



## *Investment Program*

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# ASSET CLASS REVIEWS – PUBLIC MARKETS EX EQUITIES

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## San Jose Police and Fire Department Retirement Plan Investment Committee

# Outline

## Year in Review

Prefunding Summary  
Prior Workplan  
Manager Turnover  
Functional Group Exposures

## Strategy Performance and Fees

Fixed Income  
Absolute Return

## Liquidity -- Immunized Net Cash Flows

Cashflow Projections

## Workplan

Potential Manager Search Activity  
Re-underwriting Schedule

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# Year in Review: Prefunding / FYE Summary

Received lump sum prepayments from sponsor contributions for Tier 1:

- PF Pension     \$190,148,613 (8 trades, \$223 million gross traded)
- PF HCT         \$28,474,868 (6 trades, \$27 million gross traded)

*For context*

Prefunding 2022

PF \$190 million, 5 trades, \$659 million gross traded

Prefunding 2021

PF \$265 million, 10 trades, \$274 million gross traded

Prefunding 2020:

PF \$188 million, 16 trades, \$202 million gross traded

INCF was also “topped up” to full 5-year hedging term; capital offsets was cash.

| POLICE AND FIRE                              |                         |            |           |                     |
|----------------------------------------------|-------------------------|------------|-----------|---------------------|
| Allocations Before and After Fiscal Year End |                         |            |           |                     |
| % OF PLAN                                    | ASSET CLASS             | SAA TARGET | 6/30/2023 | POST<br>PRE-FUNDING |
| GROWTH                                       | PUBLIC EQUITY           | 42.0       | 42.3      | 42.1                |
|                                              | PRIVATE MARKETS         | 25.0       | 24.8      | 24.9                |
|                                              | EMD                     | 2.0        | 2.0       | 2.0                 |
|                                              | HY BONDS                | 2.0        | 2.0       | 2.0                 |
| LOW BETA                                     | MARKET NEUTRAL          | 3.0        | 2.9       | 2.9                 |
|                                              | IMMUNIZED NET CASH FLOW | 5.0        | 7.7       | 7.7                 |
|                                              | CASH                    | 8.0        | 4.9       | 4.9                 |
| OTHER                                        | CORE REAL ESTATE        | 5.0        | 5.5       | 5.5                 |
|                                              | TIPS                    | 2.0        | 2.0       | 2.0                 |
|                                              | INVESTMENT GRADE BONDS  | 4.5        | 4.5       | 4.5                 |
|                                              | LONG TERM GOVT BONDS    | 1.5        | 1.5       | 1.5                 |
| TOTAL                                        |                         | 100.0      | 100.0     | 100.0               |

# Year in Review: Workplan

## Growth

*Public Equities*

*Private Markets*

High Yield Bonds

- Mellon High Yield Beta (June 2020)
- Columbia High Yield Bonds (Dec 2020)

Emerging Markets Debt

- Wellington Iguazu (Feb 2014)
- Payden & Rygel EM Debt (Dec 2020)

## Low Beta

Absolute Return

- DE Shaw (Apr 2013)
- Hudson Bay Capital Structure Arbitrage (Aug 2017)
- Crabel Advanced Trend (Jun 2021)

Cash

- BlackRock T-Bills (Passive, PF only)

Immunized Net Cash Flow

- Insight (Oct 2018)

## Other

*Core Real Estate*

Investment Grade Bonds

- 1-3 yr Gov / Cred (Passive, Fed only)
- US Agg (Passive)
- Invesco Core Bonds (Feb 2021)
- Voya Securitized Credit (Apr 2020)

TIPS

- NT 0-5 yr TIPS (Passive)

Long Term Government Bonds

- US Long Govt (Passive)

*Potential Manager Searches*

## Fixed Income

Research (Liquid) Credit Strategies

Held over to current workplan

## Absolute Return

Research additional strategies

## Capital Efficiency

TAA Overlay

Held over to current workplan

*Re-underwrite Existing Strategies*

## Immunized Net Cash Flow

Insight

Held over to current workplan

# Year in Review: Manager Turnover

## Growth

*Public Equities*

*Private Markets*

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- Mellon High Yield Beta (June 2020)
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Immunized Net Cash Flow

- Insight (Oct 2018)

## Other

*Core Real Estate*

Investment Grade Bonds

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TIPS

- NT 0-5 yr TIPS (Passive)

Long Term Government Bonds

- US Long Govt (Passive)

## Hired

*Public Markets ex. Equities*

None

## Terminated

*Public Markets ex. Equities*

Credit Suisse Risk Parity Commodities (HCT) – Manager instability

Relatively young strategy lineup

- Average tenure of existing active strategies: 4.5 years
- Median tenure of existing active strategies: 3 years

# Year in Review: Functional Group Exposures

Dotted lines are the exposures of the Plans using physical securities only.

Solid lines show the final exposures of the Plans (net of the overlay).

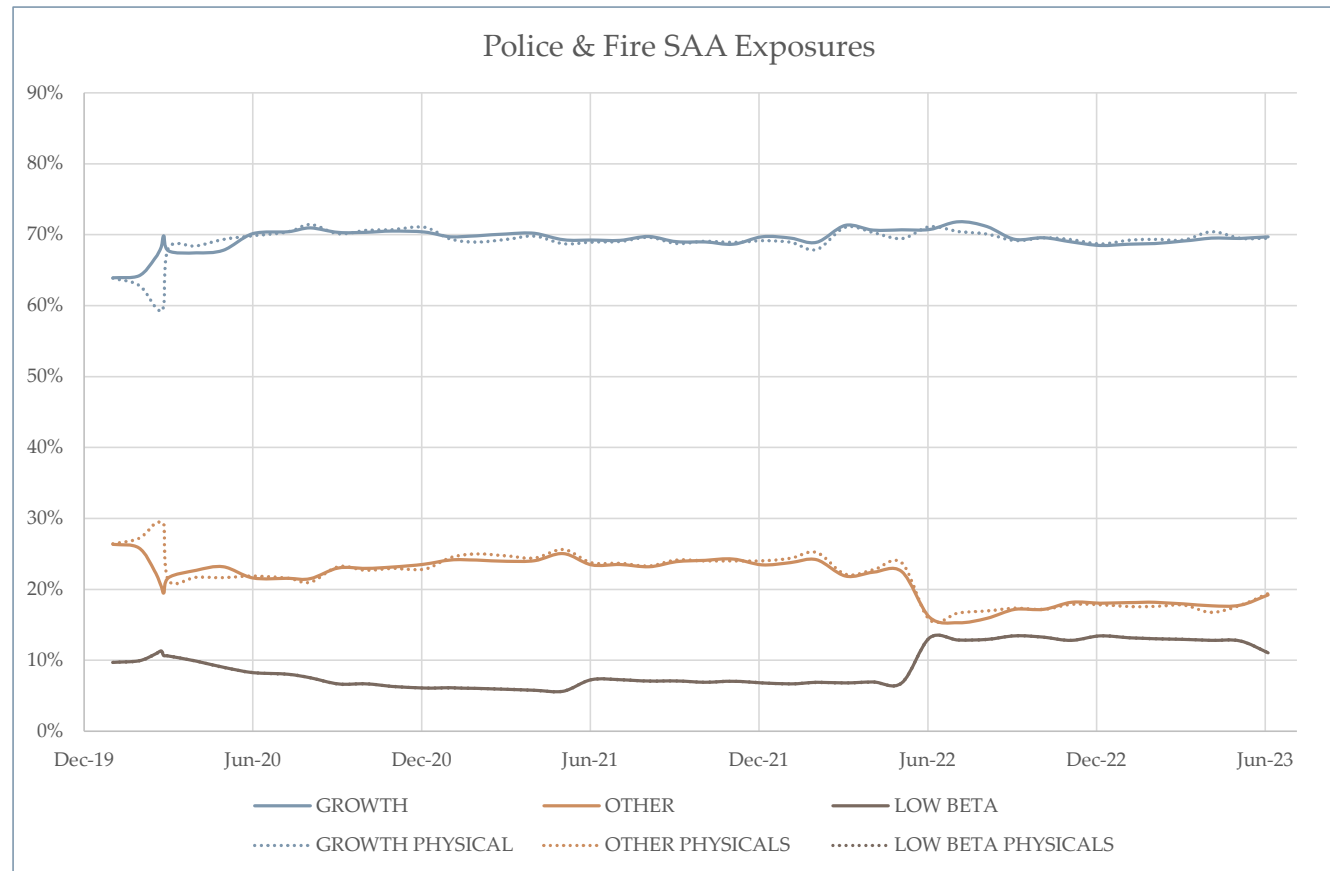
SAA was largely unchanged in March 2023.

## Historical Changes

March 2020: new SAA adopted during the Covid dislocation.

June 2022: increase of INCF, offset by decrease in short duration and/or cash.

June 2023: decrease of INCF, offset by increase in short duration and/or cash.



# Year in Review: Active Fixed Income Performance

All of the Plans' active fixed income strategies performed within expectations, given market conditions.

Columbia kept pace as the HY market recovered from the prior year's drawdown, a good result for a strategy that is generally more focused on downside protection. Mellon HY Beta continued to perform in line as expected of the quasi-index strategy.

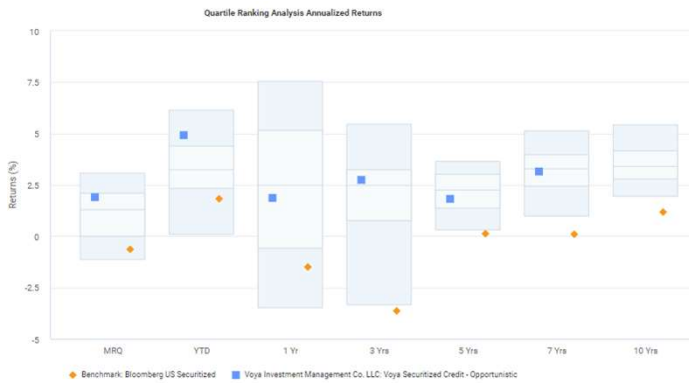
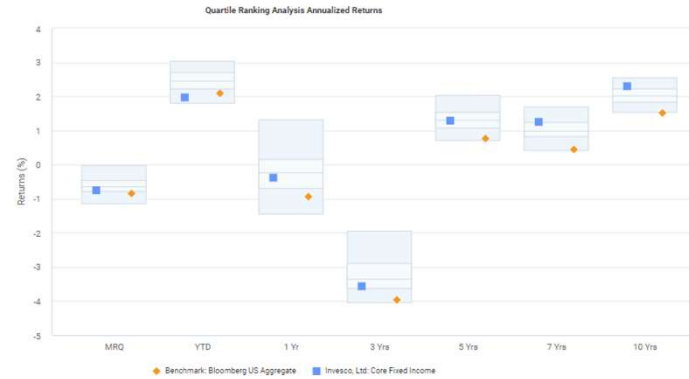
Iguazu is a clear exception, both in approach and results. Iguazu is a hedge fund, and generally holds a much lower net exposure than the other long-only strategies utilized by the Plans. The lower net exposure worked against the strategy as markets rallied; the results for Payden (the long-only pairing in EMD) are typical of the long-only active strategies in the space, and show why the plans hold both in combination.

Invesco, like most core bond strategies, tries to add value by adding spread relative to the benchmark; spread widening and increased vol was detrimental to their performance, but within expectations.

Voya continues to provide diversification to IG Bonds with ABS, CMBS, and non-agency RMBS.

| STRATEGY and RETURN (as of 6/30/23)                                        | ASSET CLASS           | PF MV          | 1 YR  | ITD  | INCEPTION |
|----------------------------------------------------------------------------|-----------------------|----------------|-------|------|-----------|
| Columbia High Yield Fixed Inc                                              | High Yield            | \$ 85,435,292  | 9.4   | -0.4 | 12/31/20  |
| Bloomberg U.S. Corporate High Yield                                        |                       |                | 9.1   | -0.6 |           |
| <i>Excess Return vs. Bloomberg U.S. Corporate High Yield</i>               |                       |                | 0.3   | 0.2  |           |
| Mellon High Yield Beta                                                     | High Yield            | \$ 9,299,424   | 9.9   | 3.5  | 7/1/20    |
| Bloomberg U.S. Corporate High Yield                                        |                       |                | 9.1   | 3.1  |           |
| <i>Excess Return vs. Bloomberg U.S. Corporate High Yield</i>               |                       |                | 0.8   | 0.4  |           |
| Iguazu Partners LP Fund                                                    | Emerging Markets Debt | \$ 66,751,063  | -3.5  | 7.7  | 2/1/14    |
| JP Morgan Emerging Markets SOV50 LM50 Bond Index~                          |                       |                | 9.4   | 1.5  |           |
| <i>Excess Return vs. JP Morgan Emerging Markets SOV50 LM50 Bond Index~</i> |                       |                | -13.0 | 6.2  |           |
| Payden EMD Blended Currency                                                | Emerging Markets Debt | \$ 22,643,608  | 12.2  | -5.0 | 12/9/20   |
| JP Morgan Emerging Markets SOV50 LM50 Bond Index~                          |                       |                | 9.4   | -4.9 |           |
| <i>Excess Return vs. JP Morgan Emerging Markets SOV50 LM50 Bond Index~</i> |                       |                | 2.7   | -0.1 |           |
| Invesco Core Bonds                                                         | US Core Bonds         | \$ 157,375,436 | -1.4  | -5.1 | 3/1/21    |
| Bloomberg U.S. Aggregate Bond Index                                        |                       |                | -0.9  | -4.7 |           |
| <i>Excess Return vs. Bloomberg U.S. Aggregate Bond Index</i>               |                       |                | -0.5  | -0.4 |           |
| Voya Securitized Credit                                                    | US Securitized Credit | \$ 47,676,934  | -1.0  | -1.1 | 5/1/20    |
| Bloomberg US Securitized Index                                             |                       |                | -1.5  | -3.4 |           |
| <i>Excess Return vs. Bloomberg US Securitized Index</i>                    |                       |                | 0.6   | 2.3  |           |

# Year in Review: Active Fixed Income Performance



All traditional fixed income strategies continue to perform within expectations relative to peers over intermediate and longer time horizons.

## Shortlist Performance Comparison, FY 22-23

### US High Yield (gross returns)

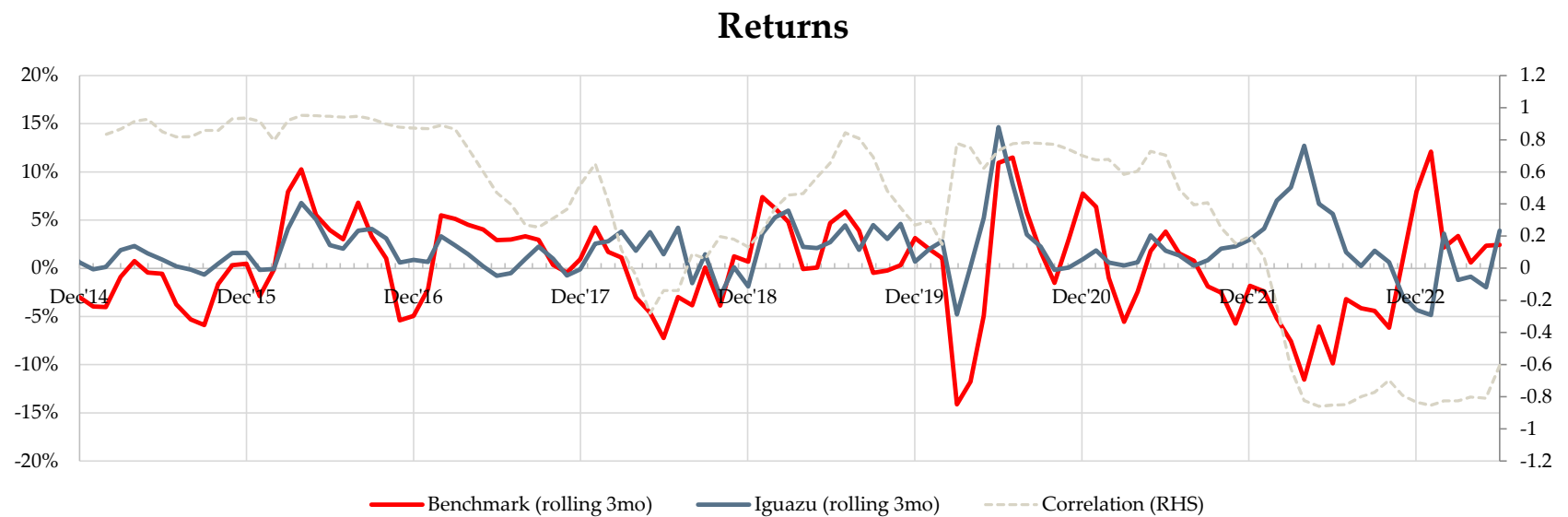
|             |       |
|-------------|-------|
| Benchmark   | 9.06  |
| Columbia    | 9.85  |
| Eaton Vance | 9.24  |
| Nomura      | 10.64 |

### Core Bonds (gross returns)

|            |       |
|------------|-------|
| Benchmark  | -0.94 |
| Invesco    | -0.38 |
| Longfellow | -0.37 |
| WAMCO      | -0.67 |



# Year in Review: Active Fixed Income Performance



# Year in Review: Active Fixed Income Performance

All of the Plans' active fixed income sectors performed within expectations.

Estimated dollar value added through active management of fixed income:

## Police and Fire (FYE)

2020 \$11.5 million (31 bps of plan)

2021 -\$0.2 million (-1 bp of plan)

2022 \$22.1 million (48 bps of plan)

2023 -9.3 million (-20 bps of plan)

| PF                                                                         | MV             | 1 YR    | ITD  | INCEPTION |
|----------------------------------------------------------------------------|----------------|---------|------|-----------|
| IG BONDS                                                                   | \$ 205,052,370 | (1.38)  |      | 7/1/2015  |
| Blended Benchmark                                                          |                | (1.06)  |      |           |
| <i>Excess Return vs. Blended Benchmark</i>                                 |                | (0.32)  | -    |           |
| HY BONDS                                                                   | \$ 94,734,716  | 9.78    | 3.66 | 7/1/2020  |
| Bloomberg U.S. Corporate High Yield                                        |                | 9.06    | 3.14 |           |
| <i>Excess Return vs. Bloomberg U.S. Corporate High Yield</i>               |                | 0.72    | 0.52 |           |
| Emerging Markets Debt                                                      | \$ 89,394,671  | (0.91)  | 2.59 | 1/1/2013  |
| JP Morgan Emerging Markets SOV50 LM50 Bond Index~                          |                | 9.41    | 0.38 |           |
| <i>Excess Return vs. JP Morgan Emerging Markets SOV50 LM50 Bond Index~</i> |                | (10.32) | 2.21 |           |

# Year in Review: Absolute Return Performance

All of the Plans' absolute return strategies performed well.

Hudson Bay continued to "grind out" consistent gains across a number of idiosyncratic positions.

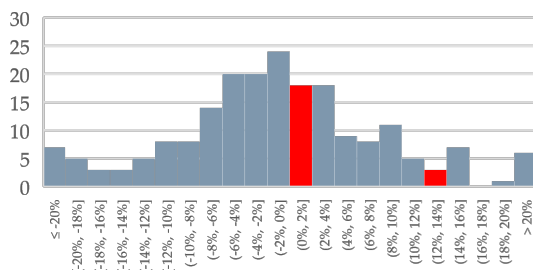
Pine River Fund is the remnant of a strategy that was terminated and closed; the final minimal exposures are encumbered in legal actions that could take a number of years to fully resolve.

DE Shaw Composite continues to perform well, across the entirety of their strategy sleeves.

Crabel Advanced Trend experienced a series of reversals in FY 22-23 after an excellent 21-22.

| STRATEGY and RETURN (as of 6/30/23)                  | Strategy Type | PF MV         | 1 YR | ITD  | INCEPTION |
|------------------------------------------------------|---------------|---------------|------|------|-----------|
| Hudson Bay Cap Structure Arbitrage                   | Convert Arb   | \$ 15,134,059 | 7.9  | 9.4  | 8/1/17    |
| HFRI Relative Value (Total) Index                    |               |               | 4.0  | 3.6  |           |
| Excess Return vs. HFRI Relative Value (Total) Index  |               |               | 3.9  | 5.8  |           |
| Pine River Fund, Ltd.                                | Multi-strat   | \$ 268,664    | -1.5 | 2.5  | 1/1/13    |
| HFRI Relative Value (Total) Index                    |               |               | 4.0  | 3.7  |           |
| Excess Return vs. HFRI Relative Value (Total) Index  |               |               | -5.5 | -1.1 |           |
| DE Shaw Composite Fund, LLC                          | Multi-strat   | \$ 68,864,026 | 12.1 | 15.4 | 4/1/13    |
| HFRI Fund Weighted Composite Index                   |               |               | 5.0  | 4.5  |           |
| Excess Return vs. HFRI Fund Weighted Composite Index |               |               | 7.0  | 10.9 |           |
| Crabel Advanced Trend                                | Trend         | \$ 59,528,625 | 0.2  | 9.6  | 6/1/21    |
| Newedge Trend Index                                  |               |               | -1.1 | 12.0 |           |
| Excess Return vs. Newedge Trend Index                |               |               | 1.3  | -2.4 |           |

2022-23 FY Performance: CTA & Quant Macro



# Year in Review: Absolute Return Performance

The Plans' Absolute Return strategies have performed in line with policy goals over time.

Trailing 5-yr (6/30/18 – 6/30/23)

Moderate volatility

Target: 4-8%

**Actual: 6.11%**

High Risk Adjusted Returns (Sharpe)

Target: 1.5

**Actual: 1.5**

Negative Correlation to Growth

Target: < 0

**Actual: -0.05**

Estimated dollar value added from Absolute Return:

Police and Fire (FYE)

2020 -\$1.9 million (-1 bp of plan)

2021 \$26.2 million (56 bp of plan)

2022 \$29.0 million (63 bps of plan)

2023 \$1.6 million (4 bps of plan)

| PF                                                | MV             | 1 YR        | ITD         | INCEPTION |
|---------------------------------------------------|----------------|-------------|-------------|-----------|
| Market Neutral                                    | \$ 143,795,375 | 6.55        | 6.50        | 11/1/2012 |
| Market Neutral Benchmark                          |                | 5.41        | 1.49        |           |
| <i>Excess Return vs. Market Neutral Benchmark</i> |                | <i>1.14</i> | <i>5.01</i> |           |

| FYE       | Vol  | Sharpe | Corr (ACWI) |
|-----------|------|--------|-------------|
| 6/30/2023 | 6.60 | 0.44   | -0.79       |
| 6/30/2022 | 8.22 | 2.61   | 0.01        |
| 6/30/2021 | 1.62 | 11.62  | 0.02        |
| 6/30/2020 | 6.95 | -0.05  | 0.41        |
| 6/30/2019 | 1.95 | 2.98   | 0.40        |

# Immunized Net Cash Flows

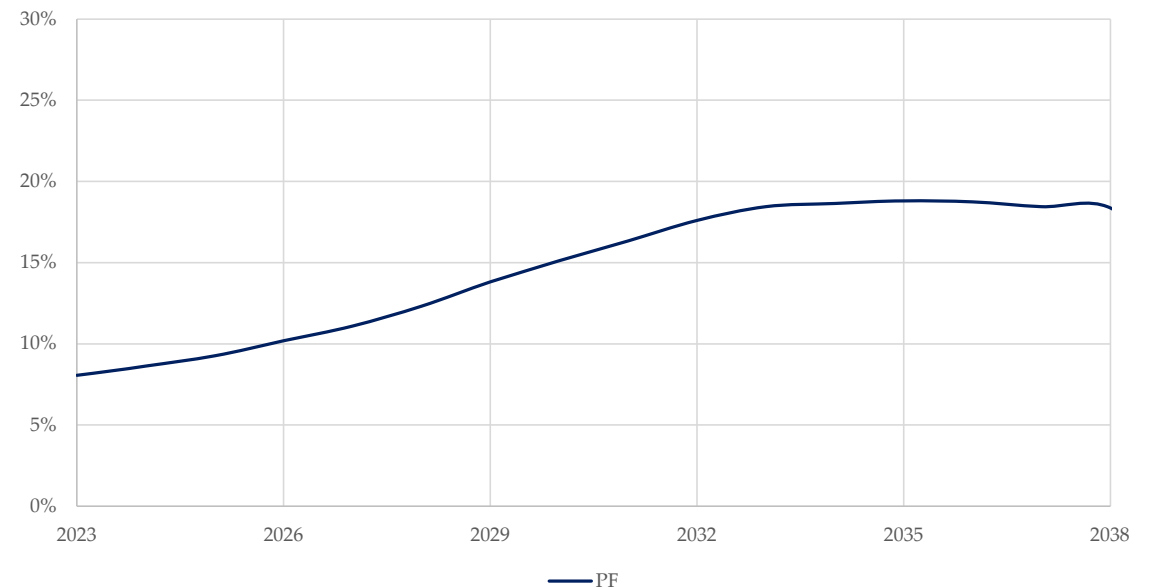
SAA target for INCF is 5% -- actual weight varies on Net Cash Flows (Benefit Payments net of Sponsor Contributions) and Market Value of the plans.

Projected requirements to continue funding INCF at 5-years of net cash outflows will rise steadily from current levels.

Assumptions:

- Current benefits do not change
- Plans meet their assumed rates of return
- Actuarial assumptions do not change

Fwd 5-yrs Net Cash Flows as a % of Plan



# Workplan

## Growth

*Public Equities*

*Private Markets*

High Yield Bonds

- Mellon High Yield Beta (June 2020)
- Columbia High Yield Bonds (Dec 2020)

Emerging Markets Debt

- Wellington Iguazu (Feb 2014)
- Payden & Rygel EM Debt (Dec 2020)

## Low Beta

Absolute Return

- DE Shaw (Apr 2013)
- Hudson Bay Capital Structure Arbitrage (Aug 2017)
- Crabel Advanced Trend (Jun 2021)

Cash

- BlackRock T-Bills (Passive, PF only)

Immunized Net Cash Flow

- Insight (Oct 2018)

## Other

*Core Real Estate*

Investment Grade Bonds

- 1-3 yr Gov / Cred (Passive, Fed only)
- US Agg (Passive)
- Invesco Core Bonds (Feb 2021)
- Voya Securitized Credit (Apr 2020)

TIPS

- NT 0-5 yr TIPS (Passive)

Long Term Government Bonds

- US Long Govt (Passive)

*Potential Manager Searches*

## Fixed Income

Research (Liquid) Credit Strategies

## Absolute Return

Research additional strategies

## Capital Efficiency

TAA Overlay

*Re-underwrite Existing Strategies*

## Immunized Net Cash Flow

Insight

# Appendix

## Contents

Asset Class Overviews and Strategy Details

# Strategy Snapshots

## Growth

*Public Equities*

*Private Markets*

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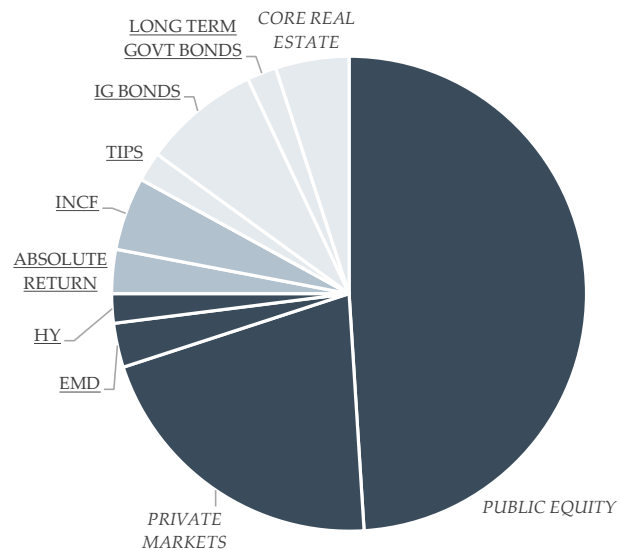
TIPS

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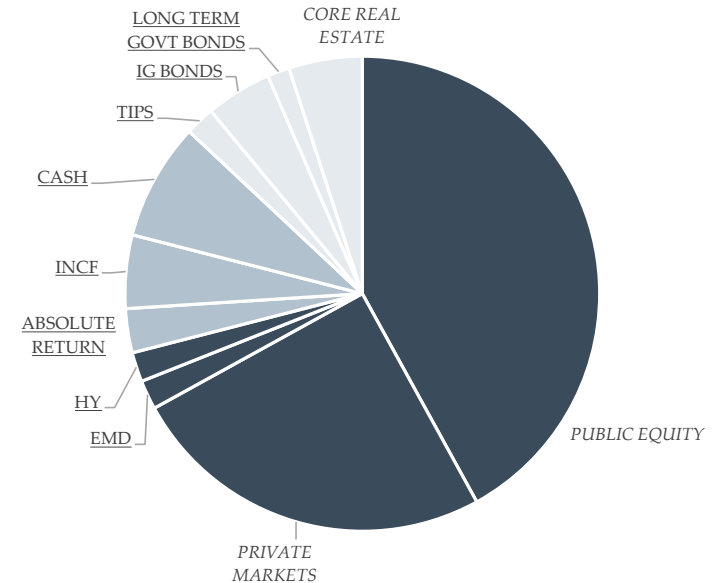
Long Term Government Bonds

- US Long Govt (Passive)

Federated Pension SAA



Police & Fire Pension SAA





# High Yield

## Growth

*Public Equities*

*Private Markets*

**High Yield Bonds**

- Mellon High Yield Beta (June 2020)
- Columbia High Yield Bonds (Dec 2020)

*Emerging Markets Debt*

- Wellington Iguazu (Feb 2014)
- Payden & Rygel EM Debt (Dec 2020)

## Low Beta

*Absolute Return*

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- Hudson Bay Capital Structure Arbitrage (Aug 2017)
- Crabel Advanced Trend (Jun 2021)

*Cash*

- BlackRock T-Bills (Passive)

*Immunized Net Cash Flow*

- Insight (Oct 2018)

## Other

*Core Real Estate*

*Investment Grade Bonds*

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*TIPS*

- NT 0-5 yr TIPS (Passive)

*Long Term Government Bonds*

- US Long Govt (Passive)

2% SAA Target for both Plans

Policy Benchmark: Bloomberg Barclays US Corporate HY Total Return

# Insight High Yield Beta

Insight (Formerly Mellon) HYB is designed to minimize tracking error to the Bloomberg Barclays US Corporate HY Index by holding a stratified sample of the benchmark. The strategy attempts to neutralize any differences in risk exposures versus the benchmark, including duration, sector and industry weights, and yield. The PM team combines their stratified sampling approach with cost saving portfolio trading strategies to provide daily liquidity. In turn, the low tracking error and daily liquidity (and relatively low fee) offered by the strategy makes Insight HYB a near ideal candidate for the default “passive” exposure within the Plan’s High Yield allocation.

High yield bonds are amongst the most expensive cash (non-derivative) securities to trade, with costs up to 70-80 bps. Active strategies with more concentrated portfolios (typically 200-300 bonds) are forced to pay these costs when building their specific positions. Costs are high because of a combination of factors: dealer inventory is minimal post-GFC reforms, there are 2,000+ names in the high yield index, and most issues trade infrequently. HYB is able to bypass the high cost of trading individual cash bonds because the portfolio is a diversified subset of the benchmark index, with over 1,000 bonds. The diversification allows Insight to trade baskets of bonds for liquidity instead of individual issues, in a portfolio trading process that resembles the creation / redemption mechanism used to manage ETFs.

## TERMS

Collective fund with daily liquidity

Tiered Fixed Fee Structure

25 bps on first \$100 million

20 bps thereafter

\$10,000 minimum fee (implies minimum \$4 million annual AUM)

## CAPITAL (6/30/23)

Federated: \$5.4 million / 0.19% of Plan

PF: \$9.3 million / 0.19% of Plan

Performance history and risk statistics are sourced from eVestment, as of June 30, 2023. Note, all figures are calculated using gross returns; please see the Meketa Quarterly Performance Reports for net performance using the Plan’s actual fee terms.

| Performance Information                                                        |         |           |        |                                               |       |                                      |           |                    |              | USD   |
|--------------------------------------------------------------------------------|---------|-----------|--------|-----------------------------------------------|-------|--------------------------------------|-----------|--------------------|--------------|-------|
| Track Record: USA - SA - Composite - High Yield Beta Composite - Gross of Fees |         |           |        | Risk Index: Bloomberg US Corporate High Yield |       | Risk-Free Index: FTSE 3-Month T-Bill |           | Frequency: Monthly |              |       |
| Trailing Periods                                                               | Returns |           |        | Std Dev                                       | Alpha | Beta                                 | Trk Error | Info Ratio         | Sharpe Ratio |       |
|                                                                                | Product | Benchmark | Excess |                                               |       |                                      |           |                    |              |       |
| 1 Year                                                                         | 9.36    | 9.06      | 0.29   | 9.72                                          | 0.08  | 1.02                                 | 0.33      | 0.89               | 0.58         |       |
| 2 Year                                                                         | -2.38   | -2.49     | 0.11   | 9.30                                          | 0.14  | 1.01                                 | 0.33      | 0.32               | -0.47        |       |
| 3 Year                                                                         | 3.31    | 3.14      | 0.17   | 8.54                                          | 0.13  | 1.02                                 | 0.31      | 0.56               | 0.23         |       |
| 4 Year                                                                         | 2.48    | 2.35      | 0.13   | 10.04                                         | 0.10  | 1.01                                 | 0.36      | 0.36               | 0.11         |       |
| 5 Year                                                                         | 3.56    | 3.36      | 0.21   | 9.43                                          | 0.16  | 1.01                                 | 0.36      | 0.57               | 0.21         |       |
| 6 Year                                                                         | 3.45    | 3.23      | 0.22   | 8.64                                          | 0.17  | 1.01                                 | 0.34      | 0.64               | 0.22         |       |
| 7 Year                                                                         | 4.75    | 4.53      | 0.22   | 8.13                                          | 0.15  | 1.01                                 | 0.32      | 0.68               | 0.42         |       |
| 8 Year                                                                         | 4.48    | 4.17      | 0.31   | 8.10                                          | 0.28  | 1.01                                 | 0.39      | 0.79               | 0.40         |       |
| 9 Year                                                                         | 3.90    | 3.65      | 0.25   | 7.83                                          | 0.22  | 1.01                                 | 0.39      | 0.64               | 0.36         |       |
| 10 Year                                                                        | 4.67    | 4.43      | 0.24   | 7.52                                          | 0.19  | 1.01                                 | 0.43      | 0.56               | 0.49         |       |
| Since Inception (10/2012)                                                      | 4.75    | 4.56      | 0.18   | 7.37                                          | 0.13  | 1.01                                 | 0.46      | 0.40               | 0.52         |       |
| Returns                                                                        |         | MRQ       | YTD    | 2022                                          | 2021  | 2020                                 | 2019      | 2018               | 2017         | 2016  |
| Product                                                                        |         | 1.66      | 5.47   | -10.97                                        | 5.20  | 7.42                                 | 14.63     | -1.87              | 7.89         | 17.06 |
| Benchmark                                                                      |         | 1.75      | 5.38   | -11.19                                        | 5.28  | 7.11                                 | 14.32     | -2.08              | 7.50         | 17.13 |
| Excess                                                                         |         | -0.09     | 0.09   | 0.21                                          | -0.08 | 0.31                                 | 0.31      | 0.22               | 0.39         | -0.07 |

# Columbia High Yield Bonds

The Columbia High Yield Fixed Income strategy is a “traditional” credit focused active strategy that attempts to add value relative to benchmark through security selection. The team is well resourced, with long tenured leadership at the PM level accompanied by a roster of experienced analysts. The philosophy is to rely primarily on security selection to add value, and the research process is thorough, well documented, and repeatable. Over time, the combination of these characteristics have produced a track record of protecting to the downside while participating in upside rallies, resulting in strong risk adjusted returns.

The strategy does not deliver beta one exposure to high yield bonds through a full cycle, by design. Beta (to the policy benchmark) will range from 0.85 to 0.95 through a cycle, with the Portfolio Management team making active decisions to vary the risk levels going into and coming out of market inflections. The strategy will typically lag at times of peak exuberance but protect through market troughs, resulting in strong risk adjusted returns that will need to be evaluated over a full market cycle. The team has delivered on this philosophy through two decades, multiple lead PMs, and most importantly, through multiple cycles.

## TERMS

### SMA

Tiered Fixed Fee Structure  
40 bps on first \$100 million  
35 bps on next \$400 million

### CAPITAL (6/30/23)

Federated: \$53.6 million / 1.87% of Plan  
PF: \$85.4 million / 1.76% of Plan

Performance history and risk statistics are sourced from eVestment, as of June 30, 2023. Note, all figures are calculated using gross returns; please see the Meketa Quarterly Performance Reports for net performance using the Plan's actual fee terms.

| Performance Information                                                                                       |         |           |        |         |       |       |           |            |              | USD |
|---------------------------------------------------------------------------------------------------------------|---------|-----------|--------|---------|-------|-------|-----------|------------|--------------|-----|
| Track Record: USA - SA - Composite - Columbia Institutional High Yield Fixed Income Composite - Gross of Fees |         |           |        |         |       |       |           |            |              |     |
| Bill Frequency: Monthly                                                                                       |         |           |        |         |       |       |           |            |              |     |
| Trailing Periods                                                                                              | Returns |           |        | Std Dev | Alpha | Beta  | Trk Error | Info Ratio | Sharpe Ratio |     |
|                                                                                                               | Product | Benchmark | Excess |         |       |       |           |            |              |     |
| 1 Year                                                                                                        | 9.85    | 8.88      | 0.97   | 10.11   | 0.62  | 1.04  | 0.88      | 1.11       | 0.60         |     |
| 2 Year                                                                                                        | -1.46   | -2.44     | 0.98   | 9.57    | 1.07  | 1.02  | 0.70      | 1.40       | -0.36        |     |
| 3 Year                                                                                                        | 3.57    | 3.20      | 0.36   | 8.69    | 0.31  | 1.01  | 0.79      | 0.46       | 0.26         |     |
| 4 Year                                                                                                        | 2.93    | 2.12      | 0.81   | 9.74    | 0.85  | 0.97  | 1.12      | 0.72       | 0.16         |     |
| 5 Year                                                                                                        | 4.21    | 3.19      | 1.01   | 9.21    | 1.06  | 0.97  | 1.03      | 0.98       | 0.29         |     |
| 6 Year                                                                                                        | 3.64    | 3.08      | 0.56   | 8.45    | 0.62  | 0.97  | 1.01      | 0.56       | 0.25         |     |
| 7 Year                                                                                                        | 4.63    | 4.41      | 0.22   | 7.93    | 0.33  | 0.97  | 0.99      | 0.22       | 0.41         |     |
| 8 Year                                                                                                        | 4.44    | 4.06      | 0.38   | 7.71    | 0.63  | 0.93  | 1.55      | 0.24       | 0.42         |     |
| 9 Year                                                                                                        | 4.17    | 3.54      | 0.63   | 7.46    | 0.83  | 0.93  | 1.54      | 0.41       | 0.41         |     |
| 10 Year                                                                                                       | 4.89    | 4.33      | 0.56   | 7.18    | 0.80  | 0.94  | 1.47      | 0.38       | 0.55         |     |
| Since Inception (07/1999)                                                                                     | 7.61    | 6.10      | 1.51   | 7.80    | 2.44  | 0.83  | 2.80      | 0.54       | 0.76         |     |
| Returns                                                                                                       | MRQ     | YTD       | 2022   | 2021    | 2020  | 2019  | 2018      | 2017       | 2016         |     |
| Product                                                                                                       | 1.41    | 5.45      | -9.61  | 5.23    | 6.35  | 17.18 | -3.10     | 7.24       | 12.04        |     |
| Benchmark                                                                                                     | 1.60    | 5.34      | -11.11 | 5.29    | 6.20  | 14.40 | -2.26     | 7.48       | 17.34        |     |
| Excess                                                                                                        | -0.19   | 0.11      | 1.49   | -0.06   | 0.14  | 2.78  | -0.84     | -0.24      | -5.31        |     |

# Emerging Markets Debt

## Growth

*Public Equities*

*Private Markets*

High Yield Bonds

- Mellon High Yield Beta (June 2020)
- Columbia High Yield Bonds (Dec 2020)

Emerging Markets Debt

- Wellington Iguazu (Feb 2014)
- Payden & Rygel EM Debt (Dec 2020)

## Low Beta

Absolute Return

- DE Shaw (Apr 2013)
- Hudson Bay Capital Structure Arbitrage (Aug 2017)
- Crabel Advanced Trend (Jun 2021)

Cash

- BlackRock T-Bills (Passive)

Immunized Net Cash Flow

- Insight (Oct 2018)

## Other

*Core Real Estate*

Investment Grade Bonds

- 1-3 yr Gov / Cred (Passive)
- US Agg (Passive)
- Invesco Core Bonds (Feb 2021)
- Voya Securitized Credit (Apr 2020)

TIPS

- NT 0-5 yr TIPS (Passive)

Long Term Government Bonds

- US Long Govt (Passive)

2% SAA Target PF / 3% SAA Target Fed

Policy Benchmark: 50% JPM EMBI GD / 50% JPM GBI-EM

Diverse underlying markets and multitude of economic levers available to active managers makes EMD a prime opportunity to add value through active management.

Structure is a combination of long-only, benchmark like exposure (Payden) and an EMD focused global macro hedge fund strategy (Iguazu). Balance between beta and alpha, upside momentum and downside protection, and tracking error.

# Wellington Iguazu

Iguazu is a multi-PM strategy with sleeves that in combination cover all of the opportunity segments in EMD: hard currency sovereign and corporate debt, local currency sovereign debt, and FX. There are currently four main Iguazu risk takers or PMs, running strategies that fall into three broad categories: long biased traditional EM credit, a relative value approach to credit, and local markets. Each PM runs his sleeve in a distinct and independent manner, and there is no top-down strategy wide macro positioning. As a result, the PMs over time have exhibited low cross-correlations, resulting in consistently high risk adjusted returns. The overall risk allocations amongst the PMs are determined by the Lead PM, and each PM (as well as the combined strategy) is subject to risk limits. The PMs are well supported by the broader resources of the Wellington platform.

The flexible gross and net exposures of the strategy are indicative of the nimble risk taking abilities of the PMs, but they also create volatile correlations to long only benchmarks. The tracking error of the strategy relative to the Plan's 50% hard / 50% local currency benchmark is approximately 7%; negative deviations from the long only benchmark are most common in extreme risk on market environments, although the strategy does tend to keep pace. Iguazu adds more than enough value in flat and negative markets to justify a holding, but the relative capital allocations in the Plan's EMD structure should reflect a balance between tracking error and upside capture.

## TERMS

Master/Feeder Fund

Monthly Subscriptions

Quarterly Redemptions with 45 days notice

Management and Incentive Fee Structure

1% of Net Assets (Management Fee)

20% of Net Profits (Incentive Fee) crystallized annually with loss carryforward

## CAPITAL (6/30/23)

Federated: \$47.7 million / 1.66% of Plan

PF: \$56.1 million / 1.15% of Plan

Performance history and risk statistics are sourced from Wellington, as of March 31, 2023. Note, all net returns are calculated using standard fee schedules; please see the Meketa Quarterly Performance Reports for net performance using the Plan's actual fee terms.

## Monthly investment returns

|      | Jan   | Feb   | Mar   | Apr  | May   | Jun   | Jul  | Aug   | Sep   | Oct   | Nov   | Dec   | Full year |
|------|-------|-------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|-----------|
| 2014 | -0.23 | 1.07  | 0.78  | 1.08 | 1.71  | 1.53  | 0.09 | 0.85  | -0.16 | 2.00  | 0.45  | -1.80 | 7.56      |
| 2015 | 1.27  | 0.68  | -0.07 | 1.68 | -0.05 | -0.72 | 0.97 | -0.39 | -1.23 | 2.11  | 0.71  | -1.21 | 3.74      |
| 2016 | 0.35  | 0.79  | 2.93  | 2.92 | -0.82 | 0.31  | 2.56 | 1.00  | 0.48  | 1.58  | -1.43 | 0.73  | 11.91     |
| 2017 | 1.38  | 1.18  | -0.19 | 0.46 | -0.08 | -1.16 | 0.73 | 1.42  | 0.09  | -0.51 | -0.34 | 0.74  | 3.74      |
| 2018 | 2.15  | -0.10 | 1.71  | 0.22 | 1.78  | -0.54 | 2.94 | -3.85 | 2.50  | -1.46 | -0.88 | 0.47  | 4.84      |
| 2019 | 4.02  | 0.74  | 1.12  | 0.34 | 0.61  | 1.74  | 2.05 | -1.83 | 4.29  | 0.65  | -0.36 | 0.40  | 14.51     |
| 2020 | 1.95  | 0.43  | -7.01 | 7.27 | 5.49  | 1.32  | 1.73 | 0.43  | 0.07  | -0.66 | 0.66  | 0.95  | 12.66     |
| 2021 | 0.22  | -0.58 | 0.64  | 0.56 | 2.18  | -0.91 | 0.08 | 1.10  | -0.34 | 1.27  | 1.35  | 0.34  | 6.03      |
| 2022 | 2.38  | 4.17  | 1.63  | 6.47 | -1.40 | 0.64  | 2.45 | -2.79 | 2.23  | 1.25  | -6.14 | 0.67  | 11.53     |
| 2023 | 0.71  | 2.18  | -3.67 |      |       |       |      |       |       |       |       |       | -0.87     |

## Since inception risk/return summary (USD)

|                                         | Fund   |
|-----------------------------------------|--------|
| Cumulative net return (%)               | 303.85 |
| Annualized net return (%)               | 8.47   |
| Annualized std deviation - net (%)      | 5.60   |
| Sharpe ratio - net                      | 1.30   |
| Maximum drawdown - net (%)              | -7.01  |
| Historical beta - net vs. JPM EMBI Plus | 0.17   |

# Payden & Rygel EM Debt

Payden is a long-only EMD strategy run by an experienced team using a repeatable process that has added value over time. The team is appropriately resourced and can further draw upon the additional resources of the firm as needed. The PMs are adept at utilizing the breadth of tools within the EMD universe, and focus on country selection as the primary driver of returns.

Payden's EMD team is led by Kristin Ceva, who has been with the firm since 1998. She works alongside Arthur Hovsepian, who joined Payden in 2004 and specializes in local markets. The two have complimentary geographical specialties, with Ceva having done academic and policy research in Latin America, and Hovsepian specializing in Asia and Africa. The PM team is supported by four regional analysts and an additional EM corporate debt analyst.

The PMs evaluate four primary investment levers for a given country: sovereign / quasi-sovereign hard currency spreads, local rates, local FX, and corporate spreads. Payden begins by evaluating the sovereign risk of a given country using a fundamental framework; in their view, the "country decision" is paramount because it significantly affects all of the possible investment levers. The next step is to evaluate the attractiveness of the different levers within a given country. The final step is an analysis of local and USD curves to gauge the attractiveness of a specific issue.

## TERMS

Collective Fund with daily liquidity

Fixed Fee Structure

53 bps (with Meketa discount)

## CAPITAL (6/30/23)

Federated: \$37.3 million / 1.3% of Plan

PF: \$39 million / 0.8% of Plan

Performance history and risk statistics are sourced from eVestment, as of June 30, 2023. Actual benchmark is 50% Hard / 50% Local, vs. 70/30 split shown. Note, all figures are calculated using gross returns; please see the Meketa Quarterly Performance Reports for net performance using the Plan's actual fee terms.

| Performance Information                                                                        |         |           |        |         |       |       |           |            |              | USD |
|------------------------------------------------------------------------------------------------|---------|-----------|--------|---------|-------|-------|-----------|------------|--------------|-----|
| Track Record: USA - SA - Composite - Emerging Market Debt 70/30 Currency Blend - Gross of Fees |         |           |        |         |       |       |           |            |              |     |
| Monthly                                                                                        |         |           |        |         |       |       |           |            |              |     |
| Risk Index: Custom 70-30 EMBI GD/GBI EM GD Benchmark                                           |         |           |        |         |       |       |           |            |              |     |
| Risk-Free Index: FTSE 3-Month T-Bill                                                           |         |           |        |         |       |       |           |            |              |     |
| Frequency:                                                                                     |         |           |        |         |       |       |           |            |              |     |
| Trailing Periods                                                                               | Returns |           |        | Std Dev | Alpha | Beta  | Trk Error | Info Ratio | Sharpe Ratio |     |
|                                                                                                | Product | Benchmark | Excess |         |       |       |           |            |              |     |
| 1 Year                                                                                         | 11.12   | ---       | ---    | 12.76   | ---   | ---   | ---       | ---        | 0.58         |     |
| 2 Year                                                                                         | -6.39   | ---       | ---    | 12.47   | ---   | ---   | ---       | ---        | -0.67        |     |
| 3 Year                                                                                         | -0.99   | ---       | ---    | 11.49   | ---   | ---   | ---       | ---        | -0.20        |     |
| 4 Year                                                                                         | -1.15   | ---       | ---    | 13.30   | ---   | ---   | ---       | ---        | -0.19        |     |
| 5 Year                                                                                         | 1.36    | ---       | ---    | 12.62   | ---   | ---   | ---       | ---        | -0.02        |     |
| 6 Year                                                                                         | 0.97    | ---       | ---    | 11.74   | ---   | ---   | ---       | ---        | -0.05        |     |
| 7 Year                                                                                         | 2.07    | ---       | ---    | 11.17   | ---   | ---   | ---       | ---        | 0.06         |     |
| 8 Year                                                                                         | 2.64    | ---       | ---    | 10.84   | ---   | ---   | ---       | ---        | 0.13         |     |
| 9 Year                                                                                         | 1.90    | ---       | ---    | 10.39   | ---   | ---   | ---       | ---        | 0.08         |     |
| 10 Year                                                                                        | 2.53    | ---       | ---    | 10.16   | ---   | ---   | ---       | ---        | 0.15         |     |
| Since Inception (12/2010)                                                                      | 3.25    | ---       | ---    | 10.14   | ---   | ---   | ---       | ---        | 0.24         |     |
| Returns                                                                                        |         |           |        |         |       |       |           |            |              |     |
|                                                                                                | MRQ     | YTD       | 2022   | 2021    | 2020  | 2019  | 2018      | 2017       | 2016         |     |
| Product                                                                                        | 2.95    | 6.12      | -15.61 | -2.82   | 5.64  | 16.95 | -6.76     | 14.07      | 12.40        |     |
| Benchmark                                                                                      | ---     | ---       | ---    | -3.92   | 4.53  | 14.62 | -4.77     | 11.75      | 10.18        |     |
| Excess                                                                                         | ---     | ---       | ---    | 1.10    | 1.11  | 2.33  | -1.99     | 2.32       | 2.22         |     |

# Absolute Return

## Growth

*Public Equities*

*Private Markets*

High Yield Bonds

- Mellon High Yield Beta
- Columbia High Yield Bonds

Emerging Markets Debt

- Wellington Iguazu
- Payden & Rygel EM Debt

## Low Beta

*Absolute Return*

- DE Shaw
- Hudson Bay Capital Structure Arbitrage
- Crabel Advanced Trend

Immunized Net Cash Flow

- Insight

## Other

*Core Private Real Estate*

Investment Grade Bonds

- 1-3 yr Gov / Cred (Passive)
- US Agg (Passive)
- Invesco Core Bonds
- Voya Securitized Credit

TIPS

- NT 0-5 yr TIPS (Passive)

Commodities

- BlackRock Commodities Index (PF only; Passive)

Long Term Government Bonds

- US Long Govt (Passive)

3% SAA Target

Policy Benchmark: SOFR + 150 bps

The Plans' HF exposure has shrunk steadily over last 5 years, to current nadir of 3%; most of the capital rotated into Private Markets and Public Equities. Remaining allocation is designed to provide efficient and uncorrelated returns, increasing downside protection when possible.

Unlikely to make significant lineup changes moving forward, but could add incremental exposures to uncorrelated strategies.

# DE Shaw Composite

DE Shaw Composite is a diversified multi-strategy hedge fund. There are 10-12 component strategies with varying levels of capital. The component strategies range from systematic (equity arbitrage, systematic futures) to discretionary (fundamental equities, corporate credit, ABS, energy, discretionary macro ) and a few that include elements of both (equity linked). The firm is renowned for its quantitative rigor and expertise, as well as consistently excellent risk adjusted returns. The strategy has a 20-year track record with low correlations to major equity and fixed income indices over its lifetime.

The component strategies are generally long tenured, but are constantly updated. Capital is allocated based on risk, return, and correlation estimates developed for each strategy, as estimated by the firm's Risk Committee. The estimates are fed into an optimizer, and the results are reviewed for risk, liquidity and leverage constraints. The Risk Committee may also subjectively adjust the desired aggregate risk and return profile of the strategy.

## TERMS

Master/Feeder Fund

Monthly Subscriptions

Quarterly Redemptions, 8.3% investor level gate

Management and Incentive Fee Structure

3% of Net Assets (Management Fee)

30% of Net Profits (Incentive Fee) crystallized annually with loss carryforward

## CAPITAL (6/30/23)

Federated: \$42.8 million / 1.49% of Plan

PF: \$68.6 million / 1.41% of Plan

|                | Since Inception |
|----------------|-----------------|
| From           | Mar 2001        |
| To             | Jul 2023        |
| Return         | 12.41%          |
| Volatility     | 5.47%           |
| Worst Drawdown | -17.38%         |
| Sharpe Ratio   | 2.00            |
| Sortino Ratio  | 4.60            |
| Omega          | 1.64            |
| G-Test         | -0.01           |
| Skewness       | -0.56           |
| Kurtosis       | 2.76            |

|               | 2019   | 2020   | 2021   | 2022   | 2023   |
|---------------|--------|--------|--------|--------|--------|
| <b>Jan</b>    | 1.60%  | 1.40%  | 0.80%  | 3.20%  | 0.40%  |
| <b>Feb</b>    | 1.20%  | 0.50%  | 2.50%  | 2.10%  | 1.30%  |
| <b>Mar</b>    | 0.90%  | -0.20% | 1.60%  | 5.10%  | -0.40% |
| <b>Apr</b>    | 0.80%  | 3.50%  | 2.10%  | 2.20%  | 0.60%  |
| <b>May</b>    | -0.40% | 1.30%  | 1.00%  | 0.50%  | 0.40%  |
| <b>Jun</b>    | 1.30%  | 2.80%  | 0.30%  | 2.80%  | 1.90%  |
| <b>Jul</b>    | 1.10%  | 1.20%  | 1.70%  | 1.30%  | 0.90%  |
| <b>Aug</b>    | 0.90%  | 1.50%  | 0.80%  | 1.30%  |        |
| <b>Sep</b>    | 1.90%  | 1.30%  | 1.60%  | 0.50%  |        |
| <b>Oct</b>    | -0.30% | 0.50%  | 2.60%  | 1.60%  |        |
| <b>Nov</b>    | 1.20%  | 2.00%  | 1.90%  | 0.40%  |        |
| <b>Dec</b>    | -0.30% | 1.90%  | 0.10%  | 0.80%  |        |
| <b>Return</b> | 10.33% | 19.14% | 18.35% | 23.99% | 5.20%  |

Performance history and risk statistics are sourced from Albourne, as of July 2023. Note, all figures are calculate using gross returns; please see the Meketa Quarterly Performance Reports for net performance using the Plan's actual fee terms.



# Hudson Bay Credit Structure Arbitrage

Hudson Bay CSA is a single-PM strategy that attempts to exploit valuation differences in different parts of the capital structure of single firms. Different components of a firm's capital structure may trade differently, given the distinct market participants for different security types. This strategy exploits the differences in relative value that result from these technically driven idiosyncrasies.

The bulk of the opportunities are based on convertible bonds and the arbitrage opportunities available within their embedded options. Traditional convertible bond arbitrage will exploit mispriced volatility across a portfolio of convertible bonds; generally, risks other than volatility (duration, credit) are hedged in bulk across the entire portfolio. Hudson Bay CSA takes a more granular approach to each investment structure, usually preferring to execute as direct a hedge as possible. Individual position's within the CSA portfolio will usually feature multiple ways to generate return, ranging from traditional gamma trading (i.e. adjusting the delta hedge over the normal course of market fluctuations) to quasi-activist negotiations to take out the positions at a premium. The PM is an expert at identifying idiosyncratic situations that result in favorable positions, whether based on market technicals, modeling nuances, or capital market mispricings.

## TERMS

Master/Feeder Fund

Monthly subscriptions

Quarterly redemptions, 65 days notice, 25% investor gate

Management and Incentive Fee Structure

1% of Net Assets (Management Fee)

30% of Net Profits (Incentive Fee) crystallized annually with loss carryforward

## CAPITAL (6/30/23)

Federated: \$10.1 million / 0.33% of Plan

PF: \$15.1 million / 0.31% of Plan

|                | Since Inception |
|----------------|-----------------|
| From           | Jul 2017        |
| To             | Jul 2023        |
| Return         | 9.46%           |
| Volatility     | 2.94%           |
| Worst Drawdown | -0.62%          |
| Sharpe Ratio   | 2.69            |
| Sortino Ratio  | >10             |
| Omega          | 3.34            |
| G-Test         | 0.12            |
| Skewness       | 1.70            |
| Kurtosis       | 3.65            |

Performance history and risk statistics are sourced from Albourne, as of July 2023. Note, all figures are calculate using gross returns; please see the Meketa Quarterly Performance Reports for net performance using the Plan's actual fee terms.

|        | 2019  | 2020   | 2021   | 2022   | 2023  |
|--------|-------|--------|--------|--------|-------|
| Jan    | 0.17% | 0.57%  | 0.68%  | 0.53%  | 0.32% |
| Feb    | 0.30% | 2.15%  | 2.55%  | 0.30%  | 0.51% |
| Mar    | 0.39% | -0.27% | -0.10% | 0.86%  | 0.11% |
| Apr    | 0.74% | 1.94%  | -0.11% | 0.54%  | 0.16% |
| May    | 1.19% | 1.88%  | 0.34%  | 0.26%  | 0.21% |
| Jun    | 0.45% | 3.99%  | 1.30%  | 0.81%  | 0.66% |
| Jul    | 0.57% | 1.26%  | 1.14%  | 0.92%  | 0.46% |
| Aug    | 1.54% | 2.11%  | 0.62%  | 3.09%  |       |
| Sep    | 0.91% | 1.01%  | 0.26%  | -0.51% |       |
| Oct    | 0.20% | 0.68%  | 1.25%  | 0.85%  |       |
| Nov    | 0.65% | 3.50%  | 0.14%  | 0.65%  |       |
| Dec    | 1.14% | 0.27%  | 0.64%  | 0.70%  |       |
| Return | 8.56% | 20.75% | 9.03%  | 9.34%  | 2.45% |

# Crabel Advanced Trend

Trend focused CTA strategies use the price history of assets to trade based on their price momentum. Price momentum is the tendency of asset prices to trend in a given direction; momentum is an observation of price history only, and not based directly on an asset's fundamental financial characteristics. As such, momentum exposure can have low correlation to other exposures in the plan. Additionally, price momentum can be observed in both positively and negatively trending prices; in a negatively trending market, CTAs can short the asset. Notably, in a negatively trending equity market, CTAs can provide downside protection at the plan level and offset some portion of a plan's equity drawdown.

Crabel Advanced Trend focuses on medium-term trend, a space that generally has lower risk adjusted returns than longer term trend. The recommended strategy should be evaluated in the context of its role as providing downside protection in equity drawdowns, rather than as an all-weather return generating exposure. Advanced Trend is intended to provide incremental convexity to the plans, at a reasonable cost in both performance and fee terms. Advanced Trend is uncorrelated to equities in the long run, and has additional features designed to provide protection in equity pullbacks. The downside protection should be incremental, but unlike tail-risk "insurance" strategies with a portfolio of direct and indirect hedges, the recommended strategy has a positive expected return without an explicit premium.

## TERMS

Fund with monthly liquidity

Tiered Fee Structure

50 bps if capital invested exceeds \$50 million

## CAPITAL (6/30/23)

Federated: \$34.1 million / 1.19% of Plan

PF: \$68.6 million / 1.41% of Plan

|                | Since Inception |
|----------------|-----------------|
| From           | Apr 2014        |
| To             | Jul 2023        |
| Return         | 9.49%           |
| Volatility     | 16.51%          |
| Worst Drawdown | -28.47%         |
| Sharpe Ratio   | 0.51            |
| Sortino Ratio  | 1.00            |
| Omega          | 0.47            |
| G-Test         | 0.32            |
| Skewness       | 0.29            |
| Kurtosis       | 0.08            |

|        | 2019   | 2020   | 2021   | 2022   | 2023   |
|--------|--------|--------|--------|--------|--------|
| Jan    | -6.81% | 5.41%  | -0.67% | 2.57%  | -2.59% |
| Feb    | 0.36%  | 4.36%  | 3.51%  | 3.18%  | 2.21%  |
| Mar    | 6.22%  | 7.71%  | 0.51%  | 8.61%  | -5.48% |
| Apr    | 1.21%  | -0.25% | 3.18%  | 6.07%  | 2.15%  |
| May    | 3.60%  | -4.42% | 2.81%  | -0.53% | 2.46%  |
| Jun    | -0.03% | -2.21% | -4.42% | 4.12%  | 3.05%  |
| Jul    | 5.03%  | 2.40%  | -3.15% | -4.81% | -0.25% |
| Aug    | 8.62%  | -0.96% | -0.74% | 5.99%  |        |
| Sep    | -4.94% | -2.45% | -1.80% | 8.38%  |        |
| Oct    | -5.79% | -0.40% | 8.15%  | -1.97% |        |
| Nov    | 0.99%  | 4.88%  | -7.99% | -7.86% |        |
| Dec    | -3.69% | 8.24%  | 1.52%  | -0.60% |        |
| Return | 3.48%  | 23.57% | -0.08% | 23.97% | 1.25%  |

Performance history and risk statistics are sourced from Albourne, as of July 2023. Note, all figures are calculate using gross returns; please see the Meketa Quarterly Performance Reports for net performance using the Plan's actual fee terms.

# Immunized Net Cash Flow (INCF)

## Growth

*Public Equities*

*Private Markets*

High Yield Bonds

- Mellon High Yield Beta
- Columbia High Yield Bonds

Emerging Markets Debt

- Wellington Iguazu
- Payden & Rygel EM Debt

## Low Beta

Absolute Return

- DE Shaw
- Hudson Bay Capital Structure Arbitrage
- Crabel Advanced Trend

Immunized Net Cash Flow

- Insight

## Other

*Core Private Real Estate*

Investment Grade Bonds

- 1-3 yr Gov / Cred (Passive)
- US Agg (Passive)
- Invesco Core Bonds
- Voya Securitized Credit

TIPS

- NT 0-5 yr TIPS (Passive)

Commodities

- BlackRock Commodities Index (PF only; Passive)

Long Term Government Bonds

- US Long Govt (Passive)

5% SAA Target

Policy Benchmark: Actual Return

The INCF cashflow matches the next 5-years of Plan level net cash outflows (benefit payments + admin expenses – sponsor and employee contributions). The INCF allocation continues to perform as designed.

Although the SAA target of the INCF has been held constant since inception at 5% of plan, the actual starting size of the allocation has varied, as investment returns and revised actuarial assumptions and experience have changed cash flow projections.

Options for modifying the INCF include adding spread products to the asset portfolio to reduce the size of the allocation and free up scarce capital for more risk seeking allocations, and / or simplifying the allocation by eliminating the cash flow matching and investing the portfolio in a passive short duration fund with an eye towards reducing fees.

# Insight

The Immunized Net Cash Flow (INCF) allocation protects the Plans from forced selling of growth assets in dislocated markets by setting aside up to 5-years of net cash outflows. Both plans pay out more in benefits than they receive in contributions; this monthly cash outflow could require a monthly rebalancing and raising of funds through the sale of investments. If this rebalancing were to coincide with a sizable market dislocation, the Plans may be unable to transact at fair market prices. Instead, actuarial estimates are used to calculate 5-years worth of net cash outflows (benefit payments minus contributions). Staff uses the estimates to construct a projected cashflow schedule, which is in turn used by Insight to construct a cashflow matched bond portfolio. The portfolio uses a combination of coupon interest and maturities to generate cash in accordance with the provided schedule; staff withdraws the cash according to the schedule and uses it (in combination with the sponsor's contribution) to cover the monthly benefit payment.

The size of the INCF will vary over the course of fiscal year as the allocation is topped up at the start, then amortizes monthly. Certain market conditions may make it more favorable to reduce the hedging term instead of topping up. Likewise, the asset portfolio could be changed to include higher yielding but riskier securities, lowering the required amount of capital.

## TERMS

### SMA

Tiered Fee Structure (Govt only Mandate)

First \$500 million at 5 bps

Next \$250 million at 4.5 bps

Thereafter at 4 bps

### CAPITAL (6/30/23)

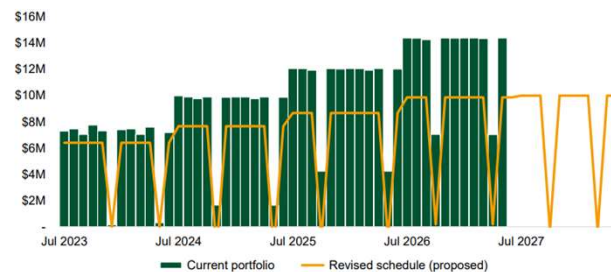
Federated: \$162.3 million / 5.66% of Plan

PF: \$373.1 million / 7.68% of Plan

Portfolio cash flow projections from Cheiron and Insight; portfolio characteristics from Insight.

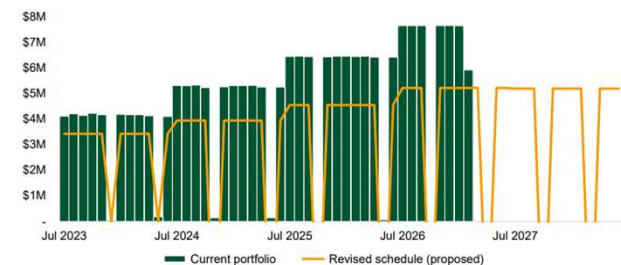
## P&F

Projected withdrawals vs. funding source



## Fed

Projected withdrawals vs. funding source



# Investment Grade Bonds

## Growth

*Public Equities*

*Private Markets*

High Yield Bonds

- Mellon High Yield Beta
- Columbia High Yield Bonds

Emerging Markets Debt

- Wellington Iguazu
- Payden & Rygel EM Debt

## Low Beta

Absolute Return

- DE Shaw
- Hudson Bay Capital Structure Arbitrage
- Crabel Advanced Trend

Immunized Net Cash Flow

- Insight

## Other

*Core Private Real Estate*

**Investment Grade Bonds**

- 1-3 yr Gov / Cred (Passive)
- US Agg (Passive)
- Invesco Core Bonds
- Voya Securitized Credit

TIPS

- NT 0-5 yr TIPS (Passive)

Commodities

- BlackRock Commodities Index (PF only; Passive)

Long Term Government Bonds

- US Long Govt (Passive)

11% SAA Target PF / 8% SAA Target Fed

Policy Benchmark: 25% 1-3 yr Gov Cred / 56% US Bond Aggregate / 19% US Securitized

The IG Bonds allocation is a combination of exposures designed to be the Plans' "sleep at night" exposure. As a group, these exposures have a low correlation to equities, and (along with the Long Term Govt Bonds allocation) should serve as re-risking funding sources when rebalancing during equity market drawdowns.

The policy benchmark reflects the added diversification beyond simply the US Agg. Including the short duration and US Securitized exposures diversifies the underlying economic drivers of return and slightly lowers the duration, relative to the US Agg. The short duration and passive Agg exposures are still heavily weighted towards US Govt bonds, and should provide ample liquidity for rebalancing needs should an opportunity arise.

# Invesco Core Bonds

The Invesco Core Fixed Income strategy is a straightforward implementation of traditional core fixed income exposures. The strategy has exhibited strong risk adjusted performance, outperforming the benchmark net of fees by almost a percent annually with a comparable level of volatility. The firm is well resourced, as is the fixed income team specifically.

Core fixed income is an opportunity set defined by its omissions: typically there is modest to little EMD or High Yield, little to no active duration positioning, and generally only very liquid securitized exposures. This leaves a fairly well defined if not constrained field of play for active strategies, and results in a narrow spread of returns between the top and bottom quartile strategies. Most active strategies add value relative to the benchmark by carrying more spread and dabbling incrementally in HY, EMD, and securitized credit. “Core plus” strategies utilize more of the fixed income universe to try and add alpha. However, given the existing allocations in the Plan to EMD, HY and Securitized Credit, a Core Plus-type strategy would likely be duplicative.

## TERMS

### SMA

#### Tiered Fee Structure

First \$200 million at 10 bps

Next \$300 million at 8 bps

Thereafter at 7 bps

#### CAPITAL (6/30/23)

Federated: \$83.1 million / 2.9% of Plan

PF: \$157.4 million / 3.24% of Plan

Performance history and risk statistics are sourced from eVestment, as of June 30, 2023. Note, all figures are calculated using gross returns; please see the Meketa Quarterly Performance Reports for net performance using the Plan's actual fee terms.

| Performance Information                                          |         |           |        |                                    |       |                                      |           |                    |              | USD  |
|------------------------------------------------------------------|---------|-----------|--------|------------------------------------|-------|--------------------------------------|-----------|--------------------|--------------|------|
| Track Record: SA - Composite - Core Fixed Income - Gross of Fees |         |           |        | Risk Index: Bloomberg US Aggregate |       | Risk-Free Index: FTSE 3-Month T-Bill |           | Frequency: Monthly |              |      |
| Trailing Periods                                                 | Returns |           |        | Std Dev                            | Alpha | Beta                                 | Trk Error | Info Ratio         | Sharpe Ratio |      |
|                                                                  | Product | Benchmark | Excess |                                    |       |                                      |           |                    |              |      |
| 1 Year                                                           | -0.38   | -0.94     | 0.56   | 8.93                               | 0.56  | 1.00                                 | 1.24      | 0.45               | -0.46        |      |
| 2 Year                                                           | -6.11   | -5.73     | -0.37  | 7.29                               | -0.40 | 1.00                                 | 1.04      | -0.36              | -1.11        |      |
| 3 Year                                                           | -3.57   | -3.96     | 0.40   | 6.26                               | 0.43  | 1.00                                 | 0.94      | 0.42               | -0.78        |      |
| 4 Year                                                           | -0.26   | -0.94     | 0.68   | 6.22                               | 0.73  | 1.04                                 | 1.51      | 0.45               | -0.26        |      |
| 5 Year                                                           | 1.29    | 0.77      | 0.52   | 5.76                               | 0.52  | 1.02                                 | 1.46      | 0.36               | -0.05        |      |
| 6 Year                                                           | 1.03    | 0.57      | 0.46   | 5.31                               | 0.46  | 1.01                                 | 1.38      | 0.33               | -0.09        |      |
| 7 Year                                                           | 1.25    | 0.44      | 0.81   | 5.03                               | 0.81  | 1.01                                 | 1.32      | 0.61               | -0.02        |      |
| 8 Year                                                           | 1.86    | 1.12      | 0.73   | 4.80                               | 0.73  | 1.00                                 | 1.33      | 0.55               | 0.13         |      |
| 9 Year                                                           | 1.80    | 1.20      | 0.60   | 4.64                               | 0.60  | 1.00                                 | 1.27      | 0.47               | 0.15         |      |
| 10 Year                                                          | 2.30    | 1.52      | 0.78   | 4.48                               | 0.78  | 1.00                                 | 1.23      | 0.64               | 0.30         |      |
| Since Inception (03/2001)                                        | 4.24    | 3.58      | 0.66   | 4.19                               | 0.80  | 0.96                                 | 1.74      | 0.38               | 0.68         |      |
| Returns                                                          |         | MRQ       | YTD    | 2022                               | 2021  | 2020                                 | 2019      | 2018               | 2017         | 2016 |
| Product                                                          |         | -0.75     | 1.97   | -13.48                             | -0.88 | 10.25                                | 9.67      | -1.40              | 5.04         | 5.87 |
| Benchmark                                                        |         | -0.84     | 2.09   | -13.01                             | -1.54 | 7.51                                 | 8.72      | 0.01               | 3.54         | 2.65 |
| Excess                                                           |         | 0.09      | -0.12  | -0.47                              | 0.66  | 2.74                                 | 0.96      | -1.41              | 1.49         | 3.23 |

# Voya Securitized Credit

Voya Securitized Credit invests in fixed income sectors collateralized by commercial real estate, residential housing, and nonmortgage assets. While the typical core bond strategy will also include some measure of securitized exposure, the Securitized Credit strategy employs a wider range of security types and conducts deeper fundamental analysis to exploit mispricings across a broader range of credit ratings.

The Voya Securitized Credit Strategy's balanced investment process uses top-down macro themes to guide portfolio construction and proprietary bottom-up inputs to drive security selection. The Asset Allocation team takes a multi-sector perspective in prioritizing themes and setting actionable investment insights that reflect Voya's assessment of the current market environment in the context of the overall economic cycle. The Securitized team then prioritizes and applies those investment themes across the securitized investment universe and evaluates the fixed income environment for risk and reward. After setting the overall risk budget, members of the Voya Securitized Credit team meet to set each sub-sector's strategy and determine model portfolios. Finally, security selection relies on Voya's bottom-up rigor, which is comprised of stringent credit analysis of individual securities focusing on the primary dimensions of collateral, transaction structure and the parties involved (e.g. servicer, originator).

## TERMS

### SMA

Tiered Fee Structure

First \$125 million: 45 bps

Next \$125 million: 40 bps

Thereafter: 35 bps

### CAPITAL (6/30/23)

Federated: \$41.1 million / 1.43% of Plan

PF: \$48.3 million / 0.99% of Plan

Performance history and risk statistics are sourced from eVestment, as of June 30, 2023. Note, all figures are calculated using gross returns; please see the Meketa Quarterly Performance Reports for net performance using the Plan's actual fee terms.

| Performance Information                                                                      |         |           |        |         |       |      |           |            |              | USD |
|----------------------------------------------------------------------------------------------|---------|-----------|--------|---------|-------|------|-----------|------------|--------------|-----|
| Track Record: USA - SA - Composite - Voya Securitized Credit - Opportunistic - Gross of Fees |         |           |        |         |       |      |           |            |              |     |
| Risk Index: Bloomberg US Securitized                                                         |         |           |        |         |       |      |           |            |              |     |
| Risk-Free Index: FTSE 3-Month T-Bill                                                         |         |           |        |         |       |      |           |            |              |     |
| Frequency: Monthly                                                                           |         |           |        |         |       |      |           |            |              |     |
| Trailing Periods                                                                             | Returns |           |        | Std Dev | Alpha | Beta | Trk Error | Info Ratio | Sharpe Ratio |     |
|                                                                                              | Product | Benchmark | Excess |         |       |      |           |            |              |     |
| 1 Year                                                                                       | 1.87    | -1.50     | 3.36   | 4.12    | 2.19  | 0.22 | 8.25      | 0.41       | -0.46        |     |
| 2 Year                                                                                       | -0.45   | -5.31     | 4.86   | 3.25    | 0.68  | 0.21 | 6.53      | 0.74       | -0.74        |     |
| 3 Year                                                                                       | 2.74    | -3.64     | 6.38   | 3.06    | 3.65  | 0.24 | 5.37      | 1.19       | 0.46         |     |
| 4 Year                                                                                       | 0.64    | -1.37     | 2.01   | 8.34    | 1.20  | 0.15 | 9.50      | 0.21       | -0.09        |     |
| 5 Year                                                                                       | 1.82    | 0.13      | 1.69   | 7.51    | 2.08  | 0.17 | 8.56      | 0.20       | 0.03         |     |
| 6 Year                                                                                       | 2.38    | 0.13      | 2.25   | 6.87    | 2.59  | 0.18 | 7.82      | 0.29       | 0.12         |     |
| 7 Year                                                                                       | 3.15    | 0.10      | 3.05   | 6.42    | 3.34  | 0.20 | 7.26      | 0.42       | 0.28         |     |
| 8 Year                                                                                       | 3.45    | 0.63      | 2.82   | 6.03    | 3.50  | 0.21 | 6.81      | 0.41       | 0.37         |     |
| 9 Year                                                                                       | ---     | 0.81      | ---    | ---     | ---   | ---  | ---       | ---        | ---          |     |
| 10 Year                                                                                      | ---     | 1.18      | ---    | ---     | ---   | ---  | ---       | ---        | ---          |     |
| Since Inception (11/2014)                                                                    | 3.63    | 0.71      | 2.92   | 5.81    | 3.64  | 0.22 | 6.54      | 0.45       | 0.43         |     |
| Returns                                                                                      |         |           |        |         |       |      |           |            |              |     |
|                                                                                              | MRQ     | YTD       | 2022   | 2021    | 2020  | 2019 | 2018      | 2017       | 2016         |     |
| Product                                                                                      | 1.90    | 4.92      | -6.78  | 4.59    | -1.94 | 7.83 | 3.01      | 9.00       | 5.89         |     |
| Benchmark                                                                                    | -0.63   | 1.82      | -11.67 | -1.04   | 4.18  | 6.44 | 0.99      | 2.51       | 1.77         |     |
| Excess                                                                                       | 2.54    | 3.10      | 4.90   | 5.63    | -6.12 | 1.38 | 2.02      | 6.50       | 4.11         |     |