

THE CITY OF NEW YORK  
OFFICE OF THE COMPTROLLER  
1 CENTRE STREET  
NEW YORK, N.Y. 10007-2341

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Scott M. Stringer  
COMPTROLLER

# **NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM**

## **COMMON INVESTMENT MEETING**

### **REPORTING & INITIATIVES**

**DECEMBER 15, 2016**

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LOCATION:

Office of the New York City Comptroller  
1 Centre Street, 10<sup>th</sup> Floor - Northside  
New York, NY 10007

**NEW YORK CITY EMPLOYEES RETIREMENT SYSTEM  
COMMON INVESTMENT MEETING – REPORTING & INITIATIVES  
DECEMBER 15, 2016  
PUBLIC AGENDA MATERIAL**

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**PUBLIC AGENDA MATERIAL**



**Total Fund Performance Overview – Public**  
(Material to be sent under separate cover)



## **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		WF		LISC		BE	
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		\$12.00 MM	
Current Market Value	\$43.83 MM		\$17.08 MM		\$2.93 MM		\$183.09 MM		\$87.80 MM		\$8.85 MM		\$2.30 MM		\$1.28 MM		\$0.00 MM		\$0.00 MM		\$0.00 MM	
	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units
Commitments Q3 2016 (included in total)																						
Bronx	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$2,800,000	90	\$0	0	\$0	0
Brooklyn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manhattan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,392,518	83
Queens	0	0	0	0	0	0	0	0	5,263,200	68	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	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	0
Total	\$0	0	\$0	0	\$0	0	\$0	0	\$5,263,200	68	\$0	0	\$0	0	\$0	0	\$2,800,000	90	\$0	0	\$2,392,518	83
Delivered Q3 2016 (included in total)																						
Bronx	\$0	0	\$0	0	\$0	0	\$0	0	\$5,039,928	72	\$161,700	20	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
Brooklyn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manhattan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Queens	0	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	0
Outside of NYC	0	0	0	0	0	0	0	0	4,744,800	56	0	0	0	0	0	0	0	0	0	0	0	0
Total	\$0	0	\$0	0	\$0	0	\$0	0	\$9,784,728	128	\$161,700	20	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
Total Commitments																						
Bronx	\$0	0	\$8,138,775	350	\$0	0	\$26,058,634	1,324	\$35,846,397	1,035	\$1,546,050	61	\$0	0	\$0	0	\$2,800,000	90	\$1,274,127	48	\$0	0
Brooklyn	8,444,542	346	5,768,118	161	0	0	21,217,436	897	2,681,280	127	4,184,388	251	0	0	0	0	0	0	2,801,765	156	2,478,796	359
Manhattan	6,048,000	100	0	0	0	0	28,620,954	1,134	6,924,311	214	5,514,395	275	0	0	0	0	16,892,460	203	2,252,832	90	2,392,518	83
Queens	1,620,000	54	0	0	0	0	10,880,580	406	5,263,200	68	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	0
Outside of NYC	1,606,500	39	2,108,000	41	0	0	3,989,300	74	804,082	66	0	0	0	0	0	0	0	0	0	0	0	0
Total	\$17,719,042	539	\$16,014,893	552	\$0	0	\$90,766,905	3,835	\$51,519,270	1,510	\$11,244,833	587	\$0	0	\$0	0	\$20,952,460	360	\$6,328,724	294	\$4,871,314	442
Historical Investments																						
Bronx	\$18,313,893	1,276	\$6,124,800	452	\$0	0	\$109,556,560	7,060	\$60,279,639	2,075	\$1,513,701	117	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
Brooklyn	6,923,029	142	3,962,323	252	0	0	118,355,086	4,750	24,884,184	700	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	92,541,481	5,175	46,387,877	1,481	4,642,984	277	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	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	0
Outside of NYC	0	0	0	0	0	0	12,786,670	385	4,744,800	56	0	0	0	0	0	0	0	0	0	0	0	0
Total	\$39,979,367	1,705	\$14,588,781	1,041	\$3,223,614	197	\$354,257,627	18,171	\$153,669,760	5,034	\$8,840,806	639	\$1,995,989	123	\$1,165,316	22	\$0	0	\$0	0	\$0	0

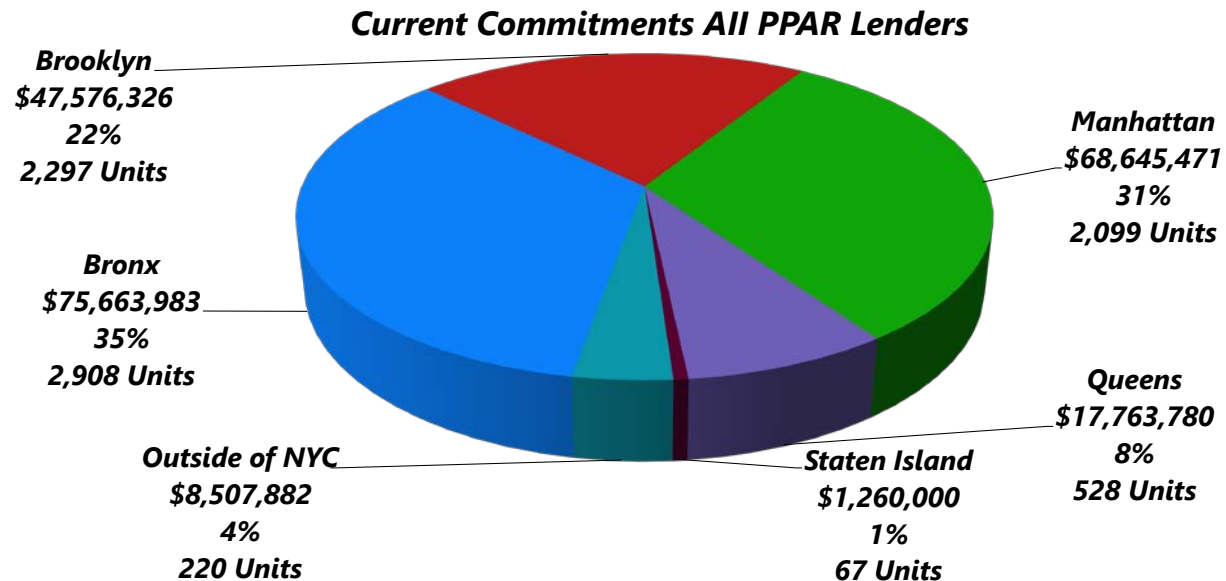
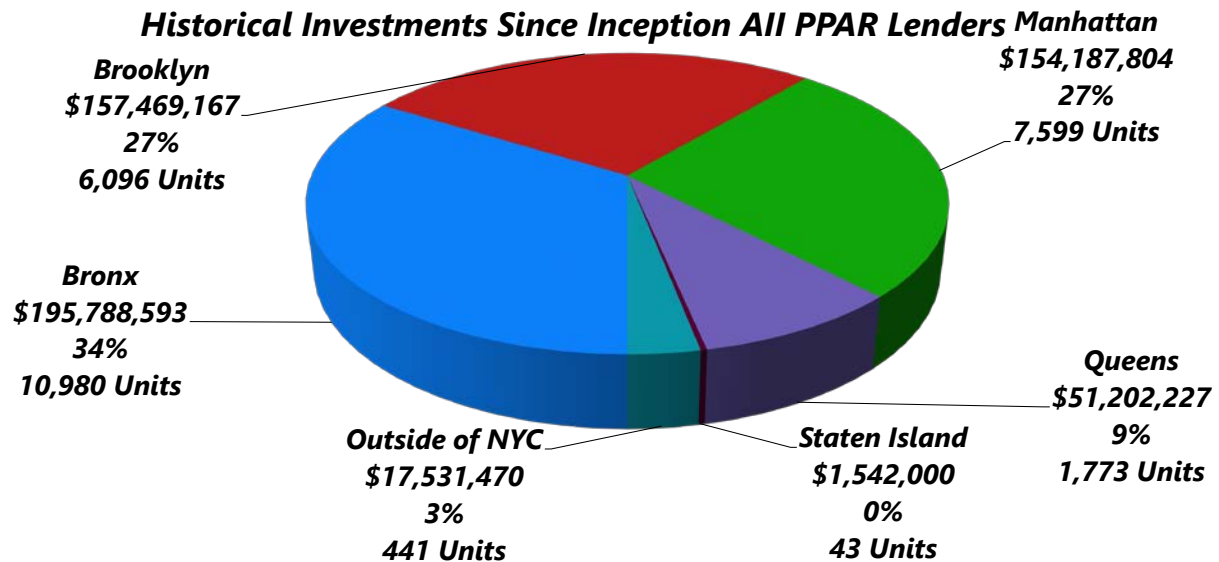
\*Lenders : Bank of America Citibank Community Development Carver Federal Savings Bank The Community Preservation Corp JP Morgan Chase Low Income Investment Fund NCB Capital Impact Neighborhood Housing Service Wells Fargo Local Initiatives Support Corp Bellwether Enterprise

# NYCERS Pension Fund - Economically Targeted Investments Quarterly Report

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## Public/Private Apartment Rehabilitation Program (PPAR)

Lenders*	All Lender Totals	
Contractual Commitment	\$704.00 MM	
Current Market Value	\$347.18 MM	
	Dollars	Units
<b>Commitments Q3 2016</b> (included in total)		
Bronx	\$2,800,000	90
Brooklyn	0	0
Manhattan	2,392,518	83
Queens	5,263,200	68
Staten Island	0	0
Outside of NYC	0	0
<b>Total</b>	<b>\$10,455,718</b>	<b>241</b>
<b>Delivered Q3 2016</b> (included in total)		
Bronx	\$5,201,628	92
Brooklyn	0	0
Manhattan	0	0
Queens	0	0
Staten Island	0	0
Outside of NYC	4,744,800	56
<b>Total</b>	<b>\$9,946,428</b>	<b>148</b>
<b>Total Commitments</b>		
Bronx	\$75,663,983	2,908
Brooklyn	47,576,326	2,297
Manhattan	68,645,471	2,099
Queens	17,763,780	528
Staten Island	1,260,000	67
Outside of NYC	8,507,882	220
<b>Total</b>	<b>\$219,417,442</b>	<b>8,119</b>
<b>Historical Investments</b>		
Bronx	\$195,788,593	10,980
Brooklyn	157,469,167	6,096
Manhattan	154,187,804	7,599
Queens	51,202,227	1,773
Staten Island	1,542,000	43
Outside of NYC	17,531,470	441
<b>Total</b>	<b>\$577,721,261</b>	<b>26,932</b>



# NYCERS Pension Fund - Economically Targeted Investments Quarterly Report

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AFL-CIO Housing Investment Trust (HIT)

Market Value \$308.36 million\*

NYC Community Investment Initiative (NYCCII)

## NYCCII Phase II 2006-2013

### Multifamily Investments Detail

<u>Borough</u>	<u>Q3 Investments</u>	<u>Investments</u>	<u>Q3 Housing Units</u>	<u>Housing Units</u>
		<u>Since Inception</u>		<u>Since Inception</u>
Bronx	\$0	\$52,827,900	0	802
Brooklyn	0	103,890,446	0	5,616
Manhattan	0	174,075,200	0	813
Queens	0	17,760,000	0	1,149
Staten Island	0	6,414,554	0	693
Outside NYC	0	100,000,000	0	137
<b>Total</b>	<b>\$0</b>	<b>\$454,968,100</b>	<b>0</b>	<b>9,210</b>
<b>Grand Total NYCCII Phase II</b>		<b>\$454,968,100</b>		<b>9,210</b>

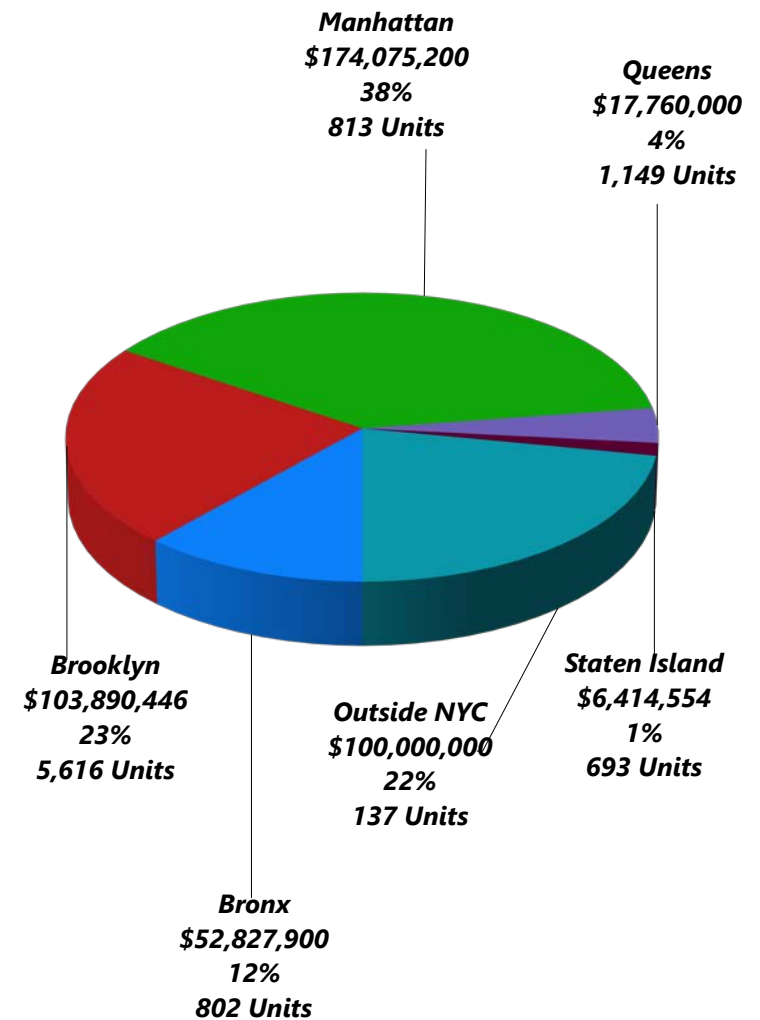
## NYCCII Phase I 2002-2005

	<u>Dollars</u>	<u>Units</u>	<u>Member Loans</u>	<u>Total All NYC PF's</u>
Multifamily Investments	\$249,123,500	12,024	n/a	n/a
HIT Home Investments	348,300,563	n/a	131	446
<b>Total NYCCII Phase I</b>	<b>\$597,424,063</b>	<b>12,024</b>	<b>131</b>	<b>446</b>

## NYCCII Phases I & II

	<u>Dollars</u>	<u>Units</u>	<u>Member Loans</u>	<u>Total All NYC PF's</u>
Multifamily Investments	\$704,091,600	21,234	n/a	n/a
HIT Home Investments	2,899,899,500	n/a	131	446
<b>Grand Total NYCCII Phases I &amp; II</b>	<b>\$3,603,991,100</b>	<b>21,234</b>	<b>131</b>	<b>446</b>

## HIT Multifamily Investments



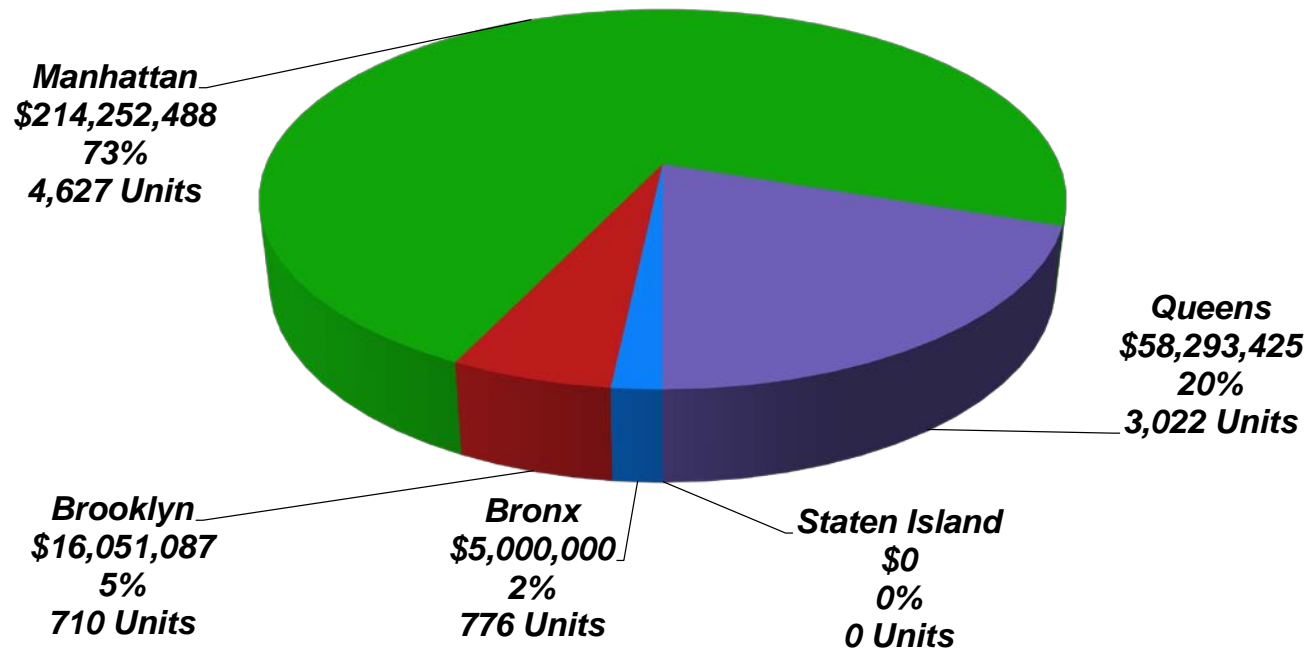
\*Interest is reinvested



# NYCERS Pension Fund - Economically Targeted Investments Quarterly Report

AFL-CIO Housing Investment Trust (HIT)				
NYC Workforce Housing Initiative				
Investments From 2009 Through Q3 2016				
Workforce Investments Detail				
<u>Borough</u>	<u>Q3 Investments</u>	<u>Investments Since Inception</u>	<u>Q3 Housing Units</u>	<u>Housing Units Since Inception</u>
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	3,022
Staten Island	0	0	0	0
<b>Total</b>	<b>\$0</b>	<b>\$293,597,000</b>	<b>0</b>	<b>9,135</b>

**HIT Workforce Housing Initiative**



# NYCERS Pension Fund - Economically Targeted Investments Quarterly Report

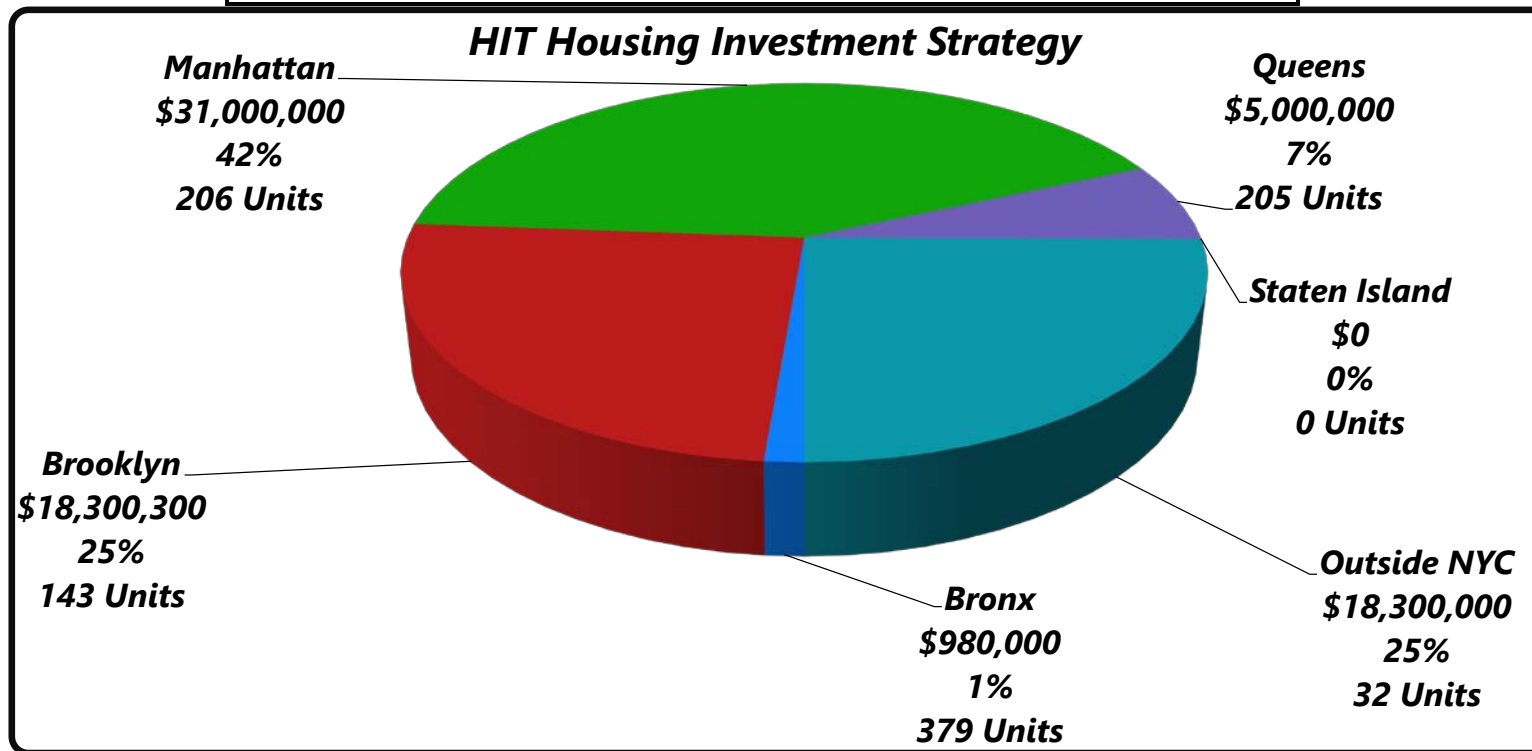
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AFL-CIO Housing Investment Trust (HIT)  
HIT Housing Investment Strategy

Investments From Q4 2015 Through Q3 2016

Housing Investment Strategy Detail

<u>Borough</u>	<u>Q3 Investments</u>	<u>Investments Since Inception</u>	<u>Q3 Housing Units</u>	<u>Housing Units Since Inception</u>
Bronx	\$0	\$980,000	0	379
Brooklyn	18,300,300	18,300,300	143	143
Manhattan	31,000,000	31,000,000	206	206
Queens	0	5,000,000	0	205
Staten Island	0	0	0	0
Outside NYC	0	18,300,000	0	32
<b>Total</b>	<b>\$49,300,300</b>	<b>\$73,580,300</b>	<b>349</b>	<b>965</b>



# 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 \$105.52 million

<u>Multifamily Investments Detail</u>		<u>\$ Invested<sup>1</sup></u>		<u>Units<sup>2</sup></u>	
		<u>Q3</u>	<u>Total</u>	<u>Q3</u>	<u>Total</u>
Bronx		\$0	\$20,094,799	0	17,328
Brooklyn		0	8,496,441	0	8,904
Manhattan		0	25,554,423	0	6,285
Queens		0	5,994,000	0	873
Staten Island		0	0	0	0
Total NYCERS Multifamily Investments		\$0	\$60,139,663	0	33,390
Multifamily Total All Systems		\$0	\$167,054,619	0	33,390
<u>Single Family Investments Detail</u>		<u>\$ Invested</u>		<u>Units</u>	
		<u>Q3</u>	<u>Total</u>	<u>Q3</u>	<u>Total</u>
Bronx		\$85,320	\$12,436,252	1	201
Brooklyn		0	35,193,549	0	501
Manhattan		0	3,074,114	0	39
Queens		0	50,727,436	0	654
Staten Island		284,760	28,648,929	3	374
Total NYCERS Single Family Investments		\$370,080	\$130,080,280	4	1,769
Single Family Total All Systems		\$1,028,000	\$361,334,111	4	1,769
<u>Other Investments Detail</u>		<u>\$ Invested</u>		<u>Loans</u>	
		<u>Q3</u>	<u>Total</u>	<u>Q3</u>	<u>Total</u>
Bronx		\$0	\$243,000	0	1
Brooklyn		0	1,940,545	0	8
Manhattan		0	875,846	0	5
Queens		0	195,636	0	3
Staten Island		0	0	0	0
Total NYCERS Other Investments		\$0	\$3,255,026	0	17
Other Investments Total All Systems		\$0	\$9,041,740	0	17
Grand Total NYCERS		\$370,080	\$193,474,969		
Grand Total All Systems		\$1,028,000	\$537,430,470		

<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

Brooklyn  
\$8,496,441  
14%

8,904 Units

Manhattan

\$25,554,423

42%

6,285 Units

Bronx

\$20,094,799

33%

17,328 Units

Staten Island

\$0

0%

0 Units

Queens

\$5,994,000

10%

873 Units

Access Single Family Investments Since Inception

NYCERS

Staten Island

\$28,648,929

22%

374 Units

Bronx

\$12,436,252

10%

201 Units

Brooklyn

\$35,193,549

27%

501 Units

Queens

\$50,727,436

39%

654 Units

Manhattan

\$3,074,114

2%

39 Units

## **Private Equity Quarterly Report**

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## Private Equity Monitoring Report

For the period ended June 30, 2016

Report Prepared For:

New York City Employees' Retirement System



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## 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 June 30, 2016, the Program has committed US\$8.9 billion to 183 partnership investments (the "Portfolio"). This quarterly monitoring report covers the performance of the Portfolio as of June 30, 2016 as well as significant activity that occurred during the second quarter of 2016.

### Performance Summary

<i>US\$ in millions</i>	June 30, 2016	March 31, 2016	June 30, 2015	Quarterly Change	Yearly Change
Number of Managers	108	107	106	1	2
Number of Investments	183	178	172	5	11
Committed Capital <sup>1</sup>	\$8,917.8	\$8,424.7	\$7,799.7	\$493.1	\$1,118.1
Contributed Capital	\$7,311.0	\$7,146.8	\$6,646.8	\$164.2	\$664.2
Distributed Capital	\$5,693.5	\$5,459.1	\$4,948.3	\$234.4	\$745.2
Market Value	\$4,170.8	\$4,150.0	\$4,074.1	\$20.8	\$96.8
Total Value	\$9,864.3	\$9,609.1	\$9,022.3	\$255.2	\$842.0
Total Gain/(Loss)	\$2,553.4	\$2,462.4	\$2,375.5	\$91.0	\$177.8
Unfunded Commitment <sup>2</sup>	\$2,596.4	\$2,216.3	\$2,051.1	\$380.1	\$545.3
Total Exposure <sup>3</sup>	\$6,767.2	\$6,366.3	\$6,125.2	\$400.9	\$642.0
DPI <sup>4</sup>	0.78x	0.76x	0.74x	0.01x	0.03x
TVM <sup>5</sup>	1.35x	1.34x	1.36x	0.00x	-0.01x
IRR <sup>6</sup>	8.9%	8.9%	9.4%	+ 0 bps	-49 bps
TVM Net of StepStone Fees <sup>7</sup>	1.35x	1.34x	1.36x	0.01x	-0.01x
IRR Net of StepStone Fees <sup>7</sup>	8.9%	8.9%	9.4%	+ 1 bps	-48 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> Unfunded Commitment represents the aggregate remaining commitments to partnership investments.

<sup>3</sup> Total Exposure represents the sum of Market Value and Unfunded Commitment.

<sup>4</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>5</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>6</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.

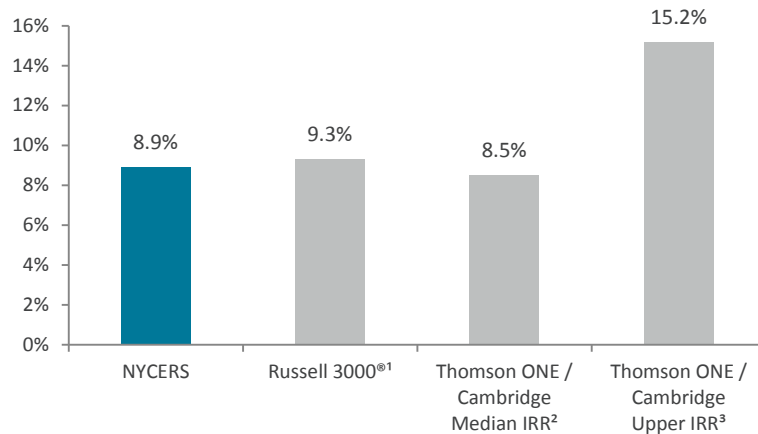
<sup>7</sup> TVM and IRR Net of StepStone fees represent TVM and IRR net of fees paid by NYCERS to StepStone.



## 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>.

The following graph illustrates Portfolio IRR performance versus benchmarks as of June 30, 2016.



<sup>1</sup>Benchmark is a dollar-weighted PME+ calculation of daily 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 June 30, 2016 for funds with vintage years 1998 to 2016. 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 June 30, 2016 for funds with vintage years 1998 to 2016. Note: Thomson ONE/Cambridge data is continuously updated and is therefore subject to change.

## Portfolio Diversification

### By Strategy

As of June 30, 2016 (US\$ in millions)	Market Value		Unfunded Commitment		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
Buyout	\$2,608.9	62.6%	\$1,617.7	62.3%	\$4,226.6	62.5%
Growth Equity	268.4	6.4%	240.4	9.3%	508.9	7.5%
Special Situations	349.1	8.4%	233.4	9.0%	582.5	8.6%
Energy	199.5	4.8%	20.8	0.8%	220.3	3.3%
Secondaries	272.9	6.5%	315.8	12.2%	588.6	8.7%
Co-Investment	63.7	1.5%	138.6	5.3%	202.3	3.0%
Other	408.3	9.8%	29.7	1.1%	438.0	6.5%
<b>Total</b>	<b>\$4,170.8</b>	<b>100.0%</b>	<b>\$2,596.4</b>	<b>100.0%</b>	<b>\$6,767.2</b>	<b>100.0%</b>

### By Fund Geographic Focus

As of June 30, 2016 (US\$ in millions)	Market Value		Unfunded Commitment		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
North America	\$3,061.7	73.4%	\$1,342.9	51.7%	\$4,404.6	65.1%
Global	888.2	21.3%	913.8	35.2%	1,802.0	26.6%
Western Europe	214.9	5.2%	339.7	13.1%	554.7	8.2%
Rest of World	5.9	0.1%	-	0.0%	5.9	0.1%
<b>Total</b>	<b>\$4,170.8</b>	<b>100.0%</b>	<b>\$2,596.4</b>	<b>100.0%</b>	<b>\$6,767.2</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

Global equities finished a volatile quarter with modest gains. The major story of the second quarter was the vote in the United Kingdom to leave the European Union, and the quarter ended with increased global market volatility due to the so-called “Brexit”. This vote added to the uncertainty in the markets and led to speculation that the United Kingdom and the European Union could be headed for growth headwinds, if not a recession. Amid the uncertainty in global markets and a weaker than expected job report in May, the United States Federal Reserve decided against a further rate hike, pushing out the possibility of the year’s first rate increase to the third quarter at the earliest. The S&P 500 Total Return Index finished the quarter 2.5% higher, despite the lack of growth in the global markets.<sup>1</sup> The MSCI Asia and MSCI EM were both flat for the quarter, while the MSCI Europe index was down 4.2%.<sup>1</sup> With all of the uncertainty in Europe, the U.S. dollar strengthened significantly against the British pound, and more modestly against the euro.<sup>2</sup>

In private markets, U.S. LBO debt volume was down 2.3% compared to the first quarter of 2016 at US\$21.0 billion, but was above the 10-year quarterly average of US\$18.3 billion and above the Q2 2015 level by 3.3%.<sup>3</sup> Purchase price multiples for U.S. LBOs fell from 10.5x EBITDA in the first quarter to 9.7x EBITDA in the second quarter.<sup>3</sup> This multiple is also below the 10.3x multiple of the second quarter of 2015.<sup>3</sup> Average debt multiples of large corporate U.S. LBO loans fell slightly quarter-over-quarter from 5.6x to 5.5x.<sup>3</sup> Equity contributions for U.S. LBOs were also down from the first quarter’s level of 46.3% to 44.7%.<sup>3</sup>

The first quarter’s healthy level of private equity fundraising continued in the second quarter, as the US\$93.0 billion raised is the most for any quarter since Q3 2008.<sup>4</sup> Buyout fundraising increased 38.9% quarter-over-quarter and 11.2% compared to the second quarter of 2015.<sup>4</sup> Venture Capital fundraising was down considerably for the quarter, decreasing 36.2% versus the first quarter of 2016 and down 24.3% compared to Q2 2015.<sup>4</sup> Geographically, U.S. fundraising represented 54.7% of total funds raised in the second quarter.<sup>4</sup> Similarly to the first quarter, the percentage of funds raised in Asia was significantly below the 12.8% 10-year average, at 0.4%.<sup>4</sup> Europe accounted for 25.2% of the global funds raised, above the 10-year average of 20.0%.<sup>4</sup> The rest of the world made up 19.7% of the global fundraising, well above the 10-year average of 5.4%.<sup>4</sup> Fundraising for the rest of the world was the highest it has ever been in a single quarter.<sup>4</sup> However, this was driven by one firm, Brookfield Asset Management Inc, which raised over US\$15.8 billion across two funds.<sup>4</sup> Removing the effects of this one firm would bring the rest of the world’s portion of fundraising down to 3.4%.<sup>4</sup> Private equity investment activity was up 42.7% quarter-over-quarter, but was lower by 8.3% compared to the second quarter of 2015.<sup>4</sup>

NYSE and NASDAQ private equity-backed IPO transaction volume rebounded from the low levels of the first quarter with a 439.4% quarter-over-quarter increase and US\$3.1 billion raised in 19 IPOs in the second quarter of 2016.<sup>4</sup> Despite an increase over the previous quarter, volume was down 70.3% compared to the second quarter of 2015.<sup>4</sup> The largest IPO of the quarter was US Foods Holding Corp. (NYSE: USFD), which raised US\$1.2 billion.<sup>4</sup> Second quarter M&A volume was US\$131.1 billion for the quarter, a decrease of 45.5% and 39.3% compared to the first quarter of 2016 and the second quarter of 2015, respectively.<sup>4</sup> The largest M&A deal of the quarter was the US\$19.0 billion merger of Newell Brands Inc. and Jarden Corp.<sup>4</sup>

<sup>1</sup> Source: Capital IQ

<sup>2</sup> Source: Bloomberg database

<sup>3</sup> Source: S&P LBO Review

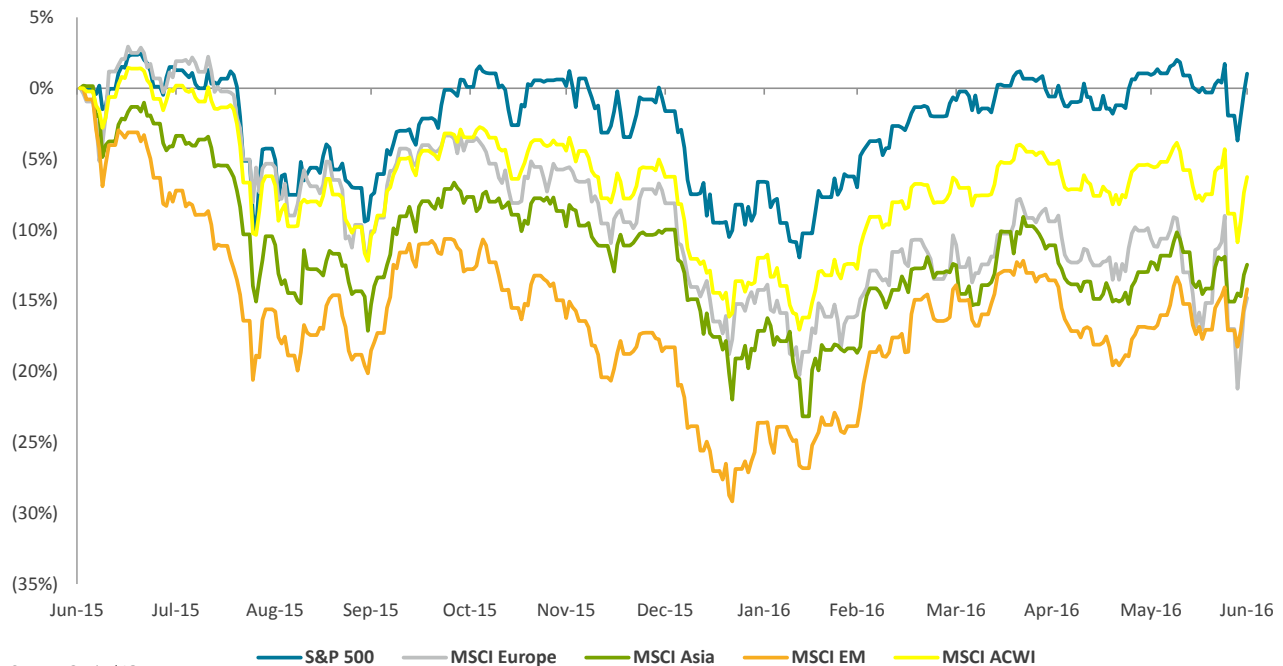
<sup>4</sup> Source: Thomson ONE

## Capital Markets Overview

### Public Equity Markets

The second quarter of 2016 was marked by volatility in the public markets. The United Kingdom's vote in late June to leave the European Union caused significant declines in all global markets, however most rebounded from the lows, with the exception of European markets. The S&P 500 Total Return outperformed other global markets, increasing 2.5% for the quarter. The MSCI Asia index was flat for the quarter and the MSCI Emerging Markets index declined slightly, down 0.3%. The MSCI Europe index, impacted heavily by the UK vote, was down 4.2% for the quarter.

1-Year Global Public Indices Returns



The following table shows the returns of four major MSCI indices, as well as the S&P 500 and the S&P 500 Total Return Index, over various time horizons through June 30, 2016. Returns for time periods greater than one year are annualized. The U.S. market has outperformed the Asian, European, and emerging markets over the past quarter, as well as the 1 year, 3 year, 5 year, and 10 year periods.

Regional Indices

	3 Mo	1 Yr	3 Yr	5 Yr	10 Yr
MSCI Asia	0.0%	(12.4%)	0.3%	(0.2%)	0.1%
MSCI Europe	(4.2%)	(13.8%)	(0.8%)	(1.9%)	(1.5%)
MSCI EM	(0.3%)	(14.2%)	(3.9%)	(6.2%)	1.1%
MSCI ACWI	0.3%	(5.7%)	3.9%	3.2%	2.1%
S&P 500	1.9%	1.7%	9.3%	9.7%	5.2%
S&P 500 Total Return*	2.5%	4.0%	11.7%	12.1%	7.4%

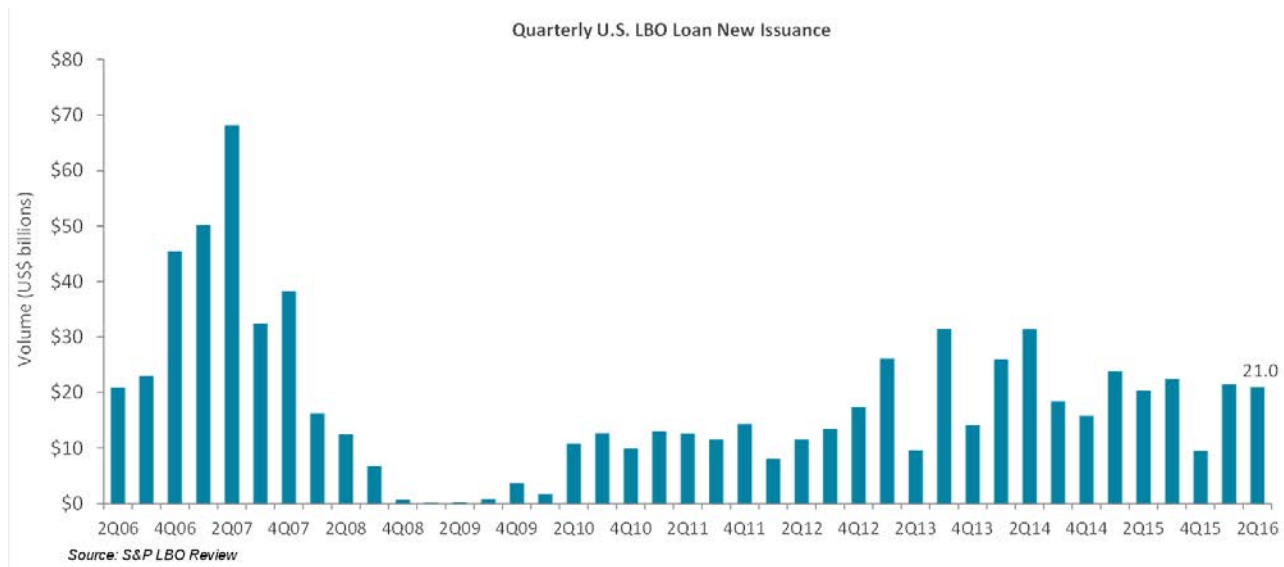
For the period ended June 30, 2016

\*Includes reinvestment of dividends.

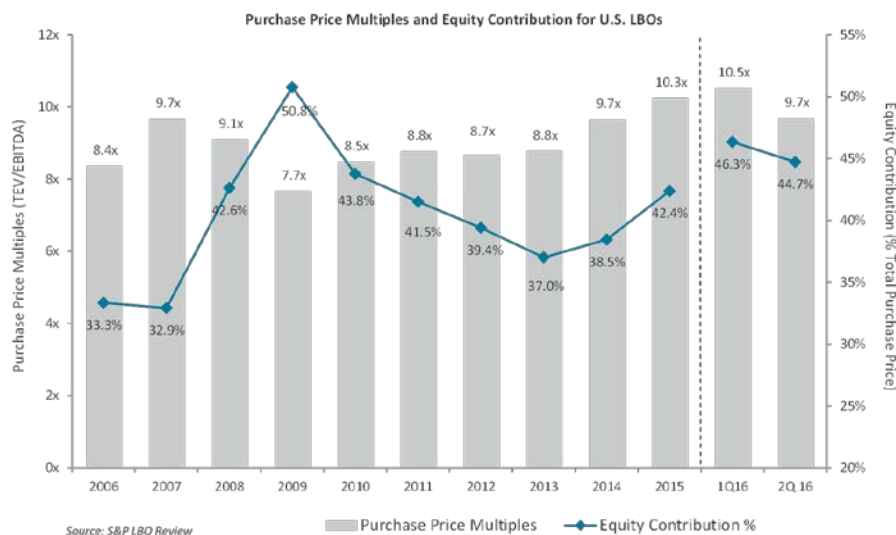
Source: Capital IQ

## Debt Markets

During the second quarter of 2016, U.S. LBO new loan issuance totaled US\$21.0 billion, representing a decrease of 2.3% from the prior quarter, but 15.2% higher than the 10-year quarterly average of US\$18.3 billion. The US\$21.0 billion represents a 3.3% increase from the Q2 2015 level of US\$20.4 billion. The following chart shows the quarterly volume of U.S. LBO new loan issuance for the past ten years.



In the second quarter, weighted average purchase price multiples for U.S. LBO deals was 9.7x total enterprise value (“TEV”) to EBITDA, an decrease from 10.5x in the prior quarter and below the 10.3x multiple from Q2 2015. Average debt multiples of large corporate U.S. LBO loans decreased from 5.6x in the first quarter of 2016 to 5.5x EBITDA in the second quarter, which is below the Q2 2015 value of 5.8x. Equity contributions for U.S. LBOs slightly decreased from 46.3% in the first quarter to 44.7% in the second quarter of this year. The equity contribution for this quarter represents a 6.9% increase compared to the second quarter of last year. The following chart compares purchase price multiples and equity contribution percentages for U.S. LBO deals.



## Private Equity Market Overview

### All Private Equity

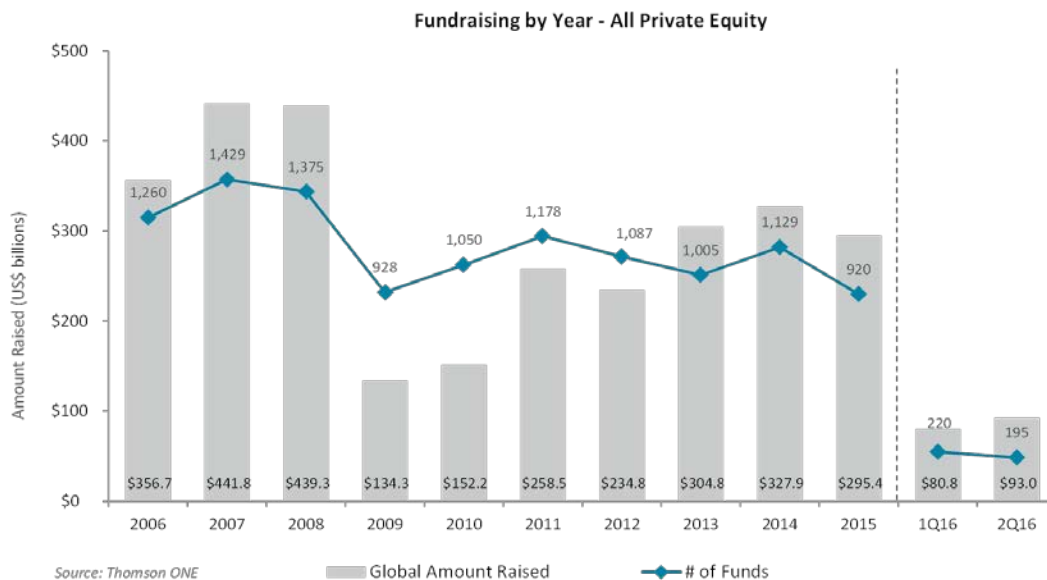
The table below shows the pooled Internal Rate of Return (“IRR”) performance of global private equity investments by sector over various investment horizons through June 30, 2016. The All Private Equity benchmark was up 1.4% for the quarter. All sectors except Mezzanine were up quarter-over-quarter, with Mezzanine declining modestly from 0.9% last quarter to 0.2% this quarter. The Energy sector was the best performer, with a positive quarter-to-date IRR for the first time since the second quarter of 2015. Following Energy’s 5.2% IRR for the quarter were Large Buyouts (+1.5%) and Small/Middle Buyouts (+1.4%). Venture Capital was flat for the quarter.

Sector	3 Mo	1 Yr	3 Yr	5 Yr	10 Yr
Small/Middle Buyouts (<\$3bn)	1.4%	4.4%	11.0%	9.2%	10.5%
Large Buyouts (>\$3bn)	1.5%	5.4%	13.9%	11.2%	9.9%
Mezzanine	0.2%	3.9%	7.1%	7.9%	7.6%
Energy	5.2%	(13.1%)	(4.6%)	(0.5%)	4.4%
Venture Capital	0.0%	(0.7%)	17.3%	12.9%	10.5%
<b>All Private Equity</b>	<b>1.4%</b>	<b>1.9%</b>	<b>10.9%</b>	<b>9.4%</b>	<b>9.3%</b>

Source: Burgiss PrivateIQ

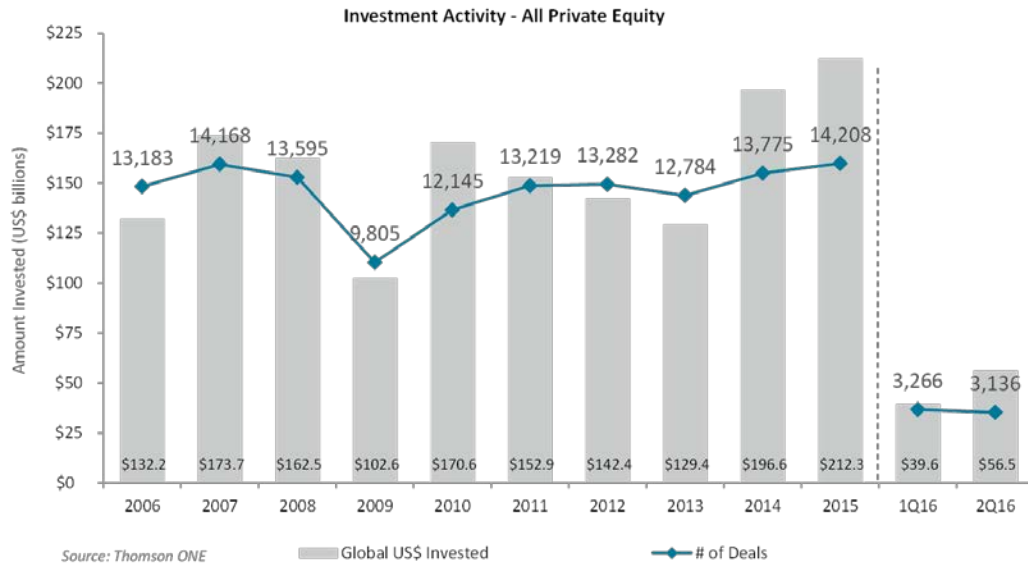
### Fundraising

Fundraising for global private equity totaled US\$93.0 billion in the second quarter of 2016, a 15.1% increase compared to the first quarter of the year. Buyout fundraising rose 38.9% quarter-over-quarter, raising US\$61.1 billion, and increased 11.2% compared to Q2 2015. Venture Capital raised US\$11.2 billion, a decrease of 36.2% and 24.3% compared to the first quarter of 2016 and second quarter of 2015, respectively. Geographically, U.S. fundraising represented 54.7% of the total amount raised in the quarter, while Europe, Asia, and the rest of the world accounted for 25.2%, 0.4%, and 19.7%, respectively. The contributions from Asia and the rest of the world are significantly off from the 10-year averages. Asia’s contribution is 96.8% below the 10-year average and the rest of the world is 264.0% above the 10-year average. The chart below shows private equity fundraising activity over the past ten years.

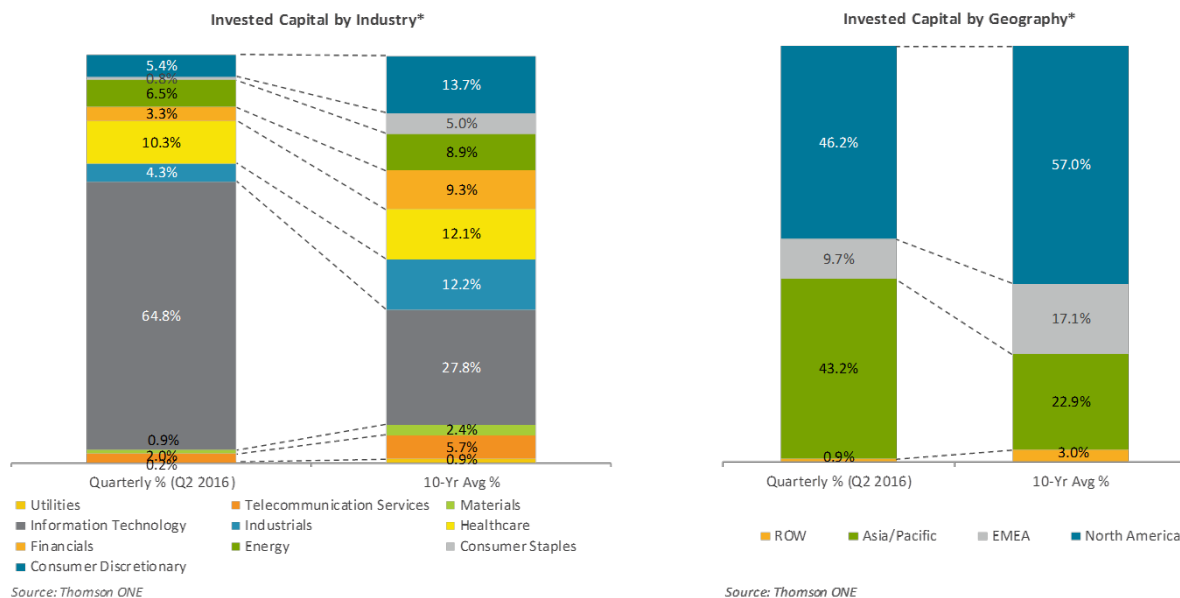


## Investment Activity

Private equity funds invested US\$56.5 billion globally during the second quarter, representing a quarter-over-quarter increase of 42.7%. The seven largest transactions for the quarter accounted for 41.4% of all private equity investment activity. The average investment size during the quarter was US\$18.0 million, up 48.6% quarter-over-quarter and 8.2% over Q2 2015.



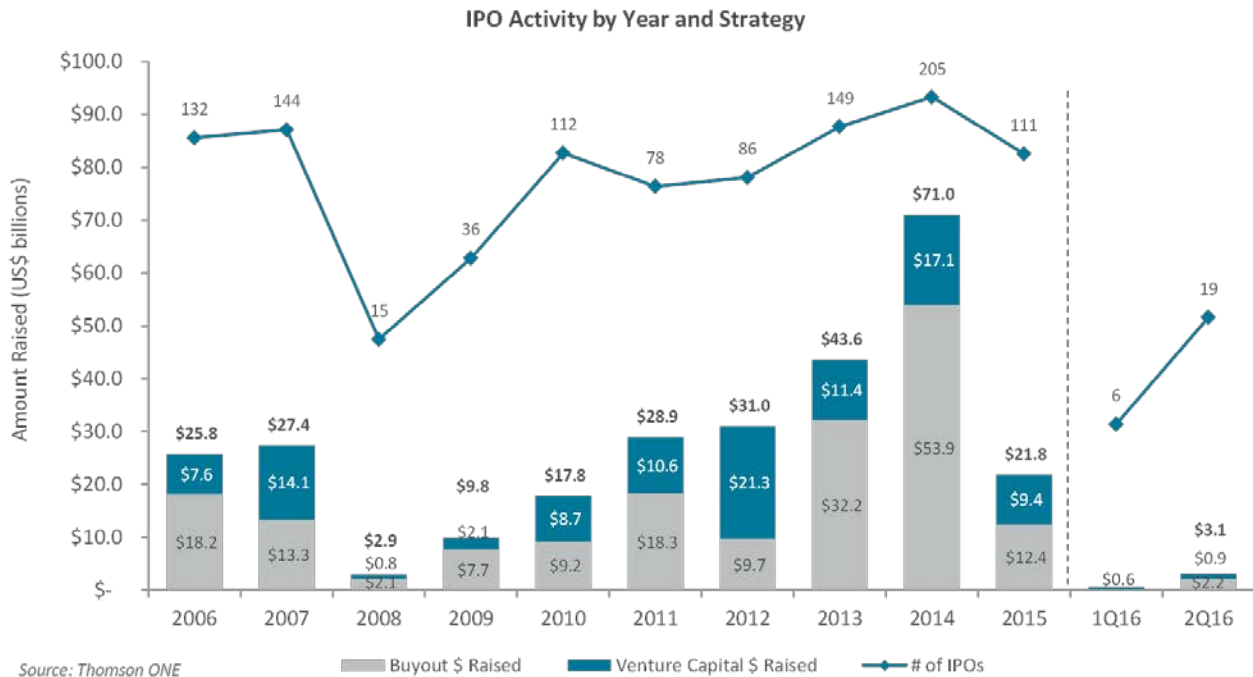
The graphs below depict the percentage of invested capital by industry and geography for the second quarter of 2016 and over the last ten years. The Information Technology (IT) sector attracted the most capital, accounting for US\$36.6 billion of transactions, or 64.8% of total capital invested by private equity firms, compared to a 10-year pro rata average of 27.8%. The increase in capital invested in IT quarter-over-quarter is a result of a significant increase in the average equity invested. The top five IT companies attracted US\$20.5 billion in Q2, whereas the top five in Q1 raised US\$6.9 billion. In the second quarter of 2016, investment activity in the Asia/Pacific region was above the historical average, representing 43.2% of total invested capital during the quarter compared to 22.9% over the last ten years.



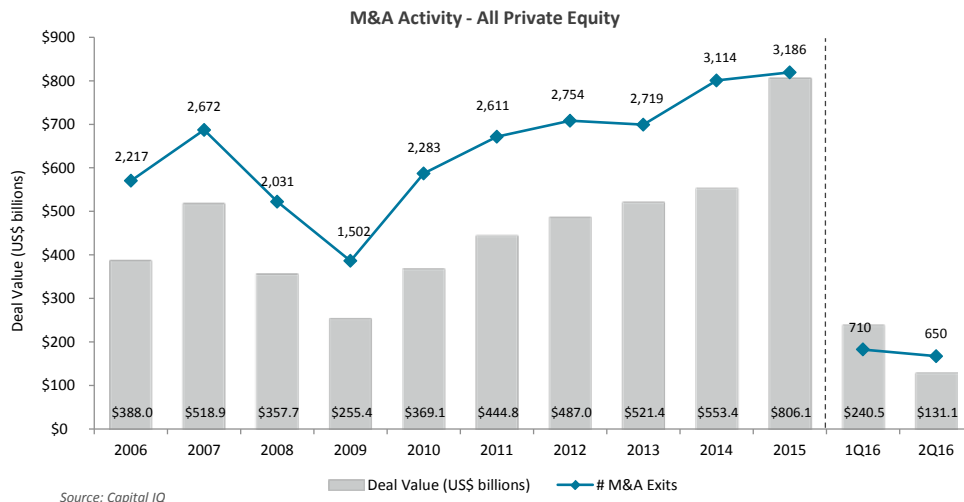
\*Note: Invested Capital is for all private equity from Q2 2006 – Q2 2016.

## Deal Environment

Private equity-backed IPOs were up in the second quarter from the low levels of the first quarter of 2016. During the quarter there were 19 private equity-backed IPOs which raised US\$3.1 billion on the NYSE and NASDAQ, 13 IPOs from venture capital, which raised a total of US\$947.0 million, and six IPOs from buyouts with a total of US\$2.2 billion raised. This is higher than the US\$574.5 million raised in six IPOs in the first quarter, but below the 49 deals that raised US\$10.4 billion in Q2 2015. Through the first two quarters of 2016, US\$3.7 billion has been raised in IPOs, compared to US\$13.1 billion in the first half of 2015. The graph below shows the amount raised and the number of Buyout and Venture Capital IPOs on the NYSE and NASDAQ over the past ten years.



The number of private equity-backed Mergers and Acquisitions (“M&A”) were down from 710 last quarter to 650 this quarter, and deal value decreased 45.5%, totaling US\$131.1 billion. The largest M&A deal of the quarter was the US\$19.0 billion Newell Brands merger with Jarden Corp., representing 14.5% of the total deal value for the quarter. M&A deal value is down 39.3% for the second quarter of 2016 compared to the second quarter of 2015.





### III. Portfolio Review

#### Quarterly Highlights

- Cash Flow Activity** – During the second quarter of 2016, the Portfolio made US\$164.2 million of contributions and received US\$234.4 million of distributions, for a net cash inflow of US\$70.2 million, compared to a net cash outflow of US\$10.2 million during the prior quarter and a net cash inflow of US\$189.4 million during the second quarter of 2015. Contributions increased 16.9% from the prior quarter and 40.4% from the second quarter of 2015. The most recent four quarter average of the Program's contributions is US\$166.0 million. Distributions increased 79.9% from the prior quarter and decreased 23.5% from the second quarter of 2015. The most recent four quarter average of the Program's distributions is US\$186.3 million.
- Recent Portfolio Activity** – During the second quarter of 2016, net of cash flow activity, the valuation of the Portfolio increased by US\$91.0 million, or 2.2%, 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\$22.8 million increase in valuation from the prior quarter-end. During the last twelve months, net of cash flow activity, the valuation of the Portfolio increased by US\$177.8 million, or 4.5%, from the quarter ended June 30, 2015.
- New Investment Commitments** – During the second quarter of 2016, the Program closed on five new investment commitments, totaling US\$501.6 million.

<i>As of June 30, 2016 (US\$ in millions)</i>	Month Closed	Sub-Strategy	Geographic Focus	Committed Capital
Green Equity Investors VII, L.P.	April 2016	Mega Buyout	North America	\$ 95.0
Vista Equity Partners Fund VI, L.P.	May 2016	Mega Buyout	North America	158.0
Apax IX USD, L.P.	May 2016	Mega Buyout	Global	127.0
BC European Capital X	June 2016	Mega Buyout	Western Europe	86.9
BCECX Co-Investment	June 2016	Co/Direct Investment	Western Europe	34.7
<b>Total</b>				<b>\$ 501.6</b>

- Subsequent Investment Commitments** – Subsequent to quarter-end through November 7, 2016, the Program closed on one new investment commitment, totaling US\$21.5 million.

<i>As of November 7, 2016 (US\$ in millions)</i>	Month Closed	Sub-Strategy	Geographic Focus	Committed Capital
FTV V, L.P.	September 2016	Growth Equity	North America	\$ 21.5
<b>Total</b>				<b>\$ 21.5</b>



## Investment Performance

### Since Inception Performance

US\$ in millions	June 30, 2016	March 31, 2016	June 30, 2015	Quarterly Change	Yearly Change
<b>Active Investments</b>					
Number of Managers	96	95	94	1	2
Number of Investments	167	162	156	5	11
Committed Capital <sup>1</sup>	\$8,416.5	\$7,923.4	\$7,298.4	\$493.1	\$1,118.1
Contributed Capital	\$6,739.6	\$6,575.4	\$6,075.5	\$164.2	\$664.2
Distributed Capital	\$5,022.7	\$4,788.3	\$4,277.5	\$234.4	\$745.2
Market Value	\$4,170.8	\$4,150.0	\$4,074.1	\$20.8	\$96.8
Total Value	\$9,193.5	\$8,938.3	\$8,351.5	\$255.2	\$842.0
Total Gain/(Loss)	\$2,453.9	\$2,362.9	\$2,276.1	\$91.0	\$177.8
Unfunded Commitment <sup>2</sup>	\$2,596.4	\$2,216.3	\$2,051.1	\$380.1	\$545.3
Total Exposure <sup>3</sup>	\$6,767.2	\$6,366.3	\$6,125.2	\$400.9	\$642.0
DPI <sup>4</sup>	0.75x	0.73x	0.70x	0.02x	0.04x
TVM <sup>5</sup>	1.36x	1.36x	1.37x	0.00x	-0.01x
IRR <sup>6</sup>	9.3%	9.3%	9.9%	+ 0 bps	-58 bps
<b>Exited Investments</b>					
Number of Managers	14	14	14	-	-
Number of Investments	16	16	16	-	-
Committed Capital <sup>1</sup>	\$501.2	\$501.2	\$501.2	\$0.0	\$0.0
Contributed Capital	\$571.3	\$571.3	\$571.3	\$0.0	\$0.0
Distributed Capital	\$670.8	\$670.8	\$670.8	\$0.0	\$0.0
Total Value	\$670.8	\$670.8	\$670.8	\$0.0	\$0.0
Total Gain/(Loss)	\$99.5	\$99.5	\$99.5	\$0.0	\$0.0
Unfunded Commitment <sup>2</sup>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
DPI <sup>4</sup>	1.17x	1.17x	1.17x	0.00x	0.00x
TVM <sup>5</sup>	1.17x	1.17x	1.17x	0.00x	0.00x
IRR <sup>6</sup>	5.1%	5.1%	5.1%	+ 0 bps	+ 0 bps
<b>Total Portfolio</b>					
Number of Managers	108	107	106	1	2
Number of Investments	183	178	172	5	11
Committed Capital <sup>1</sup>	\$8,917.8	\$8,424.7	\$7,799.7	\$493.1	\$1,118.1
Contributed Capital	\$7,311.0	\$7,146.8	\$6,646.8	\$164.2	\$664.2
Distributed Capital	\$5,693.5	\$5,459.1	\$4,948.3	\$234.4	\$745.2
Market Value	\$4,170.8	\$4,150.0	\$4,074.1	\$20.8	\$96.8
Total Value	\$9,864.3	\$9,609.1	\$9,022.3	\$255.2	\$842.0
Total Gain/(Loss)	\$2,553.4	\$2,462.4	\$2,375.5	\$91.0	\$177.8
Unfunded Commitment <sup>2</sup>	\$2,596.4	\$2,216.3	\$2,051.1	\$380.1	\$545.3
Total Exposure <sup>3</sup>	\$6,767.2	\$6,366.3	\$6,125.2	\$400.9	\$642.0
DPI <sup>4</sup>	0.78x	0.76x	0.74x	0.01x	0.03x
TVM <sup>5</sup>	1.35x	1.34x	1.36x	0.00x	-0.01x
IRR <sup>6</sup>	8.9%	8.9%	9.4%	+ 0 bps	-49 bps

<sup>1</sup> Committed Capital is presented net of any commitment releases or expirations and reflects foreign currency exchange rate fluctuations. Total committed includes underlying fund commitments to the EM 2012 and 2015 Programs.

<sup>2</sup> Unfunded Commitment represents the aggregate remaining commitments to partnership investments.

<sup>3</sup> Total Exposure represents the sum of Market Value and Unfunded Commitment.

<sup>4</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>5</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>6</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 June 30, 2016 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.

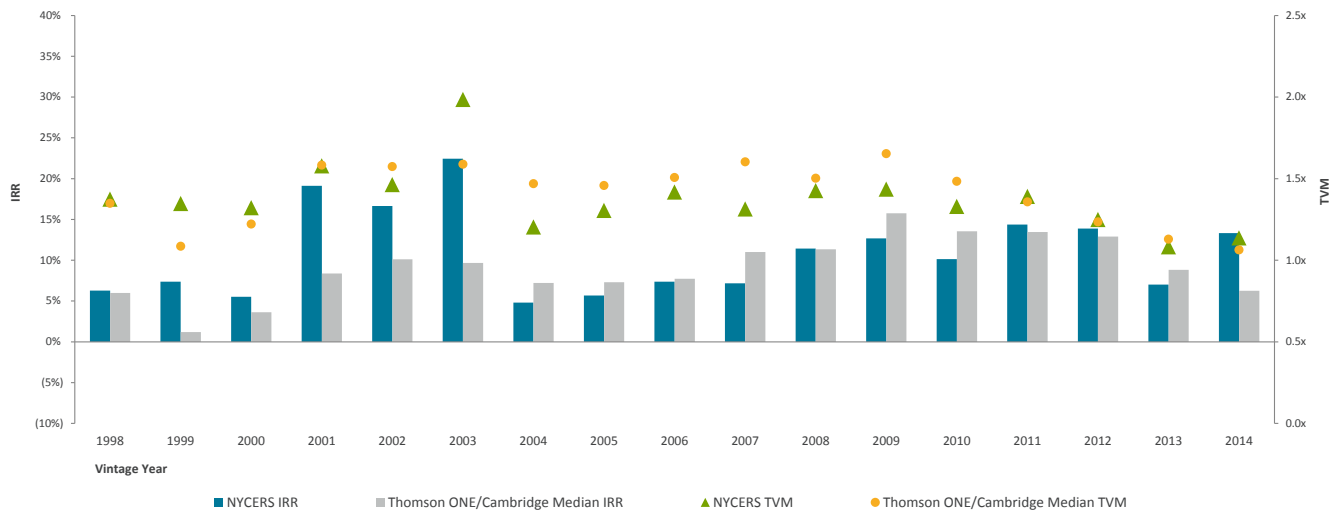
As of June 30, 2016 (US\$ in millions)

Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Unfunded Commitment	Total Exposure	TVM	IRR	PME Benchmark <sup>1</sup>	PME Spread <sup>2</sup>	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	\$69.1	\$0.0	\$0.0	\$0.0	1.37x	6.3%	3.4%	2.9%	1.35x	6.0%
1999	88.6	102.0	129.8	7.6	0.6	8.2	1.35x	7.4%	6.1%	1.3%	1.09x	1.2%
2000	116.9	136.9	173.4	7.7	7.6	15.2	1.32x	5.5%	5.4%	0.2%	1.22x	3.6%
2001	98.1	128.4	198.1	4.6	3.8	8.4	1.58x	19.1%	7.6%	11.5%	1.58x	8.4%
2002	100.0	124.8	173.8	8.9	5.1	14.0	1.46x	16.6%	7.0%	9.6%	1.57x	10.1%
2003	104.4	114.2	219.3	7.4	11.9	19.3	1.99x	22.5%	6.8%	15.6%	1.59x	9.7%
2004	433.6	474.6	479.8	91.3	18.6	109.9	1.20x	4.8%	7.6%	-2.8%	1.47x	7.2%
2005	524.4	573.7	572.3	176.6	27.4	204.0	1.31x	5.7%	6.6%	-0.9%	1.46x	7.3%
2006	996.7	1,114.6	1,121.1	458.7	37.8	496.5	1.42x	7.4%	8.2%	-0.8%	1.51x	7.7%
2007	940.2	988.0	834.8	463.8	77.0	540.8	1.31x	7.2%	11.1%	-4.0%	1.60x	11.0%
2008	1,235.7	1,361.5	1,132.6	809.1	133.4	942.6	1.43x	11.4%	13.3%	-1.9%	1.50x	11.3%
2009	179.2	176.1	144.9	107.8	15.3	123.1	1.44x	12.7%	14.5%	-1.8%	1.65x	15.8%
2010	175.0	178.5	59.1	178.3	20.3	198.5	1.33x	10.1%	11.6%	-1.5%	1.48x	13.6%
2011	788.8	728.1	241.1	771.9	141.7	913.5	1.39x	14.4%	11.9%	2.5%	1.36x	13.5%
2012	610.5	441.6	87.4	464.1	204.4	668.5	1.25x	13.9%	9.1%	4.8%	1.24x	12.9%
2013	560.0	230.8	17.8	232.0	333.1	565.0	1.08x	7.0%	5.5%	1.5%	1.13x	8.8%
2014	504.3	264.5	39.2	261.3	269.3	530.6	1.14x	13.3%	4.9%	8.5%	1.06x	6.3%
2015	815.1	103.4	0.0	100.7	711.9	812.6	NM	NM	NM	N/A	NM	NM
2016	596.3	19.0	-	19.1	577.3	596.5	NM	NM	NM	N/A	NM	NM
<b>Total</b>	<b>\$8,917.8</b>	<b>\$7,311.0</b>	<b>\$5,693.5</b>	<b>\$4,170.8</b>	<b>\$2,596.4</b>	<b>\$6,767.2</b>	<b>1.35x</b>	<b>8.9%</b>	<b>9.3%</b>	<b>-0.4%</b>	<b>1.35x</b>	<b>8.5%</b>

<sup>1</sup> Russell 3000 PME+

<sup>2</sup> PME Spread is calculated as IRR minus PME Benchmark.

As of June 30, 2016



## Portfolio Periodic Returns vs. Russell 3000® Index

<i>As of June 30, 2016</i>	1 Year	3 Year	5 Year	10 Year	Since Inception
NYCERS IRR	4.4%	9.6%	8.6%	8.6%	8.9%
Russell 3000® <sup>1</sup>	2.2%	11.8%	12.1%	9.5%	9.3%
Russell 3000® + 300 bps <sup>2</sup>	5.2%	14.8%	15.1%	12.5%	12.3%
<b>NYCERS Outperformance/(Underperformance)</b>					
vs. Russell 3000® + 300 bps <sup>2</sup>	(0.8%)	(5.1%)	(6.5%)	(3.9%)	(3.4%)

<sup>1</sup>Benchmark is a dollar-weighted PME+ calculation of daily 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 a dollar-weighted PME+ calculation of daily changes in the Russell 3000® Index plus a 300 basis point illiquidity premium (the Opportunity Cost Benchmark).

## Performance by Strategy / Sub-Strategy

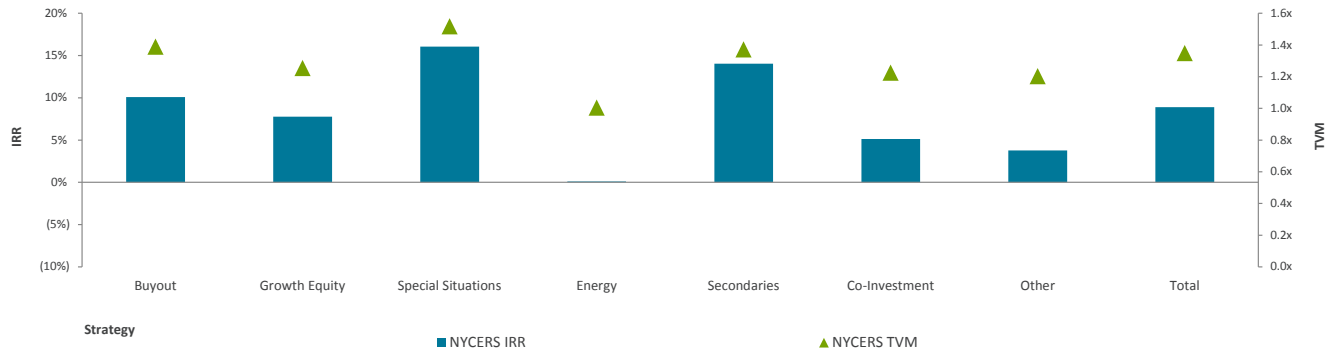
The following table and charts illustrate the Portfolio's since inception investment performance by strategy and sub-strategy as of June 30, 2016.

*As of June 30, 2016 (US\$ in millions)*

Strategy / Sub-Strategy	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Unfunded Commitment	Total Exposure	TVM	IRR
<b>Buyout</b>	<b>\$5,656.6</b>	<b>\$4,750.1</b>	<b>\$3,988.1</b>	<b>\$2,608.9</b>	<b>\$1,617.7</b>	<b>\$4,226.6</b>	<b>1.39x</b>	<b>10.1%</b>
Mega Buyout	1,376.9	793.5	694.9	417.9	709.1	1,127.0	1.40x	10.6%
Large Buyout	1,783.2	1,467.9	1,018.4	1,032.2	508.6	1,540.9	1.40x	13.7%
Middle-Market Buyout	1,376.6	1,318.9	1,263.1	596.6	271.9	868.5	1.41x	8.9%
Small Buyout	1,119.9	1,169.8	1,011.6	562.1	128.1	690.2	1.35x	8.5%
<b>Growth Equity</b>	<b>508.5</b>	<b>294.6</b>	<b>101.1</b>	<b>268.4</b>	<b>240.4</b>	<b>508.9</b>	<b>1.25x</b>	<b>7.8%</b>
<b>Special Situations</b>	<b>660.2</b>	<b>542.3</b>	<b>473.6</b>	<b>349.1</b>	<b>233.4</b>	<b>582.5</b>	<b>1.52x</b>	<b>16.1%</b>
<b>Energy</b>	<b>355.0</b>	<b>382.5</b>	<b>184.9</b>	<b>199.5</b>	<b>20.8</b>	<b>220.3</b>	<b>1.01x</b>	<b>0.1%</b>
<b>Secondaries</b>	<b>746.6</b>	<b>436.8</b>	<b>326.3</b>	<b>272.9</b>	<b>315.8</b>	<b>588.6</b>	<b>1.37x</b>	<b>14.0%</b>
<b>Co-Investment</b>	<b>264.3</b>	<b>131.4</b>	<b>97.3</b>	<b>63.7</b>	<b>138.6</b>	<b>202.3</b>	<b>1.23x</b>	<b>5.1%</b>
<b>Other</b>	<b>726.5</b>	<b>773.4</b>	<b>522.3</b>	<b>408.3</b>	<b>29.7</b>	<b>438.0</b>	<b>1.20x</b>	<b>3.8%</b>
Venture Capital	656.5	682.7	399.3	401.7	22.0	423.7	1.17x	3.1%
Mezzanine	70.0	90.7	123.0	6.6	7.6	14.3	1.43x	13.7%
<b>Total</b>	<b>\$8,917.8</b>	<b>\$7,311.0</b>	<b>\$5,693.5</b>	<b>\$4,170.8</b>	<b>\$2,596.4</b>	<b>\$6,767.2</b>	<b>1.35x</b>	<b>8.9%</b>

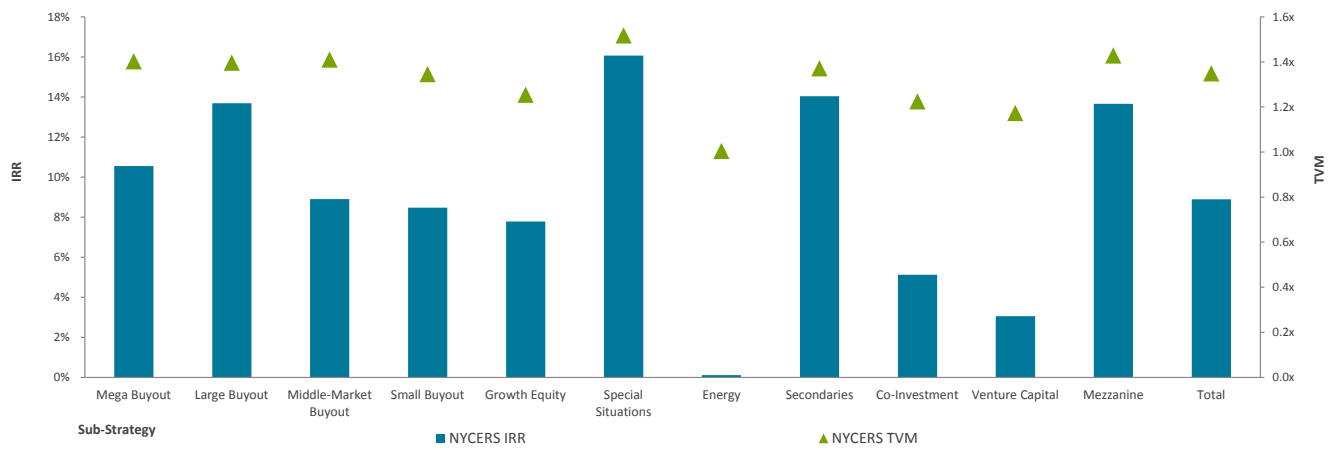
## Performance by Strategy

As of June 30, 2016



## Performance by Sub-Strategy

As of June 30, 2016



## Portfolio Diversification

The following tables illustrate the Portfolio's diversification by strategy and fund geographic focus as of June 30, 2016.

### By Strategy/Sub-Strategy

As of June 30, 2016 (US\$ in millions)	Market Value		Unfunded Commitment		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
<b>Buyout</b>	<b>\$2,608.9</b>	<b>62.6%</b>	<b>\$1,617.7</b>	<b>62.3%</b>	<b>\$4,226.6</b>	<b>62.5%</b>
Mega Buyout	417.9	10.0%	709.1	27.3%	1,127.0	16.7%
Large Buyout	1,032.2	24.7%	508.6	19.6%	1,540.9	22.8%
Middle-Market Buyout	596.6	14.3%	271.9	10.5%	868.5	12.8%
Small Buyout	562.1	13.5%	128.1	4.9%	690.2	10.2%
<b>Growth Equity</b>	<b>268.4</b>	<b>6.4%</b>	<b>240.4</b>	<b>9.3%</b>	<b>508.9</b>	<b>7.5%</b>
<b>Special Situations</b>	<b>349.1</b>	<b>8.4%</b>	<b>233.4</b>	<b>9.0%</b>	<b>582.5</b>	<b>8.6%</b>
<b>Energy</b>	<b>199.5</b>	<b>4.8%</b>	<b>20.8</b>	<b>0.8%</b>	<b>220.3</b>	<b>3.3%</b>
<b>Secondaries</b>	<b>272.9</b>	<b>6.5%</b>	<b>315.8</b>	<b>12.2%</b>	<b>588.6</b>	<b>8.7%</b>
<b>Co-Investment</b>	<b>63.7</b>	<b>1.5%</b>	<b>138.6</b>	<b>5.3%</b>	<b>202.3</b>	<b>3.0%</b>
<b>Other</b>	<b>408.3</b>	<b>9.8%</b>	<b>29.7</b>	<b>1.1%</b>	<b>438.0</b>	<b>6.5%</b>
Venture Capital	401.7	9.6%	22.0	0.8%	423.7	6.3%
Mezzanine	6.6	0.2%	7.6	0.3%	14.3	0.2%
<b>Total</b>	<b>\$4,170.8</b>	<b>100.0%</b>	<b>\$2,596.4</b>	<b>100.0%</b>	<b>\$6,767.2</b>	<b>100.0%</b>

### By Fund Geographic Focus

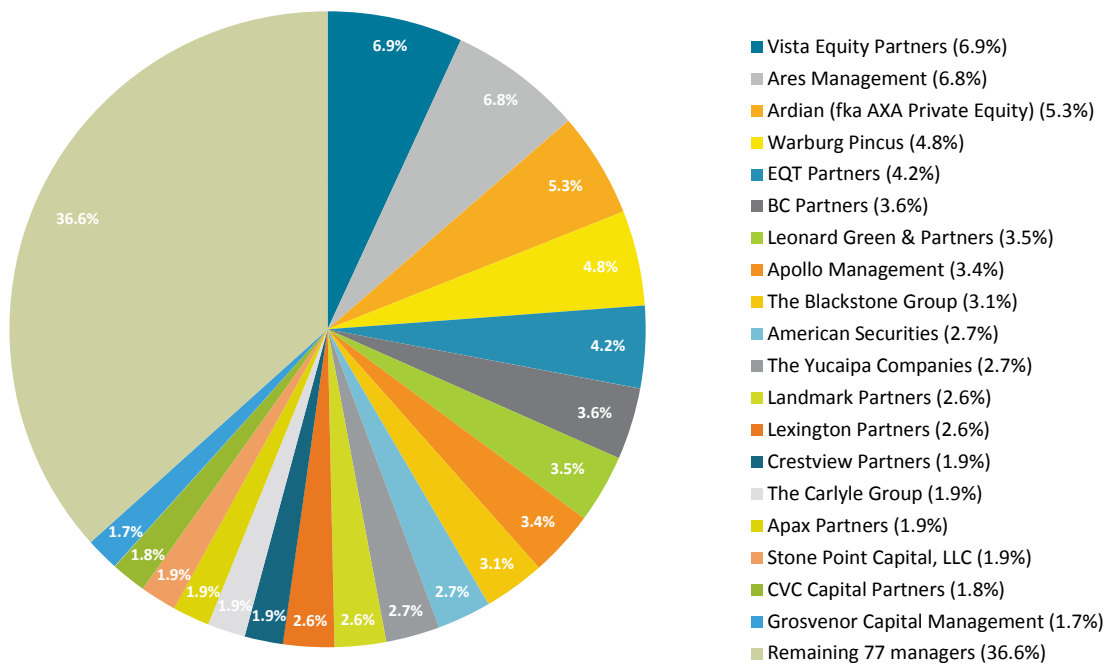
As of June 30, 2016 (US\$ in millions)	Market Value		Unfunded Commitment		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
North America	\$3,061.7	73.4%	\$1,342.9	51.7%	\$4,404.6	65.1%
Global	888.2	21.3%	913.8	35.2%	1,802.0	26.6%
Western Europe	214.9	5.2%	339.7	13.1%	554.7	8.2%
Rest of World	5.9	0.1%	-	0.0%	5.9	0.1%
<b>Total</b>	<b>\$4,170.8</b>	<b>100.0%</b>	<b>\$2,596.4</b>	<b>100.0%</b>	<b>\$6,767.2</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 June 30, 2016, the Portfolio was highly diversified by investment manager, with 19 managers comprising US\$4.3 billion, or 63.4% of total exposure. The remaining 77 managers comprised 36.6% of total exposure as of quarter-end.

**Portfolio Total Exposure by Investment Manager**  
As of June 30, 2016

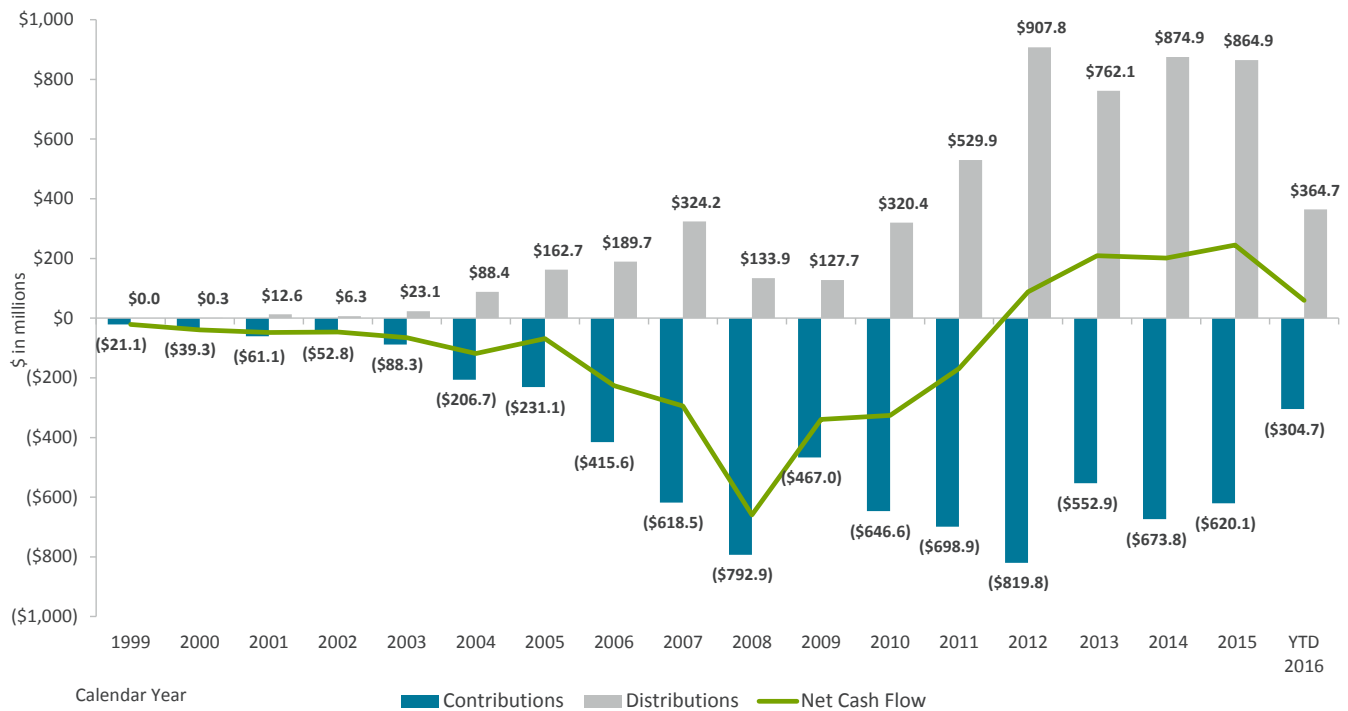


## Portfolio Cash Flow Analysis

The following yearly and quarterly cash flow analysis is based on actual Portfolio cash flows during those time periods.

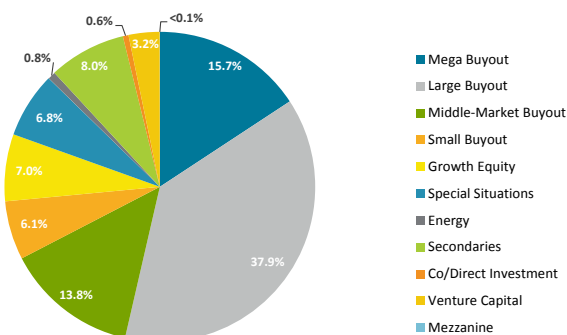
### Year to Date Cash Flow Activity

During the six months ended June 30, 2016, the Portfolio made US\$304.7 million of contributions and received US\$364.7 million of distributions, for a net cash inflow of US\$60.0 million, compared to a net cash inflow of US\$223.8 million during the same period in the prior year. The graph below illustrates cash flow activity since inception by calendar year.

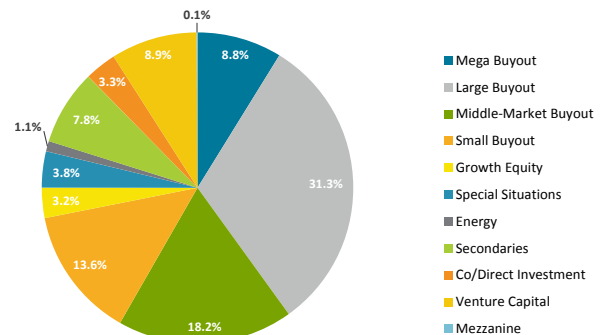


Buyout funds were the most active in terms of cash flow activity during the first six months of 2016. Buyout funds drew down US\$224.0 million, or 73.5% of total contributions during first six months of 2016, and distributed US\$262.1 million, or 71.9% of total distributions during the first six months of 2016.

YTD 2016 Total Contributed by Sub-Strategy

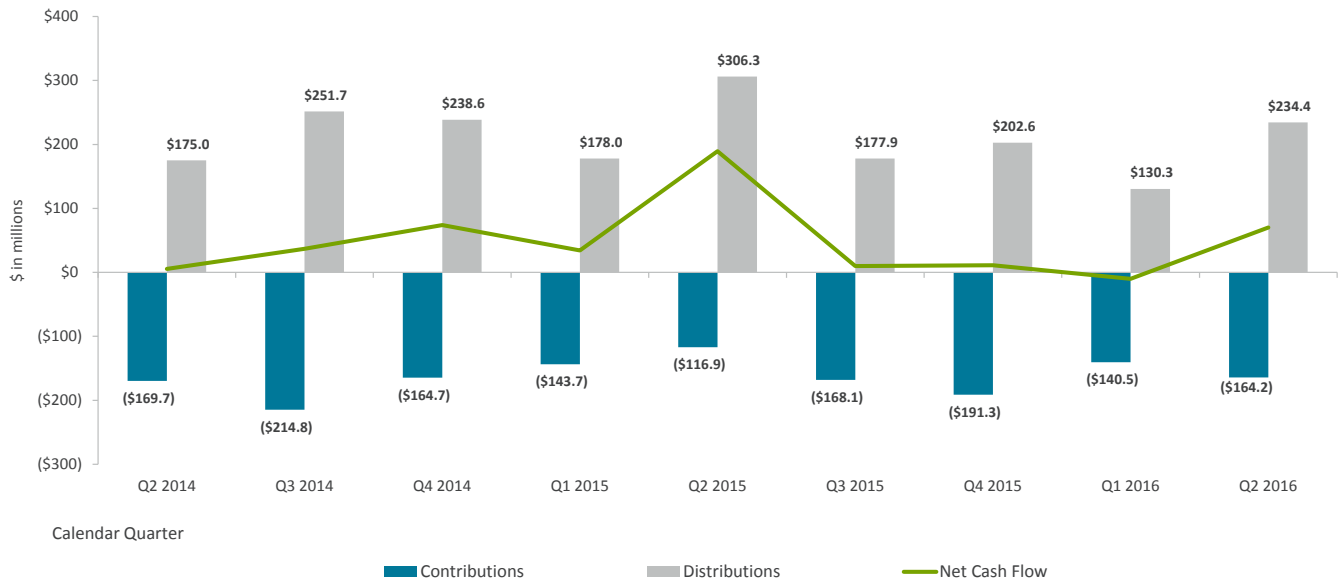


YTD 2016 Total Distributed by Sub-Strategy



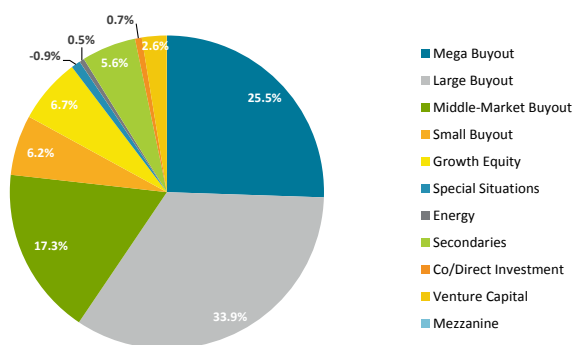
## Quarterly Cash Flow Activity

During the second quarter of 2016, the Portfolio made US\$164.2 million of contributions and received US\$234.4 million of distributions, for a net cash inflow of US\$70.2 million. The graph below illustrates recent cash flow activity by quarter.

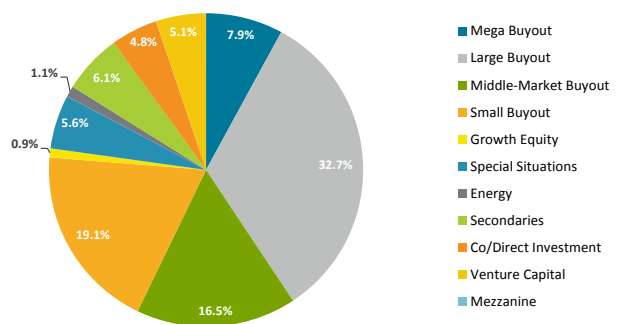


Buyout funds were the most active in terms of cash flow activity during the second quarter of 2016. Buyout funds drew down US\$138.9 million, or 84.6% of total contributions during the quarter, and distributed US\$178.8 million, or 76.3% of total distributions during the quarter.

Q2 2016 Contributed by Sub-Strategy



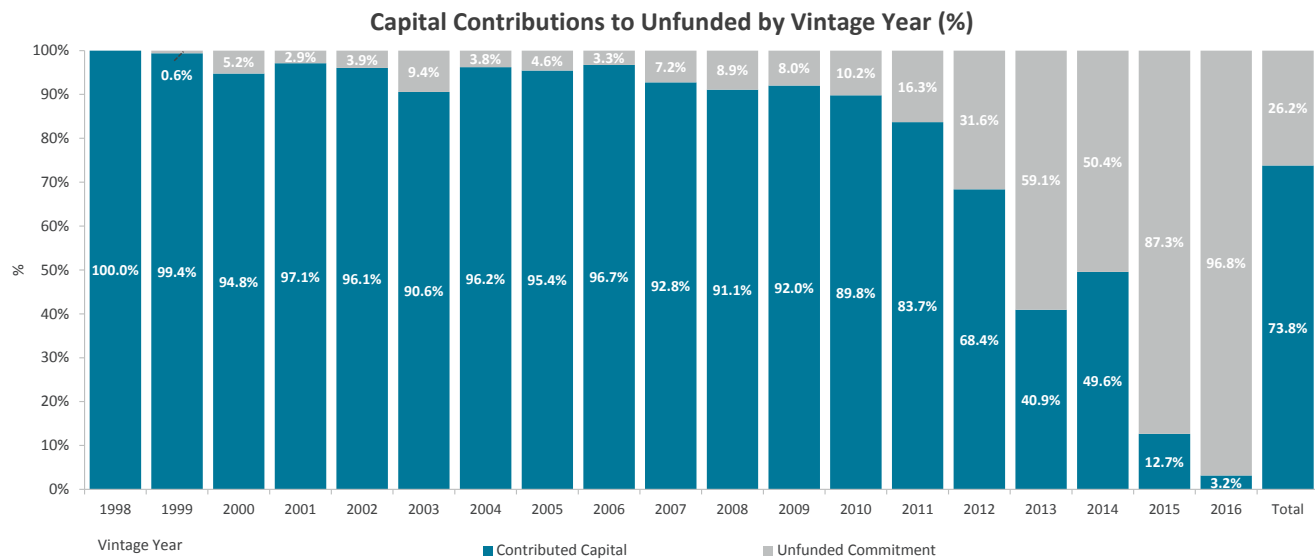
Q2 2016 Distributed by Sub-Strategy



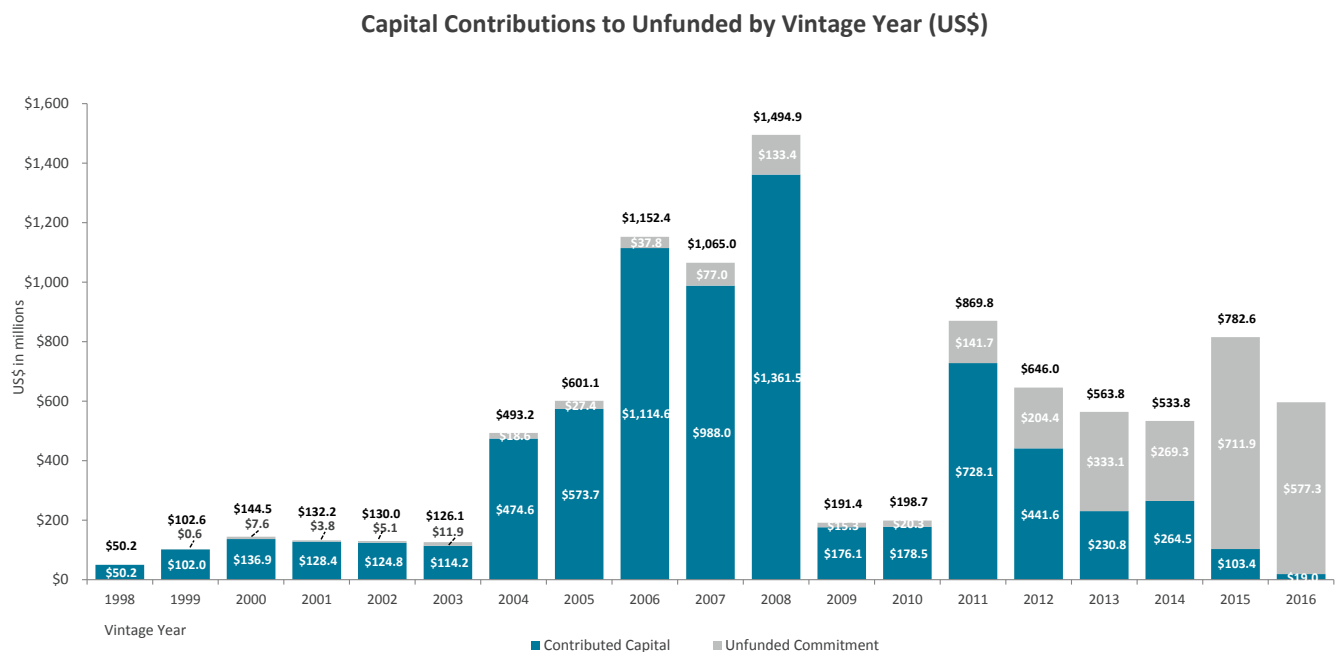


## Invested Capital by Vintage Year

The following chart illustrates cumulative capital contributions as a percentage of total capital commitments, by fund vintage year, as of June 30, 2016.



The following chart illustrates cumulative capital contributions relative to unfunded commitment, by fund vintage year, as of June 30, 2016.



## Portfolio Company-Level Analysis

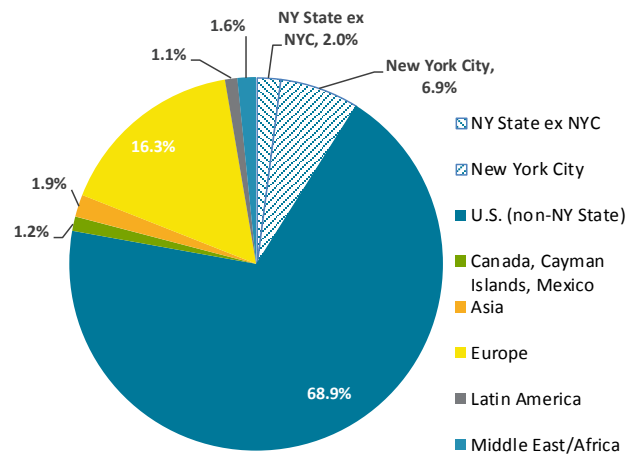
### Geographic Exposure

The following charts illustrate the Portfolio's current exposure by geography at the portfolio company level as of June 30, 2016. Please note that the geography is based upon the corporate headquarters of each portfolio company.

#### Geographic Exposure by Current Cost

As of June 30, 2016 (US\$ in millions)

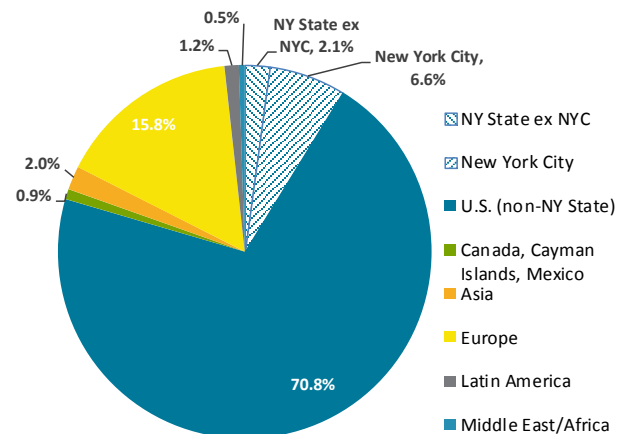
	Sum of Current Cost	% of Total
<b>North America</b>	<b>\$2,728.6</b>	<b>79.1%</b>
<b>New York</b>	<b>308.6</b>	<b>8.9%</b>
NY State ex NYC	70.2	2.0%
New York City	238.4	6.9%
<b>U.S. (non-NY State)</b>	<b>2,377.0</b>	<b>68.9%</b>
Canada, Cayman Islands, Mexico	43.0	1.2%
Asia	65.9	1.9%
Europe	563.9	16.3%
Latin America	36.7	1.1%
Middle East/Africa	55.3	1.6%
<b>Total</b>	<b>\$3,450.5</b>	<b>100.0%</b>



#### Geographic Exposure by Current Market Value

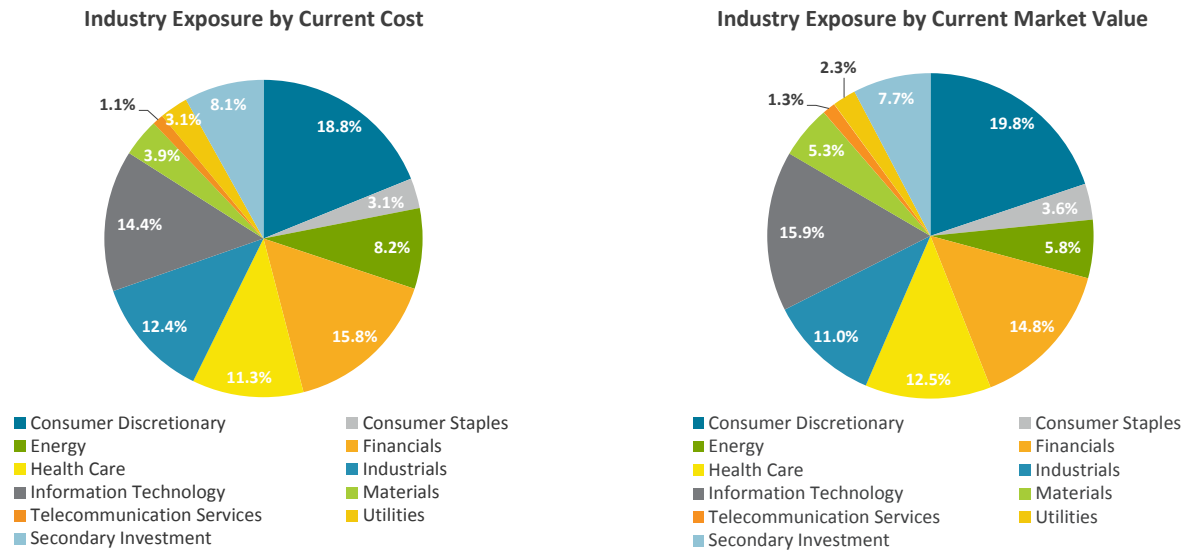
As of June 30, 2016 (US\$ in millions)

	Sum of Current Market Value	% of Total
<b>North America</b>	<b>\$3,643.5</b>	<b>80.4%</b>
<b>New York</b>	<b>397.9</b>	<b>8.8%</b>
NY State ex NYC	96.7	2.1%
New York City	301.2	6.6%
<b>U.S. (non-NY State)</b>	<b>3,205.8</b>	<b>70.8%</b>
Canada, Cayman Islands, Mexico	39.9	0.9%
Asia	92.6	2.0%
Europe	715.0	15.8%
Latin America	55.8	1.2%
Middle East/Africa	23.2	0.5%
<b>Total</b>	<b>\$4,530.1</b>	<b>100.0%</b>



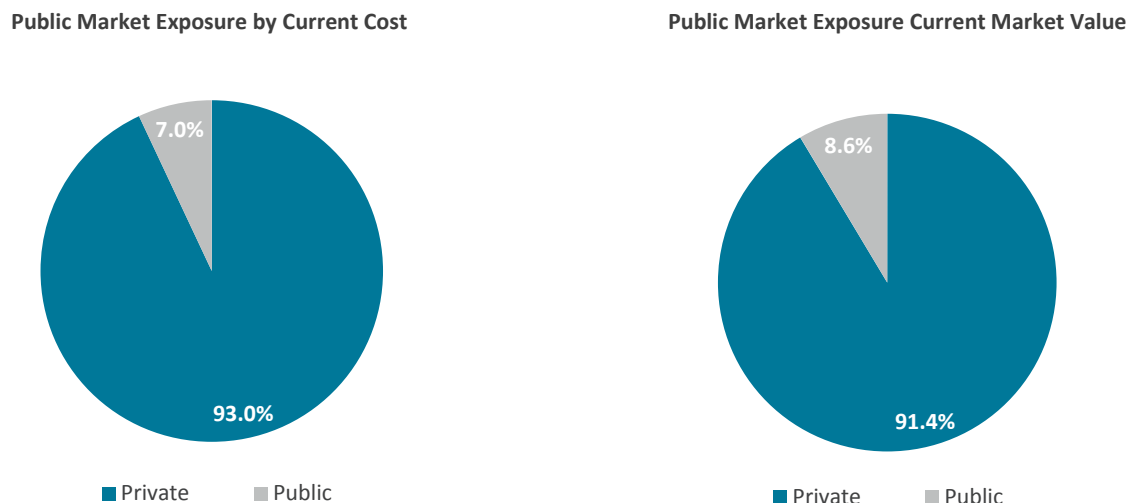
## Industry Exposure

The following charts illustrate the Portfolio's current exposure by industry at the portfolio company level as of June 30, 2016. Please note that the Financials category includes investments in various debt securities.



## Public Market Exposure

As of quarter-end, publicly traded investments comprised 7.0% of the Portfolio's exposed cost and 8.6% of the Portfolio's exposed market value. The following charts illustrate the current public market exposure at the portfolio company level.



## IV. Appendix

**New York City Employees' Retirement System**  
**Private Equity Portfolio**  
**As of June 30, 2016 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR <sup>1</sup>	PME Benchmark <sup>2</sup>	PME Spread <sup>3</sup>
<b>Active Investments</b>										
1999	Cypress Merchant Banking Partners II, L.P.	3/29/1999	\$ 45,172,972	\$ 53,961,600	\$ 50,423,097	\$ 169,951	0.94x	(1.2%)	5.5%	(6.7%)
1999	FdG Capital Partners LLC	6/2/1999	25,000,000	28,756,835	42,947,883	6,365,393	1.71x	14.8%	6.5%	8.3%
1999	Lincolnshire Equity Fund II, L.P.	10/20/1999	18,397,347	19,261,466	36,463,088	1,037,952	1.95x	24.6%	6.8%	17.7%
2000	Solera Partners, L.P.	5/26/2000	19,999,779	26,476,415	41,635,156	3,673,815	1.71x	8.5%	6.3%	2.2%
2000	SCP Private Equity Partners II, L.P.	6/15/2000	27,442,463	30,827,225	10,339,594	3,991,950	0.46x	(9.9%)	5.2%	(15.1%)
2001	New Mountain Partners, L.P.	3/16/2001	18,141,933	17,116,468	24,431,489	471,306	1.45x	12.4%	6.2%	6.1%
2001	Apollo Investment Fund V, L.P.	4/13/2001	40,000,000	62,509,880	122,932,865	1,294,174	1.99x	38.6%	8.4%	30.2%
2001	RRE Ventures III, L.P.	7/6/2001	19,999,999	26,274,675	33,150,017	2,832,135	1.37x	5.8%	6.5%	(0.7%)
2002	Thomas, McNerney & Partners, L.P.	10/9/2002	20,000,000	20,000,000	7,003,139	4,654,676	0.58x	(10.4%)	10.8%	(21.1%)
2002	BDCM Opportunity Fund, L.P.	10/14/2002	25,000,000	52,554,619	90,110,270	98,591	1.72x	22.8%	6.2%	16.6%
2002	Landmark Equity Partners XI, L.P.	10/23/2002	55,000,000	52,284,778	76,665,450	4,099,452	1.54x	23.5%	7.3%	16.1%
2003	FS Equity Partners V, L.P.	1/20/2003	25,000,000	21,393,182	41,752,123	2,316,955	2.06x	15.7%	4.9%	10.8%
2003	Blackstone Capital Partners IV, L.P.	2/26/2003	34,418,762	38,818,072	98,629,819	537,173	2.55x	39.7%	7.5%	32.2%
2003	Ares Corporate Opportunities Fund, L.P.	4/1/2003	45,000,000	53,984,770	78,961,930	4,515,870	1.55x	13.6%	7.4%	6.2%
2004	Markstone Capital Partners, LP	1/30/2004	40,000,000	46,899,103	19,822,611	1,955,927	0.46x	(35.3%)	18.0%	(53.3%)
2004	FdG Capital Partners II LP	8/30/2004	35,000,000	37,624,231	42,499,038	2,389,728	1.19x	3.5%	6.6%	(3.0%)
2004	Paladin Homeland Security Fund (NY City), L.P.	9/27/2004	15,000,000	16,348,036	5,249,426	2,291,343	0.46x	(10.7%)	6.1%	(16.7%)
2004	Lincolnshire Equity Fund III, L.P.	10/1/2004	55,000,000	54,070,119	69,467,169	27,226,284	1.79x	30.0%	10.3%	19.7%
2004	Yucaipa American Alliance Fund I, LP	10/1/2004	90,000,000	114,094,892	94,282,024	33,155,391	1.12x	2.9%	10.2%	(7.3%)
2004	New York/Fairview Emerging Managers Fund, L.P.-Tranche 1	10/21/2004	32,000,000	32,725,517	26,635,754	13,584,594	1.23x	3.8%	8.4%	(4.7%)
2004	Aurora Equity Partners III L.P.	11/16/2004	50,000,000	54,123,136	86,395,365	5,647,661	1.70x	14.4%	9.8%	4.6%
2004	Trilantic Capital Partners III L.P.	11/18/2004	45,088,848	40,126,836	59,174,224	1,105,754	1.50x	12.4%	4.9%	7.6%
2004	Celtic Pharmaceutical Holdings L.P.	12/23/2004	25,000,000	25,402,094	402,094	3,976,018	0.17x	(18.7%)	9.5%	(28.3%)
2005	Palladium Equity Partners III, L.P.	11/12/2004	35,000,000	36,029,428	51,266,878	19,522,528	1.96x	17.6%	11.4%	6.2%
2005	New Mountain Partners II, L.P.	1/12/2005	46,451,615	41,780,816	80,867,650	727,906	1.95x	13.7%	4.4%	9.3%
2005	VSS Communications Partners IV, L.P.	3/14/2005	24,690,337	28,424,765	18,918,709	2,223,831	0.74x	(5.2%)	7.4%	(12.6%)
2005	Prism Venture Partners V-A, L.P.	7/14/2005	30,000,000	30,762,722	16,713,788	4,890,481	0.70x	(6.9%)	8.0%	(14.9%)
2005	NB New York City Growth Fund	8/16/2005	34,819,694	34,819,694	34,883,967	(795,887)	0.98x	(0.7%)	3.7%	(4.4%)
2005	Quadrangle Capital Partners II LP	8/29/2005	59,042,060	62,295,458	68,716,685	13,954,205	1.33x	5.8%	6.8%	(0.9%)
2005	Snow Phipps Group, L.P.	9/7/2005	20,000,000	23,074,361	18,071,332	11,896,635	1.30x	6.9%	10.3%	(3.4%)
2005	GI Partners Fund II L.P.	9/26/2005	35,000,000	35,442,509	41,848,151	12,481,838	1.53x	7.1%	5.5%	1.6%
2005	Blackstone Mezzanine Partners II, L.P.	10/10/2005	25,000,000	23,477,332	31,496,847	609,463	1.37x	8.1%	3.8%	4.3%
2005	Psilos Group Partners III, L.P.	10/24/2005	35,000,000	37,205,819	17,948,760	27,006,744	1.21x	3.7%	7.1%	(3.4%)
2005	USPF II Institutional Fund, L.P.	11/23/2005	65,000,000	85,734,194	59,448,647	59,022,562	1.38x	6.2%	7.0%	(0.8%)
2005	JP Morgan Fleming (Tranche A)	12/21/2005	43,000,000	41,656,800	29,919,599	25,074,165	1.32x	6.0%	10.2%	(4.2%)
2006	Aisling Capital II, LP	1/12/2006	6,680,102	7,850,198	5,311,310	1,844,584	0.91x	(2.0%)	7.4%	(9.4%)
2006	InterMedia Partners VII, L.P.	1/20/2006	25,000,000	28,970,204	17,874,149	24,095,136	1.45x	5.5%	9.8%	(4.3%)
2006	Terra Firma Capital Partners III, L.P.	3/8/2006	52,769,602	53,570,980	5,408,603	20,771,127	0.49x	(11.0%)	8.2%	(19.3%)
2006	BDCM Opportunity Fund II, L.P.	3/29/2006	25,000,000	36,330,630	35,058,707	35,345,806	1.94x	16.2%	10.1%	6.1%
2006	Blackstone Capital Partners V, L.P.	4/13/2006	121,624,827	129,163,485	166,250,603	43,113,428	1.62x	8.2%	8.1%	0.0%
2006	Avista Capital Partners, L.P.	4/27/2006	45,000,000	58,797,207	51,908,702	22,106,167	1.26x	5.1%	5.9%	(0.8%)
2006	GSC Recovery III, L.P.	5/4/2006	25,000,000	28,176,914	29,697,283	2,863,665	1.16x	3.8%	6.5%	(2.7%)
2006	Apollo Investment Fund VI, L.P.	5/10/2006	90,000,000	115,838,240	145,311,271	27,084,234	1.49x	8.9%	7.3%	1.6%
2006	Landmark Equity Partners XIII, L.P.	5/11/2006	50,000,000	47,830,446	44,729,095	16,897,576	1.29x	5.6%	6.0%	(0.4%)
2006	Ares Corporate Opportunities Fund II, L.P.	5/23/2006	50,000,000	54,760,870	82,811,581	9,753,228	1.69x	13.5%	3.9%	9.6%
2006	Fairview Ventures Fund III, L.P.	6/29/2006	25,000,000	25,795,948	19,698,739	26,999,441	1.81x	14.6%	11.7%	2.9%
2006	Ampersand 2006	8/14/2006	25,000,000	25,000,000	31,919,037	22,339,895	2.17x	14.9%	8.0%	6.9%
2006	CCMP Capital Investors II, L.P.	8/17/2006	30,000,000	32,984,888	39,942,725	15,309,581	1.68x	13.6%	10.1%	3.5%
2006	CLP 2014 (fka Perseus Partners VII)	8/31/2006	30,000,000	35,015,446	12,105,965	724,448	0.37x	(23.9%)	13.1%	(36.9%)
2006	Thomas, McNerney & Partners II, L.P.	11/30/2006	25,000,000	24,849,167	42,196,658	13,874,284	2.26x	17.4%	11.1%	6.3%
2006	Catterton Partners VI, L.P.	12/14/2006	45,000,000	49,887,442	61,097,483	32,787,741	1.88x	13.1%	8.3%	4.8%
2006	First Reserve Fund XI, L.P.	12/14/2006	45,000,000	47,820,682	26,739,005	4,694,772	0.66x	(10.3%)	5.7%	(16.0%)
2006	Arsenal Capital Partners II, LP	12/19/2006	22,500,000	26,912,683	25,589,597	19,455,981	1.67x	10.9%	11.4%	(0.4%)
2006	RRE Ventures IV, L.P.	12/19/2006	35,000,000	43,543,836	21,044,903	44,602,399	1.51x	7.8%	10.2%	(2.5%)
2006	MidOcean Partners III, L.P.	12/21/2006	60,000,000	68,346,093	51,523,108	54,984,654	1.56x	9.6%	9.0%	0.5%
2006	GF Capital Private Equity Fund, L.P.	12/22/2006	20,000,000	20,626,154	22,565,552	13,689,785	1.76x	14.3%	12.0%	2.3%
2006	The Fourth Civen Fund	1/22/2007	71,438,497	72,910,838	94,146,833	5,399,497	1.37x	6.5%	7.2%	(0.7%)
2007	Pegasus Partners IV, L.P.	1/29/2007	30,000,000	35,450,068	17,897,776	17,409,493	1.00x	(0.1%)	7.7%	(10.8%)
2007	FTVentures III, LP	3/1/2007	24,201,990	24,651,990	31,595,290	20,158,279	2.10x	16.3%	9.6%	6.7%
2007	Co-Investment Partners Europe, L.P.	3/19/2007	39,935,336	42,011,550	28,965,906	24,300,302	1.27x	4.9%	15.4%	(10.5%)
2007	Montreux Equity Partners IV, L.P.	3/27/2007	20,000,000	20,000,000	6,843,774	19,725,739	1.33x	5.9%	9.7%	(3.9%)
2007	Quaker BioVentures II, L.P.	3/30/2007	20,000,000	17,658,740	11,438,605	10,493,717	1.24x	5.5%	12.2%	(6.7%)
2007	SCP Vitalife Partners II Fund	4/13/2007	20,000,000	20,099,698	1,579	12,535,888	0.62x	(8.8%)	9.0%	(17.8%)
2007	Craton Equity Investors I, L.P.	4/30/2007	20,000,000	20,089,805	1,539,560	3,570,679	0.25x	(21.2%)	17.7%	(38.8%)
2007	Nautic Partners VI, L.P.	5/14/2007	30,000,000	33,402,321	61,398,958	14,298,491	2.27x	19.1%	11.7%	7.4%
2007	Constellation Venture Capital III, L.P.	5/22/2007	25,000,000	27,160,015	5,676,045	16,038,700	0.80x	(4.4%)	17.6%	(22.1%)
2007	United States Power Fund III, L.P.	6/28/2007	65,000,000	71,706,783	33,791,795	61,082,720	1.32x	5.7%	7.9%	(2.3%)
2007	Halyard Capital Fund II, L.P.	7/2/2007	25,000,000	21,206,440	21,180,466	9,472,203	1.45x	7.3%	9.5%	(2.2%)
2007	Carlyle Partners V, L.P.	7/6/2007	70,000,000	71,289,098	84,533,483	33,255,063	1.65x	13.3%	10.5%	2.8%

**New York City Employees' Retirement System**  
**Private Equity Portfolio**  
**As of June 30, 2016 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR <sup>1</sup>	PME Benchmark <sup>2</sup>	PME Spread <sup>3</sup>
2007	PCG Clean Energy & Technology Fund (East), LLC	7/6/2007	90,000,000	79,605,090	9,980,582	37,928,721	0.60x	(9.3%)	12.8%	(22.1%)
2007	GSO Capital Opportunities Fund LP	7/16/2007	45,000,000	67,205,518	91,456,126	6,010,908	1.45x	17.9%	10.2%	7.7%
2007	StarVest Partners II, L.P.	8/1/2007	25,000,000	24,943,994	1,166,983	21,950,883	0.93x	(1.7%)	15.2%	(16.9%)
2007	New Mountain Partners III, L.P.	8/9/2007	100,000,000	98,627,032	79,134,931	84,710,982	1.66x	12.0%	12.1%	(0.1%)
2007	Vista Equity Partners Fund III, L.P.	10/3/2007	30,000,000	31,871,536	67,850,734	13,949,742	2.57x	28.3%	9.8%	18.5%
2007	Trilantic Capital Partners IV L.P.	10/22/2007	69,028,637	71,533,562	97,265,247	13,392,119	1.55x	13.9%	10.7%	3.2%
2007	RJ Equity Partners Fund I, L.P.	11/30/2007	20,000,000	21,179,584	8,301,877	26,033,233	1.62x	13.5%	13.2%	0.3%
2007	Pine Brook Capital Partners, L.P.	1/11/2008	30,000,000	31,422,057	18,464,292	17,483,919	1.14x	4.5%	10.6%	(6.1%)
2008	Paladin III (NY City), L.P.	1/8/2008	30,000,000	37,486,156	17,846,948	31,087,631	1.31x	7.7%	11.0%	(3.3%)
2008	Relativity Fund, L.P.	1/17/2008	10,877,829	10,773,614	2,302,071	3,465,235	0.54x	(10.9%)	10.2%	(21.1%)
2008	Apollo Investment Fund VII, L.P.	1/28/2008	100,000,000	118,027,691	176,618,663	29,670,417	1.75x	24.3%	13.3%	11.0%
2008	NGN BioMed Opportunity II, L.P.	2/11/2008	20,000,000	19,151,821	3,946,209	9,662,808	0.71x	(7.6%)	8.5%	(16.1%)
2008	Carpenter Community BancFund-A, L.P.	2/12/2008	20,000,000	19,519,654	11,658,453	18,783,592	1.56x	8.1%	14.9%	(6.8%)
2008	Riverstone/Carlyle Global Energy & Power Fund IV, L.P.	3/3/2008	45,000,000	49,659,172	33,807,446	22,487,601	1.13x	4.3%	13.6%	(9.3%)
2008	Yucaipa American Alliance Fund II, LP	3/28/2008	120,000,000	163,744,290	97,293,704	125,473,809	1.36x	8.4%	11.7%	(3.3%)
2008	Levine Leichtman Capital Partners IV, L.P.	4/8/2008	35,000,000	35,143,420	44,357,153	17,675,790	1.77x	20.6%	14.1%	6.5%
2008	Lee Equity Partners Fund, L.P.	4/23/2008	37,261,581	50,020,033	56,971,528	4,010,739	1.22x	6.3%	13.3%	(7.1%)
2008	New York/Fairview Emerging Managers Fund, L.P.-Tranche 2	5/28/2008	45,000,000	42,054,618	25,269,212	38,989,655	1.53x	14.1%	12.4%	1.6%
2008	Yucaipa Corporate Initiatives Fund II, LP	6/23/2008	42,092,788	40,937,928	12,669,673	24,966,329	0.92x	(1.8%)	10.6%	(12.5%)
2008	Leeds Equity Partners V, L.P.	7/28/2008	60,000,000	54,360,440	51,223,650	39,330,962	1.67x	16.2%	13.3%	2.9%
2008	GI Partners Fund III L.P.	7/29/2008	45,000,000	48,199,335	48,988,093	20,169,057	1.43x	12.1%	15.2%	(3.1%)
2008	Ares Corporate Opportunities Fund III, L.P.	7/30/2008	75,000,000	88,461,614	91,139,003	68,258,613	1.80x	20.8%	11.6%	9.3%
2008	GCM Grosvenor NYCERS Emerging Manager Co-Investment Fund, L.P.	8/22/2008	12,875,950	14,649,770	26,323,595	46,135	1.80x	14.2%	11.4%	2.8%
2008	GCM Grosvenor NYCERS Emerging Manager Fund, L.P.	8/22/2008	116,737,374	124,972,002	74,401,636	87,676,520	1.30x	10.3%	12.9%	(2.6%)
2008	First Reserve Fund XII, L.P.	8/25/2008	45,000,000	47,936,739	21,141,435	14,301,100	0.74x	(8.2%)	16.6%	(24.8%)
2008	Landmark Equity Partners XIV, L.P.	9/19/2008	109,120,000	101,956,466	84,166,725	49,260,960	1.31x	11.8%	13.9%	(2.1%)
2008	Crestview Partners II, L.P.	10/1/2008	50,000,000	54,503,075	44,268,275	34,730,624	1.45x	12.0%	14.5%	(2.5%)
2008	Avista Capital Partners II, L.P.	11/5/2008	75,000,000	91,251,493	102,047,062	62,688,623	1.81x	17.4%	14.3%	3.1%
2008	Blue Wolf Capital Fund II, L.P.	11/14/2008	25,000,000	27,167,904	12,501,194	19,964,449	1.19x	5.7%	15.6%	(9.9%)
2008	Bridgepoint Europe IV	11/14/2008	26,742,777	24,600,965	21,294,827	14,476,370	1.45x	10.4%	14.9%	(4.5%)
2008	Aisling Capital III, LP	11/20/2008	14,000,000	14,855,342	13,448,443	9,222,911	1.53x	18.9%	14.4%	4.6%
2008	Onex Partners III LP	12/10/2008	75,000,000	81,027,018	58,915,211	62,712,853	1.50x	12.7%	14.7%	(2.0%)
2009	Welsh, Carson, Anderson & Stowe XI, L.P.	2/10/2009	40,000,000	38,739,959	32,185,534	25,926,696	1.50x	12.8%	14.3%	(1.6%)
2009	FS Equity Partners VI, L.P.	7/27/2009	32,500,000	31,286,350	24,359,661	32,328,121	1.81x	17.9%	14.9%	3.0%
2009	Lincolnshire Equity Fund IV, L.P.	8/5/2009	27,500,000	28,182,913	9,638,864	24,723,911	1.22x	7.3%	12.9%	(5.6%)
2009	Lexington Capital Partners VII, L.P.	12/3/2009	50,000,000	42,668,825	38,432,363	24,833,474	1.48x	15.3%	14.0%	1.2%
2010	Snow Phipps II, L.P.	1/8/2010	30,000,000	29,841,760	14,320,384	30,302,510	1.50x	17.5%	12.3%	5.2%
2010	JP Morgan Fleming (Tranche B)	2/26/2010	35,000,000	32,476,125	12,022,033	34,027,440	1.42x	11.6%	12.6%	(1.0%)
2010	Trident V, L.P.	4/29/2010	110,000,000	116,164,874	32,710,893	113,921,753	1.26x	8.0%	11.0%	(2.9%)
2011	Blackstone Capital Partners VI, L.P.	1/24/2011	120,000,000	111,564,677	19,603,884	115,466,511	1.21x	9.8%	10.9%	(1.1%)
2011	Amersand 2011	3/11/2011	25,000,000	24,125,000	8,694,145	37,403,652	1.91x	19.2%	12.2%	7.0%
2011	BDCM Opportunity Fund III, L.P.	4/8/2011	45,000,000	57,406,306	20,728,277	47,170,332	1.18x	8.4%	11.0%	(2.6%)
2011	AXA Secondary Fund V B L.P.	6/16/2011	120,000,000	94,892,906	65,016,958	78,017,901	1.51x	17.0%	14.3%	2.7%
2011	Wellspring Capital Partners V, L.P.	7/1/2011	40,000,000	35,876,787	4,866,522	43,879,019	1.36x	14.6%	10.7%	3.9%
2011	EQT VI, L.P.	8/1/2011	105,942,792	90,471,874	2,593,006	110,626,659	1.25x	8.6%	10.4%	(1.8%)
2011	Pegasus Partners V, L.P.	8/16/2011	20,789,916	16,453,434	3,700,886	22,783,755	1.61x	16.7%	13.4%	3.3%
2011	BC European Capital IX	9/19/2011	132,058,438	111,580,379	38,669,729	96,660,201	1.21x	8.3%	12.6%	(4.3%)
2011	American Securities Partners VI, L.P.	11/18/2011	80,000,000	84,853,612	26,188,180	92,955,407	1.40x	18.8%	10.7%	8.1%
2011	Vista Equity Partners Fund IV, L.P.	11/30/2011	100,000,000	100,893,426	51,024,971	126,898,560	1.76x	22.4%	12.0%	10.4%
2012	Warburg Pincus Private Equity XI, L.P.	5/24/2012	110,000,000	102,733,488	18,508,710	109,316,903	1.24x	12.4%	10.0%	2.4%
2012	Trilantic Capital Partners V L.P.	9/20/2012	70,000,000	39,478,439	2,558,009	36,854,622	1.00x	(0.1%)	8.3%	(8.5%)
2012	Palladium Equity Partners IV, L.P.	10/10/2012	55,000,000	24,961,217	2,705,377	24,341,431	1.08x	4.0%	11.5%	(7.5%)
2012	Ares Corporate Opportunities Fund IV, L.P.	11/5/2012	125,000,000	97,970,953	8,707,794	105,954,878	1.17x	9.2%	7.1%	2.1%
2012	Green Equity Investors VI, L.P.	11/30/2012	120,000,000	96,765,064	15,668,701	101,508,919	1.21x	11.7%	8.5%	3.3%
2012	Platinum Equity Capital Partners III, L.P.	1/14/2013	100,000,000	60,177,028	36,144,131	63,544,057	1.66x	46.6%	11.2%	35.4%
2012	NYCERS - 2012 Emerging Manager Program <sup>4</sup>	6/21/2013	150,000,000	80,789,449	4,404,622	87,522,653	1.14x	9.9%	6.0%	4.0%
2013	Carlyle Partners VI, L.P.	7/3/2013	75,000,000	37,862,352	1,248,343	41,125,926	1.12x	8.0%	5.8%	2.2%
2013	Landmark Equity Partners XV, L.P.	10/30/2013	75,000,000	25,974,786	10,280,699	19,962,423	1.16x	11.1%	7.7%	3.4%
2013	Apollo Investment Fund VIII, L.P.	12/11/2013	140,000,000	60,625,517	1,359,510	64,627,477	1.09x	9.2%	4.7%	4.5%
2013	Landmark - NYC Fund I, L.P.	12/24/2013	25,000,000	11,039,827	2,967,680	10,903,262	1.26x	16.1%	3.9%	12.2%
2013	CVC Capital Partners VI, L.P.	2/18/2014	121,415,907	45,435,563	829,561	44,449,971	1.00x	(0.4%)	5.8%	(6.2%)
2013	Crestview Partners III, L.P.	3/3/2015	66,000,000	15,112,145	249,535	13,057,412	0.88x	NM	NM	N/A
2013	Crestview Partners III (Co-Investment B), L.P.	12/17/2015	22,000,000	7,374,875	309,025	7,312,126	1.03x	NM	NM	N/A
2014	Olympus Growth Fund VI, L.P.	1/21/2014	75,000,000	38,079,499	5,784,184	39,308,526	1.18x	28.0%	9.1%	19.0%
2014	ASF VI B L.P.	5/9/2014	83,000,000	40,186,988	2,159,002	46,159,443	1.20x	15.2%	4.9%	10.3%
2014	ASF VI B NYC Co-Invest L.P.	5/9/2014	27,000,000	17,031,244	3,815,187	17,768,824	1.27x	18.3%	2.7%	15.7%
2014	Vista Equity Partners Fund V, L.P.	9/8/2014	125,000,000	109,685,394	21,665,755	98,141,813	1.09x	NM	NM	N/A
2014	Carlyle Partners VI, L.P. (Side Car)	9/23/2014	4,567,000	4,473,871	-	4,174,875	0.93x	NM	NM	N/A
2014	Lexington Capital Partners VIII, L.P.	1/8/2015	110,000,000	24,342,374	4,795,520	25,878,454	1.26x	NM	NM	N/A
2014	Centerbridge Capital Partners III, L.P.	5/21/2015	23,700,000	6,310,789	249,841	6,648,464	1.09x	NM	NM	N/A

**New York City Employees' Retirement System  
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As of June 30, 2016 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR <sup>1</sup>	PME Benchmark <sup>2</sup>	PME Spread <sup>3</sup>
2015	Siris Partners III, L.P.	5/4/2015	31,000,000	4,793,167	23,901	4,197,490	0.88x	NM	NM	N/A
2015	Welsh, Carson, Anderson & Stowe XII, L.P.	8/26/2015	78,500,000	20,609,630	-	21,524,790	1.04x	NM	NM	N/A
2015	Warburg Pincus Private Equity XII, L.P.	12/21/2015	205,500,000	14,264,797	-	12,247,791	0.86x	NM	NM	N/A
2015	ASF VII B L.P.	12/29/2015	94,500,000	6,615,983	24,926	7,747,287	1.17x	NM	NM	N/A
2015	ASF VII B NYC Co-Invest L.P.	12/29/2015	46,000,000	4,600	-	4,600	1.00x	NM	NM	N/A
2015	EQT VII, L.P.	1/8/2016	158,844,548	29,926,094	-	26,482,214	0.88x	NM	NM	N/A
2015	American Securities Partners VII, L.P.	1/19/2016	80,000,000	-	-	(494,356)	-	N/A	N/A	N/A
2015	Bridgepoint Europe V L.P.	2/8/2016	60,286,589	12,543,776	-	12,885,384	1.03x	NM	NM	N/A
2015	Bridgepoint Europe V Co-Invest	8/16/2016	17,491,320	-	-	-	-	N/A	N/A	N/A
2015	NYCERS - 2015 Emerging Manager Program <sup>5</sup>	2/22/2016	180,000,000	5,127,213	-	4,940,180	0.96x	NM	NM	N/A
2016	Vista Equity Partners Fund VI, L.P.	6/28/2016	158,000,000	18,956,629	-	19,140,700	1.01x	NM	NM	N/A
2016	Ares Corporate Opportunities Fund V, L.P.	N/A	95,000,000	-	-	-	-	N/A	N/A	N/A
2016	Apax IX USD, L.P.	N/A	127,000,000	-	-	-	-	N/A	N/A	N/A
2016	BC European Capital X	N/A	86,623,680	-	-	-	-	N/A	N/A	N/A
2016	BCEC X Co-Investment	N/A	34,649,472	-	-	-	-	N/A	N/A	N/A
2016	Green Equity Investors VII, L.P.	N/A	95,000,000	-	-	-	-	N/A	N/A	N/A
<b>Total Portfolio<sup>6</sup></b>			<b>\$ 9,082,671,463</b>	<b>\$ 7,310,955,721</b>	<b>\$ 5,693,524,432</b>	<b>\$ 4,170,822,997</b>	<b>1.35x</b>	<b>8.9%</b>	<b>9.3%</b>	<b>(0.4%)</b>

<sup>1</sup> Performance for funds with less than eight (8) quarters of activity is not meaningful.

<sup>2</sup> Russell 3000 PME+

<sup>3</sup> PME Spread is calculated as IRR minus PME Benchmark.

<sup>4</sup> 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 November 7, 2016.

<sup>5</sup> NYCERS - 2015 Emerging Manager Program total commitment amount includes the full amount allocated to the Program, of which \$47.0 million has been committed as of November 7, 2016.

<sup>6</sup> 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 June 30, 2016 (in USD)**

Vintage Year	Investment	First Drawdown	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Multiple	IRR <sup>1</sup>	PME Benchmark <sup>2</sup>	PME Spread <sup>3</sup>
<b>Commitments Closed Subsequent to as of Date</b>										
2016	FTV V, L.P.	N/A	\$ 21,500,000	-	-	-	N/A	N/A	N/A	N/A
<b>Total Commitments Closed Subsequent to as of Date</b>			<b>\$ 21,500,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>N/A</b>	<b>N/A</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

## Executive Summary: Second Quarter 2016 Performance Measurement Report

### Real Estate

#### Portfolio Profile

The New York City Employees' Retirement System has allocated 9.0% (+/- 2%) of the total plan to Real Estate. 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 (June 30, 2016)

Total Plan Assets	\$54.6 billion
Target Real Assets Allocation (%)	9%
Target Real Assets Allocation (\$)	\$4.9 billion
Total Real Estate Market Value	\$2.9 billion
Real Estate Unfunded Commitments	\$806.8 million
Total Real Estate Exposure	\$3.7 billion
Number of Investments	57
Number of Managers	40

#### Net Returns (as of June 30, 2016)

2Q16 Time-Weighted Net Return:	2.1%
1 Year Time Weighted Net Return:	11.4%
3 Year Time Weighted Net Return:	13.3%
Inception-to-Date (ITD) Time-Weighted:	7.7%
ITD Net IRR:	7.6%
ITD Net Equity Multiple:	1.4x

#### Investment Guidelines

Style Sector:	Target •5% of RE Allocation to Core/Core Plus •4% of RE Allocation 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%

#### Second Quarter Investment Activity

During the Quarter, the Board made a \$91.0 million commitment to a core-plus open-end fund and a \$91.0 million commitment to a U.S. focused non-core commercial real estate credit specialist.

#### OVERVIEW

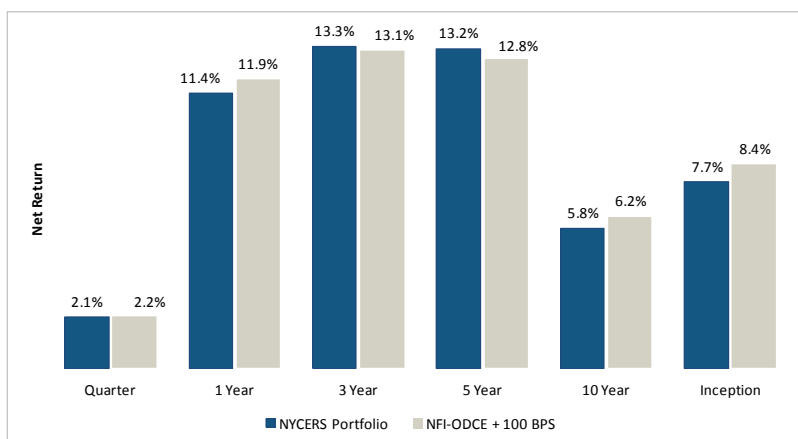
Global investment activity for 2Q16 was generally modest, coming in at \$154 billion, bringing the first half down 10% y/y compared to 2015. U.S. cities continue to be attractive targets for global capital with New York and Los Angeles (1<sup>st</sup> and 3<sup>rd</sup> respectively), accounting for 12% of global transactions. Foreign investment represented approximately 12% of total U.S. activity, with China overtaking Canada as the primary foreign capital source year-to-date. On average, industrial and multifamily transaction cap rates were essentially flat for the first half of 2016 while hotel and office saw 15 and 11 basis point expansions, respectively.

#### Direct Commercial Real Estate Investment - Regional Volumes, 2015-2016

\$ US Billions	Q1 16	Q2 16	% Change Q1 16 - Q2 16	Q2 15	% Change Q2 15 - Q2 16	H1 2015	H1 2016	% Change H1 2015 - H1 2016
Americas	61	69	13%	80	-14%	153	130	-15%
EMEA	51	57	12%	58	-2%	115	109	-5%
Asia Pacific	25	28	12%	31	-10%	56	54	-4%
Total	137	154	12%	169	-9%	324	293	-10%

Source: Jones Lang LaSalle, July 2016

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 40 basis points. At the end of the Second Quarter 2016, the Portfolio achieved a total gross return of 2.5% which was comprised of 1.1% income and 1.5% appreciation. The net return for the Quarter was 2.1%. 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: Second Quarter 2016 Performance Measurement Report

### Real Estate

#### FUNDING AND COMPOSITION

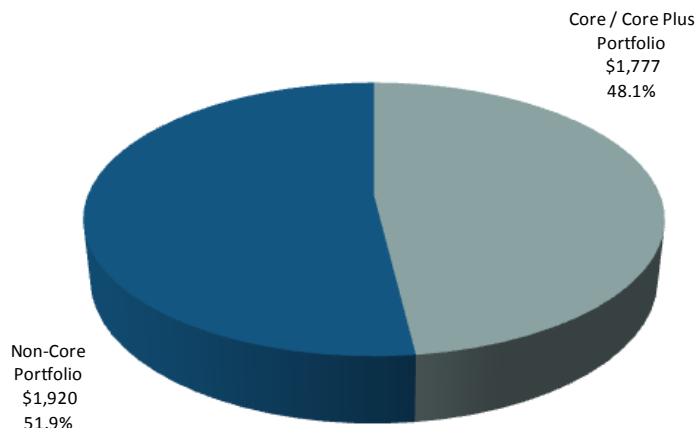
At the end of the Second Quarter, the Portfolio was funded at \$2.9 billion, or 5.3% of total plan assets. A total of \$806.8 million in unfunded commitments are still outstanding. Unfunded commitments are up from \$738.0 million as of first quarter 2016. New commitment activity has accelerated over the past several months and the trend will continue throughout 2016.

New contributions for the Quarter totaled \$51.0 million, offset by \$76.2 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 48.1% of the Portfolio exposure during the Quarter. The Non-Core component accounts for 51.9% 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	6/30/2016	54,553
Real Estate Allocation (%)		9.0
Real Estate Allocation (\$)		4,910
Core/Core Plus Allocation (%)		5.0
Core/Core Plus Allocation (\$)		2,728
Non-Core Allocation (%)		4.0
Non-Core Allocation (\$)		2,182
Style Sector Allocation		
Funded (Market Value) Core / Core Plus Portfolio		1,576
Funded (Market Value) Non-Core Portfolio		1,314
Unfunded Core / Core Plus Portfolio		201
Unfunded Non-Core Portfolio		606
Funded (Market Value) and Committed Statistics		
Core / Core Plus Portfolio		48.1%
Non-Core Portfolio		51.9%
Core/Core Plus Committed		1,777
Non-Core Committed		1,919
\$ Committed		3,696
% Committed on Real Estate Allocation		75.3%
% Committed on Total Plan Assets		6.8%
Funded (Market Value) Statistics		
% Core/Core Plus Funded (Market Value) of Total Plan Assets		2.9%
% Non-Core Funded (Market Value) of Total Plan Assets		2.4%
% Funded (Market Value) of Total Plan Assets		5.3%
% Funded (Market Value) of Total Real Estate Allocation		58.8%

# The New York City Employees' Retirement System

## Executive Summary: Second Quarter 2016 Performance Measurement Report

### Real Estate

## PERFORMANCE

During the Quarter under review, the NYCERS Real Estate Portfolio produced a 2.5% total gross return. The total net return for the Quarter was 2.1%. On a rolling one-year basis the total gross return of 13.4% was recorded. On a net basis the total return was 11.4%. On a gross basis the NYCERS Portfolio exceeds the NFI-ODCE over all relevant periods. The benchmark return contemplates a 100 bps premium over the ODCE net return over full market cycles. This benchmark is exceeded over the three and five-year time periods. The various components of the Portfolio returns are depicted in the chart below.

### Core/Core Plus

As of June 30, 2016 the market value of the Core/ Core Plus Portfolio was \$1.6 billion, or 54.5% on an invested basis. On a funded and committed basis, the Core/ Core Plus Portfolio totaled \$1.8 billion, or 48.1% of the total Portfolio. The Core/ Core plus Portfolio generated a 2.2% total gross return for the Quarter comprised of 1.1% in income and 1.1% in appreciation. The total net return for the Quarter was 2.0%.

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

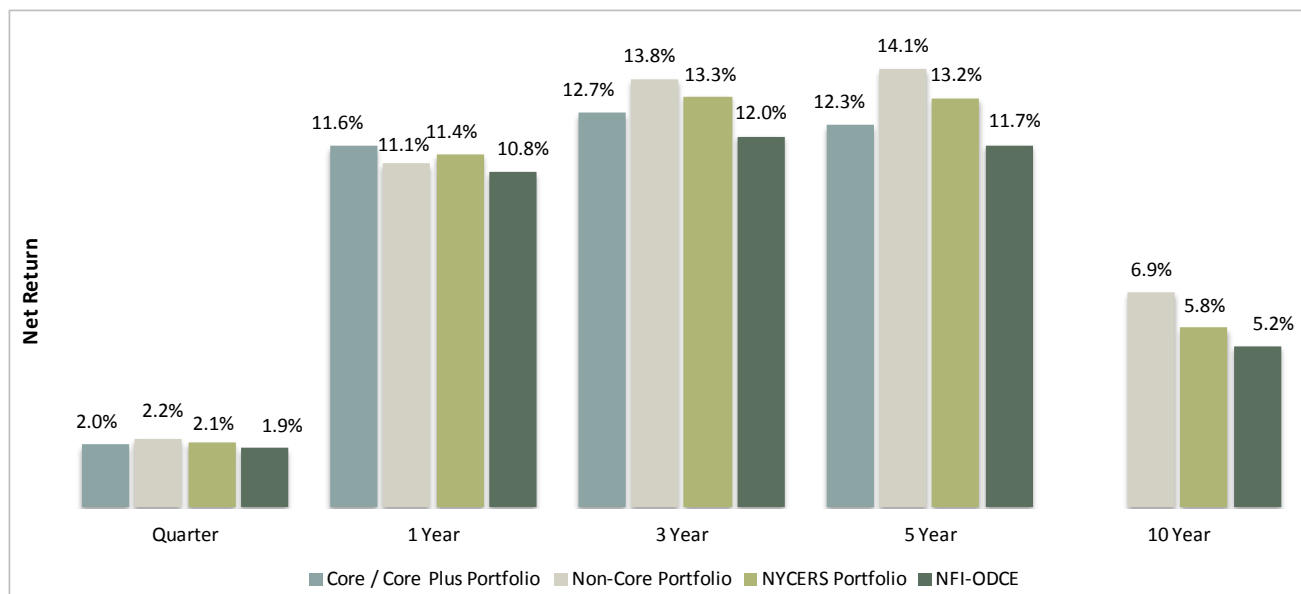
The Core/Core Plus Portfolio achieved a 12.7% net return over the three-year period ending June 30, 2016. Of the 19 Core/Core Plus Funds, PRISA II was the largest contributor, adding 0.3% to the overall performance of the Portfolio. UBS Trumbull Property Fund was the largest detractor, taking away (0.6)% 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 June 30, 2016 the market value of the Non- Core Portfolio was \$1.3 billion, or 45.5% on an invested basis. On a funded and committed basis, the Non-Core Portfolio totaled \$1.9 billion, or 51.9% of the total Portfolio. The Non-Core Portfolio generated a 2.9% total gross return for the Quarter comprised of 1.0% in income and 1.9% in appreciation. The total net return for the Quarter was 2.2%.

Of the 38 Non-Core Funds that contributed to the Quarterly return of the Portfolio, Thor Urban Property Fund II was the largest contributor, adding 0.32%. Blackstone Real Estate Partners Europe IV was the largest detractor for the Quarter, taking away (0.37)% from the overall performance of the Non-Core Portfolio.

The Non-Core Portfolio generated a three-year net return of 13.8%. Of the 38 non-core Funds that contributed to the three-year performance of the Portfolio, Carlyle Realty Partners VI was the largest contributor, adding 0.65%. The largest detractor among these Funds was The City Investment Fund, which took away (1.4)% from overall Non-Core performance.



# The New York City Employees' Retirement System

## Executive Summary: Second Quarter 2016 Performance Measurement Report

### Real Estate

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## PERFORMANCE

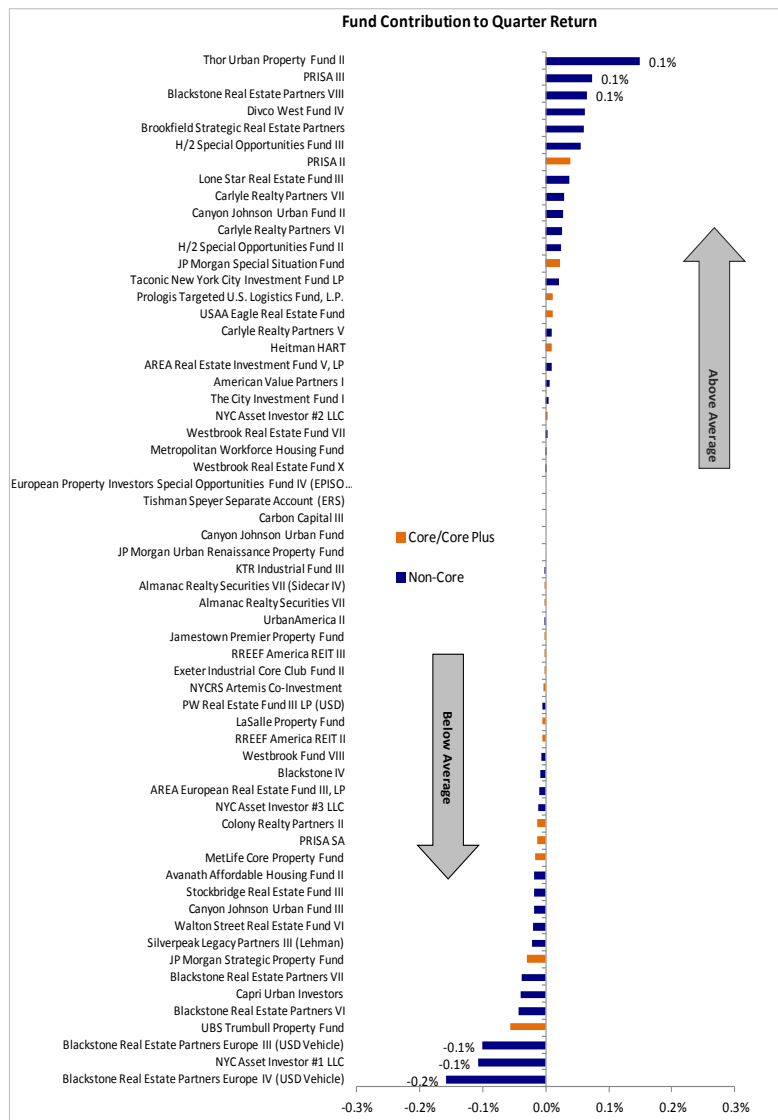
### Portfolio Performance

At the end of the Second Quarter 2016, the Portfolio had a cumulative market value of \$2.9 billion. Total market value plus unfunded commitments was \$3.7 billion, or 75.3% of the real estate allocation. During the Quarter, the Portfolio achieved a total gross return of 2.5% which was comprised of 1.1% income and 1.5% appreciation. The Portfolio achieved a total net return of 2.1%. Since inception, the Portfolio has a net IRR of 7.6% and an equity multiple of 1.4x as of June 30, 2016. Note, attached as Exhibit B are performance metrics relating to each investment within the Portfolio.

The Quarterly return was driven by Thor Urban Property Fund II which contributed 0.1% to the overall performance. The primary laggard in the Portfolio was Blackstone Real Estate Partners Europe IV detracting (0.2)%. 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.

**DivcoWest Fund IV.** During the Quarter, the Fund recorded a total gross return of 11.6% comprised of 1.4% in income and 10.2% in appreciation. The net return after fees was 9.3%. As of June 30, 2016, the Fund had 17 unrealized investments with an acquisition cost of \$1.9 billion. During the Quarter, the Fund executed the sale of a business park located in California for a price of \$66.5 million or \$279 psf. Two other sale transactions totaling \$960.5 million were executed subsequent to Quarter-end. The Fund acquired a portfolio of two office buildings in San Ramon, California for \$47.6 million, or \$153 psf.

**PRISA III.** PRISA III generated a 4.1% gross return during the Quarter, comprised of 0.9% in income and 3.2% in appreciation. The net return after fees was 3.8%. The Fund exited its \$10 million mezzanine commitment on a 250,000 sf. office development located in Austin, Texas, generating a 16.4% IRR and a 1.4x multiple. Through its current pipeline, Fund continues to shift away from multifamily toward the retail and industrial sectors.



**Blackstone Real Estate Partners VIII.** BREP VIII had a total Quarterly return of 7.7% comprised of 0.1% in income and 7.6% in appreciation. The net return after fees was 5.5%. During the Quarter, the portfolio increased in valuation by \$473 million with \$32.7 million distributed to LPs. Investments made during the Second Quarter totaled \$796 million and across major property types within the U.S. Europe and Asia. The largest investment was in a retail portfolio of 49 grocery store anchored shopping centers located across the U.S.

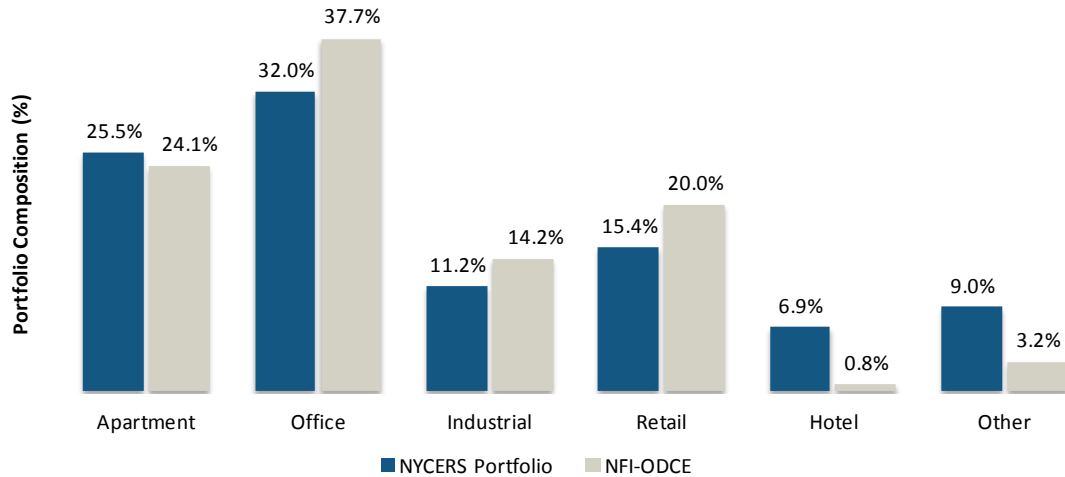
# The New York City Employees' Retirement System

## Executive Summary: Second Quarter 2016 Performance Measurement Report Real Estate

### 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 underweight to office, industrial and retail. The Portfolio is overweight to hotel and other property types which includes debt-related investments and can include other investments within diversified funds in for sale residential, self storage, land, data centers, senior living, healthcare, medical office and student housing.

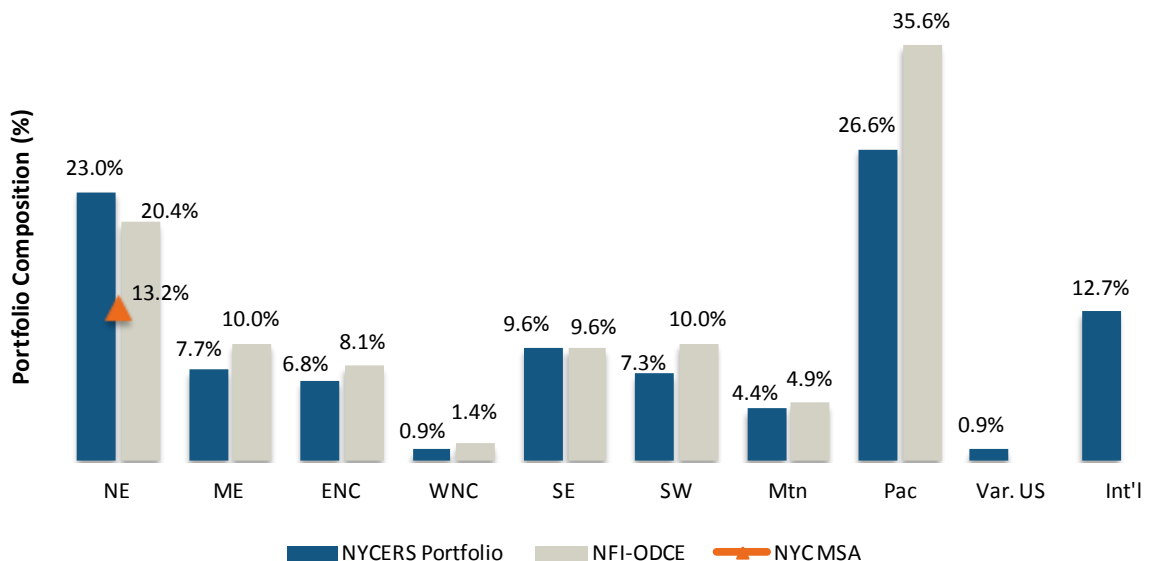
#### Property Type Diversification



### 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 underweight to several other geographic sectors. The 12.7% international exposure is appropriate for the risk and return profile of NYCERS and consistent with our long-term target.

#### Geographic Diversification



# The New York City Employees' Retirement System

## Executive Summary: Second Quarter 2016 Performance Measurement Report

### Real Estate

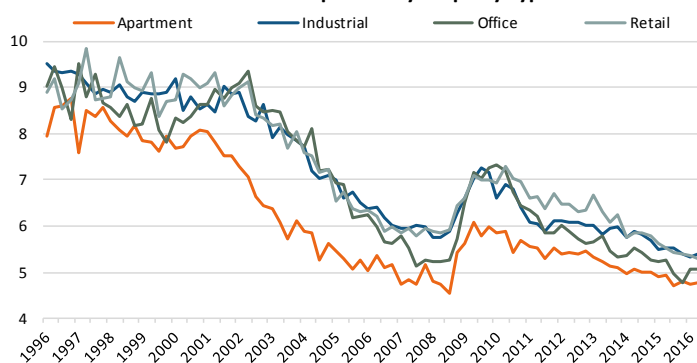
#### General

- Economic activity increased during the second quarter of 2016 at an annual rate of 1.1%, 2% over 2Q15 levels. Growth during the quarter was chiefly supported by positive contributions by the consumer, with fractional help from trade. Favorable employment trends with moderate wage growth (+2.5% y/y) and strong sentiment (+4.4% annual rate) helped buoy consumer spending. Business investment continues to weigh on trade, reducing growth by 9.7% during the quarter. Leading indicators for the business sector; Purchasing Managers Index (49.4 with 50 and above signaling expansion), Durable Goods Orders (-6% y/y), and Industrial Production Index, point to more of the same to come from subsequent quarters.
- Macro indicators for U.S. real estate came in tepid during 2Q16 with residential housing starts and total construction investment flat to marginally down y/y. Building permits, which signal future construction activity, also fell 9% compared to same period 2015.

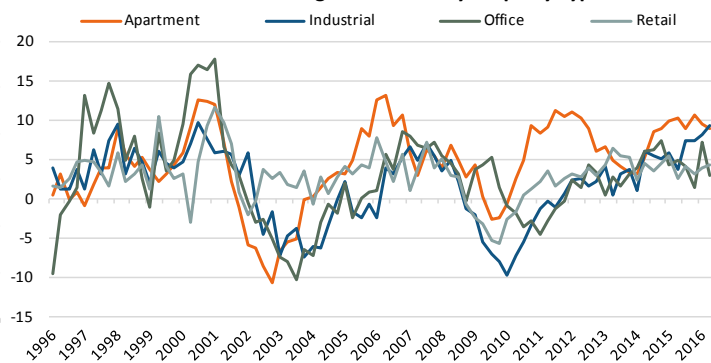
#### Commercial Real Estate

- 2Q16 saw \$63.5 billion in commercial real estate transaction volume or 41% of global activity. While solid, this represented a 16% drop compared to record 2015 levels. The U.S. decline was on trend with the broad moderation of global transaction activity during the quarter.
- CMBS issuances slowed to \$11.4 billion in 2Q16, less than half of the \$27.5 billion a year ago. Credit conditions remain relatively unchanged from 1Q, with the Fed's survey of senior loan officers showing stronger demand but tighter standards for commercial real estate loans.
- U.S. cities continue to be attractive targets for global investment capital. New York and Los Angeles (1<sup>st</sup> and 3<sup>rd</sup> respectively), accounted for 12% of global transactions. Foreign investment represented approximately 12% of total U.S. activity, with China overtaking Canada as the primary foreign capital source year-to-date.
- On average, industrial and multifamily transaction cap rates were essentially flat (0 and 2 bps compression respectively) for the first half of 2016 while hotel and office saw 15 and 11 basis point expansions respectively.

Current Value Cap Rates by Property Type



4-Qtr Rolling NOI Growth by Property Type



# The New York City Employees' Retirement System

Executive Summary: Second Quarter 2016 Performance Measurement Report  
Real Estate

## EXHIBIT A: COMPLIANCE MATRIX

Category	Requirement	Portfolio Status
Benchmark	NFI-ODCE (net) +100 bps over full market cycles	<i>Portfolio returns outperform the benchmark over the three and five year time periods.</i>
Portfolio Composition	Core/Core Plus (5% of RE Allocation)	<i>The portfolio is funded (market value) and committed at 75.3% of real estate allocation with a portfolio composition of 48.1% core/core plus and 51.9% non-core. Based on market value, the core/core plus portfolio is funded at 54.5% and the non-core portfolio is funded at 45.5%.</i>
	Non Core (4% of RE Allocation)	
Real Estate Allocation	Target of 9.0%	<i>Funded (market value) and committed dollars place the portfolio at 6.8% of total plan assets.</i>
	Currently Funded at 5.3%	
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 (41.7 %).</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

## Executive Summary: Second Quarter 2016 Performance Measurement Report

### Real Estate

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#### EXHIBIT B: SECOND QUARTER 2016 FOIL



#### New York City Employees' Retirement System

Vintage Year	Fund Name	First Draw Down	Capital Committed	Contributions	Distributions	Market Value	Equity Multiple	Net IRR
2015	Almanac Realty Securities VII	4/24/2015	65,000,000	15,667,666	-389,749	16,517,378	1.1	9.4
2016	Almanac Realty Securities VII (Secur IV)	12/9/2015	20,000,000	2,991,102	0	3,221,115	1.1	15.9
2007	Colony Realty Partners II	12/20/2006	20,000,000	21,420,211	-666,108	5,236,800	0.3	-14.3
2016	Exeter Industrial Core Club Fund II	5/20/2016	28,000,000	5,740,000	0	5,717,725	1.0	-5.2
2007	Heitman HART	3/29/2007	115,000,000	159,874,638	-44,874,638	212,658,204	1.6	8.2
2016	Jamestown Premier Property Fund	2/4/2016	39,000,000	10,847,010	-386,117	10,740,282	1.0	6.7
2007	JP Morgan Special Situation Property Fund	1/2/2007	90,000,000	102,852,130	-26,237,900	113,110,204	1.4	3.9
2007	JP Morgan Strategic Property Fund	12/4/2006	136,000,000	149,368,223	0	255,108,295	1.7	7.1
2010	LaSalle Property Fund	7/1/2010	50,000,000	50,000,000	-10,312,729	67,624,775	1.6	12.4
2014	MetLife Core Property Fund	7/1/2014	50,000,000	50,000,000	-3,506,500	56,500,406	1.2	14.8
2013	NYC Asset Investor #2 LLC	7/9/2013	75,000,000	62,046,071	-9,379,447	65,397,568	1.2	12.9
2016	NYCRS Artemis Co-Investment	2/24/2016	53,000,000	5,857,864	0	8,006,385	n/a	n/a
2007	PRISA II	6/30/2007	141,518,761	149,597,017	-29,324,949	189,893,370	1.5	5.3
2006	PRISA SA	9/29/2006	86,000,000	92,514,113	-22,362,685	112,231,442	1.5	4.3
2006	Prologis Targeted U.S. Logistics Fund	10/1/2006	25,000,000	32,398,805	-7,697,211	31,311,287	1.2	2.5
2006	RREEF America REIT II	10/1/2006	86,000,000	113,537,802	-49,015,175	111,848,491	1.4	4.8
2007	RREEF America REIT III - 1410	10/1/2007	90,000,000	90,000,000	-47,615,829	4,107,470	0.6	-7.5
2006	UBS Trumbull Property Fund	9/28/2006	156,000,000	216,277,653	-48,212,384	266,674,949	1.5	6.5
2016	USAA Eagle Real Estate Fund	12/1/2015	60,000,000	37,617,449	0	39,904,932	1.1	12.8
<b>Core / Core Plus Portfolio</b>			<b>1,385,518,761</b>	<b>1,368,607,754</b>	<b>-299,981,421</b>	<b>1,575,811,077</b>	<b>1.4</b>	<b>5.1</b>
2008	American Value Partners Fund I	10/18/2007	55,000,000	39,320,163	-31,839,298	15,216,537	1.2	4.2
2008	AREA European Real Estate Fund III, LP	5/6/2008	30,000,000	30,487,500	-30,737,500	5,464,734	1.2	4.5
2006	AREA Real Estate Investment Fund V, LP	6/15/2006	25,000,000	25,000,001	-11,232,946	13,104,782	1.0	-0.4
2015	Avanath Affordable Housing Fund II	7/14/2015	8,000,000	7,408,771	0	9,462,508	1.3	32.8
2004	Blackstone Fund IV	5/10/2004	30,000,000	38,440,704	-45,407,325	8,566,637	1.4	10.7
2010	Blackstone Real Estate Partners Europe III (USD Vehicle)	10/24/2008	50,000,000	51,176,456	-36,562,983	34,432,314	1.4	11.6
2014	Blackstone Real Estate Partners Europe IV (USD Vehicle)	12/23/2013	169,000,000	139,018,206	-20,625,813	130,269,506	1.1	6.5
2007	Blackstone Real Estate Partners VI	9/27/2007	110,000,000	122,123,928	-165,965,603	64,272,052	1.9	13.1
2012	Blackstone Real Estate Partners VII	3/31/2012	170,000,000	199,624,351	-123,164,910	175,197,099	1.5	21.4
2015	Blackstone Real Estate Partners VIII	8/18/2015	151,000,000	57,111,180	-528,877	62,545,889	1.1	22.0
2012	Brookfield Strategic Real Estate Partners	9/20/2012	100,000,000	103,710,668	-33,954,690	110,173,480	1.4	17.8
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	-13,194,594	2,807,510	0.4	-10.6
2010	Canyon Johnson Urban Fund III	3/29/2010	30,000,000	29,586,980	-39,586,665	770,024	1.4	12.3
2008	Capri Urban Investors	6/3/2008	60,000,000	59,980,707	-15,777,250	38,321,182	0.9	-1.7
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	25,025,630	-27,669,012	7,221,479	1.4	8.8
2011	Carlyle Realty Partners VI	9/14/2011	70,000,000	65,153,792	-68,644,513	40,828,266	1.7	28.9
2014	Carlyle Realty Partners VII	6/30/2014	80,000,000	33,415,459	-186,273	37,092,877	1.1	15.0
2014	Divco West Fund IV	1/15/2014	23,000,000	22,334,462	-7,422,388	25,970,126	1.5	30.7
2016	European Property Investors Special Opportunities Fund IV	12/18/2015	49,178,496	7,202,075	-709,063	6,357,793	1.0	-7.2
2011	H/2 Special Opportunities Fund II	1/31/2011	40,000,000	39,999,999	-24,235,222	31,616,996	1.4	15.0
2015	H/2 Special Opportunities Fund III	12/29/2014	65,000,000	37,381,152	0	40,011,951	1.1	11.0
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	-27,587,374	75,374	1.6	40.5
2014	Lone Star Real Estate Fund III	5/20/2014	100,000,000	92,730,560	-31,885,086	80,467,184	1.2	17.9
2007	Metropolitan Workforce Housing Fund	7/13/2007	14,000,000	14,013,027	-6,332,270	10,757,484	1.2	4.2
2013	NYC Asset Investor #1 LLC	6/25/2013	50,000,000	53,462,027	-5,852,876	60,462,193	1.2	15.7
2013	NYC Asset Investor #3 LLC	9/20/2013	50,000,000	17,116,185	-195,673	17,283,691	1.0	1.6
2008	PRISA III	9/30/2008	50,000,000	57,633,823	0	124,572,677	2.2	13.2
2016	PW Real Estate Fund III LP	n/a	46,748,831	0	0	-411,427	n/a	n/a
2008	Silverpeak Legacy Partners III	5/28/2008	50,000,000	22,168,479	-2,082,876	6,708,908	0.4	-12.3
2008	Stockbridge Real Estate Fund III	9/9/2008	27,000,000	26,998,145	0	35,805,385	1.3	5.2
2012	Taconic New York City Investment Fund LP	7/5/2012	70,000,000	28,954,546	-17,022,727	33,012,628	1.7	18.1
2004	The City Investment Fund I	3/16/2004	225,000,000	221,883,300	-224,092,986	787,664	1.0	0.3
2009	Thor Urban Property Fund II	10/30/2008	40,000,000	51,756,666	-44,679,492	34,104,480	1.5	12.9
2004	Tishman Speyer Separate Account (ERS)	12/16/2003	100,000,000	71,066,452	-259,755,306	0	3.7	63.2
2007	UrbanAmerica II	1/30/2007	25,000,000	23,222,735	-2,489,211	156,354	0.1	-25.0
2009	Walton Street Real Estate Fund VI	4/27/2009	50,000,000	44,323,933	-40,135,701	27,099,389	1.5	10.1
2008	Westbrook Real Estate Fund VII	12/3/2007	40,000,000	43,484,433	-38,472,731	13,734,635	1.2	3.5
2010	Westbrook Real Estate Fund VIII	12/28/2009	50,000,000	59,287,424	-67,801,514	9,847,931	1.3	12.5
2016	Westbrook Real Estate Fund X	n/a	36,000,000	0	0	2,422	n/a	n/a
<b>Non-Core Portfolio</b>			<b>2,510,287,952</b>	<b>2,076,592,262</b>	<b>-1,539,046,293</b>	<b>1,314,170,714</b>	<b>1.4</b>	<b>11.4</b>
<b>Small Emerging Manager</b>			<b>155,000,000</b>	<b>89,822,560</b>	<b>-40,660,779</b>	<b>43,599,268</b>	<b>0.9</b>	<b>-1.4</b>
<b>New York City Employees' Retirement System</b>			<b>3,895,806,713</b>	<b>3,445,200,015</b>	<b>-1,839,027,714</b>	<b>2,889,981,791</b>	<b>1.4</b>	<b>7.6</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 June 30, 2016. 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.

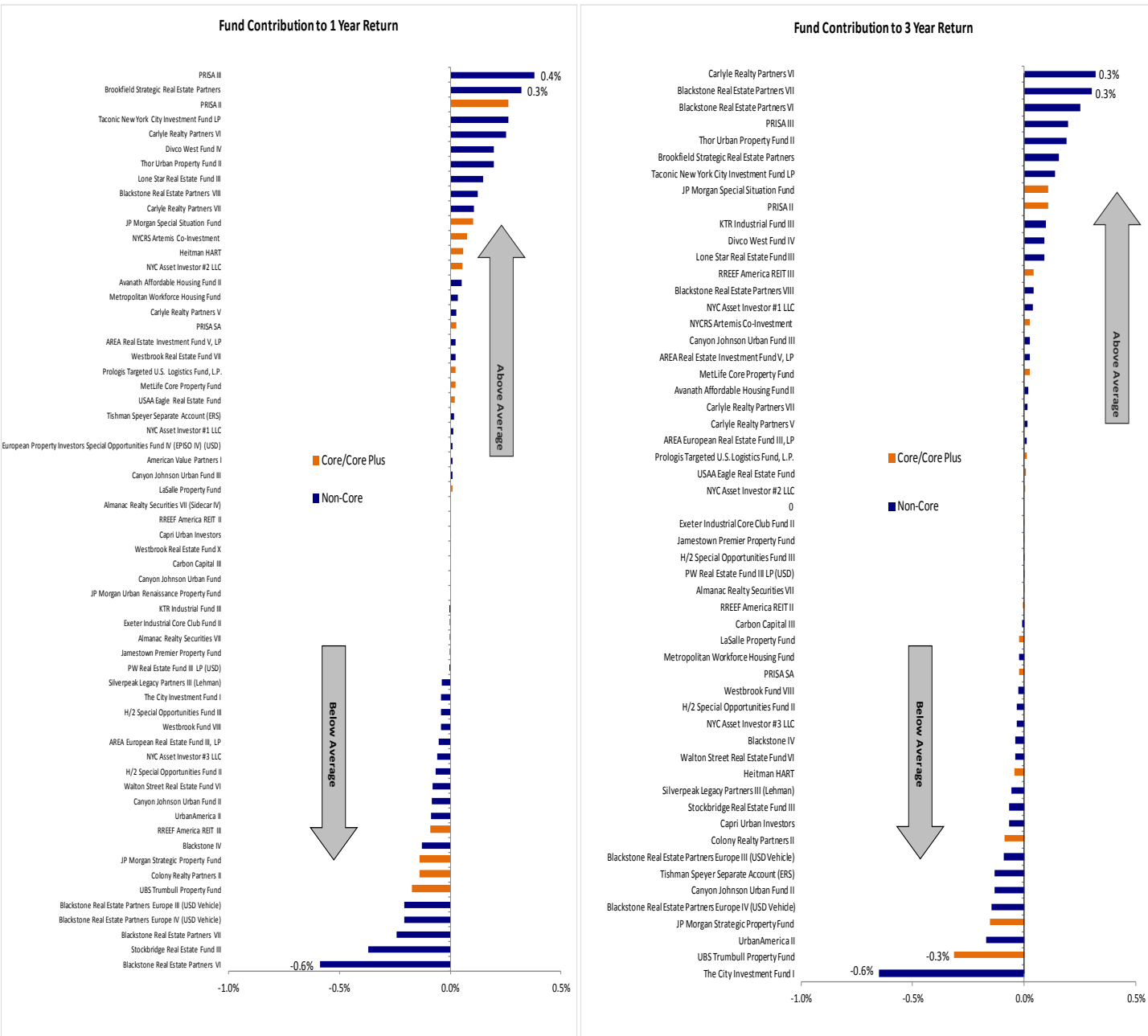
# The New York City Employees' Retirement System

## Executive Summary: Second Quarter 2016 Performance Measurement Report

### Real Estate

50

#### EXHIBIT C : ATTRIBUTION





## Infrastructure Monitoring Report

For the period ended June 30, 2016

Report Prepared For:

New York City Employees' Retirement System



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# 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 June 30, 2016, the Program has committed US\$469.0 million to six partnership investments (the "Portfolio"). This quarterly monitoring report covers the performance of the Portfolio as of June 30, 2016 as well as significant activity that occurred during the second quarter of 2016.

## 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 June 30, 2016, the market value of NYCERS Real Assets Program represented approximately 5.7% of total pension assets. The market value of NYCERS Infrastructure Program represented approximately 0.3% 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 *	June 30, 2016	March 31, 2016	June 30, 2015	Quarterly Change	Yearly Change
Total Pension Assets *	\$53,256.0	\$53,256.0	\$54,289.0	\$0.0	(\$1,033.0)
Total Real Assets *	\$3,035.0	\$2,960.0	\$2,633.0	\$75.0	\$402.0
% Allocation to Real Assets (Target of 6% +/- 2%)	5.7%	5.6%	4.8%	+ 14 bps	+ 85 bps
Total Infrastructure Assets	\$165.7	\$153.0	\$113.5	\$12.7	\$52.2
% Allocation to Infrastructure vs. Total Pension Assets	0.3%	0.3%	0.2%	+ 2 bps	+ 10 bps
% Allocation to Infrastructure vs. Total Real Assets	5.5%	5.2%	4.3%	+ 29 bps	+ 115 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 June 30, 2016, the Infrastructure Program has achieved a Total Value to Paid-In multiple of 1.1x invested capital and an IRR of 10.5%. Note that, given the relative immaturity of the Portfolio and underlying fund investments, the current performance to-date is not meaningful.

US\$ in millions *	June 30, 2016	March 31, 2016	June 30, 2015	Quarterly Change	Yearly Change
Number of Managers	5	5	4	0	1
Number of Investments	6	5	4	1	2
Committed Capital <sup>1</sup>	\$469.0	\$378.0	\$272.0	\$91.0	\$197.0
Contributed Capital	\$155.0	\$145.1	\$112.0	\$9.9	\$43.0
Distributed Capital	\$6.8	\$6.4	\$3.2	\$0.4	\$3.6
Market Value	\$165.7	\$153.0	\$113.5	\$12.7	\$52.2
Total Value	\$172.5	\$159.4	\$116.7	\$13.2	\$55.8
Total Gain/(Loss)	\$17.5	\$14.3	\$4.7	\$3.3	\$12.8
Unfunded Commitment	\$317.5	\$235.4	\$160.1	\$82.1	\$157.4
Exposure <sup>2</sup>	\$483.2	\$388.4	\$273.6	\$94.8	\$209.7
DPI <sup>3</sup>	0.0x	0.0x	0.0x	0.0x	0.0x
TVPI <sup>4</sup>	1.11x	1.10x	1.04x	0.01x	0.07x
IRR <sup>5</sup>	10.5%	11.0%	12.1%	-0.5%	-1.7%
TVPI Net of StepStone Fees <sup>6</sup>	1.11x	1.10x	1.04x	0.01x	0.07x
IRR Net of StepStone Fees <sup>6</sup>	10.3%	10.9%	12.0%	-0.5%	-1.6%

\* Note that amounts may not total due to rounding. **Past performance is not necessarily indicative of future results.**

<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 S&P Capital IQ 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.

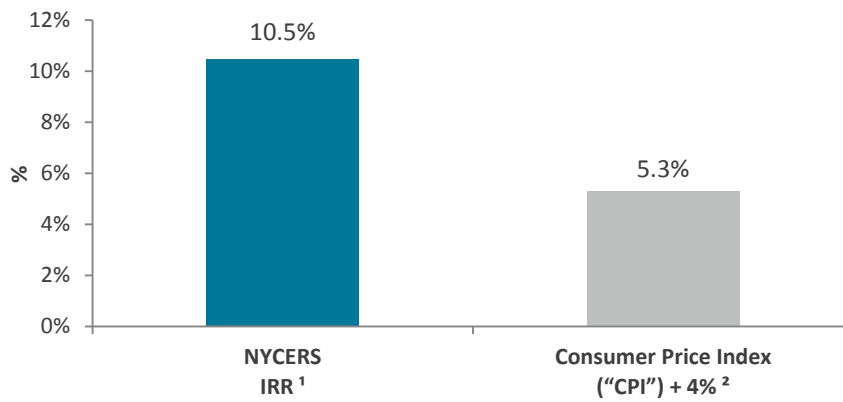
<sup>5</sup> IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of fund managers' fees, expenses and carried interest.

<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.

## 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 June 30, 2016, the Program outperformed the benchmark by 5.2%. 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 June 30, 2016.



<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. **Past performance is not necessarily indicative of future results.**

<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 June 30, 2016 (US\$ in millions)	Market Value		Unfunded Commitment		Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
<b>By Strategy:</b>						
Core	165.7	100.0%	317.5	100.0%	483.2	100.0%
Non-Core	-	0.0%	-	0.0%	-	0.0%
<b>Total</b>	<b>165.7</b>	<b>100.0%</b>	<b>317.5</b>	<b>100.0%</b>	<b>483.2</b>	<b>100.0%</b>
<b>By Geographic Focus:</b>						
Global	59.6	36.0%	113.9	35.9%	173.5	35.9%
OECD	106.1	64.0%	203.6	64.1%	309.7	64.1%
<b>Total</b>	<b>165.7</b>	<b>100.0%</b>	<b>317.5</b>	<b>100.0%</b>	<b>483.2</b>	<b>100.0%</b>
<b>By Industry Focus:</b>						
Diversified	158.2	95.5%	280.4	88.3%	438.7	90.8%
Energy	7.5	4.5%	37.1	11.7%	44.5	9.2%
<b>Total</b>	<b>165.7</b>	<b>100.0%</b>	<b>317.5</b>	<b>100.0%</b>	<b>483.2</b>	<b>100.0%</b>



## II. Infrastructure Market Overview

### Market Overview

#### North America

Q2 2016 saw the financial close of the landmark NYC LaGuardia Airport Terminal Public Private Partnership (“P3”) project. The US\$ 4 billion deal is the country’s largest P3 to date and has prompted grantors across the country to look at similar deals. Increasingly, public agencies such as Los Angeles Metropolitan Authority and Washington DC Office of Private Public Partnerships are relying on unsolicited proposals to generate potential P3 transactions. Notable P3 legislation has been passed and signed into law in Kentucky, Tennessee and New Hampshire. Kentucky’s new mandate in particular not only enables counties and regional authorities to enter into P3 agreements, but also allows P3s to be used across all sectors. Offshore wind has gradually been gaining traction with some states passing or considering legislation that would allow offshore wind projects to become economically viable. For example, Massachusetts voted to move forward with a bill that would require up to 2GW of offshore wind procurement by 2027.

#### Europe

While Britain’s vote to leave the European Union in June (“Brexit”) has created shorter term market uncertainty, stemming from currency volatility and concerns about rising funding costs, economic linkages between the UK and EU are significant and very longstanding. It is expected that interconnectivity between the economies of the UK and Europe will endure. Given the nature of the infrastructure asset class, it is expected that the impact of Brexit will be relatively less than for other sectors in the economy. Typically revenues are not exposed to market volatility as they are structured as long term contracts or subject to regulation. While some infrastructure assets might have GDP exposure (such as airports), it is expected that long-term demographic trends and the essential need of much travel will underpin revenues in these assets. Financial investors have been active in European renewables, including UK offshore wind, drawn to long-term stable cash flows. A large pipeline of offshore wind projects will require funding over the next 15 months. Projects in Germany, the Netherlands, Belgium and France all offer investors opportunities in both debt and equity financing.

#### Australia

In Australia, the 50-year lease of Port of Melbourne was won in September by a consortium consisting of QIC, Future Fund, GIP and OMERS, at a reported price of A\$9.7bn and an estimated 25x EBITDA multiple. This deal further continues the trend of the sector being highly contested by a range of infrastructure investors, with transaction outcomes over the past 5 years for Port of Brisbane, Port Botany and Port Kembla, Port of Newcastle, and Port of Darwin ranging from estimated EBITDA multiples of 24x to 27x. And, in the electricity sector, the AusGrid transaction introduced new uncertainty for foreign investors into critical infrastructure assets. Chinese bidders State Grid and Cheung Kong Infrastructure were blocked from the sale process due to cited national security considerations. This has delayed the sale process for Endeavour, the third transaction in a series of privatizations for New South Wales’ electricity providers.

## Infrastructure Fundraising

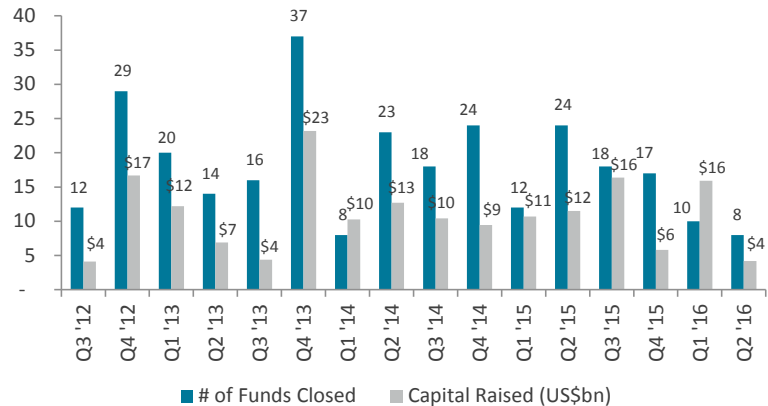
The level of institutional capital secured by unlisted infrastructure funds that reached a final close in Q2 2016 was significantly lower compared with Q1 2016.

During the first quarter, eight funds held final closings. Aggregate capital raised was US\$4.2 billion. The amount represented a year over year decrease of 63% compared to Q2 2015, when 24 funds held a final close raising US\$11.5 billion.

The largest fund to reach a final closing during Q2 was Carlyle Power Partners II, which raised \$1.5 billion of commitments. The fund will pursue investments in the US power generation sector in both traditional and renewable energy opportunities. Additionally, Meridiam Infrastructure Europe III raised €1.3 billion. The fund will invest in greenfield-stage public-private partnership transactions in Europe.

**Unlisted Infrastructure Fundraising**

Source: Preqin

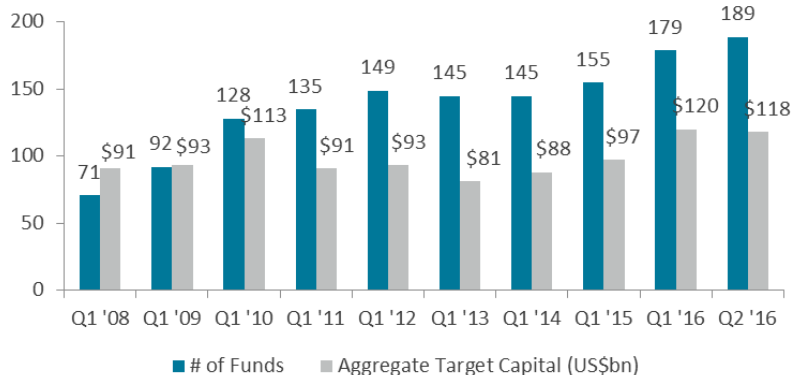


Fund	General Partner	Size (mn)	Location Focus
Carlyle Power Partners II	Carlyle Group	\$ 1,500	North America
Meridiam Infrastructure Europe III	Meridiam	€ 1,300	Europe
SMA 5	Macquarie Infrastructure Debt Investment So	€ 500	UK
Meridiam Transition Fund	Meridiam	€ 350	France
Star America Infrastructure Partners	Star America Infrastructure Partners	\$ 300	North America

At the end of the second quarter, Preqin observed 189 funds in market targeting aggregate capital commitments of US\$118 billion. The largest funds in market include: Brookfield Infrastructure Fund III, targeting US\$14 billion, and Global Infrastructure Partners III, targeting US\$12.5 billion.

**Unlisted Infrastructure Fundraising**

Source: Preqin



## Major Transactions

During the second quarter, 225 infrastructure deals were completed with an estimated aggregate deal value of US\$97 billion, representing a 40% decrease compared to the prior quarter. Several significant infrastructure transactions completed in the second quarter are presented below.

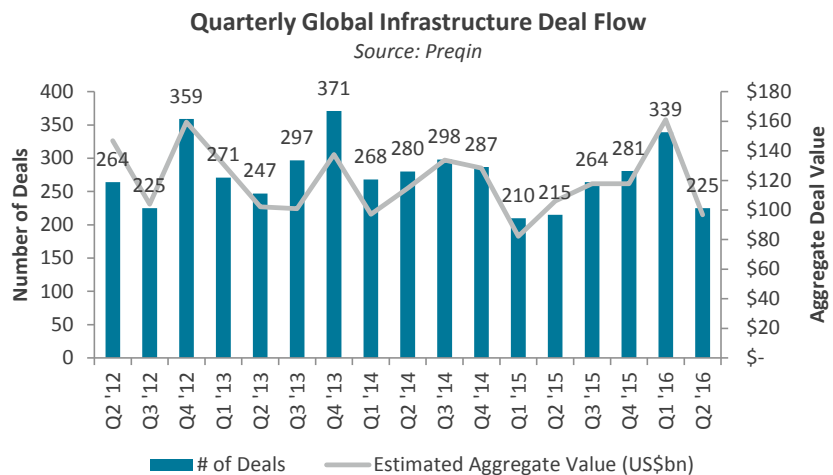
In April 2016, PT Pertamina and Rosneft Oil Company closed a \$13.0 billion joint venture deal to construct an oil refinery in Indonesia.

In June 2016, HOCHTIEF Concessions and J. Murphy and Sons closed on a £2.4 billion deal to construct a 23-mile mining tunnel in North Yorkshire, UK.

In June 2016, Sacyr Vallehermoso was awarded a public-private partnership contract for the construction and concession of the 186km Rome-Latina freeway in Italy valued at €2.8 billion.

In June 2016, TransCanada Corporation was awarded the contract to construct, own, and operate the Sur de Texas-Tuxpan natural gas pipeline in Mexico. The deal is valued at \$2.1 billion.

In April 2016, Cheung Kong Infrastructure Holdings agreed to purchase select midstream assets in Lloydminster, Canada from Husky Energy in the amount of \$1.7 billion representing a 65% equity stake.



### III. Portfolio Review

#### Quarterly Highlights

- **New Investment Commitments** – During the second quarter of 2016, the Program closed on one new investment commitment totaling US\$91.0 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
Brookfield Infrastructure Fund III, L.P.	April 2016	2016	Infrastructure	Global	Diversified	\$91.0
<b>Total</b>						<b>\$91.0</b>

- **Subsequent Investment Commitments** – Subsequent to quarter-end through October 21, 2016, the Program has not closed on any additional investment commitments.
- **Cash Outflow Decreased** – During the second quarter of 2016, the Program made US\$9.9 million of contributions and received US\$0.4 million of distributions, for a net cash outflow of US\$9.5 million. This compared to a net cash outflow of US\$13.3 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 second quarter of 2016, net of cash flow activity, the valuation of the Portfolio increased by approximately US\$3.3 million, or 2.0%, from the prior quarter. The valuation increase reflects the increase in value of underlying investments in Brookfield Infrastructure Fund II, IFM Global Infrastructure Fund, Brookfield Infrastructure Fund III, and KKR Global Infrastructure Investors II.
- **New Underlying Fund Investments** – During the second quarter of 2016, seven new investment positions were added to the Portfolio. The top five new investments in terms of the Portfolio's exposed invested capital are below.

US\$ in millions

Company	Fund(s)	Investment Date	Stage	Industry	Country	Exposed Invested Capital	Exposed Market Value	TVM
Columbia Renewable Power	Brookfield Infrastructure Fund III, L.P.	Jan-16	Private	Renewables	Colombia	5.9	6.6	1.1x
PEMEX Midstream	KKR Global Infrastructure Investors II L.P.	Jun-16	Private	Energy	Mexico	4.3	4.3	1.0x
U.S. Renewable Power	Brookfield Infrastructure Fund III, L.P.	Apr-16	Private	Renewables	United States	3.6	3.7	1.0x
Peruvian Toll Roads	Brookfield Infrastructure Fund III, L.P.	Jun-16	Private	Transportation	Peru	2.7	2.7	1.0x
Arrowhead Gulf Coast Holdings	First Reserve Energy Infrastructure Fund II, L.P.	May-16	Private	Energy	United States	2.1	2.1	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 June 30, 2016. Note that the performance of funds that are less than one year old is not meaningful.

*As of June 30, 2016 (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	\$45.3	\$5.2	\$51.3	\$56.5	\$11.1	\$30.1	\$81.4	0.1x	1.2x	16.2%
2014	197.0	101.6	1.6	106.2	107.8	6.2	97.7	203.9	0.0x	1.1x	6.2%
2016	197.0	8.0	-	8.2	8.2	0.2	189.8	198.0	NM	NM	NM
<b>Total</b>	<b>\$469.0</b>	<b>\$155.0</b>	<b>\$6.8</b>	<b>\$165.7</b>	<b>\$172.5</b>	<b>\$17.5</b>	<b>\$317.5</b>	<b>\$483.2</b>	<b>0.0x</b>	<b>1.1x</b>	<b>10.5%</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 June 30, 2016.

*As of June 30, 2016 (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>\$469.0</b>	<b>\$155.0</b>	<b>\$6.8</b>	<b>\$165.7</b>	<b>\$172.5</b>	<b>\$17.5</b>	<b>\$317.5</b>	<b>\$483.2</b>	<b>0.0x</b>	<b>1.1x</b>	<b>10.5%</b>
Diversified	424.0	146.8	6.6	158.2	164.8	18.0	280.4	438.7	0.0x	1.1x	11.1%
Energy	45.0	8.2	0.2	7.5	7.7	(0.5)	37.1	44.5	0.0x	0.9x	(8.4%)
<b>Total</b>	<b>\$469.0</b>	<b>\$155.0</b>	<b>\$6.8</b>	<b>\$165.7</b>	<b>\$172.5</b>	<b>\$17.5</b>	<b>\$317.5</b>	<b>\$483.2</b>	<b>0.0x</b>	<b>1.1x</b>	<b>10.5%</b>

### Performance by Geographic Focus

The following table and charts illustrate the Portfolio's since-inception investment performance by geographic focus as of June 30, 2016.

*As of June 30, 2016 (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	\$166.0	\$52.5	\$5.2	\$59.6	\$64.8	\$12.2	\$113.9	\$173.5	0.1x	1.2x	17.5%
OECD	303.0	102.4	1.6	106.1	107.8	5.3	203.6	309.7	0.0x	1.1x	5.3%
<b>Total</b>	<b>\$469.0</b>	<b>\$155.0</b>	<b>\$6.8</b>	<b>\$165.7</b>	<b>\$172.5</b>	<b>\$17.5</b>	<b>\$317.5</b>	<b>\$483.2</b>	<b>0.0x</b>	<b>1.1x</b>	<b>10.5%</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:

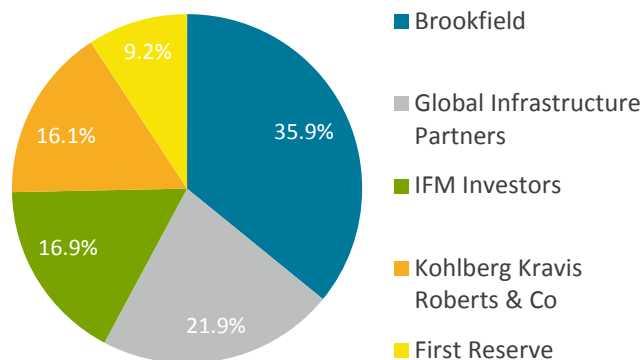
- Core Infrastructure Investments: 60% to 100%; and
- Non-Core Infrastructure Investments: 0% to 40%.

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 June 30, 2016 (US\$ in millions)	Market Value		Unfunded Commitment		Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
<b>By Strategy:</b>						
Core	165.7	100.0%	317.5	100.0%	483.2	100.0%
Non-Core	-	0.0%	-	0.0%	-	0.0%
<b>Total</b>	<b>165.7</b>	<b>100.0%</b>	<b>317.5</b>	<b>100.0%</b>	<b>483.2</b>	<b>100.0%</b>
<b>By Geographic Focus:</b>						
Global	59.6	36.0%	113.9	35.9%	173.5	35.9%
OECD	106.1	64.0%	203.6	64.1%	309.7	64.1%
<b>Total</b>	<b>165.7</b>	<b>100.0%</b>	<b>317.5</b>	<b>100.0%</b>	<b>483.2</b>	<b>100.0%</b>
<b>By Industry Focus:</b>						
Diversified	158.2	95.5%	280.4	88.3%	438.7	90.8%
Energy	7.5	4.5%	37.1	11.7%	44.5	9.2%
<b>Total</b>	<b>165.7</b>	<b>100.0%</b>	<b>317.5</b>	<b>100.0%</b>	<b>483.2</b>	<b>100.0%</b>

### By Investment Manager

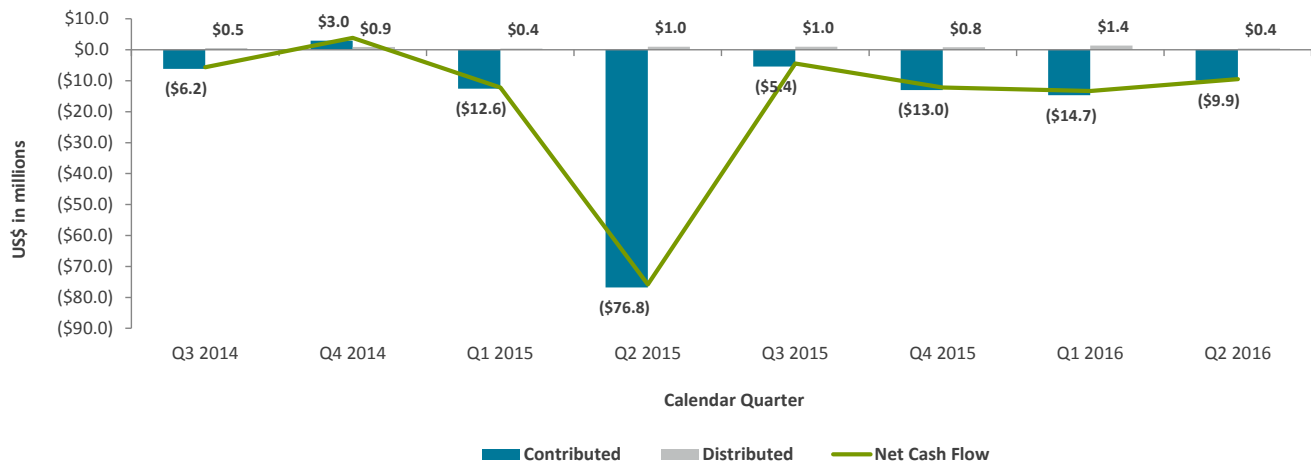
As of June 30, 2016, the Program had made six investment commitments to five managers. NYCERS seeks to limit its exposure to any single manager to no more than 10% of the total Real Assets Program when fully invested. As the Program matures and closes on additional commitments, the single manager exposure is expected to decline significantly. Below is the Portfolio's current exposure by manager.



## Portfolio Cash Flow Analysis

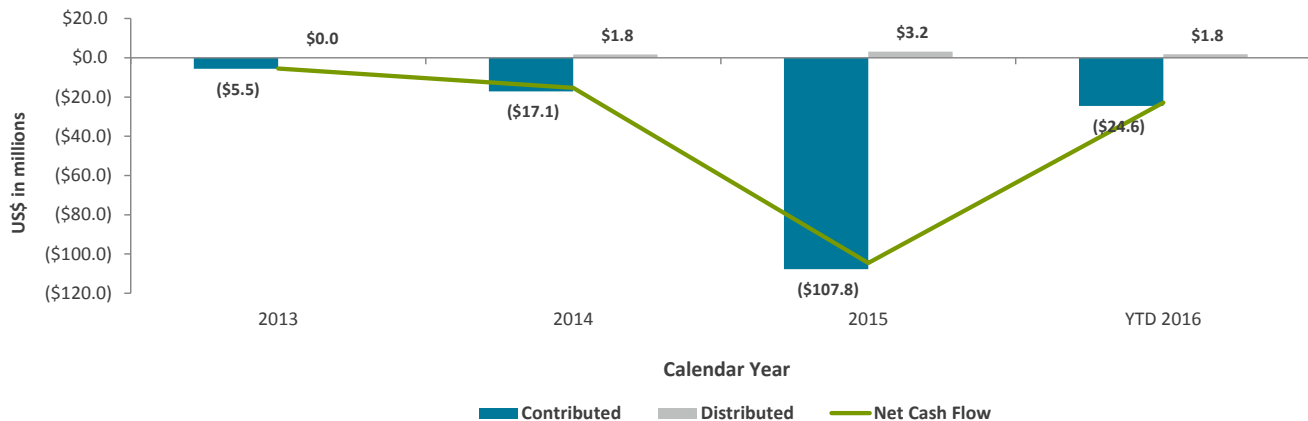
### Quarterly Cash Flow Activity

During the second quarter of 2016, the Program made US\$9.9 million of contributions and received US\$0.4 million of distributions, for a net cash outflow of US\$9.5 million. As of June 30, 2016, six 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.



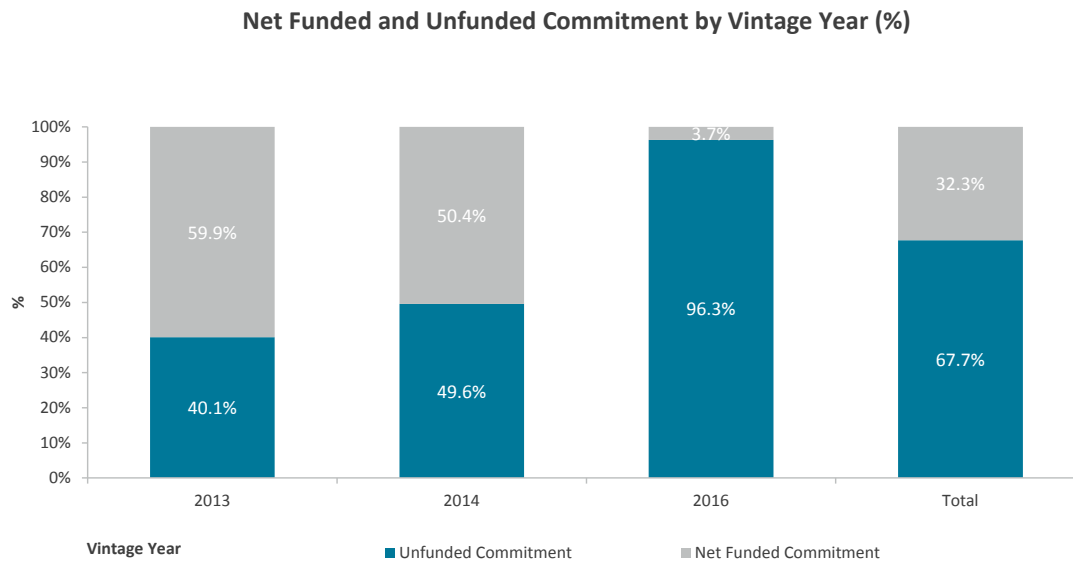
### Annual Cash Flow Activity

During the first six months of 2016, the Program made US\$24.6 million of contributions and received US\$1.8 million of distributions, for a net cash outflow of US\$22.8 million. The graph below illustrates cash flow activity since inception by calendar year.

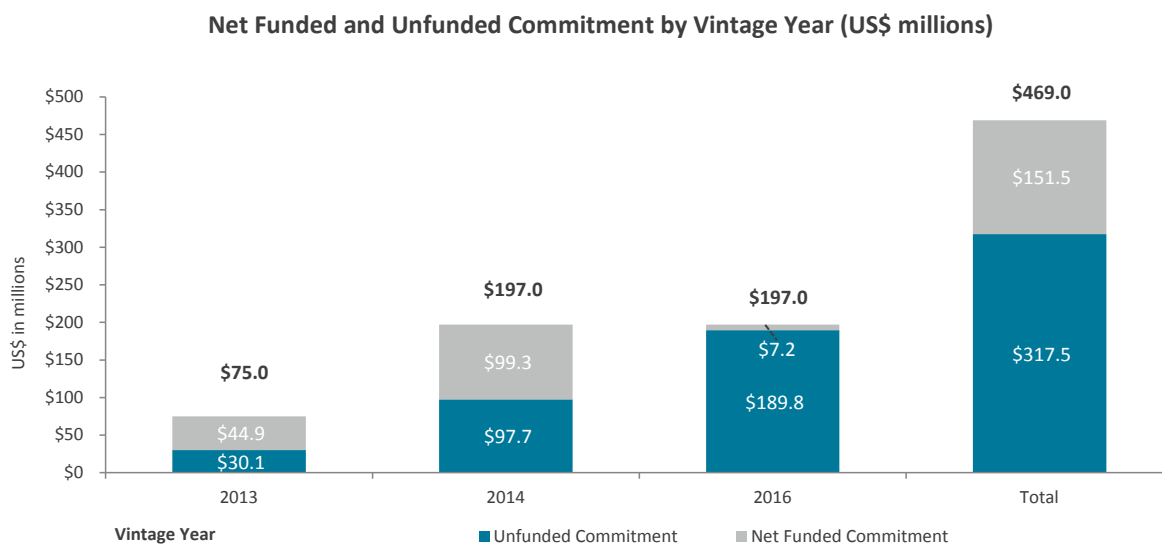


### Net Funded and Unfunded Commitments by Vintage Year

The following chart illustrates the Portfolio's net funded commitments (defined as total contributions inside commitment less any returns of excess capital and callable distributions) as a percentage of total capital commitments, by fund vintage year, as of June 30, 2016. Overall, the Portfolio was 67.7% unfunded as of quarter-end.



The following chart illustrates the Portfolio's net funded commitments relative to total capital commitments, by fund vintage year, as of June 30, 2016. Overall, the Portfolio had US\$317.5 million of unfunded commitments as of quarter-end.



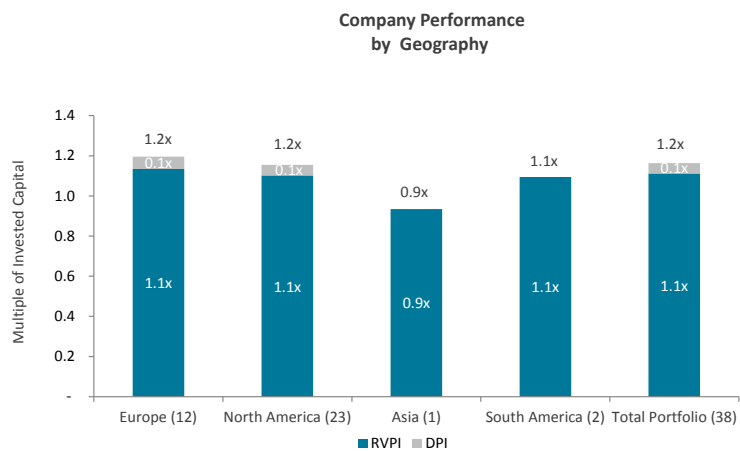
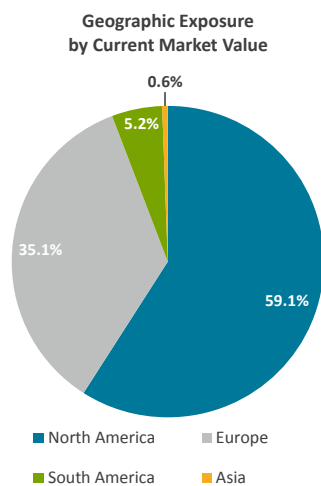


## Portfolio Company-Level Analysis

As of quarter-end, the Portfolio had exposure to 38 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. The Program's individual portfolio investment exposure is relatively concentrated as a result of the relative immaturity of the Program.

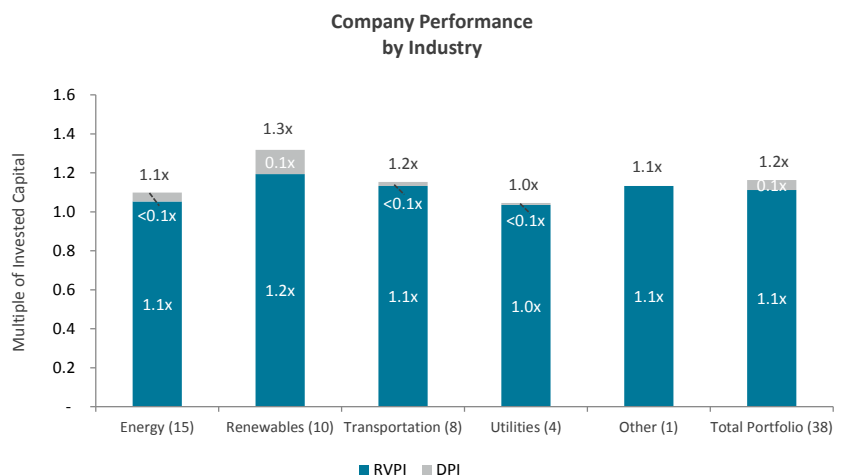
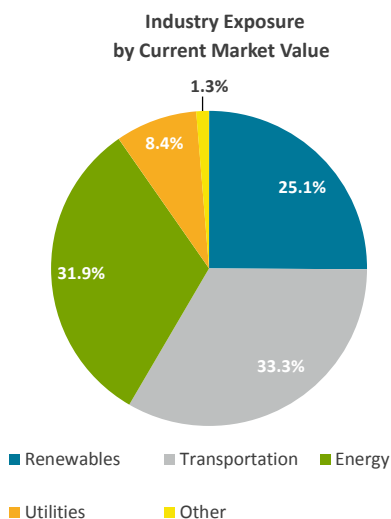
### Geographic Exposure and Performance

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



### Industry Exposure and Performance

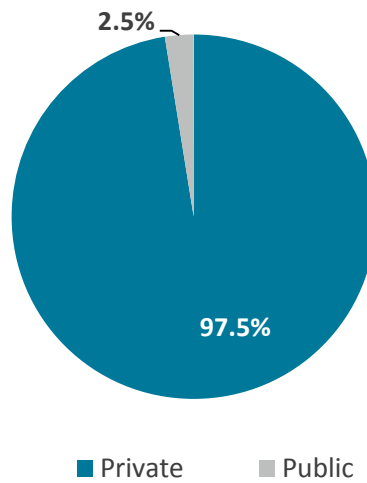
The following charts illustrate the Portfolio's current exposure and performance by industry at the portfolio company level.



## Public Market Exposure

As of quarter-end, publicly traded investments comprised 2.5% of the Portfolio's exposed market value. The following chart illustrates the current public market exposure at the portfolio company level.

**Public Market Exposure Current Market Value**



## 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 5.7% of total pension assets and the market value of NYCERS Infrastructure Program represents approximately 0.3% 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 June 30, 2016, the Portfolio outperformed the benchmark by 5.2%.</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% 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 40.6%*.</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 June 30, 2016.

## **APPENDICES:**

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## **Basket Clause**

## NYCERS - BASKET/NON BASKET SUMMARY

As of September 30th, 2016		Adjusted Fund Policy			Fund Actual (PE & RE on an invested basis)		
<u>Equity</u>		Non Basket*	Basket*	Total	Non Basket*	Basket*	Total
<b>Domestic Equity</b>		33.7%	0.0%	33.7%	33.5%	0.0%	33.5%
<b>Non-U.S. Equity</b>		10.0%	7.2%	17.2%	10.0%	7.8%	17.8%
<b>Private Equity</b>		0.0%	7.0%	7.0%	0.0%	7.3%	7.3%
<b>Real Assets</b>		5.5%	0.0%	5.5%	5.5%	0.0%	5.5%
<b>Hedge Funds</b>		0.0%	1.9%	1.9%	0.0%	1.9%	1.9%
<b>Total Equity</b>		49.2%	16.0%	65.2%	48.9%	17.0%	65.9%
<b>Fixed Income</b>							
<b>Core+5</b>		21.0%	0.5%	21.5%	16.4%	0.5%	16.9%
<i>U.S. Gov't Sector</i>		4.6%	0.0%	4.6%	2.2%	0.0%	2.2%
<i>Mortgage Sector</i>		7.3%	0.0%	7.3%	5.4%	0.0%	5.4%
<i>Credit Sector</i>		9.0%	0.5%	9.5%	7.9%	0.5%	8.4%
<b>High Yield</b>		2.5%	0.8%	3.3%	3.2%	0.8%	4.0%
<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%	3.9%	0.4%	4.4%
<b>Convertibles</b>		1.0%	0.0%	1.0%	1.0%	0.0%	1.0%
<b>Opportunistic Fixed Income</b>		0.0%	2.6%	2.6%	0.0%	2.6%	2.6%
<b>Other Fixed Income</b>		0.0%	0.0%	0.0%	3.4%	0.0%	3.4%
<b>Total Fixed Income</b>		28.6%	6.2%	34.8%	27.9%	6.2%	34.1%
<b>Total Fund</b>		77.7%	22.3%	100.0%	76.8%	23.2%	100.0%
<b>Remaining Capacity</b>			2.7%			1.8%	

\* Note: Basket amounts are estimates

## **Liquidity Analysis**

## NYCERS Liquidity Profile - Static Analysis

12/5/16

AUM as of September 30, 2016

	Current MV	Liquid Assets		
		Today	1 Year	2 Years
<b>PUBLIC EQUITY</b>	<b>\$28,956</b>	<b>\$28,956</b>	<b>\$28,956</b>	<b>\$28,956</b>
U.S.	18,919	18,919	18,919	18,919
EAFE Equity	5,991	5,991	5,991	5,991
Emerging Markets	4,047	4,047	4,047	4,047
<b>PUBLIC FIXED INCOME</b>	<b>\$17,789</b>	<b>\$17,115</b>	<b>\$17,424</b>	<b>\$17,424</b>
Short Term Securities	1,117	1,117	1,117	1,117
U.S. Government	1,272	1,272	1,272	1,272
Mortgages				
Core Mortgages	3,040	3,040	3,040	3,040
ETI	780	106	414	414
Credit - Investment Grade	5,822	5,822	5,822	5,822
Corporate - High Yield	2,236	2,236	2,236	2,236
Corporate - Bank Loans	1,050	1,050	1,050	1,050
UST - Inflation Protected	2,472	2,472	2,472	2,472
<b>ALTERNATIVE ASSETS</b>	<b>\$9,799</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Private Equity	4,155	0	0	0
Private Real Estate	2,890	0	0	0
Infrastructure	208	0	0	0
Opportunistic Fixed Income	1,497	1,122	1,497	1,497
Hedge Funds	1,050	1	806	1,050
<b>Total Assets</b>	<b>\$56,545</b>	<b>\$46,072</b>	<b>\$46,380</b>	<b>\$46,380</b>
<b>Total Illiquid \$</b>		<b>\$10,473</b>	<b>\$10,164</b>	<b>\$10,164</b>
<b>Total Illiquid %</b>		<b>18.5%</b>	<b>18.0%</b>	<b>18.0%</b>
Unfunded PE Commitments	\$2,471			
Unfunded RE Commitments	1,468			
<b>Total commitments \$</b>	<b>\$3,939</b>			
<b>Total commitments %</b>	<b>7.0%</b>			



## NYCERS Liquidity Profile - Static Analysis

12/5/16

AUM as of September 30, 2016

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

<b>Total Illiquid \$</b>	\$10,473	\$10,164	\$10,164
<b>Total Illiquid %</b>	27.8%	27.0%	27.0%

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

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	Current MV	Liquid Assets		
		Today	1 Year	2 Years
<b>Total Assets</b>	<b>\$56,545</b>	<b>\$46,072</b>	<b>\$46,380</b>	<b>\$46,380</b>

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

Unfunded PE Commitments Drawn	\$494	\$989
Unfunded RE Commitments Drawn	294	587
<b>Total commitments \$</b>	<b>\$788</b>	<b>\$1,576</b>
<b>Total commitments %</b>	1.4%	2.8%

<b>Total Illiquid \$</b>	\$10,952	\$11,740
<b>Total Illiquid %</b>	19.4%	20.8%

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>	\$10,473	\$10,952	\$11,740
<b>Total Illiquid %</b>	27.8%	29.1%	31.1%

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