

# **Investment Update**

Regional Stakeholder Meeting

October 17, 2023

Bloomington, IL

# Seasoned Investment Professionals

- Kent Custer, CFA – Chief Investment Officer
  - MBA, Chartered Financial Analyst
  - US Navy Nuclear Submarine Officer
  - “Sell-side” investment analyst
  - Illinois Teachers’ Retirement System
  - “Turn-around” CIO – Illinois Prepaid Tuition Fund, Dallas Police and Fire Pension
- Steve Yoon – Investment Officer
  - Northern Trust, Chicago Municipal Retirement System
- Barb Meyer, CIPM – Investment Officer
  - MA, Ibbotson, Northern Trust, Chicago Teachers Pension
  - Certificate in Investment Performance Measurement
- Investment Consultant – Verus Investments
  - Scott Whalen, CFA, CAIA – Lead Consultant
  - Tim McEnery, CFA – Senior Consultant

# Key Transition Milestones

## 2021

- April – Hire CIO and consultant
- June – Procurement of Investment Services Policy
- July – Select investment custodian
- August – Steve Yoon joins
- September – Select Transition Manager
- October – Select Passive Investment Managers, Select CPA firms, Approve Transfer of Assets Rule
- November – Approve Investment Structure

- December – Selected EY as Transition Consultant and Foster and Foster as Actuary. Approve Authorized Agents Rule. Approve Investment Policy Statement

## 2022

- January – Approve Cash Management Policy, Valuation and Cost Rule.
- March – Begin asset transfers
- May – Circuit court rules affirming consolidation
- July – Barb Meyer joins as Investment Officer
- December – End of Transition Period

# Transfer Schedule

Tranche #	Assigned Transfer	Number of Funds		\$ millions	
		Tranche	Total	Tranche	Total
1	March 1, 2022	14	14	220	220
2	April 1, 2022	18	32	458	678
3	May 2, 2022	14	46	354	1,032
4	June 1, 2022	27	73	770	1,803
5	June 24, 2022	45	118	1,271	3,074
6	August 1, 2022	36	154	1,463	4,537
7	September 1, 2022	63	217	1,922	6,459
8	October 3, 2022	54	271	990	7,449
9	November 1, 2022	35	306	376	7,825
10	December 1, 2022	22	328	738	8,562
12*	May 1, 2023	4	332	35	8,597
13	August 1, 2023	1	333	13	8,610
DNT	Did Not Transfer	9	342	63	8,673
LIT	litigation plaintiffs	15	357	1,233	9,907

\*T11 designation used for February transition of assets received since December

# Transition Management Review

- Portfolio Transitions were very successful
- \$8.7 Billion transitioned through February 2023
- Implementation Shortfall: \$2.8 million
  - Amount transition portfolio lagged the target portfolio
- Commissions: \$1.5 million (hit cap in September)
- Total Cost \$4.3 million, 4.9 basis points (bps) (0.049%) vs. weighted average estimate of 8.0 bps

Asset Type	Market Value	In-Kind Value	In-Kind %
Mutual Funds	\$4,189	0	0%
ETFs	559	0	0%
Stocks	579	374	65%
Bonds	2,969	482	16%

Dollars in Millions

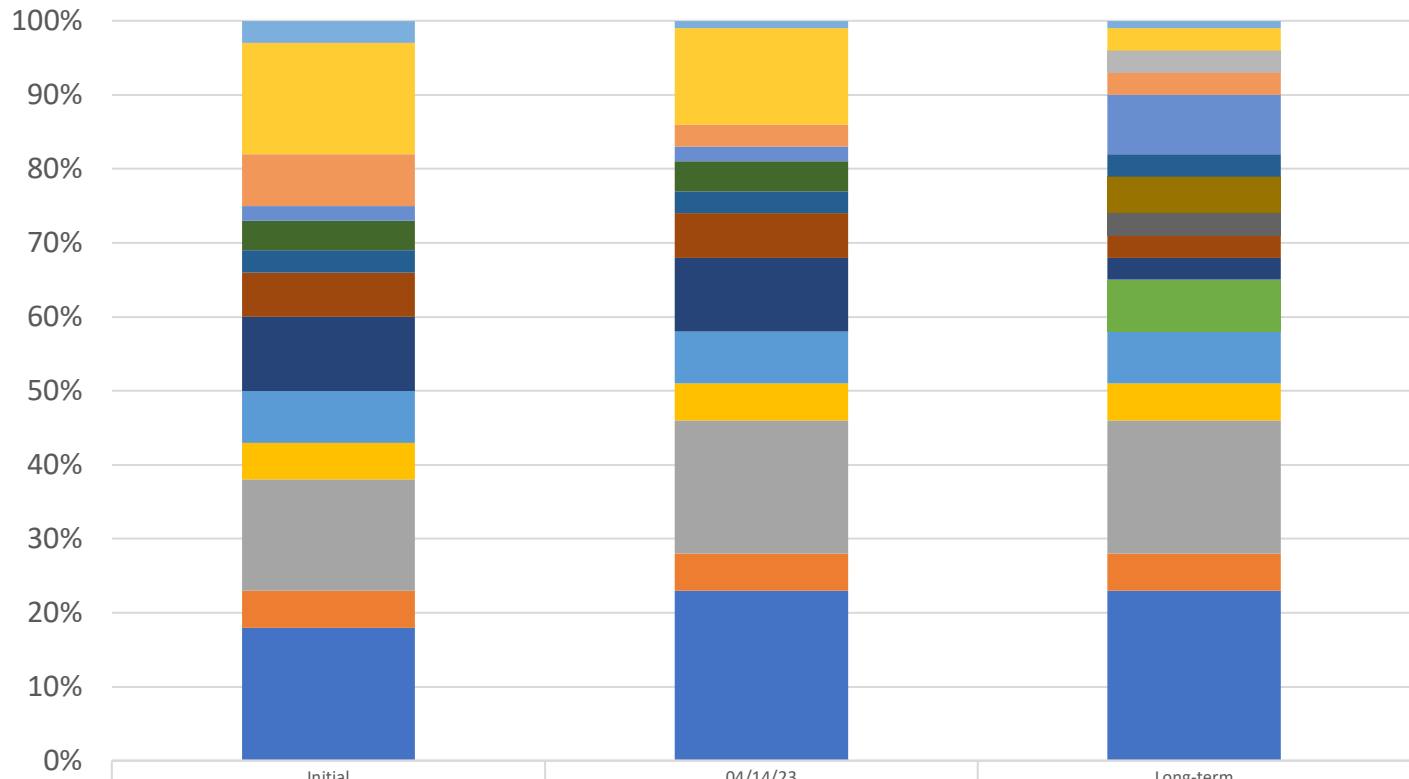
# Asset Allocation

- Primary driver of investment returns
- Use capital market assumptions and mean-variance optimization to estimate investment return and volatility for different asset mixes
- Establish target weights for each asset class
- Rebalance to target weights periodically
- IPOPIF has adopted short-term and long-term asset allocation targets
  - Initial lower weight to stocks based on heightened valuation and interest rate risks in 2021
  - Time needed to build out diversified strategies, including private market investments

# IPOPIF Strategic Asset Allocation

IPOPIF Asset Allocation	03/01/22	04/14/23*		Long-term	New vs LT
		Change	New ST		
<b>Growth (Stocks)</b>	<b>50.0%</b>	<b>8.0%</b>	<b>58.0%</b>	<b>65.0%</b>	<b>-7.0%</b>
US Large	18.0%	+5.0%	23.0%	23.0%	0.0%
US Small	5.0%		5.0%	5.0%	0.0%
International Developed	15.0%	+3.0%	18.0%	18.0%	0.0%
International Developed Small	5.0%		5.0%	5.0%	0.0%
Emerging Markets	7.0%		7.0%	7.0%	0.0%
Private Equity (Direct)	0.0%		0.0%	7.0%	-7.0%
<b>Income (Bonds)</b>	<b>16.0%</b>	<b>0.0%</b>	<b>16.0%</b>	<b>14.0%</b>	<b>2.0%</b>
Bank Loans	0.0%		0.0%	3.0%	-3.0%
High Yield Corp. Credit	10.0%		10.0%	3.0%	7.0%
Emerging Market Debt	6.0%		6.0%	3.0%	3.0%
Private Credit	0.0%		0.0%	5.0%	-5.0%
<b>Inflation Protection</b>	<b>9.0%</b>	<b>0.0%</b>	<b>9.0%</b>	<b>11.0%</b>	<b>-2.0%</b>
US TIPS	3.0%		3.0%	3.0%	0.0%
REITs	4.0%		4.0%	0.0%	4.0%
Real Estate/Infrastructure	2.0%		2.0%	8.0%	-6.0%
<b>Risk Mitigation</b>	<b>25.0%</b>	<b>-8.0%</b>	<b>17.0%</b>	<b>10.0%</b>	<b>7.0%</b>
Cash	3.0%	-2.0%	1.0%	1.0%	0.0%
Short-Term Gov't/Credit	15.0%	-2.0%	13.0%	3.0%	10.0%
US Treasury	0.0%		0.0%	3.0%	-3.0%
Core Fixed Income	7.0%	-4.0%	3.0%	0.0%	3.0%
Core Plus Fixed Income	0.0%		0.0%	3.0%	-3.0%
<b>Total</b>	<b>100.0%</b>	<b>0.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

\*4/14/23 allocation to be implemented gradually at CIO discretion



	Initial	04/14/23	Long-term
Cash	3%	1%	1%
Short-term Bonds	15%	13%	3%
US Treasury			3%
Core Bonds	7%	3%	3%
Private Real Estate/Infrastructure	2%	2%	8%
REITS	4%	4%	
TIPS	3%	3%	3%
Private Credit			5%
Bank Loans			3%
Emerging Mkt. Debt	6%	6%	3%
High Yield Debt	10%	10%	3%
Private Equity			7%
Emerging Market Stocks	7%	7%	7%
Intl. Stocks - Dev./small	5%	5%	5%
Intl. Stocks - Dev./large	15%	18%	18%
USA Stocks - small	5%	5%	5%
USA Stocks - large	18%	23%	23%



# Investment Structure

Mandate	Weight	Manager	Manager Benchmark*	Vehicle**
<b>Growth (Stocks)</b>	<b>58.0%</b>			
US Large	23.0%	RhumbLine	Russell 1000	SMA
US Small	5.0%	RhumbLine	Russell 2000	SMA
International Developed	18.0%	SSGA	MSCI World ex US	CIT
International Developed Small	5.0%	SSGA	MSCI World ex US SC	CIT
Emerging Markets	7.0%	SSGA	MSCI Emerging Mkts. ND	CIT
<b>Income (Bonds)</b>	<b>16.0%</b>			
High Yield Corp. Credit	10.0%	SSGA	BB US Corporate High Yield	CIT
Emerging Market Debt	6.0%	SSGA	JPM EMBI Global Diversified	CIT
<b>Inflation Protection</b>	<b>9.0%</b>			
US TIPS	3.0%	SSGA	BB US TIPS 0-5 Years	SMA
REITs	4.0%	SSGA	Dow Jones US Select REIT	CIT
Real Estate	2.0%	Principal	NFI-ODCE	Open-End Fund
<b>Risk Mitigation</b>	<b>17.0%</b>			
Cash	1.0%	SSGA	\$1	Money Mkt MF
Short-Term Gov't/Credit	13.0%	SSGA	BB 1-3 year Gov/Credit	CIT
Core Fixed Income	3.0%	SSGA	BB US Aggregate	CIT
<b>Total</b>	<b>100.0%</b>			

\*BB: Bloomberg, JPM: JP Morgan

NFI-ODCE: National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index – Open End Diversified Core Equity

\*\*SMA: Separately Managed Account, CIT: Commingled Investment Trust

RhumbLine and SSGA are passive “index” managers.

# Performance Summary

Final	2Q22	3Q22	4Q22	1Q23	2Q23	FY23	4/22 – 6/23
IPOPIF Pool	-10.4%	-4.8%	+6.8%	+4.3%	+2.7%	+8.8%	-2.0%
Policy Benchmark	-10.4%	-5.0%	+6.6%	+4.3%	+3.1%	+8.8%	-2.0%
Broad Benchmark	-13.6%	-6.6%	+8.4%	+5.8%	+3.7%	+11.0%	-3.4%

Preliminary	July	Aug.	Sept.	3Q23	4/22 – 9/23
IPOPIF Pool	+2.6%	-2.0%	-2.9%	-2.4%	-3.3%
Policy Benchmark	+2.8%	-2.1%	-3.0%	-2.4%	-3.2%
Broad Benchmark	+2.9%	-2.4%	-3.8%	-3.4%	-5.0%

- IPOPIF Performance is net of fees.
- Policy Benchmark – Weighted average of asset class benchmarks; gauges success of implementation (currently less stock exposure than the broad benchmark)
- Broad Benchmark – 70/30 global stocks/bonds; gauges success of asset allocation.
- Returns for periods longer than one year are annualized.
- IPOPIF Actuarial Assumed Rate of Return is 6.8%

# Investment Expense Summary

## 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 2Q23 and an aggregate asset-based fee thereafter (~0.018% expected for 2H23).

- Current Investment Manager fee load of \$2.6 million annually, ~ 2.7 basis points
- This will increase as “active managers” are added. Goal is maximum return, net of fees.
- Investment Consultant - \$427.5K/yr, ~ 0.5 bps
- Custodian Fees - \$460K budgeted for FY24, ~0.5 bps

# Key Investment Initiatives (1)

Initiative	Status
Investment Staff Recruitment	Experienced investment professional with CFA designation expected to start in late October.
Investment Policy & Asset Allocation Review (new addition)	Staff and Verus to review during 4Q23 and recommend changes in 1Q24.
International Equity Small Cap manager search	RFP evaluation complete. Semifinalist interviews with staff and Verus Oct. 4-6. Search report under separate agenda item.
Bank Loan manager search	3% long-term allocation, but no current exposure. RFP posted and press release issued on Sept. 18. Phase 1 data evaluation completed. Phase 2 initiated (Oct. 20 deadline). Planning for Board interviews in December.
Private Market Planning	Consultant education in June. Staff and Verus to collaborate during 4Q23. Recommended investment plan targeted for March 2024.

# Key Investment Initiatives (2)

Initiative	Status
Emerging Markets Searches	Will start planning searches for emerging market equity and debt in 2024. China a bigger consideration for EM equity at 30% of index vs. 4.5% for EM debt.
Develop plan for addressing non-transferrable assets	Working with Verus and Counsel to evaluate IPOPIF requirements and to develop a framework for resolving non-transferable assets.
Develop Investment Communication Materials	Developed 2022 Transfer Performance Summary Developed stakeholder presentation Continuing to build out additional information
Develop compliance review and reporting matrix	Completed review of source documents to capture all requirements. Developing review and reporting structure.
Develop long-term asset allocation implementation plan	Developed 2024+ investment objectives for Board Review. Continued development of project management application with detailed steps with timelines and dependencies. Now in service.

# Preliminary Agenda Planning

## December 2023

- Intl. Small Cap interviews/selection
- Bank Loan interviews/selection
- Custodian review
- Too much?

## March 2024

- EM Equity/Debt search requests
- Private market implementation planning
- Investment Consultant Review

## January 2024

- Alt. B/L interviews
- IPS review
- Asset Allocation update

Quarterly: Investment Update, Performance Review,  
Compliance Review, Investment Implementation Status

# Preliminary Search Queue

## Public Markets

- Equity
  - International/Global Small Cap
  - Emerging Markets↑
  - US Small Cap
  - Evaluate Large Cap
- Credit
  - Bank Loans
  - Emerging Markets↑
  - High Yield
- Risk Mitigation
  - Need allocation and structure review

## Private Markets

- Investment plan
- Specialty Consultant?
- Secondary funds for early exposure and vintage diversification
- Equity
- Credit
- Real Estate
- Infrastructure

# Investment Information Resources

<https://www.ipopif.org/reports/investment-reports/>

[Investment Policy Statement - PP-2021-08](#)

[IPOPIF Illinois Economic Opportunity Report - October 31, 2022](#)

[IPOPIF MWDBE Report- December 2022](#)

[IPOPIF Capital Market Assumptions](#)

[IPOPIF Investment Performance Review - Verus Quarterly](#)

[IPOPIF Investment Performance Reports - Monthly Statements](#)

[IPOPIF Transition and Investment Updates](#)



# Article 3 Fund Reports

<https://www.ipopif.org/reports/article-3-reports/>

\*\*Article 3 Fund Monthly Reports\*\* (Guide to Access and Overview)

-IPOPIF Trust Fund Unit Details-

<https://my.statestreet.com/>

- Only for eCFM cash transactions
- No valuation or performance information

<https://www.your-fundaccount.com/IPOPIF/>

- Northeast Retirement Systems (NRS) portal
- Reporting affiliate for State Street
- NRS performs the “unitization”
- Monthly reports available
- Daily reporting since July

# **Investment Manager Supplement**

# RhumbLine Advisers LP

<b>RhumbLine Advisers LP</b>	
Firm Description	Index Fund Manager
Headquarters	Boston, MA
Firm MWDBE Ownership Category	Female
Firm AUM 12/31/2022	\$88 Billion
IPOPIF contract date	12/29/2021

	<b>RhumbLine US Large</b>	<b>RhumbLine US Small</b>
IPOPIF Investment strategies	Russell 1000 Index Fund	Russell 2000 Index Fund
IPOPIF inception date	3/14/2022	3/14/2022
Vehicle	Separate Account	Separate Account
Benchmark	Russell 1000	Russell 2000
Annual Fee Rate	Flat 0.0050%	Flat 0.0050%
MWDBE brokerage for 1Q2023	100%	98%
IPOPIF 3/31/23 Value	\$1,634 Mil	\$425 Mil
Weight of IPOPIF portfolio on 3/31/23	18.1%	4.7%
IPOPIF ST target as of 3/31/23	18%	5%
IPOPIF ST target as of 4/30/23	23%	5%

# RhumbLine Advisers LP

<b>RhumbLine Advisers LP</b>	
Firm Description	Index Fund Manager
Headquarters	Boston, MA
Firm MWDBE Ownership Category	Female
Firm AUM 12/31/2022	\$88 Billion
IPOPIF contract date	12/29/21

as of 6/30/23	<b>RhumbLine US Large</b>	<b>RhumbLine US Small</b>
IPOPIF Investment strategies	Russell 1000 Index Fund	Russell 2000 Index Fund
IPOPIF inception date	03/14/22	03/14/22
Vehicle	Separate Account	Separate Account
Benchmark	Russell 1000	Russell 2000
Annual Fee Rate	Flat 0.0050%	Flat 0.0050%
MWDBE brokerage (4 quarters)	71%	98%
IPOPIF Value	\$1,880 Mil	\$451 Mil
Weight of IPOPIF portfolio	20.0%	4.8%
IPOPIF target weight	23%	5%

# State Street Global Advisors

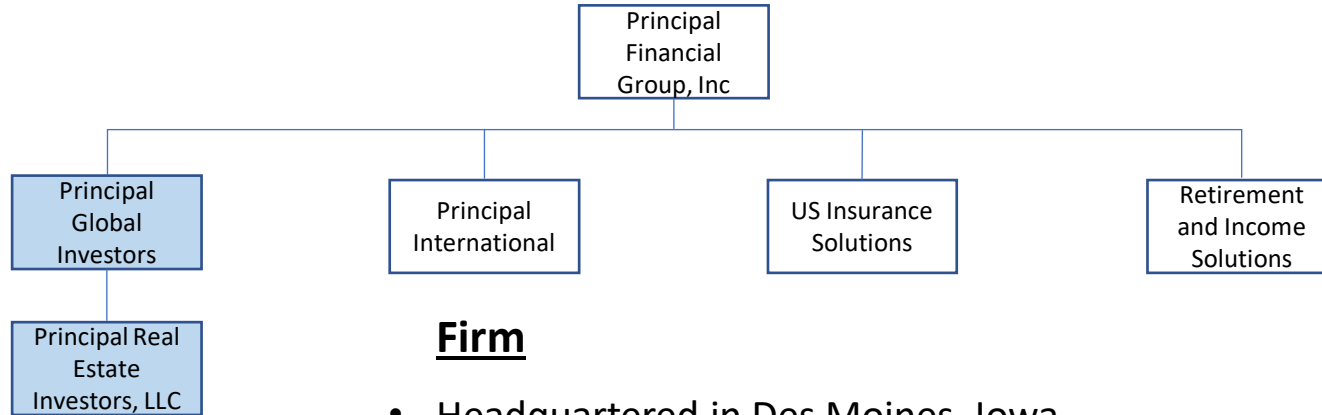
State Street Global Advisors ("SSGA")	
Firm Description	Index Fund, ETF, and Sector Fund specialists
Headquarters	New York, NY
Firm MWDBE Ownership Category	Majority
Firm AUM 12/31/2022	\$3.5 Trillion
IPOPIF contract date	12/29/2021

as of 6/30/23	Non-US Developed	Non-US Developed SC	EM Equity	High Yield	EM Debt	TIPS	REITS	Core Bonds	ST Gov-Credit
IPOPIF inception date	3/10/22	3/10/22	3/10/22	3/18/22	6/28/22	3/18/22	3/16/22	3/18/22	3/18/22
Vehicle	Commingled Fund	Commingled Fund	Commingled Fund	Commingled Fund	Commingled Fund	Separate Account	Commingled Fund	Commingled Fund	Commingled Fund
Benchmark	MSCI World ex US (Net)	MSCI World ex US Small Cap Index (Net)	MSCI Emerging Markets (Net)	Bloomberg U.S. High Yield Very Liquid Ind	JPM EMBI Global Diversified Index	Blmbg. US TIPS 0-5 Year	Dow Jones U.S. Select REIT	Blmbg. U.S. Aggregate Index	Blmbg. 1-3 Year Gov/Credit index
MWDBE brokerage	1%	3%	6%	1%	0%	32%	0%	0%	1%
IPOPIF Value	1,501 Mil	\$450 Mil	\$641 Mil	\$920 Mil	\$553 Mil	\$272 Mil	\$356 Mil	\$545 Mil	\$ 1,356
Portfolio weight	16.0%	4.8%	6.8%	9.8%	5.9%	2.9%	3.8%	5.8%	14.4%
IPOPIF ST target	18%	5%	7%	10%	6%	3%	4%	3%	13%

Tiered fee beginning 7/1/23. Blended fee on \$9 Billion: \$1.10 million, ~0.018%.

- Tiered fee on Strategies:
  - 0.02% on the first \$1,000,000,000 (in aggregate)
  - 0.015% on the next \$1,000,000,000
  - 0.005% thereafter
- Additional fee on three of the strategies:
  - Non-applicable on the first \$1,000,000,00; 0.05% thereafter.
  - Applicable for SSGA EM Equity, SSGA High Yield, and SSGA EM Debt.

# Principal US Property Account



## Firm

- Headquartered in Des Moines, Iowa.
- Principal Real Estate Investor is a wholly owned subsidiary of Principal Global Investors (PGI) which is a distinct business segment of a publicly traded company, Principal Financial Group, Inc. (Ticker PFG).
- Principal US Property Account (USPA) is a private core real estate commingled strategy managed by Principal Real Estate Investor. Core Strategies are invested across Office, Residential, Industrial, and Retail.
- Total AUM: \$13 billion as of 3/31/2023
- Total Investments: 160 properties as of 3/31/2023

## History

- 25 Article 3 Funds were invested in USPA; 20 Funds consolidated, and 5 Funds remaining.
- Post consolidation fee schedule of 80 BPS compared to average of 102 BPS, providing estimated fee savings of 21%.

# Performance Supplement

# Asset Allocation 10/11/23

Account	Current		Target		Variance	
	\$M	%	\$M	%	\$M	%
<b>Growth</b>	<b>4,966</b>	<b>53.7%</b>	<b>5,365</b>	<b>58.0%</b>	<b>(398)</b>	<b>-4.3%</b>
RHUMBLINE US LARGE	1,923	20.8%	2,127	23.0%	(205)	-2.2%
RHUMBLINE US SMALL	425	4.6%	462	5.0%	(37)	-0.4%
SSGA NON-US DEVELOPED	1,565	16.9%	1,665	18.0%	(100)	-1.1%
SSGA NON-US DEVELOPED SC	430	4.6%	462	5.0%	(33)	-0.4%
SSGA EM EQUITY	624	6.7%	647	7.0%	(24)	-0.3%
<b>Income</b>	<b>1,458</b>	<b>15.8%</b>	<b>1,480</b>	<b>16.0%</b>	<b>(22)</b>	<b>-0.2%</b>
SSGA HIGH YIELD	921	10.0%	925	10.0%	(4)	0.0%
SSGA EM DEBT	537	5.8%	555	6.0%	(18)	-0.2%
<b>Inflation Protection</b>	<b>796</b>	<b>8.6%</b>	<b>832</b>	<b>9.0%</b>	<b>(37)</b>	<b>-0.4%</b>
SSGA TIPS	273	3.0%	277	3.0%	(4)	0.0%
SSGA REITS	356	3.9%	370	4.0%	(14)	-0.1%
PRINCIPAL US PROPERTY	166	1.8%	185	2.0%	(19)	-0.2%
<b>Risk Mitigation</b>	<b>2,030</b>	<b>21.9%</b>	<b>1,572</b>	<b>17.0%</b>	<b>457</b>	<b>4.9%</b>
IPOPIF CASH	290	3.1%	92	1.0%	198	2.1%
SSGA ST GOV-CREDIT	1,340	14.5%	1,202	13.0%	137	1.5%
SSGA CORE BONDS	400	4.3%	277	3.0%	122	1.3%
IPOPIF POOL FI TRANSITION	0.10	0.0%	-	0.0%	0	0.0%
<b>Total Investment Pool</b>	<b>9,249</b>	<b>100.0%</b>	<b>9,249</b>	<b>100.0%</b>	<b>-</b>	<b>0.0%</b>

\* Allocation shifts from Risk Mitigation to US Large Cap and Non-US Developed equity are being implemented gradually at CIO discretion.



# Growth Portfolio

As of 6/30/23 Source: Verus Quarterly Report	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
<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	35	
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		

- Overweight to Non-US and small Cap was a modest detractor for the quarter and year. Expect future benefit.
- Emerging Markets Equity is near market weight but has lagged developed markets.
- Low rank for passive small cap and EM may indicate potential for active alpha.
- Modest tracking error expected for non-US mandates, related to fair value pricing, which protects against market timing arbitrage.

# Income Portfolio

As of 6/30/23

Source: Verus Quarterly Report

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
<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		

- Both High Yield and EMD (Emerging Market Debt) detracted through mid-2022, then rebounded.
- EMD relative underperformance in 2Q & 3Q22 related to benchmark mismatch and fair value pricing. Recent performance is in line with benchmark.

Product	High Yield	EMD
Current Yield	6.71%	5.90%
Yield to Maturity	8.66%	7.53%

Source: 6/30/23 SSGA quarterly report

# Inflation Protection Portfolio

As of 6/30/23 Source: Verus Quarterly Report	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>			<i>0.6</i>	<i>2.2</i>	<i>-1.6</i>	<i>-1.6</i>	<i>-7.8</i>	
SSgAUS 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>			<i>-0.7</i>	<i>1.5</i>	<i>0.1</i>	<i>0.1</i>	<i>-1.8</i>	
<i>eV US TIPS / Inflation Fixed Inc Rank</i>			<i>6</i>	<i>83</i>	<i>12</i>	<i>12</i>		
SSgAREITs Index	356,432,029	3.8	2.9	5.8	-0.7	-0.7	-11.5	03/16/22
<i>Wilshire U.S. REIT Index</i>			<i>3.3</i>	<i>6.7</i>	<i>-0.3</i>	<i>-0.3</i>	<i>-11.5</i>	
<i>eV US REIT Rank</i>			<i>35</i>	<i>40</i>	<i>32</i>	<i>32</i>		
Principal USPA	172,939,554	1.8	-1.9	-5.0	-10.5	-10.5	-6.4	04/06/22
<i>NCREIF ODCE</i>			<i>-2.9</i>	<i>-6.2</i>	<i>-10.7</i>	<i>-10.7</i>	<i>-5.4</i>	

- Inflation Protection Portfolio not fulfilling role so far
- REIT correlation with stocks.
- TIPS negatively impacted by rising interest rates.
- TIPS yields as of 6/30/23: Current Yield – 0.67%, Yield to Maturity – 4.97%
- Also seeing lagged price correction in Private Real Estate (Principal).

# Risk Mitigation Portfolio

As of 6/30/23 Source: Verus Quarterly Report	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
<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>			<i>-0.3</i>	<i>1.5</i>	<i>0.5</i>	<i>0.5</i>	<i>-1.0</i>	
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>				<i>2.1</i>	<i>-0.9</i>	<i>-0.9</i>	<i>-4.7</i>	
<i>-0.8</i>								
<i>eV US Core Fixed Inc Rank</i>			<i>70</i>	<i>52</i>	<i>74</i>	<i>74</i>		
SSgA Short-Term Govt/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>			<i>-0.4</i>	<i>1.1</i>	<i>0.5</i>	<i>0.5</i>	<i>-0.5</i>	
<i>eV US Short Duration Fixed Inc Rank</i>			<i>78</i>	<i>81</i>	<i>74</i>	<i>74</i>	<i>27</i>	
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>			<i>1.2</i>	<i>2.3</i>	<i>3.6</i>	<i>3.6</i>	<i>2.9</i>	

- Risk mitigation working as expected although rising interest rates have detracted from bond performance. Passive performance aligned with benchmarks.
- Comparative bond yields are shown below. The 30-day yield on the cash vehicle was 4.90% as of 6/30/23.

Product	Core Bonds	Short-Term Bonds
Current Yield	3.29%	5.16%
Yield to Maturity	4.82%	2.67%

Source: 6/30/23 SSGA quarterly report