

Callan



Chicago Teachers' Pension Fund

Executive Summary

June 30, 2017

Mr. Angel G. Haddad
Senior Vice President

Ms. Brianne Weymouth, CAIA
Senior Vice President

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Table of Contents

Total Fund Commentary	3
Select Market Returns	5
Quarterly Review	7
Asset Allocation	9
Investment Manager Asset Allocations	11
Total Fund Performance vs. Target	15
Manager Performance	17
Manager Commentaries	25
Manager Watch List	29
General Market & Economic Conditions	35
Appendix: Watch List Criteria	38

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Total Fund Commentary

The Fund was valued at \$10.5 billion at the end of the second quarter, representing an increase of \$562 million from March 31, 2017. The increase in assets is attributable to investment gains of \$408 million and net cash inflow activity of \$153 million during the quarter. Overall, the portfolio's asset allocation was within acceptable parameters, though the fixed income allocation was at the low end of the permissible range with a 19% allocation at quarter-end (Permissible Range: 19% to 27%, or +/-4% around the 23% target). The domestic equity portfolio showed an overweight position though it remained within the Investment Policy range of 26% to 34%. In addition to fixed income, real estate, infrastructure and private equity exhibited an underweight position relative to the Fund's target asset allocation.

The S&P 500 Index registered a record high during the quarter, fueled primarily by technology stocks. Non-US equities outperformed domestic equities, and within bonds, corporate credit and emerging markets debt posted the strongest returns as the "risk-on" theme continued unabated. The Treasury yield curve continued to flatten, with short rates up and longer rates falling, but the broad bond market returned roughly 1.4%. The U.S. dollar weakened versus most currencies and, as in the first quarter, commodities were the only area to deliver a negative return as oil prices continued to fall on supply concerns. The quarter closed with an upbeat assessment of the euro zone's recovery from the President of the ECB, Mario Draghi, fueling speculation that the tapering of ECB asset purchases may be on the horizon. This change in tone spooked investors and sent global yields higher and stocks lower going into quarter-end.

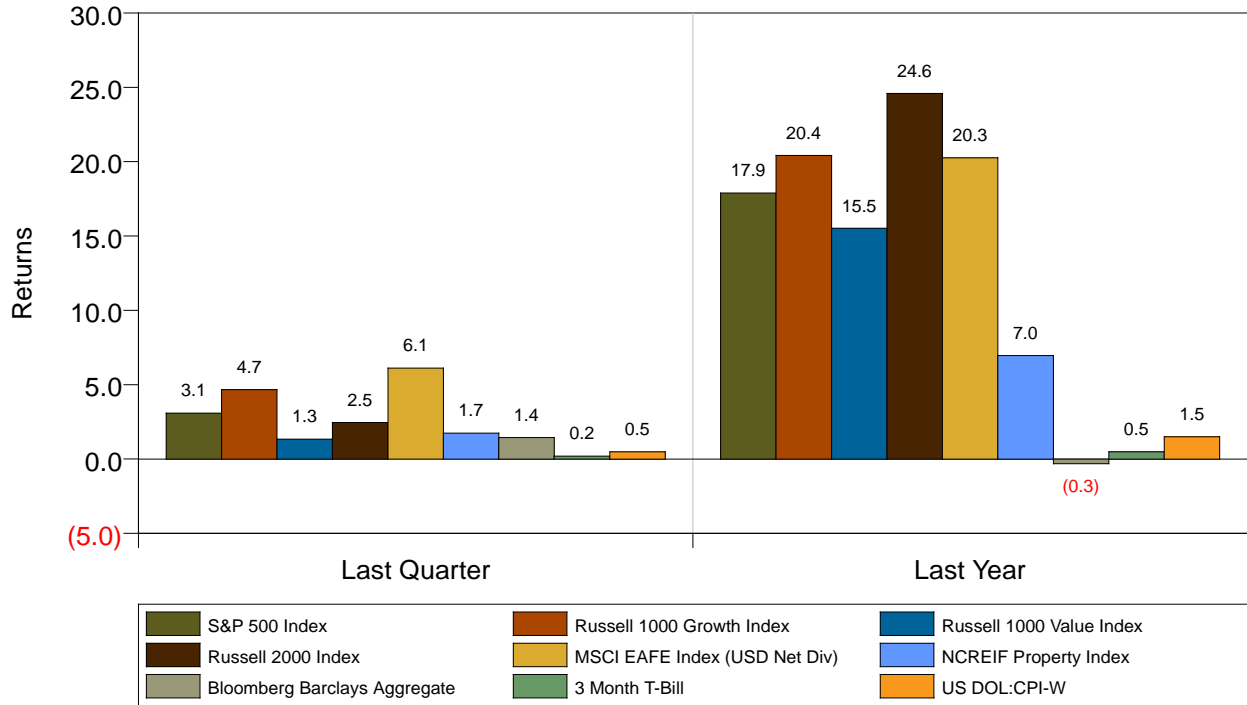
In this environment, the Fund registered a positive gross return of 4.18%, outperforming the peer group median by 105 basis points (peer group ranking performance is gross of fees) and the Policy Benchmark by 76 basis points, net of fees. The Fund outperformed its policy benchmark over the trailing 1-, 3-, 5-, and 7-year periods, net of fees. In addition, it continues to rank within the top forty percent of its peer group over the trailing 5- and 7-year periods. Performance is competitive relative to the market benchmark over longer periods measured, net of fees.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Select Market Returns

Returns Ending June 30, 2017



**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

QUARTERLY REVIEW

- **Second Quarter, 2017 Investment Performance Update:**
 - **Performance:** For the second quarter, the Fund posted favorable performance relative to the market benchmark, outperforming 94% of its peers (6th percentile ranking). The Fund continues to exhibit strong performance relative to both benchmarks over all longer periods measured.

- **Watch Status Report:** The following managers are on the Watch List based on CTPF's current Watch List Policy:
 - Ivy: Included on the Watch List due to inconsistent rolling three- and seven-year performance relative to the market index and peer group median, and five-year risk characteristics. We continued to see deterioration in the strategy's performance over the quarter. The concentrated nature of this portfolio makes it susceptible to prolonged periods of underperformance and high tracking error.
 - Holland: Included on the Watch List due to inconsistent rolling three-year and seven-year performance relative to benchmarks and not meeting the five-year up market capture criteria. Holland announced it will be closing this product to all clients in the near future. As such, these assets will be repurposed in the Fund; a replacement will be identified according to the Fund's domestic equity investment structure.
 - Zevenbergen: Included on the Watch List due to inconsistent rolling three-year and seven-year performance relative to the market index and peer group median and missing the five-year down market capture criteria.
 - LM Capital: Included on the Watch List due to personnel turnover.

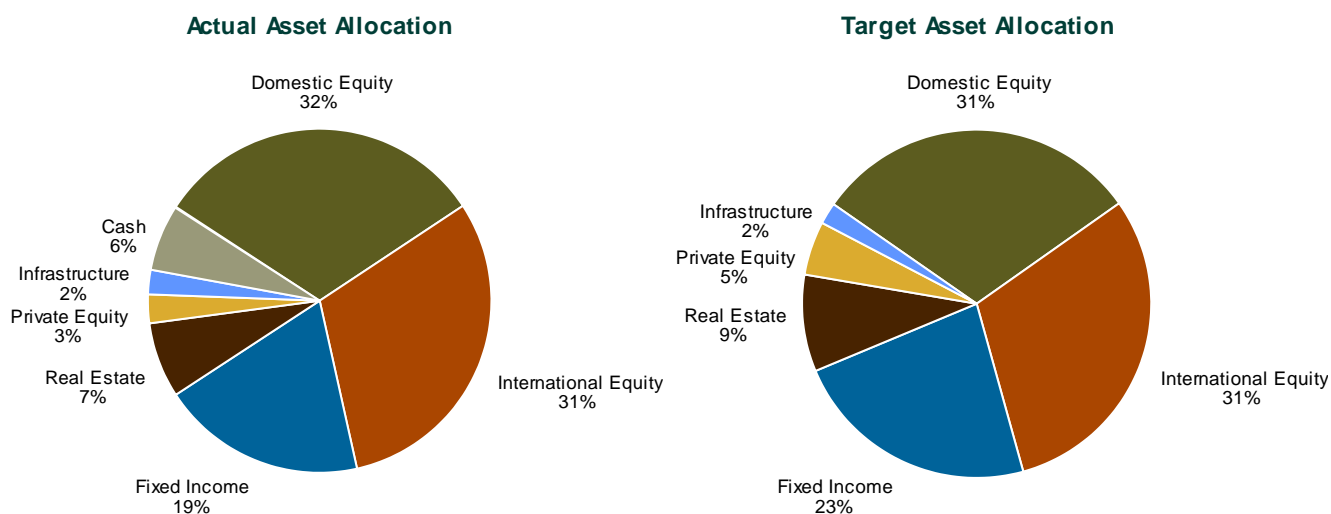
- **RFP Activity:** The following RFPs have been approved by the Board. The items in **bold** characters are currently in progress:
 1. **Passive Core Fixed Income**
 2. **Active Core Fixed Income**
 3. Active Small Cap Growth Equity
 4. **Private MWDBE Real Estate**
 5. Private Non-Core Real Estate
 6. Private Equity MWDBE
 7. **Private Equity Direct Fund**

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Asset Allocation

The Fund was valued at \$10.5 billion at the end of the second quarter, representing an increase of \$562 million from March 31, 2017. The increase in assets is attributable to investment gains of \$408 million and net cash inflow activity of \$153 million during the quarter. Overall, the portfolio's asset allocation was within acceptable parameters, though the fixed income allocation was at the low end of the permissible range with a 19% allocation at quarter-end (Permissible Range: 19% to 27%, or +/-4% around the 23% target). The domestic equity portfolio showed an overweight position though it remained within the Investment Policy range of 26% to 34%. In addition to fixed income, real estate, infrastructure and private equity exhibited an underweight position relative to the Fund's target asset allocation.



Asset Class	\$Millions Actual	Weight Actual	Target	Percent Difference	\$Millions Difference
Domestic Equity	3,309	31.5%	30.5%	1.0%	107
International Equity	3,235	30.8%	30.5%	0.3%	33
Fixed Income	2,027	19.3%	23.0%	(3.7%)	(388)
Real Estate	744	7.1%	9.0%	(1.9%)	(201)
Private Equity	284	2.7%	5.0%	(2.3%)	(241)
Infrastructure	244	2.3%	2.0%	0.3%	34
Cash	656	6.2%	0.0%	6.2%	656
Total	10,499	100.0%	100.0%		

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

INVESTMENT MANAGER ASSET ALLOCATIONS

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2017, with the distribution as of March 31, 2017. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

	June 30, 2017		Net New Inv.	Inv. Return	March 31, 2017	
	Market Value	Weight			Market Value	Weight
DOMESTIC EQUITY	\$3,308,973,484	31.52%	\$(257,306,545)	\$105,366,410	\$3,460,913,620	34.83%
Large Cap	\$2,946,043,740	28.06%	\$(235,910,881)	\$100,173,236	\$3,081,781,385	31.01%
Large Cap Core Index	\$1,999,095,501	19.04%	\$(221,568,246)	\$64,028,951	\$2,156,634,795	21.70%
NTGI 500 Index LCC	500,524,535	4.77%	(214,007,057)	19,313,945	695,217,647	7.00%
Rhumbline Rsl 1000 LCC	1,498,570,965	14.27%	(7,561,189)	44,715,006	1,461,417,148	14.71%
Large Cap Core Equity	\$120,034,193	1.14%	\$(619,437)	\$2,108,708	\$118,544,922	1.19%
Ivy LCC	120,034,193	1.14%	(619,437)	2,108,708	118,544,922	1.19%
Large Cap Growth Equity	\$411,003,799	3.91%	\$(1,416,395)	\$28,447,496	\$383,972,698	3.86%
Holland Capital LCG	276,761,753	2.64%	(1,259,921)	15,082,513	262,939,161	2.65%
Zevenbergen US ACE	134,242,046	1.28%	(156,474)	13,364,983	121,033,537	1.22%
Large Cap Value Equity	\$415,910,248	3.96%	\$(12,306,803)	\$5,588,080	\$422,628,971	4.25%
Channing US ACE	132,012,319	1.26%	(10,666,524)	1,221,280	141,457,564	1.42%
BMO Global-Harris LCV	283,897,928	2.70%	(1,640,279)	4,366,800	281,171,407	2.83%
Small Cap Equity	\$299,637,356	2.85%	\$(1,405,762)	\$4,161,505	\$296,881,614	2.99%
NTGI Structured SCC	156,691,208	1.49%	(611,751)	4,387,128	152,915,832	1.54%
Phocas SCV	142,946,148	1.36%	(794,011)	(225,623)	143,965,782	1.45%
Attucks Domestic Equity (Mgr of Mgrs)	\$63,292,388	0.60%	\$(19,989,902)	\$1,031,669	\$82,250,621	0.83%
Attucks Matarin SCC	20,794,341	0.20%	(62,574)	437,099	20,419,816	0.21%
Attucks Paradigm LCV	20,774,177	0.20%	(111,481)	343,310	20,542,348	0.21%
Attucks Stoneridge LCE	21,583,350	0.21%	(104,571)	242,597	21,445,323	0.22%
INTERNATIONAL EQUITY	\$3,235,415,448	30.82%	\$(12,201,811)	\$215,965,674	\$3,031,651,585	30.51%
Ariel EAFE ILCV	78,260,074	0.75%	(1,164,434)	4,439,161	74,985,348	0.75%
DFA ISCV	181,612,702	1.73%	(3)	10,817,134	170,795,571	1.72%
Eamest Partners EME	173,089,988	1.65%	(1,476,254)	12,607,882	161,958,359	1.63%
Eamest Partners ILCE	568,465,930	5.41%	(6,190,630)	40,286,602	534,369,958	5.38%
Lazard Asst Mgt ILCE	573,633,082	5.46%	(5,569,416)	30,016,715	549,185,783	5.53%
Leading Edge IE MOM	125,121,865	1.19%	(1,231,724)	6,269,798	120,083,791	1.21%
Morgan Stanley ILCE	590,334,856	5.62%	(7,670,455)	43,481,173	554,524,138	5.58%
NTGI EAFE ILCE	1,538	0.00%	(42,165)	2,091	41,612	0.00%
NTGI EAFE ILCV	-2,217	(0.00%)	(60,062)	(3,643)	61,488	0.00%
Strategic Global Adv. EAFE	76,680,619	0.73%	(927,774)	5,381,732	72,226,661	0.73%
William Blair ILCG	571,368,058	5.44%	(4,883,343)	39,244,817	537,006,583	5.40%
William Blair ISCE	189,716,358	1.81%	(1,892,039)	15,453,066	176,155,330	1.77%
TOTAL FUND	\$10,498,934,084	100.0%	\$153,463,491	\$408,466,390	\$9,937,004,202	100.0%

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Asset Distribution Across Investment Managers

	June 30, 2017			Net New Inv.	Inv. Return	March 31, 2017	
	Market Value	Weight				Market Value	Weight
Attucks Int'l Equity	\$107,132,596	1.02%		\$18,906,487	\$7,969,146	\$80,256,964	0.81%
Attucks APEX Int'l ACC	12,843	0.00%	(51,796)	1,203	63,436	0.00%	
Attucks GlobeFlex Int'l ACC	15,720	0.00%	(2,495)	161	18,054	0.00%	
Attucks GlobeFlex Global Eq	23,537,167	0.22%	(126,106)	1,695,878	21,967,396	0.22%	
Attucks Brown Capital Int'l SCG	23,914,689	0.23%	(393,096)	2,420,102	21,887,683	0.22%	
Attucks Ativo Capital EM	19,256,930	0.18%	(156,104)	987,452	18,425,582	0.19%	
Attucks Glovista EM	18,980,628	0.18%	(2,527)	1,088,343	17,894,812	0.18%	
Attucks Redwood Int'l ACC	21,414,619	0.20%	19,638,612	1,776,007	-	-	
FIXED INCOME	\$2,026,828,117	19.31%	\$(15,810,290)	\$36,474,837	\$2,006,163,570	20.19%	
NT GI Gov/Credit Index FI	946,629,683	9.02%	(6,689,409)	15,849,802	937,469,290	9.43%	
Garcia Hamilton FIC	103,675,525	0.99%	(653,959)	1,410,623	102,918,861	1.04%	
LM Capital FICP	210,148,710	2.00%	(2,171,810)	3,145,084	209,175,435	2.11%	
Pugh FIC	167,783,516	1.60%	(1,568,436)	2,816,171	166,535,781	1.68%	
Taplin Canida FI	123,404,478	1.18%	(1,068,337)	2,055,722	122,417,093	1.23%	
WAMCO FICP	422,409,771	4.02%	(3,480,206)	10,169,411	415,720,567	4.18%	
Attucks Fixed Income	\$52,776,434	0.50%	\$(178,133)	\$1,028,024	\$51,926,542	0.52%	
Attucks New Century GI TIPS	19,946,832	0.19%	(30,283)	389,715	19,587,399	0.20%	
Attucks LM Capital EMD	14,351,826	0.14%	(93,442)	306,778	14,138,490	0.14%	
Attucks Ramirez Fixed Income	18,477,776	0.18%	(54,408)	331,531	18,200,653	0.18%	
INFRASTRUCTURE	\$243,731,500	2.32%	\$341,802	\$11,321,269	\$232,068,430	2.34%	
JP Morgan Infr-OE	90,488,445	0.86%	(1,858,633)	1,784,789	90,562,289	0.91%	
Macquarie Fd II Infr	74,242,514	0.71%	0	2,396,333	71,846,180	0.72%	
Macquarie European Fund III Infr	66,542,521	0.63%	(1,059,310)	6,748,843	60,852,987	0.61%	
ABSOLUTE RETURN	\$0	0.00%	\$(9,997,418)	\$(24,713)	\$10,022,131	0.10%	
Pluscios Mgmt HFOF	0	0.00%	(9,997,418)	(24,713)	10,022,131	0.10%	
TOTAL FUND	\$10,498,934,084	100.0%	\$153,463,491	\$408,466,390	\$9,937,004,202	100.0%	

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Asset Distribution Across Investment Managers

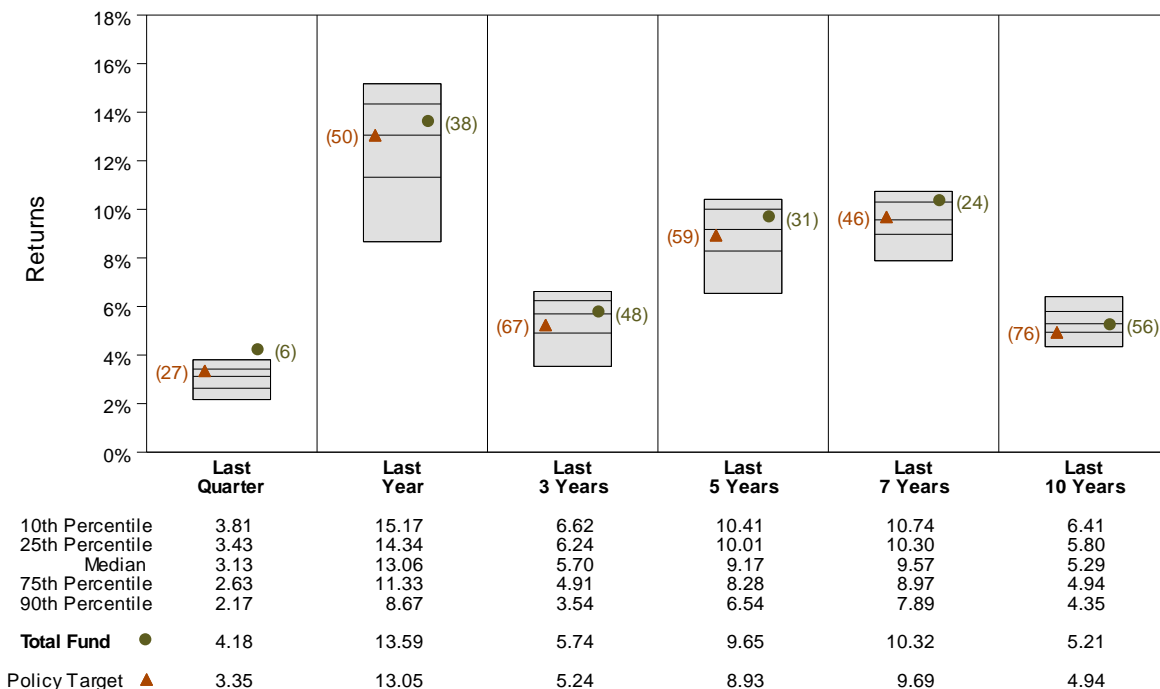
	June 30, 2017				March 31, 2017	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
REAL ESTATE	\$744,096,491	7.09%	\$(8,105,603)	\$15,478,933	\$736,723,162	7.41%
Capri Select Fd II PRE	51,112	0.00%	0	(4,365)	55,477	0.00%
City View PRE	15,593,555	0.15%	(3,875,455)	282,263	19,186,747	0.19%
Clarion Lion Indus Tr	48,076,562	0.46%	(510,526)	3,262,522	45,324,566	0.46%
Europa Fd III PRE	10,290,775	0.10%	305,529	510,907	9,474,339	0.10%
Fortress Japan PRE	7,978,955	0.08%	(154,377)	(1,354,464)	9,487,796	0.10%
Fortress Japan Fd II PRE	8,917,715	0.08%	0	472,982	8,444,733	0.08%
Franklin Temp PREMOM	17,529,056	0.17%	(1,783,468)	(996,270)	20,308,795	0.20%
Fremont Realty PRE	1,739,635	0.02%	0	(15,066)	1,754,701	0.02%
Greystar Equity PRE	37,081	0.00%	0	(2,357)	39,438	0.00%
Hudson Realty Fd V PRE	4,032,964	0.04%	(1,658,269)	184,789	5,506,444	0.06%
IC Berkeley Partners III	6,811,209	0.06%	(400,000)	25,124	7,186,085	0.07%
Intercontinental PRE	478,300	0.00%	0	(62,840)	541,140	0.01%
JP Morgan Strat PRE-OE	150,888,736	1.44%	(1,485,939)	2,339,184	150,035,492	1.51%
LaSalle Property PRE-OE	103,417,173	0.99%	(1,494,495)	2,463,072	102,448,596	1.03%
MB Asia RE Fd PRE	855,169	0.01%	(105,602)	82,607	878,164	0.01%
Newport Cap Fund II	26,668,645	0.25%	10,296,622	544,710	15,827,313	0.16%
Newport/DV Urban PRE	1,257,535	0.01%	0	(81,100)	1,338,635	0.01%
PRISA Fd I PRE-OE	140,642,444	1.34%	(1,861,604)	4,386,209	138,117,840	1.39%
PRISA Fd II PRE-OE	21,643,623	0.21%	(292,940)	757,771	21,178,792	0.21%
UBS Realty PRE-OE	149,825,704	1.43%	(1,573,518)	1,909,141	149,490,080	1.50%
Walton St Fd III PRE	144,296	0.00%	0	6,198	138,098	0.00%
Walton St Fd IV PRE	1,159,260	0.01%	(420,433)	38,809	1,540,884	0.02%
Walton St Fd V PRE	9,874,226	0.09%	(3,091,127)	52,792	12,912,561	0.13%
Walton St Fd VI PRE	11,069,170	0.11%	0	154,929	10,914,241	0.11%
Walton St Mexico Fd I PRE	5,113,591	0.05%	0	521,386	4,592,205	0.05%
PRIVATE EQUITY	\$283,785,397	2.70%	\$(11,634,599)	\$23,331,037	\$272,088,959	2.74%
Adams St Many Fd PE	134,436,719	1.28%	1,507,602	4,394,091	128,535,026	1.29%
HarbourVest Ptrs VI PE	6,780,184	0.06%	0	77,210	6,702,974	0.07%
HarbourVest Ptrs VII PE	6,798,772	0.06%	700,000	477,878	5,620,894	0.06%
HarbourVest Ptrs VIII PE	10,835,896	0.10%	(400,951)	700,084	10,536,763	0.11%
HVP Buyout X PE	2,529,990	0.02%	342,321	298,397	1,889,272	0.02%
HVP Venture X PE	1,245,481	0.01%	270,000	116,769	858,712	0.01%
Hispania Fd II PE	3,153,503	0.03%	(113,782)	35,109	3,232,176	0.03%
ICV Capital Ptrs PE	1,631,169	0.02%	0	138,897	1,492,272	0.02%
ICV III Capital Ptrs PE	9,907,908	0.09%	1,105,241	189,400	8,613,267	0.09%
Mesirow Fd I PE	2,305,802	0.02%	0	(31,553)	2,337,355	0.02%
Mesirow Fd II PE	8,606,455	0.08%	(900,000)	(667,381)	10,173,836	0.10%
Mesirow Fd IV PE	13,041,075	0.12%	(400,000)	1,187,279	12,253,796	0.12%
Mesirow Fd V PE	17,991,363	0.17%	(726,041)	2,083,981	16,633,423	0.17%
Mesirow Fd VIII PE	2,288,514	0.02%	0	(297,492)	2,586,006	0.03%
Mesirow Fd X PE	14,637,646	0.14%	(12,096,140)	11,620,873	15,112,913	0.15%
Muller M2 ILPEFF PE	502,514	0.00%	0	(3,643)	506,157	0.01%
Muller M2 MPEFF PE	3,489,152	0.03%	(369,472)	82,647	3,775,976	0.04%
Palladium Ptrs PE	3,324,374	0.03%	(141,084)	340,157	3,125,301	0.03%
Palladium IV	7,179,128	0.07%	(109,491)	680,042	6,608,577	0.07%
Pantheon Asia Fd V PE	3,099,252	0.03%	(155,000)	85,182	3,169,070	0.03%
Pantheon Europe Fd II PE	74,294	0.00%	0	1,779	72,515	0.00%
Pantheon Europe Fd VI PE	5,514,412	0.05%	(357,341)	926,153	4,945,600	0.05%
Pantheon GI Fd 2014	4,873,566	0.05%	0	(150,824)	5,024,390	0.05%
Pantheon USA Fd III PE	362,612	0.00%	0	(19,853)	382,465	0.00%
Pantheon USA Fd IV PE	921,243	0.01%	0	61,280	859,963	0.01%
Pharos Fd II PE	4,994,695	0.05%	0	689,479	4,305,216	0.04%
Pharos Fd III PE	9,202,279	0.09%	127,365	451,644	8,623,270	0.09%
RLJ Equity Fund II	1,912,731	0.02%	82,174	(98,402)	1,928,959	0.02%
Syncom Venture PE	2,144,668	0.02%	0	(38,147)	2,182,815	0.02%
CASH	\$656,103,646	6.25%	\$468,177,957	\$552,945	\$187,372,745	1.89%
Cash Equivalent CTPF	587,696,041	5.60%	468,188,044	362,032	119,145,966	1.20%
STEP Holding	11,486	0.00%	0	(179)	11,665	0.00%
Cash Appropriation Acct	66,960,403	0.64%	0	176,497	66,783,906	0.67%
TOTAL FUND	\$10,498,934,084	100.0%	\$153,463,491	\$408,466,390	\$9,937,004,202	100.0%

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Total Fund Performance vs. Target

CAI Public Fund Sponsor - Large (>1B)



Note: Performance is shown gross-of-fees.

Current quarter Policy Target = 30.5% Russell 3000 Index, 30.5% MSCI ACWI ex US Index, 23% BB BC Aggregate Bond Index, 9% NFI ODCE Value Weight Index, 5% Russell 3000 Index and 2% Annualized 8% Return.

For the second quarter, the Fund outperformed the market benchmark and ranked in the 6th percentile of its peers. For the trailing one-year period, the Fund outperformed the Policy Target by 54 basis points, gross of investment management fees (24 basis points net of investment management fees) and ranked in the top 38 percent of its peer group.

International equity and fixed income contributed mostly to the Fund's outperformance for the quarter. The following is a brief synopsis of the contribution of each major asset class over the period (performance commentary relative to benchmarks is net of fees and performance commentary relative to peers is gross of fees):

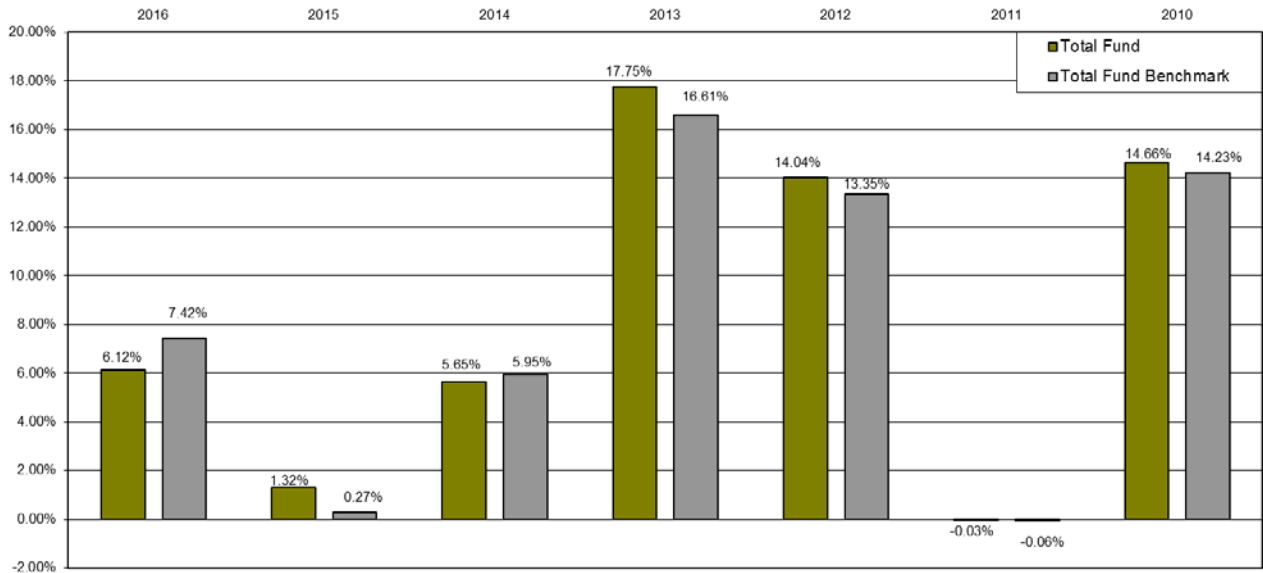
- International Equity:** The international equity composite outperformed its MSCI ACWI Ex-US IMI benchmark by 115 basis points for the second quarter, ranking in the 20th percentile of the peer group. Performance was mixed for the international equity managers over the quarter. Ernest Partners, Morgan Stanley, Strategic Global Advisors, William Blair International Small Cap, and Earnest Partners EME posted the strongest relative performance during the second quarter.
- Fixed Income:** The fixed income composite outperformed its market benchmark by 35 basis points for the quarter, ranking in the 20th percentile of its peers. WAMCO, Taplin, Canida &

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

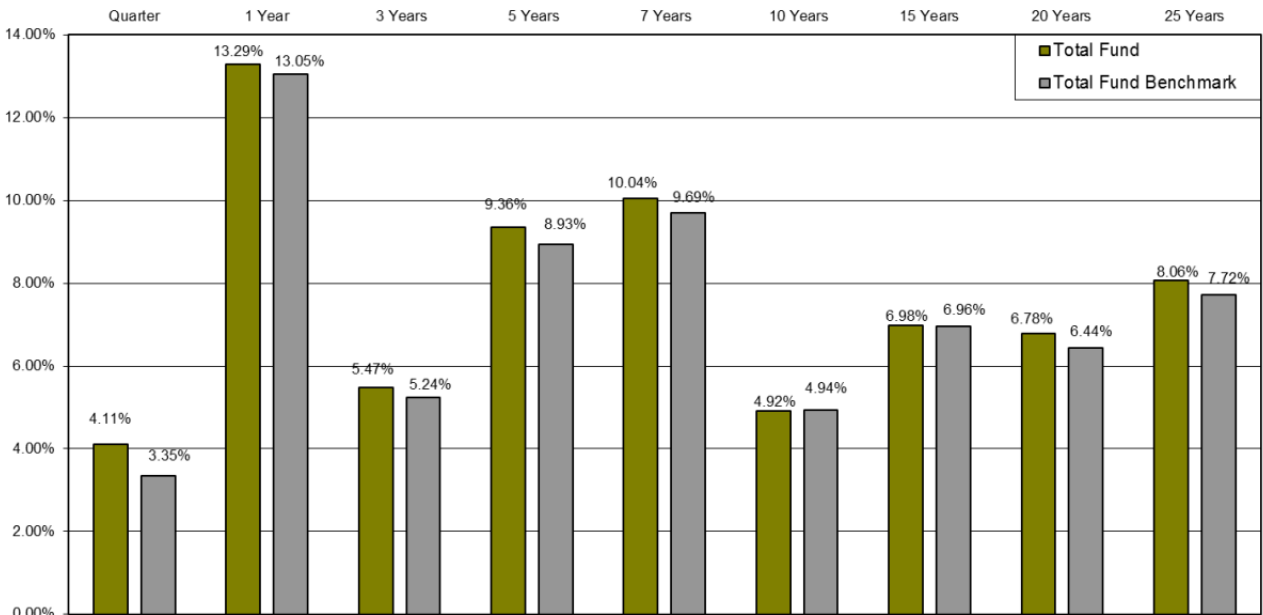
Habacht, Pugh, and LM Capital outperformed their market benchmarks. All of the active fixed income managers have outperformed the market index over the trailing five-year period.

- **Alternative Investments:** Private equity, real estate and infrastructure contributed to results over the quarter.

Total Fund Calendar Year Performance Net of Fees



Total Fund Trailing Year Performance Net of Fees



**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

MANAGER PERFORMANCE

Table 1 presents returns for the public market domestic and international equity and fixed income managers and composites in the Chicago Teacher Pension Fund relative to appropriate benchmarks on a net of fee basis. Managers highlighted in red are currently on the Watch List.

Table 1 (Net-of-Fees):

CTPF Investment Strategies	Net Investment Returns as of 6/30/2017						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Fixed Income								
Northern Trust Gov/ Credit Index Fund	1.69	-0.39	2.57	2.28	3.37	5.40	Jan-94	\$947m
Bloomberg Barclays Gov/Credit Index	1.69	-0.41	2.62	2.29	3.39	5.38		
Variance	0.00	0.02	-0.05	-0.01	-0.02	0.02		
Garcia Hamilton	1.32	-0.05	2.97	3.71	-	4.07	Oct-10	\$104m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	-	2.94		
Variance	-0.13	0.26	0.49	1.50	-	1.13		
LM Capital*	1.47	0.98	2.81	2.64	3.50	4.33	Nov-04	\$210m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	3.19	4.15		
Variance	0.02	1.29	0.33	0.43	0.31	0.18		
Pugh Capital Management	1.66	-0.17	2.48	2.40	-	3.18	Oct-10	\$168m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	-	2.94		
Variance	0.21	0.14	0.00	0.19	-	0.24		
Taplin, Canida & Habacht	1.65	2.46	2.50	2.98	4.06	4.14	Nov-04	\$123m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	3.19	4.15		
Variance	0.20	2.77	0.02	0.77	0.87	-0.01		
Western Asset Management	2.41	3.20	3.61	3.95	5.10	5.39	Feb-03	\$422m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	3.19	4.22		
Variance	0.96	3.51	1.13	1.74	1.91	1.17		

*LM mandate changed from Core Bond to Core Plus Bond as of 7/1/13. Peer group rankings are not applicable to the full track record given the change in mandates.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Table 1 (Net-of-Fees, Continued):

CTPF Investment Strategies	Net Investment Returns as of 6/30/2017						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Large Cap Equity								
Northern Trust S&P 500 Index Fund	3.08	17.90	9.68	14.65	15.46	9.71	Apr-90	\$501m
S&P 500 Index	3.09	17.90	9.61	14.63	15.41	9.78		
Variance	-0.01	0.00	0.07	0.02	0.05	-0.07		
Rhumbline Russell 1000 Index Fund	3.07	18.12	9.21	14.66	15.43	7.12	Jun-07	\$1,499m
Russell 1000 Index	3.06	18.03	9.26	14.67	15.43	7.02		
Variance	0.01	0.09	-0.05	-0.01	0.00	0.10		
Ivy	1.73	11.77	4.89	12.55	14.67	11.23	Jan-91	\$120m
Russell 1000 Index	3.06	18.03	9.26	14.67	15.43	10.30		
Variance	-1.33	-6.26	-4.37	-2.12	-0.76	0.93		
Holland Capital	5.67	18.78	9.26	13.38	14.90	9.45	Feb-94	\$277m
Russell 1000 Growth Index	4.67	20.42	11.11	15.30	16.48	8.86		
Variance	1.00	-1.64	-1.85	-1.92	-1.58	0.59		
Zevenbergen Capital Management	10.94	37.11	8.26	17.48	15.74	10.58	Oct-92	\$134m
Russell 3000 Growth Index	4.65	20.72	10.83	15.20	16.38	8.79		
Variance	6.29	16.39	-2.57	2.28	-0.64	1.79		
Channing*	0.75	20.29	5.33	14.77	14.70	14.90	Jul-09	\$132m
Channing Benchmark	1.29	16.21	7.32	13.89	14.51	16.22		
Variance	-0.54	4.08	-1.99	0.88	0.19	-1.32		
BMO Harris Investment Management	1.51	18.79	7.80	14.85	15.28	7.14	Jul-99	\$284m
Harris Benchmark**	1.34	15.53	7.36	13.94	14.31	5.06		
Variance	0.17	3.26	0.44	0.91	0.97	2.08		
Small Cap Equity								
Northern Trust Small Cap	2.84	22.55	8.28	14.80	15.85	12.33	Jan-91	\$157m
Russell 2000 Index	2.46	24.60	7.36	13.70	14.35	10.89		
Variance	0.38	-2.05	0.92	1.10	1.50	1.44		
Phocas Small Cap Value	-0.36	18.87	-	-	-	18.87	Jul-16	\$143m
Russell 2000 Value Index	0.67	24.86	-	-	-	24.86		
Variance	-1.03	-5.99	-	-	-	-5.99		
Manager of Managers								
Attucks***	4.54	15.66	4.63	--	--	6.23	Dec-13	\$223m
Custom Benchmark	3.79	17.21	4.60	--	--	5.92		
Variance	0.75	-1.55	0.03	--	--	0.31		

*Channing mandate changed from Mid Cap Value to All Cap Value as of 10/1/11. Channing Benchmark reflects Russell MC Value Index through 9/30/11 and Russell 3000 Value thereafter. Peer group rankings are not applicable to the full track record given the change in mandates.

**Harris benchmark reflects the S&P 500 from inception to 12/31/2002 and the Russell 1000 Value benchmark thereafter.

***In 4Q13, Attucks was transitioned from a domestic equity portfolio to a Best in Class portfolio.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Table 1 (Net-of-Fees, Continued):

CTPF Investment Strategies	Net Investment Returns as of 6/30/2017						Inception Date	Qtr-End MV
	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
FUND								
<i>International Equity</i>								
Ariel Investments	5.76	14.58	-	-	-	14.58	Jul-16	\$78m
MSCI EAFE Index	6.12	20.27	-	-	-	20.27		
Variance	-0.36	-5.69	-	-	-	-5.69		
EARNEST Partners	7.47	27.17	3.22	9.25	8.49	5.34	Apr-07	\$568m
MSCI ACWI ex-US Index	5.78	20.45	0.80	7.22	6.66	1.88		
Variance	1.69	6.72	2.42	2.03	1.83	3.46		
Lazard	5.44	13.33	1.12	8.21	8.45	5.69	Jan-01	\$574m
MSCI ACWI ex-US Index	5.78	20.45	0.80	7.22	6.66	4.61		
Variance	-0.34	-7.12	0.32	0.99	1.79	1.08		
Morgan Stanley	7.76	17.88	1.77	8.56	8.71	8.71	Apr-95	\$590m
MSCI EAFE Index	6.12	20.27	1.15	8.69	7.91	5.03		
Variance	1.64	-2.39	0.62	-0.13	0.80	3.68		
Strategic Global Advisors	7.35	20.20	-	-	-	20.20	Jul-16	\$77m
MSCI EAFE Index	6.12	20.27	-	-	-	20.27		
Variance	1.23	-0.07	-	-	-	-0.07		
William Blair Growth	7.23	17.20	2.51	9.08	8.82	8.34	Feb-10	\$571m
MSCI ACWI ex-US IMI Growth Index	7.48	17.35	2.71	8.25	7.64	6.50		
Variance	-0.25	-0.15	-0.20	0.83	1.18	1.84		
William Blair International Small Cap	8.58	16.89	3.88	10.46	10.40	4.22	Apr-07	\$190m
William Blair ISCE Benchmark*	6.95	17.17	3.78	9.77	9.00	2.54		
Variance	1.63	-0.28	0.10	0.69	1.40	1.68		
Dimensional Fund Advisors	6.33	28.60	4.15	13.73	--	14.57	Jun-12	\$182m
MSCI World Small Cap ex-US	7.28	21.26	4.02	11.43	--	11.98		
Variance	-0.95	7.34	0.13	2.30	--	2.59		
EARNEST Partners Emerging Markets	7.69	24.41	2.49	--	--	1.84	Mar-13	\$173m
MSCI Emerging Markets Index	6.27	23.75	1.07	--	--	1.49		
Variance	1.42	0.66	1.42	--	--	0.35		
<i>International Manager of Managers</i>								
Leading Edge	5.04	19.37	1.87	8.91	7.63	5.39	Apr-10	\$125m
MSCI ACWI ex-US Index	5.78	20.45	0.80	7.22	6.66	4.49		
Variance	-0.74	-1.08	1.07	1.69	0.97	0.90		

* The William Blair ISCE benchmark is comprised of the MSCI ACWI ex US Small Cap Index through 5/31/12 and the MSCI ACWI ex US Small Cap Growth Index thereafter.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Table 1 (Net-of-Fees, Continued):

CTPF Investment Strategies	Net Investment Returns as of 6/30/2017						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Infrastructure								
Infrastructure Composite	4.69	6.12	2.39	4.77	5.61	5.23	Nov-08	\$244m
8% Annualized Return	1.94	8.00	8.00	8.00	8.00	8.00		
Variance	2.75	-1.88	-5.61	-3.23	-2.39	-2.77		
Real Estate								
Real Estate Composite	1.84	5.98	11.26	10.84	11.62	7.32	Jan-02	\$744m
NFI-ODCE Value Weight	1.47	6.90	10.33	10.76	12.03	7.12		
Variance	0.37	-0.92	0.93	0.08	-0.41	0.20		
Private Equity								
Private Equity Composite	8.75	15.32	10.40	11.13	11.75	8.67	Jan-02	\$284m
Russell 3000 Index	3.02	18.51	9.10	14.58	15.34	7.46		
Variance	5.73	-3.19	1.30	-3.45	-3.59	1.21		

Note: Private market investments shown above are typically reported on a one quarter lag. Private Equity returns are, at times, reported on a longer lag. CTPF Private Equity data is reported for Q3 2016 and the benchmark represents Q4 2016. Comments on Infrastructure, REITS and Real Estate and covered in the quarterly Real Estate Report. Private Equity is discussed in the quarterly Private Equity Report.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

MANAGER PERFORMANCE

Table 1 presents returns for the public market domestic and international equity and fixed income managers and composites in the Chicago Teacher Pension Fund relative to appropriate benchmarks on a gross of fee basis. Managers highlighted in red are currently on the Watch List.

Table 2 (Gross-of-Fees):

CTPF Investment Strategies	Gross Investment Returns as of 6/30/2017						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Fixed Income								
Northern Trust Gov/ Credit Index Fund	1.69	-0.37	2.59	2.29	3.38	5.41	Jan-94	\$947m
Bloomberg Barclays Gov/Credit Index	1.69	-0.41	2.62	2.29	3.39	5.38		
Variance	0.00	0.04	-0.03	0.00	-0.01	0.03		
Peer Ranking – CAI Core Bond	20	88	82	94	88			
Garcia Hamilton	1.37	0.15	3.17	3.92	-	4.27	Oct-10	\$104m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	-	2.94		
Variance	-0.08	0.46	0.69	1.71	-	1.33		
Peer Ranking – CAI Core Bond	83	66	19	1	-			
LM Capital*	1.51	1.14	2.97	2.81	3.67	4.52	Nov-04	\$210m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	3.19	4.15		
Variance	0.06	1.45	0.49	0.60	0.48	0.37		
Peer Ranking - CAI Core Plus Bond	87	80	51	97	100			
Pugh Capital Management	1.70	-0.01	2.63	2.58	-	3.36	Oct-10	\$168m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	-	2.94		
Variance	0.25	0.30	0.15	0.37	-	0.42		
Peer Ranking - CAI Core Bond	20	74	80	63	-			
Taplin, Canida & Habacht	1.68	2.61	2.66	3.13	4.22	4.30	Nov-04	\$123m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	3.19	4.15		
Variance	0.23	2.92	0.18	0.92	1.03	0.15		
Peer Ranking - CAI Core Bond	20	2	79	24	20			
Western Asset Management	2.45	3.39	3.80	4.15	5.29	5.58	Feb-03	\$422m
Bloomberg Barclays Aggregate Index	1.45	-0.31	2.48	2.21	3.19	4.22		
Variance	1.00	3.70	1.32	1.94	2.10	1.36		
Peer Ranking - CAI Core Plus Bond	4	15	7	15	16			

*LM mandate changed from Core Bond to Core Plus Bond as of 7/1/13. Peer group rankings are not applicable to the full track record given the change in mandates.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Table 2 (Gross-of-Fees, Continued):

CTPF Investment Strategies	Gross Investment Returns as of 6/30/2017						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Large Cap Equity								
Northern Trust S&P 500 Index Fund	3.09	17.91	9.69	14.66	15.46	9.72	Apr-90	\$501m
S&P 500 Index	3.09	17.90	9.61	14.63	15.41	9.78		
Variance	0.00	0.01	0.08	0.03	0.05	-0.06		
Peer Ranking – CAI Large Cap	50	61	37	47	42			
Rhumbline Russell 1000 Index Fund	3.07	18.13	9.22	14.67	15.44	7.13	Jun-07	\$1,499m
Russell 1000 Index	3.06	18.03	9.26	14.67	15.43	7.02		
Variance	0.01	0.10	-0.04	0.00	0.01	0.11		
Peer Ranking – CAI Large Cap	50	59	44	47	43			
Ivy	1.79	12.02	5.10	12.78	14.89	11.45	Jan-91	\$120m
Russell 1000 Index	3.06	18.03	9.26	14.67	15.43	10.30		
Variance	-1.27	-6.01	-4.16	-1.89	-0.54	1.15		
Peer Ranking - CAI Large Cap Core	88	99	99	90	60			
Holland Capital	5.75	19.16	9.62	13.76	15.27	9.83	Feb-94	\$277m
Russell 1000 Growth Index	4.67	20.42	11.11	15.30	16.48	8.86		
Variance	1.08	-1.26	-1.49	-1.54	-1.21	0.97		
Peer Ranking - CAI Large Cap Growth	37	63	68	80	68			
Zevenbergen Capital Management	11.05	37.62	8.68	17.95	16.20	11.02	Oct-92	\$134m
Russell 3000 Growth Index	4.65	20.72	10.83	15.20	16.38	8.79		
Variance	6.40	16.90	-2.15	2.75	-0.18	2.23		
Peer Ranking - CAI All Cap	5	4	41	3	24			
Channing*	0.87	20.85	5.84	15.31	15.28	15.49	Jul-09	\$132m
Channing Benchmark	1.29	16.21	7.32	13.89	14.51	16.22		
Variance	-0.42	4.64	-1.48	1.42	0.77	-0.73		
Peer Ranking – CAI All Cap Value	72	51	63	27	23			
BMO Harris Investment Management	1.57	19.06	8.04	15.10	15.53	7.42	Jul-99	\$284m
Harris Benchmark**	1.34	15.53	7.36	13.94	14.31	5.06		
Variance	0.23	3.53	0.68	1.16	1.22	2.36		
Peer Ranking - CAI Large Cap Value	62	38	36	24	22			
Small Cap Equity								
Northern Trust Small Cap	2.88	22.71	8.38	14.88	15.91	12.42	Jan-91	\$157m
Russell 2000 Index	2.46	24.60	7.36	13.70	14.35	10.89		
Variance	0.42	-1.89	1.02	1.18	1.56	1.53		
Peer Ranking - CAI Small Cap	23	42	51	56	49			
Phocas Small Cap Value	-0.15	19.56	-	-	-	19.56	Jul-16	\$143m
Russell 2000 Value Index	0.67	24.86	-	-	-	24.86		
Variance	-0.82	-5.30	-	-	-	-5.30		
Peer Ranking - CAI Small Cap Value	67	84	-	-	-			
Manager of Managers								
Attucks***	4.69	16.33	5.20	--	--	6.82	Dec-13	\$223m
Custom Benchmark	3.79	17.21	4.60	--	--	5.92		
Variance	0.90	-0.88	0.60	--	--			

*Channing mandate changed from Mid Cap Value to All Cap Value as of 10/1/11. Channing Benchmark reflects Russell MC Value Index through 9/30/11 and Russell 3000 Value thereafter. Peer group rankings are not applicable to the full track record given the change in mandates.

**Harris benchmark reflects the S&P 500 from inception to 12/31/2002 and the Russell 1000 Value benchmark thereafter.

***In 4Q13, Attucks was transitioned from a domestic equity portfolio to a Best in Class portfolio.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Table 2 (Gross-of-Fees, Continued):

CTPF Investment Strategies	Gross Investment Returns as of 6/30/2017						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
International Equity								
Ariel Investments	5.93	15.17	-	-	-	15.17	Jul-16	\$78m
MSCI EAFE Index	6.12	20.27	-	-	-	20.27		
Variance	-0.19	-5.10	-	-	-	-5.10		
Peer Ranking - CAI Non-US Equity	80	90	-	-	-			
EARNEST Partners	7.57	27.67	3.64	9.69	8.93	5.85	Apr-07	\$568m
MSCI ACWI ex-US Index	5.78	20.45	0.80	7.22	6.66	1.88		
Variance	1.79	7.22	2.84	2.47	2.27	3.97		
Peer Ranking - CAI Non-US Equity	31	5	32	45	52			
Lazard	5.48	13.52	1.29	8.39	8.64	6.06	Jan-01	\$574m
MSCI ACWI ex-US Index	5.78	20.45	0.80	7.22	6.66	4.61		
Variance	-0.30	-6.93	0.49	1.17	1.98	1.45		
Peer Ranking - CAI Non-US Equity	86	96	77	79	62			
Morgan Stanley	7.86	18.37	2.23	9.03	9.18	9.17	Apr-95	\$590m
MSCI EAFE Index	6.12	20.27	1.15	8.69	7.91	5.03		
Variance	1.74	-1.90	1.08	0.34	1.27	4.14		
Peer Ranking - CAI Non-US Equity	27	72	57	63	46			
Strategic Global Advisors	7.48	20.64	-	-	-	20.64	Jul-16	\$77m
MSCI EAFE Index	6.12	20.27	-	-	-	20.27		
Variance	1.36	0.37	-	-	-	0.37		
Peer Ranking - CAI Non-US Equity	33	54	-	-	-			
William Blair Growth	7.32	17.61	2.88	9.47	9.23	8.75	Feb-10	\$571m
MSCI ACWI ex-US IMI Growth Index	7.48	17.35	2.71	8.25	7.64	6.50		
Variance	-0.16	0.26	0.17	1.22	1.59	2.25		
Peer Ranking - CAI Core Growth Int'l Equity	61	68	66	48	49			
William Blair International Small Cap	8.79	17.87	4.76	11.41	11.33	5.23	Apr-07	\$190m
William Blair ISCE Benchmark*	6.95	17.17	3.78	9.77	9.00	2.54		
Variance	1.84	0.70	0.98	1.64	2.33	2.69		
Peer Ranking - CAI Int'l Small Cap Equity	44	81	73	82	78			
Dimensional Fund Advisors	6.33	28.60	4.15	13.87	--	14.71	Jun-12	\$182m
MSCI World Small Cap ex-US	7.28	21.26	4.02	11.43	--	11.98		
Variance	-0.95	7.34	0.13	2.44	--	2.73		
Peer Ranking - CAI Int'l Small Cap Equity	91	11	82	56	--			
EARNEST Partners Emerging Markets	7.82	25.04	3.02	--	--	2.35	Mar-13	\$173m
MSCI Emerging Markets Index	6.27	23.75	1.07	--	--	1.49		
Variance	1.55	1.29	1.95	--	--	0.86		
Peer Ranking - CAI EM Equity	20	38	38	--	--			
International Manager of Managers								
Leading Edge	5.24	20.30	2.65	9.76	8.47	6.22	Apr-10	\$125m
MSCI ACWI ex-US Index	5.78	20.45	0.80	7.22	6.66	4.49		
Variance	-0.54	-0.15	1.85	2.54	1.81	1.73		
Peer Ranking - CAI Non-US Equity	90	57	49	43	67			

* The William Blair ISCE benchmark is comprised of the MSCI ACWI ex US Small Cap Index through 5/31/12 and the MSCI ACWI ex US Small Cap Growth Index thereafter.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Table 2 (Gross-of-Fees, Continued):

CTPF Investment Strategies	Gross Investment Returns as of 6/30/2017						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Infrastructure								
Infrastructure Composite	4.83	6.78	2.99	5.39	6.27	5.76	Nov-08	\$244m
8% Annualized Return	1.94	8.00	8.00	8.00	8.00	8.00		
Variance	2.89	-1.22	-5.01	-2.61	-1.73	-2.24		
Real Estate								
Real Estate Composite	2.11	6.73	12.06	11.63	12.34	7.77	Jan-02	\$744m
NFI-ODCE Value Weight	1.47	6.90	10.33	10.76	12.03	7.12		
Variance	0.64	-0.17	1.73	0.87	0.31	0.65		
Private Equity								
Private Equity Composite	8.84	15.77	10.62	11.35	11.91	8.75	Jan-02	\$284m
Russell 3000 Index	3.02	18.51	9.10	14.58	15.34	7.46		
Variance	5.82	-2.74	1.52	-3.23	-3.43	1.29		

Note: Private market investments shown above are typically reported on a one quarter lag. Private Equity returns are, at times, reported on a longer lag. CTPF Private Equity data is reported for Q3 2016 and the benchmark represents Q4 2016. Comments on Infrastructure, REITS and Real Estate and covered in the quarterly Real Estate Report. Private Equity is discussed in the quarterly Private Equity Report.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

MANAGER COMMENTARIES

Please note that performance commentary relative to a managers' market benchmark is expressed on a net of fee basis. Performance commentary relative to the managers' peer group rankings is based on gross of fees performance (peer group data is only available gross of fees).

Domestic Equity Manager Commentary

- Ivy's long-term performance is below the benchmark and below the Watch List criteria. The portfolio underperformed the Russell 1000 Index for the quarter and ranked in the 88th percentile among their peers. The one-, three-, five-, and seven-year returns also lagged the benchmark; however, the portfolio continues to show favorable results since inception. Ivy's underperformance for the quarter was driven by the strategy's overweight and poor performance within energy. Poor security selection within the consumer discretionary and consumer staples sectors also hurt performance over the quarter.
- Holland outperformed the Russell 1000 Growth Index in the second quarter and ranked in the 37th percentile in the large cap growth equity peer group. Holland's positive stock selection in the consumer staples, producer durables, and health care sectors contributed to quarterly outperformance. Holland's one-, three-, five-, and seven-year performance is challenged relative to the Russell 1000 Growth Index and peer group median. Since inception, Holland has outperformed the market index.
- Zevenbergen, the Fund's all-cap growth manager, outperformed the Russell 3000 Growth Index by 629 basis points this quarter and ranked in the 5th percentile in its peer group. All the sectors in the portfolio generated excess returns over the quarter, with consumer discretionary (electric vehicles), health care (molecular diagnostics, biotechnology) and producer durables (transport logistics) providing the largest performance contribution. Since inception, returns continue to be favorable compared to the Russell 3000 Growth Index.
- Channing, the Fund's all-cap value manager, underperformed the index and ranked in the 72nd percentile among its peers for the quarter. Channing's underperformance for the second quarter relative to the benchmark mostly came from energy, industrials, healthcare, and real estate stocks. Performance over longer time periods is mixed relative to the index.
- BMO Harris outperformed the market index in the second quarter and ranked in the 62nd percentile among its peers. The Strategy's underweights in telecommunication services and energy added to performance. Performance over five- and seven-year time periods continues to be attractive relative to the benchmark.
- The Northern Trust Small Cap Fund outperformed the Russell 2000 Index for the quarter and ranked in the 23rd percentile in its peer group. Strong stock selection in the energy and healthcare sectors contributed most to relative quarterly performance. The Fund has outperformed the market benchmark over the trailing three-, five-, and seven-year time periods.
- Phocas underperformed the Russell 2000 Value Index in the second quarter and ranked in the 67th percentile in its peer group. Weak performance in the consumer discretionary, industrials, healthcare, and technology sectors detracted from relative quarterly performance. The Ariel Small Cap Value strategy was transitioned to Phocas in June 2016.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

International Equity Manager Commentary

- Ariel underperformed its MSCI EAFE benchmark in the second quarter, but outperformed its MSCI EAFE Value benchmark. The strategy ranked in the 63rd percentile among peers over the quarter. Weak performance in the consumer staples, healthcare, and consumer discretionary sectors detracted from relative quarterly performance. Ariel was added to the international equity lineup in July 2016.
- EARNEST Partners outperformed its benchmark in the second quarter and ranked in the 31st percentile in its peer group. Overweight positions in Emerging Markets and Europe boosted relative performance over the quarter. Performance continues to be favorable relative to the market index over the five-year period, seven-year period, and since inception.
- Lazard underperformed the MSCI ACWI ex US index in the quarter and ranked in the 86th percentile in its peer group. Performance is strong relative to the market benchmark and weak relative to the peer group median over the long term.
- Morgan Stanley outperformed the MSCI EAFE Index in the second quarter and ranked in the 27th percentile in its peer group. Morgan Stanley's long term performance is mixed relative to the market benchmark and peer group median.
- Strategic Global Advisors outperformed its benchmark and ranked in the 33rd percentile among peers over the second quarter. Strategic Global Advisors outperformed its benchmark over the first quarter of 2017 and underperformed its benchmark over the fourth quarter of 2016. Since inception returns are slightly below the benchmark. Strategic Global Advisors was added to the lineup in July 2016.
- During the second quarter, William Blair International Growth underperformed its benchmark index and ranked in the 61st percentile in its peer group. The portfolio exhibits mixed results relative to the market benchmark and peer group median over longer periods measured.
- William Blair International Small Cap outperformed its benchmark index and ranked in the 44th percentile in its peer group for the quarter. Over the long term, performance is strong relative to the market benchmark and weak relative to the peer group median.
- International MWBDE manager-of-managers, Leading Edge, underperformed the MSCI ACWI ex US Index for the quarter and ranked below median in its peer group at the 90th percentile. Long-term performance is above the MSCI ACWI ex-US Index and mixed relative to the peer group median.
- Dimensional Fund Advisors (DFA) underperformed the MSCI World Small Cap ex US Index and ranked in the 91st percentile in its peer group for the quarter. The strategy's since inception performance continues to be favorable relative to the market benchmark.
- EARNEST Partners EME outperformed the MSCI Emerging Markets Index in the second quarter and ranked in the 20th percentile in its peer group. The portfolio's underweight to the Middle East and 0% exposure to Russia contributed to relative performance over the quarter. EARNEST Partner's long term performance is strong relative to the market benchmark and ranks above the peer group median.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Fixed Income Manager Commentary

- Taplin, Canida & Habacht outperformed the Bloomberg Barclay's Aggregate Bond Index and ranked in the 20th percentile of its peer group for the second quarter. An overweight to the credit sector contributed to relative performance over the quarter. Performance is strong relative to the market benchmark and mixed relative to the peer group median over the long term.
- Western Asset Management outperformed the Bloomberg Barclays Capital Aggregate Index for the quarter, and ranked in the 4th percentile in its peer group. The strategy has registered strong performance compared to the benchmark and peers over longer time periods.
- Pugh outperformed the Bloomberg Barclays Capital Aggregate Index and ranked in the 20th percentile in its peer group for the quarter. The strategy's long term performance is strong compared to the Bloomberg Barclay's Aggregate Index, but challenged compared to the median member of the Core Bond peer group.
- Garcia Hamilton underperformed the Bloomberg Barclays Capital Aggregate Bond Index in the second quarter and ranked in the 83rd percentile in its peer group. The strategy's performance is very favorable as compared to the benchmark and peer group over the trailing three and five year periods.
- LM Capital outperformed the Bloomberg Barclays Capital Aggregate Bond Index and ranked in the 87th percentile in the Core Plus Bond peer group for the quarter. Long term performance is above the market benchmark but ranks below median relative to the peer group median.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Manager Watch List

MANAGER	DATE WATCH STARTED, REASON	LAST DUE DILIGENCE MEETING	ACTIONS TAKEN	POLICY/ RECOMMENDED ACTIONS	AUM as of 6/30/2017	Current Quarter Watch List Score	Previous Quarter Watch List Score
Ivy	February – 16 Performance	March - 17	Monitor	Monitor	\$120 mil.	1.0	0.8
Holland	August – 14 Performance	March - 17	Monitor	Monitor	\$277 mil.	0.6	0.7
Zevenbergen	December – 16 Performance	Jan - 17	Monitor	Monitor	\$134 mil.	0.4	0.7
LM Capital	March - 17 Personnel Turnover	March - 17	Monitor	Monitor	\$210 mil.	0.3	0.2

Policy/Recommended Actions Legend

Remove = Policy action taken due to IPS guidelines. Remove manager from the watch list as performance improves.

Termination = Recommended action for the Board

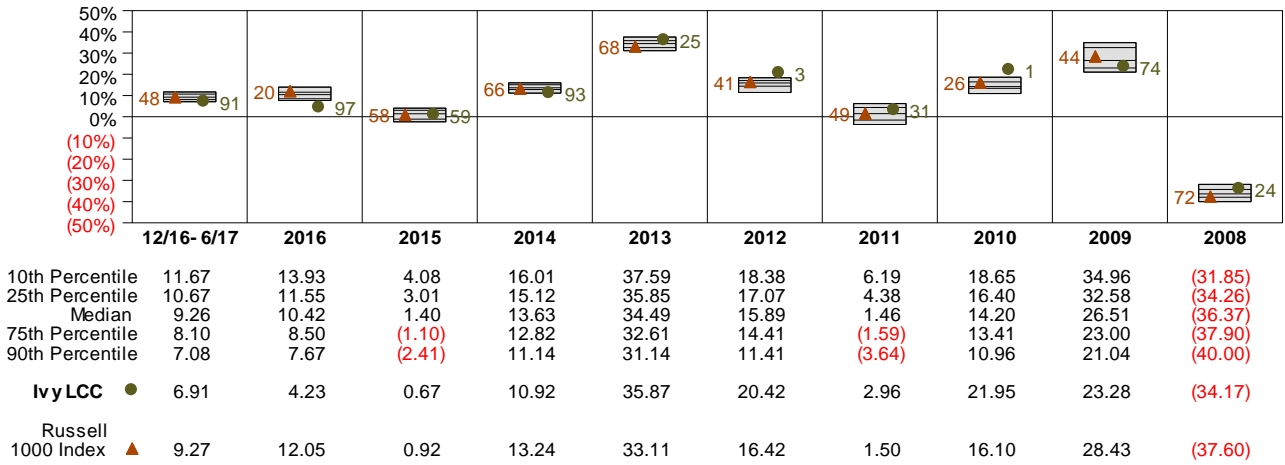
Monitor = Recommended action for the Board

Search = Board authorized a manager search

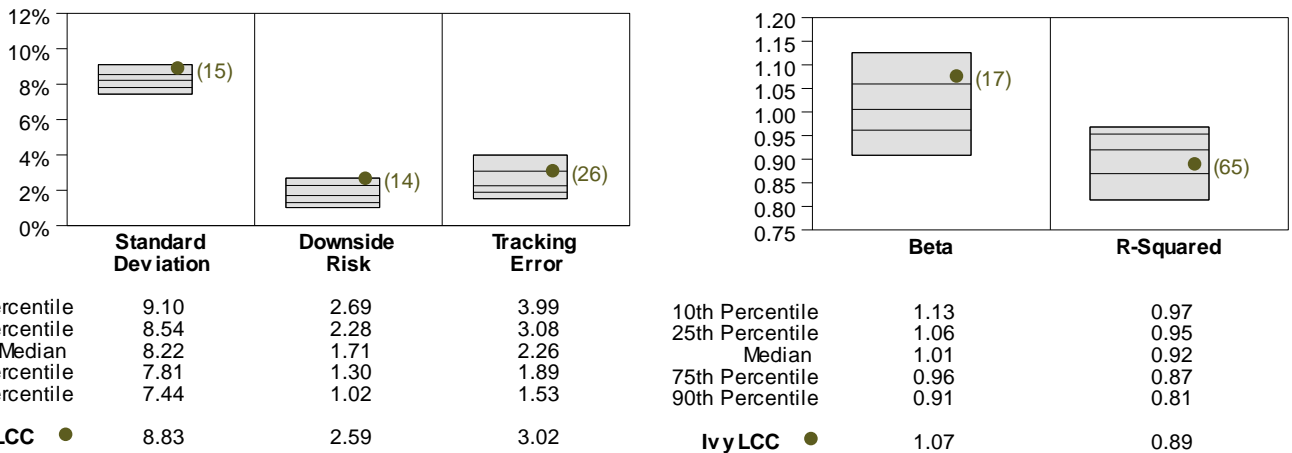
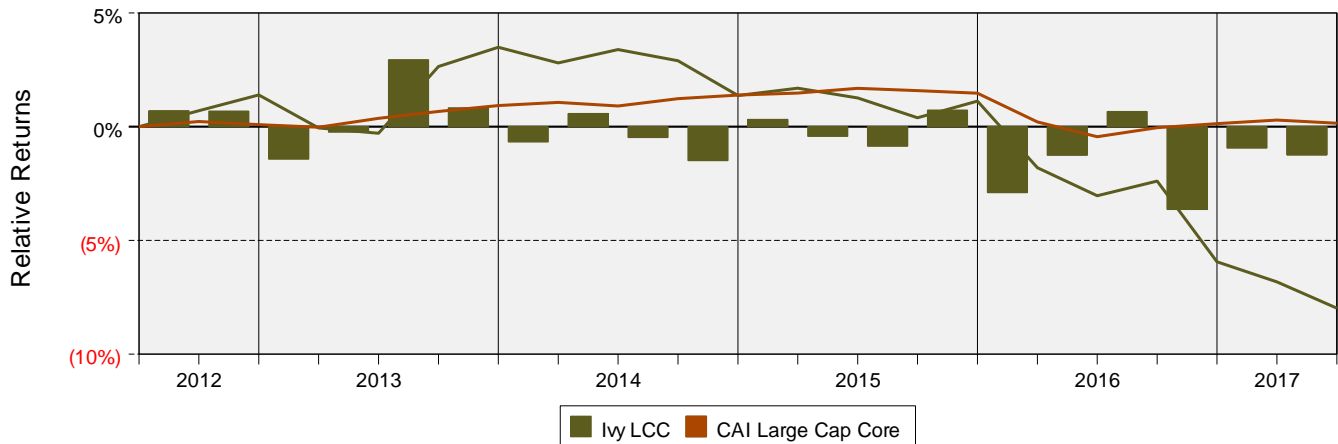
**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Manager Watch List: Ivy

Performance vs CAI Large Cap Core (Gross)



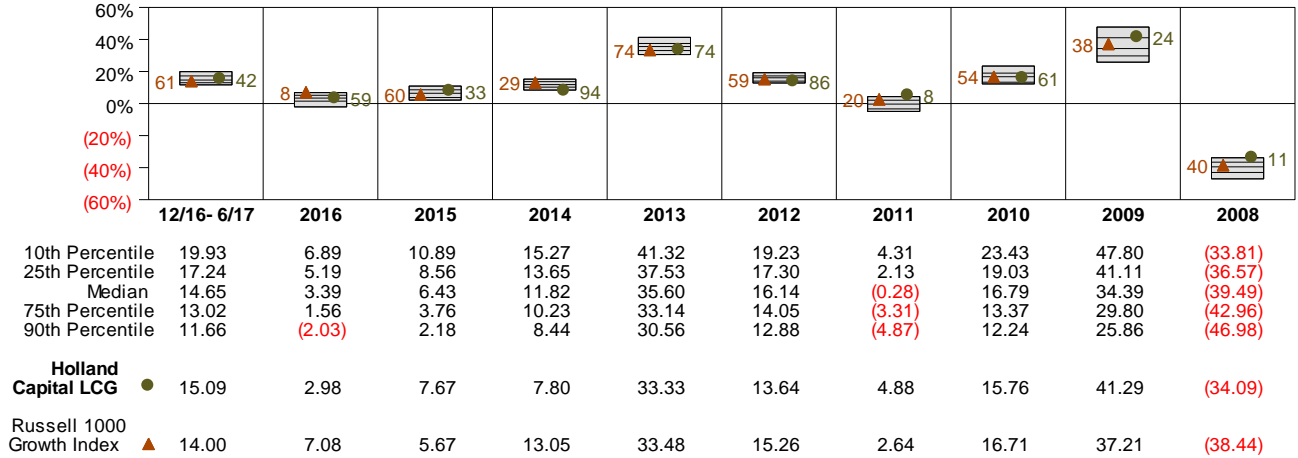
Cumulative and Quarterly Relative Return vs Russell 1000 Index



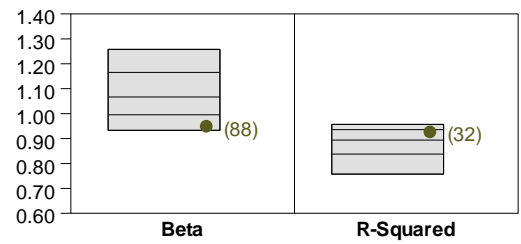
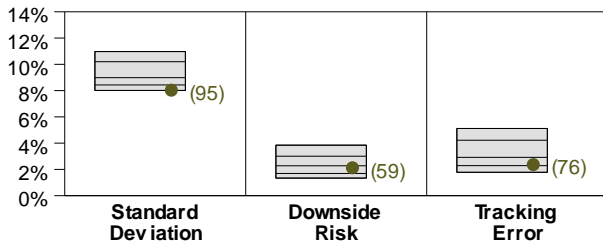
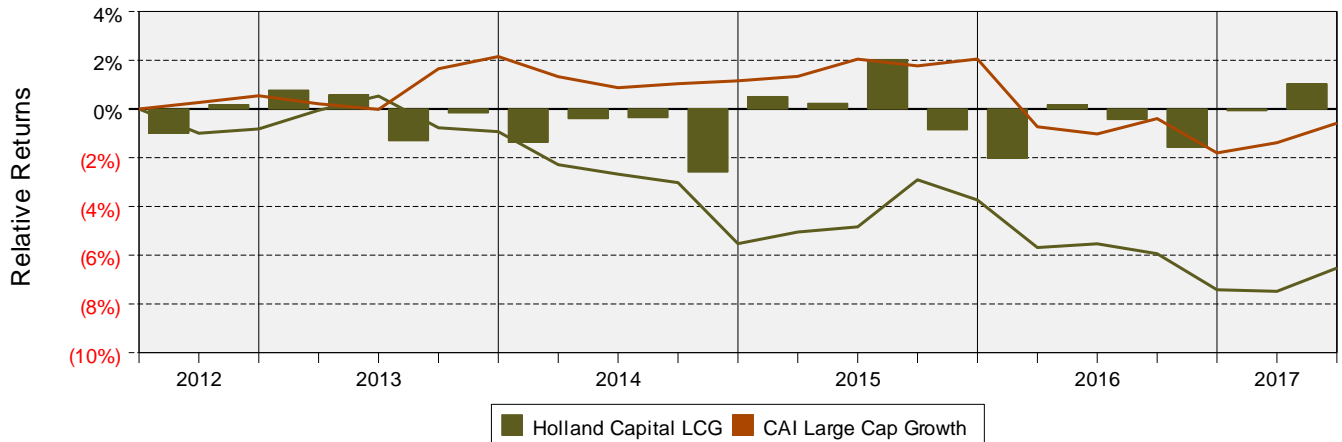
**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Manager Watch List: Holland

Performance vs CAI Large Cap Growth (Gross)



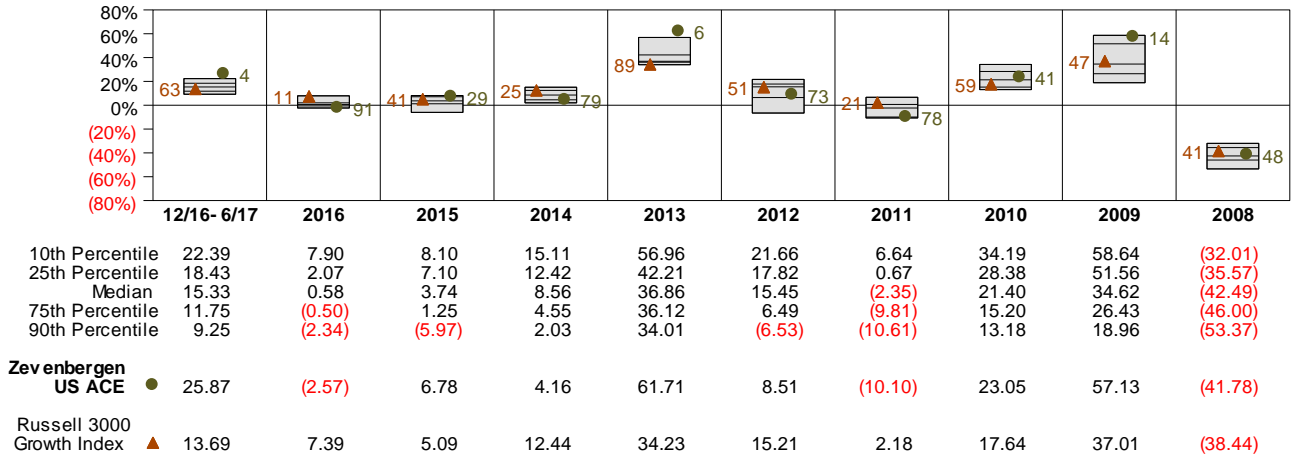
Cumulative and Quarterly Relative Return vs Russell 1000 Growth Index



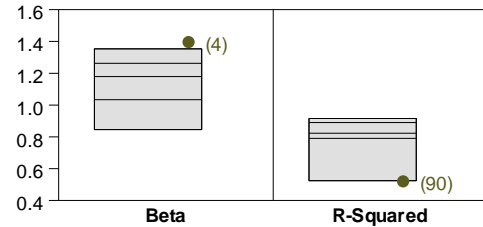
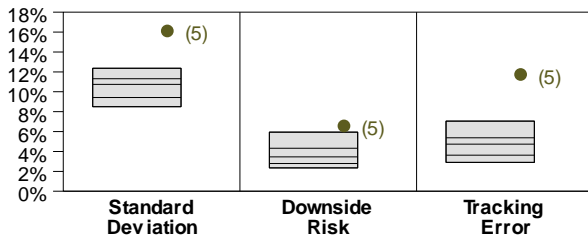
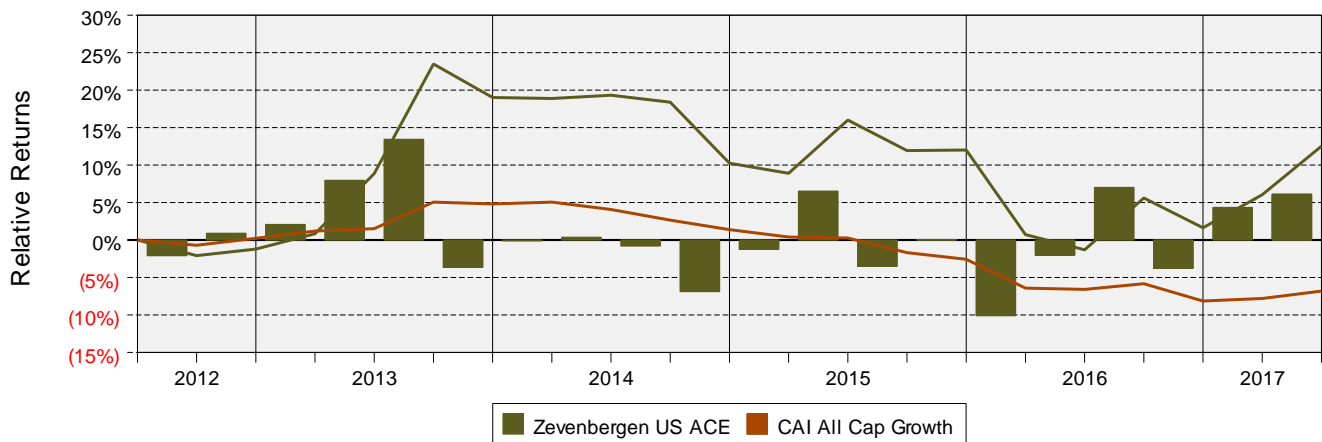
**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Manager Watch List: Zevenbergen

Performance vs CAI All Cap Growth (Gross)



Cumulative and Quarterly Relative Return vs Russell 3000 Growth Index

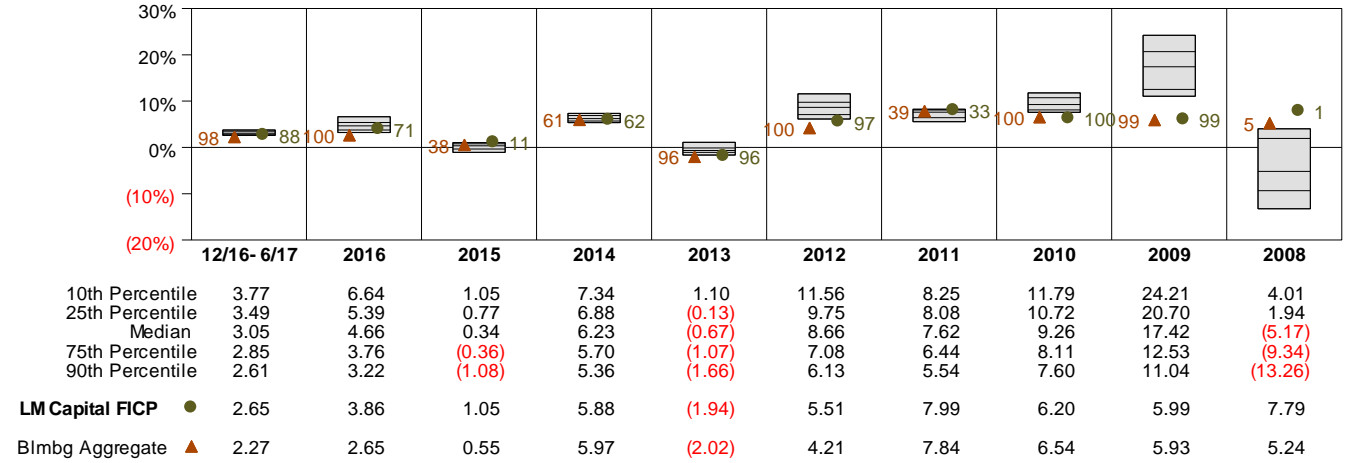


10th Percentile	12.36	5.95	7.06	10th Percentile	1.35	0.92
25th Percentile	11.32	4.33	5.37	25th Percentile	1.26	0.89
Median	10.75	3.46	4.74	Median	1.18	0.82
75th Percentile	9.43	2.79	3.63	75th Percentile	1.03	0.79
90th Percentile	8.50	2.34	2.91	90th Percentile	0.85	0.52
Zevenbergen US ACE	● 15.97	6.44	11.59	Zevenbergen US ACE	● 1.39	0.51

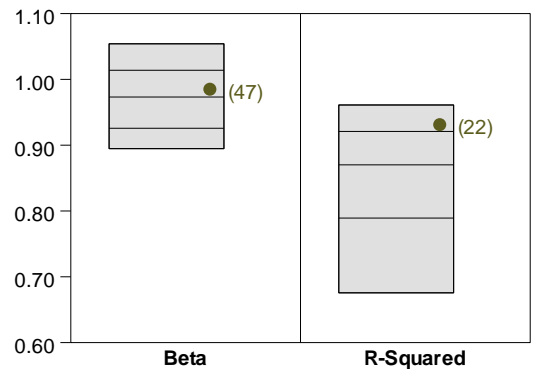
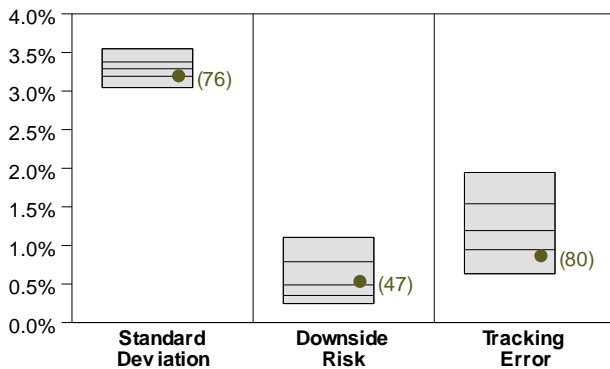
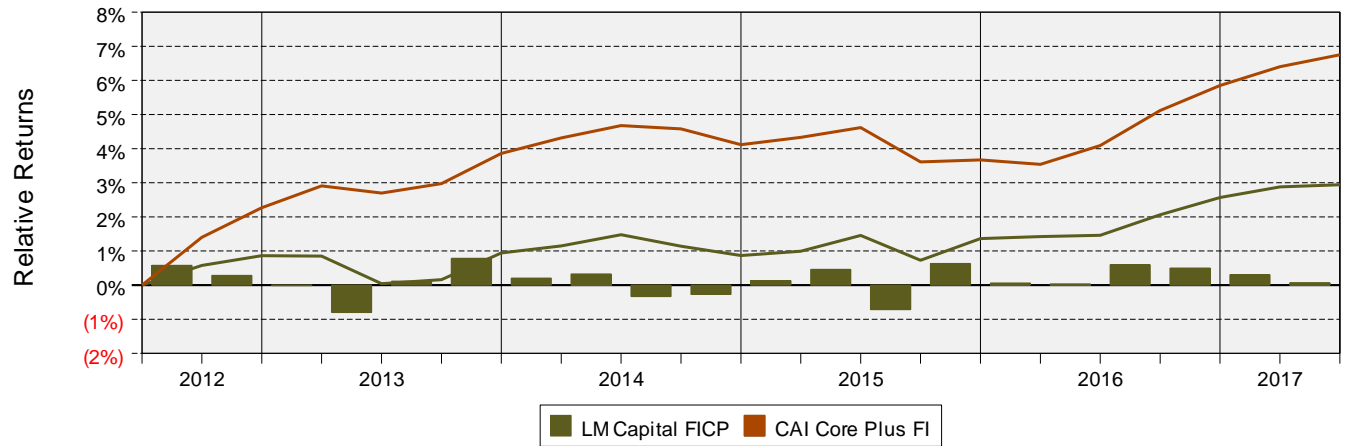
**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Manager Watch List: LM Capital

Performance vs CAI Core Plus Fixed Income (Gross)



Cumulative and Quarterly Relative Return vs Blmbg Aggregate



**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

General Market and Economic Conditions

While the U.S. entered its 96th month of expansion, economic data was uninspiring. Second quarter GDP growth came in at 2.6%, roughly in line with expectations. The solid (if unspectacular) figure built on the upward revision to disappointing data in the first quarter, which was adjusted up from 0.7% to 1.2%. After a strong 2016, light vehicle sales were down nearly 2% in June (year-over-year) with passenger car sales off 13% over the past year. Pending home sales and housing starts were also softer going into quarter-end, but the median price of a new home jumped 17% year-over-year to a record \$345,800. While unemployment fell to a 15-year low of 4.3% in May, settling at 4.4% in June. A declining workforce participation rate continues to play a role in the unemployment rate. Consumer spending continues to be a driver of growth, but its pace of growth has also slowed. Expectations for 2017 U.S. GDP growth were cut by the International Monetary Fund from 2.3% to 2.1% in response to lowered expectations for fiscal stimulus, including tax reform. Inflation remained stubbornly low. Headline CPI was 1.6% as of June (year-over-year) while Core was 1.7%. The Fed's favored measure, the PCE price index, gained 1.4% (year-over-year) still below the 2% target. While growth appears to have moderated, the Fed believes that the upward trajectory is intact and consequently raised the Fed Funds rate by 25 bps, as markets expected, to 1.0% - 1.25%. Markets are currently divided as to whether we will see another hike this year. More significantly, however, was the Fed's announcement that it will begin to reduce the size of its \$4.5 trillion balance sheet. While timing remains uncertain, the Fed made clear the process by which it intends to begin the tapering process. It will begin to allow U.S. Treasuries and mortgages to mature each month, up to a set amount, or cap, that will rise over time. Proceeds from maturities in amounts over the cap will continue to be reinvested. This approach is both more moderate and more transparent than investors expected and while the timing is uncertain, markets were unfazed.

A number of notable events occurred overseas on the political front. Populism appeared to lose favor as both the Netherlands and France declared centrist victories - Italy is up next with its election in spring of 2018. In the U.K., a surprising result came out of the snap election called by Prime Minister Theresa May; her Conservative Party lost its majority in the House of Commons, thus increasing the likelihood of a "softer" Brexit. First quarter GDP growth was 2.3% (annualized) for the euro zone, exceeding expectations and the best in two years. Unemployment dropped to 9.3%, the lowest since 2009. The European Central Bank kept rates unchanged, but it also removed language that suggested rates would continue to decline. Comments in late June by ECB President Mario Draghi hinted at a normalization/reduction of bond buying caused yields to rise; markets have priced in a near 100% probability of an ECB rate hike over the next twelve months. The euro and the pound strengthened significantly versus the U.S. dollar over the course of the quarter, up about 7% and 4%, respectively, on mixed economic data and uncertainty over the political climate. Inflation in the U.K. hit a four-year high of 2.9% (year-over-year) in May, leading to hawkish rhetoric from the Bank of England's chief economist. The post-Brexit decline in the pound has been a key culprit in rising inflation. Japan's first quarter GDP growth was 1.3% (annualized). While lower than expected it was the fifth quarter of economic expansion, the longest in more than a decade, and above Japan's long-range potential of roughly 0.7%. China exceeded expectations with a 6.9% annual growth pace in the first quarter and, more recently, unexpectedly strong manufacturing data.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Second Quarter 2017 Market Performance

In the U.S., pro-growth initiatives such as tax reform and infrastructure investment failed to materialize, and repeal/replacement of the Affordable Health Care Act has also stalled. Instead, Russia's alleged influence over the Presidential election and multiple corresponding investigations took center stage during the quarter. However, investors shrugged off political drama choosing instead to focus on climbing after-tax corporate profits. S&P 500 companies reported the strongest quarterly earnings growth in six years with more than 75% reporting earnings above expectations. The S&P 500 Index gained 3.1% in the second quarter as the bull market reached its 99th month, nearly twice as long as the historical average of 54 months. Year-to-date, the Index is up 9.3%. Apple was added to "FANG" – now "FAANG" as this technology collective continue to fuel results in the large cap growth space. Technology stocks now comprise 22% of the S&P 500 Index and 36% of the Russell Growth Index. Growth stocks continued to solidly outperform Value (R1000G: +4.7% vs. R1000V: +1.3%). Along with Technology (+4.1%), Health Care (+7.1%) and Industrials (+4.7%) were strong performers. Large caps outperformed small caps across styles, but by a smaller margin (R1000: +3.1% vs. R2000: +2.5%). Telecomm, which includes only four companies (AT&T, Verizon, CenturyLink and Level3), sank 7% with AT&T and Verizon down over 8%. Energy returned -6.4% on falling oil prices. Financials got a June boost from the Fed's announcement that 34 of the largest U.S. banks had passed their stress tests; the sector was up 4.2% for the quarter. Overseas, the MSCI EAFE Index (+6.1%) outperformed U.S. markets, bringing year-to-date returns to 13.8%. Gains were broad-based, though helped by U.S. dollar weakness. Within the MSCI, Europe ex-U.K. was up 8.4%, the U.K. gained 4.7% and Japan returned +5.2%. Emerging markets modestly outperformed developed (MSCI EM USD: +6.3%) and are up 18.4% year-to-date. Emerging Asia was the key driver in both the first and second quarters. Countries with the top performance in the second quarter included China (+10.6%), Greece (+33.8%), Korea (+10.2%), Turkey (+19.3%) and Poland (+13.6%). Elsewhere, Russia and Brazil posted sharp declines (-10.0% and -6.7%) and India's gain was muted at +2.9%. Brazil's president was implicated in country's wide-ranging corruption investigation and Russia suffered from falling oil prices and questions over US/Russian relations. In other news, MSCI announced that it would be adding China A-shares to its emerging markets indices, albeit in a fairly small sliver.

Intermediate and long U.S. Treasury yields fell modestly in the second quarter as inflation data releases were persistently weak. Short rates rose, consistent with the Fed hike, and thus the yield curve flattened. Risky assets continued their long streak of outperformance. The 10-year U.S. Treasury yield closed the quarter at 2.31%, down from 2.40% as of 3/31, though it hit a 2017 low of 2.12% earlier in June. The 2-year U.S. Treasury yield climbed 11 bps to close at 1.38%. As a result, short and intermediate maturity Treasuries underperformed; the Bloomberg Barclays Intermediate Treasury Index returned 0.7% while the Long Index gained 4.0%. The Bloomberg Barclays Aggregate Index earned 1.4% with corporate bonds performing the best on strong demand. The Bloomberg Barclays Corporate Index was up 2.5% for the quarter, outperforming the High Yield Index (+2.2%). TIPS underperformed as expectations for inflation sank. The Bloomberg Barclays TIPS Index lost 0.4% for the quarter. The 10-year breakeven spread (the difference between nominal and real yields) was 173 bps as of quarter-end, down from 1.97% at the end of the first quarter.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Overseas, broad-based dollar weakness boosted returns. The U.S. dollar lost nearly 7% versus the euro and almost 5% versus a broad basket of developed markets currencies. The Bloomberg Barclays Global Aggregate Index returned 2.6% (unhedged) versus 1.0% for the hedged version. Emerging markets debt posted solid returns. The JPM EMBI Global Diversified Index (\$ denominated) was up 2.2% with broad-based gains across countries. The local currency JPM GBI-EM Global Diversified Index returned +3.6% with more divergent results. Russia, Brazil and Argentina lost over 2% while Mexico and Turkey were among the strongest performers with 7.5% gains.

The Bloomberg Barclays Municipal Bond Index returned +2.0% in the second quarter and, generally, lower quality bonds outperformed. Results were bolstered by lowered investor expectations for meaningful tax reform, both in terms of scale and timing. Additional support came from favorable supply/demand technicals; supply declined roughly 14% year-over-year while investors put new money into the sector. Fundamentals remained broadly positive in spite of a few troubled credits making headlines. Illinois failed to pass a budget on the last day of the quarter (the end of its fiscal year) for the third consecutive calendar year, prompting threats of a downgrade to junk by S&P.

Real assets had a tough quarter with few exceptions. Brent crude oil prices fell 10% to \$47 as of quarter-end. The energy-heavy S&P GSCI Commodity Index lost 5.5% while the more diversified Bloomberg Commodity Index fell 3.0%. MLPs suffered alongside oil; the Alerian MLP Index was down 6.4%. Gold was down nearly 1% and REITs were up only modestly (MSCI REIT: +1.7%). U.S. TIPS performed poorly as expectations for future inflation sank. The Barclays U.S. TIPS Index returned -0.4%. In a bright spot, global infrastructure (DJB Global Infrastructure Index) gained 3.7%.

Closing Thoughts

We entered 2017 with U.S. stock markets at record highs and historically low volatility. Not much has changed although geopolitical risks have not abated and the previously envisioned pro-growth policies sought by enthusiastic market participants remain elusive. That said, economic news has brightened outside of the U.S. with global economies seemingly on steadier footing and the prospect of reflation on the horizon. While consensus is that valuations remain stretched across asset classes, it is impossible to predict what will thwart this Goldilocks environment. We caution investors to temper return expectations and, as always, Callan encourages investors to maintain a long-term perspective and prudent asset allocation with appropriate levels of diversification.

**Public School Teachers' Pension and Retirement Fund of Chicago
Performance Evaluation Executive Summary
Second Quarter 2017**

Appendix

Appendix

Manager	Watch List Criteria: Rolling three year returns rank below median (Gross of Fees).		Watch List Criteria: Rolling three year returns are more than: 1. 200 basis points below the market index (Net of Fees) for equity managers. 2. 50 basis points below the market index (Net of Fees) for core fixed income managers. 3. 100 basis points below the market index (Net of Fees) for core plus fixed income managers.		Watch List Criteria: Rolling seven year returns rank below median (Gross of Fees).		Watch List Criteria: Rolling seven year returns are below the return of the index (Net of Fees).		Watch List Criteria: Five year information ratio is negative and ranks below median.		Watch List Criteria: Five year up market capture is below 90% and ranks below median.		Watch List Criteria: Five year down market capture is above 90% and ranks below median.		Weighted Averages	
	03/31/2017	06/30/2017	03/31/2017	06/30/2017	03/31/2017	06/30/2017	03/31/2017	06/30/2017	03/31/2017	06/30/2017	03/31/2017	06/30/2017	03/31/2017	06/30/2017	03/31/2017	06/30/2017
Manager																
<i>Large Cap Core Equity</i>																
Ivy	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	0.80	1.00
<i>Large Cap Growth Equity</i>																
Holland	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No	0.70	0.60
<i>Large Cap Value Equity</i>																
Harris	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0.00	0.00
<i>Small Cap Value Equity</i>																
Phocas***	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	No	No	0.30	0.30
<i>Small Cap Equity</i>																
NTGI Structured Small Cap	Yes	Yes	No	No	Yes	No	No	No	No	No	No	No	No	No	0.30	0.10
<i>All Cap Growth Equity</i>																
Zevenbergen	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	No	No	Yes	Yes	0.70	0.40
<i>All Cap Value Equity</i>																
Channing	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No	0.30	0.10
<i>International Equity</i>																
EARNEST Partners	No	No	No	No	No	Yes	No	No	No	No	No	No	Yes	Yes	0.10	0.30
Lazard	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	No	No	0.30	0.30
Morgan Stanley	Yes	Yes	No	No	Yes	No	No	No	No	No	No	No	No	No	0.30	0.10
Leading Edge	No	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No	0.20	0.20
William Blair	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	0.10	0.10
Ariel***	No	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No	0.20	0.20
Strategic Global***	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0.00	0.00
<i>International Small Cap</i>																
William Blair	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	No	No	0.30	0.30
DFA**	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	Yes	No	0.40	0.30
<i>Emerging Market Equity</i>																
EARNEST Partners*	Yes	No	No	No	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	0.60	0.30
<i>Active Core Fixed Income</i>																
Taplin, Carida & Habacht	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes	Yes	0.10	0.20
Pugh**	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	Yes	Yes	0.40	0.40
Garcia Hamilton Jackson**	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0.00	0.00
<i>Active Core Plus Fixed Income</i>																
LM Capital	No	Yes	No	No	Yes	Yes	No	No	No	No	No	No	No	No	0.20	0.30
<i>Active Opportunistic Fixed Income</i>																
WAMCO	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0.00	0.00

*Manager does not yet have 5 years of portfolio data. CTFP portfolio data has been linked with a representative historical manager composite to populate Information Ratio, Up Market Capture, and Down Market Capture Watch List decisions as well as 7-year gross returns relative to a peer group and 7-year net returns relative to a market index.

**Manager does not yet have 7 years of portfolio data. CTFP portfolio data has been linked with a representative historical manager composite to populate 7-year gross returns relative to a peer group and 7-year net returns relative to a market index.

***Manager inception date was in 2016. Historical composite data is used to populate the above. Please note that Ariel International Equity (DM) only has historical data going back to the 1st quarter of 2012. We used the most data that was available to us in order to populate all five year and seven year fields above. For example, in order to populate seven year figures above for Ariel as of 6/30/17, we have used 5 and 1/2 year figures dating back to the 1st quarter of 2012.