

Callan



Executive Summary

December 31, 2023

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**Chicago Teachers' Pension Fund
Performance Evaluation Executive Summary
Fourth Quarter 2023**

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Total Fund Commentary

The Fund was valued at \$12.1 billion at the end of the fourth quarter, representing an increase of approximately \$814.2 million from September 30, 2023. The change in the Fund's market value was attributable to approximately \$848.2 million in new investment gains and \$34 million in cash outflows. The Fund's asset allocation was close to the permissible Investment Policy ranges, except for private equity, international equity, and fixed income. The private equity component of the portfolio exceeded the upper bound of the range by approximately 1.6% while fixed income and international equity were both below the lower bound of the range by approximately 1.3% and 1.0%, respectively. With respect to the Fund's asset allocation versus the current target at the end of the fourth quarter, underweights to domestic equity (-0.5%), international equity (-4.5%), and fixed income (-4.3%) were offset by overweights to real estate (+1.9%), private equity (+3.6%), infrastructure (+0.3%), and cash (+3.6%).

The most widely predicted recession in recent history did not materialize in 2023. In late 2022, 85% of economists polled by the Financial Times predicted a recession in 2023. Consumers were also gloomy, affected by post-pandemic blues and worries over rising inflation, especially gas and food prices, and stagnating wages. In 1Q23, an unforeseen regional banking crisis and continued rate hikes portended a potentially bleak remainder of the year. Fast forward to 4Q23.

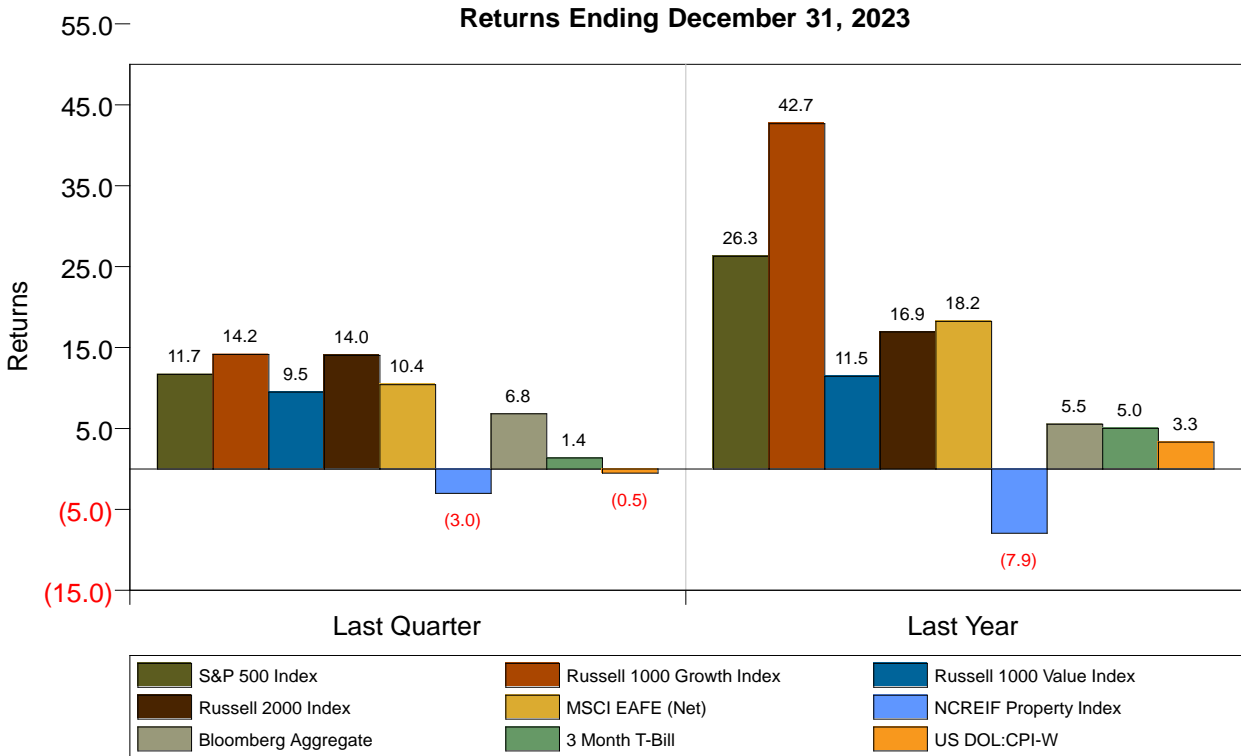
In this environment, the Fund had a net return of 7.57% over the quarter (7.66% gross of fees), underperforming the Policy Target by 105 basis points, but ranking in the 34th percentile of peers. Longer-term performance (trailing three-, five-, seven-, and ten-year periods) is ahead of the Policy Target and, with the exception of the trailing three-year period, ranks ahead of the peer group median. Over the quarter, domestic equity, fixed income, and international equity positively contributed to results. Real estate, private equity, and infrastructure had negative attribution this quarter. 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 to capture the magnitude and timing of the cash flows associated with these investments. Callan prepares separate reports on behalf of CTPF to evaluate the performance of these investments in more detail.

Closing Thoughts

While 2023 defied most expectations with inflation moderating and the economy displaying resilience, 2024 is not without challenges. Never-ending geopolitical worries and another looming government shutdown may cast shadows on the economic picture. The lagged effect of higher interest rates poses an unknown threat to the outlook, and premature Fed rate cuts could re-ignite inflation. It seems unlikely that the returns experienced in 2023 will be repeated though it is important to recognize that those results were unexpected by most. Callan continues to recommend 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

• **Fourth Quarter, 2023 Investment Performance Update:**

- Performance: For the fourth quarter, the Fund underperformed the market benchmark by 96 basis points, gross of investment management fees (105 basis points net of fees) and ranked in the 34th 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:

- Ariel: Included on the Watch List due to underperformance and personnel turnover. On August 16, 2023, Callan was notified by Ariel that Rupal Bhansali has decided to leave the firm and start her own business. While her official last day will be on August 31, 2023, we have been advised that she will serve as a consultant to Ariel through February 28, 2024, to assist with the transition. Henry Mallari-D'Auria, the Head of Emerging Markets Investments, will become CIO of Ariel's global equity and emerging markets equity strategies. Both the International and Global as well as Emerging Markets teams will report to him. Micky J. Jagirdar, Head of Investments for International & Global Equities and co-portfolio manager on the Global Concentrated strategy, will support Mallari-D'Auria in the management of the International and Global strategies. Jagirdar, who has more than 20 years of experience, joined the firm in 2011 along with Bhansali and was appointed as head of Investments in 2016. Jagirdar is Bhansali's younger brother.
- Strategic Global Advisors: Was originally included on the Watch List due to underperformance. Performance has improved and SGA is recommended for removal from the watch list.
- State Street Global Advisors: Included on the watch list due to missing MWDBE brokerage goals.
- Attucks: On March 1, 2024, Attucks announced that Winston Blake, President of Attucks, departed the firm. Blake served as President for over 12 years prior to his departure.

In the fourth quarter of 2022, Attucks announced several initiatives impacting their technology platform and investment team. The firm made enhancements to its back office operations, which will allow them to improve data flow in the areas of accounting, performance, compliance, billing, and content distribution. With respect to the investment team, Attucks added two individuals, Dhruvi Shah, who joined as a Senior Investment Analyst, and Sinclair Nagy, who joined as a Vice President. Shah will focus on fixed income, while Nagy will provide support in the areas of portfolio management, manager research and private markets coverage. In addition, Attucks announced that former CIO, Patrick Silvestri, decided to leave the firm effective January 1, 2023. The role of Chief Investment Officer is being eliminated, as part of Attucks' strategic plan. Given the magnitude of these changes and the portfolio's underperformance, Attucks has been placed on watch.

- William Blair International Small Cap: Included on the Watch List due to underperformance.

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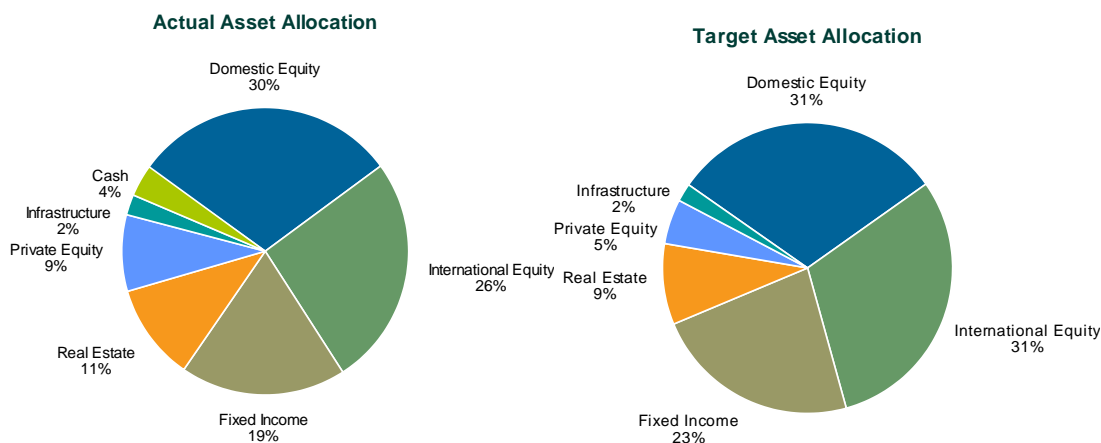
- J.P. Morgan Strategic Property Fund (SPF): Callan was notified on Monday, November 6, 2023, that Kim Adams, Senior Portfolio Manager of the J.P. Morgan SPF, decided to depart J.P. Morgan to pursue other career interests, effective immediately. Ms. Adams was the senior portfolio manager of SPF for the past five years and the co-portfolio manager for an additional five years. The portfolio management team structure is changing as a result of Ms. Adams' departure. The new team for SPF will now consist of co-portfolio managers Brian Nottage, Sue Kolasa, and Caitlin Simon, all of whom are based in New York, as well as assistant portfolio manager Jason Curran who joined the Fund team in 2022 and is based in Los Angeles. All individuals will be 100% dedicated to the Fund. Given these significant changes, we believe SPF should be placed on watch status and monitored closely going forward.

In addition to the personnel turnover described above, based on the watch list parameters for performance, the J.P. Morgan SPF qualifies to be added to the watch list for underperformance.

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Asset Allocation

The Fund was valued at \$12.1 billion at the end of the fourth quarter, representing an increase of approximately \$814.2 million from September 30, 2023. The change in the Fund's market value was attributable to approximately \$848.2 million in new investment gain and \$34 million in cash outflows. The Fund's asset allocation was close to the permissible Investment Policy ranges, except for private equity, international equity, and fixed income. The private equity component of the portfolio exceeded the upper bound of the range by approximately 1.6% while fixed income and international equity were both below the lower bound of the range by approximately 1.3% and 1.0%, respectively. With respect to the Fund's asset allocation versus the current target at the end of the fourth quarter, underweights to domestic equity (-0.5%), international equity (-4.5%), and fixed income (-4.3%) were offset by overweights to real estate (+1.9%), private equity (+3.6%), infrastructure (+0.3%), and cash (+3.6%).



Asset Class	\$Millions Actual	Weight Actual	Target	Percent Difference	\$Millions Difference
Domestic Equity	3,624	30.0%	30.5%	(0.5%)	(59)
International Equity	3,134	26.0%	30.5%	(4.5%)	(549)
Fixed Income	2,254	18.7%	23.0%	(4.3%)	(523)
Real Estate	1,316	10.9%	9.0%	1.9%	229
Private Equity	1,036	8.6%	5.0%	3.6%	432
Infrastructure	274	2.3%	2.0%	0.3%	33
Cash	437	3.6%	0.0%	3.6%	437
Total	12,075	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 December 31, 2023, with the distribution as of September 30, 2023. 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.

	December 31, 2023			September 30, 2023		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
DOMESTIC EQUITY	\$3,623,764,406	30.01%	\$(99,233,638)	\$400,866,462	\$3,322,131,582	29.50%
Rhumblin Rsl 1000 LCC	2,336,766,220	19.35%	(93,870,452)	254,407,238	2,176,229,434	19.33%
Rhumblin Rsl 1000 LCG	366,006,584	3.03%	(680,227)	45,189,910	321,496,902	2.86%
Zevenbergen US ACE	116,199,025	0.96%	(122,763)	15,901,921	100,419,867	0.89%
Channing US ACE	141,085,197	1.17%	(902,178)	17,342,129	124,645,245	1.11%
Rhumblin LCV	303,578,359	2.51%	(1,747,274)	26,413,968	278,911,665	2.48%
NTGI Structured SCC	85,350,834	0.71%	(358,626)	10,214,103	75,495,358	0.67%
Conestoga SCG	107,524,154	0.89%	(277,690)	11,072,232	96,729,613	0.86%
Phocas SCV	93,365,265	0.77%	(700,195)	10,935,344	83,130,116	0.74%
Attucks Domestic Equity (Mgr of Mgrs)	\$73,888,767	0.61%	\$(574,231)	\$9,389,618	\$65,073,381	0.58%
Attucks Matarin SCC	1,654	0.00%	(23)	23	1,653	0.00%
Attucks Heard ACC	36,979,790	0.31%	(460,508)	5,875,964	31,564,334	0.28%
Attucks Lasanti	22,684,230	0.19%	(15,577)	2,145,467	20,554,340	0.18%
Attucks Paradigm LCV	14,207,344	0.12%	(98,006)	1,367,751	12,937,599	0.11%
Attucks Cash Acct LCE	241	0.00%	(3)	57	187	0.00%
Attucks Transition	15,508	0.00%	(116)	356	15,268	0.00%
INTERNATIONAL EQUITY	\$3,133,961,177	25.95%	\$(79,324,683)	\$305,585,113	\$2,907,700,748	25.82%
Ariel EAFE ILCV	74,167,243	0.61%	(527,417)	5,324,655	69,370,005	0.62%
DFA ISCV	180,288,006	1.49%	(1,041,527)	15,245,873	166,083,660	1.47%
Earnest Partners EME	197,267,993	1.63%	(1,720,125)	16,885,180	182,102,938	1.62%
Earnest Partners ILCE	516,879,628	4.28%	(13,532,777)	47,794,948	482,617,457	4.29%
Lazard Asst Mgt ILCE	511,557,507	4.24%	(12,013,576)	42,566,467	481,004,616	4.27%
Leading Edge IE MOM	140,306,942	1.16%	(985,258)	14,368,716	126,923,483	1.13%
Morgan Stanley ILCE	535,017,438	4.43%	(3,000,026)	50,059,535	487,957,929	4.33%
Strategic Global Adv. EAFE	81,799,934	0.68%	(594,309)	7,764,927	74,629,316	0.66%
William Blair LCG	572,905,541	4.74%	(24,288,531)	69,946,010	527,248,062	4.68%
William Blair ISCE	192,882,033	1.60%	(21,143,372)	23,318,038	190,707,367	1.69%
Attucks Int'l Equity	\$130,888,913	1.08%	\$(477,765)	\$12,310,764	\$119,055,915	1.06%
Attucks ARI	310	0.00%	0	8	302	0.00%
Attucks GlobeFlex Global Eq	33,236,070	0.28%	(77,822)	2,169,037	31,144,854	0.28%
Attucks Brown Capital Int'l SCG	27,417,586	0.23%	(37,428)	4,001,679	23,453,335	0.21%
Attucks Glovista EM Equity	18,645,028	0.15%	(9,512)	1,312,501	17,342,039	0.15%
Attucks Redwood Int'l ACC	25,862,996	0.21%	(249,614)	2,564,547	23,548,062	0.21%
Attucks Paradigm ILCC	25,726,924	0.21%	(103,390)	2,262,992	23,567,322	0.21%
FIXED INCOME	\$2,254,164,728	18.67%	\$(21,208,569)	\$155,375,457	\$2,119,997,841	18.83%
Garcia Hamilton FIC	265,420,869	2.20%	(1,743,705)	19,791,173	247,373,401	2.20%
LM Capital FICP	307,663,408	2.55%	(3,360,534)	19,316,245	291,707,697	2.59%
Pugh FIC	262,567,823	2.17%	(2,669,959)	17,121,723	248,116,059	2.20%
SSgA Agg Bond Index FI	407,010,302	3.37%	(3,443,141)	25,815,969	384,637,474	3.42%
Ramirez Fixed Income	110,336,425	0.91%	(1,387,654)	6,794,338	104,929,741	0.93%
WAMCO FICP	579,173,786	4.80%	(5,650,078)	45,292,630	539,531,234	4.79%
Wellington Core Bond	265,382,815	2.20%	(2,503,620)	17,939,181	249,947,254	2.22%
Attucks Fixed Income	\$56,609,299	0.47%	\$(449,879)	\$3,304,198	\$53,754,980	0.48%
Attucks Barksdale	17,519,032	0.15%	(192,037)	1,191,806	16,519,263	0.15%
Attucks New Century GI TIPS	19,990,764	0.17%	(46,340)	1,092,264	18,944,840	0.17%
Attucks LM Capital EMD	19,099,502	0.16%	(211,501)	1,020,128	18,290,876	0.16%
TOTAL FUND	\$12,074,975,052	100.00%	\$(33,958,120)	\$848,173,394	\$11,260,759,778	100.00%

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INVESTMENT MANAGER ASSET ALLOCATIONS (Continued)

	December 31, 2023			September 30, 2023		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
INFRASTRUCTURE	\$274,245,363	2.27%	\$(4,606,301)	\$6,940,232	\$271,911,432	2.41%
Brookfield Infra III	53,196,442	0.44%	(2,425,029)	5,061,546	50,559,925	0.45%
Brookfield Infrastructure IV	24,694,977	0.20%	(1,072,113)	551,155	25,215,935	0.22%
Brookfield Infrastructure Fund V	7,055,587	0.06%	(631,734)	(109,069)	7,796,390	0.07%
JLC Infrastructure Fund I	5,621,825	0.05%	848,806	24,493	4,748,526	0.04%
IFM Global Fund	46,265,542	0.38%	(89,460)	262,224	46,092,779	0.41%
JP Morgan Infr-OE	81,605,293	0.68%	(2,532,330)	808,434	83,329,188	0.74%
Macquarie European Fd III Infr	428,278	0.00%	0	17,796	410,483	0.00%
Macquarie Infrastructure V	27,289,537	0.23%	(115,483)	210,757	27,194,263	0.24%
Macquarie Infrastructure VI	11,203,003	0.09%	1,411,042	(143,728)	9,935,689	0.09%
Ullico Taxable Fund	16,884,878	0.14%	0	256,625	16,628,253	0.15%
REAL ESTATE	\$1,315,764,200	10.90%	\$9,687,284	\$(35,086,099)	\$1,341,163,016	11.91%
BIG RE Fund I	20,149,436	0.17%	62,489	(1,345)	20,088,292	0.18%
BIG RE Fund II	20,506,146	0.17%	320,228	337,492	19,848,426	0.18%
BREDS HG LP	17,988,569	0.15%	(2,762,633)	377,351	20,373,851	0.18%
Clarion Lion Indus Tr	234,852,650	1.94%	(599,272)	(1,406,650)	236,858,572	2.10%
Europa Fd III PRE	289,351	0.00%	0	7,333	282,019	0.00%
Fortress Japan PRE	589,419	0.00%	(817,201)	133,700	1,272,920	0.01%
Fortress Japan Fd II PRE	611,282	0.01%	(1,654,272)	(51,154)	2,316,708	0.02%
Franklin Temp PREMOM	568,742	0.00%	(31,492)	(877,814)	1,478,048	0.01%
GreenOak Fund III	18,520,124	0.15%	57,993	(20,463)	18,482,594	0.16%
Heitman IV LP	21,786,051	0.18%	(1,068,031)	193,647	22,660,436	0.20%
Heitman V LP	19,952,166	0.17%	1,104,819	34,385	18,812,962	0.17%
JP Morgan Strat PRE-OE	164,605,804	1.36%	(1,600,861)	(13,161,748)	179,368,413	1.59%
LaSalle Property PRE-OE	243,861,138	2.02%	(2,413,278)	(6,307,178)	252,581,594	2.24%
Longpoint RE Fd I	33,342	0.00%	(21,214)	(8,060)	62,616	0.00%
Longpoint RE Fd II	28,339,403	0.23%	581,781	(1,709,084)	29,466,706	0.26%
Lonpoint Realty Fund III	6,800,000	0.06%	6,800,000	0	-	-
Long Wharf VI	23,875,493	0.20%	(248,070)	555,707	23,567,856	0.21%
Long Wharf VII	4,689,850	0.04%	4,689,850	0	-	-
MB Asia RE Fd PRE	142,059	0.00%	0	(2,788)	144,847	0.00%
Newport Cap Fund II	20,254,235	0.17%	(100,727)	(656,730)	21,011,692	0.19%
Newport Cap Fund III	18,351,819	0.15%	353,394	226,527	17,771,898	0.16%
Oak Street Fund IV RE	10,021,519	0.08%	(187,101)	(41,481)	10,250,101	0.09%
PRISA Fd I PRE-OE	175,235,342	1.45%	(1,687,284)	(5,836,742)	182,759,369	1.62%
PRISA Fd II PRE-OE	127,120,711	1.05%	(194,682)	(4,818,563)	132,133,956	1.17%
SASC II	14,423,623	0.12%	1,144,688	1,180,884	12,098,051	0.11%
TA Associates Realty Fund XII	44,482,746	0.37%	313,066	(2,407,699)	46,577,379	0.41%
TA Associates Realty Fund XIII	8,750,000	0.07%	8,750,000	0	-	-
UBS Realty PRE-OE	56,305,731	0.47%	(530,542)	(821,084)	57,657,358	0.51%
Walton St Fd III PRE	12,840	0.00%	(36,768)	(1,360)	50,968	0.00%
Walton St Fd V PRE	726,848	0.01%	0	10,717	716,131	0.01%
Walton St Fd VI PRE	10,649,634	0.09%	(534,953)	181,180	11,003,407	0.10%
Walton St Mexico Fd I PRE	1,268,126	0.01%	(2,643)	(195,079)	1,465,848	0.01%
TOTAL FUND	\$12,074,975,052	100.00%	\$(33,958,120)	\$848,173,394	\$11,260,759,778	100.00%

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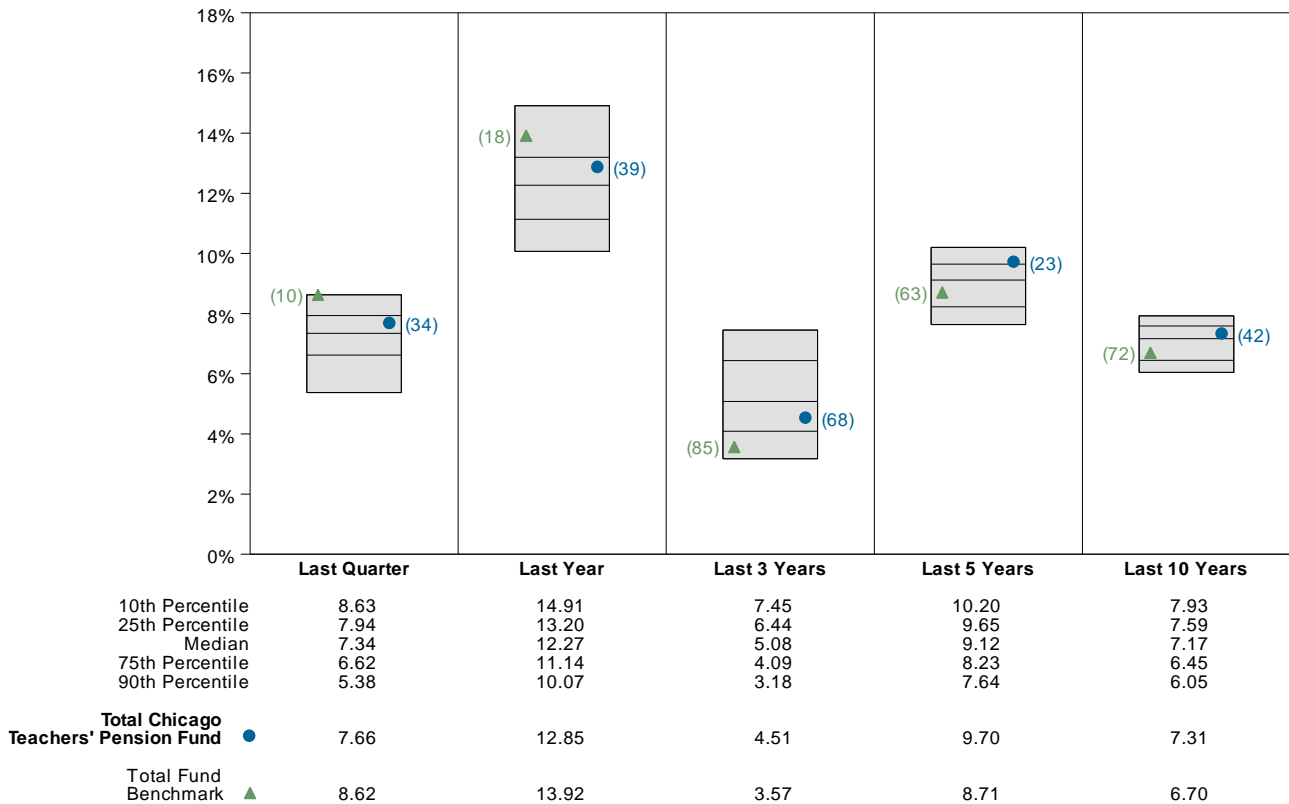
INVESTMENT MANAGER ASSET ALLOCATIONS (Continued)

	December 31, 2023			September 30, 2023		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
PRIVATE EQUITY	\$1,036,197,075	8.58%	\$685,733	\$11,347,908	\$1,024,163,434	9.09%
Adams St Many Fd PE	433,383,870	3.59%	3,407,254	(3,720,431)	433,697,046	3.85%
African Dev Ptr III	8,015,490	0.07%	180,941	(159,015)	7,993,564	0.07%
AFIG Fund II LP	6,984,831	0.06%	(60,165)	877,509	6,167,487	0.05%
Aldrich Capital Partners II	1,188,782	0.01%	470,411	(65,472)	783,842	0.01%
Astra Partners I	12,275,932	0.10%	(52,810)	36,002	12,292,740	0.11%
AUA II	5,775,173	0.05%	234,623	(16,965)	5,557,515	0.05%
AVP XI LP	33,964,135	0.28%	18,690	(1,300,042)	35,245,487	0.31%
AVP XII LP	19,004,069	0.16%	820,002	(543,061)	18,727,128	0.17%
AVP XIII	4,394,432	0.04%	869,375	(62,461)	3,587,518	0.03%
Data Focus I	16,967,592	0.14%	(742,863)	4,542,524	13,167,931	0.12%
EQT Fund VIII	23,974,002	0.20%	(1,715,750)	2,050,072	23,639,680	0.21%
EQT IX LP	26,653,158	0.22%	831,436	(1,358,864)	27,180,586	0.24%
EQT X LP	2,076,301	0.02%	588,804	49,189	1,438,308	0.01%
Estancia II	10,377,276	0.09%	(188,828)	770,569	9,795,535	0.09%
Farol Fund II	16,859,423	0.14%	79,783	(393,961)	17,173,601	0.15%
HarbourVest Ptrs VI PE	73,935	0.00%	0	(1,712)	75,647	0.00%
HarbourVest Ptrs VII PE	18,863,208	0.16%	(577,791)	(130,995)	19,571,994	0.17%
HarbourVest Ptrs VIII PE	1,452,105	0.01%	(4,015)	(20,463)	1,476,583	0.01%
HVP Buyout X PE	17,957,664	0.15%	(619,052)	37,426	18,539,290	0.16%
HVP Venture X PE	15,532,981	0.13%	(281,454)	(520,466)	16,334,901	0.15%
HVP Brand Fd II	2,813,506	0.02%	(289,377)	158,673	2,944,210	0.03%
Hispania Fd II PE	11,563	0.00%	(28,670)	0	40,233	0.00%
ICV Capital Ptrs III PE	7,739,913	0.06%	(11,515)	(397,549)	8,148,977	0.07%
ICV Capital Ptrs IV PE	22,701,930	0.19%	(118,000)	1,211,620	21,608,310	0.19%
KKR Americas Fd XII	30,129,229	0.25%	(21,247)	1,884,252	28,266,224	0.25%
KKR Americas Fd XIII	11,636,616	0.10%	(61,447)	181,109	11,516,954	0.10%
Long Arc Capital Fd I	8,903,790	0.07%	(45,786)	318,459	8,631,117	0.08%
MB SPO FD II	3,108,488	0.03%	(452,989)	49,962	3,511,514	0.03%
Mesirow Fd IV PE	2,436,826	0.02%	(348,171)	(92,532)	2,877,529	0.03%
Mesirow Fd V PE	9,626,346	0.08%	(813,836)	(512,092)	10,952,274	0.10%
Mesirow Fd VII A PE	19,739,258	0.16%	(442,812)	31,382	20,150,688	0.18%
Mesirow Fd VII B PE	14,803,211	0.12%	(371,875)	(114,445)	15,289,531	0.14%
Mesirow Fund VIII	17,527,839	0.15%	(50,000)	188,269	17,389,570	0.15%
Mesirow Fd IX PE	0	0.00%	(203,977)	4,946	199,031	0.00%
Mesirow Fd X PE	5,089,986	0.04%	(15,000)	130,506	4,974,480	0.04%
NMS Capital Fund III	18,961,221	0.16%	(3,124)	334,880	18,629,465	0.17%
NMS Capital Fund IV	14,630,313	0.12%	(75,165)	477,055	14,228,422	0.13%
P4G I	12,246,294	0.10%	535,210	3,128,966	8,582,118	0.08%
Palladium Ptrs III PE	0	0.00%	(1,769)	(7,798)	9,567	0.00%
Palladium Ptrs IV PE	10,146,972	0.08%	(59,512)	471,277	9,735,207	0.09%
Palladium Ptrs V PE	20,786,276	0.17%	897,523	971,062	18,917,691	0.17%
Pantheon Asia Fd V PE	300,794	0.00%	(2,948)	2,774	300,968	0.00%
Pantheon Europe Fd II PE	15,171	0.00%	0	630	14,541	0.00%
Pantheon Europe Fd VI PE	1,578,380	0.01%	(64,643)	147,738	1,495,285	0.01%
Pantheon GI Fd 2014	34,731,220	0.29%	(376,438)	138,024	34,969,634	0.31%
Pantheon Select Fd	21,801,466	0.18%	(34,658)	(325,801)	22,161,925	0.20%
Pantheon USA Fd III PE	17,516	0.00%	(194,622)	0	212,138	0.00%
Pantheon USA Fd IV PE	53,120	0.00%	0	0	53,120	0.00%
Pharos Fd II PE	3,726,675	0.03%	0	261,631	3,465,044	0.03%
Pharos Fd III PE	10,386,059	0.09%	112,500	550,381	9,723,178	0.09%
Red Arts Capital Opp Fd I	2,610,242	0.02%	(24,061)	(79,697)	2,714,000	0.02%
RLJ Equity Fund II	13,038,688	0.11%	163,370	155,867	12,719,451	0.11%
Turning Rock Fd I	5,179,299	0.04%	(105,157)	145,153	5,139,303	0.05%
Turning Rock Fd II	11,798,101	0.10%	277,415	81,206	11,439,480	0.10%
WM Partners II	12,810,288	0.11%	17,490	(22,330)	12,815,128	0.11%
WM Partners III	9,336,118	0.08%	(359,571)	1,804,946	7,890,743	0.07%
CASH	\$436,878,102	3.62%	\$160,042,055	\$3,144,323	\$273,691,725	2.43%
TOTAL FUND	\$12,074,975,052	100.00%	\$(33,958,120)	\$848,173,394	\$11,260,759,778	100.00%

Chicago Teachers' Pension Fund Performance Evaluation Executive Summary Fourth Quarter 2023

Total Fund Performance vs. Target

Performance vs Callan Public Fund Spons - Large (>1B) (Gross)



Note: Performance is shown gross-of-fees.

Current quarter Policy Target = 30.5% Russell 3000 Index, 30.5% MSCI ACWI ex US Index, 23% Bloomberg 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 fourth quarter, the Fund underperformed the market benchmark by 96 basis points, gross of investment management fees (105 basis points net of fees) and ranked in the 34th percentile of its peers. Longer-term performance continues to be competitive relative to benchmarks and peers.

The total manager attribution effect was negative over the quarter. International equity and fixed income positively contributed to results. However, private equity detracted from results, and infrastructure also negatively contributed.

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):

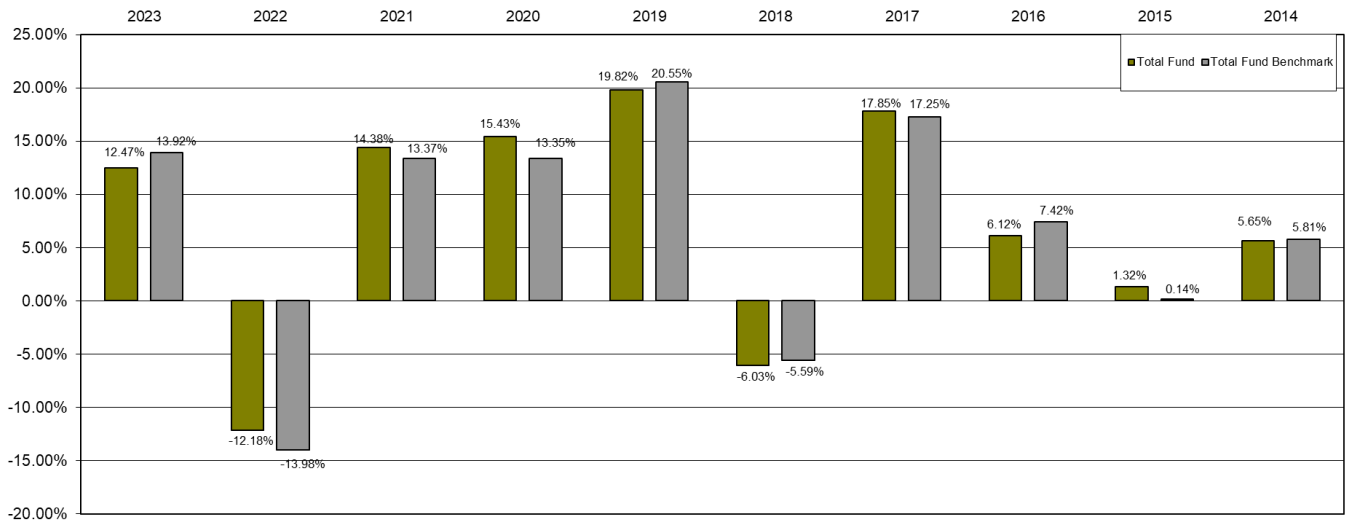
- **Domestic Equity:** The domestic equity composite outperformed the Russell 3000 Index by 6 basis points over the fourth quarter, ranking in the 18th percentile of its peers. Zevenbergen and Channing outperformed their benchmarks by 176 and 417 basis points, respectively. The small cap managers underperformed their benchmarks.

**Chicago Teachers' Pension Fund
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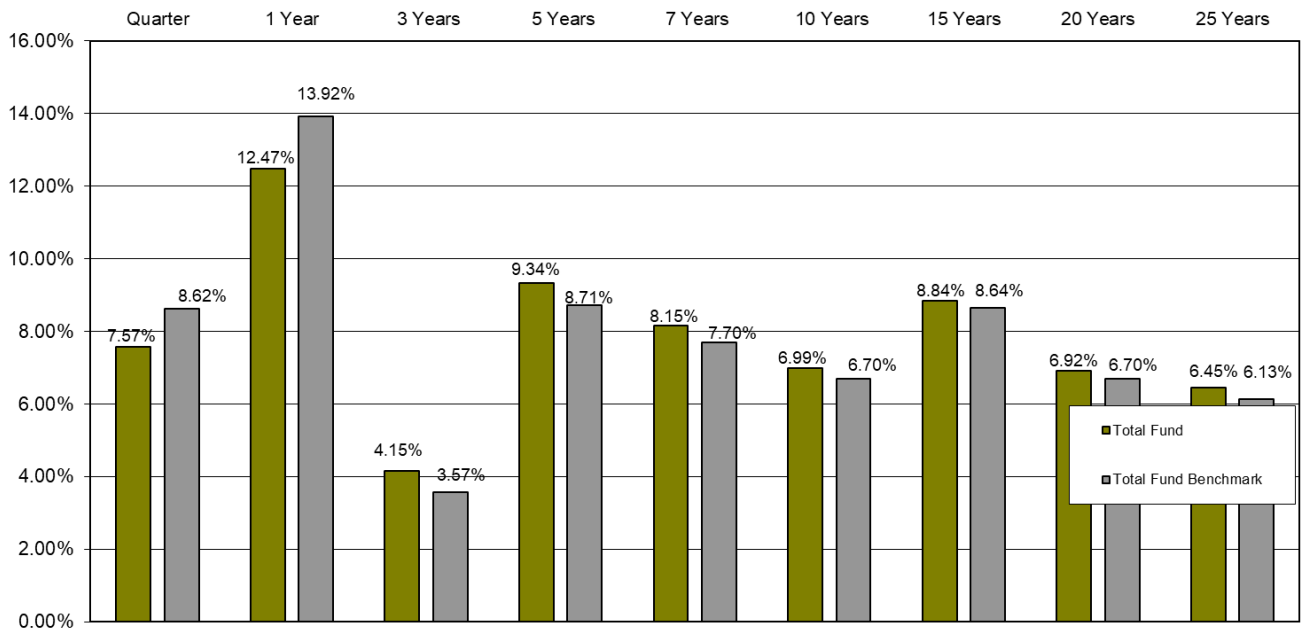
- **International Equity:** The international equity composite outperformed the MSCI ACWI Ex-US IMI Index by 96 basis points for the quarter and ranked in the 5th percentile of its peer group. Relative performance was mostly positive for the international equity managers this quarter. The William Blair Growth and International Small Cap portfolios exceeded their benchmarks by 310 and 455 basis points, respectively. Ariel and DFA detracted from results.
- **Fixed Income:** The fixed income composite outperformed the Bloomberg Aggregate Index by 53 basis points for the quarter and ranked in the 26th percentile of its peers. The managers generally outperformed their benchmarks. Garcia Hamilton and WAMCO posted strong relative results while LM Capital and Ramirez failed to beat their benchmarks.
- **Alternative Investments:** The real estate portfolio outperformed while the infrastructure and private equity portfolios underperformed 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 imperative 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 12/31/2023						Inception Date	Qtr-End MV
	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
FUND								
Fixed Income								
SSgA Aggregate Bond Index	6.74	5.49	-3.36	-	-	-0.80	Aug-19	\$407m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	-	-	-0.74		
Variance	-0.08	-0.04	-0.05	-	-	-0.06		
Wellington Core Bond	7.18	6.75	-3.39	-	-	-0.42	Aug-19	\$265m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	-	-	-0.74		
Variance	0.36	1.22	-0.08	-	-	0.32		
Garcia Hamilton	8.01	5.07	-2.85	1.27	1.55	2.71	Oct-10	\$265m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	1.10	1.29	2.00		
Variance	1.19	-0.46	0.46	0.17	0.26	0.71		
LM Capital*	6.64	6.13	-2.71	1.90	1.69	3.34	Nov-04	\$308m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	1.10	1.29	3.09		
Variance	-0.18	0.60	0.60	0.80	0.40	0.25		
Pugh Capital Management	6.92	5.83	-3.19	1.40	1.50	2.22	Oct-10	\$263m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	1.10	1.29	2.00		
Variance	0.10	0.30	0.12	0.30	0.21	0.22		
Ramirez Fixed Income	6.48	6.02	-	-	-	-7.12	Dec-21	\$110m
Bloomberg Barclays Aggregate Index	6.82	5.53	-	-	-	-7.37		
Variance	-0.34	0.49	-	-	-	0.25		
Western Asset Management	8.42	7.33	-4.22	1.59	1.84	4.11	Feb-03	\$579m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	1.10	1.29	3.22		
Variance	1.60	1.80	-0.91	0.49	0.55	0.89		

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

CTPF Investment Strategies		Net Investment Returns as of 12/31/2023					Inception Date	Qtr-End MV
FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
Large Cap Equity								
Rhumbline Russell 1000 Index Fund	11.93	26.15	9.00	15.48	13.14	9.26		
Russell 1000 Index	11.96	26.53	8.97	15.52	13.21	9.23	Jun-07	
Variance	-0.03	-0.38	0.03	-0.04	-0.07	0.03	\$2,337m	
Rhumbline Russell 1000 Growth Index Fund	14.08	42.53	9.14	19.60	-	16.50		
Russell 1000 Growth Index	14.16	42.68	8.86	19.50	-	16.44	Oct-17	
Variance	-0.08	-0.15	0.28	0.10	-	0.06	\$366m	
Zevenbergen Capital Management	15.73	65.41	-11.88	16.48	16.49	11.24		
Russell 3000 Growth Index	14.09	41.21	8.08	18.85	17.03	10.28	Oct-92	
Variance	1.64	24.20	-19.96	-2.37	-0.54	0.96	\$116m	
Channing*	13.86	11.21	8.25	14.98	10.00	12.94		
Channing Benchmark	9.83	11.66	8.81	10.84	8.16	11.79	Jul-09	
Variance	4.03	-0.45	-0.56	4.14	1.84	1.15	\$141m	
Rhumbline LCV	9.52	10.94	-	-	-	1.19		
Russell 1000 Value Index	9.50	11.46	-	-	-	11.57	Jan-22	
Variance	0.02	-0.52	-	-	-	-10.38	\$304m	
Small Cap Equity								
Northern Trust Small Cap	13.57	16.94	6.27	11.30	8.38	11.53		
Russell 2000 Index	14.03	16.93	2.22	9.97	7.33	10.13	Jan-91	
Variance	-0.46	0.01	4.05	1.33	1.05	1.40	\$85m	
Conestoga Small Cap Growth	11.29	22.10	1.16	11.57	-	6.09		
Russell 2000 Growth Index	12.75	18.70	-3.50	9.22	-	3.30	Jul-18	
Variance	-1.46	3.40	4.66	2.35	-	2.79	\$108m	
Phocas Small Cap Value	13.02	18.33	9.98	11.85	6.66	8.71		
Russell 2000 Value Index	15.26	14.65	7.94	10.00	6.10	8.78	Jul-16	
Variance	-2.24	3.68	2.04	1.85	0.56	-0.07	\$93m	
Manager of Managers								
Attucks**	10.40	16.32	0.62	7.27	6.46	5.73		
Custom Benchmark	9.76	15.88	2.96	8.76	7.49	6.32	Dec-13	
Variance	0.64	0.44	-2.34	-1.49	-1.03	-0.59	\$261m	

*Channing mandate changed from Mid Cap Value to All Cap Value as of 10/1/11. The Channing Benchmark reflects the 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.

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

**Chicago Teachers' Pension Fund
Performance Evaluation Executive Summary
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Table 1 (Net-of-Fees, Continued):

CTPF Investment Strategies	Net Investment Returns as of 12/31/2023						Inception Date	Qtr-End MV
	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
International Equity								
Ariel Investments	7.54	11.00	1.02	4.73	4.17	4.00	Jul-16	\$74m
MSCI EAFE Index	10.42	18.24	4.02	8.16	6.91	7.22		
Variance	-2.88	-7.24	-3.00	-3.43	-2.74	-3.22		
EARNEST Partners	10.11	16.76	4.41	9.35	8.11	5.69	Apr-07	\$517m
MSCI ACWI ex-US Index	9.75	15.62	1.55	7.08	6.33	2.96		
Variance	0.36	1.14	2.86	2.27	1.78	2.73		
Lazard	9.08	19.16	2.53	6.95	5.99	5.39	Jan-01	\$512m
MSCI ACWI ex-US Index	9.75	15.62	1.55	7.08	6.33	4.61		
Variance	-0.67	3.54	0.98	-0.13	-0.34	0.78		
Morgan Stanley	10.18	17.17	1.98	7.69	6.76	7.81	Apr-95	\$535m
MSCI EAFE Index	10.42	18.24	4.02	8.16	6.91	5.10		
Variance	-0.24	-1.07	-2.04	-0.47	-0.15	2.71		
Strategic Global Advisors	10.34	21.69	4.26	6.99	5.86	6.06	Jul-16	\$82m
MSCI EAFE Index	10.42	18.24	4.02	8.16	6.91	7.22		
Variance	-0.08	3.45	0.24	-1.17	-1.05	-1.16		
William Blair Growth	13.98	16.33	-2.73	9.90	8.30	7.54	Feb-10	\$573m
MSCI ACWI ex-US IMI Growth Index	10.99	14.04	-2.58	7.52	7.10	5.83		
Variance	2.99	2.29	-0.15	2.38	1.20	1.71		
William Blair International Small Cap	14.45	16.83	-5.58	8.02	5.80	4.04	Apr-07	\$193m
William Blair ISCE Benchmark*	10.17	14.11	-2.02	7.71	6.79	3.42		
Variance	4.28	2.72	-3.56	0.31	-0.99	0.62		
Dimensional Fund Advisors	9.25	17.36	7.05	8.29	5.70	8.11	Jun-12	\$180m
MSCI World Small Cap ex-US Value	10.04	14.70	3.77	7.08	5.66	7.21		
Variance	-0.79	2.66	3.28	1.21	0.04	0.90		
EARNEST Partners Emerging Markets	9.21	13.06	1.29	7.07	7.38	3.68	Mar-13	\$197m
MSCI Emerging Markets Index	7.86	9.83	-5.08	3.69	4.98	2.20		
Variance	1.35	3.23	6.37	3.38	2.40	1.48		
International Manager of Managers								
Leading Edge	11.17	19.79	2.18	6.81	5.97	4.91	Apr-10	\$140m
MSCI ACWI ex-US Index	9.75	15.62	1.55	7.08	6.33	4.58		
Variance	1.42	4.17	0.63	-0.27	-0.36	0.33		

* 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 12/31/2023					Inception Date	Qtr-End MV
FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
Infrastructure								
Infrastructure Composite	2.18	12.19	10.90	13.41	12.82	8.59	Nov-08	
Infrastructure Benchmark*	11.27	2.23	3.48	5.93	4.65	6.44		
Variance	-9.09	9.96	7.42	7.48	8.17	2.15		
Real Estate								
Real Estate Composite	-2.80	-8.84	10.07	7.19	7.40	7.30	Jan-02	
NFI-ODCE Value Weight	-5.00	-12.73	4.01	3.34	4.38	6.26		
Variance	2.20	3.89	6.06	3.85	3.02	1.04		
Private Equity								
Private Equity Composite	0.90	6.41	18.34	16.39	15.93	10.72	Jan-02	
Private Equity Benchmark**	12.70	29.34	12.15	18.93	16.13	9.90		
Variance	-11.80	-22.93	6.19	-2.54	-0.20	0.82		

*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 12/31/2023						Inception Date	Qtr-End MV
	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
FUND								
Fixed Income								
SSgA Aggregate Bond Index	6.75	5.54	-3.32	-	-	-0.76	Aug-19	\$407m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	-	-	-0.74		
Variance	-0.07	0.01	-0.01	-	-	-0.02		
Peer Ranking – CAI Core Bond	75	87	92	-	-			
Wellington Core Bond	7.23	6.94	-3.21	-	-	-0.25	Aug-19	\$265m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	-	-	-0.74		
Variance	0.41	1.41	0.10	-	-	0.49		
Peer Ranking – CAI Core Bond	17	7	85	-	-			
Garcia Hamilton	8.05	5.21	-2.72	1.40	1.68	2.87	Oct-10	\$265m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	1.10	1.29	2.00		
Variance	1.23	-0.32	0.59	0.30	0.39	0.87		
Peer Ranking – CAI Core Bond	1	95	21	87	68			
LM Capital*	6.67	6.29	-2.57	2.05	1.85	3.51	Nov-04	\$308m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	1.10	1.29	3.09		
Variance	-0.15	0.76	0.74	0.95	0.56	0.42		
Peer Ranking - CAI Core Plus Bond	84	83	52	65	88			
Pugh Capital Management	6.96	5.97	-3.06	1.54	1.64	2.38	Oct-10	\$263m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	1.10	1.29	2.00		
Variance	0.14	0.44	0.25	0.44	0.35	0.38		
Peer Ranking - CAI Core Bond	49	65	65	77	80			
Ramirez Fixed Income	6.53	6.21	-	-	-	-6.97	Dec-21	\$110m
Bloomberg Barclays Aggregate Index	6.82	5.53	-	-	-	-7.37		
Variance	-0.29	0.68	-	-	-	0.40		
Peer Ranking - CAI Core Bond	88	44	-	-	-			
Western Asset Management	8.47	7.51	-4.06	1.76	2.00	4.29	Feb-03	\$579m
Bloomberg Barclays Aggregate Index	6.82	5.53	-3.31	1.10	1.29	3.22		
Variance	1.65	1.98	-0.75	0.66	0.71	1.07		
Peer Ranking - CAI Core Plus Bond	2	27	98	77	73			

*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 12/31/2023						Inception Date	Qtr-End MV
	FUND	Qtr	1 Yr	3 Yr	5 Yr	7 Yr		
Large Cap Equity								
Rhumbline Russell 1000 Index Fund	11.94	26.51	8.97	15.49	13.18	9.25	Jun-07	\$2,337m
Russell 1000 Index	11.96	26.53	8.97	15.52	13.21	9.23		
Variance	-0.02	-0.02	0.00	-0.03	-0.03	0.02		
Peer Ranking – CAI Large Cap	54	51	57	46	54			
Rhumbline Russell 1000 Growth Index Fund	14.08	42.54	9.15	19.61	-	16.51	Oct-17	\$366m
Russell 1000 Growth Index	14.16	42.68	21.67	19.50	-	16.44		
Variance	-0.08	-0.14	-12.52	0.11	-	0.07		
Peer Ranking - CAI Large Cap Growth	55	38	21	8	-			
Zevenbergen Capital Management	15.85	66.04	-11.50	16.96	16.96	11.69	Oct-92	\$116m
Russell 3000 Growth Index	14.09	41.21	8.08	18.85	17.03	10.28		
Variance	1.76	24.83	-19.58	-1.89	-0.07	1.41		
Peer Ranking - CAI All Cap Growth	19	1	98	38	34			
Channing*	14.00	11.74	8.78	15.52	10.52	13.49	Jul-09	\$141m
Channing Benchmark	9.83	11.66	8.81	10.84	8.16	11.79		
Variance	4.17	0.08	-0.03	4.68	2.36	1.70		
Peer Ranking – CAI All Cap Value	4	62	77	29	49			
Rhumbline LCV	9.53	10.95	-	-	-	1.2	Jan-22	\$304m
Russell 1000 Value Index	9.50	11.46	-	-	-	11.57		
Variance	0.03	-0.51	-	-	-	-10.37		
Peer Ranking – CAI Large Cap Value	61	65	-	-	-	80		
Small Cap Equity								
Northern Trust Small Cap	13.59	17.05	6.36	11.40	8.47	11.61	Jan-91	\$85m
Russell 2000 Index	14.03	16.93	2.22	9.97	7.33	10.13		
Variance	-0.44	0.12	4.14	1.43	1.14	1.48		
Peer Ranking - CAI Small Cap	33	59	59	74	58			
Conestoga Small Cap Growth	11.49	22.90	1.85	12.35	-	7.34	Jul-18	\$108m
Russell 2000 Growth Index	12.75	18.70	-3.50	9.22	-	3.30		
Variance	-1.26	4.20	5.35	3.13	-	4.04		
Peer Ranking - CAI Small Cap Growth	42	16	19	48	-			
Phocas Small Cap Value	13.27	19.32	10.89	12.79	7.55	9.58	Jul-16	\$93m
Russell 2000 Value Index	15.26	14.65	7.94	10.00	6.10	8.78		
Variance	-1.99	4.67	2.95	2.79	1.45	0.80		
Peer Ranking - CAI Small Cap Value	56	26	51	42	60			
Manager of Managers								
Attucks**	10.56	16.99	1.21	7.89	7.08	6.15	Dec-13	\$261m
Custom Benchmark	9.76	15.88	2.96	8.76	7.49	6.32		
Variance	0.80	1.11	-1.75	-0.87	-0.41	-0.17		

*Channing mandate changed from Mid Cap Value to All Cap Value as of 10/1/11. The Channing Benchmark reflects the 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.

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

**Chicago Teachers' Pension Fund
Performance Evaluation Executive Summary
Fourth Quarter 2023**

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

CTPF Investment Strategies	Gross Investment Returns as of 12/31/2023						Inception Date	Qtr-End MV
	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
FUND								
International Equity								
Ariel Investments	7.74	11.75	1.71	5.44	4.88	4.69	Jul-16	\$74m
MSCI EAFE Index	10.42	18.24	4.02	8.16	6.91	7.22		
Variance	-2.68	-6.49	-2.31	-2.72	-2.03	-2.53		
Peer Ranking - CAI Non-US Equity	90	97	69	98	97			
EARNEST Partners	10.24	17.25	4.84	9.79	8.55	6.17	Apr-07	\$517m
MSCI ACWI ex-US Index	9.75	15.62	1.55	7.08	6.33	2.96		
Variance	0.49	1.63	3.29	2.71	2.22	3.21		
Peer Ranking - CAI Non-US Equity	46	60	30	24	24			
Lazard	9.13	19.38	2.70	7.14	6.17	5.71	Jan-01	\$512m
MSCI ACWI ex-US Index	9.75	15.62	1.55	7.08	6.33	4.61		
Variance	-0.62	3.76	1.15	0.06	-0.16	1.10		
Peer Ranking - CAI Non-US Equity	70	36	56	88	85			
Morgan Stanley	10.31	17.66	2.39	8.13	7.19	8.26	Apr-95	\$535m
MSCI EAFE Index	10.42	18.24	4.02	8.16	6.91	5.10		
Variance	-0.11	-0.58	-1.63	-0.03	0.28	3.16		
Peer Ranking - CAI Non-US Equity	44	55	62	70	65			
Strategic Global Advisors	10.48	22.28	4.77	7.52	6.38	6.57	Jul-16	\$82m
MSCI EAFE Index	10.42	18.24	4.02	8.16	6.91	7.22		
Variance	0.06	4.04	0.75	-0.64	-0.53	-0.65		
Peer Ranking - CAI Non-US Equity	40	9	32	82	81			
William Blair Growth	14.09	16.75	-2.38	10.29	8.67	7.93	Feb-10	\$573m
MSCI ACWI ex-US IMI Growth Index	10.99	14.04	-2.58	7.52	7.10	5.83		
Variance	3.10	2.71	0.20	2.77	1.57	2.10		
Peer Ranking - CAI Core Growth Int'l Equity	9	53	71	22	45			
William Blair International Small Cap	14.72	17.80	-4.78	8.92	6.68	5.00	Apr-07	\$193m
William Blair ISCE Benchmark*	10.17	14.11	-2.02	7.71	6.79	3.42		
Variance	4.55	3.69	-2.76	1.21	-0.11	1.58		
Peer Ranking - CAI Int'l Small Cap Equity	2	21	84	33	57			
Dimensional Fund Advisors	9.25	17.36	7.05	8.29	5.70	8.13	Jun-12	\$180m
MSCI World Small Cap ex-US Value	10.04	14.70	3.77	7.08	5.66	7.21		
Variance	-0.79	2.66	3.28	1.21	0.04	0.92		
Peer Ranking - CAI Int'l Small Cap Equity	89	22	9	38	77			
EARNEST Partners Emerging Markets	9.36	13.65	1.82	7.64	7.94	4.22	Mar-13	\$197m
MSCI Emerging Markets Index	7.86	9.83	-5.08	3.69	4.98	2.20		
Variance	1.50	3.82	6.90	3.95	2.96	2.02		
Peer Ranking - CAI EM Equity	25	41	28	30	27			
International Manager of Managers								
Leading Edge	11.40	20.72	3.00	7.66	6.82	5.74	Apr-10	\$140m
MSCI ACWI ex-US Index	9.75	15.62	1.55	7.08	6.33	4.58		
Variance	1.65	5.10	1.45	0.58	0.49	1.16		
Peer Ranking - CAI Non-US Equity	24	22	53	78	72			

* 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 12/31/2023						Inception Date	Qtr-End MV
	Qtr	1 Yr	3 Yr	5 Yr	7 Yr	Since Inception		
FUND								
Infrastructure								
Infrastructure Composite	2.55	13.37	12.37	14.70	13.89	9.35	Nov-08	\$274m
Infrastructure Benchmark*	11.27	2.23	3.48	5.93	4.65	6.44		
Variance	-8.72	11.14	8.89	8.77	9.24	2.91		
Real Estate								
Real Estate Composite	-2.62	-8.24	10.96	8.02	8.20	7.84	Jan-02	\$1,316m
NFI-ODCE Value Weight	-5.00	-12.73	4.01	3.34	4.38	6.26		
Variance	2.38	4.49	6.95	4.68	3.82	1.58		
Private Equity								
Private Equity Composite	1.11	7.25	19.34	17.50	16.82	11.03	Jan-02	\$1036m
Private Equity Benchmark**	12.70	29.34	12.15	18.93	16.13	9.90		
Variance	-11.59	-22.09	7.19	-1.43	0.69	1.13		

*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/STRATEGY	REASON	DATE PLACED ON WATCH LIST	LAST DUE DILIGENCE MEETING	ACTIONS TAKEN	POLICY/RECOMMENDED ACTIONS	AUM as of 12/31/2023	Current Quarter Watch List Score	Previous Quarter Watch List Score
Ariel - International Equity	Performance Reasons/Personnel Turnover	July 2020	January 2024	Monitor	Monitor	\$74 mil.	0.9	0.9
State Street Global Advisors - Passive Bond	Brokerage	April 2022	February 2024	Monitor	Monitor	\$407 mil.	N/A	N/A
Strategic Global Advisors - International Equity	Performance Reasons	March 2021	February 2024	Monitor	Remove	\$82 mil.	0.6	0.6
Attucks	Performance Reasons/Personnel Turnover	March 2023	February 2024	Monitor	Monitor	\$261 mil.	N/A	N/A
William Blair - International Small Cap	Performance Reasons	March 2023	January 2024	Monitor	Monitor	\$193 mil.	0.5	0.7
JP Morgan SPF	Performance Reasons/Personnel Turnover	December 2023	February 2024	Monitor	Monitor	\$165 mil.	N/A	N/A

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

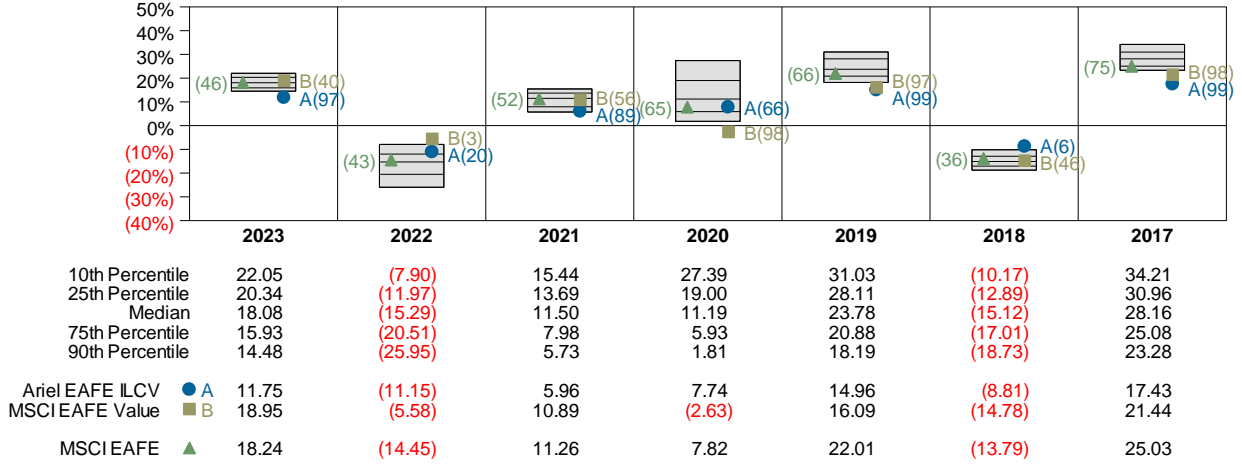
Monitor = Recommended action for the Board

Search = Board authorized a manager search

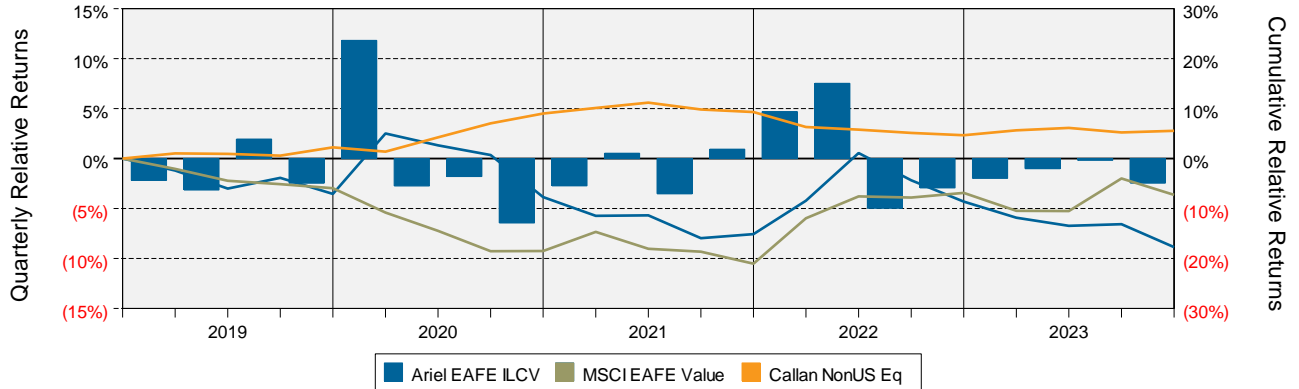
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Manager Watch List: Ariel

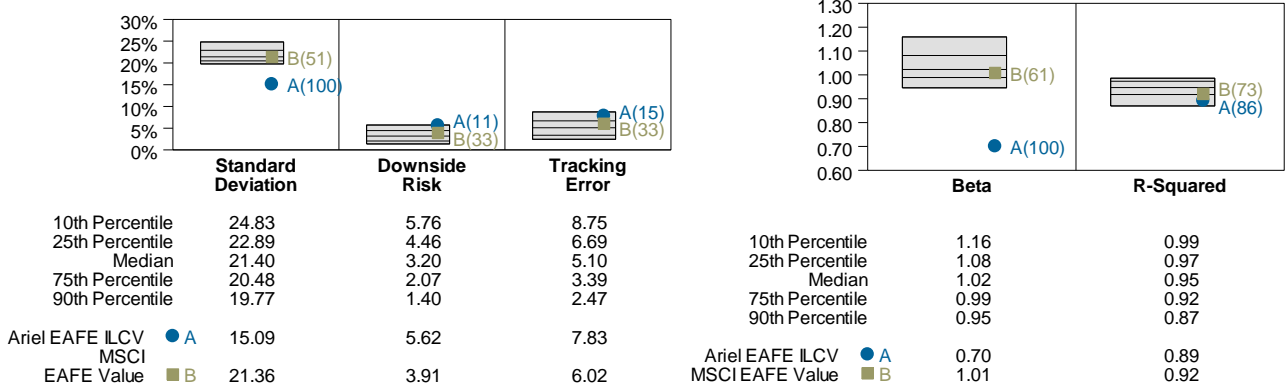
Performance vs Callan Non-US Equity (Gross)



Cumulative and Quarterly Relative Returns vs MSCI EAFE

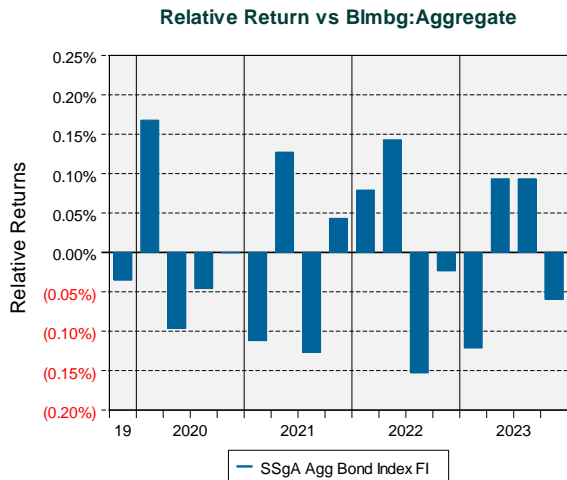
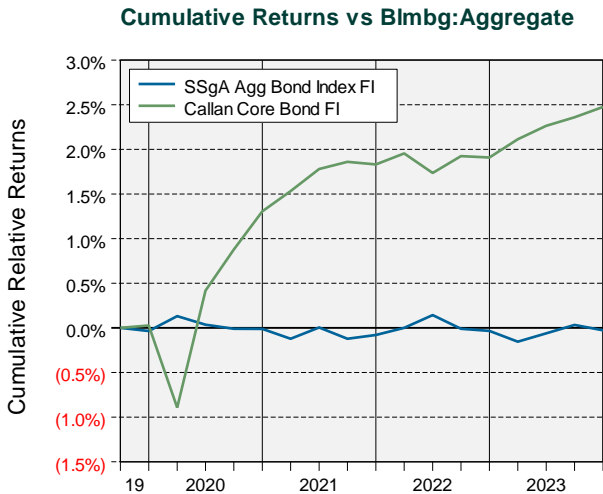
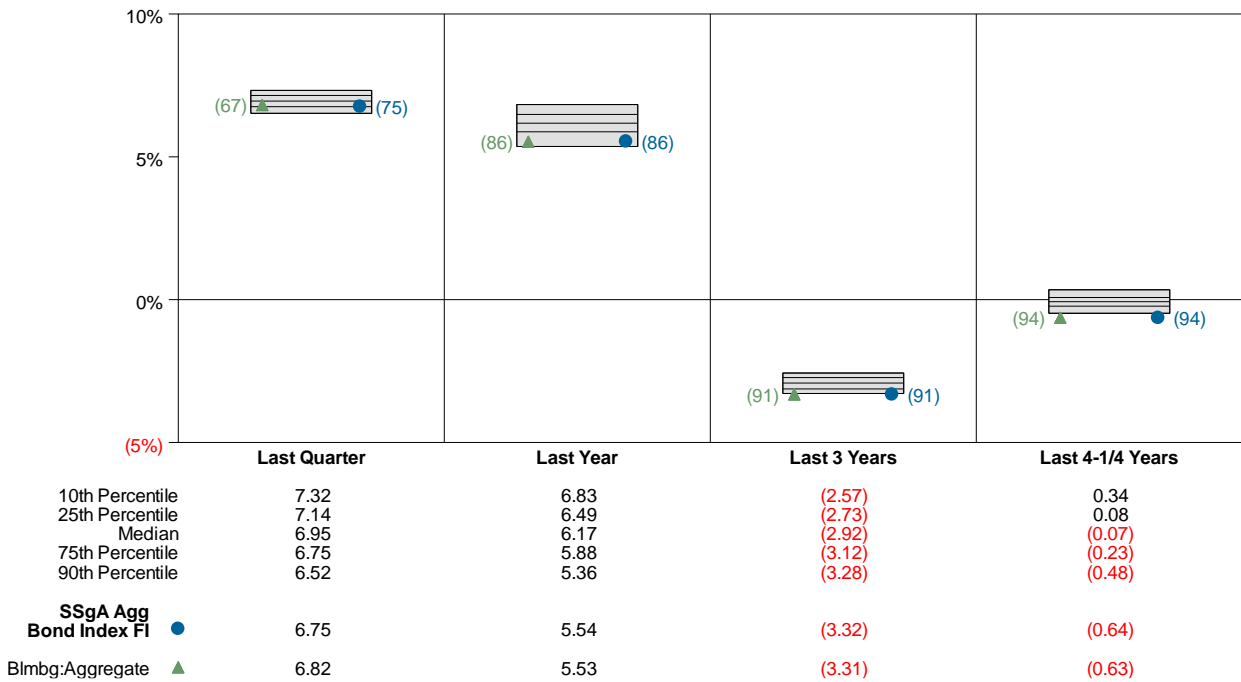


Risk Statistics Rankings vs MSCI EAFE (Net) Rankings Against Callan Non-US Equity (Gross) Five Years Ended December 31, 2023



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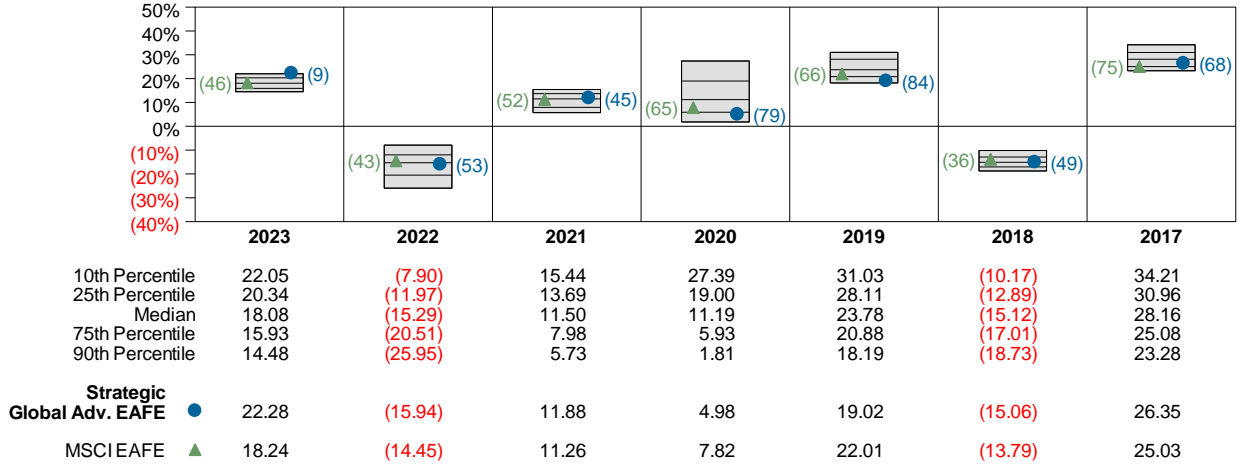
**Manager Watch List: State Street Global Advisors
Performance vs Callan Core Bond Fixed Income (Gross)**



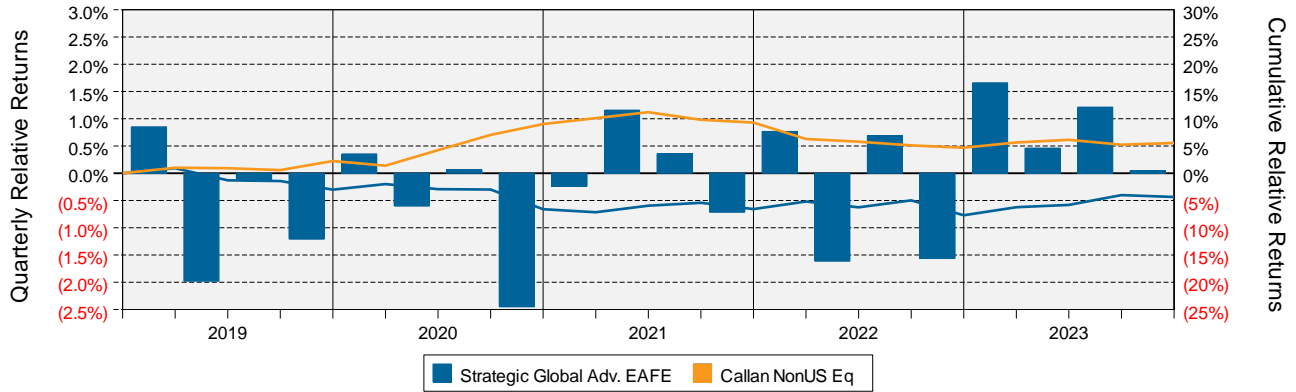
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Manager Watch List: Strategic Global Advisors

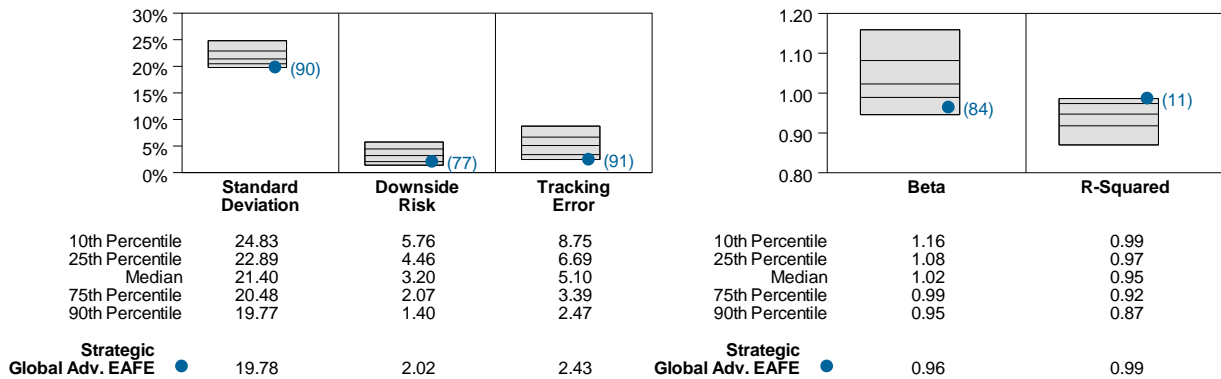
Performance vs Callan Non-US Equity (Gross)



Cumulative and Quarterly Relative Returns vs MSCI EAFE



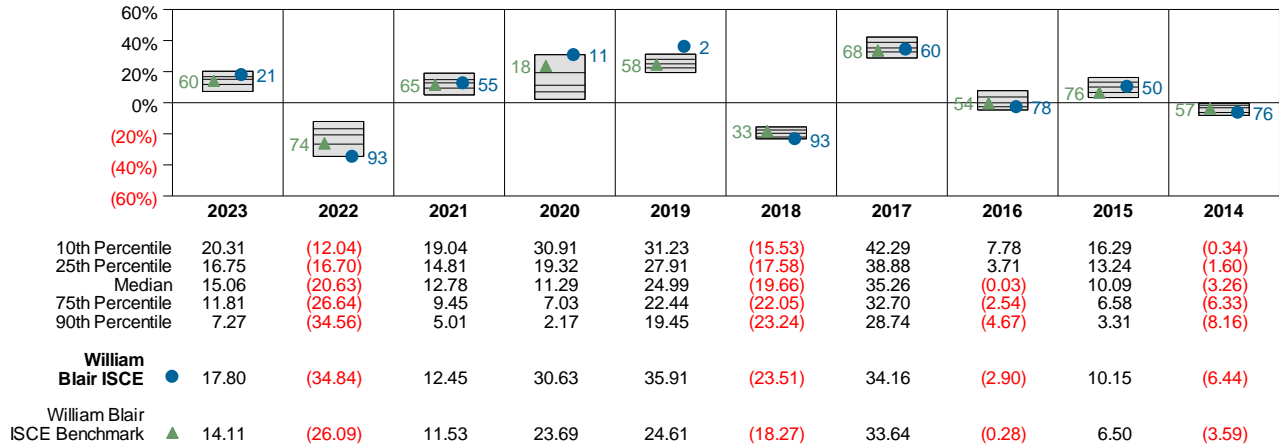
Risk Statistics Rankings vs MSCI EAFE (Net) Rankings Against Callan Non-US Equity (Gross) Five Years Ended December 31, 2023



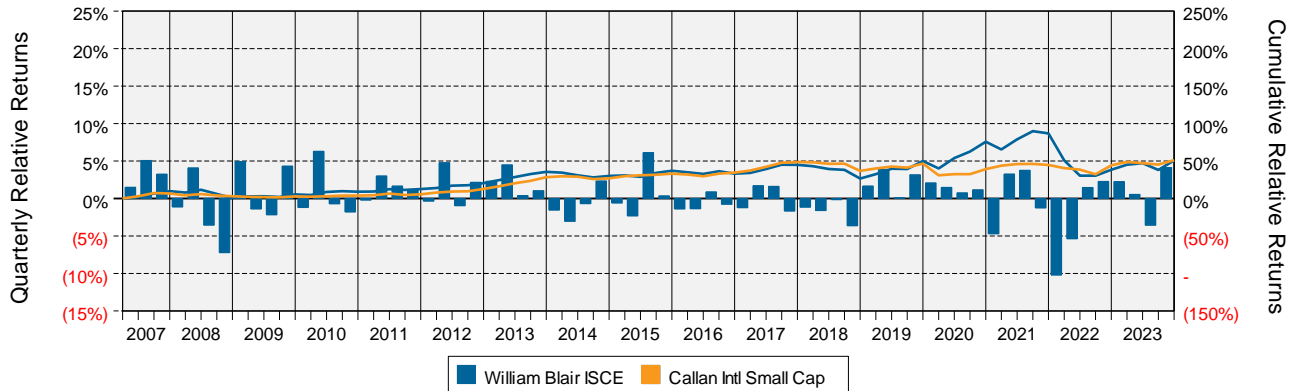
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Manager Watch List: William Blair

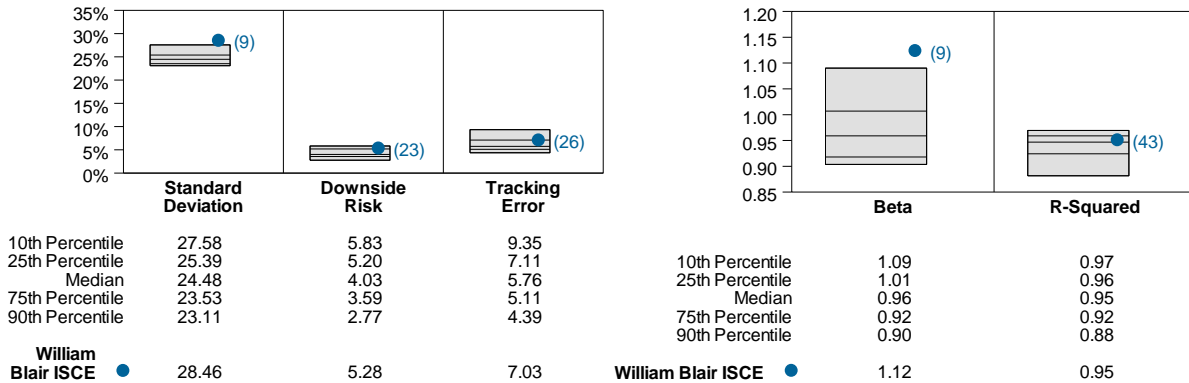
Performance vs Callan International Small Cap (Gross)



Cumulative and Quarterly Relative Returns vs William Blair ISCE Benchmark



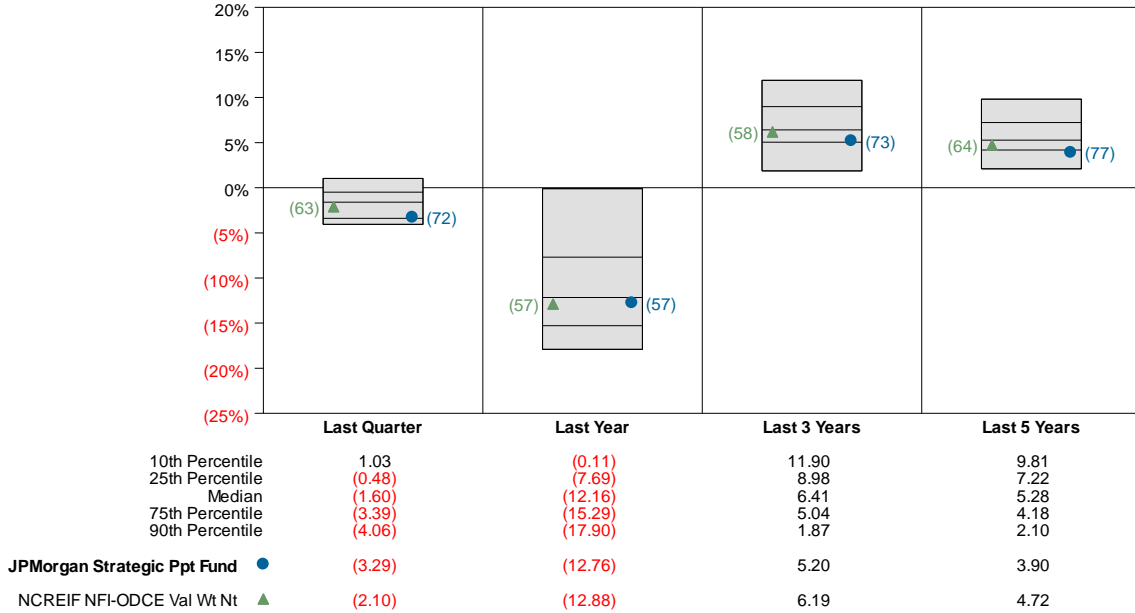
Risk Statistics Rankings vs William Blair ISCE Benchmark Rankings Against Callan International Small Cap (Gross) Five Years Ended December 31, 2023



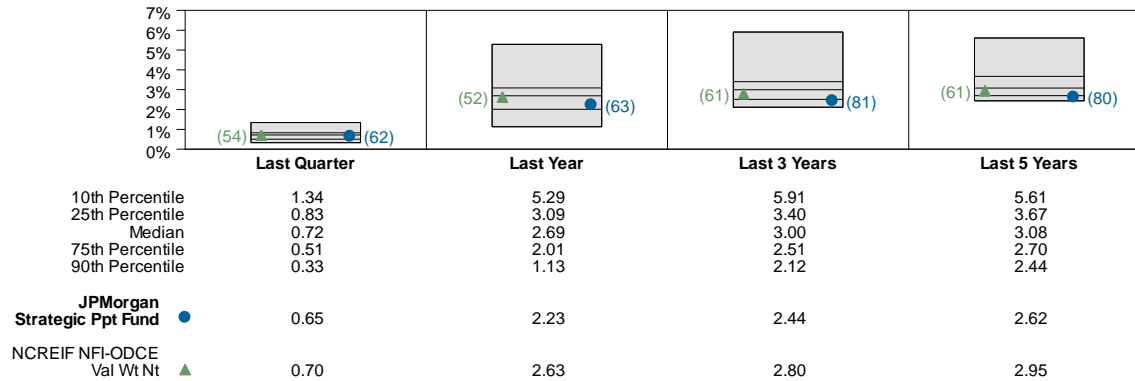
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Manager Watch List: J.P. Morgan Strategy Property Fund

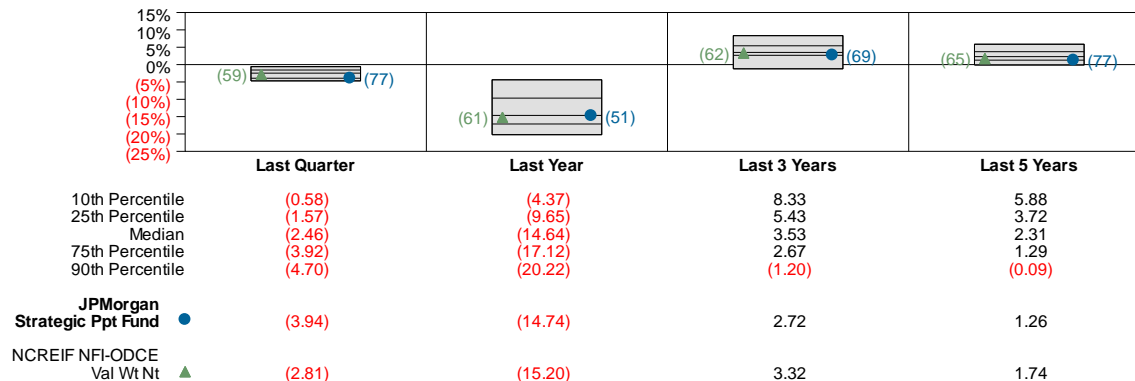
Time-Weighted Returns Performance vs Callan OE Core Cmngld RE



Income Rankings vs Callan OE Core Cmngld RE Periods ended September 30, 2023



Appreciation Rankings vs Callan OE Core Cmngld RE Periods ended September 30, 2023



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General Market and Economic Conditions

Consumer confidence, as measured by the Conference Board, surged in December with views of current conditions and expectations both rising sharply. Strong market returns, rising real wages, and moderating inflation helped to brighten consumers' moods. Economists were also cheerier. A survey from the National Association for Business Economics showed that 76% of economists believed the odds of recession in 2024 are less than 50%. The Fed has thus far successfully navigated the battle against inflation without discernable damage to the labor market or the broader economy.

Markets defied the early 2023 pessimism, and most asset classes and sectors (energy being an exception) posted robust gains for the year. Global stocks surged and the S&P 500 closed the year just shy of a record. Even bond markets (taxable and tax-exempt) sharply reversed course in 4Q to bring 2023 results to an attractive 6%-ish figure. As a stark reminder of how quickly fortunes can be reversed, bond markets were on track to post a third consecutive year of negative returns only three months ago. Gold also nearly hit a record in December, buoyed by geopolitical concerns and the prospect of lower interest rates.

As we enter 2024, the economic outlook has improved from one year ago, but raging wars weigh heavily on our minds and government dysfunction and uncertainty over the lasting impact of sharply higher rates may cast shadows on the economic picture. The path of short-term interest rates is likely downward, but the pace and timing are uncertain.

The Fed held short-term rates steady (5.25% - 5.50%) at both its November and December meetings. In December, it lowered expectations for year-end 2024 rates, adopting a more dovish tone than markets anticipated. The median projection for the year-end 2024 Fed Funds rate was 4.6%, down from 5.1% at the September meeting. No members expected higher rates at the end of 2024. Markets have priced in more cuts than the median Fed projection suggests. As of Dec. 29, the CME FedWatch tool showed a greater than 70% probability of a cut at the March 2024 meeting and a nearly 80% probability that Fed Funds would be 3.5% to 4.0% at year-end 2024.

GDP rose a sharp 4.9% (revised slightly down from the last estimate of 5.2%) in 3Q, annualized. Third quarter growth was driven by consumer spending, inventory building and government spending. Fourth quarter estimates are more muted and range from 1% to 2%. The median expectation from the Fed is 1.4% in 2024 and 1.8% in 2025, a good depiction of a soft landing. Unemployment remained near historical lows at 3.7% (November) but JOLTS job openings fell to 8.7 million in October, down from a March 2022 high of 12 million, in a sign that the labor market is cooling. Job gains remained robust, however, at 204,000 per month in 4Q.

Inflation continued to moderate. The Fed's favored measure, the Personal Consumption Expenditures (PCE) Price Index, was up only 2.6% year-over-year in November. Notably, over the past six months, the core PCE is right in line with the Fed's 2% target. Excluding food and energy, the PCE was up 3.2% in November, the lowest since April 2021. The Consumer Price Index (CPI) rose 3.1% year-over-year in November, with core up 4.0%. Falling gasoline prices had the largest impact on declining headline inflation in 2023, dropping 8.9% over the last 12 months (as of

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November). WTI Crude closed the year at \$71.65, down from the March 2023 high of \$124.70. Shelter costs, which comprise about 40% of the core CPI and one-third of the CPI, rose 6.5% over the last year and had the biggest impact on both measures. Without shelter, the CPI was up only 1.4% for the trailing 12 months ending November.

Even housing showed signs of promise. Single-family housing starts surged 18% in November, an 18-month high, and permits for future construction of single-family housing increased to a level not seen since May 2022. Mortgage rates have also fallen from recent highs of 7.8% in late October to 6.6% at year-end, according to Freddie Mac.

Disinflation and pauses in rate hikes were also evident outside of the U.S. The European Central Bank (ECB) and Bank of England (BOE) also kept rates on hold. The ECB maintained its benchmark deposit rate at 4%. Inflation in the 20-country region slowed to an annual rate of 2.4% in November, and the core measure (excludes energy, food, alcohol, and tobacco) was 3.6%, the lowest since April 2022. The BOE earlier also kept its bank rate unchanged at 5.25% while inflation slowed to 3.9% over the last 12 months as of November, down from 4.6% in October.

China continues to face headwinds with property sector woes, high youth unemployment, weakness in manufacturing, and deflation. Its CPI dropped 0.5% in November (year-over-year), the biggest drop since the height of the pandemic three years ago. Policy leaders have pledged to increase support, but their efforts thus far have been insufficient to improve confidence and stem the crisis in real estate. Despite its problems, most economists think China will hit its official growth target of around 5% in 2023.

Fourth Quarter 2023 Market Performance

The S&P 500 Index approached a record high as the year closed. Of note, 2023 was the first year since 2012 that the S&P failed to reach a high-water mark. That said, the index was up an impressive 11.7% in 4Q and 26.3% for the year. The tech sector was the clear winner for the quarter and the year (+17.2%; +57.8%) while Energy (-6.9%; -1.3%) was the only sector to register both a 4Q and 2023 decline. Small caps (R2000: +14.0%; R1000: +12.0%) outperformed large caps for the quarter but lagged for the year (R2000: +16.9%; R1000: +26.5%). Growth outperformed value in 4Q (R1000 Growth: +14.2%; R1000 Value: +9.5%) and even more substantially for the year (R1000 Growth: +42.7%; R1000 Value: +11.5%).

Index concentration continued to have a notable impact on returns in 4Q. The “Magnificent Seven,” which comprise over 25% of the S&P 500, accounted for 76% of the 2023 return for the index. Fourth quarter and 2023 returns for the bunch were impressive: Alphabet: +6.8%, +58.8%; Amazon: +19.5%, +80.9%; Apple: +12.6%, +49.0%; Meta: +17.9%, +194.1%; Microsoft: +19.3%, +58.2%; NVIDIA: +13.9%, +239.0%; Tesla: -0.7%, +101.7%. The index would have been up only about 10% for the year without these stocks, and the equal-weighted S&P 500 returned 11.9% in 4Q and 13.9% in 2023.

Global ex-U.S. equities (MSCI ACWI ex USA: +9.8%) performed well in 4Q and for the year (+15.6%) but lagged the U.S. Weakness in the U.S. dollar helped 4Q returns across developed markets (MSCI

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EAFE: +10.4%; MSCI EAFE Local: +5.0%). As in the U.S., growth outperformed value in the quarter (MSCI ACWI ex USA Growth: +11.1%; MSCI ACWI ex USA Value: +8.4%). However, value outperformed growth for the full year (MSCI ACWI ex USA Growth: +14.0%; MSCI ACWI ex USA Value: +17.3%). Mirroring the U.S., Technology was the strongest sector for both the quarter and the year (MSCI ACWI ex USA Information Technology: +20.0%; +36.3%).

Emerging markets (MSCI Emerging Markets: +7.9%) also did well but underperformed developed ex-U.S. Emerging Asia was the weakest region (+6.7%; +7.8%) for both periods, hurt by China. China was a notable laggard (-4.2%; -11.2%). Latin America (+17.6%; +32.7%) was the best-performing region for the quarter and the year with Mexico (+18.6%; +40.9%) and Brazil (+17.8%; +32.7%) up strongly.

The 10-year U.S. Treasury yield was volatile in 2023—ranging from an April low of 3.31% post the regional banking “crisis” to the October high of 4.99% and subsequently declining into year-end for a 3.88% close. Falling rates drove returns for the Bloomberg US Aggregate to +6.8% in 4Q and +5.5% in 2023, a sharp contrast to the -1.2% YTD print as of 9/30. Corporate credit strongly outperformed U.S. Treasuries in 4Q (excess returns of 203 bps) and for the year (455 bps). High yield (Bloomberg US High Yield) climbed 7.2% for the quarter and was up an equity-like 13.4% for the year. The yield curve remained inverted, but to a much lesser extent; 35 bps between the 2-year and 10-year U.S. Treasury yields versus more than 100 bps earlier in the year. The Bloomberg Municipal Bond Index soared 7.9% in 4Q, reversing its YTD 1.4% decline as of 9/30; the index was up 6.4% for the year.

The Bloomberg Global Aggregate ex USD Index rose 9.2% (hedged: +5.4%) in 4Q as rates fell and the U.S. dollar weakened. Full-year results (+8.3% hedged; +5.7% unhedged) were also positive but reflected an overall stronger greenback. Emerging market debt indices also posted solid returns. The hard currency JPM EMBI Global Diversified gained 9.2% in 4Q and 11.1% in 2023. The local currency-denominated JPM GBI-EM Global Diversified returned 8.1% in 4Q and 12.7% for the year.

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Appendix