

# OKLAHOMA MUNICIPAL RETIREMENT FUND COMMITTEE MEETING AGENDA

A Special Meeting of the Board of Trustees of the Oklahoma Municipal Retirement Fund and the Investment Committee of the Oklahoma Municipal Retirement Fund has been called for Thursday, February 23, 2023, at 2:00 p.m.

The meeting will be held at 1001 NW 63<sup>rd</sup> St., Suite 260, Oklahoma City, OK and the following items will be considered:

February 23, 2023

The Committee is a fact-finding body made up of three (3) Board of Trustee Members. The Committee's sole purpose is to conduct investigative research and gather information to develop recommendations for Board consideration and possible action. No official Board action can be taken at the Committee level.

- 1. Call to Order
- 2. Discussion and Education on the Private Equity Asset Class
- 3. Discuss and Develop a Recommendation for Board Consideration and Possible Action Regarding ACG Recommendation to Commit to a Manager in the Private Equity Asset Class and Proposed Implementation Timeline
- 4. Conduct Semi-Annual Investment Performance Review and Receive Quarterly Performance Report for December 31, 2022, as Presented by Asset Consulting Group
- 5. New Business
- 6. Adjourn

Posted by 2:00 p.m. February 21, 2023 1001 NW 63rd Street, 1st Floor Oklahoma City, OK 73116

2/23/2023 Investment Committee Agenda Item: 3

# Oklahoma Municipal Retirement Fund Investment Committee Meeting Private Equity Allocation Review & Recommendation

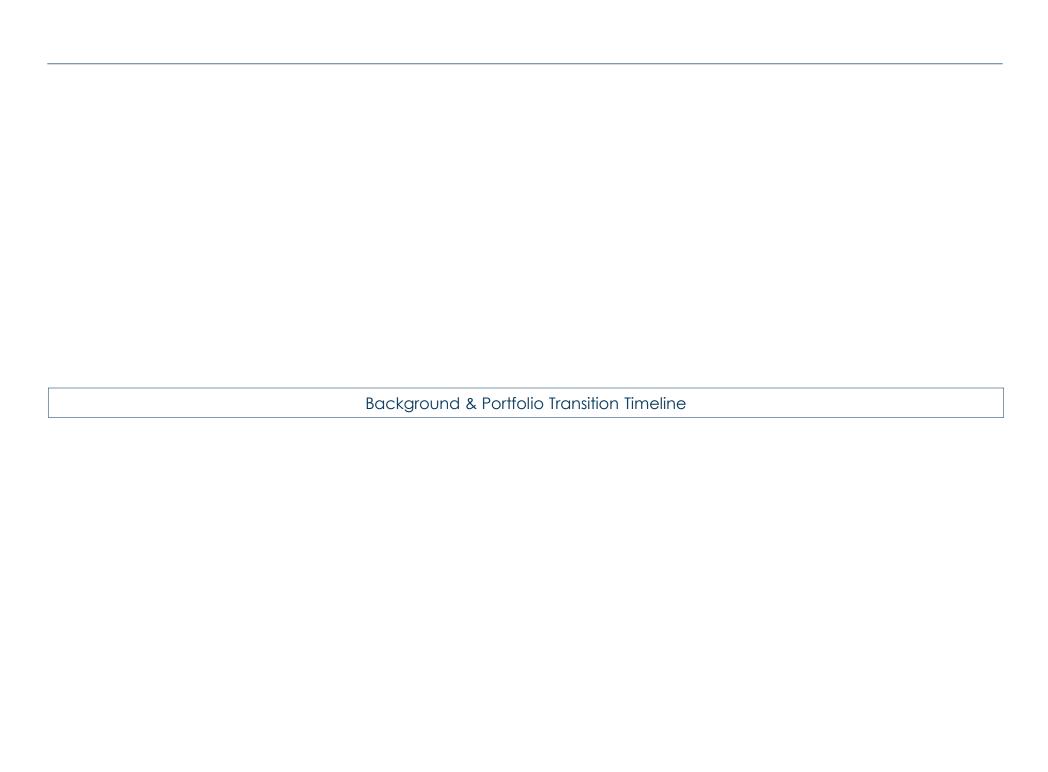
February 23, 2023



We are proud to announce that ACG has again been named a Greenwich Associates Quality Leader – recognized as one of the top consultants in the industry.

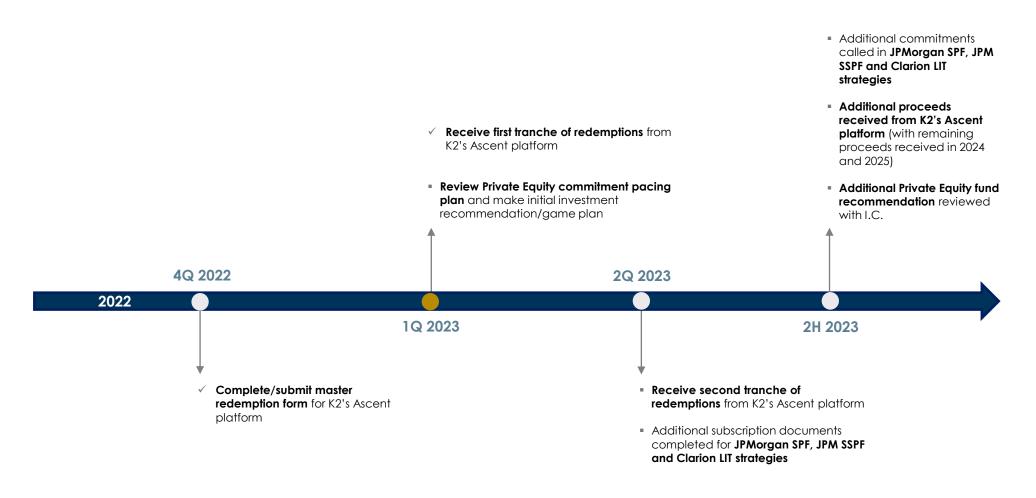
Methodology and Disclosure: Between July and October 2021, Coalition Greenwich (previously known as Greenwich Associates), conducted in-person and phone interviews and online surveys with 811 professionals at 661 of the largest tax-exempt funds in the United States, including corporate and union funds, public funds, endowments and foundations, insurance general accounts, and healthcare organizations, with either pension or investment pool assets greater than \$150 million. Study participants were asked to provide quantitative and qualitative evaluations of their asset managers and investment consultants, including qualitative assessments of those firms soliciting their business and detailed information on important market trends. ACG is one of four firms recognized in the mid-size investment consultant category. The ratings may not be representative of any one client's experience with ACG; rather they are representative of those clients that chose to participate in the survey. The results are not indicative of ACG's future performance. ACG does not pay to have its clients participate in the study.





## Background

- At OkMRF's 2022 Trustee Retreat, the Board reviewed the current Equity portfolio in the Defined Benefit Plan. ACG provided additional education on the Global Equity opportunity set and discussed multiple return-enhancing asset classes, including Non-US Small/Mid Cap Equity, Emerging Markets Small/Mid Cap Equity and Private Equity.
- Based on feedback from the Board, ACG narrowed the scope of the Equity review to focus on Private Equity education for a follow-up discussion.
- At the August I.C. Meeting, an asset allocation analysis was reviewed to show the risk/return trade-offs of potential alternative asset allocation targets for the DB Plan. As part of this strategic discussion, the Board selected a new target asset allocation mix that includes a 5% target to Private Equity.
- Today's discussion will review the **DB Plan's portfolio transition plan**, **OkMRF's Private Equity commitment pacing plan and a Private Equity fund recommendation** for the I.C.'s consideration.



#### **Items for Consideration**

- Nearly all redemptions from K2's Ascent Platform will be received in 2023 and 2024. ACG will make more specific investment recommendations as the proceeds are received.
- The market environment for the DB Plan's current Real Estate strategies is expected to be challenged over the next couple quarters, which could slightly affect the timing of additional investments in these strategies.
- Private Equity managers/strategies will be reviewed with the Board as opportunities arise.

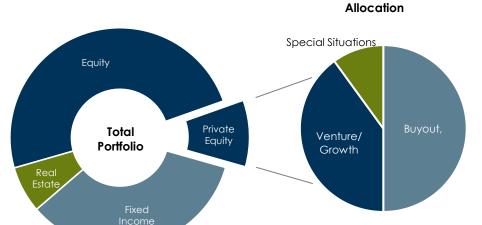


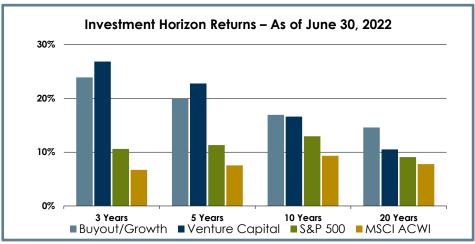
## Private Equity: Return-enhancing alternative to public equity

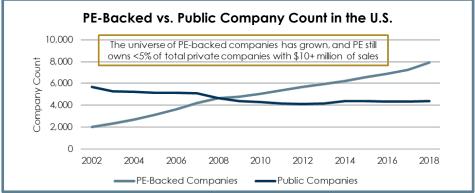
#### **Case for Private Equity**

- Consistent outperformance vs. public equity
- Broad company diversification; low penetration vs. opportunity set
- Return dispersion creates alpha opportunity via manager selection

#### Asset Allocation – 5% to 15% of Total Portfolio







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	Buyout	Venture/Growth	Special Situations
Target Company Profile	Mature with steady cash flow	Earlier stage with rapid growth	Distressed
Target # of Active Managers	3 to 4	4 to 5	0 to 2
Target Net Return	12% to 15%	15%+	10% to 15%
Average Holding Period	4 to 6 years	5 to 8 years	<4 years
Target Private Equity Allocation	40% to 60%	30% to 50%	0% to 10%

Sources: PitchBook, World Bank, NAICS Association, ACG Research. Notes: Target Net Returns are based on PitchBook historical median returns and ACG experience.

**Private Equity** 

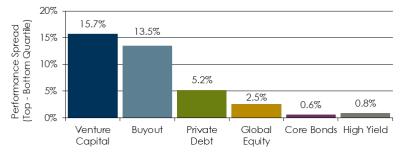
### Thesis: Target proven managers with specialized teams, and consistently diversify across strategy and time

#### **Key Considerations**

- Manager Selection Meaningful driver of long-term excess return
- Return Dispersion Venture/growth, small/concentrated funds offer higher risk/reward
- **Specialization** Emphasize specialized teams over sector focus
- Access Not a given; position yourself for success
- **Geography -** No clear return benefit for investing ex-U.S.

#### Manager Value Add – return dispersion creates opportunity

#### 10-Year Performance Spread by Asset Class

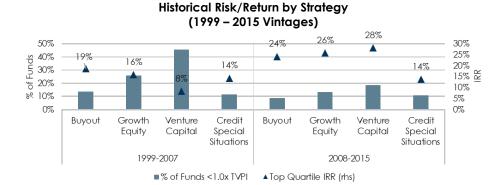


**Consistency** – Relative strategy returns vary over time, highlighting importance of diversification

Buyou	ut (	Growth	Ventur	e				
1999	2000	2001	2002	2003	2004	2005	2006	2007
10.8%	15.5%	24.2%	17.4%	12.2%	12.2%	18.0%	8.8%	11.5%
-3.5%	5.5%	9.3%	4.7%	8.5%	3.7%	8.0%	6.9%	11.0%
-9.0%	-0.6%	0.6%	N/M	0.6%	-2.1%	5.7%	5.6%	9.8%
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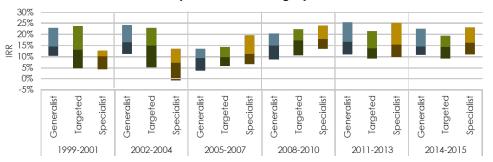
2008	2009	2010	2011	2012	2013	2014	2015
14.2%	13.0%	24.2%	19.5%	20.4%	19.2%	26.0%	27.6%
12.7%	13.0%	13.5%	16.1%	16.3%	16.9%	25.7%	21.6%
8.3%	11.0%	10.3%	12.7%	14.9%	13.5%	18.4%	18.9%

**Strategy Selection** – Favor strategies that pair consistency with strong returns



**Manager Selection** – Prioritize manager quality over sector focus

# Quartile Return by Vintage Year Cohort and Investment Style (1999 – 2015 Vintages)



## Implementation Profile

- Foundation Build exposure through consistent annual commitments; target specialized teams that can deliver repeatable value creation
- Enhanced Return Favor buyout for its stable risk/return; include proven venture/growth or small/concentrated strategies to capture additional alpha
- Construction Build portfolios with complementary strategies and a reasonable firm count; diversify risk without sacrificing the return seeking role of the asset class

Sources: PitchBook, eVestment, ACG Research

Note: Vintage year return data represents the median return for each strategy in each vintage, from inception through June 30, 2021. 10-Year Performance Spread by Asset Class as of December 31, 2021. Note: Strategy risk/return data as of the most recent data available. Style return data as of December 31, 2020.

#### Public vs. Private Markets

#### **Public Markets:**

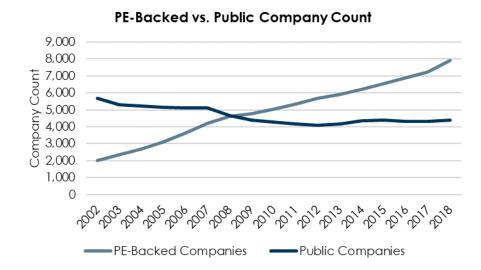
- Investments in publicly traded stocks.
- Information on companies is generally freely available.
- Companies are valued instantaneously and there is a mechanism to bring buyers and sellers together efficiently.
- Available to all individuals & institutions.
- Accessed directly, through a broker, money manager, or a mutual fund manager.
- Long-term or short-term strategies. Investments are marketable and liquid.

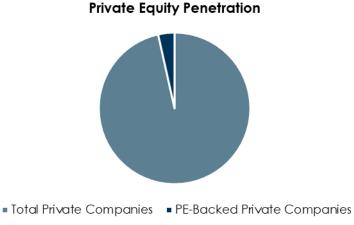
#### **Private Markets:**

- Investments in private companies (as opposed to owning and managing your own private company).
- Information on companies is private.
- Company valuations are difficult and inefficient.
- Typically available only to qualified purchasers.
- Accessed directly through a fund manager, or fund-of-funds manager.
- Long-term strategies investments are non-marketable / illiquid.

### Private Equity Opportunity Set

- There are an estimated 7,900 private equity-backed companies in the U.S. and 4,400 U.S.-listed public companies, a stark shift from the early 2000s.
- Despite the increased role played by private equity, the industry's penetration of the overall private company landscape is still very low—only around 4% of U.S.-based private companies are backed by private equity.
- This illustrates the potential opportunity set for private equity investors.





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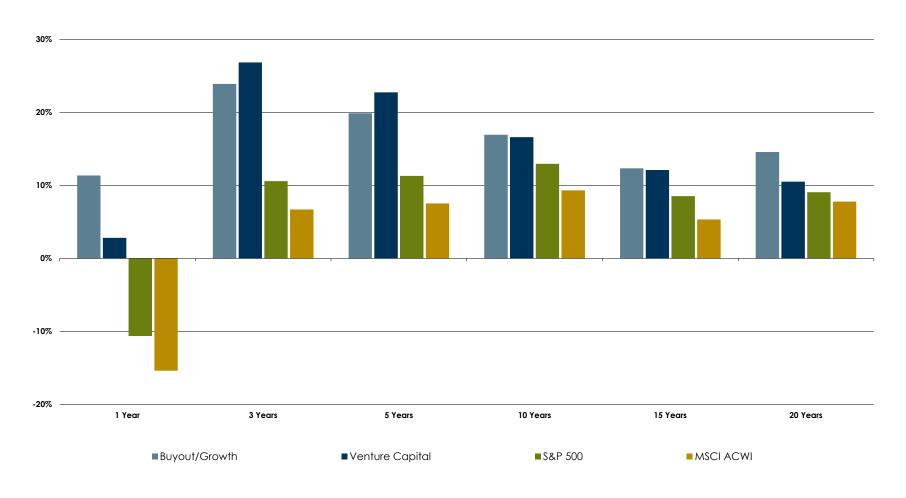
Source: Pitchbook, World Bank, NAICS Association, ACG estimates

Note: Total Private Companies includes private companies with at least \$10 million of annual revenue; PE-Backed Private Companies exclude venture-stage businesses

## Private Equity Horizon Returns

Over long time horizons, private equity consistently outperforms public equity markets.

## Investment Horizon Returns – As of June 30, 2022



### Private Equity Return Dispersion

Relative strategy returns vary meaningfully over time, so it is important to build a diversified portfolio.

## Strategy Returns by Vintage Year

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Natural	Growth	Growth	Venture	Distressed	Performing	Venture	Venture	Venture	Venture	Venture	Venture	Venture	Growth	Growth
Resources	Equity	Equity	Capital	Debt	Debt	Capital	Capital	Capital	Capital	Capital	Capital	Capital	Equity	Equity
19.2%	12.7%	9.1%	12.9%	14.5%	13.3%	18.1%	18.9%	24.1%	19.7%	25.2%	27.7%	35.2%	36.7%	33.3%
Buyout 16.0%	Venture Capital 11.4%	Buyout 8.9%	Buyout 9.8%	Buyout 13.9%	Buyout 13.1%	Growth Equity 16.8%	Buyout 18.1%	Buyout 15.8%	Buyout 17.2%	Buyout 20.0%	Growth Equity 21.1%	Growth Equity 27.7%	Venture Capital 35.0%	Venture Capital 30.9%
Performing	Developed	Distressed	Growth	Venture	Venture	Performing	Growth	Growth	Growth	Growth	Natural	Denoral	D. v. co. v.t	Denisati
Debt	Buyout 7.2%	Debt	Equity	Capital	Capital	Debt	Equity	Equity	Equity	Equity	Resources	Buyout 23.2%	Buyout 24.8%	Buyout 27.4%
7.2%	7.2%	7.5%	8.9%	9.6%	12.2%	11.5%	13.0%	15.5%	13.5%	17.7%	21.0%	23.2%	24.8%	27.4%
Venture	Natural	Performing	Distressed	Growth	Growth	Distressed	Distressed	Performing	Distressed	Natural	Puncut	Distressed	Distressed	Natural
Capital	Resources	Debt	Debt	Equity	Equity	Debt	Debt	Debt	Debt	Resources	Buyout 20.1%	Debt	Debt	Resources
0.2%	7.1%	4.8%	6.2%	6.6%	7.5%	10.9%	9.8%	7.8%	6.4%	6.5%	20.1%	17.4%	13.2%	11.9%
Distressed	Performing	Venture	Natural	Performing	Distressed	Buyout	Performing	Distressed	Performing	Performing	Distressed	Performing	Natural	Performing
Debt	Debt	Capital	Resources	Debt	Debt	9.6%	Debt	Debt	Debt	Debt	Debt	Debt	Resources	Debt
0.1%	5.5%	3.3%	4.4%	6.1%	7.2%	7.0%	8.0%	6.4%	5.1%	6.4%	9.2%	10.1%	10.8%	11.7%
Growth	Distressed	Natural	Performing	Natural	Natural	Natural	Natural	Natural	Natural	Distressed	Performing	Natural	Performing	Distressed
Equity	Debt	Resources	Debt	Resources	Resources	Resources	Resources	Resources	Resources	Debt	Debt	Resources	Debt	Debt
-5.4%	3.5%	2.7%	4.0%	-2.1%	7.1%	-3.9%	-0.2%	6.2%	2.1%	5.9%	9.2%	5.0%	9.9%	11.0%

The importance of manager selection is amplified in private equity. The spread between top quartile and bottom quartile fund performance is many times the spread of public market investment strategies.

## Performance Spread by Asset Class for 10 Years ending December 31, 2021

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Source: PitchBook, eVestment, ACG Research

Note: Private Equity performance spread excludes the most recent 3 vintage years to eliminate outsize spreads typical seen early in funds' investment periods.

#### Stable Drivers of Return Premium

Capital Inefficiency

Less capital pursuing a larger, more diversified set of companies

Valuation Discount

Private businesses can be purchased for valuation multiples that are less than those observed in public markets

Alignment

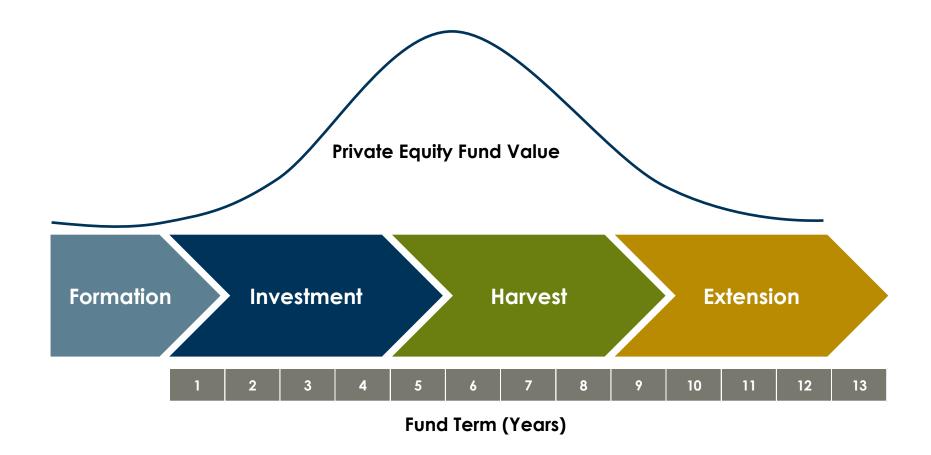
Long-term investment horizon with shared economic incentives for LPs, GPs and management teams

Hands-On Value Creation

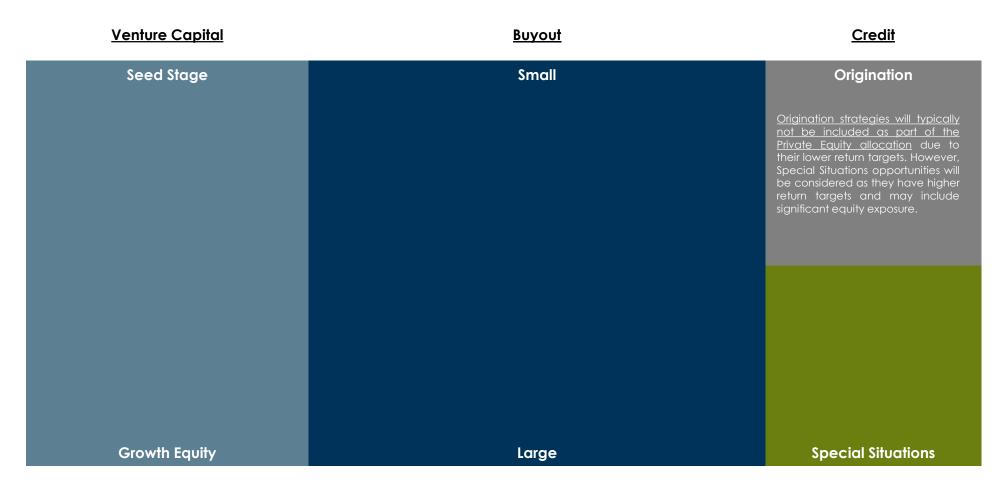
Control orientation allows GPs to guide decision making and invest for growth

### Typical Private Equity Fund Lifecycle

- Formation: This fundraising period can last a few months to a couple years, depending on interest from investors and capacity.
- Investment: The fund manager is actively making new investments and calling capital from investors to fund those acquisitions.
- Harvest: The value creation plan has been executed and the fund begins to exit investments and return capital to investors.
- Extension: The fund manager is working on disposing of the last assets and may utilize extensions to maximize remaining value.



## Private Equity Portfolio Diversification



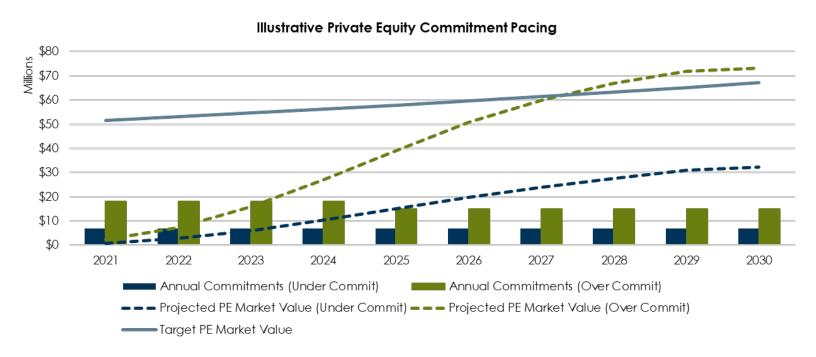
- The institutional private equity investment opportunity set includes thousands of funds across hundreds of sub-strategies. This universe can be categorized into three broad sectors: **Venture Capital, Buyout, and Private Credit**.
- The goal is to **build a diversified portfolio** of private equity managers that address each of these sectors.
- Prudent diversification is a key risk mitigating factor.

# Investment Options and Vehicle Characteristics

Investment Factors	Direct Fund	Fund of Funds	
Underlying Positions	10 - 50 companies	100 - 3,500 companies	
Institutional Sponsorship	Yes	Yes	
Minimum Investment	\$5 million	\$250,000	
Decision Making Timeline	1 - 6 months	6 - 12 months	
Decision Making Process	Requires efficiency due to short fundraising timelines and restricted access to new investors	Less time and capacity constraints, but still requires efficient approval and documentation	
Management Fees	1.5% - 2.0%	0.25% - 0.75% (plus Direct Fund fees)	
Carried Interest	20% with an 8% preferred return	5% with an 8% preferred return (plus Direct Fund carry)	
Fund Term	10 years with two 1-year extensions	12 years with two 1-year extensions	
Vintage Year Exposure	1 year	2 - 4 years	
Net IRR Target	15%+	11% - 15%	
Net Multiple Target	1.7x - 2.0x	1.5x - 1.7x	

#### Private Equity Cash Flow Modeling and Commitment Pacing

- The goal of cash flow modeling is to create a commitment pacing plan that allows the private equity program to efficiently reach and maintain the long-term target allocation. Maintaining private equity exposure at or near the target allocation is a key component of risk control.
- Due to the nature of private equity cash flows, whereby capital is called over time and distributions serve to offset contributions later in a fund's life, an investor's max out-of-pocket percentage is typically only 60-70% of its total fund commitment.
- This dynamic means that an investor must "over-commit" in order to achieve the portfolio's target allocation.
- Repeated new commitments are also necessary to maintain a target private equity allocation.
- An investor's commitment pacing plan should be **developed using a customized cash flow analysis** that incorporates factors such as expected future cash spending needs and their preferred investment and strategy mixes.



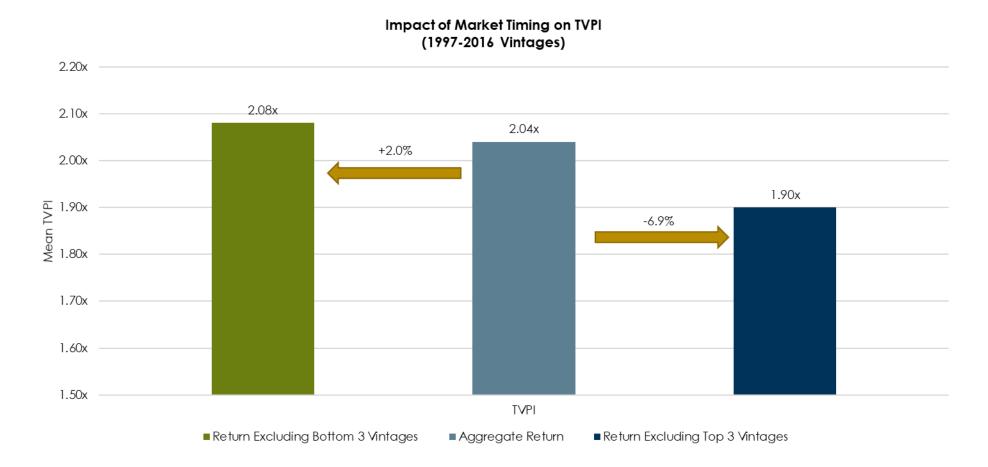
Note: This example is for illustrative purposes only and is not meant as a forecast of performance.

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## Importance of Consistent Implementation

The negative impact of missing the top-performing vintage years is greater than the return enhancement from avoiding the lowest-performing years, so it is critical that investors maintain a consistent commitment pace across market environments.



Source: PitchBook, ACG Research

Note: Analysis based on PitchBook data for Global Buyout, Growth and Venture Capital funds with performance reported as of September 30, 2021. Performance data represents the mean composite return for each set of vintage years. Some figures may not fully sum due to rounding.

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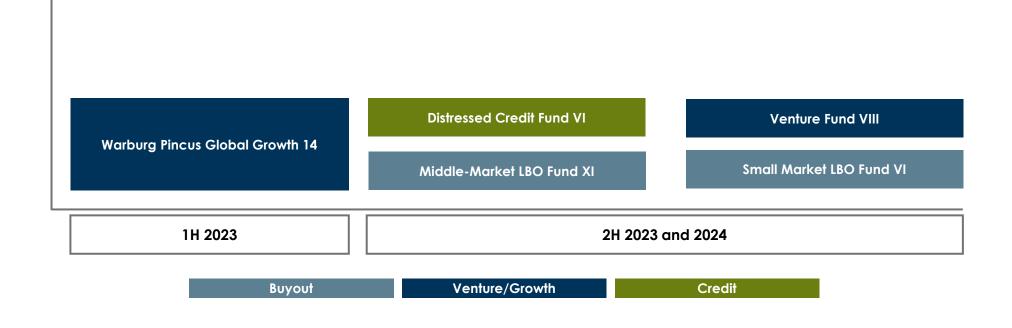
## OkMRF Private Equity Commitment Pacing Plan

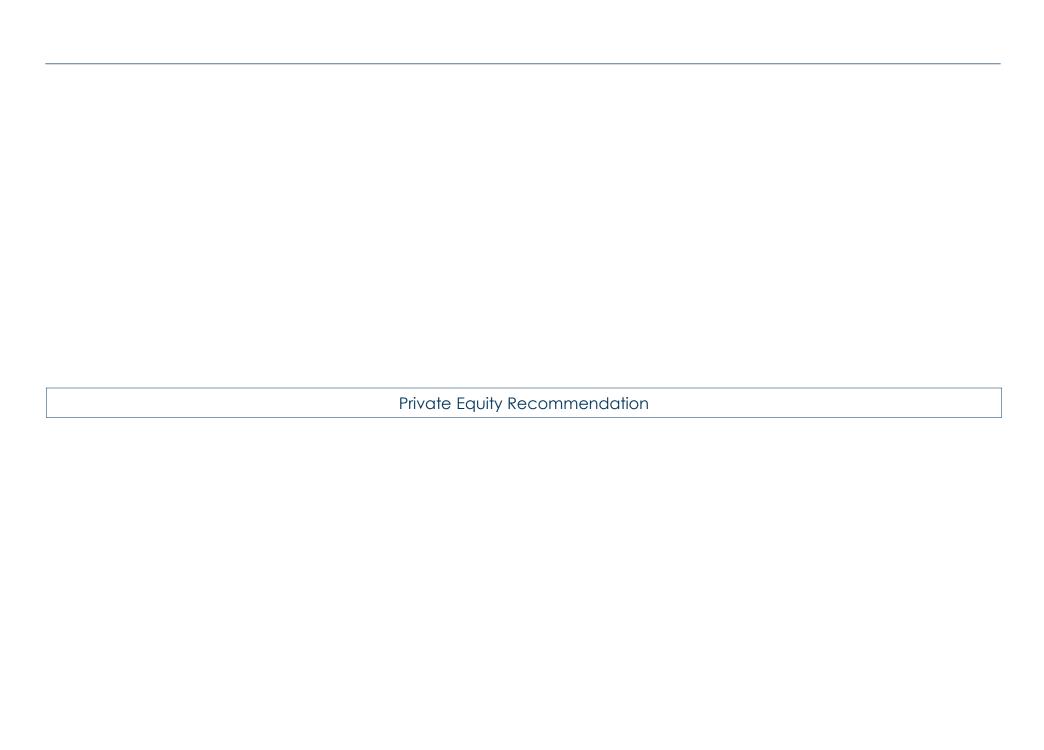
	<u>Present</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	2026	2027		
							Total	Average
Target Commitment Schedule		\$ 20,000,000	\$ 20,000,000	\$15,000,000	\$15,000,000	\$15,000,000	\$ 85,000,000	\$17,000,000
Projected Private Equity Cashflow with New Commitments								
Projected Contributions		-2,800,000	-6,200,000	-8,900,000	-12,450,000	-14,400,000		
Projected Distributions		0	62,000	446,000	2,250,500	5,178,500		
Projected Net Cash Flows		-2,800,000	-6,138,000	-8,454,000	-10,199,500	-9,221,500		
Projected Cumulative Net Cash Flows (Over Next 5 Years)		-2,800,000	-8,938,000	-17,392,000	-27,591,500	-36,813,000		
Projected Private Equity Market Value	0	2,534,000	8,517,000	17,853,500	30,331,750	43,213,250		
Current / Projected Total Portfolio Value	681,163,000	701,597,890	722,645,827	744,325,202	766,654,958	789,654,606		
Current / Projected Private Equity Portfolio Weight	0.0%	0.4%	1.2%	2.4%	4.0%	5.5%		

- Starting from 0% exposure, it will take many years to approach the 5% private equity target allocation.
- Time or **vintage year diversification is an important private equity portfolio risk control**. Spreading commitments over multiple years reduces the chance that a portfolio experiences a dramatic negative impact from an inopportune entry point, like a recession.
- Marginally larger commitment sizes in the first two years of the program's development are designed to help build exposure.
- The recommended commitment pace will be adjusted annually to reflect the current value of the Total Portfolio, market conditions and any prior private equity commitments.

### Private Equity Manager Pipeline

- With a commitment budget of \$20 million in 2023 and \$20 million in 2024, the baseline plan includes two to three commitments of \$15 to \$20 million each over the next two years.
- Future commitments will focus on building **strategy**, **time and manager diversification** and allow flexibility to take advantage of high quality investment opportunities when available.
- Highly successful fund managers most often open and close to investors quickly. It is important to remain nimble in order to take advantage of access dynamics.





### Private Equity Commitment Recommendation

ACG has conducted thorough due diligence on the manager and proposed fund offering on an absolute basis as well as relative to other firms who carry out similar strategies. A recommendation is made for a commitment to the following fund:

#### Manager / Fund

#### **Recommended Commitment Amount**

Warburg Pincus Global Growth 14

\$20 million

- Warburg Pincus Global Growth 14 has closed on \$15.5 billion of its \$16 billion target size and is expected to hold a final close before June 1, 2023.
- Actual commitment to the above fund is subject to review of offering documents and Limited Partnership agreements by legal counsel.
- Based on the nature of this investment vehicle and the limited offering period, ACG believes the process used to identify and recommend this investment opportunity was prudent and appropriate.

Warburg Pincus Global Growth 14, L.P. ("WPGG 14" or "Fund 14" or the "Fund") provides an attractive option for investors seeking exposure to a proven, diversified global growth strategy. The Fund will employ a flexible investment mandate that allows it to pursue a range of transaction types, sectors, and geographies. However, the overarching thesis for the strategy is to find high quality, private companies that can generate sustainable growth and consistent profitability over time. Warburg has built its team to include both sector and functional experts, which allows it to be a value-add partner to its portfolio companies. The Firm is led by a stable team that has generated competitive results over multiple business cycles. WPGG 14 is targeting \$16.0 billion and will hold a final close by June 1, 2023.

#### Firm Info

• Warburg Pincus ("Warburg" or the "Firm") is a global private equity firm based in New York City that has ~\$66 billion of AUM. The Firm was founded in 1966 and raised its first fund in 1971. In 2000, Warburg completed a leadership transition following the retirement of two of the Firm's original founders. The Firm is majority-owned by its Partners and carried interest is shared broadly across the team. Warburg has grown to over 740 employees, including 75 Managing Directors among its more than 260 investment professionals. Since inception, the firm has invested more than \$94 billion in over 970 portfolio companies. The Firm opened its first investment office outside of the U.S. in 1987, and today it has eight international offices across South America, Western Europe, and Asia.

#### Investment Team

• The Firm is led by its Executive Leadership Team, which is comprised of Chip Kaye (CEO), Tim Geithner (President), and Steven Glenn (COO/CFO). Chip Kaye become the Firm's sole CEO in 2020 following the retirement of Joseph Landy, who served as co-CEO alongside Chip since the Firm's leadership transition in 2000. Warburg also has a 10-person Investment Management Group and a three-person Operations Management Group, which manage the Firm's global investment and back office functions. Warburg has developed a 75+ person Investment Support Group, which works with portfolio companies in areas like financial reporting, capital markets, and human capital.

## Investment Process and Portfolio Construction

■ The Fund will continue Warburg's strategy of global growth investing at scale. Warburg will target 75-100 investments with a flexible investment range of ~\$50 million to over \$500 million. The Fund will primarily target growth and buyout investments in the following sectors: Technology, Healthcare, Business Services, Industrials, and Financial Services. The Fund will target a 50% - 60% allocation to North America, 15% - 20% to Europe, and 15% - 30% to Asia. However, Warburg does not have pre-determined allocations to any sector, geography, or transaction type. Like prior funds, the mix of investments in Fund 14 will reflect what the Firm views as the best available risk/return opportunities.

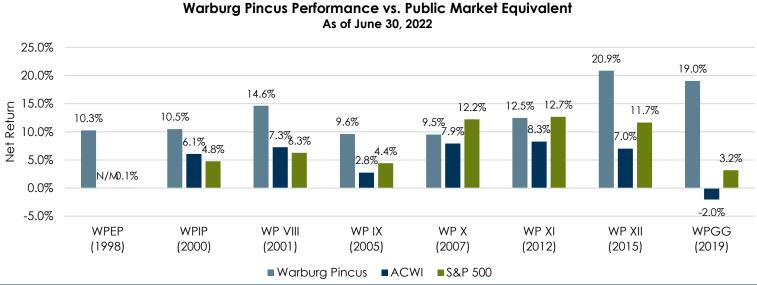
#### **Fund Terms**

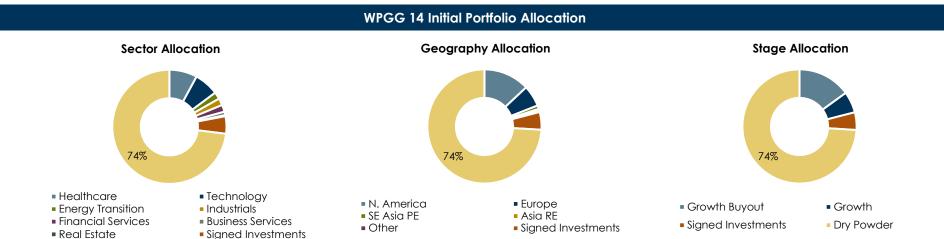
- Base Management Fee: 1.4% of commitments during the investment period; thereafter, the fee is charged on remaining cost with periodic step-downs to a floor of 1.0%
- Incentive Fee: 20%, so long as the Fund is valued at more than 1.25x net invested capital
- Minimum Investment: \$20 million stated, subject to manager discretion
- Fund Term: 12 years, but may be extended by the GP for up to two years with LPAC approval
- **GP Commitment:** At least \$1.0 billion (6.25% of the target size)
- Fundraising: \$15.5 billion closed/circled; final close will occur by June 1, 2023

#### Performance Objective

■ 12%-15% Net IRR and 1.60x-1.80x Net TVPI

- Warburg has consistently outperformed the peer group median. The Firm has also performed well versus the Public Market Equivalent, measured versus the ACWI and S&P 500.
- WPGG 14 is already 26% invested/committed across 20 investments. Companies in the portfolio grew revenue and EBITDA by 20% and 10%, respectively, over the last 12 months ending September 30, 2022.





Notes: Public Market Equivalent (PME) offers a comparison of private vs. public market returns by assuming that the private fund cash flows are invested in a given public market index.

## Disclosures and Legal Notice

The views expressed herein are those of Asset Consulting Group (ACG). They are subject to change at any time. These views do not necessarily reflect the opinions of any other firm.

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Certain information herein constitutes forward-looking statements, which can be identified by the use of terms such as "may", "will", "expect", "anticipate", "project", "estimate", or any variations thereof. As a result of various uncertainties and actual events, including those discussed herein, actual results or performance of a particular investment strategy may differ materially from those reflected or contemplated in such forward-looking statements. As a result, you should not rely on such forward-looking statements in making investment decisions. ACG has no duty to update or amend such forward-looking statements.

The information presented herein is for informational purposes only and is not intended as an offer to sell or the solicitation of an offer to purchase a security.

Please be aware that there are inherent limitations to all financial models, including Monte Carlo Simulations. Monte Carlo Simulations are a tool used to analyze a range of possible outcomes and assist in making educated asset allocation decisions. Monte Carlo Simulations cannot predict the future or eliminate investment risk. The output of the Monte Carlo Simulation is based on ACG's capital market assumptions that are derived from proprietary models based upon well-recognized financial principles and reasonable estimates about relevant future market conditions. Capital market assumptions based on other models or different estimates may yield different results. ACG expressly disclaims any responsibility for (i) the accuracy of the simulated probability distributions used in deriving the probability distributions, (ii) any errors or omissions in computing or disseminating the probability distributions and (iii) and any relicance on or uses to which the probability distributions are put.

The projections or other information generated by ACG regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results and are not guarantees of future results. Judgments and approximations are a necessary and integral part of constructing projected returns. Any estimate of what could have been an investment strategy's performance is likely to differ from what the strategy would actually have yielded had it been in existence during the relevant period. The source and use of data and the arithmetic operations used for calculating projected returns may be incorrect, inappropriate, flawed or otherwise deficient.

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# Oklahoma Municipal Retirement Fund

**Investment Performance Review** 

December 31, 2022



We are proud to announce that ACG has again been named a Greenwich Associates Quality Leader - recognized as one of the top consultants in the industry.

Methodology and Disclosure: Between July and October 2021, Coalition Greenwich (previously known as Greenwich Associates), conducted in-person and phone interviews and online surveys with 811 professionals at 661 of the largest tax-exempt funds in the United States, including corporate and union funds, public funds, endowments and foundations, insurance general healthcare organizations, with either pension or investment pool assets greater than \$150 million. Study participants were asked to provide quantitative and qualitative evaluations of their asset managers and investment consultants, including qualitative assessments of those firms soliciting their business and detailed information on important market trends. ACG is one of four firms recognized in the mid-size investment consultant category. The ratings may not be representative of any one client's experience with ACG; rather they are representative of those clients that chose to participate in the survey. The results are not indicative of ACG's future performance. ACG does not pay to have its clients participate in the study.

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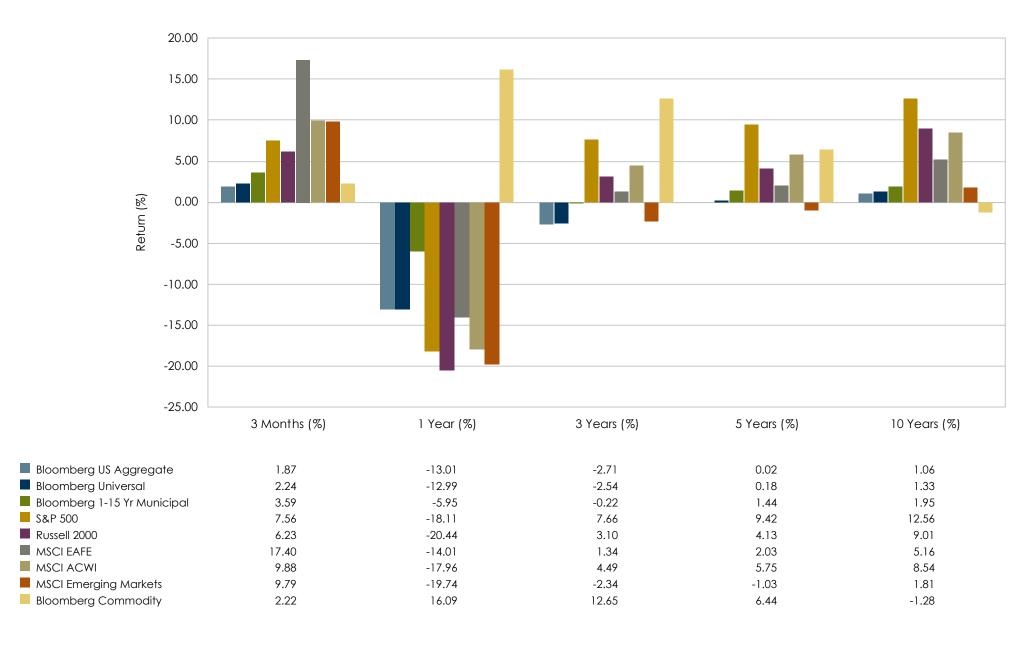
Tab 1	Market Overview
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Oklahoma Municipal Retirement Fund - Defined Benefit Plan

**Market Overview** 

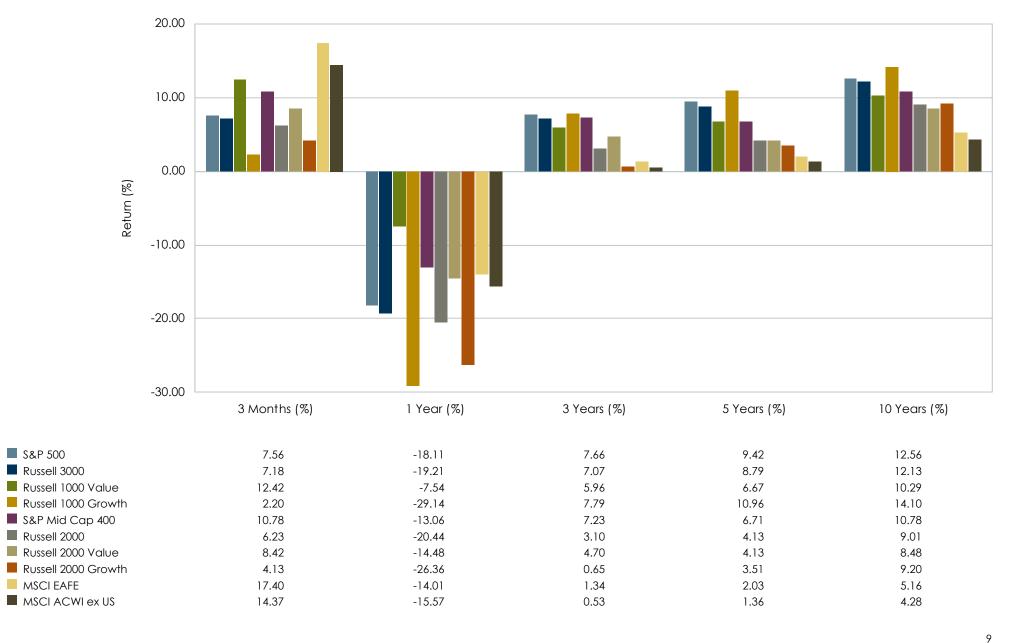
#### **Market Environment**

For the Periods Ending December 31, 2022



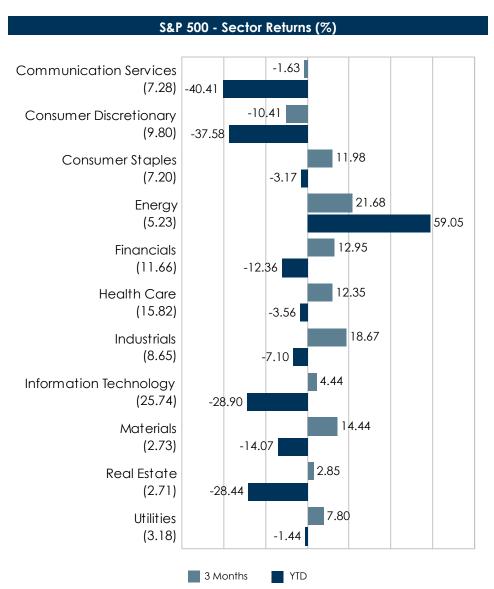
## **Equity Index Returns**

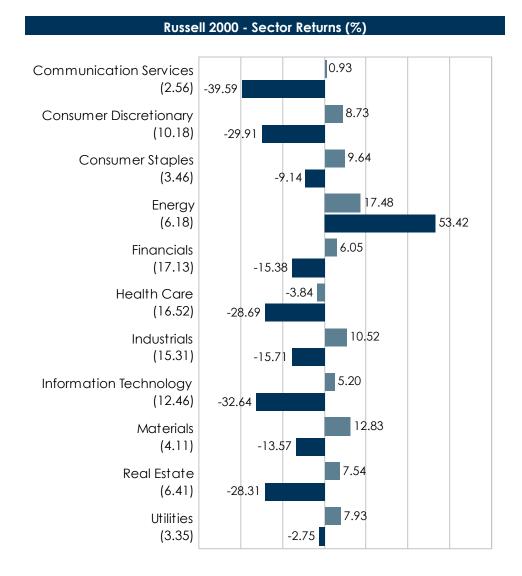
For the Periods Ending December 31, 2022



#### US Markets - Performance Breakdown

For the Periods Ending December 31, 2022

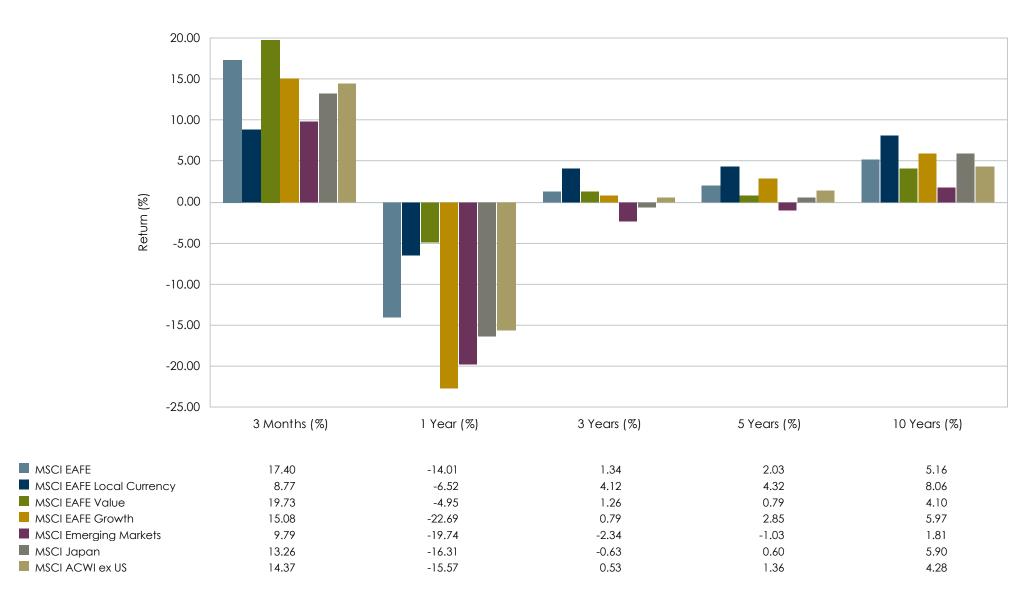




Numbers in parenthesis represent sector weightings of the index. Sector weights may not add to 100% due to rounding or securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

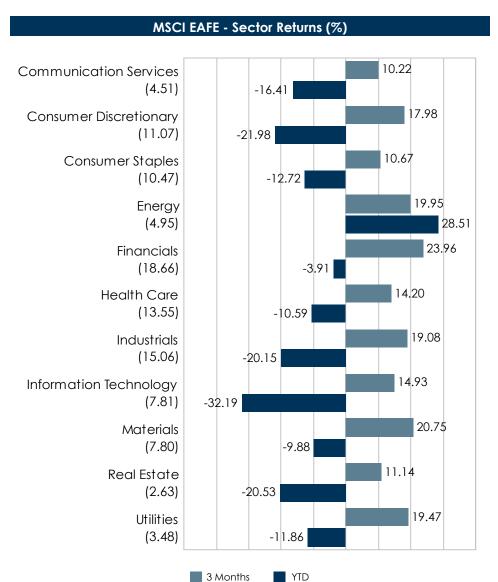
## **Non-US Equity Index Returns**

For the Periods Ending December 31, 2022



## Non-US Equity - Performance Breakdown

For the Periods Ending December 31, 2022



### MSCI EAFE - Country Returns (%) 15.72 Australia (7.94) -5.161 31.07 Austria (0.19) -25.59 22.69 Belgium (1.03) -11.61 31.64 Denmark (2.97) -4.31 16.38 Finland (1.02) -14.02 22.30 France (11.85) -12.67 24.69 Germany (8.15) -21.61 18.22 Hong Kong (3.03) -4.71 21.49 Ireland (0.69) -25.93 0.57 Israel (0.72) -26.26 26.61 Italy (2.35) -13.43 13.25 Japan (21.94) -16.31 | 21.03 Netherlands (4.25) -27.52 | 24.56 New Zealand (0.19) -13.26 17.29 Norway (0.78) -5.74 17.23 Portugal (0.23) 1.05 10.47 Singapore (1.51) -10.94 23.14 Spain (2.42) -6.78 18.28 Sweden (3.33) -27.65 10.42 Switzerland (10.14)

-17.59 I

-4.82

United Kingdom (15.27)

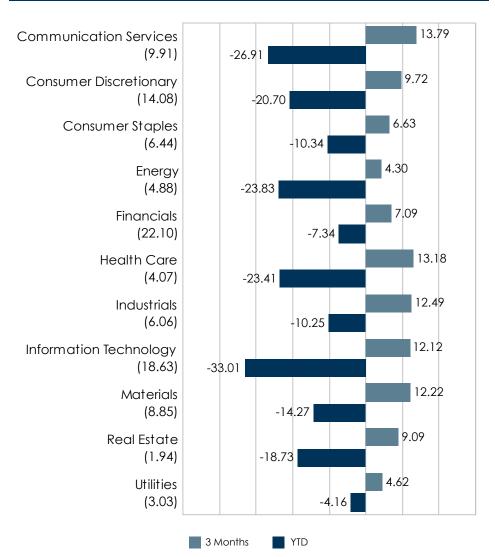
Numbers in parenthesis represent sector or country weights of the index. Sector or country weights may not add to 100% due to rounding.

16.99

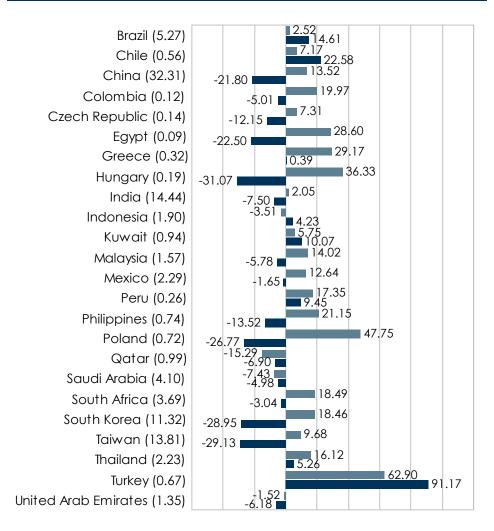
## **Emerging Markets - Performance Breakdown**

For the Periods Ending December 31, 2022

## MSCI Emerging Markets - Sector Returns (%)



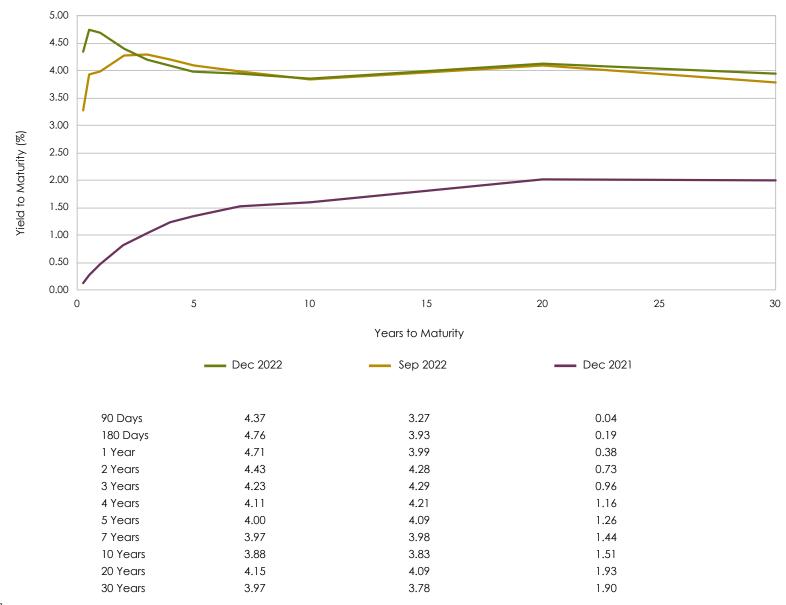
## MSCI Emerging Markets - Country Returns (%)



Numbers in parenthesis represent sector or country weights of the index. Sector or country weights may not add to 100% due to rounding.

## Interest Rate Term Structure

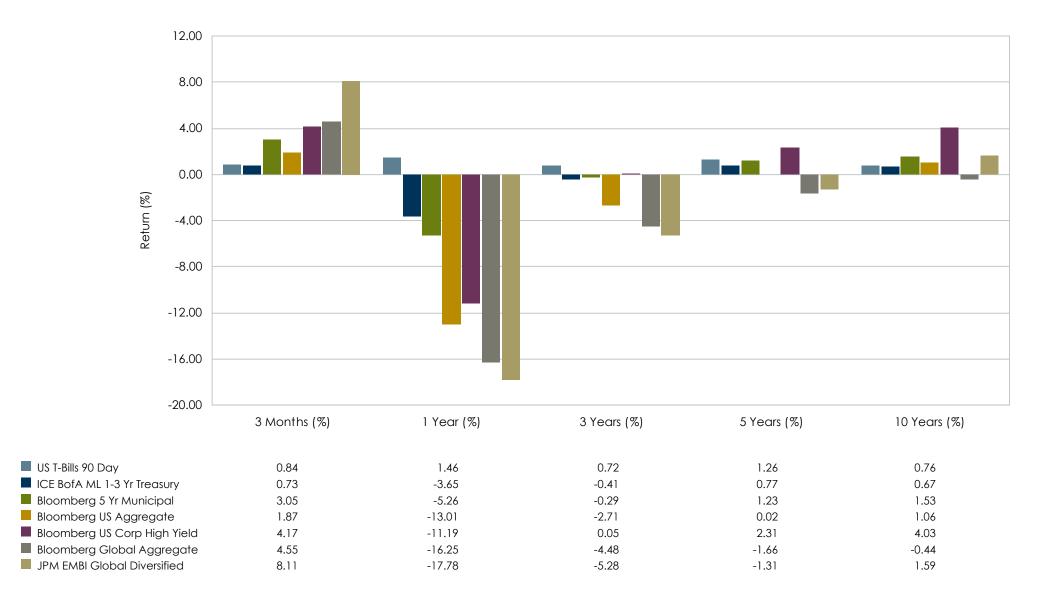
Government Issues - 3 Months to 30 Years Maturity



Source: Bloomberg

## **Fixed Income Index Returns**

For the Periods Ending December 31, 2022



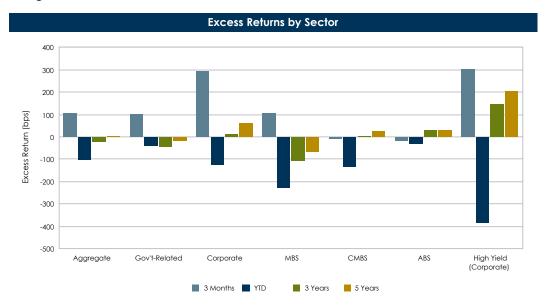
## **US Fixed Income Market Environment**

For the Periods Ending December 31, 2022

Nominal Returns By Sector (%)										
	3 Months	YTD	3 Years	<u>5 Years</u>						
US Aggregate	1.87	-13.02	-2.72	0.02						
US Treasury	0.73	-12.46	-2.61	-0.09						
US Agg: Gov't-Related	1.86	-11.09	-2.39	0.34						
US Corporate IG	3.64	-15.76	-2.88	0.45						
MBS	2.15	-11.80	-3.21	-0.53						
CMBS	1.03	-10.91	-1.63	0.76						
ABS	0.80	-4.28	-0.11	1.18						
US Corp High Yield	4.18	-11.18	0.06	2.32						

Nominal Returns by Quality (%)										
	3 Months	<u>YTD</u>	3 Years	<u> 5 Years</u>						
AAA	1.29	-12.00	-2.73	-0.19						
AA	1.99	-14.90	-3.03	-0.01						
A	3.22	-15.14	-2.86	0.22						
BAA	4.16	-15.94	-2.88	0.70						
BA	4.30	-10.79	0.94	3.00						
В	4.93	-10.26	-0.53	2.20						
CAA	0.50	-16.29	-2.40	-0.42						

Nominal Returns by Maturity (%)									
	3 Months	<u>YTD</u>	3 Years	<u> 5 Years</u>					
1-3 Yr.	0.90	-3.73	-0.42	0.86					
3-5 Yr.	1.67	-7.84	-1.46	0.57					
5-7 Yr.	2.06	-10.79	-2.02	0.37					
7-10 Yr.	2.16	-14.83	-2.92	0.12					
10+ Yr.	2.48	-27.11	-6.20	-1.19					





Source: Bloomberg

## **Monthly Index Returns**

For the Periods Ending December 31, 2022

Index Name	3 Months (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	7 Years (%)	10 Years (%)
Equity							
S&P 500	7.56	-18.11	-18.11	7.66	9.42	11.48	12.56
Russell 1000	7.24	-19.13	-19.13	7.35	9.13	11.26	12.37
Russell 1000 Growth	2.20	-29.14	-29.14	7.79	10.96	12.95	14.10
Russell 1000 Value	12.42	-7.54	-7.54	5.96	6.67	9.12	10.29
Russell 2500	7.43	-18.37	-18.37	5.00	5.89	9.00	10.03
Russell 2000	6.23	-20.44	-20.44	3.10	4.13	7.90	9.01
Russell 2000 Growth	4.13	-26.36	-26.36	0.65	3.51	7.09	9.20
Russell 2000 Value	8.42	-14.48	-14.48	4.70	4.13	8.23	8.48
Wilshire 5000 Cap Wtd	7.10	-16.03	-16.03	8.73	9.79	11.84	12.69
MSCI ACWI	9.88	-17.96	-17.96	4.49	5.75	8.66	8.54
MSCI ACWI ex US	14.37	-15.57	-15.57	0.53	1.36	5.30	4.28
MSCI EAFE	17.40	-14.01	-14.01	1.34	2.03	5.03	5.16
MSCI EAFE Local Currency	8.77	-6.52	-6.52	4.12	4.32	6.11	8.06
MSCI EAFE Growth	15.08	-22.69	-22.69	0.79	2.85	5.44	5.97
MSCI EAFE Value	19.73	-4.95	-4.95	1.26	0.79	4.30	4.10
MSCI Emerging Markets	9.79	-19.74	-19.74	-2.34	-1.03	5.56	1.81
Fixed Income							
ICE BofA ML 1-3 Yr Treasury	0.73	-3.65	-3.65	-0.41	0.77	0.74	0.67
Bloomberg 5 Yr Municipal	3.05	-5.26	-5.26	-0.29	1.23	1.27	1.53
Bloomberg US Aggregate	1.87	-13.01	-13.01	-2.71	0.02	0.89	1.06
Bloomberg Gov't Bond	0.72	-12.32	-12.32	-2.57	-0.06	0.43	0.60
Bloomberg US Credit	3.44	-15.26	-15.26	-2.86	0.42	1.96	1.82
Bloomberg 10 Yr Municipal	4.49	-6.57	-6.57	-0.12	1.70	2.02	2.41
Bloomberg US Corp High Yield	4.17	-11.19	-11.19	0.05	2.31	5.05	4.03
FTSE World Govt Bond	3.82	-18.26	-18.26	-5.75	-2.54	-0.58	-1.22
Bloomberg Global Aggregate	4.55	-16.25	-16.25	-4.48	-1.66	0.12	-0.44
Bloomberg Multiverse	4.70	-16.01	-16.01	-4.38	-1.57	0.33	-0.28
JPM EMBI Global Diversified	8.11	-17.78	-17.78	-5.28	-1.31	1.85	1.59
Real Assets							
NCREIF Property	-3.50	5.52	5.52	8.07	7.46	7.47	8.82
NFI ODCE Net	-5.13	6.59	6.59	8.98	7.73	7.58	9.11
FTSE NAREIT Equity REITs	5.24	-24.37	-24.37	-0.11	3.68	4.58	6.53
Bloomberg Commodity	2.22	16.09	16.09	12.65	6.44	6.49	-1.28
Cash and Equivalents							
US T-Bills 90 Day	0.84	1.46	1.46	0.72	1.26	1.07	0.76

## **Monthly Index Returns**

For the Periods Ending January 31, 2023

Index Name	1 Month (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	7 Years (%)	10 Years (%)
Equity							
S&P 500	6.28	6.28	-8.22	9.88	9.54	13.28	12.68
Russell 1000	6.70	6.70	-8.55	9.66	9.38	13.19	12.51
Russell 1000 Growth	8.33	8.33	-16.02	9.89	11.22	15.19	14.53
Russell 1000 Value	5.18	5.18	-0.43	8.54	6.94	10.74	10.15
Russell 2500	10.00	10.00	-2.05	9.13	7.28	11.82	10.35
Russell 2000	9.75	9.75	-3.38	7.51	5.54	10.79	9.36
Russell 2000 Growth	9.95	9.95	-6.50	4.26	4.68	10.35	9.54
Russell 2000 Value	9.54	9.54	-0.52	9.94	5.78	10.74	8.84
Wilshire 5000 Cap Wtd	6.90	6.90	-4.79	11.17	10.13	13.82	12.85
MSCI ACWI	7.19	7.19	-7.54	7.33	6.06	10.72	8.80
MSCI ACWI ex US	8.13	8.13	-5.22	4.12	1.85	7.56	4.68
MSCI EAFE	8.11	8.11	-2.33	4.74	2.63	7.35	5.44
MSCI EAFE Local Currency	6.31	6.31	3.13	6.71	5.35	7.96	8.11
MSCI EAFE Growth	8.50	8.50	-6.28	3.76	3.60	7.68	6.35
MSCI EAFE Value	7.74	7.74	1.34	5.09	1.23	6.70	4.28
MSCI Emerging Markets	7.91	7.91	-11.73	1.77	-1.11	7.74	2.45
Fixed Income							
ICE BofA ML 1-3 Yr Treasury	0.69	0.69	-2.35	-0.36	0.97	0.75	0.74
Bloomberg Municipal	2.87	2.87	-3.25	-0.42	2.07	1.93	2.38
Bloomberg US Aggregate	3.08	3.08	-8.36	-2.35	0.86	1.13	1.43
Bloomberg Gov't Bond	2.48	2.48	-8.43	-2.55	0.70	0.49	0.93
Bloomberg US Credit	3.81	3.81	-9.11	-2.39	1.36	2.43	2.29
Bloomberg 10 Yr Municipal	2.70	2.70	-1.20	0.12	2.56	2.19	2.67
Bloomberg US Corp High Yield	3.81	3.81	-5.22	1.29	2.96	5.86	4.28
FTSE World Govt Bond	3.19	3.19	-13.84	-5.27	-2.25	-0.33	-0.78
Bloomberg Global Aggregate	3.28	3.28	-11.69	-3.85	-1.25	0.46	-0.03
Bloomberg Multiverse	3.32	3.32	-11.42	-3.71	-1.17	0.69	0.13
Real Assets							
Bloomberg Commodity	-0.49	-0.49	6.20	15.37	5.92	6.68	-1.57
Cash and Equivalents							
US T-Bills 90 Day	0.31	0.31	1.78	0.78	1.30	1.11	0.80

Oklahoma Municipal Retirement Fund - Defined Benefit Plan

**Defined Benefit Plan Performance** 

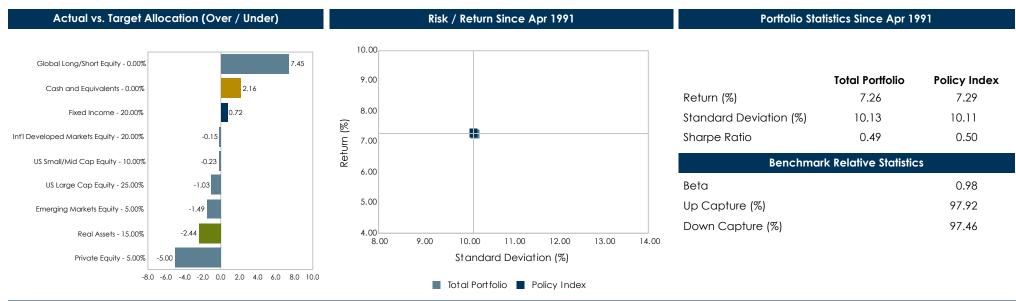
## Performance vs. Objectives

For the Periods Ending December 31, 2022

	Benchmark (%)	Rank	Total Portfolio (%)	Rank	Objective Met?	Benchmark (%)	Rank	Total Portfolio (%)	Rank	Objective Met?
			5 Years					10 Years		
The Pension Plan gross annualized total return should equal or exceed the Plan's actuarial interest rate assumption.	7.25		5.30		No	7.25		7.42		Yes
The Pension Plan gross annualized total return should equal or exceed the annualized total return of the policy index.	4.81		5.30		Yes	7.22		7.42		Yes
The Pension Plan gross annualized total return should rank at median or above when compared to a universe of total fund portfolios with a similar allocation to equities (55%-70%).	4.58	50th	5.30	24th	Yes	6.78	50th	7.42	27th	Yes
<ul> <li>Gross volatility or standard deviation should be in line with that of the Policy Index.</li> </ul>	12.79		12.03		Yes	10.22		9.48		Yes

## **Total Portfolio**

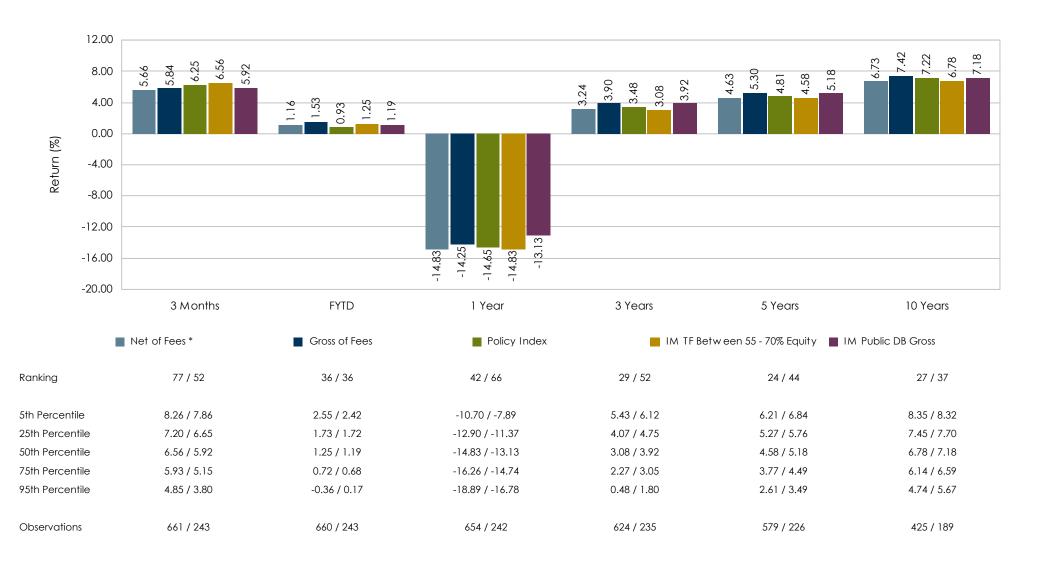
For the Periods Ending December 31, 2022



Performance by Broad Asset Class	Market Value (\$000s)	Actual Allocation (%)	Target Allocation (%)	3 Months (%)	FYTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Since Incp. (%)
Total Portfolio (04/91)	646,629	100.00	100.00	5.84	1.53	-14.25	3.90	5.30	7.42	7.26
Policy Index				6.25	0.93	-14.65	3.48	4.81	7.22	7.29
Equity (10/10)	417,418	64.55	65.00	9.60	3.81	-17.71	5.01	6.54	9.34	9.58
MSCI ACWI				9.88	2.51	-17.96	4.49	5.75	8.54	8.40
Fixed Income (06/03)	134,013	20.72	20.00	1.92	-1.30	-9.45	-0.34	1.53	2.32	4.17
Bloomberg US Aggregate				1.87	-2.97	-13.01	-2.71	0.02	1.06	2.95
Real Assets (09/11)	81,232	12.56	15.00	-4.53	-5.40	5.01	9.55	8.65	10.76	11.08
NCREIF Property				-3.50	-2.95	5.52	8.07	7.46	8.82	9.29
Cash and Equivalents (09/11)	13,966	2.16	0.00	0.75	1.16	1.27	0.54	1.05	0.64	0.57

**Total Portfolio** 

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

<sup>\*</sup> Performance is calculated using net of fee returns.
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## Rates of Return Summary & Universe Rankings

For the Periods Ending December 31, 2022

	Market Value (\$000s)	Actual Allocation (%)	3 Months (%)	Rank	FYTD (%)	Rank	1 Year (%)	Rank	3 Years (%)	Rank	5 Years (%)	Rank	10 Years (%)
Total Portfolio (04/91)	646,629	100.00	5.84	77 / 52	1.53	36 / 36	-14.25	42 / 66	3.90	29 / 52	5.30	24 / 44	7.42
Policy Index <sup>1</sup>			6.25		0.93		-14.65		3.48		4.81		7.22
IM TF Between 55 - 70% Equity			6.56		1.25		-14.83		3.08		4.58		6.78
IM Public DB Gross			5.92		1.19		-13.13		3.92		5.18		7.18
Equity (10/10)	417,418	64.55	9.60		3.81		-17.71		5.01		6.54		9.34
MSCI ACWI			9.88		2.51		-17.96		4.49		5.75		8.54
US Equity (06/00)	218,196	33.74	7.71		3.57		-17.01		7.45		9.16		11.93
Russell 3000			7.18		2.40		-19.21		7.07		8.79		12.13
US Large Cap Equity (09/04)	155,000	23.97	7.56		2.31		-18.11		7.77		9.40		12.62
S&P 500			7.56		2.31		-18.11		7.66		9.42		12.56
SSgA S&P 500 Non-Lending (02/10)	155,000	23.97	7.56	73	2.31	70	-18.11	67	7.64	57	9.43	48	12.60
S&P 500			7.56		2.31		-18.11		7.66		9.42		12.56
eA US Large Cap Core Equity			8.73		3.49		-16.05		7.85		9.38		12.44
US Small/Mid Cap Equity	63,196	9.77											
River Road Small Cap Value (04/16)	31,831	4.92	9.99	63	7.20	34	-4.77	15	6.35	62	8.38	12	
Russell 2000 Value			8.42		3.42		-14.48		4.70		4.13		8.48
eA US Small Cap Value Equity			10.99		5.47		-10.93		7.39		5.75		10.12
William Blair SMid Growth (11/22)	31,365	4.85											
Russell 2500 Growth			4.72		4.59		-26.21		2.88		5.97		10.62
eA US Small-Mid Cap Growth Equity			4.87		3.36		-27.64		5.84		8.50		11.65
Non-US Equity (06/00)	151,017	23.35	14.83		4.47		-19.44		2.61		3.78		6.65
MSCI ACWI ex US			14.37		3.16		-15.57		0.53		1.36		4.28
International Developed Market	128,339	19.85											
Artisan International Value (05/10)	48,018	7.43	19.31	11	7.83	10	-5.84	6	6.95	2	5.57	3	8.79
MSCI EAFE			17.40		6.49		-14.01		1.34		2.03		5.16
eA EAFE All Cap Equity			16.25		5.39		-14.87		1.37		1.82		5.71

## Rates of Return Summary & Universe Rankings

For the Periods Ending December 31, 2022

	Market Value (\$000s)	Actual Allocation (%)	3 Months (%)	Rank	FYTD (%)	Rank	1 Year (%)	Rank	3 Years (%)	Rank	5 Years (%)	Rank	10 Years (%)
Ninety One International Dynamic Fund (03/15)	41,796	6.46	13.97	72	3.46	62	-19.47	67	0.99	61	1.87	59	
MSCI ACWI ex US			14.37		3.16		-15.57		0.53		1.36		4.28
eA ACWI ex-US Core Equity			14.77		3.94		-17.52		1.40		2.19		5.62
WCM Focused Int'l Growth (03/15)	38,525	5.96	12.66	65	4.65	39	-28.06	60	4.53	17	7.82	5	
MSCI ACWI ex US			14.37		3.16		-15.57		0.53		1.36		4.28
eA ACWI ex-US Growth Equity			13.34		3.85		-26.48		1.71		3.05		6.94
Emerging Markets Equity (03/15)	22,678	3.51	11.19		-0.59		-26.88		-6.23		-2.95		
MSCI Emerging Markets			9.79		-2.74		-19.74		-2.34		-1.03		1.81
Harding Loevner Emerging Markets (03/15)	22,678	3.51	11.19	37	-0.59	51	-26.88	90	-6.23	98	-2.95	95	
MSCI Emerging Markets			9.79		-2.74		-19.74		-2.34		-1.03		1.81
eA Global Emerging Mkts Equity			10.39		-0.56		-19.68		-1.24		-0.21		2.80
Global Long/Short Equity (09/11) <sup>2</sup>	48,205	7.45	3.71		2.58		-17.03		1.60		3.09		4.89
MSCI ACWI			9.88		2.51		-17.96		4.49		5.75		8.54
HFRI FOF: Strategic			2.67		0.71		-11.86		2.38		2.05		3.38
Fixed Income (06/03)	134,013	20.72	1.92		-1.30		-9.45		-0.34		1.53		2.32
Bloomberg US Aggregate			1.87		-2.97		-13.01		-2.71		0.02		1.06
JP Morgan Fixed Income (06/91)	41,434	6.41	1.22	93	-2.97	74	-12.17	22	-1.80	29	0.70	30	1.65
Bloomberg US Aggregate			1.87		-2.97		-13.01		-2.71		0.02		1.06
eA US Core Fixed Income			1.85		-2.65		-12.83		-2.13		0.50		1.53
Amundi Pioneer Core Plus Bond Fund (11/11)	43,908	6.79	2.73	18	-1.24	15	-11.43	13	-0.54	17	1.42	19	2.58
Bloomberg Universal			2.24		-2.31		-12.99		-2.54		0.18		1.33
eA US Core Plus Fixed Income			2.15		-2.25		-13.06		-1.80		0.80		2.01
BlackRock Strategic Income Opportunities (07/17)	48,671	7.53	1.79	83	0.12	73	-5.02	37	1.37	23	2.48	18	
Bloomberg US Aggregate			1.87		-2.97		-13.01		-2.71		0.02		1.06
US T-Bills 30 Day + 4.0%			1.87		3.36		5.53		4.68		5.24		4.73
eA Global Unconstrained Fixed Income			3.97		1.52		-7.62		-0.34		1.51		2.09

## Rates of Return Summary & Universe Rankings

For the Periods Ending December 31, 2022

	Market Value (\$000s)	Actual Allocation (%)	3 Months (%)	Rank	FYTD (%)	Rank	1 Year (%)	Rank	3 Years (%)	Rank	5 Years (%)	Rank	10 Years (%)
Real Assets (09/11)	81,232	12.56	-4.53		-5.40		5.01		9.55		8.65		10.76
NCREIF Property			-3.50		-2.95		5.52		8.07		7.46		8.82
JP Morgan Special Situation Property (02/07)	23,245	3.59	-6.90	-1	10.07		-0.66		8.59		8.75		11.91
NFI ODCE Net			-5.13		-4.84		6.59		8.98		7.73		9.11
JP Morgan Strategic Property (05/07)	32,866	5.08	-4.97		-6.18		4.64		8.68		7.69		9.58
NFI ODCE Net			-5.13		-4.84		6.59		8.98		7.73		9.11
Clarion Lion Industrial Trust (07/22)	25,121	3.88	-1.61		3.56								
NFI ODCE Net			-5.13		-4.84		6.59		8.98		7.73		9.11
Cash and Equivalents (09/11)	13,966	2.16	0.75		1.16		1.27		0.54		1.05		0.64

## Notes:

<sup>1</sup> Policy Index: Effective September 2022, the index consists of 65.00% MSCI ACWI, 20.00% Bloomberg US Aggregate, 15.00% NCREIF Property.

<sup>&</sup>lt;sup>2</sup> Performance is net of manager fees.



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Oklahoma Municipal Retirement Fund - Defined Benefit Plan

**Balanced Fund Managers** 

## SSgA S&P 500 Non-Lending

For the Periods Ending December 31, 2022

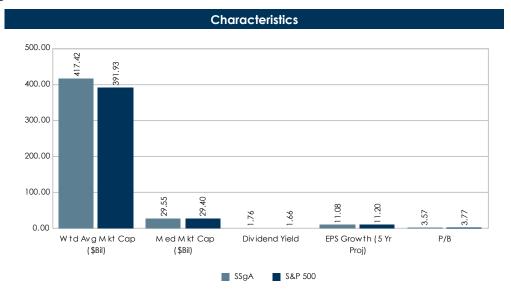
## **Account Description**

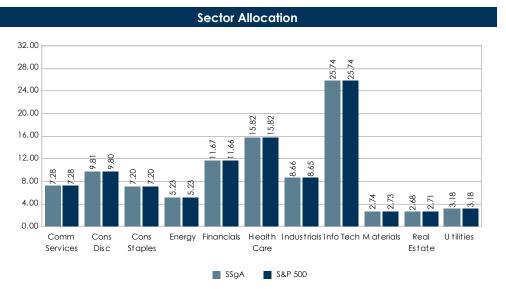
- Strategy US Large Cap Equity
- Vehicle Non-Mutual Commingled
- Benchmark S&P 500
- Performance Inception Date February 2010
- Fees 1 bp

## **Performance Goals**

• Mirror the risk and return profile of the S&P 500 over all time periods.

# Dollar Growth Summary (\$000s) 3 Months 1 Year Beginning Market Value 144,189 226,013 Net Additions -94 -32,399 Return on Investment 10,905 -38,614 Ending Market Value 155,000 155,000

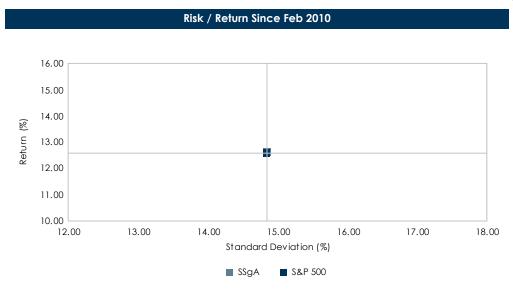




Characteristic and allocation charts represents data of the State Street S&P 500 Flagship Non-Lending Fund (Non-Mutual Commingled). Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

## SSgA S&P 500 Non-Lending

For the Periods Ending December 31, 2022



## Portfolio Statistics Since Feb 2010

	SSgA	S&P 500
Return (%)	12.61	12.57
Standard Deviation (%)	14.84	14.84
Sharpe Ratio	0.81	0.81

	Benchmark Relative Statistics	
Beta	1.00	
R Squared (%)	100.00	
Alpha (%)	0.03	
Tracking Error (%)	0.04	
Batting Average (%)	59.35	
Up Capture (%)	100.12	
Down Capture (%)	99.97	



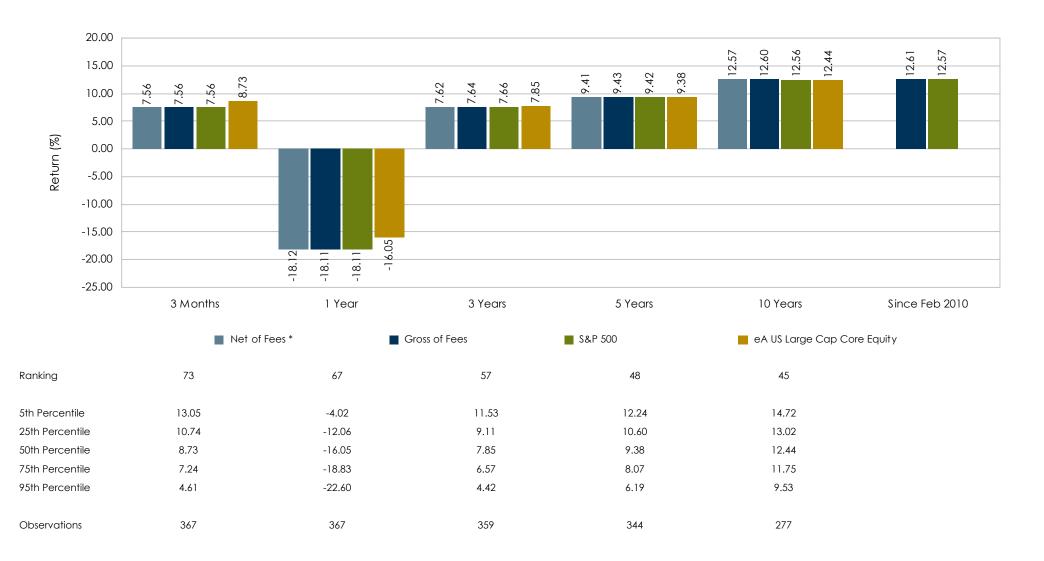


## Return Analysis Since Feb 2010

	SSgA	\$&P 500
Number of Months	155	155
Highest Monthly Return (%)	12.82	12.82
Lowest Monthly Return (%)	-12.37	-12.35
Number of Positive Months	107	107
Number of Negative Months	48	48
% of Positive Months	69.03	69.03

## SSgA S&P 500 Non-Lending

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

<sup>\*</sup> Performance is calculated using net of fee returns.
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## **River Road Small Cap Value**

For the Periods Ending December 31, 2022

## **Account Description**

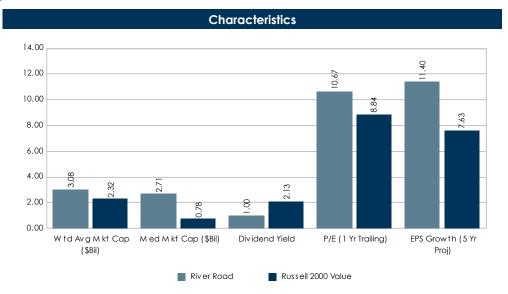
- Strategy US Small/Mid Cap Value
- Vehicle Separately Managed Account
- Benchmark Russell 2000 Value
- Performance Inception Date April 2016
- Fees First \$10M at 95 bps; next \$15M at 90 bps; next \$25M at 85 bps

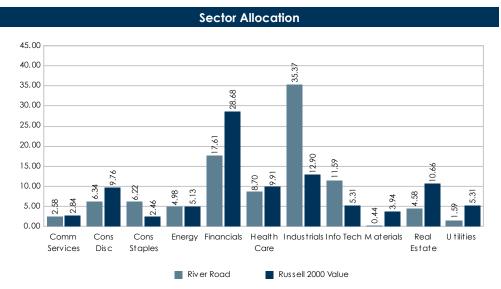
## **Performance Goals**

- Outperform the Russell 2000 Value over a complete market cycle (typically 3 to 5 years).
- Rank above median in the eA US Small Cap Value Equity universe over a complete market cycle (3 to 5 years).

## Dollar Growth Summary (\$000s)

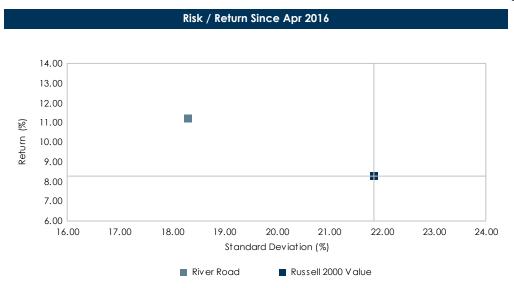
	3 Months	1 Year
Beginning Market Value	29,012	40,076
Net Additions	-81	-6,076
Return on Investment	2,899	-2,169
Income	77	338
Gain/Loss	2,821	-2,507
Ending Market Value	31,831	31,831





## **River Road Small Cap Value**

For the Periods Ending December 31, 2022

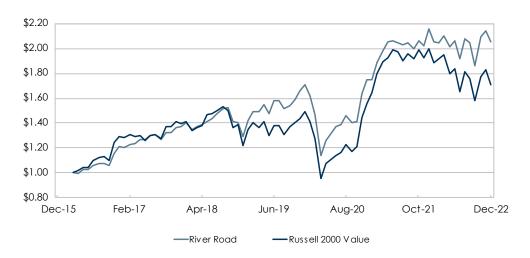


## Portfolio Statistics Since Apr 2016

	River Road	Russell 2000 Value
Return (%)	11.22	8.27
Standard Deviation (%)	18.31	21.85
Sharpe Ratio	0.56	0.33

	Benchmark Relative Statistics	
Beta	0.81	
R Squared (%)	92.58	
Alpha (%)	4.08	
Tracking Error (%)	6.54	
Batting Average (%)	54.32	
Up Capture (%)	83.52	
Down Capture (%)	77.87	

## Growth of a Dollar Since Apr 2016

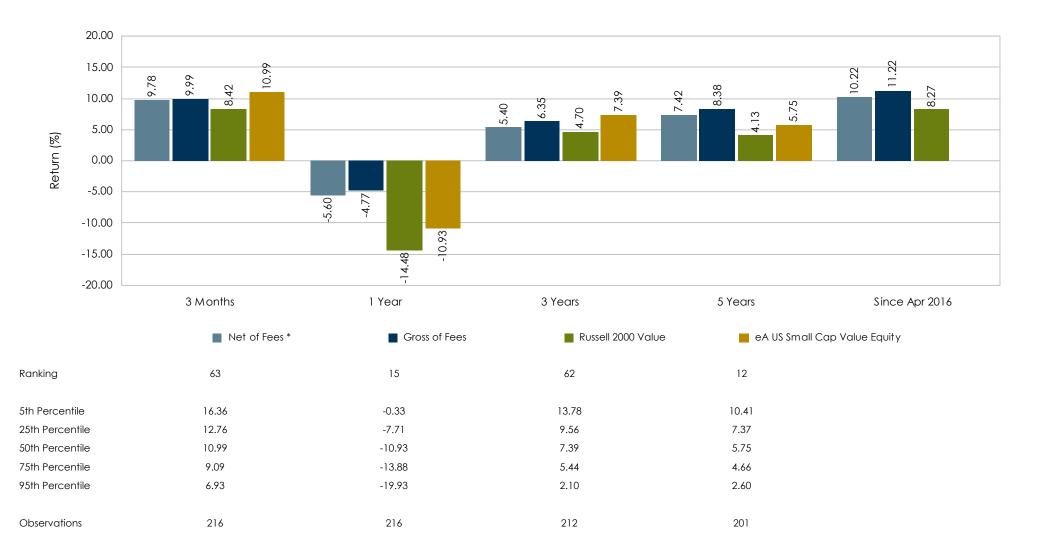


## Return Analysis Since Apr 2016

	River Road	Russell 2000 Value
Number of Months	81	81
Highest Monthly Return (%)	15.86	19.31
Lowest Monthly Return (%)	-22.26	-24.67
Number of Positive Months	50	54
Number of Negative Months	31	27
% of Positive Months	61.73	66.67

## **River Road Small Cap Value**

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

<sup>\*</sup> Performance is calculated using net of fee returns.
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## William Blair SMid Growth

For the Periods Ending December 31, 2022

## **Account Description**

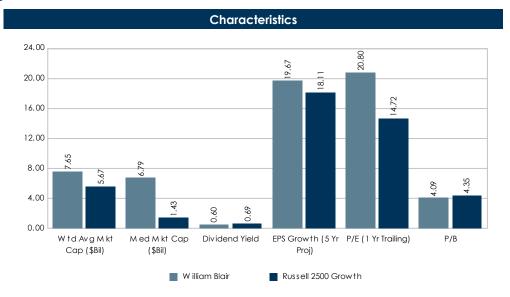
- Strategy US Small/Mid Cap Growth
- Vehicle Non-Mutual Commingled
- Benchmark Russell 2500 Growth
- Performance Inception Date November 2022
- **Fees** 85 bps

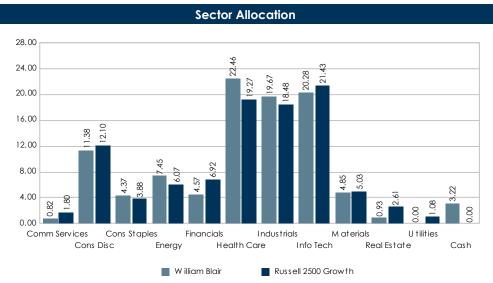
## **Performance Goals**

- Exceed the return of the Russell 2500 Growth over a complete market cycle (3 to 5 years).
- Rank above median in the eA US Small-Mid Cap Growth Equity universe over a complete market cycle (3 to 5 years).

## Dollar Growth Summary (\$000s)

	3 Months	1 Year
Beginning Market Value	0	0
Net Additions	29,542	29,542
Return on Investment	1,823	1,823
Ending Market Value	31,365	31,365





Characteristic and allocation charts represents the composite data of the William Blair SMid Growth.

Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

## **Artisan International Value**

For the Periods Ending December 31, 2022

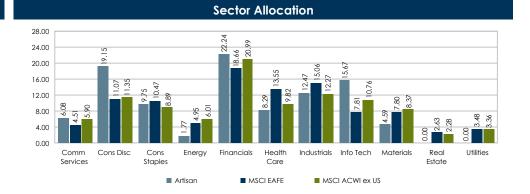
## **Account Description**

- Strategy Int'l Developed Markets Equity
- Vehicle Mutual Fund: Institutional Class (APHKX)
- Benchmarks MSCI EAFE and MSCI ACWI ex US
- Performance Inception Date May 2010
- Expense Ratio 103 bps

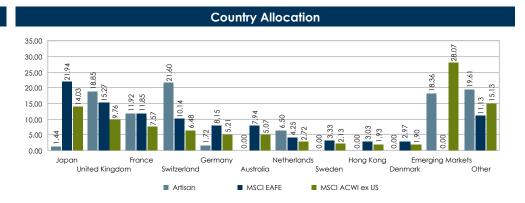
## **Performance Goals**

- Exceed the returns of the MSCI EAFE over a complete market cycle (3 to 5 years).
- Rank above the median in the eA EAFE All Cap Equity universe over a complete market cycle (3 to 5 years).

# Characteristics 100.00 80.00 40.00 20.00 Wtd Avg Mkt Cap (\$Bil) P/E (1 Yr Trailing) P/B (The Nation of Section 1997) P/B (The Nation 1997) P/B (The Nation of Section 1997) P/B (The Nation of Sectio

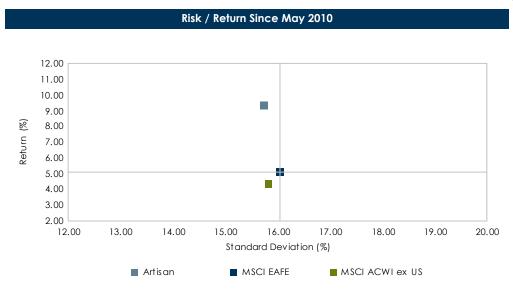


# Net Dollar Growth Summary (\$000s) 3 Months 1 Year Beginning Market Value 40,349 51,520 Net Additions 0 0 Return on Investment 7,669 -3,502 Ending Market Value 48,018 48,018



## **Artisan International Value**

For the Periods Ending December 31, 2022

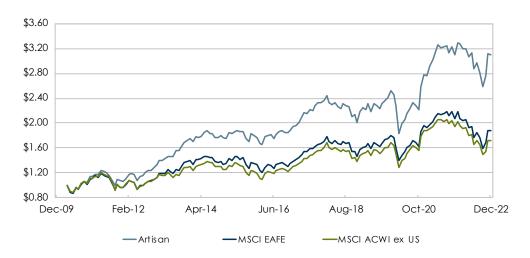


## Portfolio Statistics Since May 2010

		MSCI
Artisan	MSCI EAFE	ACWI ex US
9.32	5.10	4.34
15.74	16.04	15.82
0.56	0.28	0.24
	9.32 15.74	9.32 5.10 15.74 16.04

Benchmark Relative Statistics		
Beta	0.93	0.94
R Squared (%)	90.46	89.88
Alpha (%)	4.42	5.10
Tracking Error (%)	4.98	5.09
Batting Average (%)	57.24	57.89
Up Capture (%)	101.30	106.30
Down Capture (%)	84.11	84.89

## Growth of a Dollar Since May 2010

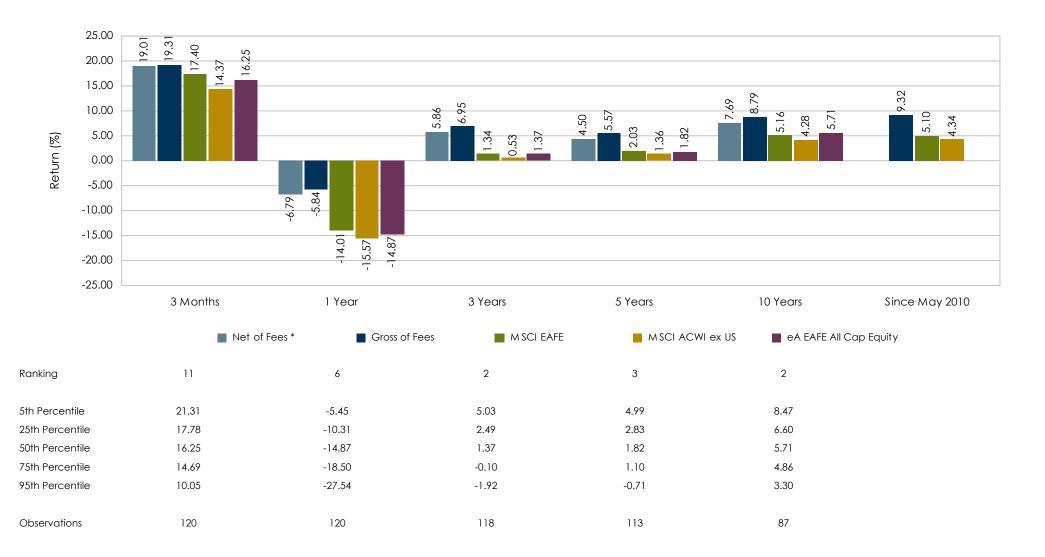


## Return Analysis Since May 2010

	Artisan	MSCI EAF	MSCI E ACWI ex US
Number of Months	152	152	152
Highest Monthly Return (%)	16.60	15.51	13.46
Lowest Monthly Return (%)	-19.43	-13.25	-14.40
<b>Number of Positive Months</b>	87	85	87
Number of Negative Months	65	67	65
% of Positive Months	57.24	55.92	57.24

## **Artisan International Value**

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

<sup>\*</sup> Performance is calculated using net of fee returns.
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## Ninety One International Dynamic Fund

For the Periods Ending December 31, 2022

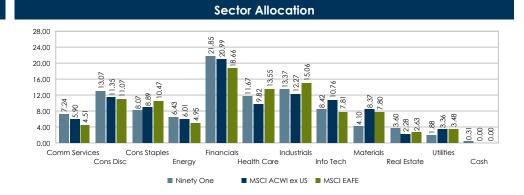
## **Account Description**

- Strategy Int'l Developed Markets Equity
- Vehicle Non-Mutual Commingled
- Benchmarks MSCI ACWI ex US and MSCI EAFE
- Performance Inception Date March 2015
- **Fees** 35 bps

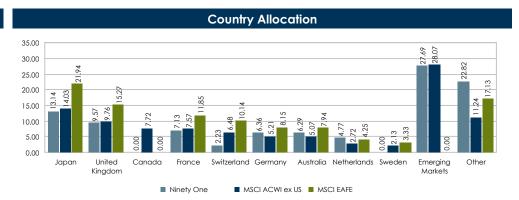
## **Performance Goals**

- Exceed the returns of the MSCI ACWI ex US over a complete market cycle (3 to 5 years).
- Rank above the median in the eA ACWI ex-US Core Equity universe over a complete market cycle (3 to 5 years).

# Characteristics 100,00 80,00 40,00 40,00 Wtd Avg Mkt Cap Med Mkt Cap (\$Bil) Dividend Yield P/E (1 Yr Trailing) EPS Growth (5 Yr Proj) Ninety One MSCI ACWI ex US MSCI EAFE

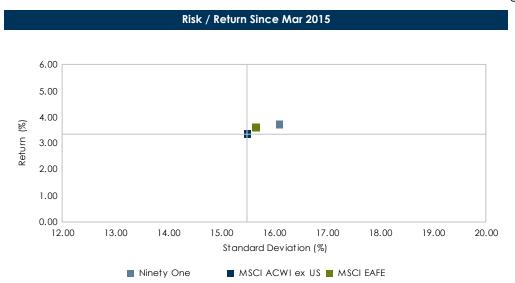


Dollar Growth Summary (\$000s)		
3 Months	1 Year	
36,773	52,437	
-103	-442	
5,126	-10,200	
41,796	41,796	
	3 Months 36,773 -103 5,126	



## Ninety One International Dynamic Fund

For the Periods Ending December 31, 2022



## MSCI Ninety One ACWI ex US MSCI EAFE

	Ninely One	ACWI ex 03	MSCIEAFE
Return (%)	3.71	3.33	3.60
Standard Deviation (%)	16.10	15.50	15.66
Sharpe Ratio	0.17	0.16	0.17

Portfolio Statistics Since Mar 2015

Benchmark Relative Statistics		
Beta	1.00	0.98
R Squared (%)	92.23	89.99
Alpha (%)	0.47	0.31
Tracking Error (%)	4.49	5.11
Batting Average (%)	53.19	54.26
Up Capture (%)	102.23	98.12
Down Capture (%)	100.21	98.09

## Growth of a Dollar Since Mar 2015

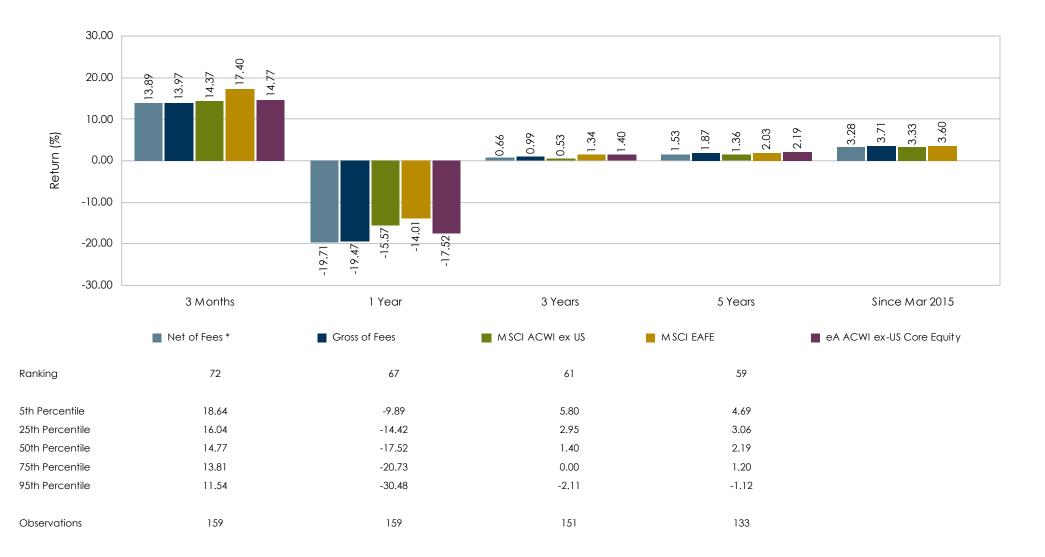


## Return Analysis Since Mar 2015

	MSCI		
	Ninety One	ACWI ex US	MSCI EAFE
Number of Months	94	94	94
Highest Monthly Return (%)	12.16	13.46	15.51
Lowest Monthly Return (%)	-16.64	-14.40	-13.25
Number of Positive Months	54	54	53
Number of Negative Months	40	40	41
% of Positive Months	57.45	57.45	56.38

## Ninety One International Dynamic Fund

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

<sup>\*</sup> Performance is calculated using net of fee returns.
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## **WCM Focused Int'l Growth**

For the Periods Ending December 31, 2022

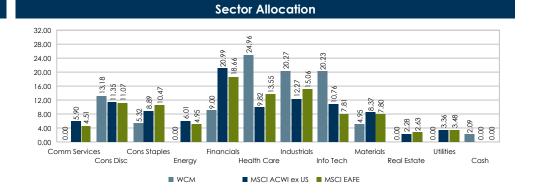
## **Account Description**

- Strategy Int'l Developed Markets Equity
- Vehicle Non-Mutual Commingled
- Benchmarks MSCI ACWI ex US and MSCI EAFE
- Performance Inception Date March 2015
- **Fees** 70 bps

## **Performance Goals**

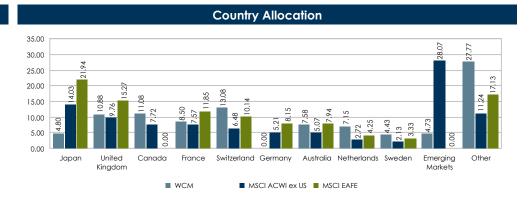
- Exceed the returns of the MSCI ACWI ex US over a complete market cycle (3 to 5 years).
- Rank above the median in the eA ACWI ex-US Growth Equity universe over a complete market cycle (3 to 5 years)

# Characteristics 120.00 100.00 80.00 40.00 20.00 Witd Avg Mkt Cap Med Mkt Cap (\$Bil) Dividend Yield P/E (1 Yr Trailing) EPS Growth (5 Yr Proj) WMSCI ACWI ex US MSCI EAFE



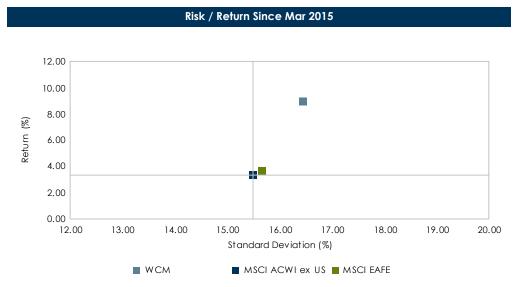
## 3 Months 1 Year Beginning Market Value 34,251 53,952 Net Additions -60 -298 Return on Investment 4,334 -15,129 Ending Market Value 38,525 38,525

**Dollar Growth Summary (\$000s)** 



## **WCM Focused Int'l Growth**

For the Periods Ending December 31, 2022



## Portfolio Statistics Since Mar 2015

	MSCI		
	WCM	ACWI ex US	MSCI EAFE
Return (%)	8.93	3.33	3.60
Standard Deviation (%)	16.44	15.50	15.66
Sharpe Ratio	0.49	0.16	0.17

Benchmark Relative Statistics		
Date:	0.02	0.03
Beta	0.93	0.93
R Squared (%)	77.31	78.27
Alpha (%)	5.92	5.66
Tracking Error (%)	7.90	7.74
Batting Average (%)	57.45	59.57
Up Capture (%)	107.06	103.69
Down Capture (%)	82.70	81.28



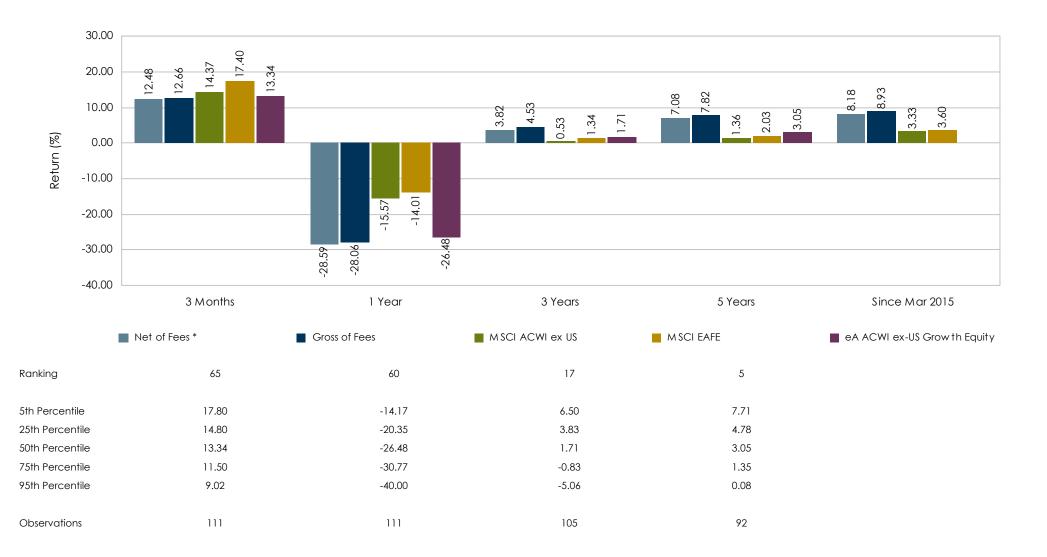


## Return Analysis Since Mar 2015

	MSCI		
	WCM	ACWI ex US	MSCI EAFE
Number of Months	94	94	94
Highest Monthly Return (%)	11.94	13.46	15.51
Lowest Monthly Return (%)	-12.87	-14.40	-13.25
Number of Positive Months	60	54	53
Number of Negative Months	34	40	41
% of Positive Months	63.83	57.45	56.38

## **WCM Focused Int'l Growth**

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

<sup>\*</sup> Performance is calculated using net of fee returns.
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## **Harding Loevner Emerging Markets**

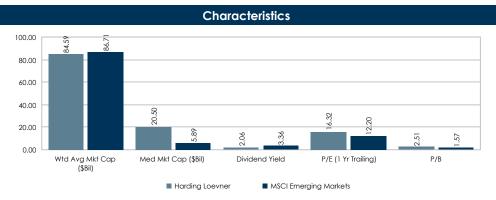
For the Periods Ending December 31, 2022

## **Account Description**

- Strategy Emerging Markets Equity
- Vehicle Mutual Fund: Institutional Class (HLEZX)
- Benchmark MSCI Emerging Markets
- Performance Inception Date March 2015
- Expense Ratio 100 bps

## Performance Goals

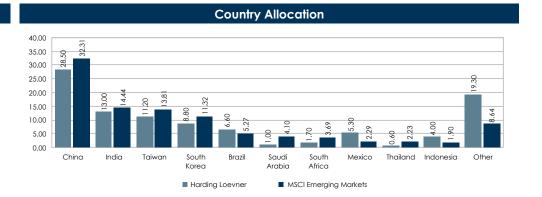
- Exceed the returns of the MSCI Emerging Markets over a complete market cycle (3 to 5 years).
- Rank above the median in the eA Global Emerging Mkts Equity universe over a complete market cycle (3 to 5 years).



### Sector Allocation 32.00 28.00 24. 20.70 24.00 20.00 16.00 12.00 8.00 Comm Services Cons Staples Utilities Financials Industrials Materials Cons Disc Energy Health Care Info Tech Real Estate Cash ■ MSCI Emerging Markets Harding Loevner

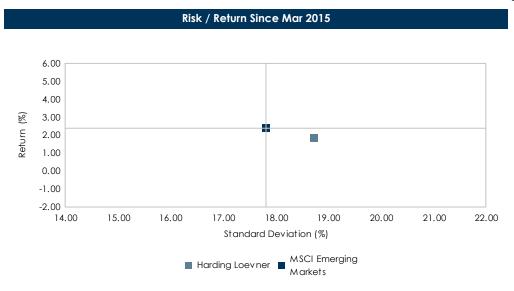
## 3 Months 1 Year Beginning Market Value 20,446 31,324 Net Additions -55 -239 Return on Investment 2,287 -8,408 Ending Market Value 22,678 22,678

**Dollar Growth Summary (\$000s)** 



## **Harding Loevner Emerging Markets**

For the Periods Ending December 31, 2022



## Return (%) 1.81 2.38 Standard Deviation (%) 18.72 17.81 Sharpe Ratio 0.05 0.08

Benchmark Relative Statistics		
Beta	1.00	
R Squared (%)	91.28	
Alpha (%)	-0.38	
Tracking Error (%)	5.53	
Batting Average (%)	56.38	
Up Capture (%)	100.37	
Down Capture (%)	102.17	

Portfolio Statistics Since Mar 2015

## Growth of a Dollar Since Mar 2015

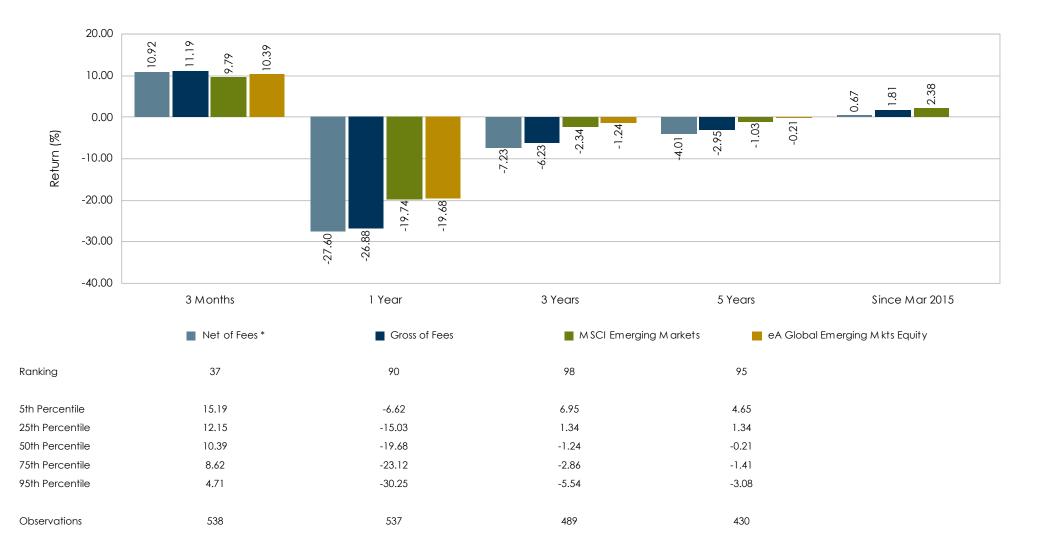


## Return Analysis Since Mar 2015

		MSCI	
	Harding	Emerging	
	Loevner	Markets	
Number of Months	94	94	
Highest Monthly Return (%)	13.95	14.85	
Lowest Monthly Return (%)	-19.96	-15.38	
Number of Positive Months	54	51	
Number of Negative Months	40	43	
% of Positive Months	57.45	54.26	

## **Harding Loevner Emerging Markets**

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

<sup>\*</sup> Performance is calculated using net of fee returns.
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#### **Global Long/Short Equity**

For the Periods Ending December 31, 2022

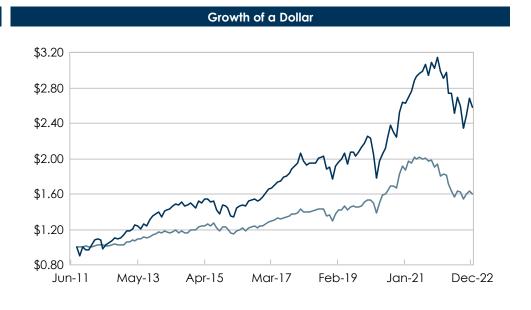
#### **Account Description**

- Strategy Global Long/Short Equity
- Benchmark MSCI ACWI
- This composite includes a combination of equity long/short managers that are diversified across geographies, sectors and market caps. The composite transitioned from a fund of funds strategy to a number of direct strategies in February 2014.
- Performance and statistics on the following Global Long/Short pages are presented net of fees.

#### **Performance Goals**

Approximate the return of the MSCI All Country World Index with 2/3 of the risk over longer-term time periods (greater than 5 years).

Net Dollar Growth Summary (\$000s)							
	3 Months	1 Year					
Beginning Market Value	50,913	67,573					
Net Additions	-4,661	-7,954					
Return on Investment	1,953	-11,414					
Ending Market Value	48,205	48,205					

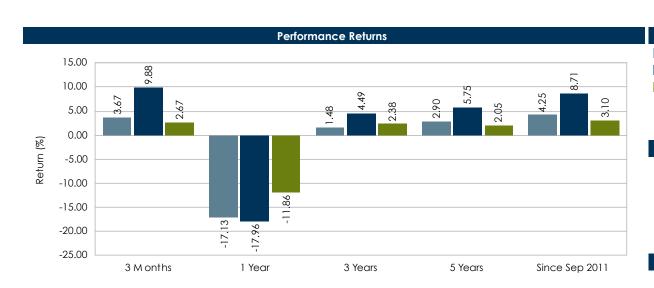


<sup>—</sup> Global Long/Short \* — MSCI ACWI

<sup>\*</sup> Performance is calculated using net of fee returns.

#### Global Long/Short Equity

For the Periods Ending December 31, 2022

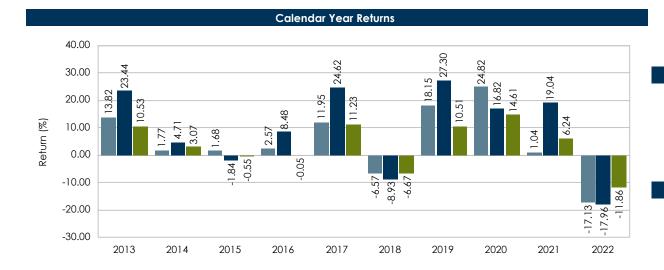


	(%)	(%)	Ratio
3 Mon	ths		
Global Long/Short *	3.67		
MSCI ACWI	9.88		
HFRI FOF: Strategic	2.67		

Return Std Dev Sharpe

1 Year			
Global Long/Short *	-17.13	13.14	-1.42
MSCI ACWI	-17.96	21.14	-0.92
HFRI FOF: Strategic	-11.86	7.49	-1.78

3 Years									
Global Long/Short *	1.48	13.77	0.06						
MSCI ACWI	4.49	20.14	0.19						
HFRI FOF: Strategic	2.38	10.23	0.17						



5 Years			
Global Long/Short *	2.90	11.83	0.14
MSCI ACWI	5.75	17.71	0.26
HFRI FOF: Strategic	2.05	8.71	0.10

4.25	8.81	0.41
8.71	14.67	0.55
3.10	6.78	0.36
	8.71	8.71 14.67

<sup>\*</sup> Performance is calculated using net of fee returns.

#### **Global Long/Short Equity**

For the Periods Ending December 31, 2022

Monthly Returns (%)	Dec 22	Nov 22	Oct 22	Sep 22	Aug 22	Jul 22	Jun 22	May 22	Apr 22	Mar 22	Feb 22	Jan 22
Global Long/Short Equity *	-1.78	2.37	3.11	-4.90	-0.57	4.57	-4.53	-4.19	-5.89	-0.71	1.45	-6.76
MSCI ACWI	-3.90	7.80	6.06	-9.53	-3.64	7.02	-8.39	0.19	-7.97	2.22	-2.55	-4.89
HFRI FOF: Strategic	-0.06	2.56	0.17	-3.66	0.33	1.48	-1.72	-2.17	-3.07	-0.10	-1.26	-4.80

											Per	formanc	e Stats (	120 Mon	ths)
Calendar Year Returns (%)	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	Pos.	Neg.	Best	Worst	Med.
Global Long/Short Equity *	-17.13	1.04	24.82	18.15	-6.57	11.95	2.57	1.68	1.77	13.82	77	43	9.45	-7.35	0.69
MSCI ACWI	-17.96	19.04	16.82	27.30	-8.93	24.62	8.48	-1.84	4.71	23.44	<i>7</i> 9	41	12.36	-13.44	1.30
HFRI FOF: Strategic	-11.86	6.24	14.61	10.51	-6.67	11.23	-0.05	-0.55	3.07	10.53	<i>7</i> 3	47	5.52	-9.70	0.54

		Standard					Tracking	Batting	Up	Down
	Return	Deviation	Sharpe		R2	Alpha	Error	Average	Capture	Capture
Statistics	(%)	(%)	Ratio	Beta	(%)	(%)	(%)	(%)	(%)	(%)
				1 Year						
Global Long/Short Equity *	-17.13	13.14	-1.42							
MSCI ACWI	-17.96	21.14	-0.92	0.51	68.64	-8.45	12.62	50.00	19.74	61.02
HFRI FOF: Strategic	-11.86	7.49	-1.78	1.53	75.91	0.97	7.57	25.00	211.94	155.63
			;	3 Years						
Global Long/Short Equity *	1.48	13.77	0.06							
MSCIACWI	4.49	20.14	0.19	0.59	73.61	-1.35	10.93	41.67	44.98	62.24
HFRI FOF: Strategic	2.38	10.23	0.17	1.19	78.10	-1.02	6.73	44.44	130.09	132.01
			;	5 Years						
Global Long/Short Equity *	2.90	11.83	0.14							
MSCI ACWI	5.75	17.71	0.26	0.58	76.03	-0.62	9.39	41.67	47.44	60.60
HFRI FOF: Strategic	2.05	8.71	0.10	1.21	78.80	0.64	5.73	55.00	135.14	124.65
			Since	e Inception						
Global Long/Short Equity *	4.25	8.81	0.41							
MSCI ACWI	8.71	14.67	0.55	0.48	62.75	0.06	9.38	40.44	42.63	51.30
HFRI FOF: Strategic	3.10	6.78	0.36	1.11	72.28	0.93	4.69	55.88	120.87	110.20

<sup>\*</sup> Performance and statistics are presented net of fees.

#### JP Morgan Fixed Income

For the Periods Ending December 31, 2022

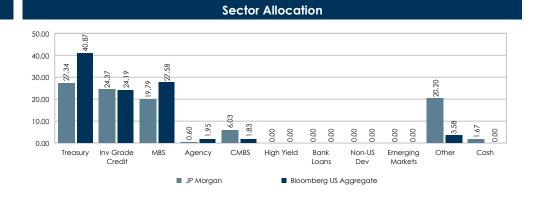
#### **Account Description**

- Strategy US Investment Grade
- Vehicle Non-Mutual Commingled
- Performance Inception Date June 1991
- Benchmark Bloomberg US Aggregate
- **Fees** 30 bps

#### **Performance Goals**

- Exceed the returns of the Bloomberg US Aggregate over a complete market cycle (3 to 5 years).
- Rank above median in the eA US Core Fixed Income universe over a complete market cycle (3 to 5 years).

# Characteristics 10.00 8.00 6.00 4.00 2.00 Avg Maturity (yrs) Avg Cpn (%) Eff Duration (yrs) JP Morgan Bloomberg US Aggregate



#### 3 Months 1 Year **Beginning Market Value** 41.025 47,567 Net Additions -91 -360 Return on Investment 500 -5,772 Income 361 1,277 139 -7,050 Gain/Loss 41.434 **Ending Market Value** 41,434

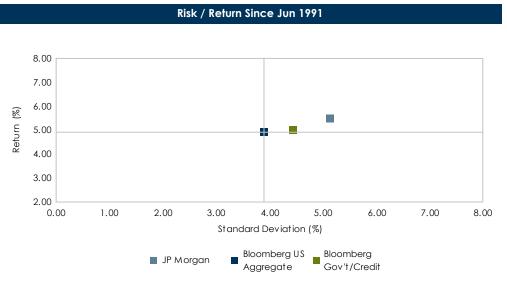
**Dollar Growth Summary (\$000s)** 

Characteristic and allocation charts represents data of the JPMorgan Core Bond Trust (Non-Mutual Commingled). The Other sector consists of ABS, CMO, Convertibles, Municipals, Private Placements/144As and TIPS.



#### JP Morgan Fixed Income

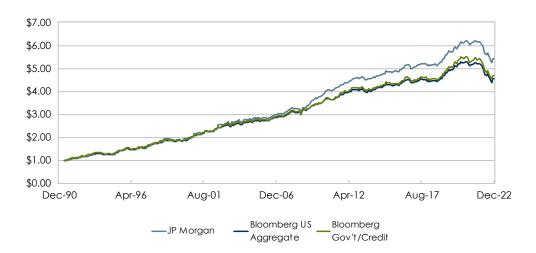
For the Periods Ending December 31, 2022



#### Portfolio Statistics Since Jun 1991 **Bloomberg** US **Bloomberg** JP Morgan **Aggregate** Gov't/Credit 5.49 4.90 5.00 Return (%) 3.90 Standard Deviation (%) 5.13 4.43 **Sharpe Ratio** 0.63 0.68 0.62

Benchmark Relative Statistics					
Beta	0.80	0.70			
R Squared (%)	36.65	36.18			
Alpha (%)	1.61	2.03			
Tracking Error (%)	4.16	4.31			
Batting Average (%)	53.03	48.28			
Up Capture (%)	95.28	87.07			
Down Capture (%)	72.05	61.17			

#### Growth of a Dollar Since Jun 1991

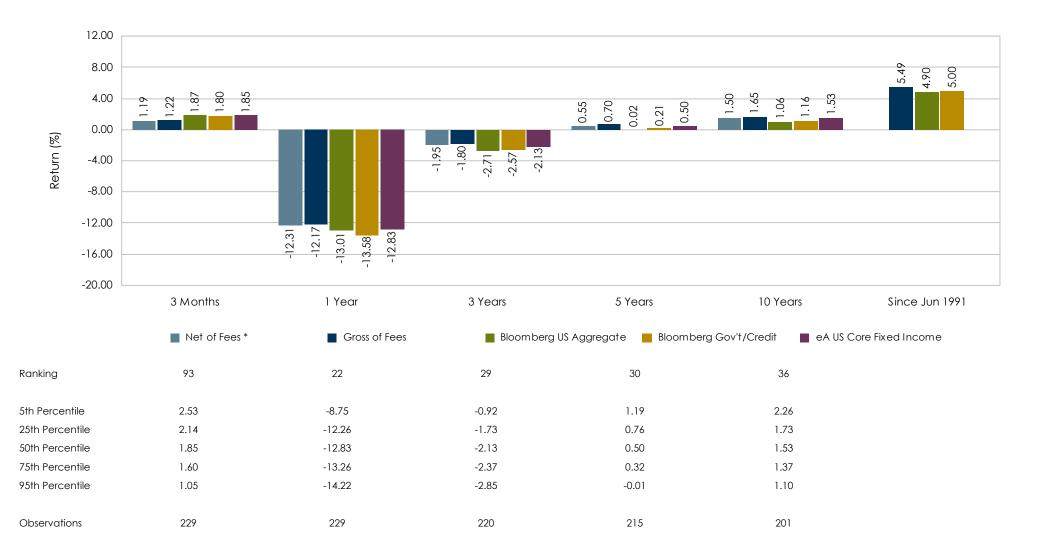


#### Return Analysis Since Jun 1991

	JP Morgan	Bloomberg US Aggregate	Bloomberg Gov't/Credit
Number of Months	379	379	379
Highest Monthly Return (%)	8.30	3.87	4.53
Lowest Monthly Return (%)	-4.88	-4.32	-4.19
Number of Positive Months	283	249	244
Number of Negative Months	96	130	135
% of Positive Months	74.67	65.70	64.38

#### JP Morgan Fixed Income

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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#### **Amundi Pioneer Core Plus Bond Fund**

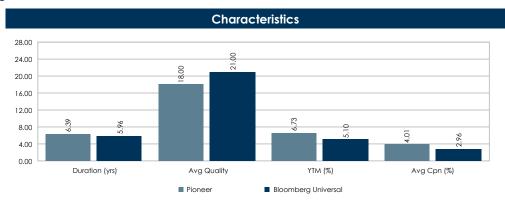
For the Periods Ending December 31, 2022

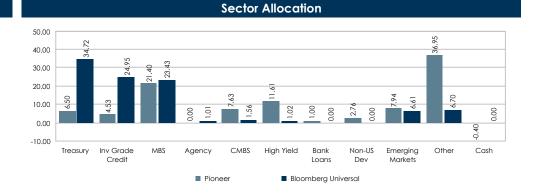
#### **Account Description**

- Strategy Multi-Sector Fixed Income
- Vehicle Non-Mutual Commingled
- Benchmark Bloomberg Universal
- Performance Inception Date November 2011
- Fees 25 bps

#### Performance Goals

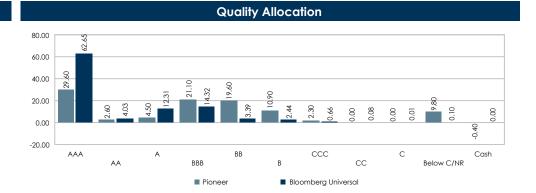
- Exceed the returns of the Bloomberg Universal over a complete market cycle (3 to 5 years).
- Rank above the median in the eA US Core Plus Fixed Income universe over a complete market cycle (3 to 5 years).





	3 Months	1 Year
Beginning Market Value	42,827	49,706
Net Additions	-86	-117
Return on Investment	1,167	-5,681
Ending Market Value	43,908	43,908

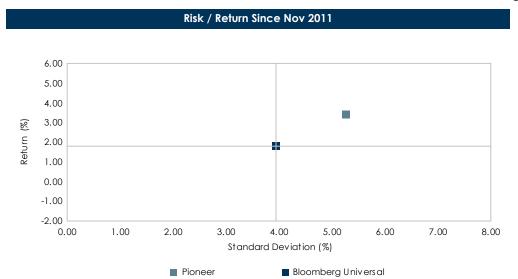
**Dollar Growth Summary (\$000s)** 



Characteristic and allocation charts represents the composite data of the Amundi\Multi-Sector Fixed Income. The Other sector consists of ABS, CMO, Convertibles, Municipals, Private Placements/144As and TIPS.

#### **Amundi Pioneer Core Plus Bond Fund**

For the Periods Ending December 31, 2022



#### Portfolio Statistics Since Nov 2011

		Bloomberg
	Pioneer	Universal
Return (%)	3.43	1.76
Standard Deviation (%)	5.26	3.94
Sharpe Ratio	0.53	0.28

Benchmark Relative Statistics		
Beta	1.00	
R Squared (%)	56.01	
Alpha (%)	1.71	
Tracking Error (%)	3.49	
Batting Average (%)	63.43	
Up Capture (%)	118.12	
Down Capture (%)	85.84	

#### Growth of a Dollar Since Nov 2011

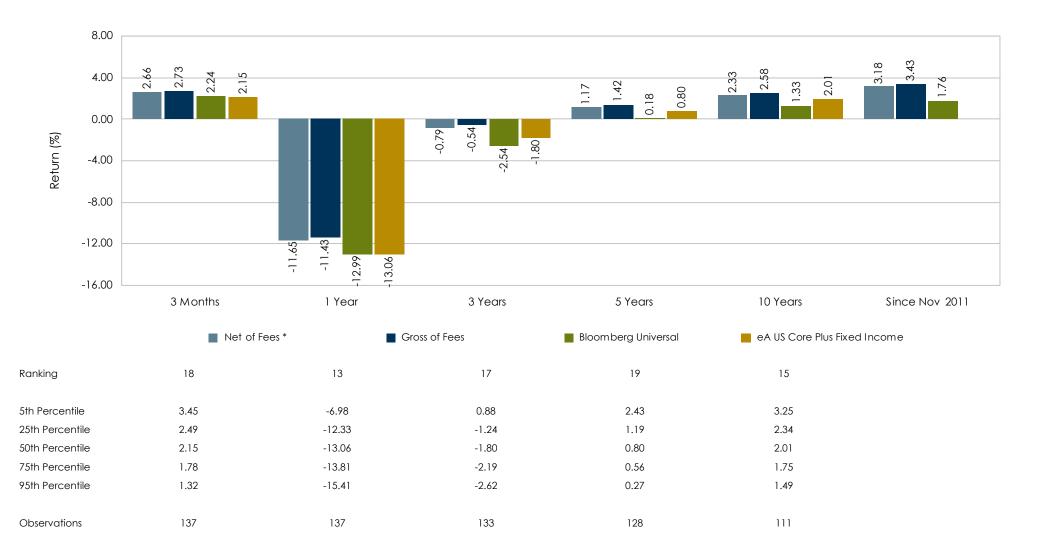


#### Return Analysis Since Nov 2011

	Pioneer	Bloomberg Universal
Number of Months	134	134
Highest Monthly Return (%)	4.37	3.73
Lowest Monthly Return (%)	-9.88	-4.31
Number of Positive Months	92	81
Number of Negative Months	42	53
% of Positive Months	68.66	60.45

#### **Amundi Pioneer Core Plus Bond Fund**

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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#### **BlackRock Strategic Income Opportunities**

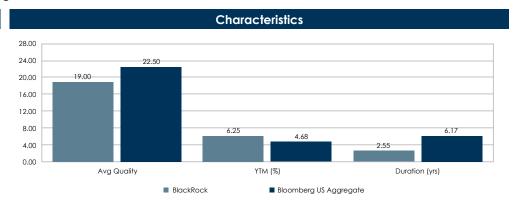
For the Periods Ending December 31, 2022

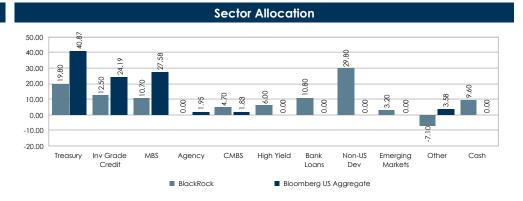
#### **Account Description**

- Strategy Absolute Return
- Vehicle Mutual Fund: Institutional Class (BSIKX)
- Benchmarks Bloomberg US Aggregate and US T-Bills 30 Day + 4.0%
- Performance Inception Date July 2017
- **Expense Ratio** 59 bps

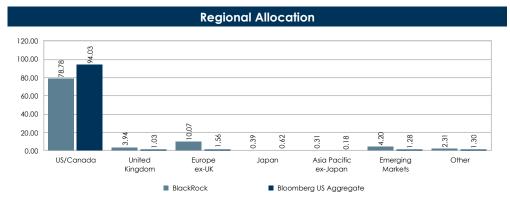
#### **Performance Goals**

- Meet or exceed the targeted return of the Bloomberg US Aggregate over a complete market cycle (typically 3-5 years).
- Meet or exceed the targeted return of US T-Bills + 4-6% over a complete market cycle (typically 3-5 years).







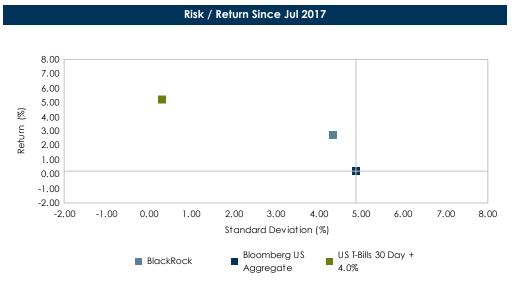


Characteristic and allocation charts represents the composite data of the BlackRock Strategic Income Opportunities.

The Other sector consists of ABS, CMO, Convertibles, Municipals, Private Placements/144As and TIPS.

#### **BlackRock Strategic Income Opportunities**

For the Periods Ending December 31, 2022

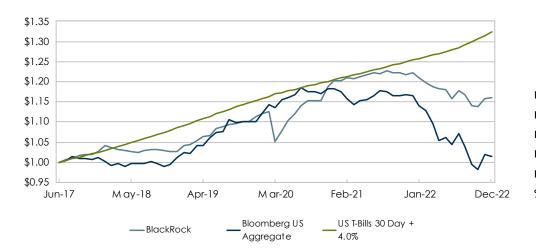


#### **Bloomberg** US US T-Bills 30 BlackRock **Aggregate** Day + 4.0%2.74 0.25 Return (%) 5.22 Standard Deviation (%) 4.34 4.87 0.30 **Sharpe Ratio** 0.36 -0.19 13.38

Portfolio Statistics Since Jul 2017

Benchmark Relative Statistics		
Beta	0.44	-0.86
R Squared (%)	24.39	0.36
Alpha (%)	2.68	7.45
Tracking Error (%)	4.66	4.37
Batting Average (%)	66.67	39.39
Up Capture (%)	73.16	52.52
Down Capture (%)	33.67	

#### Growth of a Dollar Since Jul 2017

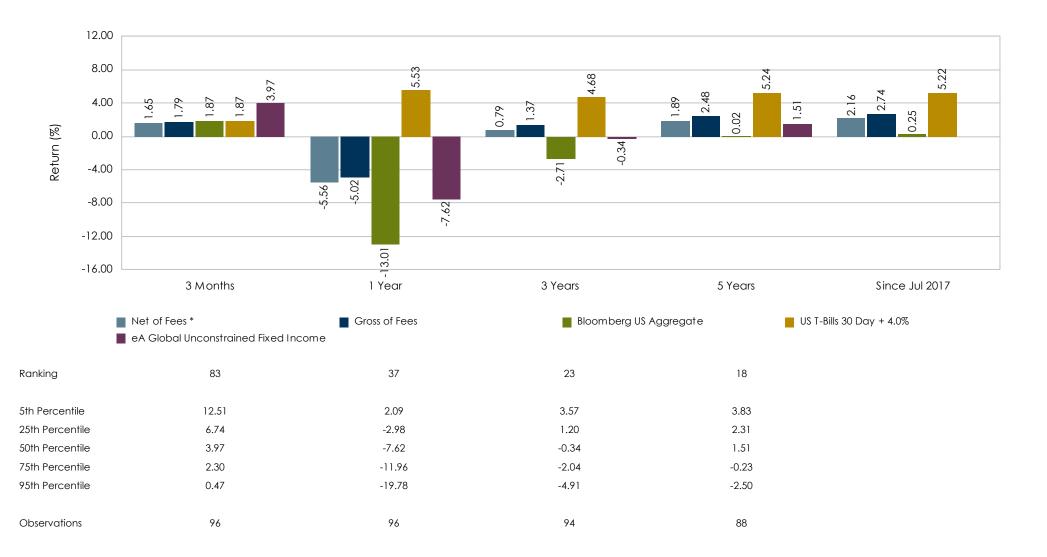


#### Return Analysis Since Jul 2017

	BlackRock	Bloomberg US Aggregate	US T-Bills 30 Day + 4.0%
Number of Months	66	66	66
Highest Monthly Return (%)	2.90	3.68	0.67
Lowest Monthly Return (%)	-6.59	-4.32	0.33
Number of Positive Months	44	34	66
Number of Negative Months	22	32	0
% of Positive Months	66.67	51.52	100.00

#### **BlackRock Strategic Income Opportunities**

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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#### JP Morgan Special Situation Property

For the Periods Ending December 31, 2022

#### **Account Description**

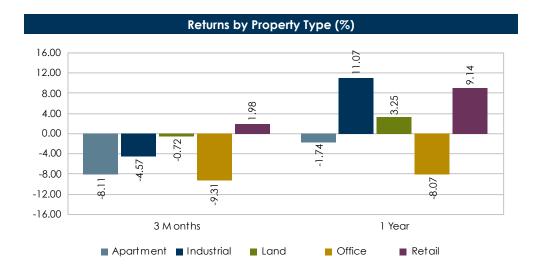
- **Strategy** Core Real Estate
- Vehicle Non-Mutual Commingled
- Performance Inception Date February 2007
- Benchmarks NFI ODCE Net and NCREIF Property
- Fees 125 bps of account's pro-rata share of NAV plus 62.5 bps on outstanding debt balance; fee is capped at 187.5 bps.

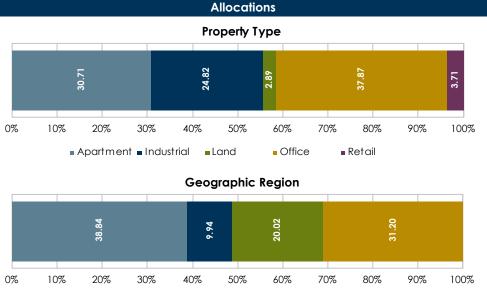
#### **Performance Goals**

• Outperform the NFI ODCE Net by 100 basis points over 3 to 5 years.

### Account Information \$23,245,179

Fund Information	
Gross Market Value	\$8,574,159,693
■ Net Market Value	\$4,602,946,358
Cash Balance of Fund	\$220,316,653
<ul><li>Quarter Income Return (%)</li></ul>	0.50
# of Properties	83
# of Participants	98





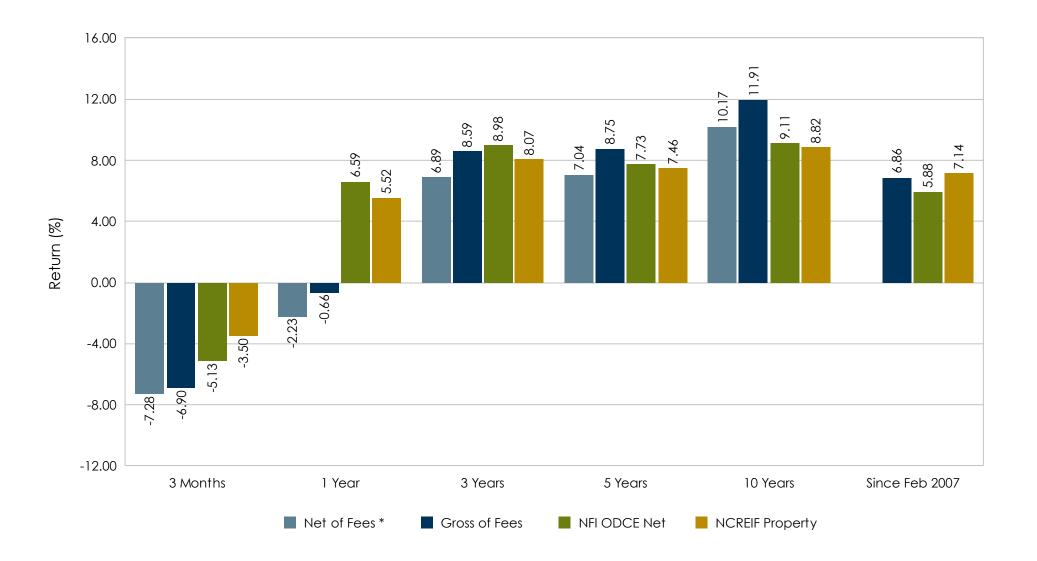
■ Midwest ■ South

West

East

#### JP Morgan Special Situation Property

For the Periods Ending December 31, 2022



#### JP Morgan Strategic Property

For the Periods Ending December 31, 2022

Quarter Income Return (%)

East

				•
$\Delta C$	COUR	 Dec.	מוזי	tion .

- Strategy Core Real Estate
- Vehicle Non-Mutual Commingled
- Performance Inception Date May 2007
- Benchmarks NFI ODCE Net and NCREIF Property
- Fees 100 bps per annum on account's net asset value

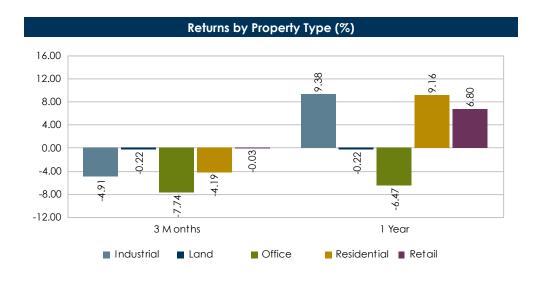
#### **Performance Goals**

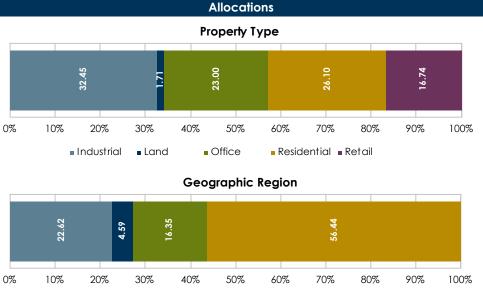
Exceed the total return of the NFI ODCE Net.



**Account Information** 

# of Properties 159 # of Participants 315





■ Midwest ■ South

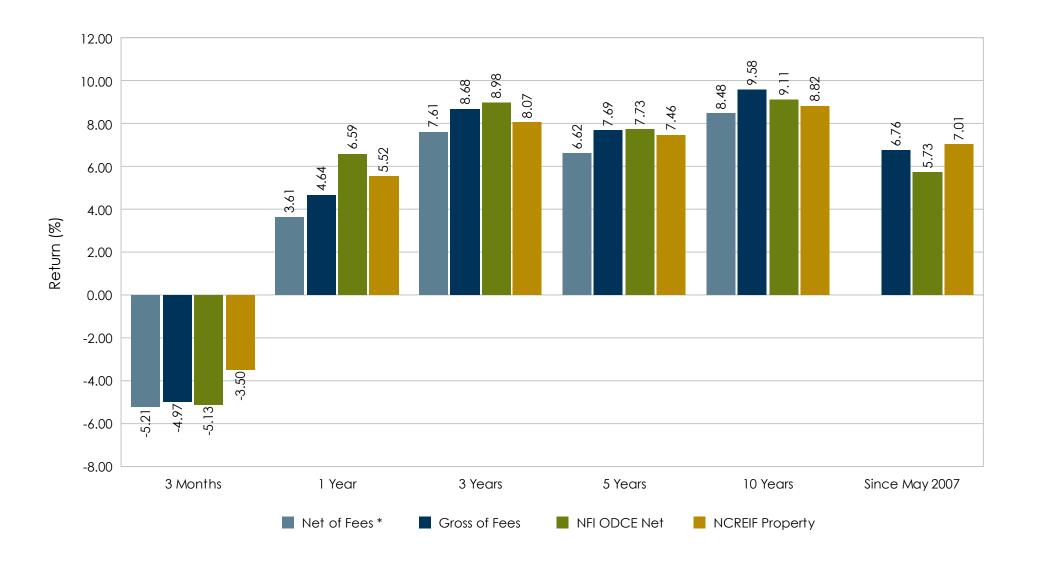
West

\$32,865,679

0.71

#### JP Morgan Strategic Property

For the Periods Ending December 31, 2022



#### **Clarion Lion Industrial Trust**

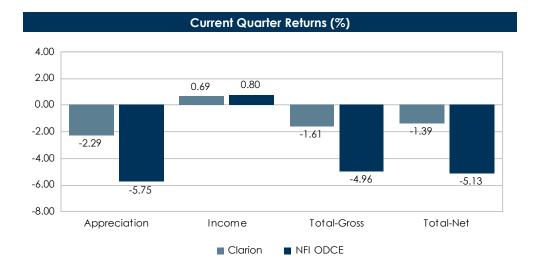
For the Periods Ending December 31, 2022

#### **Account Description**

- **Strategy** Core Real Estate
- Vehicle Limited Partnership
- Benchmark NFI ODCE Net
- Performance Inception Date July 2022
- Fees 135 bps on First \$10 M of NAV; 130 bps on NAV between \$10 \$50 M. Incentive fee: 15% over an 9% net IRR hurdle.

#### **Performance Goals**

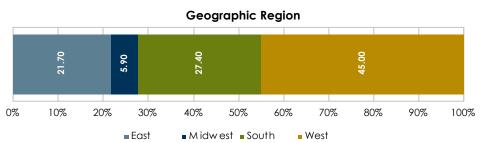
- Achieve a 9.5% 11.5% internal rate of return over a complete market cycle.
- Outperform the NFI ODCE Net by 100 basis points over 3 to 5 years.





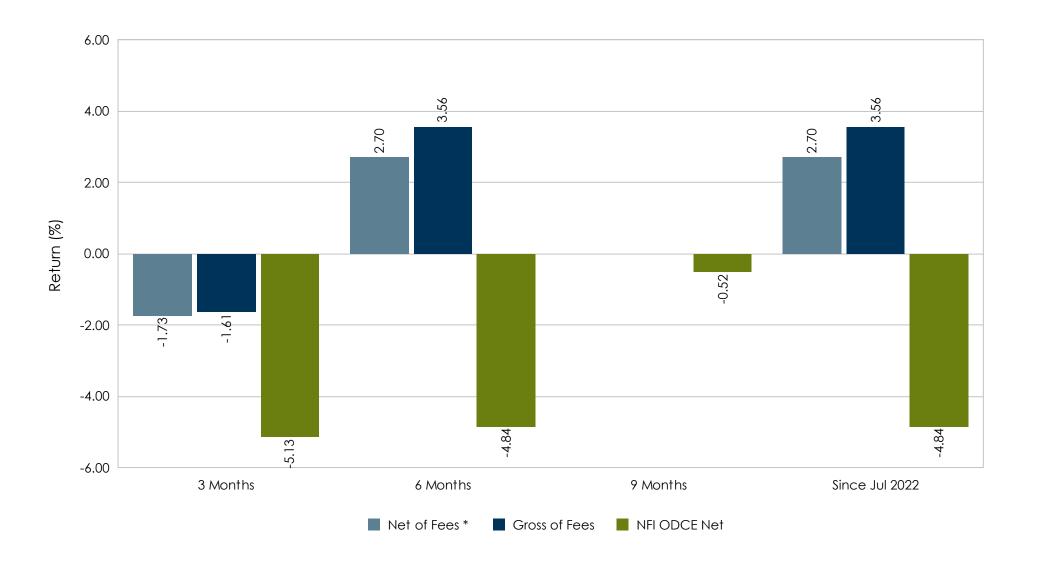
Fund Information	
■ Gross Market Value	\$34,145,000,000
■ Net Market Value	\$25,200,000,000
Cash Balance of Fund	\$443,885,000
■ # of Properties	778
# of Participants	211





#### **Clarion Lion Industrial Trust**

For the Periods Ending December 31, 2022



Oklahoma Municipal Retirement Fund - Defined Contribution

**Defined Contribution Plan Performance** 

#### **Growth and Value Option**

For the Periods Ending December 31, 2022

Manager Allocation			
Name	Market Value (\$000s)	Allocation (%)	
Total	20,120	100.00	
Vanguard Total Stock	10,145	50.42	
Vanguard Windsor II	5,258	26.13	
T. Rowe Price	4,717	23.44	

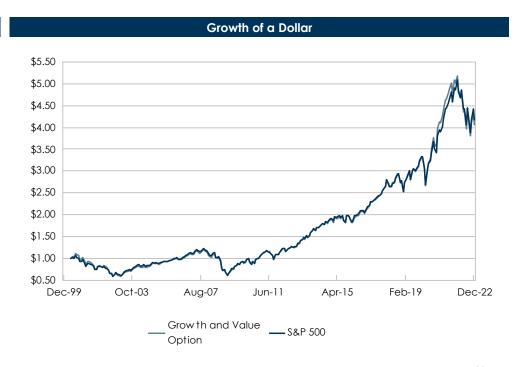
Large Cap Core Equity Option - Large cap equities are companies with
market capitalizations greater than \$10 billion.

This option includes a combination of "growth" and "value" portfolios focused in the large cap asset class.

**Portfolio Information** 

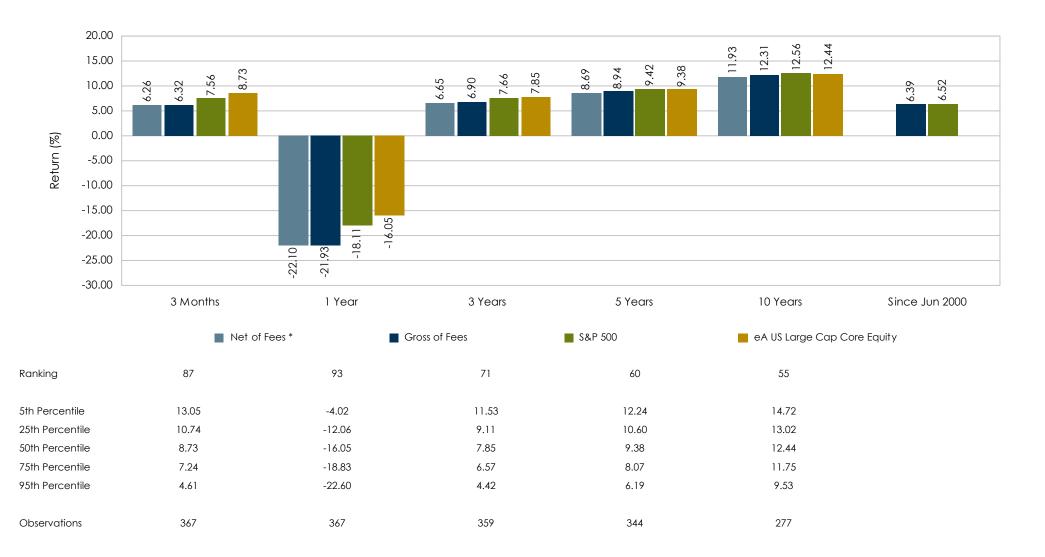
Performance goals 1) to achieve returns 100 basis points in excess of the S&P 500 index, and 2) to rank above median in a universe of large cap core managers over a complete market cycle.

Dollar Growth Summary (\$000s)			
	3 Months	1 Year	
Beginning Market Value	19,312	29,193	
Net Additions	-397	-2,857	
Return on Investment	1,205	-6,217	
Ending Market Value	20.120	20.120	



#### **Growth and Value Option**

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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#### **Vanguard Windsor II**

For the Periods Ending December 31, 2022

#### **Account Description**

- Strategy US Large Cap Value
- Vehicle Mutual Fund: Institutional Class (VWNAX)
- Benchmark Russell 1000 Value
- Performance Inception Date June 2003
- **Expense Ratio** 26 bps

**Beginning Market Value** 

#### **Performance Goals**

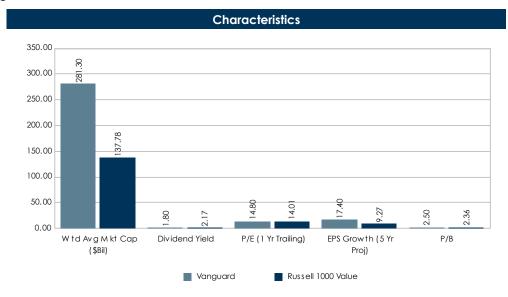
 Exceed the returns of the Russell 1000 Value over a complete market cycle (3 to 5 years).

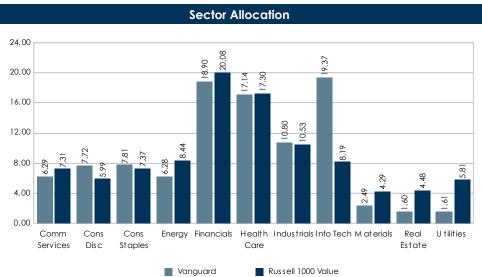
### Dollar Growth Summary (\$000s) 3 Months 1 Year

4,776

7,295

Ending Market Value	5,258	5,258
Return on Investment	524	-909
Net Additions	-42	-1,128



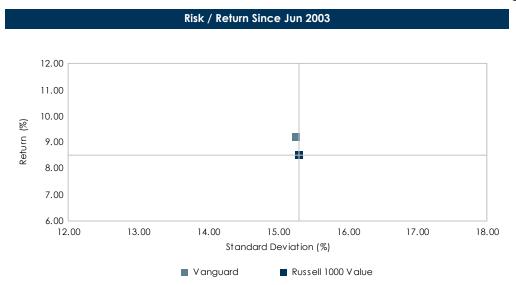


Characteristic and allocation charts represents data of the Vanguard Windsor II Admiral (Mutual Fund: Institutional Class: VWNAX).

Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

#### **Vanguard Windsor II**

For the Periods Ending December 31, 2022

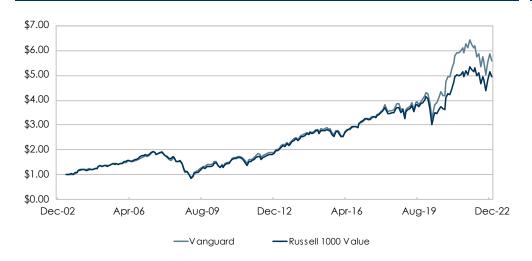


#### Portfolio Statistics Since Jun 2003

		Russell
	Vanguard	1000 Value
Return (%)	9.18	8.48
Standard Deviation (%)	15.27	15.31
Sharpe Ratio	0.53	0.48

Benchmark Relative Statistics			
Beta	0.98		
R Squared (%)	96.94		
Alpha (%)	0.81		
Tracking Error (%)	2.69		
Batting Average (%)	54.04		
Up Capture (%)	99.90		
Down Capture (%)	96.74		



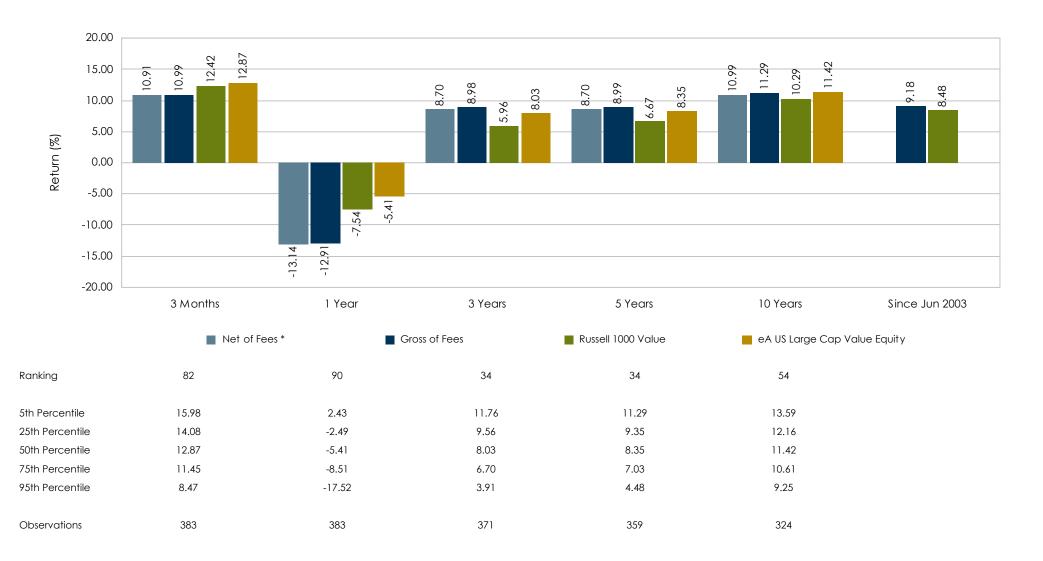


#### Return Analysis Since Jun 2003

	Vanguard	Russell 1000 Value
Number of Months	235	235
Highest Monthly Return (%)	13.35	13.45
Lowest Monthly Return (%)	-17.40	-17.31
Number of Positive Months	155	150
Number of Negative Months	80	85
% of Positive Months	65.96	63.83

#### Vanguard Windsor II

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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#### **Vanguard Total Stock**

For the Periods Ending December 31, 2022

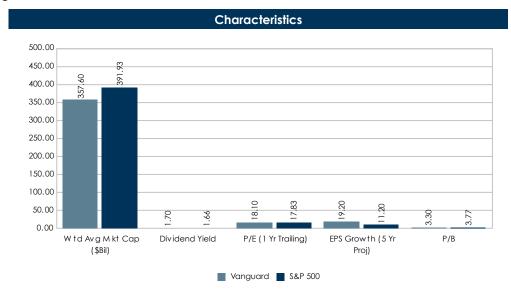
#### **Account Description**

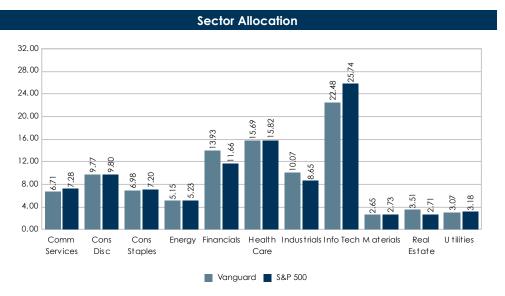
- Strategy US All Cap Core
- Vehicle Mutual Fund: Institutional Class (VITSX)
- Benchmark S&P 500
- Performance Inception Date February 2008
- **Expense Ratio** 3 bps

#### **Performance Goals**

Approximate the risk and return profile of the S&P 500 Index.

## Beginning Market Value 9,660 14,704 Net Additions -199 -1,819 Return on Investment 684 -2,740 Ending Market Value 10,145 10,145

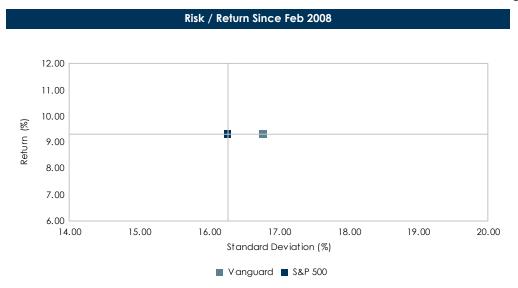




Characteristic and allocation charts represents data of the Vanguard Total Stock Market Index Fund (Mutual Fund: Institutional Class: VITSX). Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

#### **Vanguard Total Stock**

For the Periods Ending December 31, 2022



#### Portfolio Statistics Since Feb 2008

	Vanguard	S&P 500
Return (%)	9.28	9.31
Standard Deviation (%)	16.78	16.27
Sharpe Ratio	0.52	0.54

Benchmark Relative Statistics		
Beta	1.03	
R Squared (%)	99.39	
Alpha (%)	-0.23	
Tracking Error (%)	1.39	
Batting Average (%)	50.84	
Up Capture (%)	102.40	
Down Capture (%)	102.31	

#### Growth of a Dollar Since Feb 2008

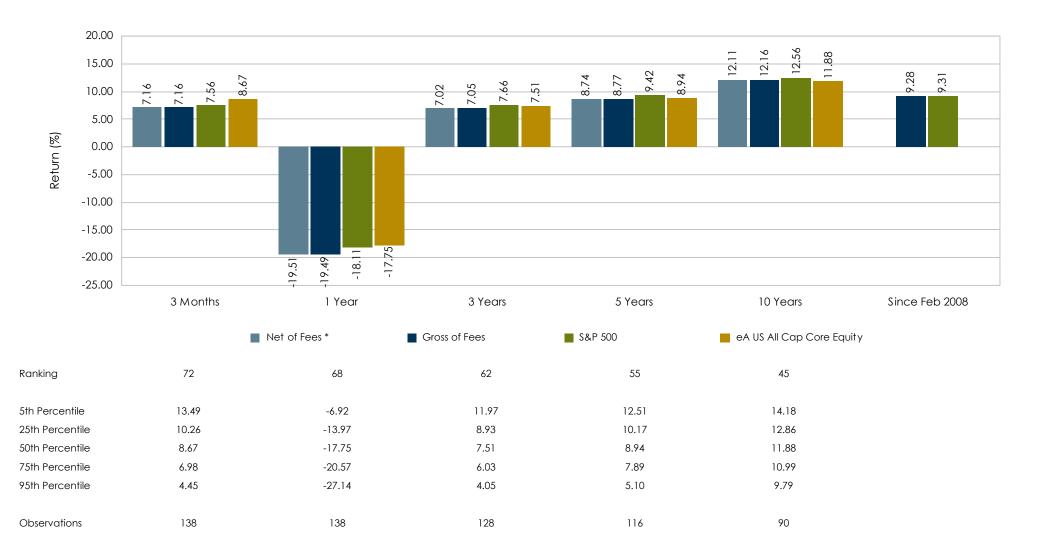


#### Return Analysis Since Feb 2008

	Vanguard	S&P 500
Number of Months	179	179
Highest Monthly Return (%)	13.26	12.82
Lowest Monthly Return (%)	-17.62	-16.80
Number of Positive Months	119	120
Number of Negative Months	60	59
% of Positive Months	66.48	67.04

#### **Vanguard Total Stock**

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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#### T. Rowe Price

For the Periods Ending December 31, 2022

#### **Account Description**

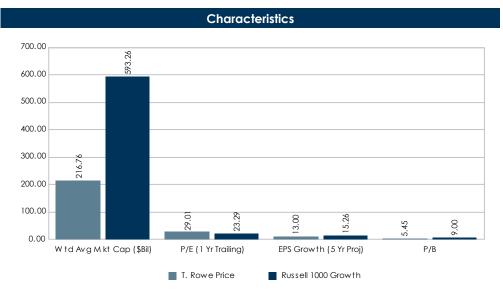
- **Strategy** US Large Cap Equity
- **Vehicle** Mutual Fund: Institutional Class (TRLGX)
- Benchmark Russell 1000 Growth
- Performance Inception Date July 2021
- **Expense Ratio** 55 bps

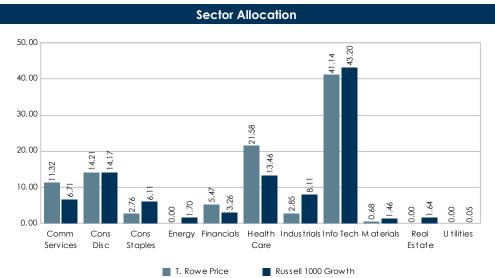
#### **Performance Goals**

 Exceed the returns of the Russell 1000 Growth over a complete market cycle (3 to 5 years).

#### Dollar Growth Summary (\$000s)

	3 Months	1 Year
Beginning Market Value	4,875	7,194
Net Additions	-156	90
Return on Investment	-3	-2,567
Endina Market Value	4.717	4.717



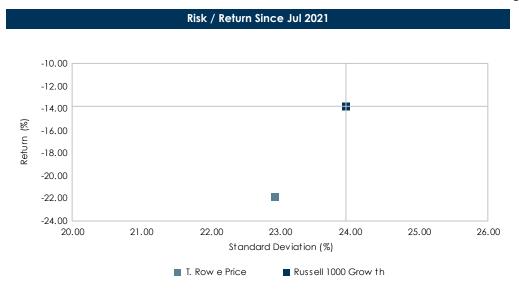


Characteristic and allocation charts represents data of the T. Rowe Price Institutional LCG (Mutual Fund: Institutional Class: TRLGX).

Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

#### T. Rowe Price

For the Periods Ending December 31, 2022

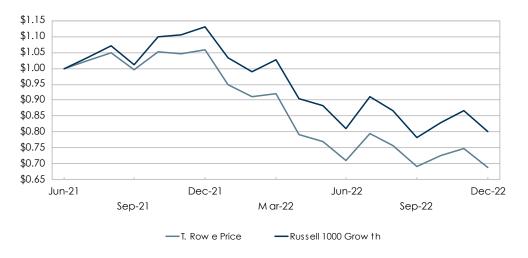


	T. Rowe Price	Russell 1000 Growth
Return (%)	-21.90	-13.81
Standard Deviation (%)	22.93	23.95
Sharpe Ratio	-1.00	-0.62

Benchmark Relative Statistics		
Beta	0.95	
R Squared (%)	97.53	
Alpha (%)	-10.06	
Tracking Error (%)	3.84	
Batting Average (%)	27.78	
Up Capture (%)	68.17	
Down Capture (%)	103.13	

Portfolio Statistics Since Jul 2021

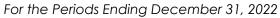
#### Growth of a Dollar Since Jul 2021

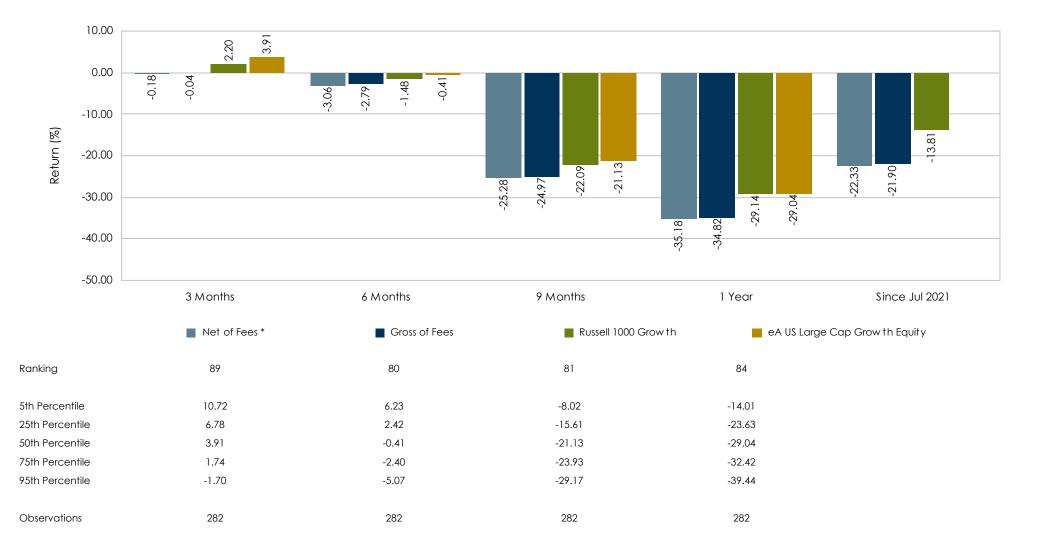


#### Return Analysis Since Jul 2021

	T. Rowe Price	Russell 1000 Growth
Number of Months	18	18
Highest Monthly Return (%)	12.11	12.00
Lowest Monthly Return (%)	-13.96	-12.08
Number of Positive Months	8	9
Number of Negative Months	10	9
% of Positive Months	44.44	50.00

T. Rowe Price





<sup>\*</sup> Performance is calculated using net of fee returns.
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#### **S&P 500 Option**

For the Periods Ending December 31, 2022

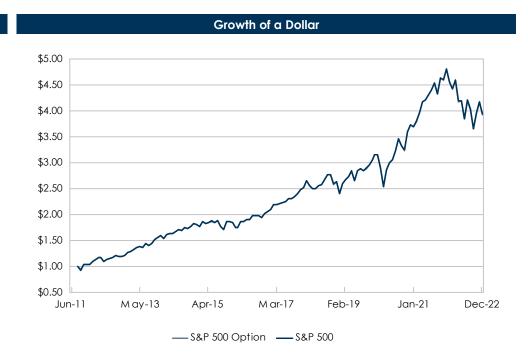
Manager Allocation				
Market Allocation Name Value (\$000s) (%)				
Total	31,777	100.00		
SSGA S&P 500 Non Lending	31,777	100.00		

SRP	500	Indev	Ontion	

- This option includes the passively managed SSgA S&P 500 Index Fund.
- Performance Goal Mirror the risk and return profile of the S&P 500 over all time periods.

**Portfolio Information** 

Dollar Growth Summary (\$000s)			
	3 Months	1 Year	
Beginning Market Value	30,153	42,411	
Net Additions	-646	-3,161	
Return on Investment	2,271	-7,473	
Ending Market Value	31,777	31,777	



#### SSGA S&P 500 Non Lending

For the Periods Ending December 31, 2022

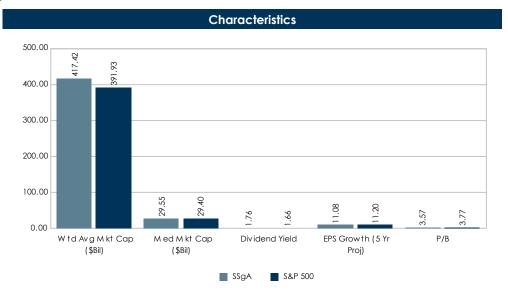
#### **Account Description**

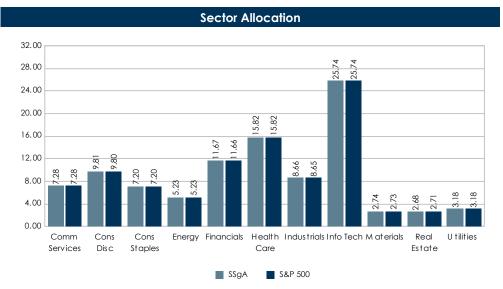
- Strategy US Large Cap Equity
- Vehicle Non-Mutual Commingled
- Benchmark S&P 500
- Performance Inception Date February 2010
- Fees 3 bps

#### **Performance Goals**

• Mirror the risk and return profile of the S&P 500 over all time periods.

## Dollar Growth Summary (\$000s) 3 Months 1 Year Beginning Market Value 30,153 42,411 Net Additions -646 -3,161 Return on Investment 2,271 -7,473 Ending Market Value 31,777 31,777

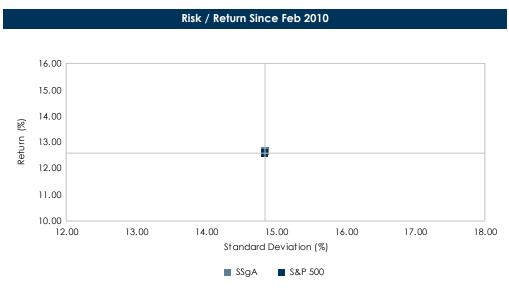




Characteristic and allocation charts represents data of the State Street S&P 500 Flagship Non-Lending Fund (Non-Mutual Commingled). Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

#### SSGA S&P 500 Non Lending

For the Periods Ending December 31, 2022

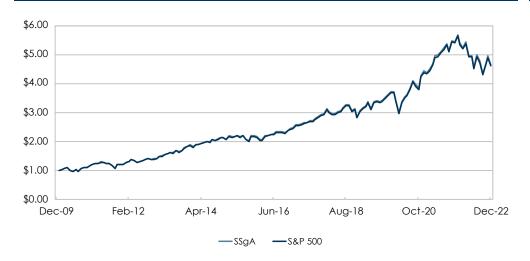


#### Portfolio Statistics Since Feb 2010

	SSgA	S&P 500
Return (%)	12.66	12.57
Standard Deviation (%)	14.85	14.84
Sharpe Ratio	0.81	0.81

Benchmark Relative Statistics			
Beta	1.00		
R Squared (%)	99.99		
Alpha (%)	0.07		
Tracking Error (%)	0.12		
Batting Average (%)	53.55		
Up Capture (%)	100.29		
Down Capture (%)	99.94		

#### Growth of a Dollar Since Feb 2010

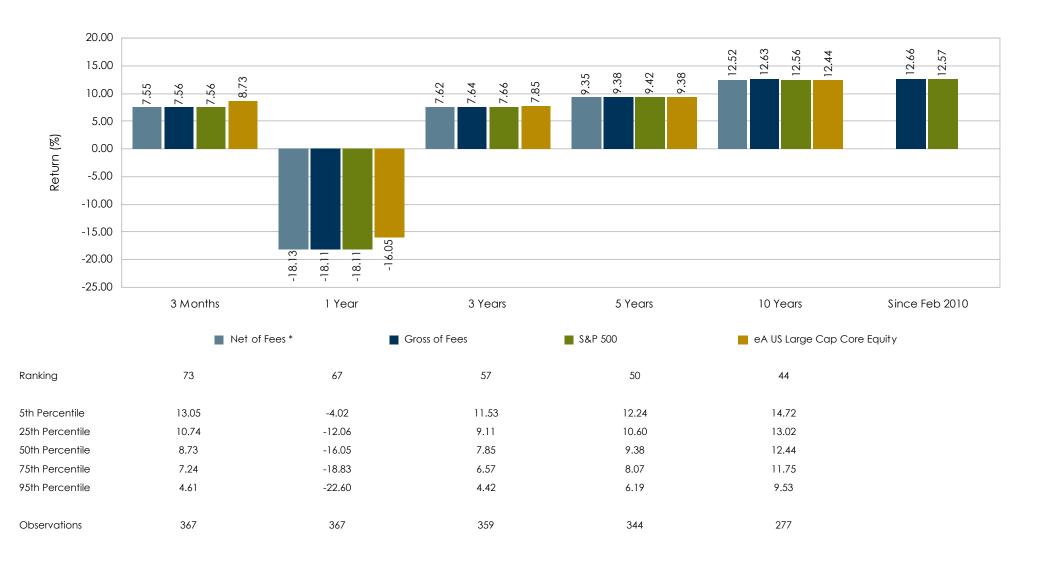


#### Return Analysis Since Feb 2010

	SSgA	S&P 500
Number of Months	155	155
Highest Monthly Return (%)	12.81	12.82
Lowest Monthly Return (%)	-12.35	-12.35
Number of Positive Months	107	107
Number of Negative Months	48	48
% of Positive Months	69.03	69.03

#### SSGA S&P 500 Non Lending

For the Periods Ending December 31, 2022



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#### **Aggressive Equity Option**

For the Periods Ending December 31, 2022

Manager Allocation			
Name	Market Value (\$000s)	Allocation (%)	
Total	16,108	100.00	
SSgA Russell Small Cap Completeness	7,800	48.42	
Integrity Small Cap Value	4,218	26.19	
William Blair SMid Growth	4,090	25.39	

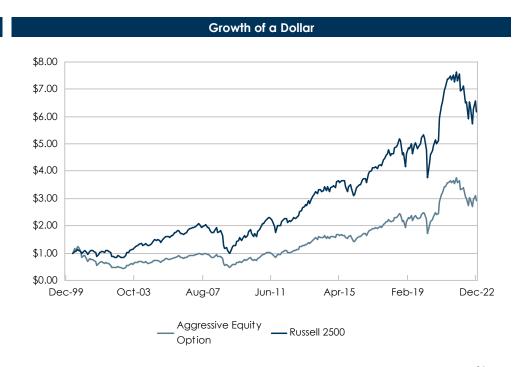
_	C II I	L - 1 4: -1	C	F: 1	O 1:	

- Small to Mid Cap Equity Option
- This option includes a combination of portfolios focused in the small and mid cap asset classes.

**Portfolio Information** 

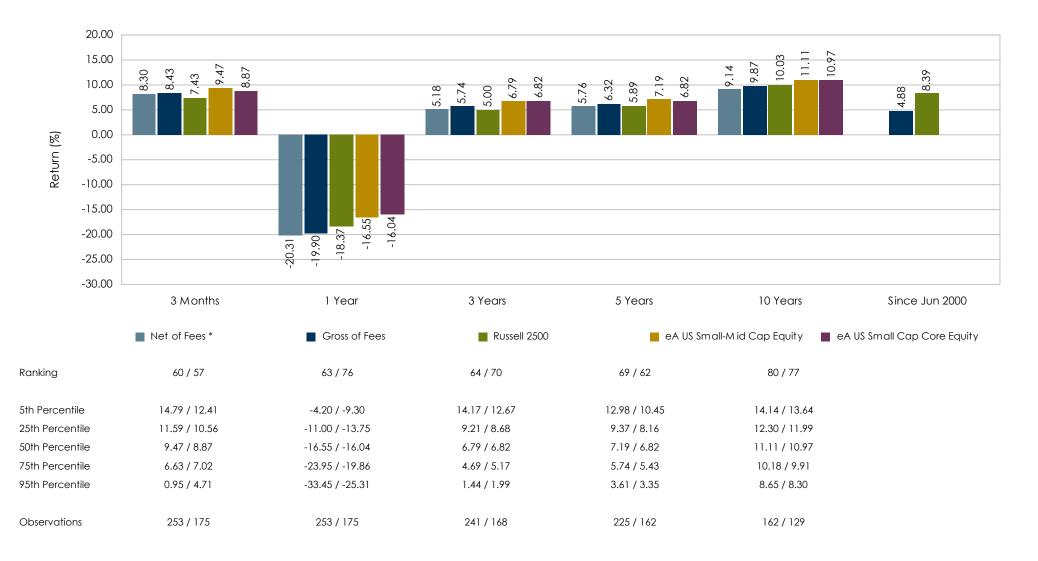
Performance goals - 1) to achieve returns 100 basis points in excess of the Russell 2500 Index, and 2) to exceed the return of the median small/mid cap core manager over a complete market cycle (3 to 5 years).

Dollar Growth Summary (\$000s)			
	3 Months	1 Year	
Beginning Market Value	15,049	21,855	
Net Additions	-199	-1,472	
Return on Investment	1,258	-4,275	
Ending Market Value	16.108	16,108	



#### **Aggressive Equity Option**

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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# Integrity Small Cap Value

For the Periods Ending December 31, 2022

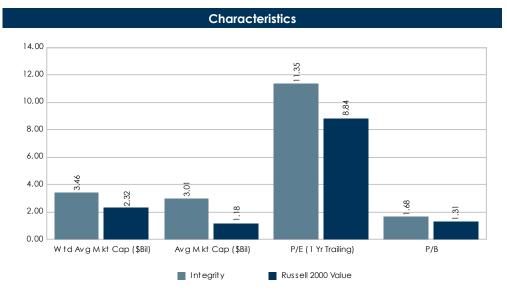
#### **Account Description**

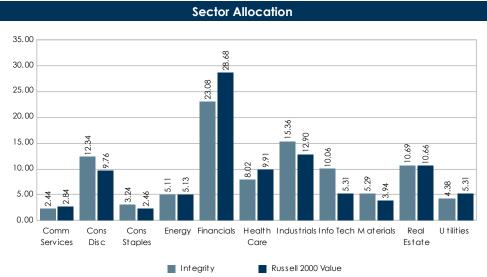
- Strategy US Small Cap Value
- Vehicle Mutual Fund (MVSSX)
- Benchmark Russell 2000 Value
- Performance Inception Date September 2015
- **Expense Ratio** 95 bps

#### **Performance Goals**

 Exceed the returns of the Russell 2000 Value over a complete market cycle (3 to 5 years).

# Beginning Market Value 3,689 5,645 Net Additions 17 -1,090 Return on Investment 512 -337 Ending Market Value 4,218 4,218



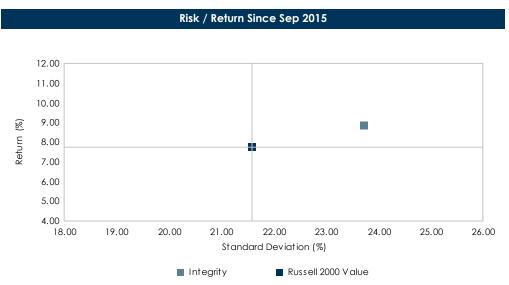


Characteristic and allocation charts represents data of the Victory Integrity Small Value R6 (Mutual Fund: MVSSX).

Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

# Integrity Small Cap Value

For the Periods Ending December 31, 2022

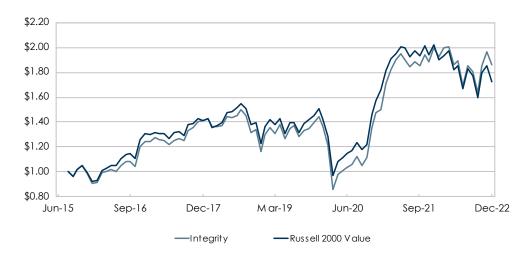


# Portfolio Statistics Since Sep 2015

		Russell
	Integrity	2000 Value
Return (%)	8.85	7.74
Standard Deviation (%)	23.72	21.58
Sharpe Ratio	0.33	0.31

	Benchmark Relative Statistics	
Beta	1.08	
R Squared (%)	96.88	
Alpha (%)	0.75	
Tracking Error (%)	4.54	
Batting Average (%)	52.27	
Up Capture (%)	107.80	
Down Capture (%)	102.53	



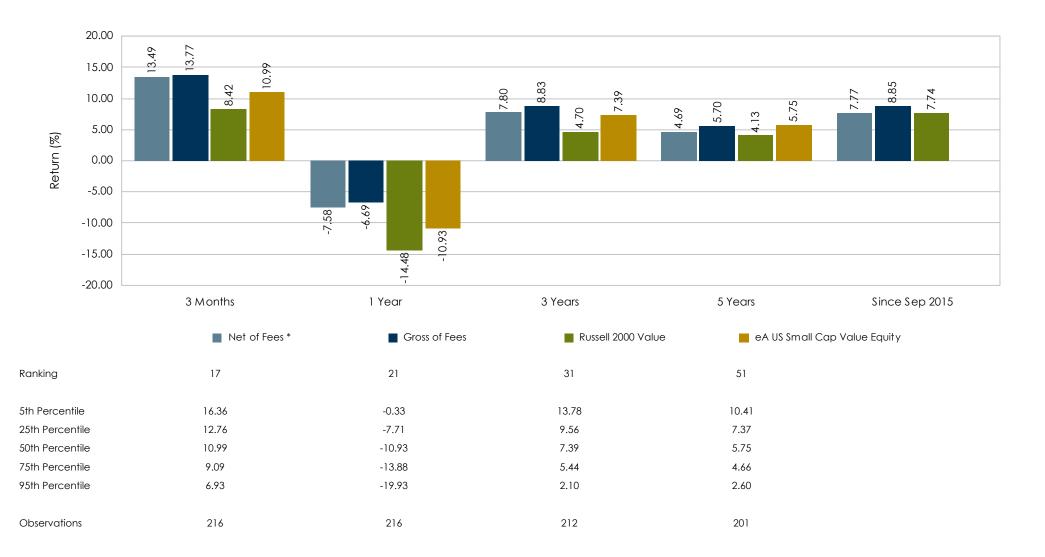


#### Return Analysis Since Sep 2015

	Integrity	Russell 2000 Value
Number of Months	88	88
Highest Monthly Return (%)	21.66	19.31
Lowest Monthly Return (%)	-29.00	-24.67
Number of Positive Months	57	58
Number of Negative Months	31	30
% of Positive Months	64.77	65.91

# Integrity Small Cap Value

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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# SSgA Russell Small Cap Completeness

For the Periods Ending December 31, 2022

# **Account Description**

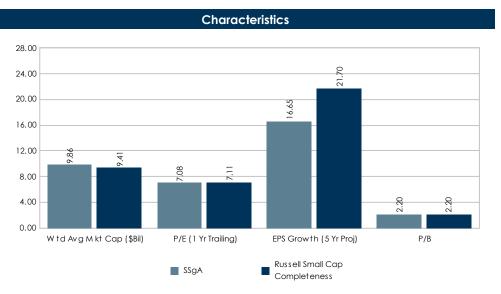
- Strategy US Small Cap Core
- Vehicle Non-Mutual Commingled
- Benchmark Russell Small Cap Completeness
- Performance Inception Date May 2010
- Fees First \$50M at 8 bps, next \$50M at 6 bps, balance at 4 bps

#### **Performance Goals**

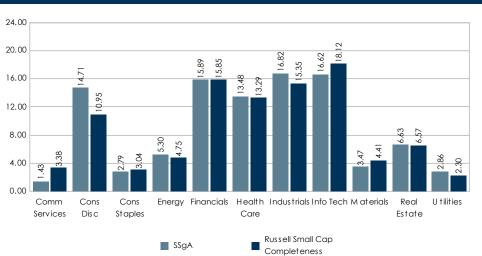
 Mirror the risk and return profile of the Russell Small Cap Completeness over all time periods.

# Dollar Growth Summary (\$000s)

	3 Months	1 Year
Beginning Market Value	7,419	10,766
Net Additions	19	-234
Return on Investment	362	-2,731
Ending Market Value	7,800	7,800







Characteristic and allocation charts represents data of the Small/Mid Cap Index Non-Lending Series Fund (Non-Mutual Commingled). Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

# SSgA Russell Small Cap Completeness

For the Periods Ending December 31, 2022

Return (%)

**Sharpe Ratio** 



#### Russell **Small Cap** SSgA Completeness 9.75 9.86 Standard Deviation (%) 18.61 18.67

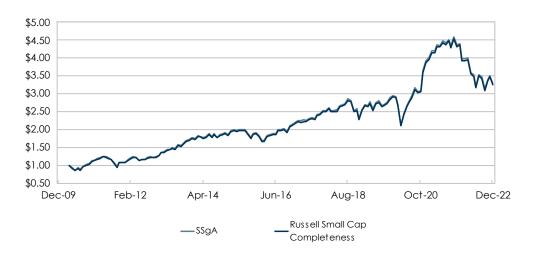
0.50

0.49

Portfolio Statistics Since May 2010

Benchmark Relative Statistics	
1.00	
99.96	
0.13	
0.36	
50.00	
99.99	
99.60	
	1.00 99.96 0.13 0.36 50.00 99.99

### Growth of a Dollar Since May 2010

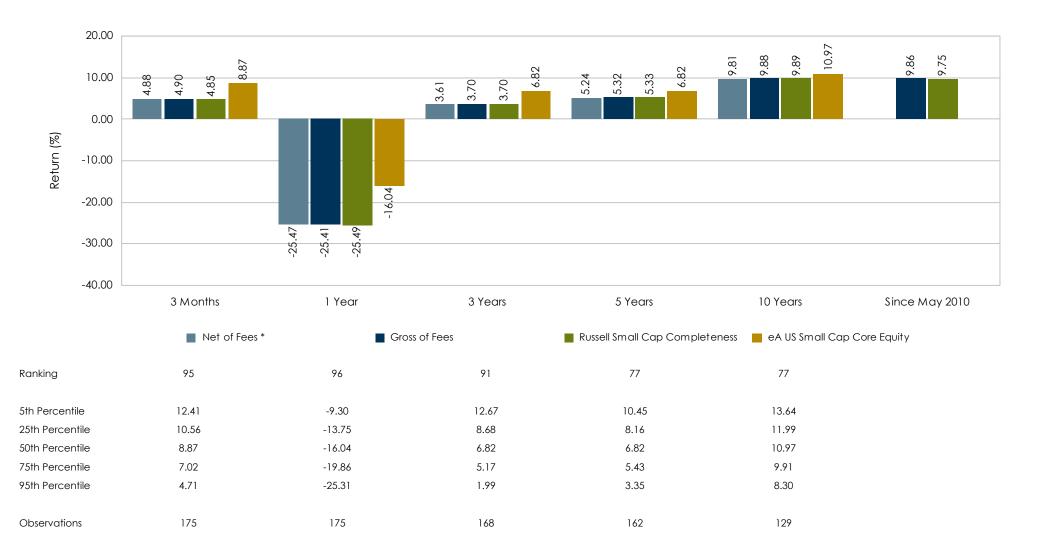


# Return Analysis Since May 2010

		Russell Small Cap
	SSgA	Completeness
Number of Months	152	152
Highest Monthly Return (%)	18.17	18.17
Lowest Monthly Return (%)	-21.22	-21.22
Number of Positive Months	94	94
Number of Negative Months	58	58
% of Positive Months	61.84	61.84

# SSgA Russell Small Cap Completeness

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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#### William Blair SMid Growth

For the Periods Ending December 31, 2022

# **Account Description**

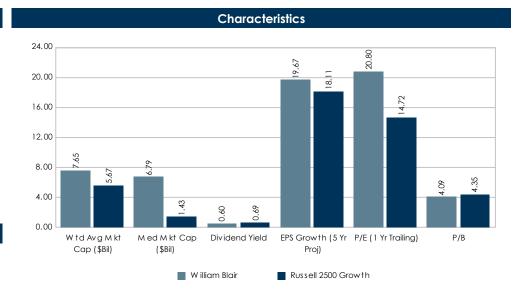
- Strategy US Small Cap Growth
- Vehicle Non-Mutual Commingled
- Benchmark Russell 2500 Growth
- Performance Inception Date November 2022
- Fees 85 bps

#### **Performance Goals**

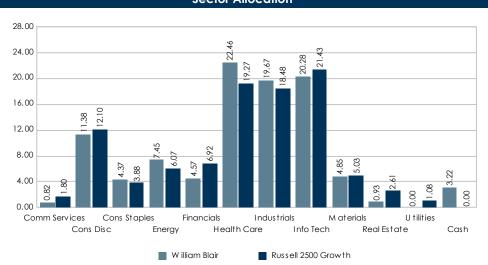
 Exceed the return of the Russell 2500 Growth over a complete market cycle (3 to 5 years).

# Dollar Growth Summary (\$000s)

	3 Months	1 Year
Beginning Market Value	0	0
Net Additions	3,808	3,808
Return on Investment	281	281
Ending Market Value	4,090	4,090



#### **Sector Allocation**



Characteristic and allocation charts represents the composite data of the William Blair SMid Growth.

Sector weights may not add to 100% due to securities that are not assigned to a Global Industry Classification Standard (GICS) sector.

# **International Investment Equity Option**

For the Periods Ending December 31, 2022

Manager Allocation		
Name	Market Value (\$000s)	Allocation (%)
Total International Option	7,803	100.00
Artisan	2,018	25.86
Harding Loevner International Equity	1,956	25.06
SSgA Global Equity Ex US	1,949	24.98
Harding Loevner Emerging Markets	1,880	24.10

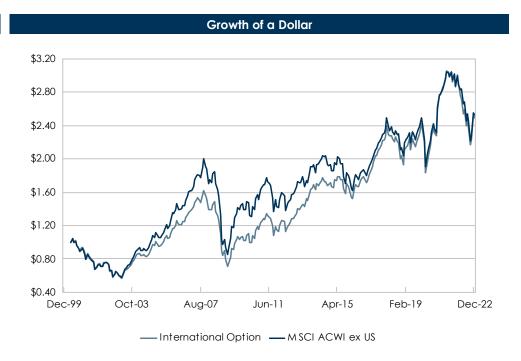
International	Fauity	Option	

 This option includes a combination of international equity portfolios across complimentary styles of management.

**Portfolio Information** 

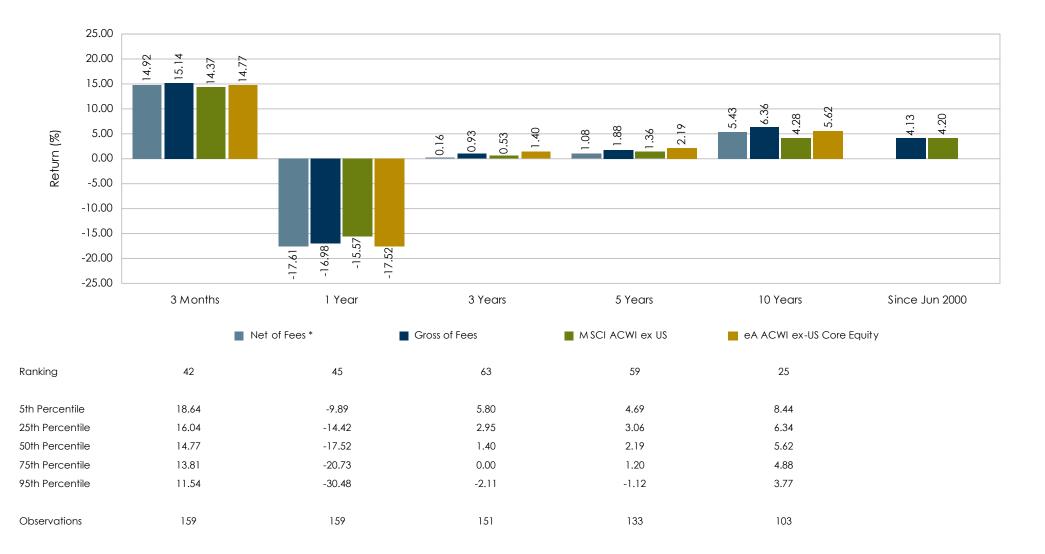
Performance goals - 1) to achieve returns 100 basis points in excess of the MSCI ACWI ex US, and 2) to exceed the return of the median international developed markets equity manager over a complete market cycle (3 to 5 years).

Dollar Gr	Dollar Growth Summary (\$000s)	
	3 Months	1 Year
Beginning Market Value	6,991	10,140
Net Additions	-221	-591
Return on Investment	1,033	-1,746
Ending Market Value	7,803	7,803



# **International Investment Equity Option**

For the Periods Ending December 31, 2022



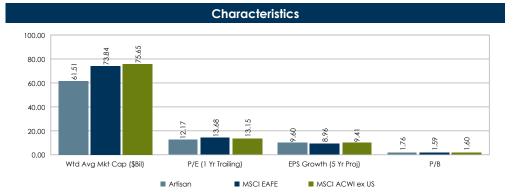
<sup>\*</sup> Performance is calculated using net of fee returns.
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# Artisan

For the Periods Ending December 31, 2022

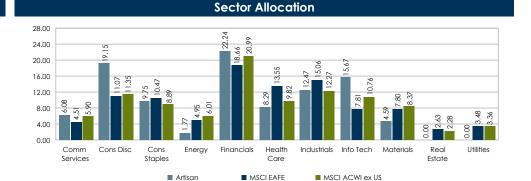
#### **Account Description**

- Strategy Int'l Developed Markets Equity
- Vehicle Mutual Fund: Institutional Class (APHKX)
- Benchmarks MSCI EAFE and MSCI ACWI ex US
- Performance Inception Date May 2010
- **Expense Ratio** 103 bps



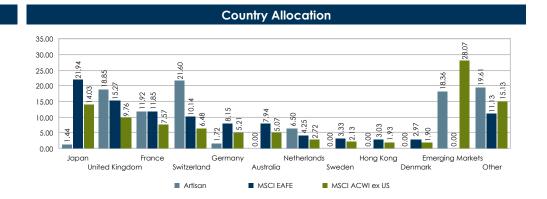
#### **Performance Goals**

Exceed the returns of the MSCI EAFE over a complete market cycle (3 to 5 years).



# Dollar Growth Summary (\$000s)

	3 Months	1 Year
Beginning Market Value	1,749	2,576
Net Additions	-61	-402
Return on Investment	329	-157
Ending Market Value	2,018	2,018



# Artisan

For the Periods Ending December 31, 2022

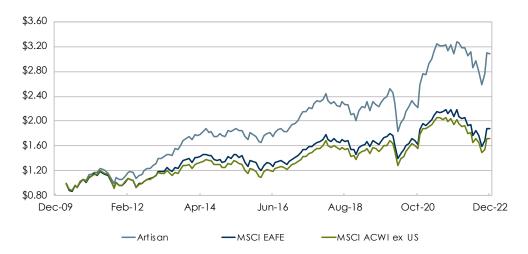


#### **MSCI** Artisan **MSCI EAFE ACWI ex US** 9.29 4.34 Return (%) 5.10 Standard Deviation (%) 15.75 16.04 15.82 **Sharpe Ratio** 0.55 0.28 0.24

Portfolio Statistics Since May 2010

Benchmark Relative Statistics		
Beta	0.93	0.94
R Squared (%)	90.47	89.90
Alpha (%)	4.38	5.07
Tracking Error (%)	4.98	5.08
Batting Average (%)	57.24	57.89
Up Capture (%)	101.32	106.34
Down Capture (%)	84.27	85.05

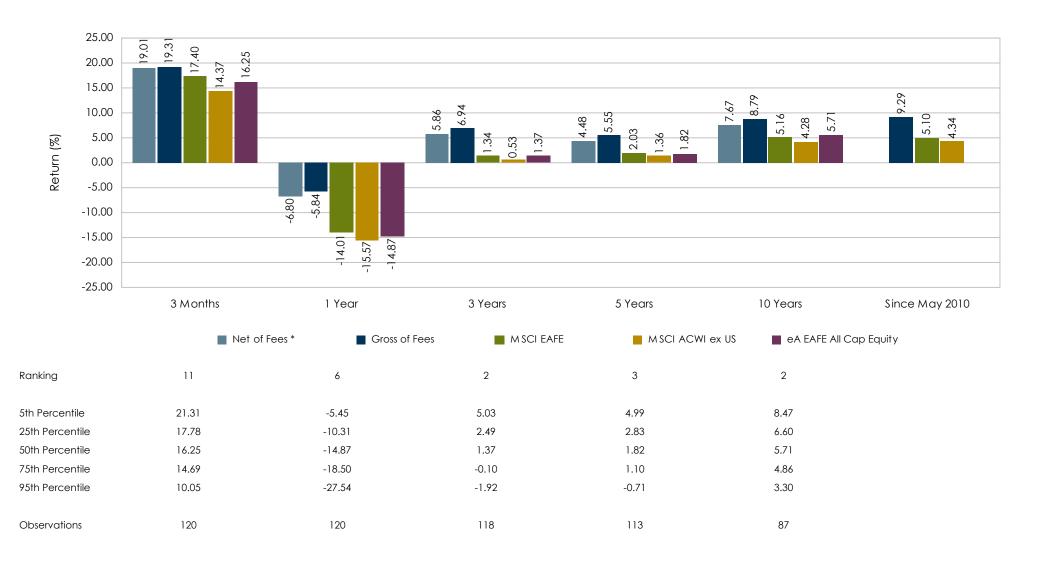
### Growth of a Dollar Since May 2010



# Return Analysis Since May 2010

	Artisan	MSCI EAFE	MSCI ACWI ex US
Number of Months	152	152	152
Highest Monthly Return (%)	16.61	15.51	13.46
Lowest Monthly Return (%)	-19.43	-13.25	-14.40
Number of Positive Months	87	85	87
Number of Negative Months	65	67	65
% of Positive Months	57.24	55.92	57.24

Artisan
For the Periods Ending December 31, 2022



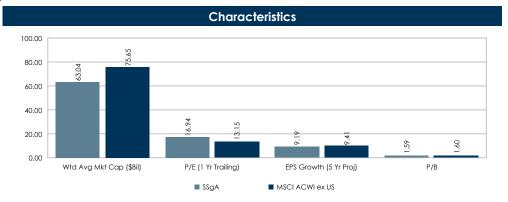
<sup>\*</sup> Performance is calculated using net of fee returns.
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# SSgA Global Equity Ex US

For the Periods Ending December 31, 2022

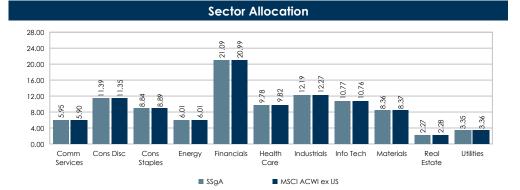
#### **Account Description**

- Strategy Int'l Developed Markets Equity
- Vehicle Non-Mutual Commingled
- Benchmark MSCI ACWI ex US
- Performance Inception Date November 2014
- **Fees** 9 bps

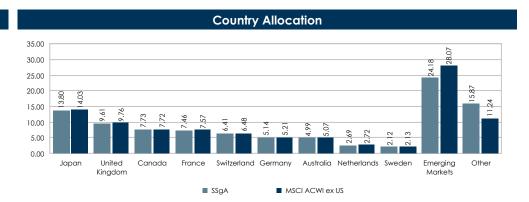


#### **Performance Goals**

Mirror the risk and return profile of the MSCI ACWI ex US over all time periods.

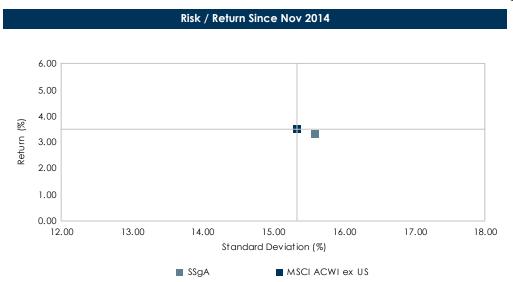


# Dollar Growth Summary (\$000s) 3 Months 1 Year Beginning Market Value 1,730 2,532 Net Additions -35 -193 Return on Investment 253 -390 Ending Market Value 1,949 1,949



# SSgA Global Equity Ex US

For the Periods Ending December 31, 2022



# MSCI SSaA ACWI ex

Portfolio Statistics Since Nov 2014

	SSgA	ACWI ex US
Return (%)	3.29	3.47
Standard Deviation (%)	15.59	15.34
Sharpe Ratio	0.16	0.17

Benchmark Relative Statistics		
Beta	1.01	
R Squared (%)	99.20	
Alpha (%)	-0.20	
Tracking Error (%)	1.40	
Batting Average (%)	35.71	
Up Capture (%)	100.96	
Down Capture (%)	101.50	

#### Growth of a Dollar Since Nov 2014

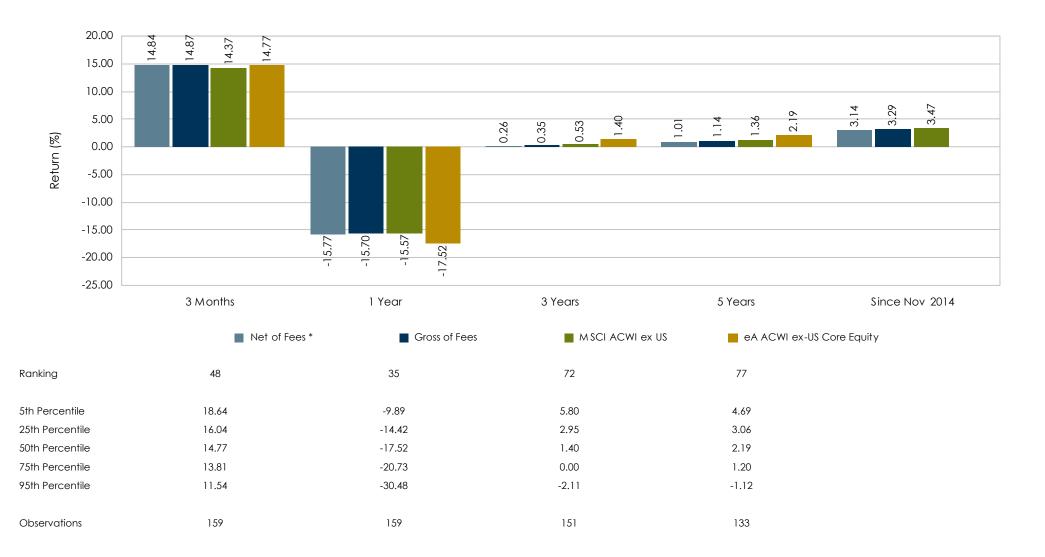


#### Return Analysis Since Nov 2014

	SSgA	MSCI ACWI ex US
Number of Months	98	98
Highest Monthly Return (%)	13.26	13.46
Lowest Monthly Return (%)	-15.51	-14.40
Number of Positive Months	55	56
Number of Negative Months	43	42
% of Positive Months	56.12	57.14

# SSgA Global Equity Ex US

For the Periods Ending December 31, 2022



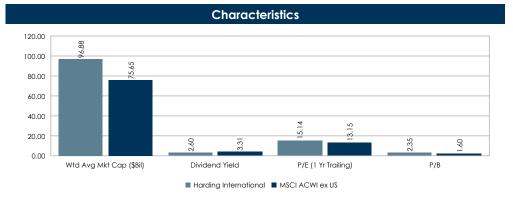
<sup>\*</sup> Performance is calculated using net of fee returns.
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# **Harding Loevner International Equity**

For the Periods Ending December 31, 2022

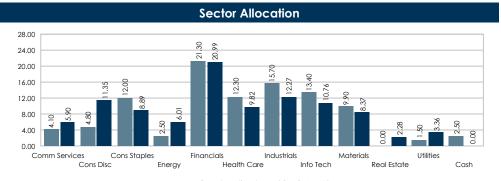
#### **Account Description**

- Strategy Int'l Developed Markets Equity
- Vehicle Non-Mutual Commingled
- Benchmark MSCI ACWI ex US
- Performance Inception Date July 2016
- **Fees** 81 bps



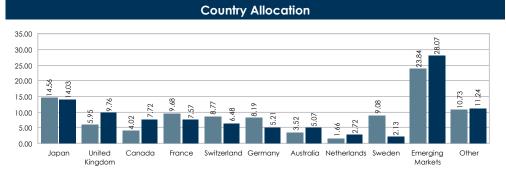
#### **Performance Goals**

 Exceed the returns of the MSCI ACWI ex US over a complete market cycle (3 to 5 years).



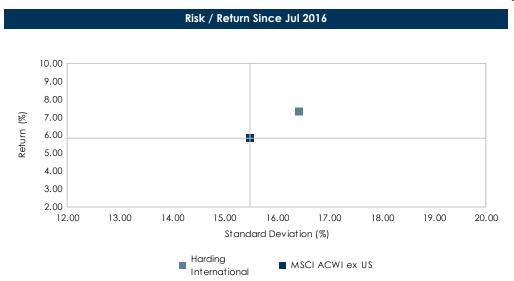
■ Harding International ■ MSCI ACWI ex US

Dollar Growin Summary (5000s)		
	3 Months	1 Year
Beginning Market Value	1,783	2,595
Net Additions	-85	-138
Return on Investment	258	-502
Ending Market Value	1,956	1,956



# **Harding Loevner International Equity**

For the Periods Ending December 31, 2022



#### Portfolio Statistics Since Jul 2016

	Harding International	MSCI ACWI ex US
Return (%)	7.34	5.83
Standard Deviation (%)	16.42	15.50
Sharpe Ratio	0.38	0.31

Benchmark Relative Statistics		
Beta	1.01	
R Squared (%)	90.95	
Alpha (%)	1.49	
Tracking Error (%)	4.94	
Batting Average (%)	51.28	
Up Capture (%)	107.70	
Down Capture (%)	100.35	

#### Growth of a Dollar Since Jul 2016

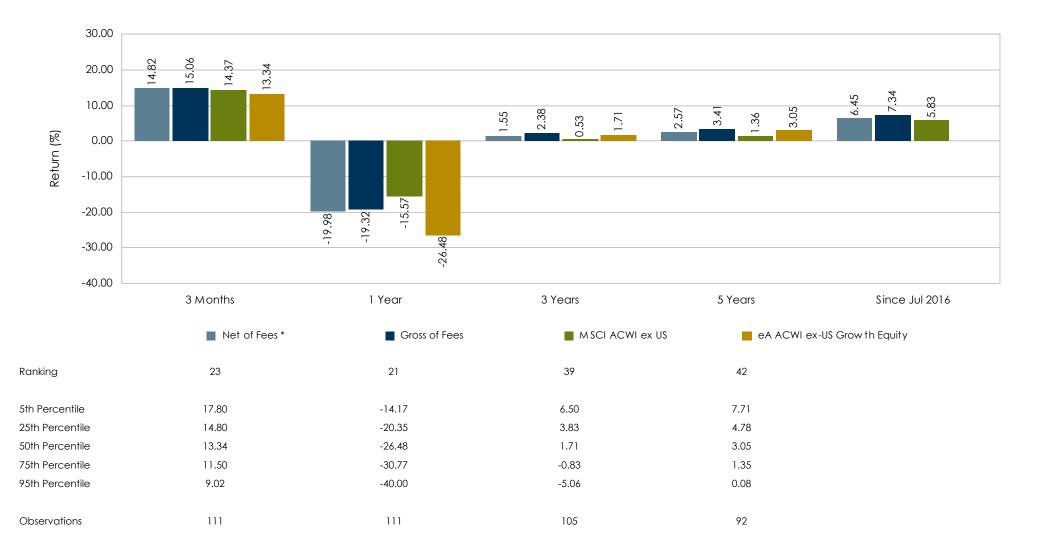


#### Return Analysis Since Jul 2016

	Harding International	MSCI ACWI ex US
Number of Months	78	78
Highest Monthly Return (%)	15.67	13.46
Lowest Monthly Return (%)	-11.69	-14.40
Number of Positive Months	47	50
Number of Negative Months	31	28
% of Positive Months	60.26	64.10

# **Harding Loevner International Equity**

For the Periods Ending December 31, 2022



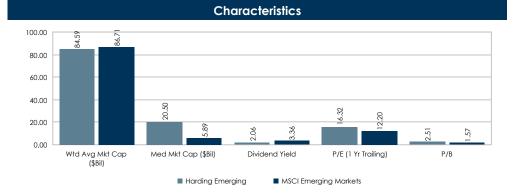
<sup>\*</sup> Performance is calculated using net of fee returns.
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# **Harding Loevner Emerging Markets**

For the Periods Ending December 31, 2022

#### **Account Description**

- Strategy Emerging Markets Equity
- Vehicle Non-Mutual Commingled
- Benchmark MSCI Emerging Markets
- Performance Inception Date September 2015
- Fees 99 bps



#### **Performance Goals**

 Exceed the returns of the MSCI Emerging Markets over a complete market cycle (3 to 5 years).

#### 32.00 24.00 20.00 16.00 12.00 8.00 9.00 10.0

**Sector Allocation** 

■ Harding Emerging ■ MSCI Emerging Markets

Health Care

Financials

Industrials

Info Tech

Materials

Real Estate

Utilities

Cash

Cons Staples

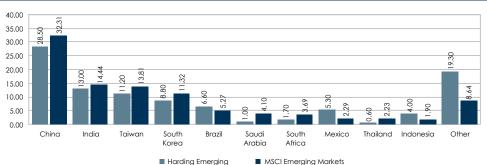
Cons Disc

Comm Services

#### Dollar Growth Summary (\$000s)

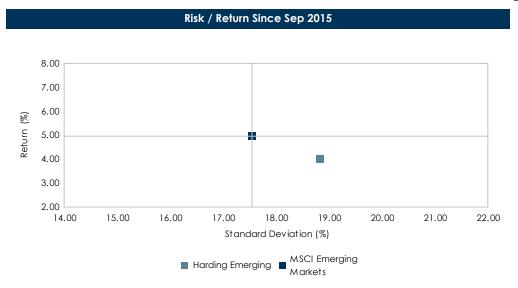
	3 Months	1 Year
Beginning Market Value	1,728	2,437
Net Additions	-40	141
Return on Investment	192	-698
Ending Market Value	1,880	1,880

# Country Allocation



# **Harding Loevner Emerging Markets**

For the Periods Ending December 31, 2022



	Harding Emerging	MSCI Emerging Markets
Return (%)	4.02	4.97
Standard Deviation (%)	18.83	17.54
Sharpe Ratio	0.16	0.23

	Benchmark Relative Statistics	
Beta	1.03	
R Squared (%)	91.72	
Alpha (%)	-0.83	
Tracking Error (%)	5.44	
Batting Average (%)	56.82	
Up Capture (%)	102.39	
Down Capture (%)	105.24	

#### Growth of a Dollar Since Sep 2015



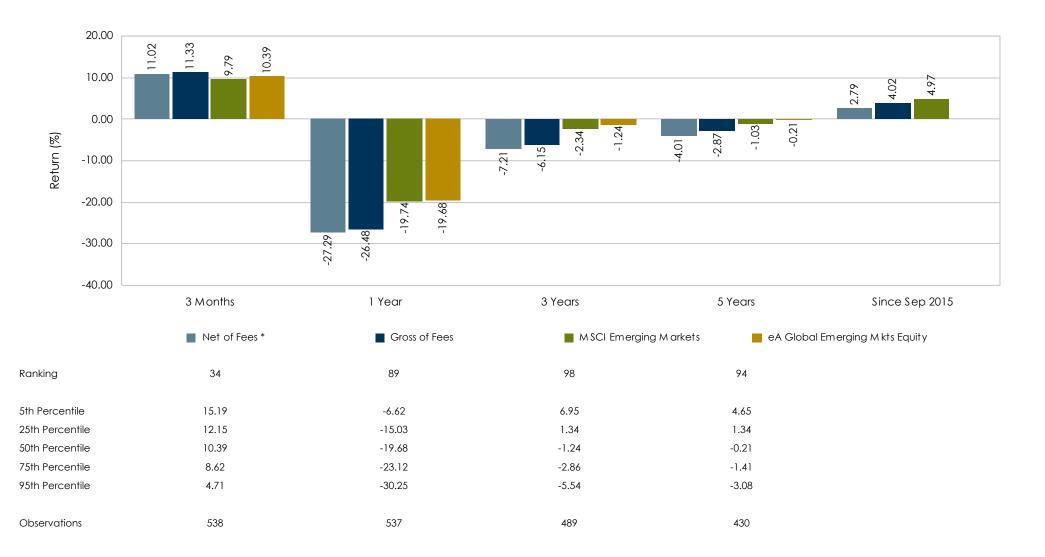
# Return Analysis Since Sep 2015

Portfolio Statistics Since Sep 2015

	Harding Emerging	MSCI Emerging Markets
Number of Months	88	88
Highest Monthly Return (%)	14.00	14.85
Lowest Monthly Return (%)	-20.10	-15.38
Number of Positive Months	53	50
Number of Negative Months	35	38
% of Positive Months	60.23	56.82

# **Harding Loevner Emerging Markets**

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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# **Global Equity Option**

For the Periods Ending December 31, 2022

Manager Allocation			
Market Allocation Name Value (\$000s) (%)			
Total	9,889	100.00	
SSgA Global Equity Index	9,889	100.00	

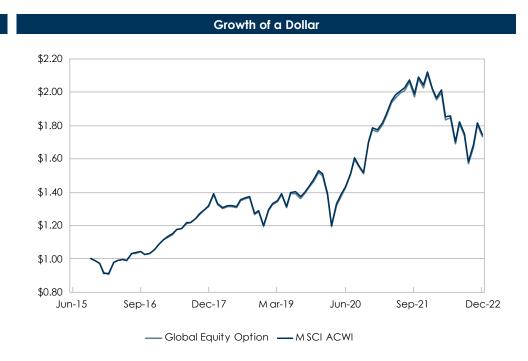
	Global	Fauity	Ontion
_	Olobai	Laciny	

■ This option includes the passively managed SSgA Global Equity Index Fund.

**Portfolio Information** 

Performance Goal - Mirror the risk and return profile of the MSCI All Country World Index over all time periods.

Dollar Growth Summary (\$000s)		
	3 Months	1 Year
Beginning Market Value	9,230	12,440
Net Additions	-255	-318
Return on Investment	915	-2,232
Endina Market Value	9.889	9.889

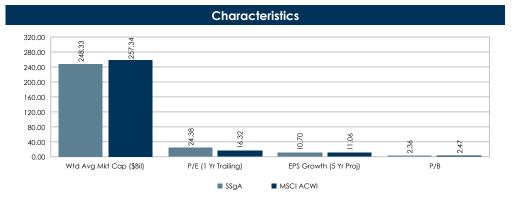


# **SSgA Global Equity Index**

For the Periods Ending December 31, 2022

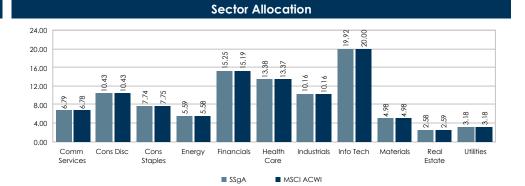
#### **Account Description**

- Strategy Global All Cap Equity
- Vehicle Non-Mutual Commingled
- Benchmark MSCI ACWI
- Performance Inception Date November 2015
- Fees 10 bps



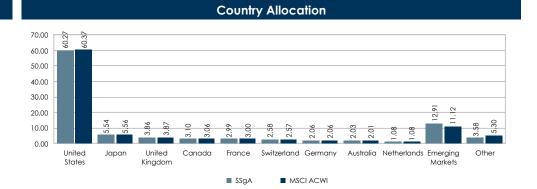
#### **Performance Goals**

• Mirror the risk and return profile of the MSCI ACWI over all time periods.



#### Dollar Growth Summary (\$000s)

	3 Months	1 Year
Beginning Market Value	9,230	12,440
Net Additions	-255	-318
Return on Investment	915	-2,232
Ending Market Value	9,889	9,889



# **SSgA Global Equity Index**

For the Periods Ending December 31, 2022



# Portfolio Statistics Since Nov 2015

	SSgA	MSCI ACWI
Return (%)	7.99	8.06
Standard Deviation (%)	15.53	15.45
Sharpe Ratio	0.45	0.46

Benchmark Relative Statistics		
Beta	1.00	
R Squared (%)	99.85	
Alpha (%)	-0.09	
Tracking Error (%)	0.61	
Batting Average (%)	41.86	
Up Capture (%)	100.35	
Down Capture (%)	100.61	

#### Growth of a Dollar Since Nov 2015

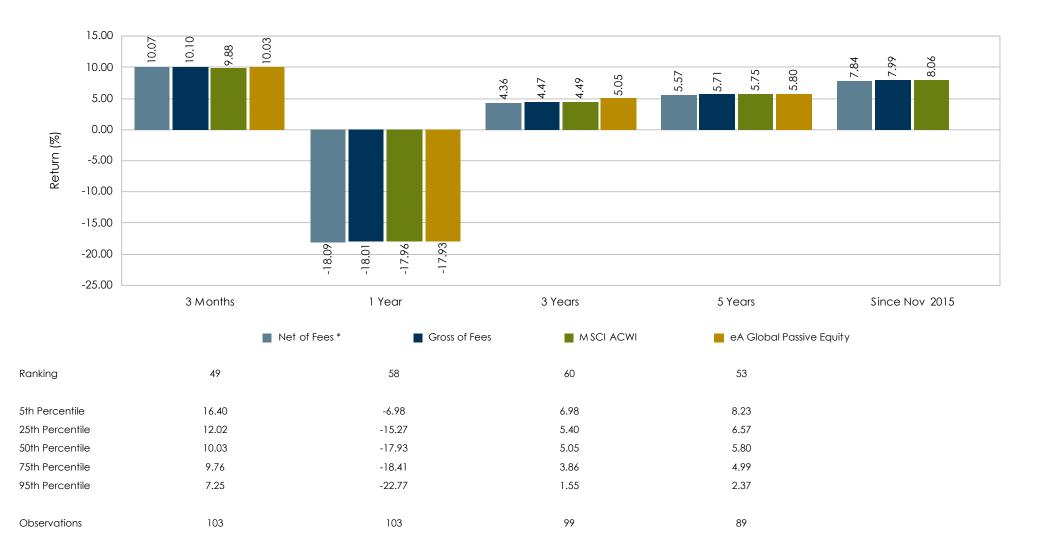


#### **Return Analysis Since Nov 2015**

	SSgA	MSCI ACWI
Number of Months	86	86
Highest Monthly Return (%)	12.28	12.36
Lowest Monthly Return (%)	-13.80	-13.44
Number of Positive Months	58	58
Number of Negative Months	28	28
% of Positive Months	67.44	67.44

# **SSgA Global Equity Index**

For the Periods Ending December 31, 2022



<sup>\*</sup> Performance is calculated using net of fee returns.
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# **ESG US Stock Fund Option**

For the Periods Ending December 31, 2022

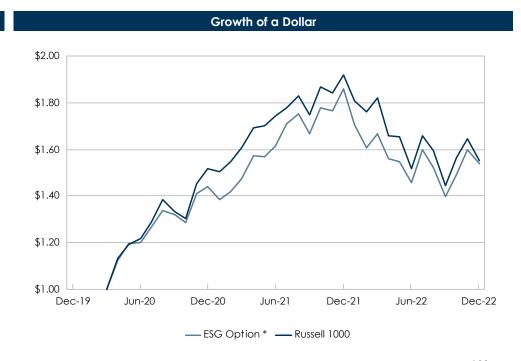
Manager Allocation				
Market Allocation Name Value (\$000s) (%)				
Total ESG Option	1,354	100.00		
Calvert Equity Fund	1,354	100.00		

<ul><li>ESG US</li></ul>	Larae	and Mid	Can	Fauity	Option

- This option includes the Calvert Equity Fund
- Performance Goal Outperform the Russell 1000 over a complete market cycle (typically 3 to 5 years).

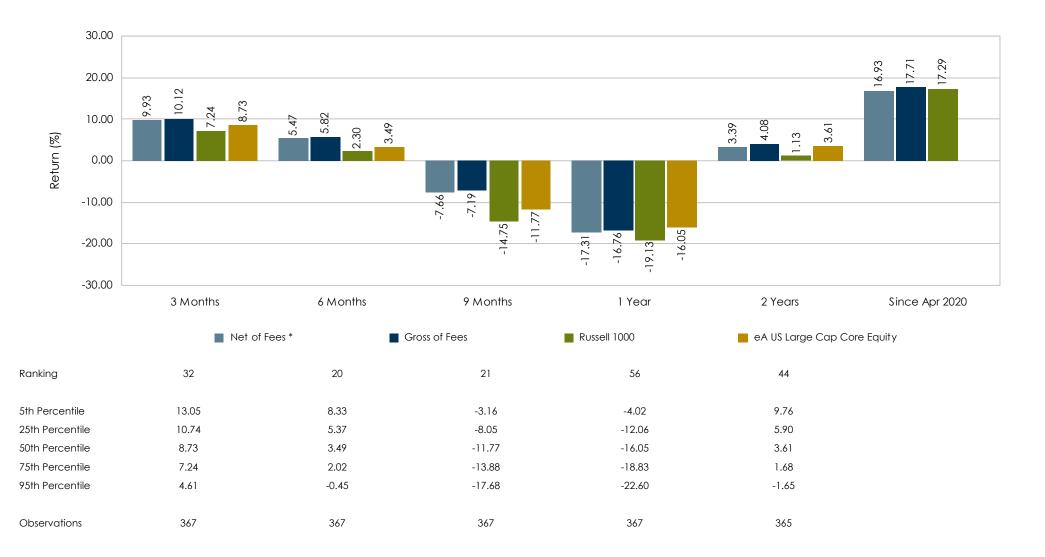
**Portfolio Information** 

Net Dollar Growth Summary (\$000s)		
	3 Months	1 Year
Beginning Market Value	1,185	1,659
Net Additions	51	-20
Return on Investment	118	-284
Endina Market Value	1.354	1.354



# **ESG US Stock Fund Option**

For the Periods Ending December 31, 2022



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# **Total Yield Option**

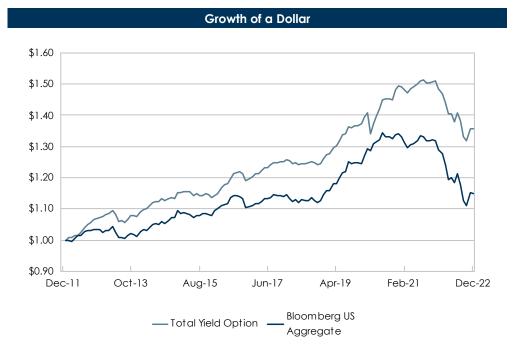
For the Periods Ending December 31, 2022

Manager Allocation			
Name	Market Value (\$000s)	Allocation (%)	
Total	5,428	100.00	
JP Morgan Fixed Income	2,701	49.76	
Amundi Pioneer Core Plus	1,367	25.17	
BlackRock Strategic Income Opportunities	1,361	25.07	

Portfolio Information

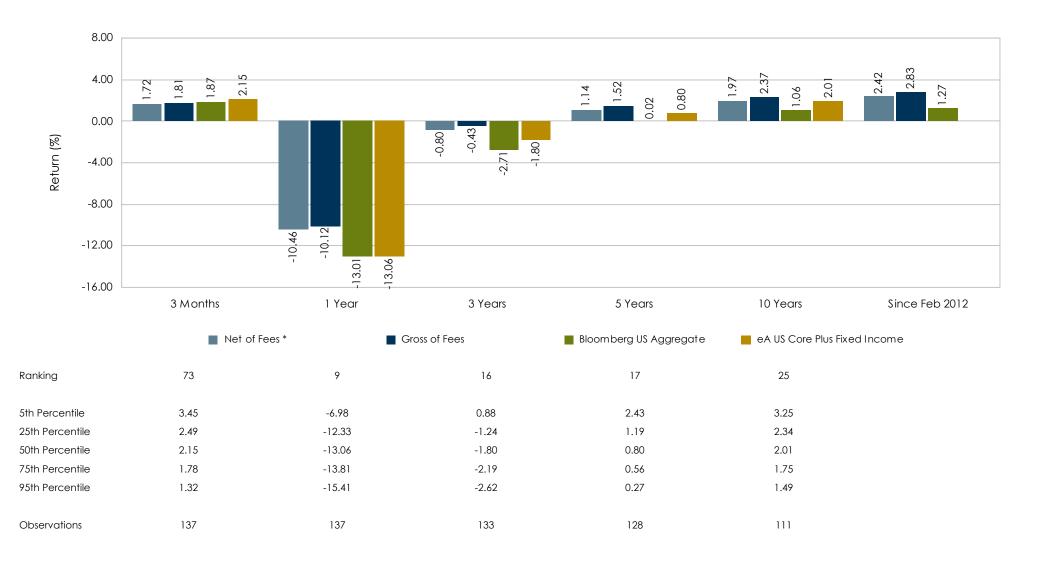
- Total Yield Option
- This option includes a combination of portfolios in the core and multi-sector fixed income asset classes.
- Performance Goals 1) to achieve returns 100 basis points in excess of the BloomBar US Aggregate, and 2) to exceed the return of the median core bond manager over a complete market cycle (3 to 5 years).

Dollar Growth Summary (\$000s)		
	3 Months	1 Year
Beginning Market Value	5,322	6,715
Net Additions	13	-647
Return on Investment	94	-640
Ending Market Value	5,428	5,428



# **Total Yield Option**

For the Periods Ending December 31, 2022



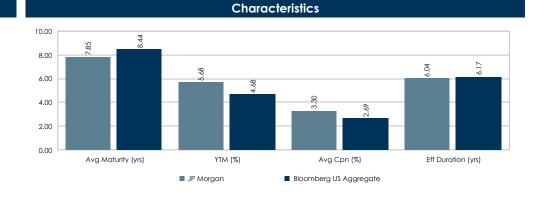
<sup>\*</sup> Performance is calculated using net of fee returns.
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# JP Morgan Fixed Income

For the Periods Ending December 31, 2022

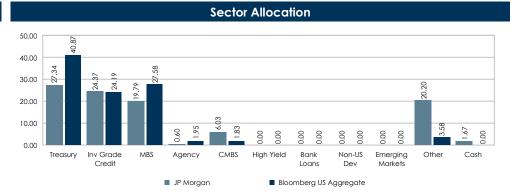
#### **Account Description**

- Strategy Core Bonds
- Vehicle Non-Mutual Commingled
- Benchmark Bloomberg US Aggregate
- **Performance Inception Date** February 2012
- **Fees** 30 bps

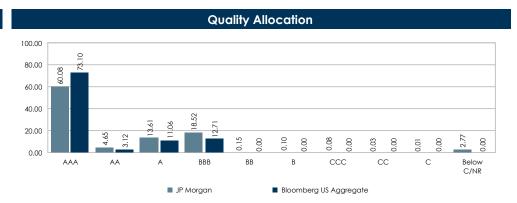


#### **Performance Goals**

 Exceed the returns of the Bloomberg US Aggregate over a complete market cycle (3 to 5 years).



# Dollar Growth Summary (\$000s) 3 Months 1 Year Beginning Market Value 2,643 3,355 Net Additions 23 -276 Return on Investment 35 -378 Ending Market Value 2,701 2,701



Characteristic and allocation charts represents data of the JPMorgan Core Bond Trust (Non-Mutual Commingled). The Other sector consists of ABS, CMO, Convertibles, Municipals, Private Placements/144As and TIPS.

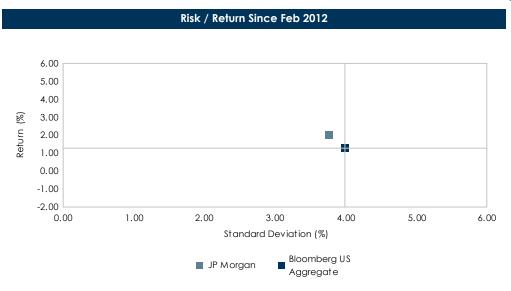
# JP Morgan Fixed Income

For the Periods Ending December 31, 2022

Return (%)

**Sharpe Ratio** 

Standard Deviation (%)



# Bloomberg US JP Morgan Aggregate 2.02 1.27

3.75

0.37

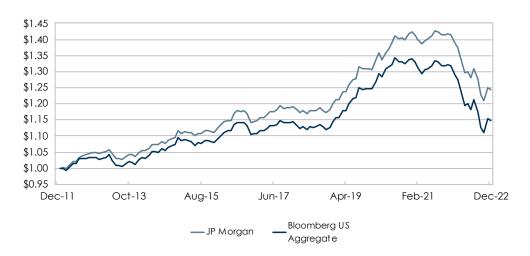
3.98

0.16

Portfolio Statistics Since Feb 2012

Benchmark Relative Statistics		
Beta	0.93	
R Squared (%)	97.19	
Alpha (%)	0.83	
Tracking Error (%)	0.69	
Batting Average (%)	64.89	
Up Capture (%)	102.56	
Down Capture (%)	86.58	

#### Growth of a Dollar Since Feb 2012

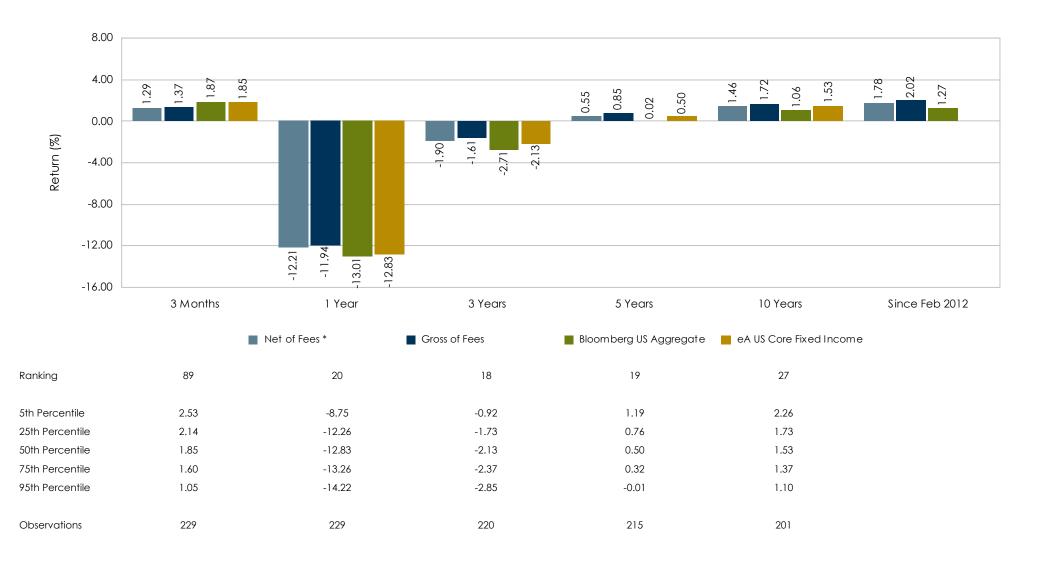


# Return Analysis Since Feb 2012

		Bloomberg US
	JP Morgan	Aggregate
Number of Months	131	131
Highest Monthly Return (%)	3.31	3.68
Lowest Monthly Return (%)	-3.92	-4.32
Number of Positive Months	79	74
Number of Negative Months	52	57
% of Positive Months	60.31	56.49

# JP Morgan Fixed Income

For the Periods Ending December 31, 2022



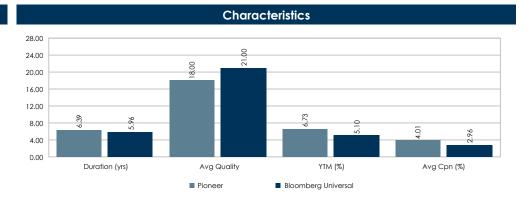
<sup>\*</sup> Performance is calculated using net of fee returns.
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#### **Amundi Pioneer Core Plus**

For the Periods Ending December 31, 2022

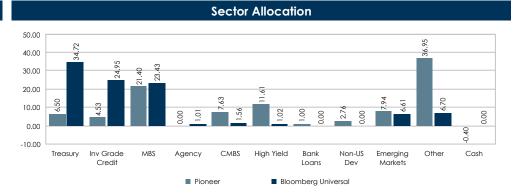
#### **Account Description**

- Strategy Multi-Sector Fixed Income
- Vehicle Non-Mutual Commingled
- Benchmark Bloomberg Universal
- **Performance Inception Date** February 2012
- Fees 35 bps



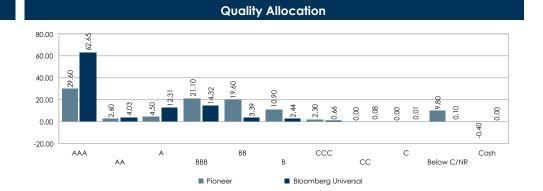
#### **Performance Goals**

 Exceed the returns of the Bloomberg Universal over a complete market cycle (3 to 5 years).



# 3 Months 1 Year Beginning Market Value 1,325 1,682 Net Additions 7 -134 Return on Investment 35 -182 Ending Market Value 1,367 1,367

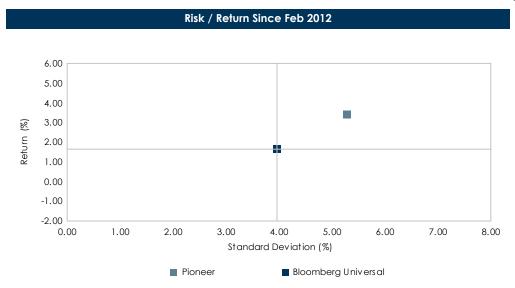
**Dollar Growth Summary (\$000s)** 



Characteristic and allocation charts represents the composite data of the Amundi\Multi-Sector Fixed Income. The Other sector consists of ABS, CMO, Convertibles, Municipals, Private Placements/144As and TIPS.

# **Amundi Pioneer Core Plus**

For the Periods Ending December 31, 2022

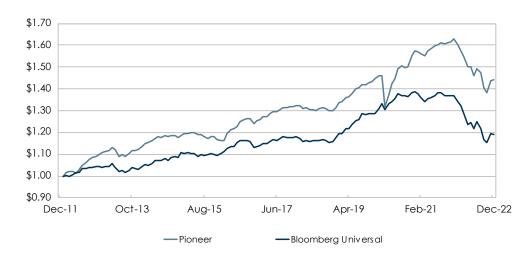


# Portfolio Statistics Since Feb 2012

		Bloomberg
	Pioneer	Universal
Return (%)	3.41	1.62
Standard Deviation (%)	5.28	3.96
Sharpe Ratio	0.52	0.24

Benchmark Relative Statistics		
Beta	1.00	
R Squared (%)	55.90	
Alpha (%)	1.83	
Tracking Error (%)	3.51	
Batting Average (%)	65.65	
Up Capture (%)	118.21	
Down Capture (%)	83.28	



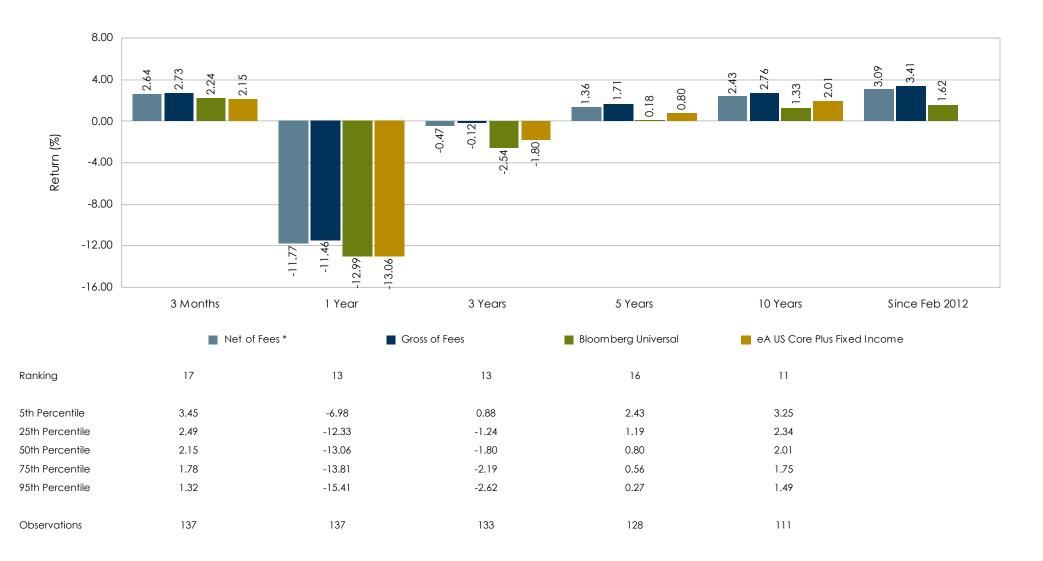


#### Return Analysis Since Feb 2012

	Pioneer	Bloomberg Universal
Number of Months	131	131
Highest Monthly Return (%)	4.31	3.73
Lowest Monthly Return (%)	-9.90	-4.31
Number of Positive Months	92	79
Number of Negative Months	39	52
% of Positive Months	70.23	60.31

# **Amundi Pioneer Core Plus**

For the Periods Ending December 31, 2022



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# **BlackRock Strategic Income Opportunities**

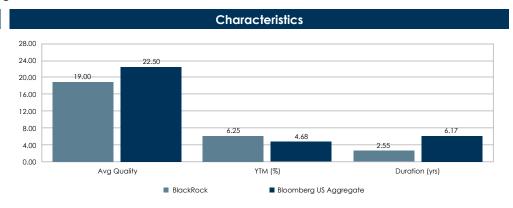
For the Periods Ending December 31, 2022

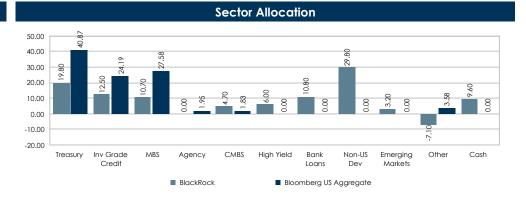
# **Account Description**

- Strategy Absolute Return
- Vehicle Mutual Fund: Institutional Class (BSIKX)
- Benchmarks Bloomberg US Aggregate and US T-Bills 30 Day + 4.0%
- Performance Inception Date July 2017
- **Expense Ratio** 59 bps

#### **Performance Goals**

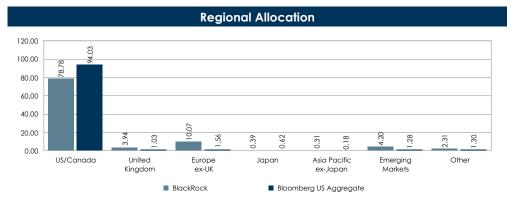
- Meet or exceed the targeted return of the Bloomberg US Aggregate over a complete market cycle (typically 3-5 years).
- Meet or exceed the targeted return of US T-Bills + 4-6% over a complete market cycle (typically 3-5 years).





Dollar Growth Sufficiency (3000s)		
	3 Months	1 Year
Beginning Market Value	1,354	1,678
Net Additions	-17	-237
Return on Investment	24	-80
Ending Market Value	1,361	1,361

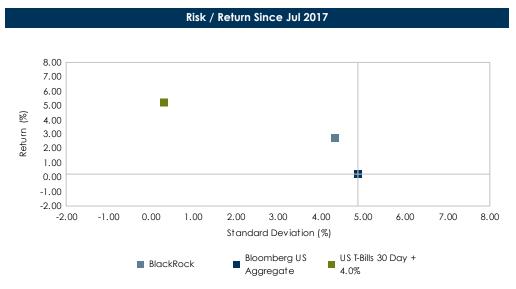
Dollar Growth Summary (\$000s)



Characteristic and allocation charts represents the composite data of the BlackRock Strategic Income Opportunities. The Other sector consists of ABS, CMO, Convertibles, Municipals, Private Placements/144As and TIPS.

### **BlackRock Strategic Income Opportunities**

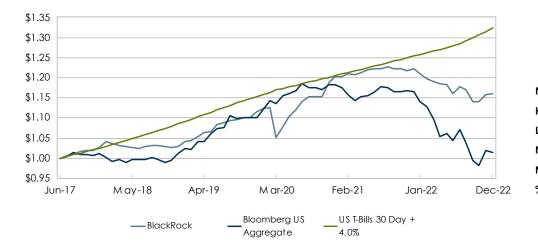
For the Periods Ending December 31, 2022



#### Portfolio Statistics Since Jul 2017 **Bloomberg** US US T-Bills 30 BlackRock **Aggregate** Day + 4.0%0.25 Return (%) 2.75 5.22 Standard Deviation (%) 4.35 4.87 0.30 **Sharpe Ratio** 0.36 -0.19 13.38

Benchmark Relative Statistics		
Beta	0.44	-0.86
R Squared (%)	24.39	0.36
Alpha (%)	2.69	7.45
Tracking Error (%)	4.66	4.37
Batting Average (%)	66.67	39.39
Up Capture (%)	73.29	52.73
Down Capture (%)	33.64	

#### Growth of a Dollar Since Jul 2017

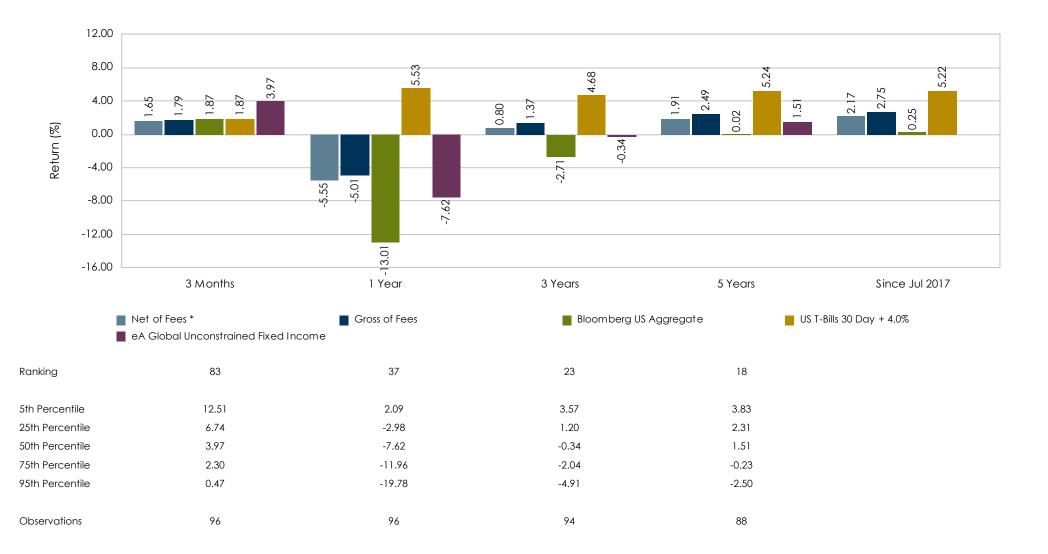


#### Return Analysis Since Jul 2017

	Bloomberg US US T-Bills 3:		
	BlackRock	Aggregate	Day + 4.0%
Number of Months	66	66	66
Highest Monthly Return (%)	2.90	3.68	0.67
Lowest Monthly Return (%)	-6.60	-4.32	0.33
Number of Positive Months	44	34	66
Number of Negative Months	22	32	0
% of Positive Months	66.67	51.52	100.00

### **BlackRock Strategic Income Opportunities**

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

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# **Bond Index Option**

For the Periods Ending December 31, 2022

Manager Allocation			
Market Allocation Name Value (\$000s) (%)			
Total	14,194	100.00	
SSgA US Aggregate Bond	14,194	100.00	

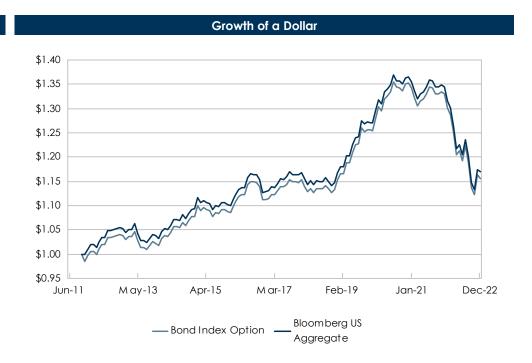
Rond	Index	Ontion	

 This option includes the passively managed SSgA US Aggregate Bond Index Fund.

**Portfolio Information** 

 Performance Goal - Mirror the risk and return profile of the BloomBar US Aggregate over all time periods.

Dollar Growth Summary (\$000s)			
	3 Months	1 Year	
Beginning Market Value	13,905	16,601	
Net Additions	59	-253	
Return on Investment	229	-2,154	
Endina Market Value	14.194	14.194	

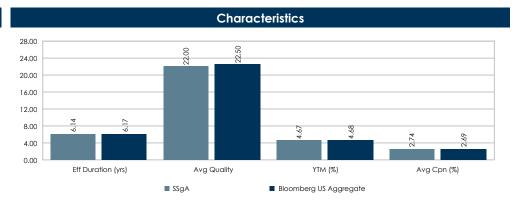


### SSgA US Aggregate Bond

For the Periods Ending December 31, 2022

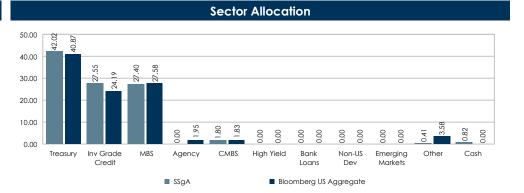
#### **Account Description**

- Strategy US Investment Grade
- Vehicle Non-Mutual Commingled
- Benchmark Bloomberg US Aggregate
- Performance Inception Date November 2011
- Fees 6 bps

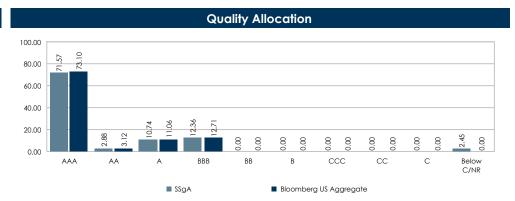


#### **Performance Goals**

 Mirror the risk and return profile of the Bloomberg US Aggregate over all time periods.



# Dollar Growth Summary (\$000s) 3 Months 1 Year Beginning Market Value 13,905 16,601 Net Additions 59 -253 Return on Investment 229 -2,154 Ending Market Value 14,194 14,194



Characteristic and allocation charts represents data of the US Aggregate Bond Index SL Fund (Non-Mutual Commingled).

The Other sector consists of ABS, CMO, Convertibles, Municipals, Private Placements/144As and TIPS.

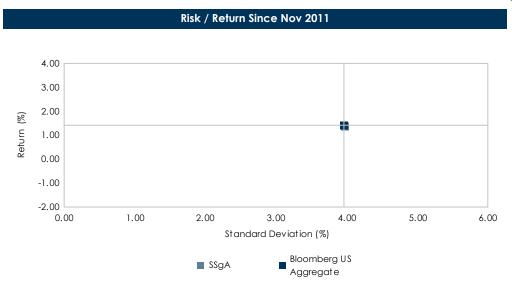
#### SSgA US Aggregate Bond

For the Periods Ending December 31, 2022

Return (%)

**Sharpe Ratio** 

Standard Deviation (%)



# Portfolio Statistics Since Nov 2011 Bloomberg US SSgA Aggregate 1.39 1.41 3.97 3.95

0.19

0.20

Benchmark Relative Statistics		
Beta	1.00	
R Squared (%)	99.79	
Alpha (%)	-0.03	
Tracking Error (%)	0.18	
Batting Average (%)	55.22	
Up Capture (%)	100.72	
Down Capture (%)	101.42	

#### Growth of a Dollar Since Nov 2011

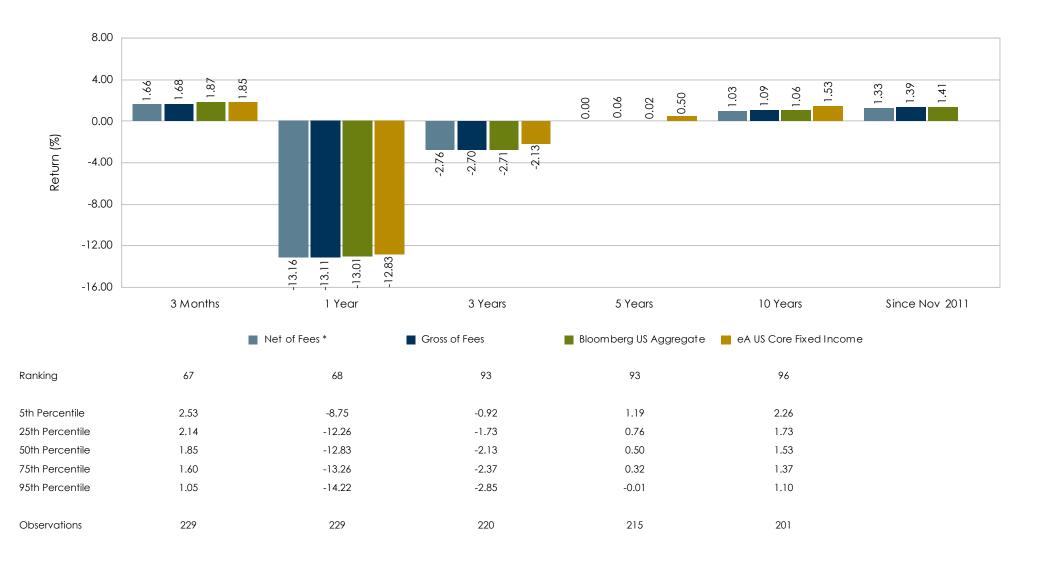


# Return Analysis Since Nov 2011

	Bloomberg US
SSgA	Aggregate
134	134
3.68	3.68
-4.32	-4.32
76	76
58	58
56.72	56.72
	134 3.68 -4.32 76 58

### SSgA US Aggregate Bond

For the Periods Ending December 31, 2022



The rankings represent the portfolio's returns versus a peer universe. The rankings are on a scale of 1 to 100 with 1 being the best.

<sup>\*</sup> Performance is calculated using net of fee returns.
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## **Real Assets Option**

For the Periods Ending December 31, 2022

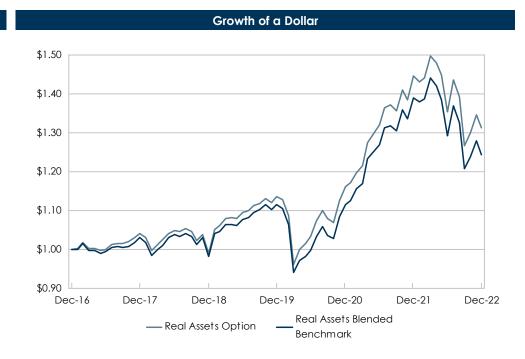
Manager Allocation			
Market Allocation Name Value (\$000s) (%)			
Total	932	100.00	
PIMCO Diversified Real Assets	932	100.00	

Real Asset Option	

- ·
- This option includes a REIT, Commodity and TIPS strategy.
- Performance Goal Outperform the custom benchmark over a complete market cycle (typically 3 to 5 years)

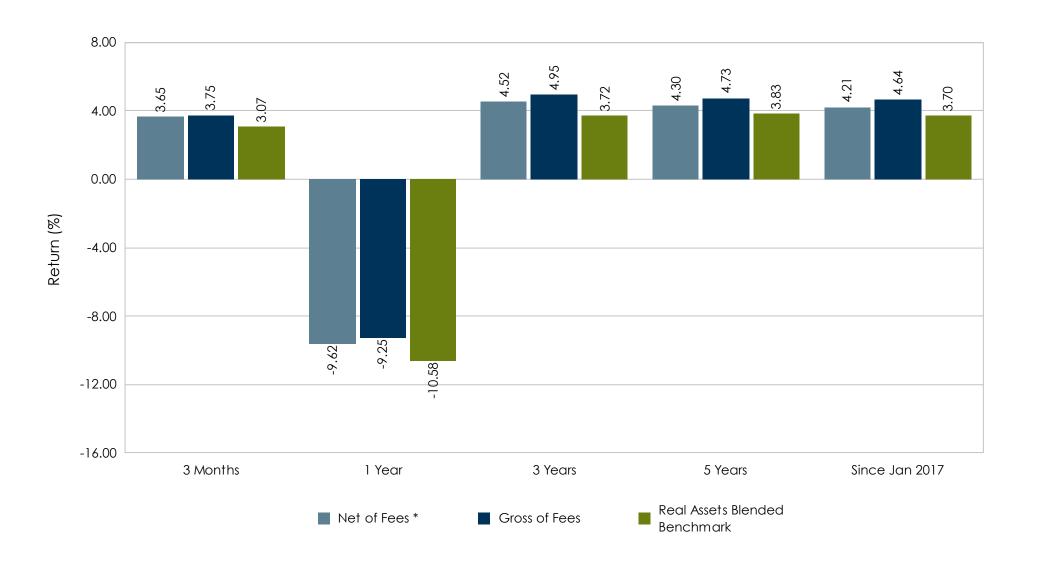
**Portfolio Information** 

Dollar Growth Summary (\$000s)		
	3 Months	1 Year
Beginning Market Value	890	914
Net Additions	11	135
Return on Investment	31	-117
Ending Market Value	932	932



# **Real Assets Option**

For the Periods Ending December 31, 2022



#### **Fixed Fund Option**

For the Periods Ending December 31, 2022

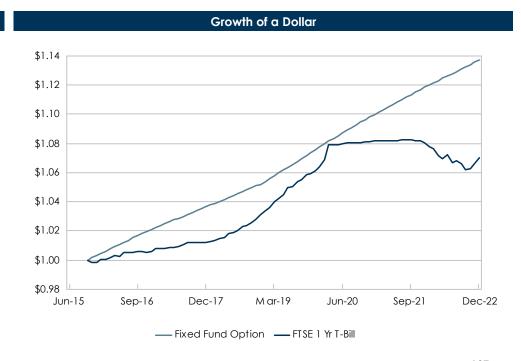
Manager Allocation		
Market Allocation Name Value (\$000s) (%)		
Total	54,964	100.00
Voya Fixed Plus III	54,964	100.00

Fixed account designed to provide participants with principal stability over a long-term investment horizon. The Fixed Account is backed by the Voya Retirement Insurance and Annuity Company (VRIAC) general account.

**Portfolio Information** 

The manager's performance will be evaluated on absolute return, relative return, volatility profile and consistency with stated style relative to similar fixed income strategies.

Dollar Growth Summary (\$000s)		
	3 Months	1 Year
Beginning Market Value	54,599	44,681
Net Additions	128	9,425
Return on Investment	236	858
Ending Market Value	54,964	54,964



# **SSgA Target Retirement Options**

For the Periods Ending December 31, 2022

Manager Allocation							
Name	Market Value (\$000s)	Allocation (%)					
Total	188,970	100.00					
SSgA Target Retirement 2025	36,184	19.15					
SSgA Target Retirement 2030	28,083	14.86					
SSgA Target Retirement 2035	24,528	12.98					
SSgA Target Retirement 2020	23,029	12.19					
SSgA Target Retirement Income	18,753	9.92					
SSgA Target Retirement 2040	18,705	9.90					
SSgA Target Retirement 2045	14,391	7.62					
SSgA Target Retirement 2050	11,345	6.00					
SSgA Target Retirement 2055	7,201	3.81					
SSgA Target Retirement 2060	6,592	3.49					
SSgA Target Retirement 2065	160	0.08					

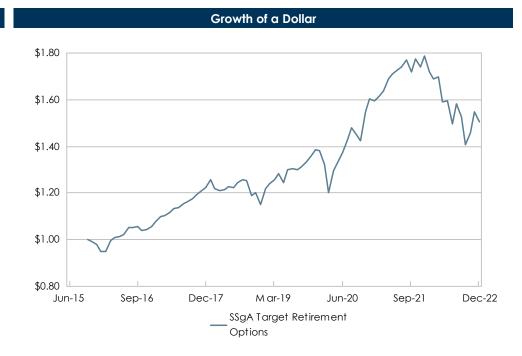
-	This option includes a combination of passive SSgA strategies across global	
	equity, fixed income and real assets.	

**Portfolio Information** 

- The risk/return profile of the target date funds are based upon each participant's age and time horizon.
- The target date funds automatically shift the asset allocation from more aggressive to more conservative as the participant approaches the stated retirement date.
- The manager's performance will be evaluated on absolute return, relative return, volatility profile and consistency with stated style relative to similar target date funds.

	3 Months	1 Year
Beginning Market Value	176,415	235,726
Net Additions	508	-9,830
Return on Investment	12,046	-36,926
Ending Market Value	188,970	188,970

**Dollar Growth Summary (\$000s)** 



**Appendix** 

# Historical Benchmark Composition

#### **OMRF DB Policy Index**

04/30/1987	The index consists of 100.0% OMRF DB Policy Index History.
07/31/2003	The index consists of 55.00% S&P 500, 10.00% MSCI EAFE, 35.00% Bloomberg US Aggregate.
03/31/2004	The index consists of 40.00% S&P 500, 15.00% Russell 2500, 10.00% MSCI EAFE, 35.00% Bloomberg US Aggregate.
02/28/2007	The index consists of 40.00% S&P 500, 15.00% Russell 2500, 10.00% MSCI EAFE, 30.00% Bloomberg US Aggregate, 5.00% NCREIF Property.
10/31/2010	The index consists of 35.00% S&P 500, 10.00% Russell 2500, 20.00% MSCI EAFE, 30.00% Bloomberg US Aggregate, 5.00% NCREIF Property.
04/30/2014	The index consists of 25.00% S&P 500, 10.00% Russell 2500, 10.00% MSCI ACWI, 20.00% MSCI EAFE, 30.00% Bloomberg US Aggregate, 5.00% NCREIF Property.
03/31/2016	The index consists of 65.00% MSCI ACWI, 30.00% Bloomberg US Aggregate, 5.00% NCREIF Property.
01/31/2021	The index consists of 70.00% MSCI ACWI, 25.00% Bloomberg US Aggregate, 5.00% NCREIF Property.
10/31/2021	The index consists of 70.00% MSCI ACWI, 20.00% Bloomberg US Aggregate, 10.00% NCREIF Property.
09/30/2022	The index consists of 65.00% MSCI ACWI, 20.00% Bloomberg US Aggregate, 15.00% NCREIF Property.

#### **Definitions of Statistical Measures**

**Alpha -** the annualized difference between the manager's actual return and the manager's expected return given its relative risk vs. the benchmark (which is represented by beta, a measure that tracks volatility to an index).

**Batting Average -** a measure used to quantify a manager's ability to meet or beat a benchmark. A manager who outperforms the benchmark 20 out of a possible 40 times has a batting average of 50.

**Beta** - measures the portfolio's sensitivity of returns to market movements represented by the primary benchmark.

**Down Capture -** demonstrates the ratio of the portfolio's average returns relative to the benchmark in periods in which the benchmark had a negative return. For instance, a down-capture of 96% indicates that, on average, the portfolio is down 96% when the benchmark is down 100%. Lower portfolio down-capture is preferred.

**R Squared -** the amount of the manager's return that can be explained by the benchmark. A R Squared of 100 indicates a perfect correlation, while a R Squared of 0 indicates no correlation at all.

**Sharpe Ratio -** a measure of return per unit of risk. Higher sharpe ratios are preferred while negative ratios are generally meaningless and cannot be used for comparison purposes.

**Standard Deviation -** a measure of the portfolio's volatility. A large standard deviation relative to the benchmark represents volatile portfolio returns.

**Tracking Error** - a measure that reports the difference between the return of a manager that is received and that of a benchmark that the manager is attempting to track.

**Up Capture -** demonstrates the ratio of the portfolio's average returns relative to the benchmark in periods in which the benchmark had a positive return. For instance, an up-capture of 96% indicates that, on average, the portfolio is up 96% when the benchmark is up 100%. Higher portfolio up-capture is preferred.

# **Quality Rating Scale**

Moody's Rating	S&P Rating	Prior to 1Q09	Beginning 1Q09	Beginning 3Q11	Moody's Rating	S&P Rating	Prior to 1Q09	Beginning 1Q09	Beginning 3Q11
TSY	TSY	10	26	24	Ba2	ВВ	6	13	13
AGY	AGY	10	25	24	Ва	BB		13	13
Aaa	AAA	10	24	24	MIG4		6	13	13
Aal	AA+	9.3	23	23	ВаЗ	BB-	5.7	12	12
Aa2	AA		22	22	B1	B+	5.3	11	11
Aa	AA	9	22	22	B2	В	5	10	10
MIG1		9	22	22	В	В		10	10
Aa3	AA-	8.7	21	21	В3	B-	4.7	9	9
A1	A+	8.3	20	20	Caal	CCC+	4.3	8	8
A-1			20	20	Caa2	CCC	4	7	7
A2	Α	8	19	19	Caa	CCC		7	7
Α	Α		19	19	Caa3	CCC-	3.7	6	6
MIG2		8	19	19	Ca	CC	3	5	5
A3	A-		18	18	С	С	2	4	4
Baal	BBB+	7.7	17	17		DDD	1	3	3
Baa2	BBB	7.3	16	16		DD		2	2
Baa	BBB	7	16	16		D		1	1
MIG3			16	16	NR	NR	N/A	-1	-1
Baa3	BBB-	7	15	15	NA	NA	N/A		
Ba1	BB+	6.7	14	14	N/A	N/A			

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