1.2%
Cash		\$1,567.2	2.9%	0.0%	NA	0.0%	0.0% - 5.0%
<b>TOTAL PUBLIC FIXED INCOME</b>		<b>\$17,191.9</b>	<b>31.6%</b>	<b>28.5%</b>	<b>NA</b>	<b>31.9%</b>	
<b>*OPPORTUNISTIC FIXED INCOME</b>		\$1,375.4	2.5%	5.0%	NA	2.5%	0.0% - 7.0%
<b>TOTAL FIXED INCOME</b>		<b>\$18,567.4</b>	<b>34.1%</b>	<b>33.5%</b>	<b>NA</b>	<b>34.5%</b>	<b>29.5% - 39.5%</b>

\* Ranges for illiquid asset classes represent minimums and maximums which will be monitored and will influence pacing analysis but will not necessarily result in purchases or sales.

\*\* ETIs have a policy of 2% of the total Fund. The ETI adjusted policy % is shown for illustrative purposes only and is not included in the sub-totals. The ETI policy % is included within the policy % of the other asset classes.

\*\*\* Adjusted Target Ranges are calculated as follows: Total Equities: +/-5%; Total Fixed Income: +/-5%; US Equities: +/-4%; Non-US Equities/EAFE: +/-3%; Emerging Markets: +/-2%; Hedge Funds: +/-2%; Real Assets: +/-2%; Private Equity: +/-2%; Core +5: +/-5%; TIPS: +/-1.5%; High Yield & Bank Loans: +/-2% (Bank Loans up to 1/3 of Adjusted Policy); Convertible Bonds: +/-1%; Cash: 0-5%; OFI: +2%/-5%.

# NYC EMPLOYEES' RETIREMENT SYSTEM

## CLASSIFICATION OF INVESTMENTS

### *(as of July 31st, 2015)*

#### Adjustments to Long-Term Asset Allocation

##### **1) Private Equity**

100% of uninvested commitments will be invested in Global Equity.

##### **2) Real Assets**

50% of uninvested commitments will be invested in Fixed Income Core +5 and 50% of uninvested commitments will be invested in US Equity.

##### **3) Opportunistic Fixed Income**

50% of uninvested commitments will be invested in Fixed Income Core +5 and 50% of uninvested commitments will be invested in High Yield.

##### **4) Hedge Funds**

50% of uninvested commitments will be invested in Fixed Income Core +5 and 50% of uninvested commitments will be invested in Global Equity.

#### Impact of Adjustments

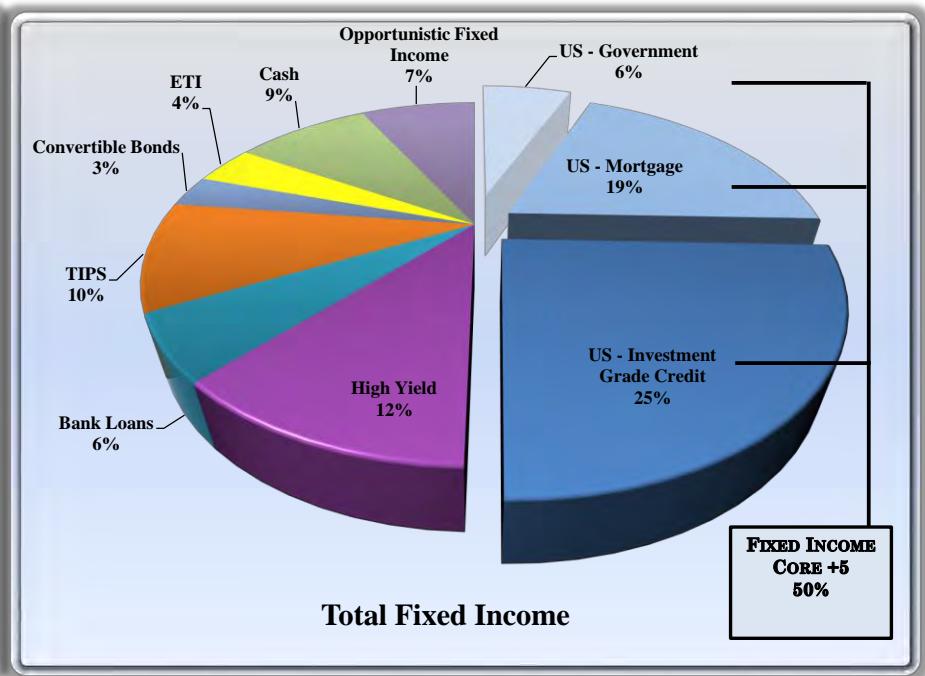
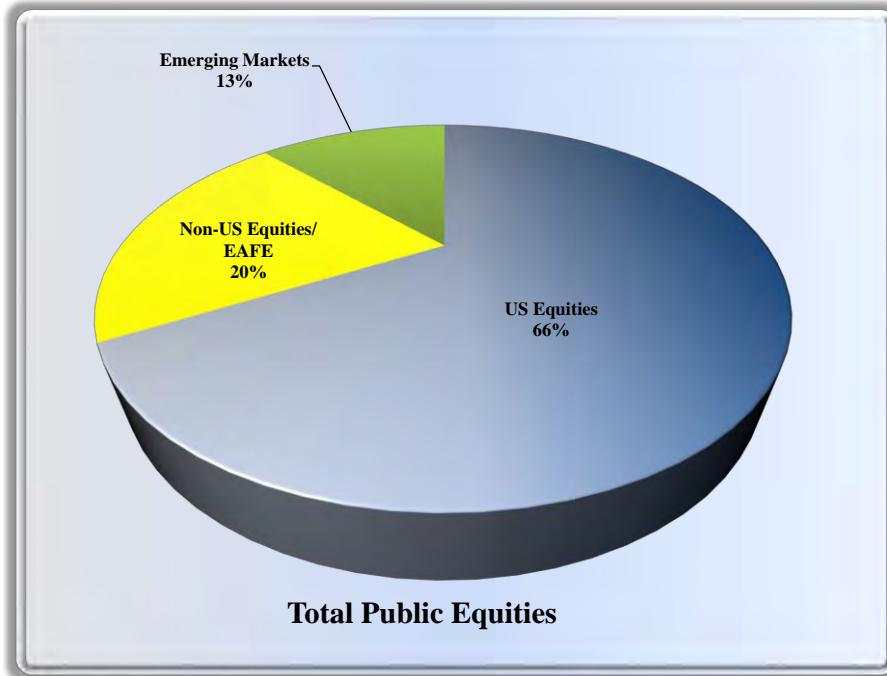
<b>1) Core +5 Policy Target %</b>	<b>19.0%</b>
Adjustment: 50% of uninvested Opportunistic FI	1.2%
Adjustment: 50% of uninvested Real Assets	0.5%
Adjustment: 50% of uninvested Hedge Funds	<u>0.4%</u>
<b>Adjusted Core+5 Policy Target %</b>	<b>21.2%</b>
<b>2) High Yield Policy Target %</b>	<b>4.0%</b>
Adjustment: 50% of uninvested Opportunistic FI	<u>1.2%</u>
<b>Adjusted High Yield Policy Target %</b>	<b>5.2%</b>
<b>3) Domestic Equity Policy Target %</b>	<b>32.6%</b>
Adjustment: 50% of uninvested Real Assets	0.5%
Adjustment: 77% of uninvested Private Equity	0.0%
Adjustment: 38% of uninvested Hedge Funds	<u>0.3%</u>
<b>Adjusted Domestic Equity Policy Target %</b>	<b>33.5%</b>
<b>4) Non-U.S. Equity (Developed) Policy Target %</b>	<b>10.0%</b>
Adjustment: 23% of uninvested Private Equity	0.0%
Adjustment: 12% of uninvested Hedge Funds	<u>0.1%</u>
<b>Adjusted Non-U.S. Equity (Developed) Policy Target %</b>	<b>10.1%</b>

# NYC EMPLOYEES' RETIREMENT SYSTEM

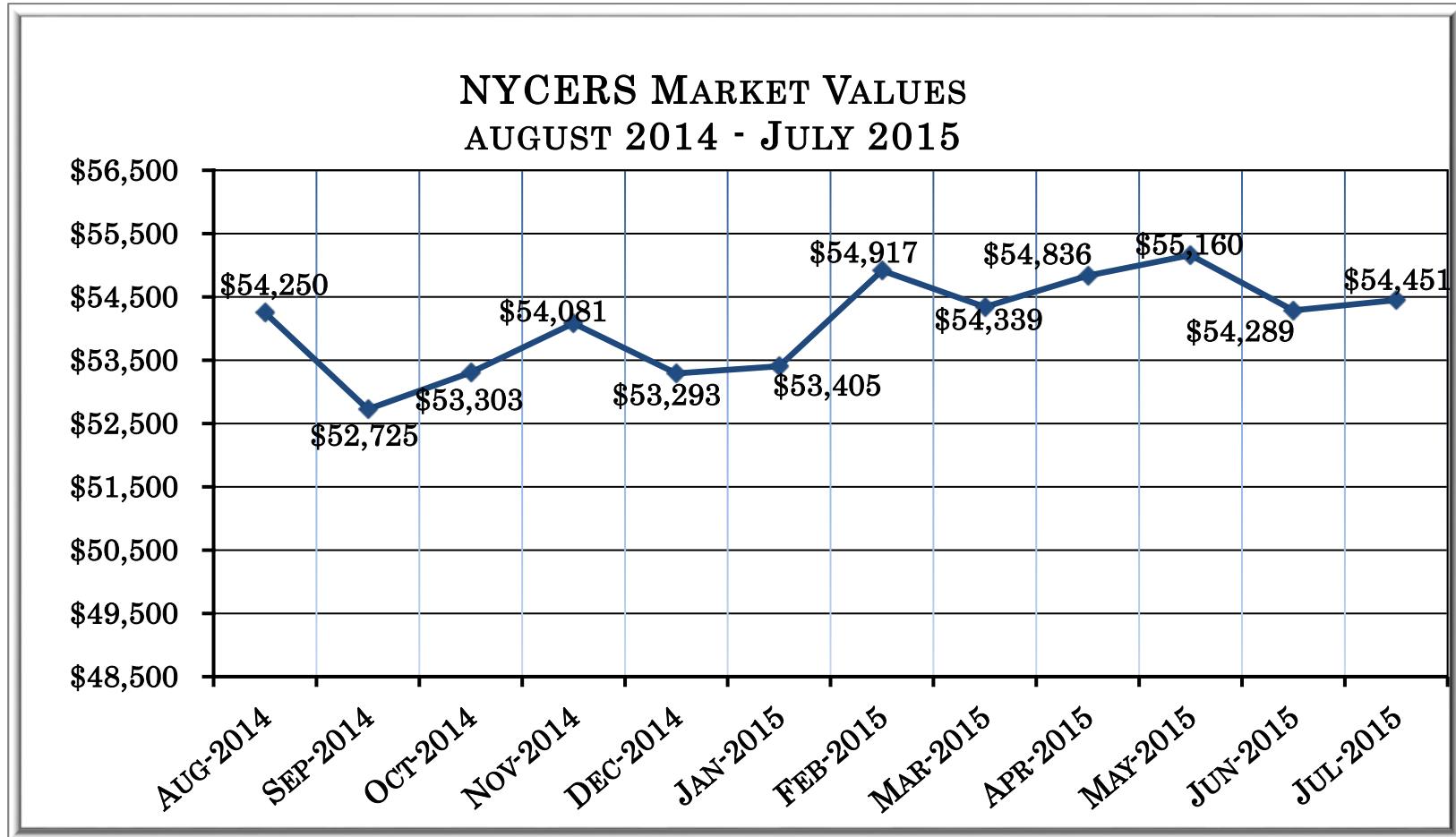
## CLASSIFICATION OF INVESTMENTS

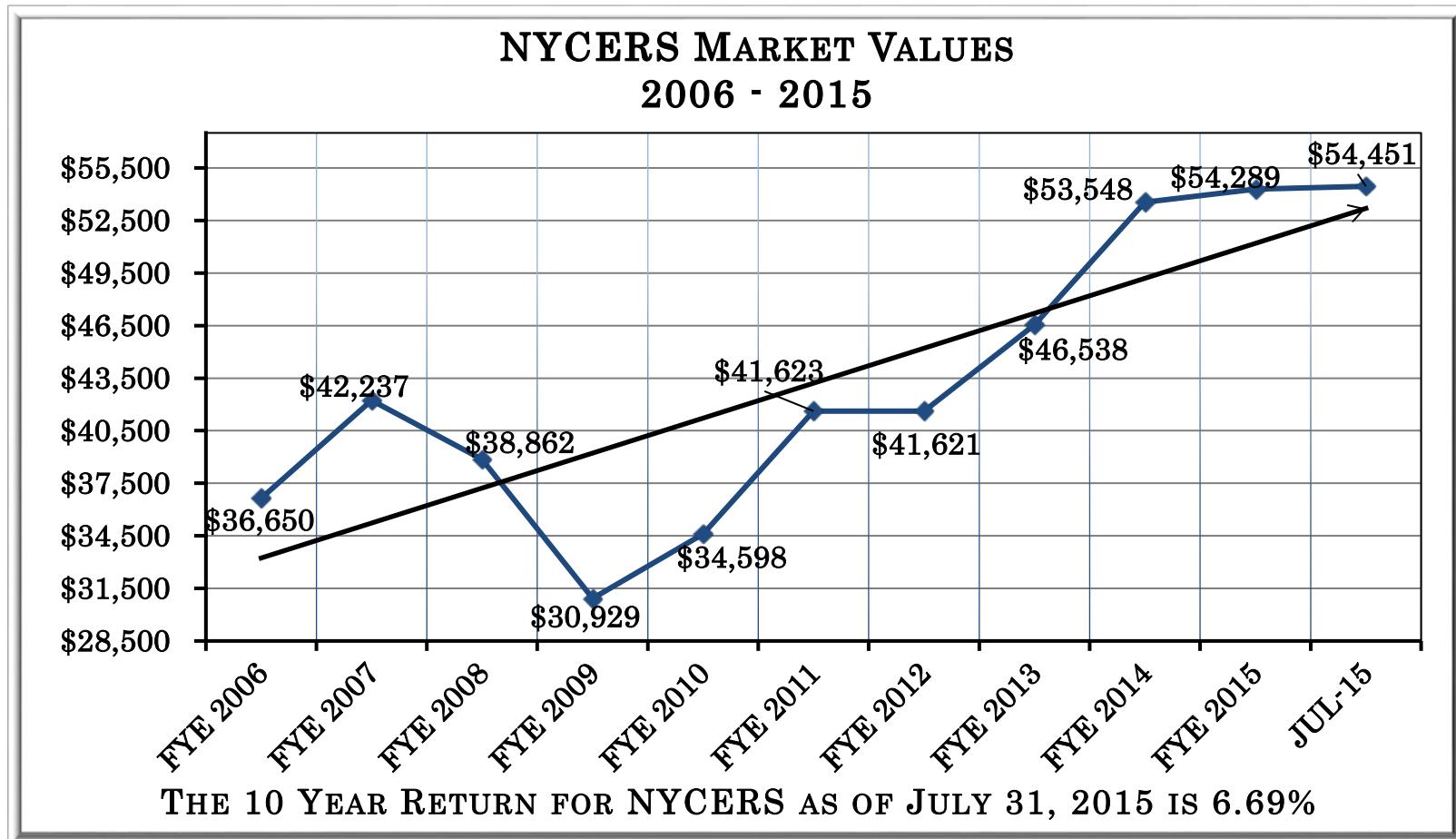
(as of July 31st, 2015)

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Note: Totals may not equal 100% due to rounding





# New York City Employees' Retirement System

Manager / Benchmark Comparison Report

Rates of Return - Net Mgr

Periods Ending July 31, 2015



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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
<b>ASSET CLASS SUMMARY</b>							
<b>NYCERS-TOTAL EMPLOYEES</b>	54,451	100.00	0.30	(0.55)	0.30	2.52	7.07
Employees Policy Benchmark			0.65	(0.05)	0.65	3.17	8.15
Excess			(0.35)	(0.51)	(0.35)	(0.65)	(1.08)
<b>NYCERS-TOTAL EQUITY (INCL PE &amp; RA)</b>	35,882	65.90	0.23	(0.46)	0.23	3.23	7.52
<b>NYCERS-TOTAL FIXED INCOME (DOM &amp; GLOBAL)</b>	18,561	34.09	0.42	(0.75)	0.42	1.07	6.03
<b>EQUITY SUMMARY</b>							
<b>US EQUITY</b>							
State Street Global Advisors R3000	1,695	3.11	1.64	1.30	1.64	3.57	12.87
RUSSELL 3000 (DAILY)			1.67	1.35	1.67	3.65	12.56
Excess			(0.03)	(0.06)	(0.03)	(0.07)	0.31
Amalgamated Bank	4,222	7.75	2.03	1.34	2.03	3.25	13.62
S&P 500 INDEX (DAILY)			2.10	1.41	2.10	3.35	13.69
Excess			(0.07)	(0.06)	(0.07)	(0.10)	(0.07)
Blackrock Inst R 2000 Growth	233	0.43	0.40	5.47	0.40	9.05	5.70
RUSSELL 2000 GROWTH DAILY			0.41	5.50	0.41	9.18	5.60
Excess			(0.01)	(0.02)	(0.01)	(0.13)	0.10
Blackrock Inst R 2000 Value	57	0.10	(2.91)	(1.78)	(2.91)	(2.03)	4.90
RUSSELL 2000 VALUE DAILY			(2.76)	(1.82)	(2.76)	(2.02)	4.22
Excess			(0.15)	0.04	(0.15)	(0.01)	0.68
RAFI - SC Fundamental	995	1.83	(2.17)	(0.41)	(2.17)	(0.08)	4.56
RUSSELL 2000 (DAILY)			(1.16)	1.85	(1.16)	3.54	4.89
Excess			(1.01)	(2.26)	(1.01)	(3.62)	(0.34)

# New York City Employees' Retirement System

## Manager / Benchmark Comparison Report

Rates of Return - Net Mgr

Periods Ending July 31, 2015



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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
Ceredex SCV	298	0.55	1.80	4.95	1.80	5.64	2.58
RUSSELL 2000 VALUE DAILY			(2.76)	(1.82)	(2.76)	(2.02)	4.22
Excess			4.56	6.78	4.56	7.66	(1.64)
Wellington Small Core	164	0.30	0.31	2.77	0.31	4.51	9.89
RUSSELL 2000 (DAILY)			(1.16)	1.85	(1.16)	3.54	4.89
Excess			1.47	0.92	1.47	0.97	4.99
State Street GA S&P 400	1,806	3.32	0.16	0.47	0.16	4.24	9.97
S&P 400 MIDCAP INDEX (DAILY)			0.14	0.57	0.14	4.34	9.77
Excess			0.03	(0.10)	0.03	(0.09)	0.20
Blackrock Inst R 1000 Growth	2,801	5.14	3.35	2.96	3.35	7.42	12.90
RUSSELL 1000 GROWTH - DAILY			3.39	3.00	3.39	7.49	13.05
Excess			(0.04)	(0.04)	(0.04)	(0.07)	(0.15)
Blackrock Inst R 1000 Value	2,618	4.81	0.40	(0.41)	0.40	(0.25)	13.51
RUSSELL 1000 VALUE (DAILY)			0.44	(0.38)	0.44	(0.18)	13.45
Excess			(0.04)	(0.03)	(0.04)	(0.07)	0.06
VTL S&P 500 Fundamental	482	0.89	1.08	(0.09)	1.08	2.04	13.81
S&P 500 INDEX (DAILY)			2.10	1.41	2.10	3.35	13.69
Excess			(1.01)	(1.50)	(1.01)	(1.31)	0.12
RAFI - LC Fundamental	1,400	2.57	0.56	(0.77)	0.56	0.01	12.15
RUSSELL 1000 (DAILY)			1.93	1.32	1.93	3.67	13.24
Excess			(1.37)	(2.10)	(1.37)	(3.66)	(1.09)
<b>FUND OF FUNDS</b>							
NYCERS-TOTAL FUND OF FUNDS	1,090	2.00	0.98	0.63	0.98	2.28	7.55
RUSSELL 3000 (DAILY)			1.67	1.35	1.67	3.65	12.56
Excess			(0.69)	(0.73)	(0.69)	(1.37)	(5.01)

# New York City Employees' Retirement System

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
<b>U.S. ENVIRONMENTAL</b>							
Walden Asset Management (ENVRN)	337	0.62	(1.59)	(0.58)	(1.59)	0.53	(0.34)
RUSSELL 2000 (DAILY)			(1.16)	1.85	(1.16)	3.54	4.89
Excess			(0.42)	(2.43)	(0.42)	(3.00)	(5.24)
<b>NON - US EQUITY</b>							
Causeway	914	1.68	1.88	(2.10)	1.88	7.04	(4.94)
MSCI EAFE VALUE NET (DAILY)			1.74	(2.36)	1.74	5.92	(5.39)
Excess			0.14	0.26	0.14	1.12	0.45
Sprucegrove	955	1.75	(1.41)	(6.11)	(1.41)	(0.49)	(3.69)
MSCI EAFE VALUE NET (DAILY)			1.74	(2.36)	1.74	5.92	(5.39)
Excess			(3.15)	(3.76)	(3.15)	(6.41)	1.70
Baillie Gifford MTA	940	1.73	(0.77)	(4.59)	(0.77)	5.47	(6.81)
MSCI EAFE GROWTH			2.41	(0.31)	2.41	9.49	(4.43)
Excess			(3.18)	(4.28)	(3.18)	(4.02)	(2.38)
Walter Scott	1,008	1.85	0.57	(3.67)	0.57	4.38	(3.43)
MSCI EAFE GROWTH			2.41	(0.31)	2.41	9.49	(4.43)
Excess			(1.84)	(3.37)	(1.84)	(5.11)	1.00
Acadian	342	0.63	1.09	0.28	1.09	10.29	(3.02)
S&P EPAC Small Cap Index			0.50	(0.06)	0.50	11.13	(3.10)
Excess			0.59	0.34	0.59	(0.84)	0.08
Pyramis	347	0.64	3.41	2.89	3.41	14.68	(5.51)
S&P EPAC Small Cap Index			0.50	(0.06)	0.50	11.13	(3.10)
Excess			2.90	2.95	2.90	3.56	(2.41)
SSGA MTA 121	608	1.12	2.03	(1.23)	2.03	8.01	(5.00)
MSCI EAFE			2.08	(1.32)	2.08	7.72	(4.90)
Excess			(0.05)	0.09	(0.05)	0.30	(0.10)

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
SSGA MSCI EAFE Small Cap Index	253	0.46	0.84	0.69	0.84	11.42	
MSCI EAFE SMALL CAP NET (DAILY)			0.85	0.61	0.85	11.08	
Excess			(0.01)	0.08	(0.01)	0.34	
Generation GE MTA	208	0.38	1.60	0.47	1.60	7.28	11.39
MSCI World Index			1.80	(0.23)	1.80	4.47	4.94
Excess			(0.19)	0.70	(0.19)	2.80	6.45
<b>EMERGING MARKETS</b>							
BALLIE MTA	590	1.08	(6.02)	(9.51)	(6.02)	(5.87)	4.53
FTSE Custom NYCERS All Emerging Index			(5.22)	(10.10)	(5.22)	(5.90)	(0.07)
Excess			(0.79)	0.59	(0.79)	0.03	4.60
Acadian / MTA	558	1.02	(5.07)	(9.97)	(5.07)	(6.31)	3.09
FTSE Custom NYCERS All Emerging Index			(5.22)	(10.10)	(5.22)	(5.90)	(0.07)
Excess			0.15	0.13	0.15	(0.41)	3.16
PARAMETRIC EM	550	1.01	(4.72)	(9.74)	(4.72)	(6.76)	(1.55)
FTSE Custom NYCERS All Emerging Index			(5.22)	(10.10)	(5.22)	(5.90)	(0.07)
Excess			0.50	0.36	0.50	(0.86)	(1.48)
DFA MTA	507	0.93	(6.74)	(13.48)	(6.74)	(9.29)	(4.16)
FTSE Custom NYCERS All Emerging Index			(5.22)	(10.10)	(5.22)	(5.90)	(0.07)
Excess			(1.51)	(3.38)	(1.51)	(3.39)	(4.09)
Blackrock EM	1,220	2.24	(5.68)	(10.88)	(5.68)	(6.45)	(1.52)
MSCI Custom NYCERS Emerging Mkts Index			(5.66)	(10.79)	(5.66)	(6.51)	(0.98)
Excess			(0.03)	(0.09)	(0.03)	0.06	(0.54)
<b>HEDGE FUNDS</b>							
NYCERS-TOTAL HEDGE FUNDS	1,483	2.72	0.94	(0.28)	0.94	2.76	5.56

# New York City Employees' Retirement System

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
<b>FIXED INCOME SUMMARY</b>							
<b>STRUCTURED FIXED INCOME</b>							
Neuberger Berman - Mortgage							
	1,049	1.93	0.60	(0.23)	0.60	0.96	6.99
CITIGROUP MORTGAGE INDEX							
		0.64	(0.25)	0.64	1.00	6.12	
Excess		(0.03)	0.02	(0.03)	(0.04)	0.86	
Blackrock - Mortgage							
	1,187	2.18	0.51	(0.31)	0.51	1.17	6.75
CITIGROUP MORTGAGE INDEX							
		0.64	(0.25)	0.64	1.00	6.12	
Excess		(0.13)	(0.06)	(0.13)	0.16	0.62	
Wellington - Mortgage							
	509	0.94	0.59	(0.27)	0.59	0.90	6.77
CITIGROUP MORTGAGE INDEX							
		0.64	(0.25)	0.64	1.00	6.12	
Excess		(0.05)	(0.03)	(0.05)	(0.10)	0.65	
Goldman Sachs - Mortgage							
	540	0.99	0.53	(0.25)	0.53	1.04	6.24
CITIGROUP MORTGAGE INDEX							
		0.64	(0.25)	0.64	1.00	6.12	
Excess		(0.11)	(0.00)	(0.11)	0.04	0.12	
Smith Breeden - Mortgage							
	217	0.40	0.58	(0.16)	0.58	1.19	6.36
CITIGROUP MORTGAGE INDEX							
		0.64	(0.25)	0.64	1.00	6.12	
Excess		(0.06)	0.08	(0.06)	0.19	0.23	
Prudential - Corp - Credit							
	1,179	2.17	0.55	(1.53)	0.55	(0.03)	7.54
NYC - Investment Grade Credit							
		0.48	(1.61)	0.48	(0.04)	7.04	
Excess		0.07	0.08	0.07	0.01	0.50	
T. Rowe Price - Credit							
	861	1.58	0.52	(1.58)	0.52	0.64	7.91
NYC - Investment Grade Credit							
		0.48	(1.61)	0.48	(0.04)	7.04	
Excess		0.04	0.03	0.04	0.68	0.87	

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
Blackrock - Credit	859	1.58	0.46	(1.53)	0.46	0.13	7.48
NYC - Investment Grade Credit			0.48	(1.61)	0.48	(0.04)	7.04
Excess			(0.02)	0.09	(0.02)	0.17	0.44
Taplin Canida Habacht - Credit	750	1.38	0.25	(2.25)	0.25	(0.96)	7.83
NYC - Investment Grade Credit			0.48	(1.61)	0.48	(0.04)	7.04
Excess			(0.23)	(0.64)	(0.23)	(0.92)	0.79
Barrow Hanley - Credit	648	1.19	0.55	(1.53)	0.55	0.23	7.47
NYC - Investment Grade Credit			0.48	(1.61)	0.48	(0.04)	7.04
Excess			0.08	0.08	0.08	0.26	0.42
Prudential-Privest - Credit	192	0.35	0.95	(0.16)	0.95	1.74	7.20
NYC - Investment Grade Credit			0.48	(1.61)	0.48	(0.04)	7.04
Excess			0.47	1.45	0.47	1.78	0.16
Blackrock - Gov't	556	1.02	1.78	(0.82)	1.78	0.66	11.98
NYC - Treasury Agency Plus Five			1.83	(0.94)	1.83	0.50	12.38
Excess			(0.05)	0.12	(0.05)	0.16	(0.40)
State Street - Gov't	557	1.02	1.70	(1.01)	1.70	0.41	12.10
NYC - Treasury Agency Plus Five			1.83	(0.94)	1.83	0.50	12.38
Excess			(0.13)	(0.07)	(0.13)	(0.09)	(0.28)
<b>ENHANCED YIELD</b>							
Loomis, Sayles - High Yield	412	0.76	(0.60)	(1.66)	(0.60)	3.06	4.89
NYC-Loomis (BoA MLMSTII 7-03/BB&B PRIOR)			(0.62)	(1.84)	(0.62)	1.86	2.50
Excess			0.02	0.18	0.02	1.20	2.38
Oaktree - High Yield	328	0.60	(0.50)	(1.51)	(0.50)	1.99	1.52
BofAML HYM CONSTRAINED (DAILY)			(0.61)	(1.84)	(0.61)	1.87	2.51
Excess			0.12	0.33	0.12	0.12	(0.98)

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
NEUBERGER BERMAN - HIGH YIELD	346	0.63	(0.60)	(2.04)	(0.60)	1.51	2.14
BofAML HIGH YIELD MASTER II (DAILY)			(0.62)	(1.84)	(0.62)	1.86	2.50
Excess			0.02	(0.20)	0.02	(0.35)	(0.36)
Stone Harbor - High Yield	202	0.37	(0.66)	(2.40)	(0.66)	1.12	0.97
BofAML HIGH YIELD MASTER II (DAILY)			(0.62)	(1.84)	(0.62)	1.86	2.50
Excess			(0.05)	(0.56)	(0.05)	(0.74)	(1.54)
T. Rowe Price - Enhanced Yield	351	0.65	(0.07)	(0.75)	(0.07)	3.20	2.96
CITIGROUP BB & B			(0.61)	(1.59)	(0.61)	2.12	2.78
Excess			0.54	0.84	0.54	1.08	0.18
Shenkman - High Yield	175	0.32	(0.33)	(1.27)	(0.33)	3.02	2.93
CITIGROUP BB & B			(0.61)	(1.59)	(0.61)	2.12	2.78
Excess			0.28	0.32	0.28	0.90	0.14
Penn Capital Mgt	128	0.23	0.03	(0.91)	0.03	2.98	0.84
CITIGROUP BB & B			(0.61)	(1.59)	(0.61)	2.12	2.78
Excess			0.64	0.68	0.64	0.87	(1.95)
Fort Washington	118	0.22	(0.97)	(2.24)	(0.97)	1.90	2.18
CITIGROUP BB & B			(0.61)	(1.59)	(0.61)	2.12	2.78
Excess			(0.36)	(0.64)	(0.36)	(0.21)	(0.60)
<hr/>							
<b>BANK LOANS</b>							
Babson BL	278	0.51	0.24	0.44	0.24	3.48	1.99
CSFB LEVERAGED LOAN INDEX			0.09	(0.02)	0.09	2.96	2.06
Excess			0.15	0.46	0.15	0.52	(0.07)
Credit Suisse BL	278	0.51	0.37	0.54	0.37	4.01	2.67
CSFB LEVERAGED LOAN INDEX			0.09	(0.02)	0.09	2.96	2.06
Excess			0.28	0.56	0.28	1.05	0.61

# New York City Employees' Retirement System

## Manager / Benchmark Comparison Report

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
Guggenheim BL	179	0.33	0.42	0.62	0.42	3.64	2.88
CSFB LEVERAGED LOAN INDEX			0.09	(0.02)	0.09	2.96	2.06
Excess			0.33	0.64	0.33	0.68	0.83
Invesco BL	274	0.50	0.18	(0.27)	0.18	2.52	1.65
CSFB LEVERAGED LOAN INDEX			0.09	(0.02)	0.09	2.96	2.06
Excess			0.09	(0.24)	0.09	(0.44)	(0.41)
<b>TIPS</b>							
State Street TIPS MTA	1,333	2.45	0.13	(1.58)	0.13	0.63	3.57
Barclays Global Inflation Linked: US TIPS (Daily)			0.21	(1.58)	0.21	0.55	3.64
Excess			(0.08)	0.00	(0.08)	0.08	(0.07)
Blackrock TIPS MTA	429	0.79	0.16	(1.49)	0.16	0.73	3.74
Barclays Global Inflation Linked: US TIPS (Daily)			0.21	(1.58)	0.21	0.55	3.64
Excess			(0.05)	0.09	(0.05)	0.18	0.10
<b>CONVERTIBLE BONDS</b>							
Advent Conv Bonds	332	0.61	(0.48)	(1.52)	(0.48)	1.60	4.68
BofA ML U.S. Convertible - Yield Alternatives			(2.00)	(4.03)	(2.00)	(1.57)	2.75
Excess			1.52	2.51	1.52	3.18	1.93
Victory - Conv Bonds	203	0.37	(0.74)	(0.93)	(0.74)	1.37	13.76
BofA Merrill Lynch US Investment Grade Convertible Bond Index			(0.73)	(0.71)	(0.73)	1.72	15.69
Excess			(0.01)	(0.22)	(0.01)	(0.35)	(1.93)
<b>CORE FIXED INCOME</b>							
LM Capital	278	0.51	0.60	(0.60)	0.60	0.95	5.67
Barclays Aggregate (Daily)			0.70	(0.64)	0.70	0.59	5.97
Excess			(0.09)	0.04	(0.09)	0.36	(0.30)

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
GIA	100	0.18	0.45		0.45		
Barclays Aggregate (Daily)			0.70		0.70		
Excess		(0.24)		(0.24)		(0.24)	
<b>OPPORTUNISTIC FIXED INCOME</b>							
NYCERS-TOTAL OPPORTUNISTIC FIXED INCOME	1,375	2.53	(0.33)	0.54	(0.33)	1.27	7.99
<b>OTHER FIXED INCOME</b>							
AFL-CIO HOUSING INV TRUST	238	0.44	0.66	(0.34)	0.66	1.06	6.10
Barclays Aggregate (Daily)			0.70	(0.64)	0.70	0.59	5.97
Excess		(0.04)	0.30	(0.04)	0.47	0.14	
ACCESS RBC	121	0.22	0.60	(0.31)	0.60	1.43	6.67
Access RBC Benchmark			0.58	(0.11)	0.58	1.01	5.08
Excess		0.02	(0.20)	0.02	0.42	1.59	
CPC CONST FACILITY	8	0.01	1.23	1.67	1.23	2.55	
CPC CONST BENCHMARK			0.24	0.71	0.24	1.67	
Excess		0.99	0.96	0.99	0.88		
BOA-PPAR (GNMA)	17	0.03	12.90	8.68	12.90	8.82	15.61
GNMA Plus 65bps			0.59	(0.25)	0.59	1.00	6.65
Excess		12.32	8.94	12.32	7.82	8.96	
BOA-PPAR (FNMA)	20	0.04	10.84	6.62	10.84	42.23	13.31
FNMA Plus 85bps			0.77	0.07	0.77	1.64	7.13
Excess		10.07	6.55	10.07	40.60	6.19	
CCD-PPAR (GNMA)	7	0.01	7.62	3.84	7.62	4.33	15.37
GNMA Plus 65bps			0.59	(0.25)	0.59	1.00	6.65
Excess		7.03	4.10	7.03	3.32	8.72	

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
CCD-PPAR (FNMA)	9	0.02	11.53	7.28	11.53	6.80	25.71
FNMA Plus 85bps			0.77	0.07	0.77	1.64	7.13
Excess			10.75	7.21	10.75	5.17	18.58
 CFSB-PPAR (GNMA)	 3	 0.01	 9.41	 5.42	 9.41	 5.74	 15.34
GNMA Plus 65bps			0.59	(0.25)	0.59	1.00	6.65
Excess			8.83	5.68	8.83	4.73	8.69
 CPC-PPAR (FNMA)	 58	 0.11	 11.45	 7.61	 11.45	 7.79	 13.91
FNMA Plus 85bps			0.77	0.07	0.77	1.64	7.13
Excess			10.68	7.54	10.68	6.15	6.78
 JPMC-PPAR (FNMA)	 24	 0.04	 13.21	 7.52	 13.21	 6.30	 12.06
FNMA Plus 85bps			0.77	0.07	0.77	1.64	7.13
Excess			12.44	7.45	12.44	4.67	4.93
 LIIF-PPAR (GNMA)	 3	 0.01	 3.80	 1.92	 3.80	 3.71	 9.74
GNMA Plus 65bps			0.59	(0.25)	0.59	1.00	6.65
Excess			3.21	2.17	3.21	2.70	3.09
 LIIF-PPAR (FNMA)	 3	 0.00	 10.82	 6.63	 10.82	 6.47	 38.12
FNMA Plus 85bps			0.77	0.07	0.77	1.64	7.13
Excess			10.05	6.56	10.05	4.84	30.99
 NCBCI PPAR (FNMA)	 0	 0.00	 7.67	 3.93	 7.67	 4.51	 14.93
FNMA Plus 85bps			0.77	0.07	0.77	1.64	7.13
Excess			6.89	3.86	6.89	2.88	7.81
 NCBCI-PPAR (GNMA)	 2	 0.00	 7.84	 4.03	 7.84	 4.73	 16.66
GNMA Plus 65bps			0.59	(0.25)	0.59	1.00	6.65
Excess			7.25	4.28	7.25	3.73	10.01

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	Ending Market Value (\$MM)	% of Total	1 Month	3 Month	FYTD	CYTD	2014
NHS-PPAR (GNMA)	1	0.00	6.19	2.97	6.19	4.20	13.73
GNMA Plus 65bps			0.59	(0.25)	0.59	1.00	6.65
Excess			5.60	3.23	5.60	3.19	7.08
<b>CASH</b>							
EMPLOYEES' SHORT TERM	1,559	2.86	0.04	0.12	0.04	0.34	0.36
91 DAY T-BILL			0.00	0.00	0.00	0.00	0.02
Excess			0.04	0.12	0.04	0.34	0.34
<b>C/D - FAIL FLOAT EARNINGS</b>							
	3	0.01					
<b>SECURITY LENDING</b>							
	6	0.01					
<b>PRIVATE EQUITY</b>							
NYCERS-TOTAL PRIVATE EQUITY	4,011	7.37	(0.32)	3.52	(0.32)	6.51	12.73
<b>REAL ASSETS</b>							
NYCERS-TOTAL PRIVATE REAL ESTATE	2,561	4.70	1.94	3.86	1.94	9.69	14.51
NYCERS-TOTAL INFRASTRUCTURE	113	0.21	0.79	1.53	0.79	9.14	11.57

**New York City Employees' Retirement System**  
**Private Equity Portfolio**  
**As of March 31, 2015 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
<b>Active Investments</b>								
1998	VS&A Communications Partners III, L.P.	12/15/1998	\$ 50,000,000	\$ 50,248,403	\$ 68,704,028	\$ 358,387	1.37x	6.3%
1999	Cypress Merchant Banking Partners II, L.P.	3/29/1999	45,172,972	53,861,600	43,440,706	7,589,861	0.95x	(1.0%)
1999	FdG Capital Partners LLC	6/2/1999	25,000,000	28,756,835	42,947,883	4,464,067	1.65x	14.6%
1999	Lincolnshire Equity Fund II, L.P.	10/20/1999	18,397,347	19,261,466	36,463,088	1,200,763	1.96x	24.6%
2000	Solera Partners, L.P.	5/26/2000	19,999,779	26,350,791	41,635,156	9,568,561	1.94x	10.1%
2000	SCP Private Equity Partners II, L.P.	6/15/2000	27,442,463	30,827,225	9,060,182	7,048,149	0.52x	(8.7%)
2001	New Mountain Partners, L.P.	3/16/2001	18,141,933	17,116,468	24,431,489	481,720	1.46x	12.4%
2001	Apollo Investment Fund V, L.P.	4/13/2001	40,000,000	62,509,880	122,768,943	1,876,660	1.99x	38.6%
2001	RRE Ventures III, L.P.	7/6/2001	19,999,999	26,134,419	31,969,988	4,724,221	1.40x	6.3%
2002	Yucaipa American Alliance Fund I, LP	7/1/2002	90,000,000	114,094,892	94,282,024	52,447,786	1.29x	6.4%
2002	Thomas, McNerney & Partners, L.P.	10/9/2002	20,000,000	19,600,000	7,003,139	5,880,570	0.66x	(8.4%)
2002	BDCM Opportunity Fund, L.P.	10/14/2002	25,000,000	52,554,619	88,799,411	1,359,251	1.72x	22.8%
2002	Landmark Equity Partners XI, L.P.	10/23/2002	55,000,000	52,284,778	74,844,687	6,331,321	1.55x	23.8%
2003	FS Equity Partners V, L.P.	1/20/2003	25,000,000	22,899,357	38,934,406	8,653,150	2.08x	16.6%
2003	Blackstone Capital Partners IV, L.P.	2/26/2003	34,418,762	38,818,058	96,545,592	1,880,488	2.54x	39.7%
2003	Ares Corporate Opportunities Fund, L.P.	4/1/2003	45,000,000	54,008,942	77,332,286	4,352,959	1.51x	13.4%
2004	Markstone Capital Partners, LP	1/30/2004	40,000,000	46,899,103	19,568,130	2,463,955	0.47x	(55.4%)
2004	FdG Capital Partners II LP	8/30/2004	35,000,000	37,115,171	41,665,122	3,460,857	1.22x	3.9%
2004	Paladin Homeland Security Fund (NY City), L.P.	9/27/2004	15,000,000	16,127,481	3,768,534	5,633,385	0.58x	(7.6%)
2004	Lincolnshire Equity Fund III, L.P.	10/1/2004	55,000,000	52,487,064	67,928,348	28,972,571	1.85x	31.7%
2004	New York/Fairview Emerging Managers Fund, L.P.-Tranche 1	10/21/2004	32,000,000	32,042,759	15,609,728	21,184,967	1.15x	2.8%
2004	Aurora Equity Partners III L.P.	11/16/2004	50,000,000	54,119,877	86,237,201	4,179,293	1.67x	14.2%
2004	Trilantic Capital Partners III L.P.	11/18/2004	45,088,848	39,477,498	58,031,997	2,030,274	1.52x	12.6%
2004	Celtic Pharmaceutical Holdings L.P.	12/23/2004	25,000,000	25,402,094	402,094	15,195,734	0.61x	(6.2%)
2005	Palladium Equity Partners III, L.P.	11/12/2004	35,000,000	34,775,263	48,566,908	25,286,184	2.12x	20.1%
2005	New Mountain Partners II, L.P.	1/12/2005	46,451,615	41,391,315	71,493,739	9,559,116	1.96x	13.7%
2005	VSS Communications Partners IV, L.P.	3/14/2005	25,000,000	28,201,361	15,172,079	6,507,196	0.77x	(4.8%)
2005	Prism Venture Partners V-A, L.P.	7/14/2005	30,000,000	30,299,779	11,824,675	11,848,103	0.78x	(5.0%)
2005	Erasmus New York City Growth Fund	8/16/2005	34,819,694	34,819,694	29,838,461	276,897	0.86x	(3.0%)
2005	Quadrangle Capital Partners II LP	8/29/2005	60,636,859	60,814,632	60,128,047	19,209,768	1.30x	5.7%
2005	Snow Phipps Group, L.P.	9/7/2005	20,000,000	22,911,125	15,018,665	14,751,564	1.30x	7.8%
2005	GI Partners Fund II L.P.	9/26/2005	35,000,000	35,337,101	40,038,905	13,505,182	1.52x	7.2%
2005	Blackstone Mezzanine Partners II, L.P.	10/10/2005	25,000,000	23,459,865	28,375,919	2,311,331	1.31x	7.2%
2005	Psiros Group Partners III, L.P.	10/24/2005	35,000,000	37,205,819	17,948,760	29,165,183	1.27x	5.3%
2005	USPF II Institutional Fund, L.P.	11/23/2005	65,000,000	85,734,194	57,349,566	54,303,062	1.30x	5.8%
2005	JP Morgan Fleming (Tranche A)	12/21/2005	43,000,000	41,011,220	25,819,877	32,750,310	1.43x	8.5%
2006	Aisling Capital II, LP	1/12/2006	6,680,102	7,750,406	3,669,442	6,472,945	1.31x	5.7%
2006	InterMedia Partners VII, L.P.	1/20/2006	25,000,000	28,671,799	16,147,308	30,269,713	1.62x	7.9%
2006	Terra Firma Capital Partners III, L.P.	3/8/2006	52,764,063	52,635,580	1,124,908	26,945,802	0.53x	(11.5%)
2006	BDCM Opportunity Fund II, L.P.	3/29/2006	25,000,000	35,655,722	31,537,456	35,728,533	1.89x	17.6%
2006	Blackstone Capital Partners V, L.P.	4/13/2006	122,052,590	128,913,662	115,853,383	92,318,420	1.61x	8.6%
2006	Avista Capital Partners, L.P.	4/27/2006	45,000,000	57,493,729	46,777,765	28,884,405	1.32x	6.4%
2006	GSC Recovery III, L.P.	5/4/2006	25,000,000	28,098,874	29,299,014	4,296,753	1.20x	4.7%

**New York City Employees' Retirement System**  
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Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
2006	Apollo Investment Fund VI, L.P.	5/10/2006	90,000,000	115,838,240	131,668,423	46,550,514	1.54x	10.0%
2006	Landmark Equity Partners XIII, L.P.	5/11/2006	50,000,000	47,643,105	39,893,862	20,430,085	1.27x	5.7%
2006	Ares Corporate Opportunities Fund II, L.P.	5/23/2006	50,000,000	54,701,856	78,512,070	14,406,463	1.70x	13.9%
2006	Fairview Ventures Fund III, L.P.	6/29/2006	25,000,000	24,586,596	13,776,360	29,330,301	1.75x	16.1%
2006	Ampersand 2006	8/14/2006	25,000,000	25,000,000	25,032,244	19,487,882	1.78x	12.6%
2006	CCMP Capital Investors II, L.P.	8/17/2006	30,000,000	32,748,549	32,450,489	18,468,216	1.55x	13.0%
2006	CLP 2014 (fka Perseus Partners VII)	8/31/2006	30,000,000	34,885,025	9,531,843	937,932	0.30x	(36.9%)
2006	Thomas, McNerney & Partners II, L.P.	11/30/2006	25,000,000	23,062,500	12,287,080	41,076,704	2.31x	18.3%
2006	Catterton Partners VI, L.P.	12/14/2006	45,000,000	49,132,820	59,555,525	31,910,617	1.86x	13.7%
2006	First Reserve Fund XI, L.P.	12/14/2006	45,000,000	47,820,682	25,516,431	13,950,605	0.83x	(4.6%)
2006	Arsenal Capital Partners II, LP	12/19/2006	22,500,000	26,528,569	15,828,745	23,682,059	1.49x	9.5%
2006	RRE Ventures IV, L.P.	12/19/2006	35,000,000	42,115,503	9,924,151	57,550,814	1.60x	10.4%
2006	MidOcean Partners III, L.P.	12/21/2006	60,000,000	65,297,055	39,980,059	52,647,132	1.42x	8.5%
2006	GF Capital Private Equity Fund, L.P.	12/22/2006	20,000,000	20,167,555	14,382,447	19,946,377	1.70x	15.6%
2006	The Fourth Cinven Fund	1/22/2007	71,463,012	71,209,741	67,985,428	28,317,555	1.35x	6.5%
2007	Pegasus Partners IV, L.P.	1/29/2007	30,000,000	34,661,019	15,876,945	20,421,344	1.05x	1.2%
2007	FTVentures III, LP	3/1/2007	24,201,990	24,651,990	21,627,186	26,470,594	1.95x	16.5%
2007	Co-Investment Partners Europe, L.P.	3/19/2007	39,965,278	41,806,331	15,627,575	35,284,438	1.22x	4.7%
2007	Montreux Equity Partners IV, L.P.	3/27/2007	20,000,000	20,000,000	6,592,834	20,804,638	1.37x	7.9%
2007	Quaker BioVentures II, L.P.	3/30/2007	20,000,000	17,058,740	10,204,154	14,486,085	1.45x	10.5%
2007	SCP Vitalife Partners II Fund	4/13/2007	20,000,000	19,349,698	1,579	17,496,080	0.90x	(2.4%)
2007	Craton Equity Investors I, L.P.	4/30/2007	20,000,000	20,089,805	71,125	7,365,736	0.37x	(18.9%)
2007	Nautic Partners VI, L.P.	5/14/2007	30,000,000	33,380,831	26,864,315	32,743,094	1.79x	15.2%
2007	Constellation Venture Capital III, L.P.	5/22/2007	25,000,000	26,745,373	5,676,045	13,305,228	0.71x	(8.2%)
2007	United States Power Fund III, L.P.	6/28/2007	65,000,000	64,966,042	28,880,682	56,850,582	1.32x	6.1%
2007	Halyard Capital Fund II, L.P.	7/2/2007	25,000,000	20,810,921	6,781,845	15,078,138	1.05x	1.1%
2007	Carlyle Partners V, L.P.	7/6/2007	70,000,000	69,899,866	60,488,171	56,232,344	1.67x	14.8%
2007	PCG Clean Energy & Technology Fund (East), LLC	7/6/2007	90,000,000	78,758,190	9,345,681	43,504,760	0.67x	(8.9%)
2007	GSO Capital Opportunities Fund LP	7/16/2007	45,000,000	66,986,378	84,195,359	12,866,530	1.45x	18.4%
2007	StarVest Partners II, L.P.	8/1/2007	25,000,000	23,642,124	1,157,148	19,298,292	0.87x	(4.2%)
2007	New Mountain Partners III, L.P.	8/9/2007	100,000,000	97,104,530	37,776,469	90,843,400	1.32x	8.1%
2007	Vista Equity Partners Fund III, L.P.	10/3/2007	30,000,000	31,820,806	64,808,048	15,894,631	2.54x	29.0%
2007	Trilantic Capital Partners IV L.P.	10/22/2007	69,028,637	68,953,720	71,084,965	43,527,943	1.66x	16.6%
2007	RLJ Equity Partners Fund I, L.P.	11/30/2007	20,000,000	20,840,956	8,301,877	18,059,077	1.26x	8.7%
2007	Pine Brook Capital Partners, L.P.	1/11/2008	30,000,000	29,902,322	15,105,412	22,118,372	1.24x	8.4%
2008	Paladin III (NY City), L.P.	1/8/2008	30,000,000	32,832,220	16,523,491	23,724,738	1.23x	6.6%
2008	Relativity Fund, L.P.	1/17/2008	20,000,000	10,773,614	1,580,027	4,562,004	0.57x	(11.5%)
2008	Apollo Investment Fund VII, L.P.	1/28/2008	100,000,000	113,516,619	160,237,203	43,215,509	1.79x	25.9%
2008	NGN BioMed Opportunity II, L.P.	2/11/2008	20,000,000	18,051,821	3,758,185	10,548,679	0.79x	(6.0%)
2008	Carpenter Community BancFund-A, L.P.	2/12/2008	20,000,000	19,186,548	920,699	27,217,969	1.47x	8.1%
2008	Riverstone/Carlyle Global Energy & Power Fund IV, L.P.	3/3/2008	45,000,000	46,687,492	33,750,235	25,359,418	1.27x	8.5%
2008	Yucaipa American Alliance Fund II, LP	3/28/2008	120,000,000	159,979,857	92,202,590	157,323,191	1.56x	13.9%
2008	Levine Leichtman Capital Partners IV, L.P.	4/8/2008	35,000,000	34,919,411	38,997,342	17,356,797	1.61x	19.8%
2008	Lee Equity Partners Fund, L.P.	4/23/2008	42,500,000	45,243,512	17,540,758	39,617,000	1.26x	8.0%

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Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
2008	New York/Fairview Emerging Managers Fund, L.P.-Tranche 2	5/28/2008	45,000,000	37,480,500	15,616,325	37,620,277	1.42x	14.2%
2008	Yucaipa Corporate Initiatives Fund II, LP	6/23/2008	42,092,788	40,754,359	11,698,560	23,192,032	0.86x	(4.1%)
2008	Leeds Equity Partners V, L.P.	7/28/2008	60,000,000	50,906,383	11,055,276	63,483,839	1.46x	14.7%
2008	GI Partners Fund III L.P.	7/29/2008	45,000,000	47,654,541	44,358,348	26,666,668	1.49x	14.7%
2008	Ares Corporate Opportunities Fund III, L.P.	7/30/2008	75,000,000	87,100,403	75,683,803	71,322,203	1.69x	22.2%
2008	GCM Grosvenor NYCERS Emerging Manager Co-Investment Fund, L.P.	8/22/2008	12,875,950	14,584,469	17,295,365	7,460,551	1.70x	13.6%
2008	GCM Grosvenor NYCERS Emerging Manager Fund, L.P.	8/22/2008	116,737,374	108,079,561	49,013,947	83,347,218	1.22x	9.6%
2008	First Reserve Fund XII, L.P.	8/25/2008	45,000,000	46,392,430	18,763,832	26,071,443	0.97x	(1.0%)
2008	Landmark Equity Partners XIV, L.P.	9/19/2008	109,120,000	98,288,605	65,552,518	67,059,616	1.35x	15.7%
2008	Crestview Partners II, L.P.	10/1/2008	50,000,000	51,724,722	31,378,664	44,776,348	1.47x	14.5%
2008	Avista Capital Partners II, L.P.	11/5/2008	75,000,000	87,457,346	63,808,872	99,544,249	1.87x	20.4%
2008	Blue Wolf Capital Fund II, L.P.	11/14/2008	25,000,000	26,744,713	9,980,200	20,614,378	1.14x	5.8%
2008	Bridgepoint Europe IV	11/14/2008	26,668,033	24,454,185	14,492,404	16,403,003	1.26x	7.9%
2008	Aisling Capital III, LP	11/20/2008	14,000,000	13,312,888	9,696,903	11,579,475	1.60x	23.7%
2008	Onex Partners III LP	12/10/2008	75,000,000	80,595,916	34,937,620	73,500,165	1.35x	11.9%
2009	Welsh, Carson, Anderson & Stowe XI, L.P.	2/10/2009	40,000,000	36,372,773	22,834,246	31,022,469	1.48x	14.2%
2009	FS Equity Partners VI, L.P.	7/27/2009	32,500,000	32,702,739	18,952,494	38,327,189	1.75x	22.0%
2009	Lincolnshire Equity Fund IV, L.P.	8/5/2009	27,500,000	24,262,631	9,638,864	18,426,300	1.16x	6.6%
2009	Lexington Capital Partners VII, L.P.	12/3/2009	50,000,000	40,515,887	27,529,121	31,436,547	1.46x	17.2%
2010	Snow Phipps II, L.P.	1/8/2010	30,000,000	22,891,842	3,220,851	29,762,643	1.44x	17.9%
2010	JP Morgan Fleming (Tranche B)	2/26/2010	35,000,000	28,319,915	8,019,911	31,045,713	1.38x	13.4%
2010	Trident V, L.P.	4/29/2010	110,000,000	113,046,370	17,062,758	115,459,037	1.17x	8.1%
2011	Blackstone Capital Partners VI, L.P.	1/24/2011	120,000,000	81,097,202	14,076,982	84,179,616	1.21x	13.4%
2011	Ampersand 2011	3/11/2011	25,000,000	23,000,000	1,410,929	34,848,679	1.58x	18.7%
2011	BDCM Opportunity Fund III, L.P.	4/8/2011	45,000,000	49,895,945	20,577,598	38,257,876	1.18x	12.0%
2011	AXA Secondary Fund V B L.P.	6/16/2011	120,000,000	87,326,005	35,458,271	94,356,333	1.49x	21.4%
2011	Wellspring Capital Partners V, L.P.	7/1/2011	40,000,000	24,489,067	2,343,263	26,552,750	1.18x	10.1%
2011	EQT VI, L.P.	8/1/2011	105,356,706	87,393,421	1,058,670	82,964,102	0.96x	(2.6%)
2011	Pegasus Partners V, L.P.	8/16/2011	20,789,916	12,455,406	3,700,886	13,640,015	1.39x	13.2%
2011	BC European Capital IX	9/19/2011	130,806,042	94,301,534	13,244,406	82,719,747	1.02x	1.0%
2011	American Securities Partners VI, L.P.	11/18/2011	80,000,000	58,330,129	17,209,384	61,161,941	1.34x	21.0%
2011	Vista Equity Partners Fund IV, L.P.	11/30/2011	100,000,000	92,721,667	9,066,786	130,235,902	1.50x	22.2%
2012	Warburg Pincus Private Equity XI, L.P.	5/24/2012	110,000,000	72,446,872	12,130,030	79,420,535	1.26x	19.7%
2012	Trilantic Capital Partners V L.P.	9/20/2012	70,000,000	22,231,712	196,225	20,821,030	0.95x	(4.5%)
2012	Palladium Equity Partners IV, L.P.	10/10/2012	55,000,000	16,926,749	1,086,857	18,154,005	1.14x	9.1%
2012	Ares Corporate Opportunities Fund IV, L.P.	11/5/2012	125,000,000	82,474,519	5,689,287	84,627,268	1.10x	11.3%
2012	Green Equity Investors VI, L.P.	11/30/2012	120,000,000	59,134,882	1,380,522	66,621,372	1.15x	12.5%
2012	Platinum Equity Capital Partners III, L.P.	1/14/2013	100,000,000	39,166,608	30,884,719	37,898,548	1.76x	69.1%
2012	NYCERS - 2012 Emerging Manager Program*	6/21/2013	150,000,000	41,585,194	1,287,609	40,672,984	1.01x	NM
2013	Carlyle Partners VI, L.P.	7/3/2013	75,000,000	23,427,479	634,884	22,200,562	0.97x	NM
2013	Carlyle Partners VI, L.P. (Side Car)	9/23/2014	8,250,000	1,820,369	-	1,683,145	0.92x	NM
2013	Landmark Equity Partners XV, L.P.	10/30/2013	75,000,000	15,155,746	227,930	18,175,740	1.21x	NM
2013	Landmark - NYC Fund I, L.P.	12/24/2013	25,000,000	10,482,609	-	11,427,718	1.09x	NM
2013	Apollo Investment Fund VIII, L.P.	12/11/2013	140,000,000	18,605,499	203,605	17,487,333	0.95x	NM

**New York City Employees' Retirement System  
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Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
2013	CVC Capital Partners VI, L.P.	2/18/2014	118,051,985	11,431,065	829,561	7,599,588	0.74x	NM
2013	Crestview Partners III, L.P.	3/3/2015	66,000,000	5,835,101	181,686	5,284,433	0.94x	NM
2013	Crestview Partners III (Co-Investment B), L.P.	N/A	22,000,000	-	-	-	-	N/A
2014	Olympus Growth Fund VI, L.P.	1/21/2014	75,000,000	9,233,841	41,090	10,799,319	1.17x	NM
2014	ASF VI B L.P.	5/9/2014	83,000,000	23,253,525	-	28,702,252	1.23x	NM
2014	ASF VI B NYC Co-Invest L.P.	5/9/2014	27,000,000	15,768,881	-	18,096,996	1.15x	NM
2014	Vista Equity Partners Fund V, L.P.	9/8/2014	125,000,000	49,871,346	9,745	48,262,960	0.97x	NM
2014	Lexington Capital Partners VIII, L.P.	1/8/2015	110,000,000	7,700,000	-	12,363,747	1.61x	NM
2014	Centerbridge Capital Partners III, L.P.	5/21/2015	23,700,000	-	-	-	-	NM
2015	Siris Partners III, L.P.	5/4/2015	31,000,000	-	-	-	-	NM
2015	American Securities Partners VII, L.P.	N/A	80,000,000	-	-	-	-	N/A
<b>Total Portfolio<sup>1</sup></b>			<b>\$ 7,660,423,441</b>	<b>\$ 6,533,823,723</b>	<b>\$ 4,662,799,132</b>	<b>\$ 4,163,337,142</b>	<b>1.35x</b>	<b>9.4%</b>

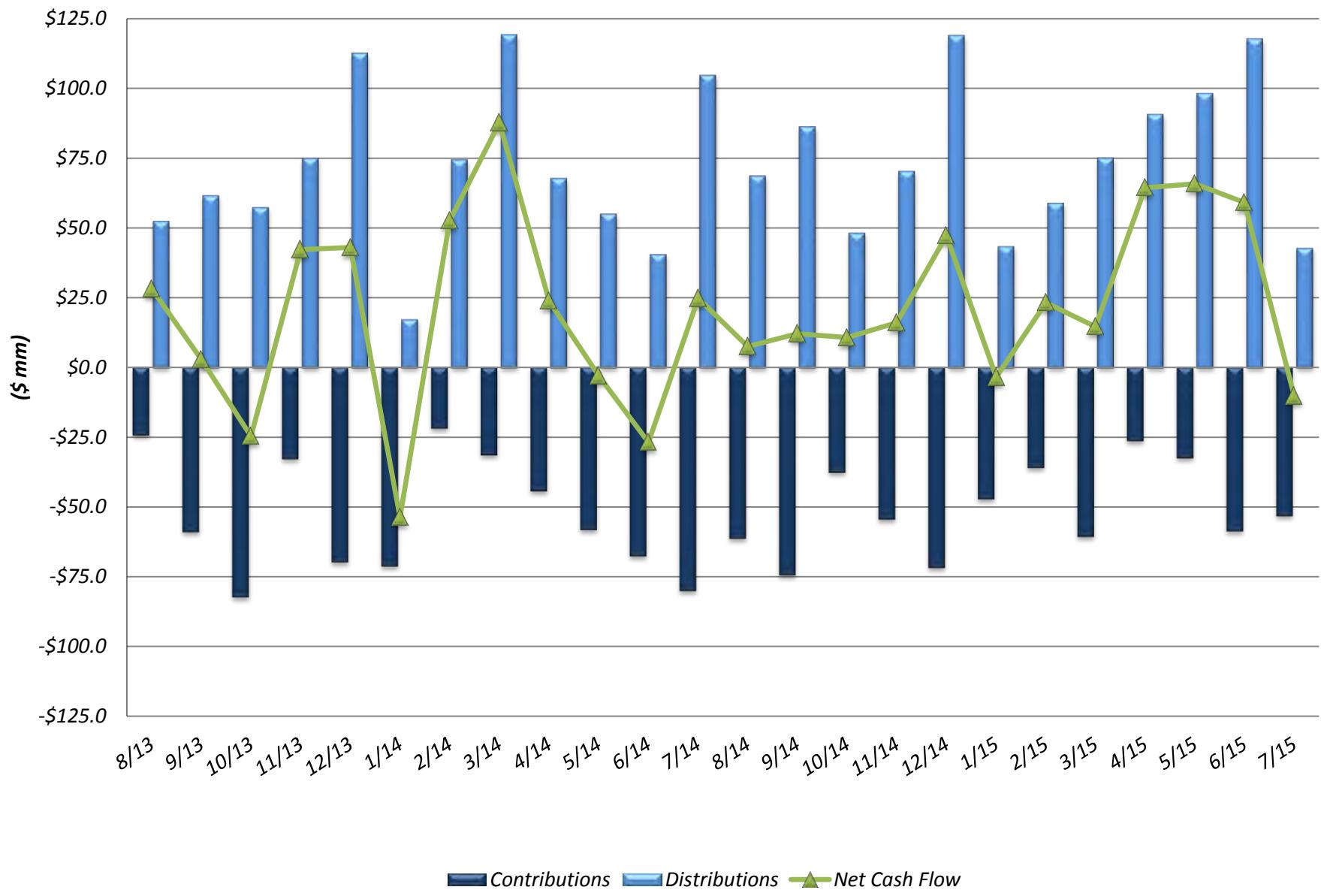
Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR
<b>Commitments Closed Subsequent to as of Date</b>								
2015	Patriot Financial Partners II, L.P.	7/21/2015	7,500,000	-	-	-	N/A	N/A
2015	Valor Equity Partners III, L.P.	8/19/2015	10,000,000	-	-	-	N/A	N/A
2015	Welsh, Carson, Anderson & Stowe XII, L.P.	8/26/2015	78,500,000	-	-	-	N/A	N/A
2015	Bridgepoint Europe V	N/A	59,934,858	-	-	-	N/A	N/A
2015	Bridgepoint Europe V Co-Invest	N/A	17,400,443	-	-	-	N/A	N/A
2015	EQT VII, L.P.	N/A	157,432,575	-	-	-	N/A	N/A
<b>Total Commitments Closed Subsequent to as of Date</b>			<b>\$ 330,767,875</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>N/A</b>	<b>N/A</b>

\*Please note that the NYCERS - 2012 Emerging Manager Program total commitment amount includes the full amount allocated to the Program, of which \$139.6 million has been committed as of August 25, 2015.

<sup>1</sup>Please note that the Total Portfolio includes liquidated investments.

Note: IRRs presented are interim estimates and may not be indicative of the ultimate performance of fund investments due to a number of factors, such as the lack of industry valuation standards and the differences in the investment pace and strategy of various funds. Until a fund is liquidated, typically over 10 to 12 years, the IRR is only an interim estimated return. The IRR calculated in early years of a fund is not meaningful given the J-curve effect. The actual IRR performance of any fund is not known until all capital contributed and earnings have been distributed to the investor. The IRRs contained in this report are calculated by StepStone Group LP ("StepStone"), a consultant to the New York City Employees' Retirement System, based on information provided by the general partners (e.g. cash flows and valuations). The IRR calculations and other information contained in this report have not been reviewed or confirmed by the general partners. The result of the IRR calculation may differ from that generated by the general partner or other limited partners. Differences in IRR calculations can be affected by cash-flow timing, the accounting treatment of carried interest, fund management fees, advisory fees, organizational fees, other fund expenses, sale of distributed stock, and valuations.

**NYCERS Monthly PE Cash Flow Summary**  
*(as of July 31, 2015)*




**1Q2015 Employees' Retirement System of the City of New York**

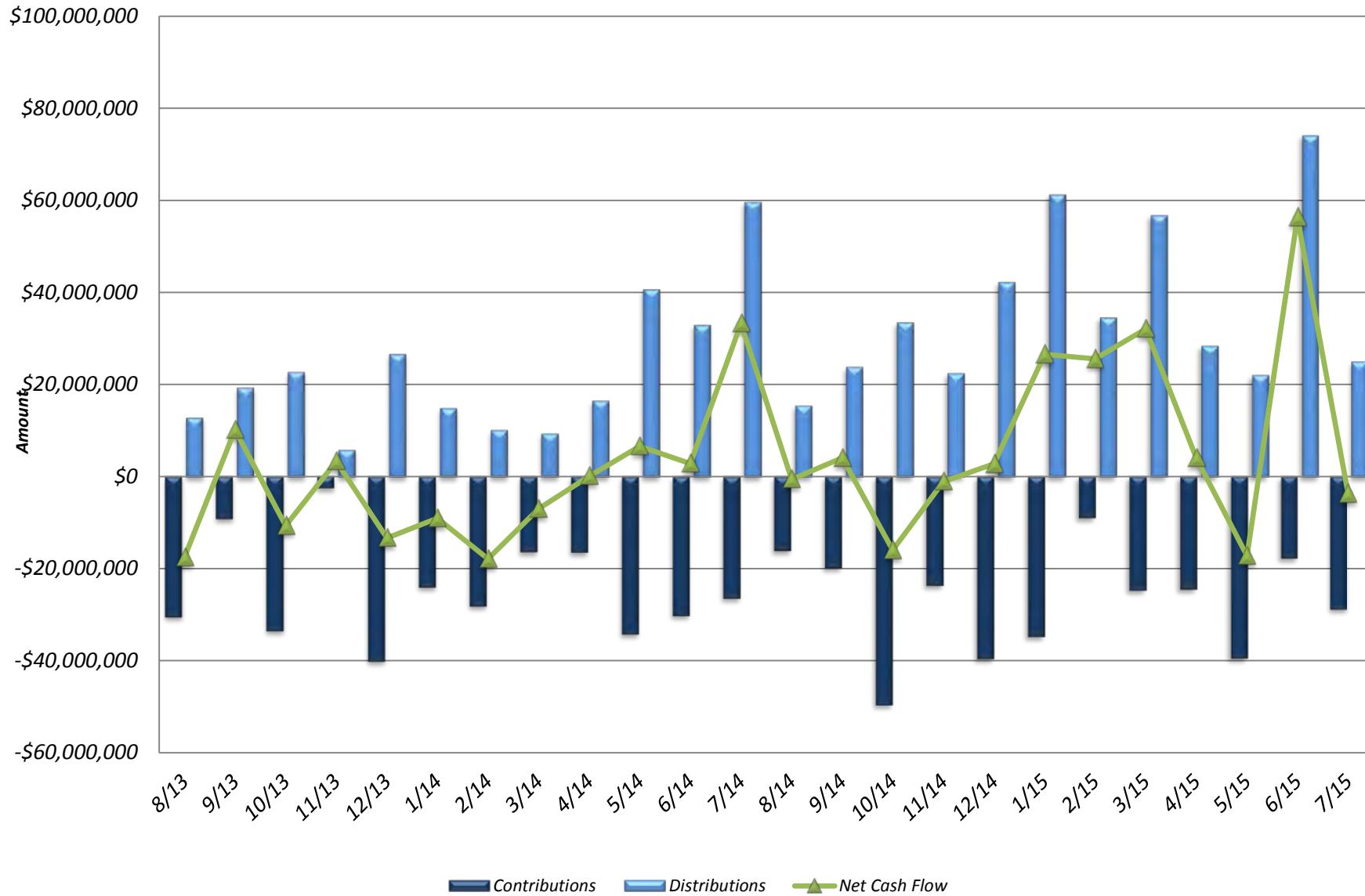
Vintage Year	Fund Name	First Draw Down	Capital Committed	Contributions	Distributions	Market Value	Equity Multiple	Net IRR
2006	UBS Trumbull Property Fund	9/28/2006	\$156,000,000	\$201,150,568	(\$35,902,739)	\$234,048,776	1.3	5.8%
2006	RREEF America REIT II	10/1/2006	\$86,000,000	\$113,537,802	(\$44,223,152)	\$101,299,367	1.3	3.9%
2006	PRISA SA	9/29/2006	\$86,000,000	\$91,604,491	(\$16,971,143)	\$101,288,490	1.3	3.3%
2006	Prologis Targeted U.S. Logistics Fund	10/1/2006	\$25,000,000	\$31,062,505	(\$6,322,765)	\$26,545,901	1.1	0.8%
2007	JP Morgan Strategic Property Fund	12/4/2006	\$136,000,000	\$146,411,646	\$0	\$221,420,982	1.5	6.4%
2007	Heitman HART	3/29/2007	\$115,000,000	\$150,039,634	(\$35,039,634)	\$182,160,675	1.4	7.3%
2007	PRISA II	6/30/2007	\$141,518,761	\$148,900,451	(\$21,021,562)	\$166,375,302	1.3	3.7%
2007	JP Morgan Special Situation Property Fund	1/2/2007	\$90,000,000	\$100,702,361	(\$21,114,918)	\$96,623,713	1.2	2.2%
2007	RREEF America REIT III - 1410	10/1/2007	\$90,000,000	\$90,000,000	(\$30,180,881)	\$20,271,239	0.6	-8.1%
2007	Colony Realty Partners II	12/20/2006	\$20,000,000	\$21,420,211	(\$666,108)	\$6,777,400	0.3	-13.6%
2010	LaSalle Property Fund	7/1/2010	\$50,000,000	\$49,122,539	(\$6,766,782)	\$60,634,931	1.4	12.3%
2013	NYC Asset Investor #2 LLC - Related	7/9/2013	\$75,000,000	\$34,381,527	(\$913,793)	\$38,797,500	1.2	15.2%
2014	MetLife Core Property Fund	7/1/2014	\$50,000,000	\$34,883,719	(\$759,785)	\$36,338,894	1.1	21.1%
<b>Core / Core Plus Portfolio</b>			<b>\$1,120,518,761</b>	<b>\$1,213,217,455</b>	<b>(\$219,883,262)</b>	<b>\$1,292,583,171</b>	<b>1.2</b>	<b>3.8%</b>
2003	Canyon Johnson Urban Fund	12/6/2002	\$15,000,000	\$13,590,364	(\$15,874,432)	\$0	1.2	10.2%
2004	The City Investment Fund I	3/16/2004	\$225,000,000	\$221,883,300	(\$210,176,151)	\$16,732,448	1.0	0.5%
2004	Blackstone Fund IV	5/10/2004	\$30,000,000	\$38,440,704	(\$40,546,483)	\$14,708,272	1.4	11.8%
2004	Tishman Speyer Separate Account (ERS)	12/16/2003	\$100,000,000	\$71,066,452	(\$259,238,975)	\$99,078	3.6	63.2%
2005	Canyon Johnson Urban Fund II	5/11/2005	\$40,000,000	\$35,954,818	(\$7,727,927)	\$11,037,183	0.5	-9.0%
2006	AREA Real Estate Investment Fund V, LP	6/15/2006	\$25,000,000	\$25,000,001	(\$9,268,520)	\$12,698,976	0.9	-2.3%
2007	Blackstone Real Estate Partners VI	9/27/2007	\$110,000,000	\$121,009,788	(\$129,556,832)	\$109,237,021	2.0	15.0%
2007	Metropolitan Workforce Housing Fund	7/13/2007	\$14,000,000	\$14,013,027	(\$5,809,310)	\$9,472,045	1.1	2.2%
2007	Carlyle Realty Partners V	8/27/2007	\$20,000,000	\$24,817,491	(\$25,224,924)	\$7,878,945	1.3	8.2%
2007	UrbanAmerica II	1/30/2007	\$25,000,000	\$23,222,735	\$0	\$5,422,462	0.2	-18.9%
2008	PRISA III	9/30/2008	\$50,000,000	\$55,753,084	\$0	\$98,135,119	1.8	11.8%
2008	Capri Urban Investors	6/3/2008	\$60,000,000	\$59,980,707	(\$5,575,000)	\$44,111,362	0.8	-3.8%
2008	Stockbridge Real Estate Fund III	9/9/2008	\$27,000,000	\$26,285,345	\$0	\$38,973,149	1.5	9.2%
2008	American Value Partners Fund I	10/18/2007	\$55,000,000	\$39,149,355	(\$18,135,360)	\$25,976,254	1.1	3.2%
2008	Westbrook Real Estate Fund VII	12/3/2007	\$40,000,000	\$43,273,952	(\$27,927,277)	\$21,180,728	1.1	2.6%
2008	AREA European Real Estate Fund III, LP	5/6/2008	\$30,000,000	\$30,487,500	(\$23,605,000)	\$12,388,163	1.2	4.6%
2008	Silverpeak Legacy Partners III (Lehman)	5/28/2008	\$50,000,000	\$22,168,479	(\$1,920,744)	\$7,080,203	0.4	-13.9%
2009	Thor Urban Property Fund II	10/30/2008	\$40,000,000	\$51,756,666	(\$25,670,356)	\$41,511,657	1.3	10.3%
2009	Walton Street Real Estate Fund VI	4/27/2009	\$50,000,000	\$44,323,933	(\$24,075,582)	\$40,272,721	1.5	10.6%
2009	Carbon Capital III	7/2/2009	\$40,000,000	\$43,757,162	(\$53,134,591)	\$0	1.2	8.5%
2009	JP Morgan Urban Renaissance Property Fund	12/18/2008	\$16,360,625	\$4,206,523	(\$4,206,523)	\$0	1.0	0.0%
2010	Blackstone Real Estate Partners Europe III	10/24/2008	\$50,000,000	\$49,900,455	(\$22,190,161)	\$44,863,575	1.3	13.3%
2010	Westbrook Real Estate Fund VIII	12/28/2009	\$50,000,000	\$59,025,106	(\$53,607,018)	\$22,993,076	1.3	13.3%
2010	Canyon Johnson Urban Fund III	3/29/2010	\$30,000,000	\$29,586,980	(\$18,563,904)	\$0,20,700,940	1.3	12.3%
2011	Carlyle Realty Partners VI	9/14/2011	\$70,000,000	\$59,654,115	(\$35,813,312)	\$52,091,849	1.5	28.2%
2011	H/2 Special Opportunities Fund II	1/31/2011	\$40,000,000	\$39,999,999	(\$17,561,261)	\$35,760,580	1.3	18.5%
2012	Blackstone Real Estate Partners VII	3/31/2012	\$170,000,000	\$174,364,923	(\$87,950,367)	\$163,057,517	1.4	26.9%
2012	Brookfield Strategic Real Estate Partners	9/20/2012	\$100,000,000	\$99,486,020	(\$19,039,274)	\$66,815,865	1.2	15.7%
2012	Taconic New York City Investment Fund LP	7/5/2012	\$70,000,000	\$28,954,546	(\$636,364)	\$38,874,233	1.4	15.1%
2013	NYC Asset Investor #1 LLC - Emmes	6/25/2013	\$50,000,000	\$37,255,736	(\$1,909,156)	\$40,209,167	1.1	20.1%
2013	KTR Industrial Fund III	6/28/2013	\$40,000,000	\$17,479,475	(\$435,478)	\$27,649,592	1.6	49.6%
2013	NYC Asset Investor #3 LLC - Hudson	9/20/2013	\$50,000,000	\$7,583,291	\$0	\$8,034,376	1.1	6.6%
2014	Blackstone Real Estate Partners Europe IV	12/23/2013	\$169,000,000	\$75,561,607	(\$7,607,999)	\$64,520,140	1.0	-6.6%
2014	Lone Star Real Estate Fund III	5/20/2014	\$100,000,000	\$52,469,316	(\$5,322,166)	\$50,407,337	1.1	13.0%
2014	Divco West Fund IV	1/15/2014	\$23,000,000	\$18,842,163	\$0	\$20,867,751	1.1	19.4%
2014	Carlyle Realty Partners VII	6/30/2014	\$80,000,000	\$10,279,820	\$0	\$9,236,961	0.9	-48.8%
2015	H/2 Special Opportunities Fund III	12/29/2014	\$65,000,000	\$7,595,824	\$0	\$8,686,724	1.1	163.5%
<b>New York City Employees' Retirement System W/O Tishman SA</b>			<b>\$3,239,879,386</b>	<b>\$2,920,331,765</b>	<b>(\$1,118,954,735)</b>	<b>\$2,514,169,562</b>	<b>1.2</b>	<b>5.2%</b>
<b>Non Core and Emerging Manager Portfolio</b>			<b>\$2,219,360,625</b>	<b>\$1,778,180,763</b>	<b>(\$1,158,310,447)</b>	<b>\$1,221,685,469</b>	<b>1.3</b>	<b>11.3%</b>
<b>Non Core and Emerging Manager Portfolio W/O Tishman SA</b>			<b>\$2,119,360,625</b>	<b>\$1,707,114,310</b>	<b>(\$899,071,472)</b>	<b>\$1,221,586,391</b>	<b>1.2</b>	<b>7.1%</b>
<b>New York City Employees' Retirement System</b>			<b>\$3,339,879,386</b>	<b>\$2,991,398,217</b>	<b>(\$1,378,193,710)</b>	<b>\$2,514,268,640</b>	<b>1.3</b>	<b>6.8%</b>

**Funds Closed Subsequent to Quarter**

Vintage Year	Fund Name	First Draw Down	Capital Committed	Contributions
2015	Almanac VII (including co-investment)		\$85,000,000	-
2015	Jamestown Premier Property Fund		\$39,000,000	-
2015	Blackstone RE Partners VIII		\$151,000,000	-
2015	NYC/Artemis Co-investment Program		\$53,000,000	-
2015	Avanath Affordable Housing Fund II		\$9,000,000	-
<b>Grand Total</b>			<b>\$337,000,000</b>	

Source: PCG historical cash flow data. TTG cash flow data from Fund Managers, effective 2005. Note: The equity multiples and IRRs contained in this report are interim calculations based upon information provided by the investment managers of the New York City Retirement Systems, including cash flows and quarterly unaudited, or audited, valuations. The IRR calculated in early years of a fund life is not meaningful given the J-curve effect and can be significantly impacted by the timing of cash flows, investment strategy, investment pacing, and fund life. The calculations are not necessarily indicative of total fund performance, which can only be determined after the fund is liquidated and all capital contributed and earnings have been distributed to the investor. All data supplied is as of December 31, 2014. Note: The General Partner of the JPMorgan Urban Renaissance Fund terminated the Fund on February 23, 2010 and all capital contributed, including management fees, was returned to investors.

### ***NYCERS Monthly Real Estate Cash Flow Summary***

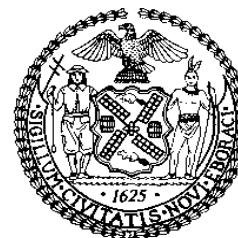


III. Trustee Education (Corporate Governance & Responsible Investing Overview):

# New York City Employees' Retirement System

Corporate Governance and Responsible Investment  
Bureau of Asset Management

## Program Overview



THE CITY OF NEW YORK  
OFFICE OF THE COMPTROLLER

September 22, 2015

# Corporate Governance and Responsible Investment

- Fulfill fiduciary duty to vote NYC Pension Funds' domestic proxies
  - 3,500 shareowner meetings per year (30,000+ individual ballot items)
- Protect and create long-term shareowner value through active ownership
  - Strengthen corporate governance and promote sustainable business practices
- Primary Responsibilities
  - Proxy voting policies and implementation
  - Portfolio company engagement – routine and through shareowner initiatives
  - Institutional investor collaboration – formal and informal
  - Regulatory engagement and advocacy
  - Additional responsible investment activities
- Eight-member team
  - New Director of Strategy and Corporate Engagement adds senior staff capacity

# Why it Matters?

## NYC Funds are long-term investors

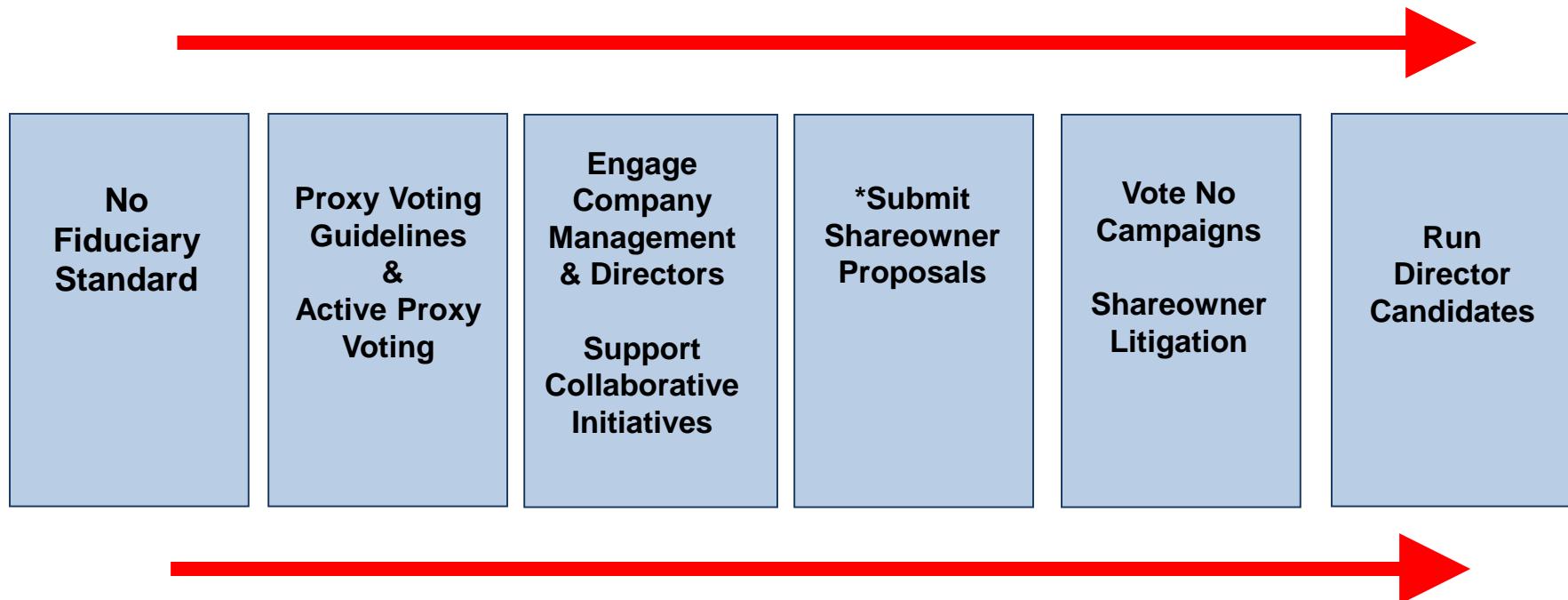
- Investment time horizon
- Investment strategy
- Can't exercise "The Wall Street Walk"
- Corporate governance & sustainability become paramount
- The goal: manage risk and create long-term value
- Diverse set of engagement approaches and tools

# Key Issues and Themes

- Board of directors: independence, accountability & diversity/quality
- Executive pay
- Workforce diversity
- Worker and human rights risks
- Climate change
- Environmental risk
- Corporate political spending

# Active Ownership

## Continuum of U.S. pension fund activism



*\*NYC Funds are among the most active shareowner proposal proponents in the U.S.*

# Leadership and Collaboration

## NYC has a long and proud history

- Council of Institutional Investors (1985)
- CERES (1989)
- 25-year history of spearheading individual reforms
  - e.g. McBride principles, sexual non-discrimination
- Active participant in ongoing investor collaborations
  - Human Capital Working Group
  - Carbon Asset Risk Initiative
- Boardroom Accountability Project (launched fall 2014)
  - Proxy access campaign among the most successful and impactful effort to date

# Boardroom Accountability Project

## Full update at upcoming Proxy Committee meeting

**“Shareholders Gain Greater Sway Over Boards,”**

*Wall Street Journal Blog*, May 22, 2015

**“The Surprisingly Successful Push to Make Corporate America More Democratic,”**

*Think Progress*, May 17, 2015

**“An Early Victor From Proxy Season: NYC’s Pensions,”**

*Wall Street Journal Blog*, May 22, 2015

**“Chevron shareholders support proxy-access proposal; near majority at Exxon Mobil”**

*Pensions & Investments*, May 27, 2015

**“City Comptroller Reaches Deals With 5 Companies on Giving Shareholders Say on**

**Directors,”** *New York Times*, March 10, 2015

**“Bank of America adopts proxy access after discussions with 3 major pension funds,”**

*Pensions & Investments*, March 20, 2015

# Other Responsible Investment Activities

## Serve as a resource to BAM and Trustees

- Responsible investment surveys
  - e.g. Asset Owner Disclosure Project (AODP), UN Principles for Responsible Investment (PRI)
- Responsible Contractor Policy (RCP)
  - Working with BAM staff to assess and benchmark existing policy with peer best practice
  - Updating RCP can (1) mitigate investment and reputational risk by defining expectations of fund managers for labor law compliance and provision of fair wages & benefits and (2) provide roadmap for stakeholder roles under policy
- Investment manager ESG questionnaire
  - Objective is to assess policies and practices with respect to analyzing ESG risks
  - Work with BAM staff to review and evaluate responses

#### IV. Asset Allocation Update:

V. Gun Resolution Update (Callan):



Callan Associates Inc.  
1 Deforest Avenue  
Suite 101  
Summit, NJ 07901

Main 908.522.3880  
Fax 908.277.1503

[www.callan.com](http://www.callan.com)

## Memorandum

**To:** New York City Employees' Retirement System  
**From:** Callan Associates  
**Date:** September 2015  
**Subject:** Exposure to Retailers of Guns and Ammunition

The NYCERS' Board of Trustees has directed Callan to conduct a review of the System's publicly traded stock and bond holdings to determine its continued exposure to the largest retailers of guns and ammunition in the United States. Such a review will help the Trustees understand and appreciate the investment implications divestment will have on the portfolio and allow them to weigh the potential social benefits of divestment against the cost and disruption to the on-going management of public stocks and bonds.

Based on data obtained from NYCERS' custodian, State Street, as of August 31, 2015, NYCERS has equity investments in five companies that sell guns and ammunition. The five companies are Walmart, Kroger, Cabelas, Dicks Sporting Goods, and Big 5 Sporting Goods. The amount NYCERS has invested in these publicly traded equities is \$137.7 million, or approximately 0.25% of NYCERS total assets of \$54.3 billion. The companies in question and the accounts they are held in for NYCERS are shown in the table below. The number in parenthesis represents the rank of the holding as a percentage of the portfolio. For example, Walmart is the number 1 holding in the VTL portfolio; 8<sup>th</sup> highest in the Seizert Large Cap Value portfolio.

Managers	Walmart	Kroger	Cabelas	Dicks Sporting Goods	Big 5 Sporting Goods	Total
Almagated S&P 500	24,426,253.88 (38)	8,083,488 (128)				32,509,741.88
BlackRock Russell 1000 Growth		8,932,550.76 (65)	59,989.98 (630)	838,173.60 (440)		9,830,714.34
BlackRock Russell 1000 Value	25,778,916.69 (18)		532,759.59 (564)	381,238.65 (606)		26,692,914.93
BlackRock Russell 2000 Value					13,305.50 (910)	13,305.50
SSgA S&P 400			2,396,901.00 (319)	5,499,261.00 (97)		7,896,162.00
State Street Russell 3000	7,456,183.97 (40)	2,578,185.00 (125)	209,335.35 (989)	380,085.66 (657)	21,850.00 (2328)	10,645,639.98
<b>Passive Subtotal</b>	<b>57,661,354.54</b>	<b>19,594,223.76</b>	<b>3,198,985.92</b>	<b>7,098,758.91</b>	<b>35,155.50</b>	<b>87,588,478.63</b>
Attucks - Edgar Lomax LCV	880,328.00 (9)					880,328.00
Attucks - Paradigm LCV		555,450.00 (28)				555,450.00
Attucks - Redwood LCG		603,681.00 (14)				603,681.00
CP - Runnymede LCG				175,455.00 (28)		175,455.00
CP - Seizert LCV	454,534.06 (8)					454,534.06
CP - Twin - Top 50	110,041.00 (37)					110,041.00
FIS - Edgar Lomax LCV	951,531.00 (9)					951,531.00
FIS - Hanseatic ACG		170,430.00 (13)				170,430.00
FIS - Redwood LLC		811,371.00 (12)				811,371.00
PIM - Redwood LCG		1,630,884.00 (14)				1,630,884.00
RAFI Enhanced Large Co	11,585,763.78 (18)	7,617,531.00 (39)				19,203,294.78
RAFI Enhanced Small Co					670,565.00 (390)	670,565.00
VTL S&P 500	19,486,189.74 (1)	4,377,636.00 (21)				23,863,825.74
<b>Active Subtotal</b>	<b>33,468,387.58</b>	<b>15,766,983.00</b>	<b>-</b>	<b>175,455.00</b>	<b>670,565.00</b>	<b>50,081,390.58</b>
<b>Totals</b>	<b>91,129,742.12</b>	<b>35,361,206.76</b>	<b>3,198,985.92</b>	<b>7,274,213.91</b>	<b>705,720.50</b>	<b>137,669,869.21</b>

# Callan

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The average exposure in each account is approximately 1.78%, ranging from a low of 0.02% to a high of 5.26%. See exposure as a percent of each manager's total assets in table below:

Manager	Total Exposure	Amount in Account	%
Almagated S&P 500	32,509,741.88	4,164,276,874.89	0.78%
BlackRock Russell 1000 Growth	9,830,714.34	2,631,086,413.11	0.37%
BlackRock Russell 1000 Value	26,692,914.93	2,462,529,174.38	1.08%
BlackRock Russell 2000 Value	13,305.50	54,238,162.02	0.02%
SSgA S&P 400	7,896,162.00	1,704,505,499.98	0.46%
State Street Russell 3000	10,645,639.98	1,592,649,126.52	0.67%
Attucks - Edgar Lomax LCV	880,328.00	24,950,977.68	3.53%
Attucks - Paradigm LCV	555,450.00	50,985,911.20	1.09%
Attucks - Redwood LCG	603,681.00	24,092,711.94	2.51%
CP - Runnymede LCG	175,455.00	7,517,985.25	2.33%
CP - Seizert LCV	454,534.06	14,821,127.49	3.07%
CP - Twin - Top 50	110,041.00	8,417,992.28	1.31%
FIS - Edgar Lomax LCV	951,531.00	26,965,147.78	3.53%
FIS - Hanseatic ACG	170,430.00	11,826,947.25	1.44%
FIS - Redwood LLC	811,371.00	33,630,098.45	2.41%
PIM - Redwood LCG	1,630,884.00	65,122,526.07	2.50%
RAFI Enhanced Large Co	19,203,294.78	1,321,369,938.12	1.45%
RAFI Enhanced Small Co	670,565.00	949,288,667.19	0.07%
VTL S&P 500	23,863,825.74	453,642,791.73	5.26%
<b>Totals</b>	<b>137,669,869.21</b>	<b>15,601,918,073.33</b>	<b>0.88%</b>

Data as of 8/31/15

In addition to the ownership of company stock, NYCERS' also has exposure to \$21.8 million of the debt of Walmart and Kroger. This amount represents an additional 0.04% of NYCERS' total assets of \$54.3 billion. The breakdown of the bond exposure can be found below.

Manager	Walmart	Kroger	Total
BlackRock - Credit	2,840,156.14		2,840,156.14
Pugh Capital Management	95,012.25	79,359.00	174,371.25
Prudential - Credit	7,463,546.50	4,324,051.00	11,787,597.50
Taplin, Canida & Habacht - Credit		6,998,110.00	6,998,110.00
<b>Totals</b>	<b>10,398,714.89</b>	<b>11,401,520.00</b>	<b>21,800,234.89</b>

Data as of 8/31/15

# Callan

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The average exposure in each account is approximately 0.73%, ranging from a low of 0.33% to a high of 1.01%. See exposure as a percent of each manager's total assets in table below.

Manager	Total Exposure	Amount in Account	%
BlackRock - Credit	2,840,156.14	853,725,153.32	0.33%
Pugh Capital Management	174,371.25	28,460,015.14	0.61%
Prudential - Credit	11,787,597.50	1,172,382,061.13	1.01%
Taplin, Canida & Habacht - Credit	6,998,110.00	739,757,469.86	0.95%
<b>Totals</b>	<b>21,800,234.89</b>	<b>2,794,324,699.45</b>	<b>0.78%</b>

Data as of 8/31/15

Total stock and bond exposure represents \$159.5 million or 0.29% (29 basis points) of NYCERS' total market value as of August 31, 2015.

### Total Exposure Table

Company	Stock Exposure	Bond Exposure	Total Exposure
Big 5 Sporting Goods	705,720.50	-	705,720.50
Cabelas	3,198,985.92	-	3,198,985.92
Dicks Sporting Goods	7,274,213.91	-	7,274,213.91
Kroger	35,361,206.76	11,401,520.00	46,762,726.76
Walmart	91,129,742.12	10,398,714.89	101,528,457.01
<b>Total Exposure</b>	<b>137,669,869.21</b>	<b>21,800,234.89</b>	<b>159,470,104.10</b>

Data as of 8/31/15

For your reference, Kroger and Walmart are included in the S&P 500 Index. Kroger, Walmart, Big 5 Sporting Goods, Cabelas, and Dicks Sporting Goods are included in the Russell 3000 index. Their percent in each is shown below:

Company	S&P 500	Russell 3000
Big 5 Sporting Goods	-	0.00%
Cabelas	-	0.01%
Dicks Sporting Goods	-	0.02%
Kroger	0.21%	0.17%
Walmart	0.61%	0.49%
<b>Totals</b>	<b>0.82%</b>	<b>0.69%</b>

Data as of 7/31/15

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## Further Discussion on Divestment

As the Board deliberates on whether to divest from the retailers of guns and ammunition, we suggest that they review the memo Callan prepared in February, 2013 (copy attached) that outlined the myriad of issues to consider when formulating a divestment decision and/or overall divestment policy. Moreover, the New York City Comptroller's office has a dedicated engagement effort, led by Michael Garland, to improve the Corporate Governance practices of publicly traded companies in which the five New York City systems are invested. Divestment severely impedes the ability to engage with a company as the fund sponsor is no longer a shareholder or debtholder. Two areas discussed in Callan's memo, transaction costs and impact on investment performance, will be addressed in more detail below.

### **Transaction Costs:**

The NYCERS' Board has also directed Callan to determine the transitional costs associated with divesting of the securities outlined above. As Callan is not a broker dealer or an expert in transition management, we solicited Russell Investments, one of the leading providers of transition management in the institutional investment management arena to provide a confidential pre-trade analysis to estimate the cost of divestment from the \$137 million of equity exposure. A copy of the full pre-trade report is attached for your review, but in summary:

The estimated cost to implement the portfolio would be 40.67 bps or \$561,000 broken out by the following categories:

- Spread & Impact 36.54 bps
- Taxes & Fees .20 bps
- Equity Brokerage 3.93 bps

For brokerage, Russell estimated 2 cents per share. They applied the last sale for each security to estimate the share quantities. They estimate that the overall portfolio liquidation would take 1-3 days with a 90%+ completion on day 1 with the balance of the portfolio completed over day 2 and day 3 (liquidity dependent). The most illiquid security is Big 5 Sporting Goods. It represents 37% of the Average Daily trading Volume (ADV) and will be the main candidate to trade over multiple days. There is a high likelihood that Russell's dually registered trading model, which is able to source liquidity from multiple venues, would be able to complete the portfolio in its entirety in a single day which would reduce impact cost, but cannot say for certain.

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As with all pre-trades, these are just estimates. Also, with such a concentrated portfolio the volatility/variance versus estimated costs may be material. Lastly as this is a single sided event (all sells), the overall market direction on the day of trading could play a significant role in overall performance.

For the bond portfolio, Russell did not provide a full pre-trade report. However, they estimate the total cost to divest of all the bonds would be 35.23 basis points or \$76,802. All the issues are relatively liquid, but the average duration is 12.4 years. Russell estimates that trading would be completed in one day.

### **Investment Performance and Tracking Error:**

Although the total dollar amount of exposure to the companies in question represents a small percentage of the overall market value of NYCERS' total portfolio, the amount of exposure per account is significant. In contrast to the divestment of guns and ammunition manufacturers in 2013, where the average exposure per equity account was less than 0.30% and the high was 1.15%, the retailers represent an average of 1.78% per equity account and a high of 5.26%. In addition, Walmart and Kroger represent top holdings of many of the actively managed accounts.

Active managers are paid to outperform their benchmark by more than their fee. Index managers are paid a much lower fee to replicate the performance of a particular index. Eliminating certain securities from either's investment universe is problematic for different reasons. For active managers, the elimination of a set of securities reduces the opportunity set for managers to add value over their benchmark. Not having the ability to buy a security that is in their index creates a headwind for that manager when those securities are doing well or when those securities provide more downside protection than the broader market in a down market. The effect is more pronounced when the active manager is bullish on those securities and would like to overweight them versus the benchmark. For index managers, restricting exposure to securities that are included in the index the manager is trying to replicate increases the tracking error. Tracking error is a measure of active management risk and since one of the major reasons an investor would hire a passive (index) manager is to eliminate active manager risk, high tracking error is bad and adds more risk to the portfolio.

To illustrate the increase in tracking error for index managers benchmarked against the S&P 500 and Russell 3000 Indices, please see Exhibits 1 and 2 below. Exhibit 1 represents the rolling 12 quarter tracking error of the S&P 500 Index stripped of the two securities (Walmart and Kroger) normally included in this large cap index. At times, the performance of this index can produce 5 times more tracking error than the median S&P 500 Index fund manager. Similarly, as shown in Exhibit 2, the performance of the Russell 3000 Index stripped of the five securities (Walmart, Kroger, Cabela's, Dicks Sporting Goods and

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Big 5 Sporting Goods) normally included in this all-cap index, exhibits similar out-sized tracking error at times versus the median Russell 3000 Index fund manager.

## Exhibit 1

Rolling 12 Quarter Tracking Error Relative To S&P:500  
for 7 Years Ended June 30, 2015



## Exhibit 2

Rolling 12 Quarter Tracking Error Relative To Russell:3000 Index  
for 7 Years Ended June 30, 2015



## Other Potential Investment Implications Of Divestment

While Callan was asked to assess the impact on tracking error and the transaction costs associated with divesting from gun and ammunition retailers that represent a relatively large percentage of US equity index funds and certain actively managed accounts, we also believe that further thought and consideration should be given to the following questions:

- Will active managers be willing to manage a portfolio against a benchmark (index) that includes securities they are no longer allowed to invest in?
- Will customized benchmarks (indices) be required?
- What will be the cost to create customized indices?
- Will passive managers increase their fees to attempt to replicate a customized benchmark?
- If customized benchmarks are not utilized, can the Board tolerate up to 5 times the tracking error on passive mandates?
- Will contracts with the managers need to be amended?

## Summary

Although the Board's deliberation on whether to divest from retailers of guns and ammunition may follow a similar thought process from a social perspective as when the Board decided in 2013 to divest from manufacturers of guns and ammunition; from a fiduciary perspective, today's decision is quite different. For manufacturers in 2013, the total exposure was \$14 million – a de minimis amount that had an insignificant impact on NYCERS' potential investment performance due to the small market capitalization size of those publicly traded gun manufacturers and NYCERS managers' minimal investment in them. For retailers, the total exposure is \$159.5 million. Because the five securities in question, most notably Walmart, represent a much bigger percentage of the indices, divestment from these securities will be more expensive and more disruptive for the active and passive managers, and more complicated for the fiduciaries of the Fund who are monitoring performance. Eliminating investments in these retailers, particularly Walmart and Kroger, which are both members of the S&P 500 Index and have much broader businesses than selling guns and ammunition, will place greater restrictions on the investment opportunity set for NYCERS' equity and fixed income managers. When NYCERS voted to divest from gun manufacturers in January 2013, none of the publicly traded gun retailers tracked by MSCI ESG Research reported that more than 15% of revenues came from firearm sales, the threshold for a significant business. Walmart is one of the largest publicly traded companies domiciled in the United States and represents 0.61% of the S&P 500 (38th largest security in the index) and 0.49% of the Russell 3000 (38th largest security in the index).

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Callan appreciates and understands the social merits behind the resolution calling for divestment of the largest retailers of guns and ammunition in the United States; however, we respectfully encourage consideration of the fiduciary implications resulting from divestment outlined in this memo.

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## Memorandum: FOR NYCERS USE ONLY

**To:** New York City Employees' Retirement System  
**From:** Callan Associates  
**Date:** February 2013  
**Subject:** Divestment Policy

### Introduction

Callan has prepared the following information in response to the Board's request at the January 22 meeting. As a result of the limited time between the meetings and the substantial research required, the information is presented in draft form and without the benefit of comprehensive internal peer review. The observations and conclusions are based on our review of a number of external sources as well as our own experience. We are not recommending that any of the policies cited in this report (such as those outlined in the Section entitled Implementation Considerations) be included in any proposed policy for NYCERS. If NYCERS decides to go forward with the development of any form of divestment policy, we recommend it be developed based on the unique needs and objectives of NYCERS. The information and examples cited in this report are drawn from a number of sources that may or may not have similar needs and objectives as NYCERS.

We also caution that none of the information in this report should be considered legal opinion or advice. Callan is not able to offer such advice and legal counsel should be involved in the development and adoption of any such policy.

In assisting NYCERS evaluate whether to develop a comprehensive divestment policy, we researched other large public funds' existing policies related to divesting as well as best practices on this topic. We were able to gather information from public funds ranging in size from \$2 billion to over \$200 billion. With regard to NYCERS' closest peers, we were able to gather information from some but not all of the ten largest public funds. We reached out to various large public funds directly and also gathered information from public resources, such as plan websites. We have a large number of public fund clients, and we were able to source that network in our research.

We are confident that our research is representative of the current state of public funds' divestment policies. At this point, it appears that only one large public fund (CalSTRS) has a comprehensive divestment policy currently in place. That policy is included in the appendix, along with two other broad, relevant policies (State of Connecticut's and CalPERS'). We believe other large public funds have discussed comprehensive divestment policies but have not established policies as of yet. Typically, divestment policies have been established in response to specific events, crises, or social issues, often based on state legislation. Based on the funds we have examined:

- Most investors appear to have policies in effect only to the extent they are required to do so.
- We are only aware of a limited number of funds with policies in place independent of legislative mandate.
- We have found at least one instance of a fund that has challenged legislation and refused to develop policies.

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- We have identified municipalities who have not adopted policies in spite of legislation encouraging, although not requiring, them.

We do not have a full representation of all policies, however, and there very well may be a number of public funds with additional policies, even though they are not legislatively required to have them.

## **Overview of Divestment Policies**

The concept of aligning social and investment goals by pursuing or banning certain types of investments has been around for centuries as practiced by pension funds, religious groups, universities, and individuals. The modern application as it applies to institutional investors generally dates back to the 1960s when the Vietnam War spurred activists to attempt to persuade investors to divest holdings of Dow Chemical, the producer of napalm. This movement attracted attention, but had little impact on institutional investors. It was not until the 1980s that the institutional investment community took significant action.

In 1986, the South African apartheid practice spurred CalPERS to lead California's other pension funds to divest of stock in companies doing business with South Africa. The practice of "South Africa Free" investing was widespread among public funds and endowment and foundation funds, and to a lesser extent among corporate funds at that time. Tobacco was also a topic for divestment in the 1980s and 1990s when public health groups—such as the American Medical Association and the American Cancer Society, along with university endowments and foundations—sold tobacco shares. Public universities and pensions followed suit in the late 1990s and early 2000s, divesting more than \$1.5 billion of tobacco holdings.<sup>1</sup>

More recently, government legislation has impacted divestment decisions particularly among public pension funds. The Sudan Accountability and Divestment Act of 2007 allows state and local governments to cut investment ties with companies doing business in Sudan as part of a movement to support human rights and stop funding the genocide being waged on the citizens of Darfur.<sup>2</sup> Additional legislation was passed in October 2009 supporting divestment of energy companies in Iran in order to pressure its government to abandon pursuit of nuclear arms.

Most recently, escalating gun violence in the U.S. has spurred interest in divestment of civilian firearms and ammunitions manufacturers and retailers. The tragic events of December 2012 at Sandy Hook Elementary, in particular, have led multiple public funds to question their holdings in public and private firearms manufacturers.<sup>3</sup>

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<sup>1</sup> Tobacco Divestment and Fiduciary Responsibility, A Legal and Financial Analysis." January 2000. Employee Benefits Legal Resource Site. <http://benefitsattorney.com/>

<sup>2</sup> Legislation of the 110th Congress. Site accessed December 9, 2009. <http://www.speaker.gov/newsroom/legislation?id=0298>

<sup>3</sup> "Public pension plans mull purging gun investments." <http://www.pionline.com/article/20121224/PRINTSUB/312249986/public-pension-plans-mull-purging-gun-investments>

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## **Engagement rather than Divestment<sup>4</sup>**

Rather than divest, many institutional investors choose to engage with companies they own but find objection to. Passive and long-term investors are often unable to divest from companies because they index their investments, invest in commingled investments, or have very large positions. When shares cannot be sold, active ownership can be a powerful alternative. Equity investors can decide to engage with companies on a one-to-one basis or in sector or market-level initiatives.

Engagement can encourage companies to improve the management of risks in order to protect shareholder value and enhance long-term returns. Engagement can be attained through proxy voting and other formal shareholder rights, as well as through other activities, including interacting with investee companies to address business strategy. An active share owner can have a significant ability, particularly if they act collaboratively with other share owners, to influence the behavior of companies. One way to view a divestment policy is as a final option to consider when other avenues to enact change at a company or in an industry have been exhausted.

## **Prudent Divesting**

Divestment decisions need to consider economic as well as social considerations. However, although state laws differ, new legislation has enabled investors with social as well as investment goals to consider new divestment policies. Still, the practice of divestment faces criticism and resistance in some quarters. One argument against any kind of divestment is that the responsibility of fiduciaries is to invest plan assets on behalf of beneficiaries in their best financial interests and anything that conflicts with that responsibility, such as divesting from particular securities for political, social or personal reasons, runs contrary to that fiduciary responsibility.<sup>5</sup> On the other hand, proponents of divestment argue that the exercise of their fiduciary responsibilities includes the responsibility to evaluate potential impacts on the valuations of their investments that may result from reputational, economic, and other risks from certain types of investments.<sup>6</sup> For example, the threat of major litigation that could lead to large judgments against a company or an industry may be the basis for a prudent conclusion that the sale of the security is in the plan's best financial interests. With respect to establishing a comprehensive divestment policy, a plan can develop risk factors that if breached, would be the basis for a prudent review of the plan's holdings in that industry. Ultimately however, any decision to divest (or invest) must be based exclusively on financial considerations.<sup>7</sup>

If NYCERS chooses to adopt a comprehensive divestment policy, the question arises as whether the mere presence of a divestment policy encourages the practice of divestment? Particularly for a large, high-profile public fund, establishing a broad divestment policy could expose the fund to divestment campaigns that have limited appeal or more questionable economic benefit. Large public funds have historically faced periodic divestment campaigns and undoubtedly will in the future. Having a comprehensive policy provides a decision-making framework but may also heighten the emphasis on divesting.

<sup>4</sup> Much of this section is summarizes materials presented by the UN PRI under "Why Be an Active Owner" on their website, accessed 2/6/13 <http://www.unpri.org/about-ri/why-be-an-active-owner/>

<sup>5</sup> See "SWIB and Sudan: Why Divestment Is Not the Answer", accessed 2/6/13 [http://www.swib.state.wi.us/SWIB%20and%20Sudan\\_Itr.pdf](http://www.swib.state.wi.us/SWIB%20and%20Sudan_Itr.pdf)

<sup>6</sup> See "WSIB Resolution on Iran Investment", accessed 2/6/13 [http://www.sib.wa.gov/oversight/pdfs/iran\\_res2010.pdf](http://www.sib.wa.gov/oversight/pdfs/iran_res2010.pdf)

<sup>7</sup> See "Divestment of Plan Assets based on Non-Economic Factors", Ian D. Lanoff, Ellen M. Goodwin

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Other factors to consider before divesting of specific types of holdings may include:

- Costs and short-term losses. Transaction costs vary depending on how many securities and funds are involved. In 2010, CalPERS estimated that the cost of divestment from Iran would be between \$5.8 million and \$23.3 million in transaction costs, and between plus or minus \$127 million and plus or minus \$194 million after reinvesting the funds.<sup>8</sup> Market impact and potential to affect risk and return associated with a divestment should also be assessed for materiality.
- Internal resources. Many funds lack the internal resources to address divestment, including maintaining a watch list, monitoring investments, and assessing the cost of divesture, including maintaining a track record for the portfolio with and without undesirable holdings. Most if not all of these functions can be outsourced, and these costs should also be considered.
- Negligible market impact. Divestment may have a negligible impact on the performance of divested companies.
- Potential to compromise the fund's investment strategies by restricting the investment universe and potentially negatively impacting performance.

## Implementation Considerations

Following are potential issues a fund might consider in implementing a divestment.

- 1) Identify and clearly define what types of securities and investment types are subject to divestment. For example, with firearms and ammunition manufacturers this could imply:
  - a. Whether or not to distinguish between types of manufacturers (e.g., for civilian or military use);
  - b. Whether or not to distinguish between ownership in publicly and privately held companies;
  - c. Whether or not to apply the same standards to domestic and non-U.S. stocks;
  - d. Whether or not to apply the same standards across types of securities (e.g., stocks vs. bonds)
  - e. Which vehicle types to consider divestment from?
    - i. Often, divestments are limited to being made from separately managed accounts only
    - ii. Indexed funds are frequently excluded on the basis that a passive investment that tracks a market index should track all companies included in the index.
    - iii. Any commingled or LP structures (e.g. private equity funds, real estate funds, etc.) are typically excluded as divesting of specific companies without divesting of the entire fund is extremely difficult. LPs may have considerable leverage in applying pressure on the General Partner to divest. (e.g. Cerberus selling its gun-holding company portfolio investment, the Freedom Group).
- 2) Identify firms and obtain a list of companies considered for divestment. This involves vetting available data sources (e.g., MSCI; KLD, ISS, etc.) that can provide comprehensive lists of securities and/or funds or creating such a list in-house.<sup>9</sup> Maintaining such a list and researching the occurrence of these companies' publicly and privately traded debt and equity in individual active and passive funds requires substantial resources. Consideration could be given to utilizing a screening service or third-party

<sup>8</sup> Buchanan, W. "Hearing probes CalPERS investments' Iran links." *San Francisco Chronicle*. Feb. 25, 2010.

<http://www.sfgate.com/bayarea/article/Hearing-probes-CalPERS-investments-Iran-links-3198618.php#ixzz2KFitaC7I>

<sup>9</sup> A list of public and private firearms manufacturing companies is available at <http://www.waoline.com/detente/sport/hunt-ArcheryLinks/ArmsLinks.htm>

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database to identify relevant securities that meet the divestment screen requirements and that can also assess current investments.

- 3) Approximate value: Determine the market value of the fund's holdings in each individual company as well as the approximate total value of the list of companies considered for divestment.
- 4) Determine what actions could be required given your current investment holdings, including:<sup>10</sup>
  - a. Estimate the trading costs and price impact using an applicable trading cost model, and estimate how long it would take to sell the securities after the decision to divest.
  - b. Use a portfolio construction process and simulate reinvestment of the proceeds of the sales of divested securities, aiming at a minimal expected performance impact on the appropriate asset class portfolio.
  - c. Estimate the execution costs of the reinvestment trade list, using the appropriate trading cost model.
  - d. Use the new expected performance impact estimate (from b. above) to calculate the performance at risk (PAR) resulting from divestment.
  - e. Include any expected loss-of-opportunity performance impact with the costs of divestment.
  - f. Calculate the costs and values as determined above.
  - g. Gather and analyze all additional facts that could be relevant to a divestment decision
  - h. Prepare a recommendation to the Board regarding the divestment and submit to the Investment Committee.
  - i. If the decision is to divest, isolate the affected securities and immediately notify all appropriate managers to cease purchasing the identified entity's securities.
  - j. Begin steps to sell affected securities

Thus, it is important to be specific in divestment guidelines about what businesses will be identified for divestment. For example, in the case of firearms, by indicating what percentage of revenues must be derived from the manufacture of firearms. A certain amount of subjective judgment may be required.

For example, MSCI splits firearms and ammunitions related companies into two categories:<sup>11</sup> 1. Civilian Firearms – Producers, defined as companies that manufacture firearms and ammunition for the civilian market, including hunting and other recreational rifles, as well as semi-automatic and automatic rifles; and 2. Civilian Firearms – Retailers and Distributors, defined as companies that derive 15% or more of total company revenues from the retail sale or wholesale of civilian firearms and/or ammunition. Currently, no global publicly traded companies meet the definition of the latter. However, many firearms and ammunitions manufacturers are privately held companies, complicating matters on divestment. Many private investments involve pooled vehicles that would make divestment of specific positions extremely difficult without divesting of the entire fund. Further, vehicles like hedge fund-of-funds typically lack transparency of fund holdings, and investors cannot restrict the underlying hedge funds. These issues should be addressed in the Investment Policy Statement with precise, well-written language that will typically provide exemptions based upon logistical demands in various vehicle implementations.

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<sup>10</sup> Much of this summarizes materials from CalPERS' Divestment Determination Process, detailed in the Appendix.

<sup>11</sup> Source: MSCI ESG Research.

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## Next Steps

In addition to the investment implications involved, we would observe that the issue of a comprehensive divestment policy shares Corporate Governance issues with other initiatives NYCERS is currently evaluating including Sustainability and ESG initiatives, activist investing, emerging country screens, proxy voting, etc. If the Board decides to move forward with the development of new divestment policies, we would suggest that the Sub Committee currently evaluating many of those issues, or a newly formed Corporate Governance Committee, could be charged with further work in this area.

In the following Appendix we include samples of Investment Policy Statement language used for broad divestment policies.

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## **Appendix: Sample Broad Divestment Language**

Excerpts from several funds' investment policy statements that address divestment include:  
State of Connecticut; CalSTRS; and CalPERS.

### State of Connecticut (as of August 8, 2012)

#### Article XII. CRPTF's Guidelines for Corporate Citizenship and Proxy Voting

- A. In accordance with State law, the Treasurer may consider elements of corporate citizenship when making investment decisions on behalf of the CRPTF; specifically, Section 3-13d(a) of the Connecticut General Statutes provides that the Treasurer may consider the "social, economic and environmental implication of investments" of the CRPTF. "Corporate citizenship" encompasses the principle that, in addition to the traditional corporate focus on profits and short-term performance, the business community must be responsible for "long-term sustainable development of people and communities."<sup>12</sup> Corporate citizenship is an important criterion in the evaluation of direct investments made by the Treasurer, as well as the companies with which the Treasurer contracts to provide business services. In addition, the corporate citizenship of the companies in which the CRPTF is invested is significant to the Treasurer as a shareholder.
- B. Investments and Corporate Citizenship
  - 1. Principles of fiduciary investment prudence and corporate citizenship, including corporate governance and equal employment opportunity, are embodied in the policies of the Treasurer and by State and federal law. Prudence and the consideration of corporate citizenship are complementary goals as recognized by State law. Primary among the Treasurer's considerations for the investment of the pension plans and trusts is the prudent investment of these assets for the long-term economic benefit of plan participants and beneficiaries. Prudent investment includes considerations of performance, risk and return. State law complements these principles by specifying that the Treasurer may consider the social, economic, and environmental implications of its investments, recognizing that such considerations may affect the ability to sustain long-term shareholder value.
  - 2. Section 3-13d(a) of the Connecticut General Statutes directs the Treasurer to "consider the implications of any particular investment in relation to the foreign policy and national interests of the United States." In addition to this general directive, specific matters implicating foreign policy and U.S. national interests have been embodied in state statutes for consideration in making CRPTF investments:
    - a) CGS §3-13g, regarding investments in companies doing business in Iran;
    - b) CGS §3-13h regarding investments in companies doing business in Northern Ireland that have not implemented the MacBride Principles; and
    - c) CGS §3-21e regarding investments in companies doing business in Sudan.

These statutes provide guidance to the Treasurer when making investment decisions, have been incorporated into the investment process and are reflected in all contracts under which CRPTF funds are invested.

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<sup>12</sup> Investor Responsibility Research Center, Washington, D.C.

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## CalSTRS Divestment Policy (as of March 5, 2009)

As set forth in the California Constitution, Article 16, Section 17, and the California Education Code, Section 22250, the CalSTRS Retirement Board, its Investment Committee, and staff have fiduciary duties with respect to the system and the plan. These duties include duties of loyalty and prudence to invest “with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.” (Ed. Code, sec. 22250(b).)

This policy sets forth CalSTRS’ policy for responding to external or internal initiative to divest of individual or groups of securities for purposes of achieving certain goals that do not appear to be primarily investment related. The Investment Committee opposes any divestment effort that would either be implicitly or explicitly attempt to direct or influence the Investment Committee to engage in investment activities that violate and breach the Trustees’ fiduciary responsibility. Consistent with its fiduciary responsibility and the concepts of diversification and passive index management, the Investment Committee does not and will not systemically exclude or include any investments in companies, industries, countries or geographic areas, except in cases where: one of the CalSTRS 21 Risk Factors is violated over a sustained time frame to the extent that it becomes an economic risk to the Fund, a potential for material loss of revenue exists, and where it weakens the trust of a significant portion of members to the System.

When pressured to divest, CalSTRS firmly believes that active and direct engagement is the best way to resolve issues. Face to face meetings with shareowners and senior management, or the Board of Directors, are essential to bring about change in a corporation. No further action will be taken until all efforts at engagement have been fully exhausted; efforts at engagement include, but are not limited to: shareholder resolutions, media campaigns, and other efforts at engagements.

CalSTRS’ commitment to engagement with companies rather than divestment is based on several considerations: (i) divestment would eliminate our standing and rights as a shareowner and foreclose further engagement; (ii) divestment would be likely to have negligible impact on portfolio companies or the market; (iii) divestment could result in increased costs and short-term losses; and (iv) divestment could compromise CalSTRS’ investment strategies and negatively affect investment performance.

If engagement fails to resolve the risk factor sufficiently, the CIO will bring the issue before the Investment Committee for consideration of divestment from the applicable securities. The Investment Committee will receive input from the following, but not limited to: investment managers, investment consultants, investment staff, fiduciary counsel, academics, and experts in the particular field or issue. If the Investment Committee determines that the making of an investment or continuing to hold a security is imprudent and inconsistent with the fiduciary duty, the Investment Committee will instruct investment staff to remove the security from the portfolio.

Divestment does not apply to segments of the portfolio that track market indices, as CalSTRS policies require those segments to invest in all companies included in an index. Additionally, the policy does not apply to investments in a Limited Partnership due to CalSTRS position of limited liability as a Limited rather than General Partner.

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CalSTRS will exclude or eliminate investment that fall within the terms of a State or Federal law regarding divestment, if the Investment Committee finds that divestment is consistent with its fiduciary duties and divestment is determined not to be prudent.

## Reporting

On at least a quarterly basis, the Chief Investment Officer will prepare a comprehensive report that shows the performance difference between any divestment taken under the Policy and the unmodified CalSTRS benchmark of the respective asset class.

Any divestment decision should be reviewed at least annually by the CIO to ensure the key factors and risks continue to warrant divestment. The Investment Committee, at any time, can request a divestment decision be revisited.

## CalPERS Divestment Policy (as of December 31, 2012)

The CalPERS Investment Committee had adopted a policy on divestment, which builds on the concept of fiduciary duty and some of the possible implications of divestment on these responsibilities. The policy defines instances when CalPERS will undertake divestment as follows:

1. CalPERS will sell targeted company investments or refrain from making them to the extent investment in the targeted company is imprudent and inconsistent with fiduciary duty.
2. CalPERS will comply with federal laws requiring divesting, if any.
3. To the extent required by law and consistent with fiduciary duty, CalPERS will comply with constitutional California state laws that require divesting.

## *CalPERS Divestment Determination Process*

Staff implements the following process to determine the costs and values of divestment under Government Code Section 7513.6:

- A. Firms Involved: Obtain list of companies considered for divestment.
- B. Approximate Value: Determine the market value of CalPERS holdings in each individual company as well as the approximate total value of the list of companies considered for divestment.
- C. Divestment Determination Steps:
  1. Determine the company has failed to complete, or has failed to make sufficient progress towards substantial action within the time specified by statute.
  2. Estimate the trading costs and price impact using an applicable trading cost model, and estimate how long it would take to sell the securities after the decision to divest.
  3. Use a portfolio construction process and simulate reinvestment of the proceeds of the sales of divested securities, aiming at a minimal expected performance impact on the appropriate asset class portfolio.
  4. Estimate the execution costs of the reinvestment trade list, using the appropriate trading cost model.
  5. Use the new expected performance impact estimate (from No. 3 above) to calculate the performance at risk (PAR) resulting from divestment.
  6. Include any expected loss-of-opportunity performance impact with the costs of divestment.

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7. Calculate the costs and values as determined above.
8. Gather and analyze all additional facts that could be relevant to a divestment decision
9. Review with Fiduciary Counsel and General Pension Consultant, and prepare a recommendation to the Board: either in favor of divestment, or in favor of a Section 7513.6(k) determination.
10. Submit the recommendation to the Investment Committee.
11. If the decision is to divest, isolate the affected securities and immediately notify all appropriate managers to cease purchasing the identified entity's securities.

For further reading and opinions on institutional divestments, see NASRA's Divestment Guide Resource at <http://www.nasra.org/resources/sanctions.htm>

# PRE TRADE REPORT

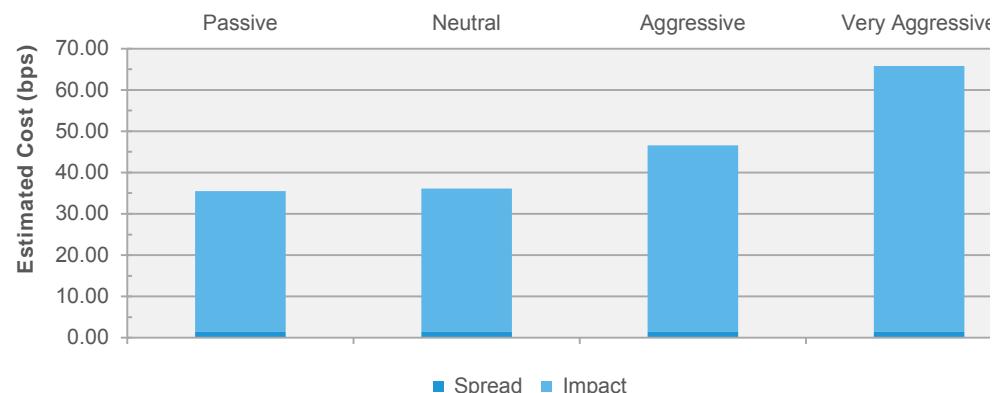
## CALLAN

09/04/2015

GLOBAL EXECUTION SERVICES

**Estimated Cost**

	Value (USD)	Value (bps)
Spread & Impact (Neutral)	\$ 503,987.66	36.54
Taxes & Fees	\$ 3,048	0.20
Equity & FX Brokerage	\$ 54,208.20	3.93
<b>Total Estimated Cost</b>	<b>\$ 561,243.86</b>	<b>40.67</b>

**Estimated Trade Horizon****Estimated Trade Horizon**

	Days	Spread (bps)	Impact (bps)	Total Cost (bps)
Passive	1.67	1.38	34.11	35.49
Neutral	<b>1.67</b>	<b>1.38</b>	<b>34.73</b>	<b>36.12</b>
Aggressive	1.00	1.38	45.18	46.57
Very Aggressive	1.00	1.38	64.40	65.78

**Buy / Sell Summary**

	Orders	Shares	Value (USD)	Net Value (USD)
Buy	---	---	---	---
Sell	5	2,710,410.00	\$ 137,927,656.56	\$ (137,927,656.56)
<b>Total</b>	<b>5</b>	<b>2,710,410.00</b>	<b>\$ 137,927,656.56</b>	<b>\$ (137,927,656.56)</b>

**Market Cap Summary**

	Orders	Shares	Value (USD)	Net Value (USD)	Weight
< 50M	---	---	---	---	---
50M - 250M	1	61,365	\$ 686,674.35	\$ (686,674.35)	0.50%
250M - 500M	---	---	---	---	---
500M - 1B	---	---	---	---	---
1B - 5B	2	216,241	\$ 10,495,383.46	\$ (10,495,383.46)	7.61%

### Market Cap Summary

	Orders	Shares	Value (USD)		Net Value (USD)	Weight
5B - 10B	---	---	---		---	---
10B - 50B	1	1,024,961	\$ 35,432,901.77	\$ (35,432,901.77)	25.69%	
> 50B	1	1,407,843	\$ 91,312,696.98	\$ (91,312,696.98)	66.20%	

### Sector Summary

	Orders	Shares	Value (USD)	Net Value (USD)	Weight
Consumer Discretionary	3	277,606	11,182,058	(11,182,058)	8.11%
Consumer Staples	2	2,432,804	126,745,599	(126,745,599)	91.89%

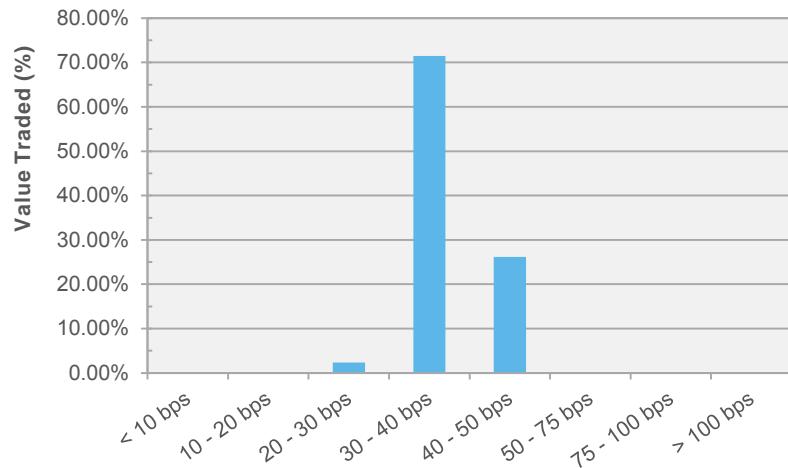
### Trade Cost Summary

#### Buys

Cost	Orders	Shares	Value (USD)		Weight
< 10 bps	---	---	---	---	---
10 - 20 bps	---	---	---	---	---
20 - 30 bps	1	71,135	\$ 3,209,611.20	2.33%	
30 - 40 bps	2	1,552,949	\$ 98,598,469.24	71.49%	
40 - 50 bps	2	1,086,326	\$ 36,119,576.12	26.19%	
50 - 75 bps	---	---	---	---	---
75 - 100 bps	---	---	---	---	---
> 100 bps	---	---	---	---	---
<b>Total</b>	<b>5</b>	<b>2,710,410</b>	<b>\$ 137,927,656.56</b>	<b>100.00%</b>	

#### Sells

	Shares	Value (USD)	Weight
	---	---	---
	---	---	---
	71,135	\$ 3,209,611.20	2.33%
	1,552,949	\$ 98,598,469.24	71.49%
	1,086,326	\$ 36,119,576.12	26.19%
	---	---	---
	---	---	---
	---	---	---
	---	---	---
	2,710,410	\$ 137,927,656.56	100.00%

**Trade Cost Summary****Top 5 Trade Cost (Sells)**

Name	SEDOL	Shares	Value (USD)	Cost
KROGER CO	2497406	-1,024,961	\$ 35,432,901.77	46.66
BIG 5 SPORTING	2958646	-61,365	\$ 686,674.35	43.14
WAL-MART STORES	2936921	-1,407,843	\$ 91,312,696.98	32.71
DICK'S SPORTING	2969637	-145,106	\$ 7,285,772.26	31.84
CABELA'S INC	B00N2Z7	-71,135	\$ 3,209,611.20	24.83

**Liquidity Summary**

% ADV	Orders	Shares	Value (USD)	Weight
< 2.5%	---	---	---	---
2.5 - 5%	---	---	---	---
5 - 10%	2	216,241	\$ 10,495,383.46	7.61%
10 - 15%	2	2,432,804	\$ 126,745,598.75	91.89%
15 - 25%	---	---	---	---
25 - 50%	1	61,365	\$ 686,674.35	0.50%
50 - 100%	---	---	---	---
> 100%	---	---	---	---
<b>Total</b>	<b>5</b>	<b>2,710,410</b>	<b>\$ 137,927,656.56</b>	<b>100.00%</b>

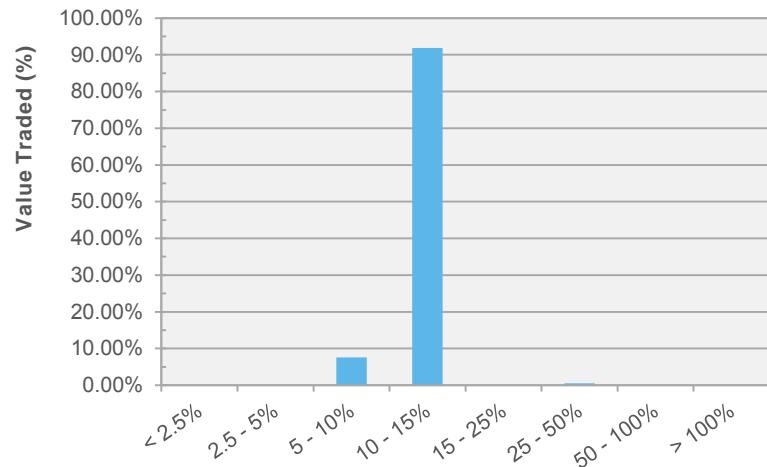
**Buys**

Shares	Value (USD)	Weight
---	---	---
---	---	---
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**Sells**

Shares	Value (USD)	Weight
---	---	---
---	---	---
---	---	---
216,241	\$ 10,495,383.46	7.61%
2,432,804	\$ 126,745,598.75	91.89%
---	---	---
61,365	\$ 686,674.35	0.50%
---	---	---
---	---	---
---	---	---
2,710,410	\$ 137,927,656.56	100.00%

### Liquidity Summary



### Top 5 Illiquid Trades (Sells)

Name	SEDOL	Shares	Value (USD)	% ADV
BIG 5 SPORTING	2958646	-61,365	\$ 686,674.35	37.06%
KROGER CO	2497406	-1,024,961	\$ 35,432,901.77	12.25%
WAL-MART STORES	2936921	-1,407,843	\$ 91,312,696.98	11.68%
CABELA'S INC	B00N2Z7	-71,135	\$ 3,209,611.20	8.05%
DICK'S SPORTING	2969637	-145,106	\$ 7,285,772.26	6.94%

### Trade Horizon Summary

Horizon	Orders	Shares	Value (USD)	Weight
< 1 day	4	2,649,045	\$ 137,240,982.21	99.50%
1 - 2 days	---	---	---	---
2 - 3 days	1	61,365	\$ 686,674.35	0.50%
3 - 4 days	---	---	---	---
4 - 5 days	---	---	---	---
5 - 7 days	---	---	---	---
7 - 10 days	---	---	---	---
> 10 days	---	---	---	---
<b>Total</b>	<b>5</b>	<b>2,710,410</b>	<b>\$ 137,927,656.56</b>	<b>100.00%</b>

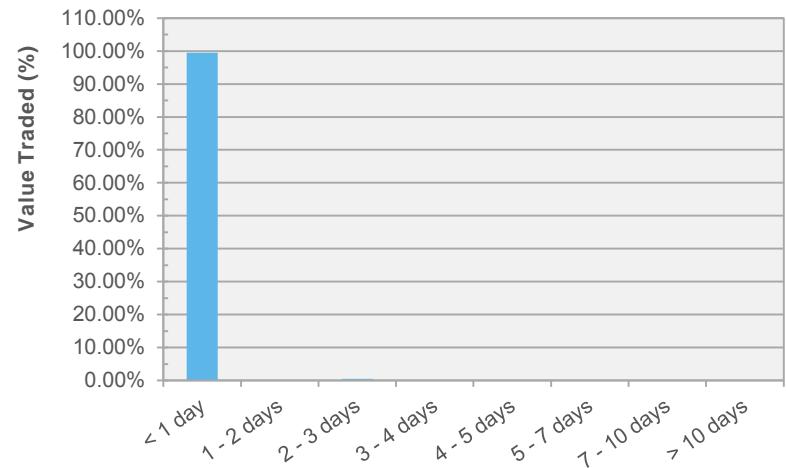
### Buys

Shares	Value (USD)	Weight
---	---	---
---	---	---
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---	---	---
---	---	---
---	---	---

### Sells

Shares	Value (USD)	Weight
2,649,045	\$ 137,240,982.21	99.50%
---	---	---
61,365	\$ 686,674.35	0.50%
---	---	---
---	---	---
---	---	---
---	---	---
---	---	---
---	---	---
2,710,410	\$ 137,927,656.56	100.00%

### Trade Horizon Summary



### Top 5 Longest Trades (Sells)

Name	SEDOL	Shares	Value (USD)	Days
BIG 5 SPORTING	2958646	-61,365	\$ 686,674.35	2.5
KROGER CO	2497406	-1,024,961	\$ 35,432,901.77	0.8
WAL-MART STORES	2936921	-1,407,843	\$ 91,312,696.98	0.8
CABELA'S INC	B00N2Z7	-71,135	\$ 3,209,611.20	0.5
DICK'S SPORTING	2969637	-145,106	\$ 7,285,772.26	0.5

## APPENDICES:

Basket Clause

## NYCERS - BASKET/NON BASKET SUMMARY

As of July 31st, 2015		Adjusted Fund Policy			Fund Actual (PE & RE on an invested basis)		
		Non Basket*	Basket*	Total	Non Basket*	Basket*	Total
<b>Equity</b>							
<b>Domestic Equity</b>		33.5%	0.0%	33.5%	33.8%	0.0%	33.8%
<b>Non-U.S. Equity</b>		10.0%	7.0%	17.0%	10.0%	6.6%	16.6%
<b>Private Equity</b>		0.0%	7.0%	7.0%	0.0%	7.4%	7.4%
<b>Real Assets</b>		4.9%	0.0%	4.9%	4.9%	0.0%	4.9%
<b>Hedge Funds</b>		0.0%	3.2%	3.2%	0.0%	3.2%	3.2%
<b>Total Equity</b>		<b>48.4%</b>	<b>17.2%</b>	<b>65.5%</b>	<b>48.7%</b>	<b>17.2%</b>	<b>65.9%</b>
<b>Fixed Income</b>							
<b>Core+5</b>		20.7%	0.5%	21.2%	17.1%	0.5%	17.6%
<b>U.S. Gov't Sector</b>		4.3%	0.0%	4.3%	2.0%	0.0%	2.0%
<b>Mortgage Sector</b>		7.6%	0.0%	7.6%	6.4%	0.0%	6.4%
<b>Credit Sector</b>		8.7%	0.5%	9.2%	7.7%	0.5%	8.2%
<b>High Yield</b>		2.6%	0.8%	3.4%	3.0%	0.8%	3.8%
<b>Bank Loans</b>		0.0%	1.9%	1.9%	0.0%	1.9%	1.9%
<b>TIPS</b>		4.1%	0.5%	4.5%	2.9%	0.3%	3.2%
<b>Convertibles</b>		1.0%	0.0%	1.0%	1.0%	0.0%	1.0%
<b>Opportunistic Fixed Income</b>		0.0%	2.5%	2.5%	0.0%	2.5%	2.5%
<b>Other Fixed Income</b>		0.0%	0.0%	0.0%	4.1%	0.0%	4.1%
<b>Total Fixed Income</b>		<b>28.4%</b>	<b>6.1%</b>	<b>34.5%</b>	<b>28.1%</b>	<b>6.0%</b>	<b>34.1%</b>
<b>Total Fund</b>		<b>76.7%</b>	<b>23.3%</b>	<b>100.0%</b>	<b>76.9%</b>	<b>23.1%</b>	<b>100.0%</b>
<b>Remaining Capacity</b>			1.7%			1.9%	

\* Note: Basket amounts are estimates

## Liquidity Analysis

**NYCERS Liquidity Profile - Static Analysis**

9/1/15

AUM as of July 31, 2015

	<b>Current MV</b>	<b>Liquid Assets</b>		
		<b>Today</b>	<b>1 Year</b>	<b>2 Years</b>
<b>Domestic Equity</b>	\$18,408	\$18,408	\$18,408	\$18,408
<b>International Equity</b>	5,630	5,630	5,630	5,630
<b>Emerging Markets</b>	3,425	3,425	3,425	3,425
<b>Hedge Funds</b>	1,734	0	1,191	1,734
<b>REITS</b>	0	0	0	0
<b>Private Equity</b>	4,011	0	0	0
<b>Private Real Estate</b>	2,674	0	0	0
<b>Core + 5</b>	9,593	9,593	9,593	9,593
<b>TIPS</b>	1,763	1,763	1,763	1,763
<b>Opportunistic Fixed Income</b>	1,375	1,032	1,375	1,375
<b>Enhanced Yield</b>	2,058	2,058	2,058	2,058
<b>Bank Loans</b>	1,009	1,009	1,009	1,009
<b>Convertible Bonds</b>	535	535	535	535
<b>ETI</b>	666	122	360	360
<b>Cash</b>	1,567	1,567	1,567	1,567
<b>Total Assets</b>	<b>\$54,449</b>	<b>\$45,142</b>	<b>\$46,914</b>	<b>\$47,458</b>
<b>Total Illiquid \$</b>		\$9,307	\$7,535	\$6,991
<b>Total Illiquid %</b>		17.1%	13.8%	12.8%
Unfunded PE Commitments	\$2,163			
Unfunded RE Commitments	1,008			
Unfunded OFI Commitments	400			
<b>Total commitments \$</b>	<b>\$3,571</b>			
<b>Total commitments %</b>	<b>6.6%</b>			

**NYCERS Liquidity Profile - Static Analysis**

9/1/15

AUM as of July 31, 2015

**Denominator Effect - Decrease AUM by One-Third**

<b>Total Illiquid \$</b>	\$9,307	\$7,535	\$6,991
<b>Total Illiquid %</b>	25.6%	20.8%	19.3%

Note: Assumes zero realizations, no new commitments and a five-year investment period; funded out of liquids

	<b>Current MV</b>	<b>Liquid Assets</b>		
		<b>Today</b>	<b>1 Year</b>	<b>2 Years</b>
<b>Total Assets</b>	<b>\$54,449</b>	<b>\$45,142</b>	<b>\$46,914</b>	<b>\$47,458</b>

**Private Equity, Real Estate and Opportunistic Fixed Income Stress Case**

Unfunded PE Commitments Drawn	\$433	\$865
Unfunded RE Commitments Drawn	202	403
Unfunded OFI Commitments Drawn	200	0
<b>Total commitments \$</b>	<b>\$834</b>	<b>\$1,268</b>
<b>Total commitments %</b>	1.5%	2.3%

<b>Total Illiquid \$</b>	\$8,369	\$8,260
<b>Total Illiquid %</b>	15.4%	15.2%

Note: Assumes zero realizations, no new commitments and a five-year investment period; funded out of liquids

**Denominator Effect - Decrease AUM by One-Third**

<b>Total Illiquid \$</b>	\$9,307	\$8,369	\$8,260
<b>Total Illiquid %</b>	25.6%	23.1%	22.8%

Note: Assumes zero realizations, no new commitments and a five-year investment period; funded out of liquids