

Callan



Executive Summary

June 30, 2021

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**Chicago Teachers' Pension Fund
Performance Evaluation Executive Summary
Second Quarter 2021**

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**Chicago Teachers' Pension Fund
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Total Fund Commentary

The Fund was valued at \$13.1 billion at the end of the second quarter, representing an increase of approximately \$638.9 million from March 31, 2021. Investment gains of \$833.8 million more than offset negative net cash flow activity of \$194.9 million over the period. The Fund's asset allocation was close to the strategic targets at quarter-end, reflecting a 3% underweight to fixed income and a 2% allocation to cash. We continue to evaluate opportunities to rebalance the portfolio, consistent with the Fund's long-term objectives and best practices.

Over the second quarter of 2021, consumer sentiment climbed and economic data was broadly positive; fueled by rapid progress in vaccinations and re-opening economies, pent-up demand, and continued monetary and fiscal stimulus. US GDP surged 6.5% in the second quarter of the year, falling short of expectations as business re-openings and government aid fueled the recovery, but supply/demand imbalances held growth back. In March, the Federal Reserve sharply raised inflation expectations and decided to continue asset purchases of \$120 billion per month. The S&P 500 Index hit 34 record highs in the first half of the year and closed the quarter at a record high. Developed markets also had a strong quarter with virtually all developed market countries posting positive returns. The U.S. Treasury 10-year yield declined steadily throughout the quarter, from 1.74% in March to 1.45% in June.

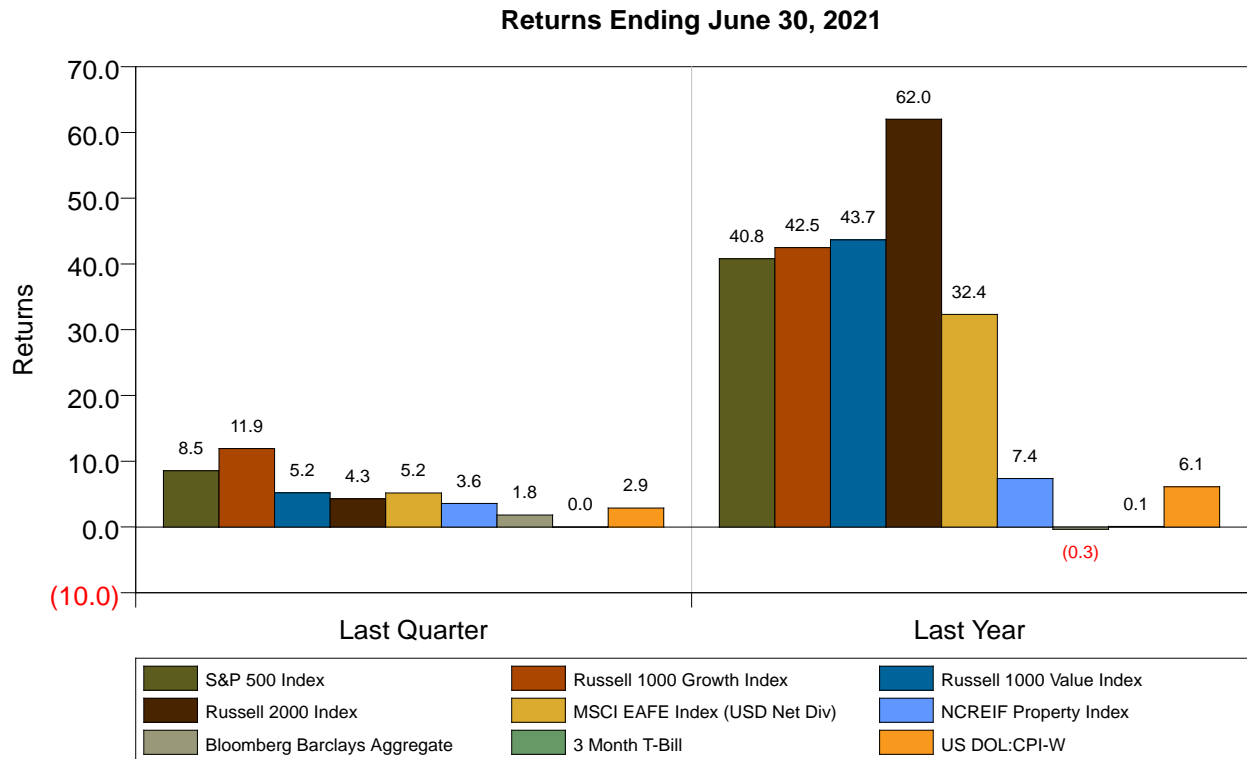
In this environment, the Fund had a net return of 6.67% over the quarter (6.77% gross of fees), outperforming the Policy Target by 120 basis points and ranking within the top 9% of peers. Longer-term performance (trailing three-, five-, seven-, and ten-year periods) is ahead of the Policy Target and ranks within the top 20% of the peer group. Over the quarter, international equity contributed most to results. All other asset classes, except cash, also contributed positively to relative performance. It is important to note that private market investments, such as private equity, infrastructure, and real estate are valued on a lagged basis and therefore should be evaluated in more detail separately, using appropriate metrics for these investments. Callan prepares separate reports on behalf of CTPF to evaluate the performance of these investments.

Closing Thoughts

The recent rise in inflation may indeed be transitory, but so may the pace and longevity of the economic recovery. Consumer and investor exuberance may also be transitory, especially when considering base effects (very low one year ago—not so low today!), the potential for the dangerous Delta variant to cause disruption, and a slow-to-heal labor market. On the other hand, inflation increases may prove not to be transitory and rate hikes could be needed sooner than expected. In either scenario, there are a variety of paths that markets could take. Meanwhile, there are few investment options that can be argued to have “attractive” valuations and thus it is sensible to temper going-forward return expectations. In this vein, it will come as no surprise that Callan continues to advise adherence to a disciplined investment process that includes a well-defined long-term asset allocation policy.

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Select Market Returns



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QUARTERLY REVIEW

• **Second Quarter, 2021 Investment Performance Update:**

- Performance: For the second quarter, the Fund outperformed the market benchmark by 130 basis points, gross of investment management fees (120 basis points net of fees), and ranked in the 9th percentile of its peers. Longer term performance (trailing three-years and longer) continues to be competitive relative to benchmarks.

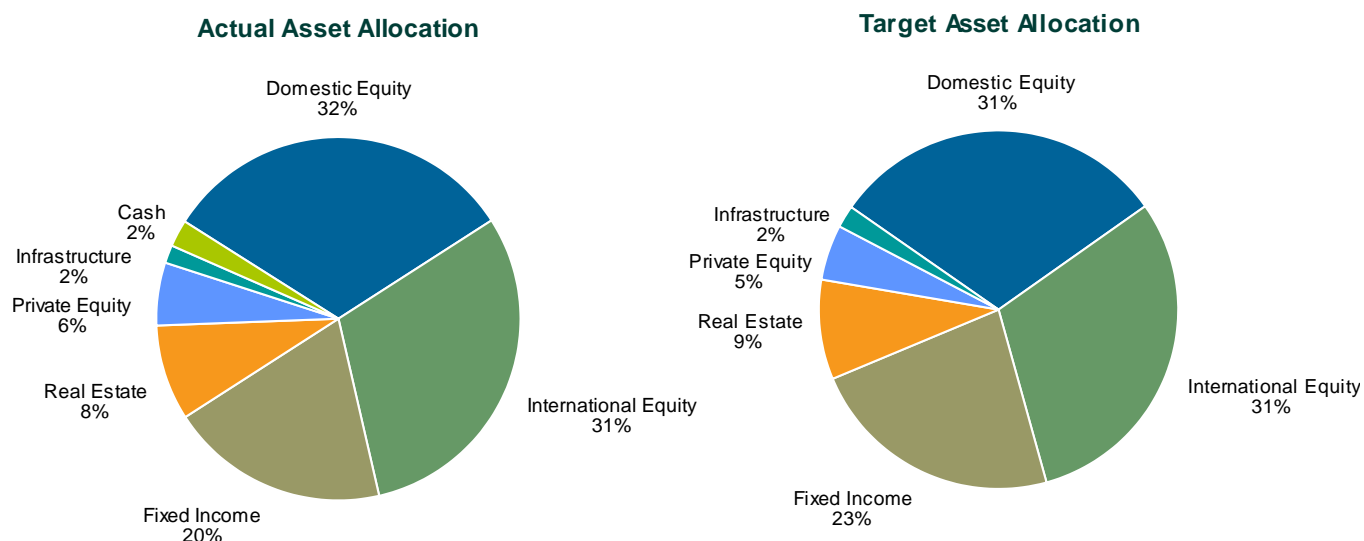
• **Watch Status Report:** The following managers are on the Watch List:

- DFA: Included on the Watch List due to underperformance.
- Ariel: Included on the Watch List due to personnel changes. On July 28th, 2020, Ariel Investments announced the resignation of Chaim Schneider, who plans to join a family office as a portfolio manager. Schneider followed Portfolio Manager Rupal Bhansali from MacKay Shields and began his career at Ariel as a member of the New York-based international/global team in 2012. Schneider covered Consumer Staples, Financials, Materials, and Utilities, and spent the last two years as director of research. As a result of this departure, Bhansali will once again function as director of research and Schneider's coverage will be absorbed by other members of the team. In October 2020, an additional Research Associate for the International Equity strategy has left the firm.
- Earnest Partners EME: Included on the Watch List due to underperformance.
- Lazard: Included on the Watch List due to underperformance.
- Strategic Global Advisors: Included on the Watch List due to underperformance.
- BMO Investment Management Organizational Announcement
On April 12, 2021, BMO announced they reached an agreement to sell parts of its asset management businesses to Ameriprise Financial (Columbia Threadneedle Investments). This transaction would include the Taxable Fixed Income Team in Miami and the Disciplined Equity Team in Chicago.
BMO and Ameriprise Financial, Inc. are committed to a smooth changeover during the next several months. Columbia Threadneedle Investments and BMO can confirm that all investment professionals on the Taxable Fixed Income Team in Miami and Disciplined Equity Team were offered positions with Columbia Threadneedle Investment, however, David Corris, Head of Disciplined Equity, will not be joining Columbia Threadneedle. The Current CIO, Ernesto Ramos, will take over as Head of Disciplined Equity. Their process and philosophy will remain unchanged.
- BMO Fixed Income: Included on the Watch List due to personnel changes. Janelle Woodward left her role as Head of Fixed Income to pursue another opportunity in September, 2020. Due to this personnel change along with the organizational announcement referenced above, The CTPF Board voted to terminate the strategy at the May 2021 board meeting.
- BMO Large Cap Value: Included on the Watch List due to underperformance along with the organizational announcement and personnel turnover.
- BMO Small Cap Growth: Included on the watch list to organizational changes and personnel turnover.

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Asset Allocation

The Fund was valued at \$13.1 billion at the end of the second quarter, representing an increase of approximately \$638.9 million from March 31, 2021. Investment gains of \$833.8 million more than offset negative net cash flow activity of \$194.9 million over the period. The Fund's asset allocation was close to the strategic targets at quarter-end, reflecting a 3% underweight to fixed income and a 2% allocation to cash. We continue to evaluate opportunities to rebalance the portfolio, consistent with the Fund's long-term objectives and best practices.



Asset Class	\$Millions Actual	Weight Actual	Target	Percent Difference	\$Millions Difference
Domestic Equity	4,191	31.9%	30.5%	1.4%	182
International Equity	4,016	30.5%	30.5%	0.0%	6
Fixed Income	2,568	19.5%	23.0%	(3.5%)	(456)
Real Estate	1,116	8.5%	9.0%	(0.5%)	(67)
Private Equity	736	5.6%	5.0%	0.6%	79
Infrastructure	207	1.6%	2.0%	(0.4%)	(56)
Cash	311	2.4%	0.0%	2.4%	311
Total	13,145	100.0%	100.0%		

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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, 2021, with the distribution as of March 31, 2021. 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, 2021		Net New Inv.	Inv. Return	March 31, 2021	
	Market Value	Weight			Market Value	Weight
DOMESTIC EQUITY	\$4,191,175,764	31.88%	\$(114,349,689)	\$327,932,911	\$3,977,592,543	31.80%
Large Cap	\$3,745,780,874	28.50%	\$(112,742,863)	\$303,373,273	\$3,555,150,465	28.43%
Large Cap Core Index	\$2,623,052,126	19.95%	\$(73,917,665)	\$213,095,575	\$2,483,874,216	19.86%
Rhumbline Rsl 1000 LCC	2,623,052,126	19.95%	(73,917,665)	213,095,575	2,483,874,216	19.86%
Large Cap Growth Equity	\$571,602,111	4.35%	\$(928,303)	\$57,061,940	\$515,468,474	4.12%
Rhumbline Rsl 1000 LCG	384,028,053	2.92%	(704,087)	41,336,676	343,395,464	2.75%
Zevenbergen US ACE	187,574,058	1.43%	(224,216)	15,725,264	172,073,010	1.38%
Large Cap Value Equity	\$551,126,638	4.19%	\$(37,896,895)	\$33,215,758	\$555,807,775	4.44%
Channing US ACE	213,207,143	1.62%	(1,117,242)	11,321,916	203,002,469	1.62%
BMO Global-Harris LCV	337,919,495	2.57%	(36,779,653)	21,893,842	352,805,305	2.82%
Small Cap Equity	\$367,267,119	2.79%	\$(1,212,615)	\$17,771,406	\$350,708,329	2.80%
NTGI Structured SCC	126,577,125	0.96%	(356,058)	5,359,520	121,573,663	0.97%
BMO Disciplined SCG	56,603,969	0.43%	(113,661)	3,247,991	53,469,639	0.43%
Conestoga SCG	61,580,322	0.47%	(137,288)	2,214,134	59,503,476	0.48%
Phocas SCV	122,505,703	0.93%	(605,608)	6,949,761	116,161,551	0.93%
Attucks Domestic Equity (Mgr of Mgrs)	\$78,127,771	0.59%	\$(394,211)	\$6,788,233	\$71,733,749	0.57%
Attucks Heard ACC	35,472,768	0.27%	(309,631)	4,183,721	31,598,677	0.25%
Attucks Lasanti	28,858,311	0.22%	(19,871)	1,610,442	27,267,740	0.22%
Attucks Paradigm LCV	13,753,926	0.10%	(57,934)	991,784	12,820,077	0.10%
INTERNATIONAL EQUITY	\$4,015,519,776	30.55%	\$(62,900,087)	\$262,556,783	\$3,815,863,080	30.51%
Ariel EAFE ILCV	83,439,408	0.63%	(1,153,664)	4,563,490	80,029,582	0.64%
DFA ISCV	180,029,118	1.37%	(142,291)	7,733,150	172,438,258	1.38%
Earnest Partners EME	223,608,642	1.70%	(1,486,852)	9,995,900	215,099,595	1.72%
Earnest Partners ILCE	720,796,783	5.48%	(40,120,468)	52,359,213	708,558,039	5.67%
Lazard Asst Mgt ILCE	685,343,862	5.21%	(4,605,436)	26,632,327	663,316,971	5.30%
Leading Edge IE MOM	153,720,217	1.17%	(1,256,931)	9,193,417	145,783,731	1.17%
Morgan Stanley ILCE	693,013,949	5.27%	(7,825,858)	43,363,573	657,476,234	5.26%
Strategic Global Adv. EAFE	85,606,832	0.65%	(862,704)	5,181,221	81,288,315	0.65%
William Blair ILCG	730,857,573	5.56%	(3,011,582)	65,693,539	668,175,616	5.34%
William Blair ISCE	290,078,473	2.21%	(1,421,278)	27,066,010	264,433,740	2.11%
TOTAL FUND	\$13,145,275,592	100.0%	\$(194,865,215)	\$833,821,512	\$12,506,319,295	100.0%

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INVESTMENT MANAGER ASSET ALLOCATIONS (Continued)

	June 30, 2021			Inv. Return	March 31, 2021	
	Market Value	Weight	Net New Inv.		Market Value	Weight
Attucks Int'l Equity	\$169,024,920	1.29%	\$(1,013,024)	\$10,774,944	\$159,263,000	1.27%
Attucks APEX Int'l ACC	12,843	0.00%	0	0	12,843	0.00%
Attucks GlobeFlex Int'l ACC	8,293	0.00%	0	(180)	8,473	0.00%
Attucks GlobeFlex Global Eq	32,912,839	0.25%	(187,203)	2,461,836	30,638,206	0.24%
Attucks Brown Capital Int'l SCG	30,103,077	0.23%	(92,449)	2,305,069	27,890,456	0.22%
Attucks Ativo Capital EM	21,264,170	0.16%	(129,446)	909,325	20,484,291	0.16%
Attucks Glovista EM	24,790,501	0.19%	(38,170)	736,459	24,092,213	0.19%
Attucks Redwood Int'l ACC	30,825,833	0.23%	(323,649)	3,213,631	27,935,850	0.22%
Attucks Paradigm ILCC	29,107,364	0.22%	(242,108)	1,148,804	28,200,667	0.23%
FIXED INCOME	\$2,567,567,561	19.53%	\$(18,714,808)	\$55,305,905	\$2,530,976,464	20.24%
Garcia Hamilton FIC	253,369,701	1.93%	(1,963,012)	3,210,121	252,122,592	2.02%
LM Capital FICP	346,530,162	2.64%	(2,796,696)	6,282,206	343,044,652	2.74%
Pugh FIC	256,752,495	1.95%	(1,768,631)	5,365,375	253,155,752	2.02%
SSgA Agg Bond Index FI	476,389,203	3.62%	(3,198,047)	9,187,530	470,399,719	3.76%
Taplin Canida FI	255,532,494	1.94%	(1,990,047)	5,638,960	251,883,581	2.01%
WAMCO FICP	656,073,699	4.99%	(4,750,514)	19,522,096	641,302,117	5.13%
Wellington Core Bond	260,537,454	1.98%	(1,829,630)	4,796,737	257,570,347	2.06%
Attucks Fixed Income	\$62,382,338	0.47%	\$(418,231)	\$1,302,879	\$61,497,690	0.49%
Attucks New Century GI TIPS	21,396,500	0.16%	(38,028)	437,060	20,997,468	0.17%
Attucks LM Capital EMD	21,691,664	0.17%	(220,402)	384,105	21,527,961	0.17%
Attucks Ramirez Fixed Income	19,294,174	0.15%	(159,802)	481,715	18,972,261	0.15%
INFRASTRUCTURE	\$207,366,936	1.58%	\$(3,167,436)	\$5,473,882	\$205,060,490	1.64%
Brookfield Infra III	40,346,889	0.31%	(339,108)	171,571	40,514,426	0.32%
Brookfield Infra IV	14,264,867	0.11%	1,036,459	944,026	12,284,382	0.10%
JLC Infrastructure Fund I	4,850,460	0.04%	385,677	88,494	4,376,289	0.03%
IFM Global Fund	40,252,306	0.31%	0	2,921,612	37,330,693	0.30%
JP Morgan Infr-OE	86,809,617	0.66%	(2,604,988)	(274,084)	89,688,689	0.72%
Macquarie Fd II Infr	436,632	0.00%	6,157	(29,216)	459,691	0.00%
Macquarie European Fund III Infr	357,848	0.00%	(1,599,192)	1,272,518	684,522	0.01%
Macquarie Infrastructure Fund V	4,653,497	0.04%	(52,437)	2,509	4,703,425	0.04%
Ullico Taxable Fund	15,394,820	0.12%	(3)	376,452	15,018,371	0.12%
TOTAL FUND	\$13,145,275,592	100.0%	\$(194,865,215)	\$833,821,512	\$12,506,319,295	100.0%

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INVESTMENT MANAGER ASSET ALLOCATIONS (Continued)

	June 30, 2021		Net New Inv.	Inv. Return	March 31, 2021	
	Market Value	Weight			Market Value	Weight
REAL ESTATE	\$1,116,302,548	8.49%	\$3,389,984	\$79,256,271	\$1,033,656,292	8.27%
BIG RE Fund I	25,847,582	0.20%	5,731,572	1,720,145	18,395,866	0.15%
BIG RE Fund II	1,693,189	0.01%	1,693,189	0	-	-
BREDS HG LP	26,818,254	0.20%	(370,271)	763,856	26,424,669	0.21%
Capri Select Fd II PRE	11,165	0.00%	0	(541)	11,706	0.00%
City View PRE	539,685	0.00%	(10,886,877)	(82,175)	11,508,737	0.09%
Clarion Lion Indus Tr	152,581,616	1.16%	(512,233)	19,912,024	133,181,825	1.06%
Europa Fd III PRE	948,513	0.01%	30,544	(50,017)	967,986	0.01%
Fortress Japan PRE	1,061,391	0.01%	(45,953)	103,862	1,003,483	0.01%
Fortress Japan Fd II PRE	1,973,921	0.02%	(244,420)	112,032	2,106,309	0.02%
Franklin Temp PREMOM	3,661,442	0.03%	(10,382)	167,777	3,504,047	0.03%
GreenOak Fund III	10,364,287	0.08%	1,839,465	47,659	8,477,163	0.07%
Heitman IV LP	23,146,902	0.18%	4,221,815	1,698,915	17,226,172	0.14%
JP Morgan Strat PRE-OE	171,437,885	1.30%	(358,216)	4,867,167	166,928,934	1.33%
LaSalle Property PRE-OE	226,163,866	1.72%	(698,888)	16,393,051	210,469,702	1.68%
Longpoint RE Fd I	21,999,931	0.17%	(2,042,170)	4,213,010	19,829,091	0.16%
Long Wharf VI	8,572,990	0.07%	3,056,858	628,561	4,887,571	0.04%
MB Asia RE Fd PRE	262,310	0.00%	0	848	261,462	0.00%
Newport Cap Fund II	21,293,275	0.16%	(320,467)	419,331	21,194,411	0.17%
Newport Cap Fund III	5,634,783	0.04%	5,634,783	0	-	-
Oak Street Fund IV RE	15,850,357	0.12%	(7,698,475)	8,261,573	15,287,260	0.12%
PRISA Fd I PRE-OE	168,686,865	1.28%	(685,468)	9,764,536	159,607,797	1.28%
PRISA Fd II PRE-OE	115,985,207	0.88%	(462,524)	6,779,813	109,667,918	0.88%
SASC II	14,661,013	0.11%	(171,659)	(432,857)	15,265,529	0.12%
TA Associates Realty Fund XII	25,397,646	0.19%	6,627,811	1,274,792	17,495,043	0.14%
UBS Realty PRE-OE	58,617,787	0.45%	(530,542)	2,359,254	56,789,075	0.45%
Walton St Fd III PRE	54,633	0.00%	0	(1,714)	56,347	0.00%
Walton St Fd IV PRE	231,897	0.00%	0	(10,609)	242,506	0.00%
Walton St Fd V PRE	2,416,525	0.02%	0	13,040	2,403,485	0.02%
Walton St Fd VI PRE	8,198,524	0.06%	(17,695)	390,546	7,825,673	0.06%
Walton St Mexico Fd I PRE	2,189,106	0.02%	(389,813)	(57,608)	2,636,527	0.02%
TOTAL FUND	\$13,145,275,592	100.0%	\$(194,865,215)	\$833,821,512	\$12,506,319,295	100.0%

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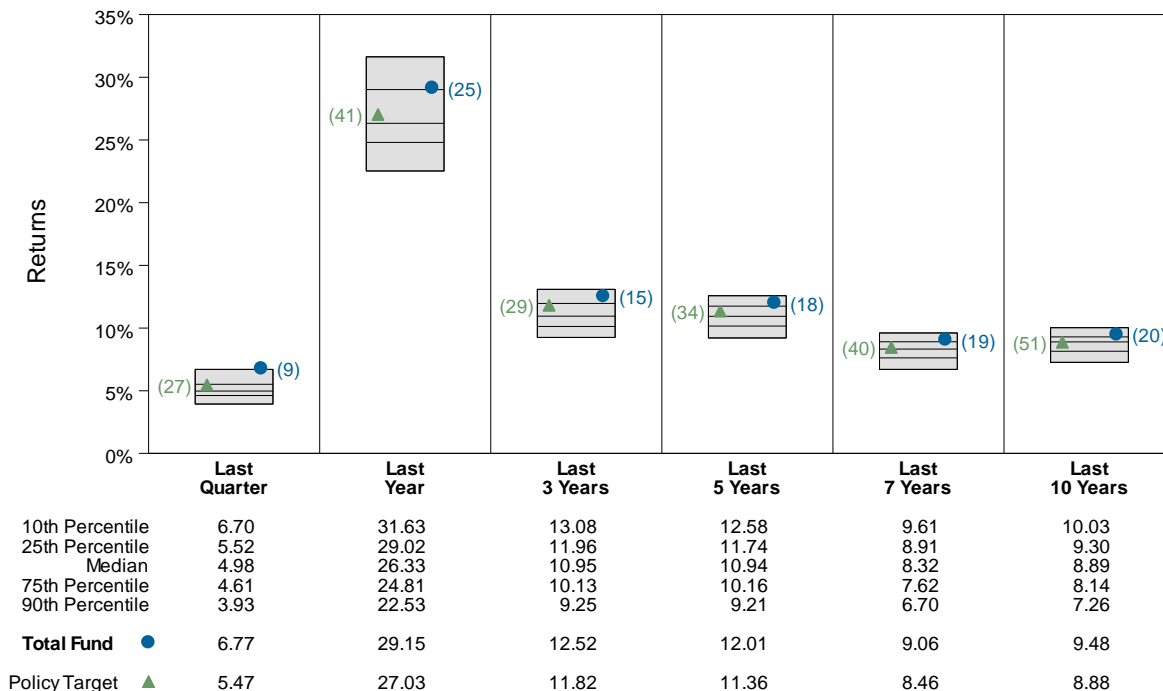
INVESTMENT MANAGER ASSET ALLOCATIONS (Continued)

	June 30, 2021			March 31, 2021		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
PRIVATE EQUITY	\$735,936,352	5.60%	\$12,548,951	\$103,289,989	\$620,097,412	4.96%
Adams St Many Fd PE	319,686,029	2.43%	5,082,274	38,313,920	276,289,835	2.21%
African Dev Ptr III	1,816,692	0.01%	(86,798)	205,628	1,697,862	0.01%
AFIG Fund II LP	8,202,593	0.06%	(59,753)	(700,285)	8,962,631	0.07%
Astra Partners I	7,708,545	0.06%	1,802,303	(53,216)	5,959,458	0.05%
AUA II	5,112,577	0.04%	(819,770)	129,468	5,802,879	0.05%
AVP XI LP	16,376,283	0.12%	2,433,067	2,114,130	11,829,086	0.09%
AVP XII LP	4,250,000	0.03%	4,278,982	(28,982)	-	-
Data Focus I	2,836,987	0.02%	973,773	(91,786)	1,955,000	0.02%
EQT Fund VII	25,121,139	0.19%	(256,328)	2,864,062	22,513,405	0.18%
EQT IX LP	9,515,983	0.07%	2,486,495	391,833	6,637,655	0.05%
Estancia II	7,403,580	0.06%	(1,622,845)	284,335	8,742,090	0.07%
Farol Fund II	11,118,477	0.08%	(401,758)	683,439	10,836,797	0.09%
HarbourVest Ptrs VI PE	160,584	0.00%	0	11,668	148,916	0.00%
HarbourVest Ptrs VII PE	25,376,972	0.19%	(1,533,679)	7,603,641	19,307,010	0.15%
HarbourVest Ptrs VIII PE	5,521,580	0.04%	(586,654)	1,240,605	4,867,629	0.04%
HVP Buyout X PE	15,294,113	0.12%	(1,063,627)	3,184,419	13,173,321	0.11%
HVP Venture X PE	14,896,051	0.11%	(734,269)	5,341,137	10,289,183	0.08%
Hispania Fd II PE	1,641,555	0.01%	(291,624)	215,810	1,717,369	0.01%
ICV Capital Ptrs PE	148,251	0.00%	0	(335)	148,586	0.00%
ICV Capital Ptrs III PE	11,883,211	0.09%	0	231,531	11,651,680	0.09%
ICV Capital Ptrs IV PE	9,493,442	0.07%	(316,369)	739,486	9,070,325	0.07%
KKR Americas Fd XII	33,653,436	0.26%	789,330	11,003,177	21,860,929	0.17%
MB SPO FD II	2,932,895	0.02%	(46,632)	74,665	2,904,862	0.02%
Mesirow Fd IV PE	7,491,710	0.06%	(742,594)	2,122,510	6,111,794	0.05%
Mesirow Fd V PE	17,743,476	0.13%	(1,136,065)	5,569,994	13,309,547	0.11%
Mesirow Fd VII A PE	13,906,579	0.11%	(73,124)	3,365,836	10,613,867	0.08%
Mesirow Fd VII B PE	13,577,340	0.10%	(2,848,737)	5,955,998	10,470,079	0.08%
Mesirow Fund VIII	6,860,000	0.05%	6,860,000	0	-	-
Mesirow Fd IX PE	182,911	0.00%	0	(15,502)	198,413	0.00%
Mesirow Fd X PE	5,120,277	0.04%	(159,424)	387,532	4,892,169	0.04%
Muller M2 MPEFF PE	214,616	0.00%	(1,113,109)	(80,339)	1,408,064	0.01%
NMS Capital Fund III	14,245,851	0.11%	1,256,147	930,440	12,059,264	0.10%
NMS Capital Fund IV	1,694,543	0.01%	1,843,082	(148,539)	-	-
P4G I	971,615	0.01%	38,192	(9,240)	942,663	0.01%
Palladium Ptrs IV PE	8,871,302	0.07%	(654,105)	2,290,207	7,235,200	0.06%
Palladium Ptrs V PE	11,397,882	0.09%	283,633	546,885	10,567,364	0.08%
Pantheon Asia Fd V PE	1,681,163	0.01%	(6,067)	(68,476)	1,755,706	0.01%
Pantheon Europe Fd II PE	16,287	0.00%	0	146	16,142	0.00%
Pantheon Europe Fd VI PE	3,129,000	0.02%	(312,456)	433,878	3,007,578	0.02%
Pantheon GI Fd 2014	28,856,114	0.22%	(1,243,099)	3,518,753	26,580,460	0.21%
Pantheon Select Fd	11,981,980	0.09%	1,131,872	2,001,429	8,848,679	0.07%
Pantheon USA Fd III PE	258,582	0.00%	0	(3,764)	262,346	0.00%
Pantheon USA Fd IV PE	444,037	0.00%	0	52,375	391,662	0.00%
Pharos Fd II PE	4,320,004	0.03%	0	33,545	4,286,459	0.03%
Pharos Fd III PE	18,621,065	0.14%	(2,122,753)	1,035,863	19,707,955	0.16%
RLJ Equity Fund II	9,272,786	0.07%	2,044,422	238,344	6,990,020	0.06%
Syncom Venture PE	1,804	0.00%	0	(51,061)	52,865	0.00%
Turning Rock Fd I	7,084,589	0.05%	(33,322)	168,861	6,949,050	0.06%
WM Partners II	7,804,560	0.06%	(570,740)	1,301,742	7,073,558	0.06%
CASH	\$311,406,655	2.37%	\$(11,672,130)	\$5,771	\$323,073,014	2.58%
TOTAL FUND	\$13,145,275,592	100.0%	\$(194,865,215)	\$833,821,512	\$12,506,319,295	100.0%

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Total Fund Performance vs. Target

Callan Public Fund Spons - 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+3.0% and 2% FTSE Developed Core Infrastructure 50/50 Net.

For the second quarter, the Fund outperformed the market benchmark by 130 basis points, gross of investment management fees (120 basis points net of fees), and ranked in the 9th percentile of its peers. Longer term performance (trailing three-years and longer) continues to be competitive relative to benchmarks.

The manager attribution effect was positive, with international equity contributing most to relative results. All other asset classes, except cash, contributed positively to relative performance over the quarter. The following is a brief summary of the performance of each of the major asset classes represented in the Fund (performance commentary relative to benchmarks is net of fees, while results relative to peers is gross of fees):

- Domestic Equity:** The domestic equity composite outperformed the Russell 3000 Index by 2 bps over the second quarter, ranking in the 25th percentile of its peers. Manager performance was mixed, with BMO Small Cap, Phocas Small, BMO Large Cap, Channing, and NT Small Cap contributing to relative performance over the quarter. Zevenbergen and Conestoga underperformed over the period. Zevenbergen's growth characteristics and holdings in the Consumer Discretionary and Information Technology sectors detracted from performance over the quarter, though were significant contributors over calendar-year 2020.
- International Equity:** The international equity composite outperformed the MSCI ACWI Ex-US IMI benchmark by 119 basis points for the quarter, and ranked in the 10th percentile of its peer group. Relative performance was mostly positive for the international equity managers this quarter. William

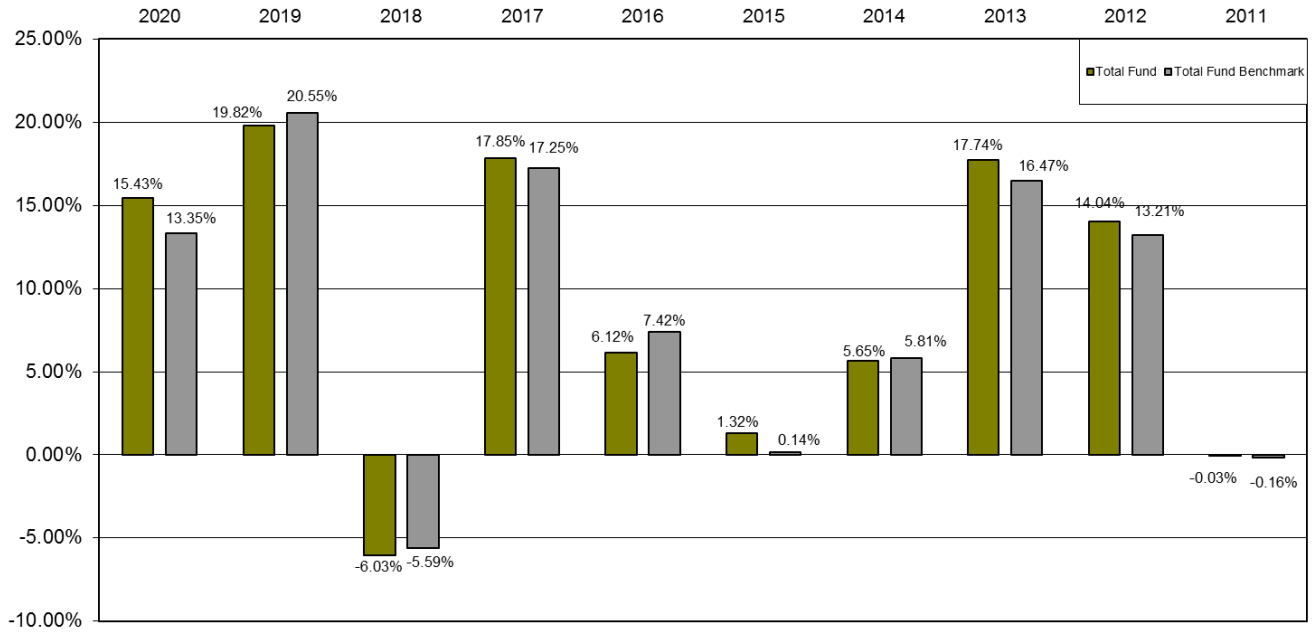
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Blair Small Cap, William Blair Growth, Earnest Partners, Morgan Stanley, and Strategic Global Advisors posted the strongest relative results. Leading Edge, Ariel, and DFA EM also contributed to relative performance. Lazard and Earnest Partners EM detracted from relative results over the quarter.

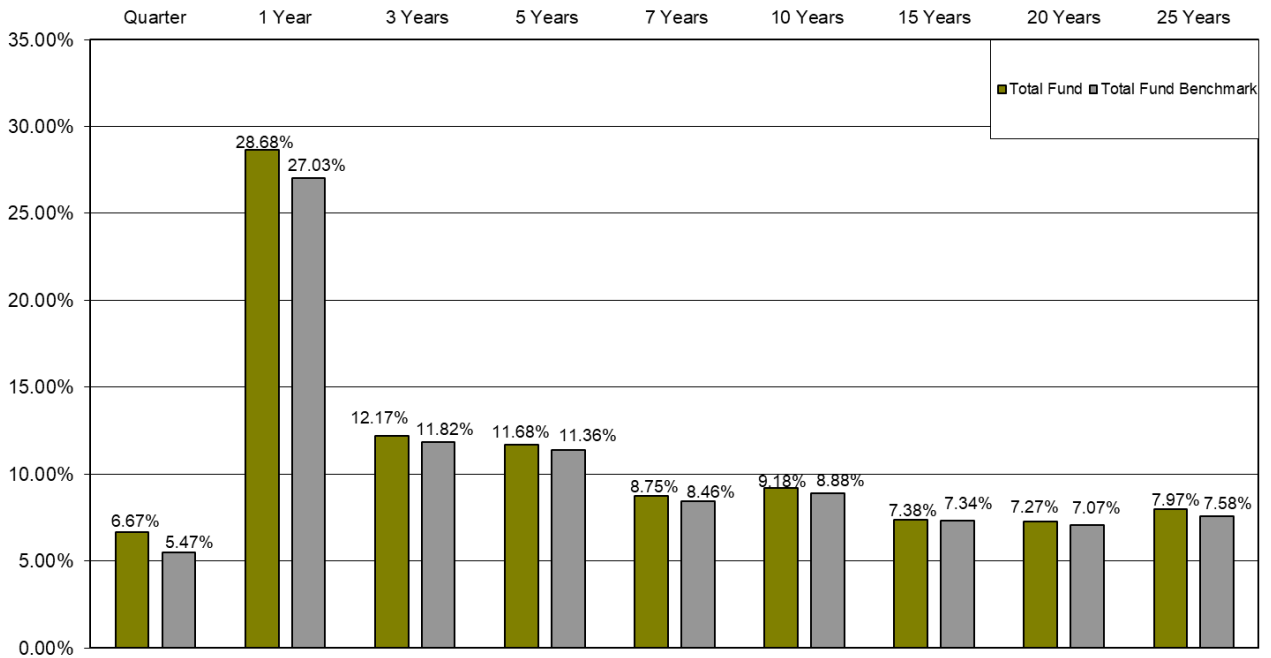
- **Fixed Income:** The fixed income composite outperformed the Bloomberg Aggregate Index by 33 basis points for the quarter and ranked in the 54th percentile of its peers. Manager performance was mixed over the quarter. WAMCO, BMO, and Pugh outperformed their respective benchmarks, while Garcia Hamilton detracted most from relative results. Performance over longer periods continues to be competitive.
- **Alternative Investments:** The private equity, real estate, and infrastructure portfolios outperformed relative to their respective benchmarks over the quarter on a time-weighted return basis. It is important to note that performance evaluation for these instruments should encompass several metrics that go beyond time-weighted return calculations. These metrics take into account the timing and magnitude of distributions and contributions over the life of these investments. This cash flow activity is key in evaluating the success of these instruments. Hence, these portfolios are evaluated separately and more rigorously under separate cover.

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Total Fund Calendar Year Performance, Net of Fees



Total Fund Performance over Various Trailing Periods, Net of Fees



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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 6/30/2021						Inception Date	Qtr-End MV	
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr			Since Inception
Fixed Income									
SSgA Aggregate Bond Index	1.96	-0.39	-	-	-	-	4.13	Aug-19	\$476m
Bloomberg Barclays Aggregate Index	1.83	-0.33	-	-	-	-	4.17		
Variance	0.13	-0.06	-	-	-	-	-0.04		
Wellington Core Bond	1.82	0.59	-	-	-	-	5.16	Aug-19	\$261m
Bloomberg Barclays Aggregate Index	1.83	-0.33	-	-	-	-	4.17		
Variance	-0.01	0.92	-	-	-	-	0.99		
Garcia Hamilton	1.24	-0.59	4.75	3.05	3.47	3.99		Oct-10	\$253m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	3.29			
Variance	-0.59	-0.26	-0.59	0.02	0.19	0.70			
LM Capital*	1.80	1.80	5.82	3.48	3.55	4.28		Nov-04	\$347m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	4.09			
Variance	-0.03	2.13	0.48	0.45	0.27	0.19			
Pugh Capital Management	2.09	0.38	5.73	3.27	3.43	3.54		Oct-10	\$257m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	3.29			
Variance	0.26	0.71	0.39	0.24	0.15	0.25			
BMO Fixed Income	2.21	-0.08	5.54	3.74	3.39	4.12		Nov-04	\$256m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	4.09			
Variance	0.38	0.25	0.20	0.71	0.11	0.03			
Western Asset Management	3.01	3.26	7.15	4.73	4.47	5.33		Feb-03	\$656m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	4.15			
Variance	1.18	3.59	1.81	1.70	1.19	1.18			

*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.

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

CTPF Investment Strategies	Net Investment Returns as of 6/30/2021						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Large Cap Equity								
Rhumbline Russell 1000 Index Fund	8.62	43.04	19.07	17.91	14.07	10.06	Jun-07	\$2,623m
Russell 1000 Index	8.54	43.07	19.16	17.99	14.16	10.03		
Variance	0.08	-0.03	-0.09	-0.08	-0.09	0.03		
Rhumbline Russell 1000 Growth Index Fund	12.05	42.76	25.07	-	-	24.32	Oct-17	\$384m
Russell 1000 Growth Index	11.93	42.50	25.14	-	-	24.39		
Variance	0.12	0.26	-0.07	-	-	-0.07		
Zevenbergen Capital Management	9.02	48.42	36.83	36.30	23.38	13.83	Oct-92	\$188m
Russell 3000 Growth Index	11.38	42.99	24.47	23.31	18.16	10.79		
Variance	-2.36	5.43	12.36	12.99	5.22	3.04		
Channing*	5.47	64.63	16.44	15.82	10.60	14.84	Jul-09	\$213m
Channing Benchmark	5.16	45.40	12.23	11.99	9.39	14.44		
Variance	0.31	19.23	4.21	3.83	1.21	0.40		
BMO Disciplined Large Cap Value	6.03	48.88	11.21	12.76	9.79	7.88	Jul-99	\$338m
Harris Benchmark**	5.21	43.68	12.42	11.87	9.41	6.11		
Variance	0.82	5.20	-1.21	0.89	0.38	1.77		
Small Cap Equity								
Northern Trust Small Cap	4.39	61.36	12.78	15.52	11.41	12.53	Jan-91	\$127m
Russell 2000 Index	4.29	62.03	13.52	16.47	11.39	11.36		
Variance	0.10	-0.67	-0.74	-0.95	0.02	1.17		
BMO Disciplined Small Cap Growth	5.94	57.50	-	-	-	13.57	Jul-18	\$57m
Russell 2000 Growth Index	3.92	51.36	-	-	-	15.76		
Variance	2.02	6.14	-	-	-	-2.19		
Conestoga Small Cap Growth	3.54	37.30	-	-	-	15.83	Jul-18	\$62m
Russell 2000 Growth Index	3.92	51.40	-	-	-	15.76		
Variance	-0.38	-14.10	-	-	-	0.07		
Phocas Small Cap Value	5.79	74.62	9.90	12.20	-	12.20	Jul-16	\$123m
Russell 2000 Value Index	4.56	73.28	10.27	13.62	-	13.62		
Variance	1.23	1.34	-0.37	-1.42	-	-1.42		
Manager of Managers								
Attucks***	6.32	33.14	10.94	11.85	8.18	8.68	Dec-13	\$310m
Custom Benchmark	5.32	33.33	11.76	12.23	8.22	8.58		
Variance	1.00	-0.19	-0.82	-0.38	-0.04	0.10		

*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.

**BMO 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.

**Chicago Teachers' Pension Fund
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Second Quarter 2021**

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

CTPF Investment Strategies		Net Investment Returns as of 6/30/2021					Inception Date	Qtr-End MV
FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
International Equity								
Ariel Investments	5.56	18.14	6.15	6.67	-	6.67	Jul-16	
MSCI EAFE Index	5.17	32.35	8.27	10.28	-	10.28		
Variance	0.39	-14.21	-2.12	-3.61	-	-3.61	\$83m	
EARNEST Partners	7.30	45.32	10.02	12.88	6.80	6.51	Apr-07	
MSCI ACWI ex-US Index	5.48	35.72	9.38	11.08	5.33	3.79		
Variance	1.82	9.60	0.64	1.80	1.47	2.72	\$721m	
Lazard	3.98	31.38	7.40	8.40	4.55	5.99	Jan-01	
MSCI ACWI ex-US Index	5.48	35.72	9.38	11.08	5.33	5.40		
Variance	-1.50	-4.34	-1.98	-2.68	-0.78	0.59	\$685m	
Morgan Stanley	6.51	27.76	8.93	10.09	5.41	8.63	Apr-95	
MSCI EAFE Index	5.17	32.35	8.27	10.28	4.96	5.47		
Variance	1.34	-4.59	0.66	-0.19	0.45	3.16	\$693m	
Strategic Global Advisors	6.27	29.76	5.93	8.49	-	8.49	Jul-16	
MSCI EAFE Index	5.17	32.35	8.27	10.28	-	10.28		
Variance	1.10	-2.59	-2.34	-1.79	-	-1.79	\$86m	
William Blair Growth	9.75	42.90	16.75	15.97	9.83	10.85	Feb-10	
MSCI ACWI ex-US IMI Growth Index	6.62	35.13	13.04	13.36	8.13	8.53		
Variance	3.13	7.77	3.71	2.61	1.70	2.32	\$731m	
William Blair International Small Cap	10.04	44.27	14.27	13.83	9.04	6.63	Apr-07	
William Blair ISCE Benchmark*	6.75	44.91	11.91	13.29	8.59	5.20		
Variance	3.29	-0.64	2.36	0.54	0.45	1.43	\$290m	
Dimensional Fund Advisors	4.48	43.74	3.97	8.82	4.28	9.96	Jun-12	
MSCI World Small Cap ex-US Value	4.34	44.91	6.33	9.93	5.03	9.75		
Variance	0.14	-1.17	-2.36	-1.11	-0.75	0.21	\$180m	
EARNEST Partners Emerging Markets	4.52	44.84	10.45	11.96	6.19	5.24	Mar-13	
MSCI Emerging Markets Index	5.05	40.90	11.28	13.03	6.36	5.72		
Variance	-0.53	3.94	-0.83	-1.07	-0.17	-0.48	\$224m	
International Manager of Managers								
Leading Edge	6.12	32.34	7.36	10.01	5.21	6.24	Apr-10	
MSCI ACWI ex-US Index	5.48	35.72	9.38	11.08	5.33	6.02		
Variance	0.64	-3.38	-2.02	-1.07	-0.12	0.22	\$154m	

* 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.

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

CTPF Investment Strategies	Net Investment Returns as of 6/30/2021						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Infrastructure								
Infrastructure Composite	2.41	21.99	14.42	13.27	9.49	8.26	Nov-08	\$207m
Infrastructure Benchmark*	2.60	18.25	7.17	6.48	6.91	7.40		
Variance	-0.19	3.74	7.25	6.79	2.58	0.86		
Real Estate								
Real Estate Composite	7.30	9.80	6.12	6.39	8.51	7.15	Jan-02	\$1,116m
NFI-ODCE Value Weight	3.68	7.09	4.60	5.62	7.43	6.75		
Variance	3.62	2.71	1.52	0.77	1.08	0.40		
Private Equity								
Private Equity Composite	15.94	54.95	20.55	18.23	15.22	10.71	Jan-02	\$736m
Private Equity Benchmark**	8.84	47.50	22.59	20.67	15.87	10.15		
Variance	7.10	7.45	-2.04	-2.44	-0.65	0.56		

*The Infrastructure Benchmark is 8% Annualized Return through 9/30/17 and FTSE Developed Core Infrastructure 50/50 (Net) thereafter.

**The Private Equity Benchmark is Russell 3000 through 9/30/17, thereafter Russell 3000+3%.

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. Comments on Infrastructure, REITS and Real Estate are covered in the quarterly Real Estate Report. Private Equity is discussed in the quarterly Private Equity Report.

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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 6/30/2021						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Fixed Income								
SSgA Aggregate Bond Index	1.96	-0.36	-	-	-	4.16	Aug-19	\$476m
Bloomberg Barclays Aggregate Index	1.83	-0.33	-	-	-	4.17		
Variance	0.13	-0.03	-	-	-	-0.01		
Peer Ranking – CAI Core Bond	70	94	-	-	-			
Wellington Core Bond	1.87	0.77	-	-	-	5.32	Aug-19	\$261m
Bloomberg Barclays Aggregate Index	1.83	-0.33	-	-	-	4.17		
Variance	0.04	1.10	-	-	-	1.15		
Peer Ranking – CAI Core Bond	85	65	-	-	-			
Garcia Hamilton	1.28	-0.46	4.88	3.20	3.63	4.16	Oct-10	\$253m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	3.29		
Variance	-0.55	-0.13	-0.46	0.17	0.35	0.87		
Peer Ranking – CAI Core Bond	98	95	98	94	74			
LM Capital*	1.84	1.95	5.97	3.63	3.71	4.46	Nov-04	\$347m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	4.09		
Variance	0.01	2.28	0.63	0.60	0.43	0.37		
Peer Ranking - CAI Core Plus Bond	90	81	83	92	91			
Pugh Capital Management	2.13	0.52	5.88	3.42	3.58	3.71	Oct-10	\$257m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	3.29		
Variance	0.30	0.85	0.54	0.39	0.30	0.42		
Peer Ranking - CAI Core Bond	38	72	65	81	81			
BMO Fixed Income	2.25	0.04	5.67	3.88	3.53	4.28	Nov-04	\$256m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	4.09		
Variance	0.42	0.37	0.33	0.85	0.25	0.19		
Peer Ranking - CAI Core Bond	21	90	85	32	85			
Western Asset Management	3.05	3.43	7.32	4.91	4.65	5.51	Feb-03	\$656m
Bloomberg Barclays Aggregate Index	1.83	-0.33	5.34	3.03	3.28	4.15		
Variance	1.22	3.76	1.98	1.88	1.37	1.36		
Peer Ranking - CAI Core Plus Bond	3	42	12	25	14			

*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.

**Chicago Teachers' Pension Fund
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Table 2 (Gross-of-Fees, Continued):

CTPF Investment Strategies	Gross Investment Returns as of 6/30/2021						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Large Cap Equity								
Rhumbline Russell 1000 Index Fund	8.63	43.05	19.08	17.92	14.08	10.07	Jun-07	\$2,623m
Russell 1000 Index	8.54	43.07	19.16	17.99	14.16	10.03		
Variance	0.09	-0.02	-0.08	-0.07	-0.08	0.04		
Peer Ranking – CAI Large Cap	45	47	51	52	52			
Rhumbline Russell 1000 Growth Index Fund	12.05	42.77	25.08	-	-	24.33	Oct-17	\$384m
Russell 1000 Growth Index	11.93	42.50	21.67	-	-	24.39		
Variance	0.12	0.27	3.41	-	-	-0.06		
Peer Ranking - CAI Large Cap Growth	39	30	38	-	-			
Zevenbergen Capital Management	9.16	49.06	37.38	36.84	23.87	14.28	Oct-92	\$188m
Russell 3000 Growth Index	11.38	42.99	24.47	23.31	18.16	10.79		
Variance	-2.22	6.07	12.91	13.53	5.71	3.49		
Peer Ranking - CAI All Cap Growth	57	21	9	9	10			
Channing*	5.58	65.32	16.98	16.35	11.12	15.41	Jul-09	\$213m
Channing Benchmark	5.16	45.40	12.23	11.99	9.39	14.44		
Variance	0.42	19.92	4.75	4.36	1.73	0.97		
Peer Ranking – CAI All Cap Value	44	18	23	23	33			
BMO Disciplined Large Cap Value	6.08	49.18	11.44	13.01	10.03	8.16	Jul-99	\$338m
Harris Benchmark**	5.21	43.68	12.42	11.87	9.41	6.11		
Variance	0.87	5.50	-0.98	1.14	0.62	2.05		
Peer Ranking - CAI Large Cap Value	30	36	66	55	43			
Small Cap Equity								
Northern Trust Small Cap	4.41	61.49	12.88	15.62	11.51	12.61	Jan-91	\$127m
Russell 2000 Index	4.29	62.03	13.52	16.47	11.39	11.36		
Variance	0.12	-0.54	-0.64	-0.85	0.12	1.25		
Peer Ranking - CAI Small Cap	57	49	49	43	45			
BMO Disciplined Small Cap Growth	6.09	58.30	-	-	-	14.17	Jul-18	\$57m
Russell 2000 Growth Index	3.92	51.36	-	-	-	15.76		
Variance	2.17	6.94	-	-	-	-1.59		
Peer Ranking - CAI Small Cap Growth	38	30	-	-	-			
Conestoga Small Cap Growth	3.73	38.30	-	-	-	16.63	Jul-18	\$62m
Russell 2000 Growth Index	3.92	51.40	-	-	-	15.76		
Variance	-0.19	-13.10	-	-	-	0.87		
Peer Ranking - CAI Small Cap Growth	77	95	-	-	-			
Phocas Small Cap Value	5.98	75.85	10.82	13.07	-	13.07	Jul-16	\$123m
Russell 2000 Value Index	4.56	73.28	10.27	13.62	-	13.62		
Variance	1.42	2.57	0.55	-0.55	-	-0.55		
Peer Ranking - CAI Small Cap Value	19	28	36	58	-			
Manager of Managers								
Attucks***	6.46	33.86	11.58	12.50	8.79	9.29	Dec-13	\$310m
Custom Benchmark	5.32	33.33	11.76	12.23	8.22	8.58		
Variance	1.14	0.53	-0.18	0.27	0.57	0.71		

*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.

**Chicago Teachers' Pension Fund
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Table 2 (Gross-of-Fees, Continued):

CTPF Investment Strategies	Gross Investment Returns as of 6/30/2021						Inception Date	Qtr-End MV
	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
FUND								
International Equity								
Ariel Investments	5.73	18.93	6.88	7.36	-	7.36	Jul-16	\$83m
MSCI EAFE Index	5.17	32.35	8.27	10.28	-	10.28		
Variance	0.56	-13.42	-1.39	-2.92	-	-2.92		
Peer Ranking - CAI Non-US Equity	43	100	86	98	-			
EARNEST Partners	7.40	45.87	10.47	13.34	7.23	7.00	Apr-07	\$721m
MSCI ACWI ex-US Index	5.48	35.72	9.38	11.08	5.33	3.79		
Variance	1.92	10.15	1.09	2.26	1.90	3.21		
Peer Ranking - CAI Non-US Equity	16	10	47	30	38			
Lazard	4.02	31.61	7.59	8.59	4.73	6.32	Jan-01	\$685m
MSCI ACWI ex-US Index	5.48	35.72	9.38	11.08	5.33	5.40		
Variance	-1.46	-4.11	-1.79	-2.49	-0.60	0.92		
Peer Ranking - CAI Non-US Equity	80	82	78	88	82			
Morgan Stanley	6.60	28.25	9.37	10.53	5.85	9.10	Apr-95	\$693m
MSCI EAFE Index	5.17	32.35	8.27	10.28	4.96	5.47		
Variance	1.43	-4.10	1.10	0.25	0.89	3.63		
Peer Ranking - CAI Non-US Equity	29	93	56	67	60			
Strategic Global Advisors	6.39	30.38	6.45	9.00	-	9.00	Jul-16	\$86m
MSCI EAFE Index	5.17	32.35	8.27	10.28	-	10.28		
Variance	1.22	-1.97	-1.82	-1.28	-	-1.28		
Peer Ranking - CAI Non-US Equity	30	88	88	84	-			
William Blair Growth	9.84	43.36	17.15	16.37	10.22	11.26	Feb-10	\$731m
MSCI ACWI ex-US IMI Growth Index	6.62	35.13	13.04	13.36	8.13	8.53		
Variance	3.22	8.23	4.11	3.01	2.09	2.73		
Peer Ranking - CAI Core Growth Int'l Equity	6	23	15	27	29			
William Blair International Small Cap	10.25	45.36	15.20	14.76	9.94	7.62	Apr-07	\$290m
William Blair ISCE Benchmark*	6.75	44.91	11.91	13.29	8.59	5.20		
Variance	3.50	0.45	3.29	1.47	1.35	2.42		
Peer Ranking - CAI Int'l Small Cap Equity	5	39	10	22	26			
Dimensional Fund Advisors	4.48	43.74	3.97	8.82	4.28	9.98	Jun-12	\$180m
MSCI World Small Cap ex-US Value	4.34	44.91	6.33	9.93	5.03	9.75		
Variance	0.14	-1.17	-2.36	-1.11	-0.75	0.23		
Peer Ranking - CAI Int'l Small Cap Equity	91	50	93	91	96			
EARNEST Partners Emerging Markets	4.65	45.54	11.03	12.54	6.74	5.77	Mar-13	\$224m
MSCI Emerging Markets Index	5.05	40.90	11.28	13.03	6.36	5.72		
Variance	-0.40	4.64	-0.25	-0.49	0.38	0.05		
Peer Ranking - CAI EM Equity	67	44	67	65	65			
International Manager of Managers								
Leading Edge	6.31	33.32	8.22	10.88	6.03	7.07	Apr-10	\$154m
MSCI ACWI ex-US Index	5.48	35.72	9.38	11.08	5.33	6.02		
Variance	0.83	-2.40	-1.16	-0.20	0.70	1.05		
Peer Ranking - CAI Non-US Equity	31	78	69	61	57			

* 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.

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

CTPF Investment Strategies	Gross Investment Returns as of 6/30/2021						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Infrastructure								
Infrastructure Composite	2.65	24.27	15.64	14.23	10.33	8.94	Nov-08	\$207m
Infrastructure Benchmark*	2.60	18.25	7.17	6.48	6.91	7.40		
Variance	0.05	6.02	8.47	7.75	3.42	1.54		
Real Estate								
Real Estate Composite	7.64	10.90	6.94	7.18	9.31	7.67	Jan-02	\$1,116m
NFI-ODCE Value Weight	3.68	7.09	4.60	5.62	7.43	6.75		
Variance	3.96	3.81	2.34	1.56	1.88	0.92		
Private Equity								
Private Equity Composite	16.36	57.03	21.75	19.08	15.84	10.95	Jan-02	\$736m
Private Equity Benchmark**	8.84	47.50	22.59	20.67	15.87	10.15		
Variance	7.52	9.53	-0.84	-1.59	-0.03	0.80		

*The Infrastructure Benchmark is 8% Annualized Return through 9/30/17 and FTSE Developed Core Infrastructure 50/50 (Net) thereafter.

**The Private Equity Benchmark is Russell 3000 through 9/30/17, thereafter Russell 3000+3%.

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. Comments on Infrastructure, REITS and Real Estate are covered in the quarterly Real Estate Report. Private Equity is discussed in the quarterly Private Equity Report.

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Manager Watch List

MANAGER	DATE WATCH STARTED, REASON	LAST DUE DILIGENCE MEETING	ACTIONS TAKEN	POLICY/ RECOMMENDED ACTIONS	AUM as of 6/30/2021	Current Quarter Watch List Score	Previous Quarter Watch List Score
DFA	August - 19 Underperformance	July - 21	Monitor	Monitor	\$180 mil.	0.9	0.9
Ariel	July - 20 Personnel Turnover	August - 21	Monitor	Monitor	\$83 mil.	0.9	1.0
BMO Fixed Income	July - 20 Personnel Turnover	August - 21	Termination	Termination	\$256 mil.	0.4	0.4
Earnest Partners Emerging Markets	December - 20 Underperformance	August - 21	Monitor	Monitor	\$224 mil.	0.8	0.8
Lazard International Equity	February - 21 Underperformance	August - 21	Monitor	Monitor	\$685 mil.	0.9	0.9
Strategic Global Advisors	February - 21 Underperformance	July - 21	Monitor	Monitor	\$86 mil.	0.8	0.8
BMO Large Cap Value	April - 21 Underperformance and Organizational Changes	August - 21	Monitor	Monitor	\$338 mil.	0.2	0.8
BMO Small Cap Growth	June - 21 Organizational Changes	August - 21	Monitor	Monitor	\$57 mil.	0.4	0.6

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

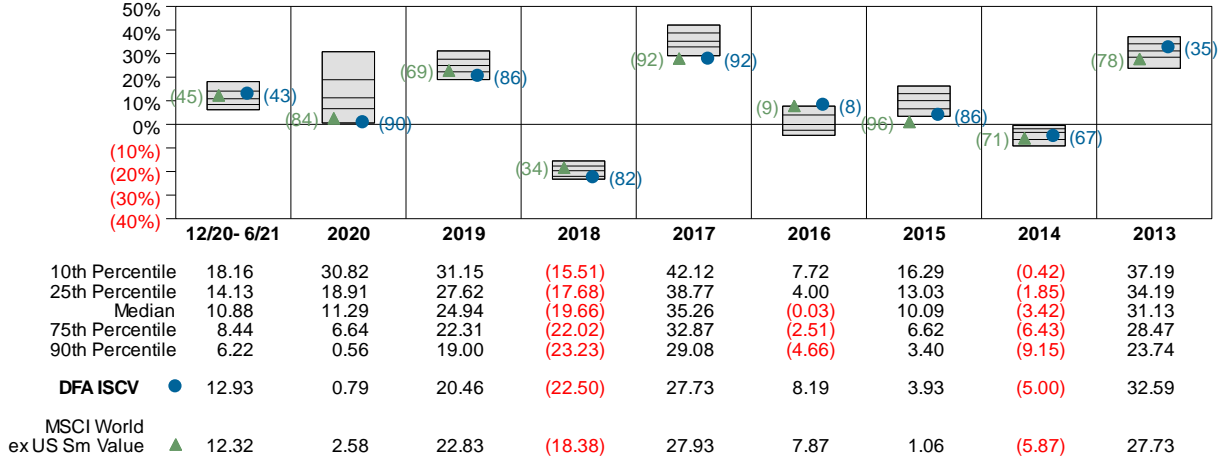
Monitor = Recommended action for the Board

Search = Board authorized a manager search

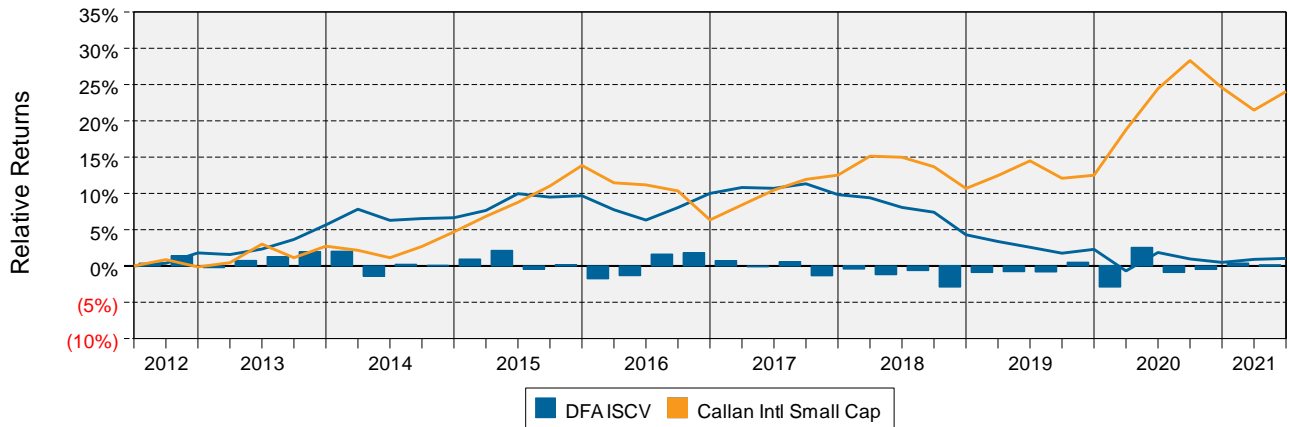
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Manager Watch List: DFA

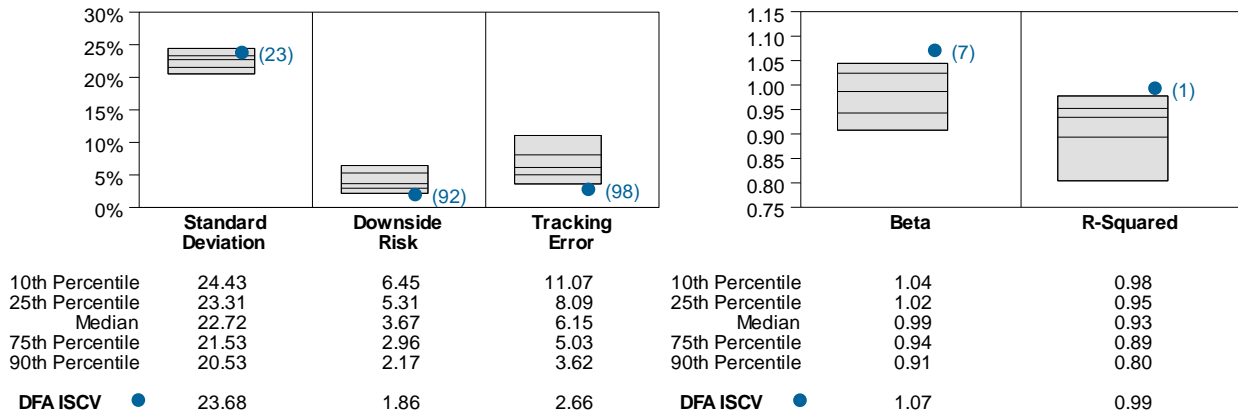
Performance vs Callan International Small Cap (Gross)



Cumulative and Quarterly Relative Return vs MSCI World ex US Sm Value



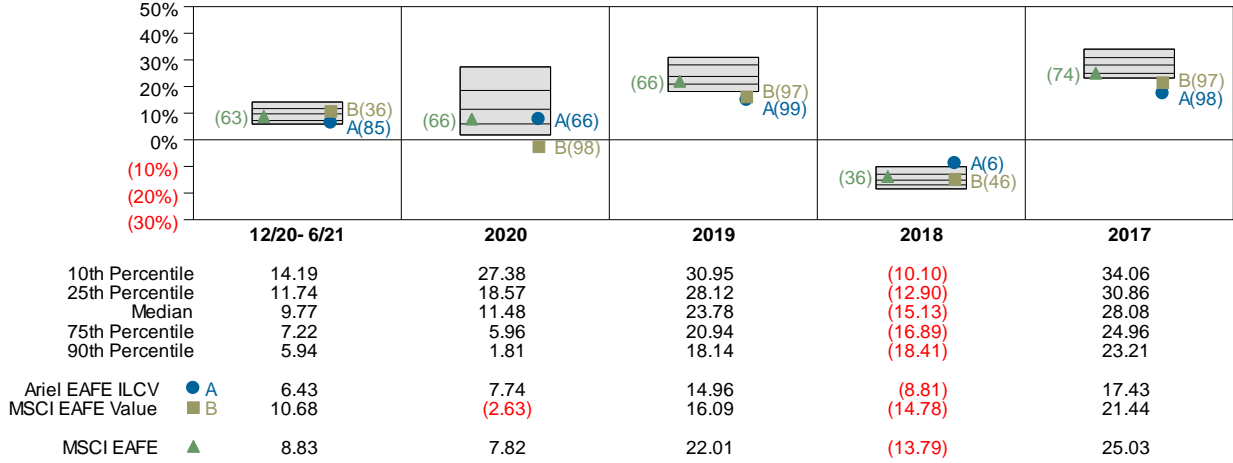
**Risk Statistics Rankings vs MSCI World ex US Sm Val (USD Net Div)
Rankings Against Callan International Small Cap (Gross)
Five Years Ended June 30, 2021**



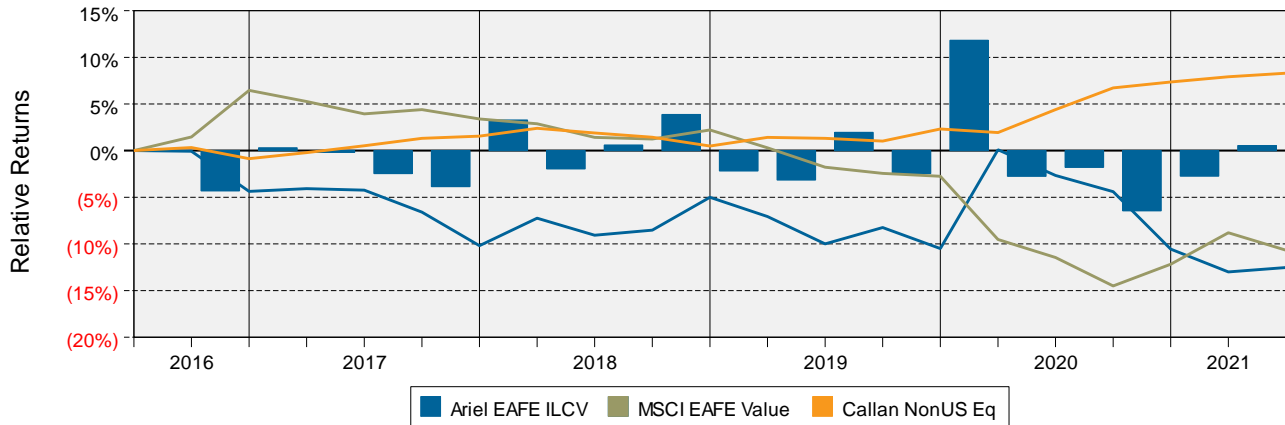
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Manager Watch List: Ariel

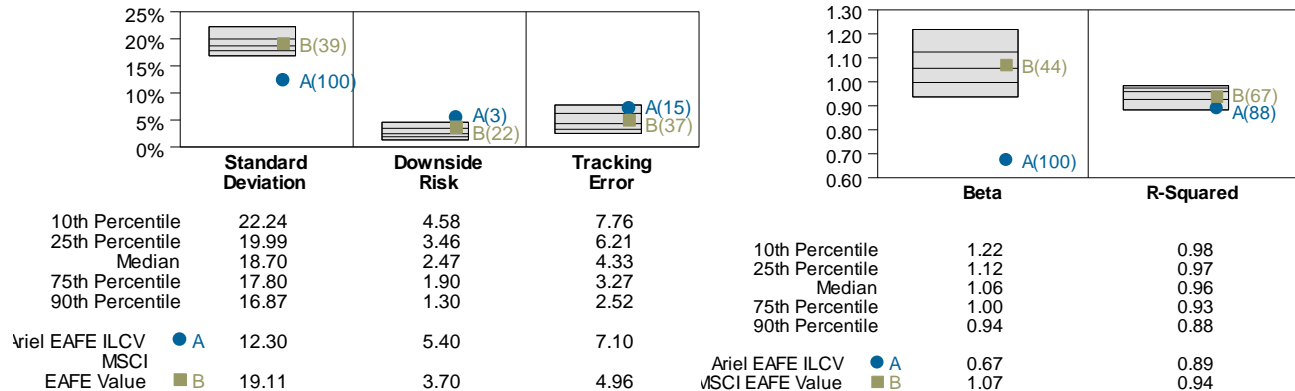
Performance vs Callan Non-US Equity (Gross)



Cumulative and Quarterly Relative Return vs MSCI EAFE



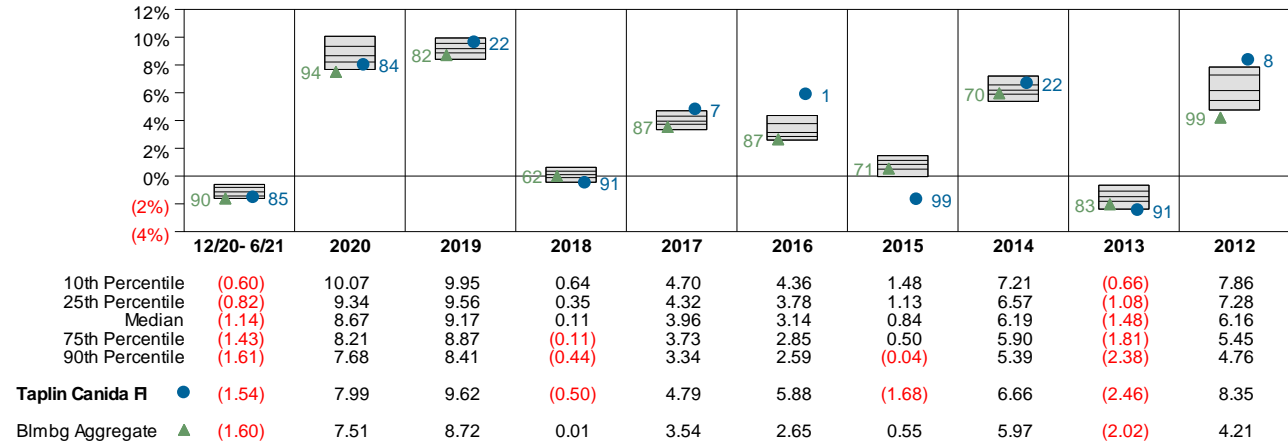
**Risk Statistics Rankings vs MSCI EAFE Index (USD Net Div)
Rankings Against Callan Non-US Equity (Gross)
Five Years Ended June 30, 2021**



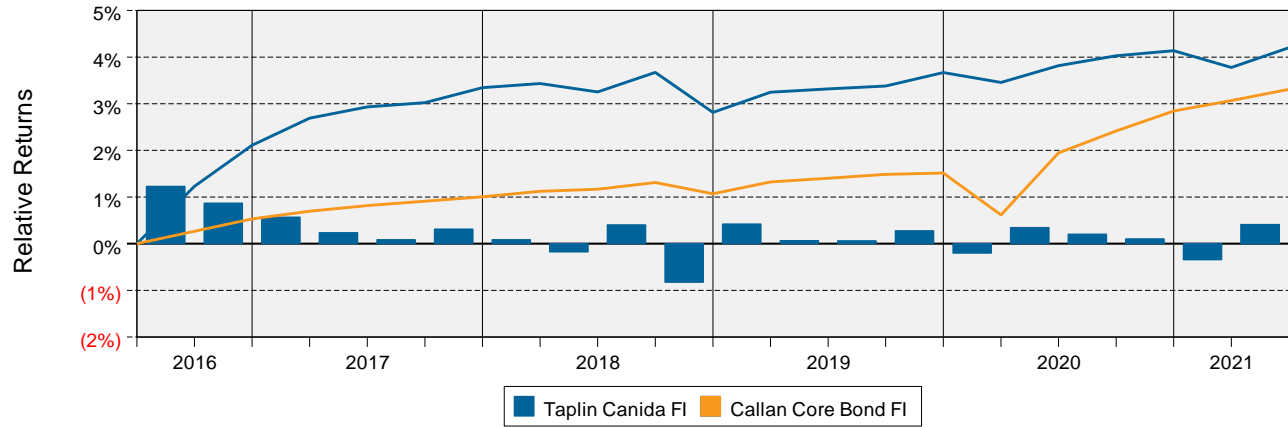
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Manager Watch List: BMO Fixed Income

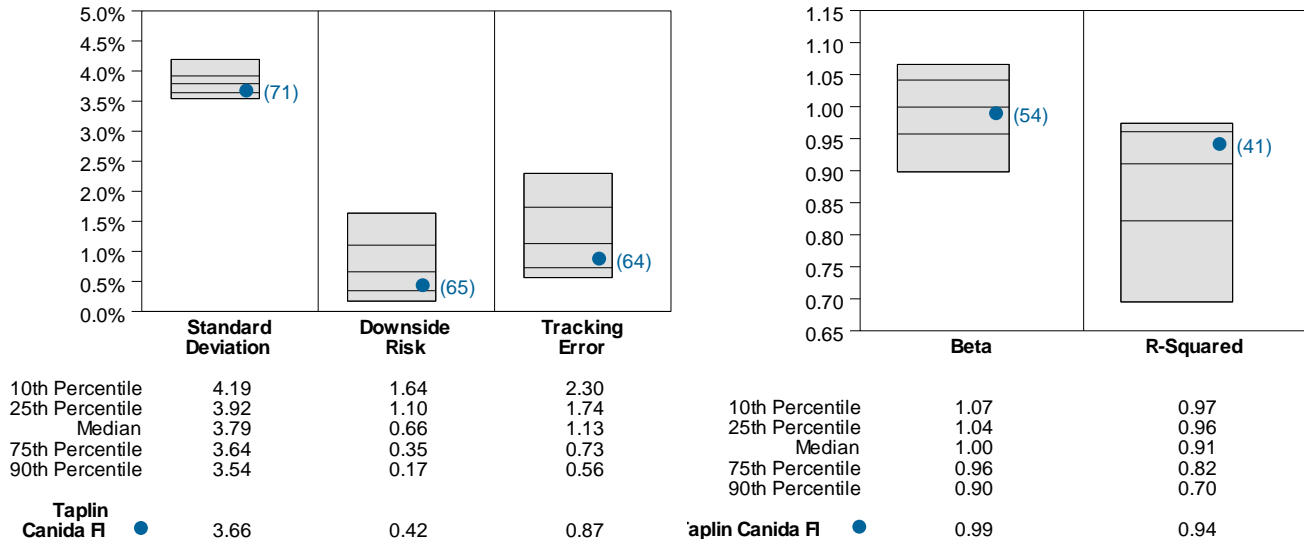
Performance vs Callan Core Bond Fixed Income (Gross)



Cumulative and Quarterly Relative Return vs Blmbg Aggregate



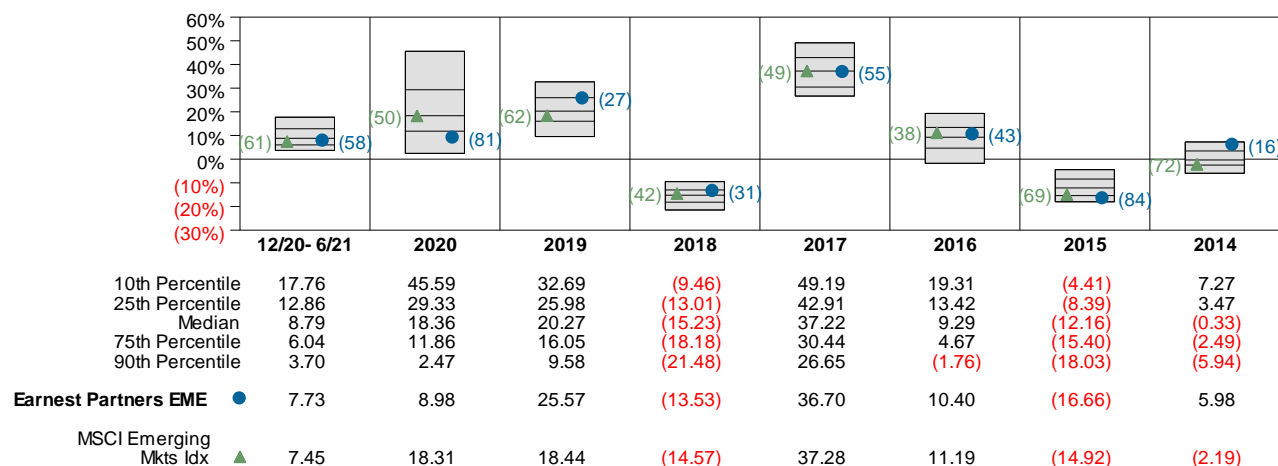
**Risk Statistics Rankings vs Bloomberg Barclays Aggregate
Rankings Against Callan Core Bond Fixed Income (Gross)
Five Years Ended June 30, 2021**



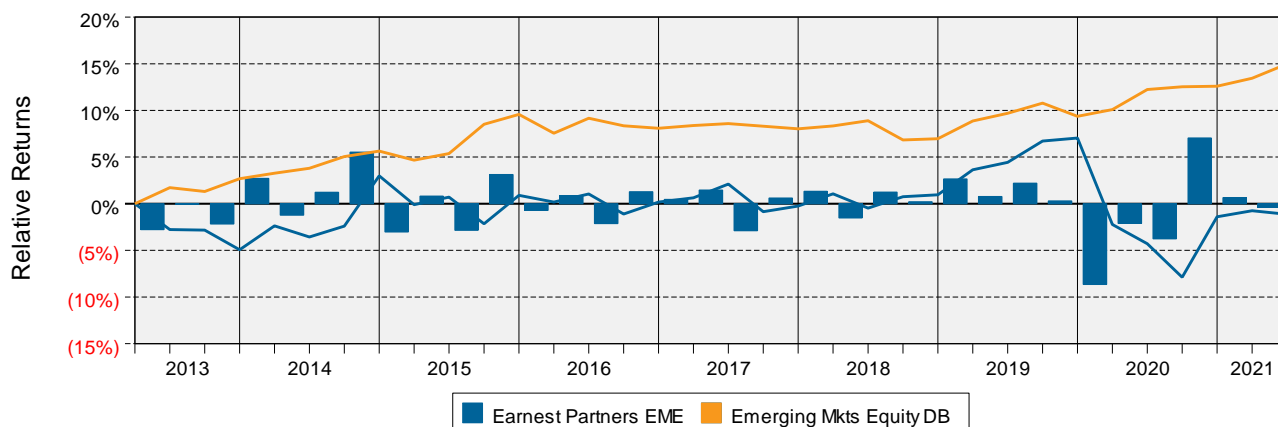
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Manager Watch List: Earnest Partners EM

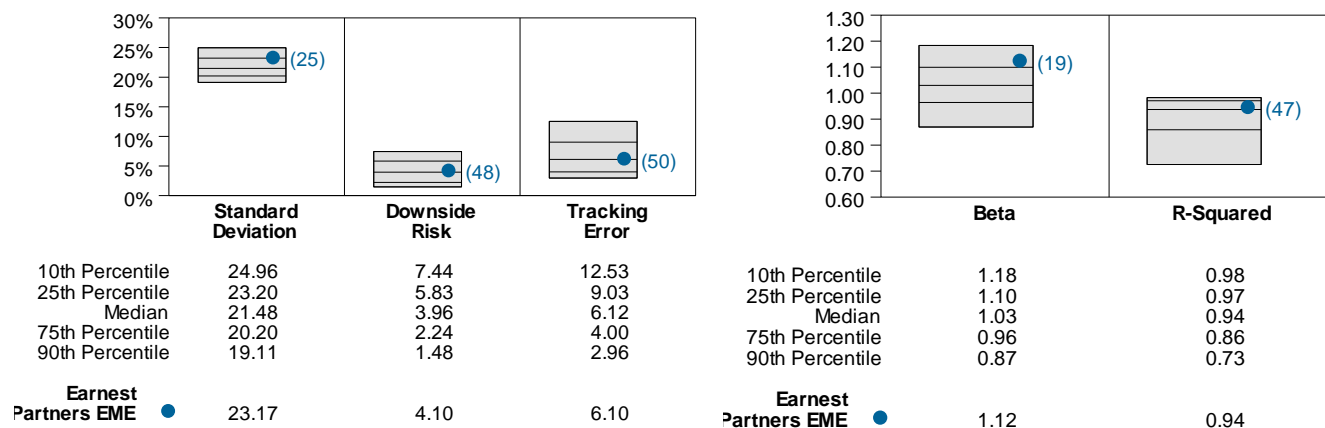
Performance vs Emerging Markets Equity DB (Gross)



Cumulative and Quarterly Relative Return vs MSCI Emerging Mkts Idx



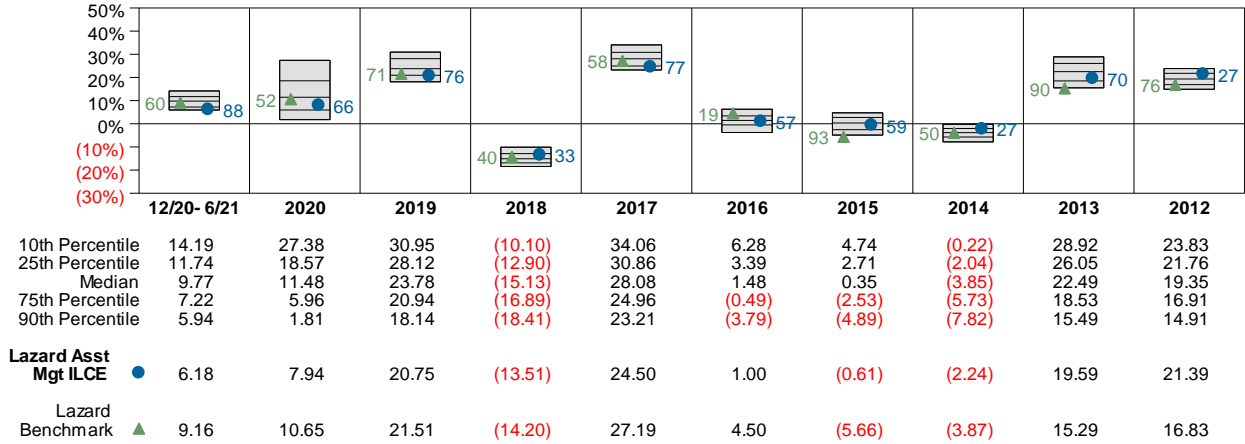
Risk Statistics Rankings vs MSCI Emerging Mkts Idx Rankings Against Emerging Markets Equity DB (Gross) Five Years Ended June 30, 2021



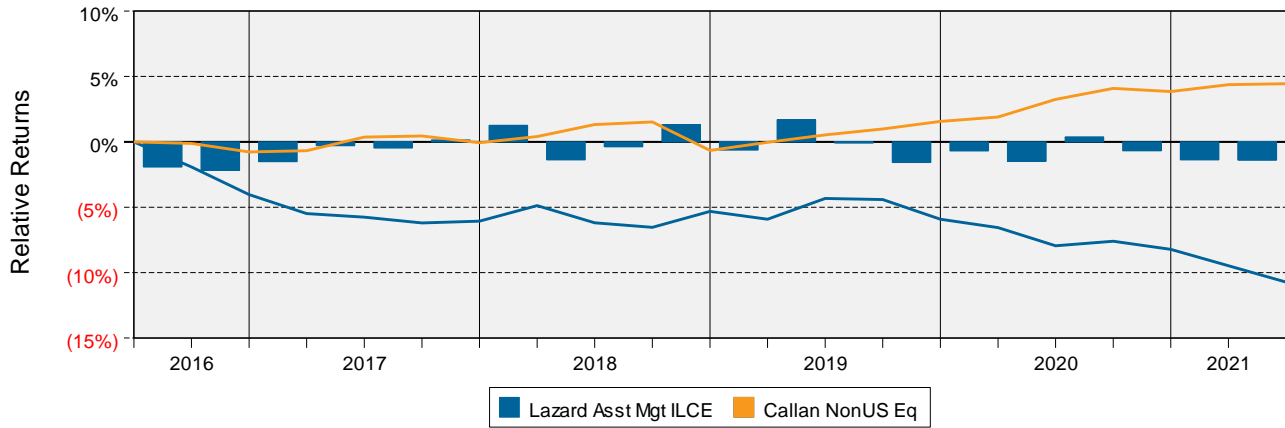
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Manager Watch List: Lazard

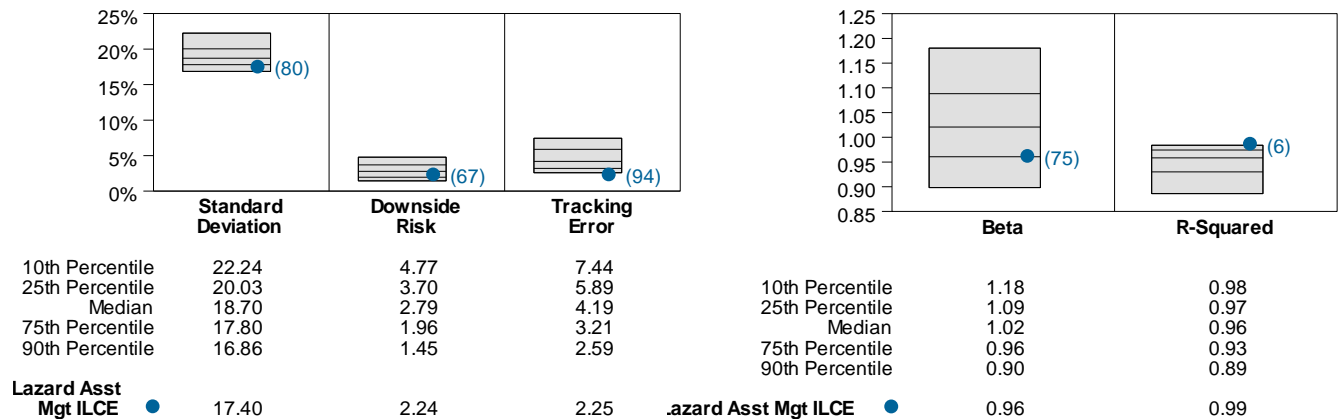
Performance vs Callan Non-US Equity (Gross)



Cumulative and Quarterly Relative Return vs Lazard Benchmark



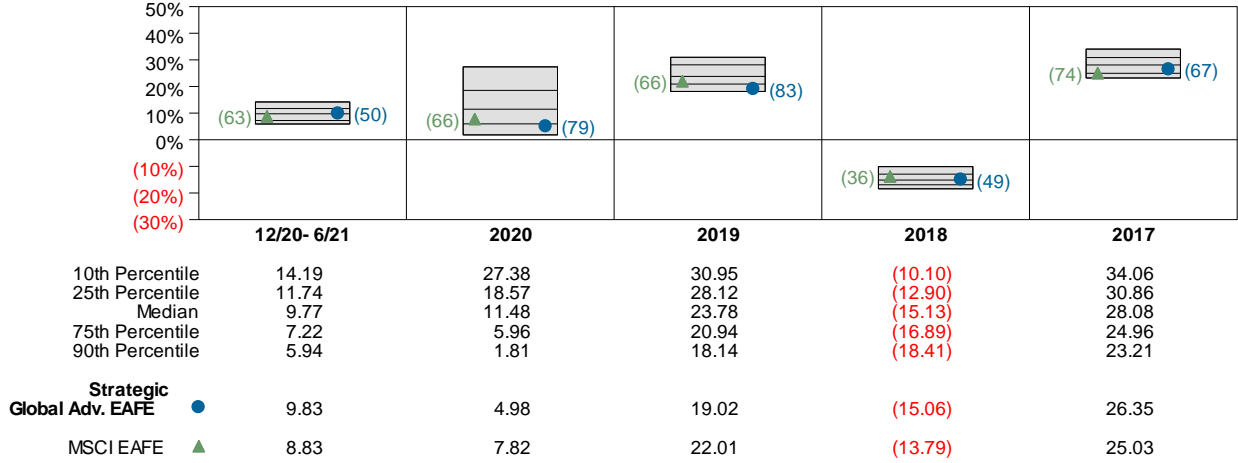
Risk Statistics Rankings vs Lazard Benchmark Rankings Against Callan Non-US Equity (Gross) Five Years Ended June 30, 2021



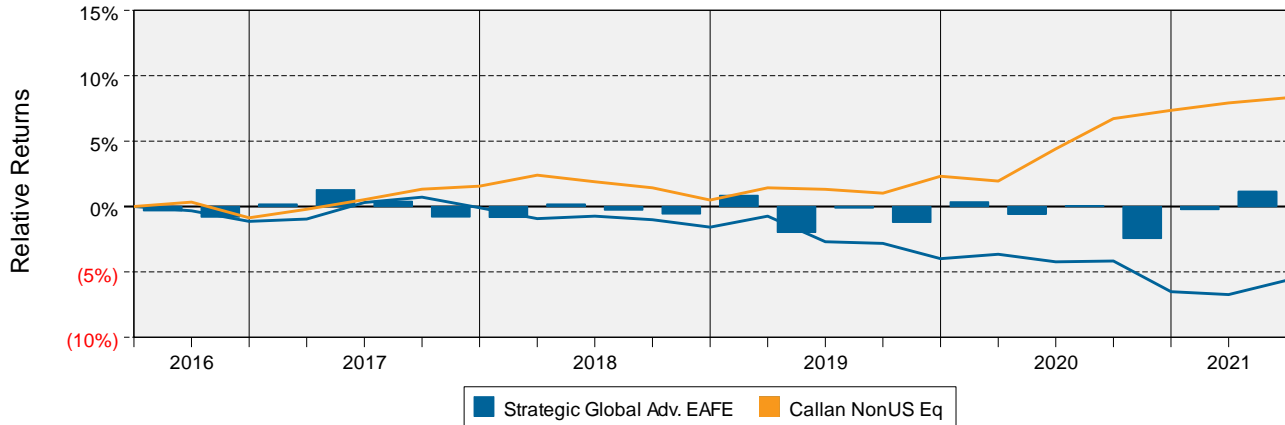
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Manager Watch List: Strategic Global Advisors

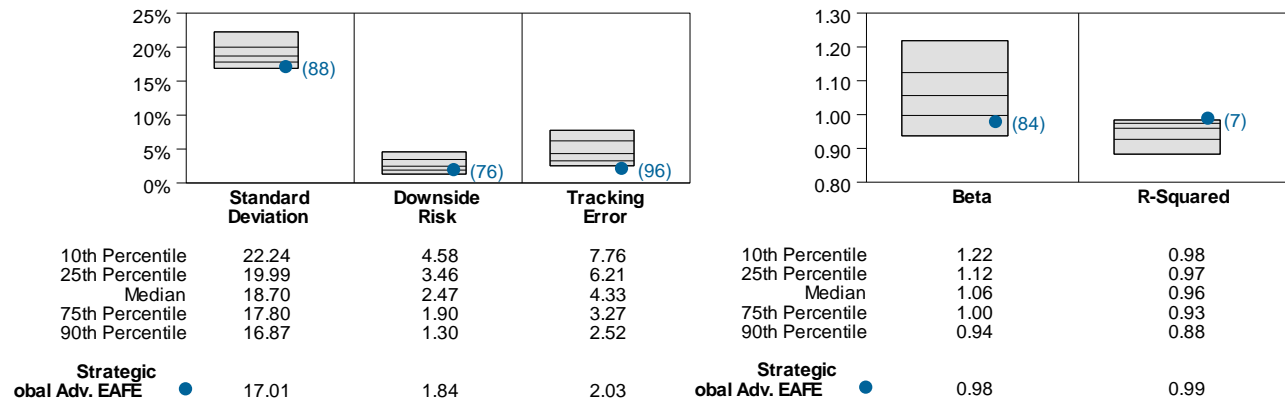
Performance vs Callan Non-US Equity (Gross)



Cumulative and Quarterly Relative Return vs MSCI EAFE



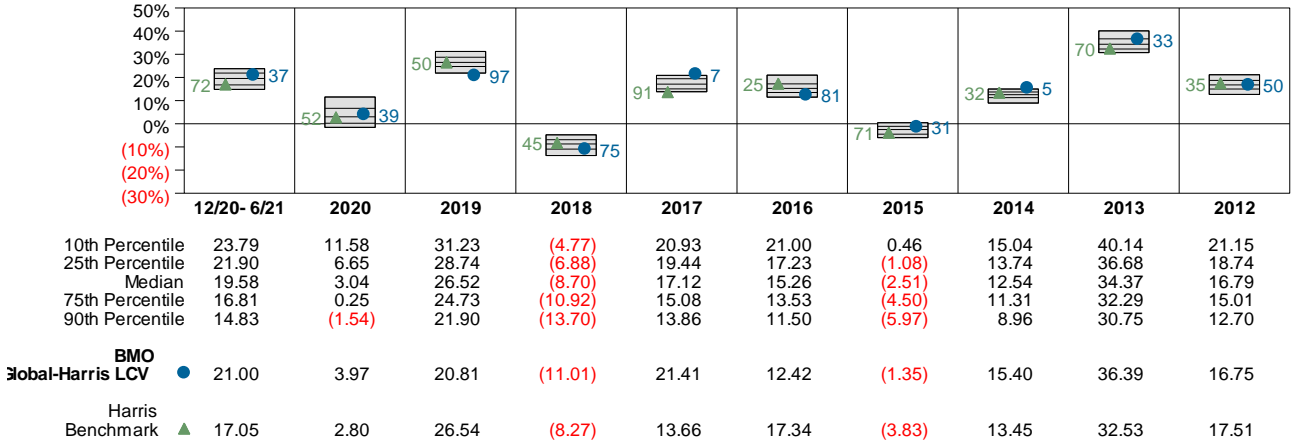
**Risk Statistics Rankings vs MSCI EAFE Index (USD Net Div)
Rankings Against Callan Non-US Equity (Gross)
Five Years Ended June 30, 2021**



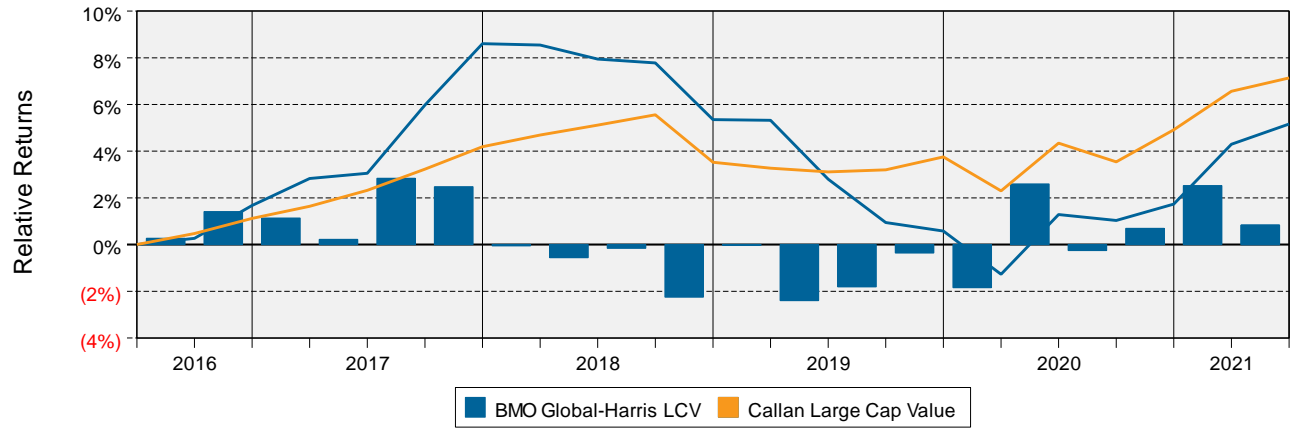
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Manager Watch List: BMO Large Cap Value

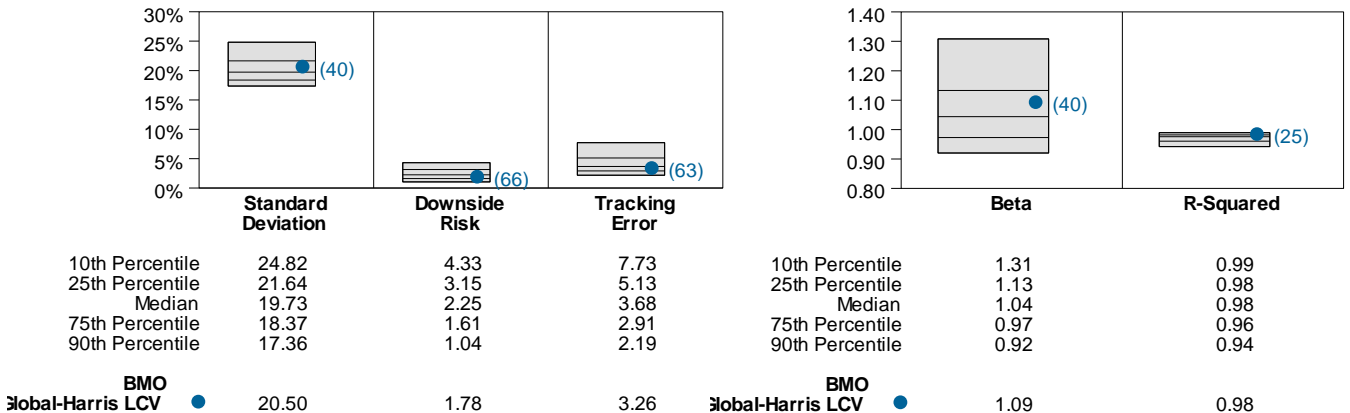
Performance vs Callan Large Cap Value (Gross)



Cumulative and Quarterly Relative Return vs Harris Benchmark



**Risk Statistics Rankings vs Harris Benchmark
Rankings Against Callan Large Cap Value (Gross)
Five Years Ended June 30, 2021**



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General Market and Economic Conditions

There was not a lot for investors to complain about in 2Q21, especially when compared to 2Q20. Fueled by rapid progress in vaccinations and re-opening economies, pent-up demand, and continued monetary and fiscal stimulus, consumer sentiment climbed and economic data were broadly positive. This spurred sharp gains in global stock markets, commodities, and real estate. Atypically, bonds were even well-behaved and delivered positive quarterly returns in spite of rising inflation and buoyant economic growth. Markets were seemingly undisturbed by the ongoing debate as to whether recent increases in inflation will be short-lived or not, with most of Wall Street being in the Fed's "transitory" camp. Investors were also unperturbed by the Fed's move to a more "hawkish" stance coming out of its recent June meeting (more on both topics later).

According to the Centers for Disease Control, nearly 60% of the U.S. population (ages 18 and over) has been vaccinated (more than 150 million). Aside from the U.K., most developed markets are making slower but steady progress. Japan is an exception. According to the World Health Organization, less than 8% of its population has been vaccinated as it prepares for the Olympics this summer. Japan has faced a shortage of doctors and nurses and, further, has had to import all of its vaccines. Emerging market countries have had mixed success but have generally lagged developed markets.

Consumer demand for goods and services has been robust, spurred by stimulus and months of forced solitude, while supply in some channels has been constrained by labor shortages and other bottlenecks. Real GDP growth in 1Q surged 6.4% (annualized) and some expect growth to exceed 9% in 2Q. The most recent prediction from the Congressional Budget Office was for GDP growth to be 7.4% in 2021, the fastest pace since 1984 and double its forecast of 3.7% issued in February 2021. Under the hood of the headline GDP figure, personal consumption and business investment grew 11.4% and 11.7%.

Manufacturing and services indices remained strong in spite of supply bottlenecks and widespread labor shortages. The July 1 release of the Institute for Supply Management (ISM) Manufacturing Index was 60.6 (above 50 signals expansion) and the prices-paid component jumped to 92.1, the highest since 1979. The Conference Board Consumer Confidence Index reached a 13-month high, and the "jobs gap," which measures the difference between those indicating that jobs are "easy" versus "hard" to get, reached 43.5%, near an all-time high. Unemployment fell to 5.8% as of the end of May. There are still nearly 10 million people unemployed, yet job openings are at record levels (9.3 million in April according to the Labor Department's JOLTS report) and labor shortages are widespread. There are a number of theories for this, all of which likely have some element of truth. These range from employees' fear of returning to the workforce given concerns over the virus, to difficulties finding childcare, to a simple reassessment of priorities (early retirements have accelerated) and quality-of-life considerations (did I really like my job?). Further, continued jobless benefits have likely made the choice possible, though this contributor could be short-lived as federal benefits are slated to expire in September and a number of states have already ended theirs. A mismatch in skill requirements is an issue in some industries as well.

Housing prices have been on a tear. The S&P CoreLogic Case-Shiller U.S. National Home Price Index showed a 14.6% increase over the past year (as of April), the highest reading since data began to be collected more than 30 years ago. Demand for houses has surged throughout the country while inventory has never been lower, and builders have been hampered by high costs and labor shortages.

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Craig Lazzara, managing director and global head of index investment strategy at S&P DJI, summarized it well, "April's performance was truly extraordinary.... Housing prices in all 20 cities rose; price gains in all 20 cities accelerated; price gains in all 20 cities were in the top quartile of historical performance. In 15 cities, price gains were in the top decile. Five cities—Charlotte, Cleveland, Dallas, Denver, and Seattle—joined the National Composite in recording their all-time highest 12-month gains." The Consumer Price Index (CPI) rose 5.0% over the last 12 months (as of May), exceeding expectations and notching the largest increase since 2008. Core CPI (ex food and energy) was up 3.8% year-over-year, the largest increase since 1992. The Fed's favored measure, core PCE, climbed 3.9% (3.4% core) for the period, well above its long-term 2% target. While leaving the Fed Funds rate alone at 0.0%-0.25% at its June meeting, the Federal Open Market Committee turned a bit more hawkish. Seven of the 18 committee members see the first hike in 2022 and thirteen members expect a hike in 2023. In March, there were four members expecting a 2022 hike and seven expecting a hike in 2023. The Fed also sharply raised its expectation for inflation, measured by the PCE, in 2021 (from 2.4% in March to 3.4%). Asset purchases of \$120 billion per month continue, but Chairman Jerome Powell did acknowledge that "tapering" had been a discussion item at the meeting. It would not be a surprise to see asset purchases tempered at some point this year.

A wide-ranging debate around whether inflation increases will be short-lived is ongoing. Supporting arguments for this include:

- Current inflation figures are off of a low pandemic-induced base and thus unsustainable
- Downward price pressures from secular themes such as globalization and an aging workforce will resurface
- Intensity/pace of this economic rebound has created short-term supply-related price pressures that will subside

For those concerned about more stubborn inflation increases, the following points are cited:

- Wage pressures can be expected to climb as workers demand higher compensation
- Price increases have been broad-based (used cars, food, energy, construction, car rentals, airfare, appliances)
- Supply constraints could be longer lasting and lead to "cost-push" inflation

Interestingly, the bond market appears to be unfazed and yields fell steadily throughout the quarter after rising sharply in 1Q. One may wonder what the bond market is seeing that others are missing.

Second Quarter 2021 Market Performance

The S&P 500 Index closed the quarter at a record high and registered an 8.5% gain in 2Q, bringing its YTD return to 15.3%. The Index is up 40.8% over the past year and the annualized return over the past 10 years is a healthy 14.8%. The S&P 500 Index hit 34 record highs in the first half of the year. First quarter earnings were up over 50%, according to FactSet, and second quarter earnings are projected to grow more than 60% (YOY). Real Estate was the strongest-performing sector in the S&P 500 for the quarter (+13.1%) with Technology close behind (+11.6%). Utilities was the only sector to post a negative result (-0.4%). Growth stocks outperformed value (R1000 Growth: + 11.9%; R1000 Value: + 5.2%) but lag for the YTD period (+13.0% vs. +17.0%) Small cap lagged large (R2000: +4.3% vs.

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R1000: +8.5%) but is ahead by a modest margin YTD (17.5% vs 15.0%).

Developed ex-U.S. stocks also had a strong quarter with virtually all developed market countries posting positive returns. The MSCI ACWI ex-USA Index rose 5.5% for the quarter and is up 9.2% YTD. As in the U.S., Utilities (-0.4%) was the lone sector to produce a negative return. Health Care (+9.9%) and Energy (+8.2%) were the top-performing sectors. Canada (+10.0%) was a strong performer and Japan (-0.3%) was notable as the lone country to deliver a negative return. The U.S. dollar was mixed against developed market currencies and thus shifts were not a major contributor to relative results. The MSCI EM Index performed in line with developed markets (MSCI EM USD: +5.0% and +7.4% YTD), but country returns were mixed. Brazil (+23%) and Russia (+14%) were top performers while Chile (-14%) was at the bottom of the pack. China was up 2% and China A-shares (+9.2%) did especially well as softer economic data in May appeared to ease investors' concerns over potential policy tightening.

The 10-year U.S. Treasury yield declined steadily throughout the quarter, from 1.74% as of 3/31 to 1.45%. TIPS outperformed nominal Treasuries for the quarter given strong relative performance in April and May. The Bloomberg Barclays US Aggregate Bond Index rose 1.8% but remains down 1.6% YTD. Strong equity performance and robust economic data fueled risk appetites, and lower-quality securities were the best performers again this quarter. Corporates outperformed Treasuries as investors continued to reach for yield in spite of the paltry yield advantage (the average option-adjusted spread on the Corporate Index was 80 bps as of quarter-end, the lowest since 1998). The Bloomberg Barclays High Yield Index was up 2.7%. The absolute yield-to-worst for the Index reached an all-time low of 3.75% and its option-adjusted spread hit 268 bps, the lowest since 2007. Municipals (Bloomberg Barclays Municipal Bond Index: +1.4%) performed in line with Treasuries for the quarter.

The U.S. dollar was mixed versus developed market currencies but shifts were fairly modest. Thus, currency was not a major contributor to relative results for global ex-U.S. indices. The Bloomberg Barclays Global Aggregate ex-US Bond Index rose 0.9% (+0.4% hedged). Emerging market debt performed well; the JPM EMBI Global Diversified Index gained 4.1% and the local currency JPM GBI-EM Global Diversified Index was up 3.5%. Both remain down YTD, however; -0.7% and -3.4%, respectively.

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Appendix

Appendix - 6/30/21

	<u>Watch List Criteria:</u> Rolling three year returns rank below median (Gross of Fees).		<u>Watch List Criteria:</u> 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.		<u>Watch List Criteria:</u> Rolling seven year returns rank below median (Gross of Fees).		<u>Watch List Criteria:</u> Rolling seven year returns are below the return of the index (Net of Fees).		<u>Watch List Criteria:</u> Five year information ratio is negative and ranks below median.		<u>Watch List Criteria:</u> Five year up market capture is below 90% and ranks below median.		<u>Watch List Criteria:</u> Five year down market capture is above 90% and ranks below median.		Weighted Averages	
	03/31/2021	06/30/2021	03/31/2021	06/30/2021	03/31/2021	06/30/2021	03/31/2021	06/30/2021	03/31/2021	06/30/2021	03/31/2021	06/30/2021	03/31/2021	06/30/2021	03/31/2021	06/30/2021
Manager																
<i>Large Cap Value Equity</i>																
BMO-Harris	Yes	Yes	No	No	Yes	No	Yes	No	Yes	No	No	No	Yes	Yes	0.80	0.20
<i>Small Cap Growth Equity</i>																
BMO**	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	0.60	0.40
Conestoga**	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	0.10	0.10
<i>Small Cap Value Equity</i>																
Phocas*	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	0.70	0.60
<i>Small Cap Equity</i>																
NTGI Structured Small Cap	No	No	No	No	No	No	No	No	Yes	Yes	No	No	No	No	0.20	0.20
<i>All Cap Growth Equity</i>																
Zevenbergen	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0.00	0.00
<i>All Cap Value Equity</i>																
Channing	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	0.10	0.10
<i>International Equity</i>																
EARNEST Partners	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	0.20	0.10
Lazard	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	0.90	0.90
Morgan Stanley	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	No	No	0.30	0.30
Leading Edge	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	0.60	0.60
William Blair	No	No	No	No	No	No	No	No	No	No	No	No	No	No	0.00	0.00
Ariel*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1.00	0.90
Strategic Global*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	0.80	0.80
<i>International Small Cap</i>																
William Blair	No	No	No	No	No	No	Yes	No	No	No	No	No	Yes	Yes	0.30	0.10
DFA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	0.90	0.90
<i>Emerging Market Equity</i>																
EARNEST Partners	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	0.80	0.80
<i>Active Core Fixed Income</i>																
Taplin, Canida & Habacht	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	Yes	Yes	0.40	0.40
Pugh	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	Yes	Yes	0.40	0.40
Garcia Hamilton	Yes	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No	0.10	0.40
Wellington**	Yes	Yes	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	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	Yes	Yes	0.40	0.40
<i>Active Opportunistic Fixed Income</i>																
WAMCO	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	0.10	0.10

*Manager does not yet have 7 years of portfolio data. CTFP portfolio data has been linked with a representative historical manager composite to populate columns requiring at least 7 years of data in the analysis above.

**Manager does not yet have 3 years of portfolio data. CTFP portfolio data has been linked with a representative historical manager composite to populate all columns in the analysis above.