

# Illinois Police Officers' Pension Investment Fund

Investment Performance Review

Period Ending: June 30, 2023



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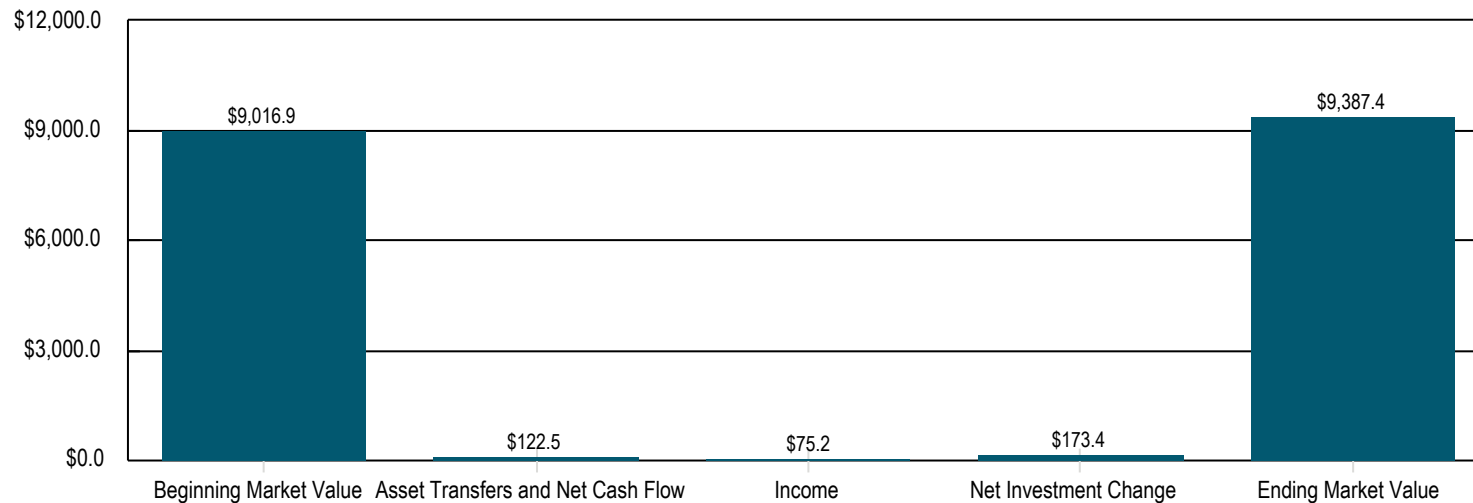
Total Fund  
Portfolio Reconciliation

Illinois Police Officers' Pension Investment Fund  
Period Ending: June 30, 2023

Portfolio Reconciliation

	Quarter-To-Date	Fiscal Year-To-Date
Beginning Market Value	\$9,016,924,151	\$2,746,308,452
Asset Transfers and Net Cash Flow	\$122,538,068	\$5,999,936,200
Income	\$75,156,162	\$221,018,434
Net Investment Change	\$173,365,163	\$420,745,149
<b>Ending Market Value</b>	<b>\$9,387,424,024</b>	<b>\$9,387,424,024</b>

Change in Market Value  
Last Three Months

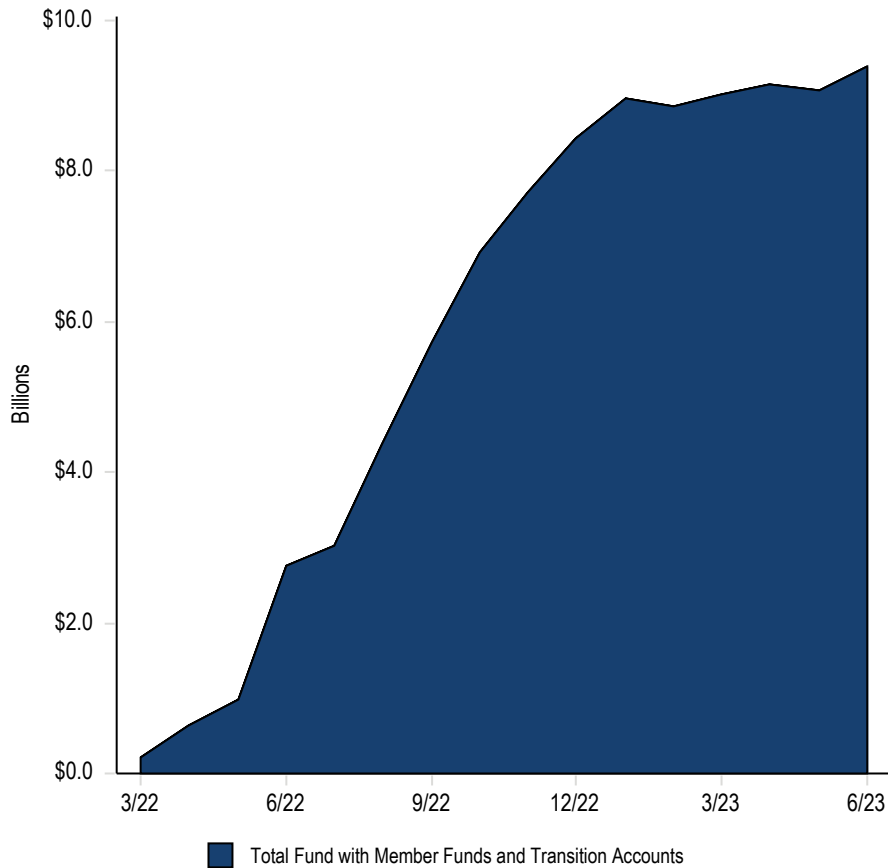


The portfolio reconciliation includes the Member Funds and Transition Account. Income excludes Member Funds and Transition Account. Income is calculated using the actual dividend and income received from separate accounts and estimated income and dividends for commingled funds. The income and dividends for RhumbLine Russell 1000 Index, RhumbLine Russell 2000 Index, SSgA US TIPS Index and Cash are sourced from State Street custodial reports. The income and dividends for the SSGA commingled funds are an estimate based on the current yield for bond funds and the dividend yield for equity funds. SSGA can use dividend and income to cover fund expenses, so the actual income that flows to the IPOPIF may be different than reported. Income for the Principal RE fund is based on a monthly income spreadsheet received from Principal via email.

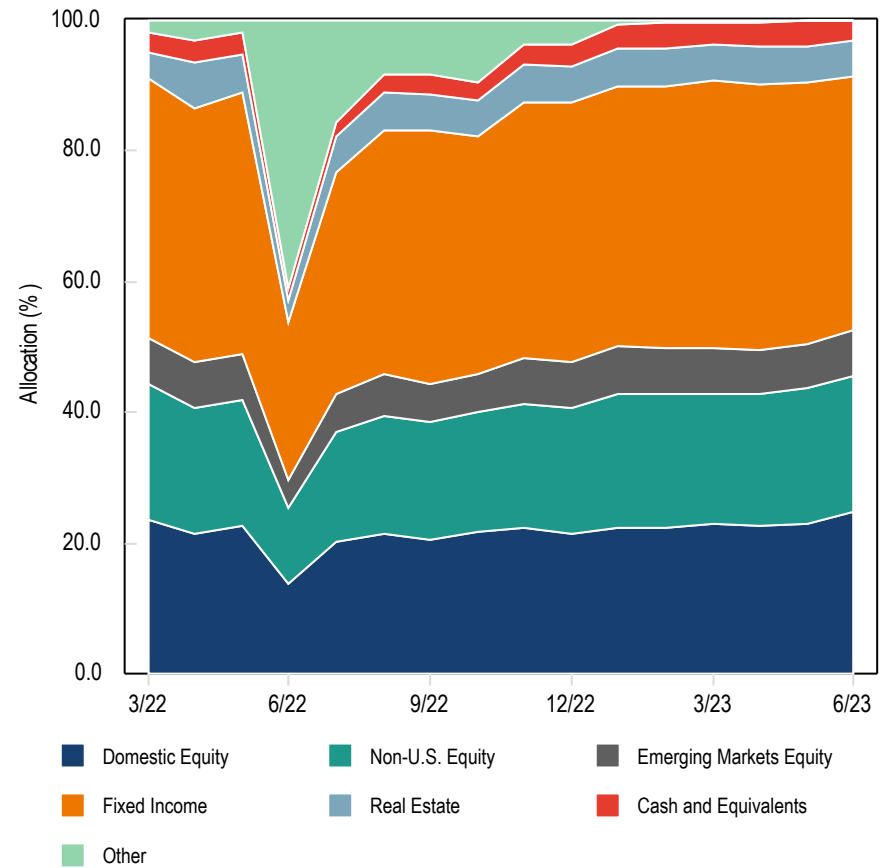
Total Fund  
Asset Allocation History

Illinois Police Officers' Pension Investment Fund  
Period Ending: June 30, 2023

Market Value History



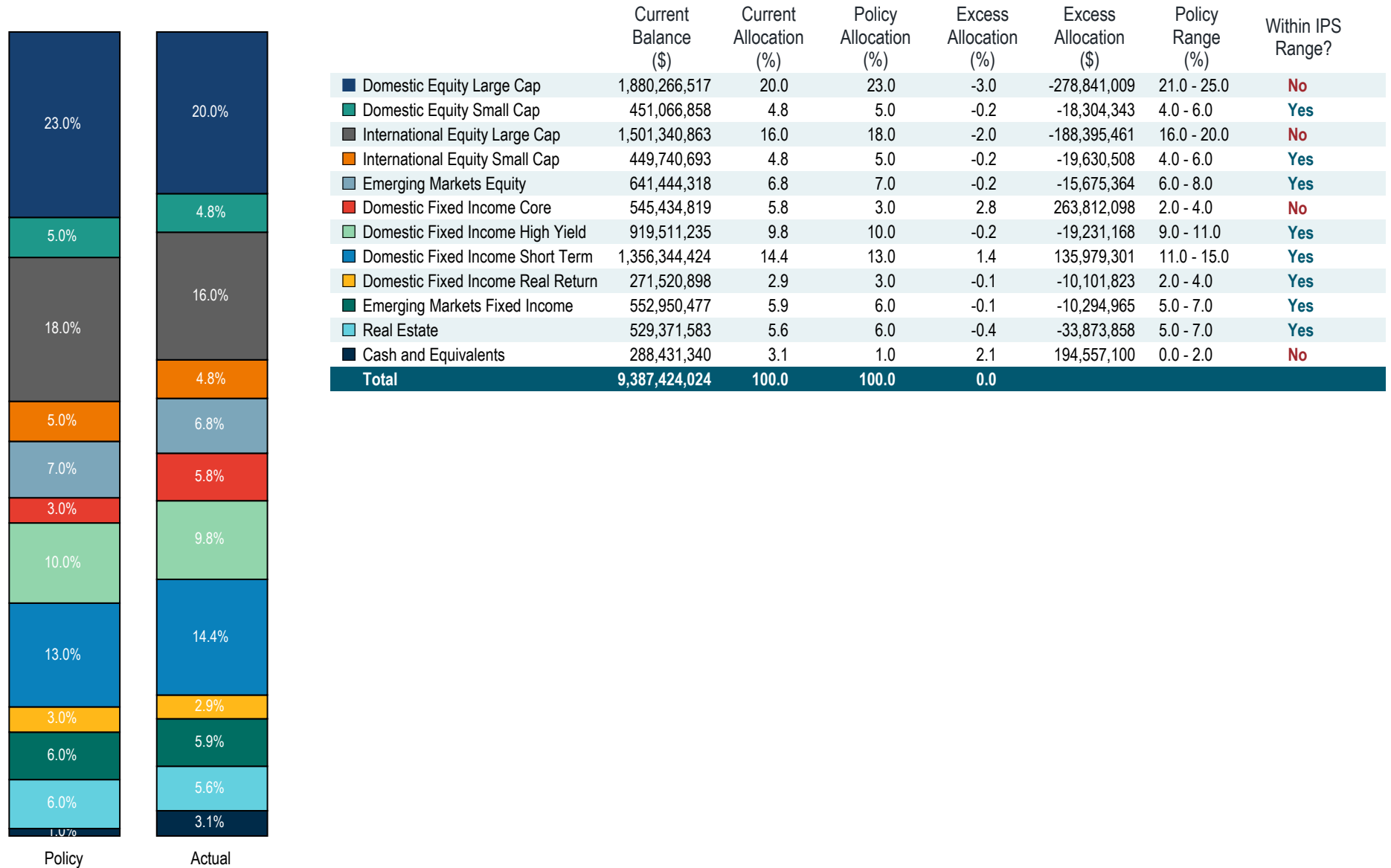
Asset Allocation History



\*Market value and asset class history includes Transition Accounts and Member Funds as represented by the Other category in the asset allocation history chart. The large allocation to the Other Category for 6/22 reflects assets in transition associated with the 6/24/22 Transfer Date.

IPOPIF Investment Portfolio  
Asset Allocation vs. Policy

Illinois Police Officers' Pension Investment Fund  
Period Ending: June 30, 2023



Asset Allocation reflects short-term policy targets and excludes the Transition Account and Member Funds.

Total Fund  
Executive Summary (Net of Fees)

Illinois Police Officers' Pension Investment Fund  
Period Ending: June 30, 2023

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
<b>Total Fund with Member and Transition Accounts</b>	<b>9,387,424,024</b>	<b>100.0</b>	<b>2.7</b>	<b>7.1</b>	<b>8.2</b>	<b>8.2</b>	<b>-1.4</b>	<b>03/01/22</b>
<i>Policy Index</i>			3.1	7.5	8.8	8.8	-1.5	
<i>Policy Index- Broad Based</i>			3.7	9.7	11.0	11.0	-2.7	
<b>IPOPIF Investment Portfolio</b>	<b>9,387,424,024</b>	<b>100.0</b>	<b>2.7</b>	<b>7.1</b>	<b>8.8</b>	<b>8.8</b>	<b>-2.0</b>	<b>04/01/22</b>
<i>Policy Index</i>			3.1	7.5	8.8	8.8	-2.0	
<i>Policy Index- Broad Based</i>			3.7	9.7	11.0	11.0	-3.4	
<b>Growth</b>	<b>4,923,859,249</b>	<b>52.5</b>	<b>4.8</b>	<b>11.6</b>	<b>14.9</b>	<b>14.9</b>	<b>-2.2</b>	<b>04/01/22</b>
<i>Growth Benchmark</i>			4.8	11.6	14.1	14.1	-2.5	
<b>Income</b>	<b>1,472,461,712</b>	<b>15.7</b>	<b>2.0</b>	<b>5.0</b>	<b>8.3</b>	<b>8.3</b>	<b>-3.6</b>	<b>04/01/22</b>
<i>Income Benchmark</i>			1.9	4.9	8.6	8.6	-1.8	
<b>Inflation Protection</b>	<b>800,892,481</b>	<b>8.5</b>	<b>0.6</b>	<b>1.8</b>	<b>-2.6</b>	<b>-2.6</b>	<b>-6.0</b>	<b>04/01/22</b>
<i>Inflation Protection Benchmark</i>			0.6	2.2	-1.6	-1.6	-7.8	
<b>Risk Mitigation</b>	<b>2,190,088,238</b>	<b>23.3</b>	<b>-0.2</b>	<b>1.7</b>	<b>0.7</b>	<b>0.7</b>	<b>-0.9</b>	<b>04/01/22</b>
<i>Risk Mitigation Benchmark</i>			-0.3	1.5	0.5	0.5	-1.0	
<b>IPOPIF Pool Fixed Income Transition</b>	<b>122,345</b>	<b>0.0</b>						
Transition Accounts	-	0.0						
Member Accounts	-	0.0						

Effective 5/1/2023: Policy Index constituents include 1% 90 day T-bill, 13% Bloomberg 1-3 Year Gov/Credit Index, 3% Bloomberg U.S. Aggregate Index, 3% Bloomberg U.S. TIPS 0-5 Year, 10% Bloomberg U.S. Corporate High Yield Index, 6% JPM EMBI Global Diversified, 23% Russell 1000, 5% Russell 2000, 18% MSCI World Ex US (Net), 5% MSCI World Ex US Small Cap (Net), 7% MSCI Emerging Markets (Net), 4% Wilshire U.S. REIT Index and 2% NFI-ODCE Equal Weight. Broad Based Policy Index constituents: 70% MSCI ACWI IMI (Net), 30% Bloomberg Global Multiverse. The growth, income, inflation protection and risk mitigation benchmarks are underlying asset class benchmarks normalized for composite weights.

Total Fund  
Executive Summary (Net of Fees)

Illinois Police Officers' Pension Investment Fund  
Period Ending: June 30, 2023

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
<b>Total Fund with Member and Transition Accounts</b>	<b>9,387,424,024</b>	<b>100.0</b>	<b>2.7</b>	<b>7.1</b>	<b>8.2</b>	<b>8.2</b>	<b>-1.4</b>	<b>03/01/22</b>
<i>Policy Index</i>			3.1	7.5	8.8	8.8	-1.5	
<i>Policy Index- Broad Based</i>			3.7	9.7	11.0	11.0	-2.7	
<i>All Public Plans &gt; \$1B-Total Fund Rank</i>			39	32	37	37		
<b>IPOPIF Investment Portfolio</b>	<b>9,387,424,024</b>	<b>100.0</b>	<b>2.7</b>	<b>7.1</b>	<b>8.8</b>	<b>8.8</b>	<b>-2.0</b>	<b>04/01/22</b>
<i>Policy Index</i>			3.1	7.5	8.8	8.8	-2.0	
<i>Policy Index- Broad Based</i>			3.7	9.7	11.0	11.0	-3.4	
<i>All Public Plans &gt; \$1B-Total Fund Rank</i>			39	32	23	23		
<b>Growth</b>	<b>4,923,859,249</b>	<b>52.5</b>	<b>4.8</b>	<b>11.6</b>	<b>14.9</b>	<b>14.9</b>	<b>-2.2</b>	<b>04/01/22</b>
<i>Growth Benchmark</i>			4.8	11.6	14.1	14.1	-2.5	
RhumbLine Russell 1000 Index	1,880,266,517	20.0	8.6	16.7	19.3	19.3	6.2	03/15/22
<i>Russell 1000 Index</i>			8.6	16.7	19.4	19.4	6.3	
<i>eV US Large Cap Core Equity Rank</i>			24	22	26	26		
RhumbLine Russell 2000 Index	451,066,858	4.8	5.2	8.1	12.3	12.3	-1.0	03/15/22
<i>Russell 2000 Index</i>			5.2	8.1	12.3	12.3	-0.6	
<i>eV US Small Cap Core Equity Rank</i>			38	60	66	66	--	
SSgA Non-US Developed Index	1,501,340,863	16.0	3.2	11.6	17.8	17.8	5.4	03/10/22
<i>MSCI World ex U.S. (Net)</i>			3.0	11.3	17.4	17.4	4.9	
<i>eV EAFE Core Equity Rank</i>			34	36	33	33		
SSgA Non-US Developed SC Index	449,740,693	4.8	0.4	5.5	10.2	10.2	-3.3	03/10/22
<i>MSCI World ex U.S. Small Cap Index (Net)</i>			0.5	5.5	10.0	10.0	-3.4	
<i>eV EAFE Small Cap Core Rank</i>			50	74	63	63		
SSgA Emerging Markets Equity Index	641,444,318	6.8	1.0	5.1	1.8	1.8	-5.2	03/10/22
<i>MSCI Emerging Markets (Net)</i>			0.9	4.9	1.7	1.7	-4.2	
<i>eV Emg Mkts Equity Rank</i>			71	75	79	79		
<b>Income</b>	<b>1,472,461,712</b>	<b>15.7</b>	<b>2.0</b>	<b>5.0</b>	<b>8.3</b>	<b>8.3</b>	<b>-3.6</b>	<b>04/01/22</b>
<i>Income Benchmark</i>			1.9	4.9	8.6	8.6	-1.8	
SSgA High Yield Corporate Credit	919,511,235	9.8	1.9	5.6	9.0	9.0	-1.5	03/18/22
<i>Bloomberg U.S. High Yield Very Liquid Ind</i>			1.6	5.5	9.1	9.1	-1.5	
<i>eV US High Yield Fixed Inc Rank</i>			24	18	31	31		
SSgA EMD Hard Index Fund	552,950,477	5.9	2.2	4.1	6.9	6.9	-3.2	03/14/22
<i>JPM EMBI Global Diversified Index</i>			2.2	4.1	7.4	7.4	-2.9	
<i>Emerging Markets Bond Rank</i>			48	48	68	68		

Effective 5/1/2023: Policy Index constituents include 1% 90 day T-bill, 13% Bloomberg 1-3 Year Gov/Credit Index, 3% Bloomberg U.S. Aggregate Index, 3% Bloomberg U.S. TIPS 0-5 Year, 10% Bloomberg U.S. Corporate High Yield Index, 6% JPM EMBI Global Diversified, 23% Russell 1000, 5% Russell 2000, 18% MSCI World Ex US (Net), 5% MSCI World Ex US Small Cap (Net), 7% MSCI Emerging Markets (Net), 4% Wilshire U.S. REIT Index and 2% NFI-ODCE Equal Weight. Broad Based Policy Index constituents: 70% MSCI ACWI IMI (Net), 30% Bloomberg Global Multiverse.. Principal USPA does not show a Since 4/1/2022 return because the fund was incepted on 4/6/2022.

Total Fund  
Executive Summary (Net of Fees)

Illinois Police Officers' Pension Investment Fund  
Period Ending: June 30, 2023

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
<b>Inflation Protection</b>	<b>800,892,481</b>	<b>8.5</b>	<b>0.6</b>	<b>1.8</b>	<b>-2.6</b>	<b>-2.6</b>	<b>-6.0</b>	<b>04/01/22</b>
<i>Inflation Protection Benchmark</i>			0.6	2.2	-1.6	-1.6	-7.8	
SSgA US TIPS Index	271,520,898	2.9	-0.7	1.5	-0.1	-0.1	-2.0	03/17/22
<i>Blmbg. U.S. TIPS 0-5 Year</i>			-0.7	1.5	0.1	0.1	-1.8	
<i>eV US TIPS / Inflation Fixed Inc Rank</i>			6	83	12	12		
SSgA REITs Index	356,432,029	3.8	2.9	5.8	-0.7	-0.7	-11.5	03/16/22
<i>Dow Jones U.S. Select REIT</i>			2.9	5.8	-0.7	-0.7	-11.4	
<i>eV US REIT Rank</i>			35	40	32	32		
Principal USPA	172,939,554	1.8	-1.9	-5.0	-10.5	-10.5	-6.4	04/06/22
<i>NCREIF ODCE</i>			-2.9	-6.2	-10.7	-10.7	-5.4	
<b>Risk Mitigation</b>	<b>2,190,088,238</b>	<b>23.3</b>	<b>-0.2</b>	<b>1.7</b>	<b>0.7</b>	<b>0.7</b>	<b>-0.9</b>	<b>04/01/22</b>
<i>Risk Mitigation Benchmark</i>			-0.3	1.5	0.5	0.5	-1.0	
SSgA Core Fixed Income Index	545,434,819	5.8	-0.8	2.3	-0.9	-0.9	-4.8	03/17/22
<i>Blmbg. U.S. Aggregate Index</i>			-0.8	2.1	-0.9	-0.9	-4.7	
<i>eV US Core Fixed Inc Rank</i>			70	52	74	74		
SSgA Short-Term Gov't/Credit Index	1,356,222,079	14.4	-0.4	1.2	0.6	0.6	-0.4	03/17/22
<i>Blmbg. 1-3 Year Gov/Credit index</i>			-0.4	1.1	0.5	0.5	-0.5	
<i>eV US Short Duration Fixed Inc Rank</i>			78	81	74	74		
Cash	288,431,340	3.1	1.5	2.3	3.1	3.1	2.5	03/22/22
<i>90 Day U.S. Treasury Bill</i>			1.2	2.3	3.6	3.6	2.9	
<b>IPOPIF Pool Fixed Income Transition</b>	<b>122,345</b>	<b>0.0</b>						
Transition Account	-	0.0						
Member Accounts	-	0.0						

Effective 5/1/2023: Policy Index constituents include 1% 90 day T-bill, 13% Bloomberg 1-3 Year Gov/Credit Index, 3% Bloomberg U.S. Aggregate Index, 3% Bloomberg U.S. TIPS 0-5 Year, 10% Bloomberg U.S. Corporate High Yield Index, 6% JPM EMBI Global Diversified, 23% Russell 1000, 5% Russell 2000, 18% MSCI World Ex US (Net), 5% MSCI World Ex US Small Cap (Net), 7% MSCI Emerging Markets (Net), 4% Wilshire U.S. REIT Index and 2% NFI-ODCE Equal Weight. Broad Based Policy Index constituents: 70% MSCI ACWI IMI (Net), 30% Bloomberg Global Multiverse.. Principal USPA does not show a Since 4/1/2022 return because the fund was incepted on 4/6/2022.

IPOPIF Investment Portfolio  
Investment Fund Fee Analysis

Illinois Police Officers' Pension Investment Fund  
Period Ending: June 30, 2023

Name	Asset Class	Vehicle Type	Market Value	% of Portfolio	Estimated Fee Value	Expense Fee (%)
RhumbLine Russell 1000 Index	Domestic Equity	Separate Account	\$1,880,266,517	20.0296	\$94,013	0.005
RhumbLine Russell 2000 Index	Domestic Equity	Separate Account	\$451,066,858	4.8050	\$22,553	0.005
SSgA Non-US Developed Index	Non-U.S. Equity	Commingled Fund	\$1,501,340,863	15.9931	\$240,215	0.016
SSgA Non-US Developed SC Index	Non-U.S. Equity	Commingled Fund	\$449,740,693	4.7909	\$71,959	0.016
SSgA Emerging Markets Equity Index	Emerging Markets Equity	Commingled Fund	\$641,444,318	6.8330	\$102,631	0.016
SSgA High Yield Corporate Credit	Fixed Income	Commingled Fund	\$919,511,235	9.7951	\$147,122	0.016
SSgA EMD Hard Index Fund	Fixed Income	Commingled Fund	\$552,950,477	5.8903	\$88,472	0.016
SSgA US TIPS Index	Fixed Income	Separate Account	\$271,520,898	2.8924	\$43,443	0.016
Principal USPA	Real Estate	Commingled Fund	\$172,939,554	1.8422	\$1,383,516	0.800
SSgA REITs Index	Real Estate	Commingled Fund	\$356,432,029	3.7969	\$57,029	0.016
SSgA Core Fixed Income Index	Fixed Income	Commingled Fund	\$545,434,819	5.8103	\$87,270	0.016
SSgA Short-Term Gov't/Credit Index	Fixed Income	Commingled Fund	\$1,356,222,079	14.4472	\$216,996	0.016
Cash	Cash and Equivalents	Commingled Fund	\$288,431,340	3.0725		
<b>IPOPIF Investment Portfolio</b>			<b>\$9,387,424,024</b>	<b>100.0000</b>	<b>\$2,555,219</b>	<b>0.027</b>

SSGA charges a flat 0.0155% fee through 2Q 2023 and an aggregate asset-based fee thereafter.

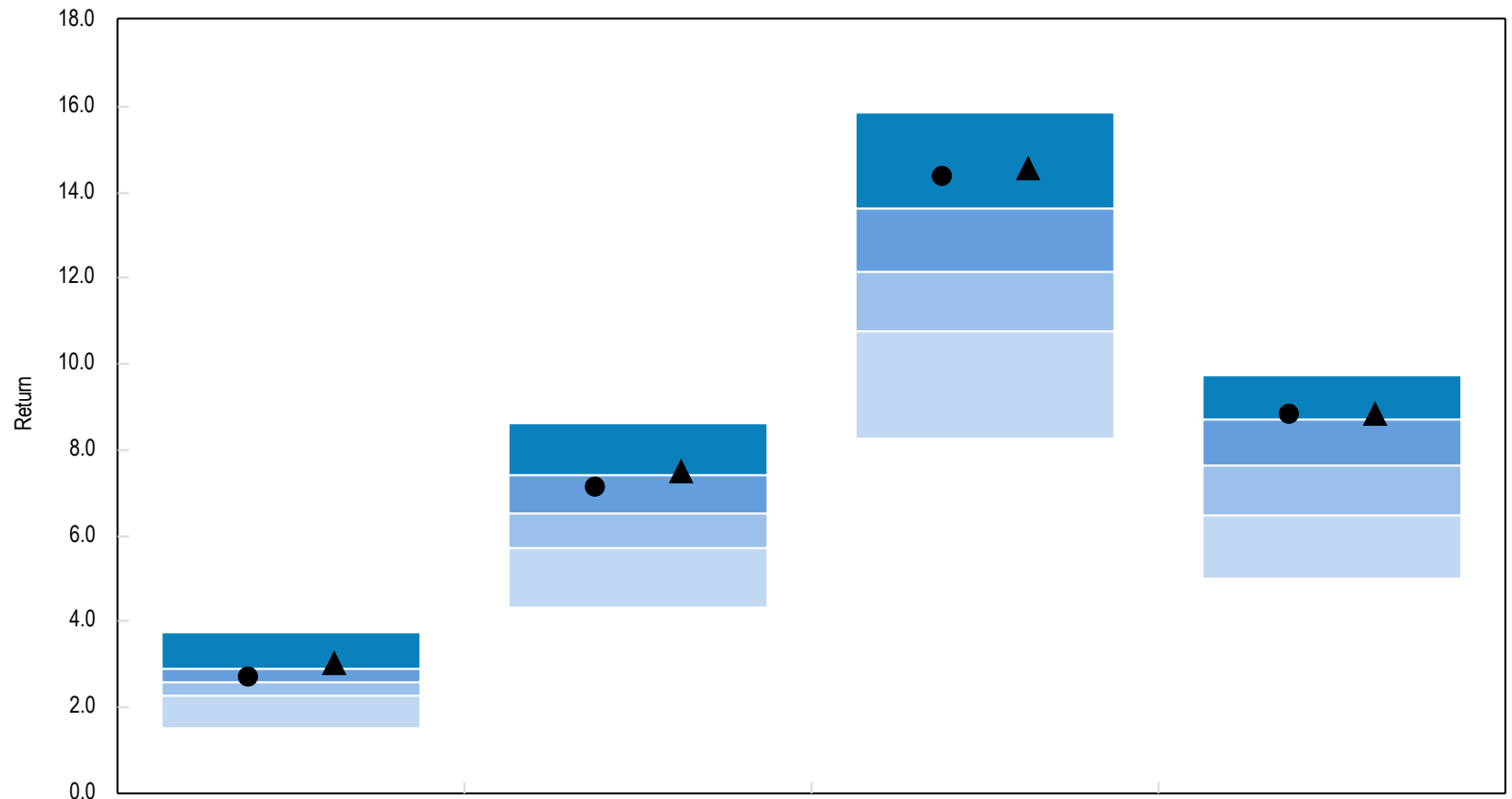


Total Fund  
Cash Flow by Manager - Last Three Months

Illinois Police Officers' Pension Investment Fund  
Period Ending: June 30, 2023

Name	Beginning Market Value	Contributions	Distributions	Net Cash Flows	Income	Fees	Net Investment Change	Ending Market Value
RhumbLine Russell 1000 Index	\$1,634,473,270	\$102,475,640	-	\$102,475,640	\$6,696,714	-\$33,212	\$136,654,105	\$1,880,266,517
RhumbLine Russell 2000 Index	\$425,256,624	\$3,445,177	-	\$3,445,177	\$1,799,655	-\$7,085	\$20,572,487	\$451,066,858
SSgA Non-US Developed Index	\$1,354,428,782	\$100,371,688	-	\$100,371,688	\$11,242,750	-\$111,867	\$35,409,510	\$1,501,340,863
SSgA Non-US Developed SC Index	\$443,433,194	\$4,224,832	-\$22	\$4,224,810	\$3,397,636	-\$36,129	-\$1,278,819	\$449,740,693
SSgA Emerging Markets Equity Index	\$630,311,503	\$4,921,276	-	\$4,921,276	\$4,682,593	-\$50,512	\$1,579,459	\$641,444,318
SSgA High Yield Corporate Credit	\$895,381,257	\$7,069,471	-	\$7,069,470	\$15,080,157	-\$73,626	\$2,053,976	\$919,511,235
SSgA EMD Hard Index Fund	\$536,818,786	\$4,206,787	-\$1,341	\$4,205,446	\$8,018,703	-\$42,659	\$3,950,201	\$552,950,477
SSgA US TIPS Index	\$271,260,172	\$2,077,659	-	\$2,077,659	\$266,585	-\$22,058	-\$2,061,459	\$271,520,898
Principal USPA	\$176,225,353	-	-	-	\$1,795,856	-	-\$5,081,654	\$172,939,554
SSgA REITs Index	\$342,064,940	\$4,075,865	-	\$4,075,865	\$3,562,702	-\$25,592	\$6,754,115	\$356,432,029
SSgA Core Fixed Income Index	\$637,599,953	\$3,500,506	-\$90,000,000	-\$86,499,494	\$4,766,584	-\$50,113	-\$10,382,111	\$545,434,819
SSgA Short-Term Gov't/Credit Index	\$1,350,576,692	\$10,626,269	-\$2	\$10,626,268	\$8,819,869	-\$106,665	-\$13,694,085	\$1,356,222,079
Cash	\$287,978,562	\$218,451,983	-\$223,025,319	-\$4,573,336	\$5,026,114	-	-	\$288,431,340
IPOPIF Pool Fixed Income Transition	-	\$2,603,233	-\$2,367,000	\$236,233	\$245	-	-\$114,132	\$122,345
Transition Account	\$31,110,292	\$40,153,429	-\$70,433,409	-\$30,279,980	-	-	-\$830,312	-
Member Accounts	\$4,771	\$46,435,494	-\$46,274,147	\$161,347	-	-	-\$166,118	-
<b>Total Fund with Member Funds and Transition Accounts</b>	<b>\$9,016,924,151</b>	<b>\$554,639,309</b>	<b>-\$432,101,240</b>	<b>\$122,538,068</b>	<b>\$75,156,162</b>	<b>-\$559,520</b>	<b>\$173,365,163</b>	<b>\$9,387,424,024</b>

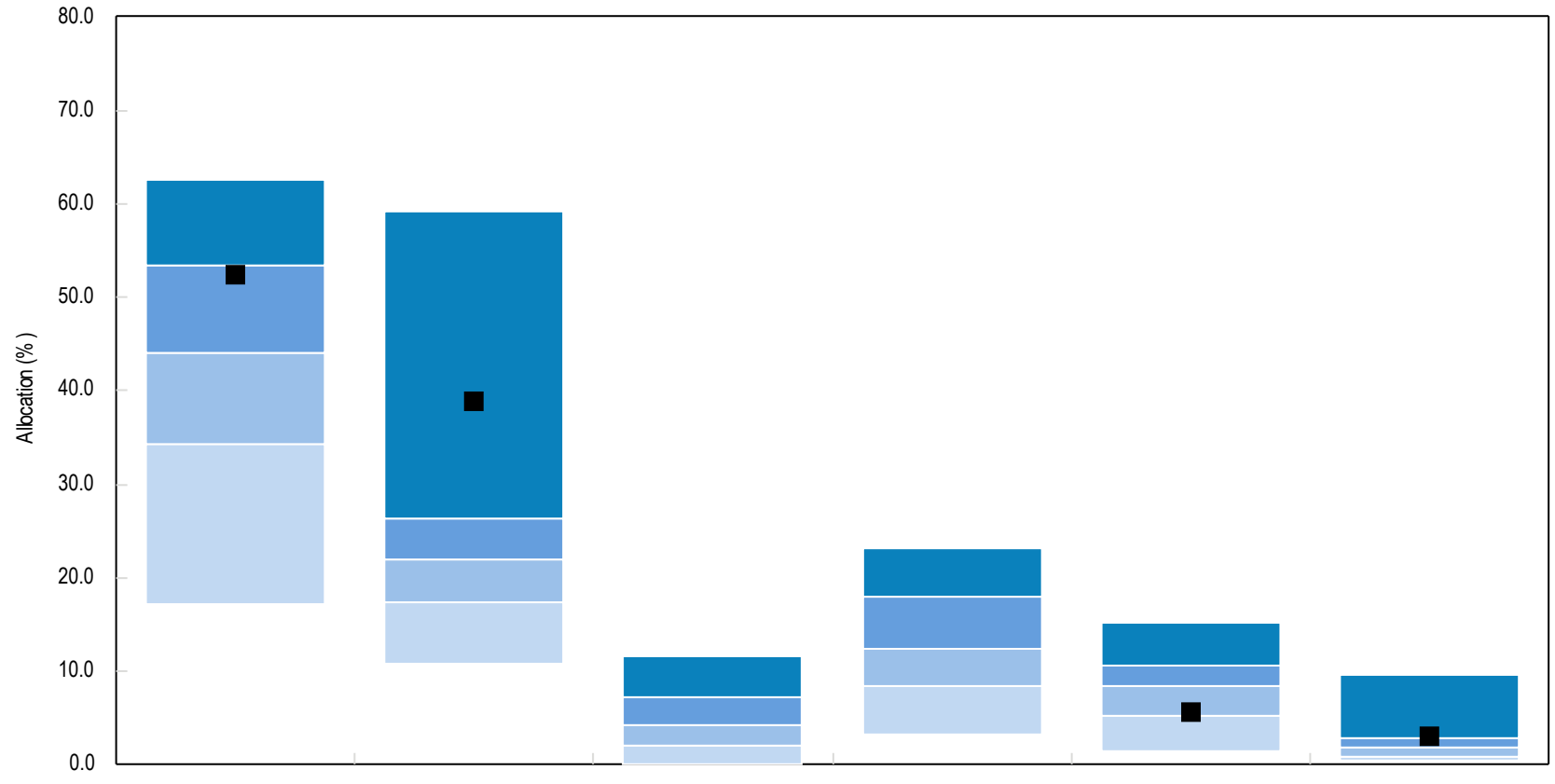
IPOPIF Investment Portfolio vs. All Public Plans > \$1B-Total Fund



	Quarter	2 Quarters	3 Quarters	1 Year
● IPOPIF Investment Portfolio	2.7 (39)	7.1 (32)	14.4 (13)	8.8 (23)
▲ Policy Index	3.1 (24)	7.5 (21)	14.6 (13)	8.8 (23)
5th Percentile	3.7	8.6	15.8	9.7
1st Quartile	2.9	7.4	13.6	8.7
Median	2.6	6.5	12.1	7.6
3rd Quartile	2.3	5.7	10.8	6.5
95th Percentile	1.5	4.3	8.3	5.0
Population	92	89	87	87

Parentheses contain percentile rankings. Performance shown for IPOPIF Investment Fund which excludes the Transition Account and Member Funds.

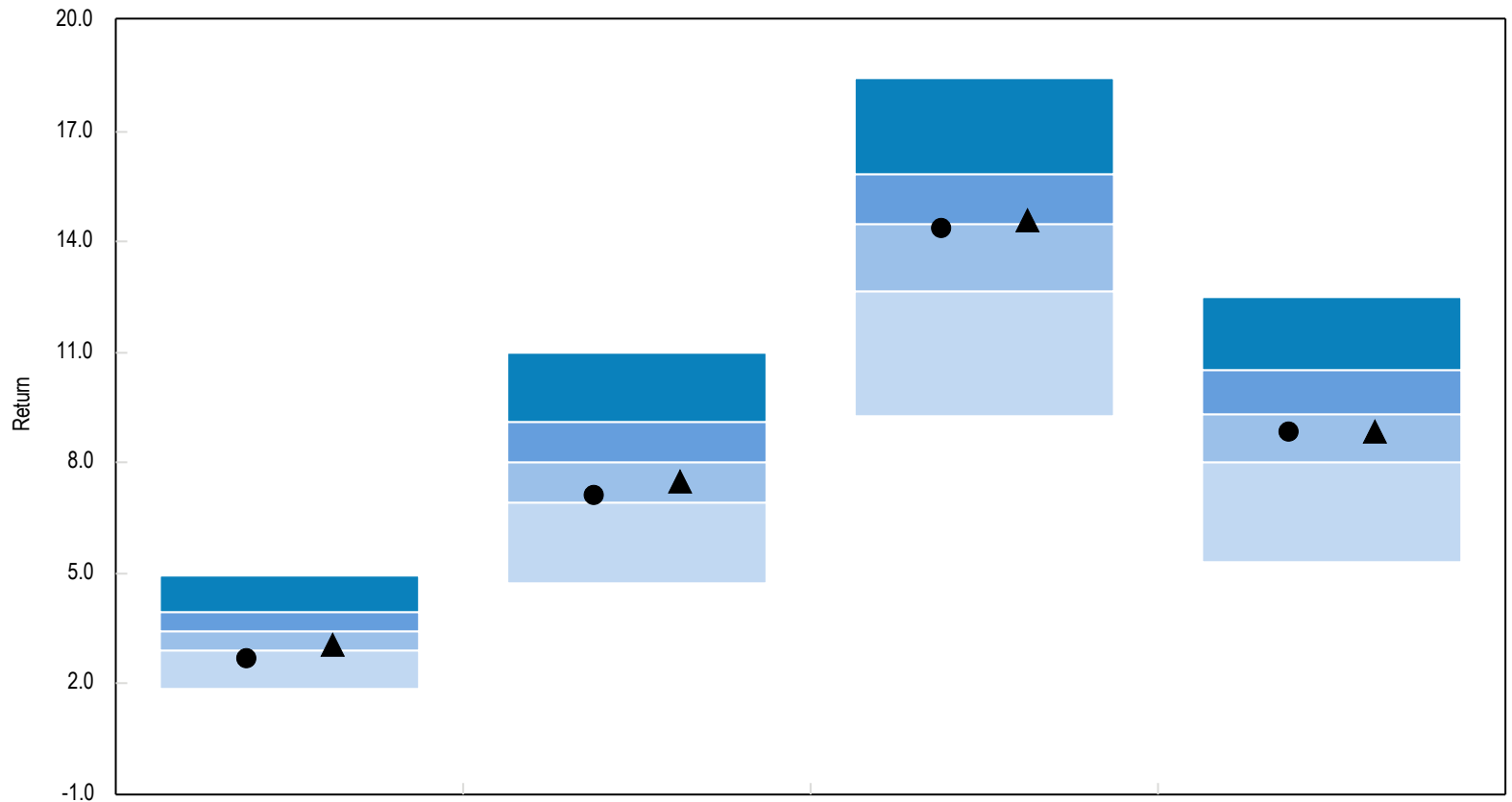
Total Plan Allocation vs. All Public Plans > \$1B-Total Fund  
As of June 30, 2023



	Total Equity 52.5 (30)	Total Fixed Income 38.8 (8)	Hedge Funds -	Private Equity -	Total Real Estate 5.6 (72)	Cash & Equivalents 3.1 (24)
■ IPOPIF Investment Portfolio						
5th Percentile	62.6	59.2	11.6	23.1	15.1	9.6
1st Quartile	53.4	26.3	7.2	17.9	10.6	2.8
Median	44.0	22.0	4.2	12.4	8.3	1.7
3rd Quartile	34.3	17.4	1.9	8.3	5.2	0.8
95th Percentile	17.1	10.7	0.0	3.3	1.5	0.3
Population	133	141	43	66	112	106

Parenteses contain percentile rankings. Excludes Transition Account and Member Funds. Real Assets contains Core Real Estate and REITs.

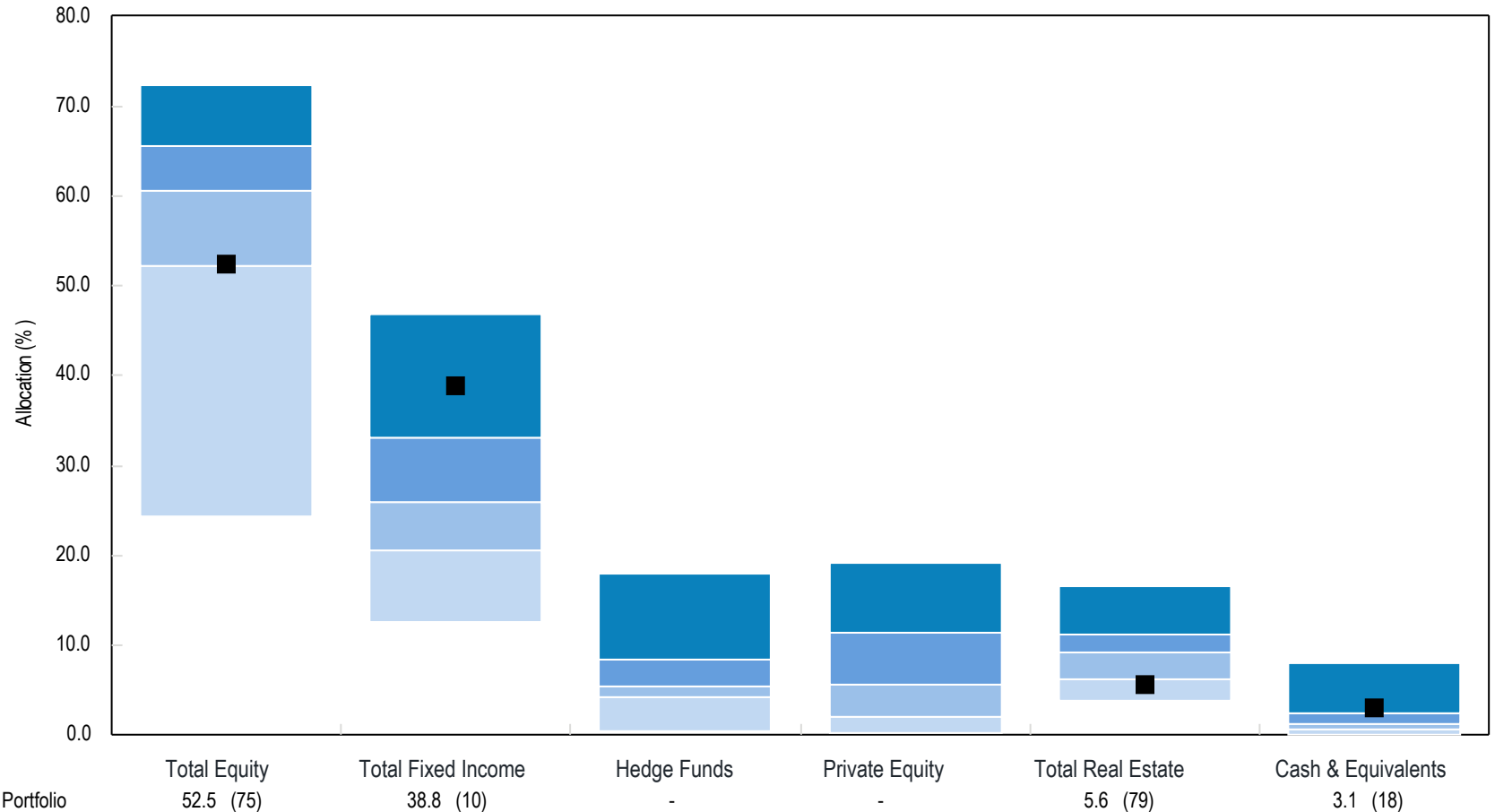
IPOPIF Investment Portfolio vs. All Public Plans < \$1B-Total Fund



	Quarter	2 Quarters	3 Quarters	1 Year
● IPOPIF Investment Portfolio	2.7 (81)	7.1 (72)	14.4 (51)	8.8 (61)
▲ Policy Index	3.1 (69)	7.5 (63)	14.6 (49)	8.8 (62)
5th Percentile	4.9	11.0	18.4	12.5
1st Quartile	4.0	9.1	15.8	10.5
Median	3.4	8.0	14.5	9.3
3rd Quartile	2.9	6.9	12.7	8.0
95th Percentile	1.9	4.7	9.3	5.3
Population	547	541	534	534

Parentheses contain percentile rankings. Performance shown for IPOPIF Investment Fund which excludes the Transition Account and Member Funds.

Total Plan Allocation vs. All Public Plans < \$1B-Total Fund  
As of June 30, 2023



5th Percentile	72.5	46.8	18.0	19.3	16.5	8.0
1st Quartile	65.6	33.2	8.5	11.4	11.2	2.3
Median	60.7	26.0	5.3	5.6	9.2	1.2
3rd Quartile	52.2	20.5	4.2	2.0	6.1	0.6
95th Percentile	24.3	12.5	0.4	0.3	3.8	0.1
Population	526	543	60	118	343	456

Parenteses contain percentile rankings. Excludes Transition Account and Member Funds. Real Assets contains Core Real Estate and REITs.

# Total Fund

## Data Sources and Methodology Page

Period Ending: June 30, 2023

### Performance Return Calculations

Performance is calculated using Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

### Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

### Manager Line Up

Manager	Inception Date	Data Source
RhumbLine Russell 1000 Index Fund	3/15/2022	State Street
RhumbLine Russell 2000 Index Fund	3/15/2022	State Street
SSgA Non-US Developed Index Fund	3/10/2022	State Street
SSgA Non-US Developed SC Index Fund	3/10/2022	State Street
SSgA Emerging Markets Equity Index Fund	3/10/2022	State Street
SSgA High Yield Corporate Credit	3/18/2022	State Street
iShares JPM Emerging Market Bond Index ETF	3/14/2022	State Street

Manager	Inception Date	Data Source
SSgA US TIPS Index Fund	3/17/2022	State Street
Principal USPA	4/6/2022	State Street
SSgA REITs Index Fund	3/10/2022	State Street
SSgA Core Fixed Income Index Fund	3/17/2022	State Street
SSgA Short-Term Gov't/Credit Index Fund	3/17/2022	State Street
Cash	3/22/2022	State Street

### Policy Index Composition

As of 5/1/2023	Policy Index	Growth	Income	Inflation Protection	Risk Mitigation
Russell 1000	23%	39.7%			
Russell 2000	5%	8.6%			
MSCI World ex U.S.	18%	31.0%			
MSCI World ex U.S. Small Cap	5%	8.6%			
MSCI Emerging Markets	7%	12.1%			
Bloomberg US Aggregate Index	3%				17.6%
Bloomberg 1-3 Year Gov/Credit Index	13%				76.5%
Bloomberg US Corporate High Yield Index	10%		62.5%		
Bloomberg US TIPS 0-5 Year	3%			33.3%	
JPM EMBI Global Diversified Index	6%		37.5%		
NFI-ODCE Equal-Weighted Index	2%			22.2%	
Wilshire US REIT Index	4%			44.5%	
90 Day US Treasury Bill Index	1%				5.9%

As of 1/1/2023	Policy Index	Growth	Income	Inflation Protection	Risk Mitigation
Russell 1000	18%	36.0%			
Russell 2000	5%	10.0%			
MSCI World ex U.S.	15%	30.0%			
MSCI World ex U.S. Small Cap	5%	10.0%			
MSCI Emerging Markets	7%	14.0%			
Bloomberg US Aggregate Index	7%				28.0%
Bloomberg 1-3 Year Gov/Credit Index	15%				60.0%
Bloomberg US Corporate High Yield Index	10%		62.5%		
Bloomberg US TIPS 0-5 Year	3%			33.3%	
JPM EMBI Global Diversified Index	6%		37.5%		
NFI-ODCE Equal-Weighted Index	2%			22.2%	
Wilshire US REIT Index	4%			44.5%	
90 Day US Treasury Bill Index	3%				12.0%

As of 3/31/2022	Policy Index	Growth	Income	Inflation Protection	Risk Mitigation
Russell 3000	23%	46.0%			
MSCI ACWI ex USA IMI	20%	40.0%			
MSCI Emerging Markets IMI	7%	14.0%			
Bloomberg US Aggregate Index	7%				28.0%
Bloomberg 1-3 Year Gov/Credit Index	15%				60.0%
Bloomberg US Corporate High Yield Index	10%		62.5%		
Bloomberg US TIPS 0-5 Year	3%			33.3%	
50% JPM EMBI GD/50% JPM GBI EM GD	6%		37.5%		
NCREIF Property Index	2%			22.2%	
Wilshire US REIT Index	4%			44.5%	
90 Day US Treasury Bill Index	3%				12.0%

# Glossary

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**Allocation Effect:** An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

**Alpha:** The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as:  $\text{Portfolio Return} - [\text{Risk free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk free Rate})]$ .

**Benchmark R squared:** Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R squared, the more appropriate the benchmark is for the manager.

**Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

**Book to Market:** The ratio of book value per share to market price per share. Growth managers typically have low book to market ratios while value managers typically have high book to market ratios.

**Capture Ratio:** A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

**Correlation:** A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

**Excess Return:** A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

**Interaction Effect:** An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

**Portfolio Turnover:** The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

**Price to Earnings Ratio (P/E):** Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price to earnings ratios whereas value managers hold stocks with low price to earnings ratios.

**R Squared:** Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

**Selection Effect:** An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

**Sharpe Ratio:** A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as:  $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$ .

**Sortino Ratio:** Measures the risk adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

**Standard Deviation:** A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

**Style Analysis:** A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

**Style Map:** A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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