



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: June 30, 2024

Investment Performance Review for

Illinois Police Officer's Pension Investment Fund

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Executive Summary

Executive Summary

- Total assets increased by over \$140 million to \$10.5 billion over the quarter, reflecting modest returns from risk assets, while fixed income was flat to mildly positive depending on the duration profile.
- Emerging market equities outperformed during the second quarter, returning 5.0%, despite significant ongoing underperformance of China. U.S. equities were closely behind (S&P 500 returned 4.3% in the second quarter), setting a new all-time-high price level. In contrast, international developed market equities were flat during the quarter.
- The IPOPIF Investment Portfolio returned 1.3% for the quarter, which slightly outperformed the Policy Index return of 1.2%, but trailed the Broad-Based Policy Index of 1.4%, which reflects its higher equity allocation.
- Since inception in April 2022, the IPOPIF Portfolio has returned 3.9% on an average annualized basis through the end of the second quarter, compared to the Policy Index of 4.0% and the Broad-Based Policy Index of 3.6%.
- The IPOPIF Portfolio performed better than its median peer and ranked in the 35th percentile for the quarter in a representative universe of Public Pensions with assets greater than \$1 billion.
- The IPOPIF investment team actively monitors current asset allocations vs. policy targets and conducts rebalancing trades as appropriate. As of June 30, 2024, all asset classes were within policy target ranges.

Notes:

The broad-Based Policy Index represents a passively invested 70/30 global stock / U.S. bond portfolio.

Investment Landscape

2nd quarter summary

THE ECONOMY

- U.S. inflation (CPI) fell to 3.0% YoY in June, following two consecutive months of flat prices (0.0% in May and -0.1% in June). The report reflected a slowing in shelter costs, which have been a primary hurdle for inflation reaching the 2% Federal Reserve target. If the slowing of shelter prices persists, inflation could fall rather quickly. Core inflation (ex-Food & Energy) was 3.3% year-over-year in June.
- The U.S. labor market remains strong, but recently some cracks of weakness have appeared. Unemployment jumped unexpectedly to 4.1% in June—a level not seen since 2021. Jobless claims have also been rising. This negative data could prove to be a continuation of the trend towards a more balanced labor market, though it will be important to monitor conditions closely.

EQUITY

- Emerging market equities outperformed during Q2, up +5.0%, despite significant ongoing underperformance of China. U.S. equities were close behind (S&P 500 +4.3%), setting a new all-time-high price level. In contrast, international developed equities were flat.
- Small cap and value style investing underperformed. Small cap lagged large cap by -6.9% while value underperformed growth by -10.5%. The style premia performance gap was even wider over the past year, as small cap underperformed large cap by -13.8% and value underperformed growth by -20.4%.

FIXED INCOME

- The 10-year U.S. Treasury yield increased slightly from 4.20% to 4.36% during Q2, resulting in near-zero or negative performance for high quality fixed income of a longer duration profile.
- Default activity in loans and credit reached a one-year low at the end of Q2. However, the gap between bank loan and high yield default activity has increased to a 10-year high, with total volume of distressed or defaults comprised of loans (80%) to bonds (20%) on pace for a record high.

ASSET ALLOCATION ISSUES

- Many goods and services prices have been falling in areas such as autos, energy, and transportation. This trend has occurred alongside signs of weakness in the job market and consumer spending, and has reignited hopes for lower inflation, which would ease pressures on household budgets and allow for interest rate cuts. It is possible that an economic *soft landing* may be occurring, which would suggest lower rates and further gains for risk assets.
- Market-priced volatility (Cboe VIX Index) remained very low, ending at 12.4% in June. This has raised eyebrows, given a variety of risks that domestic equities face, but low volatility is typical of strongly up trending equity environments. Markets continue to present a unique environment of low equity volatility but high fixed income volatility. This gap has closed somewhat, as bond market implied volatility has receded.

Risk assets delivered moderate returns in Q2, while fixed income was flat to mildly positive, depending on duration profile

A *soft landing* appears possible for the U.S. economy

What drove the market in Q2?

“The US Economy is showing clear signs of a slowdown”

Employment change, Non-farm payrolls

January	February	March	April	May	June
256k	236k	240k	108k	218k	206k

Article Source: Bloomberg, July 8th, 2024

“Earnings bolster US stocks, but crucial inflation report looms”

S&P 500 EPS Growth, Year-over-year

Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024
+4.3%	-1.5%	-2.0%	-5.0%	+4.1%	+6.9%

Article Source: Reuters, May 14th, 2024

“Slowing U.S. inflation fuels expectations of interest rate cuts”

Consumer Price Index, Year-over-year change

Jan 23	Feb 24	March 24	April 24	May 24	June 24
3.1%	3.2%	3.5%	3.4%	3.3%	3.0%

Article Source: Wall Street Journal, June 28th, 2024

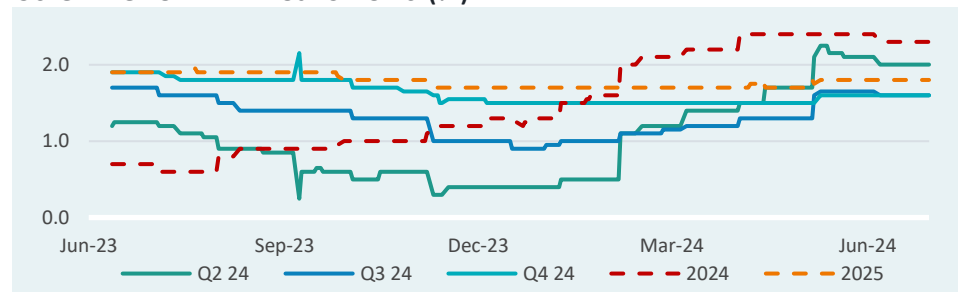
“European Central Bank cuts interest rates for first time in 5 years”

ECB Overnight Rate, Actual and Implied

March 24	June 24	Sep 24 (E)	Dec 24 (E)	March 25 (E)	June 25 (E)
4.0%	3.75%	3.45%	3.20%	2.98%	2.75%

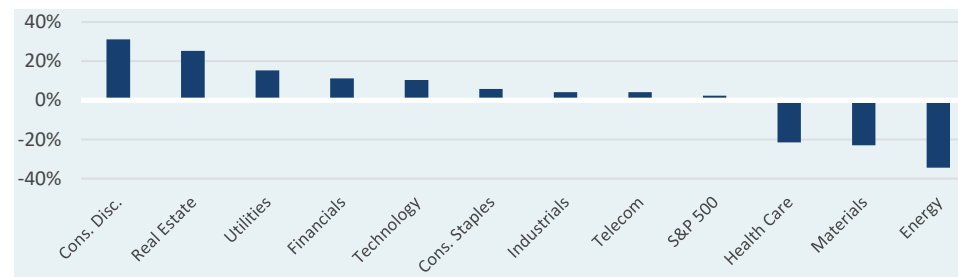
Article Source: Financial Times, June 6th, 2024

US GDP GROWTH PROJECTIONS (%)



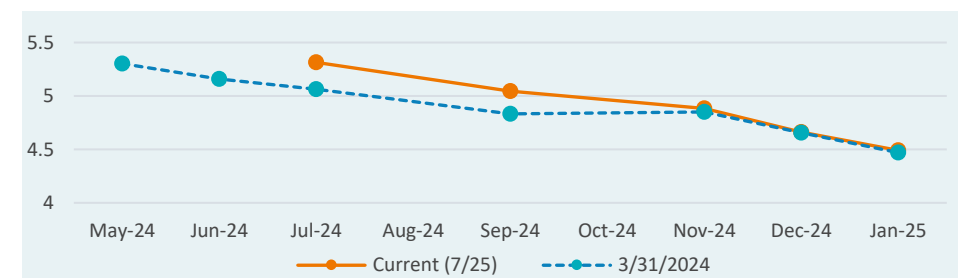
Source: Bloomberg, as of 6/30/24

S&P 500 TRAILING 12M EARNINGS GROWTH, YOY



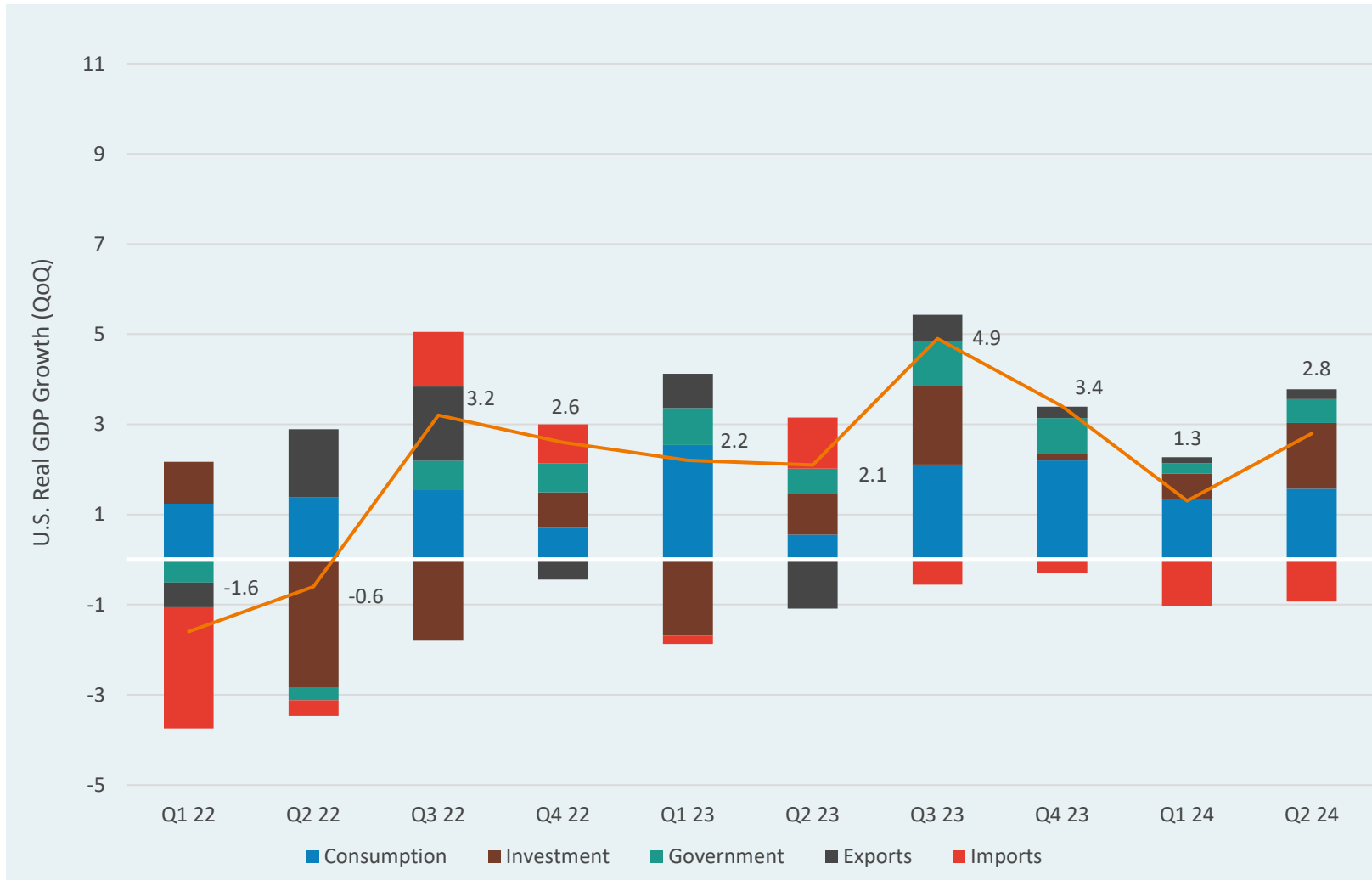
Source: Bloomberg, as of 6/30/24

U.S. MARKET IMPLIED FUTURE INTEREST RATES (%)



Source: Bloomberg, as of 7/25/24

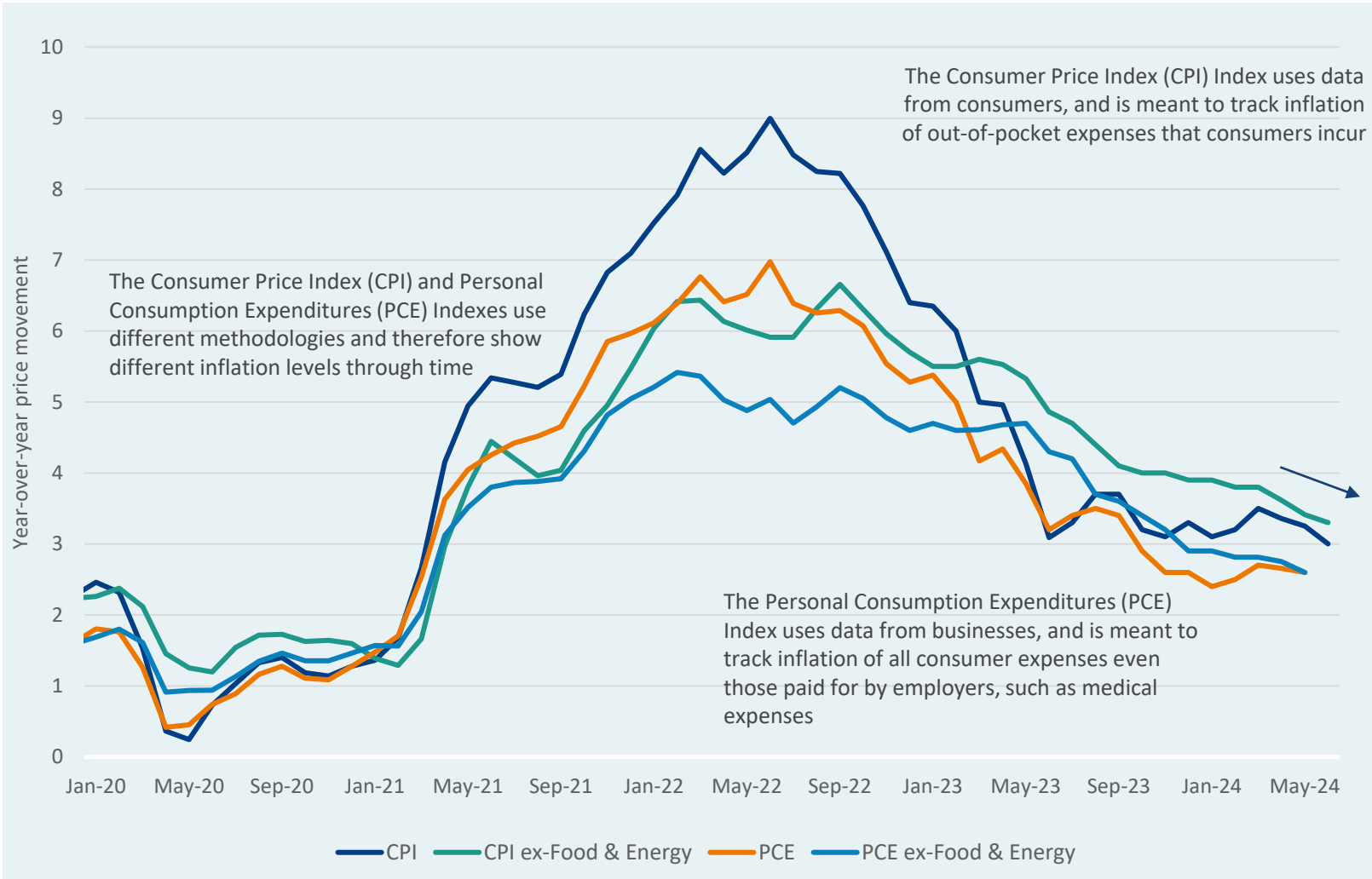
U.S. GDP



GDP surprised to the upside, following data that had suggested broad economic cooling

Source: FRED, Verus, as of 6/30/24

Inflation conditions are normalizing

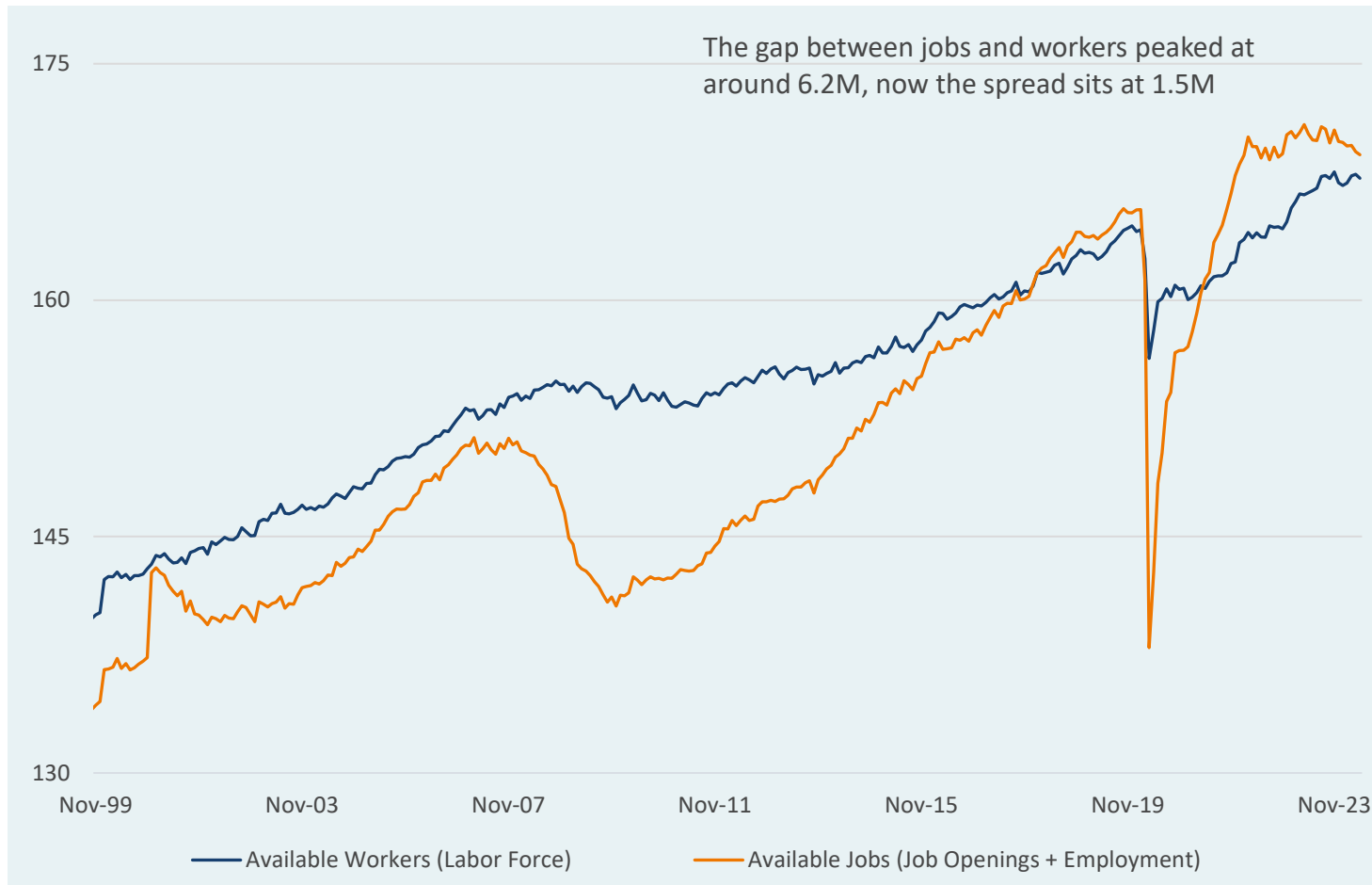


Moderating price pressures in recent months have helped to push year-over-year CPI inflation to 3.0%

Source: FRED, Verus, PCE data as of 5/31/24, CPI data as of 6/30/24

Labor market unwinding its tightness...

JOBS AVAILABLE VS. WORKERS AVAILABLE

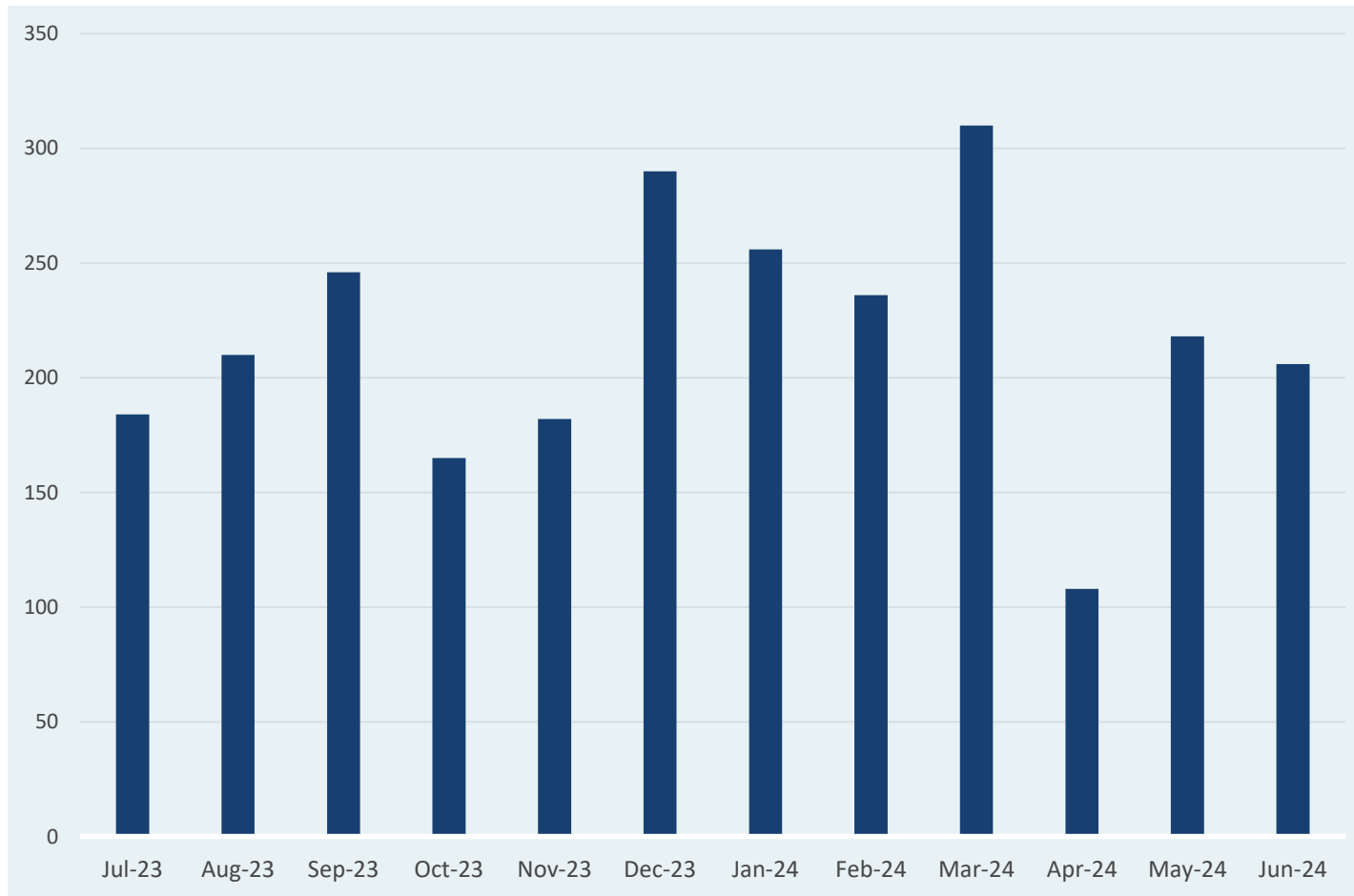


Loosening in the labor market has actually brought conditions closer to normal levels, as the structural mismatch between jobs available and workers available had created incredibly tight labor conditions

Source: BLS, as of 6/30/24. JOLTS data as of 5/31/24

...and showing signs of cooling

MONTHLY NONFARM PAYROLL ADDITIONS

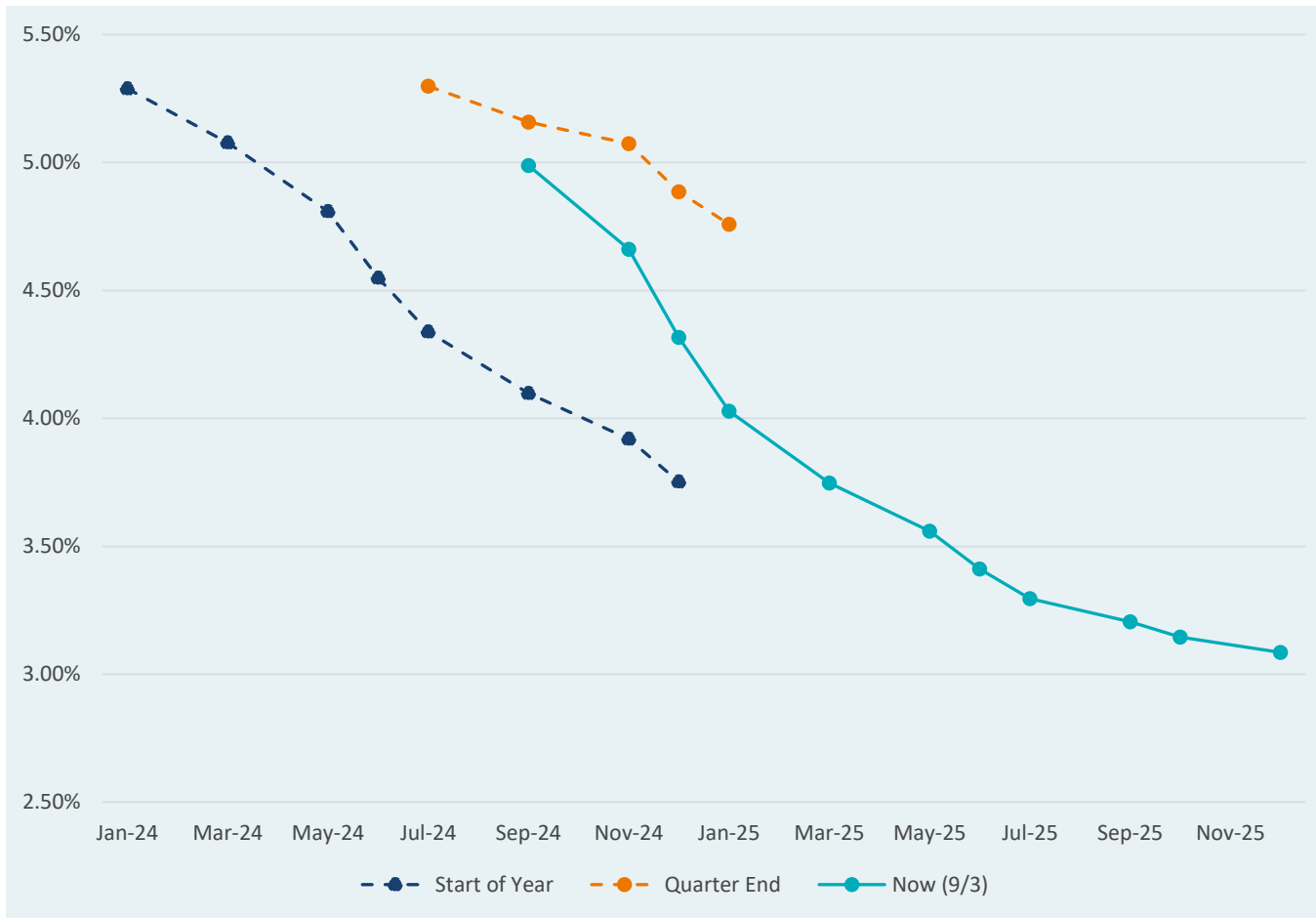


Monthly job additions dropped considerably in Q2, driving fears of broader economic slowdown

Source: BLS, as of 6/30/24

Rate path expectations continue to change

FED FUNDS FUTURES IMPLIED 2024 RATE PATH



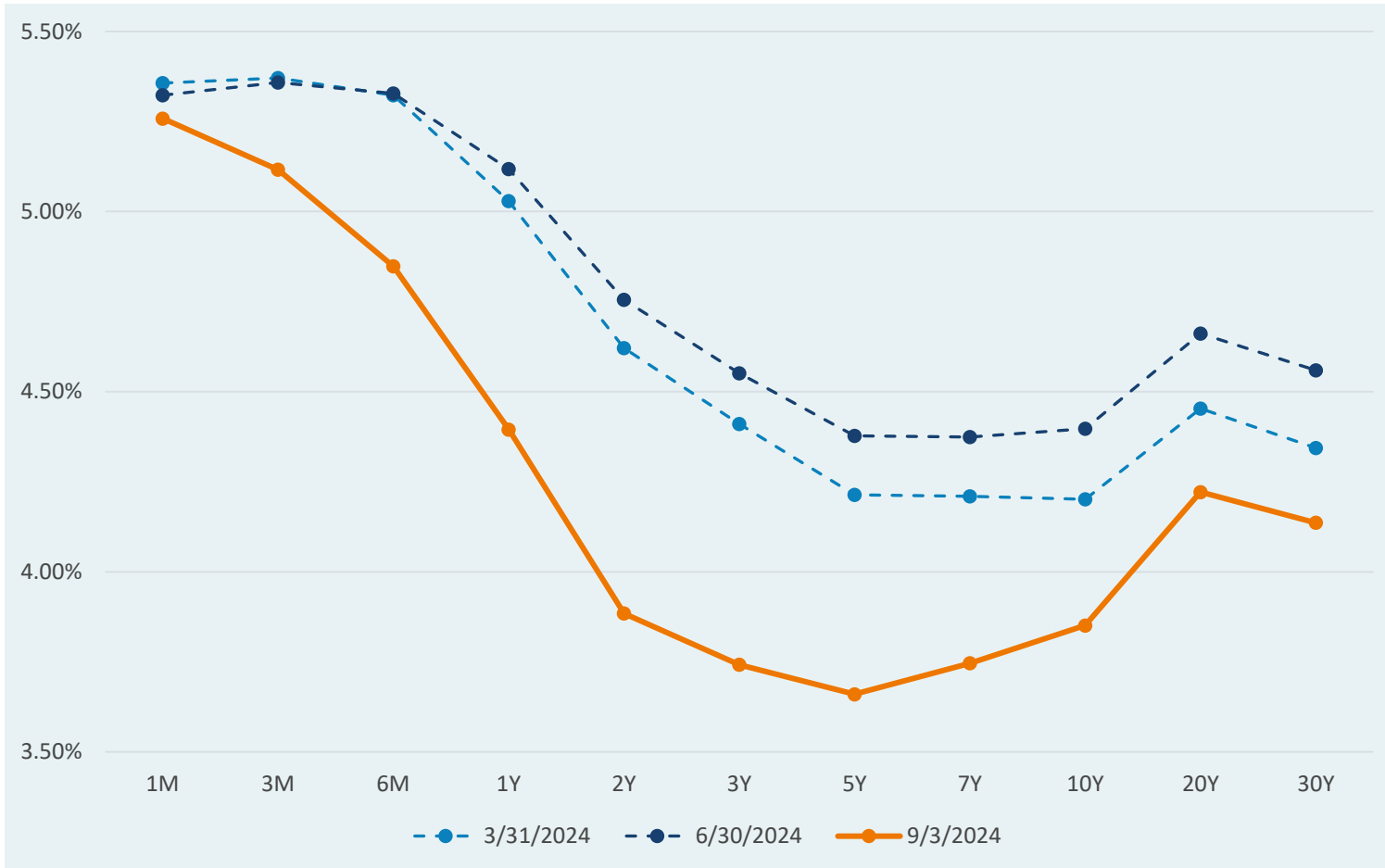
The previous quarter has shown signs of cooling, both regarding inflation and broader economic slowing

Markets are now pricing in a full rate cut at the September meeting, with additional cuts by the end of the year

Source: Bloomberg, as of 9/3/24

The yield curve has adjusted accordingly

U.S. TREASURY CURVE

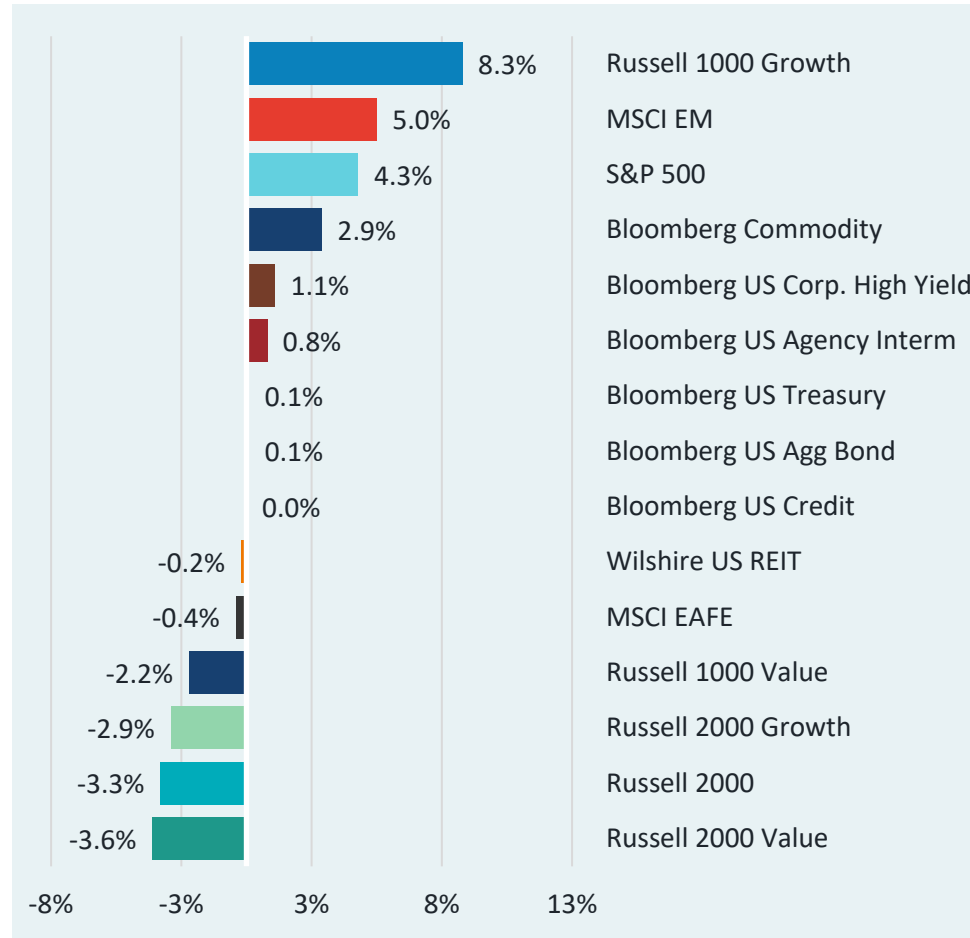


The short end and belly of the curve has moved considerably downwards since the end of the quarter

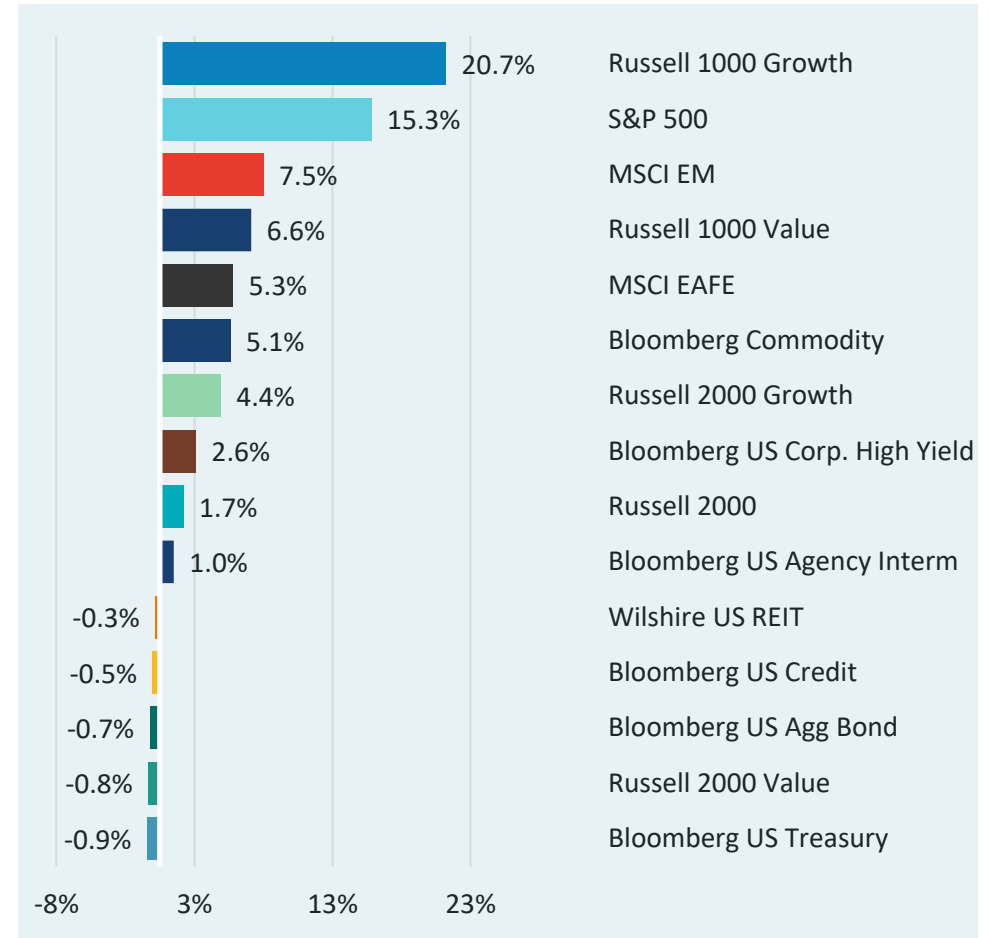
Source: Bloomberg, as of 9/3/24

Major asset class returns

ONE QUARTER ENDING JUNE



YEAR-TO-DATE ENDING JUNE



*Only publicly traded asset performance is shown here.

Source: Morningstar, as of 6/30/24

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	3.6	4.3	15.3	24.6	10.0	15.0	12.9
S&P 500 Equal Weighted	(0.5)	(2.6)	5.1	11.8	4.8	10.9	10.0
DJ Industrial Average	1.2	(1.3)	4.8	16.0	6.4	10.3	11.3
Russell Top 200	4.5	5.7	17.2	27.4	10.9	16.4	13.8
Russell 1000	3.3	3.6	14.2	23.9	8.7	14.6	12.5
Russell 2000	(0.9)	(3.3)	1.7	10.1	(2.6)	6.9	7.0
Russell 3000	3.1	3.2	13.6	23.1	8.1	14.1	12.1
Russell Mid Cap	(0.7)	(3.3)	5.0	12.9	2.4	9.5	9.0
Style Index							
Russell 1000 Growth	6.7	8.3	20.7	33.5	11.3	19.3	16.3
Russell 1000 Value	(0.9)	(2.2)	6.6	13.1	5.5	9.0	8.2
Russell 2000 Growth	(0.2)	(2.9)	4.4	9.1	(4.9)	6.2	7.4
Russell 2000 Value	(1.7)	(3.6)	(3.6)	10.9	(0.5)	7.1	6.2

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	2.2	2.9	11.3	19.4	5.4	10.8	8.4
MSCI ACWI ex US	(0.1)	1.0	5.7	11.6	0.5	5.5	3.8
MSCI EAFE	(1.6)	(0.4)	5.3	11.5	2.9	6.5	4.3
MSCI EM	3.9	5.0	7.5	12.5	(5.1)	3.1	2.8
MSCI EAFE Small Cap	(3.0)	(1.8)	0.5	7.8	(3.4)	4.2	4.3
Style Index							
MSCI EAFE Growth	(0.4)	(0.8)	6.2	9.4	0.1	6.5	5.4
MSCI EAFE Value	(2.8)	0.0	4.5	13.7	5.5	6.1	3.0
Regional Index							
MSCI UK	(1.8)	3.7	6.9	12.5	6.9	5.7	2.7
MSCI Japan	(0.7)	(4.3)	6.3	13.1	2.3	6.6	5.5
MSCI Euro	(3.3)	(2.8)	5.4	10.1	3.6	7.2	4.1
MSCI EM Asia	5.0	7.4	11.0	15.1	(5.5)	4.6	4.5
MSCI EM Latin American	(6.1)	(12.2)	(15.7)	(5.6)	0.9	0.1	(0.3)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	0.8	0.8	0.7	2.7	(1.3)	2.1	1.9
Bloomberg US Treasury Bills	0.4	1.3	2.6	5.5	3.0	2.2	1.5
Bloomberg US Agg Bond	0.9	0.1	(0.7)	2.6	(3.0)	(0.2)	1.3
Bloomberg US Universal	0.9	0.2	(0.3)	3.5	(2.7)	0.1	1.6
Duration							
Bloomberg US Treasury 1-3 Yr	0.6	0.9	1.2	4.5	0.3	1.0	1.1
Bloomberg US Treasury Long	1.7	(1.8)	(5.0)	(5.6)	(10.5)	(4.3)	0.6
Bloomberg US Treasury	1.0	0.1	(0.9)	1.5	(3.3)	(0.7)	0.9
Issuer							
Bloomberg US MBS	1.2	0.1	(1.0)	2.1	(2.9)	(0.8)	0.9
Bloomberg US Corp. High Yield	0.9	1.1	2.6	10.4	1.6	3.9	4.3
Bloomberg US Agency Interim	0.7	0.8	1.0	4.5	(0.5)	0.6	1.2
Bloomberg US Credit	0.7	(0.0)	(0.5)	4.4	(2.9)	0.5	2.2

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	(1.5)	2.9	5.1	5.0	5.7	7.2	(1.3)
Wilshire US REIT	3.0	(0.2)	(0.3)	8.6	0.3	4.0	5.9
CS Leveraged Loans	0.3	1.9	4.4	11.0	6.0	5.4	4.6
S&P Global Infrastructure	(2.9)	2.7	4.0	7.0	5.6	4.3	4.6
Alerian MLP	4.7	3.8	19.2	34.2	22.3	11.1	1.9
Regional Index							
JPM EMBI Global Div	0.6	0.3	2.3	9.2	(3.5)	0.6	3.2
JPM GBI-EM Global Div	(1.1)	(1.6)	0.7	0.7	(3.3)	(1.3)	(0.9)
Hedge Funds							
HFRI Composite	(0.2)	0.4	4.8	9.6	2.8	6.6	4.8
HFRI FOF Composite	0.1	0.4	4.6	8.4	2.0	4.8	3.5
Currency (Spot)							
Euro	(1.3)	(1.8)	(3.0)	(1.8)	(3.3)	(1.2)	(2.4)
Pound Sterling	(0.7)	0.3	(0.8)	(0.6)	(2.9)	(0.1)	(3.0)
Yen	(2.3)	(10.1)	(12.4)	(10.2)	(11.6)	(7.7)	(4.5)

Source: Morningstar, HFRI, as of 6/30/24

Definitions

Bloomberg US Weekly Consumer Comfort Index - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.lanqerresearch.com)

University of Michigan Consumer Sentiment Index - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)

NFIB Small Business Outlook - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

NAHB Housing Market Index – the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula $(\text{Good-Poor} + 100)/2$ to the present and future sales series and $(\text{High/Very High-Low/Very Low} + 100)/2$ to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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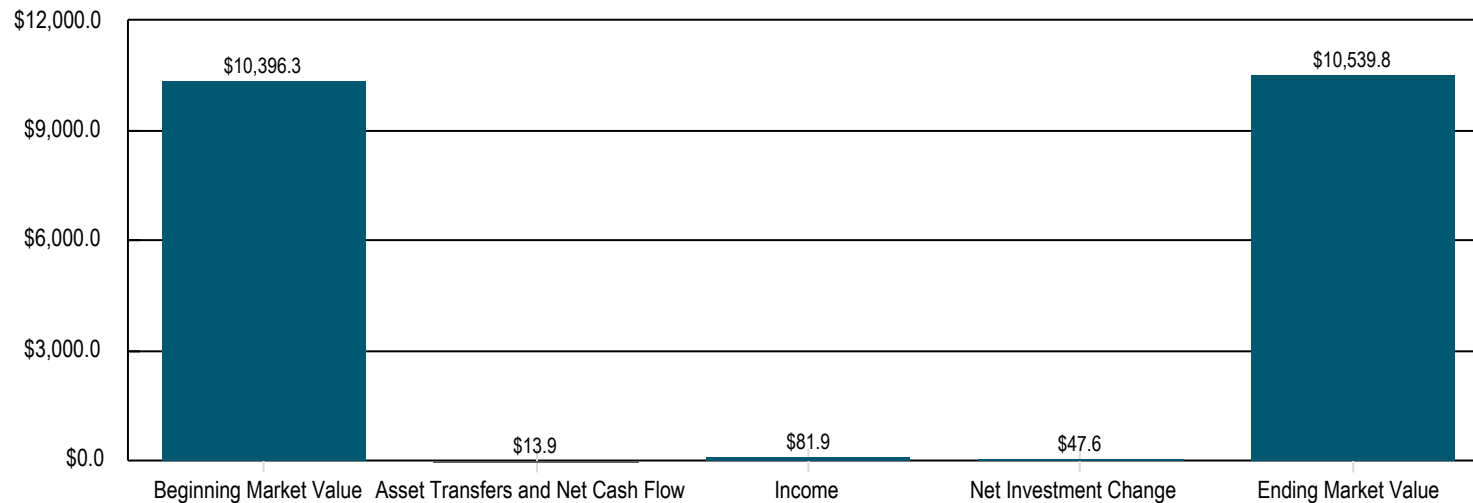
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Performance Review

Portfolio Reconciliation

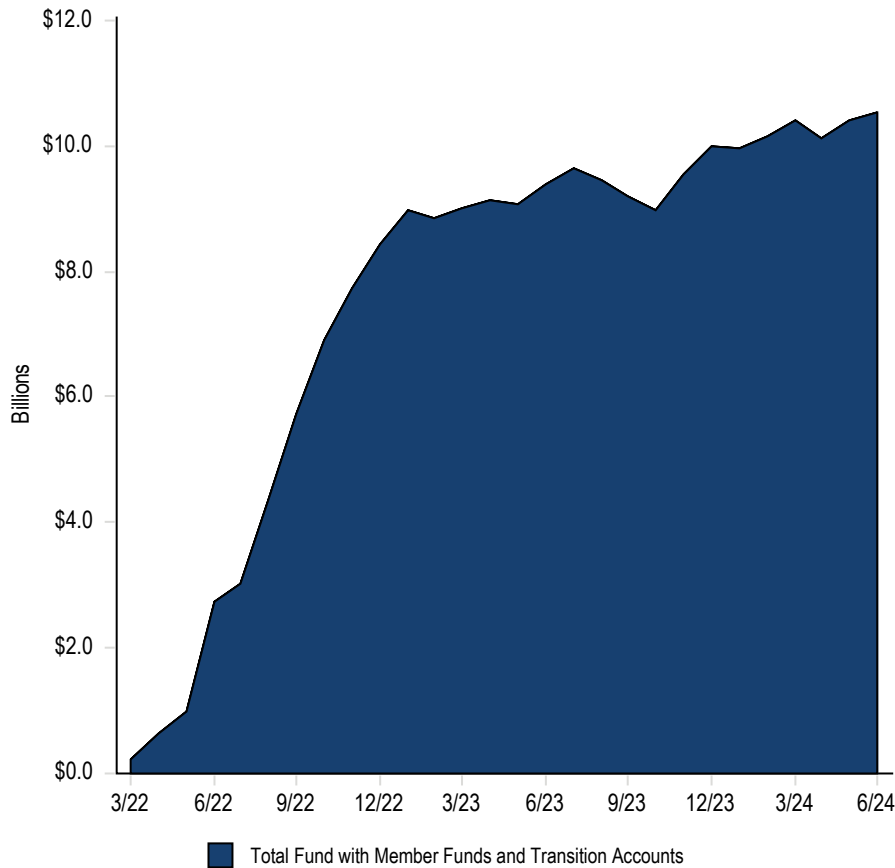
	Quarter-To-Date	Fiscal Year-To-Date
Beginning Market Value	\$10,396,348,721	\$9,387,424,024
Asset Transfers and Net Cash	\$13,923,784	\$39,272,807
Income	\$81,943,915	\$313,548,173
Net Investment Change	\$47,553,175	\$799,524,591
Ending Market Value	\$10,539,769,594	\$10,539,769,594

Change in Market Value
Last Three Months

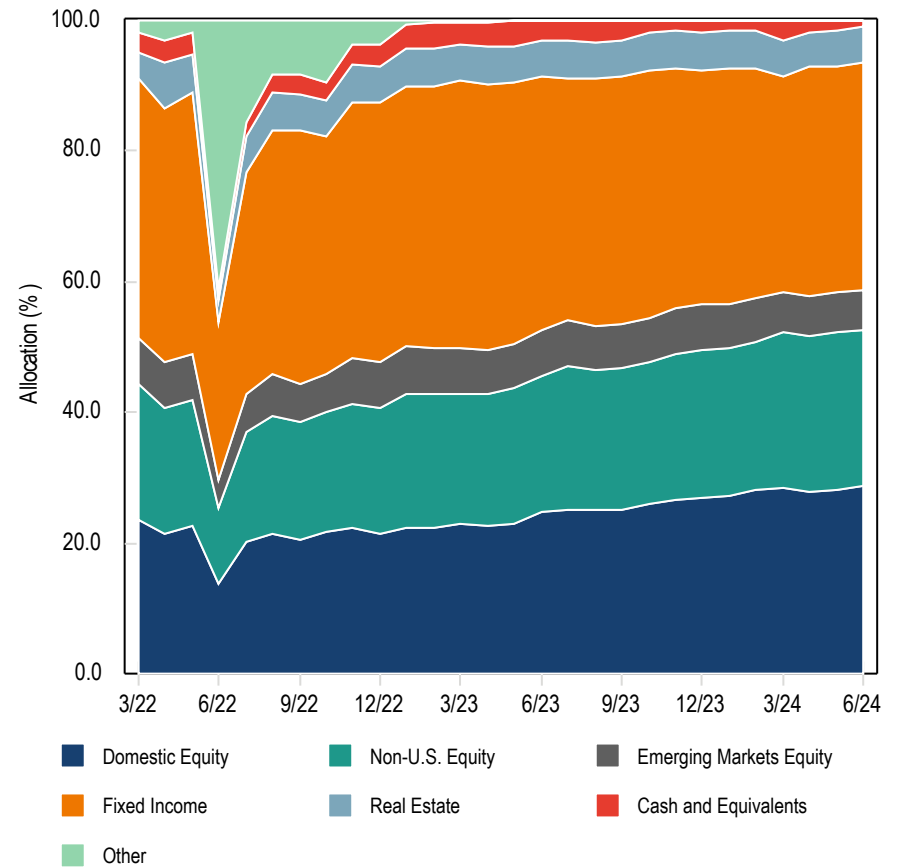


The portfolio reconciliation includes the Member Funds and Transition Account. Income excludes Member Funds and Transition Account. Income is calculated using the actual dividend and income received from separate accounts and estimated income and dividends for commingled funds. The income and dividends 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, Acadian and Ares 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. Income for Aristotle, LSV and WCM are sourced monthly from manager statements.

Market Value History



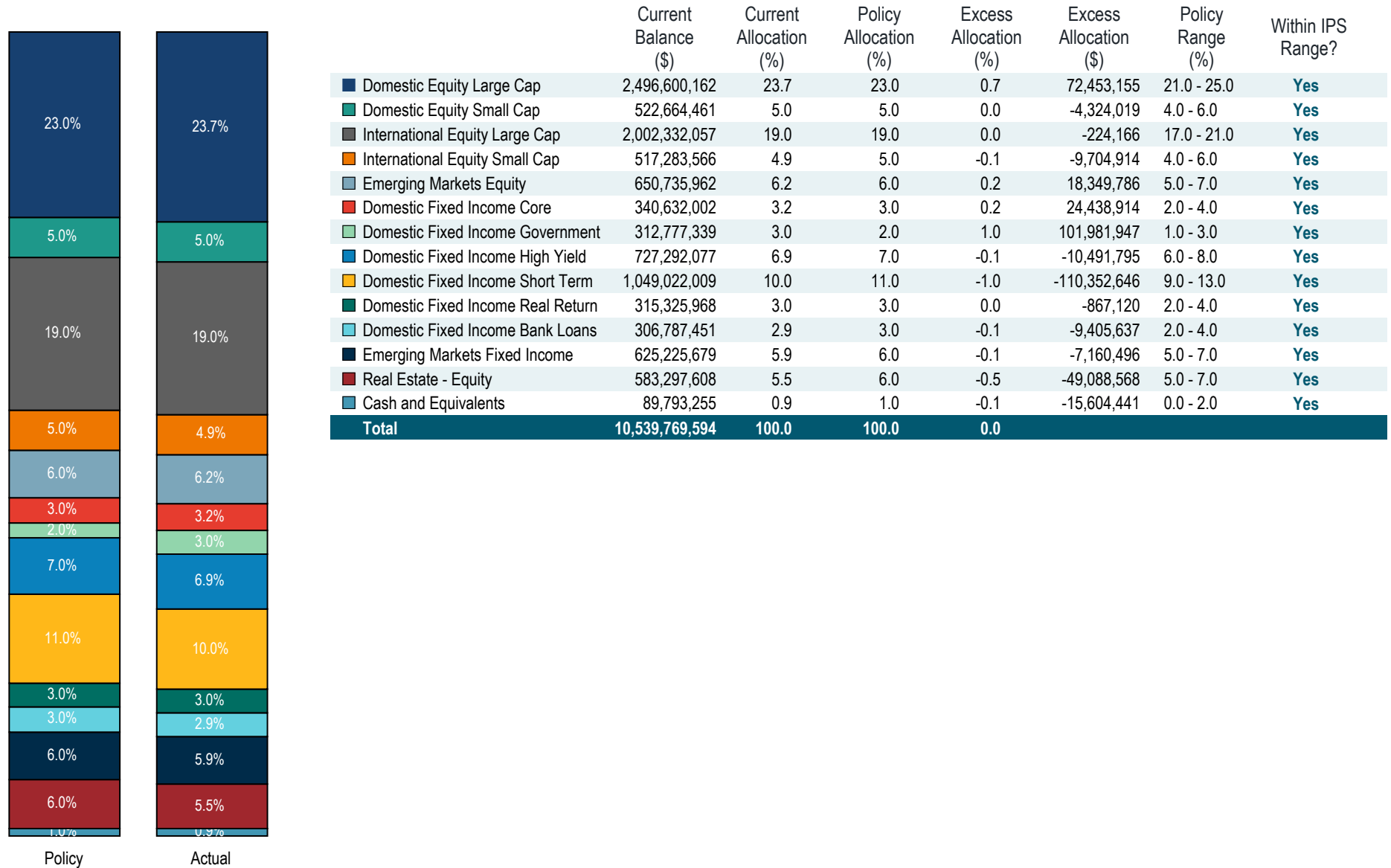
Asset Allocation History



*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, 2024



Asset Allocation reflects interim 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, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Since Inception	Inception Date
Total Fund with Member and Transition Accounts	10,539,769,594	100.0	1.3	5.4	11.9	11.9	4.1	03/01/22
<i>Policy Index</i>			1.2	5.4	12.0	12.0	4.0	
<i>Policy Index- Broad Based</i>			1.4	6.2	13.1	13.1	3.7	
IPOPIF Investment Portfolio	10,539,769,594	100.0	1.3	5.4	11.9	11.9	3.9	04/01/22
<i>Policy Index</i>			1.2	5.4	12.0	12.0	4.0	
<i>Policy Index- Broad Based</i>			1.4	6.2	13.1	13.1	3.6	
Growth	6,189,616,207	58.7	1.6	8.4	16.0	16.0	5.5	04/01/22
<i>Growth Benchmark</i>			1.4	8.3	16.0	16.0	5.3	
Income	1,659,305,207	15.7	0.9	2.7	10.3	10.3	2.3	04/01/22
<i>Income Benchmark</i>			0.9	2.6	10.1	10.1	3.4	
Real Assets	583,297,608	5.5	-0.4	-1.2	2.4	2.4	-2.9	04/01/22
<i>Real Assets Benchmark</i>			-0.3	-1.3	1.6	1.6	-6.1	
Risk Mitigation	2,107,450,667	20.0	1.0	1.4	4.7	4.7	1.6	04/01/22
<i>Risk Mitigation Benchmark</i>			1.0	1.3	4.7	4.7	1.5	
IPOPIF Pool Fixed Income Transition	99,906	0.0						
Member Accounts	-	0.0						

The composition of blended benchmarks are located on the Data Sources and Methodology page.

Total Fund
Executive Summary (Net of Fees)

Illinois Police Officers' Pension Investment Fund
Period Ending: June 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	2023	Since Inception	Inception Date
Total Fund with Member and Transition Accounts	10,539,769,594	100.0	1.3	5.4	11.9	11.9	13.7	4.1	03/01/22
<i>Policy Index</i>			1.2	5.4	12.0	12.0	14.2	4.0	
<i>Policy Index- Broad Based</i>			1.4	6.2	13.1	13.1	16.8	3.7	
<i>All Public Plans > \$1B-Total Fund Rank</i>			35	33	10	10	11	38	
IPOPIF Investment Portfolio	10,539,769,594	100.0	1.3	5.4	11.9	11.9	13.7	3.9	04/01/22
<i>Policy Index</i>			1.2	5.4	12.0	12.0	14.2	4.0	
<i>Policy Index- Broad Based</i>			1.4	6.2	13.1	13.1	16.8	3.6	
<i>All Public Plans > \$1B-Total Fund Rank</i>			35	33	10	10	11	36	
Growth	6,189,616,207	58.7	1.6	8.4	16.0	16.0	19.4	5.5	04/01/22
<i>Growth Benchmark</i>			1.4	8.3	16.0	16.0	19.5	5.3	
RhumbLine Russell 1000 Index	2,496,600,162	23.7	3.6	14.2	23.8	23.8	26.5	13.5	03/15/22
<i>Russell 1000 Index</i>			3.6	14.2	23.9	23.9	26.5	13.6	
<i>eV US Large Cap Core Equity Rank</i>			39	47	45	45	24		
RhumbLine Russell 2000 Index	522,664,461	5.0	-3.2	1.8	10.0	10.0	16.8	3.6	03/15/22
<i>Russell 2000 Index</i>			-3.3	1.7	10.1	10.1	16.9	3.9	
<i>eV US Small Cap Core Equity Rank</i>			50	62	54	54	56		
SSGa Non-US Developed Index	2,002,332,057	19.0	-0.5	5.2	11.6	11.6	18.3	8.0	03/10/22
<i>MSCI World ex U.S. (Net)</i>			-0.6	5.0	11.2	11.2	17.9	7.6	
<i>eV EAFE Core Equity Rank</i>			52	42	40	40	35		
International Developed Small Cap Equity	517,283,566	4.9	1.0	3.0	10.1	10.1	12.9	0.0	04/01/22
<i>MSCI World ex U.S. Small Cap Index (Net)</i>			-1.6	1.0	7.8	7.8	12.6	-1.2	
Acadian ACWI ex US Small-Cap Fund	267,368,105	2.5	3.0	-	-	-	-	8.2	01/30/24
<i>MSCI AC World ex USA Small Cap (Net)</i>			0.7	2.8	-	-	-	5.3	
<i>eV ACWI ex-US Small Cap Equity Rank</i>			11	-	-	-	-		
WCM International Small Cap Growth Fund	123,182,340	1.2	-1.6	-	-	-	-	-1.3	03/01/24
<i>MSCI AC World ex USA Small Cap (Net)</i>			0.7	-	-	-	-	3.5	
<i>eV ACWI ex-US Small Cap Equity Rank</i>			77	-	-	-	-	91	
LSV International Small Cap Value Equity Fund	126,733,121	1.2	-0.4	-	-	-	-	3.2	03/01/24
<i>S&P Developed Ex-U.S. SmallCap (Net)</i>			-1.0	-	-	-	-	3.1	
<i>eV EAFE Small Cap Value Rank</i>			76	-	-	-	-	81	

The composition of blended benchmarks are located on the Data Sources and Methodology page. Principal USPA does not show a Since 4/1/2022 return because the fund was inception on 4/6/2022.

Total Fund
Executive Summary (Net of Fees)

Illinois Police Officers' Pension Investment Fund
Period Ending: June 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	2023	Since Inception	Inception Date
Emerging Market Equities	650,735,962	6.2	5.2	7.6	12.3	12.3	9.7	1.0	04/01/22
<i>MSCI Emerging Markets (Net)</i>			5.0	7.5	12.5	12.5	9.8	0.6	
SSgA Emerging Markets Equity Index	340,140,081	3.2	4.7	7.1	11.7	11.7	9.6	1.8	03/10/22
<i>MSCI Emerging Markets (Net)</i>			5.0	7.5	12.5	12.5	9.8	2.7	
<i>eV Emg Mkts Equity Rank</i>			47	51	55	55	64		
SSgA Emerging Markets ex China Equity	310,595,881	2.9	-	-	-	-	-	5.5	05/01/24
<i>MSCI Emerging Markets ex China (Net)</i>			-	-	-	-	-	6.0	
<i>eV Emg Mkts Equity Rank</i>			-	-	-	-	-	20	
Income	1,659,305,207	15.7	0.9	2.7	10.3	10.3	12.8	2.3	04/01/22
<i>Income Benchmark</i>			0.9	2.6	10.1	10.1	12.6	3.4	
SSgA High Yield Corporate Credit	727,292,077	6.9	1.1	2.7	10.6	10.6	13.8	3.6	03/18/22
<i>Spliced SSgA U.S. High Yield Index</i>			1.1	2.6	10.5	10.5	13.5	3.6	
<i>eV US High Yield Fixed Inc Rank</i>			65	58	26	26	12		
SSgA EMD Hard Index Fund	625,225,679	5.9	0.3	2.4	9.3	9.3	11.2	2.1	03/14/22
<i>Spliced SSgA EMD Hard Index</i>			0.3	2.3	9.2	9.2	11.1	2.2	
<i>Emerging Markets Bond Rank</i>			51	50	45	45	52		
Bank Loans	306,787,451	2.9	1.7	-	-	-	-	2.8	03/01/24
<i>Credit Suisse Leveraged Loan Index</i>			1.9	-	-	-	-	2.7	
Ares Institutional Loan Fund	102,476,499	1.0	2.0	-	-	-	-	3.0	03/01/24
<i>Credit Suisse Leveraged Loan Index</i>			1.9	-	-	-	-	2.7	
<i>eV US Float-Rate Bank Loan Fixed Inc Rank</i>			22	-	-	-	-	26	
Aristotle Institutional Loan Fund	204,310,952	1.9	1.6	-	-	-	-	2.7	03/01/24
<i>Credit Suisse Leveraged Loan Index</i>			1.9	-	-	-	-	2.7	
<i>eV US Float-Rate Bank Loan Fixed Inc Rank</i>			67	-	-	-	-	50	
Real Assets	583,297,608	5.5	-0.4	-1.2	2.4	2.4	5.6	-2.9	04/01/22
<i>Real Assets Benchmark</i>			-0.3	-1.3	1.6	1.6	4.7	-6.1	
SSgA REITs Index	425,437,445	4.0	-0.2	-0.6	7.1	7.1	13.9	-3.8	03/16/22
<i>Dow Jones U.S. Select REIT Total Return Index</i>			-0.2	-0.6	7.1	7.1	14.0	-3.7	
<i>eV US REIT Rank</i>			46	32	28	28	35		
Principal USPA	157,860,163	1.5	-0.9	-2.8	-8.7	-8.7	-10.7	-7.4	04/06/22
<i>NFI-ODCE Equal-Weighted Index</i>			-0.8	-3.2	-10.3	-10.3	-13.3	-7.6	

The composition of blended benchmarks are located on the Data Sources and Methodology page. Principal USPA does not show a Since 4/1/2022 return because the fund was inception on 4/6/2022.

Total Fund
Executive Summary (Net of Fees)

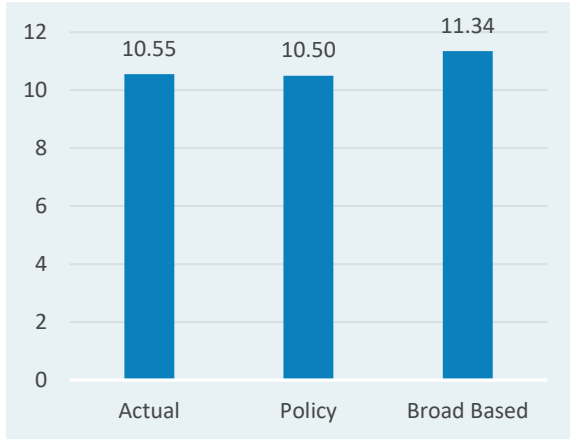
Illinois Police Officers' Pension Investment Fund
Period Ending: June 30, 2024

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	2023	Since Inception	Inception Date
Risk Mitigation	2,107,450,667	20.0	1.0	1.4	4.7	4.7	5.0	1.6	04/01/22
<i>Risk Mitigation Benchmark</i>			1.0	1.3	4.7	4.7	4.9	1.5	
SSgA US Treasury Index	312,777,339	3.0	-	-	-	-	-	2.5	05/01/24
<i>Blmbg. U.S. Treasury Index</i>			-	-	-	-	-	2.5	
<i>eV US Government Fixed Inc Rank</i>			-	-	-	-	-	59	
SSgA Core Fixed Income Index	340,632,002	3.2	0.1	-0.6	2.7	2.7	5.6	-1.6	03/17/22
<i>Blmbg. U.S. Aggregate Index</i>			0.1	-0.7	2.6	2.6	5.5	-1.6	
<i>eV US Core Fixed Inc Rank</i>			67	81	81	81	64		
SSgA Short-Term Gov't/Credit Index	1,048,922,103	10.0	1.0	1.4	4.9	4.9	4.6	1.9	03/17/22
<i>Bloomberg U.S. Gov/Credit 1-3 Year Index</i>			1.0	1.4	4.9	4.9	4.6	1.8	
<i>eV US Short Duration Fixed Inc Rank</i>			56	73	73	73	82		
SSgA US TIPS Index	315,325,968	3.0	1.4	2.3	5.4	5.4	4.6	1.2	03/17/22
<i>Blmbg. U.S. TIPS 0-5 Year</i>			1.4	2.3	5.4	5.4	4.6	1.3	
<i>eV US TIPS / Inflation Fixed Inc Rank</i>			8	9	8	8	22		
Cash	89,793,255	0.9	1.3	2.5	5.2	5.2	5.0	3.7	03/22/22
<i>90 Day U.S. Treasury Bill</i>			1.3	2.6	5.4	5.4	5.0	4.0	
IPOPIF Pool Fixed Income Transition	99,906	0.0							
Member Accounts	-	0.0							

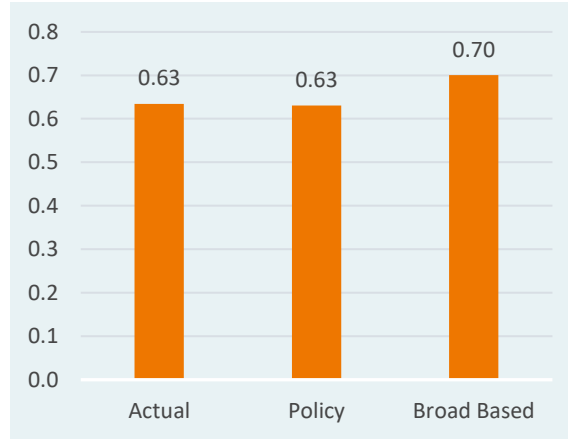
The composition of blended benchmarks are located on the Data Sources and Methodology page. Principal USPA does not show a Since 4/1/2022 return because the fund was inception on 4/6/2022.

Portfolio Characteristics

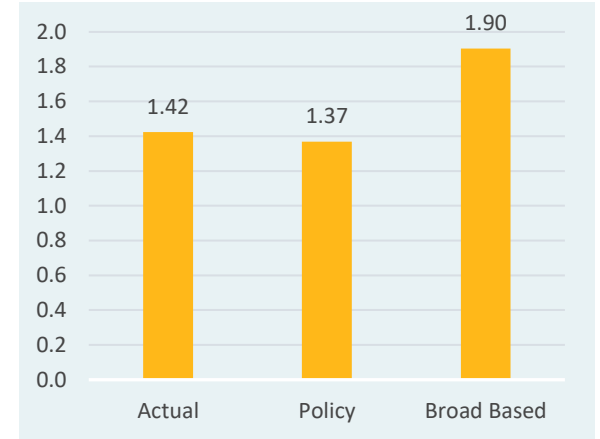
TOTAL PLAN RISK (EXPECTED VOLATILITY)



EQUITY BETA (ACWI IMI)



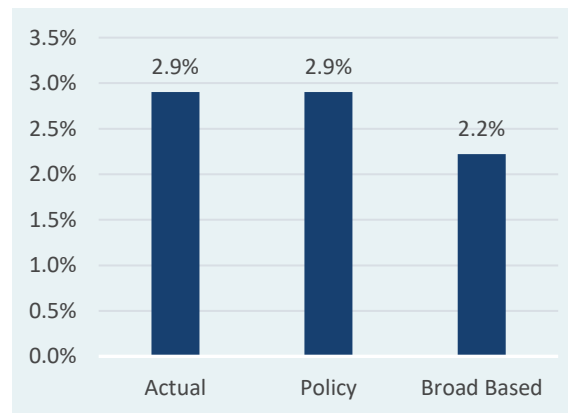
EFFECTIVE DURATION



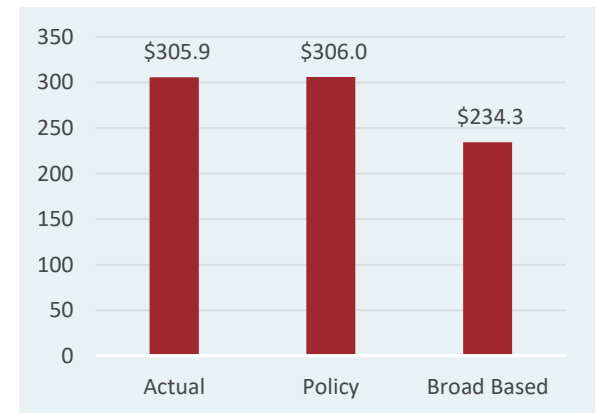
CREDIT SPREAD DURATION



ESTIMATED PORTFOLIO INCOME YIELD*



ESTIMATED PORTFOLIO INCOME (\$ MILLIONS)*



*Income Yield and Income are estimated based on dividend yields and coupon rates applied to benchmark weights and does not include factors such as dividend re-investment rates.

Source: Barra One using index holdings as representative proxies

IPOPIF Investment Portfolio
Investment Fund Fee Analysis

Illinois Police Officers' Pension Investment Fund
Period Ending: June 30, 2024

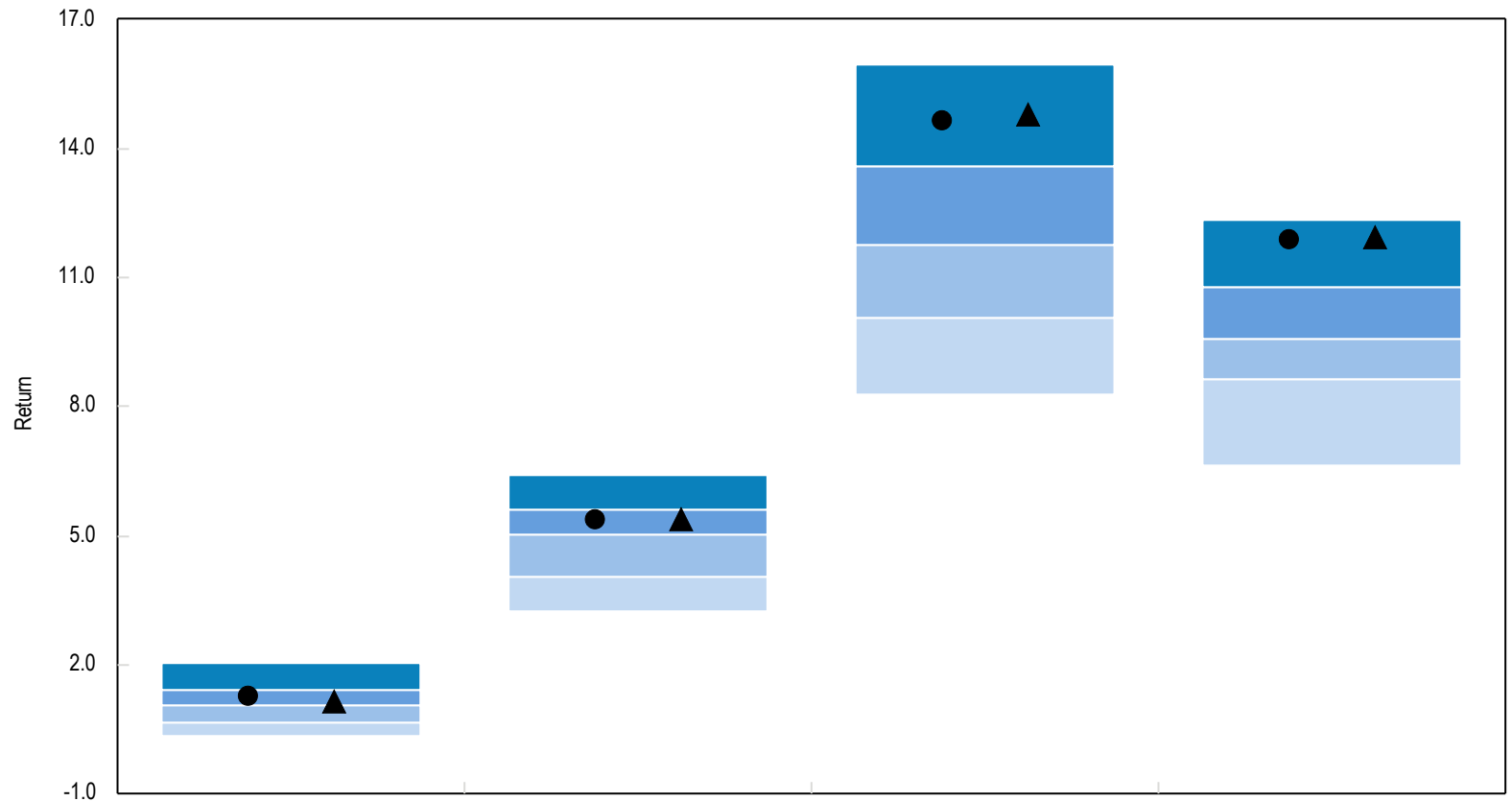
Name	Asset Class	Vehicle Type	Market Value	% of Portfolio	Estimated Fee Value	Expense Fee (%)
RhumbLine Russell 1000 Index	Domestic Equity	Separate Account	\$2,496,600,162	23.6874	\$124,830	0.005
RhumbLine Russell 2000 Index	Domestic Equity	Separate Account	\$522,664,461	4.9590	\$26,133	0.005
SSgA Non-US Developed Index	Non-U.S. Equity	Commingled Fund	\$2,002,332,057	18.9979	\$160,187	0.008
Acadian ACWI ex US Small-Cap Fund	Non-U.S. Equity	Commingled Fund	\$267,368,105	2.5368	\$1,620,525	0.606
WCM International Small Cap Growth Fund	Non-U.S. Equity	Commingled Fund	\$123,182,340	1.1687	\$862,276	0.700
LSV International Small Cap Value Equity Fund	Non-U.S. Equity	Commingled Fund	\$126,733,121	1.2024	\$1,088,865	0.859
SSgA Emerging Markets Equity Index	Emerging Markets Equity	Commingled Fund	\$340,140,081	3.2272	\$112,246	0.033
SSgA Emerging Markets ex China Equity	Emerging Markets Equity	Commingled Fund	\$310,595,881	2.9469	\$102,497	0.033
SSgA High Yield Corporate Credit	Fixed Income	Commingled Fund	\$727,292,077	6.9005	\$240,006	0.033
SSgA EMD Hard Index Fund	Fixed Income	Commingled Fund	\$625,225,679	5.9321	\$206,324	0.033
Ares Institutional Loan Fund	Fixed Income	Commingled Fund	\$102,476,499	0.9723	\$256,191	0.250
Aristotle Institutional Loan Fund	Fixed Income	Commingled Fund	\$204,310,952	1.9385	\$785,088	0.384
SSgA REITs Index	Real Estate	Commingled Fund	\$425,437,445	4.0365	\$34,035	0.008
Principal USPA	Real Estate	Commingled Fund	\$157,860,163	1.4978	\$1,262,881	0.800
SSgA US Treasury Index	Fixed Income	Commingled Fund	\$312,777,339	2.9676	\$25,022	0.008
SSgA Core Fixed Income Index	Fixed Income	Commingled Fund	\$340,632,002	3.2319	\$27,251	0.008
SSgA Short-Term Gov't/Credit Index	Fixed Income	Commingled Fund	\$1,048,922,103	9.9520	\$83,914	0.008
SSgA US TIPS Index	Fixed Income	Separate Account	\$315,325,968	2.9918	\$25,226	0.008
Cash	Cash and Equivalents	Commingled Fund	\$89,793,255	0.8519		
IPOPIF Investment Portfolio			\$10,539,769,594	100.0000	\$7,043,498	0.067

Total Fund
Cash Flow by Manager - Last Three Months

Illinois Police Officers' Pension Investment Fund
Period Ending: June 30, 2024

Name	Beginning Market Value	Contributions	Distributions	Net Cash Flows	Income	Fees	Net Investment Change	Ending Market Value
RhumbLine Russell 1000 Index	\$2,410,590,354	\$19,776	-	\$19,776	\$8,854,783	-\$19,776	\$77,155,025	\$2,496,600,162
RhumbLine Russell 2000 Index	\$540,081,960	\$4,423	-	\$4,423	\$2,022,714	-\$4,423	-\$19,440,213	\$522,664,461
SSgA Non-US Developed Index	\$1,964,187,801	\$48,040,187	-	\$48,040,187	\$14,455,525	-\$40,187	-\$24,311,269	\$2,002,332,057
SSgA Non-US Developed SC Index	\$77,605,127	\$6,285	-\$76,534,545	-\$76,528,260	\$16,827	-\$6,285	-\$1,087,409	-
Acadian ACWI ex US Small-Cap Fund	\$259,485,712	\$166,809	-	\$166,809	\$2,040,502	-\$166,809	\$5,841,891	\$267,368,105
WCM International Small Cap Growth Fund	\$125,225,054	-	-	-	\$1,042,680	-\$219,144	-\$2,866,250	\$123,182,340
LSV International Small Cap Value Equity Fund	\$62,152,835	\$65,047,685	-	\$65,047,685	\$1,988,351	-\$47,685	-\$2,408,065	\$126,733,121
SSgA Emerging Markets Equity Index	\$618,266,805	\$58,555	-\$300,000,000	-\$299,941,445	\$3,537,065	-\$58,555	\$18,336,211	\$340,140,081
SSgA Emerging Markets ex China Equity	-	\$300,000,000	-	\$300,000,000	\$691,444	-	\$9,904,437	\$310,595,881
SSgA High Yield Corporate Credit	\$719,153,846	\$80,436	-	\$80,436	\$12,173,332	-\$80,436	-\$4,035,101	\$727,292,077
SSgA EMD Hard Index Fund	\$623,554,674	\$54,684	-	\$54,684	\$9,224,152	-\$54,684	-\$7,553,147	\$625,225,679
Ares Institutional Loan Fund	\$50,475,620	\$50,000,000	-	\$50,000,000	\$173,270	-\$42,563	\$1,870,172	\$102,476,499
Aristotle Institutional Loan Fund	\$101,053,658	\$100,000,000	-	\$100,000,000	\$3,413,141	-\$155,848	-	\$204,310,952
SSgA REITs Index	\$426,151,714	\$9,140	-	\$9,140	\$4,244,177	-\$9,140	-\$4,958,447	\$425,437,445
Principal USPA	\$159,286,196	-	-	-	\$1,807,211	-	-\$3,233,244	\$157,860,163
SSgA US Treasury Index	-	\$310,000,000	-	\$310,000,000	\$843,588	-	\$1,933,751	\$312,777,339
SSgA Core Fixed Income Index	\$340,169,304	\$8,006	-	\$8,006	\$3,158,797	-\$8,006	-\$2,696,099	\$340,632,002
SSgA Short-Term Gov't/Credit Index	\$1,329,612,202	\$29,014	-\$292,000,000	-\$291,970,986	\$9,636,570	-\$29,014	\$1,673,332	\$1,048,922,103
SSgA US TIPS Index	\$282,281,833	\$29,006,008	-	\$29,006,008	\$551,629	-\$6,008	\$3,492,505	\$315,325,968
Cash	\$306,912,593	\$234,790,356	-\$453,914,473	-\$219,124,117	\$2,004,344	-	\$436	\$89,793,255
IPOPIF Pool Fixed Income Transition	\$101,434	-	-	-	\$61,970	-	-\$63,499	\$99,906
Member Accounts	-	-	-	-	\$1,842	-	-\$1,842	-
Total Fund with Member Funds and Transition Accounts	\$10,396,348,721	\$1,137,321,364	-\$1,122,449,018	\$14,872,346	\$81,943,915	-\$948,563	\$47,553,175	\$10,539,769,594

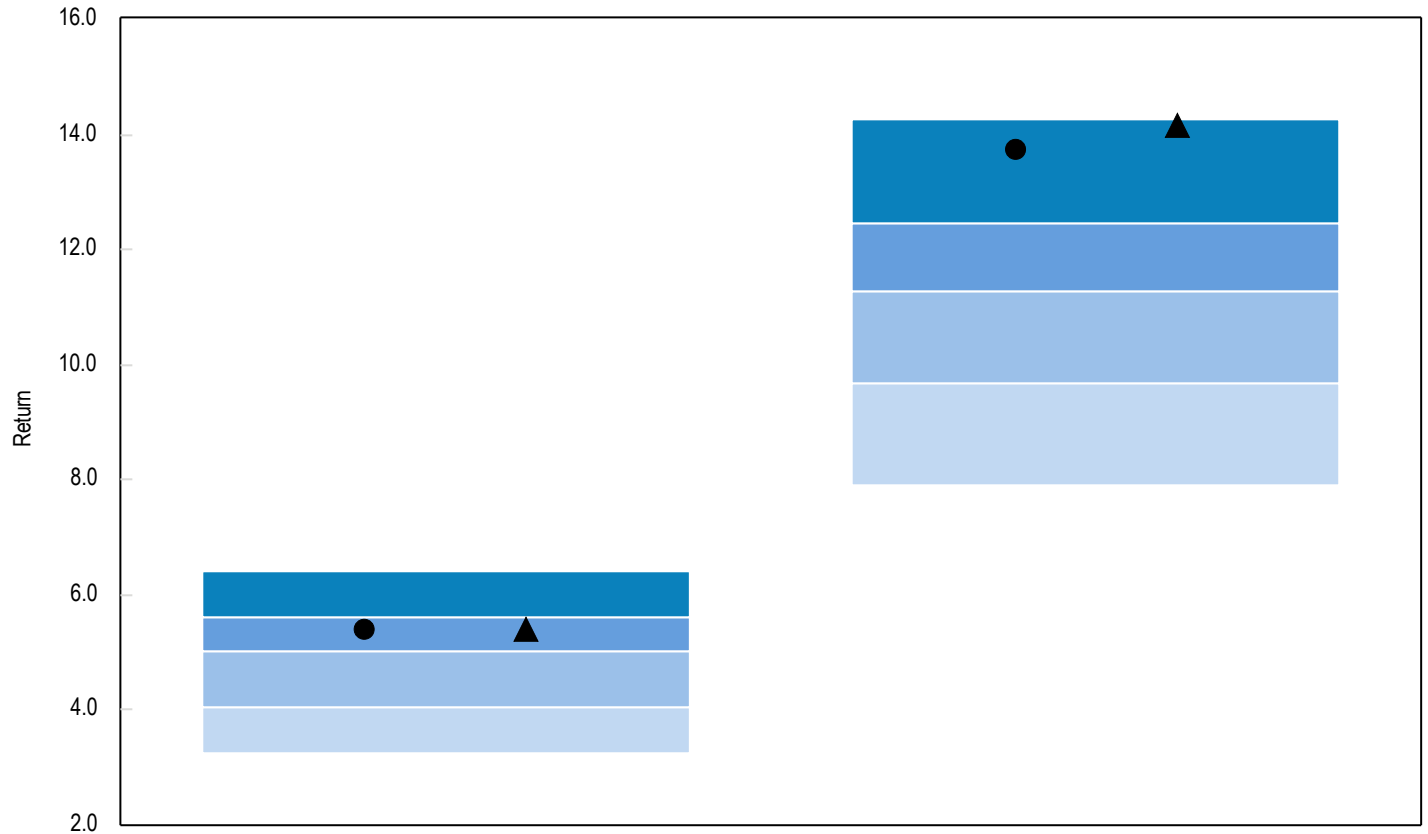
IPOPIF Investment Portfolio vs. All Public Plans > \$1B-Total Fund



	Quarter	2 Quarters	3 Quarters	1 Year
● IPOPIF Investment Portfolio	1.3 (35)	5.4 (33)	14.7 (13)	11.9 (10)
▲ Policy Index	1.2 (46)	5.4 (34)	14.8 (13)	12.0 (10)
5th Percentile	2.0	6.4	16.0	12.4
1st Quartile	1.4	5.6	13.6	10.8
Median	1.0	5.0	11.8	9.6
3rd Quartile	0.7	4.1	10.1	8.6
95th Percentile	0.3	3.3	8.3	6.6
Population	96	96	96	96

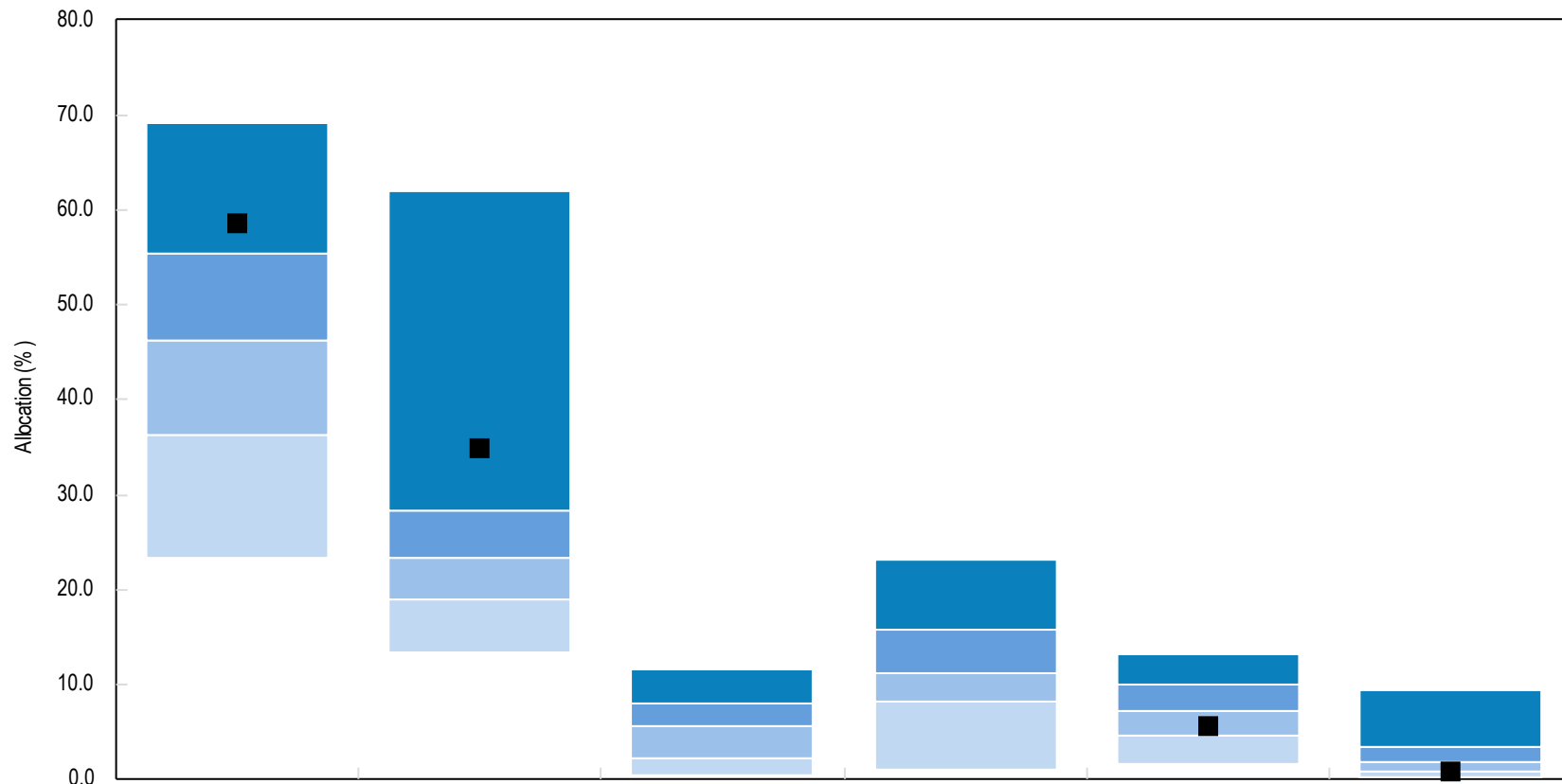
Parentheses contain percentile rankings. Performance shown for IPOPIF Investment Fund which excludes the Transition Account and Member Funds.

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



	YTD	2023
● IPOPIF Investment Portfolio	5.4 (33)	13.7 (11)
▲ Policy Index	5.4 (34)	14.2 (7)
5th Percentile	6.4	14.3
1st Quartile	5.6	12.5
Median	5.0	11.3
3rd Quartile	4.1	9.7
95th Percentile	3.3	7.9
Population	96	174

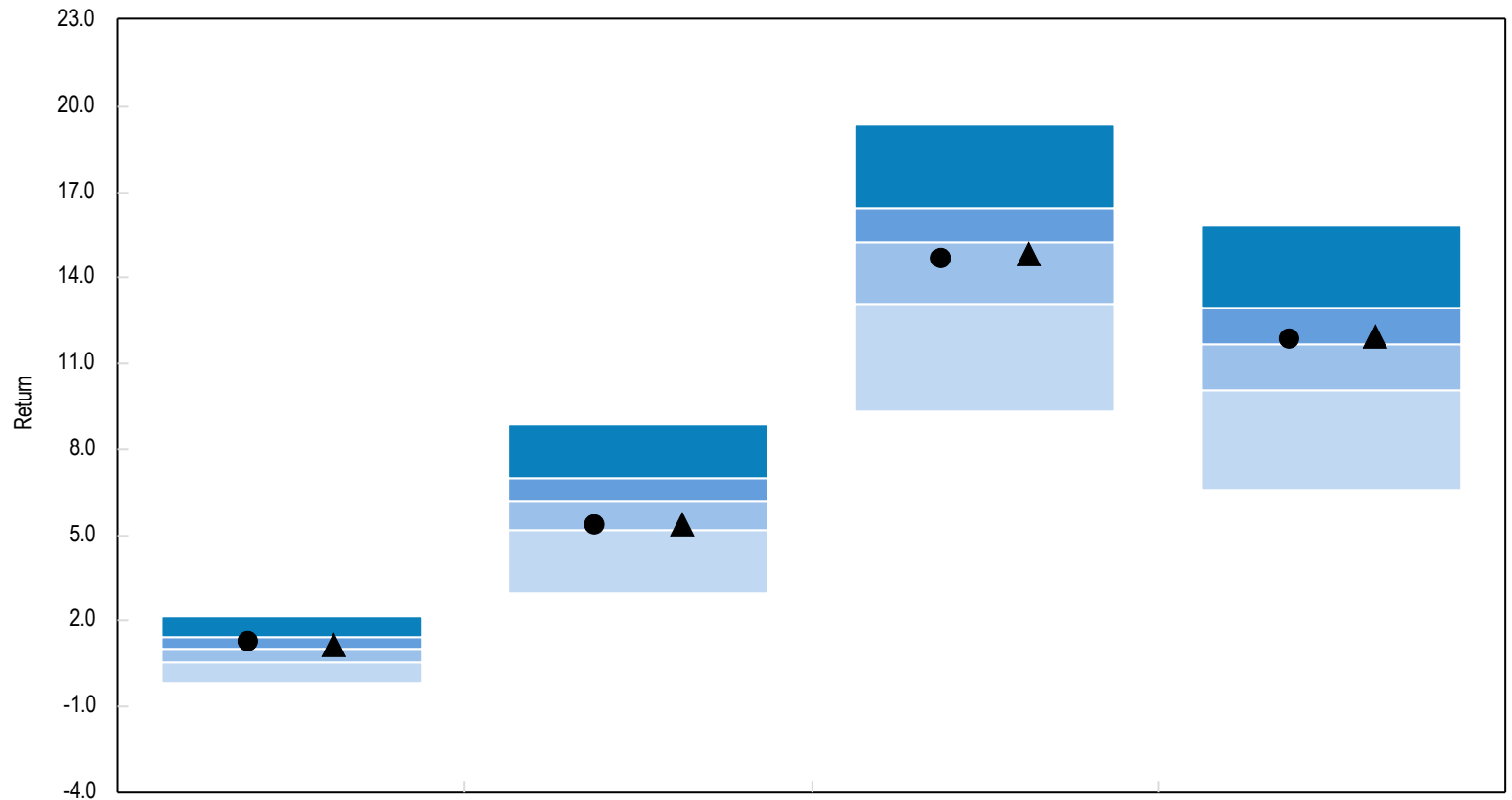
Total Plan Allocation vs. All Public Plans > \$1B-Total Fund
As of June 30, 2024



	Total Equity 58.7 (17)	Total Fixed Income 34.9 (11)	Hedge Funds -	Private Equity -	Total Real Estate 5.5 (70)	Cash & Equivalents 0.9 (72)
■ IPOPIF Investment Portfolio						
5th Percentile	69.3	62.1	11.5	23.1	13.2	9.4
1st Quartile	55.4	28.4	8.1	15.9	9.9	3.4
Median	46.3	23.3	5.5	11.3	7.3	1.7
3rd Quartile	36.4	18.9	2.2	8.2	4.6	0.8
95th Percentile	23.4	13.3	0.4	1.0	1.5	0.1
Population	144	152	42	83	120	125

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

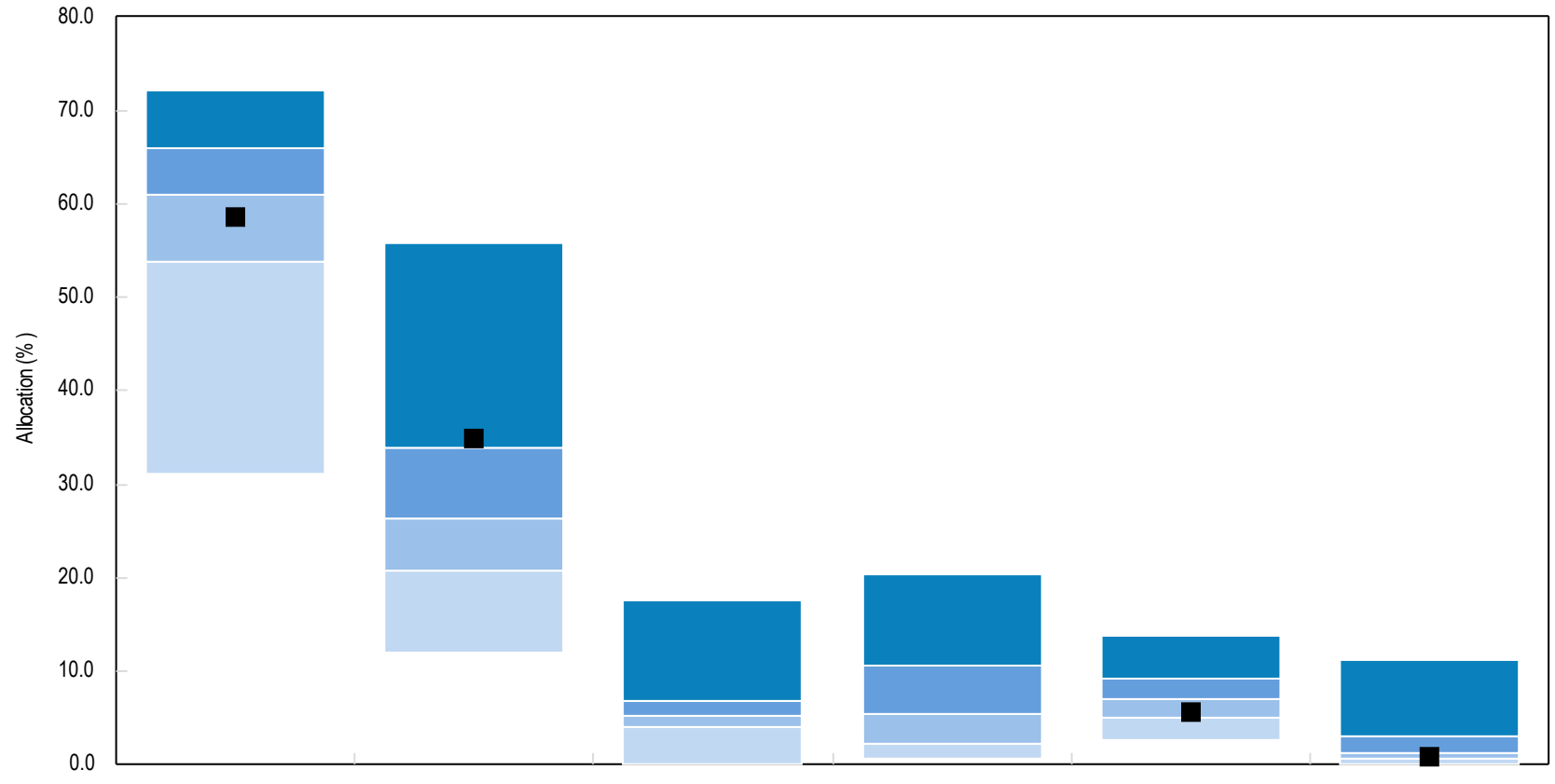
IPOPIF Investment Portfolio vs. All Public Plans < \$1B-Total Fund



	Quarter	2 Quarters	3 Quarters	1 Year
● IPOPIF Investment Portfolio	1.3 (39)	5.4 (70)	14.7 (58)	11.9 (43)
▲ Policy Index	1.2 (43)	5.4 (70)	14.8 (56)	12.0 (43)
5th Percentile	2.2	8.9	19.4	15.8
1st Quartile	1.5	7.0	16.5	12.9
Median	1.0	6.2	15.2	11.6
3rd Quartile	0.5	5.2	13.1	10.0
95th Percentile	-0.2	3.0	9.3	6.6
Population	558	556	553	552

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, 2024



	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Total Real Estate	Cash & Equivalents
■ IPOPIF Investment Portfolio	58.7 (62)	34.9 (22)	-	-	5.5 (67)	0.9 (68)
5th Percentile	72.2	55.9	17.6	20.3	13.7	11.1
1st Quartile	66.0	33.9	6.9	10.6	9.3	2.9
Median	61.1	26.3	5.1	5.3	7.0	1.3
3rd Quartile	53.8	20.7	3.9	2.2	4.9	0.7
95th Percentile	31.2	11.9	0.0	0.7	2.7	0.1
Population	579	600	72	171	391	539

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

Illinois Police Officers' Pension Investment Fund Period Ending: June 30, 2024

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

<u>Manager</u>	<u>Inception Date</u>	<u>Data Source</u>	<u>Manager</u>	<u>Inception Date</u>	<u>Data Source</u>
RhumbLine Russell 1000 Index Fund	3/15/2022	State Street	SSgA EMD Hard Index Fund	3/14/2022	State Street
RhumbLine Russell 2000 Index Fund	3/15/2022	State Street	Ares Institutional Loan Fund	3/1/2024	Ares
SSgA Non-US Developed Index Fund	3/10/2022	State Street	Aristotle Institutional Loan Fund	3/1/2024	Aristotle
SSgA Non-US Developed SC Index Fund	3/10/2022	State Street	Principal USPA	4/6/2022	State Street
Acadian ACWI ex US Small-Cap Fund	1/30/2024	State Street	SSgA REITs Index Fund	3/10/2022	State Street
WCM International Small Cap Growth Fund	3/1/2024	WCM	SSgA US Treasury Index Fund	5/1/2024	State Street
LSV International Small Cap Value Equity Fund	3/1/2024	LSV	SSgA Core Fixed Income Index Fund	3/17/2022	State Street
SSgA Emerging Markets Equity Index Fund	3/1/2022	State Street	SSgA Short-Term Gov't/Credit Index Fund	3/17/2022	State Street
SSGA Emerging Markets ex China Equity Index Fund	5/1/2024	State Street	SSgA US TIPS Index Fund	3/17/2022	State Street
SSgA High Yield Corporate Credit	3/18/2022	State Street	Cash	3/22/2022	State Street

Custom Benchmark Composition

<u>Benchmark</u>	<u>Time period</u>	<u>Composition</u>
Policy Index -Broad Benchmark	4/1/2022 - Present	70% MSCI ACWI IMI (Net) and 30% Bloomberg Global Multiverse.
Spliced SSgA EMD Hard Benchmark	7/1/2023 - Present	100% JPM EMBI Global Diversified Index
Spliced SSgA EMD Hard Benchmark	3/14/2022 - 6/30/2022	100% JPM EMBI Global Core Index
Spliced SSgA U.S. High Yield Index	12/1/2022 - Present	100% ICE BofA US High yield Master II Constrained
Spliced SSgA U.S. High Yield Index	4/1/2022 - 11/30/2022	100% Bloomberg U.S. High Yield Very Liquid Index

Total Fund
Data Sources and Methodology Page

Illinois Police Officers' Pension Investment Fund
Period Ending: June 30, 2024

Policy Index Composition

As of 6/1/2024	Policy Index	Growth	Income	Real Assets	Risk Mitigation
Russell 1000	23%	39.7%			
Russell 2000	5%	8.6%			
MSCI World ex U.S.	19%	32.8%			
MSCI World ex U.S. Small Cap	5%	8.6%			
MSCI Emerging Markets	4%	6.9%			
MSCI Emerging Markets ex China	2%	3.4%			
Bloomberg US Corporate High Yield Index	7%		43.8%		
JPM EMBI Global Diversified Index	6%		37.5%		
Credit Suisse Leveraged Loan Index	3%		18.8%		
NFI-ODCE Equal-Weighted Index	2%			33.3%	
Dow Jones US Select REIT Index	4%			66.7%	
Bloomberg US Aggregate Index	3%				15.0%
Bloomberg US Treasury Index	2%				10.0%
Bloomberg 1-3 Year Gov/Credit Index	11%				55.0%
Bloomberg US TIPS 0-5 Year	3%				15.0%
90 Day US Treasury Bill Index	1%				5.0%

As of 4/1/2024	Policy Index	Growth	Income	Real Assets	Risk Mitigation
Russell 1000	23%	39.7%			
Russell 2000	5%	8.6%			
MSCI World ex U.S.	19%	32.8%			
MSCI World ex U.S. Small Cap	5%	8.6%			
MSCI Emerging Markets	6%	10.3%			
Bloomberg US Corporate High Yield Index	7%		43.8%		
JPM EMBI Global Diversified Index	6%		37.5%		
Credit Suisse Leveraged Loan Index	3%		18.8%		
NFI-ODCE Equal-Weighted Index	2%			33.3%	
Dow Jones US Select REIT Index	4%			66.7%	
Bloomberg US Aggregate Index	3%				15.0%
Bloomberg 1-3 Year Gov/Credit Index	13%				65.0%
Bloomberg US TIPS 0-5 Year	3%				15.0%
90 Day US Treasury Bill Index	1%				5.0%

As of 5/1/2023	Policy Index	Growth	Income	Real Assets	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 Corporate High Yield Index	10%		62.5%		
JPM EMBI Global Diversified Index	6%		37.5%		
NFI-ODCE Equal-Weighted Index	2%			33.3%	
Dow Jones US Select REIT Index	4%			66.7%	
Bloomberg US Aggregate Index	3%				15.0%
Bloomberg 1-3 Year Gov/Credit Index	13%				65.0%
Bloomberg US TIPS 0-5 Year	3%				15.0%
90 Day US Treasury Bill Index	1%				5.0%

As of 5/1/2024	Policy Index	Growth	Income	Real Assets	Risk Mitigation
Russell 1000	23%	39.7%			
Russell 2000	5%	8.6%			
MSCI World ex U.S.	19%	32.8%			
MSCI World ex U.S. Small Cap	5%	8.6%			
MSCI Emerging Markets	5%	8.6%			
MSCI Emerging Markets ex China	1%	1.7%			
Bloomberg US Corporate High Yield Index	7%		43.8%		
JPM EMBI Global Diversified Index	6%		37.5%		
Credit Suisse Leveraged Loan Index	3%		18.8%		
NFI-ODCE Equal-Weighted Index	2%			33.3%	
Dow Jones US Select REIT Index	4%			66.7%	
Bloomberg US Aggregate Index	3%				15.0%
Bloomberg US Treasury Index	1%				5.0%
Bloomberg 1-3 Year Gov/Credit Index	12%				60.0%
Bloomberg US TIPS 0-5 Year	3%				15.0%
90 Day US Treasury Bill Index	1%				5.0%

As of 3/1/2024	Policy Index	Growth	Income	Real Assets	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 Corporate High Yield Index	8.5%		53.1%		
JPM EMBI Global Diversified Index	6%		37.5%		
Credit Suisse Leveraged Loan Index	1.5%		9.4%		
NFI-ODCE Equal-Weighted Index	2%			33.3%	
Dow Jones US Select REIT Index	4%			66.7%	
Bloomberg US Aggregate Index	3%				15.0%
Bloomberg 1-3 Year Gov/Credit Index	13%				65.0%
Bloomberg US TIPS 0-5 Year	3%				15.0%
90 Day US Treasury Bill Index	1%				5.0%

As of 1/1/2023	Policy Index	Growth	Income	Real Assets	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 Corporate High Yield Index	10%		62.5%		
JPM EMBI Global Diversified Index	6%		37.5%		
NFI-ODCE Equal-Weighted Index	2%			33.3%	
Dow Jones US Select REIT Index	4%			66.7%	
Bloomberg US Aggregate Index	7%				25.0%
Bloomberg 1-3 Year Gov/Credit Index	15%				53.6%
Bloomberg US TIPS 0-5 Year	3%				10.7%
90 Day US Treasury Bill Index	3%				10.7%

Policy Index Composition

As of 3/31/2022	<u>Policy Index</u>	<u>Growth</u>	<u>Income</u>	<u>Real Assets</u>	<u>Risk Mitigation</u>
Russell 3000	23%	46.0%			
MSCI ACWI ex USA IMI	20%	40.0%			
MSCI Emerging Markets IMI	7%	14.0%			
Bloomberg US Corporate High Yield Index	10%		62.5%		
50% JPM EMBI GD/50% JPM GBI EM GD	6%		37.5%		
NCREIF Property Index	2%			66.7%	
Dow Jones US Select REIT Index	4%			33.3%	
Bloomberg US Aggregate Index	7%				25.0%
Bloomberg 1-3 Year Gov/Credit Index	15%				53.6%
Bloomberg US TIPS 0-5 Year	3%				10.7%
90 Day US Treasury Bill Index	3%				10.7%

Glossary

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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