

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

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John C. Liu  
COMPTROLLER

**NEW YORK CITY BOARD OF EDUCATION  
RETIREMENT SYSTEM**

**INVESTMENT MEETING**

**SEPTEMBER 21, 2012**

**LOCATION:**

Buck Consultants  
1<sup>st</sup> Floor Lobby - Xerox Conference Center  
245 Park Avenue  
New York, NY 10167

## INVESTMENT MEETING

SEPTEMBER 21, 2012

## PUBLIC AGENDA

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# PUBLIC AGENDA

## I. Performance Reviews:

Quarterly Review/Annual Review – June 30, 2012  
(Previously Distributed)

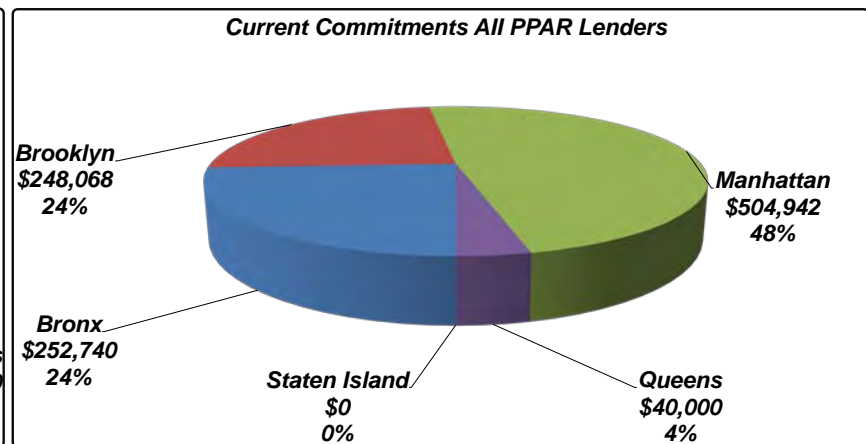
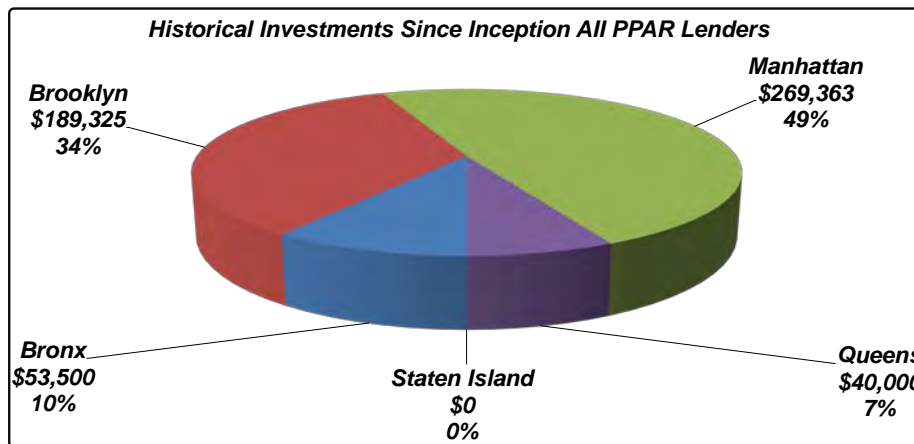
# ETI Quarterly Report

The City of New York -Office of the Comptroller  
Bureau of Asset Management  
BERS Economically Targeted Investments Quarterly Report  
Collateral Benefits as of 06/30/2012

**Public/Private Apartment Rehabilitation Program (PPAR)**

Lenders*	CCD		CFSB		NCBCI		LIIF		All Lender Totals	
	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units	Dollars	Units
Contractual Commitments	\$800,000	n/a	\$2,000,000	n/a	\$500,000	n/a	\$1,500,000	n/a	\$4,800,000	n/a
Current Market Value	\$279,414	n/a	\$120,991	n/a	\$50,517	n/a	\$98,356	n/a	\$549,277	n/a
<b>Commitments 2Q 12 (included in total)</b>										
Bronx	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
Brooklyn	0	0	0	0	0	0	69,980	47	69,980	47
Manhattan	0	0	0	0	0	0	0	0	0	0
Queens	40,000	54	0	0	0	0	0	0	40,000	54
Staten Island	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>\$40,000</b>	<b>54</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$69,980</b>	<b>47</b>	<b>\$109,980</b>	<b>101</b>
<b>Delivered 2Q 12 (included in total)</b>										
Bronx	\$53,500	76	\$0	0	\$0	0	\$0	0	\$53,500	76
Brooklyn	0	0	0	0	0	0	0	0	0	0
Manhattan	0	0	0	0	0	0	0	0	0	0
Queens	40,000	54	0	0	0	0	0	0	40,000	54
Staten Island	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>\$93,500</b>	<b>130</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$93,500</b>	<b>130</b>
<b>Total Commitments</b>										
Bronx	\$252,740	376	\$0	0	\$0	0	\$0	0	\$252,740	376
Brooklyn	123,560	128	0	0	18,327	33	106,181	118	248,068	279
Manhattan	74,405	49	40,948	30	156,477	206	233,111	246	504,942	531
Queens	40,000	54	0	0	0	0	0	0	40,000	54
Staten Island	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>\$490,705</b>	<b>607</b>	<b>\$40,948</b>	<b>30</b>	<b>\$174,804</b>	<b>239</b>	<b>\$339,292</b>	<b>364</b>	<b>\$1,045,750</b>	<b>1,240</b>
<b>Historical Investments</b>										
Bronx	\$53,500	76	\$0	0	\$0	0	\$0	0	\$53,500	76
Brooklyn	81,116	124	0	0	0	0	108,209	174	189,325	298
Manhattan	98,278	204	119,839	167	51,246	66	0	0	269,363	437
Queens	40,000	54	0	0	0	0	0	0	40,000	54
Staten Island	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>\$272,894</b>	<b>458</b>	<b>\$119,839</b>	<b>167</b>	<b>\$51,246</b>	<b>66</b>	<b>\$108,209</b>	<b>174</b>	<b>\$552,188</b>	<b>865</b>

\*Lenders : CitibankCommunity Development      Carver Federal Savings Bank      NCB Capital Impact      Low Income Investment Fund



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AFL-CIO Housing Investment Trust (HIT)  
Market Value \$11.6 million \*

NYC Community Investment Initiative (NYCCII)

**NYCCII PHASE II 2006-2012**

**Multifamily Investments Detail**

Borough	Dollars	Units
Bronx	\$52,827,900	802
Brooklyn	14,890,446	3,033
Manhattan	134,075,200	926
Queens	17,760,000	1,260
Staten Island	6,414,554	693
<b>Total</b>	<b>\$225,968,100</b>	<b>6,714</b>

**Single Family Investments Detail**

	Home Loans	Transactions	Member Loans	Total All NYC PF's
Bronx	\$192,898,759	902	2	272
Brooklyn	776,987,340	3,116	4	1,050
Manhattan	173,004,333	714	0	230
Queens	793,077,043	3,216	4	906
Staten Island	314,019,951	1,260	2	399
<b>Total</b>	<b>\$2,249,987,426</b>	<b>9,208</b>	<b>12</b>	<b>2,857</b>

Grand Total NYCCI Phase II \$2,475,955,526

Other- NYC Metro Area \*\* \$100,000,000 137 Units

**NYCCII Phase I 2002 - 2005**

		Units	Member Loans	Total All NYC PF's
Multifamily Investments	\$249,123,500	12,337	n/a	na
Single Family Investments	348,300,563	n/a	n/a	446
<b>Total NYCCII Phase I</b>	<b>\$597,424,063</b>	<b>12,337</b>	<b>0</b>	<b>446</b>

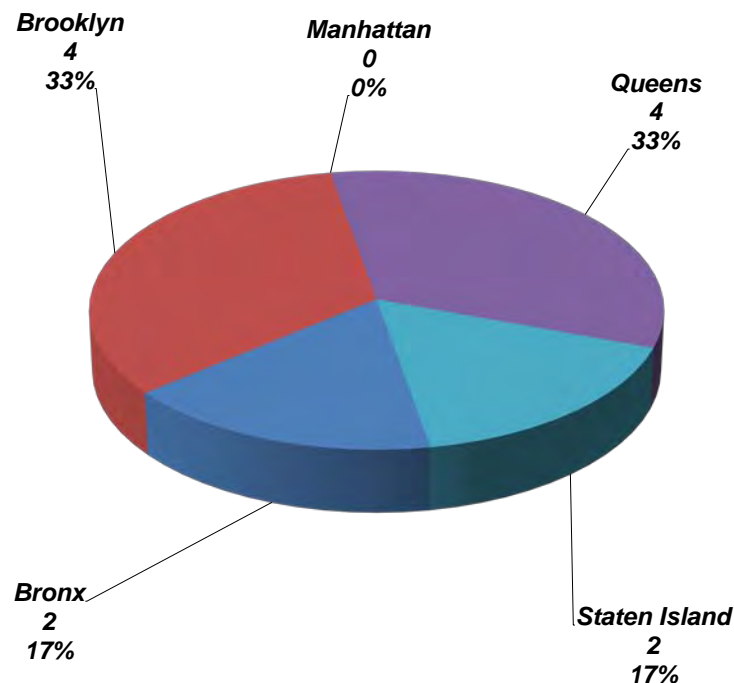
**NYCCII Phases I & II**

		Units	Member Loans	Total All NYC PF's
Multifamily Investments	\$475,091,600	19,051	n/a	n/a
Single Family Investments	\$2,598,287,989	n/a	12	3,303
<b>Grand Total NYCCII Phases I &amp; II</b>	<b>\$3,073,379,589</b>	<b>19,051</b>	<b>12</b>	<b>3,303</b>

\*Interest is reinvested

\*\*This investment is for a pediatric nursing facility in Yonkers, approximately 4 miles from the NYC border. It will finance a replacement facility for the Elizabeth Seton Pediatric Center, currently located in Chelsea, which is "one of only two pediatric nursing facilities in downstate New York, and the only one dedicated to long-term care." The new facility will have 137 beds and serve children from NYC, Westchester and Putnam Counties.

**HIT Home Loans To BERS Members Phase II**





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 BERS Economically Targeted Investments Quarterly Report  
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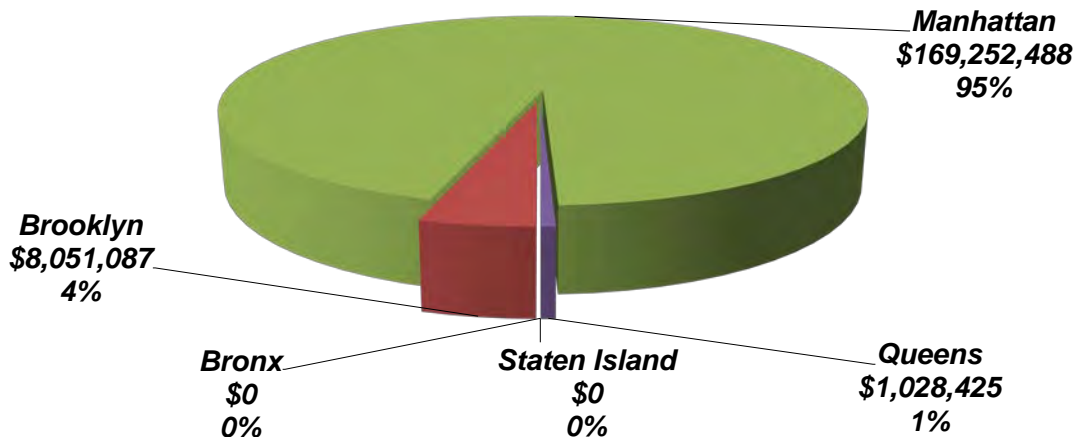
**AFL-CIO Housing Investment Trust (HIT)  
 NYC Workforce Housing Initiative 2009-2014**

**Investments Through 06/30/2012**

**Workforce Investment Detail**

<u>Borough</u>	<u>Dollars</u>	<u>Workforce Housing Units</u>
Bronx	\$0	0
Brooklyn	8,051,087	422
Manhattan	169,252,488	4,627
Queens	1,028,425	208
Staten Island	0	0
<b>Total</b>	<b>\$178,332,000</b>	<b>5,257</b>

**HIT Workforce Housing Initiative**

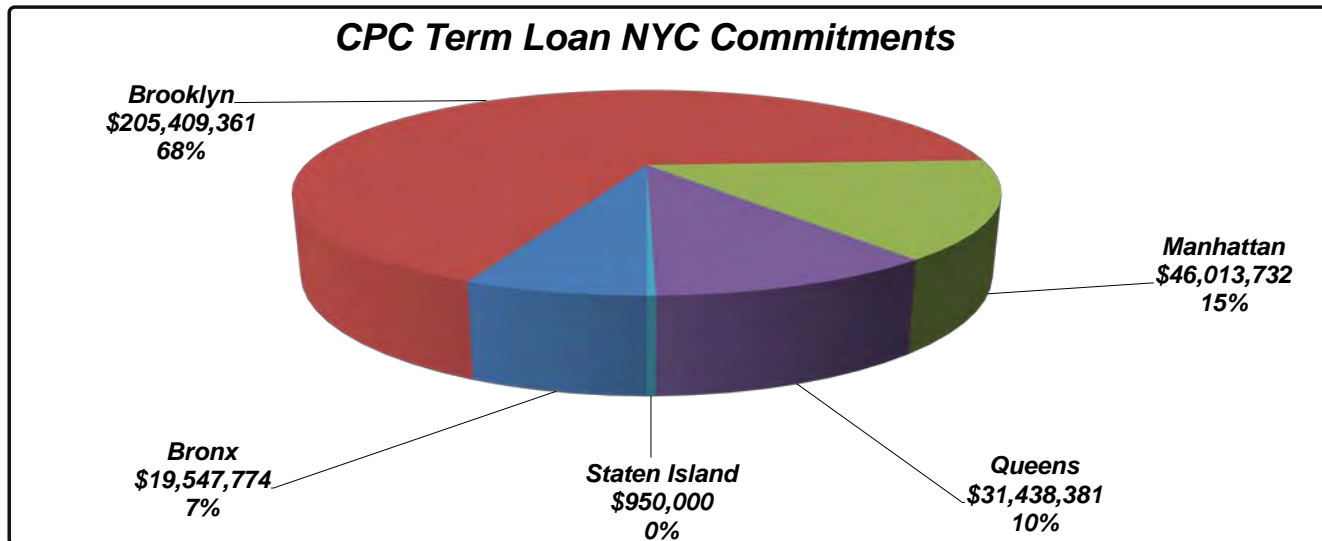


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**CPC Term Loan\***

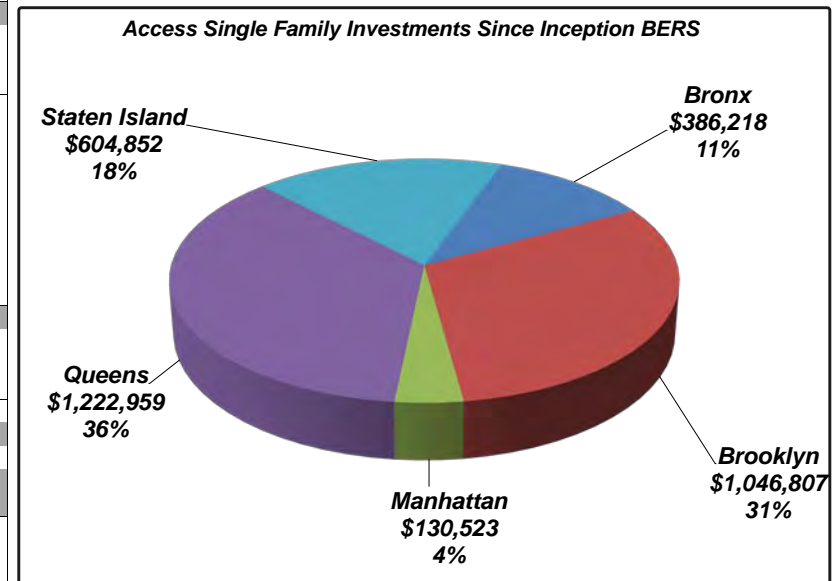
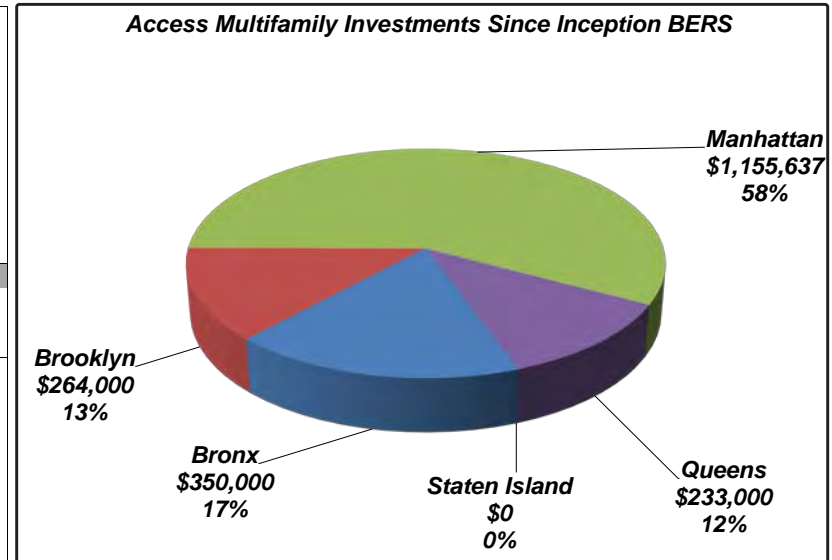
Total Revolver Current Commitments NYC	\$303,359,248			
BERS Commitment Share	\$1,106,700			
BERS Market Value*	\$1,106,700			
	<u># Loans</u>	<u>\$ Committed</u>	<u># Units Residential</u>	<u># Units Commercial</u>
Bronx	20	\$19,547,774	550	28
Brooklyn	59	205,409,361	1,772	40
Manhattan	39	46,013,732	849	22
Queens	8	31,438,381	254	10
Staten Island	1	950,000	3	0
<b>Grand Total NYC</b>	<b>127</b>	<b>\$303,359,248</b>	<b>3,428</b>	<b>100</b>
Other NY State	42	\$136,490,225	1,462	21

\*Equals the amount drawn down. Interest is paid monthly.



ACCESS CAPITAL STRATEGIES (Since Inception 2/01/07)

Allocated Amount \$2 million (2% of total account)			
Market Value \$2.7 million			
<b>Multifamily Investments Detail</b>			
	<b>BERS</b>	<b>Total</b>	<b># of LMI*</b>
<b>Borough</b>	<b>Investment</b>	<b>Units</b>	<b>Units</b>
Bronx	\$350,000	508	508
Brooklyn	264,000	404	404
Manhattan	1,155,637	2,815	1,677
Queens	233,000	762	762
Staten Island	0	0	0
<b>Total BERS Multifamily Investments</b>	<b>\$2,002,637</b>	<b>4,489</b>	<b>3,351</b>
<b>Multifamily Total All Systems</b>	<b>\$100,131,826</b>	<b>4,489</b>	<b>3,351</b>
<b>Single Family Investments Detail</b>			
	<b>BERS</b>	<b>Total</b>	<b># of LMI*</b>
	<b>Investment</b>	<b>Units</b>	<b>Units</b>
Bronx	\$386,218	113	113
Brooklyn	1,046,807	287	287
Manhattan	130,523	28	28
Queens	1,222,959	304	304
Staten Island	604,852	153	153
<b>Total BERS Single Family Investments</b>	<b>\$3,391,360</b>	<b>885</b>	<b>885</b>
<b>Single Family Total All Systems</b>	<b>\$169,567,980</b>	<b>885</b>	<b>885</b>
<b>Other Investments Detail</b>			
	<b>BERS</b>	<b># of Loans</b>	
	<b>Investment</b>		
Bronx	\$13,500	1	
Brooklyn	107,808	8	
Manhattan	48,658	5	
Queens	10,869	3	
Staten Island	0	0	
<b>Total BERS Other Investments</b>	<b>\$180,835</b>	<b>17</b>	
<b>Other Investments Total All Systems</b>	<b>\$9,041,740</b>	<b>17</b>	
<b>Grand Total All BERS</b>	<b>\$5,574,831</b>		
<b>Grand Total All Systems</b>	<b>\$278,741,546</b>		
*LMI = Low or Moderate Income			



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Bureau of Asset Management  
Bers Economically Targeted Investments Quarterly Report  
Collateral Benefits as of 06/30/2012**

	Assets (\$MM)	Trailing 1 Month	Trailing 3 Months	6/30/2007 6/30/2012	Year To Date	Trailing 1 Year	Trailing* 3 Years	Trailing* 5 Years	Trailing* 7 Years	Trailing* 9 Years	Trailing* 10 Years	Trailing* 11 Years	Trailing* 15 Years	Since Inception	Data Start Date
<b>BERS</b>															
AFL-CIO HOUSING INV TRUST	11.59	0.15	2.42	7.60	2.64	7.60	6.48	6.87	****	****	****	****	****	6.13	11/30/06
ACCESS - RBC	2.73	0.43	1.71	6.57	2.46	6.57	6.18	7.37	****	****	****	****	****	6.86	02/28/07
CPC - TERM LOAN	1.11	0.21	0.63	2.34	1.26	2.34	2.16	3.21	****	****	****	****	****	3.48	02/28/07
CCD-PPAR	0.28	0.95	4.52	8.83	6.07	8.83	9.36	9.54	****	****	****	****	****	8.95	11/30/06
CFSB-PPAR	0.12	1.30	3.13	5.67	4.34	5.67	8.29	8.17	****	****	****	****	****	7.53	09/30/06
LIIF-PPAR	0.10	0.50	1.58	5.72	3.01	5.72	****	****	****	****	****	****	****	5.54	07/31/09
NCBCI -PPAR	0.05	0.77	2.34	8.88	3.89	8.88	****	****	****	****	****	****	****	6.64	07/31/09
TOTAL BERS ETI (w/cash)**	15.99	0.23	2.19	7.01	2.57	7.01	6.10	6.73	6.84	4.95	4.94	4.95	5.28	7.19	11/30/84
TOTAL BERS ETI (w/o cash)**	15.99	0.24	2.21	7.07	2.61	7.07	6.35	6.89	7.00	4.31	4.97	5.05	5.35	7.59	11/30/84
BOARD OF ED CUSTOM ETI BENCHMARK (no cash)	****	0.04	1.82	6.64	2.14	6.64	6.20	6.42	****	****	****	****	****	****	
BARCLAYS CAPITAL US AGGREGATE BOND INDEX	****	0.04	2.06	7.47	2.37	7.47	6.93	6.79	5.58	5.11	5.63	5.90	6.27	****	

\*Time periods greater than one year are annualized. Historical returns prior to April 2004 provided by Citigroup.

\*\* Returns are net of fees.

## Real Estate Quarterly Report

**New York City  
Board of Education Retirement System**

**Performance Measurement Report  
First Quarter 2012**

The Townsend Group

Cleveland, OH San Francisco, CA London, UK Hong Kong

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# The Townsend Group Performance Measurement Report

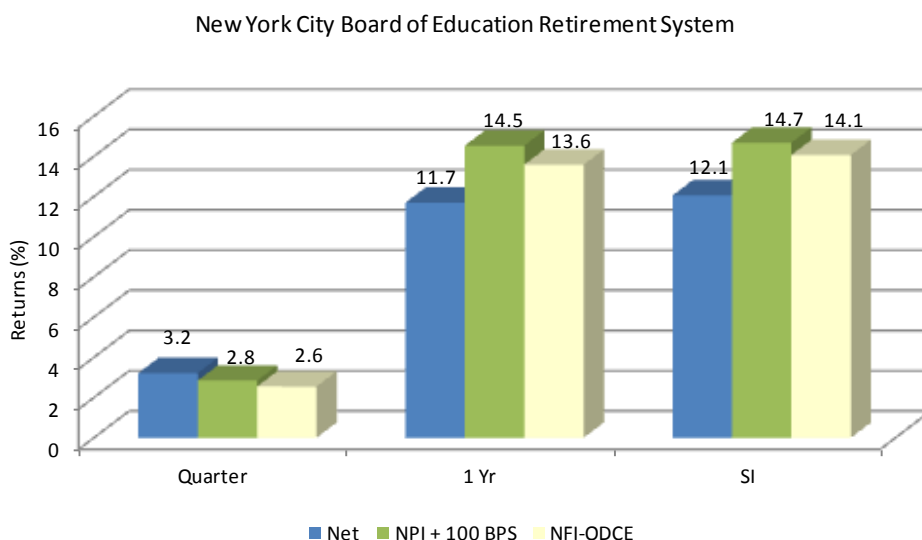
## NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

### FIRST QUARTER 2012

#### I. Performance Summary

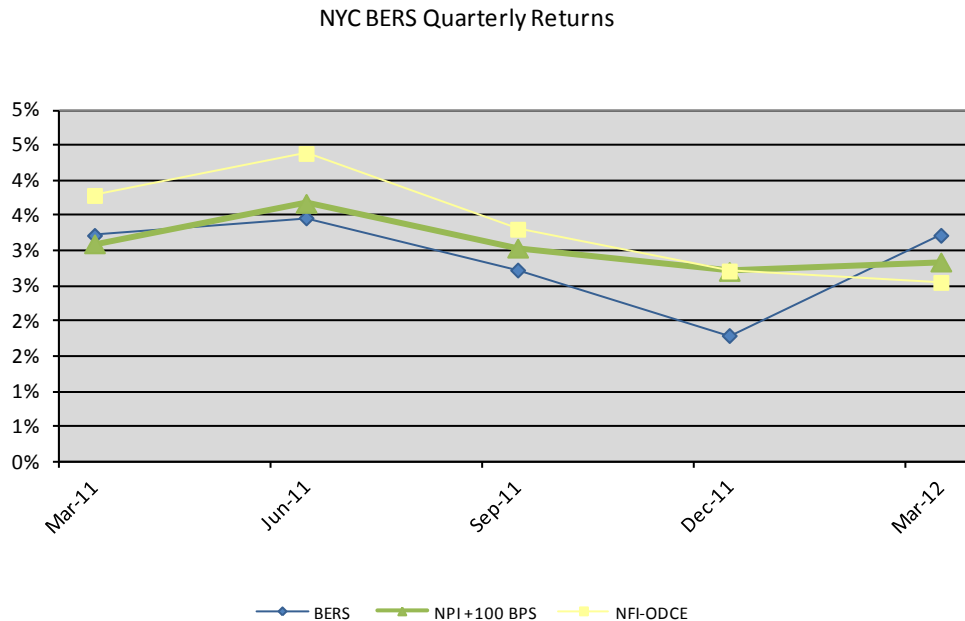
At the end of the First Quarter 2012, ("Quarter") The New York City Board of Education Retirement System ("BERS") Real Estate Portfolio ("Portfolio") had a cumulative market value of \$61.3 million. Total market value plus unfunded commitments was \$105 million, or 49.6% of the real estate allocation. During the Quarter, the Portfolio achieved a total gross return of 3.5% which was comprised of 1.3% income and 2.2% appreciation. The NCREIF Property Index ("NPI") reported a total gross return of 2.6%. The NCREIF Open-end Diversified Core Equity Index ("NFI-ODCE") reported a total net return of 2.6%. In addition, the Portfolio achieved a total net return of 3.2%.

The following chart reflects the total net returns for the BERS Portfolio compared to NPI +100 and the NFI-ODCE. The US economic outlook has improved significantly following the market volatility in the second half of 2011. The recovery in the US appears to be self-sustaining, although growth should be moderate. Job growth has spread from the tech-related markets to other segments as well. The Federal Reserve remains committed to an accommodative monetary policy to boost economic growth. Possible obstacles could arise from the euro zone crisis which continues to pose considerable risk for the US economy. During the Global Financial Crisis, real estate values declined 24% and 38% for the de-levered NCREIF Property Index ("NPI") and the levered NFI-ODCE, respectively. Since the market trough in 2010, both indices have recovered 33% and 36%, respectively, suggesting a market recovery continues. US Transaction volume increased 42.8% in the First Quarter of 2012 compared to the first quarter of 2011, according to RCA Analytics. Transaction activity should grow in 2012, driven by demand for income-producing assets and the slower than expected liquidation of distressed assets. REITs are also on pace for another year of record capital raising as share prices increase, helping fuel the increase in acquisitions. Foreign investors are also flocking to the US for stable cash flows. The benchmark established for the Portfolio is NPI +100 BPS over rolling five-year periods. The NFI-ODCE net is also shown for reference.





The graph below shows the total net returns for the Portfolio by quarter since inception. NPI +100 BPS total gross and the NFI-ODCE total net return performance is also included. It is important to note the effects of the “J-curve” whereby fees on committed capital exceed distributions to the Portfolio due to minimal invested capital and the early stages of the value-added/opportunistic process in the underlying investments.



The table below reflects the returns for the Portfolio, NPI +100 BPS and the NFI-ODCE during pertinent time periods and segments these returns by their components: income, appreciation, and total return. The Portfolio’s objective is to generate a total return that exceeds the NPI +100 BPS measured over rolling five-year periods.

Returns (%)	Quarter				1 Year				3 Year				5 Year				Inception	
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET
New York City Board of Education Retirement System	1.3	2.2	3.5	3.2	5.1	7.7	13.1	11.7									13.4	12.1
NPI + 100 BPS			2.8				14.5										14.7	
NFI-ODCE Value Weighted Index	1.3	1.5	2.8	2.6	5.4	8.9	14.7	13.6									15.1	14.1

**II. Portfolio Composition**

New York City Board of Education Retirement System		
Total Plan Assets	3/31/2012	\$3,028
Real Estate Allocation (%)		7.0%
Real Estate Allocation (\$)		\$212
Style Sector Allocation		
Core / Core Plus Portfolio	60.0%	\$127
Non-Core Portfolio	40.0%	\$85
Uncommitted Core / Core Plus Portfolio		\$52
Uncommitted Non-Core Portfolio		\$55
Funded (Market Value) and Committed Statistics		
Core / Core Plus Portfolio		71.7%
Non-Core Portfolio		28.3%
\$ Committed		\$105
% Committed on Real Estate Allocation		49.6%
% Committed on Total Plan Assets		3.5%
Funded (Market Value) Statistics		
% Funded (Market Value) of Total Plan Assets		2.0%
% Funded (Market Value) of Total Real Estate Allocation		28.9%

BERS		
Investment Cash Flow Summary		
	Quarter	To Date
Contributions	\$1.2	\$57.0
Distributions	-\$0.6	-\$1.6
Withdrawals	\$0.0	\$0.0

Contributions: Includes actual cash funded to the investment for acquisition and capital items during the quarter.

Distributions: Includes actual cash returned during the quarter from the investments which represents distributions of income from operations and profit.

Withdrawals: Includes cash returned from the investment as a result of return of capital.

**III. Portfolio Compliance**

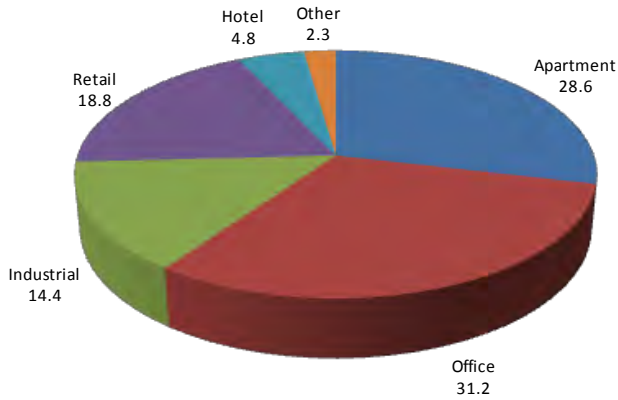
Category	Requirement	Portfolio Status
Benchmark	NPI +100 BPS over rolling five-year periods	N/A
Portfolio Composition	<p>Core/Core Plus (minimum of 60%)</p> <p>Non Core (minimum of 40%)</p>	<i>The portfolio is funded (market value) and committed at 49.6% of real estate allocation with a portfolio composition of 71.7% core and 28.3% non-core.</i>
Real Estate Allocation	<p>Target of 7.0%</p> <p>Currently Funded at 2.0%</p>	<i>Funded (market value) and committed dollars place the portfolio at 3.5% of total plan assets.</i>
Diversification	<p>± 30% of NPI</p> <p>Other property type (0%-15%)</p>	<i>All property types and geographic locations are in compliance.</i>

**IV. Portfolio Diversification**

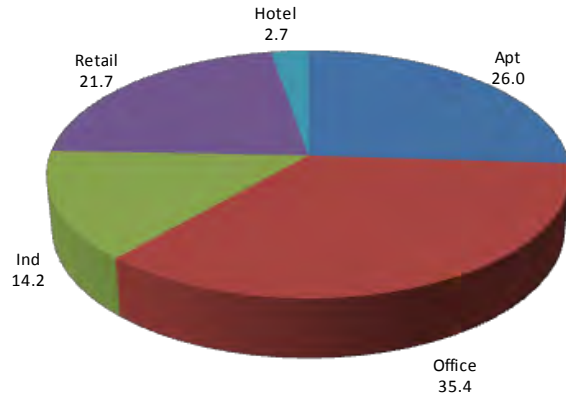
The Investment Policy Statement (IPS) establishes ranges for diversification by property type and geographic region. These ranges are broad based and allow for investment in all major property types and all geographic regions. The diversification of the current portfolio by property type and geographic region is shown below and compared to diversification of the NFI-ODCE at the end of the Quarter.

**Property Type Diversification (%)**

**New York City Board of Education Retirement System**

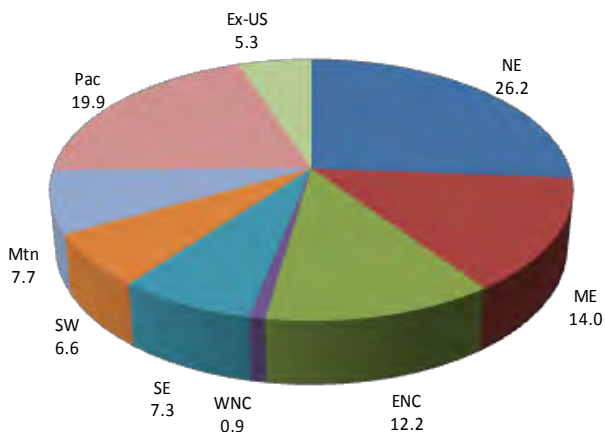


**NPI**

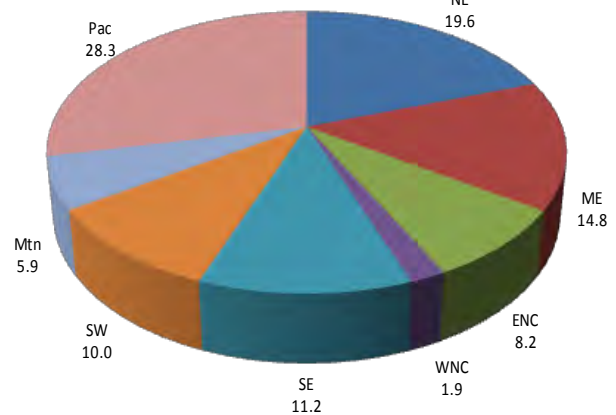


**Geographic Diversification (%)**

**New York City Board of Education Retirement System**



**NPI**



## II. July Monthly Performance Review:

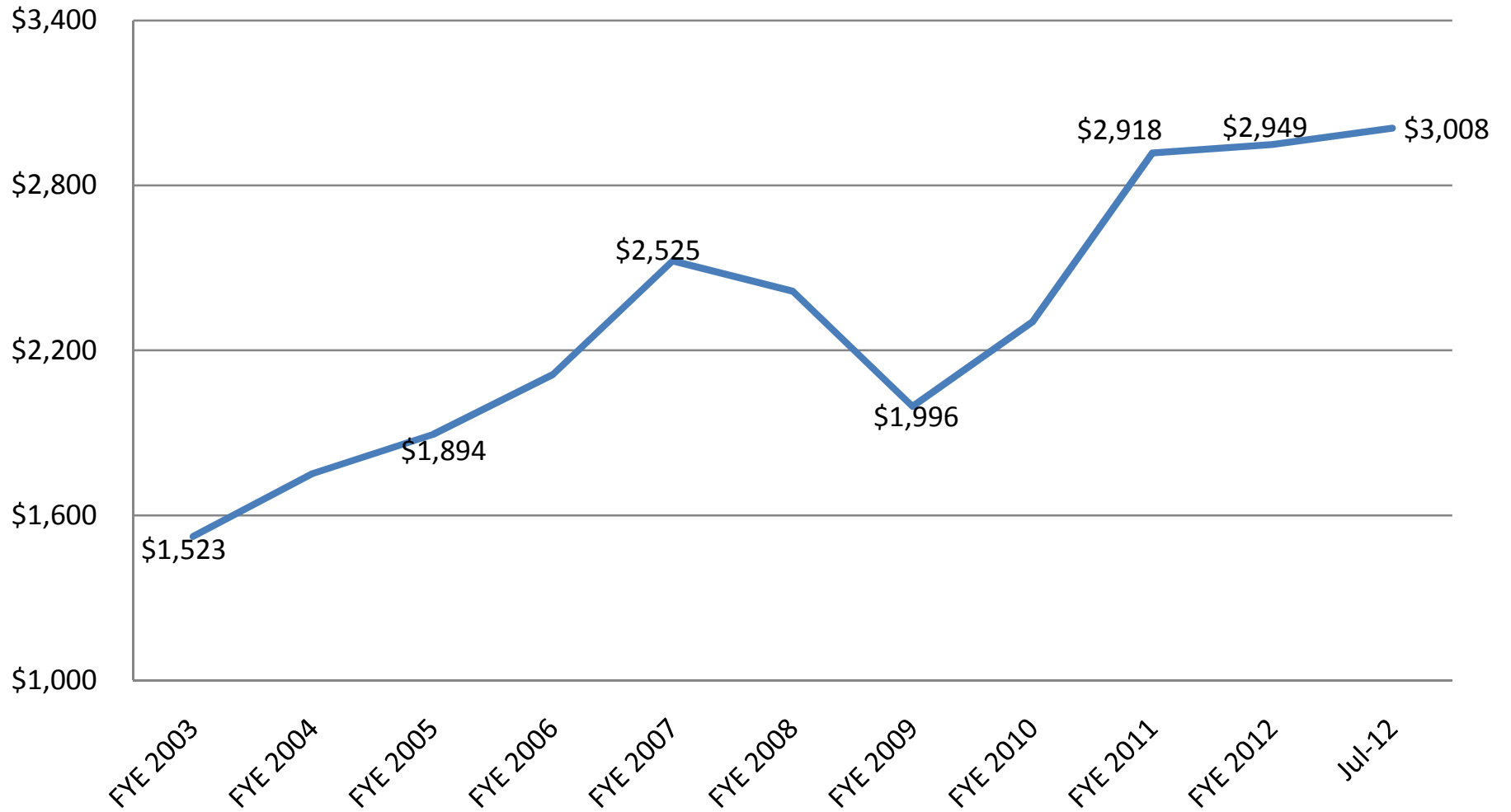
*Monthly Performance Review*  
*July 2012*

*Prepared for the New York City*  
*Board of Education Retirement System*  
*9/21/2012*

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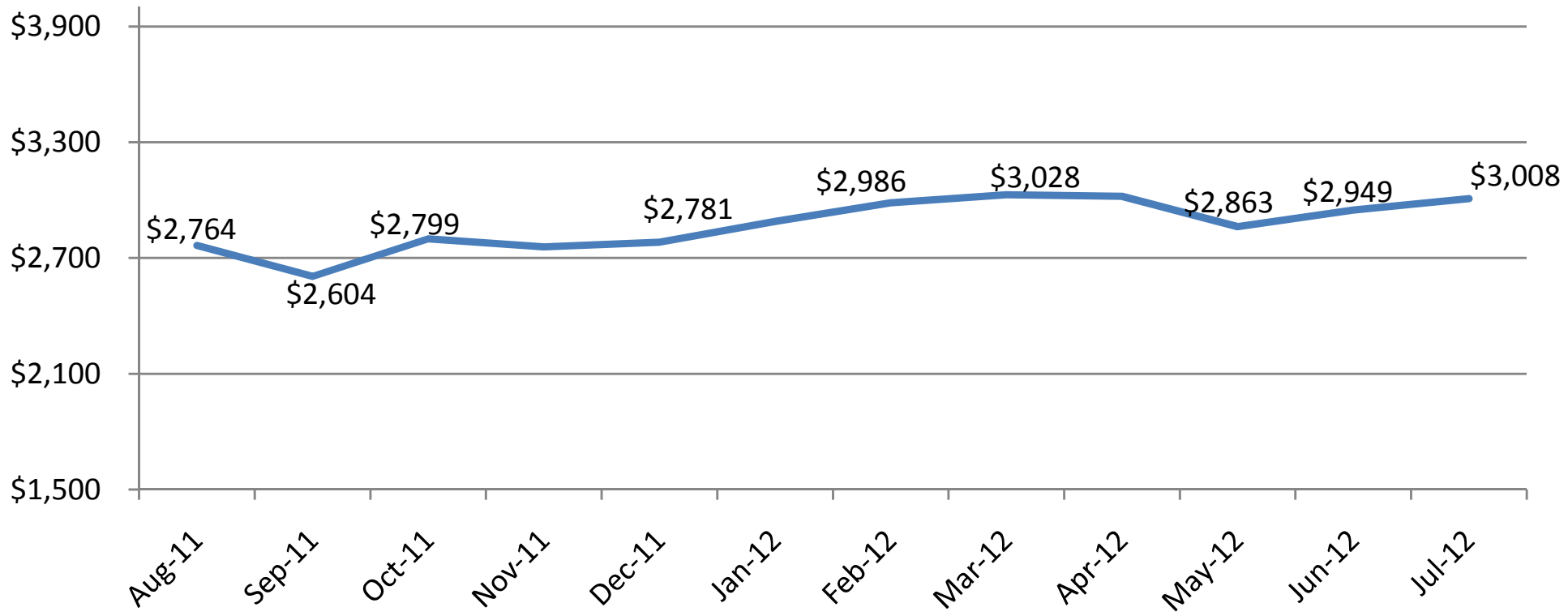
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<i>Real Estate Cash Flow Tracker</i> .....	<i>21</i>

## BERS Market Values 2003 - 2012



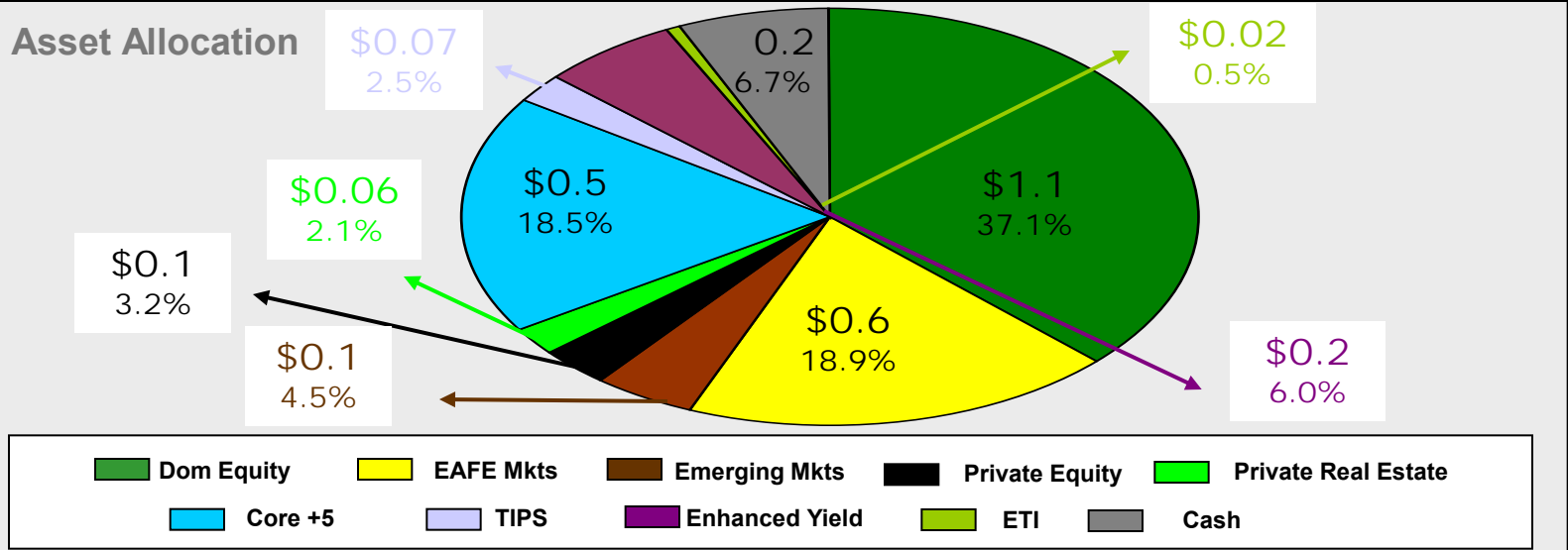


# BERS Market Values August 2011 - July 2012

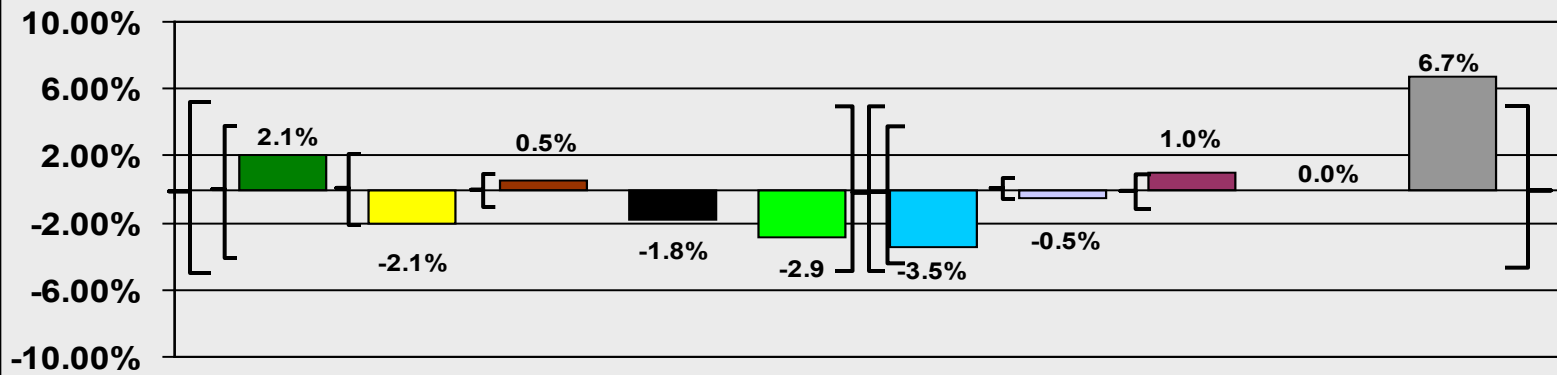


# Portfolio Asset Allocation: July 31, 2012

**\$3B Under Management**



## Relative Mix to Old Policy Weights

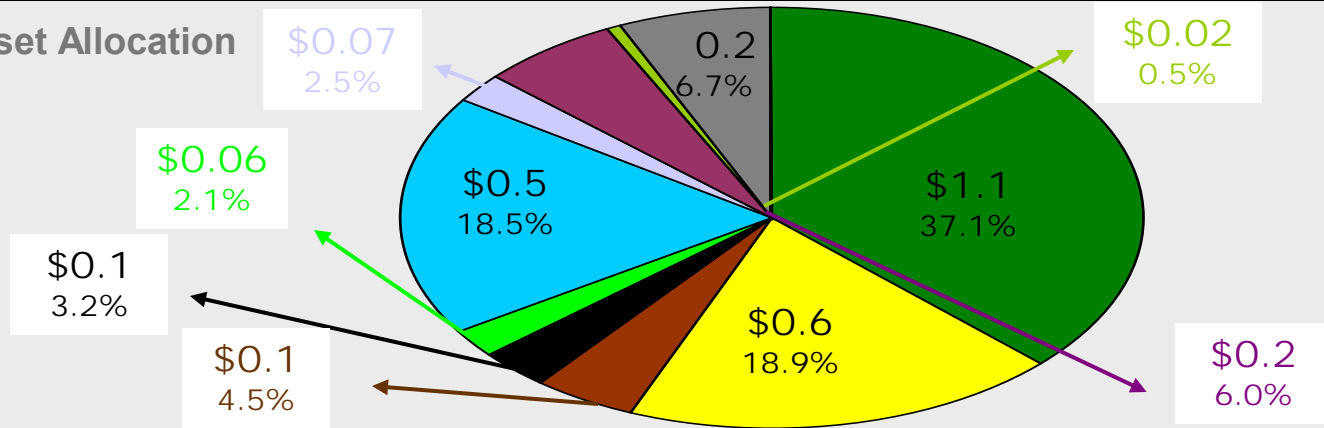


Note: Brackets represent rebalancing ranges versus Policy.

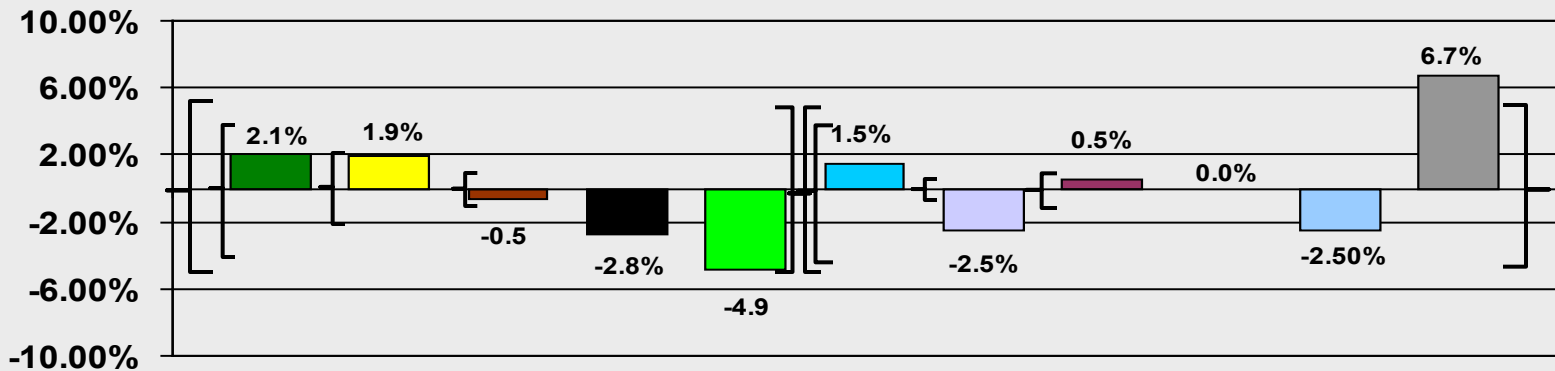
# Portfolio Asset Allocation: July 31, 2012

**\$3B Under Management**

Asset Allocation



## Relative Mix to New Policy Weights



Note: Brackets represent rebalancing ranges versus Policy.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

## CLASSIFICATION OF INVESTMENTS

*(as of July 31st 2012)*

### ASSET CLASS ALLOCATIONS

	In \$MM	Actual	Policy Target	Adjustment	Adjusted Policy	Adjusted Target Range ***
<b>TOTAL EQUITIES</b>	\$1,980.0	65.8%	70.0%	NA	70.0%	65.0% - 75.0%
<b>TOTAL FIXED INCOME</b>	\$1,027.6	34.2%	30.0%	NA	30.0%	25.0% - 35.0%
<b>TOTAL ASSETS</b>	\$3,007.6	100.0%	100.0%	NA	100.0%	

	In \$MM	Actual	Policy Target	Adjustment	Adjusted Policy	Adjusted Target Range ***
US Equities	\$1,117.0	37.1%	35.0%	7.6%	42.6%	38.6% - 46.6%
Non-US Equities/EAFE	\$568.3	18.9%	17.0%	NA	17.0%	15.0% - 19.0%
Emerging Markets	\$133.7	4.4%	5.0%	NA	5.0%	4.0% - 6.0%
<b>TOTAL PUBLIC EQUITY</b>	\$1,819.0	60.5%	57.0%	NA	64.6%	
* PRIVATE REAL ESTATE	\$63.3	2.1%	7.0%	NA	2.1%	6.0% - 8.0%
* PRIVATE EQUITY	\$97.7	3.2%	6.0%	NA	3.2%	5.0% - 7.0%
<b>TOTAL EQUITIES</b>	\$1,980.0	65.8%	70.0%	NA	70.0%	65.0% - 75.0%

	In \$MM	Actual	Policy Target	Adjustment	Adjusted Policy	Adjusted Target Range ***	
Core +5	US - Government	\$93.9	3.1%	17.0%	NA	17.0%	13.0% - 21.0%
	US - Mortgage	\$241.1	8.0%		NA		
	US - Investment Grade Credit	\$221.3	7.4%		NA		
	<b>TOTAL CORE + 5</b>	\$556.3	18.5%	17.0%	NA	17.0%	13.0% - 21.0%
TIPS	\$73.8	2.5%	5.0%	NA	5.0%	4.0% - 6.0%	
High Yield	\$179.1	6.0%	5.5%	NA	5.5%	7.0% - 9.0%	
Bank Loans	\$0.0	0.0%	2.5%	NA	2.5%		
**ETI	\$16.1	0.5%	**2.0%	NA	**0.5%	**0.5%	
Cash	\$202.2	6.7%	0.0%	NA	0.0%	0.0% - 5.0%	
<b>TOTAL PUBLIC FIXED INCOME</b>	\$1,027.6	34.2%	30.0%	NA	30.0%		
<b>TOTAL FIXED INCOME</b>	\$1,027.6	34.2%	30.0%	NA	30.0%	25.0% - 35.0%	

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

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

\*\*\* Adjusted Target Ranges are calculated as follows: Total Equities: +/-5%; Total Fixed Income: +/-5%; US Equities: +/-4%; Non-US Equities/EAFE: +/-2%; Emerging Markets: +/-1%; Real Estate: +/-1%; Private Equity: +/-1%; Core +5: +/-4%; TIPS: +/-1%; High Yield and Bank Loans: +/-1%; Cash: 0-5%.

# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

## CLASSIFICATION OF INVESTMENTS

*(as of July 31st 2012)*

### Adjustments to Long-Term Asset Allocation

**1) Private Equity**

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

**2) Real Estate**

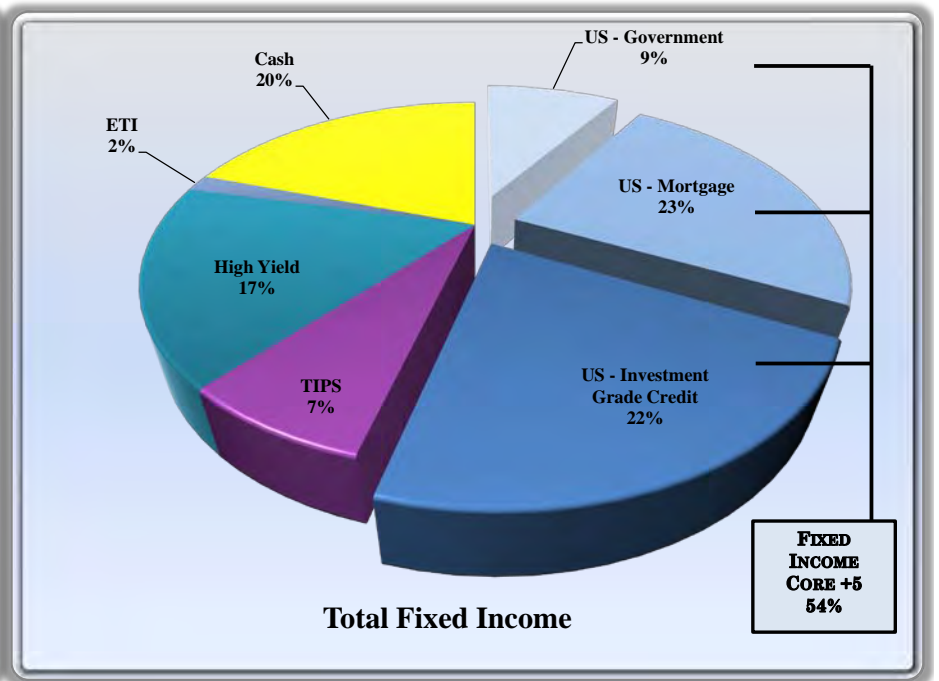
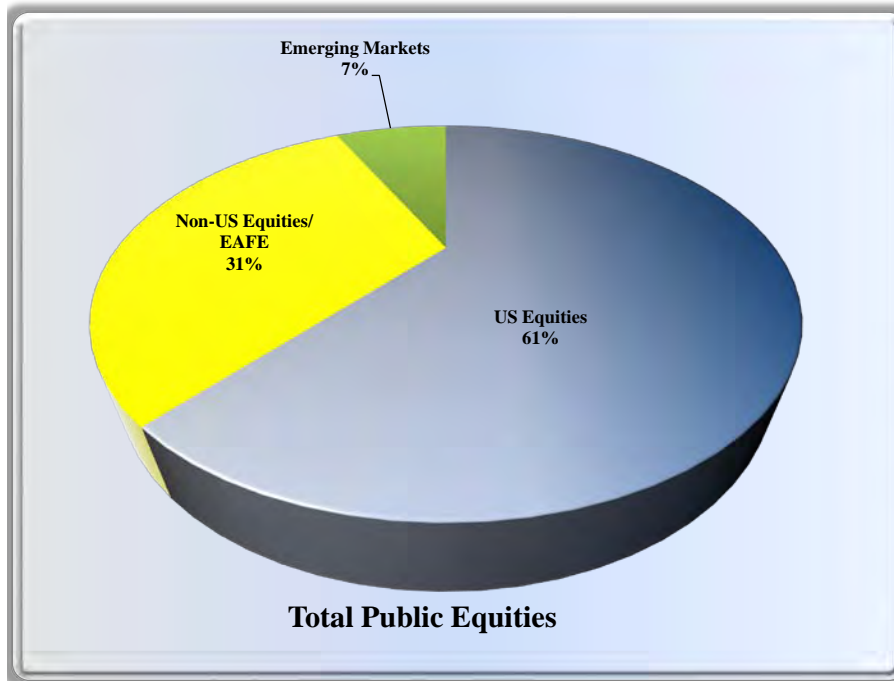
100% of uninvested commitments will be invested in Domestic Equity.

### Impact of Adjustments

<b>1) Domestic Equity Policy Target %</b>	<b>35.0%</b>
Adjustment: 100% of uninvested Private Equity	2.8%
Adjustment: 100% of uninvested Real Estate	4.9%
<b>Adjusted Core+5 Policy Target %</b>	<b>42.6%</b>



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM CLASSIFICATION OF INVESTMENTS *(as of July 31st 2012)*



**THE BANK OF NEW YORK MELLON**  
**CITY OF NEW YORK**  
**Market Indicator Page \* NYC Board of Education Retirement System**  
**July 31, 2012**

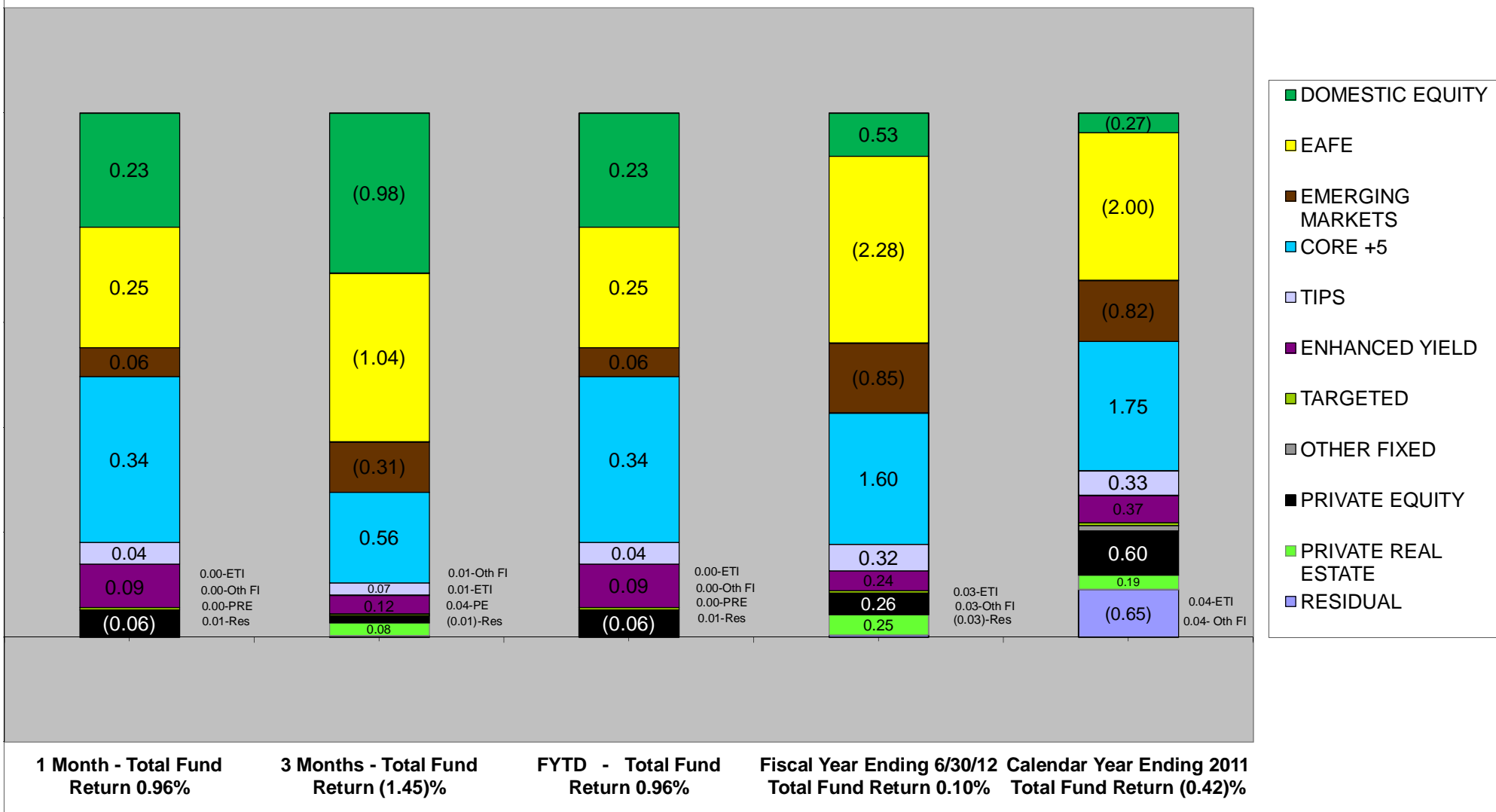
	Trailing 1 Month	Trailing 3 Months	06/30/12 07/31/12	Trailing 1 Year	Trailing* 2 Years	Trailing* 3 Years	Trailing* 5 Years	Trailing* 10 Years
<b><u>MARKET INDICATORS</u></b>								
STANDARD & POORS 500	1.39	-0.78	1.39	9.13	14.26	14.12	1.13	6.33
S&P MIDCAP INDEX 400	-0.04	-4.76	-0.04	1.20	12.81	16.06	3.45	9.31
RUSSELL 1000	1.19	-1.40	1.19	7.96	14.13	14.26	1.25	6.65
RUSSELL 2000	-1.38	-3.31	-1.38	0.19	11.42	13.71	1.69	8.62
RUSSELL 3000	0.99	-1.54	0.99	7.33	13.92	14.22	1.29	6.80
RUSSELL 3000 GROWTH	1.10	-2.69	1.10	7.55	15.99	15.29	3.40	6.92
RUSSELL 3000 VALUE	0.88	-0.35	0.88	7.09	11.88	13.17	-0.93	6.54
MSCI EAFE (NET DIVIDEND)	1.13	-4.20	1.13	-11.45	1.86	3.31	-5.61	6.36
MSCI EMERGING MARKETS FREE	2.02	-5.83	2.02	-13.64	0.86	6.94	-0.43	15.56
FTSE CUSTOM BENCHMARK	2.25	-5.35	2.25	-12.83	2.14	9.40	0.67	****
MSCI WORLD INDEX	1.31	-2.57	1.31	-1.40	8.39	9.06	-1.70	6.81
MSCI EUROPE SMID CAP INDEX	0.83	-6.89	0.83	-14.72	1.76	6.06	****	****
NYC - TREASURY AGENCY PLUS FIVE	1.99	5.27	1.99	17.30	10.89	10.77	10.08	7.55
CITIGROUP MORTGAGE	0.79	1.20	0.79	4.92	4.41	5.51	6.81	5.43
NYC - INVESTMENT GRADE CREDIT INDEX	2.72	3.83	2.72	9.68	7.95	9.41	7.74	6.75
NYC - CORE PLUS FIVE	1.77	3.05	1.77	9.27	7.04	7.99	7.98	6.41
CITIGROUP BROAD INVESTMENT GRADE	1.41	2.37	1.41	7.34	5.77	6.71	7.09	5.78
BARCLAYS CAPITAL AGGREGATE	1.38	2.34	1.38	7.25	5.83	6.85	6.91	5.65
CITIGROUP BB & B	1.89	2.93	1.89	8.94	10.64	13.00	7.32	9.39
BofA MERRILL LYNCH HY MASTER II	1.92	2.73	1.92	7.23	10.03	14.58	9.26	10.59
BARCLAYS CAPITAL GLOBAL US TIPS (INFLATION NOTES)	1.90	3.02	1.90	9.49	10.63	10.31	8.37	7.26
BofA ML ALL CONVERTIBLES EX MANDATORY	0.61	-1.15	0.61	1.06	7.72	11.44	3.63	****
DJ WILSHIRE REAL ESTATE SECURITIES INDEX	1.83	2.46	1.83	12.88	18.88	29.93	3.84	11.20
NCREIF NFI-ODCE NET	0.00	2.29	0.00	11.31	15.25	7.37	-1.81	****
91 DAY TREASURY BILL	0.01	0.03	0.01	0.07	0.10	0.12	0.90	1.85

**THE BANK OF NEW YORK MELLON**  
**CITY OF NEW YORK**  
**Market Indicator Page \* NYC Board of Education Retirement System**  
**August 31, 2012**

	Trailing 1 Month	Trailing 3 Months	06/30/12 08/31/12	Trailing 1 Year	Trailing* 2 Years	Trailing* 3 Years	Trailing* 5 Years	Trailing* 10 Years
<b><u>MARKET INDICATORS</u></b>								
STANDARD & POORS 500	2.25	7.94	3.67	18.00	18.24	13.62	1.28	6.50
S&P MIDCAP INDEX 400	3.48	5.39	3.43	12.75	17.70	15.73	3.97	9.63
RUSSELL 1000	2.43	7.61	3.64	17.33	18.18	13.82	1.47	6.85
RUSSELL 2000	3.33	6.99	1.91	13.40	17.70	13.88	1.90	9.00
RUSSELL 3000	2.50	7.57	3.51	17.03	18.14	13.82	1.50	7.01
RUSSELL 3000 GROWTH	2.76	6.90	3.89	17.01	20.56	15.58	3.62	7.19
RUSSELL 3000 VALUE	2.24	8.25	3.14	17.05	15.78	12.10	-0.72	6.70
MSCI EAFE (NET DIVIDEND)	2.69	11.13	3.85	-0.04	4.86	2.40	-4.81	6.67
MSCI EMERGING MARKETS FREE	-0.29	5.70	1.73	-5.48	1.69	6.96	-0.06	15.35
FTSE CUSTOM BENCHMARK	0.34	6.38	2.60	-4.46	3.00	9.03	1.42	****
MSCI WORLD INDEX	2.59	9.28	3.93	8.77	11.86	8.50	-1.19	7.06
MSCI EUROPE SMID CAP INDEX	4.57	11.78	5.44	-1.14	6.41	4.83	-5.38	****
NYC - TREASURY AGENCY PLUS FIVE	-0.33	0.96	1.65	10.89	8.56	10.17	9.56	7.15
CITIGROUP MORTGAGE	0.10	0.98	0.89	3.69	4.37	5.29	6.54	5.35
NYC - INVESTMENT GRADE CREDIT INDEX	0.30	3.57	3.03	9.63	7.03	8.86	7.61	6.51
NYC - CORE PLUS FIVE	0.08	1.94	1.86	7.39	6.22	7.59	7.70	6.21
CITIGROUP BROAD INVESTMENT GRADE	0.08	1.53	1.48	5.76	5.11	6.37	6.82	5.61
BARCLAYS CAPITAL AGGREGATE	0.07	1.49	1.45	5.78	5.19	6.51	6.66	5.48
CITIGROUP BB & B	1.05	5.09	2.95	13.86	11.11	13.19	7.25	9.04
BofA MERRILL LYNCH HY MASTER II	1.21	5.24	3.15	13.05	10.60	14.27	9.28	10.45
BARCLAYS CAPITAL GLOBAL US TIPS (INFLATION NOTES)	-0.29	1.04	1.60	8.29	9.53	9.88	8.12	6.85
BofA ML ALL CONVERTIBLES EX MANDATORY	2.15	4.99	2.77	9.02	9.53	11.02	4.09	****
DJ WILSHIRE REAL ESTATE SECURITIES INDEX	-0.24	7.20	1.58	19.39	19.59	24.01	2.61	11.16
NCREIF NFI-ODCE NET	0.00	2.29	0.00	11.31	15.25	7.37	-1.81	****
91 DAY TREASURY BILL	0.01	0.03	0.02	0.06	0.10	0.12	0.80	1.84



## NYC Board of Education Retirement System Contribution to Return - July 2012



**THE BANK OF NEW YORK MELLON**  
**CITY OF NEW YORK**  
**Manager / Benchmark Comparison Report \*NYC Board of Education Retirement System**  
**July 31, 2012**

	Assets (\$MM)	% of Total	Trailing 1 Month	Trailing 3 Months	Fiscal YTD	Calendar YTD	FY Ending 06/30/12	Calendar Yr Ending 2011	Calendar Yr Ending 2010	Calendar Yr Ending 2009	Calendar Yr Ending 2008	Trailing 1 Year	Trailing* 3 Years	Trailing* 5 Years	Trailing* 10 Years	Since Inception
<b>ASSET CLASS SUMMARY</b>																
DOMESTIC EQUITY	\$ 1,117.0	37.14%	0.62%	-2.58%	0.62%	9.66%	1.32%	-0.72%	17.27%	28.79%	-37.22%	4.90%	13.41%	0.92%	6.79%	8.57%
DEVELOPED MARKETS	568.3	18.90%	1.30	-5.22	1.30	5.77	-10.61	-10.35	17.92	39.95	-42.78	-8.06	8.19	-1.35	8.46	7.28
EMERGING MARKETS	133.7	4.45%	1.32	-6.51	1.32	5.08	-15.90	-18.03	19.85	71.67	-55.84	-15.04	6.89	-2.47	16.10	8.95
CORE + 5	556.3	18.50%	1.83	3.12	1.83	5.40	9.64	9.23	8.36	8.74	3.51	9.70	8.83	8.08	6.74	8.64
TIPS MANAGERS	73.8	2.46%	1.78	3.08	1.78	6.14	12.36	13.34	6.57	10.24	-0.70	10.37	10.38	8.55	****	6.64
HIGH YIELD	179.1	5.96%	1.49	2.00	1.49	8.97	7.06	6.25	15.01	44.33	-21.04	6.92	14.20	9.43	10.36	5.91
ECONOMICALLY TARGETED INVESTMENTS	16.1	0.54%	0.94	2.13	0.94	3.53	7.01	7.10	5.80	7.02	5.53	6.86	6.13	6.78	****	6.68
PRIVATE EQUITY	97.7	3.25%	-1.70	1.45	-1.70	2.89	9.29	19.15	13.64	-9.95	-7.59	7.44	14.28	2.92	****	-1.00
PRIVATE REAL ESTATE	63.3	2.10%	-0.01	3.86	-0.01	10.26	14.84	9.43	****	****	****	11.27	****	****	****	11.92
CASH	202.2	6.72%	0.04	0.12	0.04	0.31	0.52	0.59	0.41	1.25	3.52	0.50	0.60	1.71	****	2.65
<b>TOTAL BOARD OF EDUCATION</b>	<b>\$ 3,007.6</b>		<b>0.96%</b>	<b>-1.45%</b>	<b>0.96%</b>	<b>6.98%</b>	<b>0.10%</b>	<b>-0.42%</b>	<b>14.95%</b>	<b>25.74%</b>	<b>-28.72%</b>	<b>2.00%</b>	<b>10.73%</b>	<b>2.56%</b>	<b>7.59%</b>	<b>8.57%</b>
TOTAL EQUITY	1,819.0	60.48%	0.88	-3.71	0.88	8.08	-4.07	-5.27	17.69	34.27	-40.16	-1.11	11.22	-0.07	****	5.47
TOTAL FIXED INCOME	825.4	27.44%	1.74	2.86	1.74	6.18	9.83	9.42	9.39	14.01	-1.19	9.60	10.09	8.50	****	6.62
TOTAL PRIVATE EQUITY	97.7	3.25%	-1.70	1.45	-1.70	2.89	9.29	19.15	13.64	-9.95	-7.59	7.44	14.28	2.92	****	-1.00
PRIVATE REAL ESTATE	63.3	2.10%	-0.01	3.86	-0.01	10.26	14.84	9.43	****	****	****	11.27	****	****	****	11.92
TOTAL CASH	202.2	6.72%	0.04	0.12	0.04	0.31	0.52	0.59	0.41	1.25	3.52	0.50	0.60	1.71	****	2.65

\* Returns data throughout the various reports are shown Gross of Fees with the exception of PE and RE.

**THE BANK OF NEW YORK MELLON**

**CITY OF NEW YORK**

**Manager / Benchmark Comparison Report \*NYC Board of Education Retirement System**

July 31, 2012

	Assets (\$MM)	% of Total	Trailing 1 Month	Trailing 3 Months	Fiscal YTD	Calendar YTD	FY Ending 06/30/12	Calendar Yr Ending 2011	Calendar Yr Ending 2010	Calendar Yr Ending 2009	Calendar Yr Ending 2008	Trailing 1 Year	Trailing* 3 Years	Trailing* 5 Years	Trailing* 10 Years	Since Inception
<b>EQUITY ASSET CLASS SUMMARY</b>																
<b>DOMESTIC EQUITY</b>	<b>\$ 1,117.0</b>	<b>37.14%</b>	<b>0.62%</b>	<b>-2.58%</b>	<b>0.62%</b>	<b>9.66%</b>	<b>1.32%</b>	<b>-0.72%</b>	<b>17.27%</b>	<b>28.79%</b>	<b>-37.22%</b>	<b>4.90%</b>	<b>13.41%</b>	<b>0.92%</b>	<b>6.79%</b>	<b>8.57%</b>
PASSIVE DOMESTIC EQUITY	776.1	25.80%	0.92	-1.74	0.92	10.22	3.44	0.69	16.99	28.31	-37.12	6.90	14.05	1.24	6.77	8.25
RUSSELL 3000			0.99	-1.54	0.99	10.40	3.84	1.03	16.93	28.34	-37.31	7.33	14.22	1.29	6.80	
			+/-	(0.07)	(0.20)	(0.07)	(0.18)	(0.40)	(0.33)	0.06	(0.03)	0.19	(0.42)	(0.18)	(0.05)	(0.03)
TOTAL RUSSELL 3000	726.8	24.17%	0.98	-1.53	0.98	10.38	3.83	0.95	16.99	28.31	-37.12	7.29	14.20	1.32	6.80	8.16
RUSSELL 3000			0.99	-1.54	0.99	10.40	3.84	1.03	16.93	28.34	-37.31	7.33	14.22	1.29	6.80	
			+/-	(0.01)	0.01	(0.01)	(0.02)	(0.01)	(0.08)	0.06	(0.03)	0.19	(0.03)	(0.02)	0.03	0.00
TOTAL MID CAP PASSIVE	49.3	1.64%	-0.03	-4.73	-0.03	7.92	-2.24	****	****	****	****	1.30	****	****	****	2.67
S&P MIDCAP 400			-0.04	-4.76	-0.04	7.85	-2.33	-1.73	26.64	37.38	-36.23	1.20	16.06	3.45	9.31	
			+/-	0.02	0.03	0.02	0.06	0.09	****	****	****	0.10	****	****	****	
ACTIVE DOMESTIC EQUITY	340.9	11.34%	-0.06	-4.42	-0.06	8.39	-3.27	-3.63	17.87	30.20	-37.40	0.54	12.05	0.28	7.00	7.15
RUSSELL 3000			0.99	-1.54	0.99	10.40	3.84	1.03	16.93	28.34	-37.31	7.33	14.22	1.29	6.80	
			+/-	(1.05)	(2.88)	(1.05)	(2.00)	(7.11)	(4.66)	0.94	1.86	(0.09)	(6.78)	(2.17)	(1.01)	0.21
TOTAL LARGE CAP	139.8	4.65%	-1.23	-5.95	-1.23	6.23	-2.15	-1.64	16.72	30.50	-35.16	-0.42	11.83	0.98	7.45	7.78
RUSSELL 1000			1.19	-1.40	1.19	10.68	4.37	1.50	16.10	28.43	-37.60	7.96	14.26	1.25	6.65	
			+/-	(2.41)	(4.56)	(2.41)	(4.45)	(6.53)	(3.14)	0.62	2.07	2.44	(8.37)	(2.43)	(0.27)	0.80
TOTAL MID CAP ACTIVE	82.2	2.73%	0.87	-2.60	0.87	12.72	-2.69	-6.79	****	****	****	3.76	****	****	****	9.77
RUSSELL MID CAP			0.23	-3.86	0.23	8.22	-1.65	-1.55	25.47	40.46	-41.46	2.28	16.20	1.87	9.59	
			+/-	0.64	1.26	0.64	4.51	(1.03)	(5.25)	****	****	1.48	****	****	****	
TOTAL SMALL CAP ACTIVE	20.8	0.69%	0.33	-2.42	0.33	7.35	-13.26	-10.17	21.37	35.44	-41.59	-5.37	10.72	-2.28	****	2.46
RUSSELL 2000			-1.38	-3.31	-1.38	7.03	-2.08	-4.18	26.85	27.18	-33.80	0.19	13.71	1.69	8.62	
			+/-	1.72	0.90	1.72	0.32	(11.18)	(5.99)	(5.48)	8.26	(7.79)	(5.56)	(2.99)	(3.97)	****
TOTAL EMERGING MGRS	98.1	3.26%	0.78	-4.17	0.78	8.41	-1.97	-1.75	18.99	28.60	-37.38	1.24	12.76	0.97	****	4.91
RUSSELL 3000			0.99	-1.54	0.99	10.40	3.84	1.03	16.93	28.34	-37.31	7.33	14.22	1.29	6.80	
			+/-	(0.21)	(2.63)	(0.21)	(1.99)	(5.81)	(2.78)	2.06	0.26	(0.07)	(6.09)	(1.47)	(0.32)	****
<b>TOTAL INTERNATIONAL EQUITY</b>	<b>702.0</b>	<b>23.34%</b>	<b>1.30</b>	<b>-5.47</b>	<b>1.30</b>	<b>5.64</b>	<b>-11.66</b>	<b>-11.84</b>	<b>18.25</b>	<b>45.00</b>	<b>-45.54</b>	<b>-9.48</b>	<b>7.91</b>	<b>-1.62</b>	<b>9.78</b>	<b>7.54</b>
ACTIVE DEVELOPED MARKETS	568.3	18.90%	1.30	-5.22	1.30	5.77	-10.61	-10.35	17.92	39.95	-42.78	-8.06	8.19	-1.35	8.33	7.60
MSCI EAFE (NET DIVIDEND)			1.13	-4.20	1.13	4.12	-13.83	-12.14	7.75	31.78	-43.39	-11.45	3.31	-5.61	6.36	
			+/-	0.16	(1.02)	0.16	1.64	3.22	1.79	10.17	8.17	0.61	3.38	4.88	4.25	1.97
PASSIVE EMERGING MARKETS	26.4	0.88%	1.92	-6.07	1.92	5.92	-16.43	****	****	****	****	-14.46	****	****	****	-12.09
MSCI EMERGING MARKETS FREE			2.02	-5.83	2.02	6.22	-15.67	-18.17	19.20	79.02	-53.17	-13.64	6.94	-0.43	15.56	
			+/-	(0.10)	(0.25)	(0.10)	(0.31)	(0.76)	****	****	****	(0.82)	****	****	****	
ACTIVE EMERGING MARKETS	107.3	3.57%	1.17	-6.61	1.17	4.87	-15.77	-17.86	19.85	71.67	-55.84	-15.18	6.89	-2.47	****	11.15
MSCI EMERGING MARKETS FREE			2.02	-5.83	2.02	6.22	-15.67	-18.17	19.20	79.02	-53.17	-13.64	6.94	-0.43	15.56	
			+/-	(0.85)	(0.79)	(0.85)	(1.35)	(0.10)	0.32	0.65	(7.35)	(2.67)	(1.54)	(0.05)	(2.04)	****

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<b>FIXED INCOME ASSET CLASS SUMMARY</b>																
<b>TOTAL FIXED INCOME</b>	<b>825.4</b>	<b>27.44%</b>	<b>1.74%</b>	<b>2.86%</b>	<b>1.74%</b>	<b>6.18%</b>	<b>9.83%</b>	<b>9.42%</b>	<b>9.39%</b>	<b>14.01%</b>	<b>-1.19%</b>	<b>9.60%</b>	<b>10.09%</b>	<b>8.50%</b>	<b>****</b>	<b>6.62%</b>
<b>CORE + 5</b>	556.3	18.50%	1.83	3.12	1.83	5.40	9.64	9.23	8.36	8.74	3.51	9.70	8.83	8.08	6.74	8.64
<i>NYC - CORE PLUS FIVE</i>			1.77	3.05	1.77	4.83	9.35	9.40	7.13	6.28	6.64	9.27	7.99	7.98	6.41	6.41
			+/-	0.06	0.07	0.06	0.57	0.30	(0.17)	1.23	2.46	(3.13)	0.44	0.85	0.10	0.34
<i>ALL MORTGAGE</i>	241.1	8.02%	0.92	1.46	0.92	3.52	5.90	6.30	7.84	9.20	4.30	5.96	7.01	7.34	5.91	6.79
<i>CITIGROUP MORTGAGE INDEX</i>			0.79	1.20	0.79	2.49	5.05	6.38	5.50	5.76	8.49	4.92	5.51	6.81	5.43	5.43
			+/-	0.13	0.26	0.13	1.02	0.85	(0.08)	2.34	3.44	(4.19)	1.04	1.50	0.52	0.48
<i>ALL INVESTMENT GRADE CREDIT</i>	221.3	7.36%	2.82	4.12	2.82	7.57	9.75	8.34	9.02	22.61	-9.91	10.33	10.18	7.43	7.39	8.10
<i>NYC - INVESTMENT GRADE CREDIT</i>			2.72	3.83	2.72	7.31	9.14	7.80	8.36	16.36	-4.06	9.68	9.41	7.74	6.75	6.75
			+/-	0.10	0.29	0.10	0.26	0.61	0.55	0.66	6.25	(5.85)	0.65	0.77	(0.31)	0.64
<i>ALL TREASURY / AGENCY</i>	93.9	3.12%	1.90	5.20	1.90	5.30	18.70	18.52	8.93	-6.64	18.77	17.27	10.80	10.25	7.50	8.55
<i>NYC - TREASURY AGENCY PLUS FIVE</i>			1.99	5.27	1.99	5.32	18.72	18.44	9.24	-7.44	18.91	17.30	10.77	10.08	7.55	7.55
			+/-	(0.09)	(0.07)	(0.09)	(0.02)	(0.02)	0.08	(0.31)	0.80	(0.14)	(0.04)	0.03	0.17	(0.05)
<b>HIGH YIELD</b>	179.1	5.96%	1.49	2.00	1.49	8.97	7.06	6.25	15.01	44.33	-21.04	6.92	14.20	9.43	10.36	5.91
<i>CITIGROUP BB &amp; B</i>			1.89	2.93	1.89	8.73	8.45	6.58	13.35	40.37	-25.10	8.94	13.00	7.32	9.39	9.39
			+/-	(0.39)	(0.93)	(0.39)	0.24	(1.38)	(0.33)	1.66	3.96	4.06	(2.02)	1.20	2.11	0.97
<b>TIPS</b>	73.8	2.46%	1.78	3.08	1.78	6.14	12.36	13.34	6.57	10.24	-0.70	10.37	10.38	8.55	****	6.64
<i>BARCLAYS CAPITAL US TIPS INDEX</i>			1.90	3.02	1.90	6.01	11.66	13.56	6.37	11.41	-2.35	9.49	10.31	8.37	7.26	7.26
			+/-	(0.11)	0.06	(0.11)	0.13	0.70	(0.22)	0.20	(1.17)	1.65	0.88	0.07	0.19	****
<b>ECONOMICALLY TARGETED INVESTMENTS</b>	16.12	0.54%	0.94	2.13	0.94	3.53	7.01	7.10	5.80	7.02	5.53	6.86	6.13	6.78	****	6.68
<i>BERS CUSTOM BENCHMARK (NO CASH)</i>			1.18	2.01	1.18	3.34	6.64	7.09	5.98	4.91	6.19	6.44	6.16	6.50	****	6.50
			+/-	(0.24)	0.12	(0.24)	0.19	0.36	0.01	(0.18)	2.11	(0.66)	0.43	(0.03)	0.28	****
<b>CASH ASSET CLASS SUMMARY</b>																
<b>CASH</b>	202.2	6.72%	0.04	0.12	0.04	0.31	0.52	0.59	0.41	1.25	3.52	0.50	0.60	1.71	****	2.65
<i>ML 91 DAY TREASURY BILL INDEX</i>			0.01	0.03	0.01	0.05	0.06	0.10	0.13	0.21	2.06	0.07	0.12	0.90	1.85	1.85
			+/-	0.03	0.09	0.03	0.26	0.47	0.49	0.28	1.04	1.46	0.43	0.47	0.81	****

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US EQUITY																
TOTAL RUSSELL 3000	726.8	24.17%	0.98	-1.53	0.98	10.38	3.83	0.95	16.99	28.31	-37.12	7.29	14.20	1.32	6.80	8.16
BLACKROCK R3000	726.8	24.17%	0.98	-1.53	0.98	10.38	3.83	0.95	16.99	28.31	-37.12	7.29	14.20	1.32	6.80	2.54
RUSSELL 3000			0.99	-1.54	0.99	10.40	3.84	1.03	16.93	28.34	-37.31	7.33	14.22	1.29	6.80	
TOTAL RUSSELL 3000 +/-			(0.01)	0.01	(0.01)	(0.02)	(0.01)	(0.08)	0.06	(0.03)	0.19	(0.03)	(0.02)	0.03	0.00	
BLACKROCK R3000 +/-			(0.01)	0.01	(0.01)	(0.02)	(0.01)	(0.08)	0.06	(0.03)	0.19	(0.03)	(0.02)	0.03	(0.00)	
TOTAL SMALL CAP	20.8	0.69%	0.33	-2.42	0.33	7.35	-13.26	-10.17	21.37	35.44	-41.59	-5.37	10.72	-2.28	****	5.88
RUSSELL 2000			-1.38	-3.31	-1.38	7.03	-2.08	-4.18	26.85	27.18	-33.80	0.19	13.71	1.69	8.62	
+/-			1.72	0.90	1.72	0.32	(11.18)	(5.99)	(5.48)	8.26	(7.79)	(5.56)	(2.99)	(3.97)	****	
TOTAL SMALL CAP ACTIVE	20.8	0.69%	0.33	-2.42	0.33	7.35	-13.26	-10.17	21.37	35.44	-41.59	-5.37	10.72	-2.28	****	2.46
RUSSELL 2000			-1.38	-3.31	-1.38	7.03	-2.08	-4.18	26.85	27.18	-33.80	0.19	13.71	1.69	8.62	
+/-			1.72	0.90	1.72	0.32	(11.18)	(5.99)	(5.48)	8.26	(7.79)	(5.56)	(2.99)	(3.97)	****	
TOTAL SMALL CAP CORE ACTIVE	20.8	0.69%	0.33	-2.42	0.33	7.35	-13.26	-10.17	****	****	****	-5.37	****	****	****	5.90
DARUMA -SCC	20.8	0.69%	0.33	-2.42	0.33	7.35	-13.26	-10.17	****	****	****	-5.37	****	****	****	5.90
RUSSELL 2000			-1.38	-3.31	-1.38	7.03	-2.08	-4.18	26.85	27.18	-33.80	0.19	13.71	1.69	8.62	
TOTAL SMALL CAP CORE +/-			1.72	0.90	1.72	0.32	(11.18)	(5.99)	****	****	****	(5.56)	****	****	****	
DARUMA -SCC +/-			1.72	0.90	1.72	0.32	(11.18)	(5.99)	****	****	****	(5.56)	****	****	****	
TOTAL MID CAP	131.5	4.37%	0.53	-3.41	0.53	10.87	-2.52	-5.53	****	****	****	2.83	****	****	****	9.59
RUSSELL MID CAP			0.23	-3.86	0.23	8.22	-1.65	-1.55	25.47	40.46	-41.46	2.28	16.20	1.87	9.59	
+/-			0.30	0.45	0.30	2.66	(0.87)	(3.98)	****	****	****	0.54	****	****	****	
TOTAL MID CAP PASSIVE	49.3	1.64%	-0.03	-4.73	-0.03	7.92	-2.24	****	****	****	****	1.30	****	****	****	2.67
SSGA S&P 400	49.3	1.64%	-0.03	-4.73	-0.03	7.92	-2.24	****	****	****	****	1.30	****	****	****	2.67
S&P MIDCAP 400			-0.04	-4.76	-0.04	7.85	-2.33	-1.73	26.64	37.38	-36.23	1.20	16.06	3.45	9.31	
TOTAL MID CAP PASSIVE +/-			0.02	0.03	0.02	0.06	0.09	****	****	****	****	0.10	****	****	****	
SSGA S&P 400 +/-			0.02	0.03	0.02	0.06	0.09	****	****	****	****	0.10	****	****	****	
TOTAL MID CAP ACTIVE	82.2	2.73%	0.87	-2.60	0.87	12.72	-2.69	-6.79	****	****	****	3.76	****	****	****	9.77
RUSSELL MID CAP			0.23	-3.86	0.23	8.22	-1.65	-1.55	25.47	40.46	-41.46	2.28	16.20	1.87	9.59	
+/-			0.64	1.26	0.64	4.51	(1.03)	(5.25)	****	****	****	1.48	****	****	****	
TOTAL MID CAP CORE ACTIVE	82.2	2.73%	0.87	-2.60	0.87	12.72	-2.69	-6.79	****	****	****	3.76	****	****	****	9.77
WELLINGTON	82.2	2.73%	0.87	-2.60	0.87	12.72	-2.69	-6.79	****	****	****	3.76	****	****	****	9.77
S&P MIDCAP 400			-0.04	-4.76	-0.04	7.85	-2.33	-1.73	26.64	37.38	-36.23	1.20	16.06	3.45	9.31	
TOTAL MID CAP CORE +/-			0.91	2.16	0.91	4.87	(0.36)	(5.06)	****	****	****	2.56	****	****	****	
WELLINGTON +/-			0.91	2.16	0.91	4.87	(0.36)	(5.06)	****	****	****	2.56	****	****	****	
TOTAL LARGE CAP	139.8	4.65%	-1.23	-5.95	-1.23	6.23	-2.15	-1.64	16.72	30.50	-35.16	-0.42	11.83	0.98	7.45	7.78
RUSSELL 1000			1.19	-1.40	1.19	10.68	4.37	1.50	16.10	28.43	-37.60	7.96	14.26	1.25	6.65	
+/-			(2.41)	(4.56)	(2.41)	(4.45)	(6.53)	(3.14)	0.62	2.07	2.44	(8.37)	(2.43)	(0.27)	0.80	
TOTAL LARGE CAP GROWTH	44.8	1.49%	-4.45	-13.36	-4.45	0.16	-11.18	-8.93	17.52	44.55	-38.15	-12.92	7.62	0.50	6.46	7.25
RUSSELL 1000 GROWTH			1.34	-2.58	1.34	11.55	5.76	2.64	16.71	37.22	-38.43	8.26	15.35	3.47	6.77	
+/-			(5.80)	(10.77)	(5.80)	(11.39)	(16.94)	(11.57)	0.81	7.33	0.28	(21.18)	(7.73)	(2.97)	(0.32)	

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ZEVENBERGEN	44.8	1.49%	-4.45	-13.36	-4.45	0.16	-11.18	-10.02	23.05	56.91	-41.75	-12.92	9.74	2.05	9.63	8.81
RUSSELL 3000 GROWTH			1.10	-2.69	1.10	11.20	5.05	2.18	17.64	37.00	-38.45	7.55	15.29	3.40	6.92	
			(5.56)	(10.67)	(5.56)	(11.04)	(16.23)	(12.20)	5.41	19.91	(3.30)	(20.47)	(5.55)	(1.35)	2.71	
TOTAL LARGE CAP VALUE	94.9	3.16%	0.37	-2.00	0.37	9.36	3.04	2.73	15.81	17.68	-32.16	6.82	13.68	0.16	****	5.71
ARONSON JOHNSON	94.9	3.16%	0.37	-2.00	0.37	9.36	3.04	2.73	15.81	17.68	-32.16	6.82	13.68	0.16	****	5.71
RUSSELL 1000 VALUE			1.03	-0.17	1.03	9.80	3.01	0.39	15.51	19.69	-36.85	7.64	13.19	-1.06	6.41	
TOTAL LARGE CAP VALUE			(0.66)	(1.83)	(0.66)	(0.44)	0.04	2.34	0.30	(2.01)	4.69	(0.82)	0.49	1.22	****	
ARONSON JOHNSON			(0.66)	(1.83)	(0.66)	(0.44)	0.04	2.34	0.30	(2.01)	4.69	(0.82)	0.49	1.22	****	
TOTAL EMERGING MGRS	98.1	3.26%	0.78	-4.17	0.78	8.41	-1.97	-1.75	18.99	28.60	-37.38	1.24	12.76	0.97	****	4.91
RUSSELL 3000			0.99	-1.54	0.99	10.40	3.84	1.03	16.93	28.34	-37.31	7.33	14.22	1.29	6.80	
			(0.21)	(2.63)	(0.21)	(1.99)	(5.81)	(2.78)	2.06	0.26	(0.07)	(6.09)	(1.47)	(0.32)	****	
F.I.S FUND MGMT	25.9	0.86%	-0.47	-4.97	-0.47	5.31	-4.07	-2.62	27.68	23.31	-38.82	-1.16	12.85	****	****	-0.27
RUSSELL 2000			-1.38	-3.31	-1.38	7.03	-2.08	-4.18	26.85	27.18	-33.80	0.19	13.71	1.69	8.62	
			0.91	(1.65)	0.91	(1.72)	(1.99)	1.55	0.83	(3.87)	(5.02)	(1.35)	(0.86)	****	****	
PROGRESS	72.2	2.40%	1.23	-3.89	1.23	9.57	-1.18	-1.43	16.04	30.50	-36.86	2.13	12.73	1.23	7.04	3.41
RUSSELL 3000			0.99	-1.54	0.99	10.40	3.84	1.03	16.93	28.34	-37.31	7.33	14.22	1.29	6.80	
			0.24	(2.35)	0.24	(0.83)	(5.02)	(2.45)	(0.89)	2.16	0.45	(5.20)	(1.49)	(0.06)	0.24	
<b>NON - US EQUITY</b>																
TOTAL DEVELOPED MARKETS	568.3	18.90%	1.30	-5.22	1.30	5.77	-10.61	-10.35	17.92	39.95	-42.78	-8.06	8.19	-1.35	8.46	7.28
MSCI EAFE (NET DIVIDEND)			1.13	-4.20	1.13	4.12	-13.83	-12.14	7.75	31.78	-43.39	-11.45	3.31	-5.61	6.36	
			0.16	(1.02)	0.16	1.64	3.22	1.79	10.17	8.17	0.61	3.38	4.88	4.25	2.10	
BAILLIE	310.1	10.31%	1.67	-5.83	1.67	5.71	-11.91	-10.71	17.36	45.29	-44.75	-8.78	8.02	-0.10	****	-0.10
MSCI EAFE GROWTH			1.72	-4.73	1.72	5.97	-12.22	-11.82	12.60	29.91	-42.46	-10.12	5.65	-3.76	****	
			(0.05)	(1.10)	(0.05)	(0.27)	0.31	1.11	4.76	15.38	(2.29)	1.34	2.37	3.67	****	
SPRUCEGROVE	258.1	8.58%	0.85	-4.48	0.85	5.85	-9.00	-9.92	18.56	34.34	-40.99	-7.19	8.40	-2.44	****	6.39
MSCI EAFE VALUE			0.59	-3.31	0.59	3.10	-14.60	-11.65	3.81	35.06	-43.68	-11.91	1.87	-6.58	****	
			0.27	(1.18)	0.27	2.75	5.60	1.73	14.75	(0.72)	2.69	4.71	6.53	4.14	****	
TOTAL EMERGING MARKETS	133.7	4.45%	1.32	-6.51	1.32	5.08	-15.90	-18.03	19.85	71.67	-55.84	-15.04	6.89	-2.47	16.10	8.95
MSCI EMERGING MARKETS FREE			2.02	-5.83	2.02	6.22	-15.67	-18.17	19.20	79.02	-53.17	-13.64	6.94	-0.43	15.56	
			(0.70)	(0.68)	(0.70)	(1.14)	(0.22)	0.14	0.65	(7.35)	(2.67)	(1.39)	(0.05)	(2.04)	0.53	
ACTIVE EMERGING MARKETS	107.3	3.57%	1.17	-6.61	1.17	4.87	-15.77	-17.86	19.85	71.67	-55.84	19.72	6.89	-2.47	****	11.15
STATE STREET	107.3	3.57%	1.17	-6.61	1.17	4.87	-15.77	-17.86	19.87	71.83	-55.90	-15.18	6.91	-2.47	****	2.45
MSCI EMERGING MARKETS FREE			2.02	-5.83	2.02	6.22	-15.67	-18.17	19.20	79.02	-53.17	-13.64	6.94	-0.43	15.56	
ACTIVE EMERGING MARKETS			(0.85)	(0.79)	(0.85)	(1.35)	(0.10)	0.32	0.65	(7.35)	(2.67)	33.36	(0.05)	(2.04)	****	
STATE STREET			(0.85)	(0.79)	(0.85)	(1.35)	(0.10)	0.32	0.67	(7.19)	(2.73)	(1.54)	(0.03)	(2.04)	****	
PASSIVE EMERGING MARKETS	26.4	0.88%	1.92	-6.07	1.92	5.92	-16.43	****	****	****	****	-14.46	****	****	****	-12.09
BLACKROCK-EM	26.4	0.88%	1.92	-6.07	1.92	5.92	-16.43	****	****	****	****	-14.46	****	****	****	-12.09
MSCI EMERGING MARKETS FREE			2.02	-5.83	2.02	6.22	-15.67	-18.17	19.20	79.02	-53.17	-13.64	6.94	-0.43	15.56	
PASSIVE EMERGING MARKETS			(0.10)	(0.25)	(0.10)	(0.31)	(0.76)	****	****	****	****	(0.82)	****	****	****	
BLACKROCK-EM			(0.10)	(0.25)	(0.10)	(0.31)	(0.76)	****	****	****	****	(0.82)	****	****	****	
TOTAL INTERNATIONAL EQUITY	702.0	23.34%	1.30	-5.47	1.30	5.64	-11.66	-11.84	18.25	45.00	-45.54	-9.48	7.91	-1.62	9.78	7.54
MSCI WORLD INDEX			1.31	-2.57	1.31	7.69	-4.42	-5.02	12.34	30.80	-40.33	-1.40	9.06	-1.70	6.81	
			(0.01)	(2.90)	(0.01)	(2.05)	(7.25)	(6.82)	5.91	14.20	(5.21)	(8.08)	(1.15)	0.09	2.97	

THE BANK OF NEW YORK MELLON

CITY OF NEW YORK

Manager / Benchmark Comparison Report \*NYC Board of Education Retirement System

July 31, 2012

	Assets (\$MM)	% of Total	Trailing 1 Month	Trailing 3 Months	Fiscal YTD	Calendar YTD	FY Ending 06/30/12	Calendar Yr Ending 2011	Calendar Yr Ending 2010	Calendar Yr Ending 2009	Calendar Yr Ending 2008	Trailing 1 Year	Trailing* 3 Years	Trailing* 5 Years	Trailing* 10 Years	Since Inception
<b>FIXED INCOME</b>																
TOTAL STRUCTURED FIXED INCOME	556.3	18.50%	1.83	3.12	1.83	5.40	9.64	9.23	8.36	8.74	3.51	9.70	8.83	8.08	6.74	8.64
NYC - CORE PLUS FIVE			1.77	3.05	1.77	4.83	9.35	9.40	7.13	6.28	6.64	9.27	7.99	7.98	6.41	
			+/-	0.06	0.07	0.06	0.57	0.30	(0.17)	1.23	2.46	(3.13)	0.44	0.85	0.10	0.34
ALL MORTGAGE	241.1	8.02%	0.92	1.46	0.92	3.52	5.90	6.30	7.84	9.20	4.30	5.96	7.01	7.34	5.91	6.79
PIMCO-MORTGAGE	241.1	8.02%	0.92	1.46	0.92	3.52	5.90	6.30	7.84	9.20	4.30	5.96	7.01	7.34	5.91	7.72
CITIGROUP MORTGAGE INDEX			0.79	1.20	0.79	2.49	5.05	6.38	5.50	5.76	8.49	4.92	5.51	6.81	5.43	
			+/-	0.13	0.26	0.13	1.02	0.85	(0.08)	2.34	3.44	(4.19)	1.04	1.50	0.52	0.48
			+/-	0.13	0.26	0.13	1.02	0.85	(0.08)	2.34	3.44	(4.19)	1.04	1.50	0.52	0.48
ALL INVESTMENT GRADE CREDIT	221.3	7.36%	2.82	4.12	2.82	7.57	9.75	8.34	9.02	22.61	-9.91	10.33	10.18	7.43	7.39	8.10
PRUDENTIAL - CREDIT	127.7	4.25%	2.74	3.98	2.74	7.45	9.81	8.00	8.72	****	****	10.33	9.65	****	****	9.65
TAPLIN, CANIDA -CREDIT	93.6	3.11%	2.94	4.31	2.94	7.74	9.64	8.83	9.43	22.42	-9.91	10.30	10.89	7.61	7.48	7.41
NYC - INVESTMENT GRADE CREDIT			2.72	3.83	2.72	7.31	9.14	7.80	8.36	16.36	-4.06	9.68	9.41	7.74	6.75	
			+/-	0.10	0.29	0.10	0.26	0.61	0.55	0.66	6.25	(5.85)	0.65	0.77	(0.31)	0.64
			+/-	0.02	0.15	0.02	0.14	0.68	0.20	0.36	****	****	0.65	0.24	****	****
			+/-	0.22	0.48	0.22	0.43	0.50	1.04	1.07	6.06	(5.85)	0.62	1.47	(0.13)	0.73
ALL TREASURY / AGENCY	93.9	3.12%	1.90	5.20	1.90	5.30	18.70	18.52	8.93	-6.64	18.77	17.27	10.80	10.25	7.50	8.55
STATE STREET	93.9	3.12%	1.90	5.20	1.90	5.30	18.70	18.52	8.93	-6.64	18.77	17.27	10.80	10.25	7.66	8.11
NYC - TREASURY AGENCY PLUS FIVE			1.99	5.27	1.99	5.32	18.72	18.44	9.24	-7.44	18.91	17.30	10.77	10.08	7.55	
			+/-	(0.09)	(0.07)	(0.09)	(0.02)	(0.02)	0.08	(0.31)	0.80	(0.14)	(0.04)	0.03	0.17	(0.05)
			+/-	(0.09)	(0.07)	(0.09)	(0.02)	(0.02)	0.08	(0.31)	0.80	(0.14)	(0.04)	0.03	0.17	0.11
<b>HIGH YIELD</b>																
TOTAL HIGH YIELD	179.1	5.96%	1.49	2.00	1.49	8.97	7.06	6.25	15.01	44.33	-21.04	6.92	14.20	9.43	10.36	5.91
CITIGROUP BB & B			1.89	2.93	1.89	8.73	8.45	6.58	13.35	40.37	-25.10	8.94	13.00	7.32	9.39	
			+/-	(0.39)	(0.93)	(0.39)	0.24	(1.38)	(0.33)	1.66	3.96	4.06	(2.02)	1.20	2.11	0.97
LOOMIS SAYLES & CO	93.8	3.12%	1.09	1.45	1.09	9.33	7.73	7.14	15.79	52.73	-23.85	6.85	15.85	10.15	11.59	7.63
NYC-LOOMIS (BoFA ML-MST II 7-03/BB&B PRIOR)			1.92	2.73	1.92	9.13	6.51	4.38	15.19	57.51	-26.39	7.23	14.58	9.26	10.69	
			+/-	(0.82)	(1.29)	(0.82)	0.21	1.22	2.76	0.60	(4.78)	2.54	(0.38)	1.26	0.88	0.89
SHENKMAN ENHANCED YIELD	85.3	2.84%	****	****	****	****	****	****	****	****	****	****	****	****	****	****
CITIGROUP BB & B			1.89	2.93	1.89	8.73	8.45	6.58	13.35	40.37	-25.10	8.94	13.00	7.32	9.39	
			+/-	****	****	****	****	****	****	****	****	****	****	****	****	****
<b>TIPS</b>																
TOTAL ACTIVE TIPS MANAGERS	73.8	2.46%	1.78	3.08	1.78	6.14	12.36	13.34	6.57	10.24	-0.70	10.37	10.38	8.55	****	6.64
PIMCO-TIPS-MTA	73.8	2.46%	1.78	3.08	1.78	6.14	12.36	13.34	6.57	10.24	-0.70	10.37	10.38	8.55	****	6.64
BARCLAYS CAPITAL US TIPS INDEX			1.90	3.02	1.90	6.01	11.66	13.56	6.37	11.41	-2.35	9.49	10.31	8.37	7.26	
			+/-	(0.11)	0.06	(0.11)	0.13	0.70	(0.22)	0.20	(1.17)	1.65	0.88	0.07	0.19	****
			+/-	(0.11)	0.06	(0.11)	0.13	0.70	(0.22)	0.20	(1.17)	1.65	0.88	0.07	0.19	****

THE BANK OF NEW YORK MELLON

CITY OF NEW YORK

Manager / Benchmark Comparison Report \*NYC Board of Education Retirement System

July 31, 2012

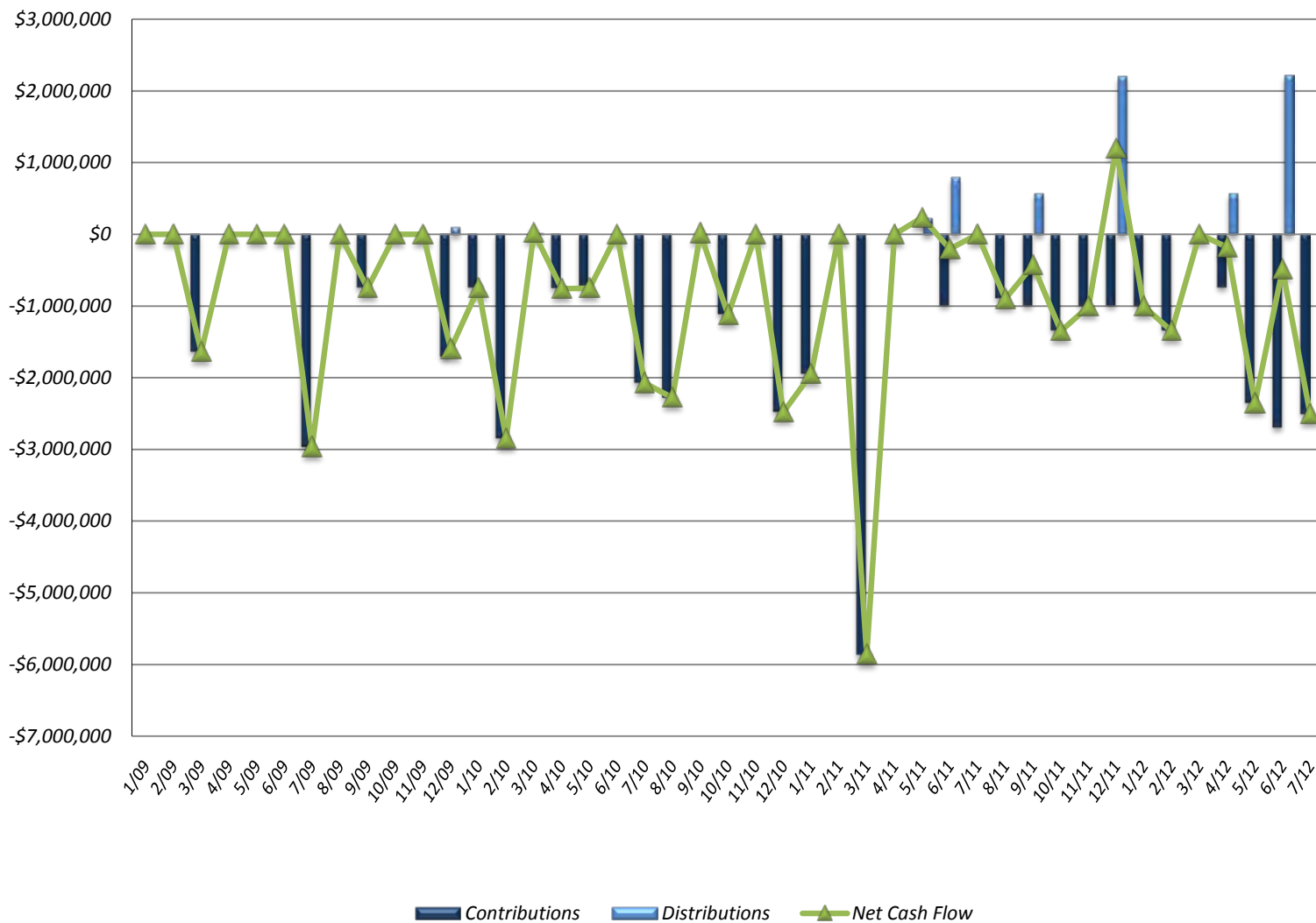
	Assets (\$MM)	% of Total	Trailing 1 Month	Trailing 3 Months	Fiscal YTD	Calendar YTD	FY Ending 06/30/12	Calendar Yr Ending 2011	Calendar Yr Ending 2010	Calendar Yr Ending 2009	Calendar Yr Ending 2008	Trailing 1 Year	Trailing* 3 Years	Trailing* 5 Years	Trailing* 10 Years	Since Inception
<b>OTHER FIXED INCOME</b>																
TOTAL ETI	16.12	0.54%	0.94	2.13	0.94	3.53	7.01	7.10	5.80	7.02	5.53	6.86	6.13	6.78	****	6.68
BERS CUSTOM BENCHMARK (NO CASH)			1.18	2.01	1.18	3.34	6.64	7.09	5.98	4.91	6.19	6.44	6.16	6.50	****	
			+/-	(0.24)	0.12	(0.24)	0.19	0.36	0.01	(0.18)	2.11	(0.66)	0.43	(0.03)	0.28	****
AFL-CIO HOUSING INV TRUST	11.71	0.39%	0.99	2.27	0.99	3.66	7.60	7.86	6.16	6.28	5.26	7.34	6.51	6.93	****	6.22
BARCLAYS CAPITAL AGGREGATE			1.38	2.34	1.38	3.78	7.47	7.84	6.54	5.93	5.24	7.25	6.85	6.91	5.65	
			+/-	(0.39)	(0.07)	(0.39)	(0.13)	0.13	0.02	(0.38)	0.35	0.02	0.09	(0.34)	0.03	****
ACCESS RBC	2.76	0.09%	1.01	1.87	1.01	3.49	6.57	6.78	5.72	10.99	6.67	6.68	6.19	7.28	****	6.94
ACCESS CUSTOM BENCHMARK			0.75	1.25	0.75	2.29	5.24	6.32	5.52	2.89	9.67	4.88	5.24	6.43	****	
			+/-	0.26	0.63	0.26	1.20	1.33	0.46	0.20	8.10	(3.00)	1.81	0.95	0.84	****
CFSB-PPAR	0.1	0.00%	1.11	3.62	1.11	5.50	5.67	3.29	12.80	9.82	5.50	6.01	8.33	8.22	****	7.62
CCD-PPAR	0.3	0.01%	0.85	4.83	0.85	6.97	8.83	5.59	11.58	12.48	6.69	9.39	9.40	9.53	****	8.97
LIIF-PPAR	0.1	0.00%	0.76	2.03	0.76	3.79	5.72	4.96	4.34	****	****	5.93	5.65	****	****	5.65
NCBCI-PPAR	0.1	0.00%	1.56	3.66	1.56	5.51	8.88	8.50	4.10	****	****	9.99	6.99	****	****	6.99
CPC TERM LOAN	1.1	0.04%	0.20	0.63	0.20	1.46	2.34	2.09	2.06	2.20	4.81	2.38	2.17	3.13	****	3.46
<b>CASH</b>																
TOTAL CASH	202.2	6.72%	0.04	0.12	0.04	0.31	0.52	0.59	0.41	1.25	3.52	0.50	0.60	1.71	****	2.65
ML 91 DAY TREASURY BILL INDEX			0.01	0.03	0.01	0.05	0.06	0.10	0.13	0.21	2.06	0.07	0.12	0.90	1.85	
			+/-	0.03	0.09	0.03	0.26	0.47	0.49	0.28	1.04	1.46	0.43	0.47	0.81	****
<b>PRIVATE EQUITY</b>																
TOTAL PRIVATE EQUITY	97.7	3.25%	-1.70	1.45	-1.70	2.89	9.29	19.15	13.64	-9.95	-7.59	7.44	14.28	2.92	****	-1.00
RUSSELL 3000 PLUS 5%			1.36	-0.76	1.36	12.42	8.84	6.03	21.93	33.34	-32.30	12.33	19.23	6.35	11.84	
			+/-	(3.05)	2.21	(3.05)	(9.53)	0.45	13.12	(8.29)	(43.29)	24.71	(4.89)	(4.95)	(3.43)	****
<b>PRIVATE REAL ESTATE</b>																
TOTAL PRIVATE REAL ESTATE	63.3	2.10%	-0.01	3.86	-0.01	10.26	14.84	9.43	****	****	****	11.27	****	****	****	11.92
NCREIF NFI-ODCE NET			0.00	2.29	0.00	4.90	11.31	14.97	15.26	-30.40	-10.70	11.31	7.37	-1.81	****	
			+/-	(0.01)	1.57	(0.01)	5.36	3.53	(5.53)	****	****	****	(0.04)	****	****	****
TOTAL BOARD OF EDUCATION	3,007.6		0.96	-1.45	0.96	6.98	0.10	-0.42	14.95	25.74	-28.72	2.00	10.73	2.56	7.59	8.57
BOARD OF EDUCATION POLICY BENCHMARK			1.30	-0.64	1.30	7.73	1.52	0.47	12.54	25.48	-29.07	3.60	10.68	2.37	7.37	
			+/-	(0.34)	(0.81)	(0.34)	(0.75)	(1.42)	(0.89)	2.41	0.26	0.35	(1.60)	0.05	0.19	0.22



New York City Board of Education Retirement System  
As of September 30, 2011 (Amounts in USD)

Vintage Year	Deal Name	First Drawdown	Capital Committed	Total Contribution	Recallable Distribution	Total Distribution	Market Value	Multiple	IRR
2005	Mesirow Financial Private Equity Partnership Fund III	6/20/2005	\$ 57,000,000	\$ 45,403,273	\$ -	\$ 1,351,092	\$ 53,344,985	1.20x	5.4%
2006	Mesirow Financial Private Equity Partnership Fund IV	12/27/2006	25,000,000	13,717,233	-	128,759	14,227,511	1.05x	2.3%
	New York/Fairview Private Equity Fund	7/14/2006	19,000,000	11,029,500	-	938,995	10,740,844	1.06x	1.9%
2009	Mesirow Financial Private Equity Partnership Fund V	1/1/2009	45,000,000	6,764,326	-	233,886	6,741,740	1.03x	6.4%
Grand Total(s):			\$ 146,000,000	\$ 76,914,332	\$ -	\$ 2,652,732	\$ 85,055,080	1.14x	4.6%

### NYC BERS Monthly PE Cash Flow Summary



## New York City Board of Education Retirement System

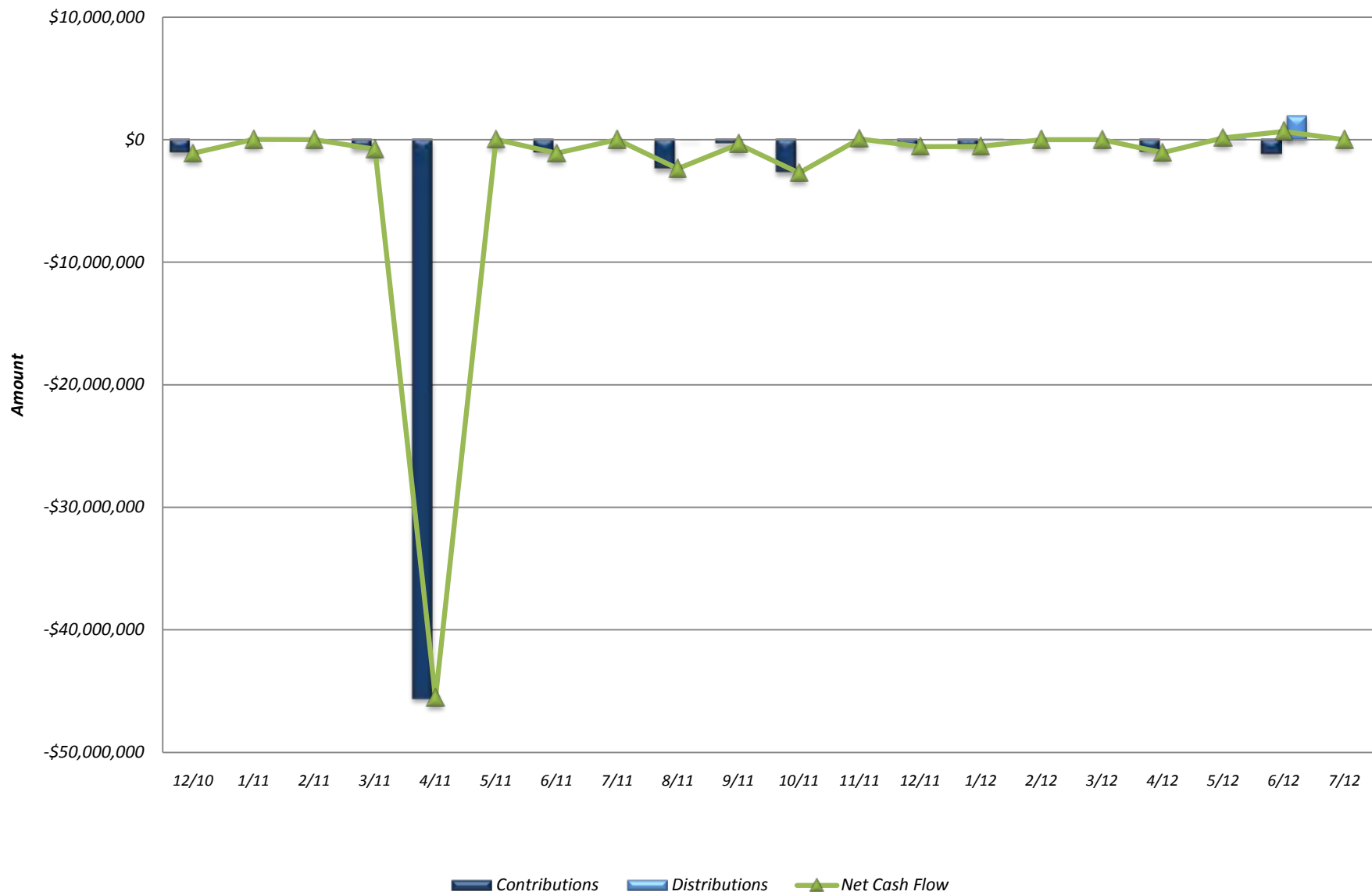
Vintage Year	Fund Name	First Draw Down	Capital Committed	Contributions	Distributions	Market Value	Equity Multiple	Net IRR
2011	LaSalle Property Fund	12/13/2010	\$27,600,000	\$10,448,343	(\$252,134)	\$11,486,820	1.1	17.2%
2011	UBS Trumbull Property Fund ("UBS-TPF")	4/1/2011	\$41,400,000	\$43,162,612	(\$1,338,976)	\$46,673,221	1.1	11.6%
2011	Franklin Templeton Private Real Estate Fund	4/4/2011	\$30,000,000	\$3,397,718	\$0	\$3,149,444	0.9	-10.2%
<b>New York City Board of Education Retirement System</b>			<b>\$99,000,000</b>	<b>\$57,008,672</b>	<b>(\$1,591,110)</b>	<b>\$61,309,485</b>	<b>1.1</b>	<b>11.4%</b>

## Funds Closed Subsequent to Quarter

Vintage	Fund Name	First Draw Down	Capital Committed	Contributions				
2012	Brookfield Strategic Real Estate Partners		\$10,000,000	-	-	-	-	-
<b>Grand Total</b>			<b>\$10,000,000</b>					

Source: PCG historical cash flow data. TTG cash flow data from Fund Managers, effective 2005. Note: The equity multiples and IRRs contained in this report are interim calculations based upon information provided by the investment managers of the New York City Retirement Systems, including cash flows and quarterly unaudited, or audited, valuations. The IRR calculated in early years of a fund life is not meaningful given the J-curve effect and can be significantly impacted by the timing of cash flows, investment strategy, investment pacing, and fund life. The calculations are not necessarily indicative of total fund performance, which can only be determined after the fund is liquidated and all capital contributed and earnings have been distributed to the investor. All data supplied is as of March 31, 2012. 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.

### BERS Monthly Real Estate Cash Flow Summary

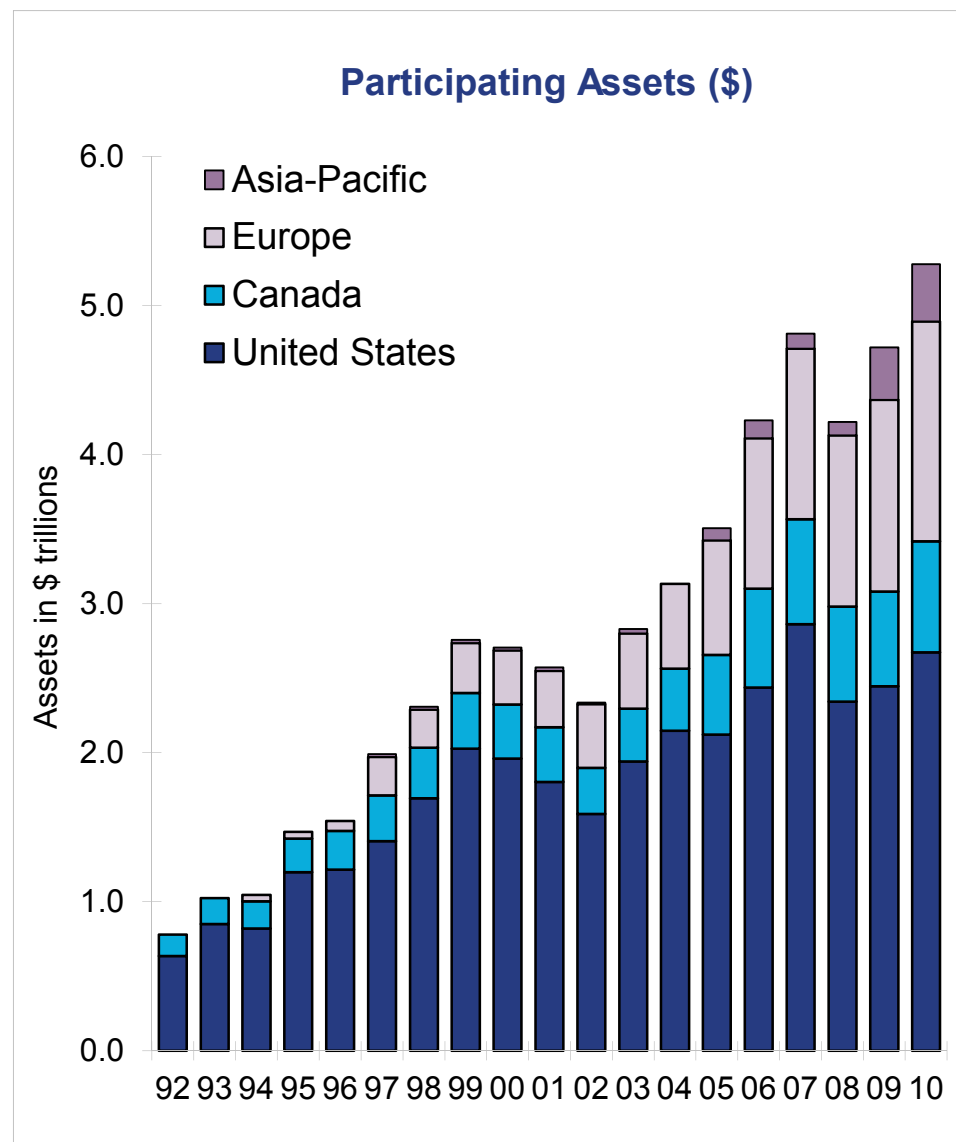


### III. CEM Benchmarking:

## This benchmarking report compares your cost and return performance to CEM's extensive pension database.

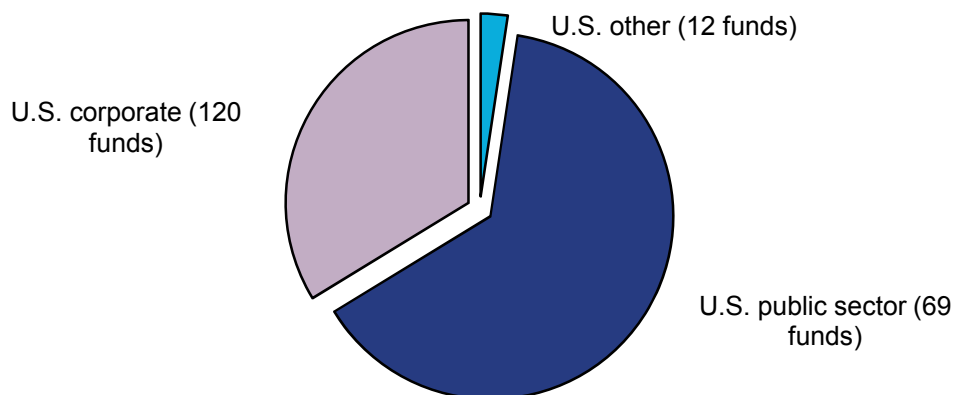
- 201 U.S. pension funds participate. The median U.S. fund had assets of \$4.3 billion, while the average U.S. fund had assets of \$13.3 billion. Total participating U.S. assets were \$2.7 trillion.
- 92 Canadian funds participate with assets totaling \$744 billion.
- 53 European funds participate with aggregate assets of \$1,475 billion. Included are funds from the Netherlands, Norway, Sweden, Finland, Denmark and the U.K.
- 7 Asia-Pacific funds participate with aggregate assets of \$385 billion. Included are funds from Australia and New Zealand.

The most meaningful comparisons for your returns and value added are to the U.S. universe.



## Universe subsets (Type of funds, size of fund, peers)

### Holdings by Fund Type

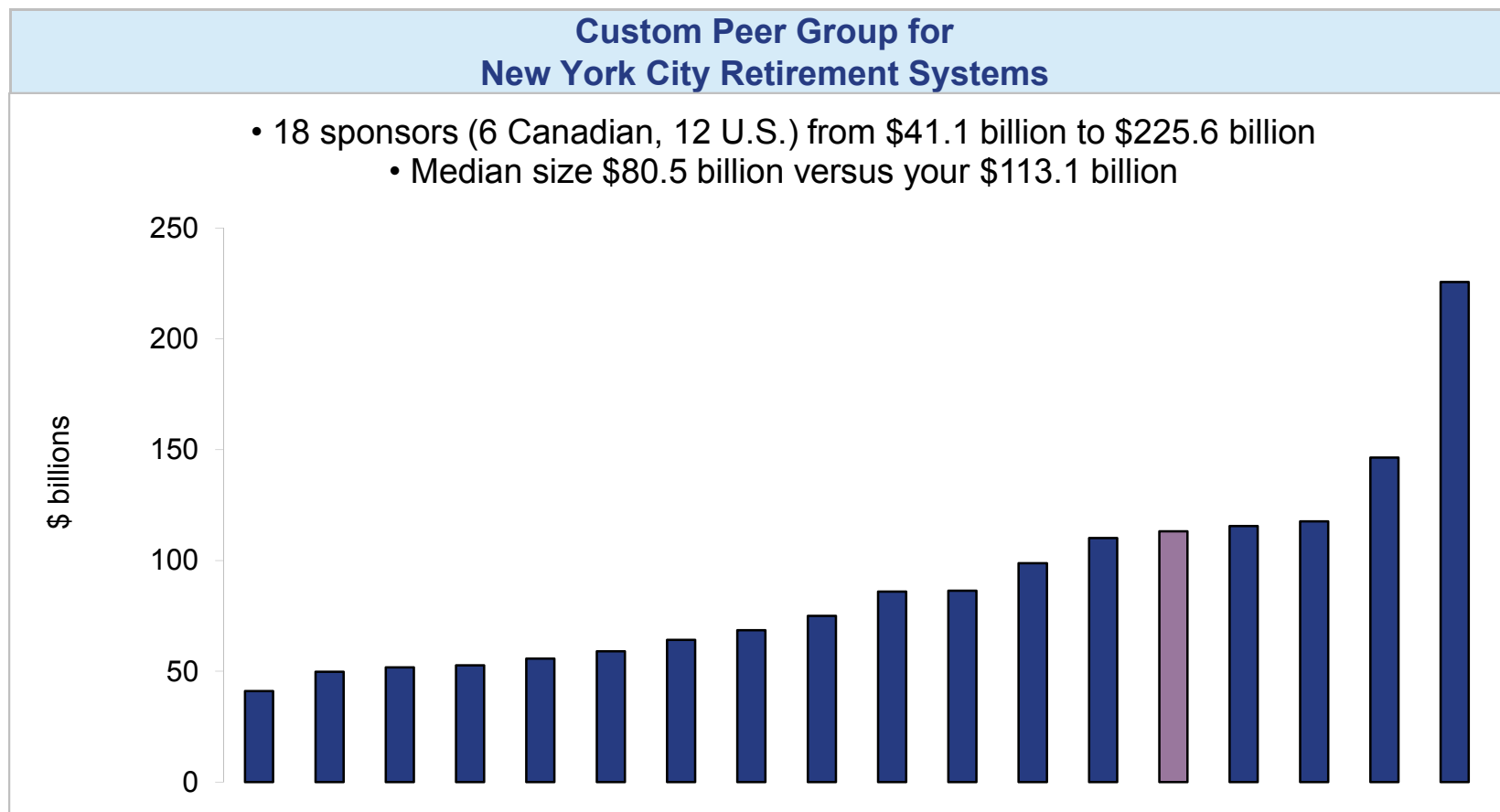


### Survey Participation by Universe Segment

		# of funds	Assets in \$millions		
			Total	Average	Median
Your fund <i>New York City Retirement System</i>	2010		113,106		
	2009		100,497		
	2008		82,321		
	2007		112,316		
	2006		106,300		
Peer group*	2010	18	1,617,518	89,862	80,511
	2009	17	1,428,400	84,024	78,819
	2008	17	1,390,979	81,822	71,043
	2007	16	1,616,442	101,028	85,506
	2006	17	1,592,655	93,686	81,821
U.S.	2010	201	2,673,347	13,300	4,271
	2009	202	2,445,134	12,105	3,748
	2008	212	2,342,403	11,049	3,229
	2007	217	2,862,321	13,190	4,339
	2006	147	2,436,772	16,577	5,689
U.S. >2.0 Bil	2010	142	2,603,788	18,337	
U.S. <2.0 Bil	2010	59	69,559	1,179	
U.S. corporate	2010	120	901,324	7,511	
U.S. public sector	2010	69	1,708,573	24,762	
U.S. other	2010	12	63,450	5,287	
United States	2010	201	2,673,347	13,300	
Canada	2010	92	744,381	8,091	
Europe	2010	53	1,474,938	27,829	
Asia-Pacific	2010	7	384,795	54,971	

\* Peer group statistics are for the funds who are listed in the 2010 group only.

## The most valuable comparisons for cost performance are to your custom peer group because size impacts costs.



To preserve client confidentiality, given potential access to documents as permitted by the Freedom of Information Act, we do not disclose your peers' names in this document.



**At the end of 2010, your policy mix compared to your peers and the U.S. universe as follows.**

Policy Mix	2006	2010		
	Your Fund	Your Fund	U.S. Avg	Peer Avg
Asset Class				
U.S. Stock	48%	44%	30%	17%
EAFE/Global Stock	15%	16%	18%	28%
Emerging Mkt Stock	<u>2%</u>	<u>2%</u>	<u>2%</u>	<u>3%</u>
Total Stock	65%	62%	50%	48%
U.S. Bonds	21%	20%	19%	14%
Long Bonds	0%	0%	9%	3%
High Yield Bonds	5%	5%	1%	1%
Inflation Index Bonds	3%	3%	1%	3%
Fixed Income - Other	0%	2%	3%	8%
Cash	<u>0%</u>	<u>0%</u>	<u>1%</u>	<u>0%</u>
Total Fixed Income	30%	30%	34%	29%
Real Assets	3%	3%	6%	12%
Hedge Funds	0%	0%	4%	2%
Private Equity	2%	5%	5%	9%
Total	100%	100%	100%	100%

2. Value Added

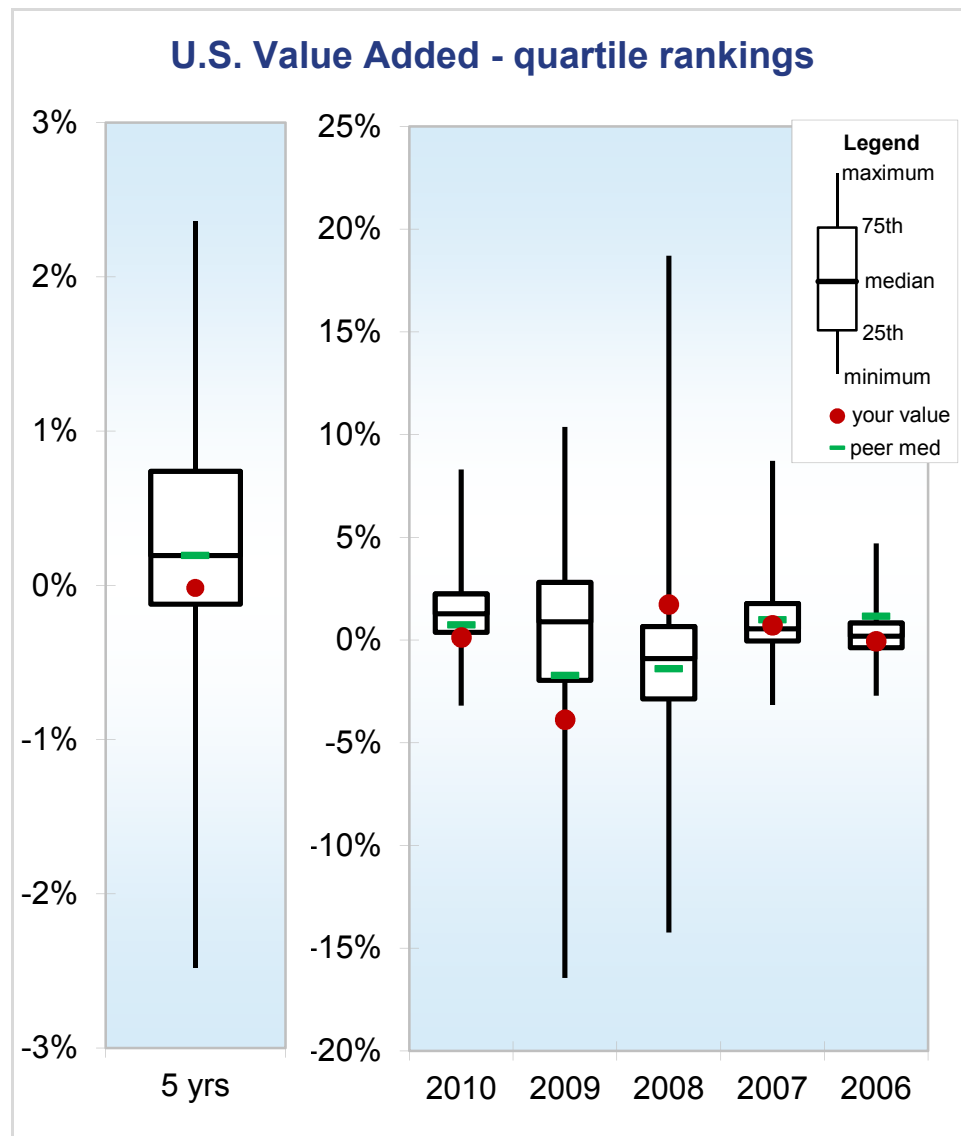
# Value added is the component of your total return from active management. Your 5-year value added was 0.0%.

Value added equals your total return minus your policy return. It can be further broken down into value added from:

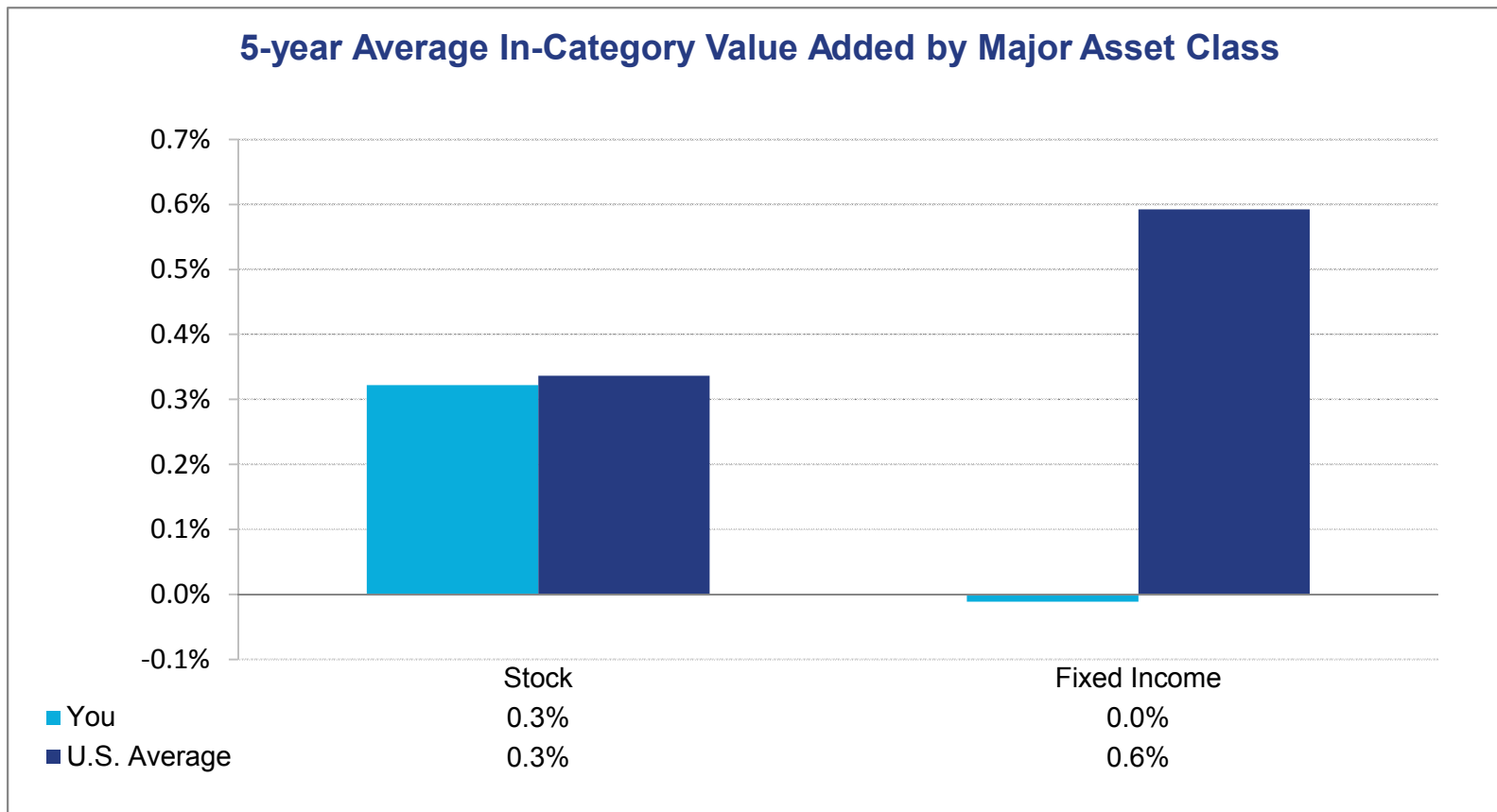
- Security selection decisions within each asset category ("in-category"), and
- Asset mix decisions that result in varying from your policy mix. Mix also includes the value added from overlays.

New York City Retirement Systems					
Year	Total return	Policy return	Value added		
			Total	In-category	Mix
2010	14.0%	13.8%	0.1%	0.9%	(0.8)%
2009	21.3%	25.2%	(3.9)%	0.4%	(4.3)%
2008	(26.7)%	(28.4)%	1.7%	(0.3)%	2.0%
2007	8.0%	7.3%	0.7%	0.3%	0.4%
2006	14.7%	14.7%	(0.1)%	(0.4)%	0.3%
5-year	4.6%	4.7%	(0.0)%	0.2%	(0.2)%

Your 5-year value added of 0.0% compares to a median of 0.2% for your peers and 0.2% for the U.S. universe.



## You had positive 5-year value added in stock.



## 3. Costs

**Your asset management costs in 2010 were \$419.1 million or 39.2 basis points.**

Your Investment Management Costs (\$000s)					
	Internal		External		Total
	Passive	Active	Passive	Active: base fees Active: perform fees <sup>3</sup>	
U.S. Stock - Broad/All			961		961
U.S. Stock - Large Cap				15,682	15,682
U.S. Stock - Small/Mid Cap				17,979	17,979
Stock - EAFE			186	44,200	44,386
Stock - Emerging				14,708	14,708
Fixed Income - U.S.				14,421	14,421
Fixed Income - Global				62	62
Inflation Indexed Bonds			38	2,095	2,134
Fixed Income - High Yield				16,558	16,558
Fixed Income - Other		2,232		12,383	14,615
REITs				5,562	5,562
Real Estate ex-REITs				34,643	34,643
Diversified Private Equity				26,819 <sup>2</sup>	26,819
Diversified Private Equity - Fund of Funds				28,587 <sup>1</sup>	28,587
LBO				140,505 <sup>2</sup>	140,505
Venture Capital				26,432 <sup>2</sup>	26,432
<b>Total investment management costs</b>					<b>37.8bp 404,053</b>
Your Oversight, Custodial and Other Asset Related Costs <sup>4</sup> (\$000s)					
Oversight of the fund					5,994
Trustee & custodial					4,021
Consulting and performance measurement					5,008
<b>Total oversight, custodial &amp; other costs</b>				<b>1.4bp</b>	<b>15,023</b>
<b>Total asset management costs</b>				<b>39.2bp</b>	<b>419,076</b>

## Notes

<sup>1</sup> Includes default for fees paid to underlying partnerships in fund of funds. The default for diversified private equity was 165bps.

<sup>2</sup> Cost derived from the partnership level detail you provided. Costs are based on partnership contract terms.

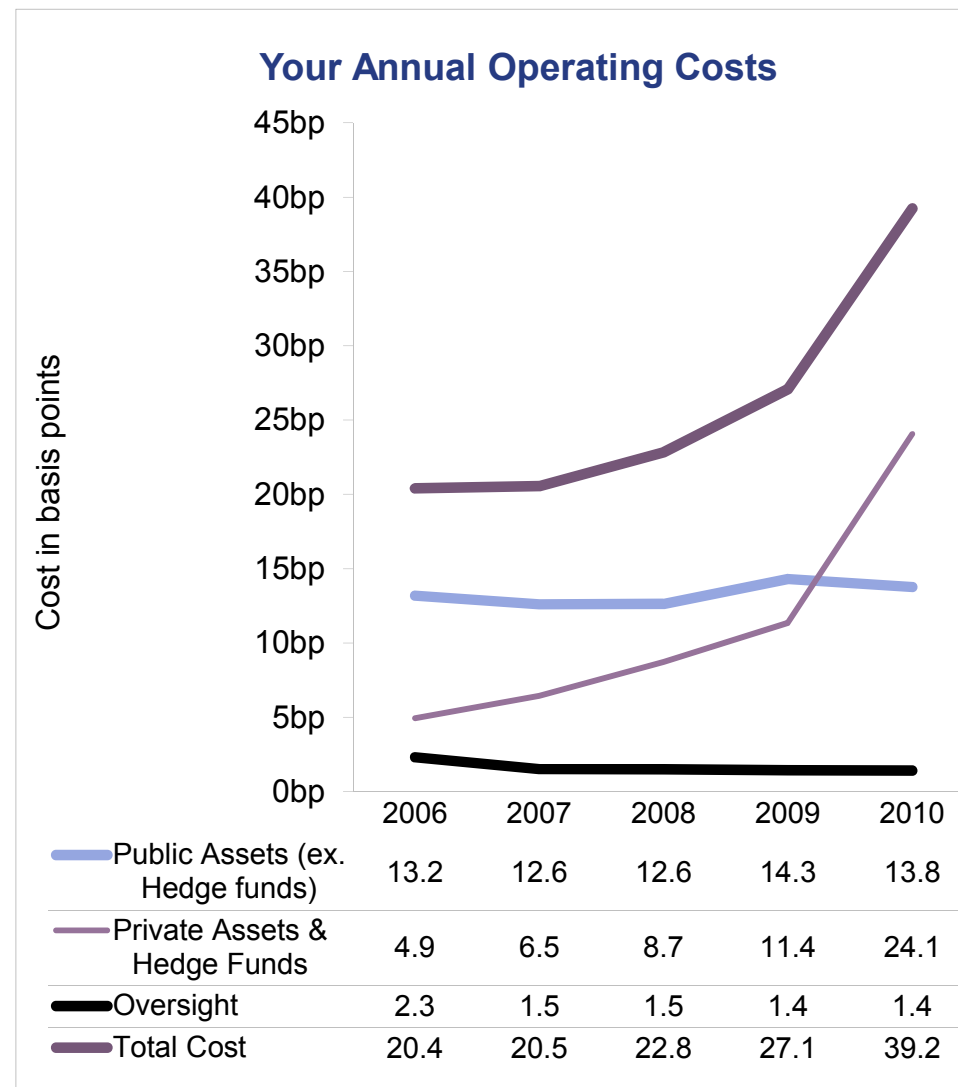
<sup>3</sup> Total cost excludes carry/performance fees for real estate, infrastructure, hedge funds, private equity and overlays. Performance fees are included for the public market asset classes.

<sup>4</sup> Excludes non-investment costs, such as PBGC premiums and preparing checks for retirees.

## Your costs increased between 2006 and 2010.

Your costs increased primarily because:

- You increased your investment in the highest cost asset classes. Your holdings of real estate and private equity increased from 5% of assets in 2006 to 9% in 2010.
- You decreased your use of lower cost passive and internal management from 44% of assets in 2006 to 40% in 2010.



## Your 2010 benchmark cost was 39.3 bp or 419.9 million.

<b>Calculation of Your 2010 Benchmark Cost</b>			
	<b>Your average holdings (mils)</b>	<b>Weighted peer median cost<sup>1</sup></b>	<b>Benchmark (000s)</b>
	(A)	(B)	(A) X (B)
<b>1) Investment Management</b>			
U.S. Stock - Broad/All	37,018	8.9 bp	32,854
U.S. Stock - Large Cap	6,008	9.7 bp	5,826
U.S. Stock - Small/Mid Cap	3,508	37.8 bp	13,273
Stock - EAFE	14,936	18.9 bp	28,225
Stock - Emerging	2,661	42.0 bp	11,171
Fixed Income - U.S.	18,771	8.2 bp	15,378
Fixed Income - Global	32	10.5 bp	33
Fixed Income - Inflation Indexed	3,055	3.5 bp	1,074
Fixed Income - High Yield	5,300	38.3 bp	20,299
Fixed Income - Other	2,928	52.8 bp	15,462
Cash	2,430	0.0 bp	0
REITs	1,618	12.3 bp	1,995
Real Estate ex-REITs	3,662	77.9 bp	28,541
Diversified Private Equity	2,714	158.7 bp	43,072
LBO	8,647	162.5 bp	140,505
Venture Capital	1,279	233.4 bp	29,839
Overlay Programs*	106,802	0.7 bp	7,588
Benchmark investment management costs		37.0 bp	395,135
<b>2) Oversight and Administration</b>			
	<b>Total holdings (mils)</b>	<b>Peer median</b>	<b>Benchmark (000s)</b>
Oversight of the Fund	106,802	1.4 bp	14,658
Trustee & Custodial	106,802	0.4 bp	4,787
Consulting and Performance Measurement	106,802	0.4 bp	3,952
Audit	106,802	0.0 bp	438
Other	106,802	0.1 bp	883
Benchmark oversight, custodial & other costs		2.3 bp	24,718
Your 2010 Total Benchmark Cost		39.3 bp	419,853

1. The weighted peer median cost is the style-weighted average of the peer median costs for all implementation styles (i.e., internal passive, internal active, external passive, external active). Examples of the weighting formula are shown in this section on page 17.

\* Total fund average holdings is used as the base when calculating the relative cost impact of the Overlay programs.

## Benchmark cost analysis suggests that your fund was normal cost.

To assess your cost performance, we start by calculating your benchmark cost. Your benchmark cost is an estimate of what your cost would be given your actual asset mix and the median costs that your peers pay for similar services. It represents the cost your peers would incur if they had your actual asset mix.

Your total cost of 39.2 bp was close to your benchmark cost of 39.3 bp. Thus, your cost savings was 0.1 bp.

	<b>\$000s</b>	<b>basis points</b>
Your actual cost	419,076	39.2 bp
Your benchmark cost	<u>419,853</u>	<u>39.3 bp</u>
Your excess cost	(777)	(0.1) bp

**You were normal cost because your higher cost implementation style was offset by paying less for similar mandates.**

<b>Explanation of Your Cost Status</b>		
	<b>Excess Cost/ (Savings)</b>	
	<b>\$000s</b>	<b>bps</b>
1. Higher cost implementation style	47,651	4.5
2. Paying less than your peers	(48,428)	(4.5)
<b>Total Savings in 2010</b>	<b>(777)</b>	<b>(0.1)</b>

These reasons are examined in detail in the following pages.

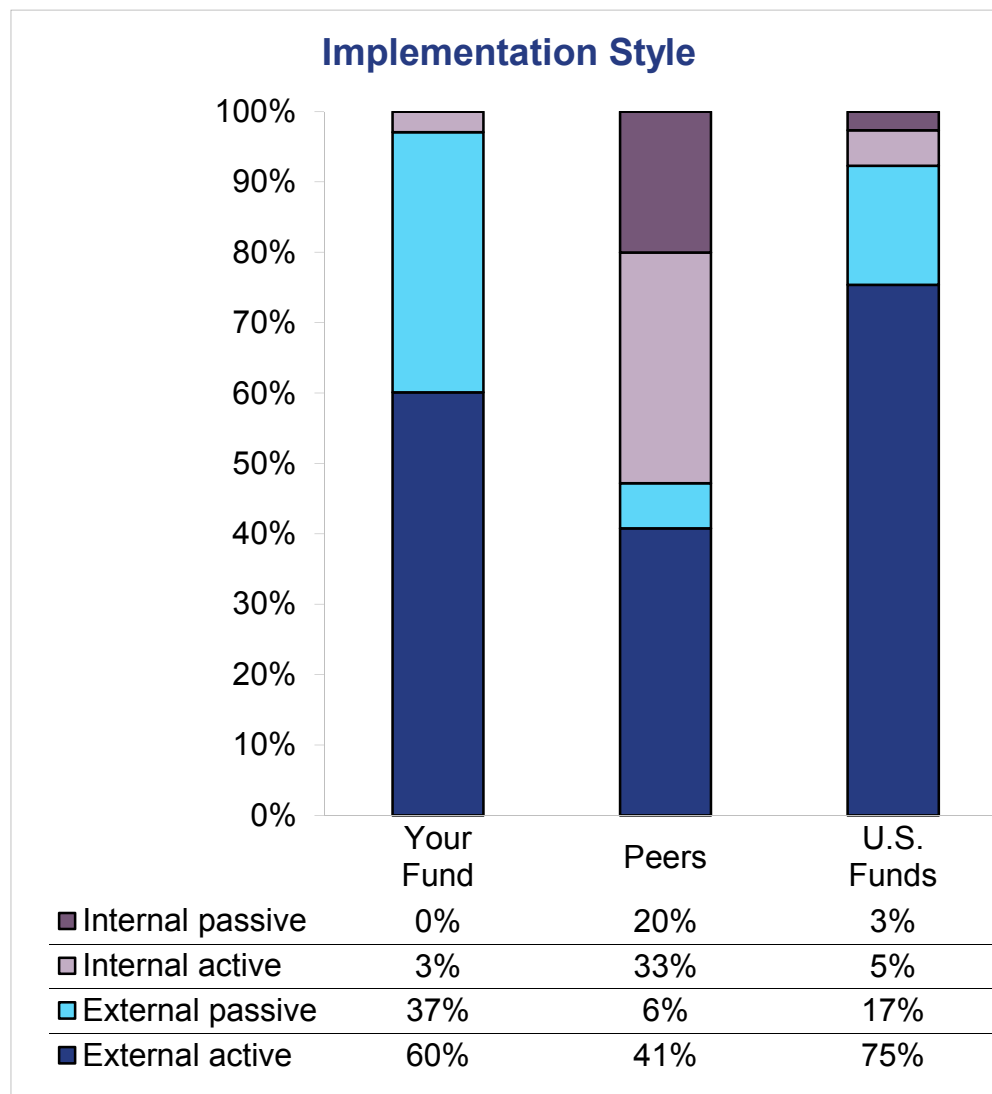


## Differences in cost performance is often caused by differences in implementation style.

Implementation style is defined as the way in which you implement your asset allocation. It includes internal, external, active and passive styles.

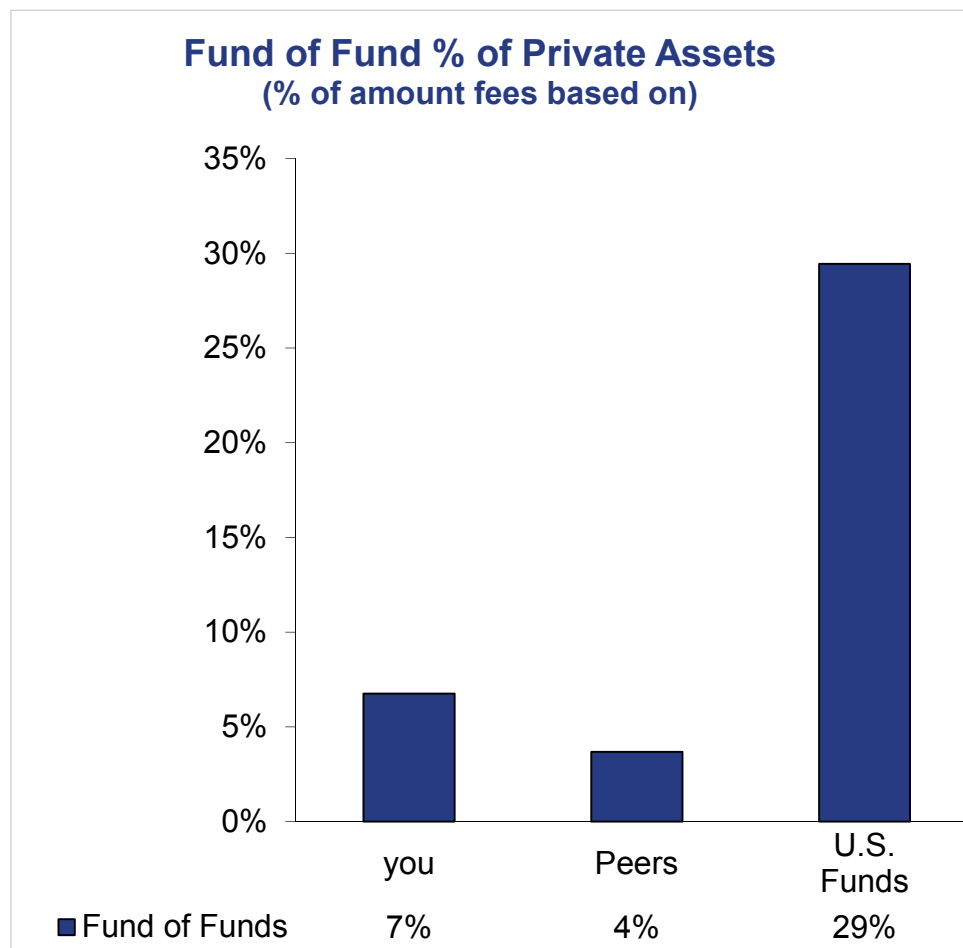
The greatest cost impact is usually caused by differences in the use of:

- External active management because it tends to be much more expensive than internal or passive management. You used more external active management than your peers (your 60% versus 41% for your peers).
- Within external active holdings, fund of funds usage because it is more expensive than direct fund investment.



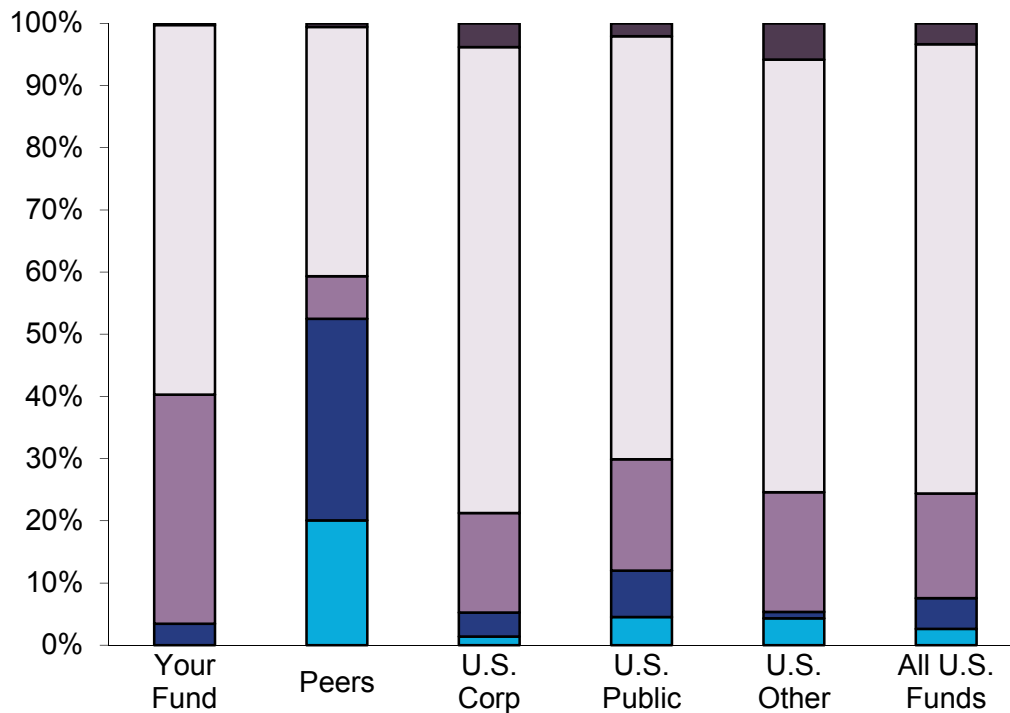
## Your private asset implementation style was higher cost. You used more fund of funds.

Your 7% of hedge funds, real assets and private equity (as a % of the amount fees based upon) versus 4% for your peers.



## Implementation Style Comparisons

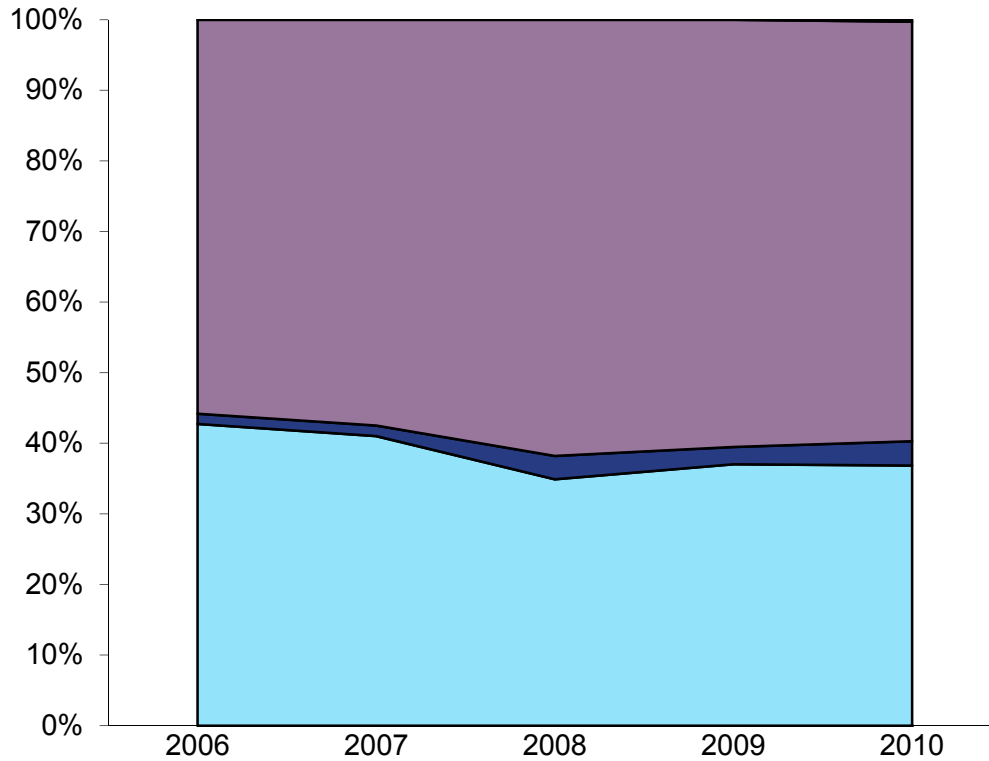
### Implementation Style (end of 2010)



	Your Fund	Peers	U.S. Corp	U.S. Public	U.S. Other	All U.S. Funds
■ Fund of Fund	0%	1%	4%	2%	6%	3%
□ External Active	59%	40%	75%	68%	70%	72%
■ External Passive	37%	7%	16%	18%	19%	17%
■ Internal Active	3%	32%	4%	7%	1%	5%
■ Internal Passive	0%	20%	1%	5%	4%	3%

## Trends in implementation style - your fund

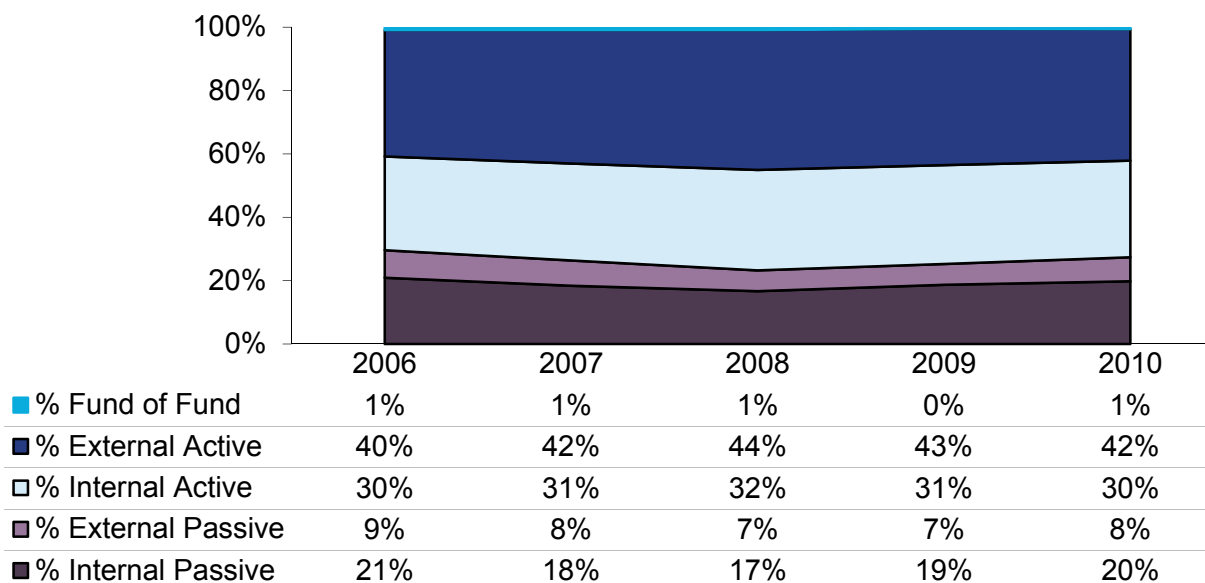
### Trends in Your Implementation Style (year-end)



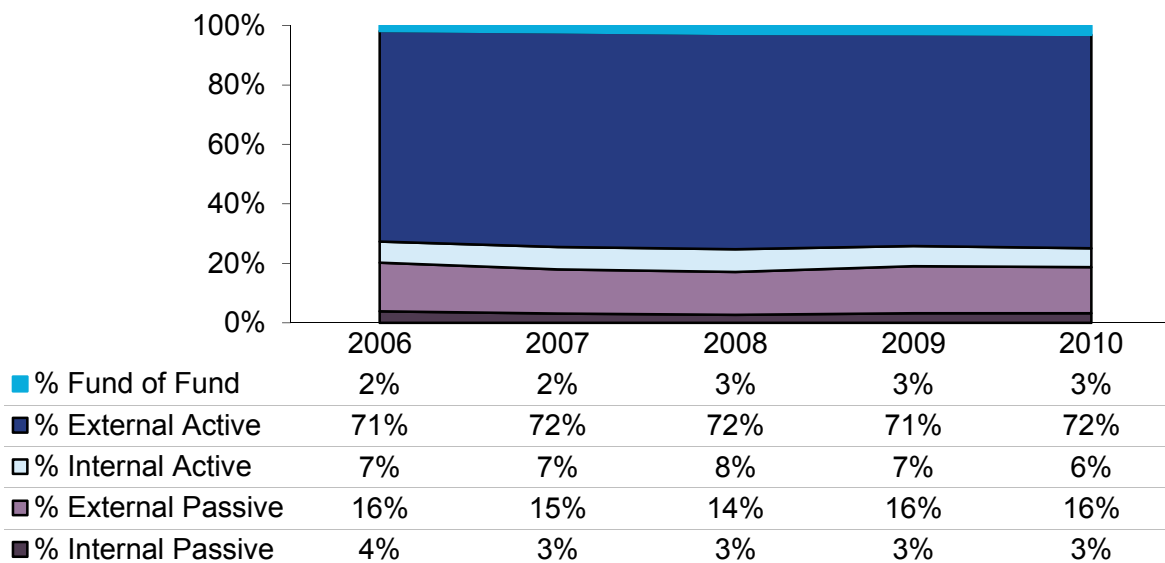
■ % Fund of Fund	0%	0%	0%	0%	0%
■ % External Active	56%	57%	62%	61%	59%
■ % Internal Active	1%	2%	3%	2%	3%
■ % External Passive	43%	41%	35%	37%	37%
■ % Internal Passive	0%	0%	0%	0%	0%

## Trends in implementation style (year-end) - 5-year peers and U.S. universe

**Your peers' proportion passively managed has decreased from 29.6% in 2006 to 27.4% in 2010**



**The U.S. universe proportion passively managed has decreased from 20.2% in 2006 to 18.7% in 2010**



Trends are based on the 94 U.S. and 16 peer funds with 5 consecutive years of data ending 2010.

## Differences in implementation style cost you 4.5 bp relative to your peers.

Cost Impact of Differences in Implementation Style						
Asset class	Your avg holdings in \$mils	% External Active			Cost <sup>1,2</sup> premium	Cost/ (Savings) in \$000s
		You	Peer average	More/ (less)		
U.S. Stock - Broad/All	37,018	0.0%	15.1%	(15.1%)	44.0 bp	(24,637)
U.S. Stock - Large Cap	6,008	100.0%	24.9%	75.1%	29.3 bp	13,246
U.S. Stock - Small/Mid Cap	3,508	100.0%	54.4%	45.6%	55.4 bp	8,862
Stock - EAFE	14,936	88.9%	47.7%	41.1%	32.6 bp	20,052
Stock - Emerging	2,661	100.0%	66.1%	33.9%	54.1 bp	4,876
Fixed Income - U.S.	18,771	100.0%	39.6%	60.4%	15.4 bp	17,447
Fixed Income - Global	32	100.0%	31.6%	68.4%	23.7 bp	51
Fixed Income - Inflation Indexe	3,055	74.9%	5.8%	69.0%	14.7 bp	3,105
Fixed Income - High Yield	5,300	100.0%	96.9%	3.1%	33.4 bp	540
Fixed Income - Other	2,928	74.4%	48.0%	26.4%	63.9 bp	4,943
REITs	1,618	100.0%	10.7%	89.3%	41.5 bp	5,995
Real Estate ex-REITs	3,662	100.0%	85.2%	14.8%	66.9 bp	3,630
of which Ltd Partnerships represent:		0.0%	32.0%	(32.0%)	38.7 bp	(4,532)
Diversified Private Equity	2,714	100.0%	92.5%	7.5%	130.9 bp	2,650
of which Fund of Funds represent:		40.6%	4.0%	36.6%	87.1 bp	8,663
LBO	8,647	100.0%	94.5%	5.5%	N/A	0
of which Fund of Funds represent:		0.0%	0.5%	(0.5%)	N/A	0
Venture Capital	1,279	100.0%	100.0%	0.0%		0
of which Fund of Funds represent:		0.0%	41.4%	(41.4%)	80.6 bp	(4,269)
<b>Total 60.1%</b>			<b>40.8%</b>	<b>19.3%</b>		<b>60,620</b>
Total external active style impact in bps						5.7 bp
Impact of differences in the use of lower cost styles <sup>3</sup>						(0.5) bp
Savings from your lower use of portfolio level overlays						(0.7) bp
<b>Total style impact</b>						<b>4.5 bp</b>

1. The cost premium is the additional cost of external active management relative to the average of other lower cost implementation styles - internal passive, internal active and external passive.

2. A cost premium of 'N/A' indicates that there was insufficient peer data to calculate the premium.

3. The 'Impact of differences in the use of lower cost styles' quantifies the net impact of your relative use of internal passive, internal active and external passive management.

## Differences in your mix of 'lower-cost' internal and passive styles cost you 0.5 bps.

Impact of Differences in Your Mix of 'Lower-Cost' Internal and Passive Styles								
	Your non-external active holdings (000s)	Percent holdings (of non-external-active)						Cost/ -Savings (000s)
		Internal passive		Internal active		External passive		
		You	Peers	You	Peers	You	Peers	
U.S. Stock - Broad/All	37,018	0%	48%	0%	17%	100%	35%	-5,256
Stock - EAFE	1,661	0%	38%	0%	28%	100%	34%	-174
Fixed Income - Inflation Indexed	768	0%	70%	0%	29%	100%	1%	49
Fixed Income - Other	749	0%	10%	100%	79%	0%	12%	0
Cash	2,430	0%	Excluded	100%	Excluded	0%	Excluded	0
Total impact in 000's								-5,381
Total impact in basis points								-0.5 bp

Fund impact for each asset class =

Non-external active holdings within class X cumulative impact from the three low cost styles of :

[ (peer median cost for the style - peer weighted average cost of low cost styles) X

(your weight for the style - peer weight for the style) ]

Peer median costs for each style are shown on page 17.

## The net impact of differences in external investment management costs saved you 3.7 bps.

Impact of Paying More/(Less) for External Investment Management					
	Your avg holdings in \$mils	Cost in bps			Cost/ (Savings) in \$000s
		You	Peer median	More/ (Less)	
U.S. Stock - Broad/All - Passive	37,018	0.3	0.8	(0.5)	(2,000)
U.S. Stock - Large Cap - Active	6,008	26.1	31.7	(5.6)	(3,390)
U.S. Stock - Small/Mid Cap - Active	3,508	51.3	63.1	(11.8)	(4,156)
Stock - EAFE - Passive	1,661	1.1	2.3	(1.2)	(191)
Stock - EAFE - Active	13,275	33.3	36.0	(2.7)	(3,525)
Stock - Emerging - Active	2,661	55.3	60.3	(5.0)	(1,339)
Fixed Income - U.S. - Active	18,771	7.7	17.5	(9.8)	(18,405)
Fixed Income - Global - Active	32	19.7	26.7	(7.0)	(22)
Fixed Income - Inflation Indexed - Passive	768	0.5	3.3*	(2.8)	(214)
Fixed Income - Inflation Indexed - Active	2,287	9.2	17.4*	(8.2)	(1,879)
Fixed Income - High Yield - Active	5,300	31.2	39.3	(8.1)	(4,281)
Fixed Income - Other - Active	2,180	56.8	86.0	(29.2)	(6,368)
REITs - Active	1,618	34.4	49.4	(15.0)	(2,428)
Real Estate ex-REITs - Active	3,662	94.6	75.5	19.1	7,004
Diversified Private Equity - Active	1,612	166.4	165.0	1.4	229
Diversified Private Equity - Fund of Fund	1,103	259.3	252.1	7.2	792
LBO - Active	8,647	162.5	162.5	0.0	0
Venture Capital - Active	1,279	206.7	200.0	6.7	862
<b>Total external investment management impact</b>				<b>(3.7) bp</b>	<b>(39,312)</b>

\*Universe median used as peer data was insufficient.



## The net impact of differences in internal investment management costs was 0.1 bps.

Impact of Paying More/(Less) for Internal Investment Management					
	Your avg holdings in \$mils	Cost in bps			Cost/ (Savings) in \$000s
		You	Peer median	More/ (Less)	
Fixed Income - Other - Active	749	29.8	22.1	7.7	578
Total internal investment management impact				0.1 bp	578

'Excluded' indicates that the asset class was excluded from this analysis due to comparability concerns with peers.

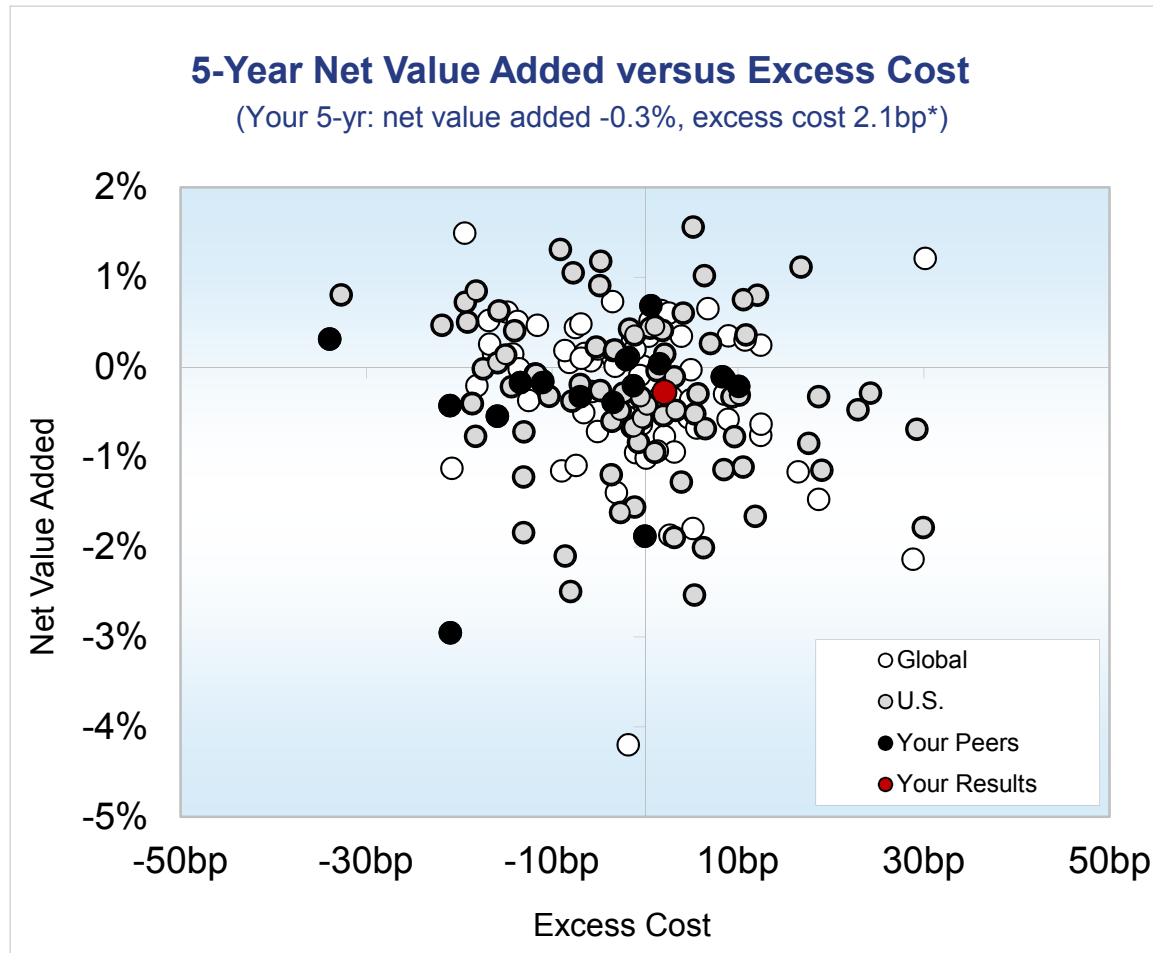
**The net impact of differences in your oversight, custodial & other costs saved you 0.9 bps.**

<b>Impact of Differences in Oversight, Custodial &amp; Other Costs</b>					
	<b>Your avg holdings in \$mils</b>	<b>Cost in bps</b>			<b>Cost/ (Savings) in \$000s</b>
		<b>You</b>	<b>Peer median</b>	<b>More/ (Less)</b>	
Oversight	106,802	0.6	1.4	(0.8)	(8,664)
Custodial / trustee	106,802	0.4	0.4	(0.1)	(765)
Consulting / performance measurement	106,802	0.5	0.4	0.1	1,056
Audit	106,802	0.0	0.0	(0.0)	(438)
Other	106,802	0.0	0.1	(0.1)	(883)
<b>Total impact</b>				<b>(0.9) bp</b>	<b>(9,695)</b>

Why were you different to your peers		
	Excess Cost / (Savings)	
	\$000s	bps
1. Higher Cost Implementation Style		
> Greater use of fund of funds	4,394	0.4
> More external active management and less lower cost passive and internal management	56,226	5.3
> Other style differences	(5,381)	(0.5)
2. Pay less than your peers		
> External investment management costs	(39,312)	(3.7)
> Internal investment management costs	578	0.1
> Oversight, custodial and other	(9,695)	(0.9)

#### 4. Cost Effectiveness

Your fund had 5-year net value added of -0.3% and excess cost of 2.1 bps.



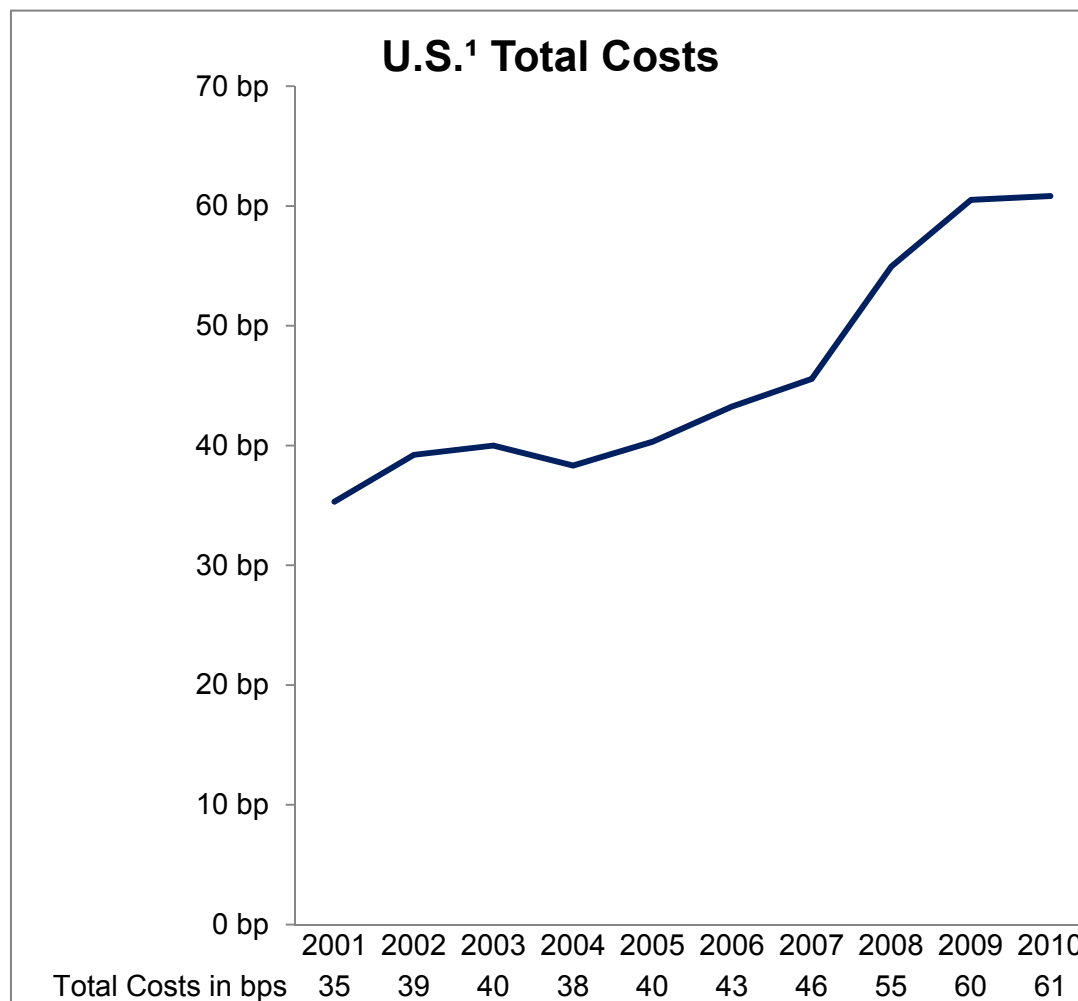
\* Your 5-year net value added of -0.3% equals your 5-year 0.0% gross value added minus your 0.3% 5-year average cost. Your 5-year excess cost of 2.1bp is the average of your excess cost for the past 5 years. Prior years' excess costs are calculated based on regression analysis and will not match prior years' reports exactly, but they are generally very close.

## Costs have been growing over ten years in the U.S.

U.S. fund costs have grown by 26bps on average over the last 10 years.

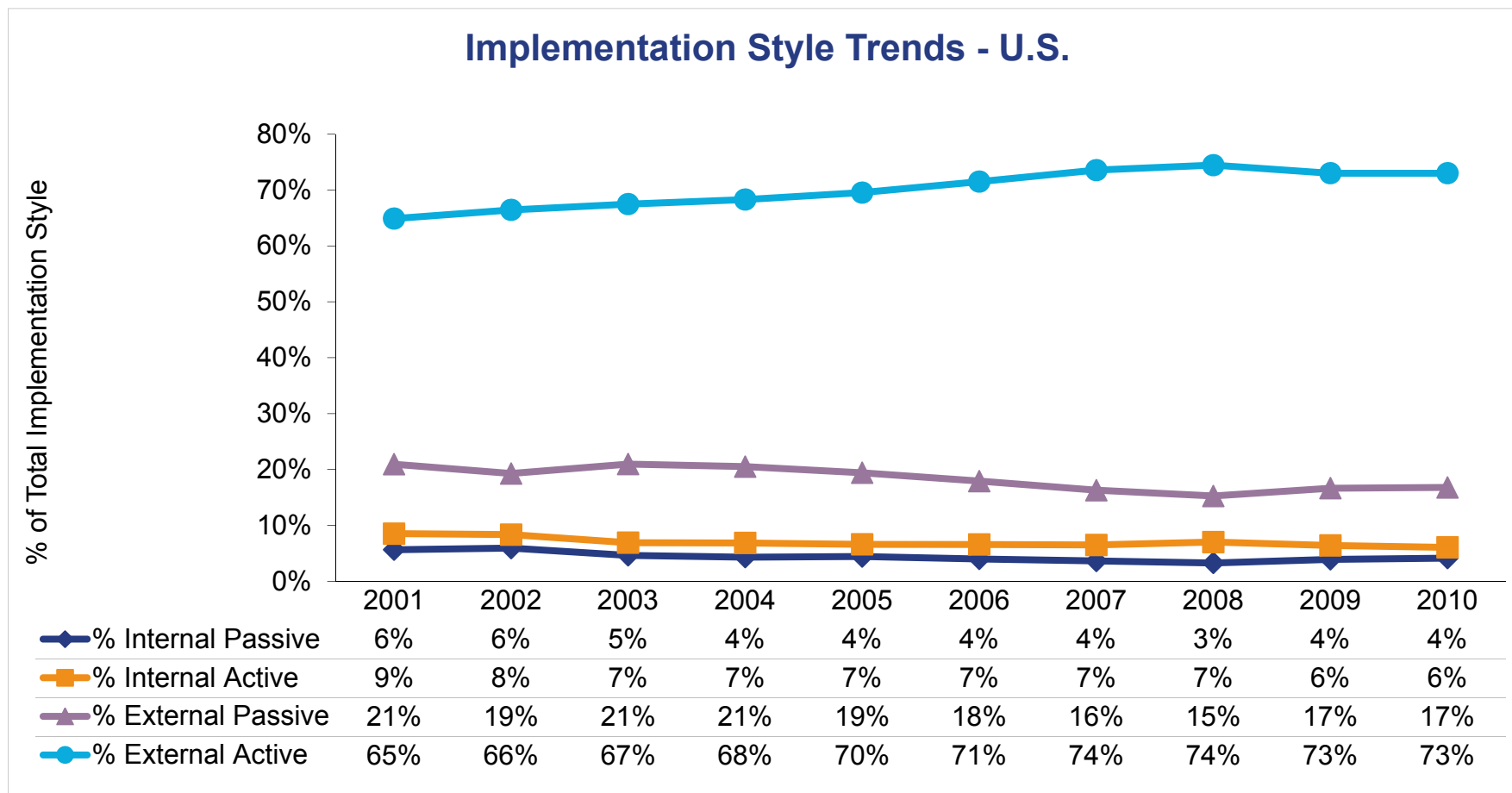
Reasons why include:

- An increase in the more expensive asset classes (hedge funds and private equity) from 4.4% to 10.5% on average.
- An increase in the most expensive implementation style, external active management, from 65% to 73% on average.



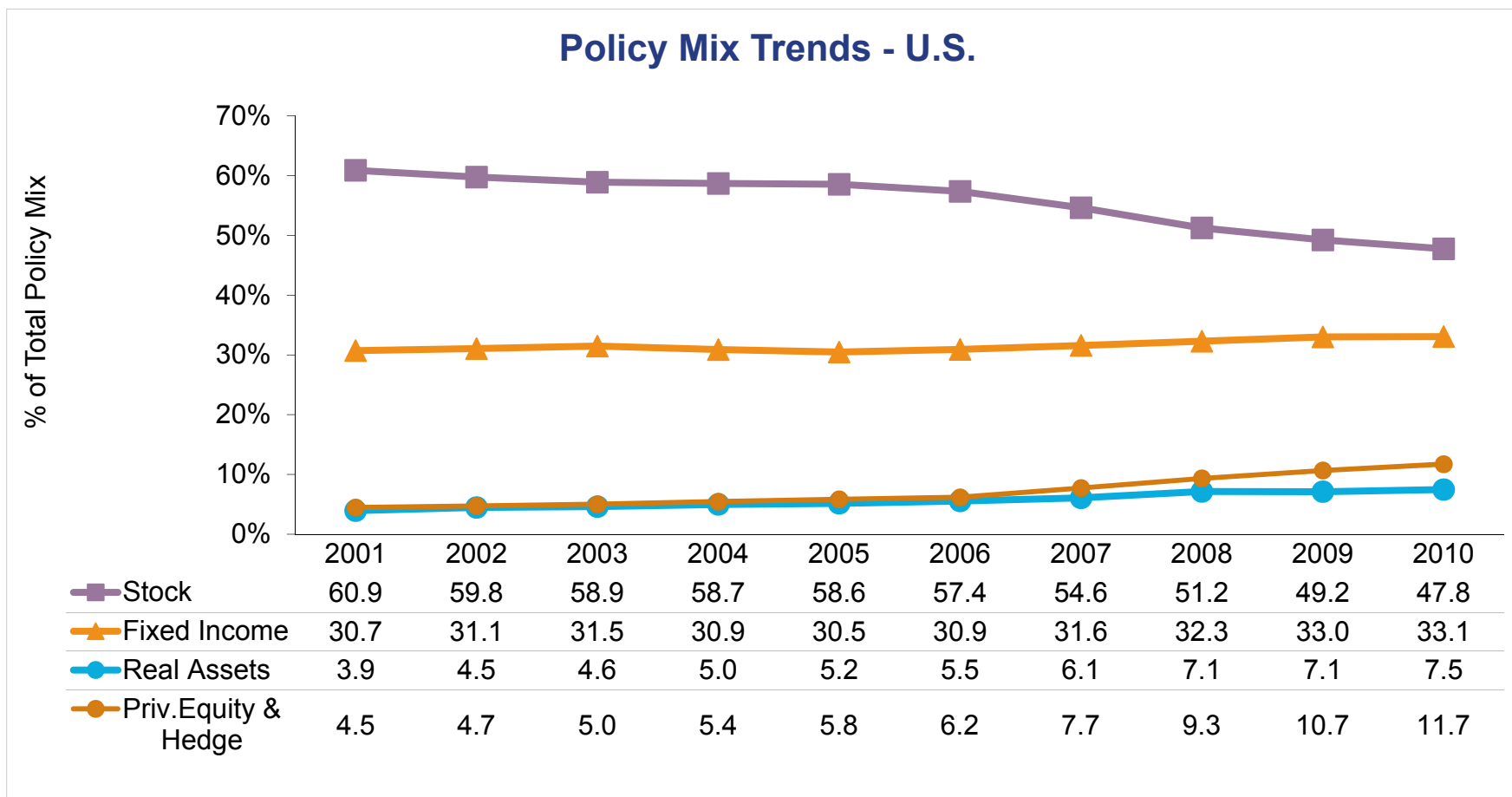
<sup>1</sup> Trend analysis is based on 68 U.S. funds with 10 consecutive years of data.

**For U.S. plans, external active management increased from 65% to 73% over the past 10 years.**



• Trend analysis is based on 68 U.S. funds with 10 consecutive years of data.

**For U.S. plans, real asset, private equity & hedge fund policy weights grew from a total of 8.4% in 2001 to 19.2% in 2010.**



• Trend analysis is based on 68 U.S. funds with 10 consecutive years of data.

## Characteristics of the best performing funds

Summary of Findings	
Characteristics that resulted in higher net value added	No Impact
Fund Size - bigger was better  Total Cost - less was better  Asset Mix <ul style="list-style-type: none"> <li>• U.S. small cap holdings - more was better</li> <li>• Private Equity holdings - more was better</li> </ul> Implementation Style <ul style="list-style-type: none"> <li>• Internal Management - more was better</li> </ul>	Fund Type (i.e., Corporate/Public, etc.)  Number of External Managers

The above characteristics were associated with higher net value added production. These findings are based on CEM's global database (1991-2009). More detailed statistical analysis supporting these summary findings are shown on the following 4 pages.



## Large funds did better than small funds.

For every ten-fold increase in size, net value added increased by 15 bps. For example, net value added is expected to be higher by 15 bps for a \$1 billion fund compared with a \$100 million fund.

Net Value Added versus Size (log10)		1991-2010
<b>All Funds</b>		
Size (Log) Coefficient		0.15%
"t" statistic		2.9

This is partly because large funds were lower cost and had higher weights in asset classes where value added was positive. The size factor was reduced significantly when the following factors were added: total cost, U.S. small cap stock, and private equity. When these factors were included, net value added due to size decreased to only 5 bps for a \$1 billion fund compared with a \$100 million fund.

Net Value Added vs. % Private Equity, % US Small Cap Stock, Total Cost (bps) and Size (log10)			1991-2010
All Funds	Coefficient	"t" statistic	
Private Equity	2.227%	1.7	
U.S. Small Cap Stock	2.517%	3.5	
Total Cost	-0.007%	-3.5	
Size (Log)	0.054%	0.9	

"t" statistic values in excess of the absolute values of 2.0, 1.6 and 1.3 are significant at the 95%, 90% and 80% confidence levels, respectively.

## Funds with more internal management did better than funds with less.

Funds with more internal management did better. The table on the right indicates that a 10% increase in internal management resulted in a 3.6 bps increase in net value added.

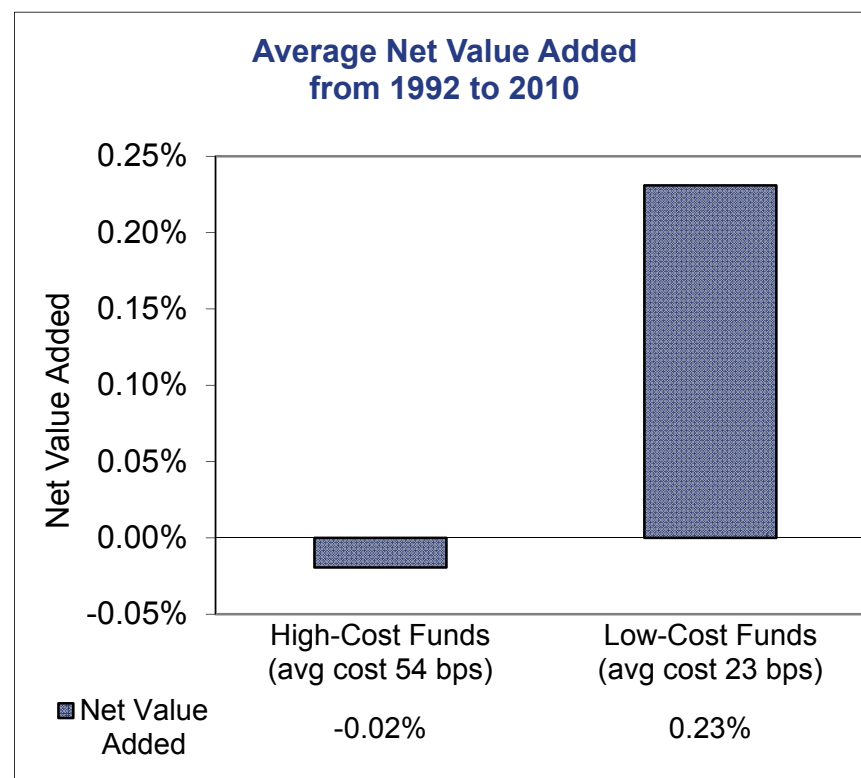
Net Value Added versus % Internal Mgt.	1991-2010
<b>All Funds</b>	
Internal Management Coefficient	0.36%
"t" statistic	2.7

## Higher total cost reduced net value added.

Higher total cost reduced net value added.  
An increase in total cost of 1 bps was related to a 0.5 bps decline in net value added.

Another way to demonstrate the impact of costs is to split the CEM universe down the middle based on cost. High-cost funds were defined as funds with total plan costs greater than 34 bps, low-cost with less than 34 bps. The average net value added of low-cost funds exceeded that of high-cost funds by an average of 25 bps.

Net Value Added versus Total Cost (bps)	1991-2010
<b>All Funds</b>	
Total Cost Coefficient	-0.005%
"t" statistic	-3.2



There are 3157 high-cost and 2480 low-cost fund observations.

## Benchmarking methodology formulas and data

### d) 2010 cost data used to calculate weighted peer median costs and impact of mix differences.

Asset Class	Your Costs						Peer Median						Weighted Median
	Internal Passive	Internal Active	External Passive	External Active	Limited Partner.	Fund of Funds	Internal Passive	Internal Active	External Passive	External Active	Limited Partner.	Fund of Funds	
U.S. Stock - Broad/All			0.3 bp				1.9 bp	5.9 bp	0.8 bp	46.2 bp			8.9 bp
U.S. Stock - Large Cap				26.1 bp			0.3 bp	7.0 bp	1.3 bp	31.7 bp			9.7 bp
U.S. Stock - Small/Mid Cap				51.3 bp			3.4 bp	14.5 bp	7.7 bp	63.1 bp			37.8 bp
Stock - EAFE			1.1 bp	33.3 bp			3.9 bp	3.8 bp	2.3 bp	36.0 bp			18.9 bp
Stock - Emerging				55.3 bp			3.1 bp	12.1 bp	6.3 bp	60.3 bp			42.0 bp
Fixed Income - U.S.				7.7 bp			1.4 bp	2.2 bp	2.1 bp	17.5 bp			8.2 bp
Fixed Income - Global				19.7 bp			3.0 bp	3.0 bp		26.7 bp			10.5 bp
Fixed Income - Inflation Indexed			0.5 bp	9.2 bp			3.1 bp	1.5 bp	3.3 bp*	17.4 bp*			3.5 bp
Fixed Income - High Yield				31.2 bp			5.9 bp	5.9 bp		39.3 bp			38.3 bp
Fixed Income - Other		29.8 bp		56.8 bp			22.1 bp	22.1 bp	22.1 bp	86.0 bp			52.8 bp
REITs				34.4 bp			7.9 bp	7.9 bp		49.4 bp			12.3 bp
Real Estate ex-REITs				94.6 bp				21.0 bp		75.5 bp	114.2 bp		77.9 bp
Diversified Private Equity				166.4 bp		259.3 bp		37.5 bp		165.0 bp		252.1 bp	158.7 bp
LBO				162.5 bp						162.5 bp			162.5 bp
Venture Capital				206.7 bp						200.0 bp		280.6 bp	233.4 bp

\*Universe median used as peer data was insufficient.

## e) 2010 Style weights used to calculate the weighted peer median costs and impact of mix differences.

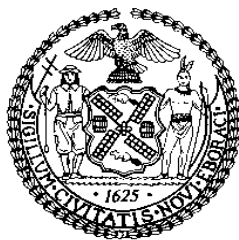
Style Weights	You						Peer Average					
	Internal Passive	Internal Active	External Passive	External Active	Limited Partner.	Fund of Funds	Internal Passive	Internal Active	External Passive	External Active	Limited Partner.	Fund of Funds
U.S. Stock - Broad/All	0.0%	0.0%	100.0%	0.0%			40.8%	14.4%	29.6%	15.1%		
U.S. Stock - Large Cap	0.0 bp	0.0%	0.0%	100.0%			45.0%	22.8%	7.4%	24.9%		
U.S. Stock - Small/Mid Cap	0.0%	0.0%	0.0%	100.0%			23.5%	15.0%	7.1%	54.4%		
Stock - EAFE	0.0%	0.0%	11.1%	88.9%			19.7%	14.7%	17.8%	47.7%		
Stock - Emerging	0.0%	0.0%	0.0%	100.0%			20.6%	11.1%	2.3%	66.1%		
Fixed Income - U.S.	0.0%	0.0%	0.0%	100.0%			7.1%	48.2%	5.1%	39.6%		
Fixed Income - Global	0.0%	0.0%	0.0%	100.0%			11.7%	56.7%	0.0%	31.6%		
Fixed Income - Inflation Indexed	0.0%	0.0%	25.1%	74.9%			65.7%	27.2%	1.3%	5.8%		
Fixed Income - High Yield	0.0%	0.0%	0.0%	100.0%			0.1%	3.0%	0.0%	96.9%		
Fixed Income - Other	0.0%	25.6%	0.0%	74.4%			5.0%	40.8%	6.1%	48.0%		
Cash		100.0%		0.0%			Excluded	Excluded	Excluded	Excluded	Excluded	Excluded
REITs	0.0%	0.0%	0.0%	100.0%			1.2%	88.2%	0.0%	10.7%		
Real Estate ex-REITs		0.0%		100.0%	0.0%	0.0%		14.8%		58.0%	27.0%	0.2%
Diversified Private Equity		0.0%		59.4%		40.6%		7.5%		88.9%		3.7%
LBO		0.0%		100.0%		0.0%		5.5%		94.0%		0.5%
Venture Capital		0.0%		100.0%		0.0%		0.0%		58.6%		41.4%

The above data was adjusted as noted when there were insufficient peers, or for other reasons where direct comparisons were inappropriate.

#### IV. Infrastructure Education:



# The Global Infrastructure Opportunity



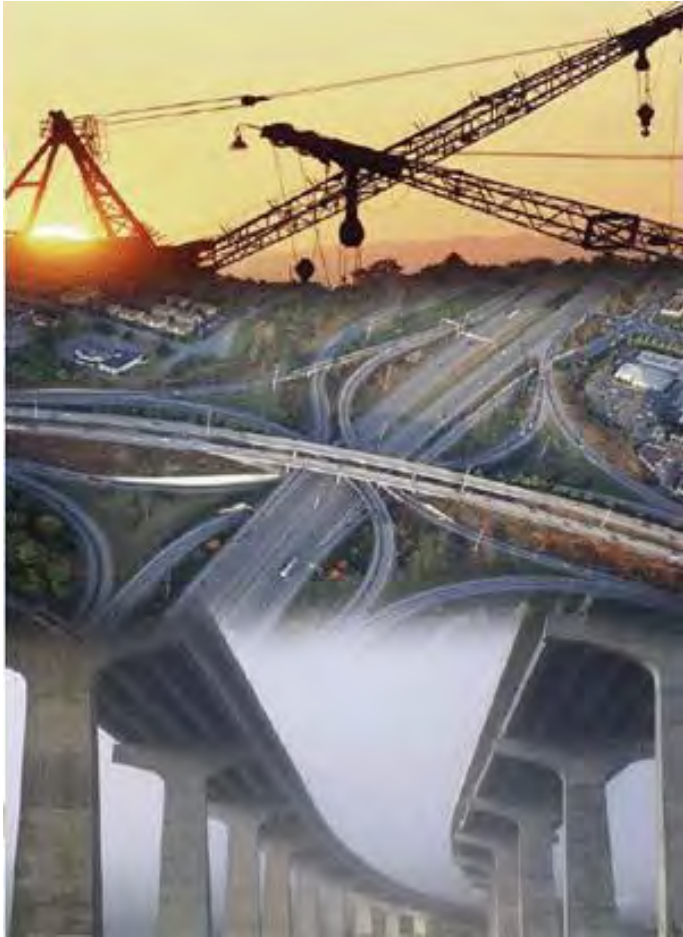
THE CITY OF NEW YORK  
OFFICE OF THE COMPTROLLER

September 21<sup>st</sup>, 2012

# Table of Contents

1. Defining Infrastructure
2. Infrastructure Sectors
3. Case Studies
4. Infrastructure Demand and Investors
5. Testing the Investment Thesis
6. Strategies and Targeted Returns
7. Benchmarking
8. Access to the Market
9. Appendices





- The traditional definition of infrastructure is: The fundamental facilities and systems serving a community
- Infrastructure assets typically display some or all of the following characteristics:
  - Provider of Essential Services
  - Monopolistic/Quasi Monopolistic
  - High Barriers to Entry
  - Extended Asset Life
  - Stable and Predictable Cash Flows

# Infrastructure Sectors

- Infrastructure assets can be classified into two broadly defined categories:
  - Economic infrastructure
    - Provides services that the end user is prepared to pay for (i.e. transportation and utilities)
    - Sourced through privatizations, public-to-private partnerships or private business sales
    - Has potentially higher returns as well as higher risks
  - Social infrastructure
    - Usually is government run or supported
    - Sourced through public-to-private partnerships
    - Generally has lower risk and lower projected returns



# Infrastructure Sectors (cont.)

- Examples of economic and social infrastructure investments are highlighted below:

Economic Infrastructure			Social Infrastructure
Transportation	Energy & Utility	Communication	
Toll Roads / Tunnels / Bridges	Contracted Power Generation	Cable Networks	Education Facilities
Airports	Regulated Electricity Assets	Communications Towers	Healthcare Facilities
Ports	Oil / Gas / Electric Transmission and Distribution Systems	Select Satellite Systems	Legal / Governmental Facilities
Rail & Mass Transit Networks	Water Treatment / Distribution Facilities		
Parking Facilities	Oil Storage		

# Infrastructure Sectors (cont.)

- Infrastructure assets can be also classified by the life cycle stage of the asset
  - Greenfield assets are under development/construction and do not generate revenue

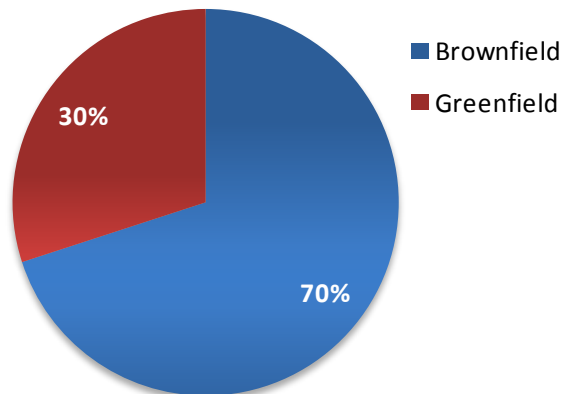


- Brownfield assets are already under operation and generate revenue in one of three phases:
  - Ramp-up phase where usage is just beginning following the completion of construction
  - Growth phase where usage continues to increase towards its long run potential
  - Mature phase where usage levels off and grows at approximately the rate of GDP growth

# Infrastructure Sectors (cont.)

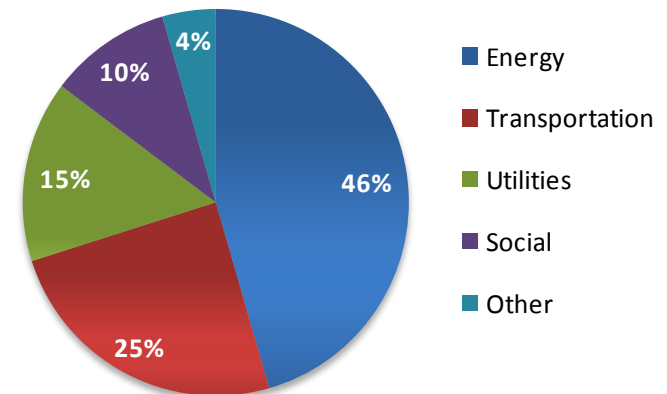
- Of the infrastructure deals completed globally in 2011, 70% were brownfield involving a fully operational asset and 30% were greenfield projects to design, build and maintain a new asset. Similarly, brownfield deals dominated the deal mix in the U.S. representing 89% of the completed deals (see Appendices A and B for a deal list)
- Energy assets represented the largest number of infrastructure deals both globally and in the U.S. accounting for 46% and 64% of the total, respectively. About 25% of the infrastructure deals globally were in transportation while utilities represented 15% of the investments

### Infrastructure Deals by Project Stage



Source: Preqin. Data for 2011.

### Infrastructure Deals by Sector



Source: Preqin. Data for 2011.

# Case Study – Greenfield Investment



## Hudson Transmission Partners

*A 660 MW transmission cable development project which will run underground and underwater from northern New Jersey to New York City.*

### ■ Investment Attributes

- Partnered with an experienced developer to fund a greenfield development project to construct an underwater interstate transmission line
- Hudson will bring energy and capacity from a cheaper grid to New York City under a 20 year contract with the New York Power Authority (Moody's: Aa2)

### ■ Value Creation Process

- Negotiated key project agreements including land options, EPC contract and FTCPA during the permitting process
- 20 year project financing secured on advantageous terms in the private placement market with the base rate fully swapped to a fixed rate

### ■ Performance

- Construction proceeding on schedule and budget with commercial operations expected in July 2013. Expect to generate long-term, stable and mostly contracted cash flows once operational
- Exit through sale to a lower discount rate investor such as the local power authority or a public pension fund

**Fund Name: Starwood Energy**  
 Investment Date: May 2011  
 Committed Equity: \$66 million  
 Leverage: 80%  
 Projected IRR: 23.5%  
 Projected Multiple: 2.9x



# Case Study – Greenfield Investment



## Berlin Station

*A 75 MW biomass development project currently under construction in Berlin, New Hampshire that will generate electricity using new wood-combustion technology.*

### ■ Investment Attributes

- Partnered with development team by providing a bridge loan to be repaid with proceeds from the project's 1603 Grant
- Project supported by 20 year PPA with the Public Service Company of New Hampshire with a fuel cost pass through
- Construction contracted under a fixed price, turnkey EPC contract with significant warranties

### ■ Value Creation Process

- Purchased 33.3% of the project equity at a substantial discount to the value of the project
- Actively participated in the final development of the project including restructuring ownership structure and negotiation of debt terms

### ■ Performance

- Construction is progressing on schedule and on budget
- Positioned to generate long-term, stable and contracted cash flows once operational

### Fund Name: Starwood Energy

Investment Date: Sept. 2011

Committed Equity: \$57 million

Leverage: 73%

Projected IRR: >20%

Projected Multiple: >2x



# Case Study – Brownfield Investment



## Puget Energy

*Regulated utility in Washington state engaging in electric generation, transmission and distribution, and gas transmission and distribution.*

### ■ Investment Attributes

- Acquisition by a Macquarie Group led consortium of the largest regulated utility in the Washington state providing electric power to 1,080,000 customers and natural gas to 750,000 customers

### ■ Value Creation Process

- Final order issued in relation to general rate case authorizing 3.2% and 1.3% increases in electric and natural gas rates respectively. Higher rates are expected to result in an annual increase of revenue of \$77 million
- The 343 MW Lower Snake River wind project completed ahead of schedule and on budget
- Closed on \$1 billion revolving credit facility which was used to refinance debt maturities

### ■ Performance

- Valuation uplift driven by increase in gas consumption and continued decline of power costs

#### Fund Name: Macquarie Infrastructure

Acquisition Date: Feb. 2009

Committed Equity: \$1,063.8 million

Leverage: 60%

Projected IRR: 10.2%

Projected Multiple: ~2x





# Case Study – Brownfield Investment



## London City Airport

*A London airport serving 3 million passengers and connecting to over 30 destinations within the United Kingdom, Europe and United States.*

### ■ Investment Attributes

- Acquired majority control of an unregulated asset incapable of replication with pricing power, inflation-linked revenues and growth potential in a constrained market

### ■ Value Creation Process

- Implemented best practice industrial management techniques to improve service, marketing, price efficiency, cost reduction and expansion capex
- Used Lean techniques to improve security screening capacity

### ■ Performance

- Improved on-time departure rate from 65% at the time of acquisition to 84% leading all London airports
- Growth in revenues as passenger volume increased to over 3 million
- Resilience demonstrated in earnings through the recession with EBITDA improving by 7.7% per annum since acquisition

### Fund Name: Global Infrastructure Partners

Acquisition Date: Nov. 2006

Committed Equity: \$548 million

Leverage: 46%

Projected IRR: 15-20%

Projected Multiple: 2x



# Infrastructure Investment Demand

## ■ Demand Drivers

- Population growth and urbanization: 75% urbanization in the Americas and Europe, 53% in Asia by 2030
- Aging Infrastructure: current rate of investment is low at 2% - 4% of GDP while 5.5% - 9% is needed
- Investment limitations due to budget deficits in Europe and the US require involvement of private capital sources of funding and sales of assets to pay down sovereign debt

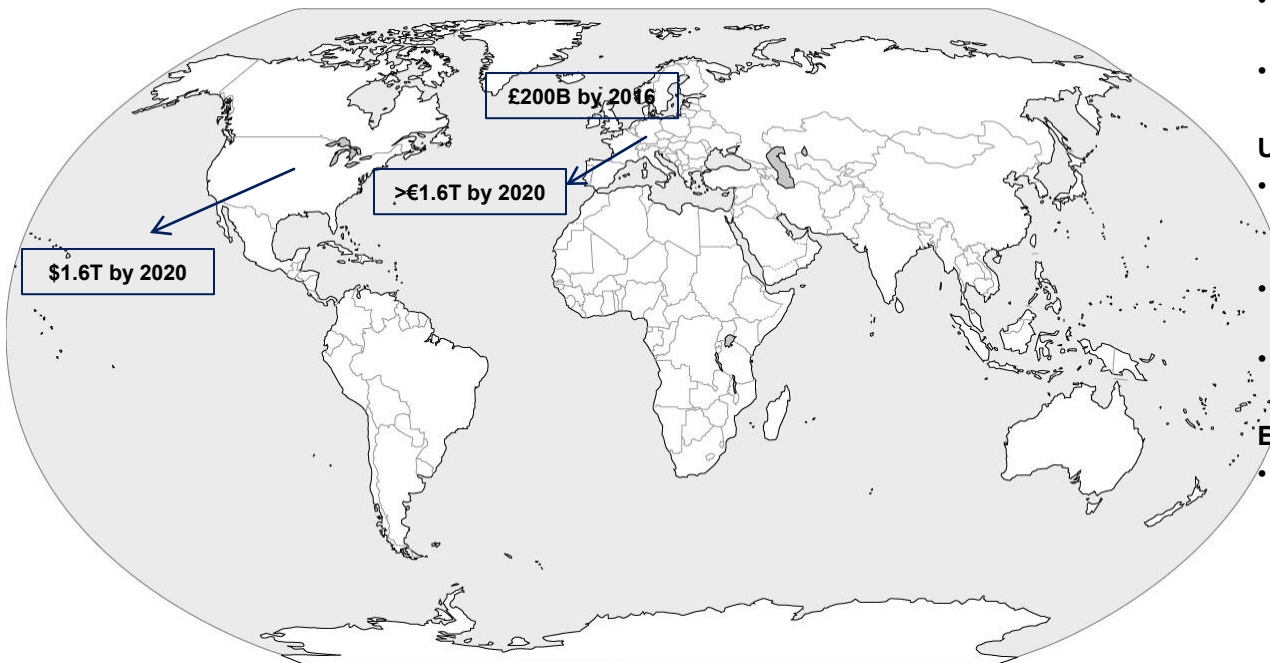
## ■ Investment Needs

- OECD estimates the annual infrastructure requirements to average 3.5% of world GDP or about \$2 trillion per year
- The American Society of Civil Engineers estimates that the US infrastructure funding gap is \$1 trillion through 2014



# Infrastructure Investment Demand (cont.)

- \$50 trillion of investment required globally over the next 20 years to deliver replacement infrastructure in the energy, transport and utility sectors



## United States

- Energy: \$75 billion from 2011 to 2016; \$2 trillion by 2030
- Airport System: \$94 billion from 2011 to 2015
- Water and Wastewater: \$255 billion from 2011 to 2016

## United Kingdom

- Infrastructure: £200 billion over the next 5 years of which £160 billion expected to come from the private sector
- Energy: £20 billion to develop UK offshore transmission network
- Water and Wastewater: £10 billion over the next 10 years

## Europe

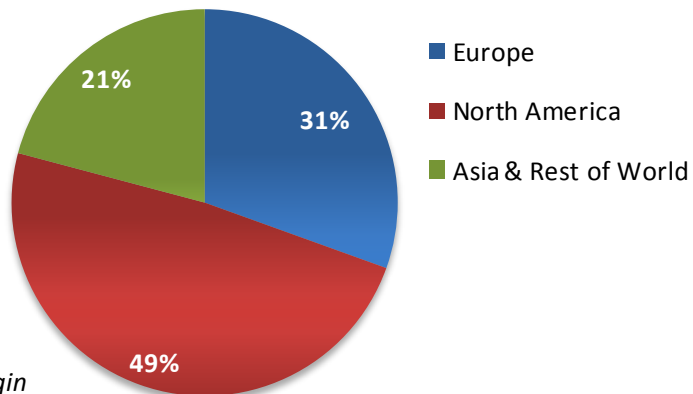
- Energy: €1.1 trillion by 2020 for:
  - €500 billion on distribution networks and grids
  - €200 billion on transmission networks and storage
  - €500 billion on new generation capacity
- Transport: €500 billion by 2020 for implementation of Trans-European Transport Network program

Source: Balfour Beatty Infrastructure Partners, 2011

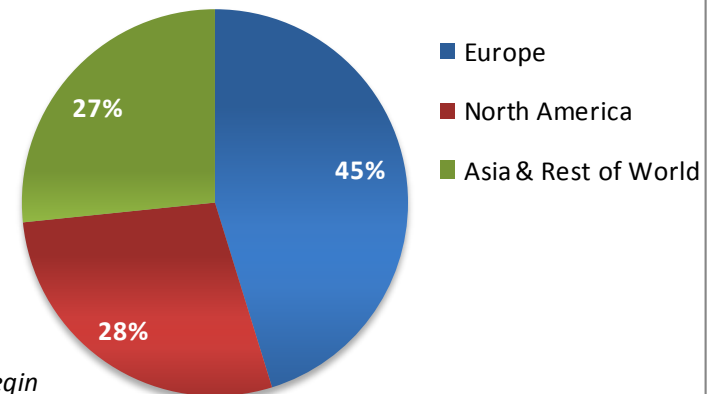
# Infrastructure Investment Demand (cont.)

- OECD countries dominate the aggregate capital raised by infrastructure funds from 2004 to 2011. North America focused infrastructure funds represent 49% of the capital raised on average per year. Europe focused funds account for an average of 31% of the aggregate capital commitments per year
- By region, Europe has historically represented the largest number of infrastructure deals accounting for an average of 45% of all transactions completed from 2004 to 2011. North America contributed 28% to the total while 27% of the deals were in Asia and Rest of World

**Split of Aggregate Capital Raised by Region,  
2004 -2011 Average**



**Number of Infrastructure Deals Completed by  
Region, 2004 -2011 Average**



- Public Private Partnerships (“P3”) in the U.S. have been slower to materialize
  - Questions regarding the viability of the P3 model in the U.S. continue to surround the model. There have been some successes such as the Long Beach Courthouse project in California
  - Failed or publicly scrutinized privatizations (i.e. Pennsylvania Turnpike, Chicago Skyway) still create long-term uncertainty for the market
  
- The energy sector continues to see more actionable opportunities as private companies look for alternative sources of funding and a significant amount of new capital is required to meet development needs
  
- The availability of debt is less of a factor in suppressing transaction activity. Well structured projects can obtain financing

# Infrastructure Investors

## Representative Direct Investors<sup>1</sup>

- CalSTRS (USA)
- CalPERS (USA)
- OTPP (Canada)
- CPPIB (Canada)
- OMERS (Canada)
- Future Fund (Australia)
- QSuper (Australia)
- USS (UK)
- National Pension Service (Korea)
- PFA (Japan)
- ADIA (Abu Dhabi)
- GIC (Singapore)
- TIAA-CREF (USA)
- All State (USA)
- Nationwide Insurance (USA)
- AXA (France)

1) The list includes pension funds, sovereign funds and insurance companies

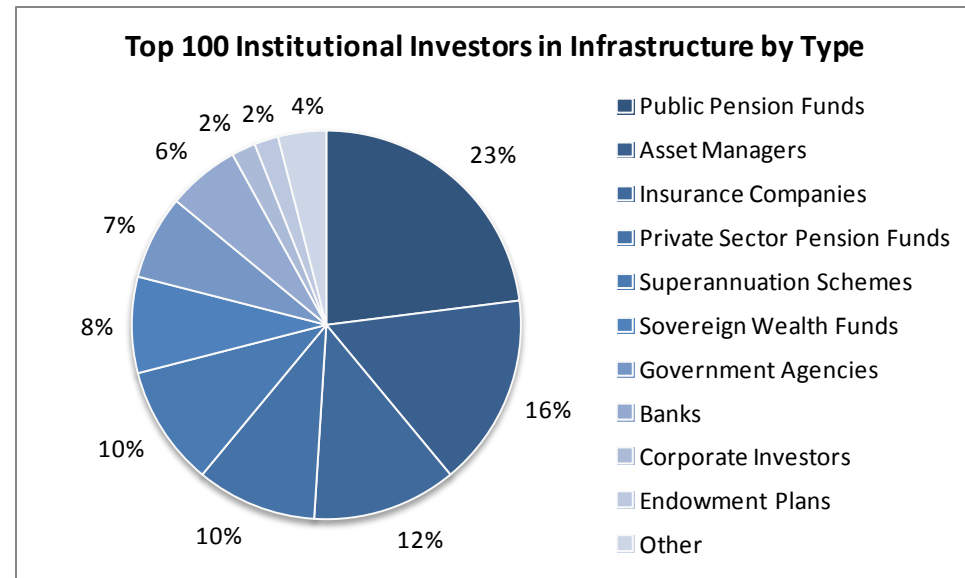
2) See Appendix C for a comprehensive list of infrastructure funds

## Representative Infrastructure Funds<sup>2</sup>

- **Core/Value-Added**
  - GIP (Global)
  - Goldman Sachs (Global)
  - Hastings (Global)
  - Highstar (Global)
  - IFM (Global)
  - JPMorgan (Global)
  - MSIP (Global)
  - QIC (Global)
  - SteelRiver (North America)
  - UBS (Global)
- **Non-Core**
  - Actis (Emerging Markets)
  - ArcLight (USA)
  - BTG Pactual (Brazil)
  - EnCap Flatrock (USA)
  - First Reserve (Global)
  - IFC Global Infrastructure Fund (Emerging Markets)
  - Starwood Energy (North America)

# Infrastructure Investors (cont.)

- The 100 largest institutional investors in infrastructure (by committed capital) have an aggregate of \$204 billion committed to infrastructure to date through a combination of unlisted funds, listed funds and direct investments
- Public pension plans are the largest investor type accounting for 23% of the total investors
- 72% of the top 100 institutional investors operate a separate infrastructure allocation. The remaining investors allocate capital through a private equity allocation, a real assets allocation or a different source



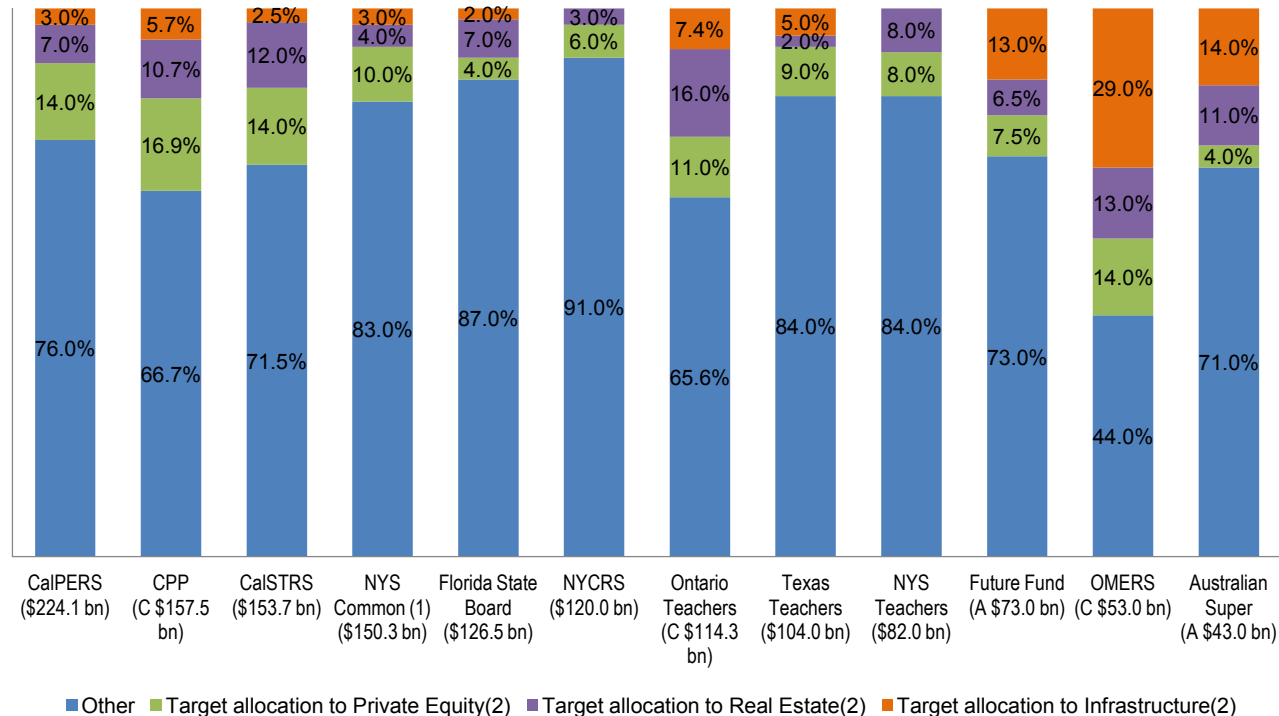
## Largest Infrastructure Investors by Current Commitment to Infrastructure

Rank	Investor	Currently Committed to Infrastructure (\$bn)	Investor Type	Investor Location
1	OMERS	14.3	Public Pension Fund	Canada
2	CPP Investment Board	9.1	Public Pension Fund	Canada
3	Corporacion Andina de Fomento	8.4	Government Agency	Venezuela
4	Ontario Teachers' Pension Plan	7.8	Public Pension Fund	Canada
5	APG - All Pensions Plans	7.5	Asset Manager	Netherlands
6	TIAA-CREF	6.5	Private Pension Fund	US
7	QIC	6.2	Asset Manager	Australia
8	CDP Capital - Private Equity Group	5.7	Asset Manager	Canada
9	Ping An Trust	5.5	Investment Company	China
10	AustralianSuper	5	Superannuation Scheme	Australia

Source: Preqin

# Institutional Investor Approach

- Australian institutional investors have been investing in infrastructure since the 1990s
- Canadian and European institutional investors have significantly increased their exposure to infrastructure since 2000
- U.S. pension plans have lagged somewhat, but this is changing with the majority of the large plans adopting a target infra allocation between 2% - 3% over the last few years



- 1) NYS Common target allocation is to real assets, no infrastructure investments have been made up to date
- 2) Source: Preqin and pension plan websites



# Investment Thesis

- Infrastructure investments exhibit distinct characteristics that can benefit institutional investors
  - Lower correlation to other asset classes leading to portfolio diversification benefits
  - Competitive total risk adjusted return
  - Inflation protection
  - Less volatility in earnings generating more consistent and attractive cash yields
  - Long duration in line with long term pension liabilities



# Testing The Investment Thesis: Correlation

- The correlation benefit is less apparent in public market data as the impact of the financial crisis increased correlations across asset classes
- Private market data provides some more supportive evidence, with correlations to other asset classes ranging from -0.272 to 0.257

	MSCI World	S&P 500	Barclay's Aggregate Bond Index	EPRA/NAREIT Global Total Return	NPI	Dow Jones Brookfield Global Infrastructure Index	Townsend Infrastructure Composite
MSCI World	1.000						
S&P 500	0.979	1.000					
Barclay's Aggregate Bond Index	-0.263	-0.242	1.000				
EPRA/NAREIT Global Total Return	0.890	0.889	-0.032	1.000			
NPI	0.264	0.268	-0.171	0.253	1.000		
Dow Jones Brookfield Global Infrastructure Index	0.866	0.857	-0.002	0.857	0.335	1.000	
Townsend Infrastructure Composite <sup>1</sup>	0.229	0.257	-0.272	0.244	0.214	0.196	1.000

Source: The Townsend Group, Thomson Reuters

1) The TTG Infrastructure Composite is a value-weighted, client-level return calculation for all client investments in infrastructure funds from 2006 to 2011

# Testing The Investment Thesis: Returns

- An analysis of public and private market data shows competitive returns relative to other asset classes
- Returns vary depending on asset type and revenue model

As of 12/31/11	Quarter	1-Year	3-Year	5-Year	7-Year
<u>Stocks</u>					
MSCI World Index	7.3%	-7.6%	7.0%	-5.5%	-0.4%
S&P 500	11.2%	0.0%	11.7%	-2.4%	0.5%
<u>Fixed Income</u>					
Lehman Aggregate Bond	1.1%	7.8%	6.8%	6.5%	5.6%
<u>Listed Real Estate</u>					
EPRA/NAREIT Global Total Return	7.4%	-5.8%	16.2%	-5.3%	3.3%
<u>Private Equity</u>					
Cambridge Associates U.S. Private Equity	5.3%	10.9%	15.0%	7.2%	N/A
<u>Listed Infrastructure</u>					
Dow Jones Brookfield Infrastructure*	7.1%	13.8%	17.6%	5.1%	10.0%
<u>Unlisted Infrastructure</u>					
TTG Infrastructure Composite**	1.0%	10.5%	11.8%	7.9%	N/A

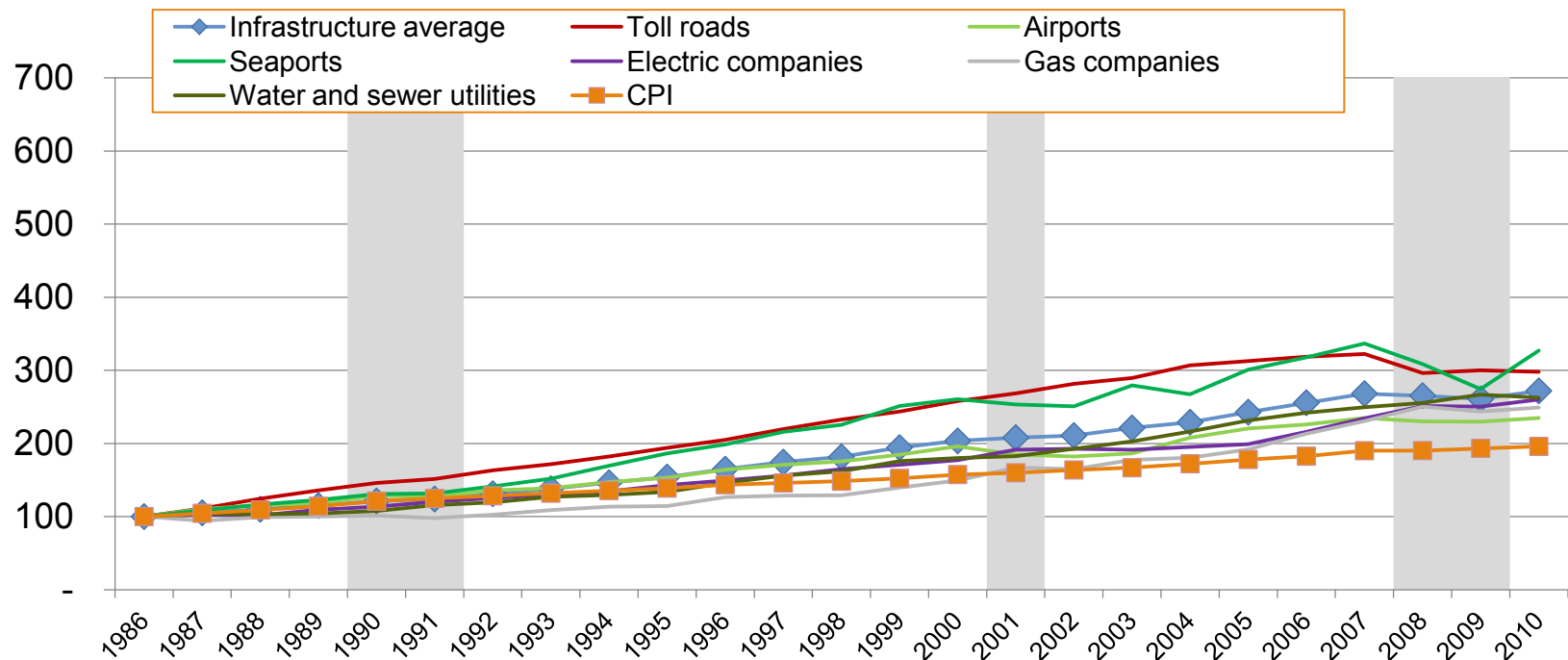
Source: The Townsend Group, Thomson Reuters, Cambridge Associates

\*The Index aims to represent companies globally that have at least 70% of estimated cash flow derived from infrastructure assets

\*\* The TTG Infrastructure Composite is a value-weighted, client-level return calculation for all client investments in infrastructure funds from 2006 to 2011

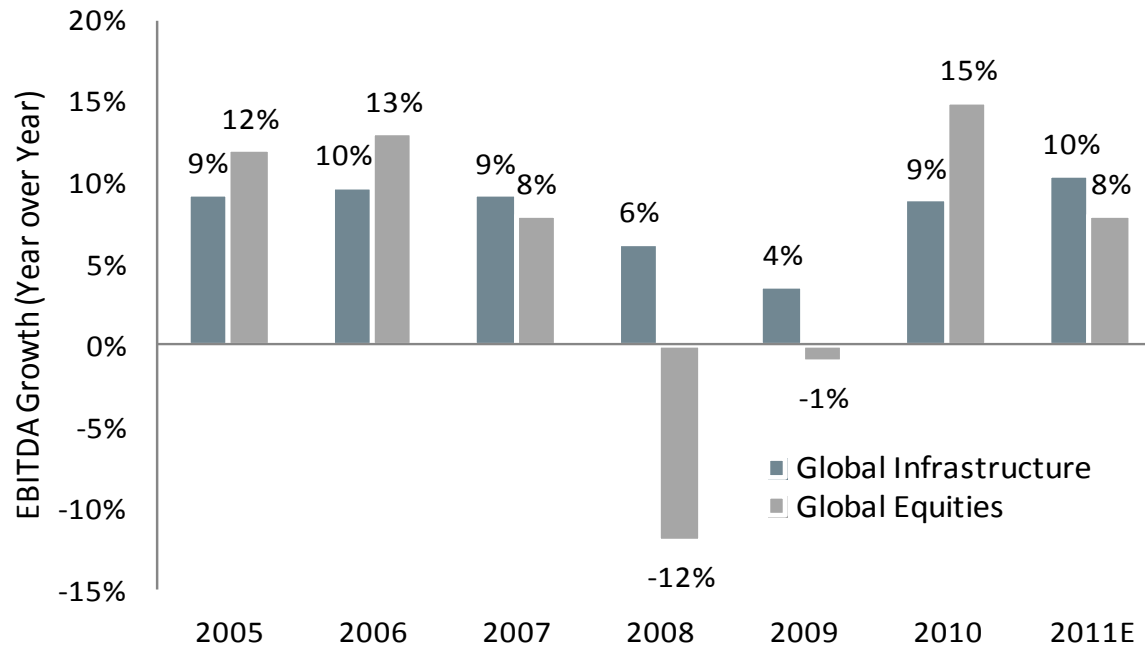
# Testing The Investment Thesis: Inflation

- Infrastructure cash flows are typically linked to inflation through CPI indexation, regulatory or contractual adjustments
- Annual cash flows (EBITDA indices) for U.S. infrastructure grew faster than CPI



# Testing The Investment Thesis: Volatility

- An analysis of public infrastructure companies earnings growth supports thesis of lower volatility
- Private market data is less robust, but provides similar support



Source: Brookfield Investment Management, Dow Jones Brookfield Global Infrastructure Index, MSCI

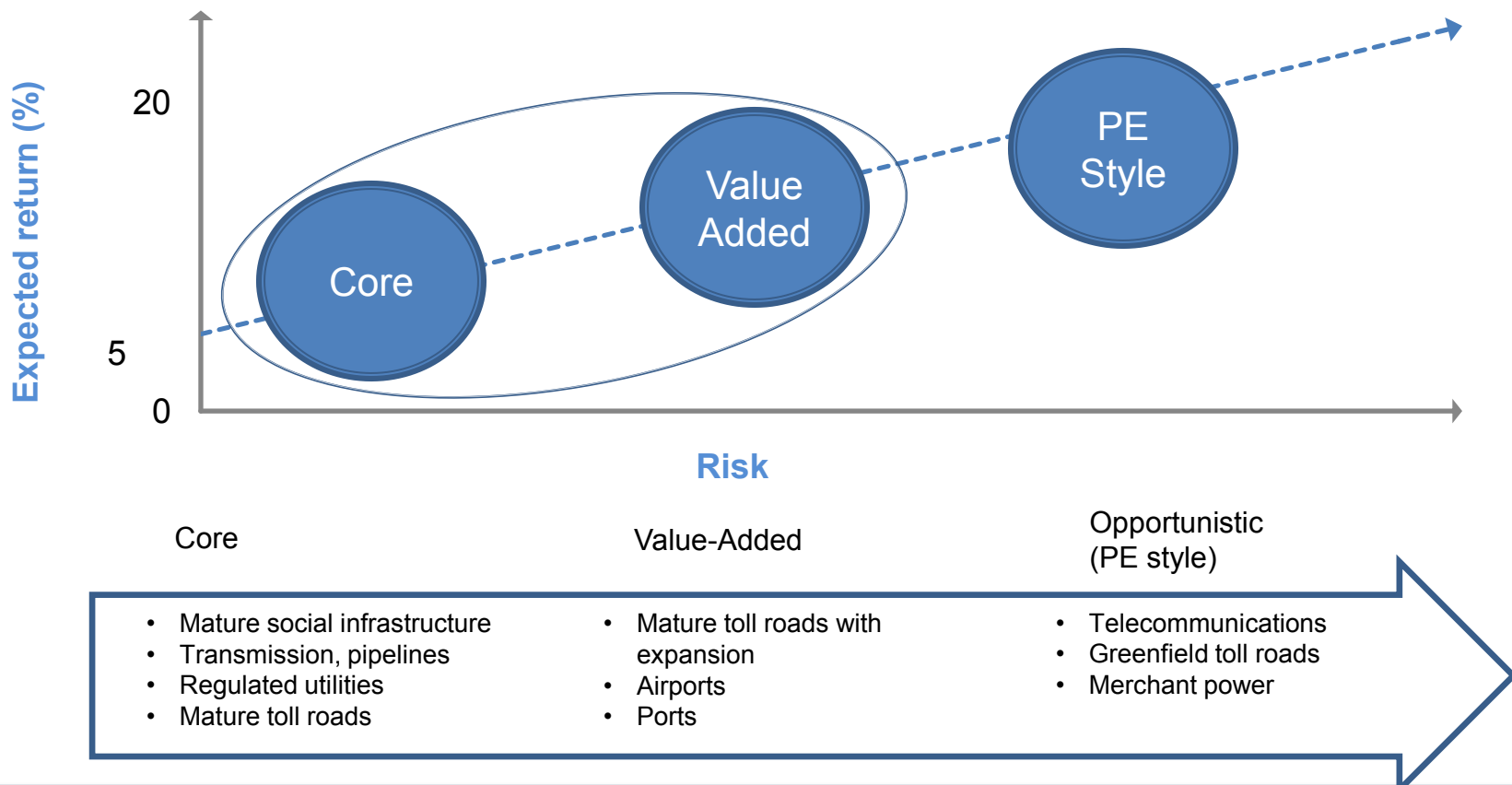
# Strategies and Targeted Returns

- Infrastructure risk - return profile depends on the strategy
  - Core: expected returns range from 8% - 11%
  - Value-Added: expected returns range from 12% - 14%
  - Opportunistic: expected returns above 15%

Category	Characteristics
<b>Core</b>	<ul style="list-style-type: none"> <li>• Mature OECD infrastructure</li> <li>• Assets governed by regulatory regimes or contracted revenues</li> </ul>
<b>Value-Added</b>	<ul style="list-style-type: none"> <li>• Developing, OECD infrastructure</li> <li>• Assets with revenue growth from increased demand or driven by significant expansion capital expenditure or operating improvements</li> </ul>
<b>Opportunistic</b>	<ul style="list-style-type: none"> <li>• Greenfield, non-OECD Infrastructure</li> <li>• Capital intensive assets operating in competitive market environments</li> </ul>

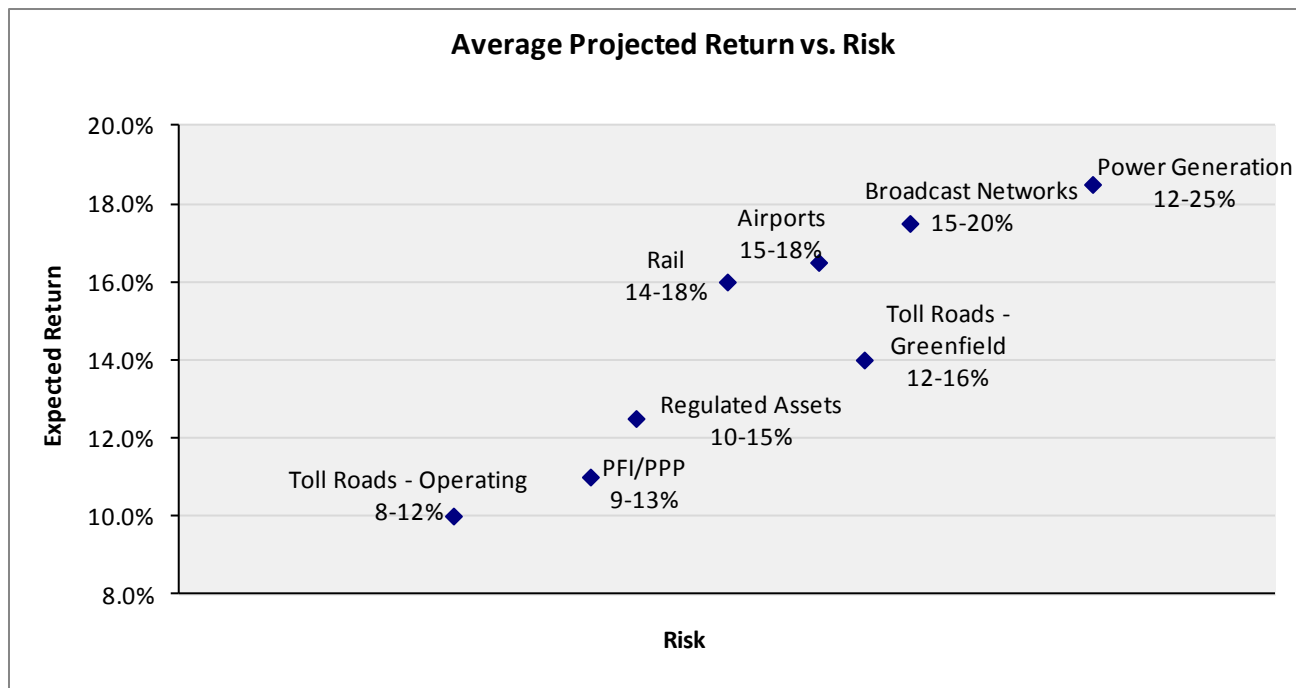
# Strategies and Targeted Returns (cont.)

- The lower risk strategies include Core and Value-Added



# Strategies and Targeted Returns: Asset Type

- Asset type and revenue model are key determinants of risk and must be considered together
- Potentially wide ranges of expected return for the same asset type
  - Availability payment versus patronage toll roads
  - Contracted versus merchant power generation





# Income vs. Appreciation

- Returns from income vs. appreciation vary depending on the strategy
- The lower risk Core and Value-Added strategies rely on higher income and lower appreciation

Strategy	Expected Income	Expected Appreciation	Expected Total Return	Characteristics
<b>Core</b>	6% to 8%	2% to 5%	8% to 11%	• Higher income, lower growth
				• Fixed-income like, inflation-linked or absolute return
<b>Value-Added</b>	4% to 6%	6% to 10%	12% to 14%	• Moderate income, moderate growth
				• Inflation-linked or absolute return
<b>Opportunistic</b>	0% to 4%	>10%	≥15%	• Low or no income, high growth
				• Private equity like returns

- No industry standard
- Inflation index plus margin is the most widely used due to the inflation linkage of the asset class
- Possible benchmarks include:
  - Inflation index (i.e. CPI) plus margin
  - Total return
  - Indices: S&P Global Infrastructure Index, MSCI World Infrastructure 100 Index, etc.

# Access to the Infrastructure Market

- Similar to other alternative asset classes, infrastructure has developed where investors must consider the four quadrants of debt and equity, public and private opportunities
- Resources and capital availability may limit a plan sponsor's ability to access all available investment structures

## PROS

## CONS

### Infrastructure Funds

- |                                                                                                                             |                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>■ Access to manager expertise</li> <li>■ Relative immediacy of investment</li> </ul> | <ul style="list-style-type: none"> <li>■ Increased management fees</li> <li>■ Lower control over investments</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

### Co-Investments

- |                                                                                                                           |                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>■ Reduced management fees</li> <li>■ Increased control over investments</li> </ul> | <ul style="list-style-type: none"> <li>■ Need for specialized in-house expertise</li> <li>■ Lower control over the capital structure of the deals</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Direct Investments

- |                                                                                                                              |                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>■ Eliminated management fees</li> <li>■ Increased control over investments</li> </ul> | <ul style="list-style-type: none"> <li>■ Significant lead time required</li> <li>■ Need for in-house expertise and larger staff</li> </ul> |
|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|

# Conclusion and Next Steps

- Infrastructure can provide portfolio diversification, attractive risk adjusted returns and inflation protection in an economic environment of high volatility and low yields
  
- As next steps, BAM will present to the Board an IPS and a strategic plan for infrastructure investing recommending
  - Pursuing predominantly the lower risk Core/Value-Added strategies
  - U.S./Global mandate
  - Benchmark of CPI + 4%

# Appendix A: Greenfield U.S. deals (2003-2012)

TRANSACCTION TYPE	SECTOR	SUBSECTOR	AMOUNT
<b>GREENFIELD</b>			
SR 125 South Highway (CALIFORNIA)	Transport	Roads	\$635m
Illinois Central School Bus	Transport	Other	n/a
Freeport LNG	Power	Other	n/a
Astoria Energy I	Power	Energy Generation	\$980m
The Transbay Transit Cente and Caltrain Downtown Extension Programe	Transport	Rail	\$4185m
Canyon Farm Funding	Environment	Waste	n/a
Black Bear Hydro	Renewables	Other	n/a
OFS Holdings	Power	Other	n/a
Hurrikan Power Funding	Renewables	Wind	n/a
Synagro Technologies	Environment	Waste	n/a
I-495 Capital Beltway HOT Lane Project (VIRGINIA)	Transport	Roads	\$1800m
ReNu Power	Power	Energy Generation	\$87m
Trans-Texas Corridor: SH130, Seg 5&6	Transport	Roads	\$1380m
ITS Technologies & Logistics	Transport	Other	n/a
GIM Channelview Cogeneration, LLC	Power	Energy Generation	\$500m
Santa Paula Water Concession	Environment	Water	\$125.5m
Regency Gas Pipeline System	Power	Energy Transmission	n/a
I-595 Corridor Roadway Improvements Project (Florida)	Transport	Roads	\$1760m
Arkoma Connector Pipeline	Power	Energy Transmission	n/a
Astoria Energy II	Power	Energy Generation	\$1000m
Chesapeake Midstream Partners L.P. (CHKM)	Power	Energy Transmission	\$267m
Dallas-Fort Worth (DFW) Connector Project	Transport	Roads	\$805m
Miami Port Tunnel (POMT) Florida	Transport	Bridges and Tunnels	\$651m
Terra-Gen Power Holdings	Renewables	Wind	n/a
Connecticut Service Plazas P3	Transport	Roads	\$178m
North Tarrant Expressway	Transport	Roads	\$2000m
Black Point Petroleum	Power	Other	n/a
JP Energy Partners	Power	Energy Generation	n/a
Seagirt Marine Terminal	Transport	Ports	\$334m
Florida Atlantic University (FAU)	Social Infrastructure	Accommodation	\$63m
Ruby Pipeline Project	Power	Energy Transmission	\$2200m
I-485 Outer Loop - North Carolina	Transport	Roads	\$160m
I-635 (LBJ Freeway) (TEXAS)	Transport	Roads	\$2600m
Denver FasTracks Eagle P3 Light Rail Project	Transport	Light Rail	\$1637m
Enogex	Power	Energy Transmission	n/a
Long Beach Courthouse	Social Infrastructure	Accommodation	\$495m
Hudson Transmission Partners	Power	Energy Transmission	\$869m
Bayonne Energy Centre	Power	Energy Generation	\$650m
Western Group Housing Privatization Project	Social Infrastructure	Accommodation	\$362m
Midtown Tunnel Project (Virginia)	Transport	Bridges and Tunnels	\$2100m
Alta Wind VII and Alta Wind IX Projects (California)	Renewables	Wind	n/a
Presidio Parkway / Doyle Drive Concession, San Fco, Ca.	Transport	Roads	\$365m
I-95 HOV/HOT Lanes Project (VIRGINIA)	Transport	Roads	\$940m

# Appendix B: Brownfield U.S. deals (2003-2012)

TRANSACCTION TYPE	SECTOR	SUBSECTOR	AMOUNT
<b>BROWNFIELD</b>			
13 power plants, total capacity of 1,600MW (Northern Star)	Power	Energy Generation	\$265.4m
Acquisition of SouthWest Water Company Brownfield	Environment	Water	\$427m
Chicago Skyway Toll Bridge Privatisation (Illinois)	Transport	Bridges and Tunnels	\$1800m
Dulles Greenway (VIRGINIA)	Transport	Roads	\$533m
Aquarion Acquisition	Environment	Water	\$860m
Century Campus Finance Package (TEXAS)	Social Infrastructure	Accommodation	\$201.2m
Virginia I-895 / Pocahontas Parkway (VIRGINIA)	Transport	Roads	\$611m
Indiana Toll Road (INDIANA)	Transport	Roads	\$4600m
Chicago Downtown Parking (Chicago Loop Parking)	Transport	Car Parks	\$565m
Colonial Pipeline	Power	Energy Transmission	n/a
RailAmerica	Transport	Rail	\$1100m
Ports America Group	Transport	Ports	\$1300m
Maier Terminals	Transport	Ports	\$1540m
SourceGas	Power	Energy Transmission	\$694m
Duquesne Light Holdings Acquisition	Power	Energy Transmission	\$1600m
Southeast PowerGen (2.5GW Power Portfolio)	Power	Energy Generation	\$620m
Four Container Terminals From Orient Overseas (Global Container Terminals)	Transport	Ports	\$2350m
Carrix Ports (49%)	Transport	Ports	\$3000m
Global Tower Partners (GTP) Acquisition	Other	Other	\$1425m
Northwest Parkway	Transport	Roads	\$600m
Southwest Generation Acquisition	Power	Energy Generation	\$840m
North American Energy Alliance, LLC (NAEA)	Power	Energy Generation	\$1477m
Puget Energy Acquisition	Power	Energy Transmission	\$3200m
Chicago Parking Meters	Transport	Car Parks	\$1160m
Midland Cogeneration Venture	Power	Energy Generation	\$745m
Veolia US Energy-from-Waste Facilities	Environment	Waste	\$450m
GIP Chesapeake JV	Power	Other	\$588m
Gomez Pipelines Acquisition	Power	Energy Transmission	\$78m
Eureka Pipeline Systems Acquisition	Power	Energy Transmission	\$81m
GIP Acquire 40% Stake in Terra-Gen Power Holdings	Renewables	Other	n/a
Medical Area Total Energy Plant (MATEP)	Power	Energy Generation	\$320m
Babcock & Brown Wind Farms	Renewables	Wind	\$352m
Interpark Assets (89 Parking Contracts)	Transport	Car Parks	\$500m

# Appendix B (cont.): Brownfield U.S. deals (2003-2012)

TRANSACCTION TYPE	SECTOR	SUBSECTOR	AMOUNT
<b>BROWNFIELD</b>			
Southern Star Central Corp (40% Stake)	Power	Other	\$838m
Inland Public Properties School Sale	Social Infrastructure	Education	\$61m
Southern Star Central Gas Pipeline	Power	Energy Transmission	n/a
NorTex Gas Storage	Power	Energy Storage	\$505m
Freeport LNG Development (55% sale)	Power	Energy Transmission	\$190m
Parking Corporation of America Airports - PCAA (in receivership)	Transport	Car Parks	\$141m
Southern Natural Gas Pipeline (20% sale)	Power	Energy Transmission	\$492m
BAA USA Sale	Social Infrastructure	Other	\$52.4m
Port of Portland Terminal 6	Transport	Ports	\$120.5m
Acquisition of SouthWest Water Company	Environment	Water	\$427m
Colonial Pipeline Company (23.44% sale)	Power	Energy Transmission	\$845m
Providence and Olinda Landfill Gas Sale	Renewables	Other	\$25m
Indianapolis Parking Meters Concession	Transport	Car Parks	\$30m
SteelRiver acquisition of T.W. Phillips Gas and Oil	Power	Energy Transmission	n/a
InterPark	Transport	Car Parks	n/a
Fixed Base Operations (Portland International and Eugene airports)	Transport	Airports	n/a
EQT Acquisition of Peregrine Midstream Partners (70%)	Power	Energy Transmission	n/a
Macquarie's Sale of 33.3% Stake in Aquarion	Environment	Water	n/a
Duet Group's Sale of 29% stake in Duquesne (DQE Holdings)	Power	Energy Transmission	\$360m
Puerto Rico Highway Package Phase One (PR-22,PR-5)	Transport	Roads	\$1136m
Marcellus Shale Joint Venture	Power	Energy Generation	\$200m
Alinda Acquisition of Houston Fuel Oil Terminal Co (HFOTCO)	Power	Energy Storage	\$1300m
I-595 Acquisition (50%)	Transport	Roads	\$800m
The Parking Spot (Airport Parking Operator)	Transport	Car Parks	\$360m
Park Water Company	Environment	Water	\$102m
Sacramento Municipal Utility District Solar PV Portfolio (88MW)	Renewables	Solar	\$180m
Appalachia Midstream Services Acquisition	Power	Energy Generation	\$865m
Colonial Pipeline Partial Sale (16.6%)	Power	Energy Transmission	\$850m
Mountaineer Gas Company	Power	Energy Transmission	n/a
FREIF North American Power I Acquisition	Power	Energy Generation	n/a
Capistrano Wind Partners (Edison/TIAA-CREF/CIRI JV)	Renewables	Wind	\$460m
Eureka Hunter Part-Acquisition by Arclight (28% Stake)	Power	Energy Transmission	\$106.8m
WCA Waste Corporation	Environment	Waste	\$526m
Alta Wind VI 150MW Acquisition	Renewables	Wind	n/a
Caiman Eastern Midstream Sale	Power	Energy Transmission	\$2400m
El Paso JV - Kinder Morgan 50% Acquisition	Power	Energy Transmission	\$300m

# Appendix C: Infrastructure Funds In Market

Manager	Fund	Target Capital Raise	Geography
<b>Core / Value-Added</b>			
Alinda Capital Partners	Alinda Infrastructure Fund III	\$3,000,000,000	Global
AMP Capital	AMP Capital Infrastructure Debt Fund	€ 500,000,000	Global
AMP Capital	Strategic Infrastructure Trust of Europe	Open-End Fund	Europe
Antin	Antin Infrastructure Partners II	€ 1,500,000,000	Europe
Aquila	Infrastructure Coalition Program	\$400,000,000	Global
AXA	AXA Infrastructure Fund III	€ 1,500,000,000	Europe
Balfour Beatty	Balfour Beatty Infrastructure Partners, L.P.	€ 800,000,000	Global
Brookfield	Brookfield Global Listed Infrastructure Income fund	Public/Listed	Global
Capital Innovations	Listed Infrastructure Fund	Public/Listed	Global
Cohen & Steers	Global Listed Infrastructure Fund	Public/Listed	Global
Colonial First State	First State Investments Global Listed Infrastructure Fund	Public/Listed	Global
CVC Capital Partners	CVC European Infrastructure Fund	€ 1,500,000,000	Europe
Duff and Phelps	Duff & Phelps Global Listed Infrastructure Fund	Public/Listed	Global
Energy Power Partners	Energy Power Partners Fund I	\$300,000,000	Developed Americas
EQT Partners	EQT Infrastructure Fund II	€ 1,500,000,000	Global
First State Investments Fund Management	First State European Diversified Infrastructure Fund	€ 1,500,000,000	Europe
Global Infrastructure Management	Global Infrastructure Partners II	\$7,500,000,000	Global
Hastings Fund Management	UTA	Open-End Fund	Global
Highstar	Highstar IV	\$3,500,000,000	Global
iCon	iCon Infrastructure Partners II	€ 500,000,000	Europe
Industry Funds Management	IFM Global Infrastructure	Open-End Fund	Global
J.P. Morgan Investment Management, Inc.	JP Morgan Infrastructure Investments Fund	Open-End Fund	Global
Lazard Freres	Lazard Global Listed Infrastructure Trust	Public/Listed	Global
Macquarie	Macquarie European Infrastructure Fund IV	€ 1,500,000,000	Europe
Macquarie	Macquarie Global Listed Infrastructure Fund	Public/Listed	Global
Magellan Asset Management Limited	MFG Core Infrastructure	Public/Listed	Global
Morgan Stanley	Morgan Stanley Infrastructure Partners II	\$4,000,000,000	Global
Palmer Capital	UK Solar Income Partnership	€ 27,000,000	Europe
SteelRiver	SteelRiver Infrastructure Fund North America II	\$2,000,000,000	Developed Americas
StonePeak	StonePeak Infrastructure Partners	\$1,000,000,000	Developed Americas
Tiger Infrastructure Partners	Tiger Infrastructure Partners Fund L.P.	\$600,000,000	Global
United Bridge Partners	UBP New American Bridges Fund	\$1,000,000,000	Developed Americas



# Appendix C (cont.): Infrastructure Funds In Market

Manager	Fund	Target Capital Raise	Geography
<b><i>Opportunistic</i></b>			
3i	India Infrastructure Fund II	\$1,250,000,000	Emerging Markets
Actis	Actis Energy Fund III	\$750,000,000	Emerging Markets
Alterna Capital Partners	Alterna Core Capital Assets II	\$600,000,000	Global
Aviva Investors	Aviva Investors European Renewable Energy Fund	€ 300,000,000	Europe
Black River	Black River Metals & Mining	\$300,000,000	Emerging Markets
BlackRock	BlackRock NTR Renewable Power Fund	\$1,500,000,000	Global
BRZ Investimentos	BRZ Ports and Logistics Assets Fund	\$450,000,000	Emerging Markets
BTG Pactual	BTG Pactual Infrastructure Fund II	\$1,500,000,000	Emerging Markets
Capital Dynamics AG	Clean Energy and Infrastructure Fund	\$500,000,000	Global
Capital Dynamics AG	US Solar Energy Fund	\$300,000,000	Developed Americas
Citi Capital Advisors	Build India Fund II	\$650,000,000	Emerging Markets
EnCap	EnCap Flatrock Midstream Fund II	\$1,250,000,000	Developed Americas
Energy Capital Partners	Energy Capital Partners II	\$3,500,000,000	Developed Americas
Energy Finance Company	Funding Solar Energy Limited Partnership	\$100,000,000	Developed Americas
Equis Funds Group	Equis Asia Fund	\$500,000,000	Emerging Markets
Fortress Investments	Fortress Power Assets Fund	\$350,000,000	Developed Americas
IFC Asset Management Company	IFC Global Infrastructure Fund	\$1,000,000,000	Emerging Markets
Marguerite	2020 European Fund for Energy, Climate Change & Infrastructure	€ 1,500,000,000	Europe
Modoc Capital LLC	Modoc Renewables Infrastructure Fund	\$250,000,000	Developed Americas
Starwood Energy	Starwood Energy Infrastructure Fund II	\$750,000,000	Developed Americas
Swiss Asia	China District Energy Fund	\$500,000,000	Emerging Markets

**APPENDICES:**

Basket Clause

## BERS- BASKET/NON BASKET SUMMARY

As of July 31st, 2012	<u>Adjusted Fund Policy</u>			<u>Fund Actual (PE &amp; RE on an invested basis)</u>		
<u>Equity</u>	<u>Non Basket*</u>	<u>Basket*</u>	<u>Total</u>	<u>Non Basket*</u>	<u>Basket*</u>	<u>Total</u>
<b>Domestic Equity</b>	42.65%	0.00%	42.65%	37.14%	0.00%	37.14%
<b>Non-U.S. Equity</b>	10.00%	12.00%	22.00%	10.00%	13.34%	23.34%
<b>Private Equity</b>	0.00%	3.25%	3.25%	0.00%	3.25%	3.25%
<b>Real Estate</b>	2.10%	0.00%	2.10%	2.10%	0.00%	2.10%
<b>Total Equity</b>	54.75%	15.25%	70.00%	49.24%	16.59%	65.83%
 <b>Fixed Income</b>						
<b>Core+5</b>	17.00%	0.00%	17.00%	18.50%	0.00%	18.50%
<i>U.S. Gov't Sector</i>	3.61%	0.00%	3.61%	3.12%	0.00%	3.12%
<i>Mortgage Sector</i>	6.90%	0.00%	6.90%	8.02%	0.00%	8.02%
<i>Credit Sector</i>	6.49%	0.00%	6.49%	7.36%	0.00%	7.36%
<b>High Yield</b>	5.00%	0.50%	5.50%	5.52%	0.44%	5.96%
<b>Bank Loans</b>	0.00%	2.50%	2.50%	0.00%	0.00%	0.00%
<b>TIPS</b>	4.50%	0.50%	5.00%	1.84%	0.61%	2.46%
<b>Other Fixed Income</b>	0.00%	0.00%	0.00%	7.26%	0.00%	7.26%
<b>Total Fixed Income</b>	26.50%	3.50%	30.00%	33.11%	1.05%	34.17%
<b>Total Fund</b>	81.25%	18.75%	100.00%	82.36%	17.64%	100.00%
 <b>Remaining Capacity</b>		6.25%		7.36%		

\* Note: Basket amounts are estimates

## Liquidity Analysis

## BERS Liquidity Profile - Static Analysis

9/17/12

AUM as of June 30, 2012

	Current MV	Liquid Assets		
		Today	1 Year	2 Years
Domestic Equity	\$1,114	\$1,114	\$1,114	\$1,114
International Equity	561	561	561	561
Emerging Markets	132	132	132	132
Private Equity	97	0	0	0
Private Real Estate	63	0	0	0
Core + 5	546	546	546	546
TIPS	73	73	73	73
Enhanced Yield	176	176	176	176
ETI	16	10	15	16
Cash	170	170	170	170
<b>Total Assets</b>	<b>\$2,949</b>	<b>\$2,782</b>	<b>\$2,788</b>	<b>\$2,789</b>
<b>Total Illiquid \$</b>		<b>\$166</b>	\$161	\$160
<b>Total Illiquid %</b>		<b>5.6%</b>	5.5%	5.4%
Unfunded PE Commitments	\$57			
Unfunded RE Commitments	54			
Unfunded OFI Commitments	0			
<b>Total commitments \$</b>	<b>\$111</b>			
<b>Total commitments %</b>	<b>3.8%</b>			

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

<b>Total Illiquid \$</b>	\$166	\$161	\$160
<b>Total Illiquid %</b>	8.5%	8.2%	8.1%

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

**BERS Liquidity Profile - Static Analysis**

9/17/12

AUM as of June 30, 2012

	<b>Current MV</b>	<b>Liquid Assets</b>		
		<b>Today</b>	<b>1 Year</b>	<b>2 Years</b>
<b>Total Assets</b>	<b>\$2,949</b>	<b>\$2,782</b>	<b>\$2,788</b>	<b>\$2,789</b>

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

Unfunded PE Commitments Drawn		\$11	\$23
Unfunded RE Commitments Drawn		11	22
Unfunded OFI Commitments Drawn		0	0
<b>Total commitments \$</b>		<b>\$22</b>	<b>\$44</b>
<b>Total commitments %</b>		<b>0.8%</b>	<b>1.5%</b>

<b>Total Illiquid \$</b>		\$183	\$205
<b>Total Illiquid %</b>		<b>6.2%</b>	<b>6.9%</b>

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>	\$166	\$183	\$205
<b>Total Illiquid %</b>	<b>8.5%</b>	<b>9.3%</b>	<b>10.4%</b>

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