

**APPLICANT STATUS NOTIFICATION FORM  
LOWER PAXTON TOWNSHIP, DAUPHIN COUNTY, PENNSYLVANIA**

**Proposal For:** Defined Benefit Pension Plan Investment Management Services

**Services Provided For:** Police Pension Plan, Non-Uniformed Employees' Pension Plan, and Volunteer Fire Department Length of Service Award Program (LOSAP) Pension Plan

**RFP Notice Date:** January 23, 2022

**RFP Due Date:** February 15, 2022

**Summary of Award Notice to Applicants**

The purpose of this correspondence is to formally notify all Applicants under the Request for Proposal of a determination made through the selection process.

After careful consideration of all information presented, a detailed review and analysis process, and the narrowing of a very competitive field of highly qualified applicants, Lower Paxton Township wishes to announce the selection as the most qualified applicant and designation as the selectee for Award of the Professional Services Contract to:

**PFM ASSET MANAGEMENT LLC (PFMAM)**

**Summary of Events:** Provide a brief description of the overall RFP Proceedings and subsequent designation of a selectee and the Most Qualified Applicant:

Lower Paxton Township received twelve (12) responses to its Request for Proposals for an Investment Advisor to our defined benefit pension plans. Per its adopted review procedure, four (4) finalist proposals were selected for comprehensive fees and Scorecard assessment, based on evaluation criteria used: Client Experience/Service Team/Local Advisor; Investment Process/Approach; and References. PFMAM received a higher overall aggregate score based on our finalist evaluation criteria used: Company

Background/Culture; Client Experience/Service Team/Local Advisor; Investment Process/Approach; Fees/Scorecard; and References.

Enclosed is a copy of the original application submitted by PFMAM, including all required disclosures.

**Official Date of Notice: May 4, 2022**



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**Signature of Municipal Designee**

**Date**

**R. Samuel Miller**

**Assistant Township Manager/Finance Director**



February 15, 2022

## Lower Paxton Township

Response to Request for Proposals -  
Defined Benefit Pension Plan Investment  
Management and Custodial Services

**NOT FDIC INSURED :  
NO BANK GUARANTEE :  
MAY LOSE VALUE**

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Investment Professional Use  
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inspection by, distribution to, or  
quotation to the general public

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PFM Asset  
Management LLC

1735 Market Street  
43<sup>rd</sup> Floor  
Philadelphia, PA  
19103

[pfmam.com](http://pfmam.com)

# Lower Paxton Township

February 15, 2022

Request for Proposals – Defined Benefit Pension Plan Investment Management and Custodial Services

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## **About PFM Asset Management**

PFM Asset Management LLC ("PFMAM") is an investment adviser registered with the U.S. Securities and Exchange Commission and a subsidiary of U.S. Bancorp Asset Management, Inc. ("USBAM"). USBAM is a subsidiary of U.S. Bank National Association ("U.S. Bank"). U.S. Bank is a separate entity and subsidiary of U.S. Bancorp. U.S. Bank is not responsible for and does not guarantee the products, services or performance of PFMAM.

***NOT FDIC INSURED : NO BANK GUARANTEE : MAY LOSE VALUE***

For more information regarding PFM's services or entities, please visit [www.pfmam.com](http://www.pfmam.com)



1735 Market Street, 43<sup>rd</sup> Floor  
Philadelphia, PA 19103

PFM Asset Management LLC  
[pfmam.com](http://pfmam.com)

R. Samuel Miller  
Lower Paxton Township Finance Department  
425 Prince Street  
Lower Paxton, PA 17109

RE: Request for Proposals – Defined Benefit Pension Plan Investment Management and Custodial Services

Dear Mr. Miller:

PFM Asset Management LLC (“PFMAM”) appreciates the opportunity to submit our proposal to provide investment related to the Lower Paxton Township’s (the “Township”) Police Pension Plan, Non-Uniformed Employees’ Pension Plan, and Volunteer Fire Department Length of Service Award Program (LOSAP) Pension Plan (the “Funds”). As a firm dedicated to serving institutional investors, PFMAM seeks to provide tailored and uncompromised investment advice to our clients.

For over 25 years, PFMAM has assisted Pennsylvania municipal clients and other institutional investors manage their investment portfolios. We are proposing our outsourced chief investment officer (“OCIO”) solution for the Funds. As of December 31, 2021, we manage \$19.9 billion in discretionary assets for multi-asset class portfolios similar to the Township’s Funds, including 98 municipal, public pension plans in Pennsylvania for 60 clients with assets of nearly \$5.4 billion including \$3.3 billion in discretionary assets under management for 92 plans and \$2.0 billion in non-discretionary assets under advisement for six plans.<sup>1</sup> Through PFMAM’s holistic approach and broad capabilities, we are equipped to support Lower Paxton Township with the daily tasks and oversight requirements associated with managing a complex investment portfolio. Benefits to using PFMAM’s OCIO approach include joint fiduciary oversight, access to institutional third-party investment strategies across multiple asset classes and the efficient execution of our best ideas. We firmly believe that our structure has enabled clients to respond quickly to volatile market conditions, produce strong results and carefully monitor investment costs. By working together, we can assist the Township in continuing to realize its investment goals and objectives.

We believe the following qualities, addressed in greater detail in our proposal, help demonstrate that we are the firm best suited to meet the Township’s investment management needs.

- **Expertise Serving PA-Based Municipal Defined Benefit Plans.** Having advised Pennsylvania-based plans since 1992, we believe that our experience and strong knowledge of public

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<sup>1</sup> As of December 31, 2021.



retirement funds is hard to replicate. We manage or advise on 98 municipal, public pension plans in Pennsylvania for 60 clients with assets of nearly \$5.4 billion (as of December 31, 2021)

- **Comprehensive OCIO Solution.** Constructing multi-manager portfolios is one of our firm's greatest areas of expertise. In collaboration with the Township, we will implement an innovative and transparent investment strategy that will save you valuable time and resources. In addition, we have over 250 employees<sup>2</sup> dedicated to all aspects of investing assets for institutional entities, which offers the Township a distinct combination of comprehensive asset management services with the nimbleness of a small firm.
- **Client-Centric Approach to Service.** We treat each client relationship as a partnership, and strive to deliver on the unique needs of each client. PFMAM provides high-quality, customized client service through a combination of dedicated local senior advisors, as well as regional and national support. We are offering the Township a senior team with in-depth experience in asset management to provide timely investment advisory services to the Township's Funds. We view our team as an extension of Lower Paxton Township and would meet at least quarterly to provide updates on market and economic conditions and to discuss investment strategy, performance, portfolio composition, our view on investment opportunities and any additional topics that are relevant or of interest.
- **Cost Effectiveness.** We are aware of the many financial challenges facing multi-employer plans. As a result, we are focused on creating an investment program customized to achieve the Funds' investment objectives in the most efficient manner. This includes using low cost, passive investment strategies, where appropriate within your portfolio. Additionally, we are often able to obtain lower fees for our clients due to our considerable asset size and the aggregate investments we have with our clients.

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<sup>2</sup> As of December 31, 2021. Total employees include professional and administrative staff.

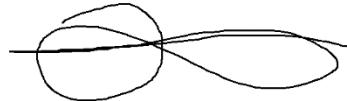


Lower Paxton Township  
February 15, 2022  
Page 5

We appreciate your consideration and look forward to serving as the Township's trusted advisor. We welcome the opportunity to meet with you to discuss our proposal in detail. Should you have any questions or need clarification, please feel free to contact Katheryn O'Hara and Marc Ammaturo at [oharak@pfmam.com](mailto:oharak@pfmam.com) and [ammaturom@pfmam.com](mailto:ammaturom@pfmam.com).

Sincerely,

PFM Asset Management LLC



Marc Ammaturo  
Managing Director

Katheryn O'Hara  
Investment Consultant



1735 Market Street, 43<sup>rd</sup> Floor  
Philadelphia, PA 19103

PFM Asset Management LLC  
[pfmam.com](http://pfmam.com)

# Technical Proposal

## I. Firm Background, Qualifications, and Credentials

1. Provide a description of your firm and its history, including size, structure, ownership, and affiliated businesses. Note any recent or pending changes in ownership or key management. Provide reference to any past experience with the Township.

PFM Asset Management LLC is a limited liability company. PFMAM's predecessor firm was founded in 1978, began providing investment advisory services to public entities in 1980, and created PFM Asset Management LLC in 2001 as the entity to provide investment advisory services. In 2003, PFMAM acquired Spagnola-Cosack, Inc., a multi-asset class investment consultant co-founded in 1992 by Managing Director John Spagnola, to provide independent investment management services to pension plans, endowments, foundations, and other multi-asset class portfolios. Our OCIO assets under management have grown to \$19.9 billion as of December 31, 2021.

In early December 2021, PFMAM became a wholly owned subsidiary of U.S. Bancorp Asset Management ("USBAM"), a subsidiary of U.S. Bank N.A. Please find a press release included in Appendix B for more details. PFMAM continues to provide investment advice and portfolio management for governmental and not-for-profit organizations, pension funds, and other institutions. As a wholly owned subsidiary of USBAM, PFMAM retains a certain level of autonomy as an independent registered investment advisor, which provides new opportunities for clients through a greater level of scale in resources, access to capital and the broad array of U.S. Bank's products, services, and technology to advance the services it provides to its asset management clients.

PFMAM provides independent and well-informed investment advice and portfolio management for the public sector and other institutional investors. We specialize in providing outsourced chief investment officer ("OCIO") services to public pension plans, other post-employment benefit plans, foundations and endowments, as well as managing fixed income portfolios comprising operating funds, general reserve funds, self-insurance reserves, and other special purpose funds, such as bond proceeds. We have a history of thoughtful innovation coupled with an abiding dedication to managing funds in a proactive manner, while preserving client capital. Our company culture is based on high ethical standards, fiduciary duty, compliance and transparency, and stewardship of public resources.

The Township has been an investor in the Pennsylvania Local Government Investment Trust<sup>3</sup> (PLGIT) since 1986. PFMAM is the investment advisor and administrator of PLGIT and has worked with Township

<sup>3</sup> This information is for institutional investor use only, not for further distribution to retail investors, and does not represent an offer to sell or a solicitation of an offer to buy or sell any fund or other security. Investors should consider the investment objectives, risks, charges and expenses before investing in any of the Trust's portfolios. This and other information about the Trust's portfolios is available in the current Information Statement, which should be read

staff throughout the years on solutions for various operating fund and bond proceeds accounts. Additionally, in advance of the request for proposals for pension services in 2020, PFMAM provided portfolio analysis services, which allowed the Township staff to better understand the positioning and cost of the entire portfolio.

**2. Provide the names and titles of all individuals who will be providing professional services to the Township relating to investment advisory and custodial services, including relating contact information should the Township need to reach any party(ies) relative to your response.**

We believe that our clients deserve the highest quality service, and PFMAM has assembled a team of experienced professionals to assist the Township in meeting its goals and objectives for the Funds. Below we provide the names, titles and engagement roles of the professionals who will be providing investment consulting services to the Township. Full biographies, including contact information, are included in appendix C

Team Member and Title	Role with the Township
<b>Katheryn O'Hara, Investment Consultant</b>	Co-Engagement Manager
<b>Donald Grant, Senior Managing Consultant</b>	Co-Engagement Manager
<b>Brian Sanker, Managing Director</b>	Local Engagement Support
<b>Matt Conlin, Senior Managing Consultant</b>	Local Engagement Support
<b>Marc Ammaturo, Managing Director and Co-Leader of PFMAM's OCIO Business</b>	OCIO Strategy Oversight

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*carefully before investing. A copy of the Information Statement may be obtained by calling 1-800-572-1472 or is available on the Trust's website at [www.plgit.com](http://www.plgit.com). While the PLGIT and PLGIT/PRIME portfolios seek to maintain a stable net asset value of \$1.00 per share and the PLGIT/TERM portfolio seeks to achieve a net asset value of \$1.00 per share at its stated maturity, it is possible to lose money investing in the Trust. An investment in the Trust is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Shares of the Trust's portfolios are distributed by PFM Fund Distributors, Inc., member Financial Industry Regulatory Authority (FINRA) ([www.finra.org](http://www.finra.org)) and Securities Investor Protection Corporation (SIPC) ([www.sipc.org](http://www.sipc.org)). PFM Fund Distributors, Inc. is an affiliate of PFM Asset Management LLC.*

**<sup>SM</sup>PLGIT, PLGIT-Class Shares, PLGIT/Reserve-Class Shares, PLGIT/PRIME, PLGIT/TERM, PLGIT-CD and PLGIT-CAP** are service marks of the Pennsylvania Local Government Investment Trust.

Team Member and Title	Role with the Township
<b>John Spagnola, Managing Director and Co-Leader of PFMAM's OCIO Business</b>	OCIO Strategy Oversight
<b>Biagio Manieri, Ph.D., CFA, Managing Director and Chief Multi-Asset Class Strategist</b>	Portfolio Management
<b>Alex Gurvich, Ph.D., Director of Research</b>	Research Oversight
<b>Tyler Braun, CFA, Director</b>	Manager, Portfolio Analytics

### 3. Describe turnover during to the last five years related to key staff and clients.

As of December 31, 2021, PFMAM has a five-year client retention rate of 91.1%.

Please refer to the table below for a breakdown of PFMAM's OCIO client turnover since 2017.

Discretionary OCIO Client Turnover				
Year	Clients Gained	Assets Gained	Clients Lost	Assets Lost
2021	17	\$1,649,872,849	4	\$99,564,316
2020	7	\$331,356,702	2	\$61,429,926
2019	13	\$548,025,188	2	\$11,305,110
2018	16	\$195,632,407	3	\$117,516,301
2017	18	\$1,038,700,179	0	\$0

*\*Includes discretionary clients gained/lost through 12/31/2021. Lost clients include those with whom our contract expired, we were fired, or we resigned.*

PFMAM has a very low rate of employee turnover. Because we use a team-based approach, continuity is ensured should there be a personnel transition for any reason. While we do not anticipate any changes in personnel during the engagement, we will keep the Township apprised of any staff changes that would affect our service delivery. Generally speaking, each engagement manager services their clients in perpetuity.

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4. Has your firm or any subcontractor or company in any advisory capacity that will be a party to the proposed services relative to this RFP, been involved in: a) Any adverse criminal, civil, regulatory or governmental actions against any director or principal officer in the past 5 years?; or b) Any investigation of the same nature that has occurred within the past 36 months? If so, please indicate the outcome of said action or investigation. Additionally, please indicate whether you have received notice or have any reasonable basis to believe that any criminal regulatory or similar investigation is likely to commence within the next 12 months.

PFMAM is not subject any disciplinary action, ethical inquiries, legal inquiries, or other disciplinary proceedings by any security regulatory agency.

At any given time, including the present, U.S. Bank National Association is involved in disputes and litigation which normally occur in banking operations, and which often involve claims for money damages or injunctive relief. These pending cases are generally not considered unusual in number or amount, and based on past experiences in similar litigation, should not have a material adverse effect on the financial position of the bank nor impact the delivery of banking services to the Township. As a practice, we do not comment on litigation unless pending litigation is significant. Furthermore, like other major financial institutions, the bank has been and is subject to various regulatory activities and investigations relating to certain aspects of its banking operations. Federal law prohibits the bank from disclosing confidential supervisory information from its banking regulators (e.g., OCC, FRB, CFPB) without permission, which may include communication relating to examination of records, reports, and supervisory findings. For additional public information about U.S. Bancorp (bank's holding company) and its subsidiaries, including any material litigation, investigation, or regulatory activity please refer to the most recent annual report of U.S. Bancorp and our 10-K and 10-Q filings.

5. Describe your firm's general expertise, specifically related to Pennsylvania defined benefit municipal pensions plans:

a. How many of your current public pension clients are Pennsylvania municipal pension funds? How many are police pension plans – Act 600 compliant? Must list at least 5 municipal defined benefit pension plan clients and a contact person at each client.

As of December 31, 2021, 60 of our current public pension clients are Pennsylvania municipal pension funds, representing 98 plans including 44 police pension plans.

We believe PFMAM's experience and strong knowledge of public pension plans is hard to replicate by other firms. Our professionals have advised defined benefit plans in Pennsylvania and assisted their staff in investment-related matters for more than 25 years and are very familiar with Act 600. Act 600 governs police pensions in all boroughs, towns, and townships employing three or more full-time police officers. We are very familiar with the key aspects of Act 600 which may or may not have a role in determining the level of risk assumed in an investment portfolio. Some of these factors are as follows:

- Normal retirement is 25 years of service and age 50-55.
- The percentage of member contributions ranges from 0% to 8%, with 5% as a default.
- Benefits vest after 12 years.

- Benefits are calculated using 50% of an employee's average salary during the last three to five years of employment.
- There is no portability.

In addition to our knowledge of Act 600, we have extensive experience and familiarity with Pennsylvania laws regarding pensions, including Act 205 as well as Act 44. Act 44 governs the process for choosing and replacing service providers to police pension and other municipal pension funds in Pennsylvania. Additionally, Act 44 provides guidelines and reporting requirements for political contributions.

We provide a list of five municipal pension plan clients below.

Client Name and Address	Client Contact	Services Provided and Year of Inception
<b>City of Harrisburg</b> City Treasurer's Office 10 North Second Street Suite 103 Harrisburg, PA 17101	<b>Michael Hughes</b> , <i>Director of Financial Management</i> 717.255.3046 mhughes@cityofhbg.com	Discretionary OCIO Services (Client since 2011)
<b>Manheim Township</b> 1840 Municipal Drive Lancaster, PA 17601	<b>Jennifer Steigelman</b> , <i>Director of Finance / Treasurer</i> 717.569.6409, Ext. 1107 JSteigelman@manheimtownship.org	Discretionary OCIO Services (Client since 2015)
<b>Lower Swatara Township</b> 1499 Spring Garden Drive Middletown, PA 17057	<b>Betsy McBride</b> , <i>Manager</i> 717.939.9377 emcbride@lowerswatara.org	Discretionary OCIO Services (Client since 2016)
<b>Borough of Middletown</b> 60 West Emaus Street Middletown, PA 17057	<b>Kenneth Klinepeter</b> , <i>Borough Manager</i> 717.902.0706 kklinepeter@middletownborough.com	Discretionary OCIO Services (Client since 2017)
<b>Dauphin County</b> 2 S. Second Street, 4 <sup>th</sup> Floor Harrisburg, PA 17101	<b>Janis Creason</b> , <i>Treasurer</i> (P) 717.780.6550 treasurer@dauphinc.org	Discretionary OCIO Services (Client since 2021)

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i. In addition, please identify those governmental pension plan clients of similar plan demographics (i.e., size and plan design) to that of Lower Paxton Township. Please provide the client's name, contact name, address, phone number, services provided, and the year they became a client (or the year they became a former client).

We provide a representative list of governmental pension plan clients of similar plan demographics to the Township.<sup>4</sup> Please refer to the clients provided in our response to question a. for client references.

Governmental Pension Plan Clients	Portfolio Size
Radnor Township, PA	\$88,086,809
Manheim Township, PA	\$73,611,696
Bristol Township, PA	\$71,755,968
Warminster Township, PA	\$57,994,163
Upper Dublin Township, PA	\$51,908,372
Haverford Township, PA	\$49,314,169
Exeter Township, PA	\$39,623,933
Muhlenberg Township, PA	\$32,356,942
Whitemarsh Township, PA	\$32,096,671
Lower Gwynedd Township, PA	\$29,246,700
Upper Allen Township, PA	\$27,092,543

b. What are the total pension assets of those Pennsylvania municipalities that your firm has under administration? Must have at least \$100 million in municipal (not limited to Pennsylvania) pension client assets under your DIRECT management.

We manage or advise on 98 municipal, public pension plans in Pennsylvania for 60 clients with assets of nearly \$5.4 billion including \$3.3 billion in discretionary assets under management for 92 plans and \$2.0 billion in non-discretionary assets under advisement for six plans (as of December 31, 2021).

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<sup>4</sup> Client list as of December 31, 2021. Client examples were selected based on client type and/or other non-performance-based criteria to show PFMAM's representative clients. A full list is available upon request. These examples do not represent an endorsement or testimonial of the services of PFMAM.

**c. How many Pennsylvania municipal defined benefit pension clients do you currently provide a platform of product(s) and service(s) similar to the ones in our request?**

We manage or advise on 98 municipal, public pension plans in Pennsylvania for 60 clients that are similar in scope of services that we are proposing for the Township.

**6. Describe your firm's overall investment style and philosophy.**

Our investment philosophy is very straightforward and is based upon our fundamental understanding of and ongoing evaluation of the capital markets. PFMAM believes asset allocation is the most important investment decision and we focus most of our time and efforts on asset allocation and manager/fund selection. Asset allocation represents 80%-90% of the total return and risk of the portfolio. PFMAM will guide the Township through the process of selecting an appropriate asset allocation based upon its risk and return objectives. We employ quantitative rigor and Modern Portfolio Theory (e.g., risk should be commensurate with return) to determine how each portfolio we manage should be structured.

Core to our investment philosophy is to protect and grow our client's assets while managing risk. To do so, we hire institutional third-party managers within a diversified asset allocation framework that considers both public and private markets, as well as active and passive management strategies. We believe in operating in a transparent structure that seeks to avoid conflicts of interest, and we employ the precepts of Modern Portfolio Theory (e.g., risk should be commensurate with return) and quantitative rigor to every portfolio we manage.

**Active/Passive Management Balance**

We believe a combination of active and passive management allows our clients to achieve their investment goals at a lower overall cost. In general, we recommend passive management in the more efficient asset classes where it is very difficult for active managers to outperform the broad market (e.g., large-cap domestic equities), and we recommend active management in the less efficient asset classes where talented investment managers are rewarded (e.g., emerging-markets equities). This approach to investing helps our clients achieve market returns at a lower cost, while also benefiting from active management, which we feel will result in higher returns in certain asset classes.

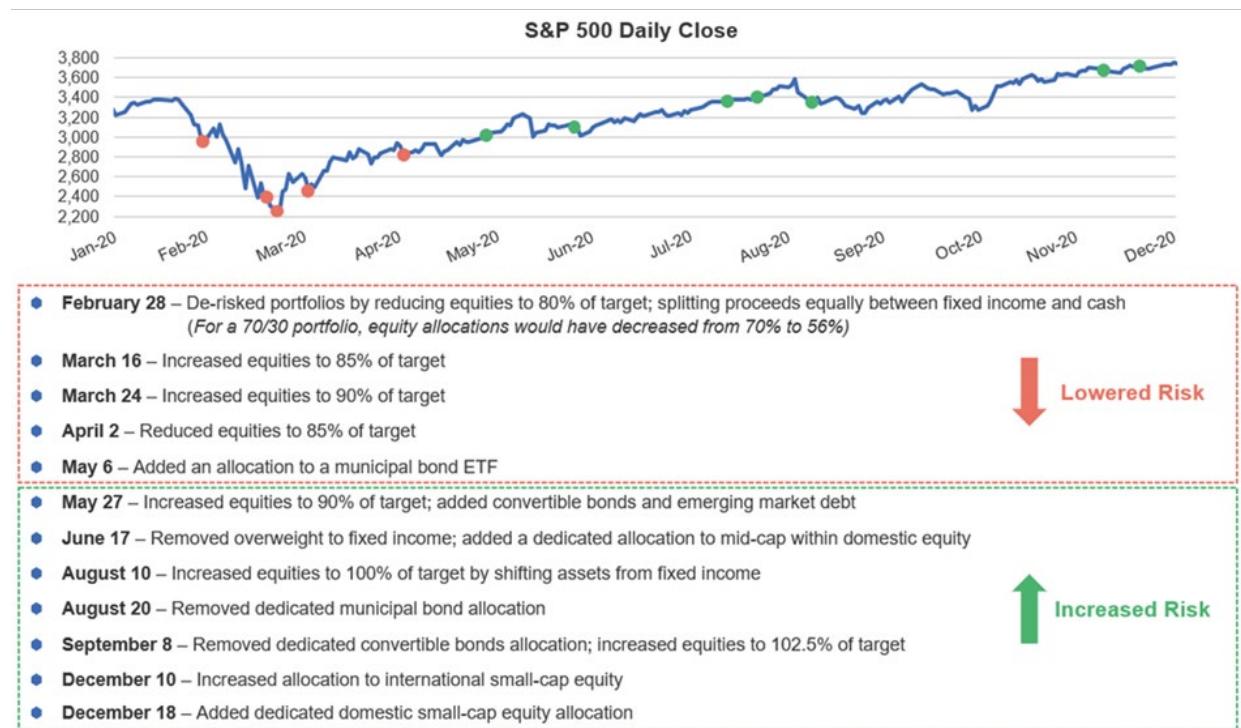
**Tactical Asset Allocation**

We believe strategic and tactical asset allocation decisions are the most important sources of investment returns. PFMAM does not believe that trying to time the market will add to returns over time, nor do we believe that security selection (net of all costs) can achieve the market return over time, especially in efficient markets. Strategic asset allocation involves defining which asset classes to include in the portfolio and the long-term allocation to each. Ideally, we want investments that generate a reasonable return and are driven by different factors with low correlations. While strategic asset allocation is the primary driver of investment returns over time, PFMAM does not believe that we should allocate the same percentage to each asset class regardless of valuation. Hence, tactical asset allocation is the temporary deviation from the strategic asset allocation based on current valuation of the various asset classes. From time to time, investment opportunities present themselves to over- or under-weight specific asset classes.

If we believe that equities are temporarily cheap and fixed income expensive, we would recommend shifting some assets from fixed income to equities while remaining within the strategic asset allocation ranges defined in the investment policy. Illustrated in the graphics below are some of the tactical asset allocation decisions our Investment Committee has made based on economic and market conditions. Most recently, we thoughtfully implemented risk mitigation decisions and tactically managed our clients' portfolio exposure as we navigated the unprecedented volatility caused by the uncertainty of COVID-19.<sup>5</sup>

Year	Tactical Allocation Changes
2019	<p><b>March:</b> Removed overweight to Domestic Equity, added dedicated Mid-Cap Equity exposure and further reduced overweight to Corporate Bonds</p> <p><b>August:</b> Added overweight to Domestic Equity and International Equity, removed dedicated High Yield</p> <p><b>September:</b> Replaced dedicated broad IG Credit exposure with pure IG Corporate exposure</p> <p><b>November:</b> Increased overweight to Domestic Equity and International Equity</p> <p><b>December:</b> Removed dedicated U.S. Small Cap Equity exposure and reduced dedicated U.S. Mid Cap Equity exposure; increased Mortgage allocation within Fixed Income</p>
2020	<p><b>March:</b> Removed Equity overweight and implemented underweight to Equity, overweight to Fixed Income</p> <p><b>April:</b> Reduced Equity underweight by shifting assets from Fixed Income to Equity</p> <p><b>May:</b> Added dedicated Municipal bond allocation to Fixed Income</p> <p><b>June:</b> Added dedicated allocations to Convertibles, High Yield, Emerging Debt and US Mid Cap; Removed overweight to Fixed Income</p> <p><b>July:</b> Removed underweight to Equity by shifting assets from Fixed Income</p> <p><b>August:</b> Removed dedicated Municipal bond allocation</p> <p><b>September:</b> Removed dedicated Convertible Securities allocation; Added slight overweight to Equity</p> <p><b>November:</b> Increased allocation to International Small Cap Equity</p> <p><b>December:</b> Added dedicated U.S. Small Cap Equity allocation</p>
2021	<p><b>March:</b> Added dedicated allocation to Real Estate Investment Trusts (REITs)</p> <p><b>May:</b> Added dedicated allocation to Commodities; increased underweight to Fixed Income</p> <p><b>August:</b> Added allocation to Preferred Securities, increased under weight to Fixed Income</p> <p><b>September:</b> Added Convertibles, removed Equity overweight by reducing US Small Cap and Emerging Markets' allocation</p> <p><b>September:</b> Reduced risk in equities by further reduced allocation to US Small Cap and Emerging Markets. Marginally shifted assets from REITs and Commodities to Convertibles and Preferred Stock</p> <p><b>November:</b> Reduced allocations to Preferred Securities and Convertibles and added overweight to Equities</p>

<sup>5</sup> The information presented on the following page is based upon past experience to illustrate particular analysis or decisions in the context of market events and does not describe all portfolio changes. Further information is available upon request.



## Use of Scale to Increase Manager Access

As our OCIO business has grown, we have continually looked for ways to provide benefits to clients. One way we have benefitted clients is through pooling of client assets to gain access to investments and/or managers. We have used scale to gain access and fee benefits through various alternative asset managers (e.g., private equity, private debt, private real estate). This allows smaller, but qualifying clients to gain access that they might not otherwise have to industry leading managers.

A second way we have provided benefits to clients is access to managers through our Multi-Manager Series Trust (“MMST”). We created MMST, which consists of three mutual funds, in late 2017 to provide broader access to managers through their separate account vehicles. This pooled structure offers access to managers with minimum investments that exceed what many clients could achieve on their own. As of December 31, 2021, the three funds collectively totaled approximately \$2.2 billion in assets and more than 100 institutional investors per fund. MMST includes a domestic equity, international equity, and fixed income fund that are used individually or collectively to provide the foundation of a broad asset allocation. Each of the funds adheres to our overall philosophy using both active and passive investments along with strategic and tactical allocations to produce returns. Importantly, where one or more funds are used in a client portfolio, we reimburse the advisory fee equal to the fee we earn through the MMST fund(s) so that clients are paying only their contractual fee.

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## 7. Describe your experience managing institutional client assets and transitioning retirement fund clients from their former investment consultant and pension fund investors.

PFMAM is a leading provider of independent investment management services to public pension plans, and other institutional investors.<sup>6</sup> As of December 31, 2021, we manage or advise on \$26.7 billion in total multi-asset class assets, including \$19.9 billion in discretionary OCIO assets under management and \$6.8 billion in non-discretionary assets under advisement. PFMAM provides independent and well-informed investment advice and portfolio management for the public sector and other institutional investors.

We have advised public-sector pension plans and assisted boards, committees and staff in investment-related matters since 1992 and have extensive experience managing public retirement plans. As of December 31, 2021, we manage 98 municipal, public pension plans in Pennsylvania with assets of nearly \$5.4 billion including \$3.3 billion in discretionary assets under management for 92 plans and \$2.0 billion in non-discretionary assets under advisement for six plans. Our dedicated presence in this space gives us unique insight into the needs and challenges specific to these plans.

PFMAM's dedicated practice of retirement professionals helps provide public employers with a comprehensive set of services to meet their retiree benefit challenges. Our philosophy is that pension and retiree health benefits must be sustainable, affordable for the employer and its employees, and provide public employees with a secure and dignified retirement. From benefit design services to funding analysis to asset management, PFMAM has extensive expertise delivering tailored and comprehensive retiree benefit recommendations to public employers of all types and sizes.

PFMAM has several managing directors who serve as advisors to the GFOA Committee on Retirement and Benefits Administration ("CORBA") and are also active with the National Association of Government Defined Contribution Administrators ("NAGDCA"). PFMAM is registered with the National Association of State Boards of Accountancy ("NASBA") as a sponsor of continuing professional education on the National Registry of Continuing Professional Education ("CPE") Sponsors. Many of our seminars provide opportunities for CPE credit. In addition, we are currently working with Moody's Investors Service to provide our opinion on its proposed pension calculations changes. Our firm continues to expand the mediums of communication to our clients, and we pride ourselves on being responsive to clients' needs and suggestions.

In light of COVID-19 and the recent market volatility, PFMAM has been proactive in offering actionable advice as it relates to market and economic outlooks and has conducted webinars discussing the impact of COVID-19 on the financial markets, as well as a webinar on the issuance of pension obligation bonds to fund pension plans.

Additionally, our staff includes public retirement plan experts who:

- ▶ Regularly consult with GASB staff as they promulgate new accounting rules;

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<sup>6</sup> Source: *Pensions & Investments, 2021 Money Manager Report*



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- ▶ Attend industry conferences to speak about public retirement plans; and
- ▶ Confer with actuaries and auditors to support the setting of discount rates, the compiling of Capital Market Assumptions ("CMAs"), and the documenting of information for financial statements.

### **Transitioning Retirement Fund Clients**

PFMAM has extensive experience in transitioning client assets from a prior investment consultant and will work closely with the Township to develop an efficient and cost-effective strategy. If provided the opportunity to serve as the Advisor to the Township, we would first want to review accounting statements and performance reports for each Fund to develop an appropriate transfer plan based upon investment vehicles and holdings.

Following the initial portfolio planning and asset allocation development, we will review the Township's current investment portfolio and determine if updates are required in order to construct an optimal portfolio for the Funds.

We will also review the portfolio and any legacy investments to determine the most cost-effective way to transition the portfolio to the new structure. Our dedicated accounting group will begin calculating performance as soon as we assume discretion, so performance during the transition period will be calculated and included as part of our standard reporting.

**The shifting of fiduciary responsibility is the key distinction — and core advantage — of using a discretionary investment advisor.**

#### **8. Describe your firm's errors and omissions insurance, commercial general liability insurance and professional liability insurance and specific coverage.**

U.S. Bancorp is a diversified financial services holding company and the parent company of U.S. Bank National Association, the nation's fifth largest commercial bank. It secures a variety of insurance coverages consistent and reasonable for an organization of its type and size. Deductibles, self-insured retentions, and risk management philosophy are reviewed by the board of directors on an annual basis. All participating insurance carriers are required to have an A.M. Best rating of A-VII. Certificates of insurance are included in Appendix D.

#### **9. Describe any qualifications and/or certifications you have obtained that make you capable of servicing Pennsylvania defined benefit municipal pension plans.**

PFMAM professionals have provided comprehensive retiree benefits solutions to public employers of all types and sizes for more than 25 years. We provide investment advisory services to 270 retirement-related plans totaling \$22.7 billion in assets, including 98 municipal, public pension plans in Pennsylvania with assets of nearly \$5.4 billion including \$3.3 billion in discretionary assets under management for 92

plans and \$2.0 billion in non-discretionary assets under advisement for six plans (as of December 31, 2021).<sup>7</sup>

## Qualifications of the Engagement Team

PFM Asset Management LLC is registered with the SEC as an investment advisor under the Investment Advisers Act of 1940. At the employee level, our internal Compliance Group helps ensure that our investment professionals hold the necessary registrations to conduct investment activity as appropriate for their business area. Those holding FINRA licenses must meet continuing education and other requirements. Additionally, many investment personnel hold or are pursuing the Chartered Financial Analyst ("CFA") designation and are subject to both the firm's and the CFA Institute's Standards of Ethical and Professional Conduct. The key members of the Township's relationship team, including Investment Consultant **Katheryn O'Hara**, Senior Managing Consultant **Donald Grant**, Managing Director **Brian Sanker**, Senior Managing Consultant **Matthew Conlin** and Managing Director and Multi-Asset Class Practice Co-Leader **Marc Ammaturo**, all hold multiple FINRA licenses.

In addition, Chief Multi-Asset Class Strategist **Biagio Manieri, Ph.D., CFA** and Director **Tyler Braun, CFA** both hold the CFA designation. We include brief resumes of our key professionals proposed to serve the Township in the table below. We provide full resumes further detailing the qualifications and experience of our engagement team in Appendix B.

Team Member, Title, Education, Role	Experience
<p><b>Katheryn O'Hara</b></p> <p><i>Investment Consultant</i></p> <p>Bachelor of Arts in International Studies Lebanon Valley College</p> <p><b>Role with the Township:</b> Co-Engagement Manager</p>	<p><b>7 Years with PFMAM   7 Years of Experience</b></p> <p>Katheryn supports institutional client relationships and business development efforts for PFM's discretionary OCIO business – concentrating on pension, OPEB, endowment and foundation, and long-term investment assets.</p> <p>Katheryn holds Financial Industry Regulatory Authority ("FINRA") Series 6 and 63 licenses.</p>

<sup>7</sup> Illustrates discretionary OCIO and Investment consulting assets under management or advisement for defined benefit plans, defined contribution plans, and OPEB trust as of December 31, 2021.



<b>Donald Grant</b>  <i>Senior Managing Consultant</i>  Master of Science in Investment Management Temple University  Bachelor of Science in Business Administration Temple University  <b>Role with the Township:</b> Co-Engagement Manager	<b>6 Years with PFMAM   7 Years of Experience</b>  Donald is responsible for supporting institutional client relationships and business development efforts, concentrating on pension, OPEB, endowment and foundation, and long-term investment assets. He started his career at the firm in the performance reporting and client services department.  Donald holds FINRA Series 6 and 63 licenses.
<b>Marc Ammattro</b>  <i>Managing Director &amp; Co-Leader of PFMAM's OCIO Business</i>  MBA in Business Administration, University of Maryland Robert H. Smith School of Business  Bachelor of Science in Accounting Pennsylvania State University  <b>Role with the Township:</b> OCIO Strategy Oversight	<b>17 Years with PFMAM   26 Years of Experience</b>  As co-leader of our OCIO business, Marc assists in setting the firm's strategy in developing, servicing and marketing our OCIO services nationwide. He is a member of the Investment Committee, which is responsible for identifying and vetting investment vehicles for our institutional investors.  Marc holds FINRA Series 6, 26 and 63 licenses.
<b>John Spagnola</b>  <i>Managing Director &amp; Co-Leader of PFMAM's OCIO Business</i>  Bachelor of Arts in Political Science  Yale University  <b>Role with the Township:</b> OCIO Strategy Oversight	<b>19 Years with PFMAM   38 Years of Experience</b>  John co-leads our OCIO business. He also co-founded Spagnola-Cosack, Inc., an independent investment consulting firm that PFMAM acquired in 2003. John oversees client service, product development and marketing and serves on the Investment Committee.  John holds FINRA Series 6, 26, and 63 licenses.
<b>Brian Sanker</b>  <i>Managing Director</i>  Bachelor of Science in Operations and Information Systems Management Pennsylvania State University  <b>Role with the Township:</b> Local Engagement Support	<b>18 Years with PFMAM   20 Years of Experience</b>  Brian provides investment advice to local governments, authorities, school districts and other institutional investors primarily in Pennsylvania, Maryland and other areas of the Northeast. In Pennsylvania, he markets the programs of Pennsylvania Local Government Investment Trust ("PLGIT"), provides strategic direction on new investment and service programs, and supports PLGIT's governing board.  Brian holds FINRA Series 6 and 63 licenses.

<p><b>Matt Conlin</b></p> <p><i>Senior Managing Consultant</i></p> <p>Bachelor of Science in Finance Shippensburg University</p> <p><b>Role with the Township:</b> Local Engagement Support</p>	<p><b>9 Years with PFMAM   13 Years of Experience</b></p> <p>Matt works with public-sector clients in Central Pennsylvania. His duties include marketing PFMAM's investment advisory services, including the Pennsylvania Local Government Investment Trust ("PLGIT"), as well as servicing current clients in Central PA.</p> <p>Matt holds FINRA Series 6 and 63 licenses.</p>
<p><b>Biagio Manieri, Ph.D., CFA</b></p> <p><i>Managing Director &amp; Chief Multi-Asset Class Strategist</i></p> <p>Doctor of Philosophy in Political Science/International Relations Columbia University</p> <p><b>Role with the Township:</b> Portfolio Management</p>	<p><b>10 Years with PFMAM   36 Years of Experience</b></p> <p>Biagio's experience includes economics research, finance and investment management. He is responsible for leading PFMAM's economic and capital markets research. As chair of the Investment Committee, he leads the discretionary investment management of clients' multi-asset class, multi-manager portfolios. Biagio is also responsible for leading PFMAM's thought leadership, writing white papers and presenting at investor conferences.</p> <p>Biagio is a CFA charterholder.</p>
<p><b>Alex Gurvich, Ph.D.</b></p> <p><i>Director of Research</i></p> <p>Doctor of Philosophy in Financial Engineering Stevens Institute of Technology</p> <p>Master of Science in Financial Engineering New York University</p> <p>MBA INSEAD</p> <p>Bachelor of the Arts in Physics University of Chicago</p> <p><b>Role with the Township:</b> Research Oversight</p>	<p><b>4 Years with PFMAM   28 Years of Experience</b></p> <p>Alex manages the Investment Research, Asset Allocation and Manager Selection teams. He is a member of the Investment Committee and Economic and Capital Markets Outlook Committee.</p> <p>Prior to PFMAM, Alex was a director of quantitative research at Commonfund, an asset management firm for endowments and foundations. Before that, Alex was a quantitative equity portfolio manager at The Rockledge Group, an investment management firm that he co-founded.</p>
<p><b>Tyler Braun, CFA</b></p> <p><i>Director</i></p> <p>MBA in Finance Villanova University</p> <p>Bachelor of Arts in Economics and Political Science Bucknell University</p> <p><b>Role with the Township:</b> Manager, Portfolio Analytics</p>	<p><b>14 Years with PFMAM   17 Years of Experience</b></p> <p>Since joining the firm in 2008, Tyler has conducted portfolio management/trading activities for client portfolios under the direction of the Investment Committee for the firm's multi-asset class discretionary management services. His experience also includes conducting portfolio reviews and asset liability analysis for current and prospective institutional clients and assisting in other investment research and client service efforts.</p> <p>Tyler is a CFA charterholder.</p>

## II. Investment Process and Custody

### 1. What is the firm's process for setting client objectives and developing/administering the investment policy, including recommending changes?

PFMAM has been helping our clients with developing and updating their investment policies and portfolio management guidelines for more than 25 years. When providing investment policy support, we typically develop a single investment policy that outlines guidelines for the overall portfolio and each asset class, rather than developing separate governing documents. We usually begin this process by performing a detailed Portfolio Planning Survey. This survey is designed to facilitate a discussion on various asset classes to determine which should be permitted in the portfolio, as well as an understanding of the client's goals, objectives, cash flow projections, present and future liabilities, annual required contributions, risk tolerance, ability to withstand losses and view of the economy and the markets. We conduct this process at the beginning of engagements and review it annually.

The steps in policy development and allocation selection include:

- Engaging in a portfolio planning survey
- Compiling CMAs
- Understanding the special nature of the portfolio's payout policy or other liabilities
- Determining asset allocation structure
- Selecting an appropriate asset mix

These resulting goals and objectives are then documented in the Township's investment policy. A typical investment policy we help develop contains the following:

- **Background:** Discusses the origination of the portfolio and identifies the fiduciaries. Named fiduciaries will vary based on structure, but some example fiduciaries include the Board of Supervisors, Investment Committee and relevant third parties such as an investment advisor.
- **Statement of Purpose:** Documents the portfolio's investment objectives and strategy and outlines the purpose of the investment policy.
- **Investment Authority:** Outlines the roles and responsibilities of the parties responsible for fiduciary oversight, management and safekeeping of assets. Examples of such parties include the Investment Committee, investment advisor, custodian and auditors.
- **Investment Guidelines:** Establishes the investment time horizon, diversification parameters, asset allocation targets and ranges, rebalancing philosophy, risk tolerances and performance expectations.
- **Selection of Investment Managers:** Documents the criteria for evaluating and choosing investment managers.

- **Guidelines for Portfolio Holdings:** Establishes the criteria and restrictions for portfolio holdings in equities, fixed income, cash and other asset classes. It also discusses the use of pooled vehicles and lists prohibited securities.
- **Safekeeping of Assets:** Documents the manner in which assets are held in custody.
- **Control Procedures:** Documents the procedure for reviewing investment objectives, investment performance, the voting of proxies and the execution of security trades.
- **Prohibited Transactions:** Identifies types of securities and investments that cannot be held.

PFMAM will:

- Conduct a formal review of the Township's investment policy statement, guidelines and liquidity needs.
- Identify risk and return parameters, as well as determine the specific inputs (cash flow, assumptions, views on risk).
- Evaluate investment performance, asset allocation and risk metrics against the Investment Metrics Peer Universe of public plans similar in size and allocation.
- Conduct a formal review of current investments and overall investment strategy.
- Evaluate investment managers, underlying fees and hidden investment costs.
- Develop a detailed asset allocation and asset/liability analysis incorporating projected future contributions and benefit payments to determine the appropriate investment strategy and asset allocation designed to maximize funded status while minimizing risks.
- Consider and harmonize three different policies: the benefits policy, contribution policy and investment policy.
- Draft/update formal Investment Policy Statement ("IPS") to outline new investment strategy and guidelines.
- Review the funding policy.
- Identify asset classes suitable for inclusion and define the expected role for each asset class in the Plans' asset allocation using our internally developed CMAs.

## 2. Describe your firm's approach to managing risk.

### Controlling Risk in Client Portfolios

When constructing a portfolio, we tailor our clients' portfolios to investment vehicles based on their long-term investment objectives. Typically, the higher the clients' required investment return, the greater the overall risk profile of a client's investment portfolio.

At the beginning of our engagement, we will complete a detailed Portfolio Planning Survey to facilitate a discussion about all asset classes to determine which ones should be permitted in the final overall allocation. We will gather information about the portfolio's risk tolerance and the ability to withstand losses, goals, objectives and cash flow projections, as well as the view of the economy and the markets. Once we determine the appropriate asset mix, we establish target policy benchmarks at the total portfolio, sub-asset class and fund-levels.

For benchmarking purposes of investment managers, we believe a broader and more inclusive database maintained by an independent third party is most appropriate. For this reason, we use the Performance Analysis Reporting and Information System ("PARIs"), developed by Investment Metrics, to analyze how much of the variance between the Township and the benchmark is due to security selection, sector weightings, market timing and other factors that help us understand progress at the individual manager level as well as by asset class. In addition, as part of the ongoing manager due diligence, our firm's research analysts run a series of risk/return statistics, peer universe analysis, portfolio attribution and style analysis on all of the investment products in our clients' portfolios to help ensure they continue to be an appropriate component of the overall portfolio. These reports reveal statistics such as tracking error, Sharpe ratio, standard deviation, and up/down market capture, which help us determine whether a fund is aligned to its benchmark. As a result, our Investment Research Group remains well informed of how our clients' underlying investment products are managed.

## **Factoring Risk into the Township's IPS**

### *Multi-Asset Class Investment Committee Role in Risk Management*

The role of our Investment Committee in risk management entails oversight of all discretionary portfolios, including (1) vetting each investment proposal we make and each manager we select or recommend, (2) monitoring investment funds, including all changes in underlying manager investment personnel, changes at the firm, style drift and other red flags, and (3) rebalancing portfolio allocations as a form of risk management – rebalancing is not only about enhancing returns; it is also about controlling risk by not allowing the allocation to risky assets to grow beyond guidelines.

## **Risk Management Systems**

PFMAM uses Bloomberg Asset and Investment Manager ("AIM") to house, monitor and automate compliance assurance. Every client's investment policy is entered in Bloomberg AIM and independently verified by PFMAM's Compliance Group. All trades are processed through Bloomberg AIM, which verifies compliance with all investment policy guidelines, limits and applicable state statutes on a pre-trade basis. Post-trade compliance is also checked after every trade. Lastly, every one of our managed portfolios is run through an end-of-day compliance check.

## **Reporting**

Our quarterly performance reports contain numerous risk reporting metrics that will be useful to the Township when identifying and discussing portfolio and manager-level risk. Some of the risk statistics in

our quarterly reports include standard deviation, Sharpe ratio, Alpha, Beta, and Treynor Ratio, among others. We include sample client reports in Appendix E.

**3. Describe your firm's due diligence process when examining the liability structure of a defined benefit public pension plan.**

PFMAM has extensive experience working with our public sector clients and their actuaries to compile customized asset/liability studies as part of our initial portfolio planning process and on an ongoing basis when actuarial valuations are updated. By utilizing liability data provided by the actuary, our portfolio analytics team is able to combine our asset allocation modeling and scenario analysis with projected liabilities to provide our clients with a more holistic view of their pension or OPEB plan and the impact that asset allocation and funding strategies have on the funded status over time.

In compiling this analysis, we utilize Morningstar Direct to run a Monte Carlo simulation on various asset classes and cash flow scenarios in conjunction with our own proprietary liability projection model. Rather than simply using the target return of the portfolio to determine the appropriate asset allocation, we base our recommendation on a variety of factors that include the discount rate, funded status, expected funding, plan demographics and projected liability growth to determine the most appropriate asset allocation.

By incorporating different funding scenarios, the clients gain a better understanding of the long-term impact on their annual funding. In some cases where a plan is over funded, our analysis may include recommendations to decrease all or a portion of their liability through a liability-driven investment ("LDI") or similar strategy.

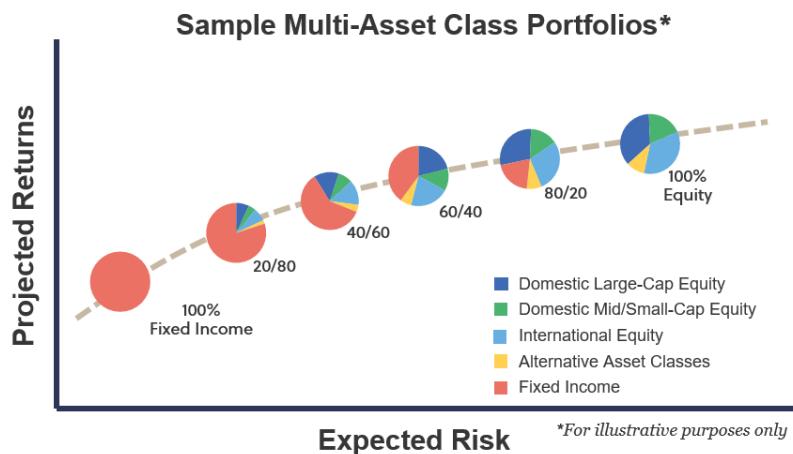
**4. Describe your asset allocation methodology and/or approach for client portfolios. Do you use model portfolios, or do you create custom asset allocation strategies for each client?**

PFMAM's investment approach is a solutions-oriented, client-driven process that emphasizes a close working relationship with the Township. We will work to collaborate with the Township to understand the Funds' risk/return objectives. This will confirm your objectives and guide us in using our portfolio optimization software to model asset allocations, and potentially adjust your current asset allocation targets to seek to maximize returns while managing associated risks. Outlined below are the principal steps we use to determine asset allocation:

- **Engaging in a Portfolio Planning Survey.** At the beginning of our engagement with the Township, we will complete a detailed Portfolio Planning Survey to facilitate a discussion about all of the asset classes to determine which ones should be permitted in the final overall allocation. We will gather information about the Funds' goals, objectives, cash flow projections, risk tolerance and the ability to withstand losses, as well as the view of the economy and the markets.
- **Compiling Capital Market Assumptions.** Our CMAs are determined by the Investment Committee through a comprehensive and ongoing process. Our assumptions are for intermediate- and long-term returns in a wide range of asset classes and use a wide variety of economic data to assess our expectations for asset classes. We provide our 2022 CMAs in Appendix F.

- The next steps will be completed in collaboration with the Township:
- **Determining Asset Allocation Structure:** The information from the Portfolio Planning Survey and the CMAs will be used to design an asset allocation structure for the Funds. We use a modeling program from Ibbotson Associates to conduct a detailed asset/liability modeling study. Each model uses the latest historical data on asset class investment returns, volatility, and correlation with other asset classes along with our CMAs to determine an “optimal” portfolio.
- **Interface with the Actuary and Auditor.** In combination, the investment advisor, actuary and auditor form a team to provide investment, valuation and reporting advice for any defined benefit plan. As part of that team, we often confer with actuaries and auditors to provide asset class return assumptions, intermediate- and long-term portfolio return expectations, and information related to reporting and disclosure.

The information from the Plan’s Portfolio Planning Survey and our firm’s CMAs would be blended and used to design an asset allocation structure recommendation for the Funds. Sample portfolios are shown in the graphic below:



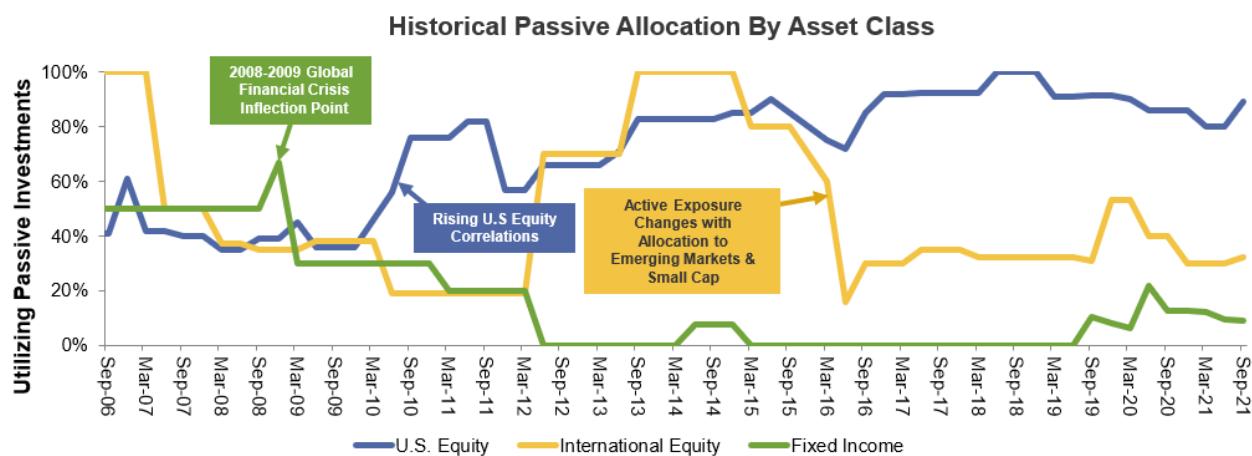
##### 5. Describe any restrictions or limitations on investment availability.

PFMAM utilizes an open architecture structure when selecting investment managers for our clients and is focused on providing a highly customized OCIO solution while adhering to all applicable state statutes as it relates to plan type. Our decades of managing a wide array of retirement plan types grants us insight and expertise in constructing portfolios that allow our clients to achieve their goals while managing risk. As part of our initial planning meeting with the Township, we will discuss any restrictions or special circumstances that should be considered in managing the assets to seek to ensure the portfolio remains fully compliant with all applicable statutes and Investment Policy guidelines.

**6. Do you employ active managers, and will you propose to do so on any/all of the Township's pension plans? Describe your process for recommending and selecting investment managers for each asset class in your overall asset allocation strategy.**

We believe a combination of active and passive management allows our clients to achieve their investment goals at a lower overall cost. In general, we recommend passive management in the more efficient asset classes where it is very difficult for active managers to outperform the broad market (e.g., large-cap domestic equities), and we recommend active management in the less efficient asset classes where talented investment managers are rewarded (e.g., emerging-markets equities). This approach to investing helps our clients achieve market returns at a lower cost, while also benefiting from active management, which we feel will result in higher returns in certain asset classes.

The chart below depicts our historical use of active versus passive allocations, by asset class since September 2006.



Please refer to question 10 of this section for a complete description of our manager recommendation and selection process.

**7. For those firms using a manager of managers, or multiple outside managers, please supply a current Morningstar portfolio snapshot report for equities and bonds benchmarked appropriately.**

We provide Morningstar portfolio snapshot reports in Appendix G.

**8. Describe the methods you will employ in calculating investment performance and benchmark establishment, and how often reports will be generated on performance and benchmarking? Include sample of performance evaluation report.**

In calculating performance, we use the Modified-Dietz time weighted methodology, which attempts to remove the impact that contributions and withdrawals have on total portfolio performance. This method of performance calculation complies with the Global Investment Performance Standards, ("GIPS®"). We

have a GIPS® performance track record for our OCIO services that spans more than 10 years of exceeding benchmarks. Our composites have been independently verified and complied with all of the composite construction requirements of the GIPS® standards on a firm-wide basis for the periods from January 1, 2006 through December 31, 2017.

At the total fund level, we look to set benchmarks based on the Township's specific asset allocation. We prefer to have a simplified/more straightforward benchmark, as opposed to constructing a total fund benchmark with a specific weighting for each underlying portfolio exposure. In our view, we believe this helps to avoid a set-it-and-forget-it approach where plans maintain exposures to asset classes and strategies that fall out of favor for multiple years (e.g., commodities). The individual manager benchmarking process starts with selecting the appropriate benchmark for each of the underlying money managers. Rather than simply using the benchmark that is used by the money manager for marketing purposes, our research analysts run a series of risk statistics and style analysis on each manager to determine the most appropriate benchmark. For example, a domestic equity manager may be categorized as small cap and benchmarked against the Russell 2000 Index in the manager's marketing material, but our returns- and holdings-based analysis shows that they actually hold some mid-cap stocks and would more closely resemble a small/mid-cap manager with the Russell 2500 Index as a benchmark.

Once a benchmark is selected for each money manager, a customized total portfolio benchmark is constructed based on the target asset allocations established in the investment policy. We believe that creating a static benchmark based on the broad asset allocation targets in the investment policy allows our clients to clearly measure the value added/detracted by us through both tactical asset allocation and manager selection. A more detailed benchmark or a benchmark that changes with the portfolio will not provide the same level of feedback on our performance as an advisor.

PFMAM provides 24/7 online access to our clients to view their performance reports through our Easy Online Network ("EON"). EON gives our clients the ability to monitor, review and print their complete portfolio details, monthly and quarterly portfolio reports, and intra-month transactions on a daily basis. Industry-standard site security and a confidential password help ensure the confidentiality of each client's portfolio data. All monthly statements are archived indefinitely.

We can fully customize performance reports to meet the Township's needs, our quarterly performance analysis reports for the Township will include at a minimum:

- A return presentation for the portfolio and individual managers for the most recent quarter, fiscal year to date, one-year, three-year, five-year, and 10-year or since inception periods;
- Evaluation of managers in relation to the defined styles for which they were hired (e.g., large cap value, etc.);
- Comparison of returns and risk characteristics of the managers' various components (e.g., upside and downside capture, etc.) and the total plan to related benchmarks as defined by the Investment Policy Statement;

- Comparison to an appropriate peer group universe of managers with a similar mandate and like characteristics;
- Comparison of the total portfolio performance and asset allocation to a peer group universe of similar funds; and
- An evaluation of each manager's ability to add value to the investment portfolio.

In early 2022, we anticipate launching our next generation online client portal, Connect, which will replace EON. We built Connect from the ground up as our next generation client portal as part of a multi-year effort, investing in technology to improve our client service. Connect will retain all of the existing features of EON, adding intuitive user-friendly features such as a consolidated account dashboard, rates and yield information, daily holdings and enhanced visualizations.

We will also provide qualitative inputs on the Township's managers, reflection of other relevant considerations such as changes in the manager's organization, other portfolio management assignments, and the results of site visits. The Township will receive as many hard or electronic copies of reports and related materials as needed. Quarterly reports are available approximately 40 days after quarter end.

Please see Appendix E for a sample quarterly report.

**9. Discuss your organization's research capabilities with respect to investment managers, investment vehicles, financial markets, economic forecasting, and other elements. How many of your staff are employed strictly to do investment research and analysis in support of your investment management function?**

The Township will be supported by PFMAM's Investment Research Group. PFMAM's Director of Research, **Alex Gurvich, Ph.D.**, leads the dedicated team of six specialists who are responsible for providing macroeconomic research analysis and completing manager due diligence within their designated asset class including: U.S. Equities, International/Global Equities, Fixed Income, Real Estate, and Hedge Funds. Additionally, our Investment Research Group internally compiles our Capital Market Assumptions, a key component of our portfolio structuring process. We believe this fundamental practice helps us make prudent decisions on behalf of our clients and thereby seeks to achieve long-term favorable results with lower volatility.

The Investment Research Group is focused on three broad areas of research using industry-leading databases such as Investment Metrics, eVestment Alliance, Morningstar/Ibbotson Associates, Bloomberg, and Hedge Fund Research, Inc. ("HFRI"):

- General market data research for the Investment Committee,
- Service provider and vendor searches, and
- Manager research to identify managers for each asset class.

PFMAM utilizes a proprietary investment manager database maintained by our Investment Research Group, which is based on data collected from our ongoing manager meetings and due diligence. Currently, there are over 1,700 distinct investment strategies included in this database. These strategy



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profiles are regularly updated by our research analysts who average about five to eight manager meetings/calls per week, although this number varies by asset class. All managers recommended for client portfolios have had on-site visits conducted by a member of the Investment Research Group. Managers are added to our internal database as our Investment Research Group becomes aware of them as a result of meetings, conferences, references, and word of mouth. Since, we believe in the importance of having information on a plethora of investment managers, we monitor managers through third-party databases, as well as our proprietary database.

We subscribe to the database of a well-known outside vendor, eVestment Alliance, and have access to Investment Metrics and Morningstar software platforms. Our Investment Research Group verifies any data received from these vendors by comparing to both our internal data and conversations with the respective investment managers. In addition to the nearly 14,000 investment strategies included in the eVestment Alliance database, PFMAM has access to an additional 10,000 investment strategies through a combination of our proprietary database and the aforementioned software platforms, providing us with a total universe of roughly 24,000 investment strategies.

In terms of process, we look for managers that have exhibited a consistent methodology in selecting securities, not only in purchasing securities, but also in selling them. We also favor investment managers that have a risk management process in place that helps prevent a manager from making unintended bets and that limits the possible downside for the portfolio. PFMAM maintains a thorough process for understanding the source of a manager's alpha to determine its continued management of client assets. Examples of characteristics that we look at when evaluating managers include the background of key personnel, particularly with regard to education and experience in investments as well as in business generally. Additionally, we look for people who have strong ethics and who have instituted those values into the fiber of their firm's a culture. Our longstanding focus on public sector and non-profit investors has kept us mindful of keeping within a cost-effective structure. We favor independent investment firms because we believe these managers are most focused on achieving investment outperformance and have a better alignment of interest with our clients.

Additionally, the Investment Research Group monitors the markets daily and meets weekly to discuss investment ideas related to our clients' portfolios. Information discussed at these meetings is presented at our formal meetings of the Investment Committee. The Committee typically meets monthly, however in times of market uncertainty, the frequency of meetings is on an as-needed basis.

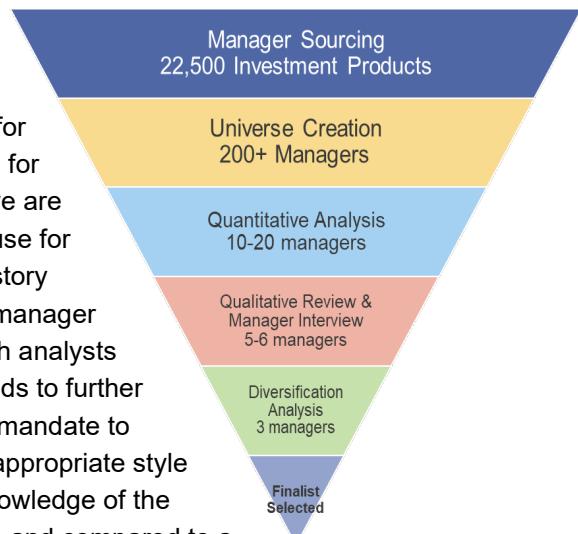
The Investment Committee organization is illustrated on the following page.

Committee Members	Role at PFMAM	Industry Experience
Biagio Manieri, Ph.D., CFA, Chair	Chief Multi-Asset Class Strategist	36 Years
Kenneth Schiebel, CFA	Managing Director	41 Years
John Spagnola	Multi-Asset Practice Co-Leader	38 Years
Alex Gurvich, Ph.D.	Director of Investment Research	28 Years
Marc Ammato	Multi-Asset Practice Co-Leader	26 Years
Floyd Simpson III, CFA, CAIA, CFP	Multi-Asset Portfolio Strategist	20 Years
Surya Pisapati, CFA	Manager, Research & Portfolio Strategy	15 Years

**10. Where you use external managers, describe the process whereby investment managers are selected. Who in your firm is responsible for this decision? How are managers monitored for consistency of performance, faithfulness to style and ability to exceed benchmarks? How often are these managers monitored?**

### Manager Universe Creation

Starting with the total universe of 24,000 investment products available for investment, we define a smaller universe of managers that correspond to the style mandate for which we are searching. For example, if we are conducting a search for a large-cap value manager, we want to confirm that the managers we are evaluating are actually large-cap value managers. The process we use for this is called “style analysis,” which examines a manager’s return history through statistical analysis to determine which investment style the manager employs. In addition to the returns-based style analysis, our research analysts also review the manager’s underlying holdings for various time periods to further confirm the stocks they are purchasing are consistent with the style mandate to which they are being measured. The manager is then added to the appropriate style universe based upon the style analysis, as well as our firm’s own knowledge of the investment manager and their quantitative and qualitative processes and compared to a universe of similar managers from both a risk and return standpoint.



### Balanced Research Informs Decisions

Our research analysts consider both quantitative and qualitative data during the initial selection process and while performing ongoing due diligence.

## *Qualitative Analysis*

We employ a full-scale qualitative review to understand the manager's process and to assess whether we believe it is repeatable. We believe that relying simply on historical returns would expose our clients to the pitfall of "chasing returns." We conduct interviews with the manager to learn more about the firm, personnel, and process. We understand that this is a very dynamic business and that change in this industry is constant. Therefore, we place a premium on having the most up-to-date and complete information on the candidate managers.

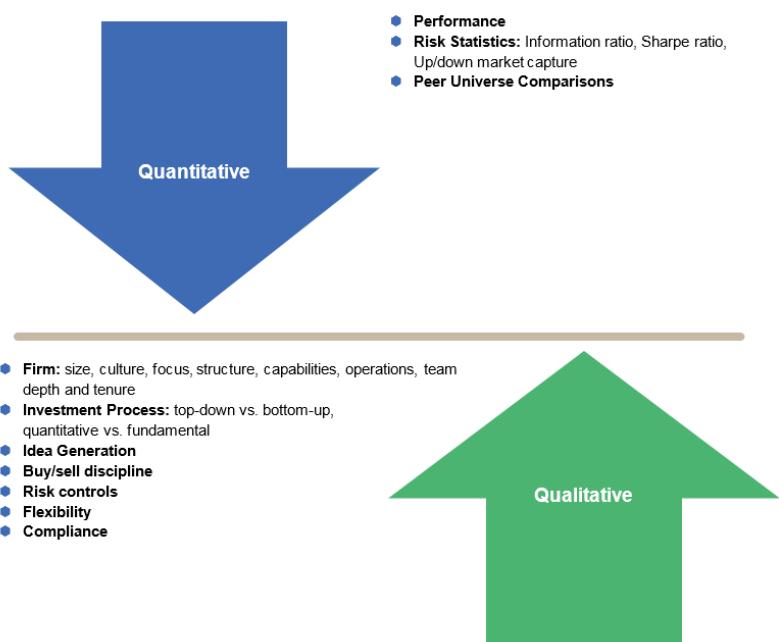
## *Quantitative Analysis*

We also examine the volatility of the manager's performance or how consistently those returns were generated in order to determine the answers to the following questions: "Did the manager consistently beat his/her benchmark over a significant period of time?" or "Was performance generated by one or two years of exceptional performance with underperformance in the other years?"

To determine these characteristics, we examine various performance and risk measures and then select the top 15 to 20 managers based on alpha, beta, standard deviation, information ratio, and other important quantitative criteria.

In addition to the quantitative and qualitative metrics that are compiled on the individual manager, it is also important to analyze the potential impact this manager would have on the portfolio. When adding a new manager to a portfolio, our research analysts provide the Investment Committee with an analysis that incorporates the historical correlation of the manager to the existing managers and a comparison of the exposures and significant holdings to help ensure there is not a great deal of overlap between the proposed manager and an existing manager. We are also able to use an analytics tool in Bloomberg to run a series of scenarios that will give us an idea how the portfolio will perform (both before and after the manager is added) based on significant past events like the 2008 market downturn or the dot com bubble. This provides our team with a better understanding of the future impact on the portfolio if the manager is selected.

## **Manager Selection**



As part of the due diligence process, our firm writes detailed manager reviews for each manager who has passed the interview process. In addition, managers are assessed based on the following qualitative sub-categories:

- **Firm Background:** history/year started/ownership, infrastructure, clients/assets (growth/decline);
- **Investment Team/Management:** experience/education, tenure/turnover, compensation structure;
- **Investment Process:** portfolio characteristics, buy/sell process, style drift, product growth/decline, largest client;
- **Performance:** trailing, calendar, and rolling year performance; up/down market and economic cycle performance; composite quality; and
- **Risk/Volatility:** standard deviation/Sharpe ratio, sector/security limits.

## Manager Review

PFMAM has a multi-tiered process for monitoring investment managers on a continual basis. It is our goal to develop a collaborative and continual dialogue with the Township's staff, with the objective of providing transparency and insight into the management of the Township's assets. Below is a brief description of our process for monitoring client portfolios and their underlying investment managers.

- **Daily.** Every OCIO client portfolio is monitored daily through Bloomberg Asset and Investment Manager ("Bloomberg AIM"), a robust trade compliance platform. Bloomberg AIM allows us to maintain allocations within clients' target ranges and to our tactical targets, as well as help to decide when rebalancing is appropriate.
- **Monthly.** In between formal quarterly reviews, we have developed a consistent way to monitor investment manager compliance by reviewing the performance of each portfolio relative to appropriate benchmarks on a monthly basis. The goal of this review is to identify whether there are any developments within the portfolio that may require additional analysis or possibly even require action to address.
- **Quarterly.** PFMAM's research analysts and proposed co-engagement managers, **Katherine O'Hara** and **Donald Grant**, will formally review manager performance each quarter. Our research analysts meet with multiple investment managers every week and have phone conversations with many more during the review process. This ongoing interaction creates a consistent flow of information to assess and evaluate a manager, not only at the portfolio level but also as an organization. Information gathered by the Investment Research Group and investment advisors is generally communicated at quarterly meetings; however, if a significant event occurs (e.g., personnel departures), our firm will contact the Township and take prudent action immediately as the Township's OCIO.

## Manager Termination



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Not only is it important to select quality managers/funds, but it is also critical to know when to terminate or replace a manager/fund. PFMAM has a formal monitoring process that requires our Investment Research Group and Multi-Asset Class Investment Committee to constantly reevaluate clients' managers and create consistency in why and how managers are terminated. Reasons for increased monitoring and eventual termination may include:

- Violation of investment guidelines;
- Deterioration in communication;
- Investment style drift;
- Prolonged underperformance;
- Change in ownership;
- Departure of key investment professionals; or
- Change in compensation package.

Through the discretionary management services, we are proposing a more proactive approach in the manager monitoring process than a typical investment consultant. Rather than formally ranking managers and reporting those rankings to the client along with our recommendation, our Investment Research Group and Multi-Asset Class Investment Committee are closely monitoring each manager on a regular basis. Based on the reasons outlined above, the level of scrutiny and due diligence spent on a given manager may increase, similar to a watch list for an investment consultant. However, the benefit of our approach is that we can act more quickly if the problems persist or escalate. If the situation arises where the Multi-Asset Class Investment Committee decides to terminate a manager, action can be taken immediately, rather than waiting for the next client meeting. This means an underperforming manager can be removed from a client's portfolio in a matter of days, as opposed to weeks or months under a typical consultant engagement.

When terminating a manager, we typically first identify a replacement manager before moving funds. In cases where we feel moving funds is immediately necessary, we are able to purchase exchange-traded funds as temporary solutions until we identify a replacement manager.

We remove managers from the watch list once the Multi-Asset Class Investment Committee is satisfied that the manager has rectified the identified issues that caused concern. If issues are not resolved to our satisfaction in a timely manner, a manager may be given a reduced allocation or may be terminated and replaced. For a serious violation or concern, a manager could be terminated immediately. For other issues, manager watch list situations are normally resolved within three to six months. The firm's Multi-Asset Class Investment Committee reviews and approves all manager decisions. If any issues or concerns were to arise with respect to an underlying manager in the portfolio, we would immediately notify the Township by issuing a "Manager Alert" announcement outlining the specific issues and our recommendations for addressing them efficiently. We provide sample portfolio updates in Appendix H.

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**11. Briefly describe how you “interface” with value and growth stocks at the same time?**

PFMAM does not believe building a portfolio with separate and offsetting value and growth strategies is the most efficient or effective way to build a portfolio. Studies show that it is difficult to predict when value or growth will outperform, so we prefer to hire managers that are relatively agnostic and focused on selecting the best stocks regardless of their style factor. This results in core/blend managers and typically requires fewer total managers to build a diversified portfolio, which improves the ability to negotiate lower fees with managers.

**12. How has your recommended investment style and asset allocation changed over the past three years and why?**

We have not made significant changes to how we manage portfolios. However, as our experience has evolved over the past 40 years, so have the services we developed to best serve our clients. We have added service lines to offer additional services to our clients, have built our infrastructure on dedicated, specialized groups and committees so that our clients receive independent advice based on internally driven research and analysis, and have attracted and retained additional outstanding investment professionals to support the growth of our separate account and multi-asset class businesses. We believe that our structure not only helps us to deliver strong performance relative to benchmarks through different market cycles, but also gives us the ability to deliver the highest quality customer service on a consistent basis.

As mentioned in our response to the previous questions, we do employ tactical asset allocation and, in this way, our asset allocation may change multiple times in any given year depending on our views of the global markets and economy.

Any change in the portfolio will be communicated to the Township in writing at the time of the change and will be reviewed at our quarterly meetings. In addition, we recommend reviewing asset allocations at least annually.

Please refer to Section I, question 6 for a table that shows our tactical allocation changes since 2019.

**13. How would you determine the proper duration of fixed income investments as well as the mix of equity and fixed income investments on an ongoing basis?**

We seek to add value by managing portfolio duration to limit risk and take advantage of interest rate trends, but within a narrow range around the specified benchmark. We will generally manage duration to be close to the benchmark, within half a year, unless we have a strong conviction about the near-term direction of interest rates. We run our fixed income portfolio cognizant of the Bloomberg U.S. Aggregate Index. In environments like the current market, we are comfortable having overall position short against the index but remain within a year on a relative basis. Typically, duration is held closer to the index to reduce interest rate sensitivity.

As fundamental and relative value investors, we believe that tactically overweighting or underweighting certain areas of the markets, such as small capitalization equities or public real estate, during certain market environments and based on fundamentals and valuation differentials, can add additional return to

our clients' portfolios. We implement diversified strategies across a variety of asset classes categorized as generating growth, income, or real return. Our combination of qualitative and quantitative research helps us select managers who avoid the latest trends and instead focus on a long-term investment process that seeks consistent returns over time.

Once the strategic asset mix is set, there should not be any material changes to the strategic asset allocation unless there are changes in risk/return objectives. However, as market conditions warrant, we may proactively and thoughtfully adjust the investment portfolio. In general, we may look to tactically overweight underpriced assets and underweight overpriced assets. These thoughtful decisions are influenced by our fundamental economic and asset class research and vetted by our Investment Committee. Our OCIO service offers clients a comprehensive solution for strategic and tactical asset allocation, manager selection and the continuous monitoring of the underlying investments.

Clients benefit from our discretionary approach through:

- Strong governance from our experienced Multi-Asset Class Investment Committee and Investment Research Group;
- Timely decisions based on the evolving market environment and clients' changing investment needs;
- Administrative efficiencies so that clients can focus on overall strategy and view PFMAM as an extension of their staff; and
- Cost-effective solutions that emphasize passive investments where they make sense.

Among the many services we provide are regular investment reviews, investment policy development and review of compliance with the client's investment policy.

Please refer to our response to question 4 of this section which outlines our process of determining our recommended strategic asset allocation mix for our clients. We would consider changing the recommended strategic asset allocation if there are any material changes in a client's risk/return objectives or specific constraints such as, time horizon, liquidity needs, legal statutes, or other unique circumstances.

**14. Describe your proposal regarding custodial service including, but not limited to, description of how monthly payments and lump sums are issued, including tax withholding and submission, as well as tax reporting to IRS and to retiree.**

PFMAM does not provide custodial or benefits administration services. The delineation of these services follows the GFOA best practices. Independent investment advisors like PFMAM believe that it is best to use a separate and distinct custody service provider to mitigate conflicts of interest, maintain transparency in terms of service arrangements, and provide safekeeping of AUM. We are fully capable of seamlessly working with many different custodians for our clients' portfolios.

When requested, we have assisted clients in selecting these services from a third-party provider. If requested, we can also assist in bidding a client's banking and custodial services by developing an RFP based on a client's specific needs. Our asset management team would work closely with clients to

review and evaluate proposals submitted by custody service providers to help ensure that they obtain the appropriate services to meet their specified needs. While we may assist a client in selecting a custodian, we receive no benefit from such relationships.

**15. Describe your firm's approach to client support and if selected to provide services to this municipality, how this municipality will be integrated into your client support network.**

PFMAM provides high-touch, customized client service through a combination of local senior advisors in Harrisburg and Philadelphia, as well as regional and national support. Our Client Services Group consists of knowledgeable professionals located at our headquarters in Harrisburg who are available to help with client onboarding and transaction support. Additionally, our Performance Reporting group located in Philadelphia is available to assist with questions related to performance reports, interface with actuaries and assist with providing Fund information to auditors. In addition, we also have a client services team in Philadelphia to support our Pennsylvania clients.

We typically hold face-to-face meetings with clients on a quarterly basis, however, we are happy to meet more frequently if the Township desires. Additionally, we can schedule periodic conference calls with the Township to discuss the portfolio and any new investment opportunities that may arise. If any issues or concerns were to arise with respect to an underlying manager or the Township's portfolio, we would immediately notify the Township by issuing a "Manager Alert" or "Portfolio Update." By design these alerts are to provide, in "plain talk," a summary of the change, why the change was made and the impact to the portfolio. The reason we provide these alerts is that we understand that the Township members, donors and other stakeholders, often need to be informed on how the portfolio is being invested. We provide sample portfolio updates in Appendix H.

### **III. Professional Fees**

- 1. Identify all fees that would be incurred if you were managing the pension plans. These fees should include both direct and indirect fees, whether paid to you or to another entity, and note any initial or one-time charges versus standard asset management/custody fees. Please specify in terms of both dollar amounts and percent of asset fees. (For example, initial set-up or asset transfer, investment consulting fees, custody fees, wire charges, investment manager/mutual fund costs, trading costs, mutual fund fees/average expense ratios, asset allocation studies, Liability Driven Investment reporting, withdrawal or termination fees [if early termination fees are applicable, what time or types of restrictions apply to those fees], etc.).**
  - a. State whether the fees are based on the combined assets of the three plans, or whether each plan is separate with respect to fees charged.**
  - b. Identify the limits, if any, of services provided under your proposed fees and your fee schedule for other services included in your proposal but not specifically addressed in the table below.**

PFMAM prefers to utilize an asset-based fee schedule with our multi-asset class client base. We believe that our asset-based structure is a competitive, unbiased, cost-effective approach to meeting the Township's investment needs. Our fee schedule, shown below, based on the combined asset under management, includes all the services described throughout our response and all travel and other out-of-pocket expenses.

Assets Under Management	Annual Fee*
Initial \$25 million	30 basis points (0.30%)
Next \$75 million	15 basis points (0.15%)
Next \$150 million	10 basis points (0.10%)

*\*Minimum fee of \$25,000 applies.*

Our fee structure is such that as our clients' assets grow, the basis point rate at which we provide our services decreases.

#### **Advisory Fee**

If PFMAM is fortunate enough to be selected as the Township's advisor, the estimated advisory fee will be 22 basis points (.0022%), or \$118,673, based on a \$54.1 million portfolio, as listed in the Township's RFP.

#### **Underlying Manager/Fund/ETF Fee**

Based on the Township's portfolio size of \$54.1 million, the estimated underlying investment manager fee would be 35 basis points (.0035%), or \$190,784. Actual fees will be based on the implemented asset allocation and underlying investments of the portfolio.

Underlying manager fees are subject to change based on asset allocation and manager lineup.

When evaluating proposals for investment advisors, it is important to consider all costs that will be incurred in the investment process, including underlying money manager, mutual fund or other investment fees. These fees are based on the investment managers, strategies, and securities utilized and the asset allocation of the portfolio that may change over time.

#### **2. Do you receive any direct or indirect compensation from investment product providers? If yes, provide explanation.**

PFMAM is compensated solely by the direct fees paid by clients. Under no circumstances do we receive compensation or finder's fees from investment managers. We receive no remuneration of any kind from external investment managers. We maintain no soft dollar, directed brokerage, or other financial arrangements with external investment managers. Our independent research and recommendations are free from conflict and designed to place the needs of our clients first.

#### **3. Do you have foreign tax reclamation capabilities and, if so, are they an additional cost to the Retirement System?**

PFMAM does not have any foreign tax reclamation capabilities.

## IV. Act 44 Disclosure Requirements

- 1. All Applicants must attach to their proposals a completed Disclosure Statement using the form attached hereto as “Appendix A” establishing your compliance with the Township’s Policies and Procedures for the Procurement of Professional Services in Compliance with Act 44 of 2009. If the responses on the Disclosure Form reveal there are any conflicts of interest, the application will be disqualified from consideration unless those conflicts can be timely mitigated. If you are selected to perform professional services for the Township, you must complete and return a Disclosure Form on or before December 1st each year in which the contract is in effect.**

Please refer to Appendix A for a completed Disclosure Statement.

## V. Affirmations and Other Requirements

- 1. Affirm your firm as an SEC-registered investment advisor under the Investment Advisers Act of 1940? If not, please explain your oversight body and regulations to which you must adhere.**

Yes. PFM Asset Management LLC is registered as an investment advisor with the SEC under the Investment Advisers Act of 1940, as amended. We provide our Form ADV, Parts 2A and 2B in Appendix I.

- 2. Affirm your firm will act as and represent itself as a “fiduciary” with respect to the Township and the related pension plans and the firm will not delegate such fiduciary responsibilities to any other entity and will explicitly state so in your contract.**

Yes, PFMAM accepts fiduciary responsibility for the Township's Funds. PFMAM is an independent investment advisor registered with the SEC under the Investment Advisers Act of 1940 (“the Act”). The U.S. Supreme Court in the 1964 decision SEC v. Capital Gains Research Bureau, Inc. held that Section 206 of the Act imposes a fiduciary duty on investment advisors registered with the SEC. In accordance with this ruling, we adhere to a fiduciary standard. Therefore, due to the U.S. Supreme Court's ruling, we do not explicitly state our fiduciary duties in our contract. Having a fiduciary duty means that an advisor must:

- Be loyal to the Township and act in good faith on their behalf;
- Have a reasonable, independent basis for recommendations;
- Seek best execution of the Township's transactions; and
- Be free of conflicts of interest or disclose any conflicts of interest or potential conflicts of interest and proceed only with the Township's informed consent.

We pride ourselves on an outstanding record of integrity and ethics and will always act in the best interest of the Township. We always put our clients' interests first.



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- 3. Affirm your firm will maintain an errors and omissions insurance policy and/or fiduciary liability insurance policy providing an appropriate amount of coverage for negligent acts or omissions and/or breaches of fiduciary obligations and/or duties, and that such coverage will be applicable to the firm's actions under any resulting contract with the Township.**

Certificates of insurance are included in Appendix D.

- 4. Affirm that all actions and recommendations of your firm will be for the sole purpose and benefit of the Township and relating pension plans.**

If PFMAM provides services to the Township, all actions and recommendations of our firm will be for the sole purpose and benefit of the Township and relating pension plans.

- 5. Please disclose any potential conflicts of interest that may exist if your firm provides services to the Township, and how those conflicts will be mitigated.**

To the best of our knowledge, there are no potential conflicts of interest if PFMAM provides services to the Township.



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## VI. Appendices



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## **A. Disclosure Statement**

## **IDENTIFICATION OF CONTRACTORS & RELATED PERSONNEL**

**CONTRACTORS:** (See “**Definitions**”) Any entity who currently provides service(s), or wishes to provide services by completing a request for proposal, by means of a Professional Services Contract to the Municipal Pension System of the Requesting Municipality, please complete all of the following:

**Identify the Municipal Pension System(s) for which you are providing information:**

**Indicate all that apply with an “X”:**

<input checked="" type="checkbox"/> X			
Non- Uniform Plan	Police Plan		Volunteer Fire Plan

**\*\*NOTE:** For all that follow, you may answer the questions / items on a separate sheet of paper and attach it to this Disclosure. Please reference each question / item you are responding to by the appropriate number.

1. Please provide the names and titles of all individuals providing professional services to the Requesting Municipality’s pension plan(s) identified above. Also include the names and titles of any Subcontractors or Advisors of the Contractor, identifying them as such. After each name and title provide a description of the responsibilities of that person with regard to the professional services being provided to each designated pension plan.

**Marc Ammaturo – Managing Director**  
**Katheryn O’Hara – Investment Consultant**

2. Please list the name and title of any Affiliated Entity and their Executive-level Employee(s) that require disclosure; after each name, include a brief description of their duties. (See: Definitions)

**NONE**

3. Are any of the individuals named in Item 1 or Item 2 above, a current or former official or employee of the Requesting Municipality?

**IF “YES”, provide the name and of the person employed, their position with the municipality, and dates of employment.**

**NO**

4. Are any of the individuals named in Item 1 or Item 2 above a current or former registered Federal or State lobbyist?

**IF "YES",** provide the name of the individual, specify whether they are a state or federal lobbyist, and the date of their most recent registration /renewal.

**NO**

**NOTICE:** All information provided for items 1- 4 above must be updated as changes occur.

5. Has the Contractor or an Affiliated Entity paid compensation to or employed any third- party intermediary, agent, or lobbyist that is to directly or indirectly communicate with an official or employee of the Requesting Municipality in connection with any transaction or investment involving the Contractor and the Municipal Pension System of the Requesting Municipality?

**This question does not apply** to an officer or employee of the Contractor who is acting within the scope of the firm's standard professional duties on behalf of the firm, including the actual provision of legal, accounting, engineering, real estate, or other professional advice, services, or assistance pursuant to the professional services contact with municipality's pension system.

**IF "YES",** identify: (1) whom (the third-party intermediary, agent, or lobbyist) was paid the compensation or employed by the Contractor or Affiliated Entity, (2) their specific duties to directly or indirectly communicate with an official or employee of the Municipal Pension System of the Requesting Municipality, (3) the official they communicated with, and (4) the dates of this service.

**NO**

6. Within the past two years, has the Contractor, or any agent, officer, director, or employee of the Contractor solicited a contribution to any municipal official or candidate for municipal office in the Requesting Municipality, or to the political party, or political action committee of that official or candidate?

**IF "YES",** identify the agent, officer, director or employee who made the solicitation and the municipal officials, candidates, political party or political committee who were solicited (to whom the solicitation was made).

**To the best of our knowledge and based on our preclearance records, no such contributions have been made.**

7. Within the past two years, has the Contractor or an Affiliated Entity made any contributions to a municipal official or any candidate for municipal office in the Requesting Municipality?

**IF “YES”**, provide the name and address of the person(s) making the contribution, the contributor’s relationship to the Contractor, the name and office or position of the person receiving the contribution, the date of the contribution, and the amount of the contribution.

**NO**

8. Does the Contractor or an Affiliated Entity have any direct financial, commercial or business relationship with any official of the Requesting Municipality?

**IF “YES”**, identify the individual with whom the relationship exists and give a detailed description of that relationship. A written letter is required from the Requesting Municipality acknowledging the relationship and consenting to its existence. The letter must be attached to this disclosure. Contact the Requesting Municipality to obtain this letter and attach it to this disclosure before submission.

**To the best of our knowledge, no direct financial, commercial, or business relationship exists with any of the officials who are listed for Lower Paxton Township.**

9. Has the Contractor or an Affiliated Entity given any gifts having more than a nominal value to any official, employee, or fiduciary of the Requesting Municipality? Gifts are broadly construed to include, but not limited to, money, services, loans, travel, lodging, entertainment, discounts or other things of value.

**IF “YES”**, provide the name of the person conferring the gift, the person receiving the gift, the office or position of the person receiving the gift, specify what the gift was, and the date conferred.

**To the best of our knowledge, and based upon our preclearance records, no such gifts have been given.**

10. Disclosure of contributions to any political entity in the Commonwealth of Pennsylvania Applicability: A “yes” response is required, and full disclosure is required ONLY WHEN ALL of the following applies:

- a. The contribution was made within the last 5 years
- b. The contribution was made by an officer, director, Executive Level Employee or owner of at least 5% of the Contractor or Affiliated Entity.
- c. The amount of the contribution was at least \$500 and in the form of:
  - i. A single contribution by a person in (b.) above, **OR**
  - ii. The aggregate of all contributions all persons in (b.) above;
- d. The contribution was for:
  - i. Any candidate for any public office or any person who holds an

office in the Commonwealth of Pennsylvania, **OR**

- ii. The political committee of a candidate for public office or any person that holds an office in the Commonwealth of Pennsylvania.

**IF "YES",** provide the name and address of the person(s) making the contribution, the contributor's relationship to the Contractor, the name and office or position of the person receiving the contribution (or the political entity / party receiving the contribution), the date of the contribution, and the amount of the contribution.

**NOTICE:** **All information provided for item 10 must be updated annually.**

**To the best of our knowledge, and based on our preclearance records, no such contributions have been made.**

11. With respect to your provision of professional services to the Municipal Pension System of the Requesting Municipality, are you aware of any apparent, potential or actual conflicts of interest with respect to any officer, director or employee of the Contractor and officials or employees of the Requesting Municipality?

**IF "YES",** provide a detailed explanation of the circumstances which provide you with a basis to conclude that an apparent, potential, or actual conflict of interest may exist.

**NOTE:** If, in the future, you become aware of any apparent, potential, or actual conflict of interest, you are expected to update this Disclosure Form immediately in writing by:

- a. Providing a brief synopsis of the conflict of interest (and);
- b. An explanation of the steps taken to address this apparent, potential, or actual conflict of interest.

**To the best of our knowledge, we are not aware of any apparent, potential or actual conflict of interest with respect to any officer, director or employee of the Contractor and officials or employees of Lower Paxton Township.**

12. To the extent that you believe that Chapter 7-A of Act 44 of 2009 requires you to disclose any additional information beyond what has been requested above, please provide that information below or on a separate piece of paper.

**N/A**

13. Please provide the name(s) and position(s) of the person(s) participating in the completion of this Disclosure. One of the individuals identified by the Contractor in Item #1 above must participate in completing this Disclosure and must sign the

*Lower Paxton Township*  
Investment Management and Custodial Services Request for Proposal

below verification attesting to the participation of those individuals named in this response.

**Adam Blumenreich, Vice President of U.S. Bank National Association**

**Michael Harris, Managing Director of PFM Asset Management LLC**

**Marc Ammaturo, Managing Director of PFM Asset Management LLC**

**Katheryn O'Hara, Investment Consultant of PFM Asset Management LLC**



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Signature

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Managing Director

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Title

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02/15/2022

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Date

*Lower Paxton Township*  
**Investment Management and Custodial Services Request for Proposal**

## **VERIFICATION**

I, Marc Ammaturo, hereby state that I am a Managing Director for  
(Name) (Position)  
PFM Asset Management LLC and I am authorized to make this verification.  
(Contractor)

I hereby verify that the facts set forth in the foregoing Act 44 Disclosure Form for Entities Providing Professional Services to Lower Paxton Township are true and correct to the best of my knowledge, information, and belief. I also understand that knowingly making material misstatements or omissions in this form could subject the responding Contractor to the penalties in Section 705-A(e) of Act 44.

I understand that false statements herein are made subject to the penalties of 18 P.A.C.S. § 4904 relating to unsworn falsification to authorities.



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Signature

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Managing Director

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Title

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02/15/2022

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Date



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## B. Press Release



## U.S. Bank Acquires PFM's Asset Management Business

**MINNEAPOLIS (July 8, 2021)** – U.S. Bank announced today that it has entered into a definitive agreement to purchase PFM Asset Management LLC under its subsidiary, U.S. Bancorp Asset Management. PFM Asset Management will continue to operate as a separate entity. PFM Asset Management and U.S. Bancorp Asset Management had combined assets under management and assets under administration of more than \$325 billion on March 31, 2021.

“PFM Asset Management brings a wide array of client relationships and product offerings, including local government investment pools, outsourced chief investment officer services and separately managed accounts in both fixed income and multi-asset class strategies,” said Eric Thole, head of U.S. Bancorp Asset Management. “These services complement U.S. Bank’s current book of business and we’re thrilled to have the opportunity to increase our presence nationally and solidify U.S. Bank’s position as a leading provider of investment solutions.”

Thole added, “PFM Asset Management has a great reputation in the public space, and that’s a testament to its talent. U.S. Bank is known for working with clients one-on-one to understand their unique needs and delivering customized, proactive solutions to help them meet their objectives. We’re excited to put the variety of resources offered by U.S. Bank to work for our new colleagues and clients.”

Marty Margolis, head of PFM Asset Management, said, “This sale combines the resources of two organizations who recognize the importance of providing clients with exemplary customer service; our commitment to clients will remain a priority throughout the transition. We’re also very pleased that U.S. Bank aligns with our fundamental belief in creating a diverse, inclusive and ethical culture.”

PFM’s financial advisory business is not part of this acquisition and will continue to operate independently as the nation’s leading independent financial advisor in terms of transactions and par amount. For the year ended December 31, 2020, PFM advised on 995 overall transactions totaling more than \$69.7 billion in par amount, according to Ipreo.

“PFM will continue to provide outstanding financial advisory and consulting services to state and local governments and the non-profit sector,” said Dan Hartman, who currently leads PFM’s financial advisory practice and will lead PFM as its president and CEO after closing.

U.S. Bancorp Asset Management is part of U.S. Bank’s Wealth Management and Investment Services division, which has more than \$8.6 trillion in assets under custody and administration and \$244 billion in assets under management, globally. In addition to offering asset management products and services, it also offers global corporate trust and custody services, alternative investment, fund custody and administration services, and wealth management services.

The deal was signed on July 7, 2021 and is expected to close in fourth quarter 2021, subject to regulatory approval and satisfaction of customary closing conditions. Financial terms were not disclosed.

Piper Sandler & Co. served as strategic and financial advisor, and Dechert LLP served as legal counsel to PFM. McCarter & English served as legal counsel to PFM’s financial advisory business. Jones Day served as legal counsel to U.S. Bank.

# # #

**Contacts:**

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**About U.S. Bancorp Asset Management**

U.S. Bancorp Asset Management's core strength and focus is managing investment grade fixed income strategies for institutional clients. A registered investment adviser, it has been providing investment grade fixed income investment solutions since 1982. With more than \$160 billion in assets under management as of March 31, 2021, U.S. Bancorp Asset Management is a resource for institutional clients including corporations, healthcare organizations, higher education, public entities and nonprofits. For more information, visit [usbancorassetmanagement.com](http://usbancorassetmanagement.com).

**About U.S. Bank**

U.S. Bancorp, with nearly 70,000 employees and \$553 billion in assets as of March 31, 2021, is the parent company of U.S. Bank National Association. The Minneapolis-based company serves millions of customers locally, nationally and globally through a diversified mix of businesses: Consumer and Business Banking; Payment Services; Corporate & Commercial Banking; and Wealth Management and Investment Services. The company has been recognized for its approach to digital innovation, social responsibility and customer service, including being named one of the 2021 World's Most Ethical Companies and Fortune's most admired superregional bank. Learn more at [usbank.com/about](http://usbank.com/about).

**About PFM**

At PFM, over 600 employees – asset managers (with \$123 billion in assets under management and \$41.2 billion in assets under administration as of March 31, 2021), financial advisors and consultants – partner with clients in every region of the country to transform their world. PFM combines superior financial advice, disciplined management and ingenuity to build, power, move and educate. PFM is the marketing name for a group of affiliated companies providing a range of services. All services are provided through separate agreements with each company. For more information regarding PFM's services or entities, please visit [pfm.com](http://pfm.com).

U.S. Bancorp Asset Management, Inc. is a registered investment adviser and subsidiary of U.S. Bank National Association. U.S. Bank National Association is a separate entity and wholly owned subsidiary of U.S. Bancorp. U.S. Bank is not responsible for and does not guarantee the products, services, or performance of U.S. Bancorp Asset Management, Inc.

NOT FDIC INSURED | NO BANK GUARANTEE | MAY LOSE VALUE





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## C. Resumes of Key Professionals

## Katheryn O'Hara

Investment Consultant  
PFM Asset Management LLC



Katheryn is an investment consultant with PFM Asset Management. In her role, Katheryn is responsible for managing institutional client relationships and supporting business development efforts for the firm's consulting and outsourced CIO practice areas - focusing on pension funds, OPEB trusts, endowments, foundations, and other long-term investment portfolios.

Prior to joining the firm's multi-asset class management team, Katheryn started her career at PFM Asset Management in the firm's Client Services Group in 2015. As a client service representative, her primary responsibility was to provide customer service and act as a client advocate.

### Contact

213 Market Street  
Harrisburg, PA 17101

oharak@pfmam.com  
717.213.3875 office

### Education

B.A. in International Studies  
Lebanon Valley College

### Professional Designations or Licenses

FINRA Series 6 and 63  
Licenses

**Started with PFM:** 2015

**Started in the Field:** 2015

## Donald W. Grant

Senior Managing Consultant  
PFM Asset Management LLC



Donald is a senior managing consultant with PFM Asset Management. He is responsible for supporting institutional client relationships and business development efforts for the firm's multi-asset class management practice – concentrating on pension, OPEB, endowment and foundation, and long-term investment assets.

In 2016, Donald started his career at the firm in the performance reporting and client services department, providing timely monthly and quarterly client performance reporting and fulfilling all facets of client service needs. Donald then spent one year at The Swarthmore Group where he served as the Director of Client and Consulting Services and as the interim Chief Investment Officer. Prior to joining the firm, Donald served six years on active duty in the United States Air Force where he deployed twice to Afghanistan in support of Operation Enduring Freedom. Donald served as a senior signals intelligence analyst with the National Security Agency supporting joint service commanders in strategic and tactical decision making.

### Contact

1735 Market Street  
43rd Floor  
Philadelphia, PA 19103

grandd@pfmam.com  
215.557.1225 office

### Specialties

Outsourced Chief Investment Officer (OCIO)

State & Local Governments

### Education

B.S. in Business Administration  
Temple University

M.S. in Investment Management  
Temple University

### Professional Designations or Licenses

FINRA Series 6 and 63

**Started with PFM:** 2016

**Started in the Field:** 2016

## Brian Sanker

Director  
PFM Asset Management LLC



Brian joined PFM Asset Management in 2004 and is a director serving clients from the firm's Harrisburg office. He provides investment advice to school districts, local governments, authorities and other institutional investors primarily in Pennsylvania, Maryland and other areas of the Northeast.

Brian specializes in developing strategies to optimize investable balances. He is a frequent speaker about public finance, banking, and investments, and regularly contributes articles on a variety of public investment topics to industry publications. Previously, he was a portfolio trader on the firm's trading desk, specializing in short-term fixed-income investments.

Prior to joining the firm, Brian worked as an operations analyst for Citigroup's Corporate and Investment Bank where he focused on areas of process improvement, strengthening accounting controls and compliance procedures in the global check clearing, corporate ACH and wholesale lockbox areas.

Brian is a school board director for the Mechanicsburg Area School District and he serves on the Joint Operating Committee of the Cumberland-Perry Area Vocational Technical School. He is a graduate of the Leadership Harrisburg Area's Community Leadership Series, Class of 2017. Brian is also a board member and past officer of the Pennsylvania Government Finance Officers Association (PA-GFOA) Central Chapter.

### Contact

213 Market Street  
Harrisburg, PA 17101

sankerb@pfmam.com  
717.231.6236 office

### Specialties

State & Local Governments,  
Primary & Secondary  
Education

### Education

B.S. in Operations and  
Information Systems  
Management  
Pennsylvania State University

### Professional Designations or Licenses

FINRA Series 6 and 63  
Licenses

**Started with PFM:** 2004

**Started in the Field:** 2002

## Matt Conlin

Senior Managing Consultant  
PFM



Matt Conlin is a senior managing consultant and marketing representative for PFM. Matt started with PFM in 2013 and works with public-sector clients in Central Pennsylvania. Matt is responsible for marketing PFM's investment advisory services, including the Pennsylvania Local Government Investment Trust (PLGIT), as well as servicing current clients in Central PA.

Prior to his current role, Matt worked in PFM's Client Services Group for over three years providing support to clients in everyday functions such as onboarding and new client administration. Matt previously worked for the Commonwealth of Pennsylvania in the Department of Community and Economic Development as an analyst.

### Contact

213 Market Street  
Harrisburg, PA 17101

conlinm@pfmam.com  
717.213.3829 office

### Education

B.S. in Finance  
Shippensburg University

### Professional Designations or Licenses

FINRA Series 6 and 63  
Licenses

**Started with PFM:** 2013

**Started in the Field:** 2009

## Marc D. Ammato

Managing Director  
PFM Asset Management LLC



Marc joined PFM Asset Management in 2005 and was promoted to managing director in 2012. He is co-leader of the multi-asset class management team. In this role, he assists in setting the firm's strategy in developing, servicing, and marketing the firm's outsourced Chief Investment Officer services nationwide. He also serves on the Multi-Asset Class Investment Committee.

In the Community, Marc serves as an Advisory member to St. Albert the Great's Finance Committee. Previously, Marc served on the Peirce College Board of Trustees. As a member of the Peirce College Board of Trustees, he served in several capacities including as Vice-Chair of Institutional Advancement Committee, Executive Committee Member, Presidential Search Committee Chair and Finance and Investments Committee Chair.

He also previously served as a member of the Philadelphia Regional Advisory Board for EconomicsPennsylvania, a non-profit organization that promotes economic education in the K-12 classroom.

### Contact

1735 Market Street  
43rd Floor  
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[ammaturom@pfmam.com](mailto:ammaturom@pfmam.com)  
215.557.1226 office

### Specialties

Outsourced Chief Investment Officer (OCIO)  
  
State & Local Governments, Endowments, Foundations & Charitable Institutions

### Education

B.S. in Accounting  
Pennsylvania State University  
  
MBA in Business Administration  
University of Maryland Robert H. Smith School of Business

### Professional Designations or Licenses

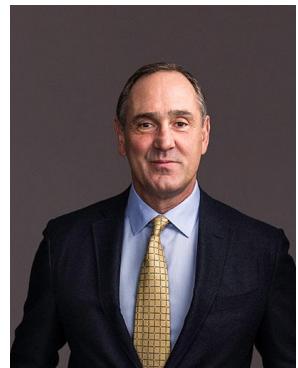
FINRA Series 6, 26 and 63

**Started with PFM:** 2005

**Started in the Field:** 1996

## John Spagnola

Managing Director  
PFM Asset Management LLC



John is a managing director based in the Philadelphia office. His responsibilities include providing investment advisory services to Public, Non-Profit Endowment and Foundation, and Taft-Hartley fund clients. He serves on the Multi-Asset Class Investment Committee and oversees the multi-asset class discretionary and non-discretionary practices.

In 1983, John began his career in the financial services industry working for the First Boston Corporation in New York and Philadelphia. In 1992, he co-founded Spagnola-Cosack, Inc., an independent investment consulting firm focusing on public sector pension funds. Over a 10-year period, assets under advisement grew to more than \$3.5 billion, leading to PFM Asset Management's acquisition of Spagnola-Cosack, Inc., in 2003. As of December 31, 2020, the firm's multi asset class assets exceeded \$23 billion.

A graduate of Yale University, John played professional football in the NFL for 11 seasons, including nine with the Philadelphia Eagles and one year each with the Green Bay Packers and Seattle Seahawks. He also served as a player representative and executive vice president of the NFL Players Association.

John has taught courses on managing public funds for the Fels Institute of Government at the University of Pennsylvania. He currently serves on the Board of Directors of Magee Rehabilitation Hospital, the Buckley Institute at Yale University, and the Greater Philadelphia Chamber of Commerce. He also serves on the Advisory Committee of St. Rose of Lima Parish in West Philadelphia and on the Investment Committee of the Jefferson Health System in Philadelphia. In 2012, John was inducted into the Eagle Scout Hall of Fame by the Cradle of Liberty Council of Philadelphia.

### Contact

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43rd Floor  
Philadelphia, PA 19103  
[spagnolaj@pfmam.com](mailto:spagnolaj@pfmam.com)  
215.557.1220 office

### Specialties

Outsourced Chief Investment Officer (OCIO)

Taft-Hartley, State & Local Governments, Endowments, Foundations & Charitable Institutions

### Education

B.A. in Political Science  
Yale University

### Professional Designations or Licenses

FINRA Series 6, 26 and 63 Licenses

**Started with PFM:** 2003

**Started in the Field:** 1984

## Biagio Manieri, Ph.D., CFA

Managing Director  
PFM Asset Management LLC



Dr. Biagio Manieri joined PFM Asset Management in 2012 as the director of research. He has more than 30 years of experience in economics research, finance and investment management. In 2018, Biagio expanded his responsibilities to become the firm's Global Chief Multi-Asset Class Strategist.

In his current role, he is responsible for leading the firm's economic and capital markets research. As chair of the Multi-Asset Class Investment Committee, he leads the discretionary investment management of clients' multi-asset class, multi-manager portfolios. Biagio is also responsible for leading the firm's thought leadership, writing white papers and presenting at investor conferences.

Prior to joining the firm, Biagio was the Investment Officer at the Federal Reserve overseeing the investment management of over \$13 billion in defined benefit and defined contribution plan assets. He reported to the Federal Reserve's Investment Committee, consisting of Federal Reserve Presidents and Board of Governors. He was responsible for setting the asset allocation of the pension plans and oversaw a team of manager due diligence analysts. Prior to his tenure at the Federal Reserve, he was a portfolio manager and investment analyst at several asset management firms, including Lord Abbett & Co., FP Asset Management, Inc., and Goldman Sachs & Co.

Biagio graduated *summa cum laude* from the City College of the City University of New York. He went on to receive a doctorate from Columbia University, where he also taught for five years from 1991 to 1996.

### Contact

1735 Market Street  
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Philadelphia, PA 19103

[manierib@pfmam.com](mailto:manierib@pfmam.com)  
609.800.2988 office

### Education

B.E. in Electrical Engineering  
City College of New York

Ph.D. in Political Science and  
International Relations  
Columbia University

### Professional Designations or Licenses

Chartered Financial Analyst  
(CFA)

**Started with PFM:** 2012

**Started in the Field:** 1986

## Alex Gurvich, Ph.D.

Director of Research  
PFM Asset Management LLC



Alex has over 20 years of experience in finance, investment research, portfolio management, alternative investments, private equity and venture capital, and strategic consulting. At PFM Asset Management, Alex manages the Investment Research, Asset Allocation and Manager Selection teams. He is a member of the Investment Committee, Valuation and Liquidity Committee, and Economic and Capital Markets Outlook Committee.

Prior to joining the firm, Alex was a director of quantitative research at Commonfund, an asset management firm for endowments and foundations. Before that, Alex was a quantitative equity portfolio manager at The Rockledge Group, a quantitative equity investment management firm that he co-founded. At Rockledge he managed portfolios for institutional and individual investors. There he launched a mutual fund and a long/short exchange traded fund. He has also worked as venture capitalist for GE Capital and as a strategy consultant for Bain and Company in Moscow, London and Stockholm.

Alex has been an adjunct professor and a lecturer at Pace University and Stevens Institute of Technology, teaching graduate and undergraduate finance courses, such as investment management, alternative investments, valuation of the firm, and corporate finance.

Alex earned a B.A. in Physics at the University of Chicago, an MBA in Finance and Business Strategy at INSEAD in France, an M.S. in Financial Engineering from New York University Polytechnic Institute and a Ph.D. in Financial Engineering at Stevens Institute of Technology.

### Contact

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215.814.1910 office

### Specialties

Endowments, Foundations & Charitable Institutions

### Education

B.A. in Physics  
University of Chicago

MBA  
INSEAD

M.S. in Financial Engineering  
New York University

Ph.D. in Financial Engineering  
Stevens Institute of Technology

**Started with PFM:** 2018

**Started in the Field:** 1994

## Tyler Braun, CFA

Director

PFM Asset Management LLC



Tyler Braun is a director for PFM Asset Management's multi-asset class team. Since joining the firm in 2008, Tyler has been responsible for conducting portfolio management/trading activities for client portfolios under the direction of the Multi-Asset Class Investment Committee for the firm's multi-asset class discretionary management services. He is also responsible for conducting portfolio reviews and asset-liability analysis for current and prospective institutional clients, and assists in a variety of other investment research and client service efforts.

Prior to joining the firm, Tyler spent three years working for SEI Investments in the Private Trust Company division. During his time at SEI, he played an integral role in the day-to-day operations of high-net-worth and institutional clients, and worked closely with senior management to improve the accuracy and efficiency of operations.

### Contact

1735 Market Street  
43rd Floor  
Philadelphia, PA 19103

[braunt@pfmam.com](mailto:braunt@pfmam.com)  
215.557.1494 office

### Specialties

Outsourced Chief Investment Officer (OCIO)

State & Local Governments

### Education

B.A. in Economics and Political Science  
Bucknell University

MBA in Finance  
Villanova University

### Professional Designations or Licenses

Chartered Financial Analyst (CFA)

**Started with PFM:** 2008

**Started in the Field:** 2005



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## **D. Certificates of Insurance**



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
06/21/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERs NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Hays Companies  80 South 8th Street Suite 700 Minneapolis, MN 55402	1-612-333-3323	CONTACT NAME: Dawn Heinemann and Melody Kronbach PHONE (A/C, No. Ext): 612-333-3323 FAX (A/C, No): 612-373-7270 E-MAIL ADDRESS: dheimann@hayscompanies.com
INSURED U.S. Bancorp and its Subsidiaries  200 South 6th Street EP-MN-L201 Minneapolis, MN 55402		INSURER(S) AFFORDING COVERAGE INSURER A: OLD REPUBLIC INS CO NAIC # 24147 INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES CERTIFICATE NUMBER: 62514788 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	COMMERCIAL GENERAL LIABILITY  CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR			MWZY31397921	08/01/21	08/01/22	EACH OCCURRENCE	\$ 5,000,000	
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 1,000,000	
							MED EXP (Any one person)	\$ EXCLUDED	
							PERSONAL & ADV INJURY	\$ 5,000,000	
							GENERAL AGGREGATE	\$ 6,000,000	
							PRODUCTS - COMP/OP AGG	\$ 6,000,000	
								\$	
	GEN'L AGGREGATE LIMIT APPLIES PER:  X POLICY <input type="checkbox"/> PRO- JECT <input type="checkbox"/> LOC								
	OTHER:								
A	AUTOMOBILE LIABILITY  X ANY AUTO  OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY			MWTB31397721	08/01/21	08/01/22	COMBINED SINGLE LIMIT (Ea accident)	\$ 250,000	
							BODILY INJURY (Per person)	\$	
							BODILY INJURY (Per accident)	\$	
							PROPERTY DAMAGE (Per accident)	\$	
								\$	
	UMBRELLA LIAB						EACH OCCURRENCE	\$	
	EXCESS LIAB						AGGREGATE	\$	
	DED <input type="checkbox"/> RETENTION \$							\$	
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY  ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y / N <input checked="" type="checkbox"/> N	N / A	MWC31397621	08/01/21	08/01/22	X PER STATUTE	OTHE-	
							E.L. EACH ACCIDENT	\$ 2,000,000	
							E.L. DISEASE - EA EMPLOYEE	\$ 2,000,000	
							E.L. DISEASE - POLICY LIMIT	\$ 2,000,000	
A	Excess Automobile Liab.			MWZX31398121	08/01/21	08/01/22	LIMIT	4,750,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Evidence of Insurance.

## CERTIFICATE HOLDER

U.S. Bancorp and its Subsidiaries

200 South 6th Street EP-MN-L201

Minneapolis, MN 55402

USA

## CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
11/17/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERs NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Marsh   U.S. Operations	
	PHONE (A/C, No. Ext): 866-966-4664	FAX (A/C, No): 212-948-5382
INSURED	E-MAIL ADDRESS: Minneapolis.CertRequest@marsh.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
U.S. BANCORP AND ITS SUBSIDIARIES 200 S. 6th STREET EP-MN-L20I MINNEAPOLIS, MN 55402	INSURER A: Indian Harbor Insurance Company	36940
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

**COVERAGES**      **CERTIFICATE NUMBER:** CHI-009242913-08      **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	\$	
	CLAIMS-MADE	<input type="checkbox"/>	OCCUR				DAMAGE TO RENTED PREMISES (Ea occurrence)	\$	
							MED EXP (Any one person)	\$	
							PERSONAL & ADV INJURY	\$	
							GENERAL AGGREGATE	\$	
							PRODUCTS - COMP/OP AGG	\$	
	GEN'L AGGREGATE LIMIT APPLIES PER:						OTHER:	\$	
	POLICY	<input type="checkbox"/>	PRO- JECT	<input type="checkbox"/>	LOC				
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	\$	
	ANY AUTO						BODILY INJURY (Per person)	\$	
	OWNED AUTOS ONLY	<input type="checkbox"/>	SCHEDULED AUTOS				BODILY INJURY (Per accident)	\$	
	Hired AUTOS ONLY	<input type="checkbox"/>	NON-OWNED AUTOS ONLY				PROPERTY DAMAGE (Per accident)	\$	
								\$	
	UMBRELLA LIAB		OCCUR				EACH OCCURRENCE	\$	
	EXCESS LIAB		CLAIMS-MADE				AGGREGATE	\$	
	DED	<input type="checkbox"/>	RETENTION \$					\$	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	<input type="checkbox"/> Y / <input type="checkbox"/> N	N / A				PER STATUTE	OTHR-	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> N					E.L. EACH ACCIDENT	\$	
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	\$	
A	ERRORS & OMISSIONS			US00103616BL21F	11/15/2021	11/15/2022	Aggregate Limit:	10,000,000	
A	FI BOND (CRIME)			US00103616BL21G	11/15/2021	11/15/2022	Aggregate Limit:	10,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

## CERTIFICATE HOLDER

U.S. Bancorp and its subsidiaries 200 S. 6th Street, EP-MN-L20I Minneapolis, MN 55402	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
AUTHORIZED REPRESENTATIVE	

*Marsh USA Inc.*

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# CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)  
11/16/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERs NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:		
	PHONE (A/C. No. Ext):	8662837122	FAX (A/C. No.):
INSURED	E-MAIL ADDRESS:		
	INSURER(S) AFFORDING COVERAGE	NAIC #	
U.S. Bancorp EP-MN-L201 200 S. 6th Street Minneapolis MN 55402 USA	INSURER A: ACE American Insurance Company	22667	
	INSURER B:		
	INSURER C:		
	INSURER D:		
	INSURER E:		
	INSURER F:		

**COVERS** **CERTIFICATE NUMBER:** 570090328603 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input type="checkbox"/> OCCUR						EACH OCCURRENCE	
	GEN'L AGGREGATE LIMIT APPLIES PER: POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC						DAMAGE TO RENTED PREMISES (Ea occurrence)	
	OTHER:						MED EXP (Any one person)	
	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						PERSONAL & ADV INJURY	
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE						GENERAL AGGREGATE	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N / A				PRODUCTS - COMP/OP AGG	
A	Cyber Liability			EONG25602894006 Claims Made - Third Party SIR applies per policy terms & conditions	11/15/2021	11/15/2022	Aggregate Limit	\$10,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
Evidence of Insurance.

## CERTIFICATE HOLDER

## CANCELLATION

U.S. Bancorp 200 S. 6th Street Minneapolis MN 55402 USA	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.	
	AUTHORIZED REPRESENTATIVE	
		

Holder Identifier :

Certificate No : 570090328603





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## E. Sample Client Reports



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### i. Sample Monthly “Flash” Report



## Sample Client Monthly Flash - Multi-Asset Class Management

**Monthly Performance Review  
For the Period Ended September 30, 2021**

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Client Management Team

PFM Asset Management LLC

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1735 Market Street  
43rd Floor  
Philadelphia, PA 19103  
215-567-6100

---

# Sample Client - Multi-Asset Class Management

As of September 30, 2021

## Asset Allocation & Performance

	Allocation	Performance(%)									
		%	1 Month	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
<b>TOTAL FUND</b>	<b>100.00</b>	<b>-3.19</b>	<b>-0.51</b>	<b>7.28</b>	<b>18.03</b>	<b>11.19</b>	<b>10.59</b>	<b>8.78</b>	<b>7.80</b>	<b>07/01/2006</b>	
Policy Index		-2.75	-0.62	6.36	16.45	10.38	9.77	8.18	6.92	07/01/2006	
<b>Domestic Equity</b>	<b>38.41</b>										
Manager A	32.40	-4.49	-0.06	15.18	32.09	16.04	16.87	13.94	45.82	04/01/2020	
Russell 3000 Index		-4.49	-0.10	14.99	31.88	16.00	16.85	13.93	45.63	04/01/2020	
Manager B	4.11	-5.17	2.17	13.29	26.24	16.07	17.36	15.52	18.18	04/01/2019	
S&P 500		-4.65	0.58	15.92	30.00	15.99	16.90	14.01	20.32	04/01/2019	
Manager C	1.90	-3.99	-1.79	15.47	43.59	11.02	12.90	11.50	N/A	10/01/2021	
S&P MidCap 400		-3.97	-1.76	15.52	43.68	11.08	12.97	11.57	N/A	10/01/2021	
<b>International Equity</b>	<b>20.67</b>										
Manager D	6.25	-3.40	-2.97	6.46	24.48	8.37	9.05	6.06	34.82	04/01/2020	
MSCI AC World ex USA (Net)		-3.20	-2.99	5.90	23.92	8.03	8.94	5.68	32.71	04/01/2020	
Manager E	4.87	-4.52	-1.33	2.71	16.24	11.49	10.88	8.90	11.61	01/01/2016	
MSCI AC World ex USA (Net)		-3.20	-2.99	5.90	23.92	8.03	8.94	5.68	8.80	01/01/2016	
Manager F	5.50	-5.05	-2.38	3.76	20.50	9.93	10.78	8.63	24.04	07/01/2020	
MSCI AC World ex USA (Net)		-3.20	-2.99	5.90	23.92	8.03	8.94	5.68	24.62	07/01/2020	
Manager G	1.14	-4.19	-1.33	4.53	23.30	15.92	13.97	N/A	4.53	01/01/2021	
MSCI AC World ex USA Smid Cap Index (Net)		-3.34	-0.94	9.48	28.94	8.88	9.40	7.30	9.48	01/01/2021	
Manager H	1.60	-5.93	-1.19	6.32	30.82	14.79	15.82	N/A	6.32	01/01/2021	
MSCI AC World ex USA Small Cap (Net)		-3.04	0.00	12.23	33.06	10.33	10.28	8.15	12.23	01/01/2021	
Manager I	1.32	-4.88	-8.13	-2.21	18.69	10.37	10.76	7.09	5.45	03/01/2018	
MSCI EM (net)		-3.97	-8.09	-1.25	18.20	8.58	9.23	5.62	3.82	03/01/2018	
<b>Other Growth</b>	<b>3.00</b>										
Manager J	1.48	-5.72	1.07	22.86	33.48	14.13	9.65	11.16	13.18	04/01/2021	
Manager K	1.52	-5.40	1.47	21.73	32.85	13.01	9.23	10.86	13.79	04/01/2021	
MSCI US REIT Index		-5.51	0.98	23.00	37.16	10.10	6.84	8.98	13.09	04/01/2021	
Manager L	3.04	-2.10	-1.46	4.11	26.66	20.86	17.40	13.51	N/A	10/01/2021	
Bloomberg Liquid US Convertibles Index		-2.12	-1.33	4.81	27.78	21.72	18.13	14.10	N/A	10/01/2021	

Returns are net of mutual fund fees.

Returns are expressed as percentages.

# Sample Client - Multi-Asset Class Management

As of September 30, 2021

## Asset Allocation & Performance

	Allocation	Performance(%)									
		%	1 Month	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
<b>Fixed Income</b>	<b>27.58</b>										
Manager M	7.20	-0.82	0.13	-0.90	0.53	6.21	3.83	4.01	4.01	05/01/2014	
<i>Bloomberg U.S. Aggregate</i>		-0.87	0.05	-1.56	-0.90	5.35	2.94	3.26	3.26	05/01/2014	
Manager N	3.31	-0.67	0.14	-0.11	1.61	4.65	3.08	3.41	3.26	09/01/2017	
Manager O	8.67	-1.13	-0.01	-1.45	0.90	6.27	4.02	4.30	4.26	09/01/2017	
<i>Bloomberg U.S. Aggregate</i>		-0.87	0.05	-1.56	-0.90	5.35	2.94	3.26	3.47	09/01/2017	
Manager P	4.66	-0.77	0.18	-0.90	0.91	6.09	3.78	3.97	4.08	01/01/2020	
<i>Bloomberg U.S. Aggregate</i>		-0.87	0.05	-1.56	-0.90	5.35	2.94	3.26	3.29	01/01/2020	
Manager Q	2.00	-0.87	0.09	-1.08	1.33	7.54	4.60	4.25	4.81	10/01/2019	
<i>ICE BofAML U.S. Corporate 5-10 Year Index</i>		-0.94	-0.01	-0.98	1.51	7.69	4.64	4.90	5.01	10/01/2019	
Manager R	0.99	-2.37	-0.95	-2.15	3.69	5.45	3.39	4.39	4.90	07/01/2020	
<i>JPM EMBI Global Diversified</i>		-2.07	-0.70	-1.36	4.36	5.65	3.89	4.90	5.38	07/01/2020	
Manager S	0.75	0.27	0.99	5.04	10.29	6.45	5.98	5.85	2.16	06/01/2021	
<i>ICE BofAML High Yield Master II</i>		0.03	0.94	4.67	11.46	6.62	6.35	5.76	2.32	06/01/2021	
<b>Other Income</b>	<b>3.02</b>										
Manager T	3.02	-0.74	0.03	4.33	12.20	7.04	5.25	5.47	-0.74	09/01/2021	
<i>ICE Exchange-Listed Preferred &amp; Hybrid Securities</i>		-0.72	0.23	4.88	12.72	8.49	N/A	N/A	-0.72	09/01/2021	
<b>Real Return</b>	<b>2.11</b>										
Manager U	2.11	4.50	7.26	33.84	50.62	10.07	6.54	-0.29	8.95	06/01/2021	
<i>Bloomberg Commodity Index Total Return</i>		4.98	6.59	29.13	42.29	6.86	4.54	-1.49	8.56	06/01/2021	
<b>Cash Equivalent</b>	<b>2.15</b>										
Manager V	2.15	0.00	0.01	0.02	0.03	0.99	1.00	0.73	1.00	07/01/2006	

Returns are net of mutual fund fees.

Returns are expressed as percentages.

## IMPORTANT DISCLOSURES

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## ii. Sample Quarterly Performance Report



## Sample Client - Multi-Asset Class Management

### **Investment Performance Review For the Quarter Ended September 30, 2021**

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Client Management Team

PFM Asset Management LLC

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1735 Market Street  
43rd Floor  
Philadelphia, PA 19103  
215-567-6100

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## **Financial Markets & Investment Strategy Review**

## QUARTERLY MARKET SUMMARY

For the Quarter Ended September 30, 2021

Multi-Asset Class Management

### Market Index Performance

As of September 30, 2021

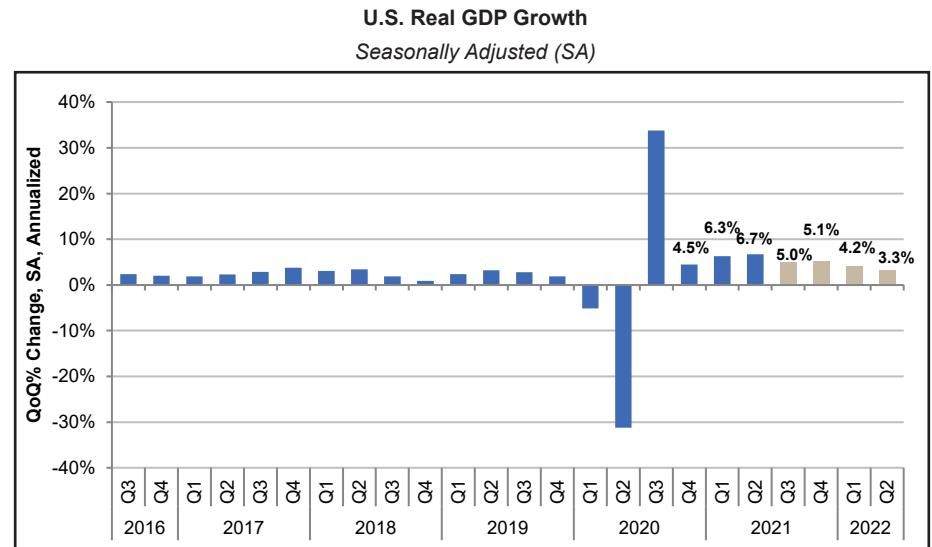
	QTD	YTD	1 Year	3 Years	5 Years	7 Years	10 Years
<b>DOMESTIC EQUITY</b>							
S&P 500	0.58%	15.92%	30.00%	15.99%	16.90%	14.01%	16.63%
Russell 3000 Index	-0.10%	14.99%	31.88%	16.00%	16.85%	13.93%	16.60%
Russell 1000 Value Index	-0.78%	16.14%	35.01%	10.07%	10.94%	9.32%	13.51%
Russell 1000 Growth Index	1.16%	14.30%	27.32%	22.00%	22.84%	18.51%	19.68%
Russell Midcap Index	-0.93%	15.17%	38.11%	14.22%	14.39%	12.15%	15.52%
Russell 2500 Index	-2.68%	13.83%	45.03%	12.47%	14.25%	12.19%	15.27%
Russell 2000 Value Index	-2.98%	22.92%	63.92%	8.58%	11.03%	10.19%	13.22%
Russell 2000 Index	-4.36%	12.41%	47.68%	10.54%	13.45%	11.90%	14.63%
Russell 2000 Growth Index	-5.65%	2.82%	33.27%	11.70%	15.34%	13.19%	15.74%
<b>INTERNATIONAL EQUITY</b>							
MSCI EAFE (net)	-0.45%	8.35%	25.73%	7.62%	8.81%	5.80%	8.10%
MSCI AC World Index (Net)	-1.05%	11.12%	27.44%	12.58%	13.20%	9.95%	11.90%
MSCI AC World ex USA (Net)	-2.99%	5.90%	23.92%	8.03%	8.94%	5.68%	7.48%
MSCI AC World ex USA Small Cap (Net)	0.00%	12.23%	33.06%	10.33%	10.28%	8.15%	9.44%
MSCI EM (Net)	-8.09%	-1.25%	18.20%	8.58%	9.23%	5.62%	6.09%
<b>ALTERNATIVES</b>							
FTSE NAREIT Equity REIT Index	0.98%	23.15%	37.39%	10.01%	6.83%	9.04%	11.27%
FTSE EPRA/NAREIT Developed Index	-0.73%	15.26%	30.81%	7.18%	5.51%	6.65%	9.27%
Bloomberg Commodity Index Total Return	6.59%	29.13%	42.29%	6.86%	4.54%	-1.49%	-2.66%
<b>FIXED INCOME</b>							
Blmbg. Barc. U.S. Aggregate	0.05%	-1.56%	-0.90%	5.35%	2.94%	3.26%	3.01%
Blmbg. Barc. U.S. Government/Credit	0.04%	-1.93%	-1.13%	5.94%	3.24%	3.54%	3.24%
Blmbg. Barc. Intermed. U.S. Government/Credit	0.02%	-0.87%	-0.40%	4.63%	2.60%	2.74%	2.52%
Blmbg. Barc. U.S. Treasury: 1-3 Year	0.07%	-0.03%	0.02%	2.68%	1.64%	1.47%	1.17%
Blmbg. Barc. U.S. Corp: High Yield	0.89%	4.53%	11.28%	6.91%	6.52%	5.89%	7.42%
Credit Suisse Leveraged Loan Index	1.13%	4.65%	8.46%	4.09%	4.64%	4.25%	5.04%
ICE BofAML Global High Yield Constrained (USD)	-0.35%	2.13%	9.75%	6.43%	6.04%	5.27%	7.12%
Blmbg. Barc. Global Aggregate Ex USD	-1.59%	-5.95%	-1.16%	3.17%	1.10%	1.23%	0.90%
JPM EMBI Global Diversified	-0.70%	-1.36%	4.36%	5.65%	3.89%	4.90%	5.80%
<b>CASH EQUIVALENT</b>							
90 Day U.S. Treasury Bill	0.02%	0.04%	0.07%	1.18%	1.15%	0.85%	0.61%

Source: Investment Metrics. Returns are expressed as percentages. Please refer to the last page of this document for important disclosures relating to this material.

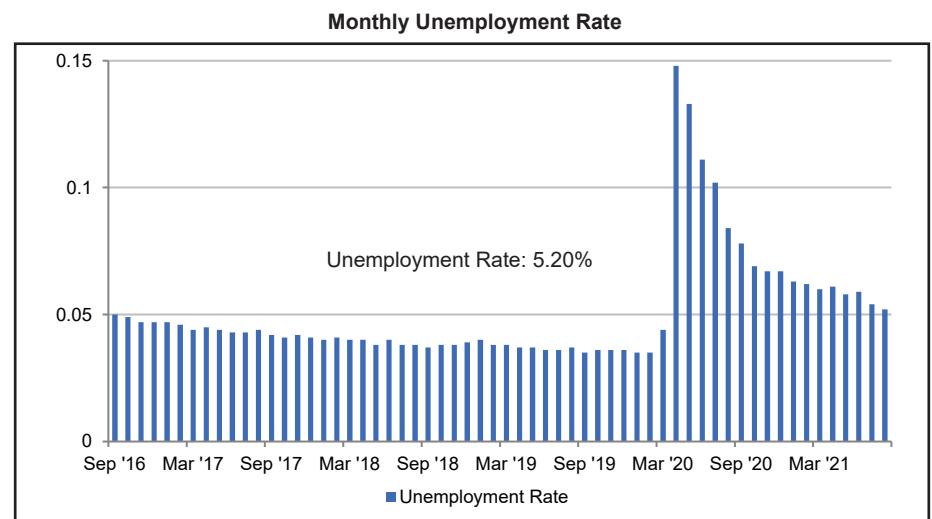
## QUARTERLY MARKET SUMMARY

## THE ECONOMY

- Over the quarter, a surge of COVID-19 infections driven by the highly contagious delta variant put a strain on economic recovery as well as healthcare systems. The spike in global cases had widespread effects that reached many corners of the economic environment. Consumer sentiment declined all throughout the quarter, dropping to its lowest level since November last year. Whether this drag on recovery will continue is yet to be seen. Signs point to a decline in delta, as new case growth, on a seven-day-average basis, decreased by one-third during September. The positive test rate was down by a similar amount, and hospitalizations have been falling by almost as much. The improvement has been sharp, and it may well continue.
- The labor market showed inconsistent signs of recovery. While wages have increased and the number of job openings climbs higher, labor force participation has remained depressed with many industries unable to find workers. The positivity of the quarter-end decline in initial jobless claims was overshadowed by a jobs growth report that showed employment continuing to slow to its weakest pace this year.
- In the September meeting, the Federal Open Market Committee (FOMC) hinted at the possible tapering of asset purchasing later this year, perhaps as early as November. However, a “substantial further progress” hurdle on jobs and inflation in order to begin tapering was set in December. The updated September projections showed officials are now evenly split on whether or not it will be appropriate to begin raising the Federal Funds at least once in 2022. The Federal Reserve (Fed) has telegraphed it would not raise it before 2024, but policymakers’ timelines have been expedited over rising inflation concerns as August saw inflation at 4.3%. Consumer concerns about inflation have been high as well, with September’s survey of American households showing expectations of inflation rose to 5.3%.
- The U.S. trade deficit widened to a record high in August, jumping 4.2% as American consumers continued to show a strong appetite for imported goods such as pharmaceutical products and toys. However, supply chain disruptions continued to constrain global trade. The trade gap expanded to \$73.3 billion in August from \$70.3 billion in July. The increasing trade deficit will increasingly drag growth, subtracting from gross domestic product (GDP) growth for four straight quarters. The Atlanta Federal Reserve is forecasting a slowing of the GDP growth to a 2.3% annualized rate in the third quarter, a significant decrease from the incredible recent recovery, which resulted in a 6.7% growth rate in the second quarter.



Source: Bloomberg. Blue bars indicate actual numbers; taupe bars indicate forecasted estimates.



Source: Bloomberg.

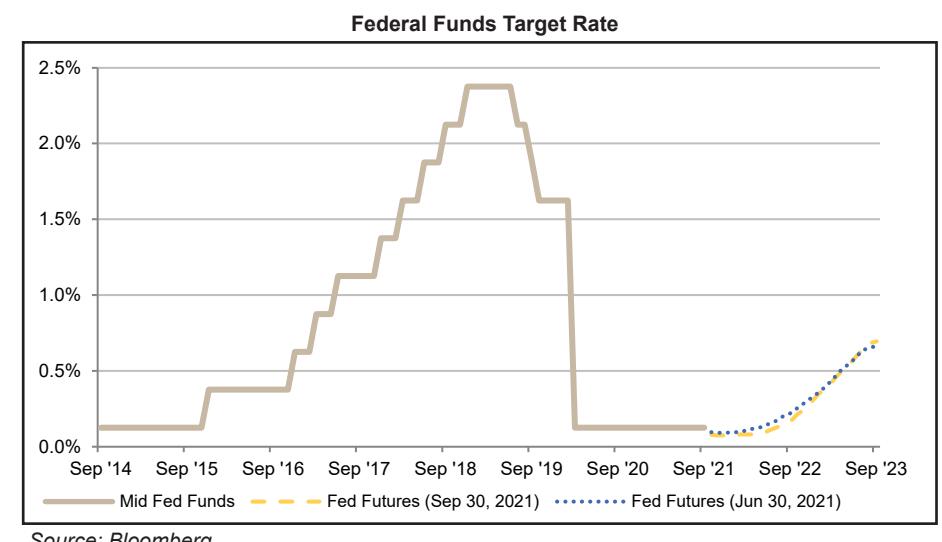
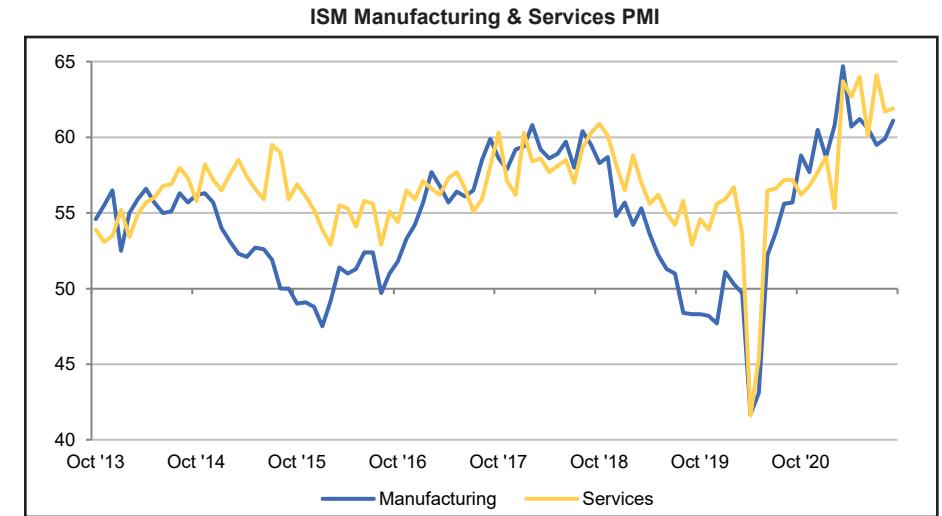
## QUARTERLY MARKET SUMMARY

For the Quarter Ended September 30, 2021

Multi-Asset Class Management

### WHAT WE'RE WATCHING

- The supply chain crisis continues, prompting worries about the world economy possibly slumping while prices are still rising quickly. Drewry's shipping index measures the composite cost of shipping containers and is up 291% compared with a year ago, with some of the busiest routes up sixfold. Contributing to the high prices are the long waits as ships and goods pile up at ports, met with a shortage workers and drivers. Even as other parts of the economy continue to recover, bottlenecks are forecast to constrain manufacturing output well into next year, hurting a sector that had powered the global recovery until recently. The IMF has revised their projections for the global economy's growth, stating the current global growth projection is 5.9% in 2021 and 4.9% in 2022, 0.1% lower for 2021 than in the July forecast.
- The global energy crisis is making its mark across all economies. More than half of China's provinces have been rationing electricity, causing China's factory activity to unexpectedly shrink in September as manufacturers are forced to pause production. While China has just loosened its regulation of coal-powered energy producers in a bid to encourage more energy production, the energy shortage may weigh on GDP growth in 2022. In Europe, natural gas prices have rocketed almost 600% this year on worries that current low storage levels will be insufficient for the winter. Meanwhile, an increasing number of gas stations have been running out of fuel in the UK due to its "just-in-time market," leaving the country with little reserves. An agreement with Russia may reduce some of the issues in supply, but it remains to be seen if and how that will play out. Here in the U.S., gas prices have risen by 47% since the start of August and oil prices have hit a seven-year high, a ripple effect of the energy crunch elsewhere in the world.
- The ending of emergency stimulus and raising of rates across the world is creeping closer as central bankers look to the balance of risks. They will have to decide between targeting inflation with tighter monetary policy adding to the pressure on economies or trying to boost demand, possibly igniting prices further. Some countries have taken a more aggressive approach, with Norway, Brazil, Mexico, South Korea and New Zealand already raising interest rates. Others are more concerned about slowing growth. The European Central Bank and the Bank of Japan have communicated a continued plan to keep stimulating their economies, maintaining that the current inflation is transitory. The U.S. stands somewhere in the middle with the plans to taper bond purchases while maintaining rates.

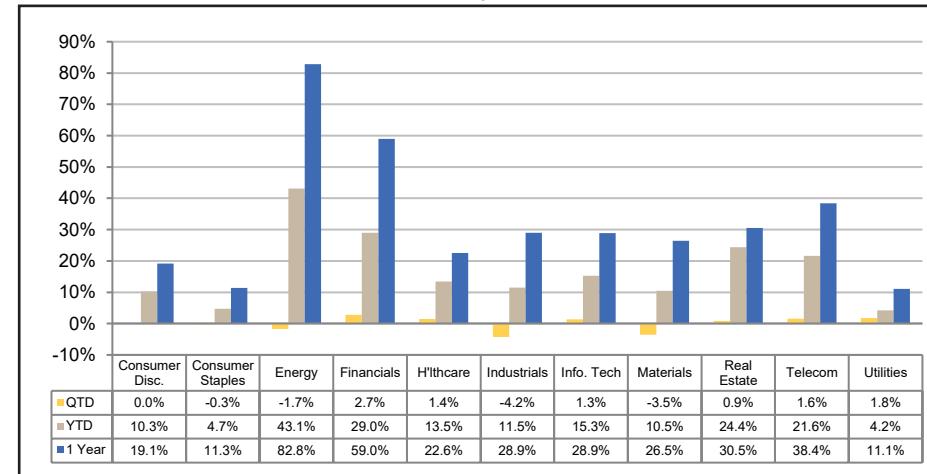


## DOMESTIC EQUITY

- The S&P 500 Index (S&P) posted a return of 0.58% for the quarter because September posted a negative return of -4.65%, which was a drag on the July and August returns. The Fed's recent meeting suggested tapering asset purchases, rising inflation expectations, debt ceiling discussions and slowing activity indicators. This resulted from the delta variant surge that led to higher volatility during the back half of the quarter.
- Within the S&P, six out of 11 sectors produced positive returns, with Financials (+2.7%), Utilities (+1.8%), and Communication services (+1.6%) leading the way. The Industrials (-4.2%) sector was the worst-performing sector during the quarter.
- Value stocks, as represented by the Russell 1000 Value Index, returned -0.78%, lagging growth stocks, as represented by the Russell 1000 Growth Index, which returned 1.16%.
- Small-caps, as represented by the Russell 2000 Index, returned -4.36% during the quarter, lagging mid- and large-caps. The Russell Midcap and Russell 1000 indices returned -0.93% and 0.21%, respectively.

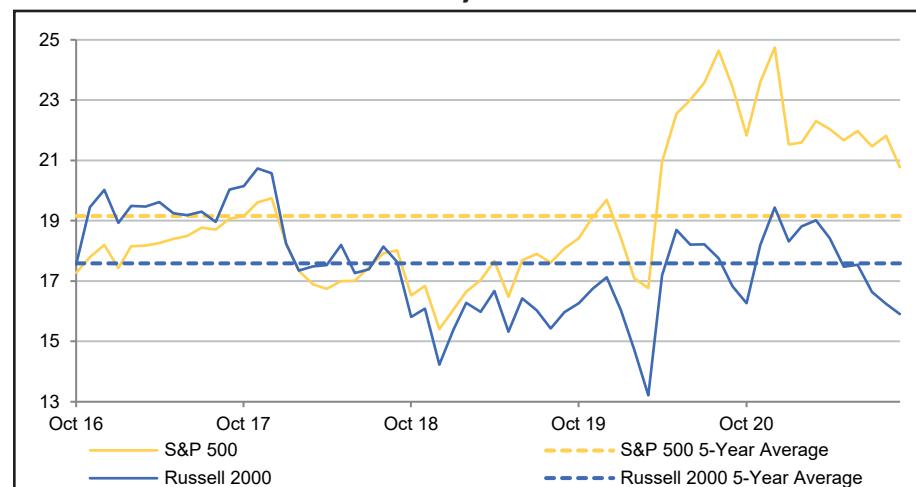
## S&amp;P 500 Index Performance by Sector

Periods Ended September 30, 2021



Source: Bloomberg.

## P/E Ratios of Major Stock Indices\*



Source: Bloomberg.

\*P/E ratios are calculated based on one-year forward estimates and adjusted to include only positive earnings results for consistency.

## QUARTERLY MARKET SUMMARY

For the Quarter Ended September 30, 2021

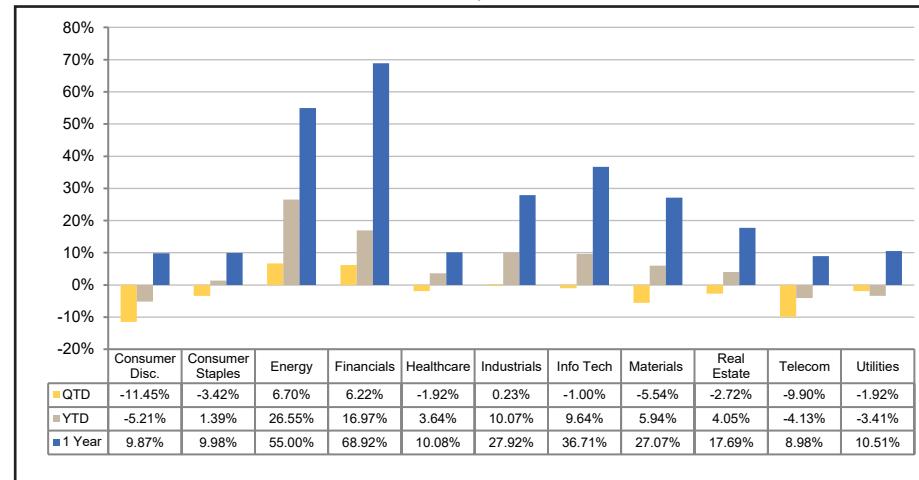
Multi-Asset Class Management

### NON-U.S. EQUITY

- Markets outside of the United States, as measured by the MSCI ACWI ex-U.S. Index, underperformed their U.S. counterparts, returning -2.99% for the quarter. Within the index, three of the 11 sectors posted positive returns for the quarter. Energy was the best-performing sector returning 6.7%, while Consumer Discretionary was the worst-performing sector returning -11.5%.
- Emerging markets (EM), as represented by MSCI Emerging Market Index, underperformed Developed ex-U.S. Markets, represented by the MSCI EAFE Index, returning -8.09% versus -0.45% for the quarter. MSCI China was a significant detractor returning -18.17% for the quarter, as the uncertainty surrounding the recent regulatory shifts and the default of Evergrande Property Group created a negative sentiment for Chinese equities.
- Value outperformed growth for the quarter across the International Markets (MSCI AC World ex-USA Value -2.32% versus MSCI AC World ex-USA Growth -2.99%), a reversal from the second quarter of 2021.
- Small-caps outperformed within the international equity markets, returning 0.00% for the quarter, as represented by MSCI ACWI ex-U.S. Small Cap Index.

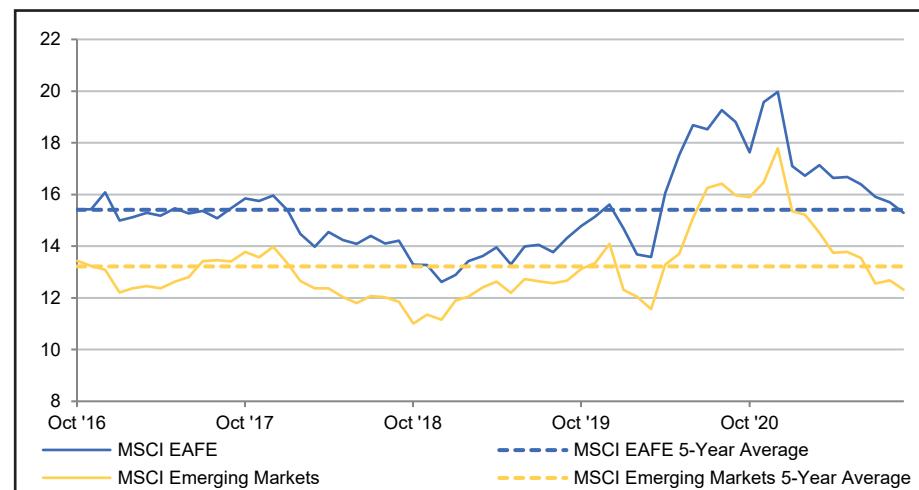
#### MSCI ACWI ex-U.S. Sectors

Periods Ended September 30, 2021



Source: Bloomberg.

#### P/E Ratios of MSCI Equity Indices\*

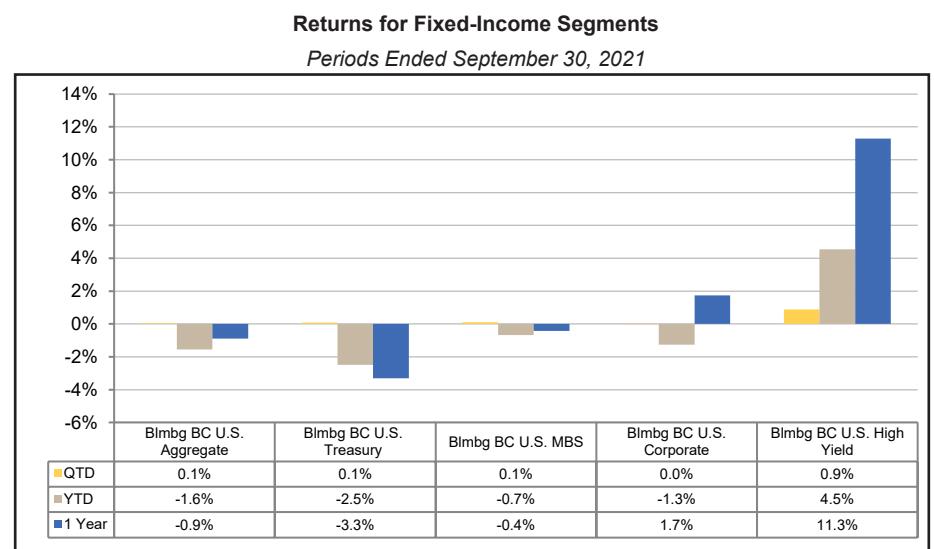
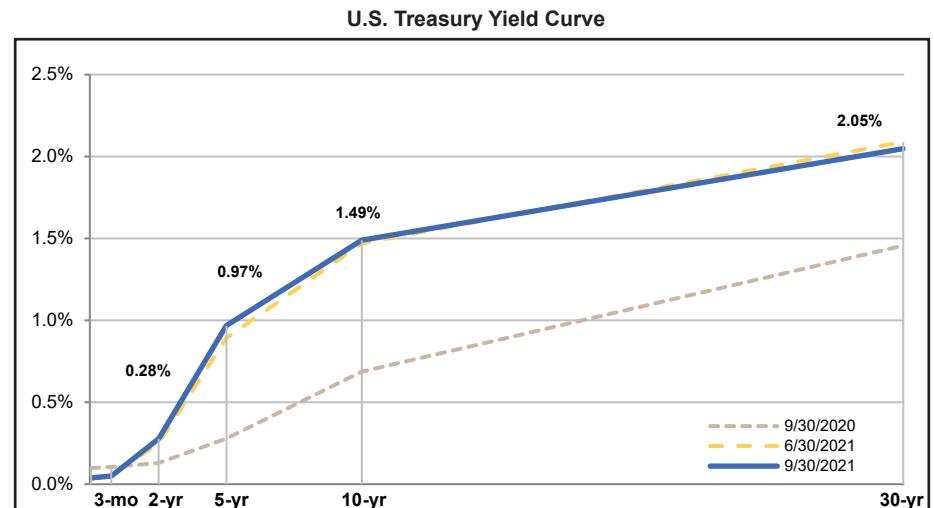


Source: Bloomberg.

\*P/E ratios are calculated based on one-year forward estimates and adjusted to include only positive earnings results for consistency.

## FIXED INCOME

- The U.S. bond market represented by the Bloomberg U.S. Aggregate (Aggregate) Index posted a mild gain of 0.05% in the third quarter.
- After drifting lower much of the quarter, long-term rates spiked in late September and erased the prior movement. Concerns arose after the FOMC meeting and inflation data. The 10- and 30-year treasury rates ended up seven and two basis points (bps) higher, respectively, versus the prior quarter-end. While the 5 year gained 11 bps. The Bloomberg Barclays U.S. Treasury Index gained 0.09%.
- Due to its higher duration, corporate credit had mixed results because the Bloomberg U.S. Corporate Index was flat for the quarter. High yield bonds, as represented by the Bloomberg U.S. Corporate High Yield (HY) Index, posted a return of 0.89% despite some spread widening. Within HY, results were strongest in the BB-rated area.
- The fixed-rate mortgage market, as measured by the Bloomberg U.S. Mortgage-Backed Securities (MBS) Index, had another weak performance and only gained 0.10%. Meanwhile, the Bloomberg U.S. Agency CMBS Index (measuring commercial MBS) fell 0.22%.
- EM USD sovereign bonds, as represented by the JP Morgan EMBI Global Diversified Index, fell 70 bps. By region, Africa and Latin America have the most significant selloffs.



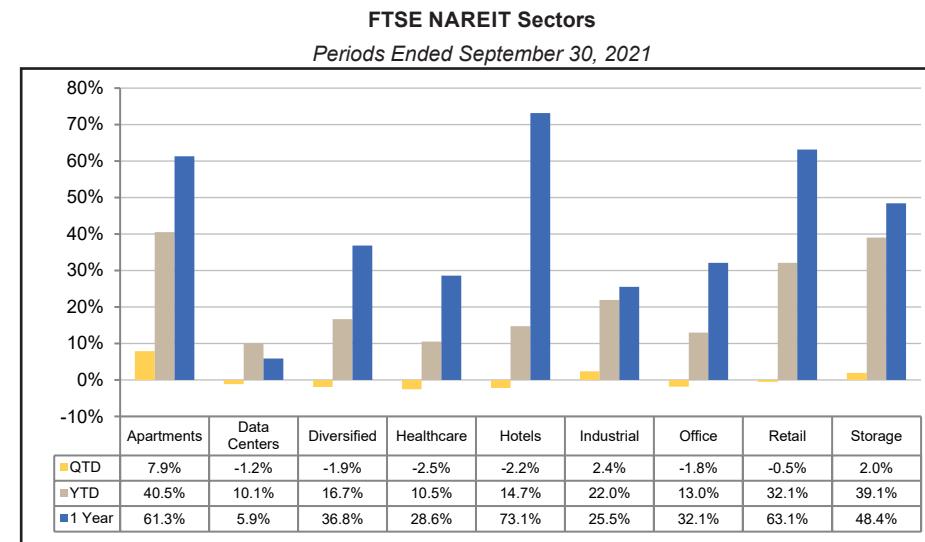
## QUARTERLY MARKET SUMMARY

For the Quarter Ended September 30, 2021

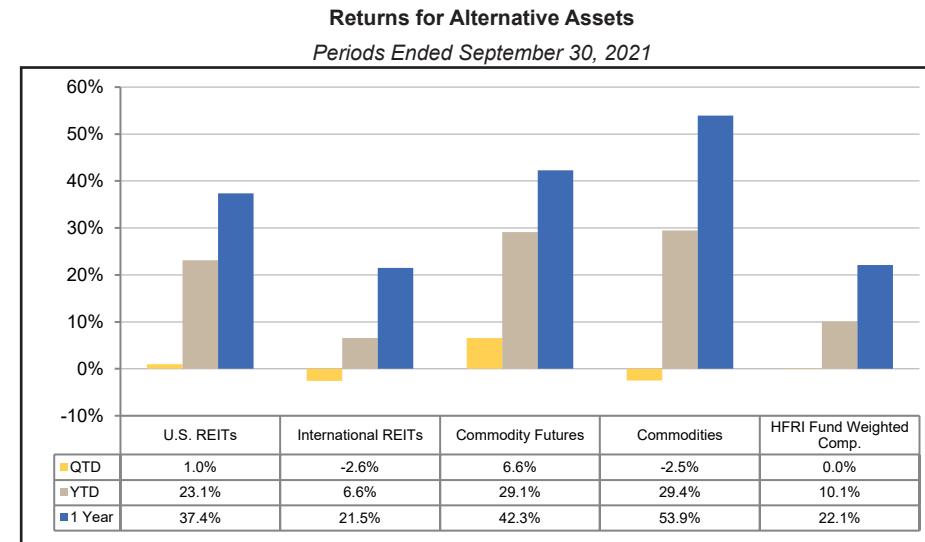
Multi-Asset Class Management

### ALTERNATIVES

- REITs, as measured by the FTSE NAREIT Equity REITs Index, returned just 1.0% in the third quarter of 2021, compared to a 12.0% return in the prior quarter. Several major sectors posted moderate losses over the third quarter, suggesting that investors are taking some profits following a strong performance in the industry over the course of the year. The gains were led by the Residential and Industrial sectors, which posted returns of 6.8% and 2.4%, respectively. Healthcare fell 2.5% and was the worst-performing sector in the third quarter.
- Private real estate, as measured by the NCREIF Property Index, returned 3.6% in the second quarter of 2021, resulting in a 7.4% return over the last twelve-month period. Industrial properties continued to be the top-performing sector, with a total return of 8.9% in the second quarter, comprising 1.1% in income return and 7.8% in appreciation return. Hotel properties were again the worst performers, but the sector still posted a slightly positive total return of 0.6%, comprised of -0.2% in income return and 0.8% in appreciation return.
- Hedge fund returns were relatively flat in the third quarter of 2021, with the HFRI Fund Weighted Composite Index returning -0.03%. During the same period, the HFRI Macro (Total) Index returned 0.02%. The HFRI Equity Hedge (Total) Index and the HFRI Fund of Funds Index returned -0.45% and 1.37%, respectively.
- In the second quarter of 2021, private capital fundraising was led by private equity funds, which closed on \$139 billion, followed by \$40 billion raised by private debt funds, \$29 billion raised by real assets funds, and \$24 billion raised by private real estate funds. Global private equity dry powder, which accounts for the bulk of private capital dry powder, reached a record \$2.3 trillion as of August 2021. According to Cambridge Associates, U.S. private equity generated a return of 15.3% for the five years ended Q4 2020. According to Cliffwater Direct Lending Index, U.S. middle-market loans, a proxy for private debt, generated a return of 8.9% for the five years ended Q2 2021.
- Commodity futures, represented by the Bloomberg Commodity Total Return Index, returned 6.6% in the third quarter of 2021. The U.S. Dollar Index (DXY) gained 1.9% over the same period. Gold spot price finished the quarter at \$1,756.95 per ounce, a -0.7% decline over the period. Despite the dip in the middle of the quarter, the West Texas Intermediate (WTI) Crude Oil spot price ended higher, increasing 2.3% from \$73.52 to \$75.22 per barrel during the third quarter of 2021.



Source: Bloomberg.



Sources: Bloomberg and Hedge Fund Research, Inc.

# QUARTERLY MARKET SUMMARY

For the Quarter Ended September 30, 2021

Multi-Asset Class Management

## Investment Strategy Overview

For the Fourth Quarter 2021

Asset Class	Our Investment Outlook	Comments
<b>U.S. EQUITIES</b>		<ul style="list-style-type: none"> <li>Strong economic recovery and corporate earnings are currently baked into equity valuations. We expect equities to outperform fixed income in the near term, but we see higher volatility amidst rising inflation and Fed's tapering.</li> <li>Earnings and profit margins are recovering strongly but possible rise in corporate taxes and impact of rising inflation needs to be considered.</li> <li>Tilt towards large-caps which provide higher quality exposure while being neutral on mid- and small-caps.</li> </ul>
<b>NON - U.S. EQUITIES</b>		<ul style="list-style-type: none"> <li>International equities continue to trade at a discount to U.S. equities. Steady improvement in economic activity is a tailwind while higher cyclical exposure does not offer defensive positioning.</li> <li>Improving global trade and pent-up demand are tailwinds for export-oriented developed economies.</li> <li>EM economies are still struggling with uneven recovery as lack of vaccines has been a headwind for most. Softer economic data coupled with regulatory crackdown in China create headline risk for EM.</li> <li>International small-caps are expected to recover as economic recovery continues.</li> </ul>
<b>FIXED INCOME</b>		<ul style="list-style-type: none"> <li>Concerns of rising inflation have pressured long term rates this year. We expect to see long term rates rising further in anticipation of Fed tapering and rate rise. We expect the rise in inflation and long-term rates to be range bound.</li> <li>Corporate spreads have narrowed substantially as credit markets have stabilized. A strong economic recovery is a tailwind while the tighter spreads limit the upside.</li> </ul>
<b>ALTERNATIVES</b>		<ul style="list-style-type: none"> <li>Attractive valuations, low level of interest rates and improving economic activity resulting in higher asset prices and steady income are positives for Real Estate.</li> <li>Improved credit market conditions and easy access to capital are a positive for private equity strategies especially as strong economic recovery takes hold.</li> <li>Private debt strategies are better poised for economic recovery and have better expected returns and higher yield potential over public markets due to differentiated opportunity set.</li> <li>Select hedge fund strategies managed by talented managers may provide some benefit in the current market environment of increased volatility. We remain cautious on the overall hedge fund universe.</li> </ul>

Current outlook

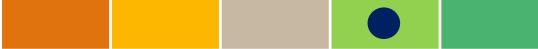
Outlook one quarter ago

Negative	Slightly Negative	Neutral	Slightly Positive	Positive
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## QUARTERLY MARKET SUMMARY

## Factors to Consider Over the Next 6-12 Months

For Fourth Quarter 2021

<b>Monetary Policy:</b>	<b>Economic Growth:</b>	<b>Fiscal Stimulus:</b>
 <ul style="list-style-type: none"> <li>The Fed could start tapering before the year end and could raise rates in 2022.</li> <li>Globally, while all major central banks continue on the path of accommodative monetary policy, rate rise is being considered in light of rising inflation concerns.</li> </ul>	 <ul style="list-style-type: none"> <li>Global growth expectations have slowed from the recent highs due to the impact of delta variants.</li> <li>Developed economies are expected to grow faster while uneven recovery expected across EM economies.</li> </ul>	 <ul style="list-style-type: none"> <li>Infrastructure and stimulus through budget reconciliation bills are currently being debated.</li> <li>Benefits of infrastructure spending accrue over long-term unlike relief-based measures which have near-term impact.</li> </ul>
<b>COVID-19 Containment:</b>	<b>Consumer Spending (U.S.):</b>	<b>Inflation (U.S.):</b>
 <ul style="list-style-type: none"> <li>Delta variant negatively impacted consumer spending on high-touch services recently.</li> <li>Globally, pockets of vulnerability remain as new strains spread but vaccination rates have picked up pace too.</li> </ul>	 <ul style="list-style-type: none"> <li>Labor market conditions continue to improve as economy reopens.</li> <li>Pent-up demand, strong consumer balance sheet and improving financial prospects expected to spur consumer spending.</li> <li>The strong housing market is a positive.</li> </ul>	 <ul style="list-style-type: none"> <li>Rising inflation risk continues to evolve as supply constraints put upward pressure on various inflation metrics.</li> <li>Inflation expectations, and its impact on Fed policy will continue to weigh on risk-asset performance in the near-term.</li> </ul>
<b>Corporate Fundamentals:</b>	<b>Valuations:</b>	<b>Political Risks:</b>
 <ul style="list-style-type: none"> <li>Earnings and profit margins are recovering strongly in 2021 globally but persistent inflation could dent these expectations.</li> <li>Impact of potential increase in corporate tax rate and taxation on stock buybacks needs to be considered.</li> </ul>	 <ul style="list-style-type: none"> <li>Within U.S. equities, strong earnings growth is driving returns. Rising level of interest rates and rising inflation are headwinds make current valuation levels less attractive.</li> <li>Credit spreads are closer to historical lows, but strong economic recovery is a tailwind.</li> </ul>	 <ul style="list-style-type: none"> <li>The U.S. and China continue to evolve with the risk of polarization between U.S. and China increasing.</li> </ul>

 Current outlook

 Outlook one quarter ago

Stance  
Unfavorable to  
Risk Assets



Stance  
Favorable to  
Risk Assets



*The view expressed within this material constitute the perspective and judgment of PFM Asset Management LLC at the time of distribution (9/30/2021) and are subject to change.*

## **Plan Performance Review**

## Account Reconciliation

### Sample Client - Multi-Asset Class Management As of September 30, 2021

**QTR**

	<b>Market Value As of 07/01/2021</b>	<b>Net Flows</b>	<b>Return On Investment</b>	<b>Market Value As of 09/30/2021</b>
TOTAL FUND	107,368,868	(300,000)	(488,620)	106,580,248

**YTD**

	<b>Market Value As of 01/01/2021</b>	<b>Net Flows</b>	<b>Return On Investment</b>	<b>Market Value As of 09/30/2021</b>
TOTAL FUND	100,132,595	(550,000)	6,997,653	106,580,248

**1 Year**

	<b>Market Value As of 10/01/2020</b>	<b>Net Flows</b>	<b>Return On Investment</b>	<b>Market Value As of 09/30/2021</b>
TOTAL FUND	91,056,939	6,235,977	9,287,332	106,580,248

# Sample Client - Multi-Asset Class Management

As of September 30, 2021

## Asset Allocation & Performance

	Allocation	Performance(%)									
		%	1 Month	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
<b>TOTAL FUND</b>	<b>100.00</b>	<b>-3.19</b>	<b>-0.51</b>	<b>7.28</b>	<b>18.03</b>	<b>11.19</b>	<b>10.59</b>	<b>8.78</b>	<b>7.80</b>	<b>07/01/2006</b>	
Policy Index		-2.75	-0.62	6.36	16.45	10.38	9.77	8.18	6.92	07/01/2006	
<b>Domestic Equity</b>	<b>38.41</b>										
Manager A	32.40	-4.49	-0.06	15.18	32.09	16.04	16.87	13.94	45.82	04/01/2020	
Russell 3000 Index		-4.49	-0.10	14.99	31.88	16.00	16.85	13.93	45.63	04/01/2020	
Manager B	4.11	-5.17	2.17	13.29	26.24	16.07	17.36	15.52	18.18	04/01/2019	
S&P 500		-4.65	0.58	15.92	30.00	15.99	16.90	14.01	20.32	04/01/2019	
Manager C	1.90	-3.99	-1.79	15.47	43.59	11.02	12.90	11.50	N/A	10/01/2021	
S&P MidCap 400		-3.97	-1.76	15.52	43.68	11.08	12.97	11.57	N/A	10/01/2021	
<b>International Equity</b>	<b>20.67</b>										
Manager D	6.25	-3.40	-2.97	6.46	24.48	8.37	9.05	6.06	34.82	04/01/2020	
MSCI AC World ex USA (Net)		-3.20	-2.99	5.90	23.92	8.03	8.94	5.68	32.71	04/01/2020	
Manager E	4.87	-4.52	-1.33	2.71	16.24	11.49	10.88	8.90	11.61	01/01/2016	
MSCI AC World ex USA (Net)		-3.20	-2.99	5.90	23.92	8.03	8.94	5.68	8.80	01/01/2016	
Manager F	5.50	-5.05	-2.38	3.76	20.50	9.93	10.78	8.63	24.04	07/01/2020	
MSCI AC World ex USA (Net)		-3.20	-2.99	5.90	23.92	8.03	8.94	5.68	24.62	07/01/2020	
Manager G	1.14	-4.19	-1.33	4.53	23.30	15.92	13.97	N/A	4.53	01/01/2021	
MSCI AC World ex USA Smid Cap Index (Net)		-3.34	-0.94	9.48	28.94	8.88	9.40	7.30	9.48	01/01/2021	
Manager H	1.60	-5.93	-1.19	6.32	30.82	14.79	15.82	N/A	6.32	01/01/2021	
MSCI AC World ex USA Small Cap (Net)		-3.04	0.00	12.23	33.06	10.33	10.28	8.15	12.23	01/01/2021	
Manager I	1.32	-4.88	-8.13	-2.21	18.69	10.37	10.76	7.09	5.45	03/01/2018	
MSCI EM (net)		-3.97	-8.09	-1.25	18.20	8.58	9.23	5.62	3.82	03/01/2018	
<b>Other Growth</b>	<b>3.00</b>										
Manager J	1.48	-5.72	1.07	22.86	33.48	14.13	9.65	11.16	13.18	04/01/2021	
Manager K	1.52	-5.40	1.47	21.73	32.85	13.01	9.23	10.86	13.79	04/01/2021	
MSCI US REIT Index		-5.51	0.98	23.00	37.16	10.10	6.84	8.98	13.09	04/01/2021	
Manager L	3.04	-2.10	-1.46	4.11	26.66	20.86	17.40	13.51	N/A	10/01/2021	
Bloomberg Liquid US Convertibles Index		-2.12	-1.33	4.81	27.78	21.72	18.13	14.10	N/A	10/01/2021	

Returns are net of mutual fund fees.

Returns are expressed as percentages.

# Sample Client - Multi-Asset Class Management

As of September 30, 2021

## Asset Allocation & Performance

	Allocation	Performance(%)									
		%	1 Month	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
<b>Fixed Income</b>	<b>27.58</b>										
Manager M	7.20	-0.82	0.13	-0.90	0.53	6.21	3.83	4.01	4.01	05/01/2014	
<i>Bloomberg U.S. Aggregate</i>		-0.87	0.05	-1.56	-0.90	5.35	2.94	3.26	3.26	05/01/2014	
Manager N	3.31	-0.67	0.14	-0.11	1.61	4.65	3.08	3.41	3.26	09/01/2017	
Manager O	8.67	-1.13	-0.01	-1.45	0.90	6.27	4.02	4.30	4.26	09/01/2017	
<i>Bloomberg U.S. Aggregate</i>		-0.87	0.05	-1.56	-0.90	5.35	2.94	3.26	3.47	09/01/2017	
Manager P	4.66	-0.77	0.18	-0.90	0.91	6.09	3.78	3.97	4.08	01/01/2020	
<i>Bloomberg U.S. Aggregate</i>		-0.87	0.05	-1.56	-0.90	5.35	2.94	3.26	3.29	01/01/2020	
Manager Q	2.00	-0.87	0.09	-1.08	1.33	7.54	4.60	4.25	4.81	10/01/2019	
<i>ICE BofAML U.S. Corporate 5-10 Year Index</i>		-0.94	-0.01	-0.98	1.51	7.69	4.64	4.90	5.01	10/01/2019	
Manager R	0.99	-2.37	-0.95	-2.15	3.69	5.45	3.39	4.39	4.90	07/01/2020	
<i>JPM EMBI Global Diversified</i>		-2.07	-0.70	-1.36	4.36	5.65	3.89	4.90	5.38	07/01/2020	
Manager S	0.75	0.27	0.99	5.04	10.29	6.45	5.98	5.85	2.16	06/01/2021	
<i>ICE BofAML High Yield Master II</i>		0.03	0.94	4.67	11.46	6.62	6.35	5.76	2.32	06/01/2021	
<b>Other Income</b>	<b>3.02</b>										
Manager T	3.02	-0.74	0.03	4.33	12.20	7.04	5.25	5.47	-0.74	09/01/2021	
<i>ICE Exchange-Listed Preferred &amp; Hybrid Securities</i>		-0.72	0.23	4.88	12.72	8.49	N/A	N/A	-0.72	09/01/2021	
<b>Real Return</b>	<b>2.11</b>										
Manager U	2.11	4.50	7.26	33.84	50.62	10.07	6.54	-0.29	8.95	06/01/2021	
<i>Bloomberg Commodity Index Total Return</i>		4.98	6.59	29.13	42.29	6.86	4.54	-1.49	8.56	06/01/2021	
<b>Cash Equivalent</b>	<b>2.15</b>										
Manager V	2.15	0.00	0.01	0.02	0.03	0.99	1.00	0.73	1.00	07/01/2006	

Returns are net of mutual fund fees.

Returns are expressed as percentages.

# Sample Client - Multi-Asset Class Management

As of September 30, 2021

## Comparative Performance

	2020	2019	2018	2017	2016	2015	2014
<b>TOTAL FUND</b>	<b>16.64</b>	<b>20.33</b>	<b>-5.20</b>	<b>15.71</b>	<b>6.49</b>	<b>0.79</b>	<b>5.43</b>
<i>Policy Index</i>	13.99	19.88	-4.83	14.95	7.05	-0.58	7.38
<b>Domestic Equity</b>							
Manager A	20.95	30.80	-5.13	21.16	12.68	0.40	12.56
<i>Russell 3000 Index</i>	<b>20.89</b>	<b>31.02</b>	<b>-5.24</b>	<b>21.13</b>	<b>12.74</b>	<b>0.48</b>	<b>12.56</b>
Manager B	18.62	29.34	2.44	23.56	12.29	1.80	11.98
<i>S&amp;P 500 Index</i>	<b>18.40</b>	<b>31.49</b>	<b>-4.38</b>	<b>21.83</b>	<b>11.96</b>	<b>1.38</b>	<b>13.69</b>
Manager C	13.61	26.14	-11.14	16.19	20.63	-2.23	9.64
<i>S&amp;P MidCap 400</i>	<b>13.66</b>	<b>26.20</b>	<b>-11.08</b>	<b>16.24</b>	<b>20.74</b>	<b>-2.18</b>	<b>9.77</b>
<b>International Equity</b>							
Manager D	11.32	21.58	-14.42	27.52	4.72	-4.28	-4.17
Manager E	8.99	20.39	-14.52	27.96	4.46	-6.44	-6.69
Manager F	20.33	25.23	-13.96	29.90	5.30	-1.62	-1.61
<i>MSCI AC World ex USA (Net)</i>	<b>10.65</b>	<b>21.51</b>	<b>-14.20</b>	<b>27.19</b>	<b>4.50</b>	<b>-5.66</b>	<b>-3.87</b>
Manager G	33.31	36.66	-16.75	33.61	N/A	N/A	N/A
<i>MSCI AC World ex USA Smid Cap Index (Net)</i>	<b>12.01</b>	<b>22.36</b>	<b>-17.06</b>	<b>30.35</b>	<b>3.57</b>	<b>0.44</b>	<b>-3.05</b>
Manager H	24.46	27.66	-6.67	28.67	21.16	-0.78	N/A
<i>MSCI AC World ex USA Small Cap (Net)</i>	<b>14.24</b>	<b>22.42</b>	<b>-18.20</b>	<b>31.65</b>	<b>3.91</b>	<b>2.60</b>	<b>-4.03</b>
Manager I	23.57	22.11	-15.56	40.87	10.41	-12.68	-4.61
<i>MSCI EM (net)</i>	<b>18.31</b>	<b>18.44</b>	<b>-14.58</b>	<b>37.28</b>	<b>11.19</b>	<b>-14.92</b>	<b>-2.19</b>
<b>Other Growth</b>							
Manager J	-2.57	33.01	-3.99	7.45	5.91	5.23	30.18
Manager K	-3.23	31.13	-4.31	9.03	5.93	4.22	32.36
<i>MSCI US REIT Index</i>	<b>-7.57</b>	<b>25.84</b>	<b>-4.57</b>	<b>5.07</b>	<b>8.60</b>	<b>2.52</b>	<b>30.38</b>
Manager L	53.37	22.39	-2.32	16.24	10.50	-0.61	7.50
<i>Bloomberg Liquid US Convertibles Index</i>	<b>54.45</b>	<b>22.79</b>	<b>-1.79</b>	<b>17.32</b>	<b>10.22</b>	<b>-0.28</b>	<b>8.23</b>

Returns are net of mutual fund fees.

Returns are expressed as percentages.

Sample Client - Multi-Asset Class Management

As of September 30, 2021

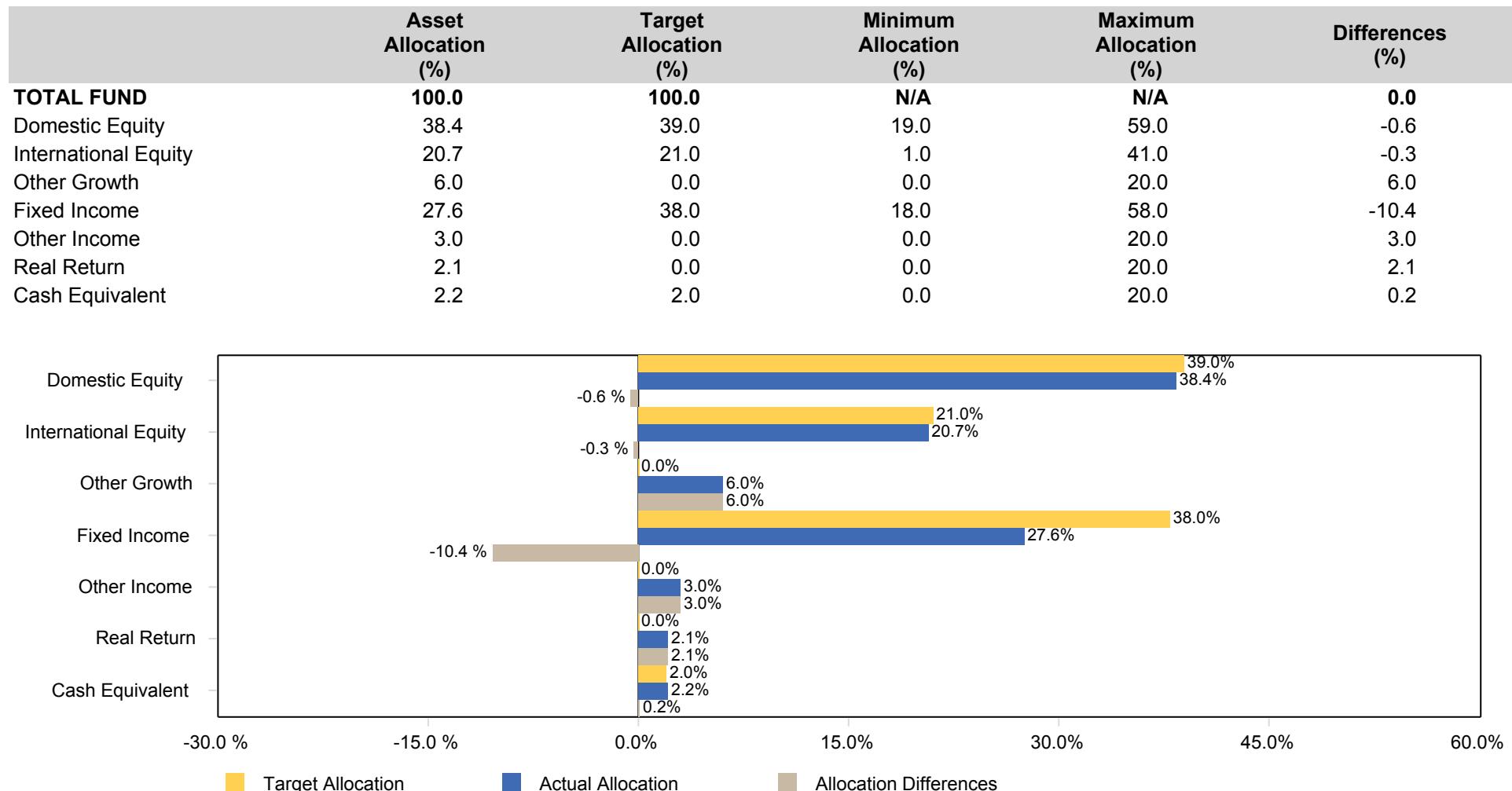
Comparative Performance

	2020	2019	2018	2017	2016	2015	2014
<b>Fixed Income</b>							
Manager M	8.80	10.11	-0.51	4.65	4.73	0.14	6.59
Manager N	5.60	7.99	-0.02	4.66	4.11	0.63	6.86
Manager O	8.10	11.14	-0.63	6.71	4.83	0.09	7.25
Manager P	8.22	10.06	-0.25	4.84	4.04	0.73	6.89
<i>Blmbg. U.S. Aggregate</i>	7.51	8.72	0.01	3.54	2.65	0.55	5.97
Manager Q	9.62	14.37	-0.52	3.50	3.37	0.68	3.89
<i>ICE BofAML U.S. Corporate 5-10 Year Index</i>	9.95	14.31	-1.67	5.90	5.79	0.78	7.44
Manager R	5.48	15.57	-5.67	9.98	9.41	0.43	6.69
<i>JPM EMBI Global Diversified</i>	5.26	15.04	-4.26	10.26	10.15	1.18	7.43
Manager S	5.28	13.03	-1.34	6.79	15.99	-1.44	1.75
<i>ICE BofAML High Yield Master II</i>	6.17	14.41	-2.27	7.48	17.49	-4.64	2.50
<b>Other Income</b>							
Manager T	7.94	15.62	-4.77	8.33	1.26	4.62	13.45
<i>ICE Exchange-Listed Preferred &amp; Hybrid Securities</i>	8.58	18.45	N/A	N/A	N/A	N/A	N/A
<b>Real Return</b>							
Manager U	0.82	12.27	-13.77	2.70	14.54	-25.70	-18.06
<i>Bloomberg Commodity Index Total Return</i>	-3.12	7.69	-11.25	1.70	11.77	-24.66	-17.01
<b>Cash Equivalent</b>							
Manager V	0.37	2.08	1.70	0.75	0.23	0.01	0.01

Returns are net of mutual fund fees.

Returns are expressed as percentages.

## Asset Allocation Summary

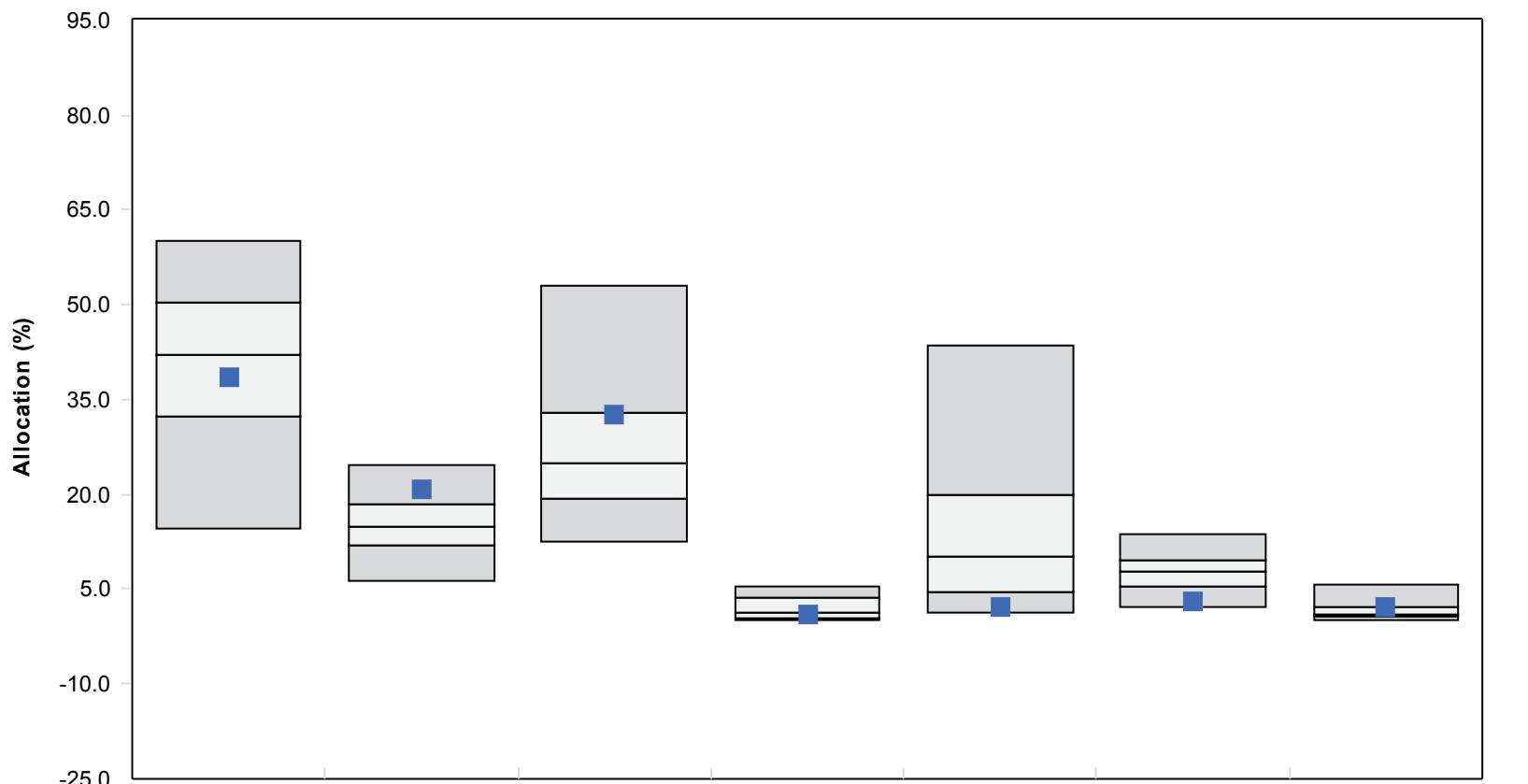


# Sample Client - Multi-Asset Class Management

As of September 30, 2021

## Plan Sponsor TF Asset Allocation

All Public Plans-Total Fund



■ Sample Client -  
Multi-Asset Class Management

5th Percentile	60.14	24.56	52.98	5.31	43.44	13.73	5.77
1st Quartile	50.47	18.56	32.93	3.56	20.05	9.51	2.30
Median	42.16	14.83	25.02	1.41	10.26	7.81	1.13
3rd Quartile	32.37	12.02	19.38	0.41	4.49	5.52	0.60
95th Percentile	14.58	6.33	12.57	0.04	1.24	2.30	0.08
Population	659	611	630	64	231	433	480

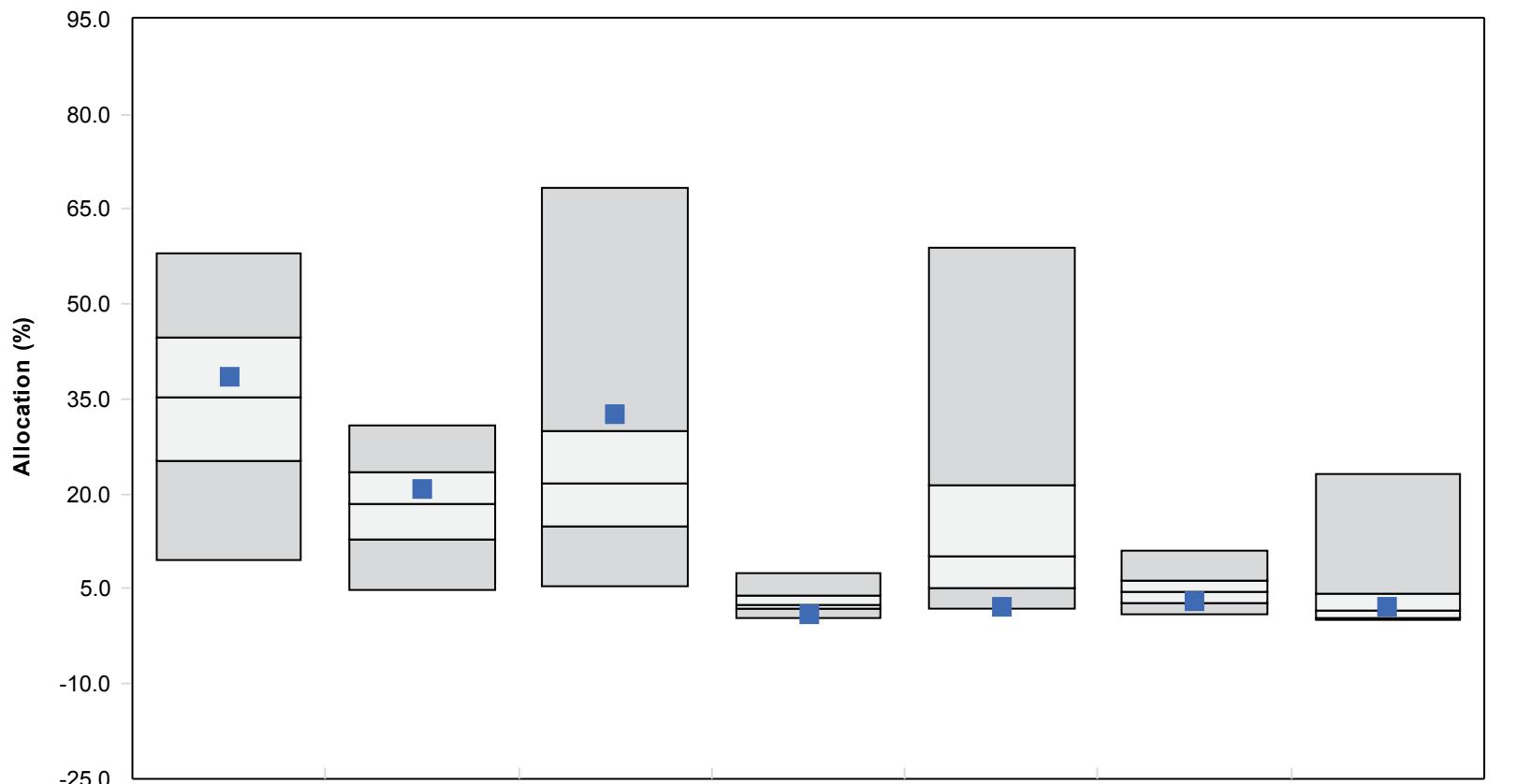
(Parentheses contain percentile rankings.)

# Sample Client - Multi-Asset Class Management

As of September 30, 2021

## Plan Sponsor TF Asset Allocation

All Endowment&Foundation-Total Fund



■ Sample Client -  
Multi-Asset Class Management

5th Percentile	57.93	30.97	68.52	7.61	58.93	11.11	23.13
1st Quartile	44.71	23.62	29.94	3.98	21.38	6.36	4.37
Median	35.32	18.35	21.76	2.44	10.08	4.52	1.61
3rd Quartile	25.15	12.79	14.94	1.79	5.07	2.71	0.38
95th Percentile	9.72	4.90	5.59	0.29	1.95	0.97	0.04
Population	1,057	1,041	966	206	644	348	719

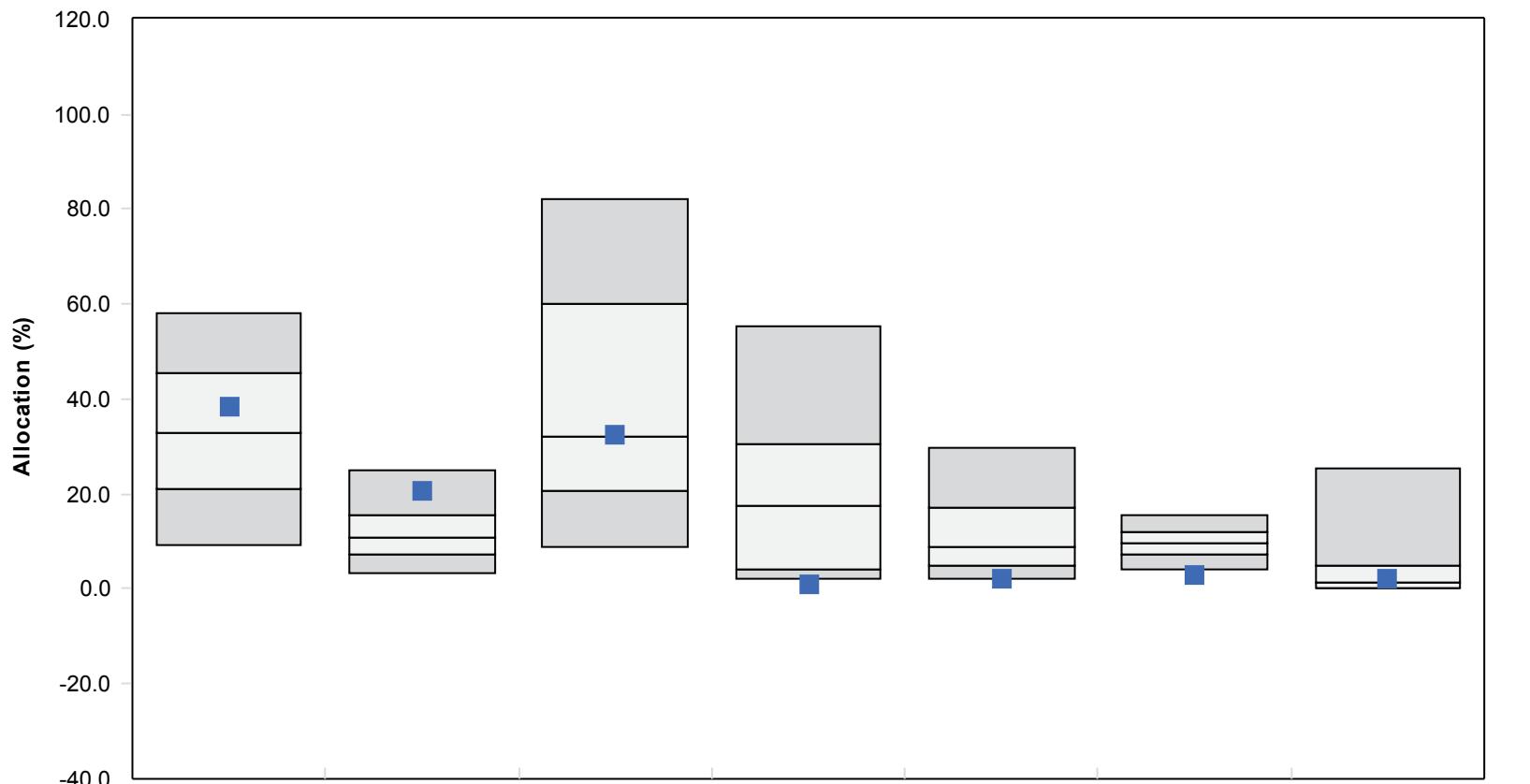
(Parentheses contain percentile rankings.)

# Sample Client - Multi-Asset Class Management

As of September 30, 2021

## Plan Sponsor TF Asset Allocation

All Taft Hartley Plans-Total Fund



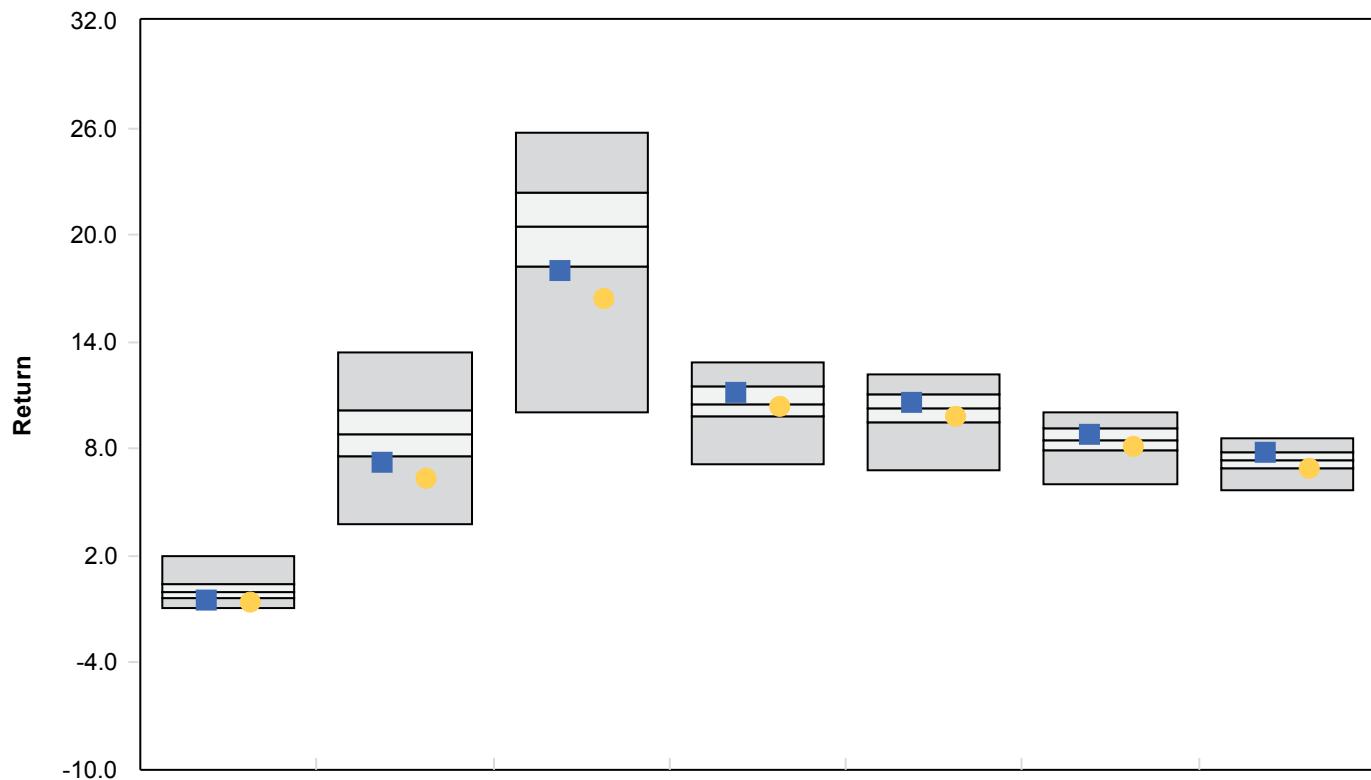
■ Sample Client -  
Multi-Asset Class Management

	US Equity	Global ex-US Equity	US Fixed	Global ex-US Fixed	Alternatives	Total Real Estate	Cash & Equivalents
3rd Quartile	20.96	7.46	20.63	4.22	5.02	7.45	0.34
5th Percentile	58.02	25.05	81.99	55.55	29.70	15.55	25.42
95th Percentile	9.09	3.45	8.84	2.19	2.07	3.96	0.02
Population	625	368	621	23	152	268	252

(Parentheses contain percentile rankings.)

## Plan Sponsor Peer Group Analysis

All Public Plans-Total Fund



■ Sample Client - Multi-Asset Class Management

● Policy Index

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Jul-2006 To Sep-2021
Sample Client - Multi-Asset Class Management	-0.51 (84)	7.28 (82)	18.03 (77)	11.19 (31)	10.59 (39)	8.78 (41)	7.80 (25)
Policy Index	-0.62 (89)	6.36 (90)	16.45 (88)	10.38 (54)	9.77 (68)	8.18 (62)	6.92 (74)
5th Percentile	2.04	13.39	25.72	12.82	12.19	10.00	8.55
1st Quartile	0.41	10.14	22.32	11.52	11.05	9.15	7.80
Median	-0.03	8.82	20.50	10.49	10.23	8.53	7.40
3rd Quartile	-0.38	7.62	18.18	9.77	9.46	7.88	6.90
95th Percentile	-0.93	3.83	10.00	7.08	6.80	6.03	5.72
Population	513	511	511	479	458	441	327

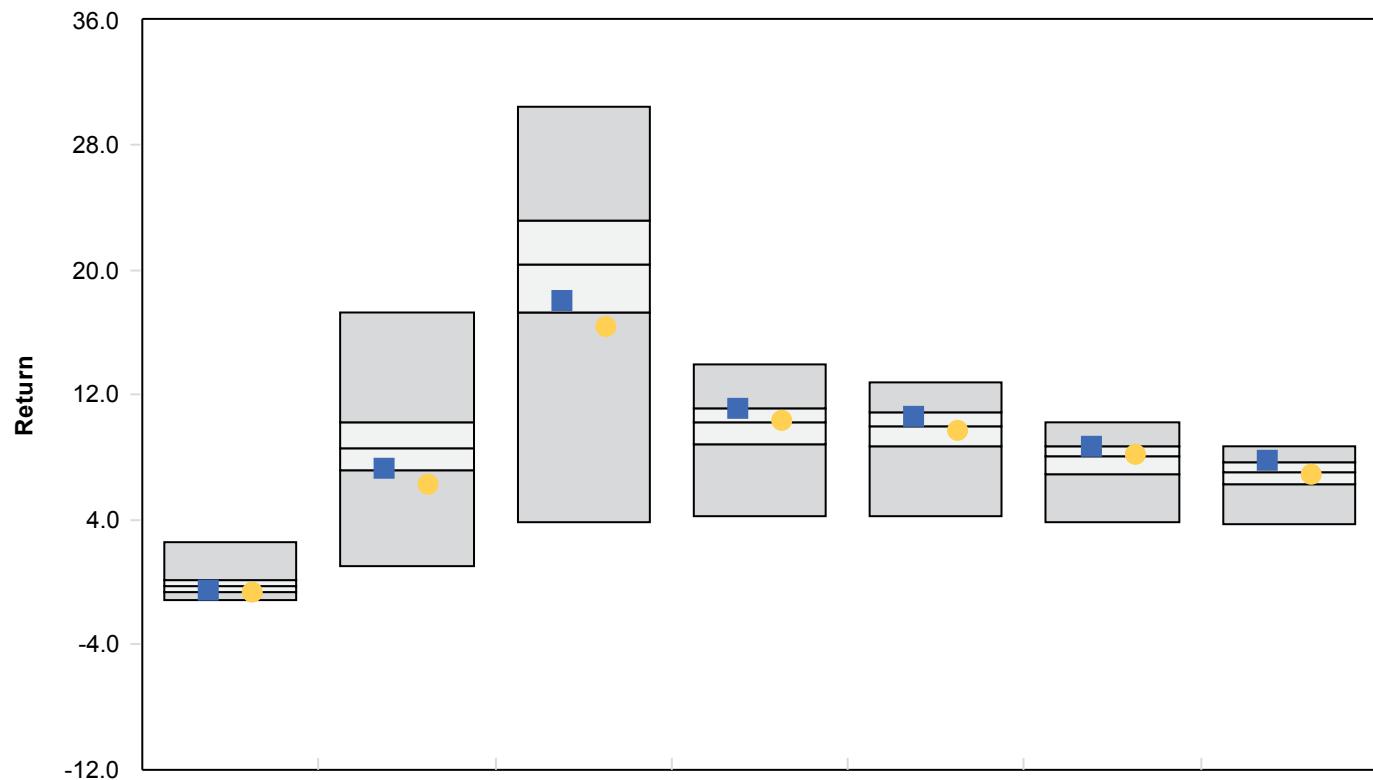
Parentheses contain percentile rankings.

Calculation based on quarterly periodicity.

Returns are net of fees and are expressed as percentages.

## Plan Sponsor Peer Group Analysis

All Endowment&amp;Foundation-Total Fund



■ Sample Client - Multi-Asset Class Management

● Policy Index

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Jul-2006 To Sep-2021
--	-----------	--------------	--------	---------	---------	---------	----------------------

Sample Client - Multi-Asset Class Management	-0.51 (67)	7.28 (74)	18.03 (70)	11.19 (27)	10.59 (34)	8.78 (26)	7.80 (23)
Policy Index	-0.62 (73)	6.36 (83)	16.45 (80)	10.38 (48)	9.77 (55)	8.18 (45)	6.92 (53)

5th Percentile

5th Percentile	2.56	17.35	30.50	14.03	12.88	10.29	8.79
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1st Quartile

1st Quartile	0.18	10.29	23.23	11.21	10.89	8.79	7.70
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Median

Median	-0.23	8.62	20.33	10.26	10.01	8.05	7.05
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3rd Quartile

3rd Quartile	-0.65	7.14	17.33	8.90	8.74	7.00	6.30
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95th Percentile

95th Percentile	-1.15	1.01	3.87	4.19	4.26	3.81	3.80
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Population

Population	811	793	784	710	637	576	334
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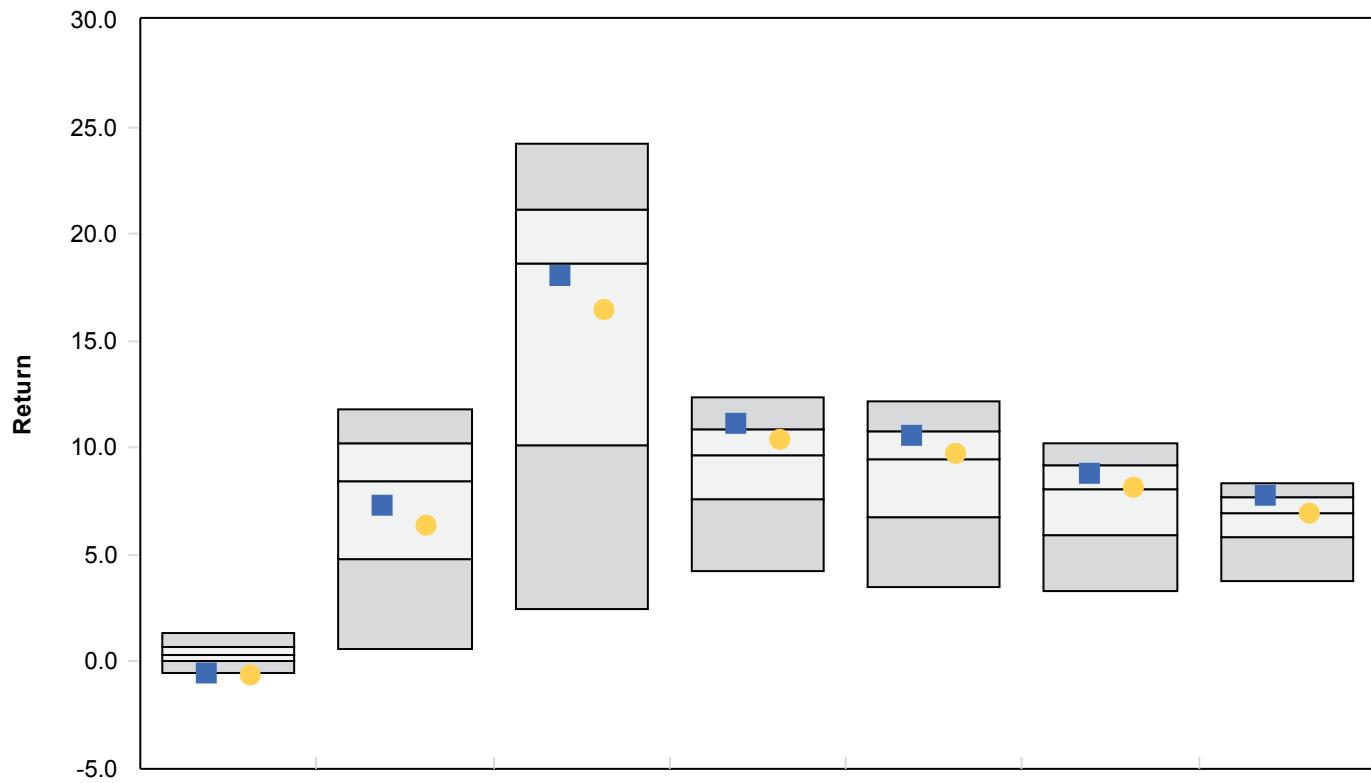
Parentheses contain percentile rankings.

Calculation based on quarterly periodicity.

Returns are net of fees and are expressed as percentages.

## Plan Sponsor Peer Group Analysis

All Taft Hartley Plans-Total Fund



■ Sample Client - Multi-Asset Class Management

● Policy Index

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Jul-2006 To Sep-2021
Sample Client - Multi-Asset Class Management	-0.51 (96)	7.28 (61)	18.03 (54)	11.19 (21)	10.59 (29)	8.78 (35)	7.80 (20)
Policy Index	-0.62 (98)	6.36 (67)	16.45 (61)	10.38 (35)	9.77 (45)	8.18 (50)	6.92 (54)
5th Percentile	1.39	11.79	24.19	12.32	12.15	10.17	8.38
1st Quartile	0.66	10.19	21.15	10.90	10.75	9.14	7.66
Median	0.30	8.46	18.59	9.62	9.45	8.09	6.99
3rd Quartile	0.01	4.80	10.10	7.57	6.76	5.89	5.85
95th Percentile	-0.48	0.60	2.46	4.20	3.51	3.26	3.75
Population	677	672	672	660	639	619	487

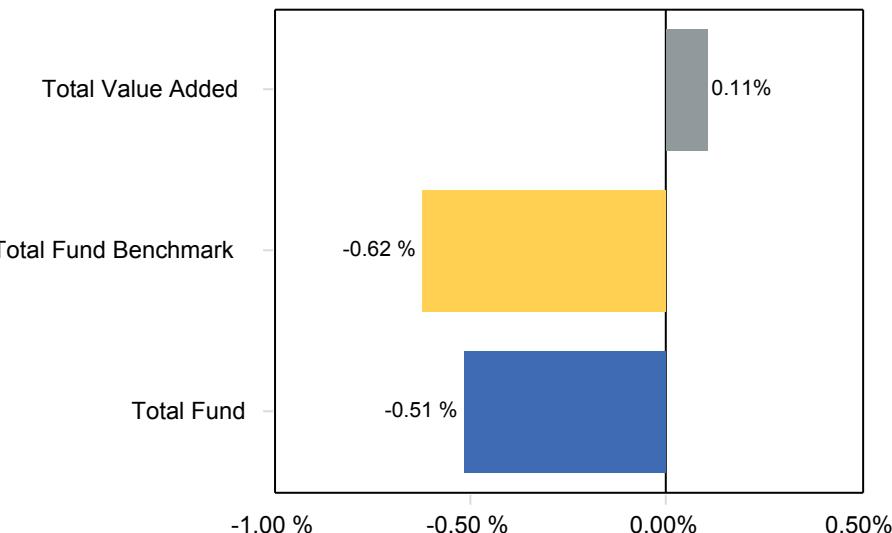
Parentheses contain percentile rankings.

Calculation based on quarterly periodicity.

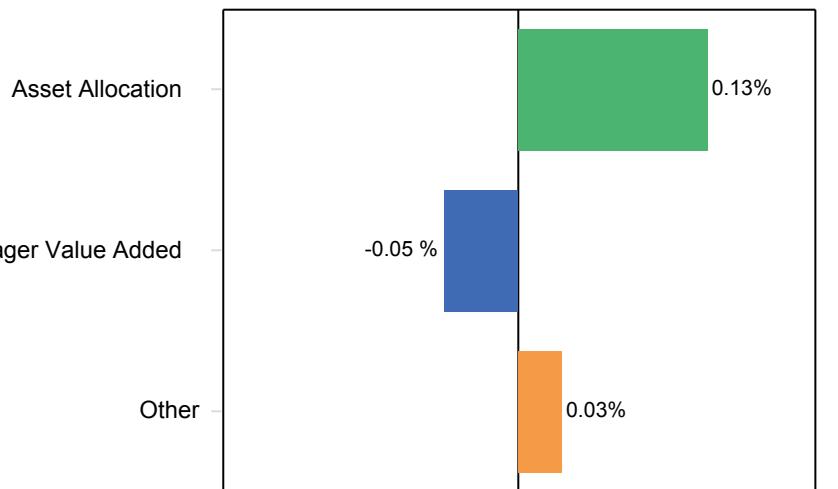
Returns are net of fees and are expressed as percentages.

## Total Fund Attribution

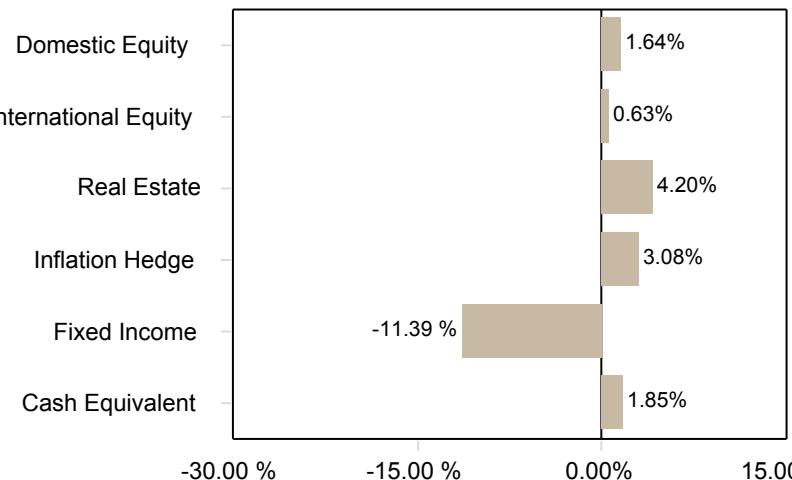
## Total Fund Performance



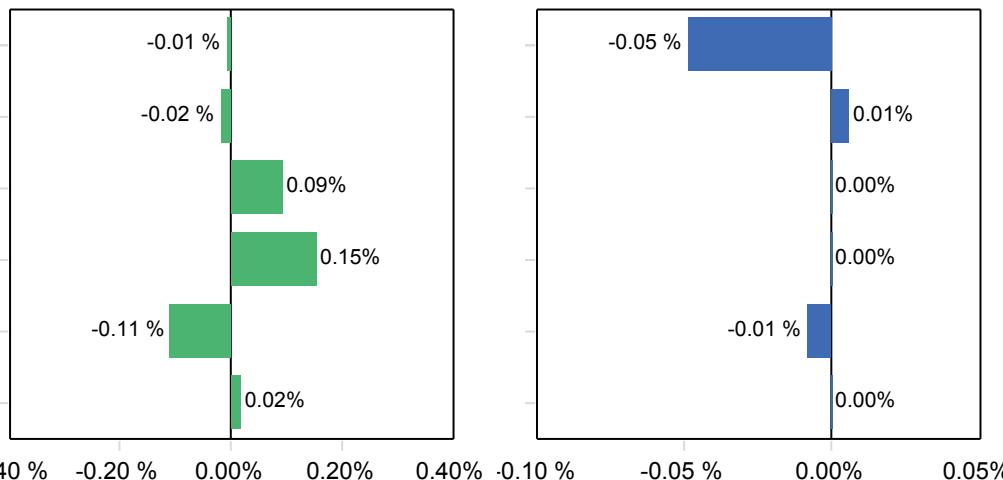
## Total Value Added: 0.11%



## Total Asset Allocation: 0.13%



## Total Manager Value Added: -0.05 %



■ Average Active Weight

■ Asset Allocation Value Added

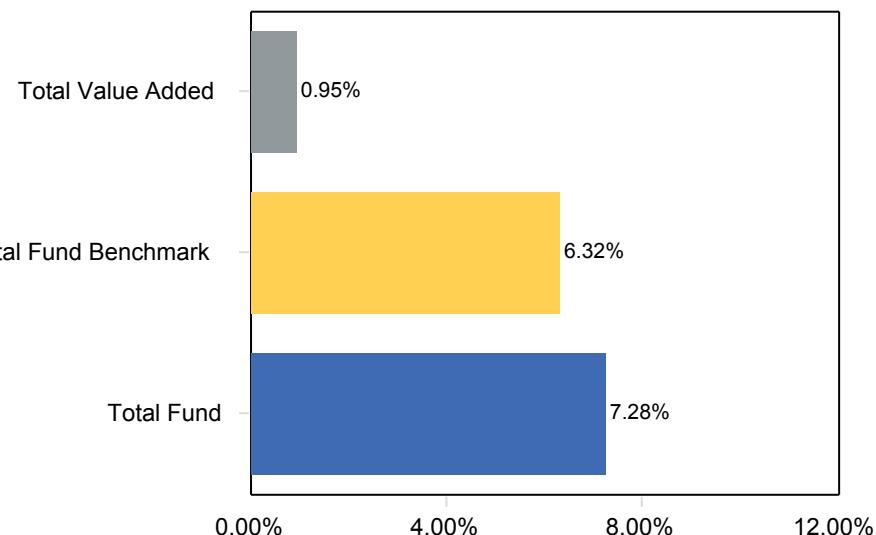
■ Manager Value Added

## Sample Client - Multi-Asset Class Management

Year To Date Ending September 30, 2021

### Total Fund Attribution

#### Total Fund Performance

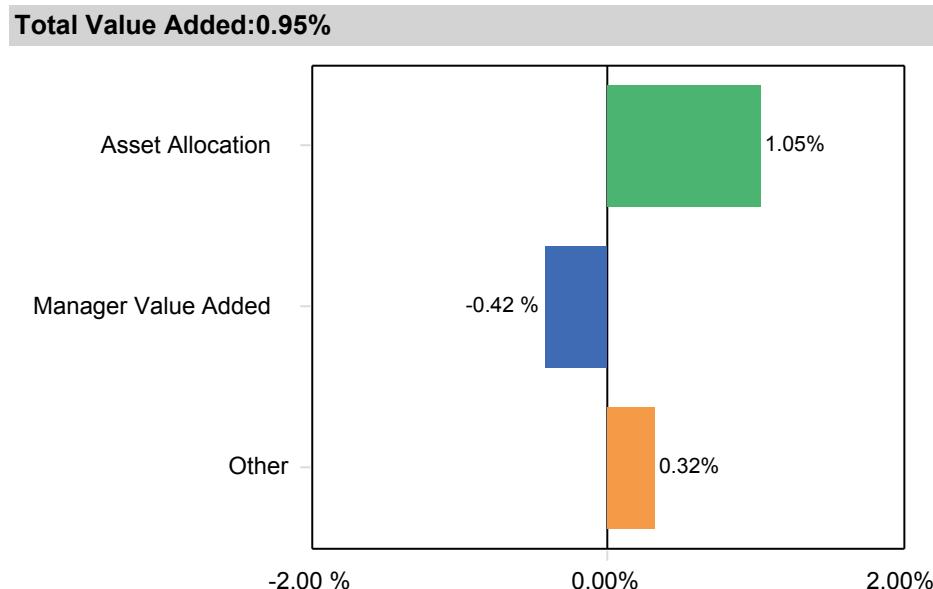


Total Value Added: 0.95%

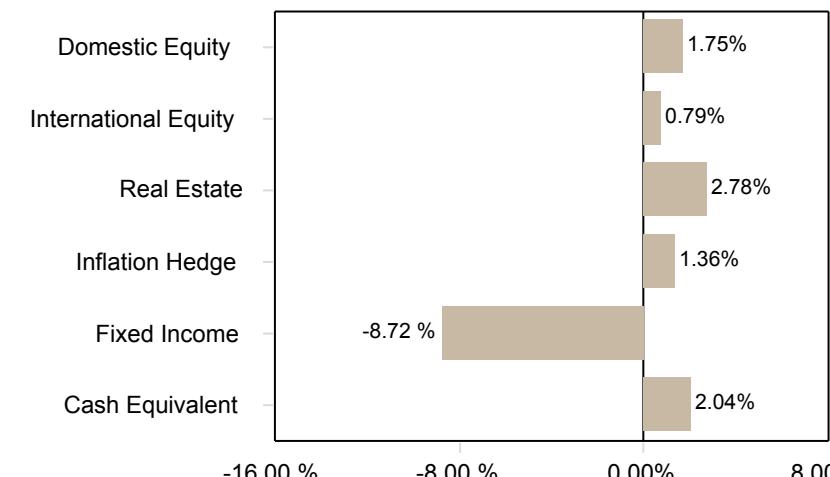
Asset Allocation

Manager Value Added

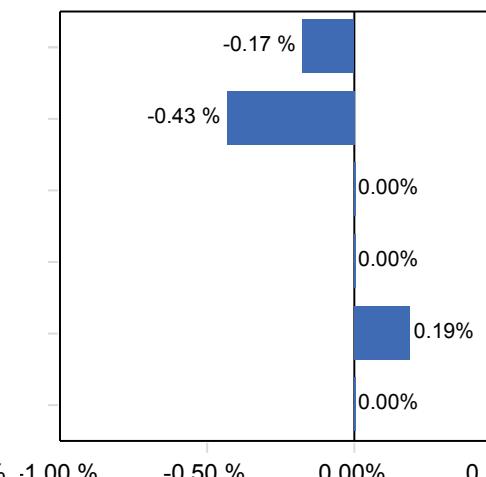
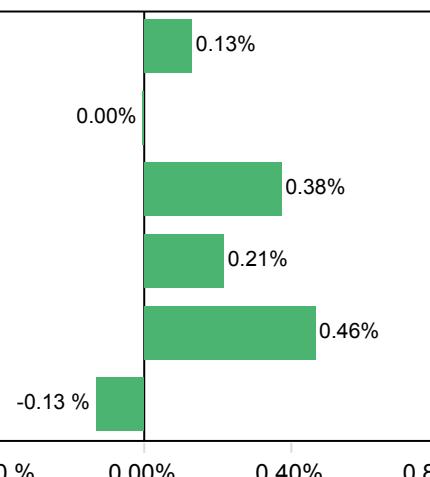
Other



#### Total Asset Allocation: 1.05%



#### Total Manager Value Added: -0.42 %



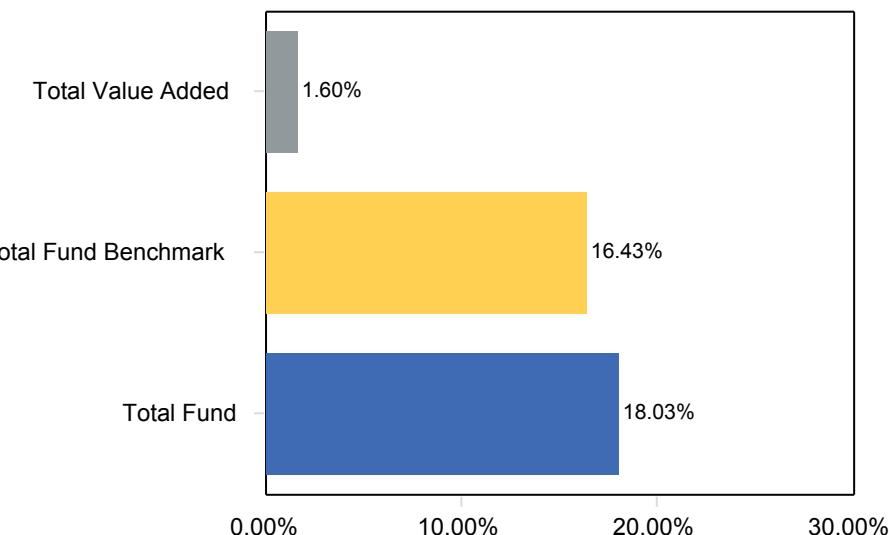
■ Average Active Weight

■ Asset Allocation Value Added

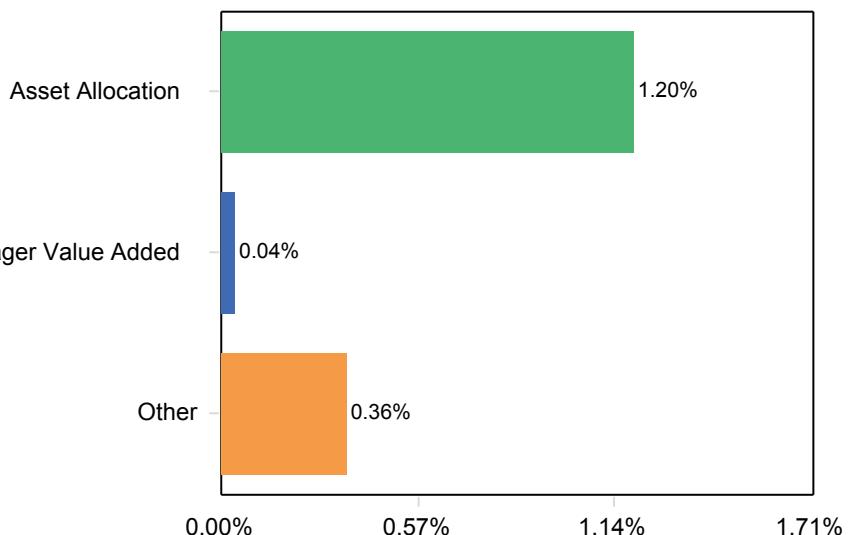
■ Manager Value Added

## Total Fund Attribution

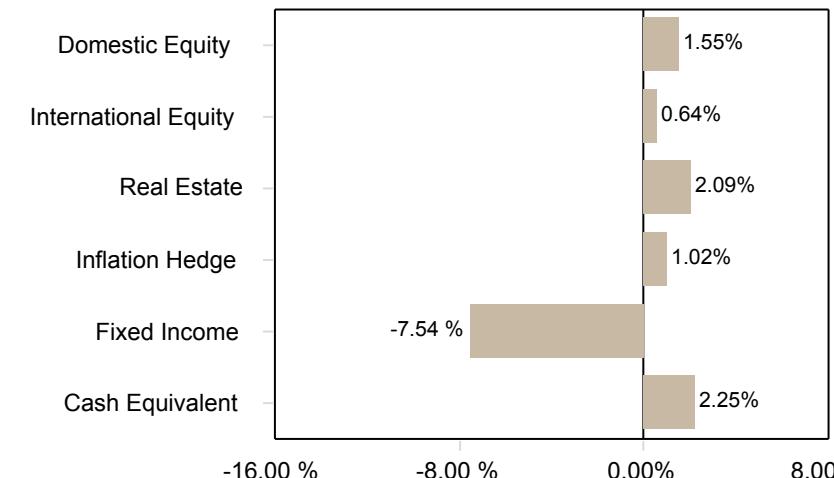
## Total Fund Performance



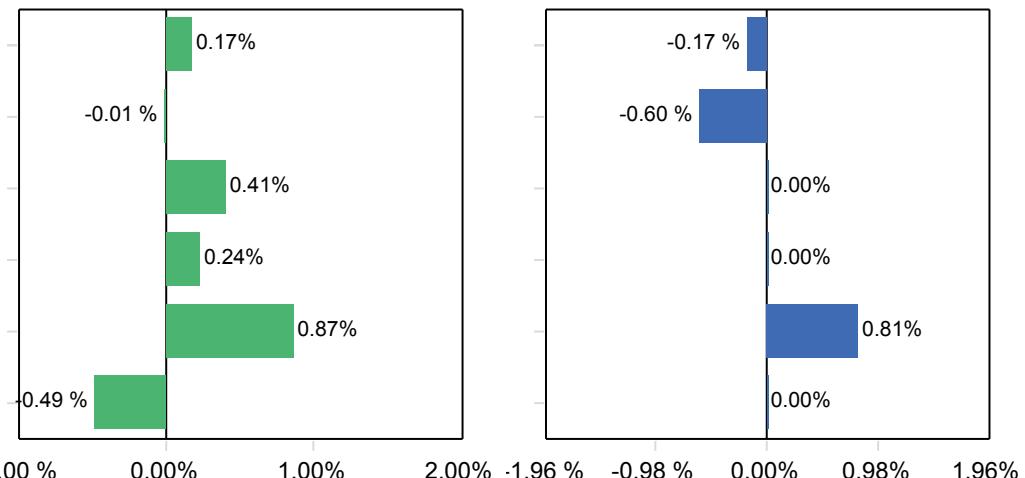
## Total Value Added: 1.60%



## Total Asset Allocation: 1.20%



## Total Manager Value Added: 0.04%



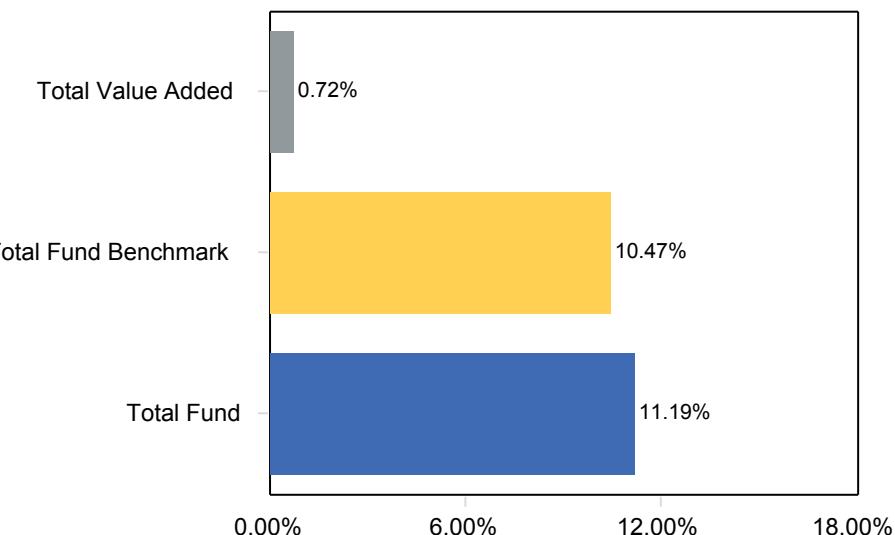
Average Active Weight

Asset Allocation Value Added

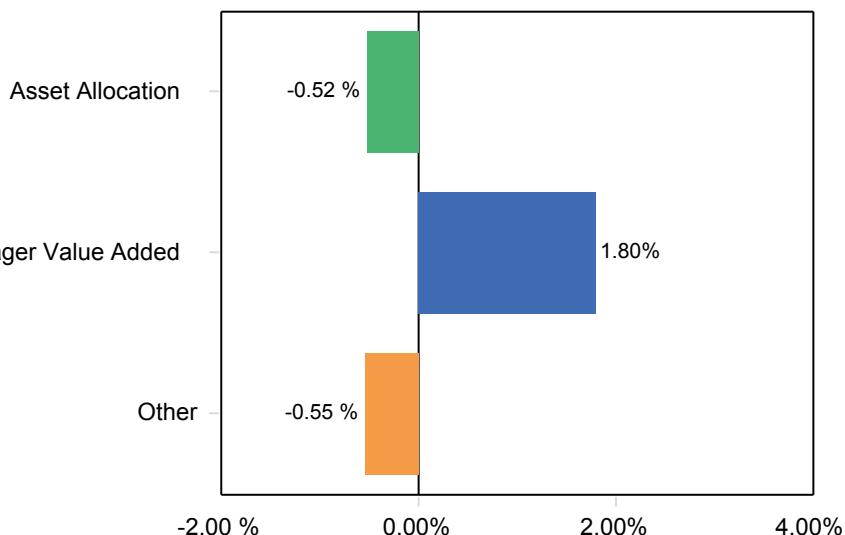
Manager Value Added

## Total Fund Attribution

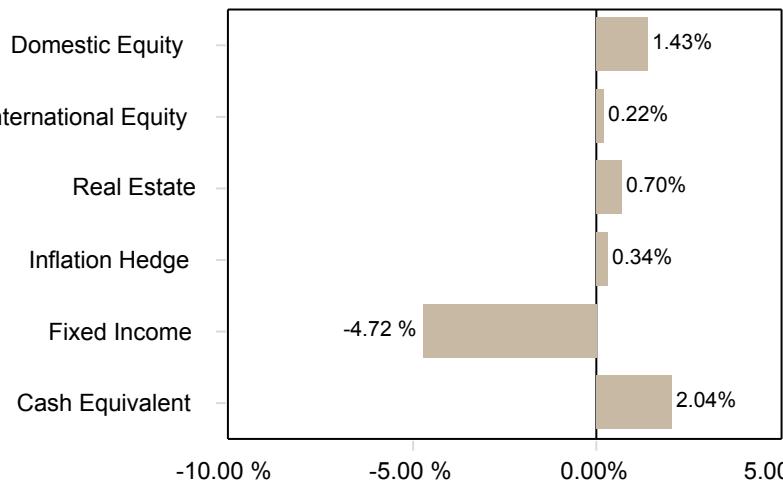
## Total Fund Performance



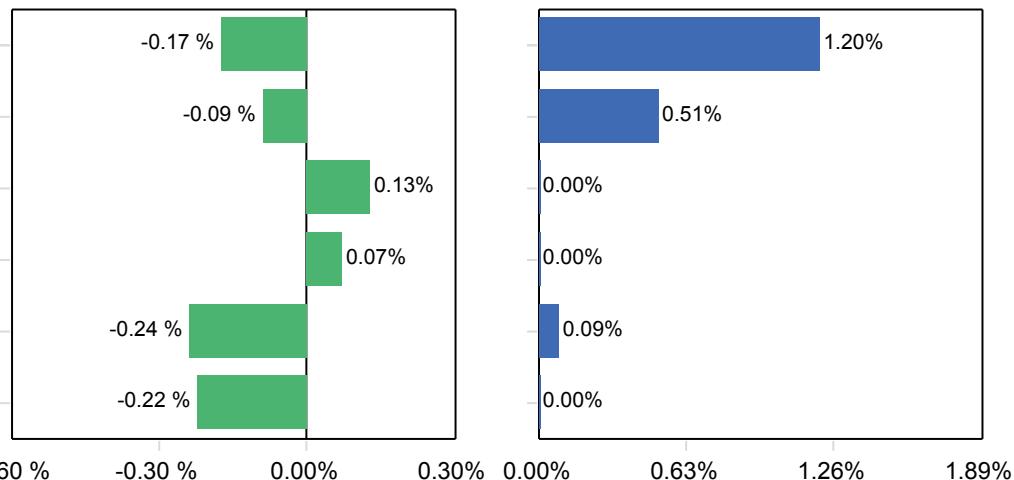
## Total Value Added: 0.72%



## Total Asset Allocation: -0.52 %



## Total Manager Value Added: 1.80%



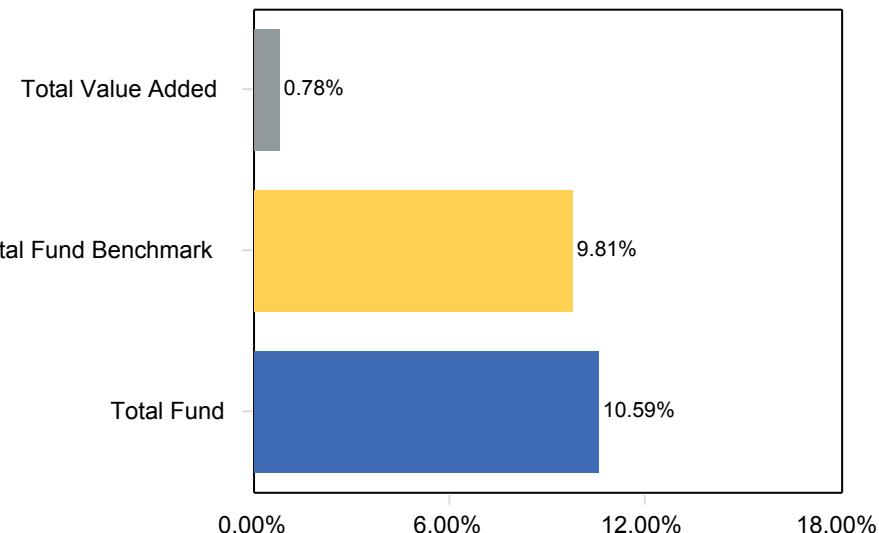
■ Average Active Weight

■ Asset Allocation Value Added

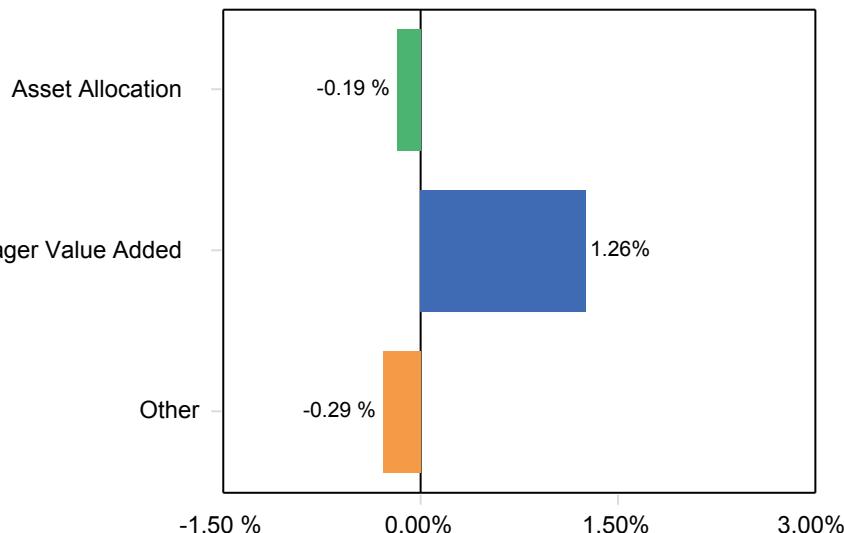
■ Manager Value Added

## Total Fund Attribution

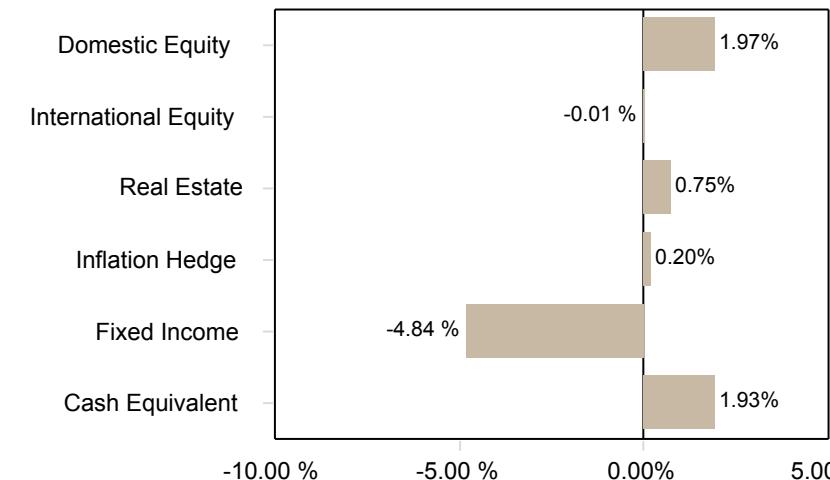
## Total Fund Performance



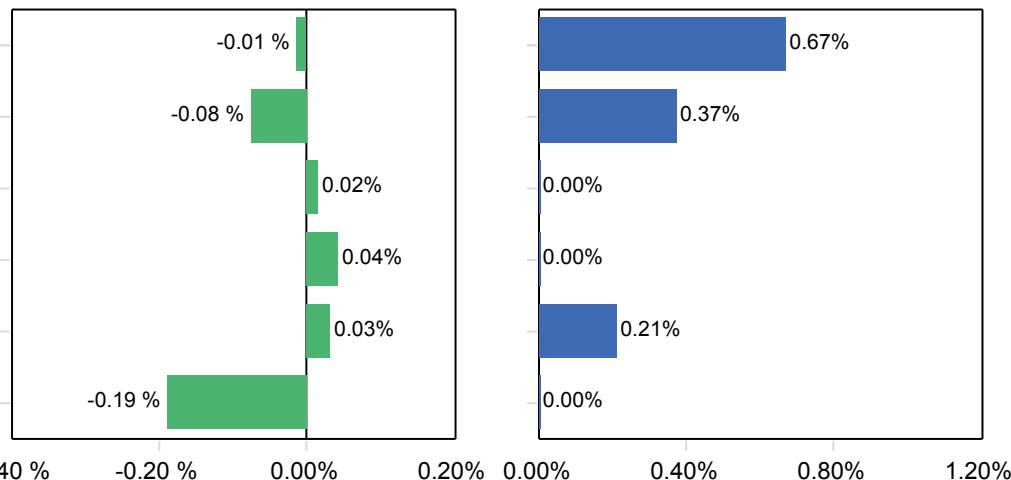
## Total Value Added: 0.78%



## Total Asset Allocation: -0.19 %



## Total Manager Value Added: 1.26%



Average Active Weight

Asset Allocation Value Added

Manager Value Added

## Sample Client - Multi-Asset Class Management

As of September 30, 2021

### Historical Statistics

#### 1 Year Ending September 30, 2021

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Up Market Capture	Down Market Capture
TOTAL FUND	18.03	8.94	1.90	1.16	1.01	107.94	105.04
Policy Index	16.45	8.77	1.78	0.00	1.00	100.00	100.00
90 Day U.S. Treasury Bill	0.07	0.01	N/A	0.07	0.00	0.21	-0.54

#### 3 Years Ending September 30, 2021

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Up Market Capture	Down Market Capture
TOTAL FUND	11.19	11.51	0.87	0.55	1.02	105.51	103.76
Policy Index	10.38	11.22	0.83	0.00	1.00	100.00	100.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.29	-0.01	3.57	-4.02

#### 5 Years Ending September 30, 2021

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Up Market Capture	Down Market Capture
TOTAL FUND	10.59	9.34	1.00	0.53	1.03	106.24	104.01
Policy Index	9.77	9.06	0.94	0.00	1.00	100.00	100.00
90 Day U.S. Treasury Bill	1.15	0.28	N/A	1.25	-0.01	4.55	-4.98

#### 10 Years Ending September 30, 2021

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Up Market Capture	Down Market Capture
TOTAL FUND	9.99	8.38	1.10	0.44	1.02	105.22	102.82
Policy Index	9.31	8.14	1.06	0.00	1.00	100.00	100.00
90 Day U.S. Treasury Bill	0.61	0.25	N/A	0.67	-0.01	2.66	-2.93

Returns are expressed as percentages.  
 Calculation based on monthly periodicity.  
 Returns are net of fees.

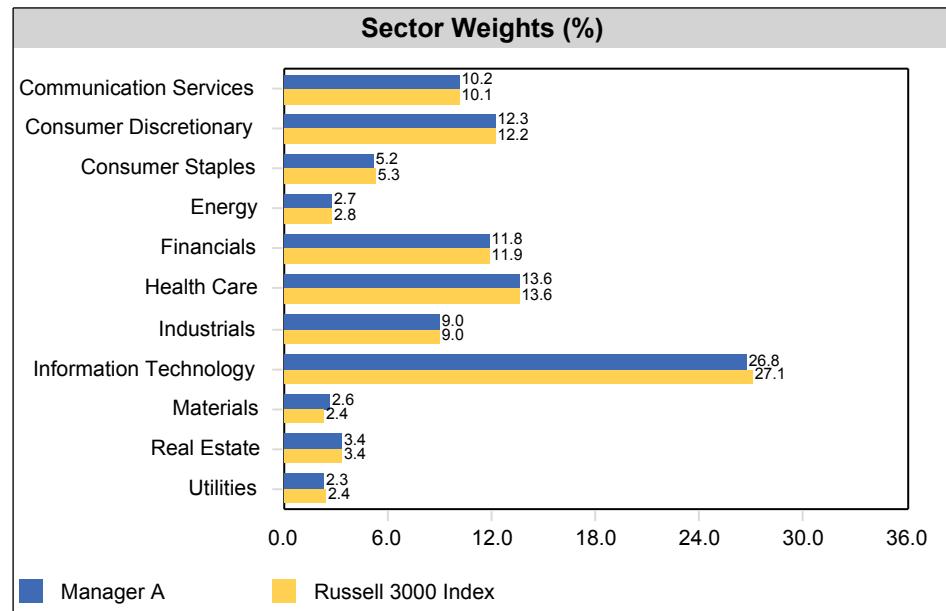
## **Investment Manager Review**

## Portfolio Characteristics

As of September 30, 2021

Manager A vs. Russell 3000 Index

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	457,381	461,435
Median Mkt. Cap (\$M)	1,339	2,481
Price/Earnings ratio	23.77	23.75
Price/Book ratio	4.32	4.30
5 Yr. EPS Growth Rate (%)	20.09	20.13
Current Yield (%)	1.32	1.33
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	3,994	3,052
Debt to Equity (%)	39.10	38.86



Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Apple Inc	5.02	5.05	-0.03	3.47
Microsoft Corp	4.79	4.83	-0.04	4.27
Amazon.com Inc	3.19	3.24	-0.05	-4.51
Meta Platforms Inc	1.83	1.85	-0.02	-2.39
Alphabet Inc	1.82	1.83	-0.01	9.49
Alphabet Inc	1.64	1.70	-0.06	6.34
Tesla Inc	1.40	1.40	0.00	14.09
NVIDIA Corporation	1.11	1.13	-0.02	3.59
JPMorgan Chase & Co	1.10	1.10	0.00	5.85
Berkshire Hathaway Inc	1.06	1.15	-0.09	-1.79
% of Portfolio	22.96	23.28	-0.32	

Ten Best Performers				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Camber Energy Inc	0.00	0.00	0.00	479.76
Aehr Test Systems	0.00	0.00	0.00	394.56
Mediaco Holding Inc	0.00	0.00	0.00	223.89
State Auto Financial Corp	0.00	0.00	0.00	198.19
NeuroMetrix Inc	0.00	0.00	0.00	197.36
Fulcrum Therapeutics Inc	0.00	0.00	0.00	169.18
IVERIC bio Inc	0.00	0.00	0.00	157.37
Upstart Holdings Inc	0.04	0.03	0.01	153.35
Leap Therapeutics Inc	0.00	0.00	0.00	144.51
NanoVibronix Inc	0.00	0.00	0.00	142.04
% of Portfolio	0.04	0.03	0.01	

## Buy and Hold Sector Attribution

1 Quarter Ending September 30, 2021

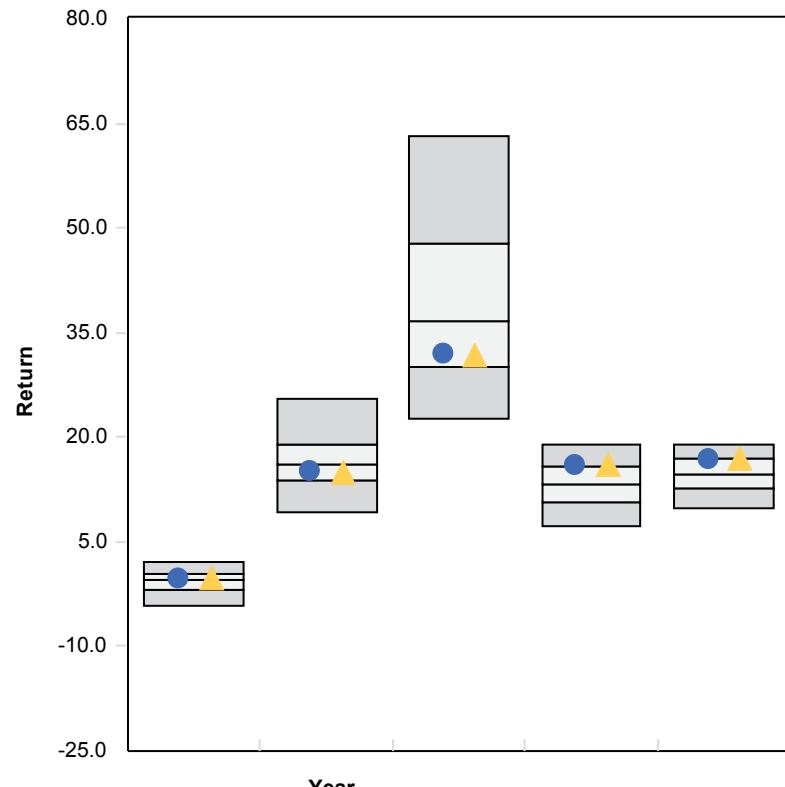
Manager A vs. Russell 3000 Index

Buy-and-Hold Portfolio	-0.07
Portfolio Trading	0.00
Actual Return	-0.07
Benchmark Return	-0.10
Actual Active Return	0.04
Stock Selection	0.05
Sector Selection	-0.02
Interaction	0.00
Total Selection	0.04
Portfolio Trading	0.00
Benchmark Trading	0.00
Active Trading Impact	0.00
Buy & Hold Active Return	0.04

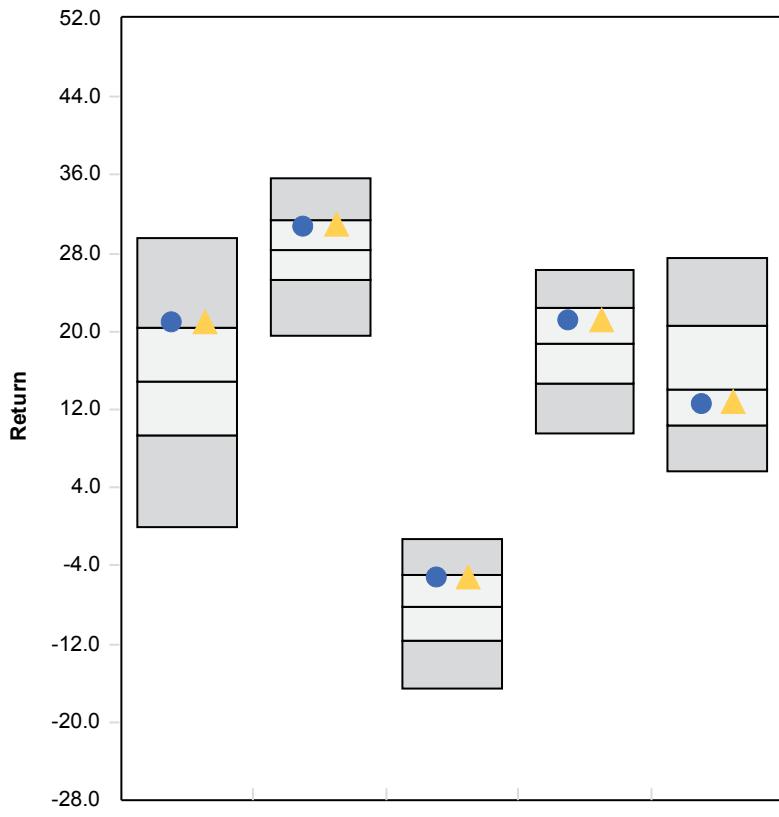
	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021			Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	Total
Communication Services	10.28	10.23	-0.04	-0.32	0.03	0.00	0.00	0.03
Consumer Discretionary	12.04	12.09	-1.05	-1.06	0.00	0.00	0.00	0.00
Consumer Staples	5.29	5.31	-1.01	-0.89	-0.01	0.00	0.00	-0.01
Energy	2.54	2.56	-1.09	-0.99	0.00	0.00	0.00	0.00
Financials	11.51	11.53	2.76	2.82	-0.01	0.00	0.00	-0.01
Health Care	13.68	13.71	0.14	0.22	-0.01	0.00	0.00	-0.01
Industrials	9.34	9.33	-4.19	-4.28	0.01	0.00	0.00	0.01
Information Technology	26.82	26.98	1.01	0.94	0.02	0.00	0.00	0.02
Materials	2.75	2.46	-3.91	-4.66	0.02	-0.01	0.00	0.01
Real Estate	3.41	3.40	0.71	0.67	0.00	0.00	0.00	0.00
Utilities	2.35	2.39	1.07	0.99	0.00	0.00	0.00	0.00
Total	100.00	100.00	-0.07	-0.10	0.05	-0.02	0.00	0.04

## Manager A

## Peer Group Analysis - IM U.S. Core Equity (SA+CF+MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager A	-0.07 (42)	15.17 (66)	32.08 (64)	16.04 (24)	16.87 (26)
Russell 3000 Index	-0.10 (43)	14.99 (68)	31.88 (66)	16.00 (25)	16.85 (26)
Median	-0.40	16.11	36.52	13.28	14.73



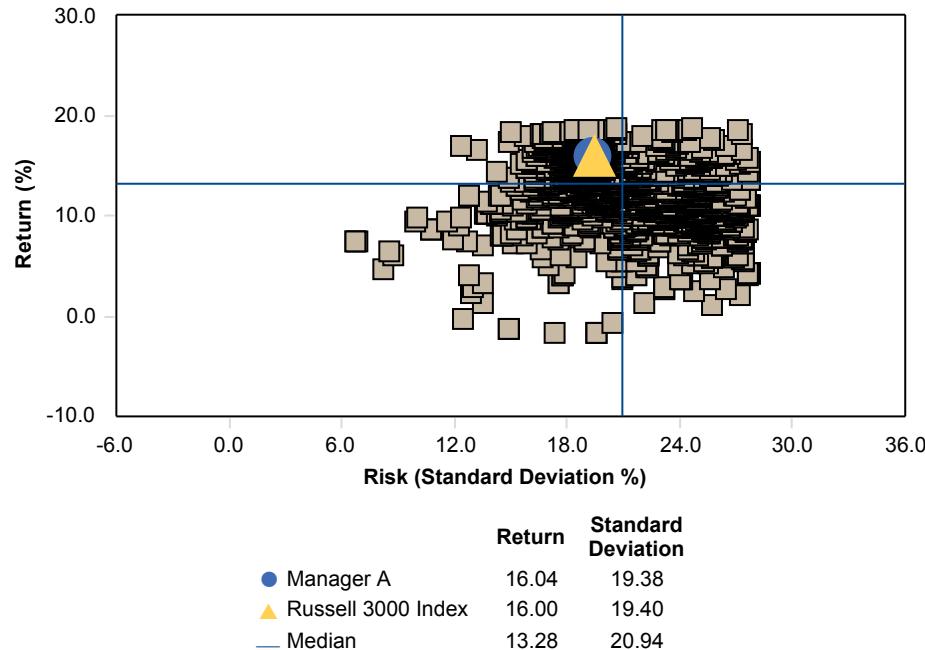
	2020	2019	2018	2017	2016
Manager A	20.99 (22)	30.80 (31)	-5.17 (28)	21.17 (36)	12.66 (59)
Russell 3000 Index	20.89 (23)	31.02 (29)	-5.24 (29)	21.13 (36)	12.74 (59)
Median	14.86	28.35	-8.11	18.82	14.07

## Historical Statistics - 3 Years

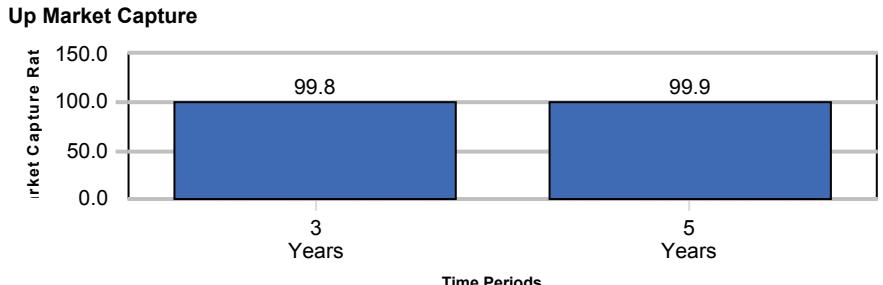
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager A	16.04	19.38	0.80	0.05	1.00	0.16	0.03	0.16	0.22	1.00
Russell 3000 Index	16.00	19.40	0.80	0.00	1.00	0.16	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.29	-0.01	0.00	-15.66	19.53	-0.80	0.15

## Manager A

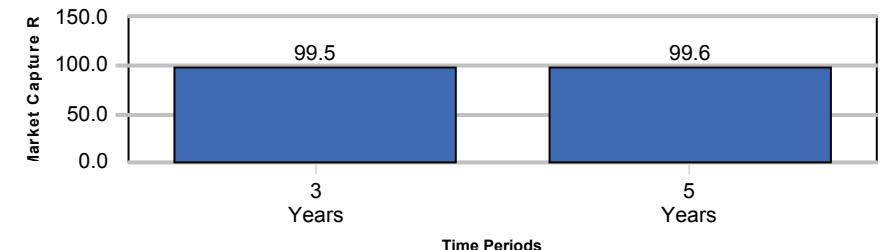
## Peer Group Scattergram (10/01/18 to 09/30/21)



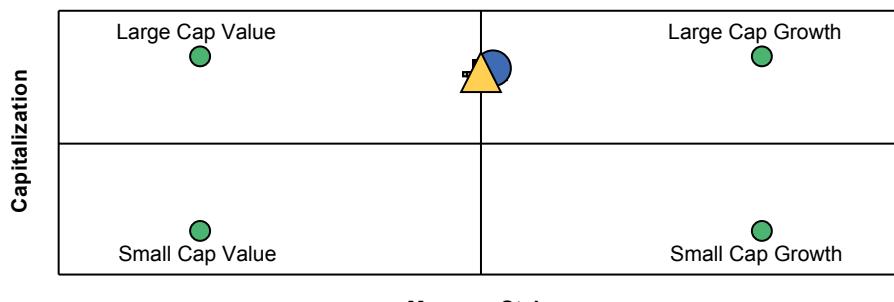
## Up Down Market Capture



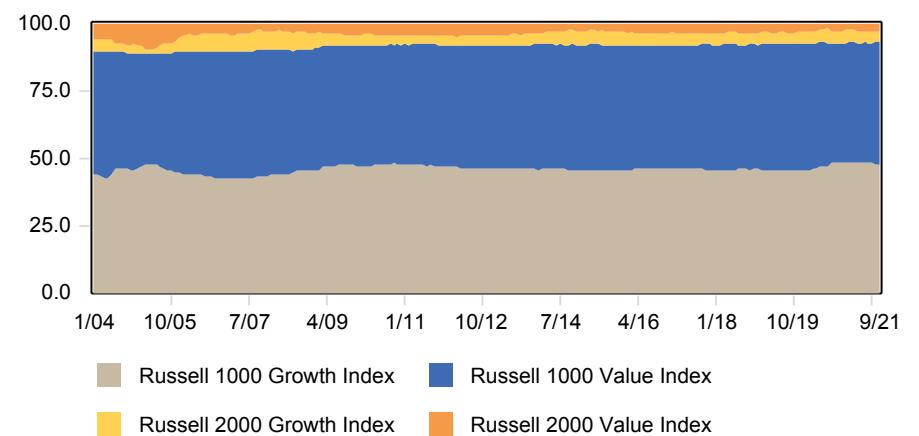
## Down Market Capture



## Style Map (12/01/00 to 09/30/21)



## Style History (12/01/00 to 09/30/21)

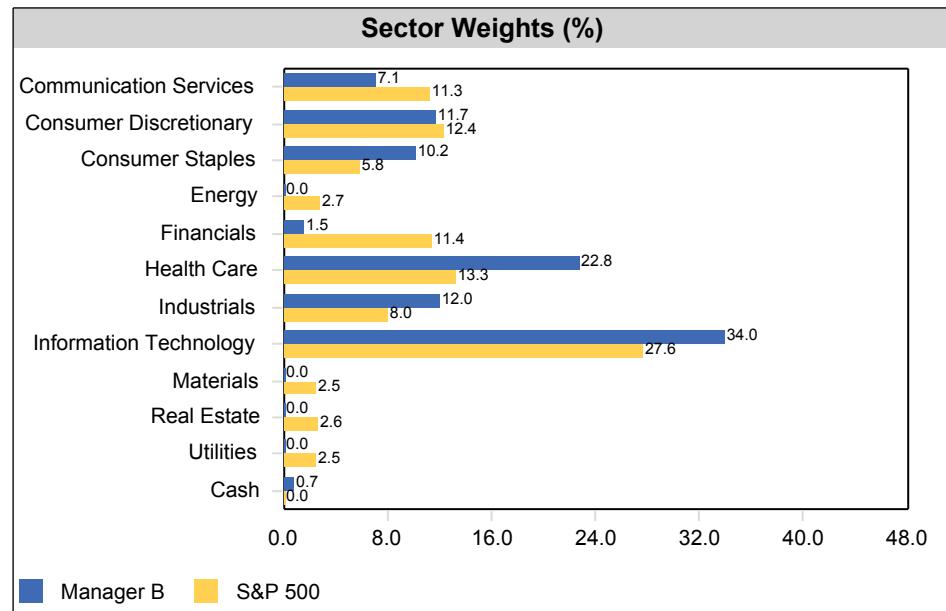


## Portfolio Characteristics

As of September 30, 2021

Manager B vs. S&P 500

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	516,817	553,979
Median Mkt. Cap (\$M)	132,622	30,680
Price/Earnings ratio	29.71	24.75
Price/Book ratio	7.88	4.50
5 Yr. EPS Growth Rate (%)	13.22	20.07
Current Yield (%)	1.57	1.42
Number of Stocks	30	505



Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Alphabet Inc	7.09	2.20	4.89	9.49
Microsoft Corp	7.07	5.80	1.27	4.27
PepsiCo Inc	6.09	0.57	5.52	2.21
Johnson & Johnson	5.43	1.16	4.27	-1.38
Stryker Corp	4.85	0.24	4.61	1.78
Apple Inc	4.62	6.08	-1.46	3.47
3M Co	4.60	0.28	4.32	-11.01
Becton Dickinson and Co	4.59	0.19	4.40	1.40
Accenture PLC	4.48	0.56	3.92	8.83
Unitedhealth Group Inc	4.11	1.01	3.10	-2.07
% of Portfolio	52.93	18.09	34.84	

Ten Best Performers				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Verisk Analytics Inc	1.19	0.09	1.10	14.79
Pfizer Inc	3.81	0.66	3.15	10.83
Intuit Inc.	3.68	0.40	3.28	10.19
Alphabet Inc	2.20	7.09	4.89	9.49
Accenture PLC	0.56	4.48	4.61	8.83
Marsh & McLennan Companies Inc	0.21	1.49	1.27	8.04
Cognizant Technology Solutions Corp	0.11	2.96	5.52	7.49
Amphenol Corp	0.12	1.01	4.40	7.25
Waste Management Inc.	0.16	2.08	3.10	6.99
Equifax Inc.	0.08	2.33	3.92	5.96
% of Portfolio	30.12	4.59	25.53	

## Buy and Hold Sector Attribution

1 Quarter Ending September 30, 2021

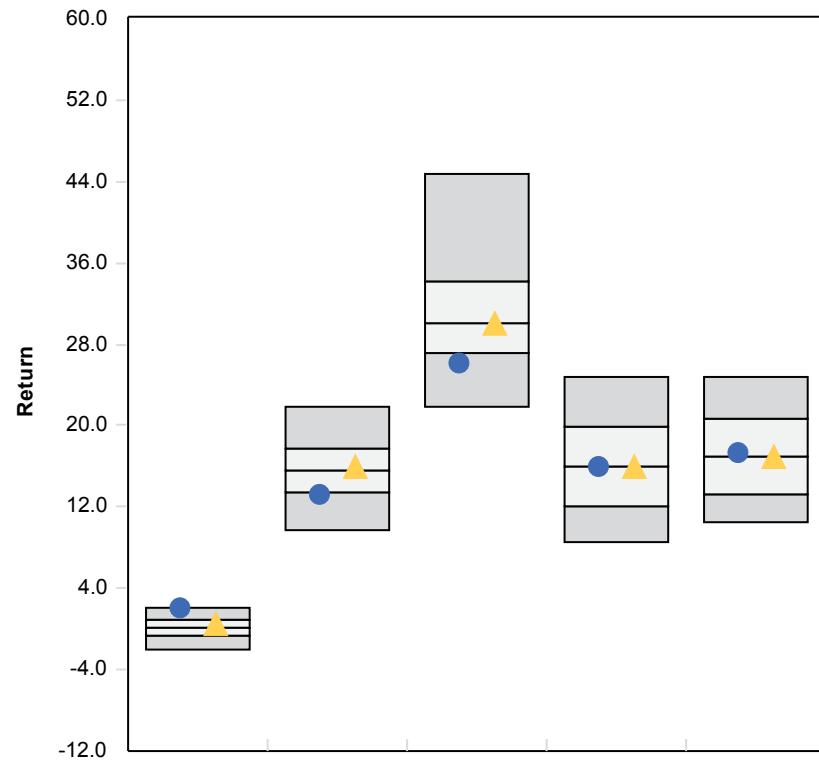
Manager B vs. S&P 500

Buy-and-Hold Portfolio	2.23
Portfolio Trading	0.09
Actual Return	2.32
Benchmark Return	0.58
Actual Active Return	1.74
Stock Selection	2.44
Sector Selection	-0.27
Interaction	-0.44
Total Selection	1.73
Portfolio Trading	0.09
Benchmark Trading	0.08
Active Trading Impact	0.01
Buy & Hold Active Return	1.74

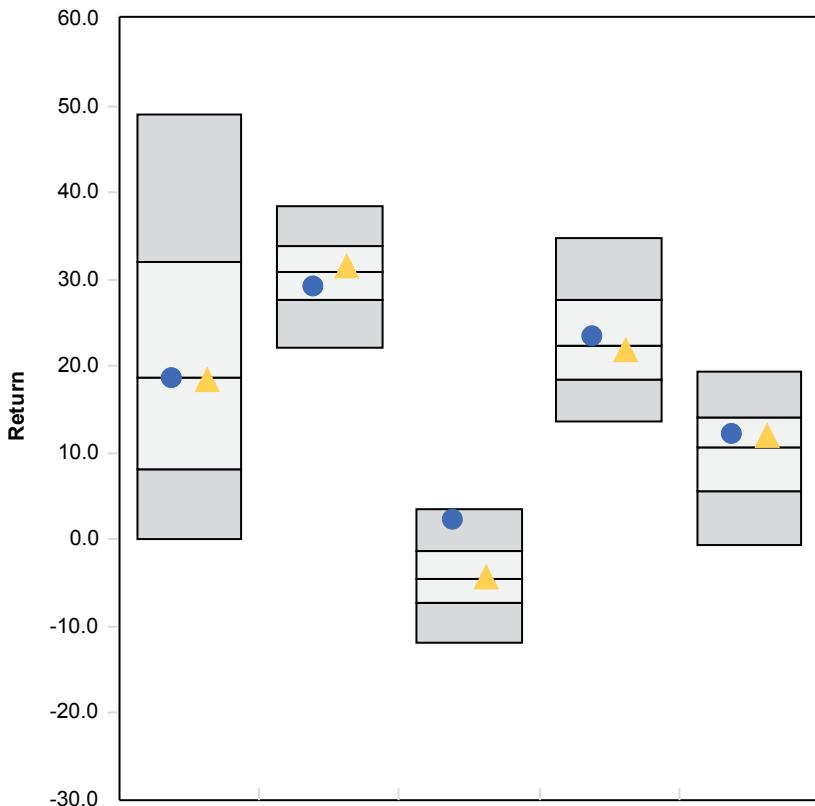
	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021			Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	Total
Communication Services	7.16	11.14	9.49	1.55	0.88	-0.04	-0.32	0.53
Consumer Discretionary	11.93	12.28	-1.96	-0.06	-0.23	0.00	0.01	-0.23
Consumer Staples	9.94	5.86	2.17	-0.31	0.15	-0.03	0.10	0.21
Energy	0.00	2.85	0.00	-1.75	0.00	0.06	0.00	0.06
Financials	1.31	11.28	8.04	2.75	0.60	-0.22	-0.53	-0.15
Health Care	23.59	12.99	1.58	0.95	0.08	0.05	0.07	0.20
Industrials	12.73	8.54	-3.38	-4.23	0.07	-0.20	0.04	-0.09
Information Technology	33.35	27.42	4.57	1.33	0.89	0.05	0.19	1.13
Materials	0.00	2.60	0.00	-3.51	0.00	0.10	0.00	0.10
Real Estate	0.00	2.58	0.00	0.86	0.00	-0.01	0.00	-0.01
Utilities	0.00	2.45	0.00	1.73	0.00	-0.03	0.00	-0.03
Total	100.00	100.00	2.23	0.51	2.44	-0.27	-0.44	1.73

## Manager B

## Peer Group Analysis - IM U.S. Large Cap Equity (SA+CF+MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager B	2.17 (5)	13.29 (77)	26.24 (79)	16.07 (50)	17.36 (45)
S&P 500 Index	0.58 (36)	15.92 (44)	30.00 (51)	15.99 (51)	16.90 (52)
Median	0.21	15.50	30.10	16.04	16.93



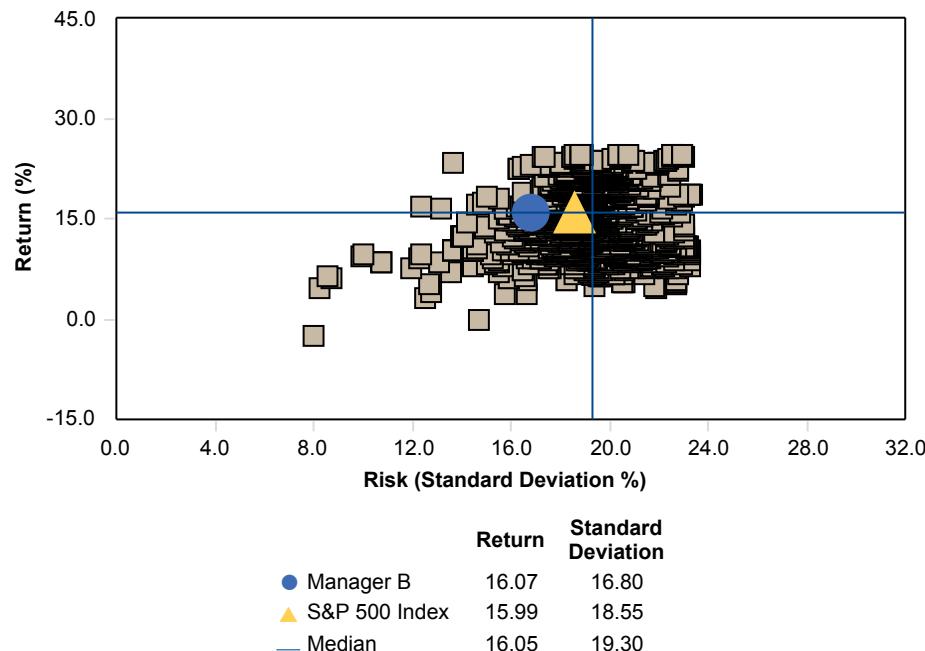
	2020	2019	2018	2017	2016
Manager B	18.62 (50)	29.34 (63)	2.44 (10)	23.56 (43)	12.29 (36)
S&P 500 Index	18.40 (51)	31.49 (44)	-4.38 (48)	21.83 (55)	11.96 (40)
Median	18.59	30.94	-4.53	22.29	10.57

## Historical Statistics - 3 Years

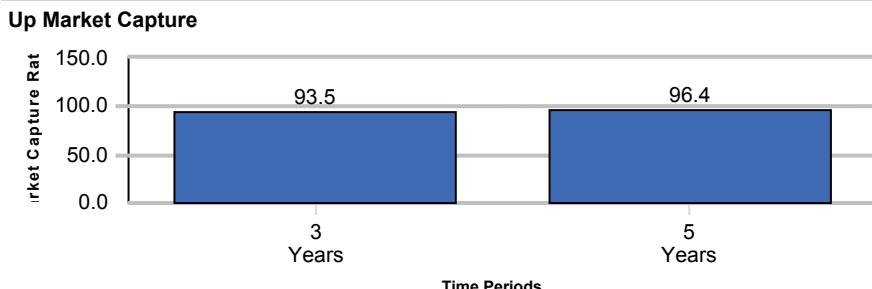
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager B	16.07	16.80	0.90	1.69	0.88	0.17	-0.26	4.28	-0.06	0.95
S&P 500 Index	15.99	18.55	0.83	0.00	1.00	0.15	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.29	-0.01	0.00	-15.49	18.67	-0.83	0.14

## Manager B

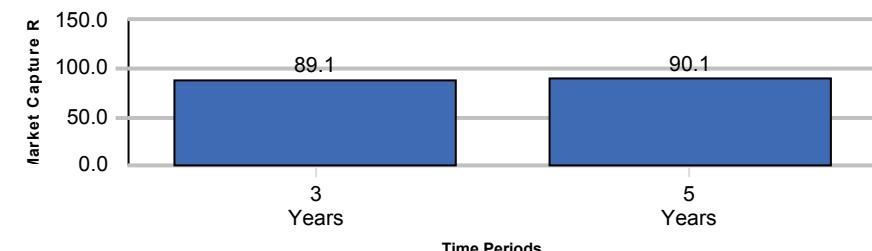
## Peer Group Scattergram (10/01/18 to 09/30/21)



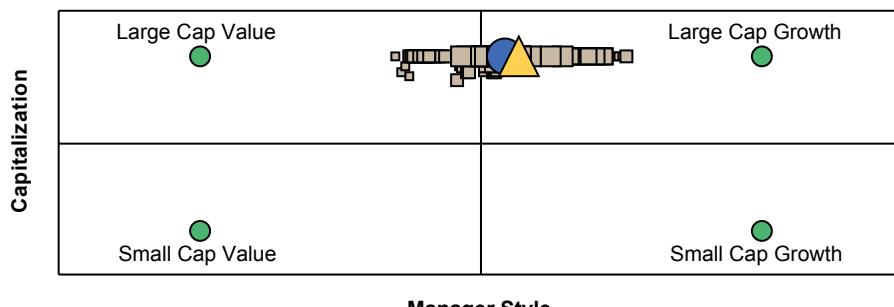
## Up Down Market Capture



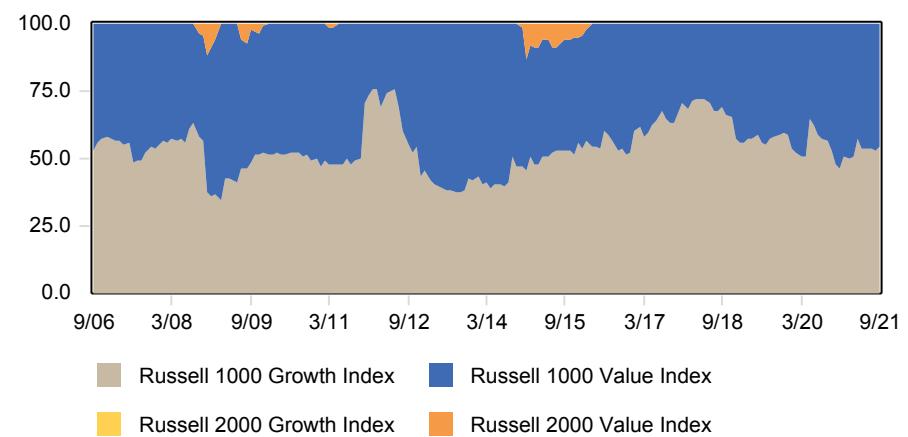
## Down Market Capture



## Style Map (08/01/03 to 09/30/21)



## Style History (08/01/03 to 09/30/21)

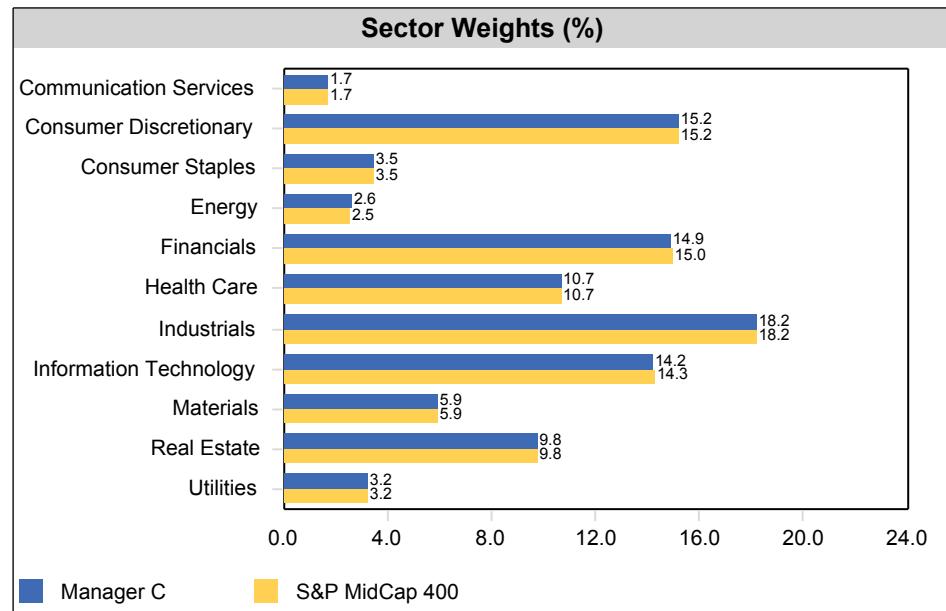


## Portfolio Characteristics

As of September 30, 2021

Manager C vs. S&P MidCap 400

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	7,411	7,412
Median Mkt. Cap (\$M)	5,588	5,588
Price/Earnings ratio	19.21	19.19
Price/Book ratio	2.91	2.91
5 Yr. EPS Growth Rate (%)	16.75	16.73
Current Yield (%)	1.29	1.30
Number of Stocks	400	400



Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Signature Bank	0.71	0.71	0.00	11.11
Molina Healthcare Inc.	0.69	0.69	0.00	7.21
FactSet Research Systems Inc.	0.65	0.65	0.00	17.88
Camden Property Trust	0.64	0.64	0.00	11.77
Repligen Corp	0.64	0.64	0.00	44.77
Cognex Corp	0.61	0.61	0.00	-4.49
SolarEdge Technologies Inc	0.60	0.60	0.00	-4.03
Masimo Corp	0.59	0.59	0.00	11.66
Williams-Sonoma Inc.	0.58	0.58	0.00	11.50
Nordson Corp	0.56	0.56	0.00	8.73
% of Portfolio	6.27	6.27	0.00	

Ten Best Performers				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Avis Budget Group Inc	0.24	0.24	0.00	49.58
Paylocity Holding Corp	0.48	0.48	0.00	46.96
Repligen Corp	0.64	0.64	0.00	44.77
Hill-Rom Holdings Inc	0.43	0.43	0.00	32.26
Pilgrim's Pride Corp	0.06	0.06	0.00	31.11
AutoNation Inc	0.23	0.23	0.00	28.43
Jones Lang LaSalle Inc	0.54	0.54	0.00	26.93
Murphy USA Inc	0.17	0.17	0.00	25.61
Dick's Sporting Goods Inc.	0.34	0.34	0.00	24.91
Crocs Inc	0.39	0.39	0.00	23.14
% of Portfolio	3.52	3.52	0.00	

## Buy and Hold Sector Attribution

1 Quarter Ending September 30, 2021

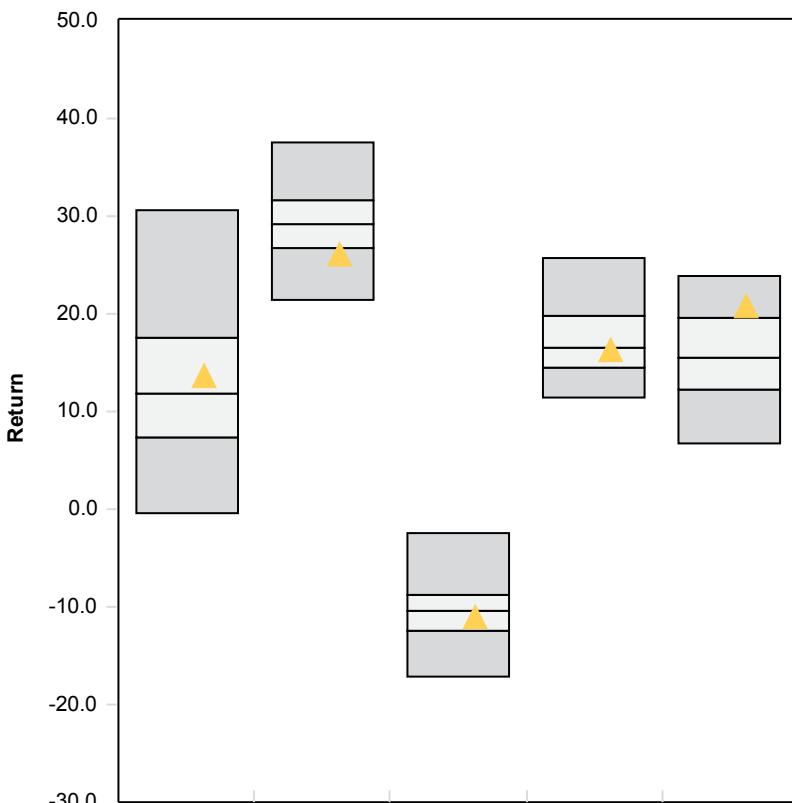
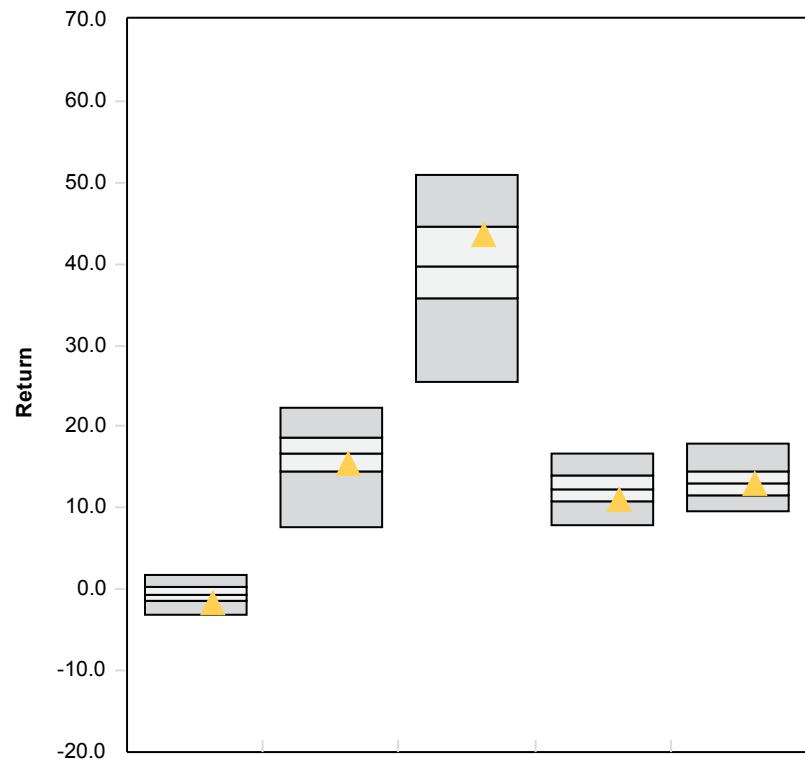
Manager C vs. S&P MidCap 400

Buy-and-Hold Portfolio	-1.89
Portfolio Trading	N/A
Actual Return	N/A
Benchmark Return	-1.76
Actual Active Return	N/A
Stock Selection	-0.01
Sector Selection	0.01
Interaction	0.00
Total Selection	0.00
Portfolio Trading	N/A
Benchmark Trading	0.13
Active Trading Impact	N/A
Buy & Hold Active Return	N/A

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	Total
Communication Services	1.80	1.80	-3.06	-3.05	0.00	0.00	0.00	0.00
Consumer Discretionary	14.74	14.78	-2.68	-2.64	-0.01	0.00	0.00	-0.01
Consumer Staples	3.44	3.43	-7.83	-7.84	0.00	0.00	0.00	0.00
Energy	2.23	2.06	6.44	5.30	0.02	0.01	0.00	0.04
Financials	15.15	15.12	1.53	1.53	0.00	0.00	0.00	0.00
Health Care	10.64	11.07	-0.64	-0.61	0.00	-0.01	0.00	-0.01
Industrials	18.09	18.02	-3.17	-3.15	0.00	0.00	0.00	-0.01
Information Technology	14.55	14.43	-2.75	-2.63	-0.02	0.00	0.00	-0.02
Materials	6.34	6.32	-7.23	-7.23	0.00	0.00	0.00	0.00
Real Estate	9.70	9.66	0.77	0.76	0.00	0.00	0.00	0.00
Utilities	3.32	3.31	-3.58	-3.58	0.00	0.00	0.00	0.00
Total	100.00	100.00	-1.89	-1.89	-0.01	0.01	0.00	0.00

## Manager C

## Peer Group Analysis - IM U.S. Mid Cap Core Equity (SA+CF+MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager C	N/A	N/A	N/A	N/A	N/A
S&P MidCap 400	-1.76 (81)	15.52 (60)	43.68 (32)	11.08 (71)	12.97 (49)
Median	-0.63	16.65	39.62	12.38	12.93

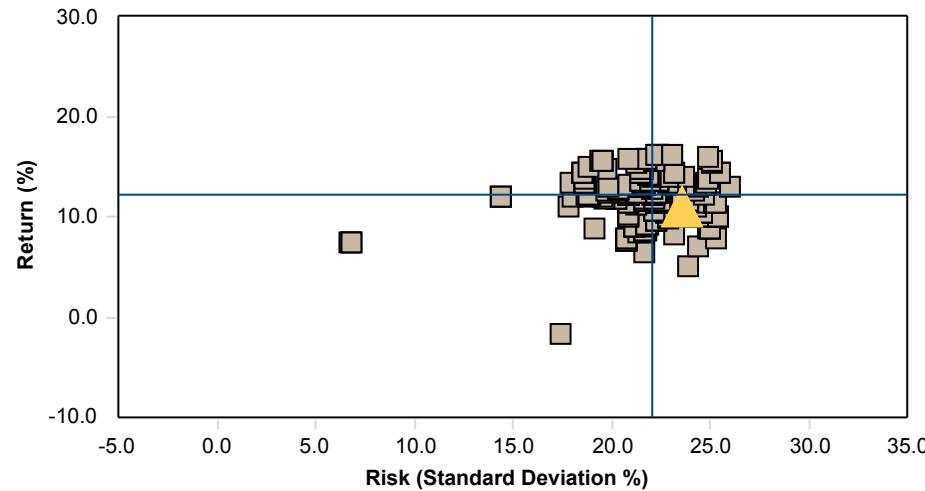
	2020	2019	2018	2017	2016
Manager C	N/A	N/A	N/A	N/A	N/A
S&P MidCap 400	13.66 (42)	26.20 (79)	-11.08 (65)	16.24 (57)	20.74 (17)
Median	11.79	29.21	-10.51	16.57	15.42

## Historical Statistics - 3 Years

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P MidCap 400	11.08	23.56	0.52	0.00	1.00	0.12	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.26	-0.01	0.00	-12.25	23.71	-0.52	0.18

## Manager C

## Peer Group Scattergram (10/01/18 to 09/30/21)



## Up Down Market Capture

No data found.

## Style Map (01/01/22 to 09/30/21)

No data found.

## Style History (01/01/22 to 09/30/21)

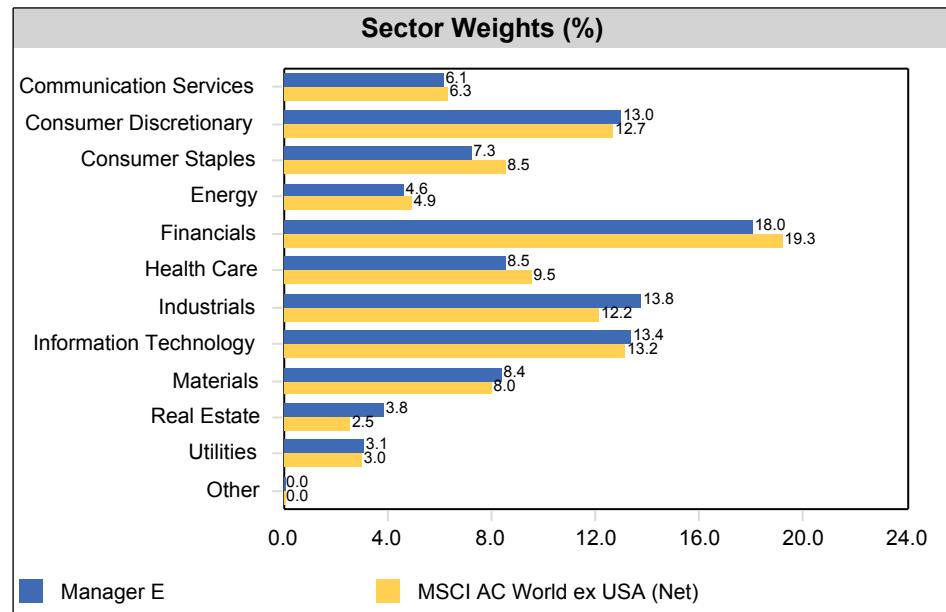
No data found.

## Portfolio Characteristics

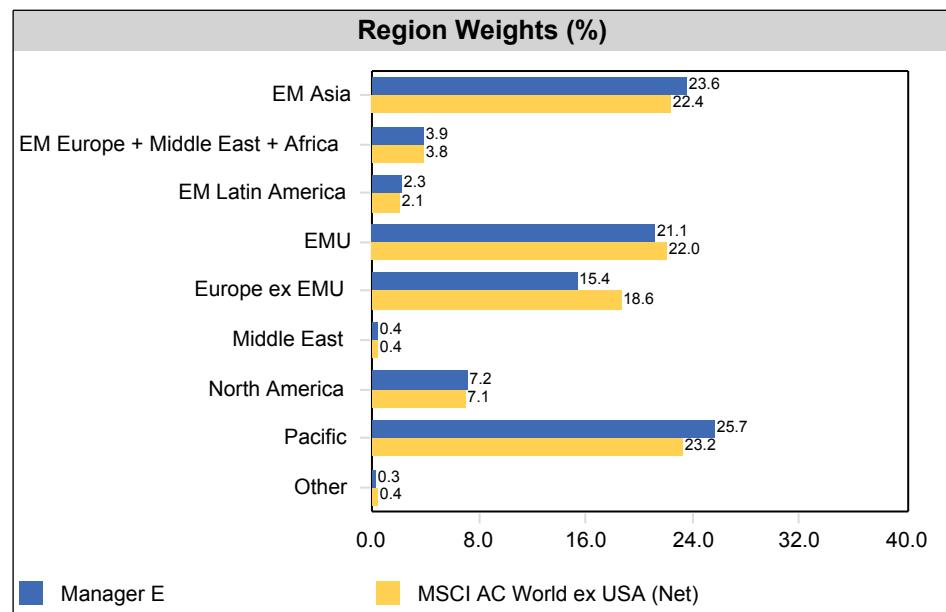
As of September 30, 2021

Manager E vs. MSCI AC World ex USA (Net)

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	76,859	91,316
Median Mkt. Cap (\$M)	1,936	10,102
Price/Earnings ratio	14.76	15.07
Price/Book ratio	2.61	2.69
5 Yr. EPS Growth Rate (%)	12.03	13.39
Current Yield (%)	2.54	2.64
Beta (5 Years, Monthly)	1.01	1.00
Number of Stocks	7,732	2,354



Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Taiwan Semicon Manu Co	1.69	1.93	-0.24	-1.81
Tencent Holdings LTD	1.20	1.28	-0.08	-21.19
Nestle SA, Cham Und Vevey	1.15	1.31	-0.16	-3.09
ASML Holding NV	1.00	1.18	-0.18	8.97
Samsung Electronics Co Ltd	0.99	1.12	-0.13	-11.74
Alibaba Group Holding Ltd	0.88	1.04	-0.16	-35.52
Roche Holding AG	0.85	0.97	-0.12	-2.80
Toyota Motor Corp	0.75	0.71	0.04	7.41
LVMH Moet Hennessy Louis Vui	0.61	0.75	-0.14	-8.34
Novartis AG	0.59	0.69	-0.10	-9.72
% of Portfolio	9.71	10.98	-1.27	



## Buy and Hold Sector Attribution

1 Quarter Ending September 30, 2021

Manager D vs. MSCI AC World ex USA

Buy-and-Hold Portfolio	-2.24
Portfolio Trading	-0.77
Actual Return	-3.01
Benchmark Return	-2.88
Actual Active Return	-0.13
Stock Selection	0.51
Sector Selection	-0.06
Interaction	0.03
Total Selection	0.47
Portfolio Trading	-0.77
Benchmark Trading	-0.16
Active Trading Impact	-0.60
Buy & Hold Active Return	-0.13

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	Total
Communication Services	6.49	6.73	-8.51	-9.22	0.05	0.02	0.00	0.06
Consumer Discretionary	13.86	13.81	-9.74	-11.13	0.19	0.00	0.00	0.19
Consumer Staples	7.54	8.50	-2.80	-3.20	0.03	0.00	0.00	0.03
Energy	4.21	4.54	7.06	7.15	0.00	-0.03	0.00	-0.04
Financials	17.56	18.58	1.45	1.34	0.02	-0.04	0.00	-0.02
Health Care	9.05	9.29	-2.27	-1.88	-0.04	0.00	0.00	-0.04
Industrials	13.22	11.80	0.46	0.38	0.01	0.04	0.00	0.05
Information Technology	12.86	12.93	-0.53	-0.73	0.03	0.00	0.00	0.03
Materials	8.46	8.30	-3.58	-5.36	0.15	0.00	0.00	0.15
Real Estate	3.74	2.55	-3.36	-5.77	0.06	-0.04	0.03	0.05
Utilities	3.00	2.98	-1.34	-1.59	0.01	0.00	0.00	0.01
Other	0.01	0.00	-2.90	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	-2.24	-2.72	0.51	-0.06	0.03	0.47

## Buy and Hold Region Attribution

1 Quarter Ending September 30, 2021

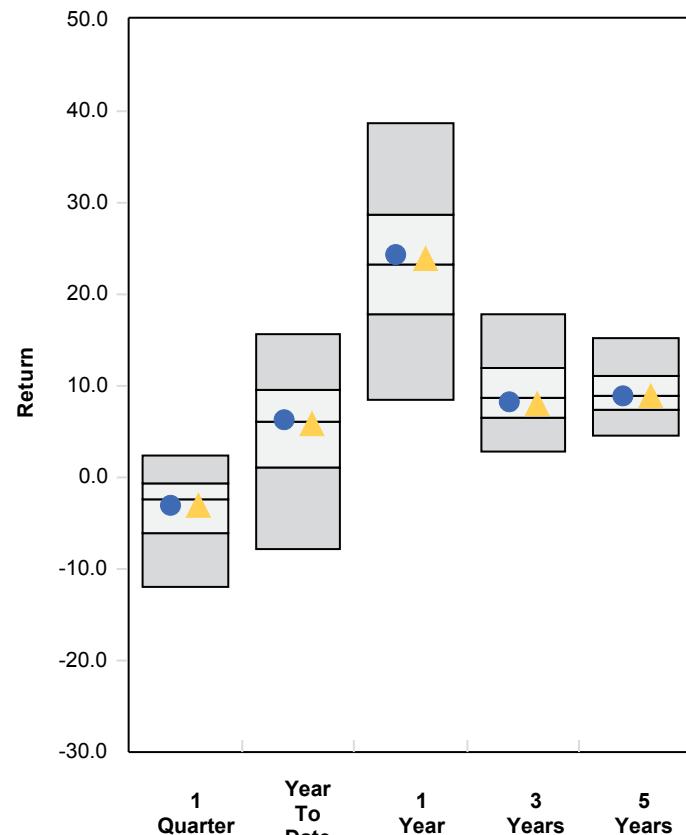
Manager D vs. MSCI AC World ex USA

Buy-and-Hold Portfolio	-2.24
Portfolio Trading	-0.77
Actual Return	-3.01
Benchmark Return	-2.88
Actual Active Return	-0.13
Stock Selection	0.46
Region Selection	0.01
Interaction	0.00
Total Selection	0.47
Portfolio Trading	-0.77
Benchmark Trading	-0.16
Active Trading Impact	-0.60
Buy & Hold Active Return	-0.13

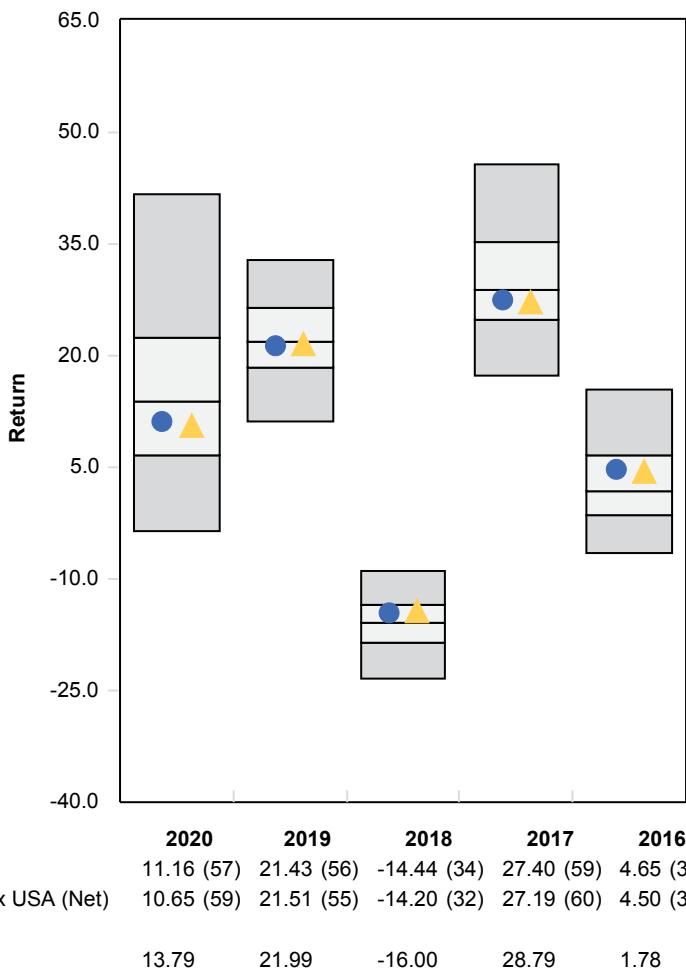
	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021				Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Region	Interaction	Total	
EM Asia	24.39	23.90	-8.00	-9.34	0.32	-0.03	0.01	0.29	
EM Europe + Middle East + Africa	3.77	3.69	4.55	4.86	-0.01	0.01	0.00	-0.01	
EM Latin America	2.61	2.37	-13.74	-13.58	0.00	-0.03	0.00	-0.03	
EMU	20.40	21.50	-0.78	-1.01	0.05	-0.02	0.00	0.03	
Europe ex EMU	16.62	18.39	-1.62	-1.82	0.04	-0.02	0.00	0.02	
Middle East	0.39	0.37	8.77	2.90	0.02	0.00	0.00	0.02	
North America	7.03	7.06	-1.79	-2.10	0.02	0.00	0.00	0.02	
Pacific	24.45	22.31	1.76	1.64	0.03	0.09	0.00	0.12	
Other	0.34	0.40	-4.26	-5.06	0.00	0.00	0.00	0.00	
Total	100.00	100.00	-2.24	-2.72	0.46	0.01	0.00	0.47	

## Manager E

## Peer Group Analysis - IM International Equity (MF)



Manager E	-3.01 (58)	6.39 (48)	24.33 (45)	8.24 (55)	8.96 (49)
MSCI AC World ex USA (Net)	-2.99 (57)	5.90 (52)	23.92 (47)	8.03 (58)	8.94 (50)
Median	-2.46	6.05	23.15	8.62	8.91



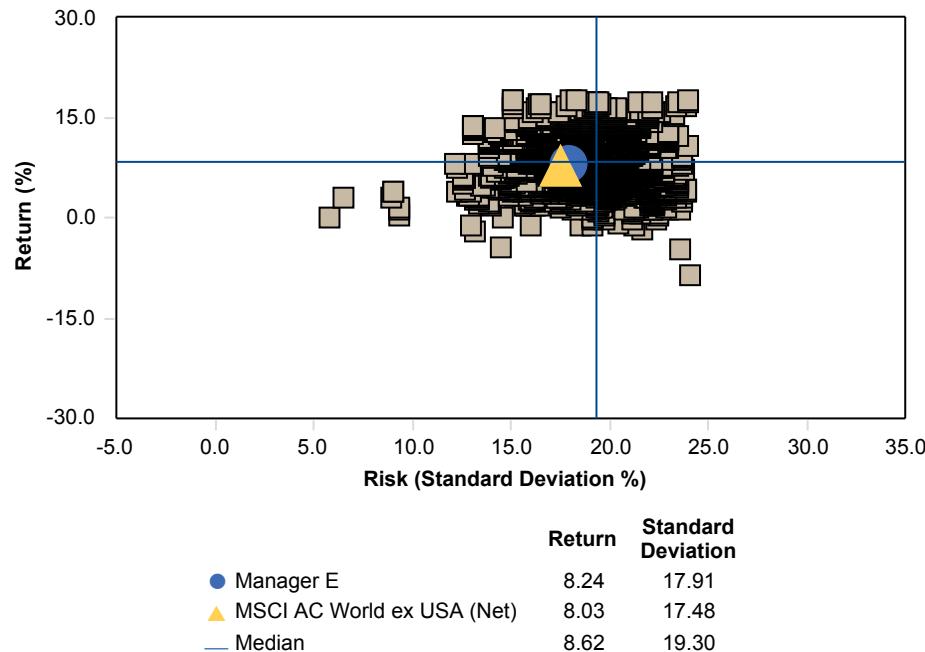
Manager E	11.16 (57)	21.43 (56)	-14.44 (34)	27.40 (59)	4.65 (34)
MSCI AC World ex USA (Net)	10.65 (59)	21.51 (55)	-14.20 (32)	27.19 (60)	4.50 (35)
Median	13.79	21.99	-16.00	28.79	1.78

## Historical Statistics - 3 Years

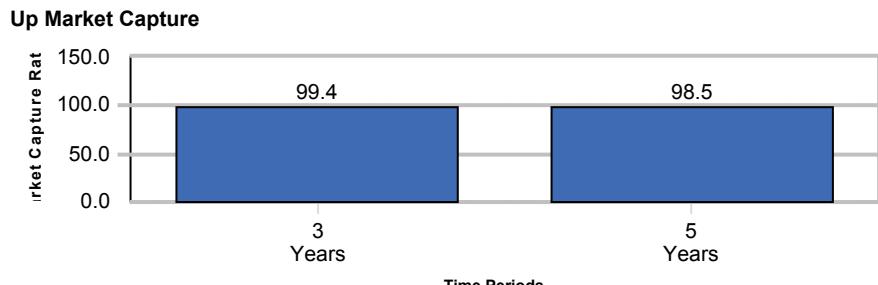
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager E	8.24	17.91	0.47	-0.56	1.00	0.08	-0.52	1.55	-0.33	0.99
FTSE Global ex USA All Cap Index (USD)	8.84	17.77	0.50	0.00	1.00	0.09	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.26	-0.01	0.00	-8.93	17.90	-0.50	0.16

## Manager E

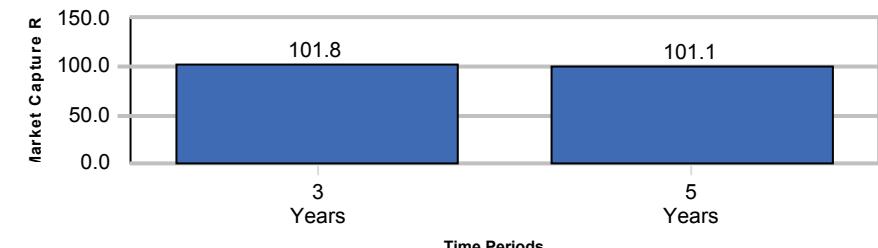
## Peer Group Scattergram (10/01/18 to 09/30/21)



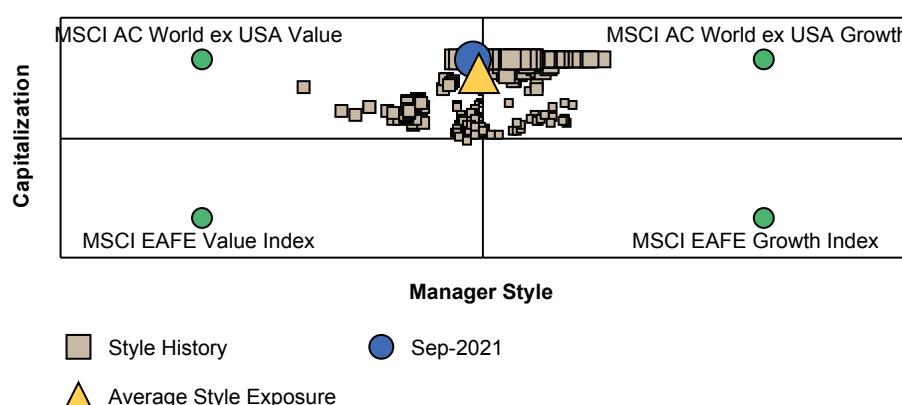
## Up Down Market Capture



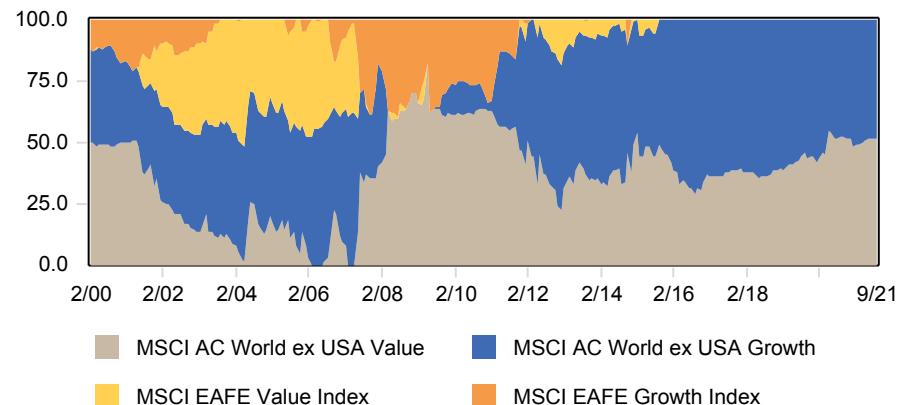
## Down Market Capture



## Style Map (01/01/97 to 09/30/21)



## Style History (01/01/97 to 09/30/21)

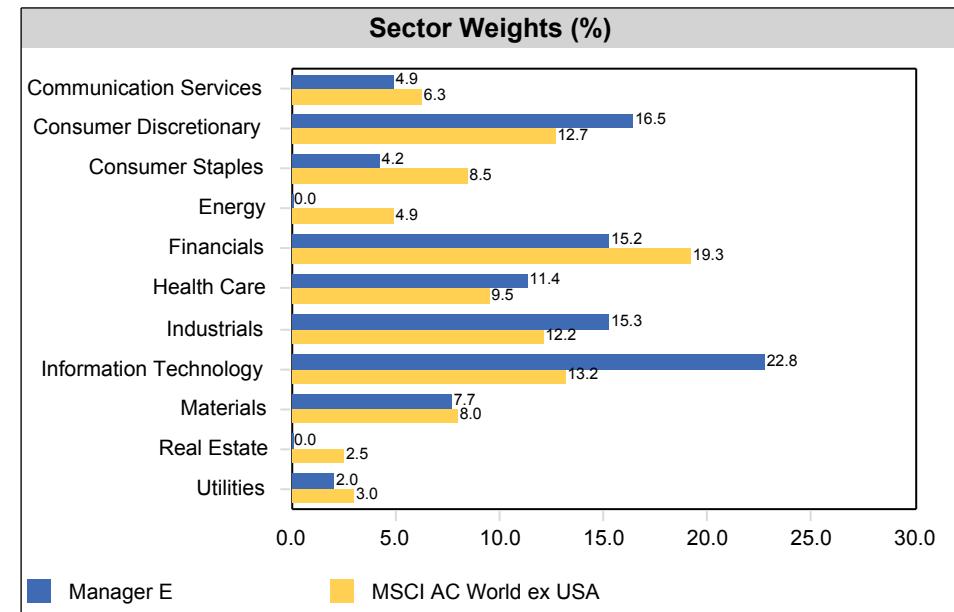


## Portfolio Characteristics

As of September 30, 2021

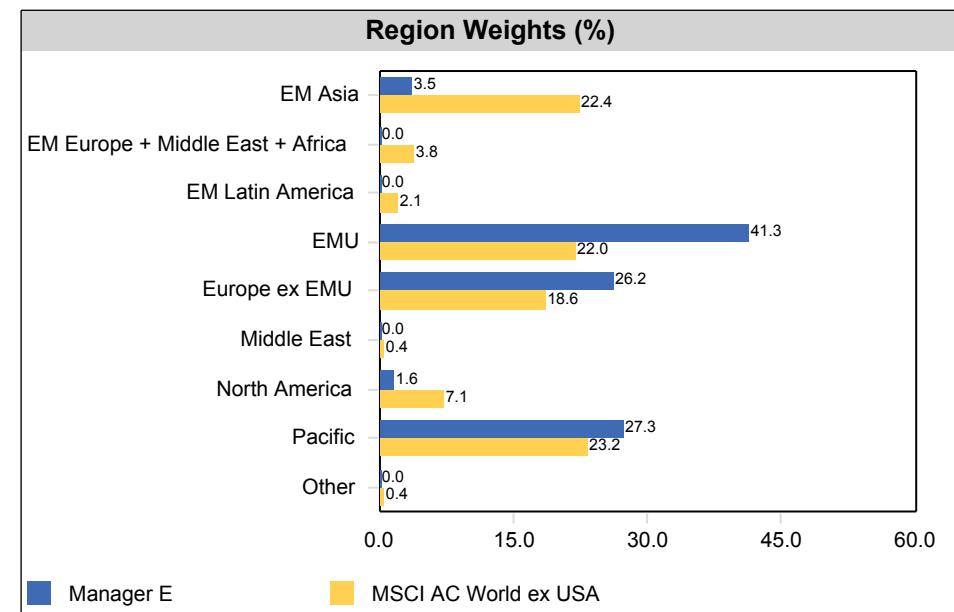
Manager E vs. MSCI AC World ex USA

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	62,808	91,316
Median Mkt. Cap (\$M)	40,519	10,102
Price/Earnings ratio	20.45	15.07
Price/Book ratio	3.53	2.69
5 Yr. EPS Growth Rate (%)	13.58	13.39
Current Yield (%)	1.81	2.64
Beta (5 Years, Monthly)	0.82	1.00
Number of Stocks	50	2,354
Debt to Equity (%)	83.01	105.82



**Top Ten Equity Holdings**

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Z Holdings Corp	2.85	0.06	2.79	28.25
Icon PLC	2.58	0.00	2.58	26.76
Recruit Holdings Co Ltd	2.48	0.31	2.17	24.46
STMicroelectronics NV	2.38	0.11	2.27	20.78
Vestas Wind Systems A/S	2.34	0.15	2.19	2.79
Koninklijke Ahold Delhaize NV	2.34	0.13	2.21	13.78
Orix Corp	2.32	0.09	2.23	14.03
Advantest Corp	2.29	0.07	2.22	0.18
Sony Group Corporation	2.29	0.53	1.76	14.86
FinecoBank S.p.A.	2.28	0.04	2.24	4.20
% of Portfolio	24.15	1.49	22.66	



## Buy and Hold Sector Attribution

1 Quarter Ending September 30, 2021

Manager E vs. MSCI AC World ex USA

Buy-and-Hold Portfolio	0.32
Portfolio Trading	-1.65
Actual Return	-1.33
Benchmark Return	-2.88
Actual Active Return	1.55
Stock Selection	4.11
Sector Selection	-0.60
Interaction	-0.48
Total Selection	3.04
Portfolio Trading	-1.65
Benchmark Trading	-0.16
Active Trading Impact	-1.49
Buy & Hold Active Return	1.55

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021			Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	Total
Communication Services	4.27	6.73	9.36	-9.22	1.25	0.16	-0.46	0.95
Consumer Discretionary	20.42	13.81	-6.51	-11.13	0.64	-0.56	0.31	0.39
Consumer Staples	3.87	8.50	3.54	-3.20	0.57	0.02	-0.31	0.28
Energy	0.00	4.54	0.00	7.15	0.00	-0.45	0.00	-0.45
Financials	13.94	18.58	6.09	1.34	0.88	-0.19	-0.22	0.47
Health Care	9.94	9.29	5.77	-1.88	0.71	0.01	0.05	0.77
Industrials	16.12	11.80	0.88	0.38	0.06	0.13	0.02	0.21
Information Technology	19.34	12.93	0.70	-0.73	0.19	0.13	0.09	0.41
Materials	7.83	8.30	-6.07	-5.36	-0.06	0.01	0.00	-0.04
Real Estate	0.00	2.55	0.00	-5.77	0.00	0.08	0.00	0.08
Utilities	1.99	2.98	-5.74	-1.59	-0.12	-0.01	0.04	-0.09
Cash	2.27	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Total	100.00	100.00	0.32	-2.72	4.11	-0.60	-0.48	3.04

## Buy and Hold Region Attribution

1 Quarter Ending September 30, 2021

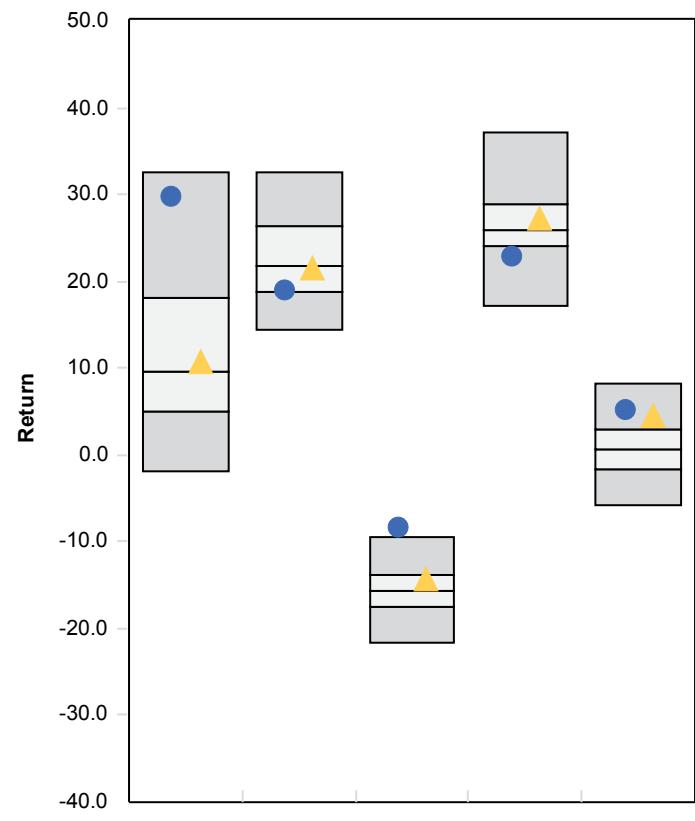
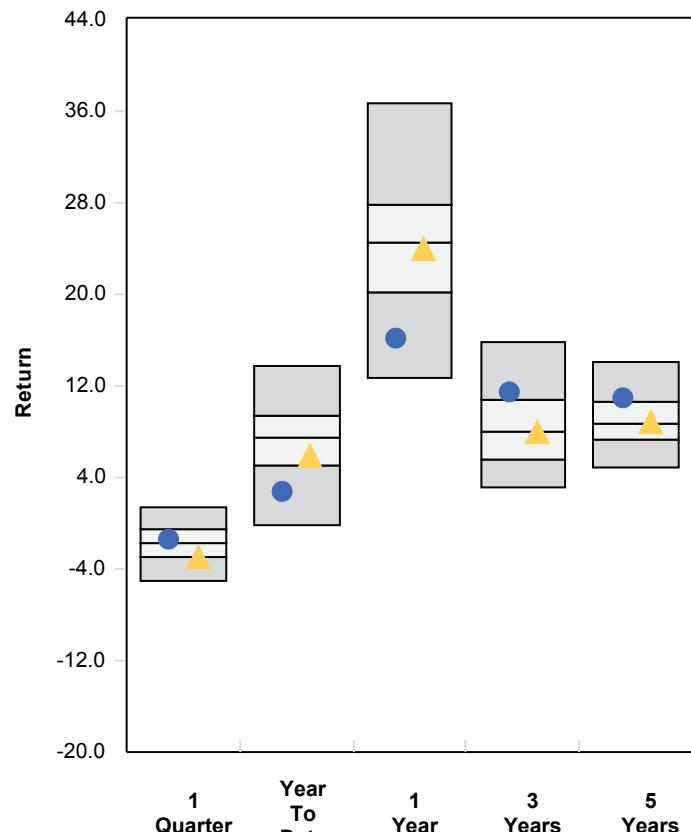
Manager E vs. MSCI AC World ex USA

Buy-and-Hold Portfolio	0.32
Portfolio Trading	-1.65
Actual Return	-1.33
Benchmark Return	-2.88
Actual Active Return	1.55
Stock Selection	-0.92
Region Selection	1.96
Interaction	2.00
Total Selection	3.04
Portfolio Trading	-1.65
Benchmark Trading	-0.16
Active Trading Impact	-1.49
Buy & Hold Active Return	1.55

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Region	Interaction	Total
EM Asia	3.91	23.90	-12.40	-9.34	-0.73	1.32	0.61	1.20
EM Europe + Middle East + Africa	0.00	3.69	0.00	4.86	0.00	-0.28	0.00	-0.28
EM Latin America	0.00	2.37	0.00	-13.58	0.00	0.26	0.00	0.26
EMU	35.29	21.50	1.78	-1.01	0.60	0.24	0.39	1.22
Europe ex EMU	26.79	18.39	0.72	-1.82	0.47	0.08	0.21	0.76
Middle East	0.00	0.37	0.00	2.90	0.00	-0.02	0.00	-0.02
North America	1.88	7.06	-18.16	-2.10	-1.13	-0.03	0.83	-0.33
Pacific	29.86	22.31	1.07	1.64	-0.13	0.33	-0.04	0.16
Other	0.00	0.40	0.00	-5.06	0.00	0.01	0.00	0.01
Cash	2.27	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Total	100.00	100.00	0.32	-2.72	-0.92	1.96	2.00	3.04

## Manager F

## Peer Group Analysis - IM International Multi-Cap Equity (MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager F	-1.33 (44)	2.71 (90)	16.24 (88)	11.49 (22)	10.88 (22)
MSCI AC World ex USA (Net)	-2.99 (74)	5.90 (68)	23.92 (55)	8.03 (50)	8.94 (44)
Median	-1.66	7.51	24.50	7.99	8.68

	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager F	-1.33 (44)	2.71 (90)	16.24 (88)	11.49 (22)	10.88 (22)
MSCI AC World ex USA (Net)	-2.99 (74)	5.90 (68)	23.92 (55)	8.03 (50)	8.94 (44)
Median	-1.66	7.51	24.50	7.99	8.68

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager F	11.49	15.73	0.69	4.57	0.83	0.13	2.86	6.96	0.41	0.84
MSCI AC World ex USA (Net)	8.03	17.48	0.46	0.00	1.00	0.08	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.25	-0.01	0.00	-8.12	17.61	-0.46	0.15

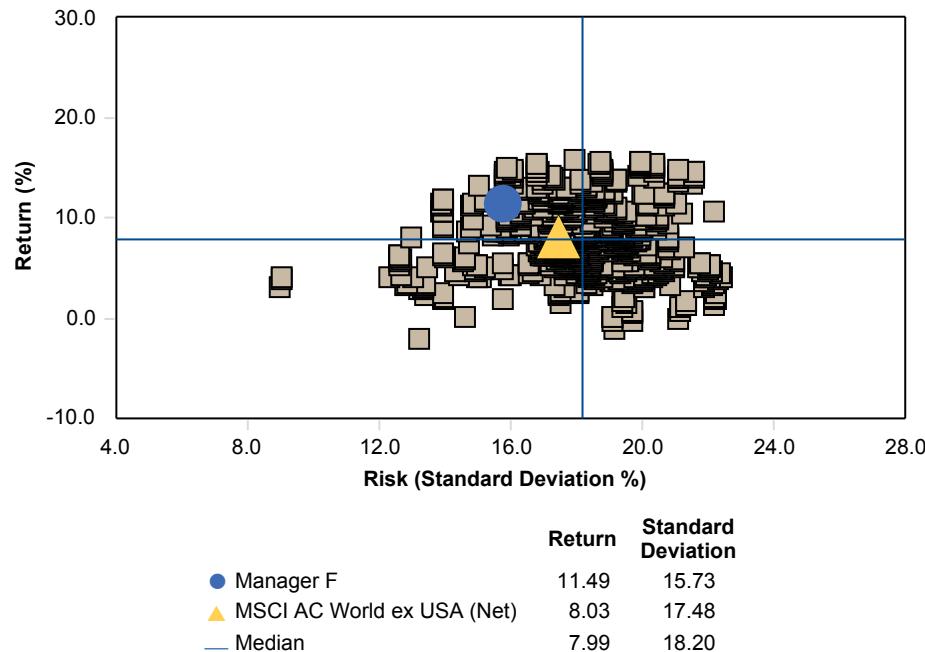
## Historical Statistics - 3 Years

## Investment Review

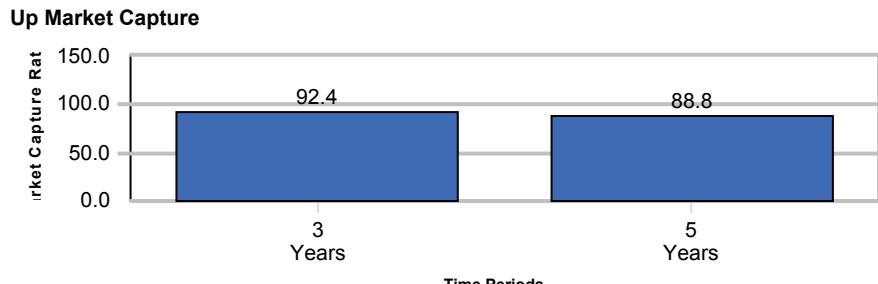
### Manager F

As of September 30, 2021

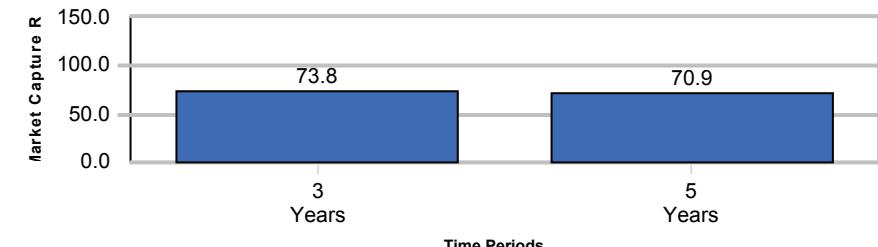
#### Peer Group Scattergram (10/01/18 to 09/30/21)



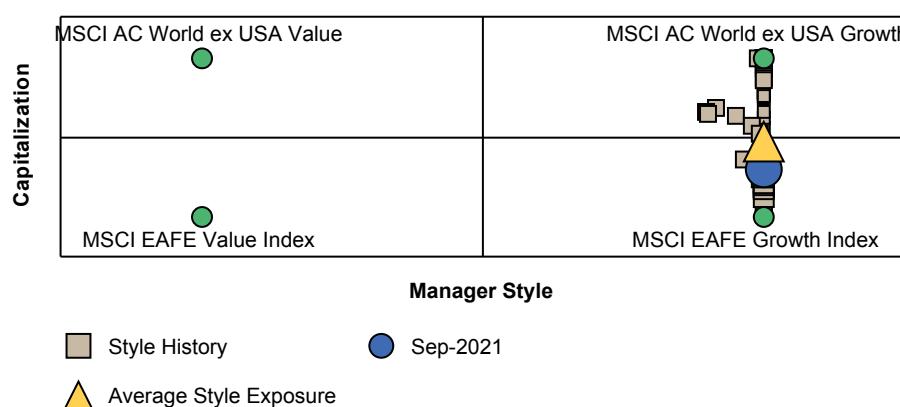
#### Up Down Market Capture



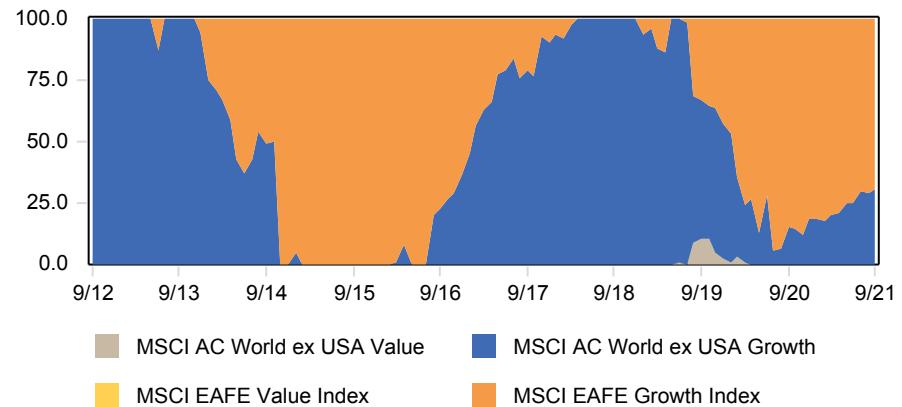
#### Down Market Capture



#### Style Map (08/01/09 to 09/30/21)



#### Style History (08/01/09 to 09/30/21)

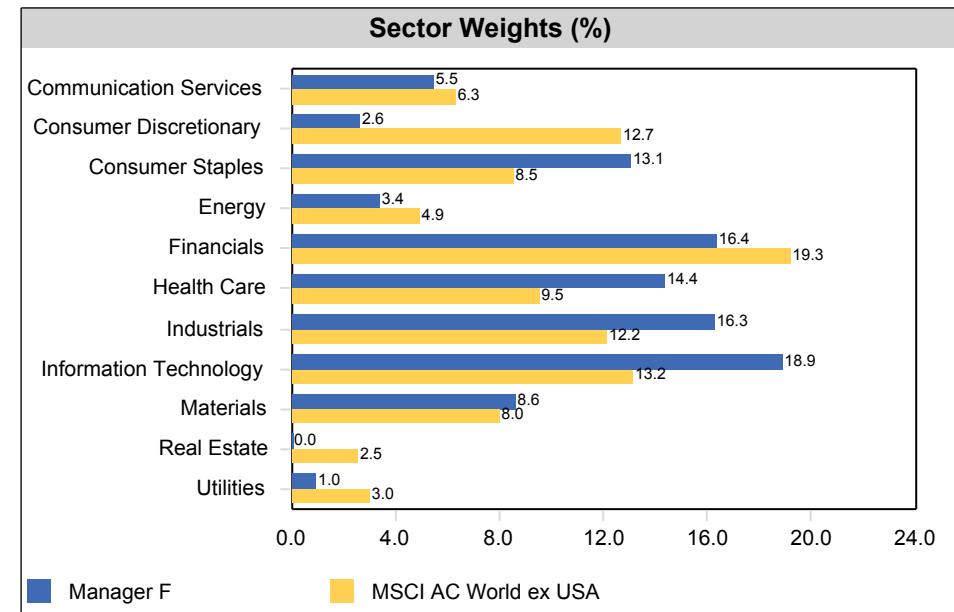


## Portfolio Characteristics

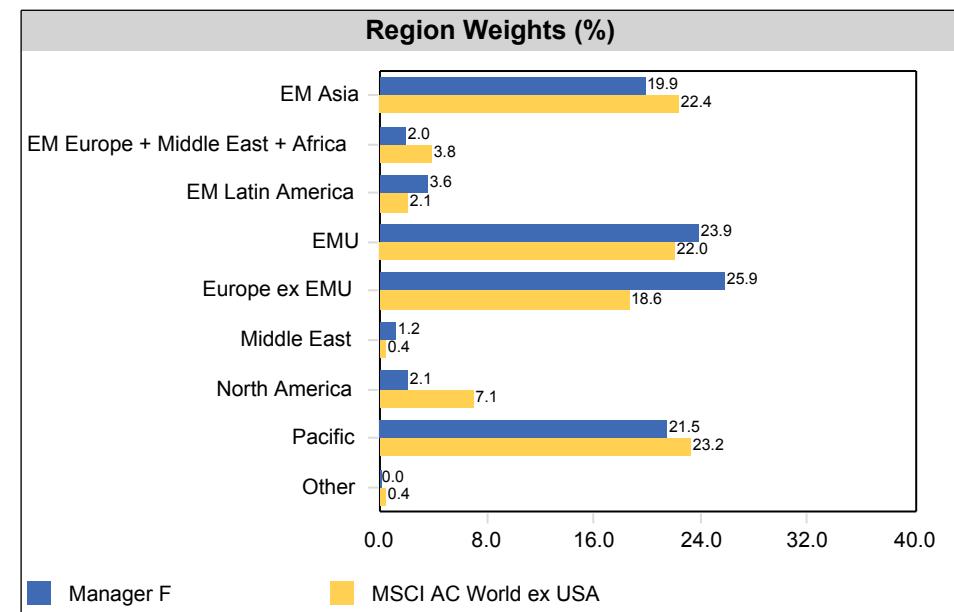
As of September 30, 2021

Manager F vs. MSCI AC World ex USA

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	125,506	91,316
Median Mkt. Cap (\$M)	53,773	10,102
Price/Earnings ratio	21.29	15.07
Price/Book ratio	3.42	2.69
5 Yr. EPS Growth Rate (%)	16.26	13.39
Current Yield (%)	2.09	2.64
Beta (5 Years, Monthly)	0.57	1.00
Number of Stocks	60	2,354
Debt to Equity (%)	64.06	105.82



Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Atlas Copco AB	3.63	0.15	3.48	-0.68
Taiwan Semicon Manu Co ADR	3.59	1.93	1.66	-6.70
L'Oreal S.A., Paris	3.34	0.39	2.95	-7.18
Tencent Holdings LTD	3.24	1.28	1.96	-21.19
Infineon Technologies AG	3.22	0.20	3.02	2.68
AIA Group Ltd	2.96	0.52	2.44	-6.63
Roche Holding AG	2.85	0.97	1.88	-2.80
Adyen N.V	2.82	0.21	2.61	14.57
Schneider Electric SA	2.76	0.34	2.42	6.02
Samsung Electronics Co Ltd	2.63	0.18	2.45	-12.39
% of Portfolio	31.04	6.17	24.87	



## Buy and Hold Sector Attribution

1 Quarter Ending September 30, 2021

Manager F vs. MSCI AC World ex USA

Buy-and-Hold Portfolio	-1.45
Portfolio Trading	-2.03
Actual Return	-3.49
Benchmark Return	-2.88
Actual Active Return	-0.61
Stock Selection	-1.22
Sector Selection	1.20
Interaction	1.29
Total Selection	1.26
Portfolio Trading	-2.03
Benchmark Trading	-0.16
Active Trading Impact	-1.87
Buy & Hold Active Return	-0.61

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021			Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	Total
Communication Services	4.21	6.73	-5.08	-9.22	0.28	0.16	-0.10	0.34
Consumer Discretionary	2.35	13.81	-17.73	-11.13	-0.91	0.96	0.76	0.81
Consumer Staples	12.79	8.50	-2.88	-3.20	0.03	-0.02	0.01	0.02
Energy	3.00	4.54	10.16	7.15	0.14	-0.15	-0.05	-0.06
Financials	16.20	18.58	-3.71	1.34	-0.94	-0.10	0.12	-0.92
Health Care	13.32	9.29	3.22	-1.88	0.47	0.03	0.21	0.71
Industrials	14.32	11.80	0.85	0.38	0.06	0.08	0.01	0.15
Information Technology	20.33	12.93	1.40	-0.73	0.28	0.15	0.16	0.58
Materials	9.93	8.30	-8.62	-5.36	-0.27	-0.04	-0.05	-0.37
Real Estate	0.00	2.55	0.00	-5.77	0.00	0.08	0.00	0.08
Utilities	1.05	2.98	-13.34	-1.59	-0.35	-0.02	0.23	-0.14
Cash	2.51	0.00	0.00	0.00	0.00	0.07	0.00	0.07
Total	100.00	100.00	-1.45	-2.72	-1.22	1.20	1.29	1.26

## Buy and Hold Region Attribution

1 Quarter Ending September 30, 2021

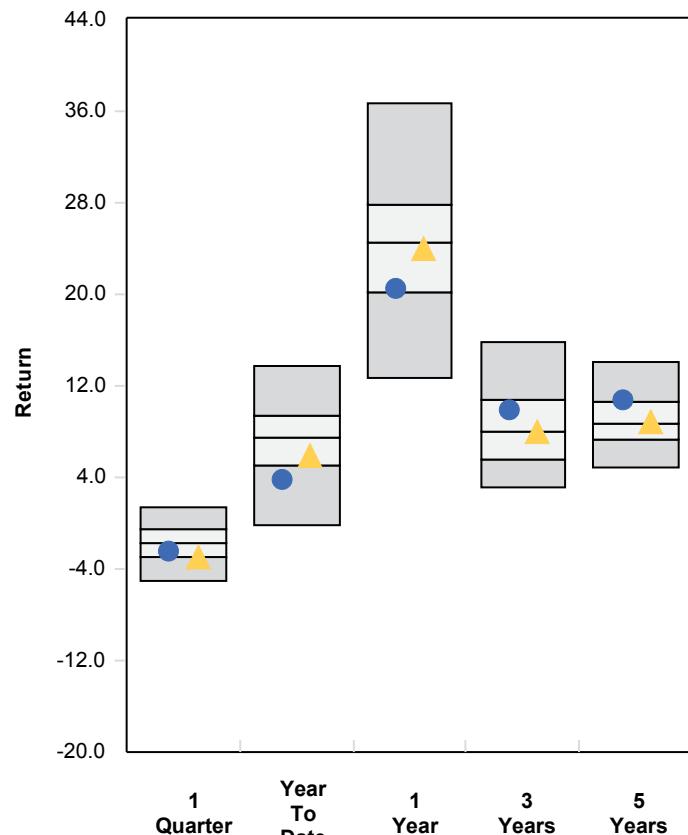
Manager F vs. MSCI AC World ex USA

Buy-and-Hold Portfolio	-1.45
Portfolio Trading	-2.03
Actual Return	-3.49
Benchmark Return	-2.88
Actual Active Return	-0.61
Stock Selection	1.24
Region Selection	0.20
Interaction	-0.18
Total Selection	1.26
Portfolio Trading	-2.03
Benchmark Trading	-0.16
Active Trading Impact	-1.87
Buy & Hold Active Return	-0.61

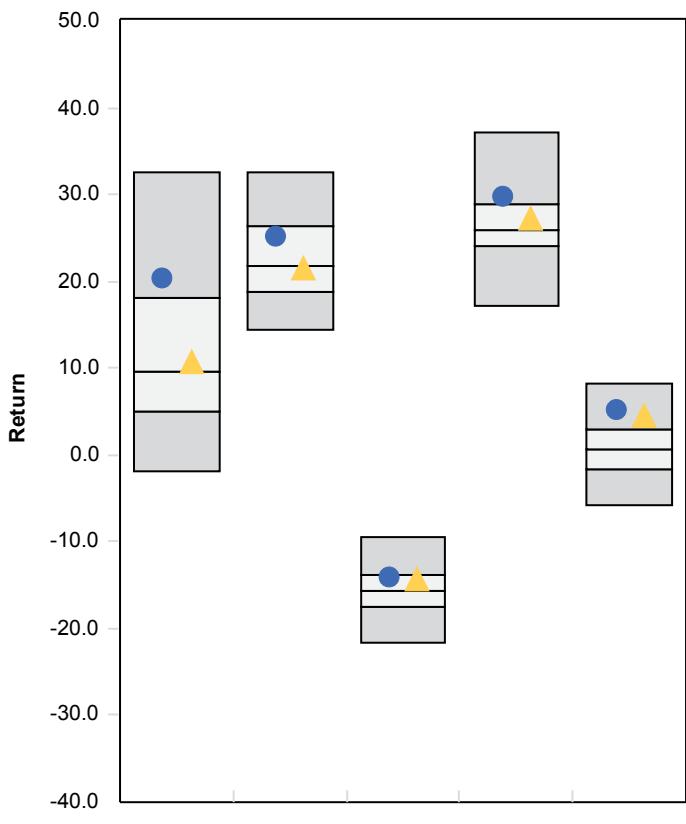
	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Region	Interaction	Total
EM Asia	18.32	23.90	-10.99	-9.34	-0.40	0.37	0.09	0.07
EM Europe + Middle East + Africa	1.84	3.69	6.04	4.86	0.04	-0.14	-0.02	-0.12
EM Latin America	3.82	2.37	-10.23	-13.58	0.08	-0.16	0.05	-0.03
EMU	24.21	21.50	2.09	-1.01	0.67	0.05	0.08	0.80
Europe ex EMU	25.53	18.39	-0.02	-1.82	0.33	0.06	0.13	0.52
Middle East	1.17	0.37	-2.66	2.90	-0.02	0.04	-0.04	-0.02
North America	1.89	7.06	7.02	-2.10	0.64	-0.03	-0.47	0.14
Pacific	20.72	22.31	1.14	1.64	-0.11	-0.07	0.01	-0.17
Other	0.00	0.40	0.00	-5.06	0.00	0.01	0.00	0.01
Cash	2.51	0.00	0.00	0.00	0.00	0.07	0.00	0.07
Total	100.00	100.00	-1.45	-2.72	1.24	0.20	-0.18	1.26

## Manager G

## Peer Group Analysis - IM International Multi-Cap Equity (MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager G	-2.38 (61)	3.76 (86)	20.50 (75)	9.93 (31)	10.78 (23)
MSCI AC World ex USA (Net)	-2.99 (74)	5.90 (68)	23.92 (55)	8.03 (50)	8.94 (44)
Median	-1.66	7.51	24.50	7.99	8.68



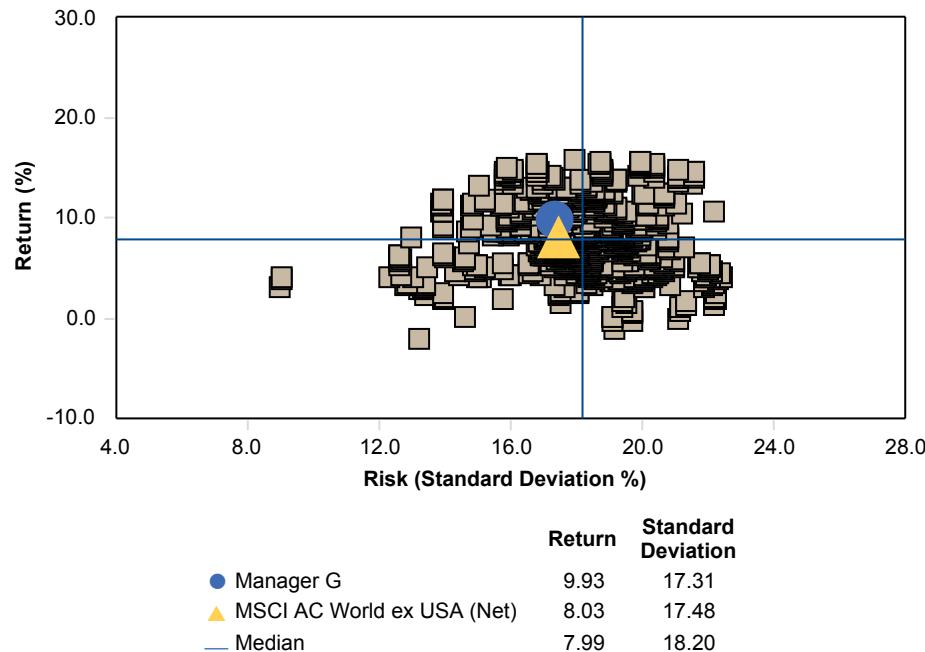
	2020	2019	2018	2017	2016
Manager G	9.53	21.85	-15.72	25.99	0.66
MSCI AC World ex USA (Net)	20.33 (21)	25.23 (30)	-13.96 (27)	29.90 (21)	5.30 (12)

## Historical Statistics - 3 Years

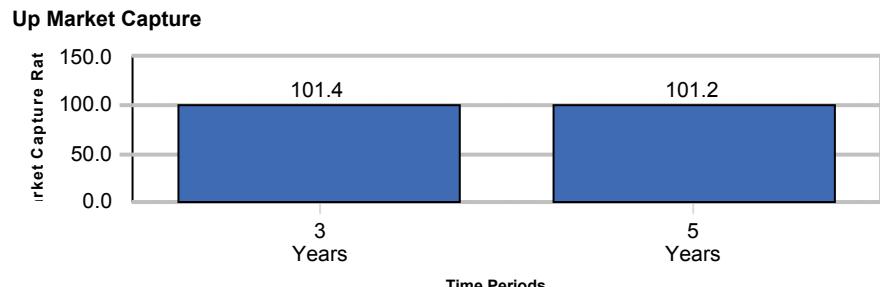
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager G	9.93	17.31	0.56	2.15	0.95	0.10	1.71	4.65	0.37	0.93
MSCI AC World ex USA (Net)	8.03	17.48	0.46	0.00	1.00	0.08	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.25	-0.01	0.00	-8.12	17.61	-0.46	0.15

## Manager G

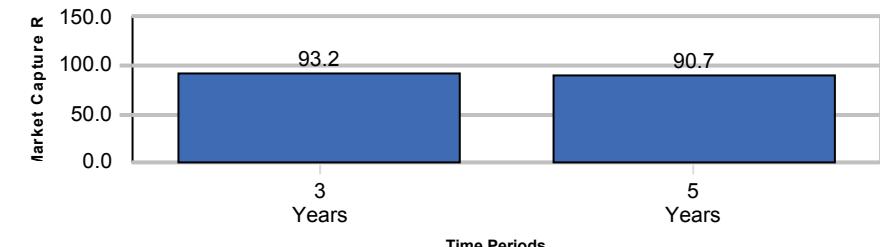
## Peer Group Scattergram (10/01/18 to 09/30/21)



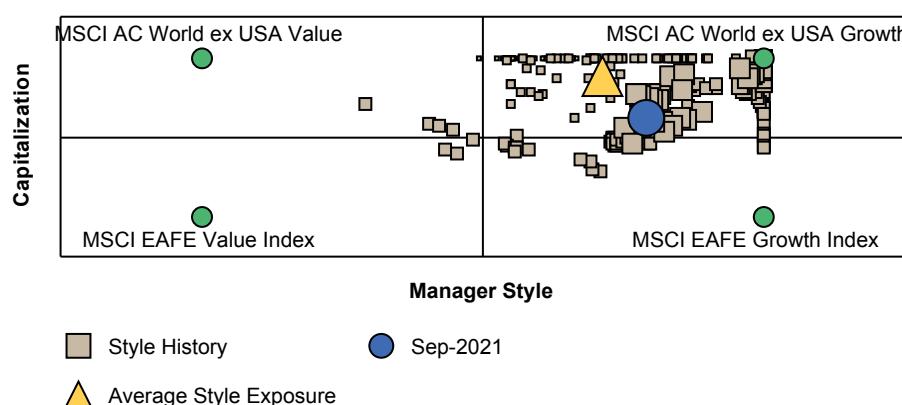
## Up Down Market Capture



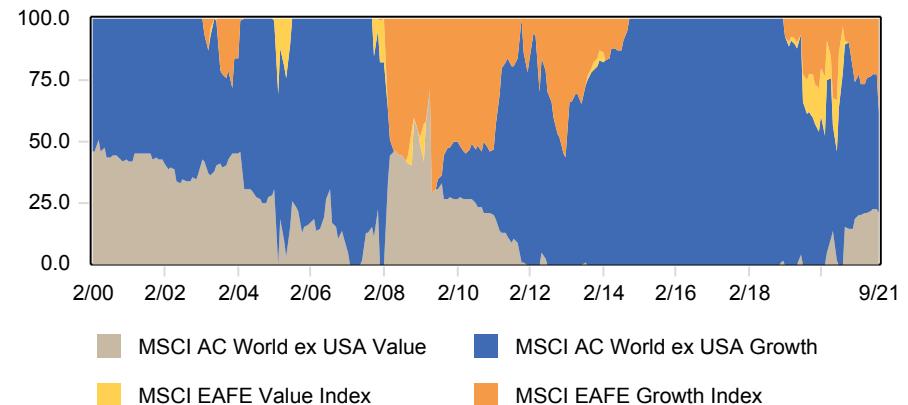
## Down Market Capture



## Style Map (01/01/97 to 09/30/21)



## Style History (01/01/97 to 09/30/21)

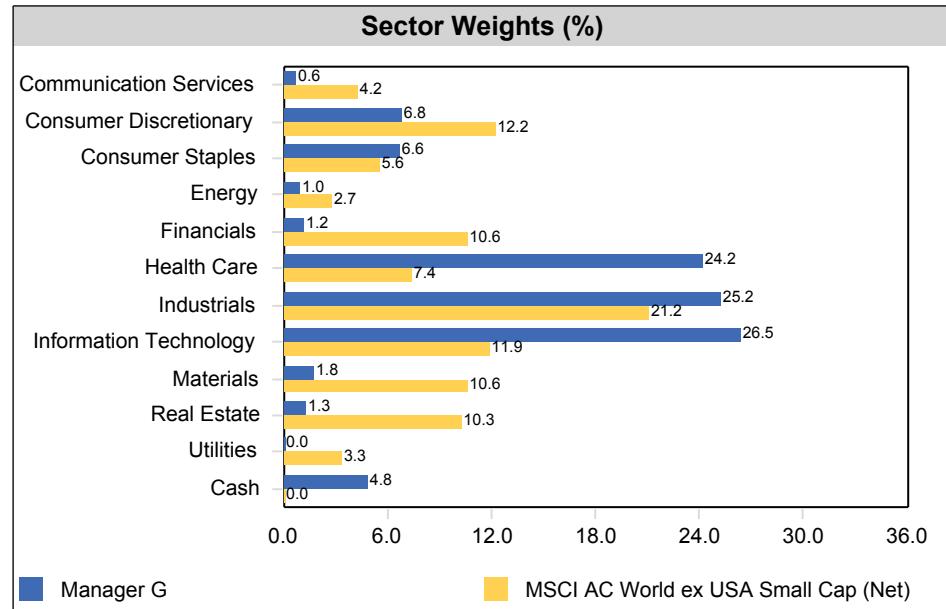


## Portfolio Characteristics

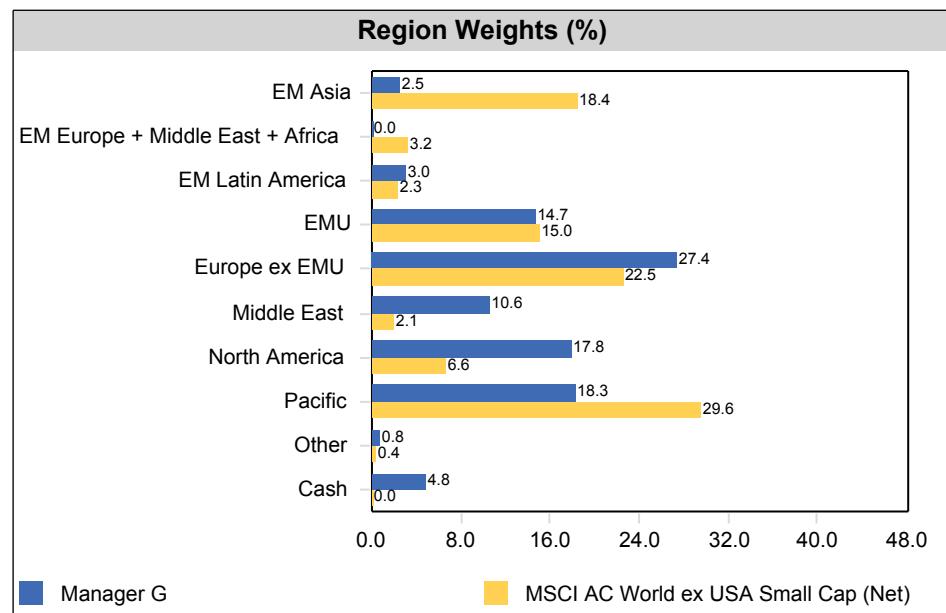
As of September 30, 2021

### Manager G vs. MSCI AC World ex USA Small Cap (Net)

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	8,056	3,014
Median Mkt. Cap (\$M)	3,559	1,188
Price/Earnings ratio	38.26	15.24
Price/Book ratio	4.40	2.46
5 Yr. EPS Growth Rate (%)	14.25	11.57
Current Yield (%)	0.89	2.19
Beta	N/A	1.00
Number of Stocks	129	4,391
Debt to Equity (%)	44.32	103.46



Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
CASH	4.81	0.00	4.81	N/A
NICE Ltd	3.81	0.00	3.81	14.78
Kornit Digital Ltd	3.09	0.15	2.94	16.42
SG Holdings Co Ltd	2.23	0.00	2.23	9.27
Alcon Inc	1.94	0.00	1.94	16.30
Metso Outotec Oyj	1.87	0.12	1.75	-21.03
Jet2 plc	1.79	0.06	1.73	5.73
Azbil Corp	1.77	0.00	1.77	4.58
Convatec Group Plc	1.66	0.10	1.56	-11.76
Rotork PLC	1.57	0.09	1.48	0.90
% of Portfolio	24.54	0.52	24.02	



## Buy and Hold Sector Attribution

1 Quarter Ending September 30, 2021

Manager G vs. MSCI AC World ex USA Small Cap (Net)

Buy-and-Hold Portfolio	-1.10
Portfolio Trading	N/A
Actual Return	N/A
Benchmark Return	0.00
Actual Active Return	N/A
Stock Selection	-2.63
Sector Selection	-0.59
Interaction	1.92
Total Selection	-1.30
Portfolio Trading	N/A
Benchmark Trading	-0.20
Active Trading Impact	N/A
Buy & Hold Active Return	N/A

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	Total
Communication Services	0.78	4.10	-2.72	0.81	-0.10	-0.02	0.08	-0.05
Consumer Discretionary	8.02	12.50	-15.94	-3.65	-1.62	0.17	0.59	-0.86
Consumer Staples	6.91	5.59	-3.53	-1.60	-0.11	-0.02	-0.02	-0.15
Energy	0.74	2.36	-7.05	8.45	-0.38	-0.14	0.25	-0.26
Financials	1.64	10.26	-4.03	2.67	-0.67	-0.21	0.58	-0.30
Health Care	26.29	7.58	-4.39	-3.04	-0.10	-0.60	-0.27	-0.97
Industrials	25.90	21.07	2.30	2.01	0.08	0.09	0.02	0.19
Information Technology	25.35	12.00	4.65	0.83	0.46	0.08	0.51	1.04
Materials	1.83	10.85	1.94	-0.68	0.30	0.08	-0.25	0.13
Real Estate	1.28	10.45	-5.21	-0.14	-0.49	0.03	0.43	-0.03
Utilities	0.00	3.25	0.00	1.14	0.00	-0.03	0.00	-0.03
Cash	1.26	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	-1.10	0.20	-2.63	-0.59	1.92	-1.30

## Buy and Hold Region Attribution

1 Quarter Ending September 30, 2021

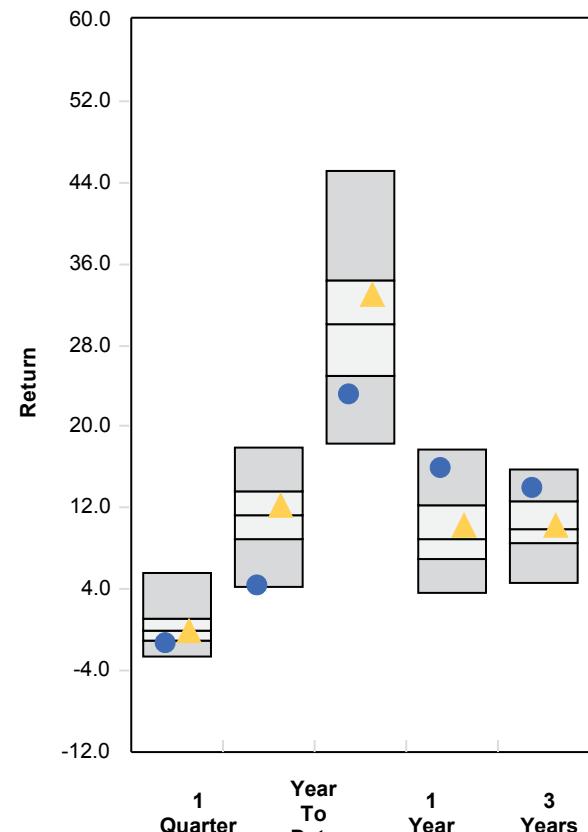
Manager G vs. MSCI AC World ex USA Small Cap (Net)

Buy-and-Hold Portfolio	-1.10
Portfolio Trading	N/A
Actual Return	N/A
Benchmark Return	0.00
Actual Active Return	N/A
Stock Selection	-0.77
Region Selection	-0.05
Interaction	-0.48
Total Selection	-1.30
Portfolio Trading	N/A
Benchmark Trading	-0.20
Active Trading Impact	N/A
Buy & Hold Active Return	N/A

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021				Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Region	Interaction	Total	
EM Asia	2.46	18.27	5.48	-0.24	1.02	0.07	-0.89	0.20	
EM Europe + Middle East + Africa	0.00	3.15	0.00	1.17	0.00	-0.03	0.00	-0.03	
EM Latin America	3.08	2.68	-10.37	-13.08	0.09	-0.05	0.01	0.04	
EMU	15.79	15.10	-5.81	0.14	-0.90	0.01	-0.04	-0.93	
Europe ex EMU	32.14	23.09	-3.09	0.33	-0.81	-0.02	-0.30	-1.12	
Middle East	9.86	1.95	12.80	3.49	0.17	0.27	0.67	1.11	
North America	17.34	6.50	-0.89	-0.59	-0.02	-0.09	-0.04	-0.15	
Pacific	17.16	28.86	0.51	1.61	-0.31	-0.18	0.12	-0.36	
Other	0.92	0.39	-10.04	-6.54	-0.01	-0.04	-0.02	-0.07	
Cash	1.26	0.00	0.02	0.00	0.00	0.00	0.00	0.00	
Total	100.00	100.00	-1.10	0.20	-0.77	-0.05	-0.48	-1.30	

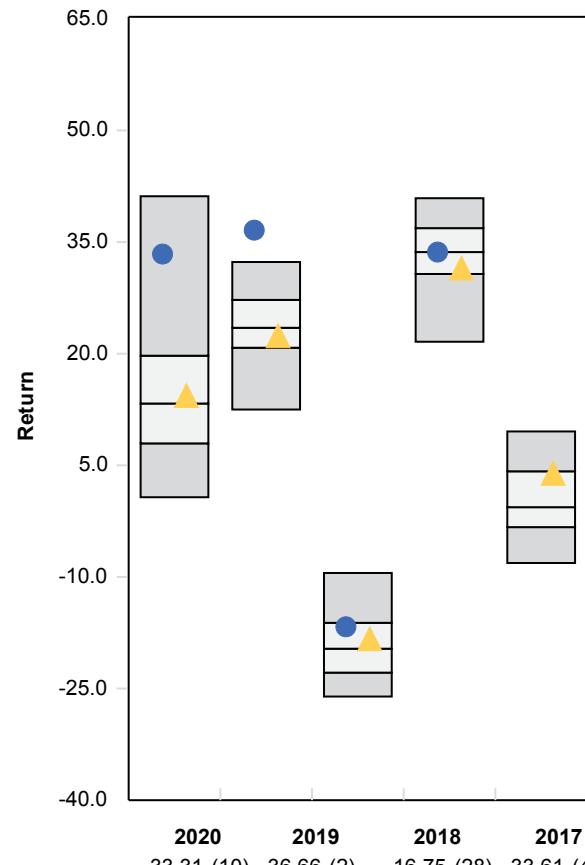
## Manager H

## Peer Group Analysis - IM International SMID Cap Equity (MF)



● Manager H

▲ MSCI AC World ex USA Small Cap (Net)



● Manager H

▲ MSCI AC World ex USA Small Cap (Net)

Median

-0.14 11.29 30.08 8.96

## Historical Statistics - 3 Years

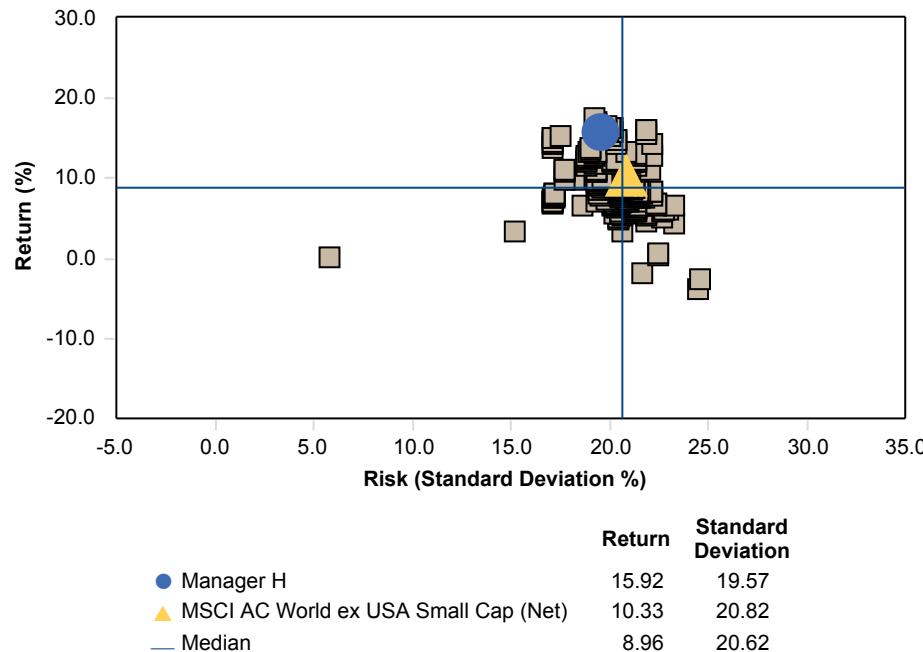
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager H	15.92	19.57	0.79	6.21	0.89	0.18	4.67	6.88	0.68	0.89
MSCI AC World ex USA Small Cap (Net)	10.33	20.82	0.52	0.00	1.00	0.11	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.27	-0.01	0.00	-10.94	20.98	-0.52	0.22

## Investment Review

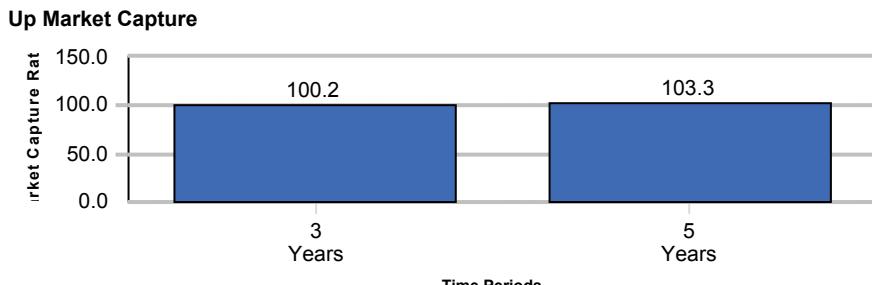
As of September 30, 2021

### Manager H

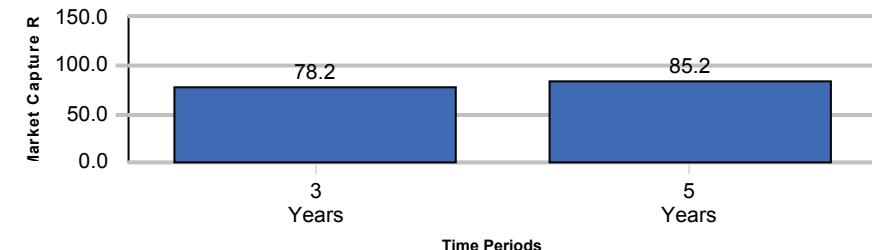
#### Peer Group Scattergram (10/01/18 to 09/30/21)



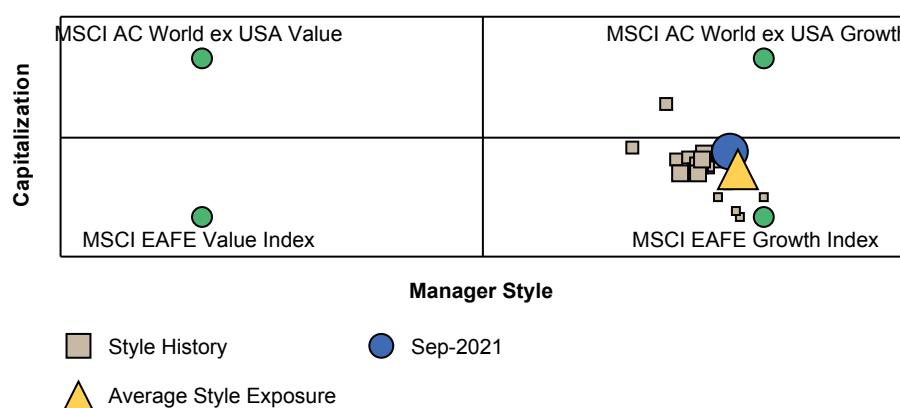
#### Up Down Market Capture



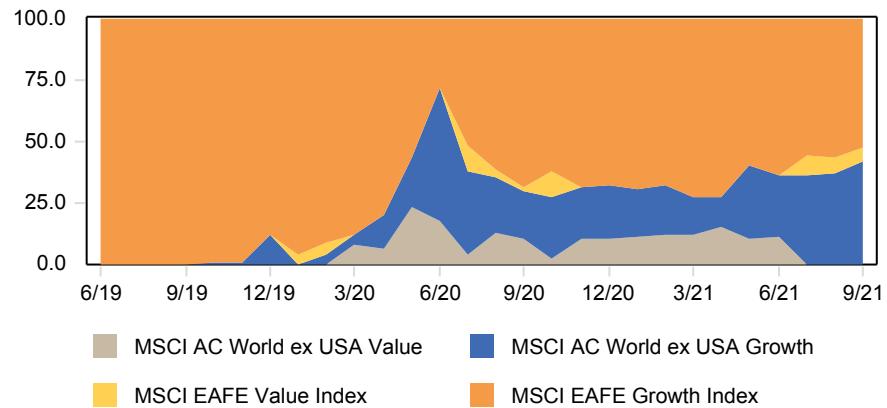
#### Down Market Capture



#### Style Map (05/01/16 to 09/30/21)



#### Style History (05/01/16 to 09/30/21)



## Portfolio Characteristics

As of September 30, 2021

Manager H vs. MSCI AC World ex USA Small Cap (Net)

<b><u>Portfolio Characteristics</u></b>		
	<b>Portfolio</b>	<b>Benchmark</b>
Wtd. Avg. Mkt. Cap (\$M)	-	3,014
Median Mkt. Cap (\$M)	-	1,188
Price/Earnings ratio	0.00	15.24
Price/Book ratio	0.00	2.46
5 Yr. EPS Growth Rate (%)	0.00	11.57
Current Yield (%)	0.00	2.19
Beta	N/A	1.00
Number of Stocks	0	4,391
Debt to Equity (%)	0.00	103.46

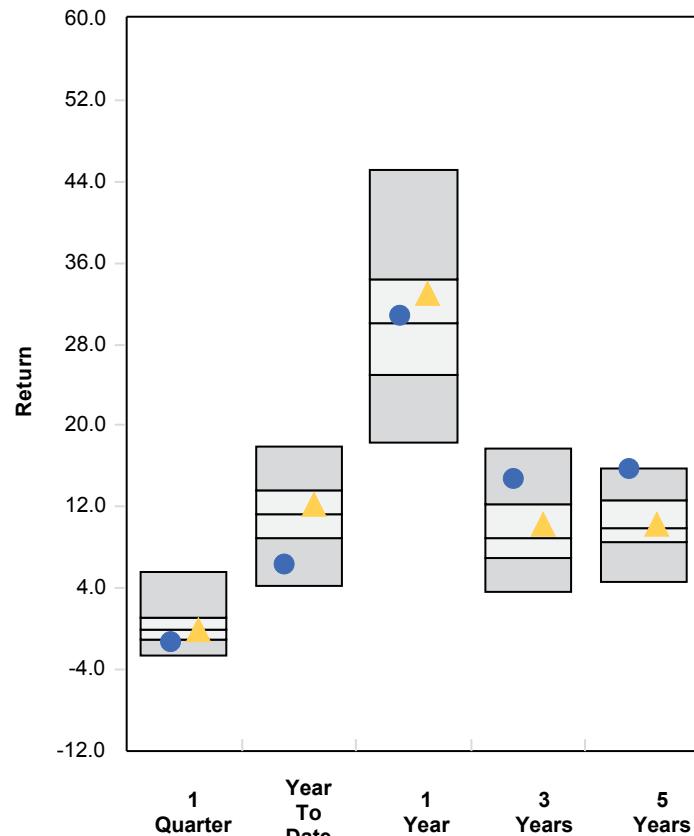
<b><u>Sector Weights (%)</u></b>
No data found.

<b><u>Top Ten Equity Holdings</u></b>
No data found.

<b><u>Region Weights (%)</u></b>
No data found.

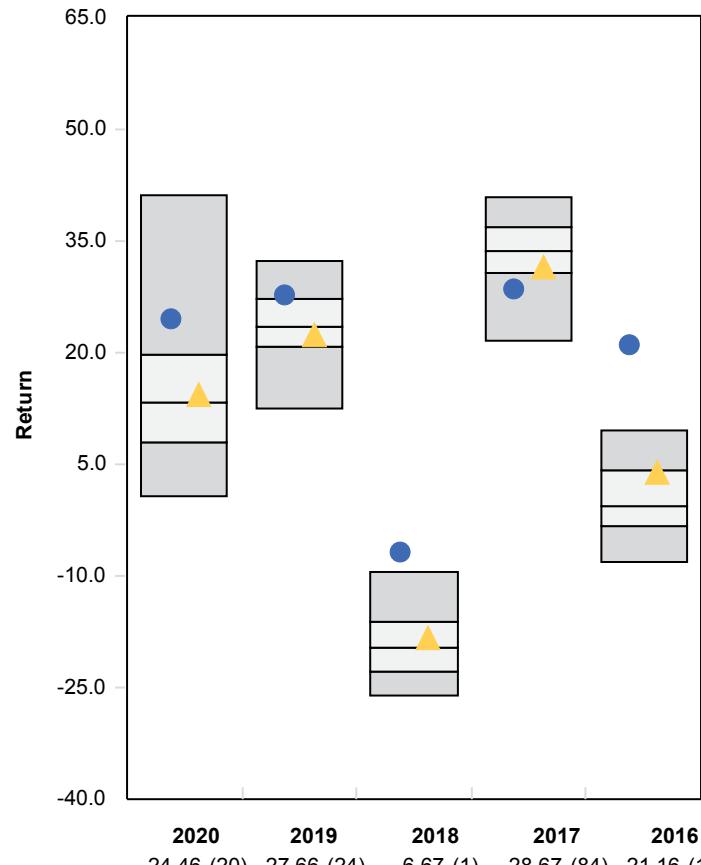
## Manager I

## Peer Group Analysis - IM International SMID Cap Equity (MF)



● Manager I  
▲ MSCI AC Wd ex US Sm Cap

Median -0.14 11.29 30.08 8.96 9.91



Median -0.14 11.29 30.08 8.96 9.91

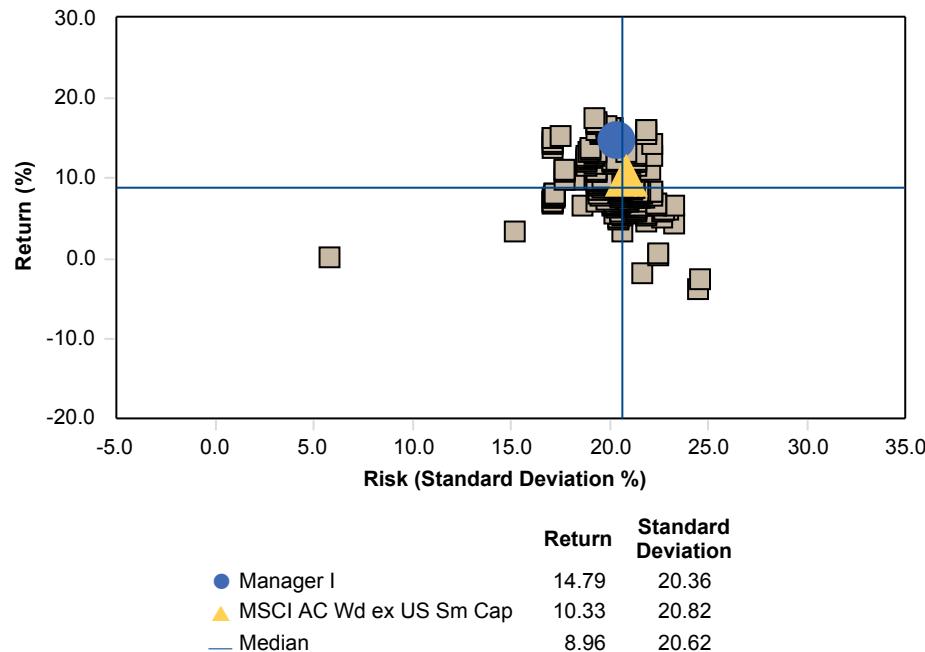
Median 13.40 23.48 -19.52 33.55 -0.53

## Historical Statistics - 3 Years

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager I	14.79	20.36	0.72	4.82	0.93	0.16	3.89	6.38	0.61	0.91
MSCI AC World ex USA Small Cap (Net)	10.33	20.82	0.52	0.00	1.00	0.11	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.27	-0.01	0.00	-10.94	20.98	-0.52	0.22

## Manager I

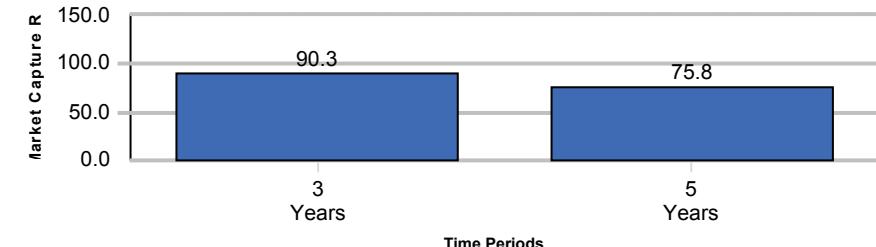
## Peer Group Scattergram (10/01/18 to 09/30/21)



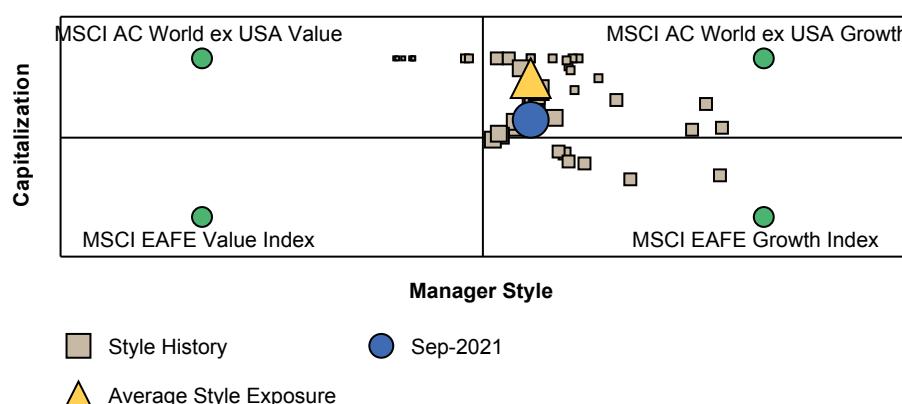
## Up Down Market Capture



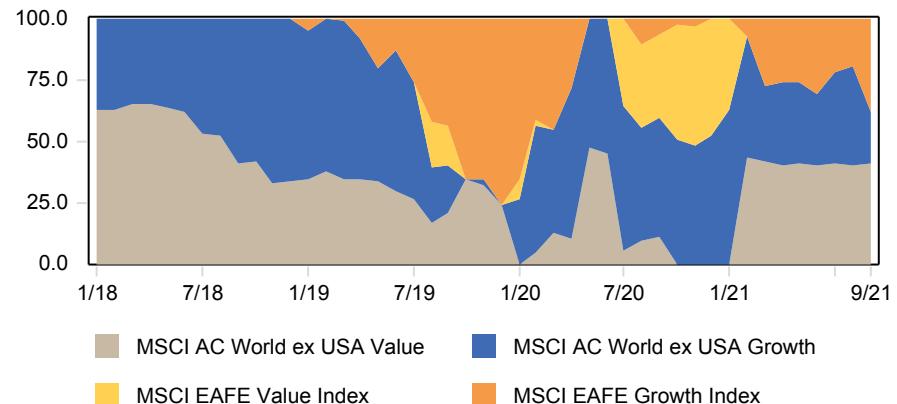
## Down Market Capture



## Style Map (12/01/14 to 09/30/21)



## Style History (12/01/14 to 09/30/21)

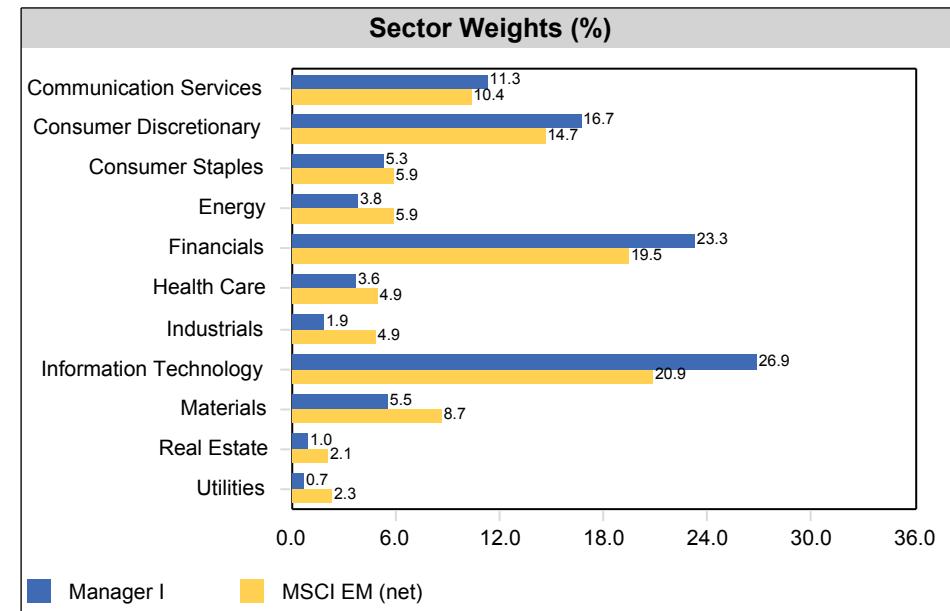


## Portfolio Characteristics

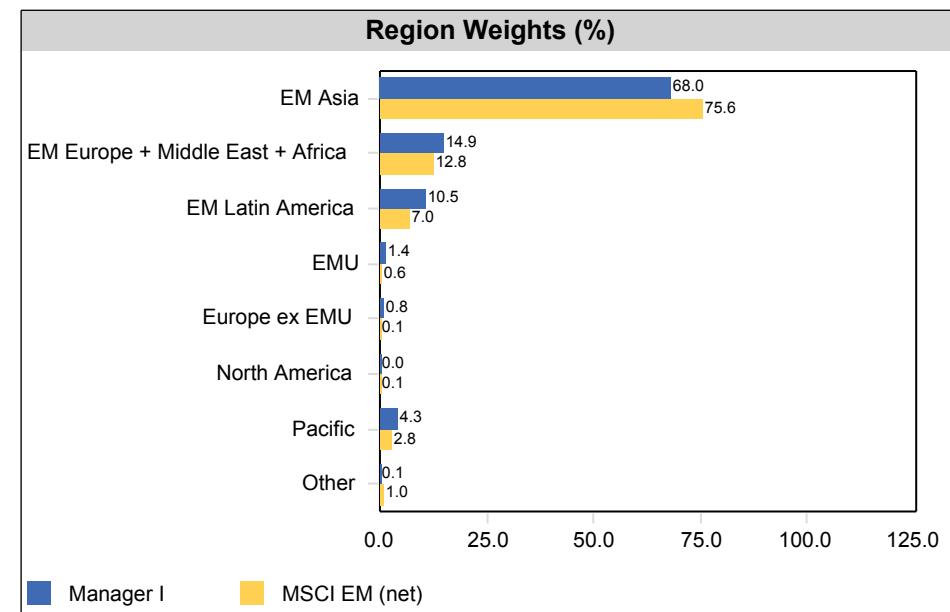
As of September 30, 2021

Manager I vs. MSCI EM (net)

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	148,113	127,496
Median Mkt. Cap (\$M)	16,457	6,793
Price/Earnings ratio	16.00	13.21
Price/Book ratio	2.76	2.78
5 Yr. EPS Growth Rate (%)	16.19	15.51
Current Yield (%)	2.18	2.46
Beta (5 Years, Monthly)	0.99	1.00
Number of Stocks	114	1,418
Debt to Equity (%)	84.28	90.26



Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Taiwan Semicon Manu Co	8.94	6.51	2.43	-1.81
Samsung Electronics Co Ltd	6.17	3.80	2.37	-11.74
Tencent Holdings LTD	6.04	4.33	1.71	-21.19
Mediatek Incorporation	2.21	0.62	1.59	-1.89
AIA Group Ltd	2.15	0.00	2.15	-6.63
Firstrand Ltd	2.07	0.28	1.79	14.53
Icici Bank Ltd	1.96	0.61	1.35	11.65
Itau Unibanco Holding SA	1.94	0.33	1.61	-11.88
JD.com Inc	1.87	0.80	1.07	-7.49
Alibaba Group Holding Ltd	1.86	3.52	-1.66	-34.72
% of Portfolio	35.21	20.80	14.41	



## Buy and Hold Sector Attribution

1 Quarter Ending September 30, 2021

Manager I vs. MSCI EM (net)

Buy-and-Hold Portfolio	-7.79
Portfolio Trading	-0.28
Actual Return	-8.06
Benchmark Return	-8.09
Actual Active Return	0.03
Stock Selection	0.63
Sector Selection	-0.86
Interaction	0.18
Total Selection	-0.05
Portfolio Trading	-0.28
Benchmark Trading	-0.36
Active Trading Impact	0.08
Buy & Hold Active Return	0.03

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021			Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	Total
Communication Services	12.08	11.26	-15.04	-14.83	-0.02	-0.06	0.00	-0.08
Consumer Discretionary	22.30	17.59	-16.01	-22.79	1.19	-0.71	0.32	0.80
Consumer Staples	4.09	5.62	-1.19	-4.00	0.16	-0.06	-0.04	0.06
Energy	3.09	5.03	15.56	9.59	0.30	-0.34	-0.12	-0.15
Financials	20.78	17.79	-1.07	1.38	-0.43	0.27	-0.07	-0.23
Health Care	2.85	5.04	1.17	-12.79	0.70	0.11	-0.31	0.51
Industrials	2.19	4.89	-9.49	-5.94	-0.17	-0.05	0.10	-0.13
Information Technology	24.35	20.39	-5.24	-5.49	0.05	0.09	0.01	0.15
Materials	6.16	8.42	-16.37	-4.42	-1.01	-0.07	0.27	-0.81
Real Estate	0.94	2.01	-2.97	-14.25	0.23	0.07	-0.12	0.18
Utilities	1.18	1.95	-10.40	8.07	-0.36	-0.12	0.14	-0.34
Total	100.00	100.00	-7.79	-7.73	0.63	-0.86	0.18	-0.05

## Buy and Hold Region Attribution

1 Quarter Ending September 30, 2021

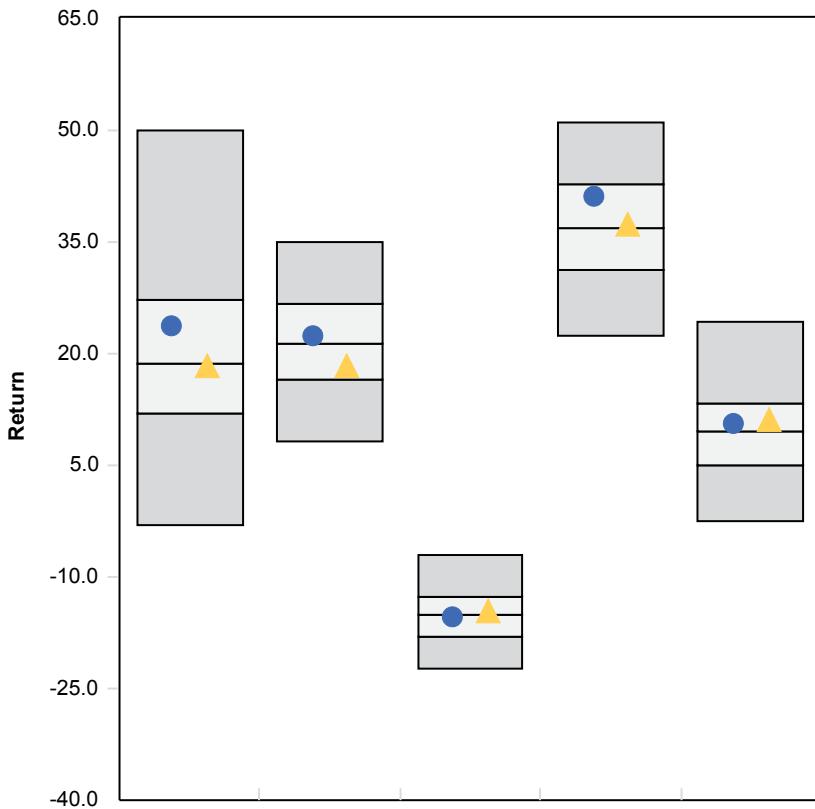
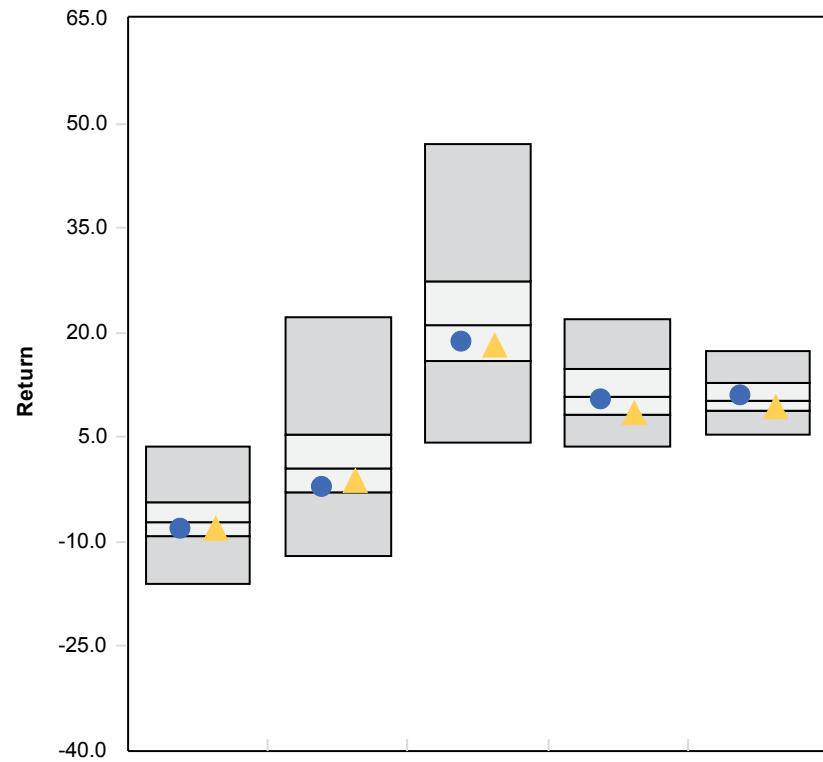
Manager I vs. MSCI EM (net)

Buy-and-Hold Portfolio	-7.79
Portfolio Trading	-0.28
Actual Return	-8.06
Benchmark Return	-8.09
Actual Active Return	0.03
Stock Selection	-0.47
Region Selection	0.06
Interaction	0.36
Total Selection	-0.05
Portfolio Trading	-0.28
Benchmark Trading	-0.36
Active Trading Impact	0.08
Buy & Hold Active Return	0.03

	Allocation-07/01/2021		Performance-1 Quarter Ending September 30, 2021				Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Region	Interaction	Total	
EM Asia	67.79	76.36	-10.04	-9.34	-0.54	0.14	0.06	-0.34	
EM Europe + Middle East + Africa	13.85	11.75	4.39	4.86	-0.06	0.26	-0.01	0.20	
EM Latin America	13.24	7.58	-12.83	-13.58	0.06	-0.33	0.04	-0.23	
EMU	1.01	0.52	6.13	8.59	-0.01	0.08	-0.01	0.06	
Europe ex EMU	0.42	0.12	14.00	-13.52	0.03	-0.02	0.08	0.10	
North America	0.00	0.06	0.00	-11.54	0.00	0.00	0.00	0.00	
Pacific	3.59	2.76	0.11	-6.92	0.19	0.01	0.06	0.26	
Other	0.10	0.85	-15.04	2.99	-0.15	-0.08	0.14	-0.10	
Total	100.00	100.00	-7.79	-7.73	-0.47	0.06	0.36	-0.05	

## Manager J

## Peer Group Analysis - IM Emerging Markets Equity (SA+CF+MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager J	-8.06 (60)	-2.06 (69)	18.89 (62)	10.59 (53)	10.93 (39)
MSCI EM (net)	-8.09 (60)	-1.25 (63)	18.20 (64)	8.58 (72)	9.23 (67)
Median	-7.26	0.44	20.93	10.83	10.16

	2020	2019	2018	2017	2016
Manager J	23.80 (36)	22.36 (46)	-15.45 (52)	41.09 (32)	10.64 (43)
MSCI EM (net)	18.31 (53)	18.44 (68)	-14.58 (44)	37.28 (49)	11.19 (39)

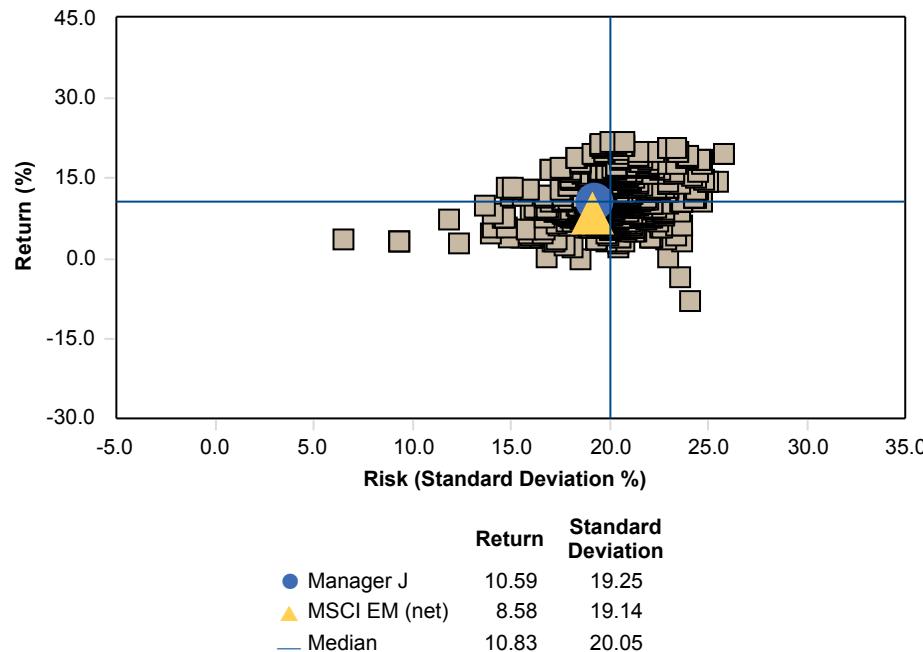
	Median	2020	2019	2018	2017	2016
Median	18.73	21.36	-15.20	36.96	9.47	

## Historical Statistics - 3 Years

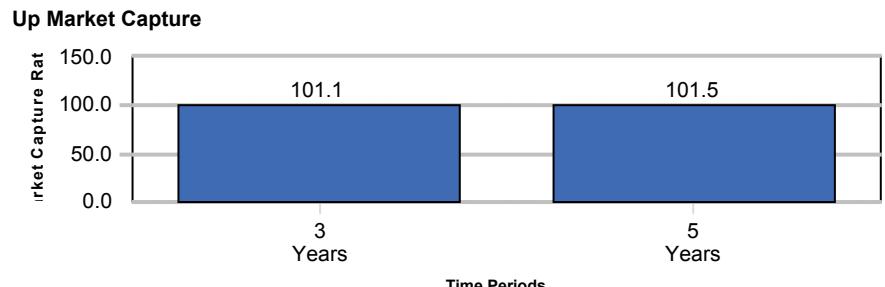
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager J	10.59	19.25	0.56	1.97	0.99	0.11	1.87	3.21	0.58	0.97
MSCI EM (net)	8.58	19.14	0.47	0.00	1.00	0.09	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.24	-0.01	0.00	-8.95	19.25	-0.47	0.12

## Manager J

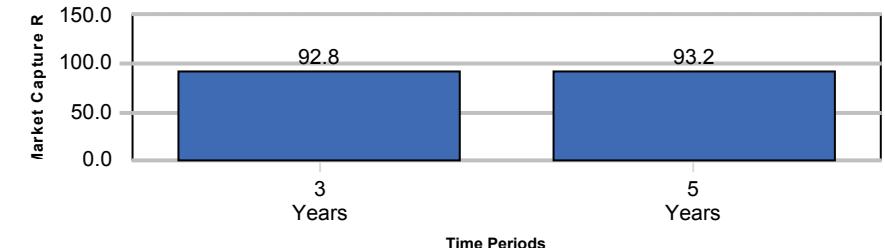
## Peer Group Scattergram (10/01/18 to 09/30/21)



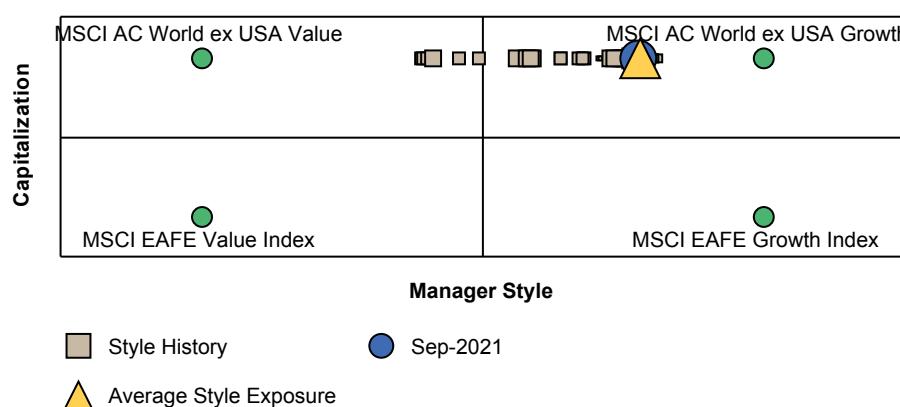
## Up Down Market Capture



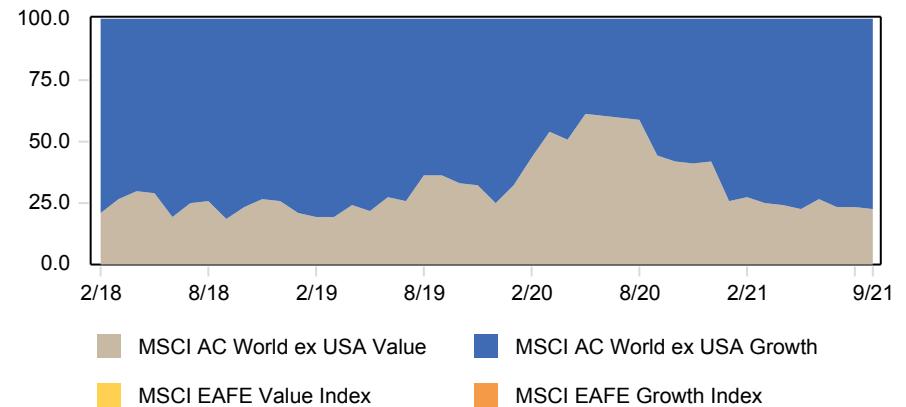
## Down Market Capture



## Style Map (01/01/15 to 09/30/21)



## Style History (01/01/15 to 09/30/21)

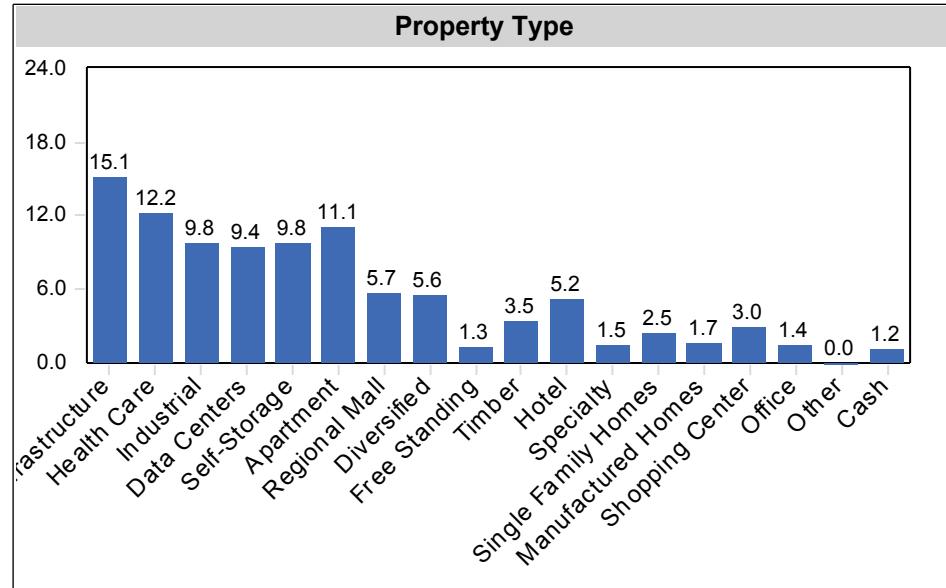


## Portfolio Characteristics

As of September 30, 2021

### Manager J vs. MSCI US REIT Index

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	37,884	28,480
Median Mkt. Cap (\$M)	19,453	3,977
Price/Earnings ratio	42.16	43.37
Price/Book ratio	3.40	2.66
5 Yr. EPS Growth Rate (%)	7.30	4.42
Current Yield (%)	2.60	3.10
Number of Stocks	37	136

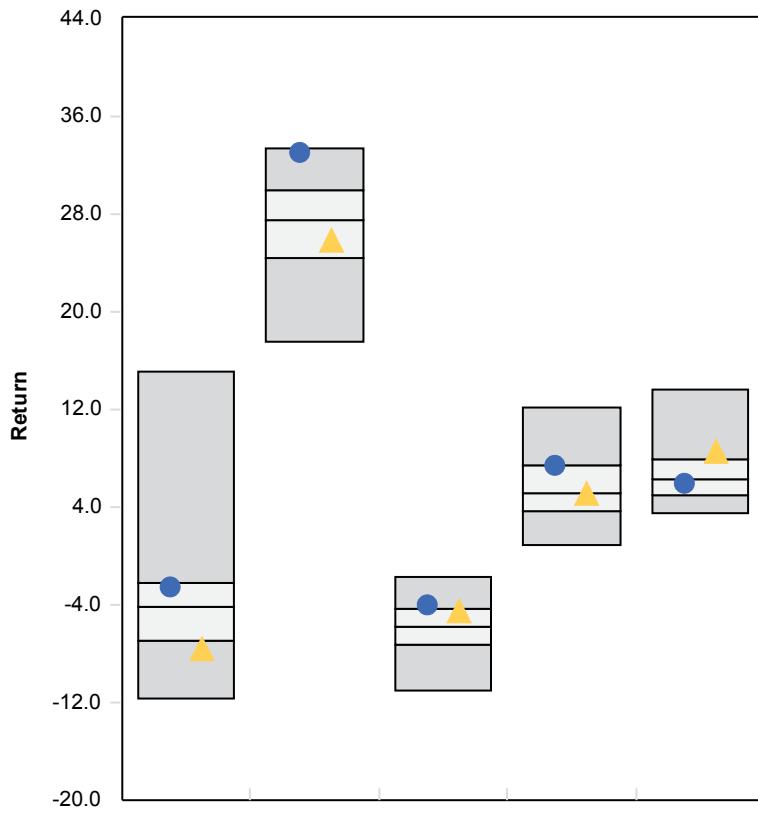
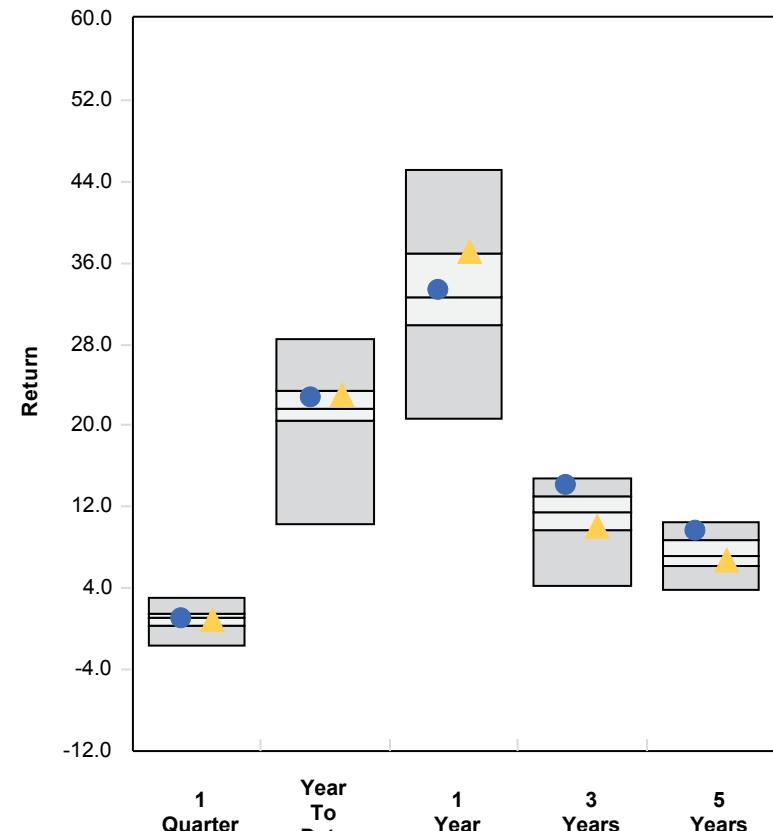


Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
American Tower Corp	9.81	0.00	9.81	-1.28
Public Storage	8.00	4.17	3.83	-0.57
Simon Property Group Inc.	5.76	3.81	1.95	1.81
Duke Realty Corp	5.09	1.60	3.49	1.60
Healthpeak Properties Inc	4.89	1.61	3.28	1.40
Welltower Inc	4.33	3.07	1.26	-0.12
UDR Inc	4.13	1.40	2.73	8.92
SBA Communications Corp	3.63	0.00	3.63	3.90
Essex Property Trust Inc.	3.61	1.85	1.76	7.26
Weyerhaeuser Co	3.52	0.00	3.52	3.82
% of Portfolio	52.77	17.51	35.26	

Ten Best Performers				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Jones Lang LaSalle Inc	2.54	0.00	2.54	26.93
Healthcare Trust of America Inc	1.46	0.58	0.88	11.09
CyrusOne Inc	2.69	0.85	1.84	8.97
UDR Inc	4.13	1.40	2.73	8.92
Sun Communities Inc.	1.66	1.85	-0.19	8.47
Caesars Entertainment Inc	0.89	0.00	0.89	8.22
Essex Property Trust Inc.	3.61	1.85	1.76	7.26
Equity Residential	0.95	2.56	-1.61	5.87
Prologis Inc	2.39	8.27	-5.88	5.43
SBA Communications Corp	3.63	0.00	3.63	3.90
% of Portfolio	23.95	17.36	6.59	

## Manager K

## Peer Group Analysis - IM Real Estate Sector (MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager K	1.07 (50)	22.86 (31)	33.48 (43)	14.13 (16)	9.65 (13)
MSCI US REIT Index	0.98 (54)	23.00 (28)	37.16 (25)	10.10 (71)	6.84 (62)
Median	1.07	21.66	32.59	11.46	7.19

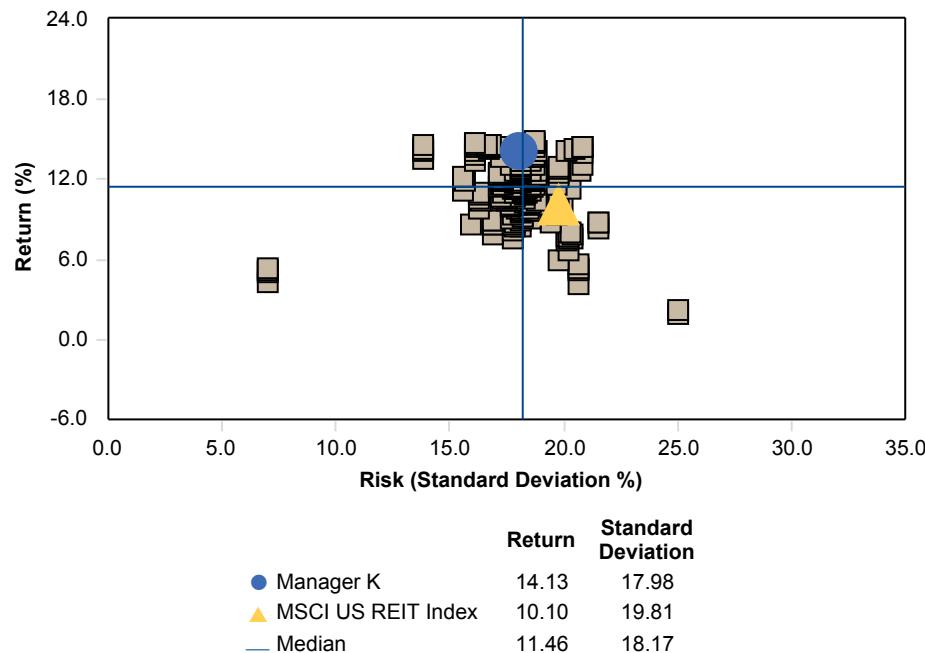
	2020	2019	2018	2017	2016
Manager K	-2.57 (28)	33.01 (6)	-3.99 (17)	7.45 (26)	5.91 (56)
MSCI US REIT Index	-7.57 (79)	25.84 (64)	-4.57 (30)	5.07 (52)	8.60 (19)
Median	-4.24	27.44	-5.74	5.21	6.28

## Historical Statistics - 3 Years

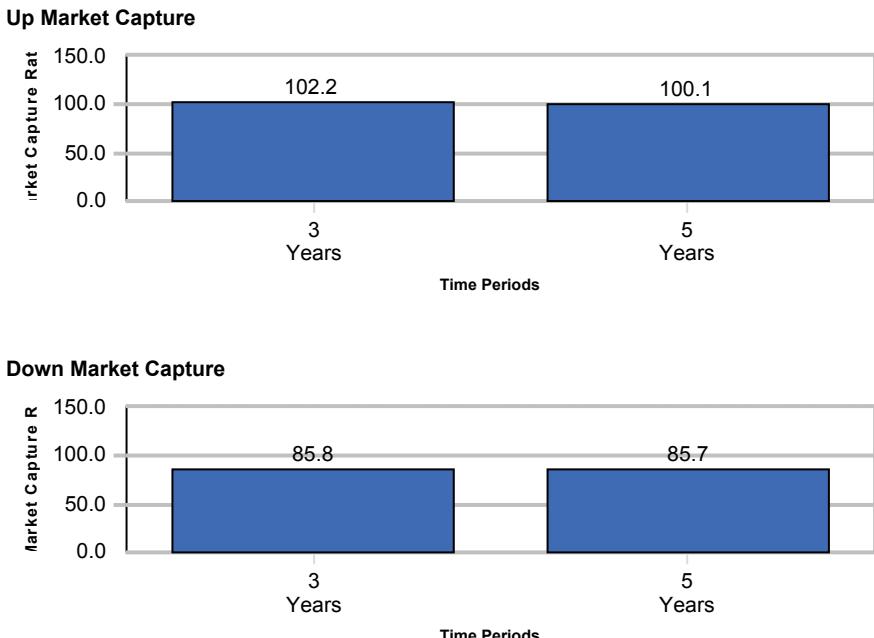
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager K	14.13	17.98	0.76	4.59	0.89	0.15	3.23	3.91	0.83	0.97
MSCI US REIT Index	10.10	19.81	0.53	0.00	1.00	0.11	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.25	-0.01	0.00	-10.57	19.93	-0.53	0.12

## Manager K

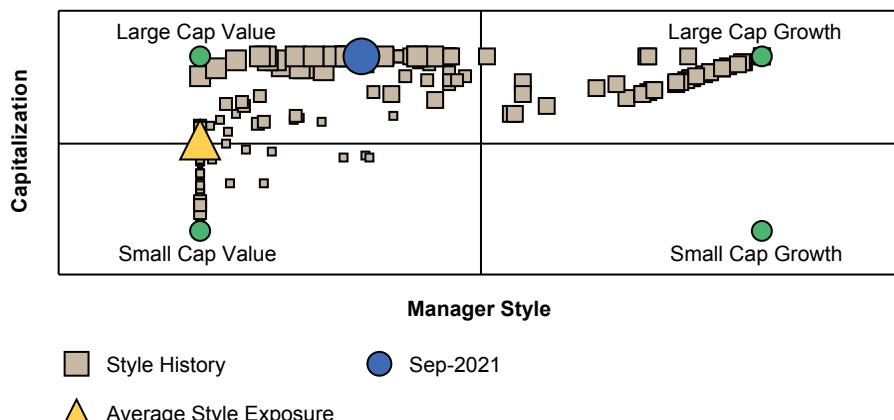
## Peer Group Scattergram (10/01/18 to 09/30/21)



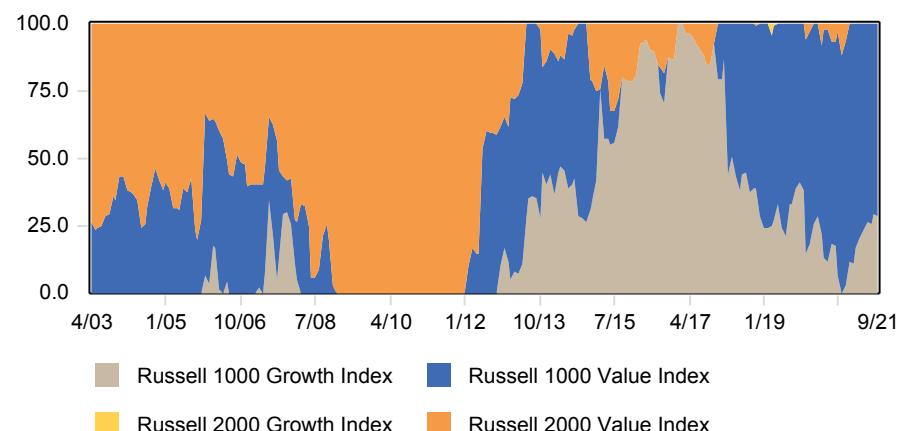
## Up Down Market Capture



## Style Map (03/01/00 to 09/30/21)



## Style History (03/01/00 to 09/30/21)

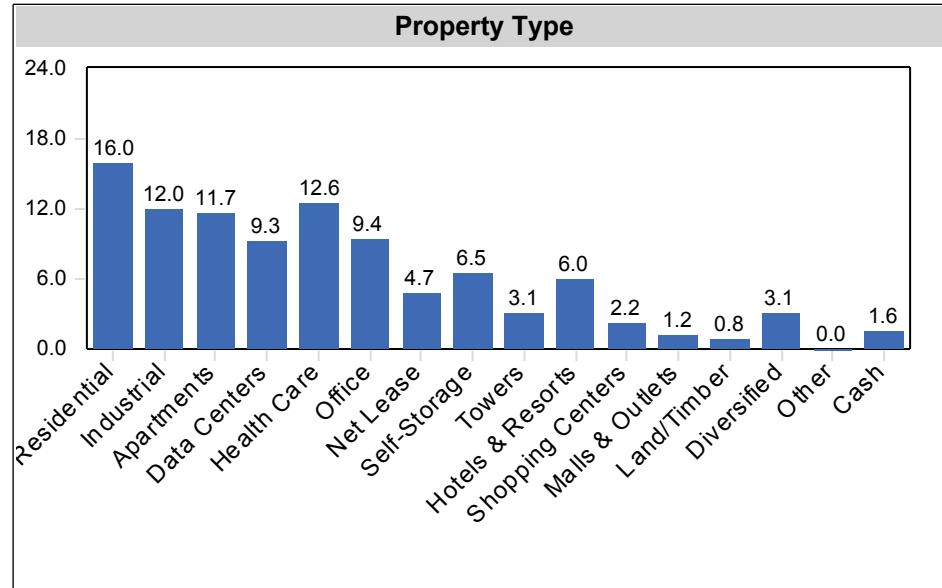


## Portfolio Characteristics

As of September 30, 2021

Manager K vs. MSCI US REIT Index

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	28,177	28,480
Median Mkt. Cap (\$M)	8,702	3,977
Price/Earnings ratio	41.43	43.37
Price/Book ratio	2.66	2.66
5 Yr. EPS Growth Rate (%)	8.78	4.42
Current Yield (%)	2.73	3.10
Number of Stocks	48	136

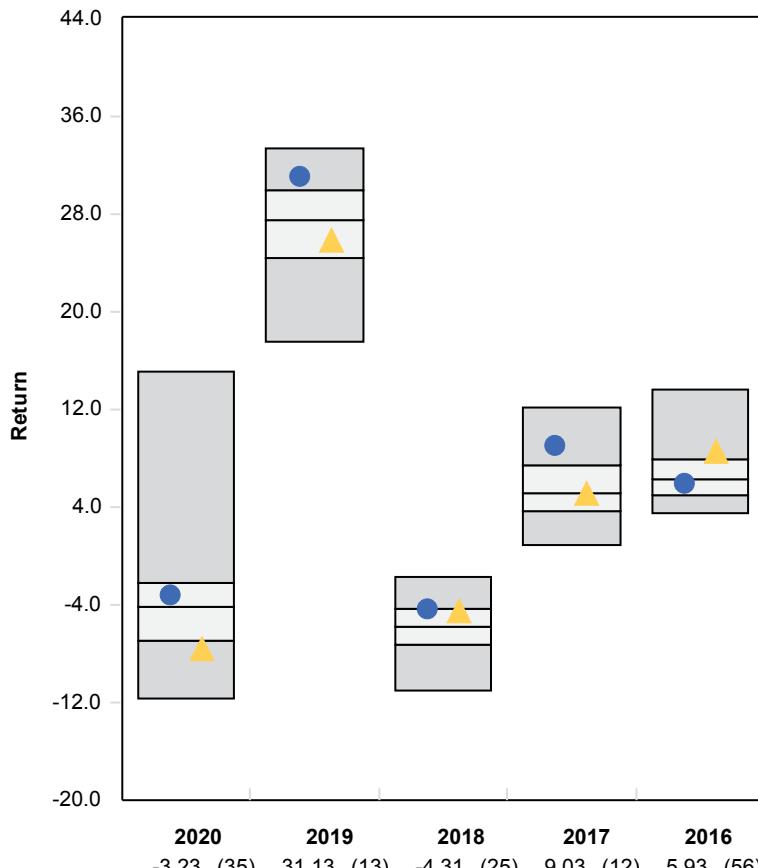
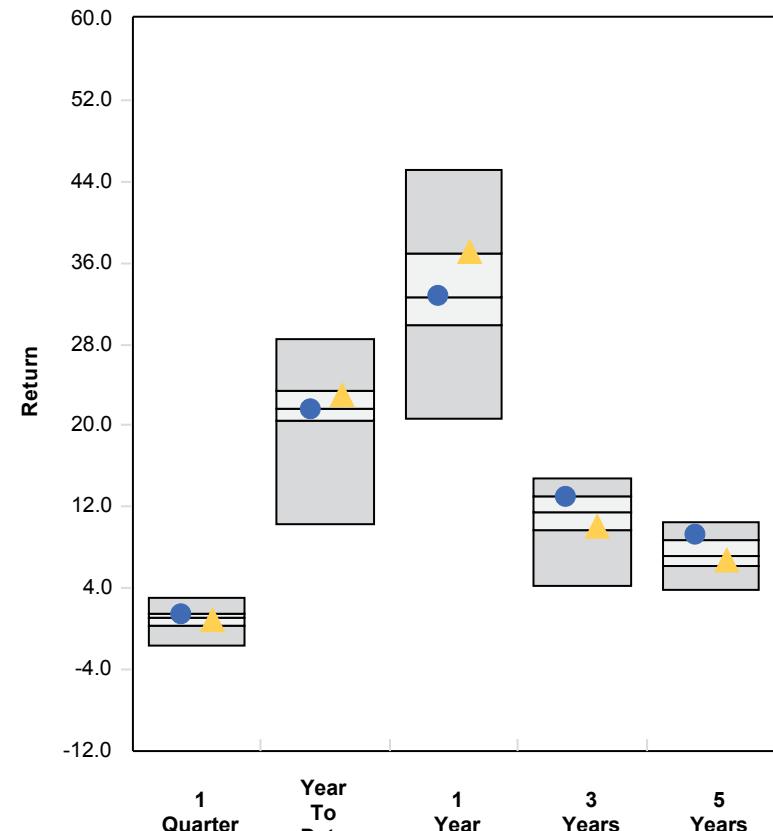


Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Equinix Inc	6.63	6.31	0.32	-1.21
Prologis Inc	6.53	8.27	-1.74	5.43
Invitation Homes Inc	5.36	1.94	3.42	3.23
AvalonBay Communities Inc.	5.24	2.76	2.48	6.21
Essex Property Trust Inc.	4.50	1.85	2.65	7.26
Sun Communities Inc.	4.01	1.85	2.16	8.47
Ventas Inc.	3.97	1.94	2.03	-2.54
American Homes 4 Rent	3.71	0.99	2.72	-1.64
Extra Space Storage Inc	3.66	2.00	1.66	3.24
Alexandria Real Estate Equities Inc.	3.50	2.39	1.11	5.63
% of Portfolio	47.11	30.30	16.81	

Ten Best Performers				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Healthcare Trust of America Inc	1.99	0.58	1.41	11.09
CyrusOne Inc	0.51	0.85	-0.34	8.97
Sun Communities Inc.	4.01	1.85	2.16	8.47
Essex Property Trust Inc.	4.50	1.85	2.65	7.26
Broadstone Net Lease Inc	1.50	0.32	1.18	7.07
PS Business Parks Inc.	1.54	0.29	1.25	6.56
Choice Hotels International Inc.	0.32	0.00	0.32	6.50
AvalonBay Communities Inc.	5.24	2.76	2.48	6.21
Regency Centers Corp.	1.84	0.92	0.92	6.01
MGM Growth Properties LLC	1.23	0.52	0.71	5.99
% of Portfolio	22.68	9.94	12.74	

## Manager L

## Peer Group Analysis - IM Real Estate Sector (MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager L	1.47 (28)	21.73 (49)	32.85 (49)	13.01 (26)	9.23 (16)
MSCI US REIT Index	0.98 (54)	23.00 (28)	37.16 (25)	10.10 (71)	6.84 (62)
Median	1.07	21.66	32.59	11.46	7.19

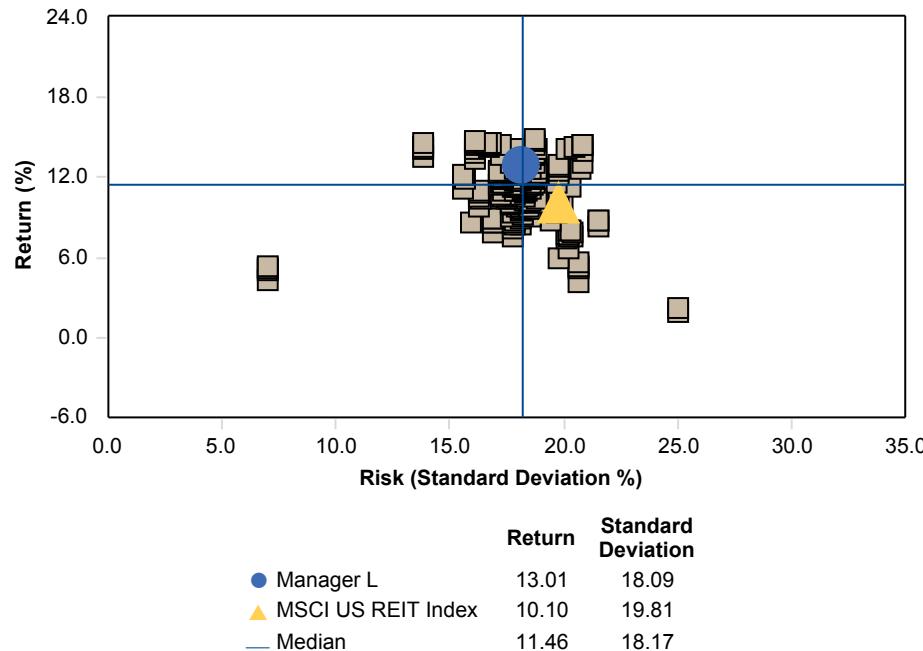
	2020	2019	2018	2017	2016
Manager L	-3.23 (35)	31.13 (13)	-4.31 (25)	9.03 (12)	5.93 (56)
MSCI US REIT Index	-7.57 (79)	25.84 (64)	-4.57 (30)	5.07 (52)	8.60 (19)
Median	-4.24	27.44	-5.74	5.21	6.28

## Historical Statistics - 3 Years

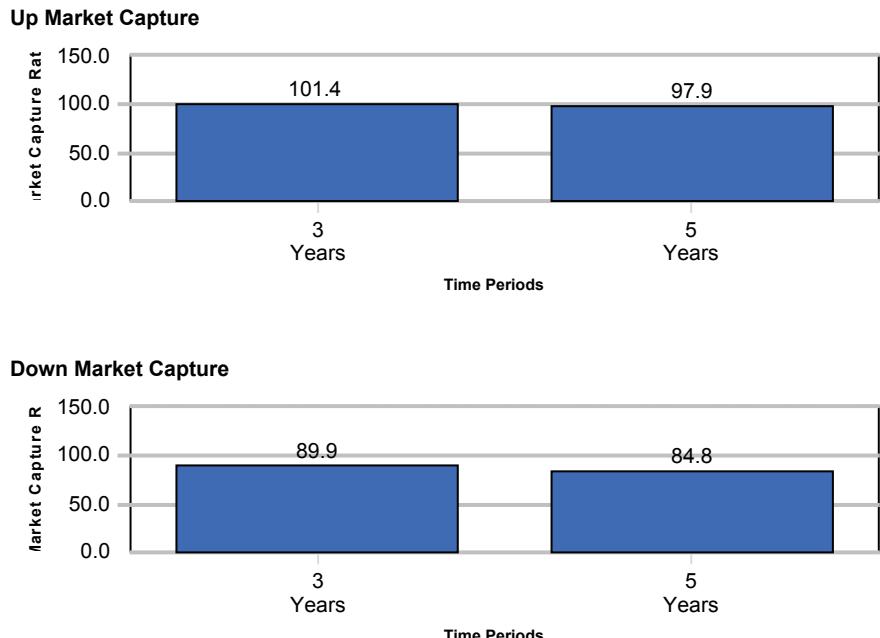
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager L	13.01	18.09	0.70	3.45	0.90	0.14	2.26	3.29	0.69	0.98
MSCI US REIT Index	10.10	19.81	0.53	0.00	1.00	0.11	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.25	-0.01	0.00	-10.57	19.93	-0.53	0.12

## Manager L

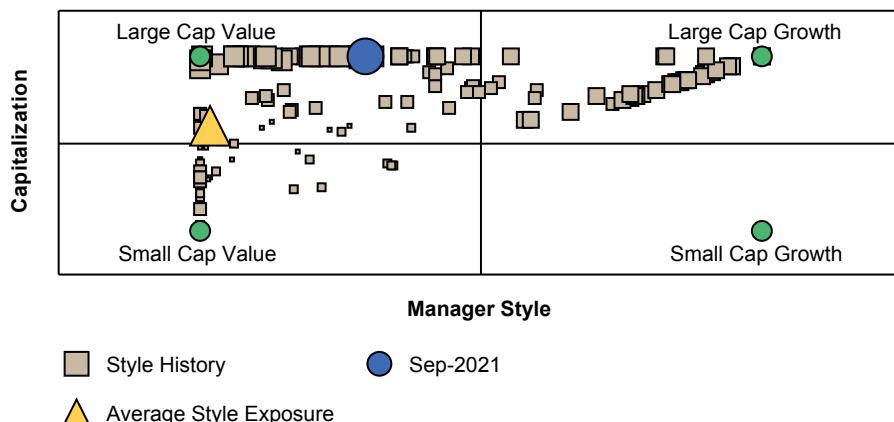
## Peer Group Scattergram (10/01/18 to 09/30/21)



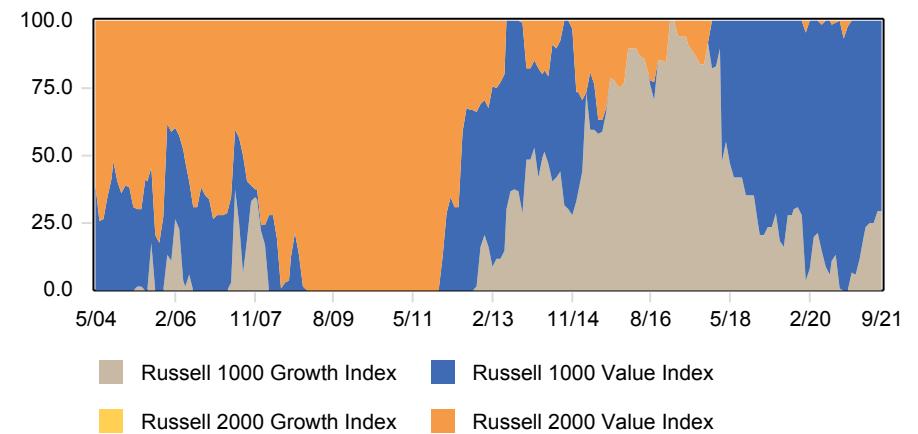
## Up Down Market Capture



## Style Map (04/01/01 to 09/30/21)



## Style History (04/01/01 to 09/30/21)

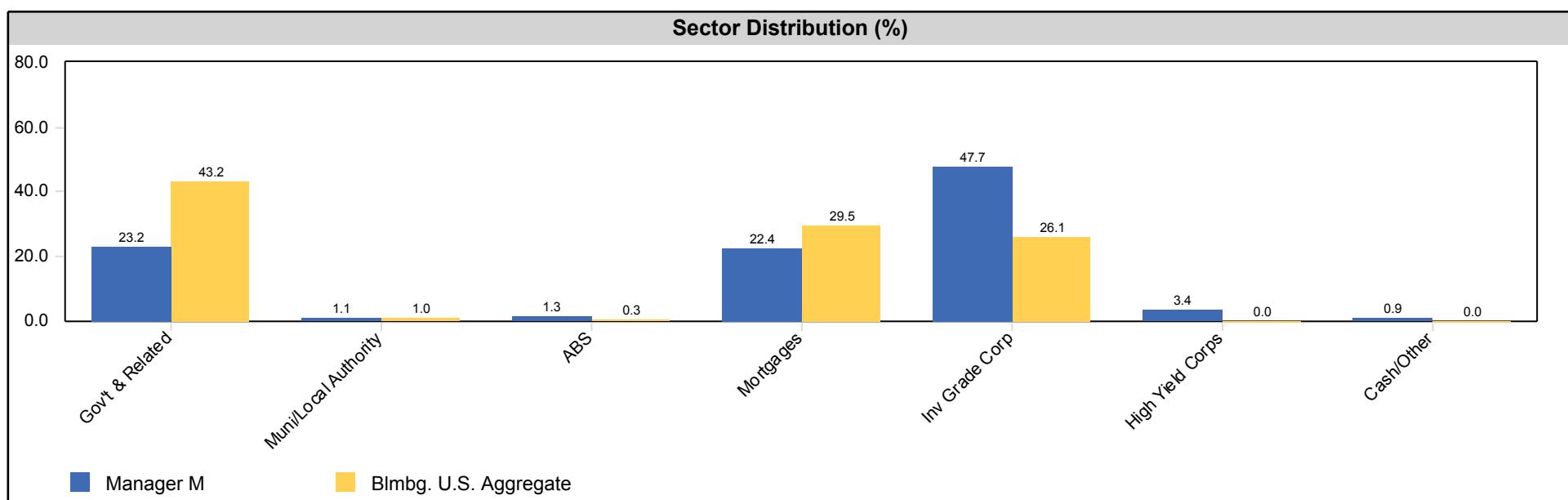
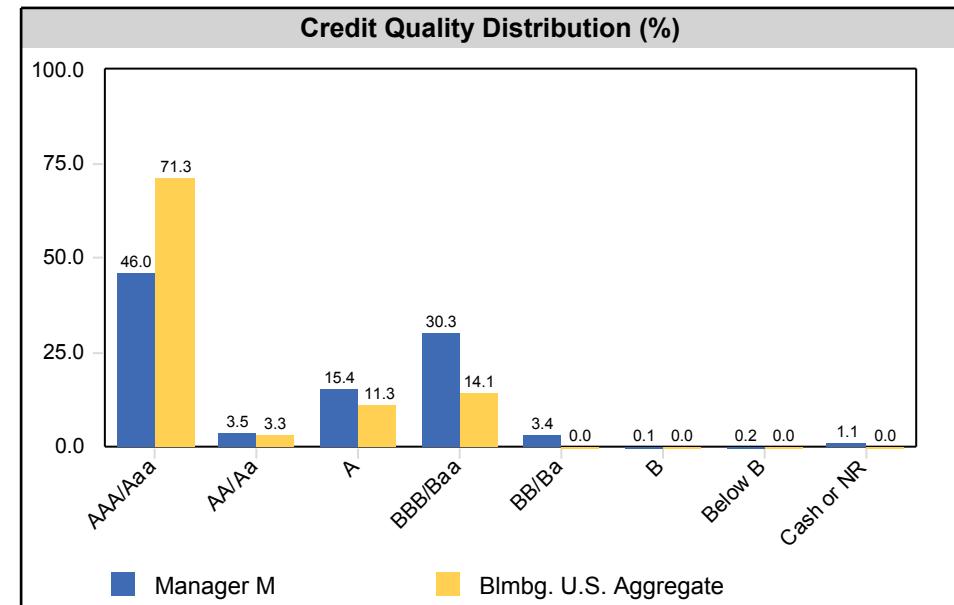


## Portfolio Characteristics

As of September 30, 2021

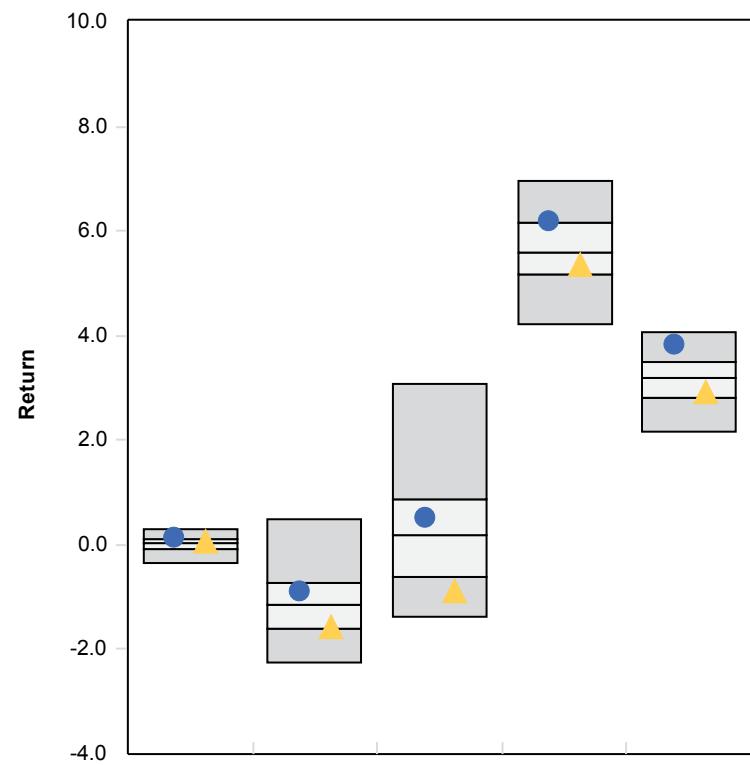
Manager M vs. Blmbg. U.S. Aggregate

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	6.49	6.71
Yield To Maturity (%)	1.75	1.55
Avg. Maturity	8.13	8.63
Avg. Quality	A	AA
Coupon Rate (%)	3.19	2.48

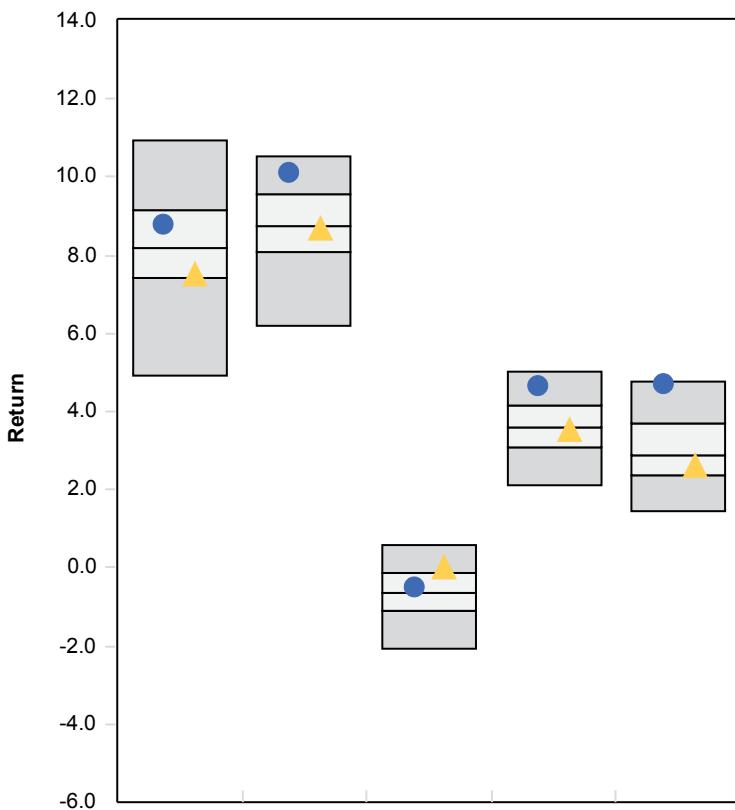


## Manager M

## Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager M	0.13 (24)	-0.90 (32)	0.53 (37)	6.21 (22)	3.83 (11)
Blmbg. U.S. Aggregate	0.05 (44)	-1.56 (71)	-0.90 (83)	5.35 (63)	2.94 (66)
Median	0.03	-1.17	0.18	5.58	3.17



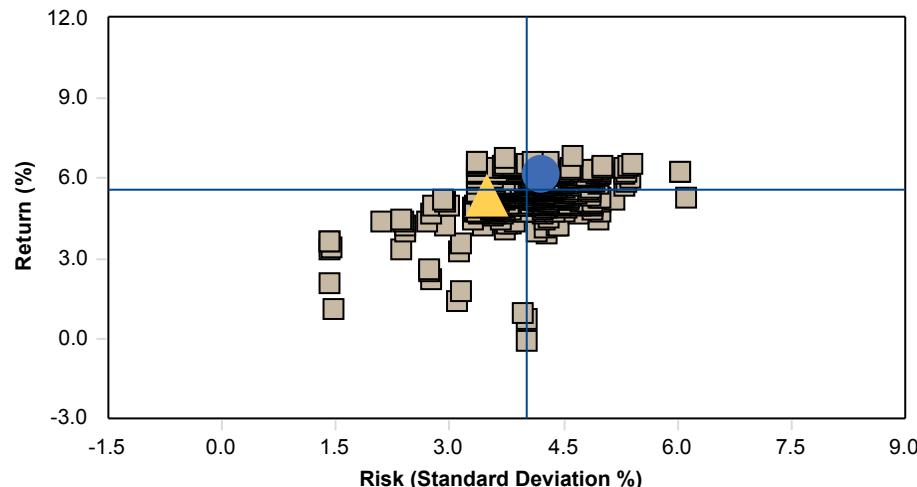
	2020	2019	2018	2017	2016
Manager M	8.80 (33)	10.11 (10)	-0.51 (43)	4.65 (9)	4.73 (6)
Blmbg. U.S. Aggregate	7.51 (72)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)
Median	8.19	8.76	-0.63	3.59	2.86

## Historical Statistics - 3 Years

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager M	6.21	4.19	1.18	0.51	1.06	0.05	0.84	1.95	0.43	0.79
Blmbg. U.S. Aggregate	5.35	3.49	1.21	0.00	1.00	0.04	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.04	0.03	0.00	-4.11	3.41	-1.21	0.08

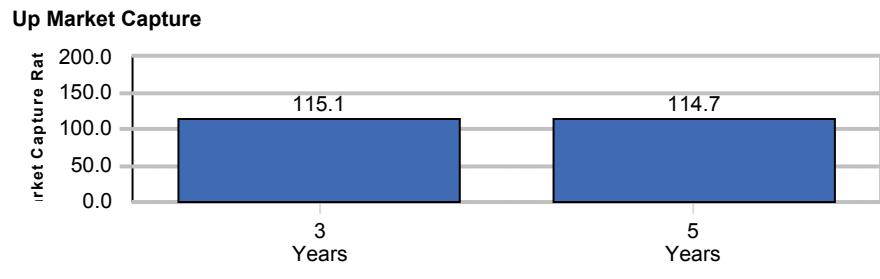
## Manager M

## Peer Group Scattergram (10/01/18 to 09/30/21)

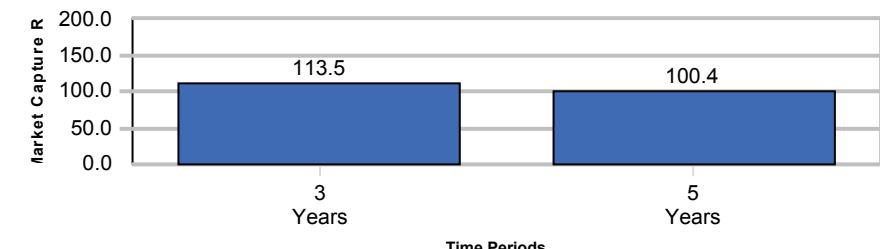


	Return	Standard Deviation
Manager M	6.21	4.19
Bloomberg U.S. Aggregate	5.35	3.49
Median	5.58	4.02

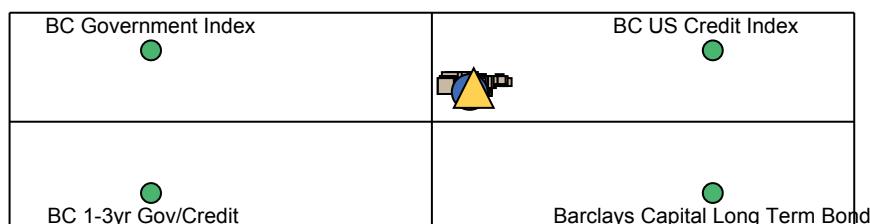
## Up Down Market Capture



## Down Market Capture



## Style Map (03/01/11 to 09/30/21)

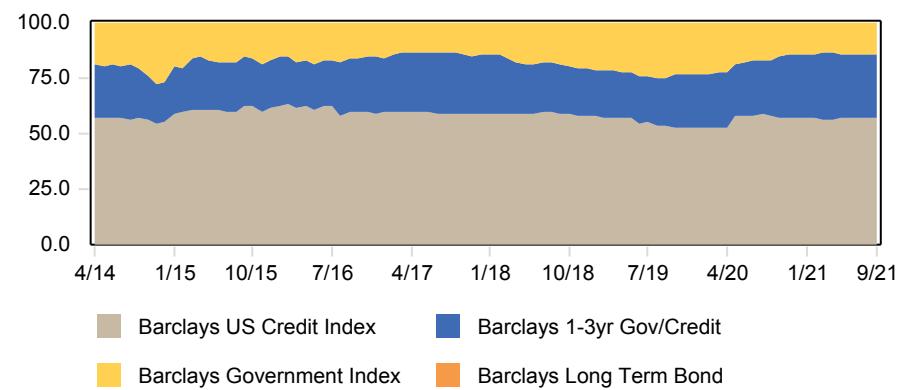


Style History

Sep-2021

Average Style Exposure

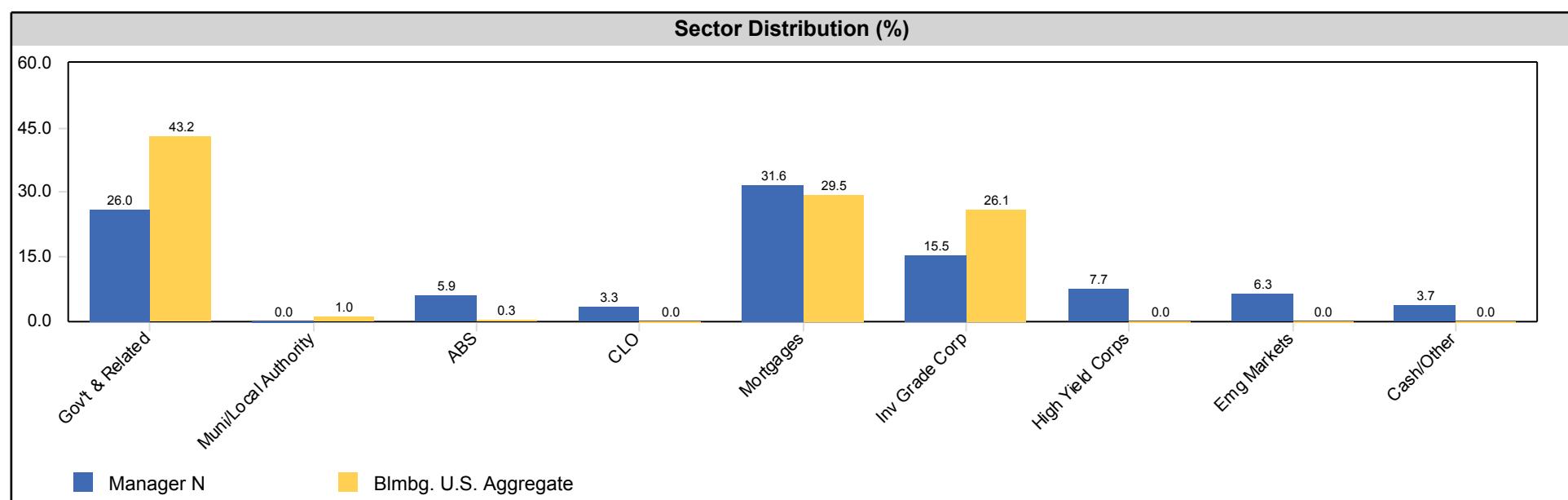
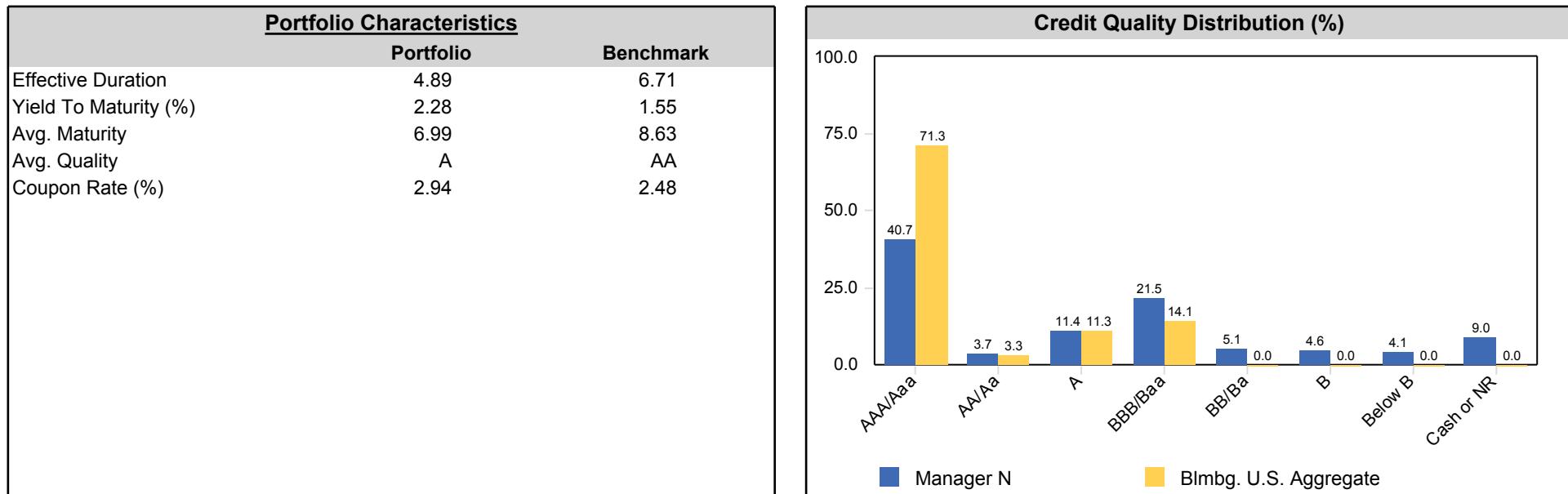
## Style History (03/01/11 to 09/30/21)



## Portfolio Characteristics

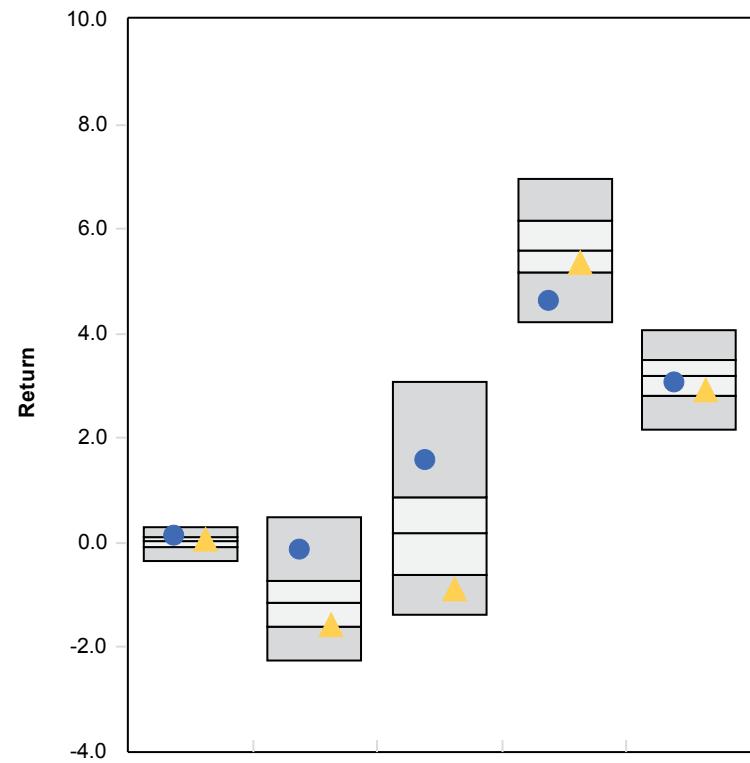
As of September 30, 2021

Manager N vs. Blmbg. U.S. Aggregate



## Manager N

## Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (MF)

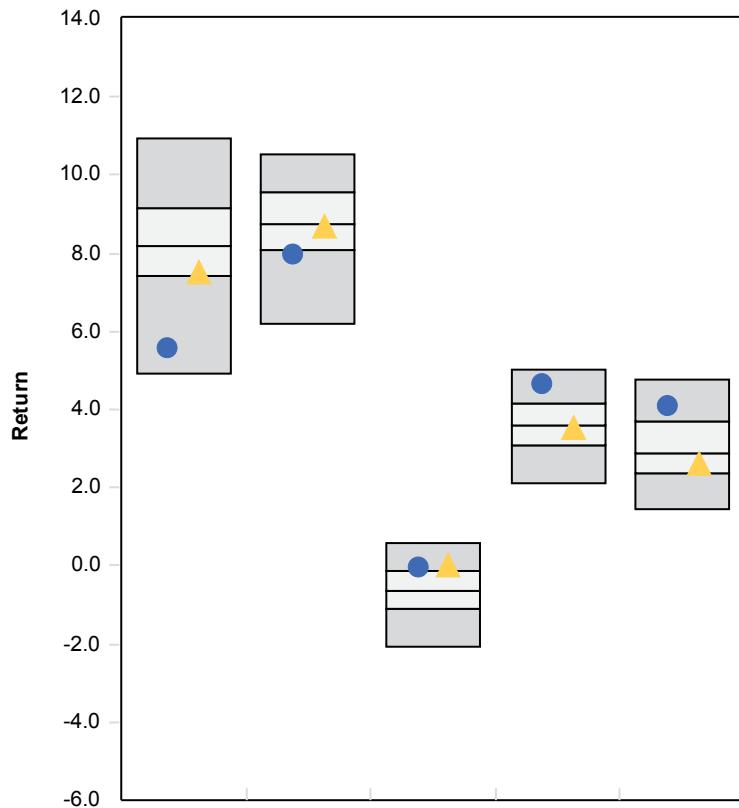


	1 Quarter	Year To Date	1 Year	3 Years	5 Years
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Manager N	0.14 (23)	-0.11 (11)	1.61 (12)	4.65 (92)	3.08 (56)
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Blmbg. U.S. Aggregate	0.05 (44)	-1.56 (71)	-0.90 (83)	5.35 (63)	2.94 (66)
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Median	0.03	-1.17	0.18	5.58	3.17
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Manager N	5.60 (95)	7.99 (79)	-0.02 (19)	4.66 (9)	4.11 (15)
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Blmbg. U.S. Aggregate	7.51 (72)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)
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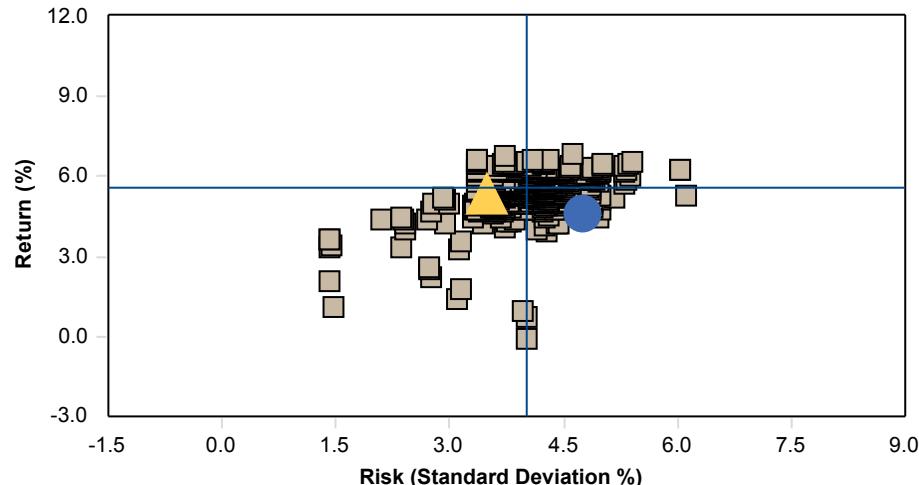
Median	8.19	8.76	-0.63	3.59	2.86
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## Historical Statistics - 3 Years

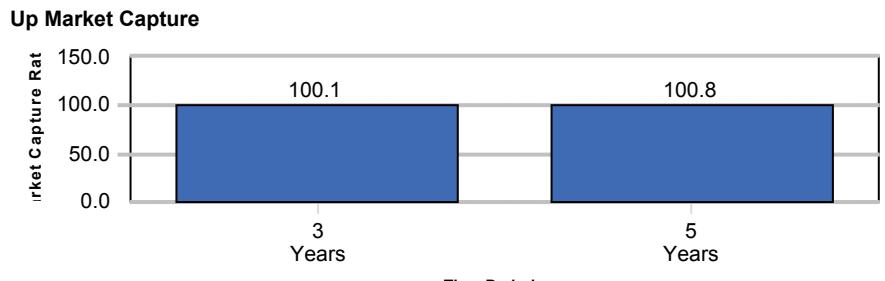
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager N	4.65	4.75	0.72	-0.15	0.91	0.04	-0.62	3.54	-0.18	0.45
Blmbg. U.S. Aggregate	5.35	3.49	1.21	0.00	1.00	0.04	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.04	0.03	0.00	-4.11	3.41	-1.21	0.08

## Manager N

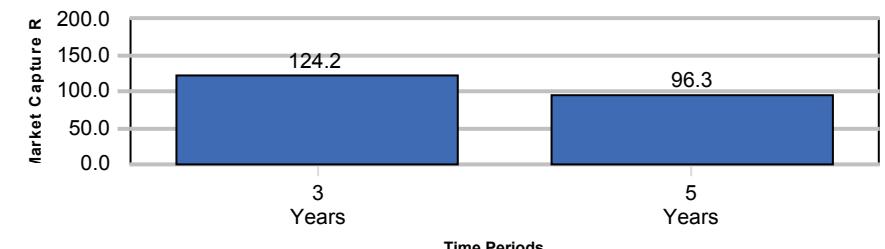
## Peer Group Scattergram (10/01/18 to 09/30/21)



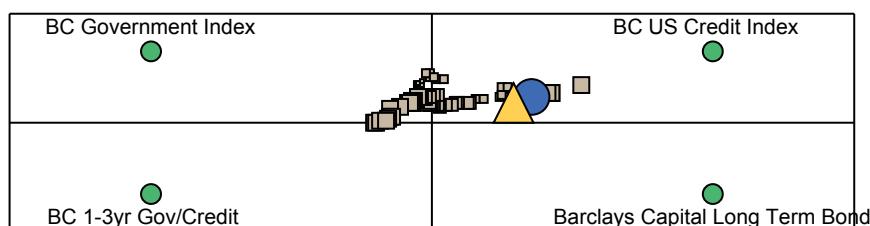
## Up Down Market Capture



## Down Market Capture



## Style Map (07/01/10 to 09/30/21)

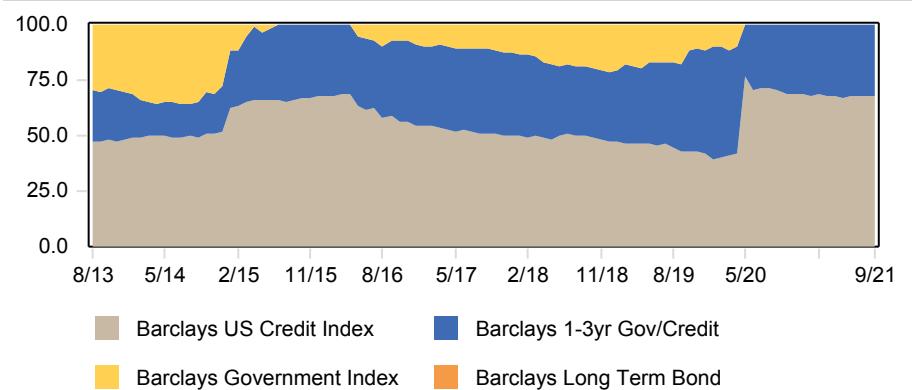


Style History

Sep-2021

Average Style Exposure

## Style History (07/01/10 to 09/30/21)

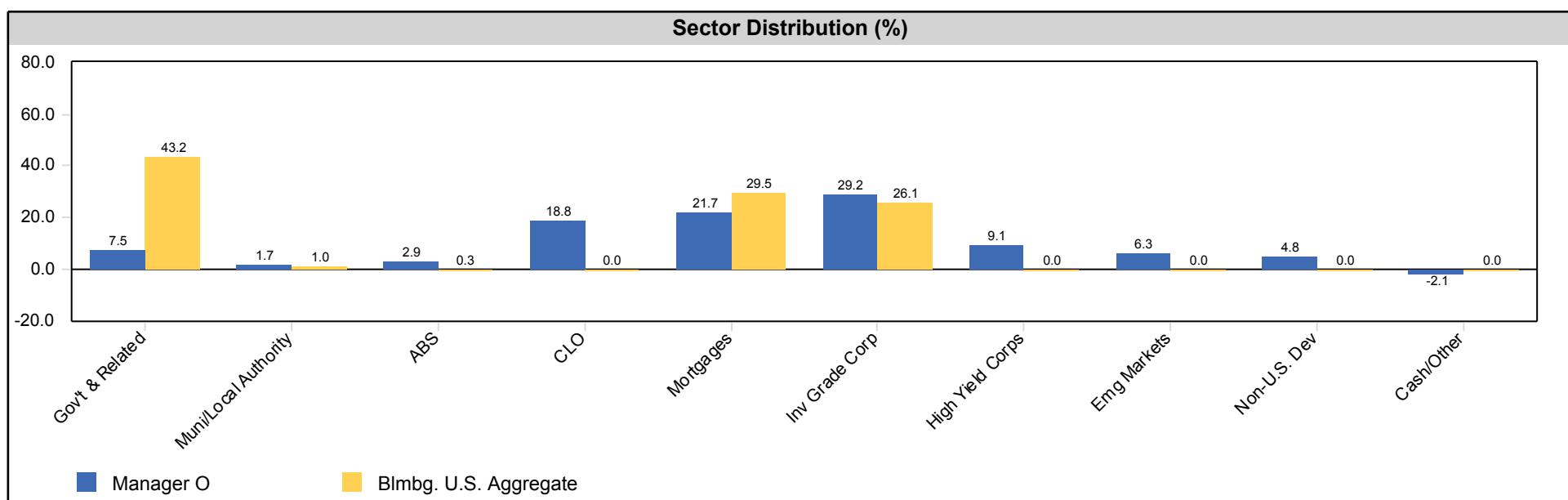
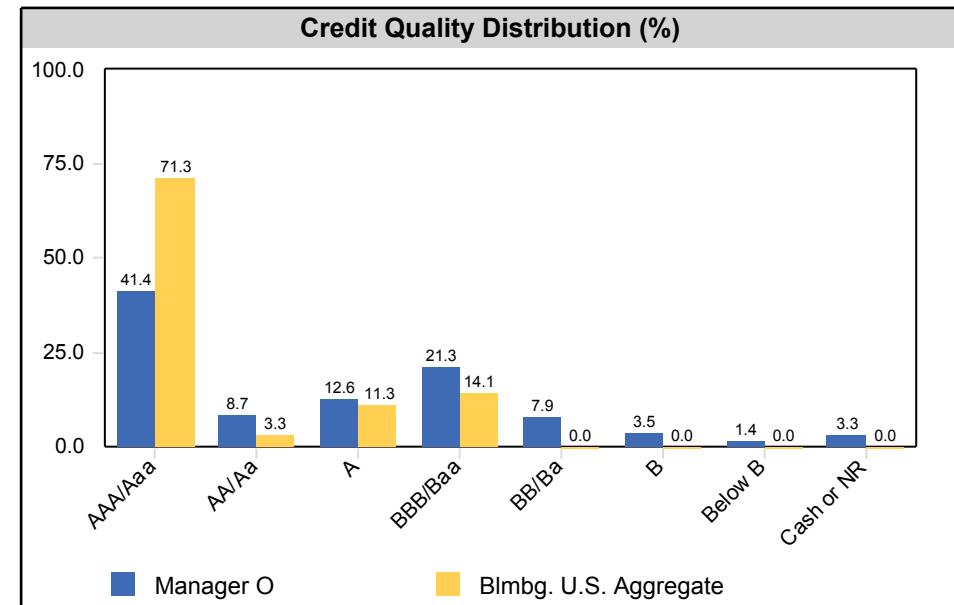


## Portfolio Characteristics

As of September 30, 2021

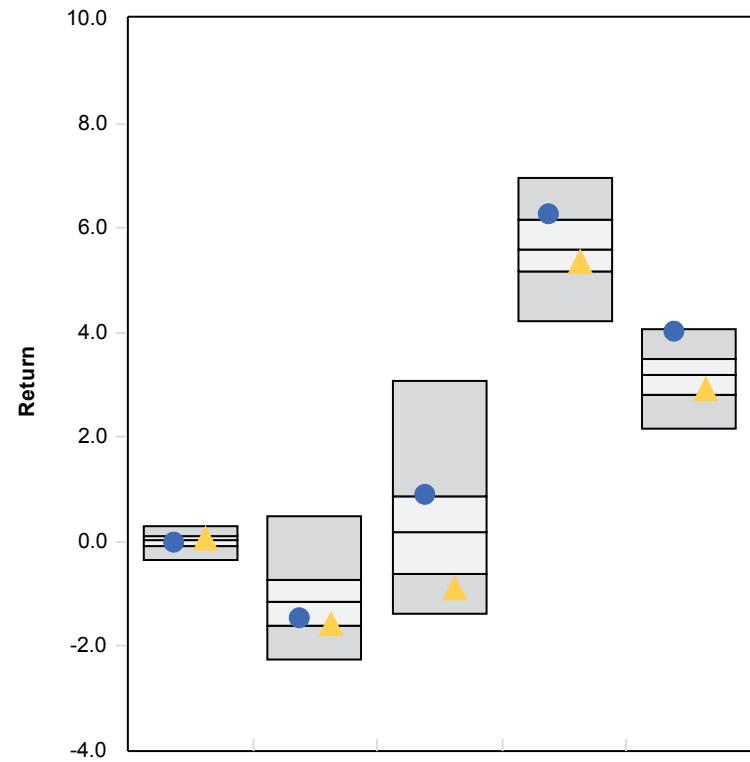
Manager O vs. Blmbg. U.S. Aggregate

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	6.96	6.71
Yield To Maturity (%)	2.87	1.55
Avg. Maturity	9.12	8.63
Avg. Quality	A	AA
Coupon Rate (%)	3.24	2.48



## Manager O

## Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (MF)

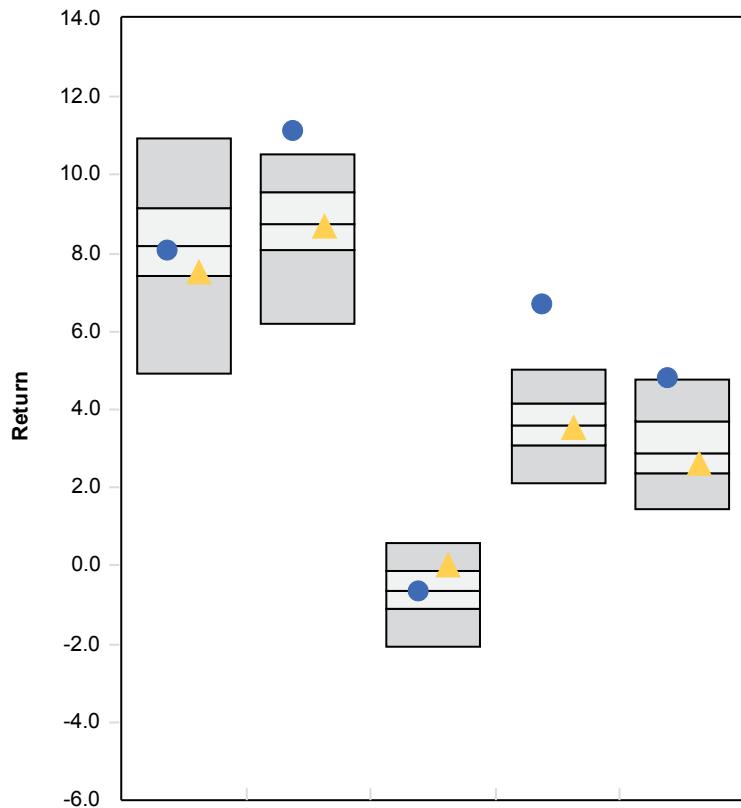


	1 Quarter	Year To Date	1 Year	3 Years	5 Years
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Manager O	-0.01 (60)	-1.45 (67)	0.90 (24)	6.27 (17)	4.02 (7)
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Blmbg. U.S. Aggregate	0.05 (44)	-1.56 (71)	-0.90 (83)	5.35 (63)	2.94 (66)
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Median	0.03	-1.17	0.18	5.58	3.17
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	2020	2019	2018	2017	2016
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Manager O	8.10 (54)	11.14 (4)	-0.63 (51)	6.71 (1)	4.83 (5)
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Blmbg. U.S. Aggregate	7.51 (72)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)
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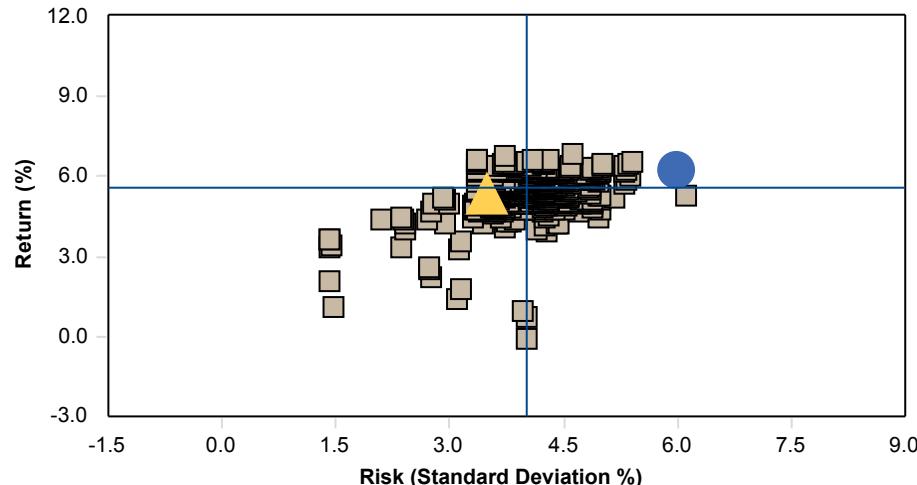
Median	8.19	8.76	-0.63	3.59	2.86
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## Historical Statistics - 3 Years

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager O	6.27	5.97	0.85	-0.80	1.34	0.04	0.99	3.90	0.25	0.61
Blmbg. U.S. Aggregate	5.35	3.49	1.21	0.00	1.00	0.04	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.04	0.03	0.00	-4.11	3.41	-1.21	0.08

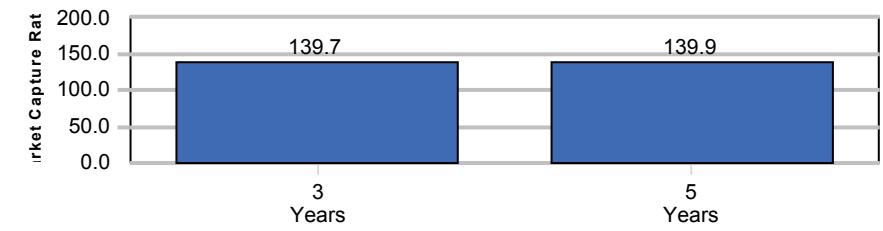
## Manager O

## Peer Group Scattergram (10/01/18 to 09/30/21)

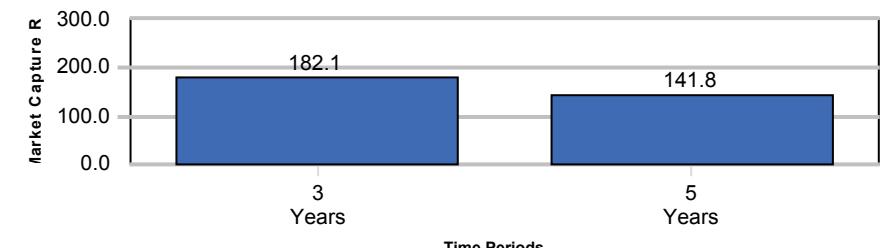


## Up Down Market Capture

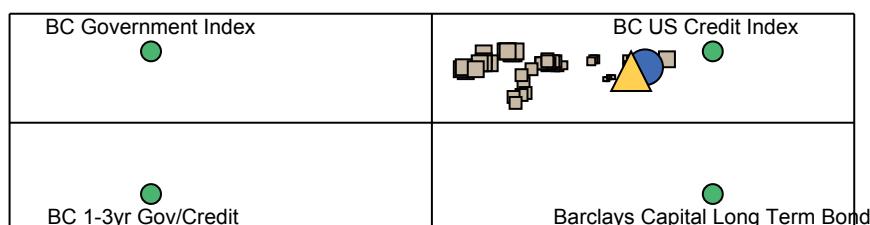
## Up Market Capture



## Down Market Capture



## Style Map (01/01/11 to 09/30/21)

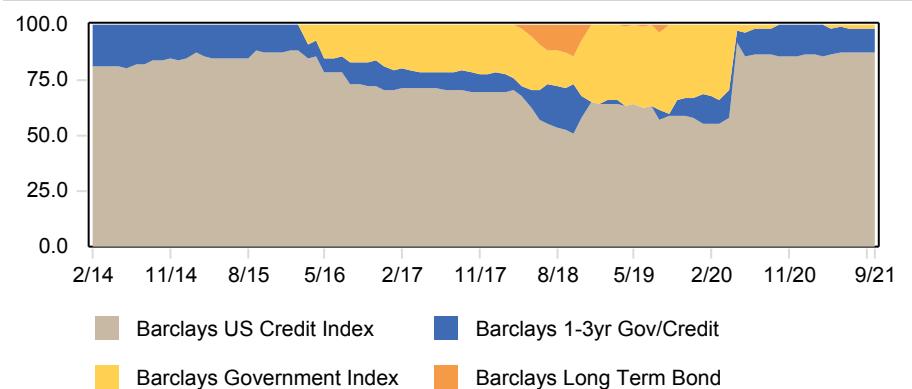


■ Style History

● Sep-2021

▲ Average Style Exposure

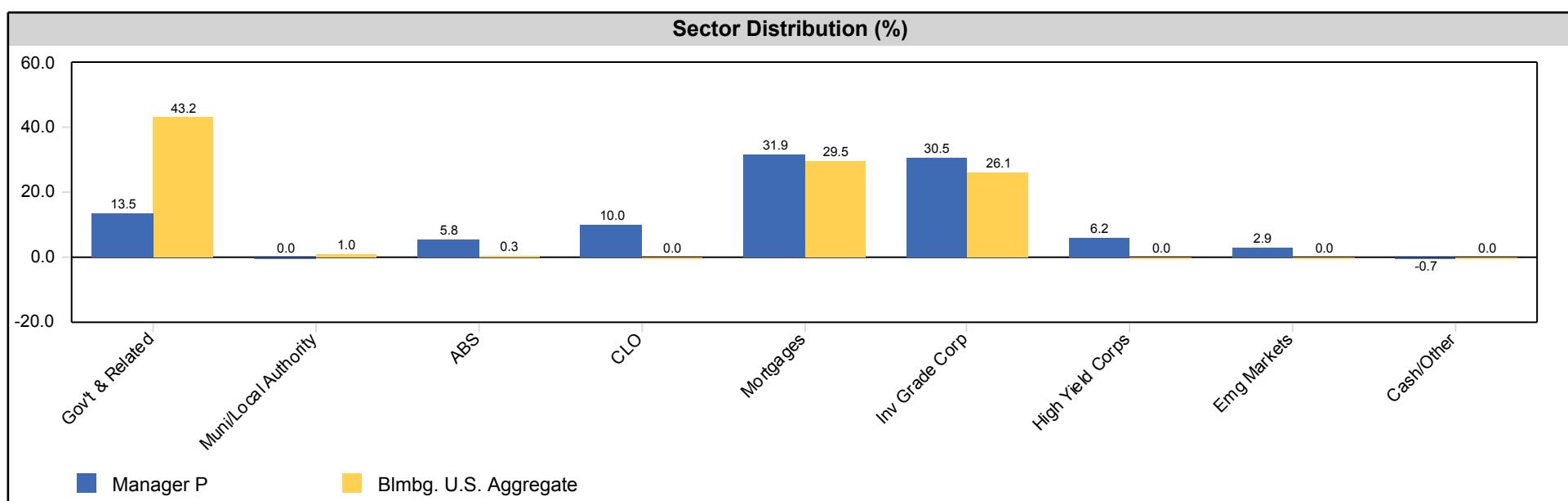
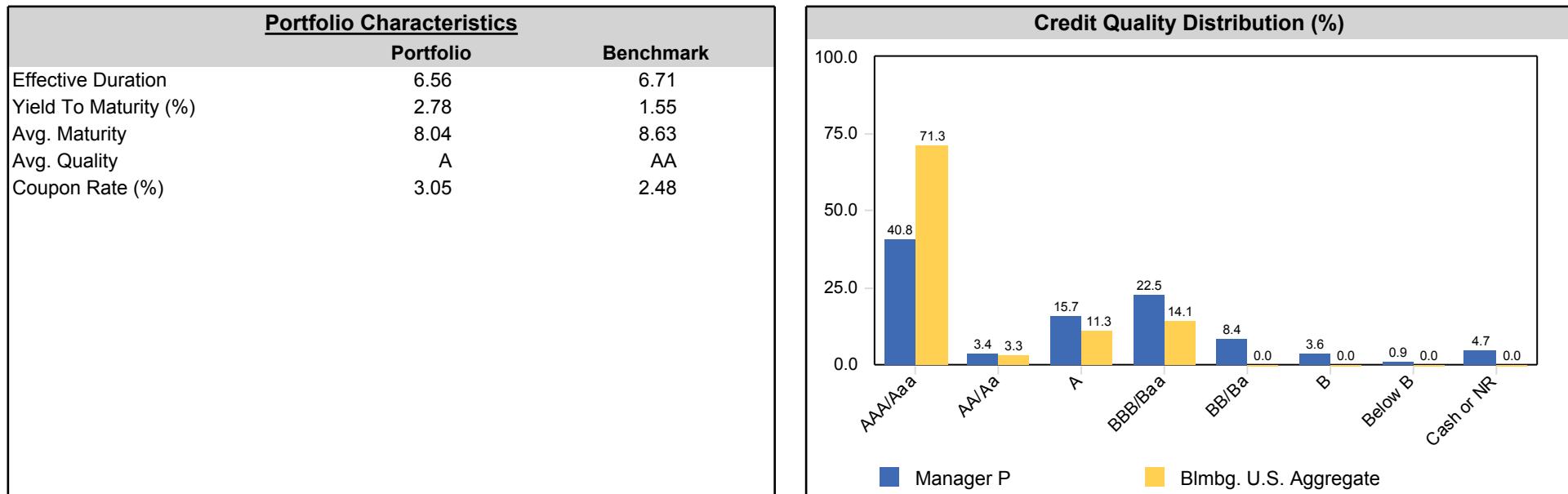
## Style History (01/01/11 to 09/30/21)



## Portfolio Characteristics

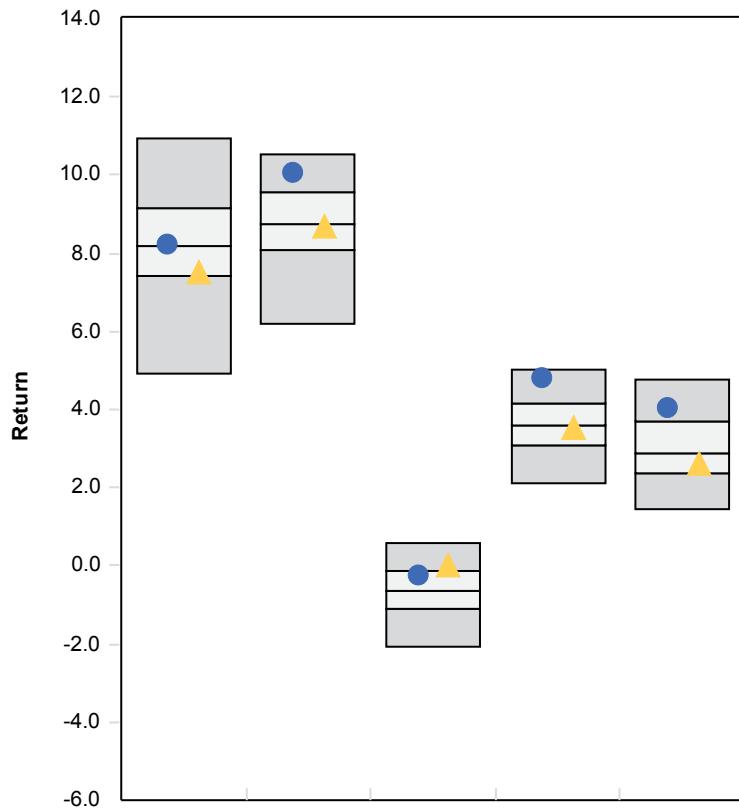
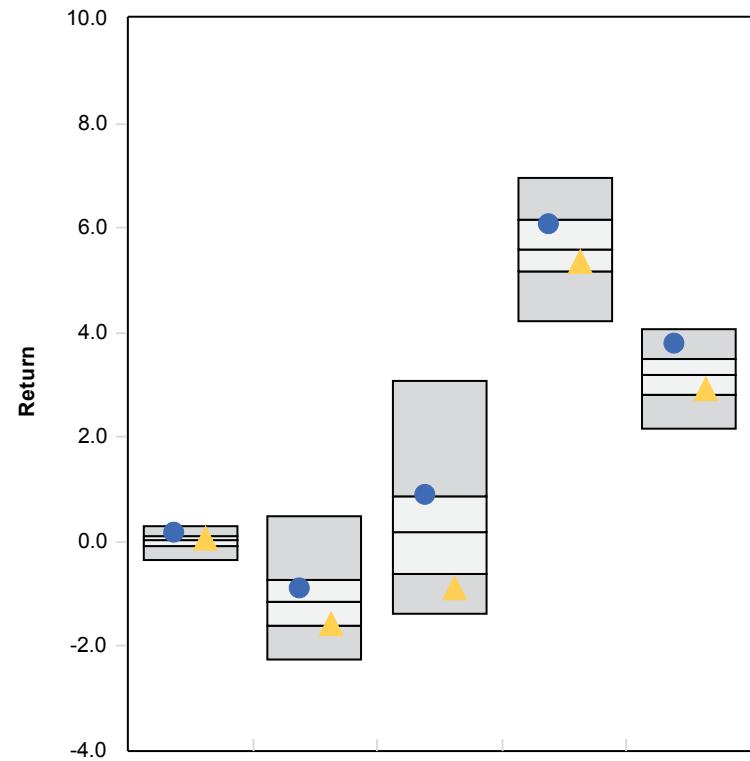
As of September 30, 2021

Manager P vs. Blmbg. U.S. Aggregate



## Manager P

## Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager P	0.18 (16)	-0.90 (32)	0.91 (24)	6.09 (28)	3.78 (13)
Blmbg. U.S. Aggregate	0.05 (44)	-1.56 (71)	-0.90 (83)	5.35 (63)	2.94 (66)
Median	0.03	-1.17	0.18	5.58	3.17

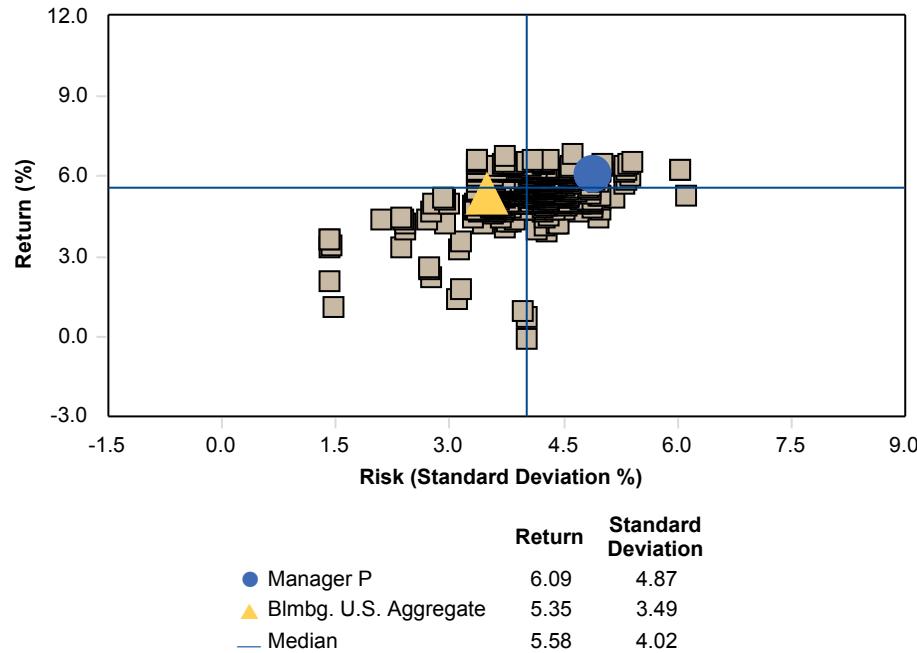
	2020	2019	2018	2017	2016
Manager P	8.22 (50)	10.06 (11)	-0.25 (31)	4.84 (7)	4.04 (16)
Blmbg. U.S. Aggregate	7.51 (72)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)
Median	8.19	8.76	-0.63	3.59	2.86

## Historical Statistics - 3 Years

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager P	6.09	4.87	0.99	0.03	1.14	0.04	0.76	2.85	0.27	0.67
Blmbg. U.S. Aggregate	5.35	3.49	1.21	0.00	1.00	0.04	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.04	0.03	0.00	-4.11	3.41	-1.21	0.08

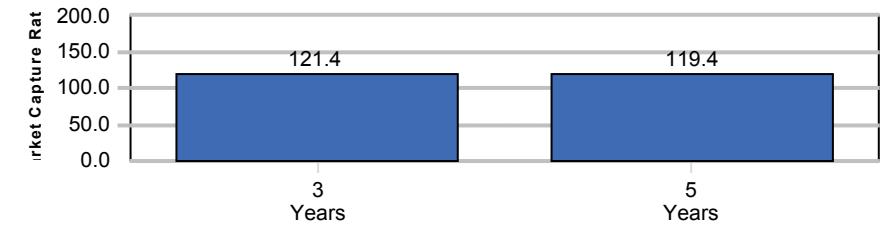
## Manager P

## Peer Group Scattergram (10/01/18 to 09/30/21)

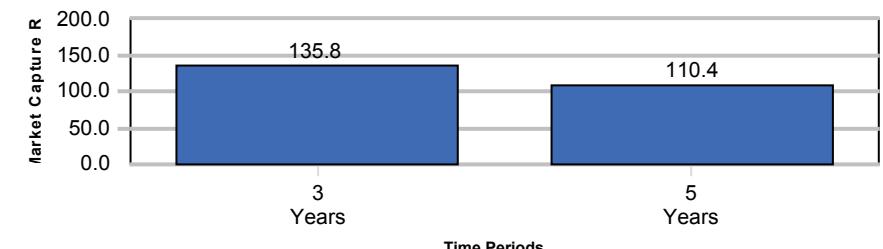


## Up Down Market Capture

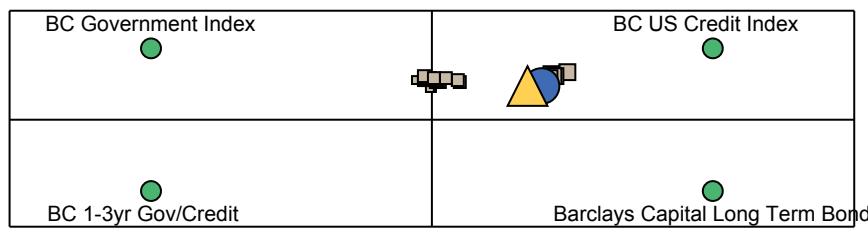
## Up Market Capture



## Down Market Capture



## Style Map (06/01/14 to 09/30/21)

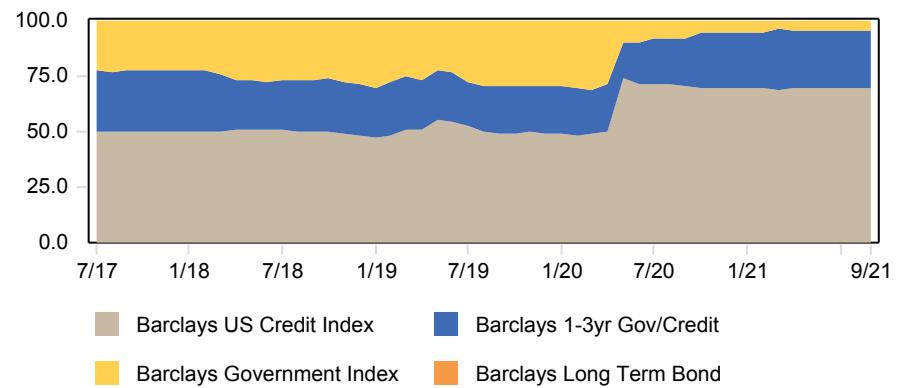


Style History

Sep-2021

Average Style Exposure

## Style History (06/01/14 to 09/30/21)

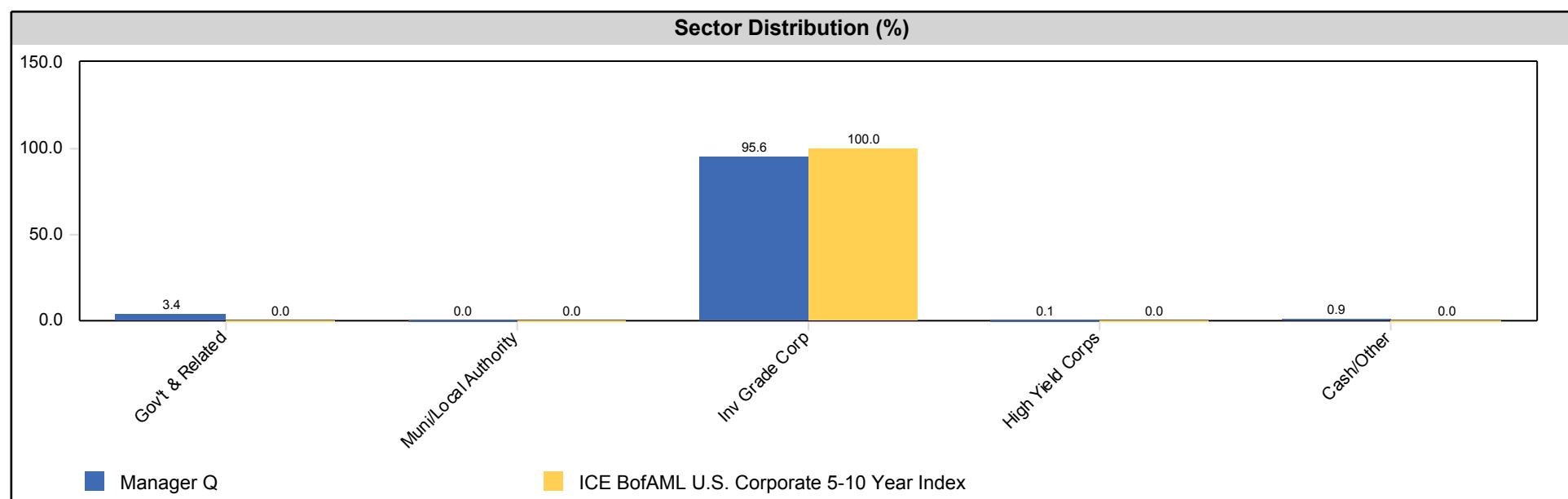
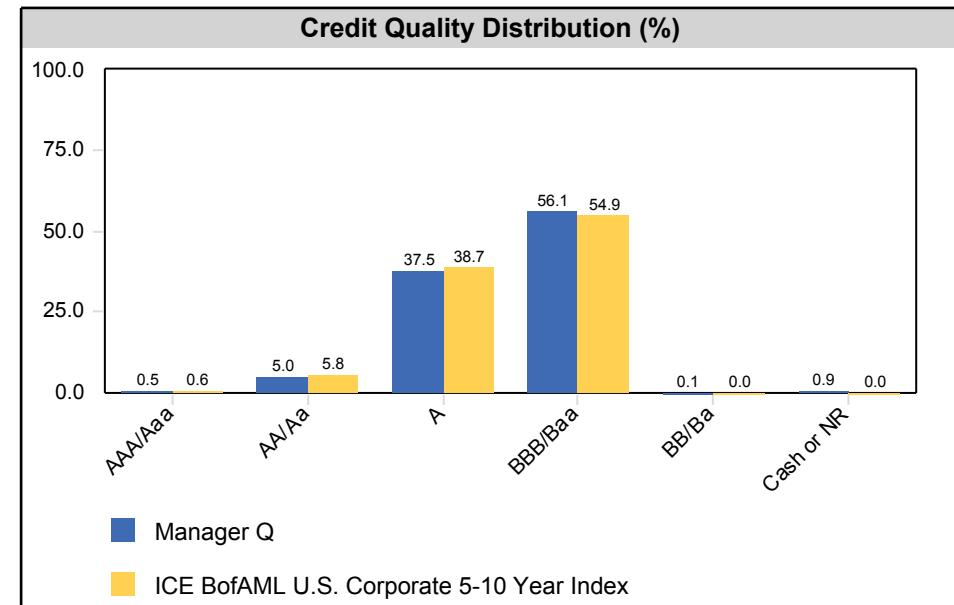


## Portfolio Characteristics

As of September 30, 2021

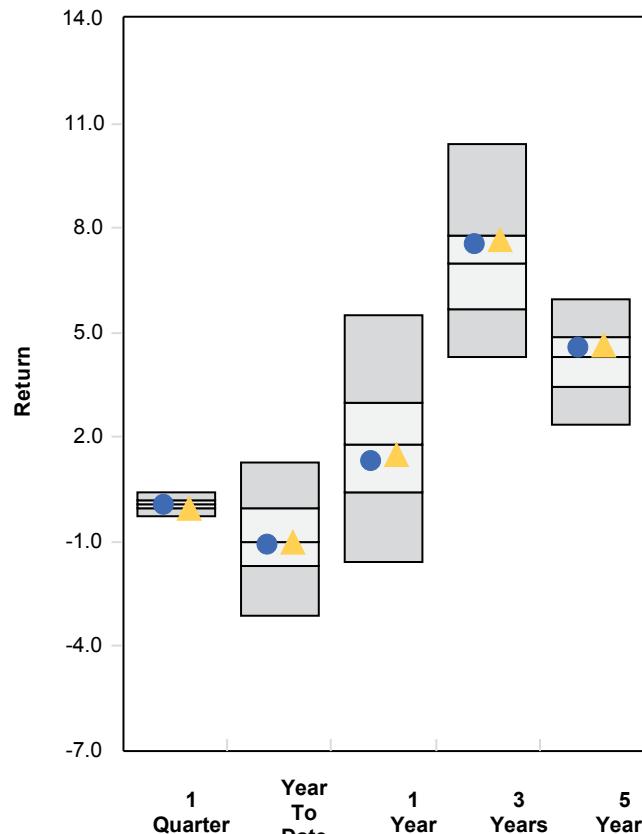
Manager Q vs. ICE BofAML U.S. Corporate 5-10 Year Index

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	6.48	6.46
Yield To Maturity (%)	2.12	2.18
Avg. Maturity	7.44	7.35
Avg. Quality	BBB	A
Coupon Rate (%)	3.25	3.45



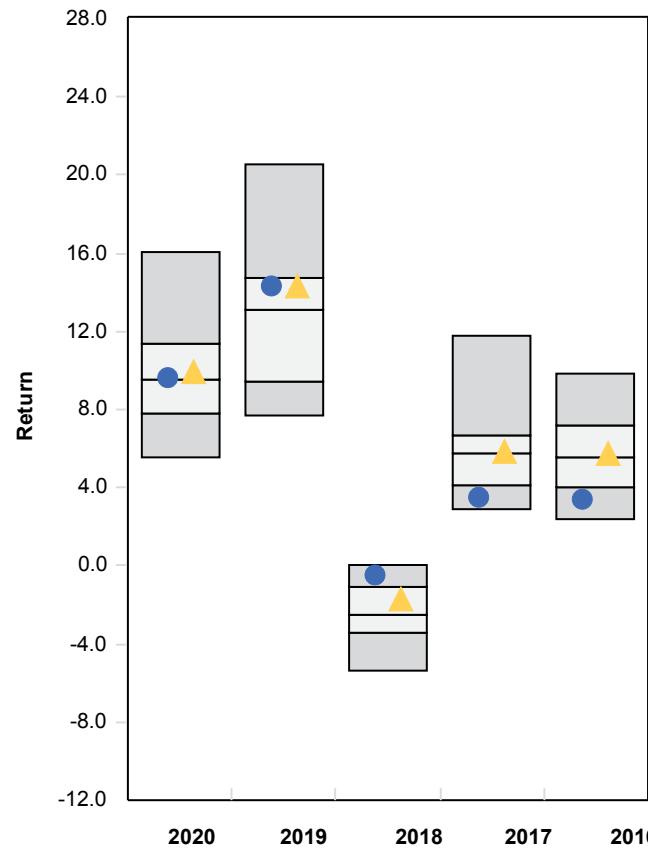
## Manager Q

## Peer Group Analysis - IM U.S. Corporate Bonds (MF)



● Manager Q 0.09 (43) -1.08 (53) 1.33 (59) 7.54 (32) 4.60 (39)  
▲ ICE BofAML U.S. Corp 5-10 Yr Idx -0.01 (67) -0.98 (49) 1.51 (55) 7.69 (27) 4.64 (37)

Median 0.06 -1.01 1.76 6.97 4.29



● Manager Q 9.62 (48) 14.37 (32) -0.52 (15) 3.50 (88) 3.37 (85)  
▲ ICE BofAML U.S. Corp 5-10 Yr Idx 9.95 (43) 14.31 (33) -1.67 (36) 5.90 (45) 5.79 (46)

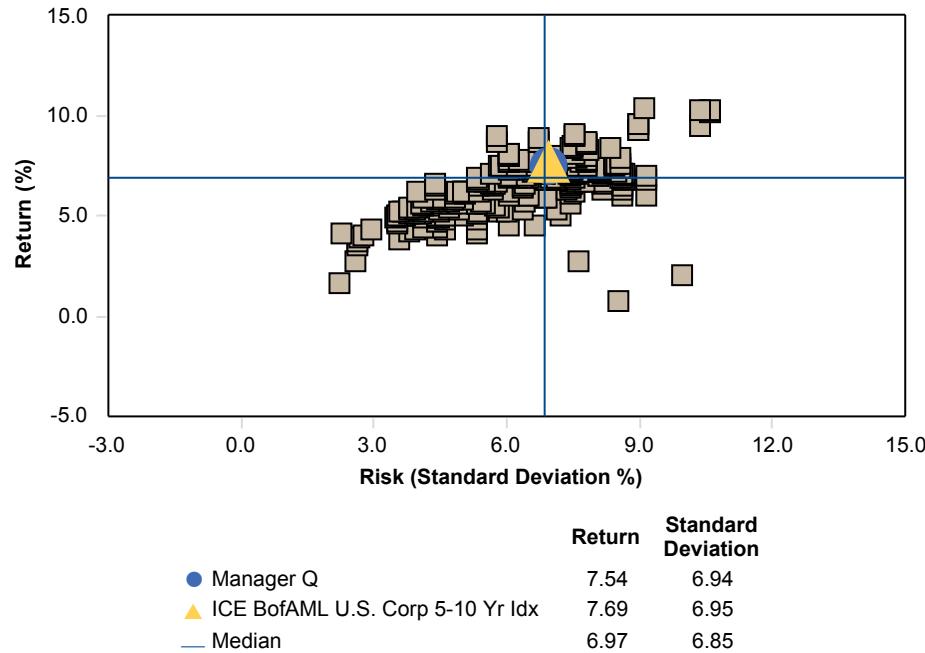
Median 9.53 13.12 -2.47 5.73 5.54

## Historical Statistics - 3 Years

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager Q	7.54	6.94	0.91	-0.12	1.00	0.06	-0.14	0.27	-0.52	1.00
ICE BofAML U.S. Corporate 5-10 Year Index	7.69	6.95	0.93	0.00	1.00	0.07	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.24	-0.01	0.00	-6.50	7.01	-0.93	0.03

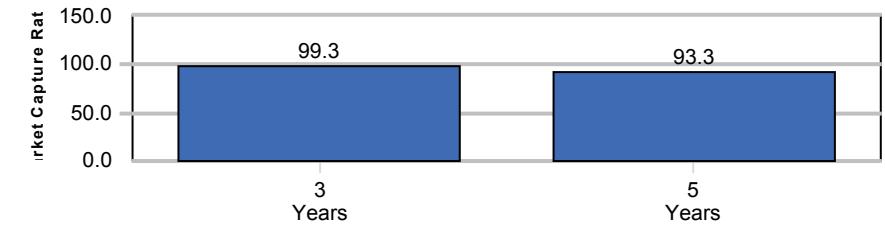
## Manager Q

## Peer Group Scattergram (10/01/18 to 09/30/21)

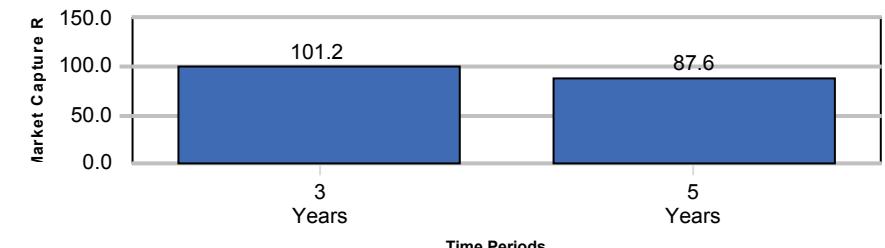


## Up Down Market Capture

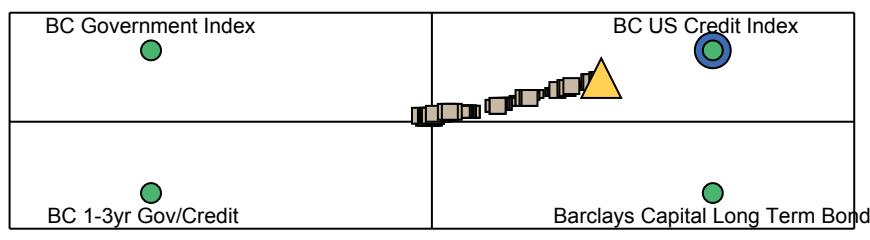
## Up Market Capture



## Down Market Capture



## Style Map (02/01/07 to 09/30/21)

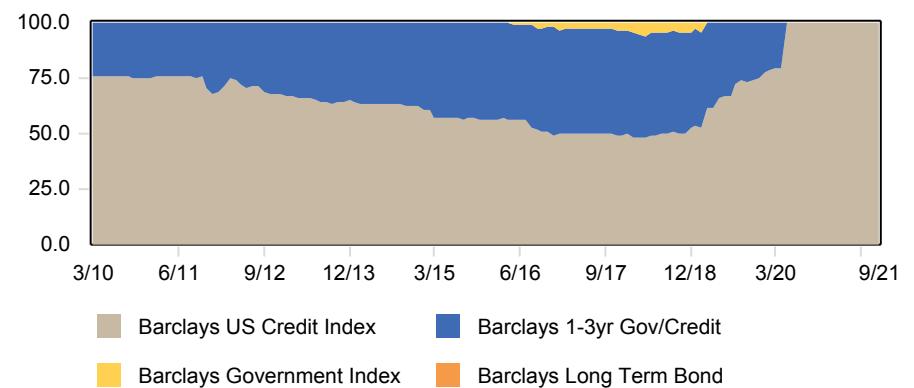


Style History

Sep-2021

Average Style Exposure

## Style History (02/01/07 to 09/30/21)

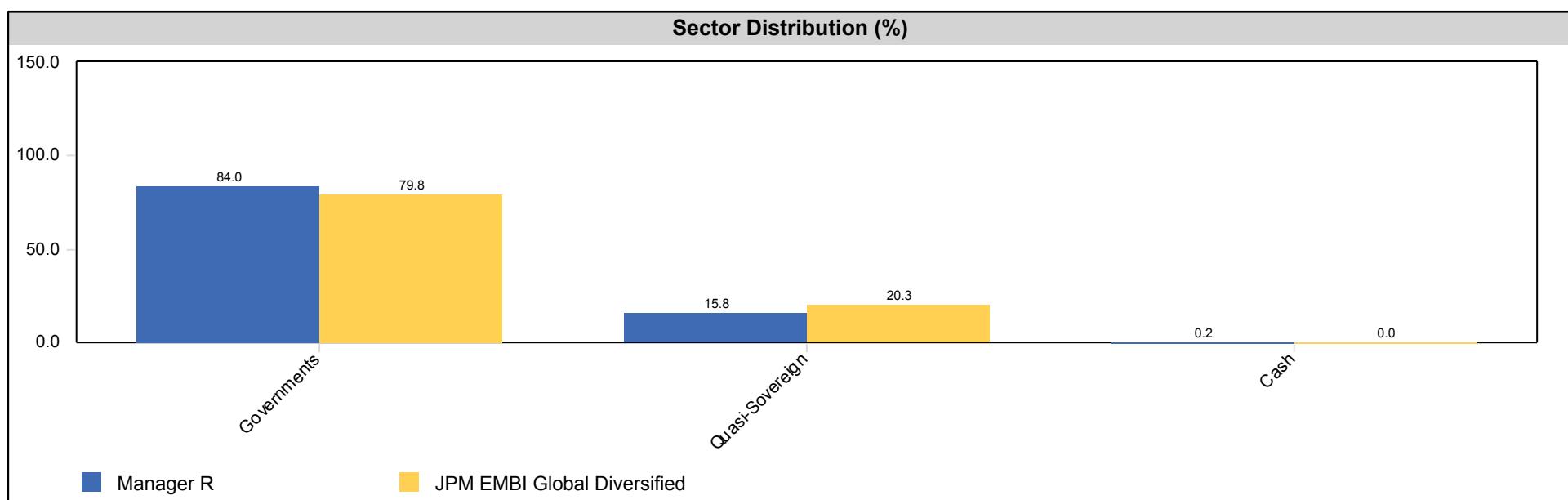
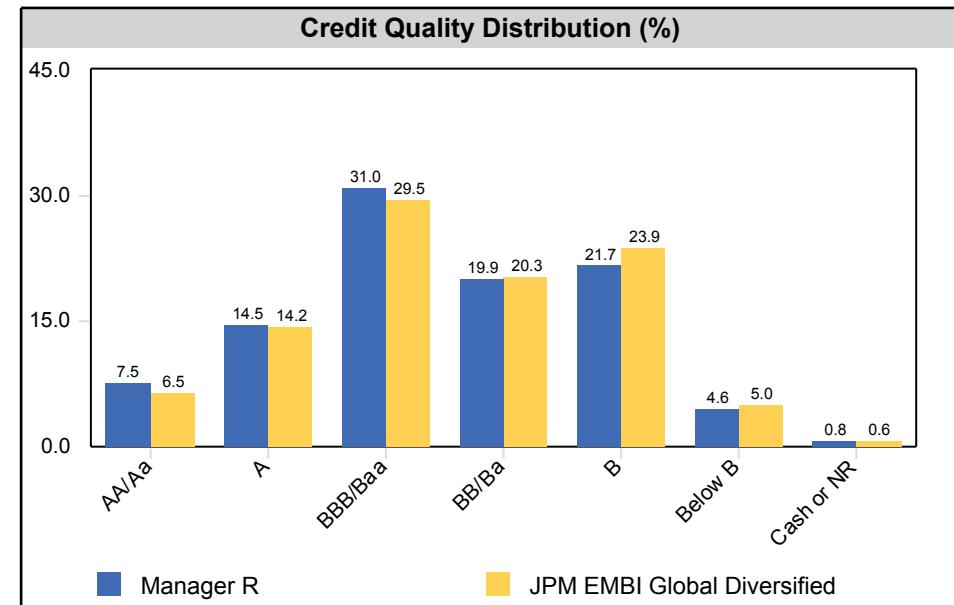


## Portfolio Characteristics

As of September 30, 2021

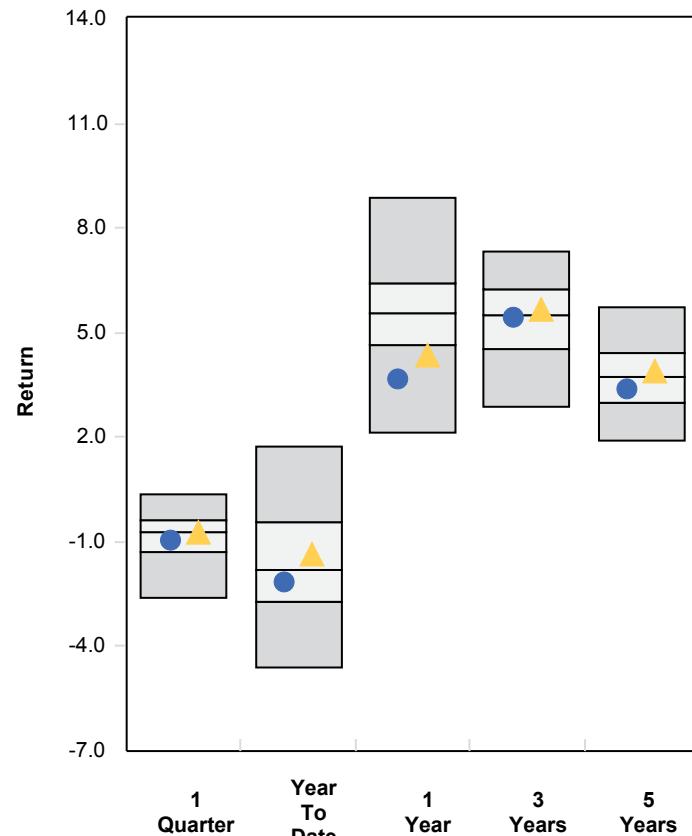
Manager R vs. JPM EMBI Global Diversified

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	8.40	7.97
Yield To Maturity (%)	4.42	5.13
Avg. Maturity	13.54	12.35
Avg. Quality	BBB	BB
Coupon Rate (%)	4.96	5.21

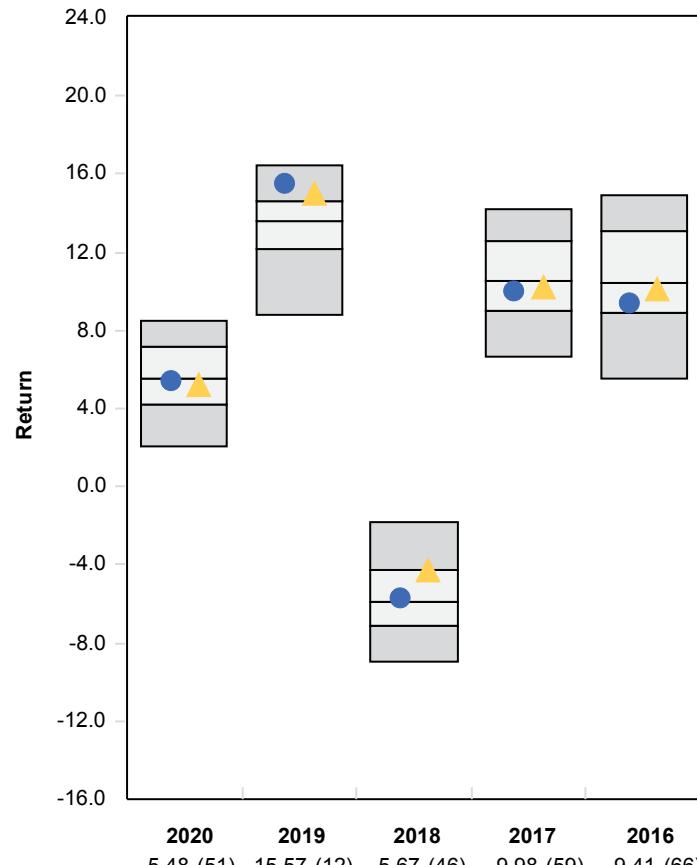


## Manager R

## Peer Group Analysis - IM Emerging Markets Debt (MF)



Manager R	-0.95 (65)	-2.15 (63)	3.69 (90)	5.45 (52)	3.39 (64)
JPM EMBI Global Diversified	-0.70 (50)	-1.36 (41)	4.36 (82)	5.65 (43)	3.89 (43)
Median	-0.71	-1.80	5.55	5.48	3.70



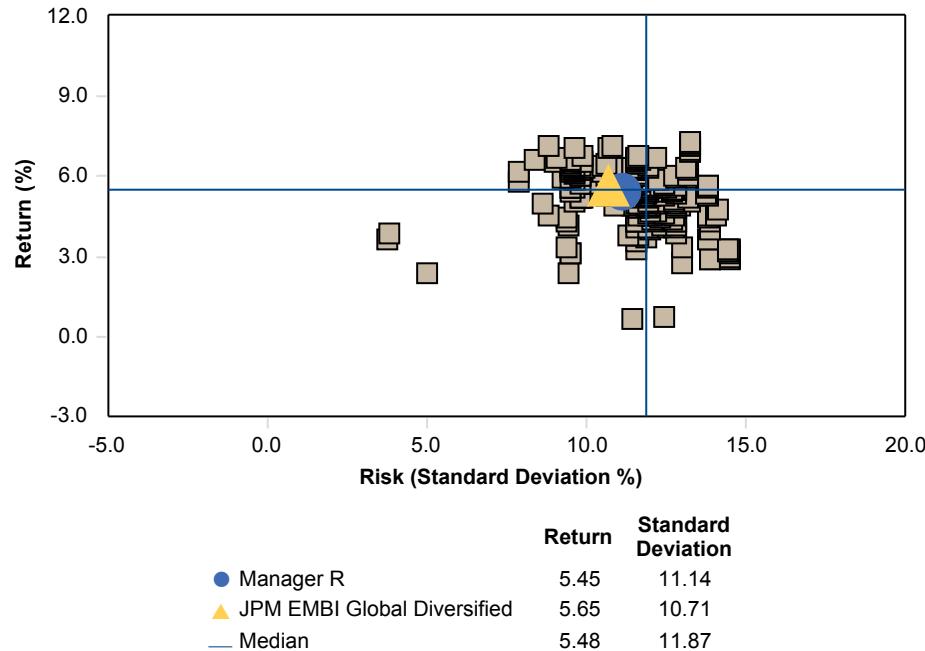
Manager R	5.57	13.58	-5.92	10.49	10.42
Median	5.57	13.58	-5.92	10.49	10.42

## Historical Statistics - 3 Years

	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager R	5.45	11.14	0.43	-0.39	1.04	0.05	-0.15	0.62	-0.24	1.00
JPM EMBI Global Diversified	5.65	10.71	0.46	0.00	1.00	0.05	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.23	-0.01	0.00	-4.94	10.81	-0.46	0.08

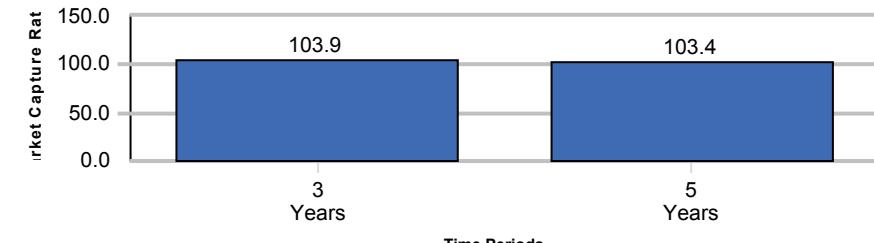
## Manager R

## Peer Group Scattergram (10/01/18 to 09/30/21)

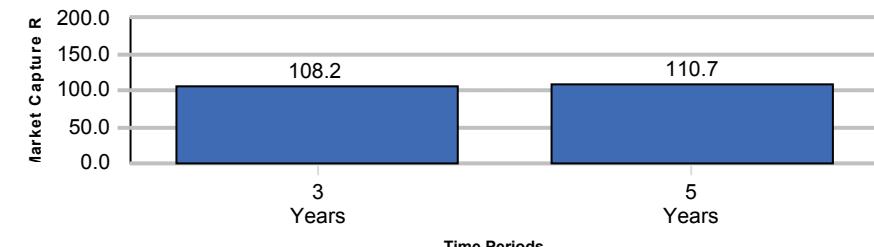


## Up Down Market Capture

## Up Market Capture



## Down Market Capture



## Style Map (01/01/08 to 09/30/21)

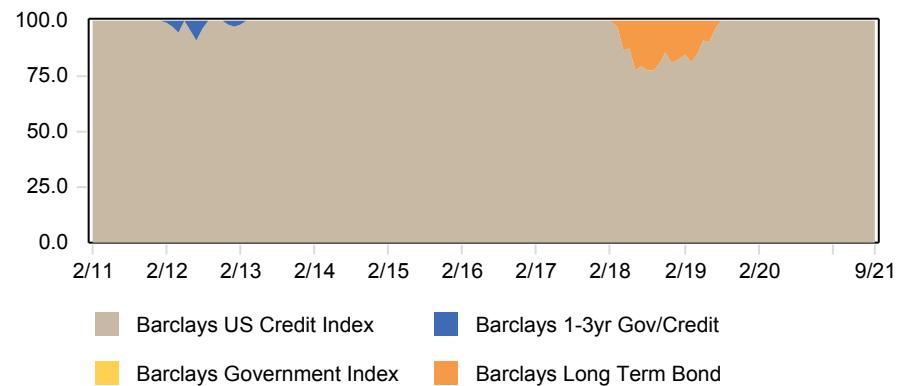


Style History

Sep-2021

Average Style Exposure

## Style History (01/01/08 to 09/30/21)

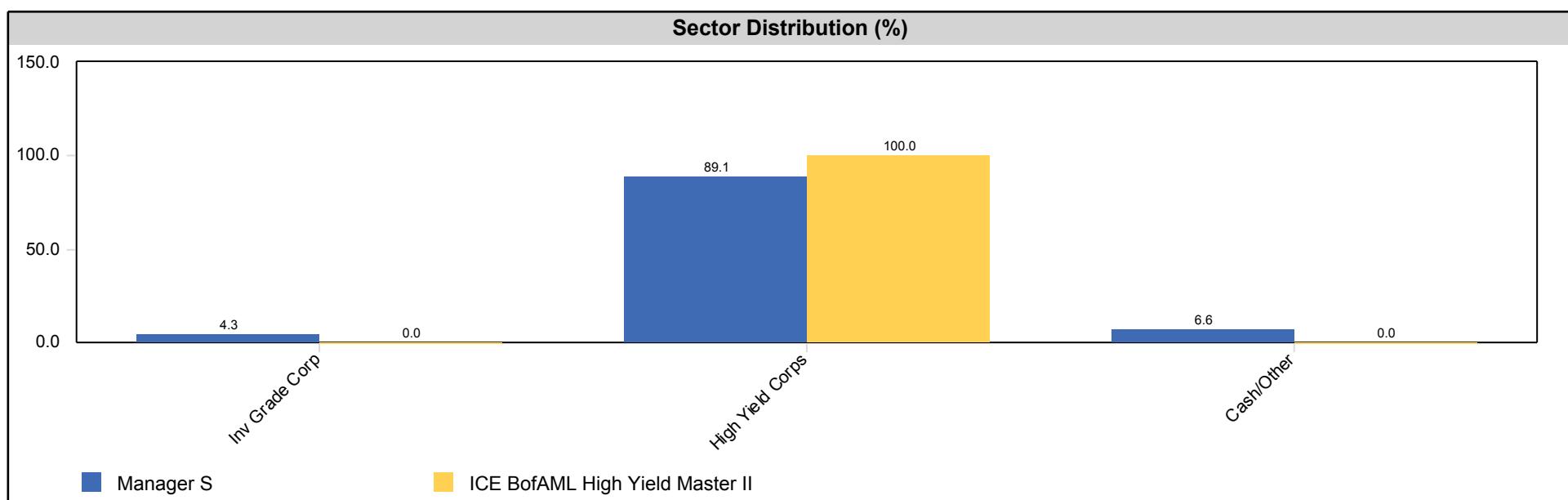
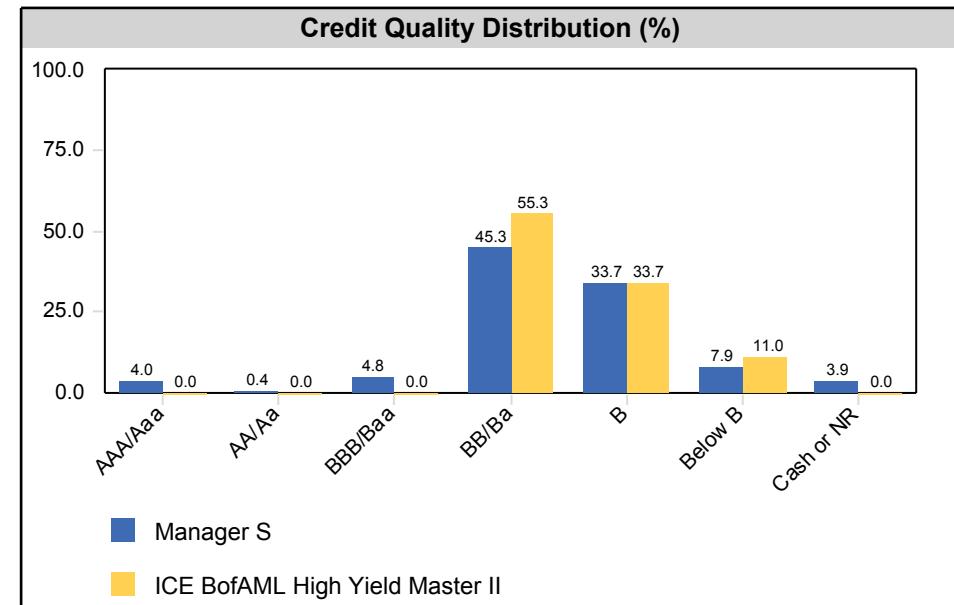


## Portfolio Characteristics

As of September 30, 2021

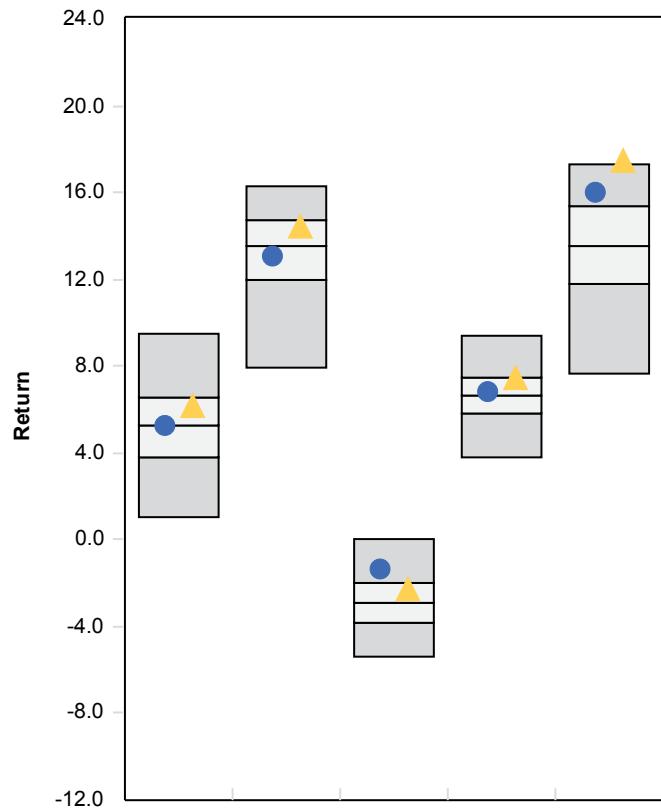
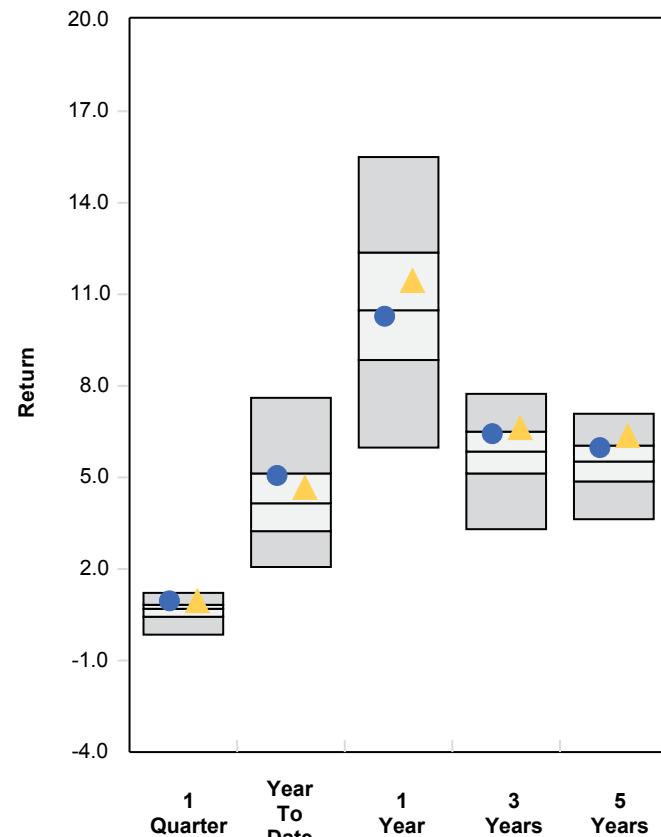
Manager S vs. ICE BofAML High Yield Master II

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	3.53	4.05
Yield To Maturity (%)	4.35	4.61
Avg. Maturity	5.77	6.55
Avg. Quality	BB	B
Coupon Rate (%)	5.71	5.76



## Manager S

## Peer Group Analysis - IM U.S. High Yield Bonds (MF)



	1 Quarter	Year To Date	1 Year	3 Years	5 Years
Manager S	0.99 (13)	5.04 (28)	10.29 (53)	6.45 (27)	5.98 (30)
ICE BofAML High Yield Master II	0.94 (16)	4.67 (37)	11.46 (35)	6.62 (22)	6.35 (16)
Median	0.67	4.16	10.49	5.87	5.50

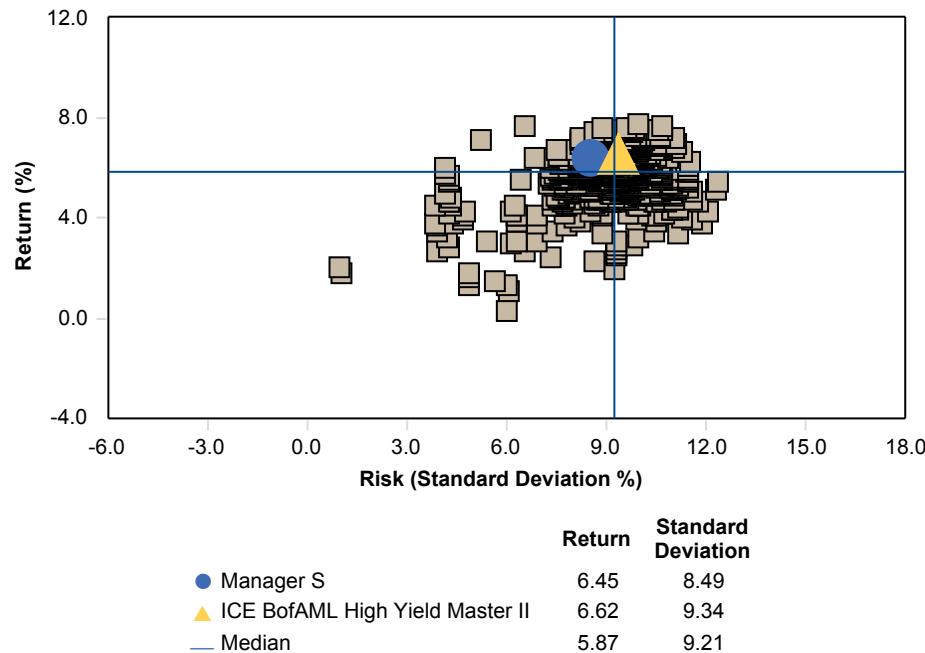
	2020	2019	2018	2017	2016
Manager S	5.28 (50)	13.03 (60)	-1.34 (17)	6.79 (46)	15.99 (16)
ICE BofAML High Yield Master II	6.17 (31)	14.41 (33)	-2.27 (32)	7.48 (25)	17.49 (5)
Median	5.28	13.51	-2.91	6.65	13.52

## Historical Statistics - 3 Years

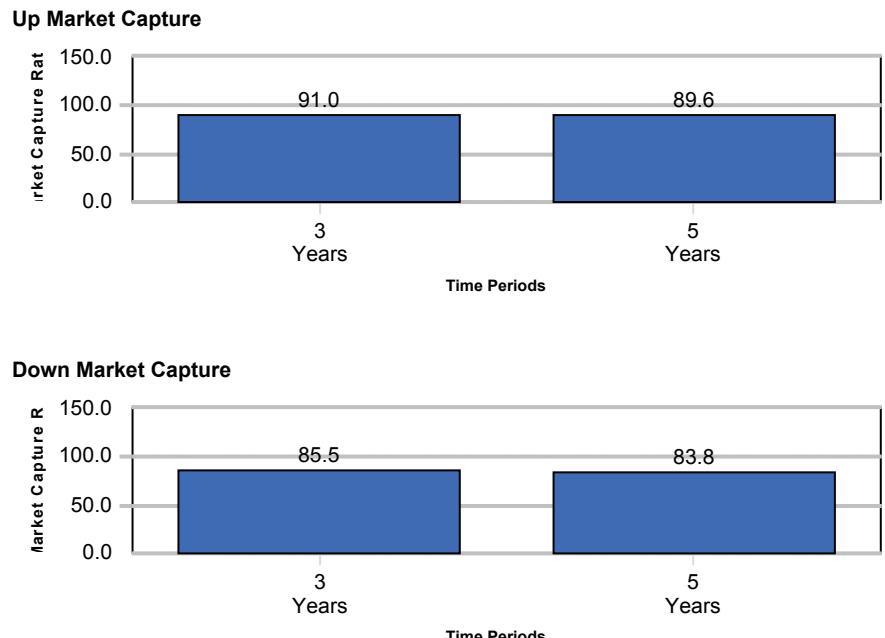
	Return	Standard Deviation	Sharpe Ratio	Alpha	Beta	Treynor Ratio	Active Return	Tracking Error	Information Ratio	R-Squared
Manager S	6.45	8.49	0.63	0.43	0.90	0.06	-0.24	1.40	-0.17	0.98
ICE BofAML High Yield Master II	6.62	9.34	0.60	0.00	1.00	0.06	0.00	0.00	N/A	1.00
90 Day U.S. Treasury Bill	1.18	0.33	N/A	1.28	-0.01	0.00	-5.71	9.48	-0.60	0.17

## Manager S

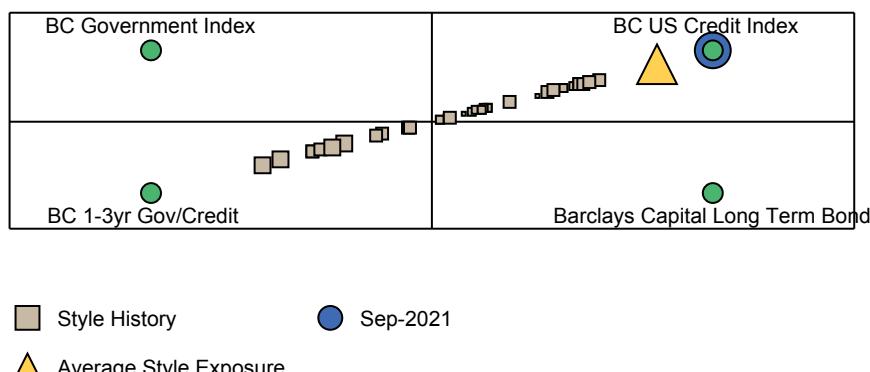
## Peer Group Scattergram (10/01/18 to 09/30/21)



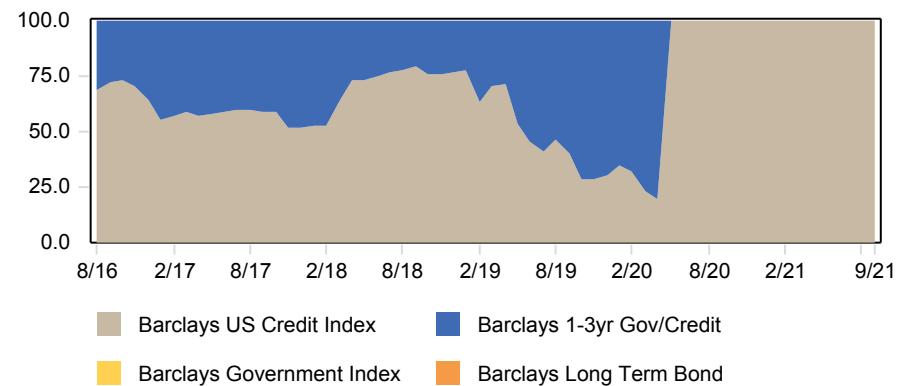
## Up Down Market Capture



## Style Map (07/01/13 to 09/30/21)



## Style History (07/01/13 to 09/30/21)



## Statistics Definition

Statistics	Definition
Return	<ul style="list-style-type: none"><li>- Compounded rate of return for the period.</li></ul>
Standard Deviation	<ul style="list-style-type: none"><li>- A statistical measure of the range of a portfolio's performance, the variability of a return around its average return over a specified time period.</li></ul>
Sharpe Ratio	<ul style="list-style-type: none"><li>- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.</li></ul>
Alpha	<ul style="list-style-type: none"><li>- A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market, or a portfolio's non-systematic return.</li></ul>
Beta	<ul style="list-style-type: none"><li>- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.</li></ul>
Treynor Ratio	<ul style="list-style-type: none"><li>- Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Represents the excess rate of return over the risk free rate divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.</li></ul>
Active Return	<ul style="list-style-type: none"><li>- Arithmetic difference between the manager's return and the benchmark return over a specified time period.</li></ul>
Tracking Error	<ul style="list-style-type: none"><li>- A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.</li></ul>
Information Ratio	<ul style="list-style-type: none"><li>- Measured by dividing the active rate of return by the tracking error. The higher the Information Ratio, the more value-added contribution by the manager.</li></ul>
R-Squared	<ul style="list-style-type: none"><li>- The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Square means higher correlation of the portfolio's performance to the appropriate benchmark.</li></ul>
Up Market Capture	<ul style="list-style-type: none"><li>- The ratio of average portfolio return over the benchmark during periods of positive benchmark return. Higher values indicate better product performance.</li></ul>
Down Market Capture	<ul style="list-style-type: none"><li>- The ratio of average portfolio return over the benchmark during periods of negative benchmark return. Lower values indicate better product performance.</li></ul>

## IMPORTANT DISCLOSURES

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It is not possible to invest directly in an index. The index returns shown throughout this material do not represent the results of actual trading of investor assets. Third-party providers maintain the indices shown and calculate the index levels and performance shown or discussed. Index returns do not reflect payment of any sales charges or fees an investor would pay to purchase the securities they represent. The imposition of these fees and charges would cause investment performance to be lower than the performance shown.

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## F. PFMAM's 2022 Capital Market Assumptions

# **2022 Capital Market Assumptions and Overview of Economic Fundamentals**

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All data as of September 30, 2021, unless otherwise noted.

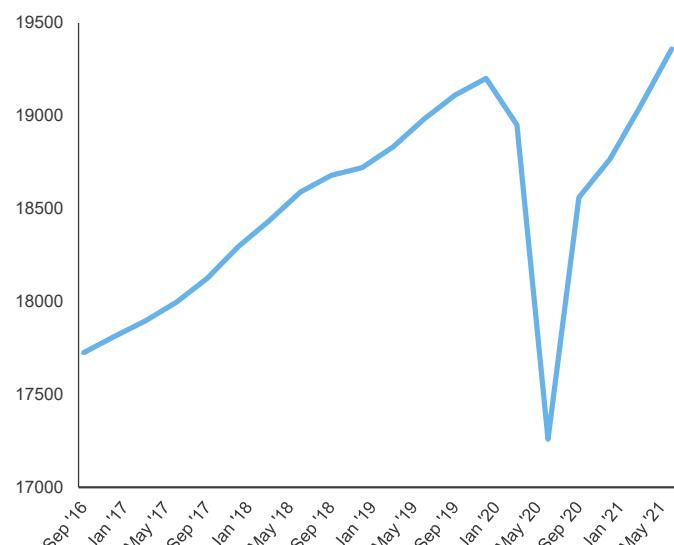
## Introduction

In order to assist our clients in developing and maintaining portfolio asset allocations, PFM Asset Management (PFMAM) develops two sets of capital market assumptions (CMAs): intermediate (next five years) and long-term (next 30 years).

We develop our assumptions by examining the economic fundamentals of each asset class. Our CMAs include expected returns, expected risks (measured as the standard deviation of returns) and correlations among a wide variety of asset classes. We derive our CMAs based on our projections for economic growth, inflation, interest rates, corporate profit growth and margins, and other fundamental economic and market conditions.

Throughout 2021, the U.S. and global economies continued to recover from the COVID-19 pandemic. Helped by extraordinary fiscal and monetary responses, U.S. gross domestic product (GDP) recovered all of its losses by the middle of 2021 (Exhibit 1). As the economy continued to recover, the number of unemployed people dropped and job openings swelled to record levels, leading to more job openings than people unemployed (Exhibit 2). Even as the economy recovered, with GDP growing 33.8%, 4.5%, 6.3% and 6.6% in third quarter 2020 through second quarter 2021, respectively, the fiscal and monetary authorities believed continued economic support was necessary.

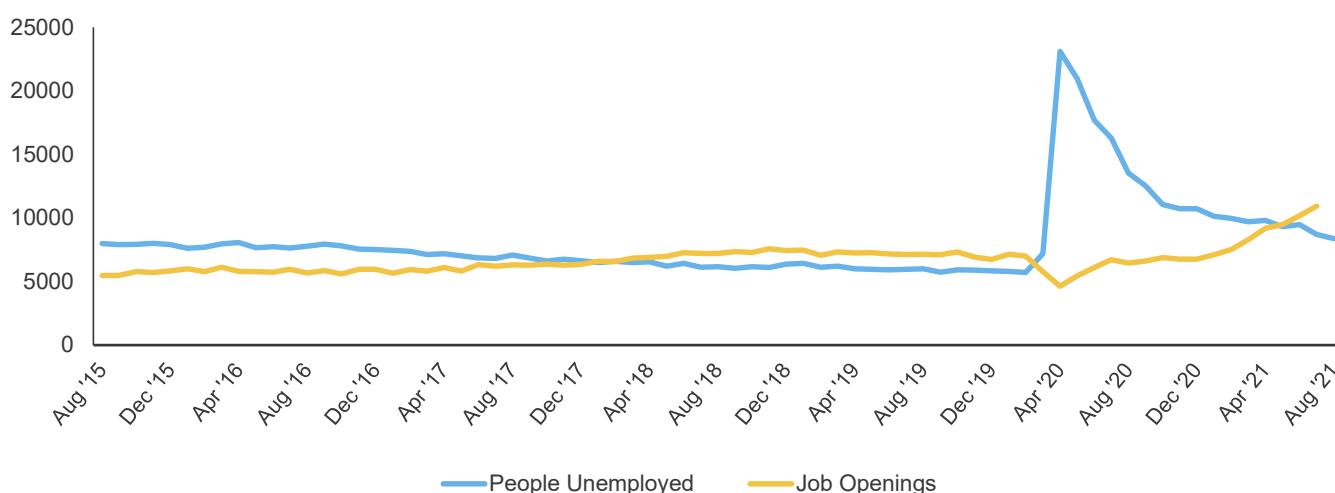
Exhibit 1. Real U.S. GDP



Source: Federal Reserve Economic Data.

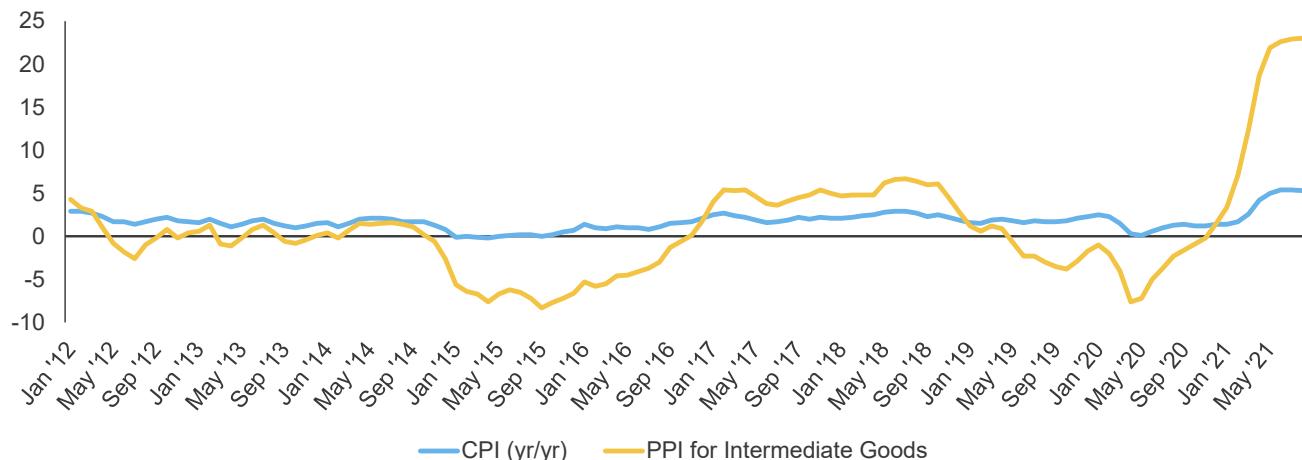
One side effect of the extraordinary support is a pickup in inflation. While inflation had been stable and moderate, the Consumer Price Index (CPI) increased significantly. Higher inflation is a risk for both consumers and corporations. Corporate profit margins may come under pressure since the Producer Price Index (PPI) is running ahead of the CPI (Exhibit 3 on page 2). Despite higher-than-expected inflation, helped by a strong rebound in corporate profits, equities continued to rally in 2021.

Exhibit 2. People Unemployed versus Job Openings



Source: Bloomberg.

Exhibit 3. PPI versus CPI



Source: Bloomberg.

While it typically takes approximately three years for corporate profits to recover losses suffered during a recession, S&P 500 Index (S&P) profits surpassed the previous high in a little over one year (Exhibit 4). Credit markets, both investment-grade (IG) and high yield, also rallied and spreads tightened to historical lows (Exhibit 5 on page 3). The fiscal response to the global pandemic led to national debt rising to unprecedented levels (Exhibit 6 on page 3). High debt levels, combined with less favorable demographics, will likely result in lower interest rates going forward. The Federal Open Market Committee projects a terminal rate of 2.5% for the fed funds rate versus 5.25% immediately prior to the financial crisis and the 5.6% average fed funds rate from 1954 to 2017 (Exhibit 7 on page 3). Currently, market expectations are that the terminal fed funds rate is less than 2% (Exhibit 8 on page 3).

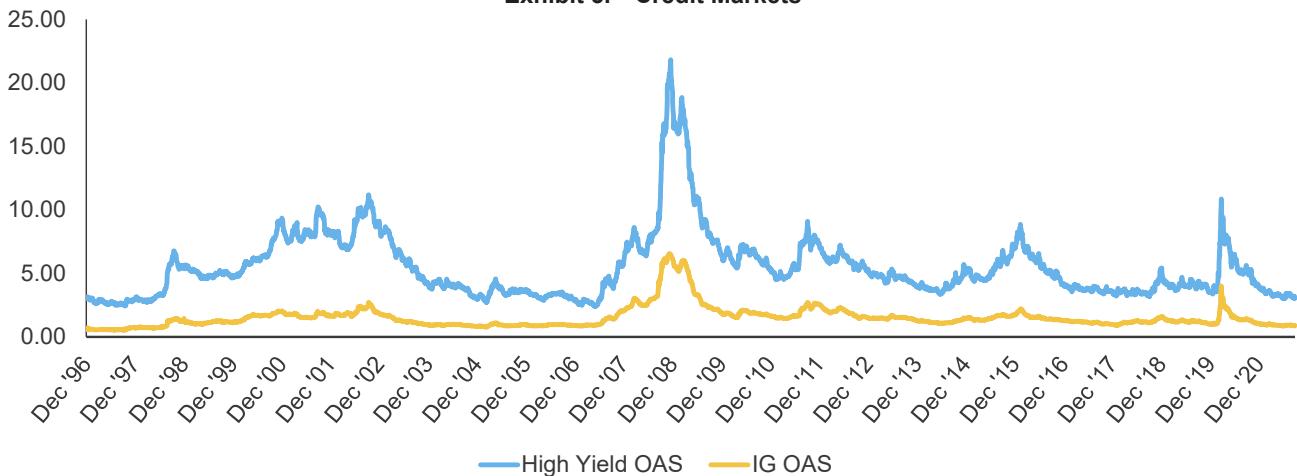
While current market expectations may prove too low, especially given expected higher inflation going forward, we agree that rates are likely to be lower than the historical average. In deriving our capital market assumptions, we project the trajectory of interest rates and inflation and the likely impact on valuations across different asset classes. As the global economy continues to recover, central banks are expected to begin to reduce monetary accommodation at a “measured pace.” Some emerging market (EM) central banks have already started to raise interest rates. We project that the Federal Reserve (Fed) will begin to hike rates in 2022. This impacts our projection for expected returns in the fixed income market. While rates are likely to rise over the next several years, lower than average interest rates are expected to support higher equity valuations as well as valuations for other asset classes.

Exhibit 4. S&P 500 Index EPS

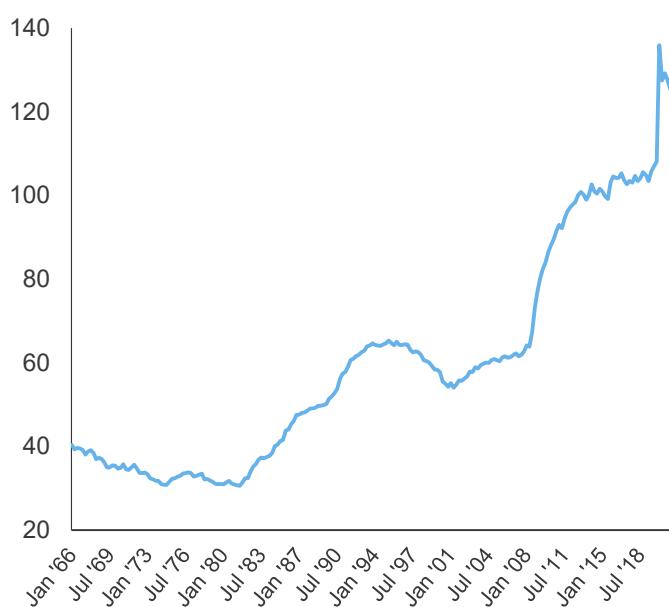


Source: Bloomberg.

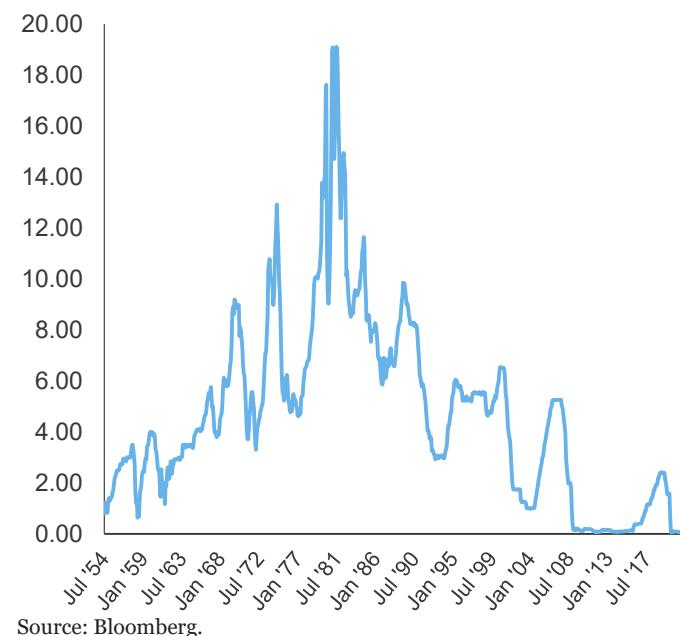
**Exhibit 5. Credit Markets**



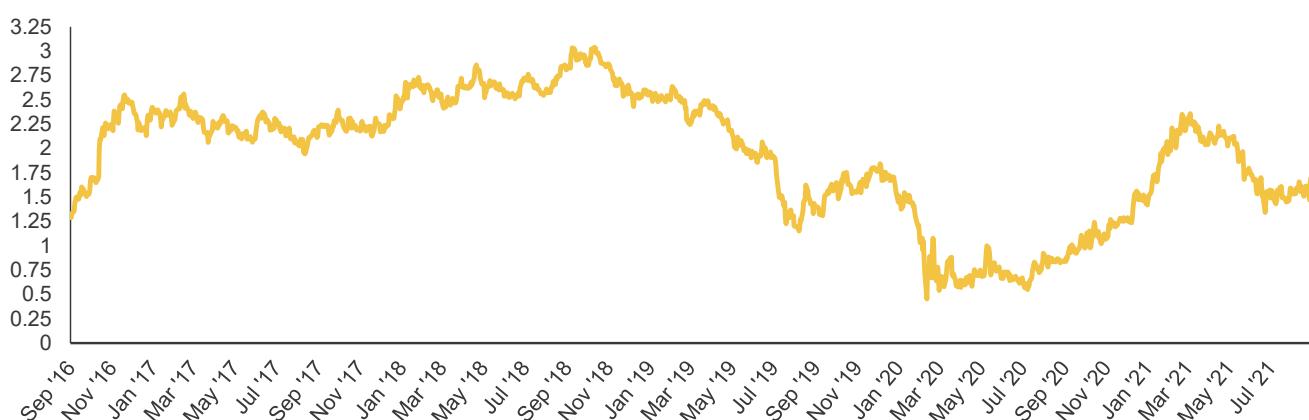
**Exhibit 6. Gross National Debt/GDP**



**Exhibit 7. Fed Funds Rate**



**Exhibit 8. Market Implied Fed Funds Terminal Rate**



## 2022 Changes

We have increased intermediate-term expectations for U.S. equities from 6.0% to 7.2% and long-term expectations from 7.5% to 7.6%. The increase in return expectations over the intermediate period is driven by expectations of strong corporate revenue and profit growth as the U.S. and global economies grow above trend over the next several years and higher expected valuations due to continued low interest rates. After several years of above-average growth, we expect U.S. GDP to moderate to the long-term average of 1.8% real growth.

Over the longer term, we expect inflation to average 2.5%, leading to nominal GDP growth of 4.3%. We believe these estimates to be reasonable, if not conservative. Over the long term, real GDP growth is driven by two major factors: labor force growth and productivity. While productivity has been weak over the past 20 years or so, we expect it to improve to the long-term average of about 2%; combined with population growth of about 0.5%, it should result in real GDP of 2.5% per annum. In deriving our CMAs, we would rather err on the side of being conservative and use 1.8% real GDP growth until we see solid evidence that productivity is improving on a sustainable basis.

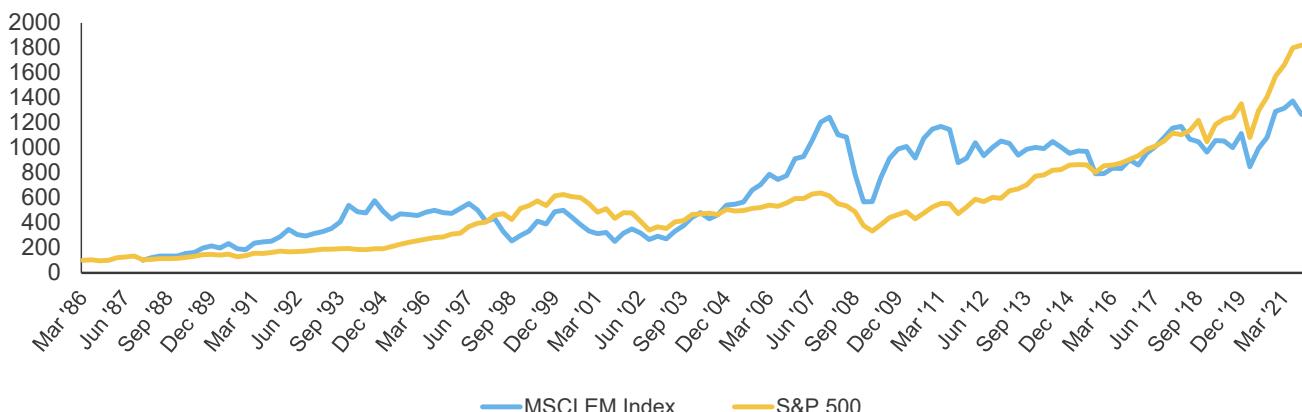
Non-U.S. developed markets equities are expected to return 7.5% over the next five years and 7.3% over the longer term. The intermediate-term estimate is higher than our previous expectation of 6.8%. Similar to the U.S., developed economies outside of the U.S., such as Europe

and Japan, are expected to grow above trend over the next several years as they continue to recover from the pandemic-induced recession of 2020 and helped by fiscal and monetary stimulus.

Over the longer term, we expect developed international economies to grow more modestly than the U.S. due to less favorable demographics as well as other factors such as productivity. EM equities are expected to return 7.5% over the intermediate-term versus 6.7% previously and 7.7% over the longer term, a modest reduction from our previous 7.9% estimate. EM equities have not performed well in 2021, and as a result, valuations are lower than average and lower than for developed market equities. This should help EM equities perform well over the next several years as the economy and corporate profits recover. Over the longer term, we remain more cautious with respect to EM equities versus investor consensus.

We believe demographics in EM are less favorable than many believe. In addition, EM economies have benefitted from growing globalization and global trade growing faster than global GDP. Going forward, we expect global trade to grow at a more modest pace and globalization to have less of a positive impact on EM. In addition, unlike developed market equities, despite current modest valuations, we believe EM equities are unlikely to see a significant re-rating due to continuing elevated economic and political risks.

Exhibit 9. MSCI EM Index versus S&P 500



Source: Bloomberg.

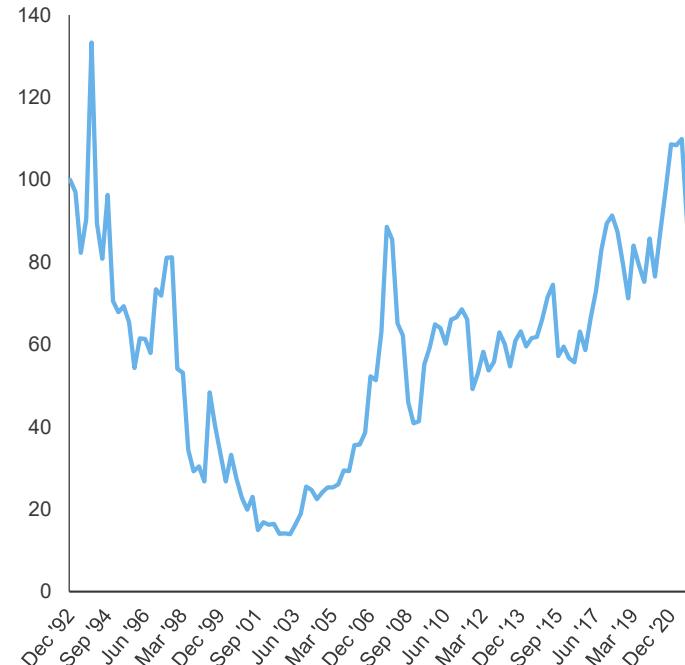
Many investors differ with our view with respect to EM and expect EM equities to outperform both U.S. and non-U.S. developed market equities significantly. They believe that faster growth in EM will lead to higher equity performance. In support of our view that higher economic growth does not necessarily lead to higher equity performance, we would point out that despite faster growth, EM equities have underperformed the S&P since the beginning of the MSCI EM Equity Index (Exhibit 9 on page 4). In the case of China, the MSCI China Equity Index is no higher now than when the index started (Exhibit 10).

Core bonds, as represented by the Bloomberg U.S. Aggregate Bond Index, are expected to return -0.9% over the intermediate-term, a reduction from our previous estimate of -0.2%. When we updated our 2021 CMAs at the end of 2020, the world looked very different than it does today as we updated our 2022 CMAs. Inflation, as measured by CPI, was close to 1% versus 6.2% currently. The FDA issued its first EUA (emergency use authorization) in December 2020. Today, we have multiple vaccines and anyone who wants to get vaccinated can easily do so. Toward the end of 2020, U.S. GDP was expected to grow about 3.9% in 2021. Today, estimates call for growth of over 5%.

Given these differences, we have updated our interest rate projections. We now expect rates to rise faster than what we assumed at the end of 2020 (Exhibit 11 on page 6). Faster rising rates result in a lower expected return for core bonds. Over the long term, we expect core bonds to return 3.9% compared to our previous expectation of 3.8%.

In deriving our fixed income CMAs, we start with the current yield to maturity and term and credit spreads and incorporate our expectations over various periods of time. For core bonds, the starting yield to maturity and projections differ in our 2022 CMAs versus projections we used for our 2021 CMAs, mostly for the reasons outlined on the following page (Exhibit 12 on page 6). For the 2022 CMAs, the higher yield to maturity in the early years is partly offset by a lower terminal value than in our 2021 projections, resulting in approximately the same expected return over the longer term. Faster projected rate increases also impact our expected return for cash.

**Exhibit 10. MSCI China Index**

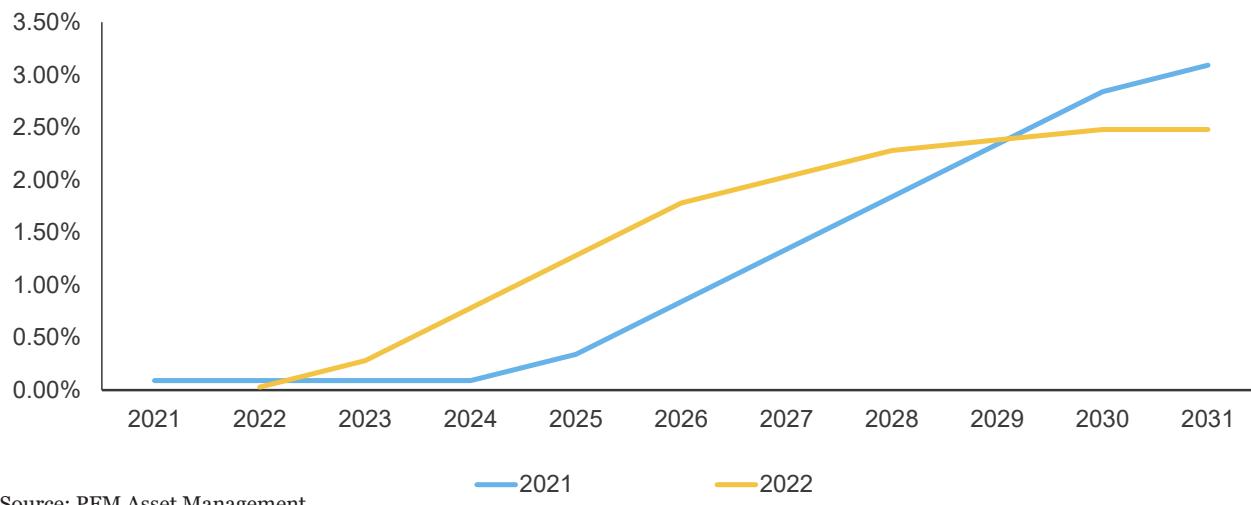


Source: Bloomberg.

Over the intermediate-terms, we expect cash to return 0.8% versus our previous expectation of 0.1%. But over the longer term, we expect cash to return 2.2%, a modest reduction from our 2021 expectation of 2.4%. The modest reduction is driven by a lower projected terminal rate for fed funds and short-term interest rates. Previously, we expected fed funds to rise to 3% over the longer term; currently, we expect a terminal rate of 2.5% due to higher expected national debt going forward. Likewise, expected returns for IG and high yield corporate bonds have also changed due to changes in our interest rate and credit spread projections.

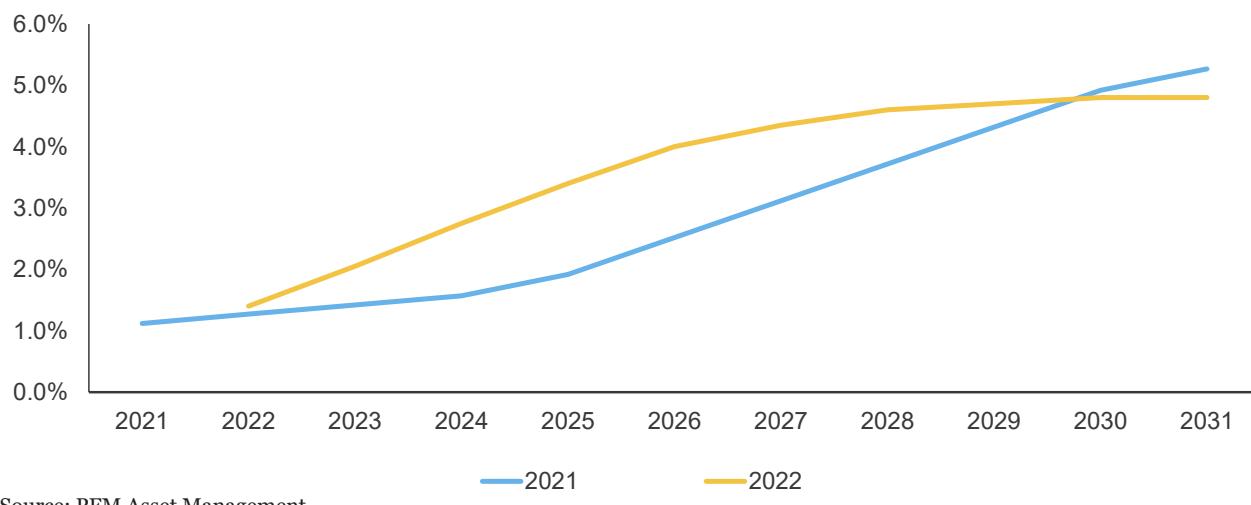
For intermediate IG credit, we expect an annualized return of 0.1% over the next five years rather than our previous expectation of 0.5%. Over the longer term, we expect 3.9% instead of 4.2% previously. These changes are driven by our updated projections for interest rates and credit spreads (Exhibit 13 on page 6). High yield bonds are expected to return 2.4% over the intermediate-term and 5.0% over the longer term. These estimates are a reduction from our 2021 CMAs driven by the same factors impacting other fixed income instruments.

Exhibit 11. Short Term Rates



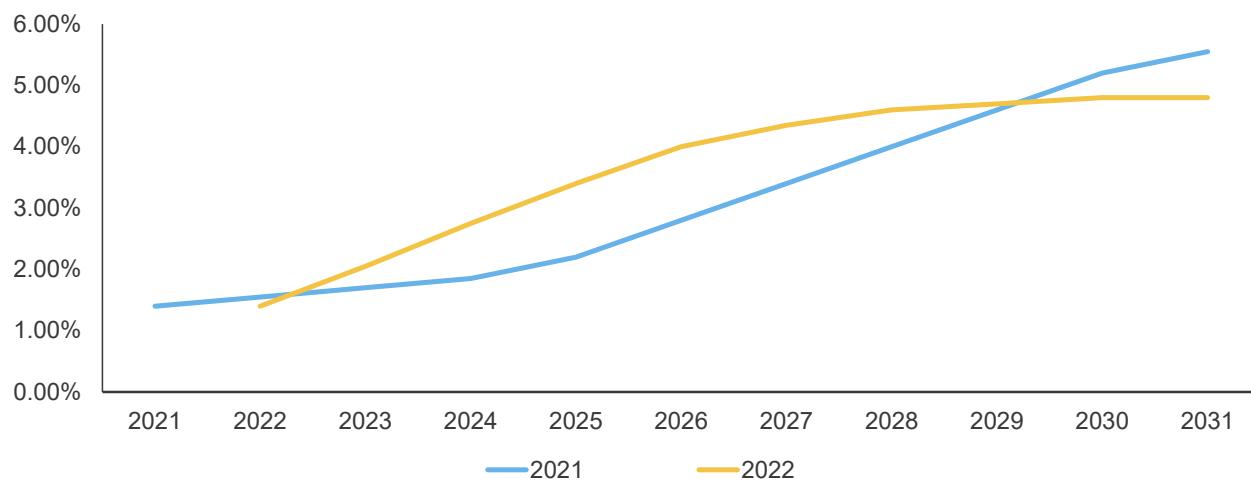
Source: PFM Asset Management.

Exhibit 12. Core Bonds YTM



Source: PFM Asset Management.

Exhibit 13. Intermediate Credit YTM



Source: PFM Asset Management.

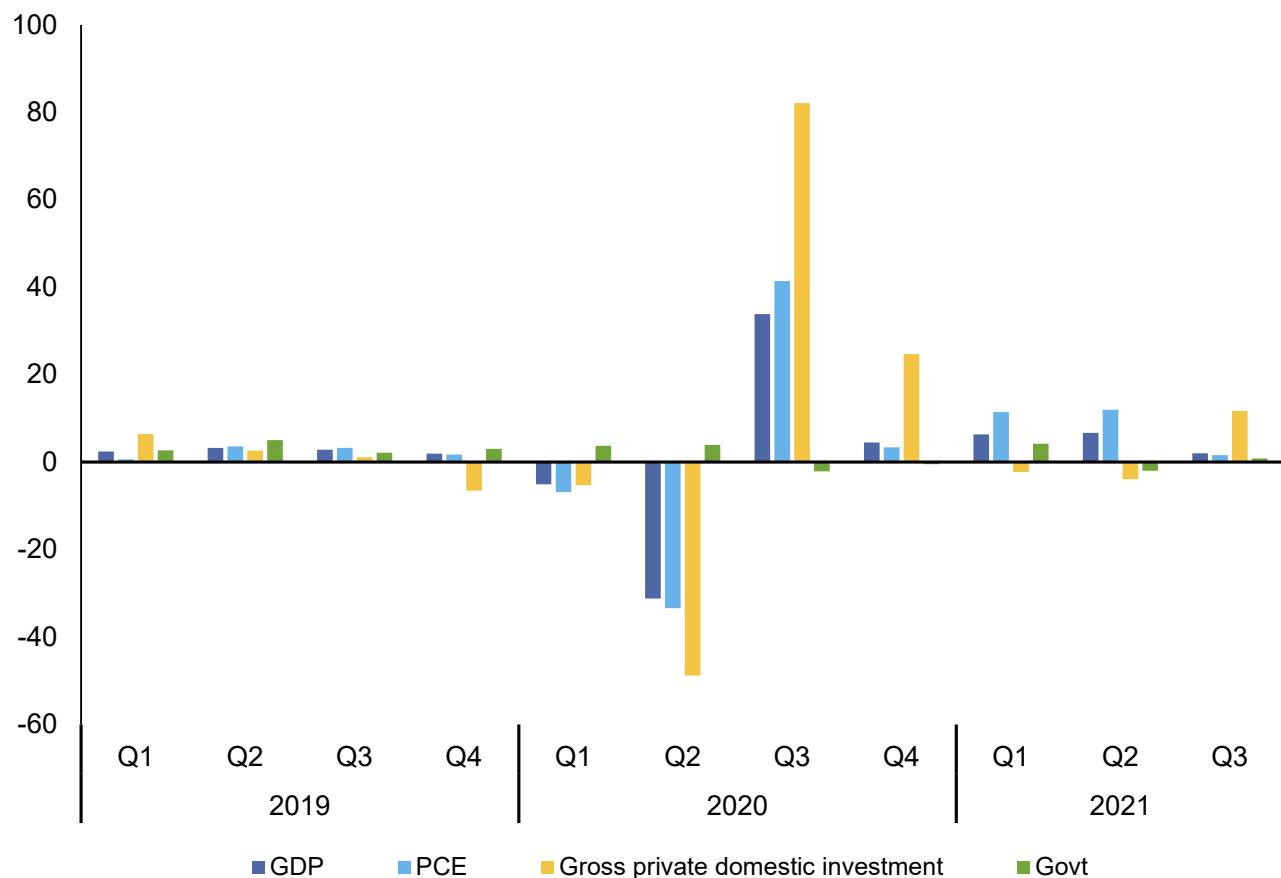
Our CMAs differ for publicly traded real estate investment trusts (REITs) and private real estate. REITs tend to hold high-quality, core real estate property, while the private real estate market is made up of core, core-plus and opportunistic real estate. In addition, the amount of leverage differs for REITs versus private real estate. These differences result in different expected returns and risk profiles. For private real estate, we expect a total return of 7.0% over the intermediate-term and 7.9% over the longer term versus our 2021 estimates of 6.8% and 7.8%, respectively. We expect a total return of 6.3% and 6.6% for publicly traded REITs over the intermediate- and long-term, respectively.

In deriving our estimates for “alternatives” investments such as hedge funds and private equity, we assume that these strategies perform in line with public markets equivalencies once adjusted for the characteristics of these strategies,

such as leverage. Hedge funds are expected to return 5.8% over the intermediate-term and 6.3% over the longer term as compared to our prior year expectations of 5.5% and 7.1%, respectively.

In the case of private equity, our estimates have increased. In a typical private equity buyout transaction, approximately two-thirds of the purchase price is financed via various bonds and loans. Lower borrowing costs due to a lower level of interest rates, combined with higher expectations for public equities, lead to higher return expectations. Over the intermediate-term, we expect private equity to return 10.1%, up from 8.5% previously. Over the longer term, we expect a return of 9.2%, lower than our 2021 estimate of 10.5%. While these expected returns seem attractive in relation to publicly traded markets, investors need to keep in mind that research has shown that private equity returns are effectively leveraged public equity.

**Exhibit 14. Percent Change From Preceding Period in Real Gross Domestic Product**



Source: Bureau of Economic Analysis.

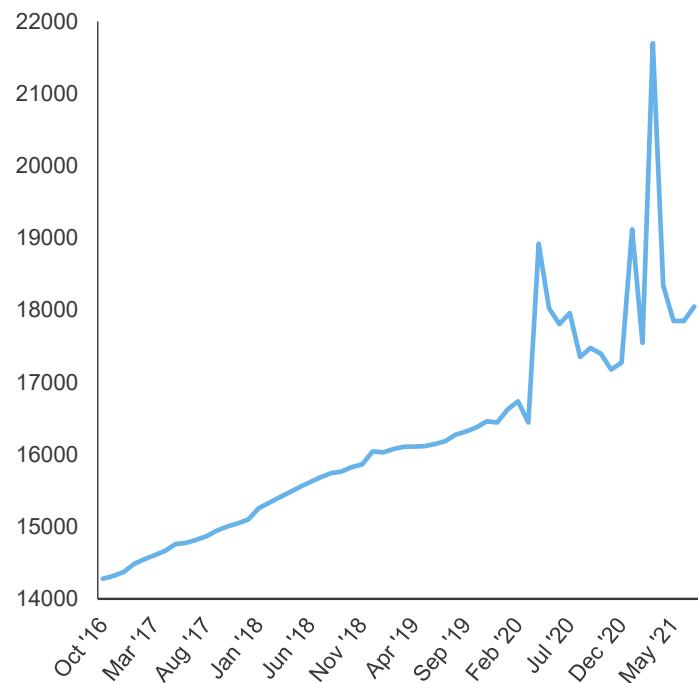
# Review and Outlook of Global Economy and Capital Markets

## Review of Events in 2021 and Forward-Looking Indicators for 2022 and Subsequent Years

### GLOBAL

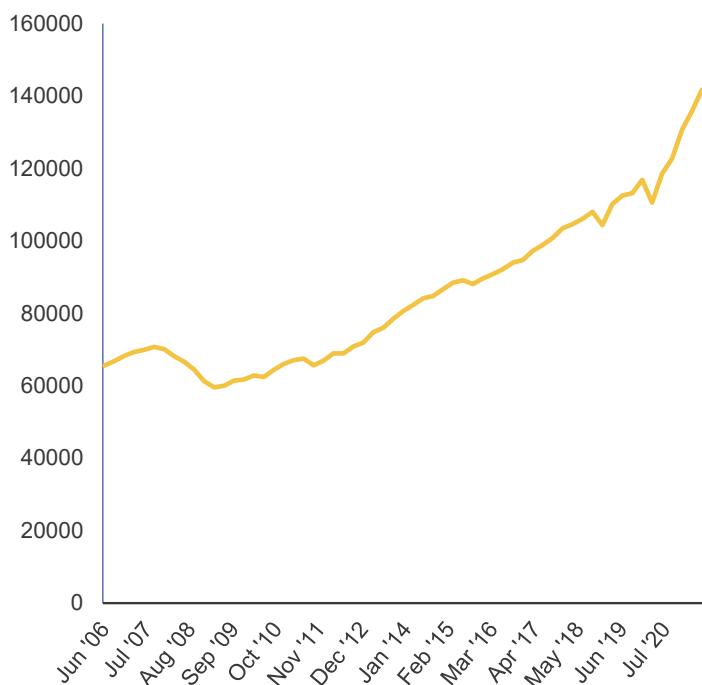
In 2021, the U.S. and global economy slowly began to recover from the coronavirus pandemic. As multiple vaccines were approved for emergency use and people began to be vaccinated, economic activity rebounded strongly (Exhibit 14 on page 7). Real GDP, quarter-over-quarter annualized, grew 6.3% and 6.7% in the first and second quarter, respectively. The strong growth was largely driven by personal consumption as enhanced unemployment benefits and stimulus checks filled consumers' coffers. Disposable personal income and household net worth climbed to all-time highs (Exhibits 15 and 16). As a result of the strong rebound, economists upgraded their forecasts for 2021 GDP growth (Exhibit 17 on page 9).

**Exhibit 15. Disposable Personal Income**



Source: Bloomberg.

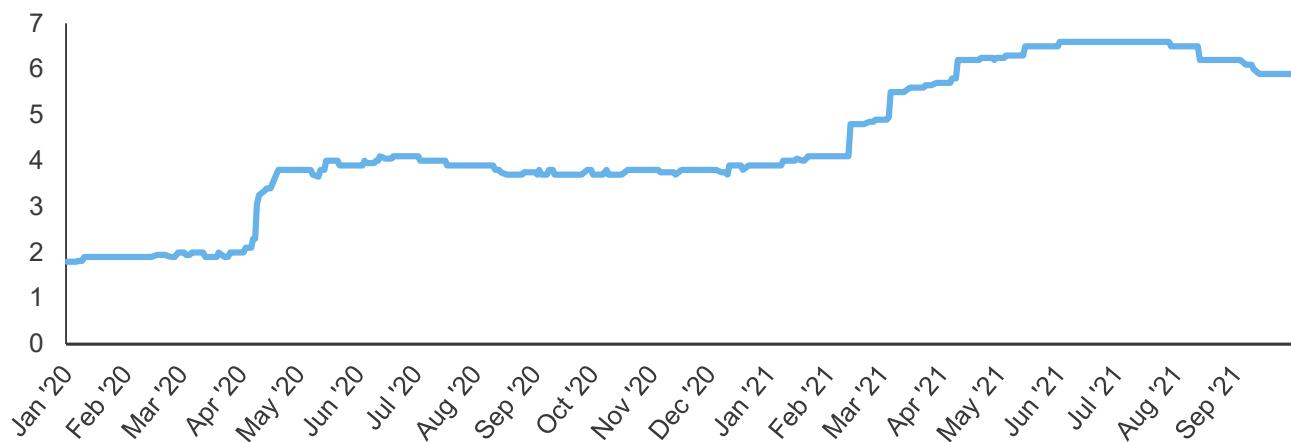
**Exhibit 16. Household Net Worth**



Source: Bloomberg.

Consistent with previous global pandemics, the COVID-19 pandemic has likewise spread in multiple waves as the virus mutated. Toward the end of 2021, a third major wave negatively impacted the economic recovery due to the “Delta Variant” (Exhibit 18 on page 9). Each successive wave negatively impacted economic activity less as governmental restrictions were more targeted and businesses and people adapted to the virus. For example, when the pandemic first hit, restaurants fully shut down in compliance with various government ordinances. But restaurants began to adopt and introduced “curbside pickup” and “outdoor dining.” As a result, while economic activity slowed down some, rising new cases did not derail the recovery that began in mid-2020.

Exhibit 17. Expected 2021 GDP Growth

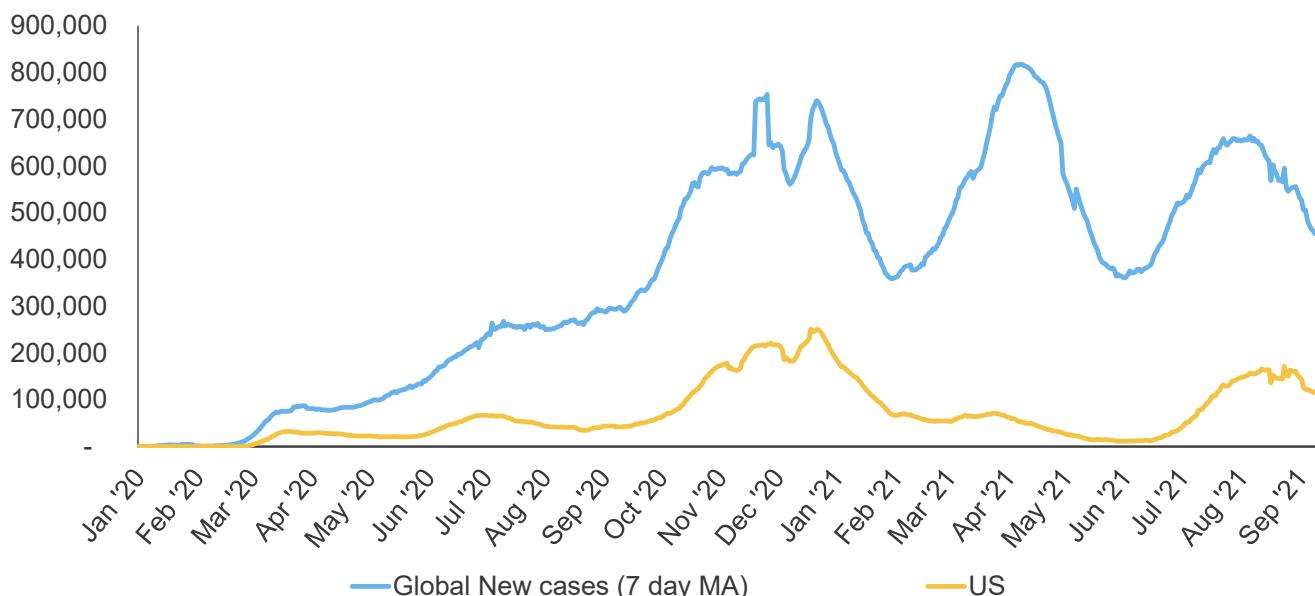


Source: Bloomberg.

As we exit 2021, there is some evidence that the slowdown is bottoming as new cases once again decline, and we may see a renewed acceleration and synchronized global expansion in 2022 (Exhibits 19 and 20 on page 10). One possible risk facing the global economy is the slowdown in vaccination. While the percentage of people vaccinated initially ramped up, recently, we are seeing a slowdown as

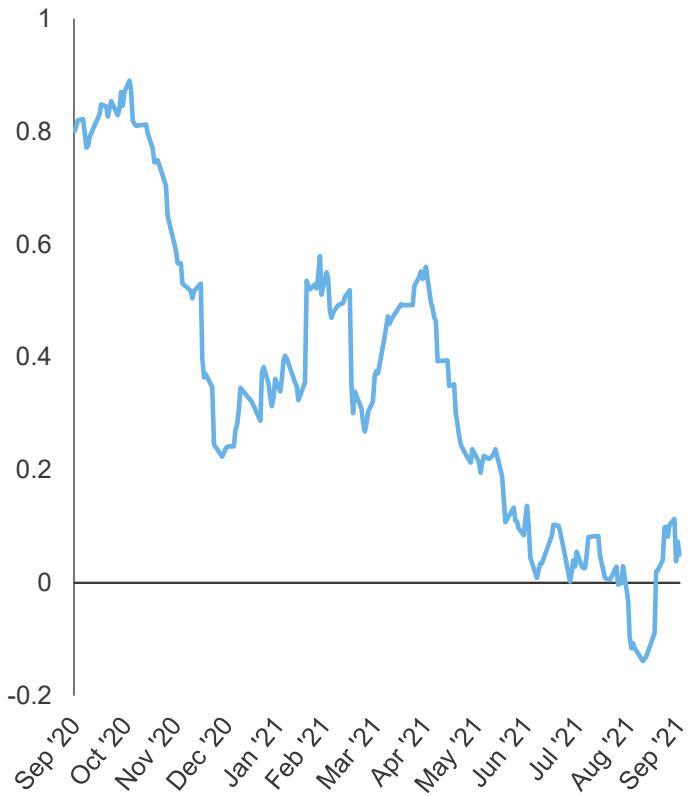
segments of the population are showing a reluctance to get vaccinated (Exhibit 21 on page 10). There is also concern around the lasting effectiveness of the vaccines and possible new strains of the virus. While uncertainty remains elevated, as we enter 2022, the global economy stands on more solid footing versus the beginning of 2021.

Exhibit 18. Global New Cases



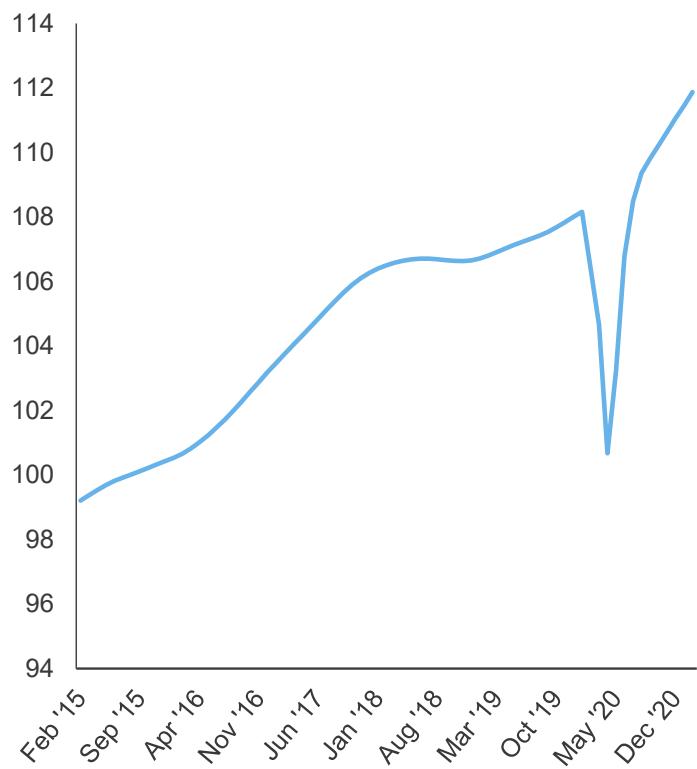
Source: Bloomberg.

Exhibit 19. Bloomberg Economic Surprise Index



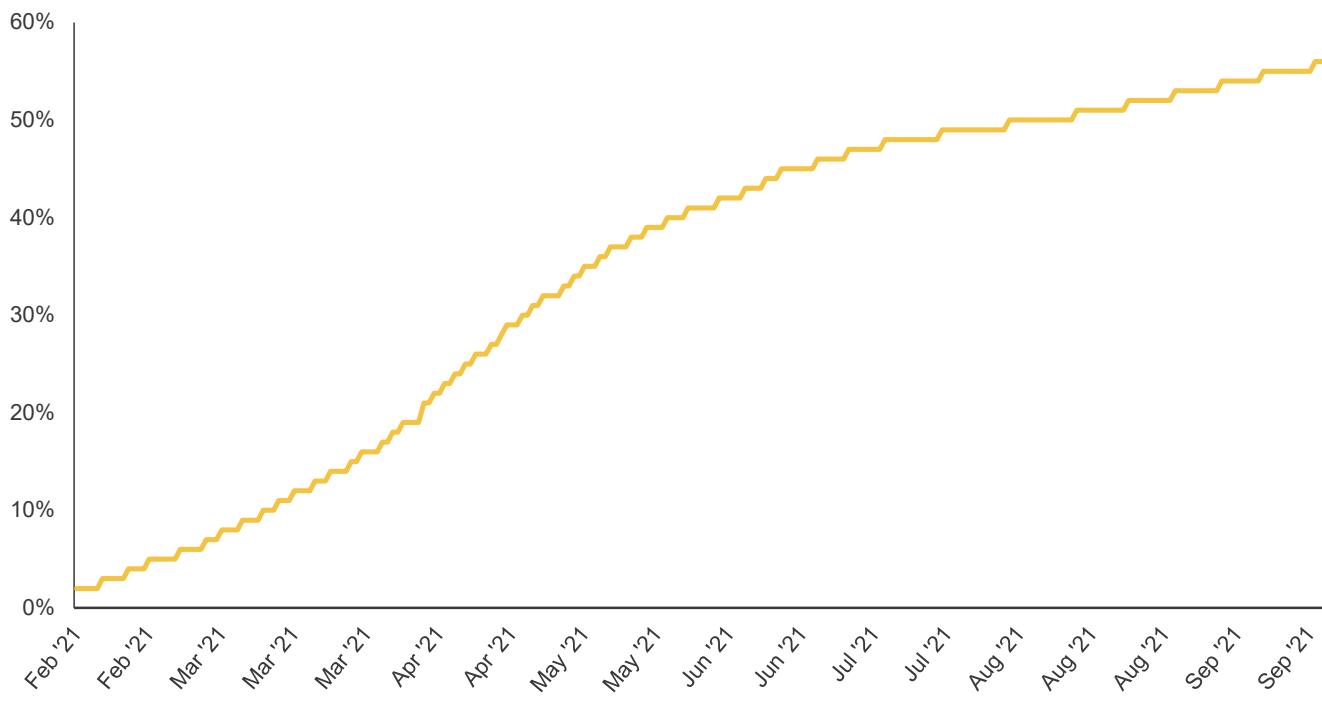
Source: Bloomberg.

Exhibit 20. OECD Global LEI



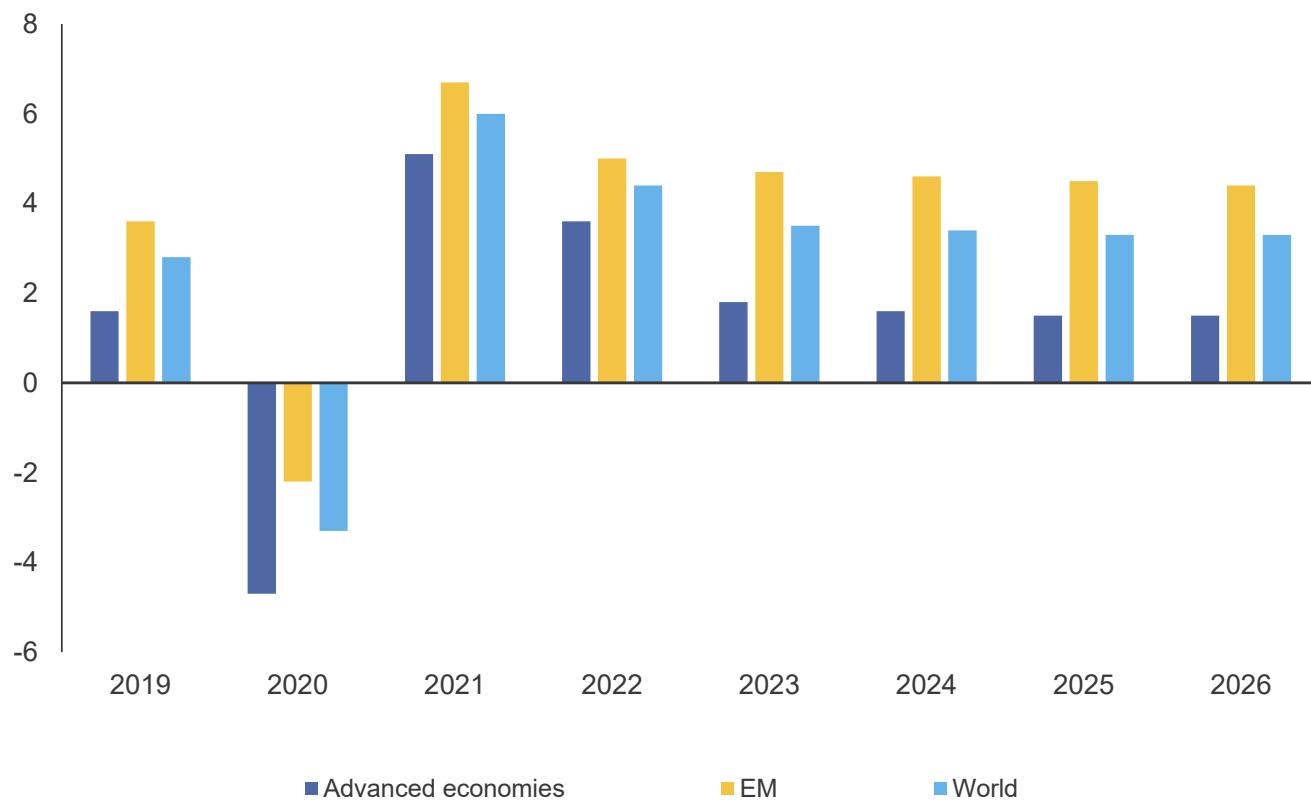
Source: Organisation for Economic Co-operation and Development.

Exhibit 21. Percent of Fully Vaccinated People in U.S.



Source: Bloomberg.

Exhibit 22. International Monetary Fund Global Outlook

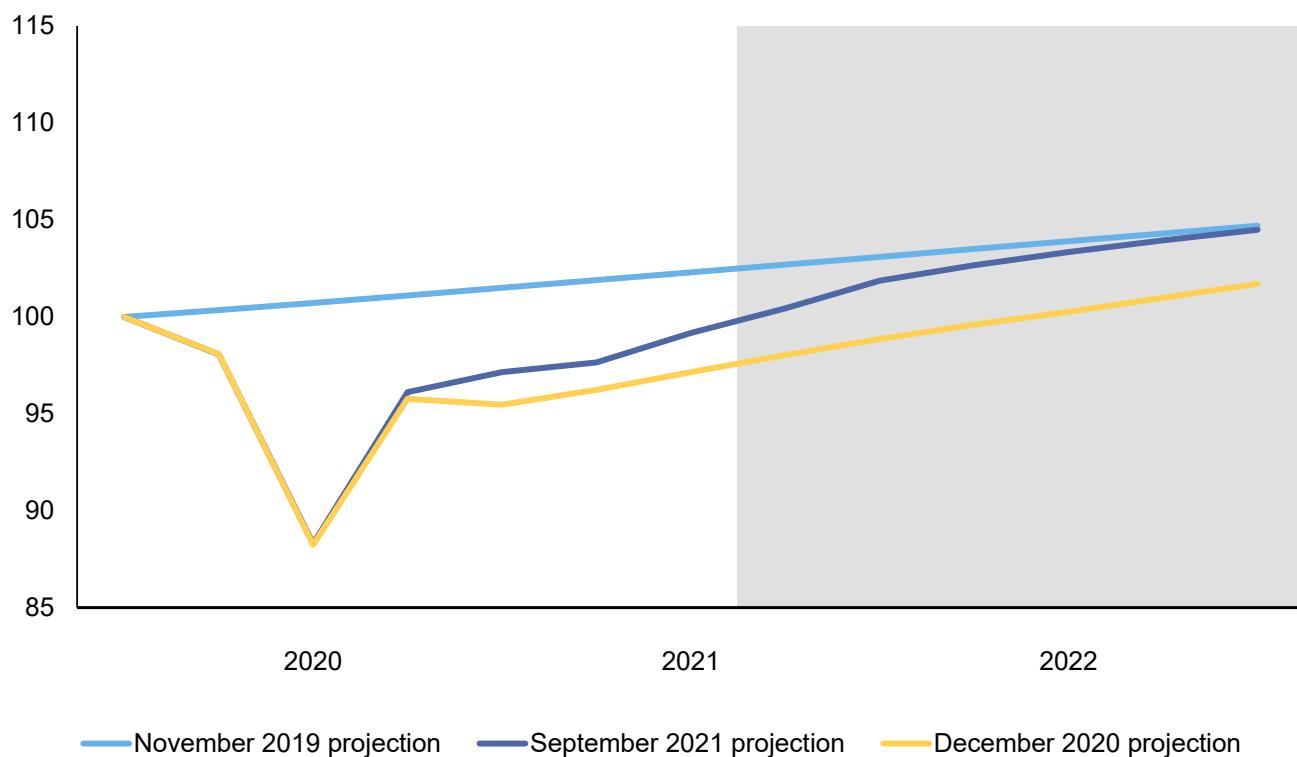


Source: International Monetary Fund.

Economists' forecasts call for the global economy to continue to grow above trend in 2022. The International Monetary Fund (IMF) forecasts global GDP growth of 4.4% in 2022, slowing from the strong 6.0% of 2021 (Exhibit 22). The rollout of vaccines in emerging economies is lagging developed economies. As a result, the relative growth of EM versus developed economies is expected to narrow. In 2022, the IMF expects growth of 5.0% in EM versus 3.6% in developed markets. While EM is expected to grow faster than developed economies, the gap is 1.4% versus 2% in 2019 and 2.5% in 2020.

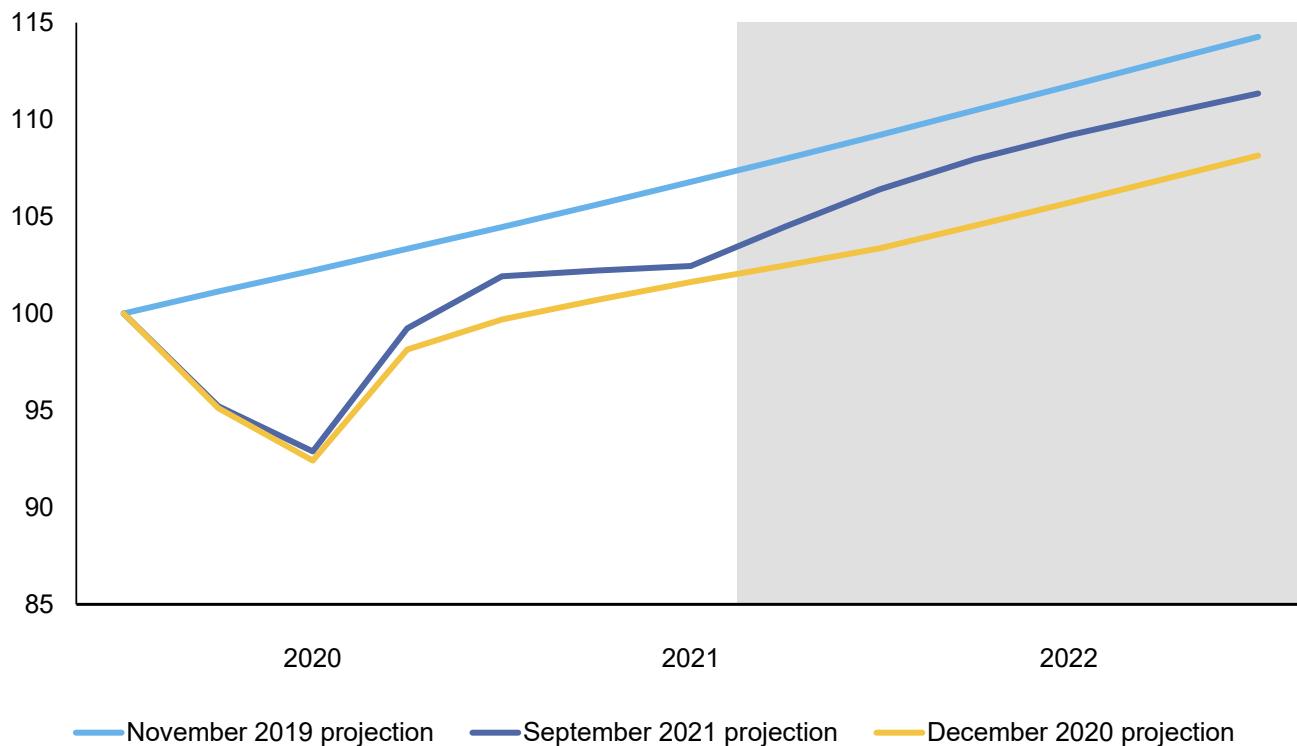
As the production of vaccines continues to expand, this should benefit EM relatively more since they are currently disadvantaged. As a result, the spread between EM and developed markets GDP growth is expected to improve to 2.9% in 2023. Like other economic forecasters, the Organisation for Economic Co-operation and Development (OECD) has upgraded its growth outlook. By the end of 2022, developed economies are expected to return to trend growth expected prior to the global pandemic (Exhibit 23 on page 12). In the case of EM, the OECD expects that emerging economies will not fully recover the loss of growth potential by the end of 2022 (Exhibit 24 on page 12).

Exhibit 23. OECD Developed Economies



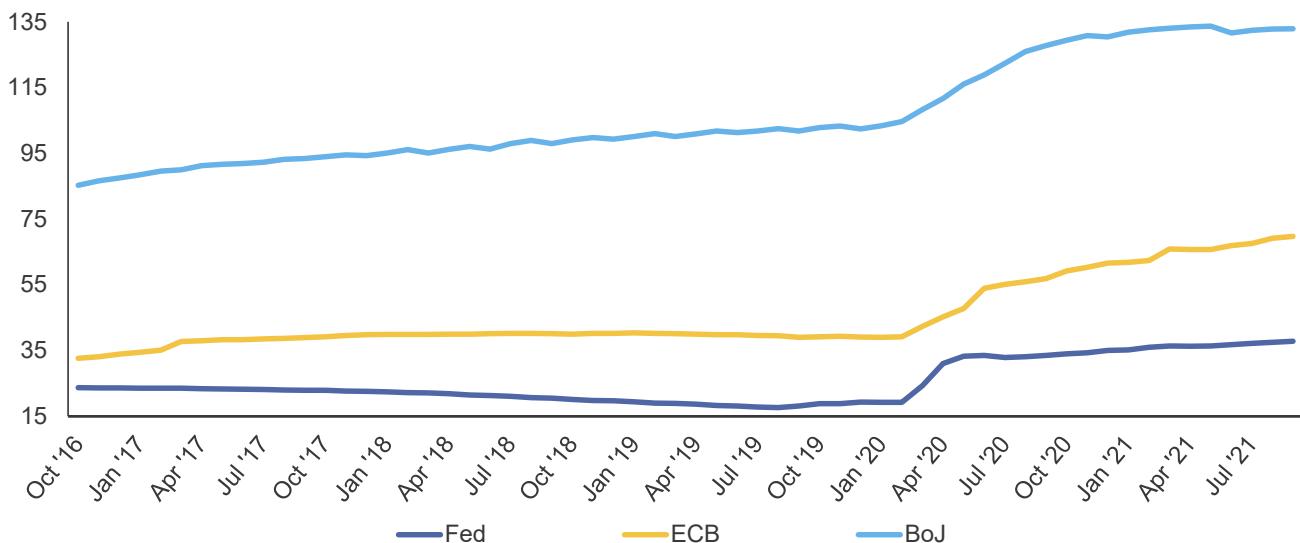
Source: OECD Economic Outlook databases; and OECD calculations.

Exhibit 24. OECD Emerging Markets



Source: OECD Economic Outlook databases; and OECD calculations.

Exhibit 25. Central Bank Balance Sheet/GDP

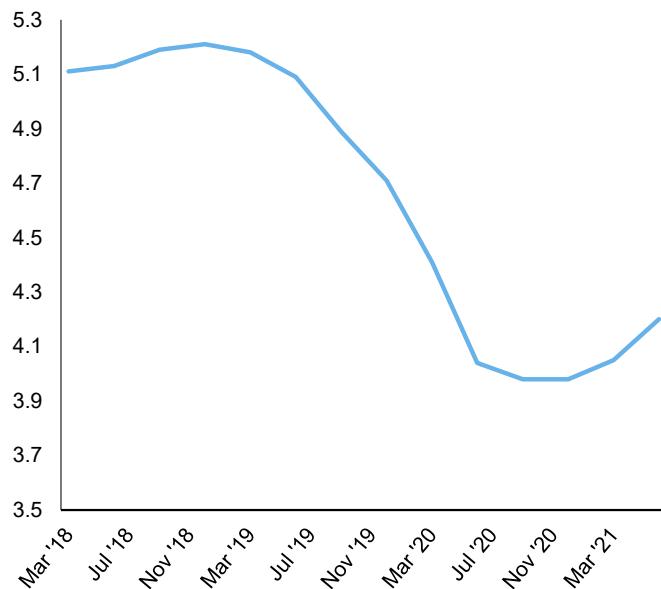


Source: Bloomberg.

In 2021, central banks continued the extraordinary policies initiated at the start of the pandemic. The Fed and other major central banks kept interest rates extraordinarily low even as economies rebounded. In addition, they continued to expand their balance sheets (Exhibit 25). In 2022, many central banks are expected to reduce monetary accommodation. Indeed, in some cases, the process has already started, mainly in EM. Concerns over inflation have

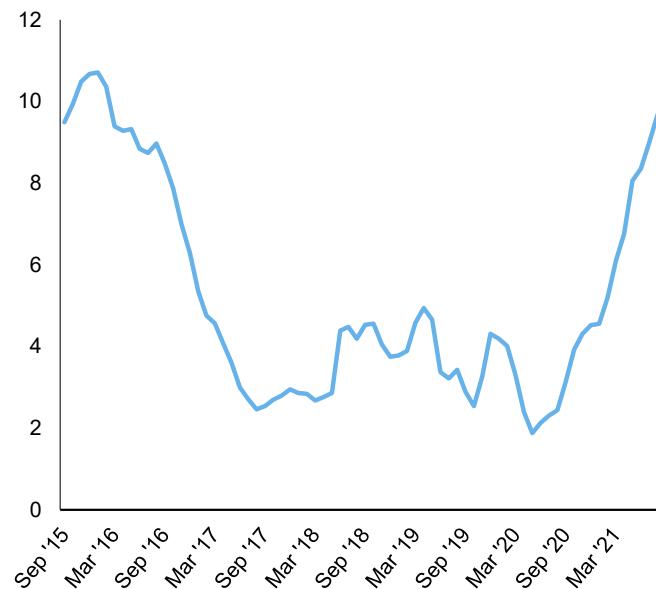
caused central banks in EM to begin to raise rates (Exhibit 26). We can see this most clearly in Brazil, a large EM economy. Inflation in Brazil had been brought under control, and as a result, the central bank was able to reduce rates. But inflation began to rise in mid-2020 (Exhibit 27), and as a result, the central bank of Brazil has been raising rates since early 2021 (Exhibit 28 on page 14).

Exhibit 26. EM Central Bank Rates



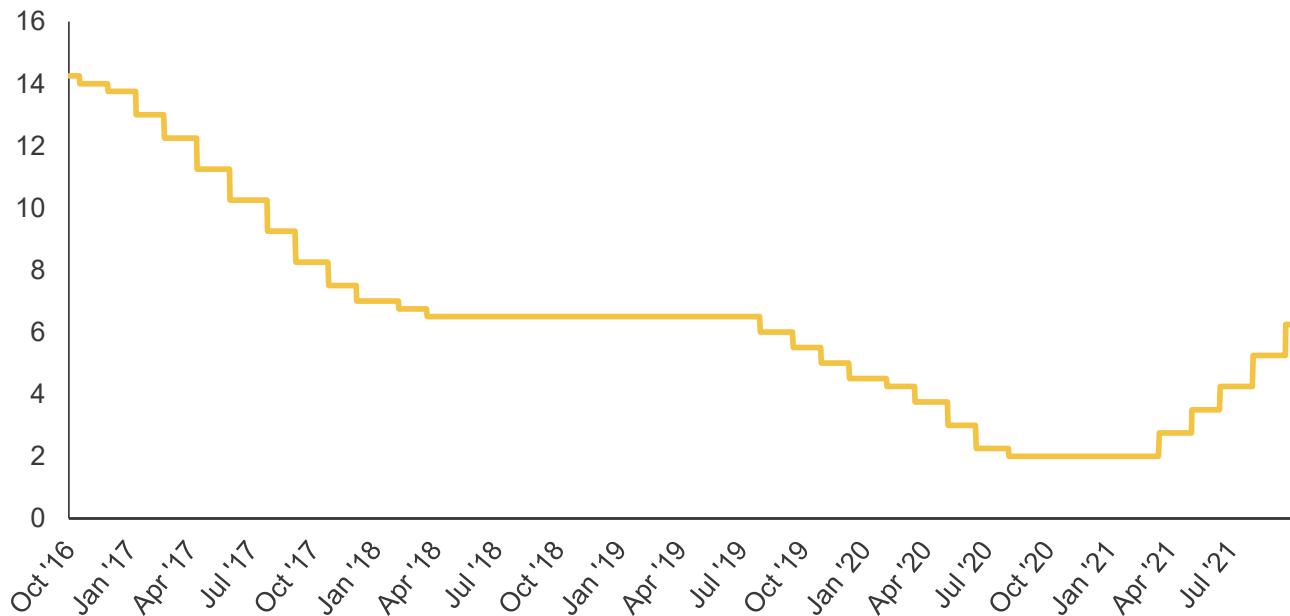
Source: Bloomberg.

Exhibit 27. Brazil Inflation



Source: Bloomberg.

Exhibit 28. Brazil Selic Rate



Source: Bloomberg.

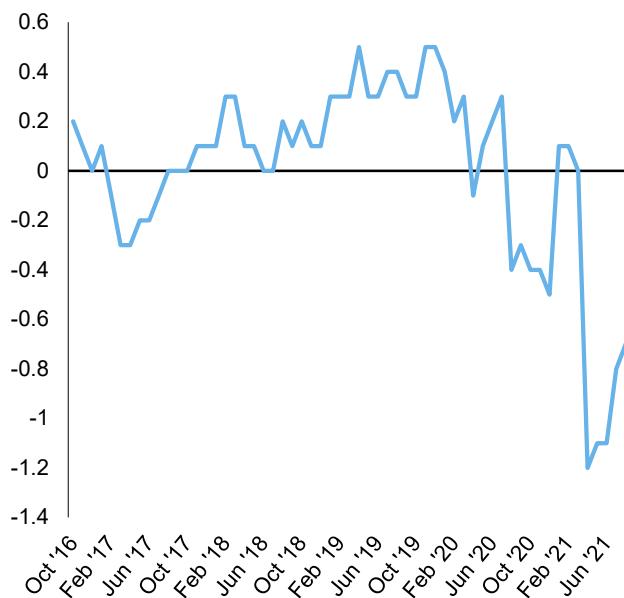
## U.S.

The Fed has been patient in changing monetary policy. The U.S. economy has continued to grow strongly and unemployment continues to come down. In the face of elevated inflation, the Fed has announced that it will begin to taper its quantitative easing (QE) program and expects the process to end in mid-2022. The fed funds rate is expected to remain low for an extended period of time. The first rate increase will likely take place toward the end of 2022. Other major central banks in developed economies are expected to follow the Fed with some lag, given that those economies are trailing the U.S. in recovering from the pandemic.

The central bank of Japan, on the other hand, may continue to remain accommodative longer, given that inflation in Japan continues to be very low (Exhibit 29). While major central banks are expected to begin to reduce monetary accommodation, we believe that monetary policy will continue to support economic growth. The Fed projects a terminal fed funds rate of 2.5%, which is very low by historical terms.

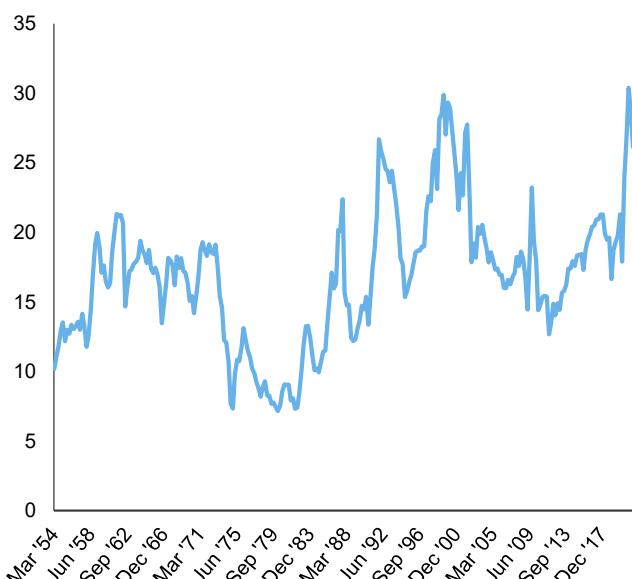
In addition, while the Fed is tapering and expected to end its QE program by mid-2022, it will likely continue to maintain the size of its balance sheet rather than reduce it.

Exhibit 29. Japan Core CPI



Source: Bloomberg.

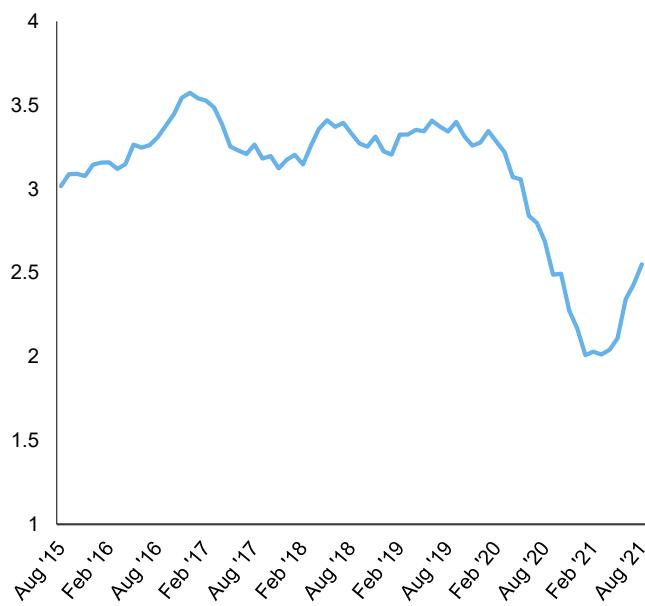
Exhibit 30. S&P 500 Trailing PE: Current: 26; Avg:16



Source: Bloomberg.

Continuing lower interest rates should support higher than average valuations across different asset classes (Exhibit 30). While we expect the Fed to be patient in raising interest rates, the risk is that current high inflation does not moderate and the Fed is forced to raise rates more aggressively. The Fed has taken the view that current high inflation is temporary. We believe this is partly true and expect inflation to moderate, but believe inflation is likely to remain elevated versus what we experienced since the financial crisis. The calculation of CPI seems to be underestimating inflation for housing (Exhibit 31). While the owner equivalent rent of CPI is running at 3.1%, home prices are increasing at double digits

Exhibit 31. CPI: Owners Equivalent Rent of Residences

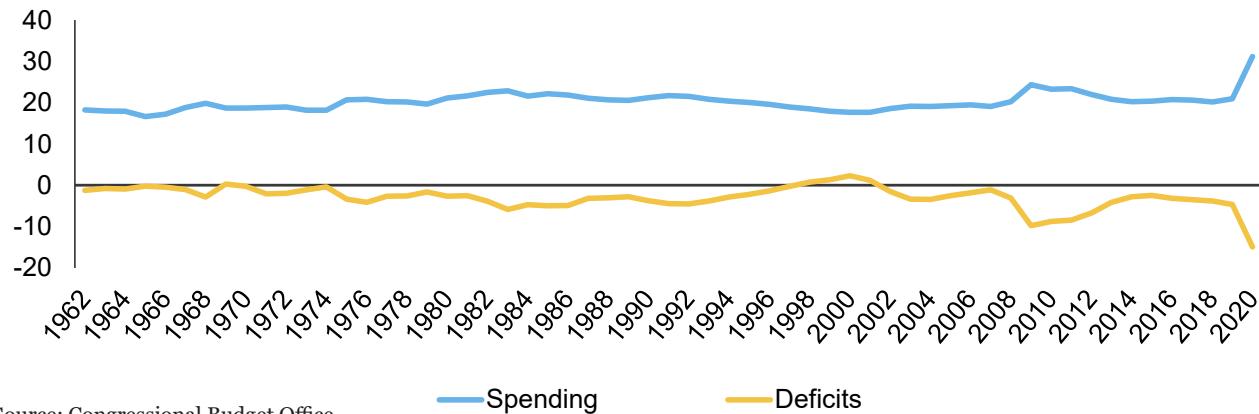


Source: Bloomberg.

and rents are increasing at 9% or 10%. Press reports suggest that some markets such as New York City, where renters were offered concessions to sign leases, are now experiencing low vacancy rates for apartments.

With respect to fiscal stimulus, while the amount of extraordinary spending is expected to come down from the elevated levels we saw in 2020 and 2021, we expect fiscal support to continue. Federal spending as a percent of GDP from the 1960s to 2019, which includes spending for Great Society programs and fighting the Vietnam and Cold War, averaged approximately 20%; deficits over the same time period averaged 2.7% of GDP (Exhibit 32).

Exhibit 32. Federal Spending and Deficits % GDP (1962-2020)



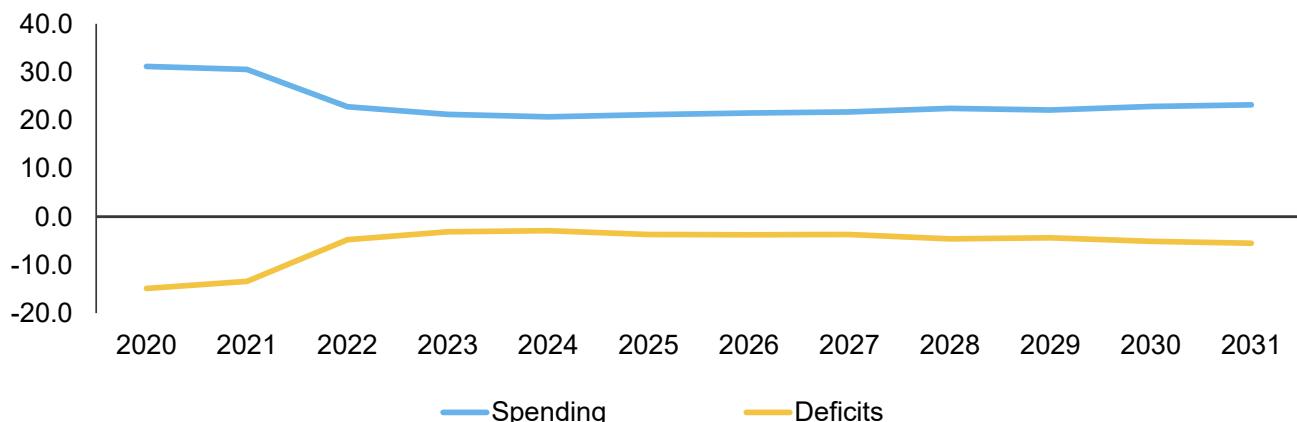
Source: Congressional Budget Office.

— Spending      — Deficits

For the period 2022 to 2031, the Congressional Budget Office projects that spending will average 22% of GDP while deficits will average 4.1% (Exhibit 33). While some have taken the position that slower growth of federal spending is a headwind for economic growth, we believe it is a positive for sustained economic growth since it is less likely to continue to fuel inflation. In the mid-1960s, President

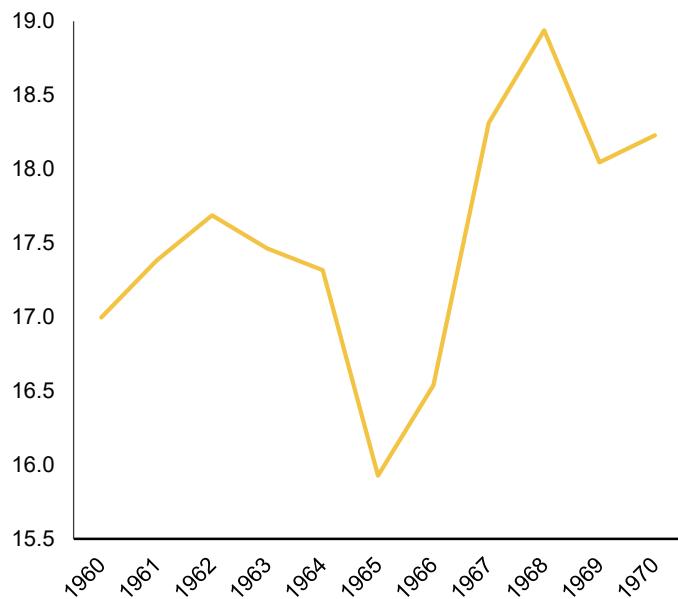
Johnson launched his “Great Society” programs while the U.S. was fighting the Vietnam war. Federal spending as a percent of GDP increased (Exhibit 34). The result is that inflation, as measured by CPI, increased from 1% in 1965 to 6.2% in 1969, i.e., we saw high and rising inflation before the oil embargo and stagflation of the 1970s (Exhibit 35).

Exhibit 33. Federal Spending and Deficits % GDP (2020-2031)



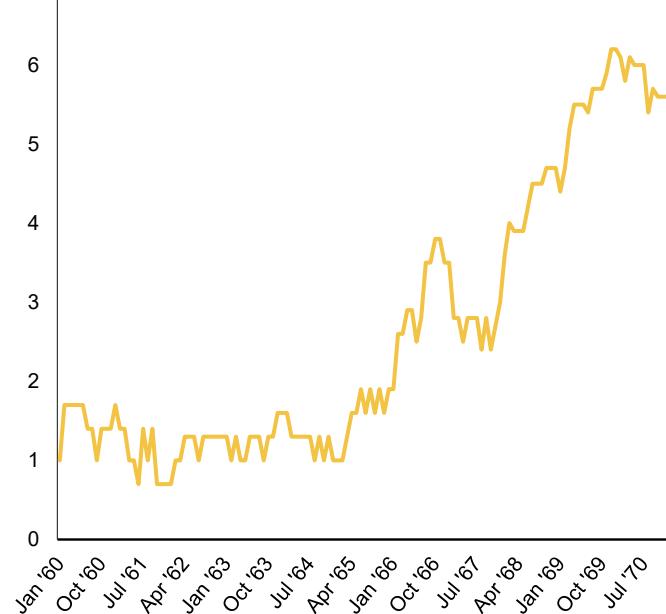
Source: Congressional Budget Office.

Exhibit 34. Federal Spending/GDP (1960-1970)



Source: Federal Reserve Economic Data

Exhibit 35. Consumer Price Index (1960-1970)

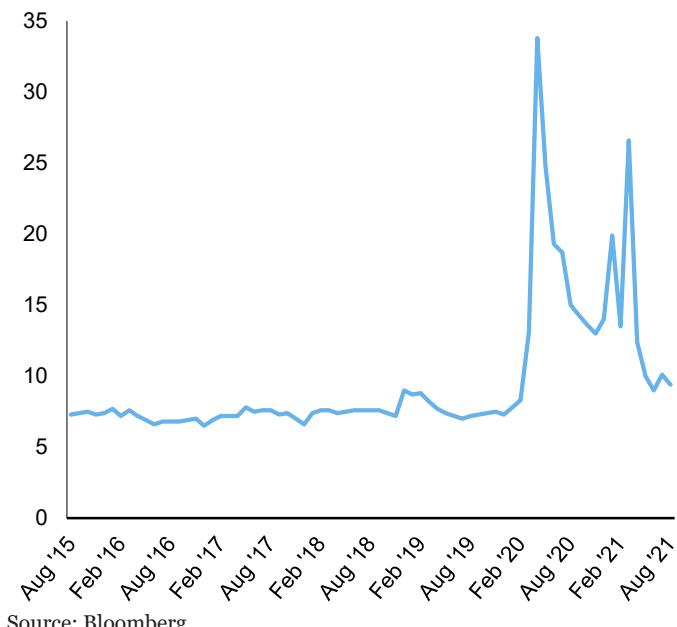


Source: Bloomberg.

Allan Meltzer has made the case that the cause of rising inflation in the mid-1960s was caused by political decisions to coordinate fiscal and monetary policies.<sup>1</sup> Today, one can argue that we face the same issue with the Fed buying Treasuries and keeping interest rates low as the federal government ramps up spending. The risk is that the outcome will be the same: high inflation going forward. Therefore, a slowdown in federal spending combined with independent monetary policy, including ending the purchase of Treasuries by the Fed, will likely avoid the mistake of the 1960s.

In addition to continued federal spending supporting economic growth, both households and corporations are in a strong financial position. Household net worth continues to rise and is at an all time high, supported by rising home and equity prices (see Exhibit 16 on page 8). The saving rate, which is supported by rising disposable income, remains elevated, further supporting consumer spending (Exhibit 36). While the saving rate has come down from the high of April 2020, it remains elevated at 7.5% versus 6.7% immediately before the pandemic and 3% prior to the financial crisis. Personal consumption expenditures dropped sharply

Exhibit 36. Saving/Disposal Income

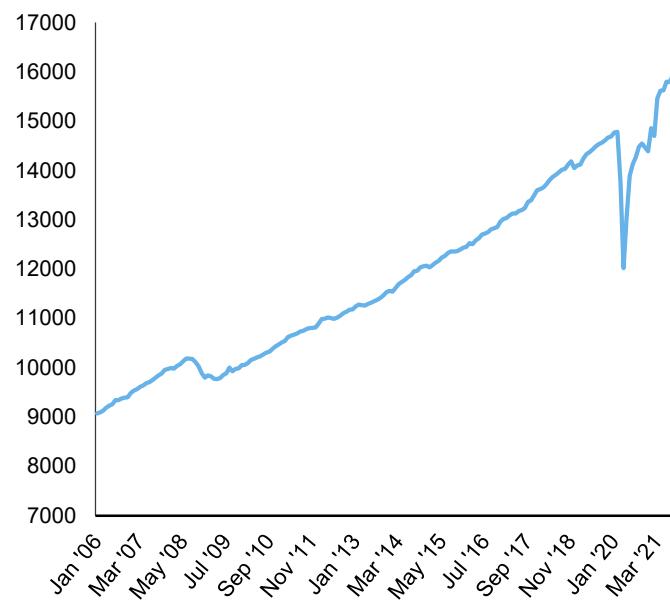


Source: Bloomberg.

as businesses were forced to shut down, quickly rebounded, helped by enhanced unemployment benefits and stimulus checks (Exhibit 37).

Following a stagnant net cash flow period, corporations are seeing cash flow increase and have built up cash on their balance sheet (Exhibit 38).

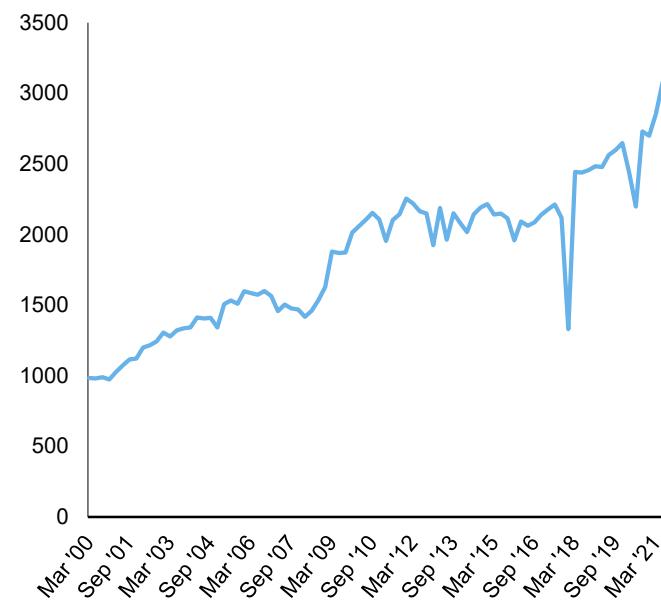
Exhibit 37. Personal Consumption Expenditures (\$B)



Source: Bloomberg.

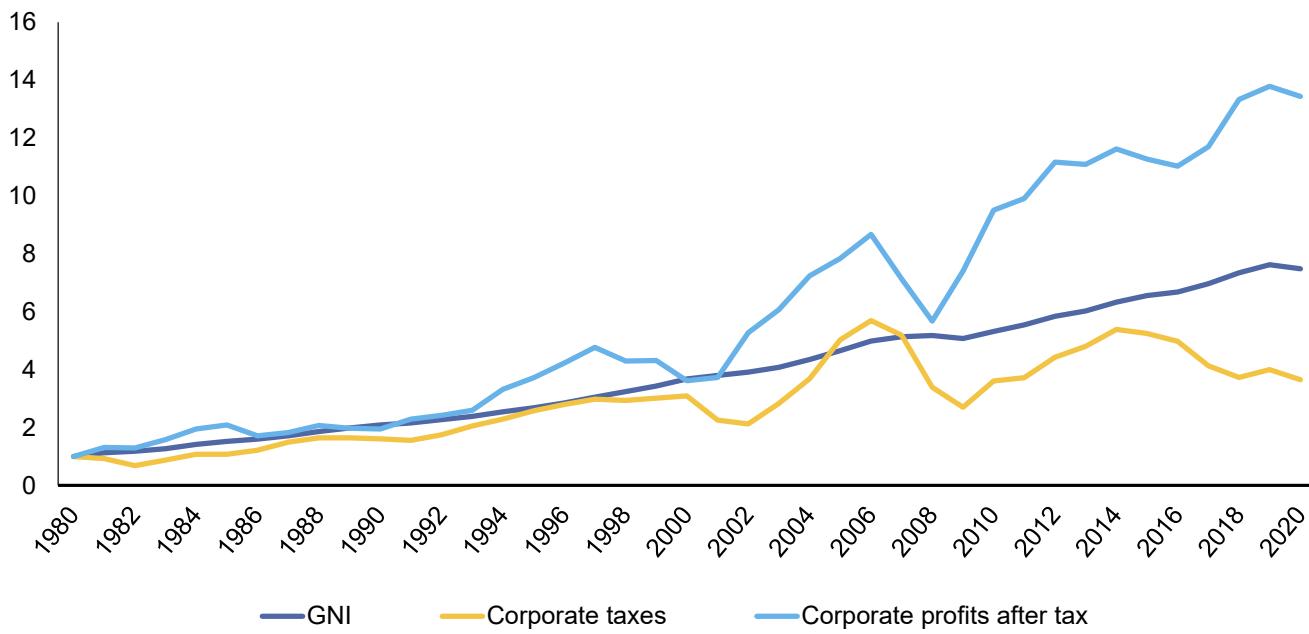
<sup>1</sup> “Origins of the Great Inflation,” Federal Reserve Bank of St. Louis Review, March/April 2005.

Exhibit 38. Corporate Net Cash Flow



Source: Bloomberg.

Exhibit 39. Corporate Profits (1980-2020)

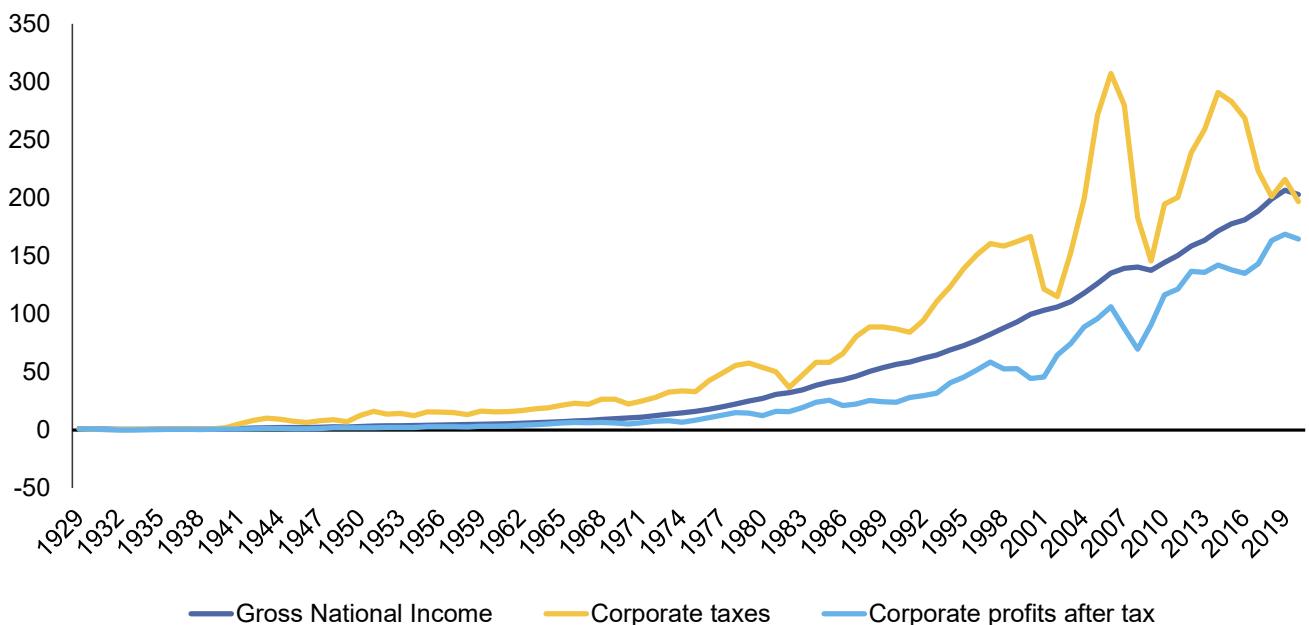


Source: Bureau of Economic Analysis

We expect corporate capital expenditures to increase over the next several years, which should help productivity to improve. Investors always face risks, and 2022 will be no exception. Over the past few decades, corporate profits have been growing

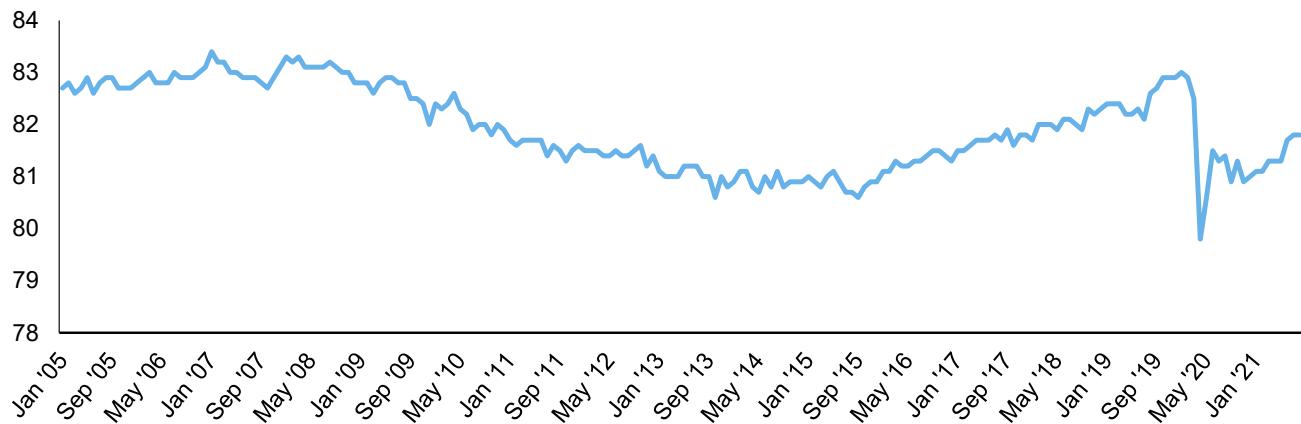
faster than the overall economy (Exhibit 39) as U.S. companies restructured to improve profitability and benefitted from globalization. Over a much longer period of time, corporate profits have hardly kept up with the economy (Exhibit 40).

Exhibit 40. Corporate Profits (1929-2019)



Source: Bureau of Economic Analysis

Exhibit 41. Labor Force Participation Rate for Ages 25-54



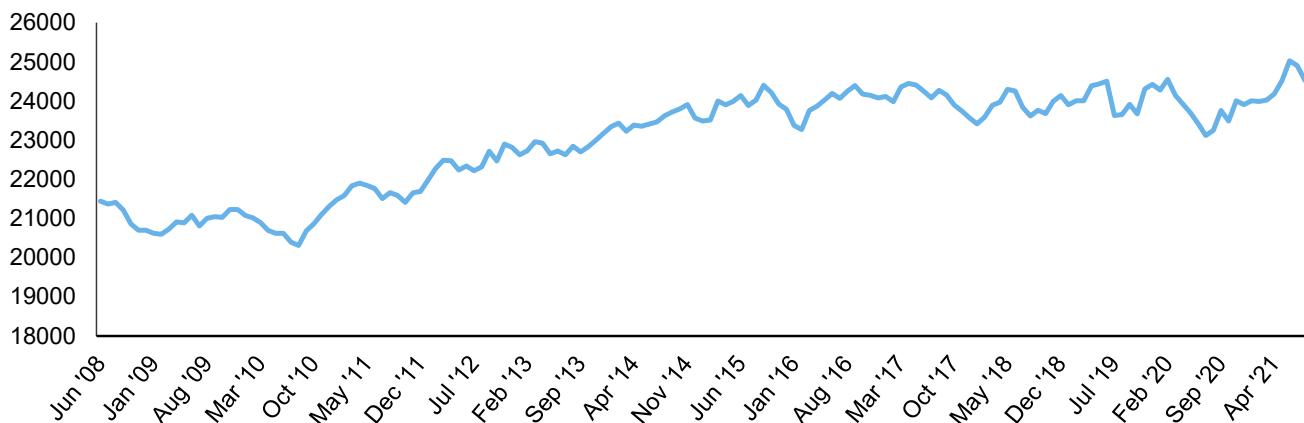
Source: Bloomberg.

The profitability of U.S. companies is attracting the attention of some who favor raising the corporate tax rate. If proposals to increase the corporate tax rate become law, this will likely reduce corporate profits, and equity prices would need to adjust. A second possible risk is continuing upward pressure on wage growth. Currently, there are approximately 10 million job openings and 7.5 million people unemployed (seen Exhibit 2 on page 1). Job openings are rarely higher than the number of unemployed people, putting upward pressure on wage growth. Press accounts tell of companies paying bonuses to candidates to show up for interviews. In addition, the participation rate among the prime working group of

25-54 is down versus before the pandemic (Exhibit 41).

We saw a similar phenomenon after the financial crisis, and it took several years for the participation rate to bottom out and begin to increase as the economy continued to expand. Following the financial crisis, we saw the number of people out of the labor force due to disability increase for many years (Exhibit 42). Should we experience the same phenomenon over the next several years, this will further keep the labor market tight and wages growing above inflation. Wages growing robustly will not be an issue as long as higher wages are offset by rising productivity, which we are monitoring.

Exhibit 42. Not in Labor Force due to Disability



Source: Federal Reserve Economic Data.

Corporations further face the risk of possible margin compression. Currently, PPI, especially for intermediate goods, is higher than CPI (see Exhibit 3 on page 2). Costs for corporations are rising faster than they are able to raise prices for their goods and services to the end consumer, which is a risk for corporate profit margins. As the economy continues to open and supply chain bottlenecks are solved, we expect PPI to come down, but it is a risk we are monitoring.

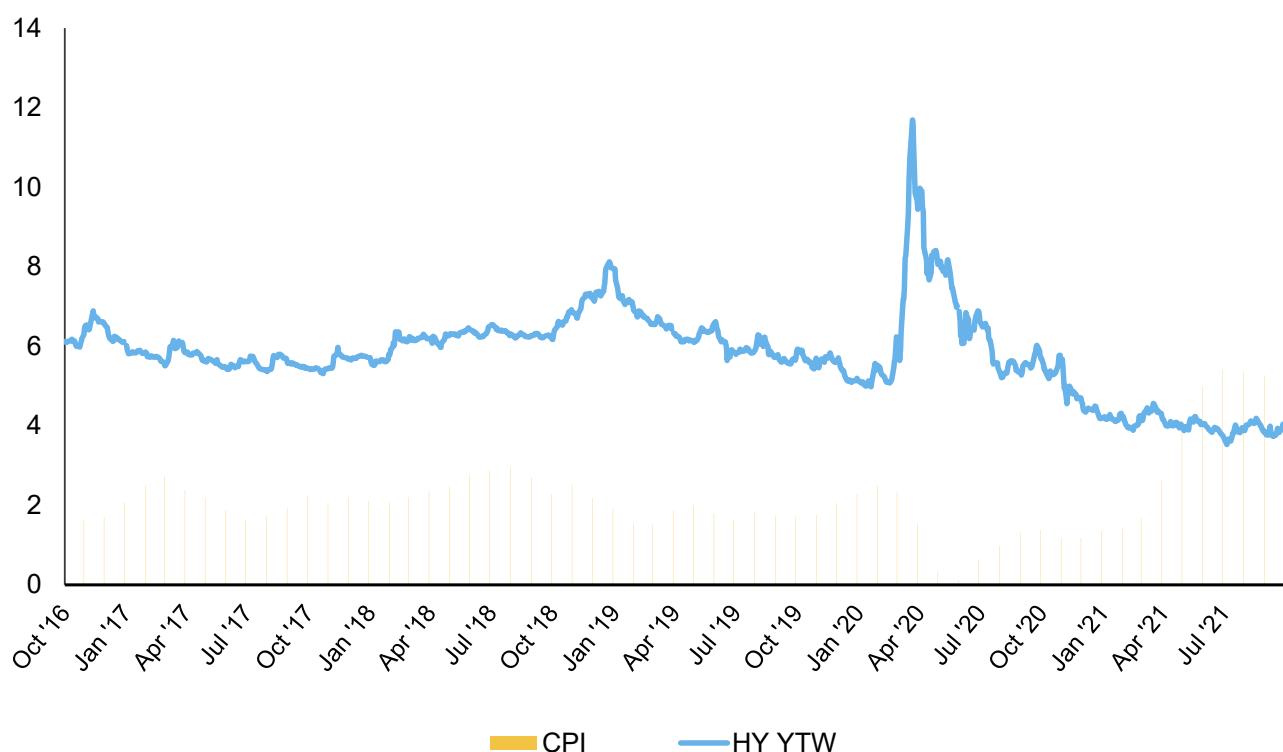
When the pandemic hit in early 2020, central banks quickly cut rates and ramped up QE programs. The Fed not only restarted buying Treasuries and mortgage-backed securities, but also introduced a program to directly buy bonds from state and local governments and buy corporate bonds, including high yield exchange-traded funds. The result of these extraordinary monetary policies combined with significant fiscal spending was that capital markets, which had dropped significantly, quickly reversed course and rallied. The bull market in credit and

equity markets, which began in 2020, continued in 2021. Credit spreads continued to drop (see Exhibit 5 on page 3). Very low credit spreads combined with very low interest rates have resulted in high yield bonds trading at all time low yields.

Adjusted for current high inflation, high yield bonds are trading at negative real yields (Exhibit 43). While yields are low in the U.S., they are even lower in other developed economies, with the German 10-year bond trading with a negative nominal yield (Exhibit 44 on page 21). This suggests that as rates rise in the U.S., foreign buying is likely to keep the increase modest even in the face of elevated inflation.

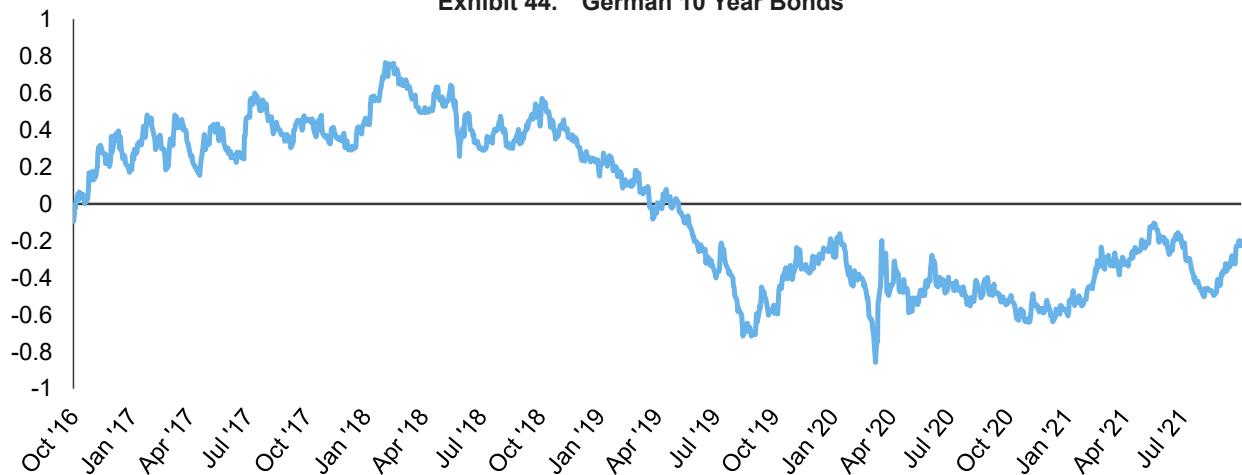
Like credit markets, equity markets also continued to rally in 2021. Reflecting the smoother rollout of the vaccines and outperformance of the U.S. economy, U.S. equities outperformed both non-U.S. developed markets and EM despite higher valuation (Exhibits 45 and 46 on page 21).

**Exhibit 43. High Yield Bonds**



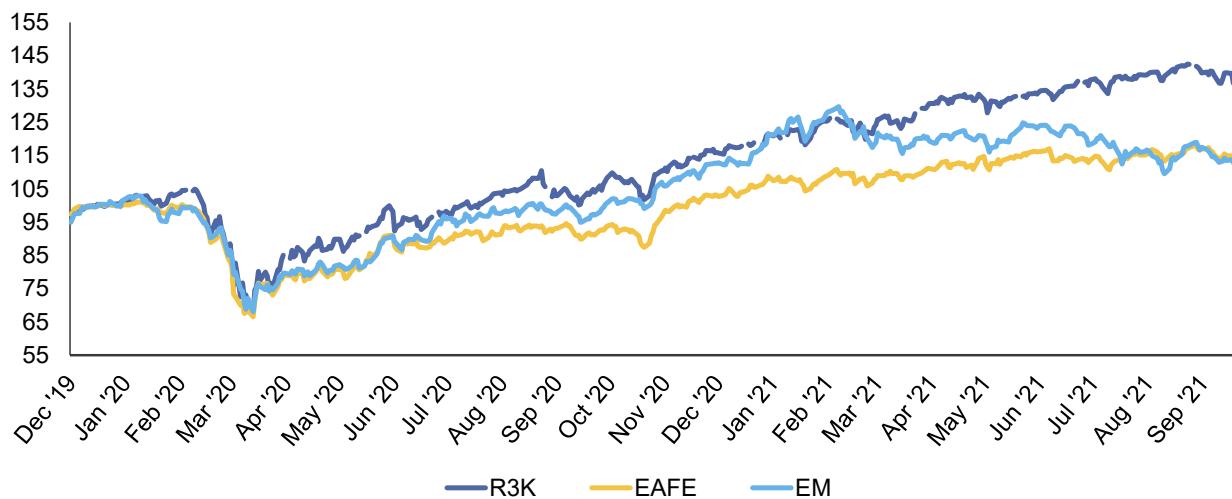
Source: Bloomberg.

Exhibit 44. German 10 Year Bonds



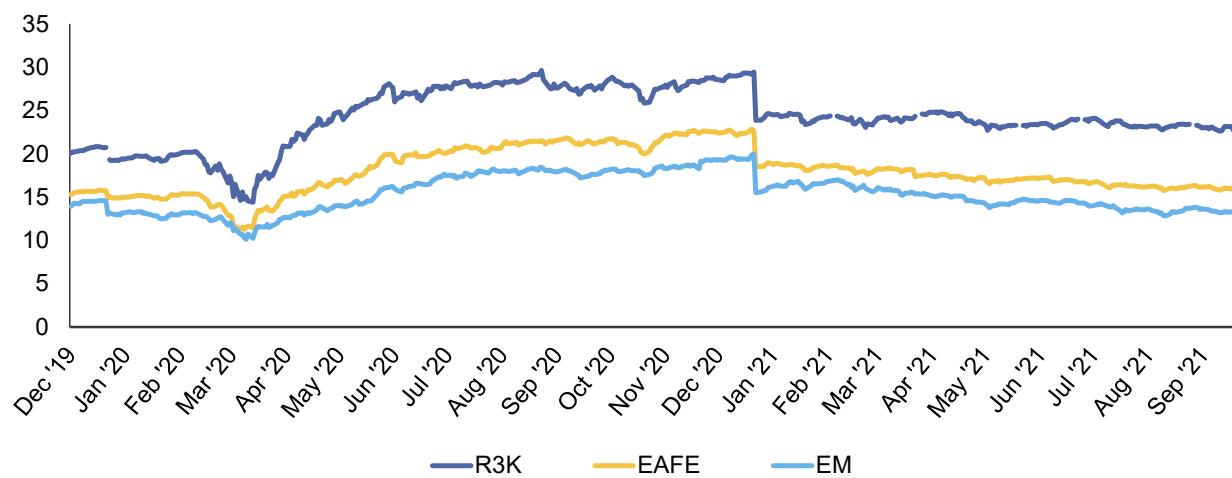
Source: Bloomberg.

Exhibit 45. Equity Markets Performance



Source: Bloomberg.

Exhibit 46. Price-to-Earnings Ratios



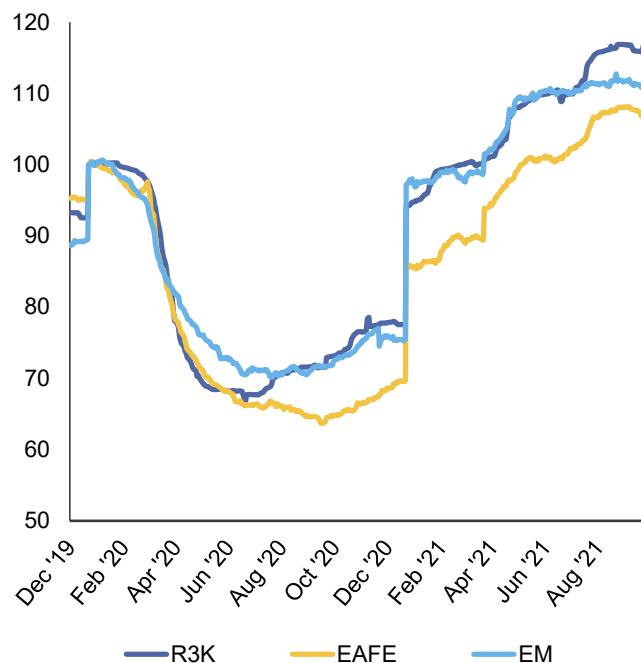
Source: Bloomberg.

Equities were largely driven by recovering corporate profits (Exhibit 47). According to FactSet, S&P earnings per share were \$163.12 in 2019 and dropped to \$140.46 in 2020 as the pandemic hit. However, it is expected to rebound strongly in 2021 by rising to \$200.66. While profit growth is expected to slow in 2022 versus 2021, corporate profits are still expected to grow about 10% or so.

The rebound in corporate profits is extraordinary since profits typically take three years to recover following a recession. While the strong performance of equities in 2021 can be understood in the context of strong corporate profit growth, equity valuations are getting stretched and leave little room for error. The S&P real earning yield is currently negative (Exhibit 48). It is a rare occurrence that the real earning yield for the S&P drops below 0%. It is important to point out that the real yield of 10-year Treasuries is also negative, as is the real yield for junk bonds.

What valuations suggest is that all asset classes are overpriced given current inflation. As noted above, current high inflation is a risk for continuing accommodative monetary, economic growth and capital markets. While we are making progress against the SARS-CoV-2 virus, current high inflation also needs to be brought under control. While we believe that inflation is likely to moderate over the course of 2022, we are carefully monitoring it and have taken several portfolio changes in response to the risk posed by inflation.

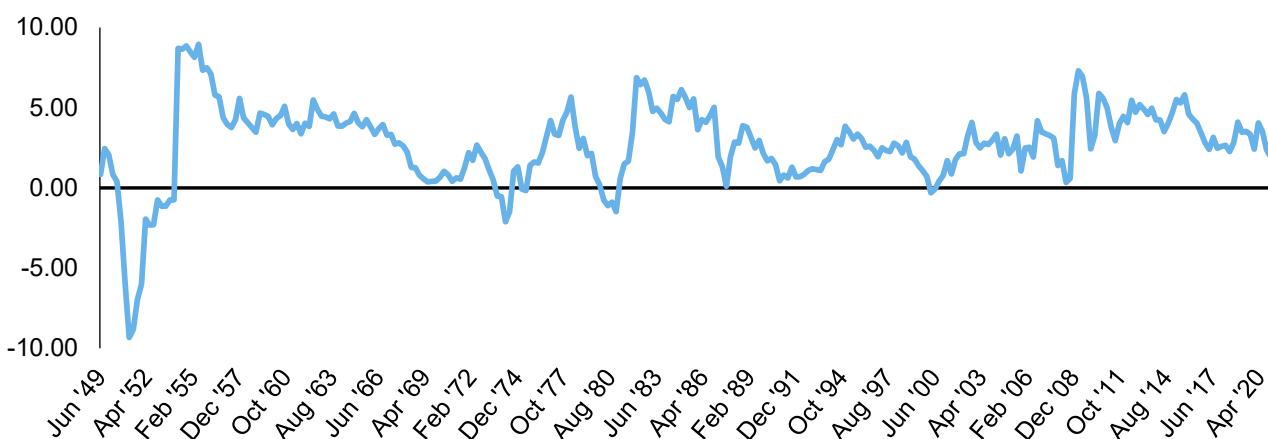
Exhibit 47. Forward EPS



Source: Bloomberg.

Congressional elections in 2022 are also likely to play a meaningful role over the next several years. Currently, Democrats have a narrow majority in the House and the Senate is split 50/50. Capital markets are currently not focused on the Congressional elections since they are a year away. But in the second half of 2022, as the political landscape begins to crystalize, we expect capital markets will begin to react to possible changes in the makeup of Congress and possible changes in legislation.

Exhibit 48. S&P 500 Real Earning Yield



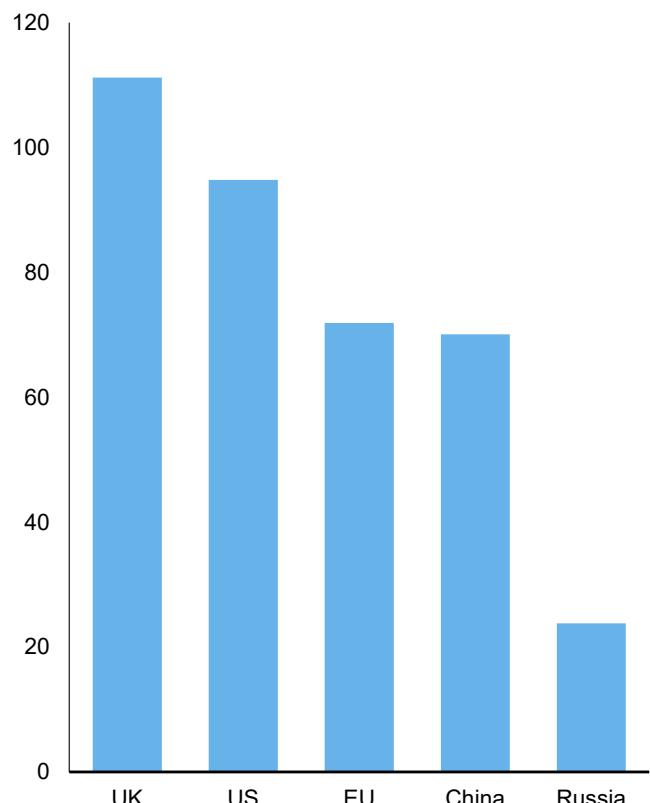
Source: Bloomberg.

## EUROPE

The European Union (EU) and the smaller EuroZone were seen as having competently dealt with the pandemic when it first hit. But throughout 2020 and early 2021, we saw that political decision-making in multilateral organizations made up of countries with different fundamental conditions, cultures and national interests can be cumbersome. The member countries of the EU had given the EU responsibility to buy vaccines.<sup>2</sup> The EU was slow to negotiate with vaccine suppliers and Europe experienced issues with rolling out the vaccine.

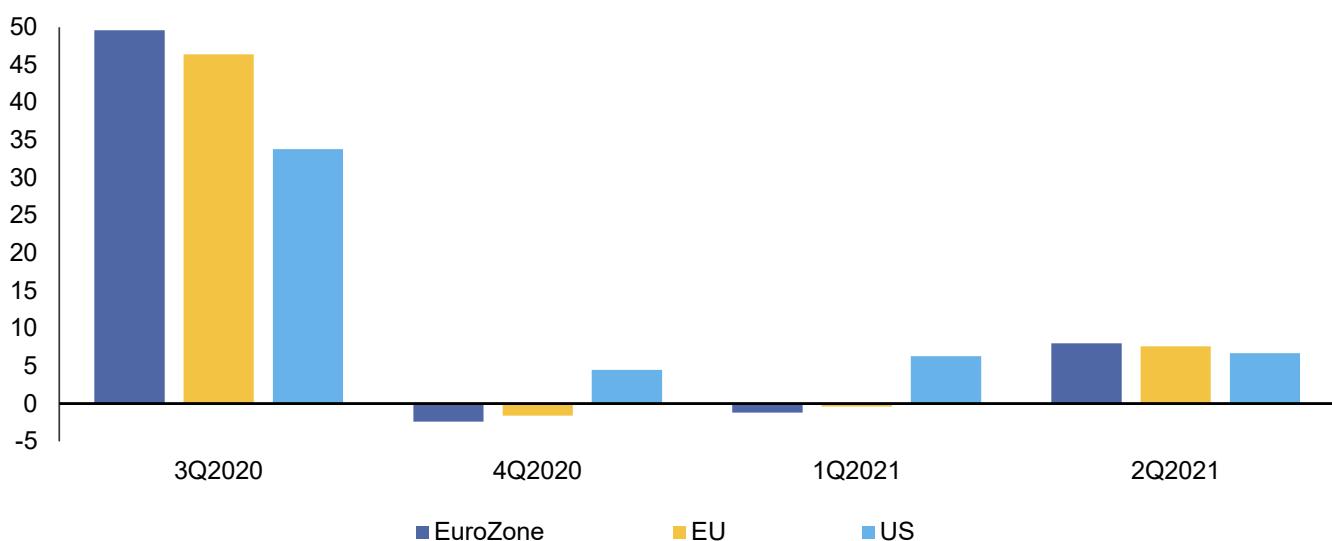
In addition, the EU made a decision to rely more on the AstraZeneca vaccine versus Pfizer and Moderna. As the AstraZeneca vaccine was administered, a small number of people developed blood clots, which further caused delays and confusion as some countries paused the rollout of the vaccine. As a result, by mid-June 2021, the EU had administered fewer doses per capita than the UK and the U.S. (Exhibit 49). The result is that the EU and EuroZone economy contracted both in the final quarter of 2020 and the first quarter of 2021 versus continued growth in the U.S. (Exhibit 50). As Europe solved some of its vaccine issues, the economy again began to grow, outpacing the U.S. in the second quarter of 2021.

**Exhibit 49. Vaccine Doses by Population**  
(doses administered per 100 people)



Source: Our World Data, as of June 2021.

**Exhibit 50. EU versus Eurozone versus U.S. Economies**



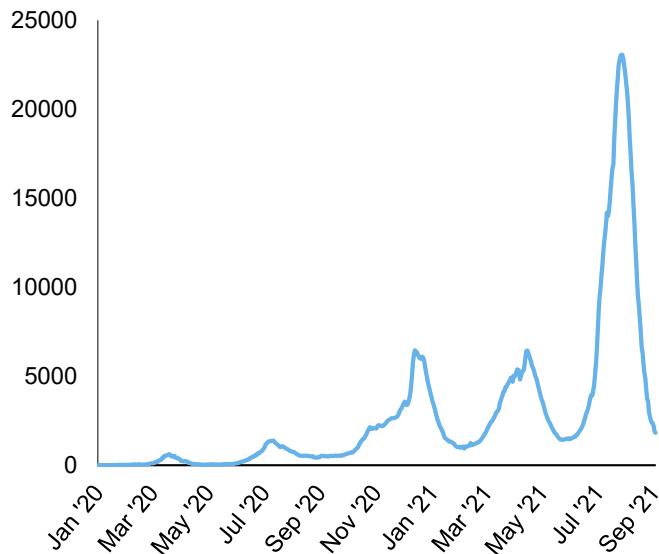
Source: Organisation for Economic Co-operation and Development.

<sup>2</sup> BBC: "COVID: What is Happening with the EU Vaccine Rollout?".

The EuroZone is expected to finish 2021 strongly before beginning to slow in 2022 and future years (Exhibit 51). The evolution of the EuroZone and the wider EU over the next several years will likely be impacted by the coalition being formed in Germany. After a long tenure, Angela Merkel decided not to continue as chancellor and head of the Christian Democratic Union of Germany (CDU). The results of the German elections in September 2021 were close. The Social Democratic Party of Germany (SPD) narrowly beat the CDU, and the SPD is negotiating a governing coalition. The makeup of the governing coalition will determine German politics, and just as important, Germany's posture vis-à-vis the rest of Europe and relations with the U.S. and China.

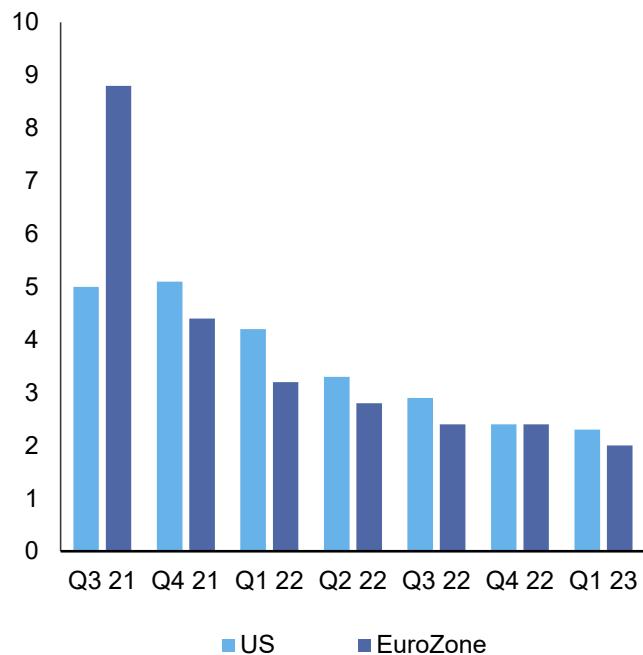
Current indications are that the governing coalition will be more left-of-center versus the previous government. The new coalition's attitudes toward fiscal discipline and inflation are likely to be more relaxed. This has implications for fiscal spending both in Germany and the rest of Europe. Going forward, Germany's relations with the U.S. are likely to be more strained. During Merkel's tenure, Germany's trade ties with China deepened and it is far from certain that in the rising tensions between the U.S. and China that Germany will side with the U.S.

**Exhibit 52. New Cases in Japan (7 days MA)**



Source: Bloomberg.

**Exhibit 51. GDP Growth Expected**

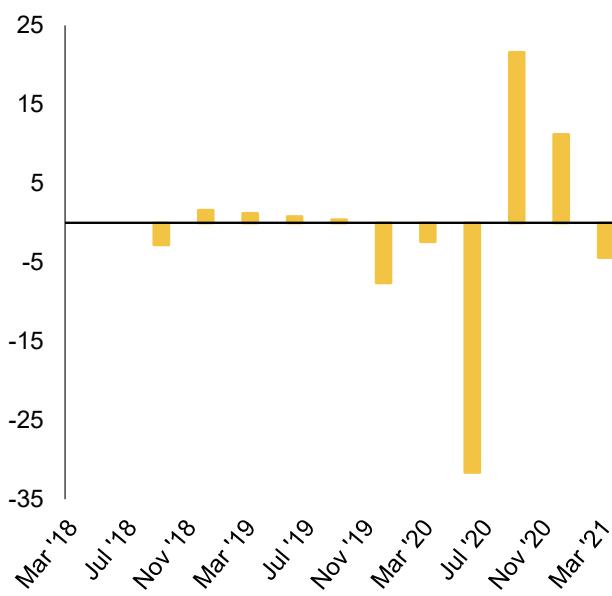


Source: Bloomberg.

## JAPAN

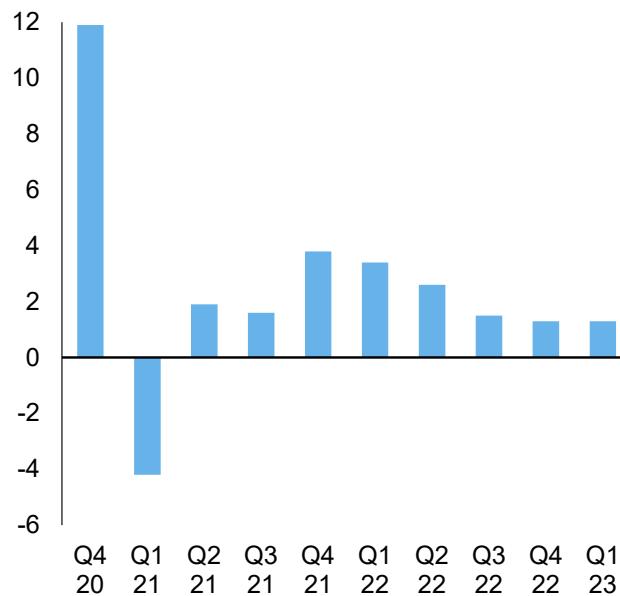
Similar to Europe, Japan also saw mixed results in 2021. Japan suffered a second wave in the first quarter of 2021 and a significant third wave starting in July (Exhibit 52). Its economy narrowly escaped a recession in 2021, falling in the first quarter but returning to positive growth in the second quarter (Exhibit 53 on page 25). As a result of rising new cases, Japan's economy is expected to have slowed in the third quarter before seeing renewed growth in the fourth (Exhibit 54 on page 25). Unlike the Fed and some other central banks, which are expected to reduce monetary accommodation due to elevated inflation, the Bank of Japan is likely to continue with its easy money policy since inflation in Japan remains very low (see Exhibit 29 on page 14). Because Japan's population is in decline, its economic growth looks weak versus other advanced economies (Exhibit 55 on page 25). Measured on a per-capita basis, its economic growth looks a little better (Exhibit 56 on page 25).

Exhibit 53. Japan GDP Qtr/Qtr



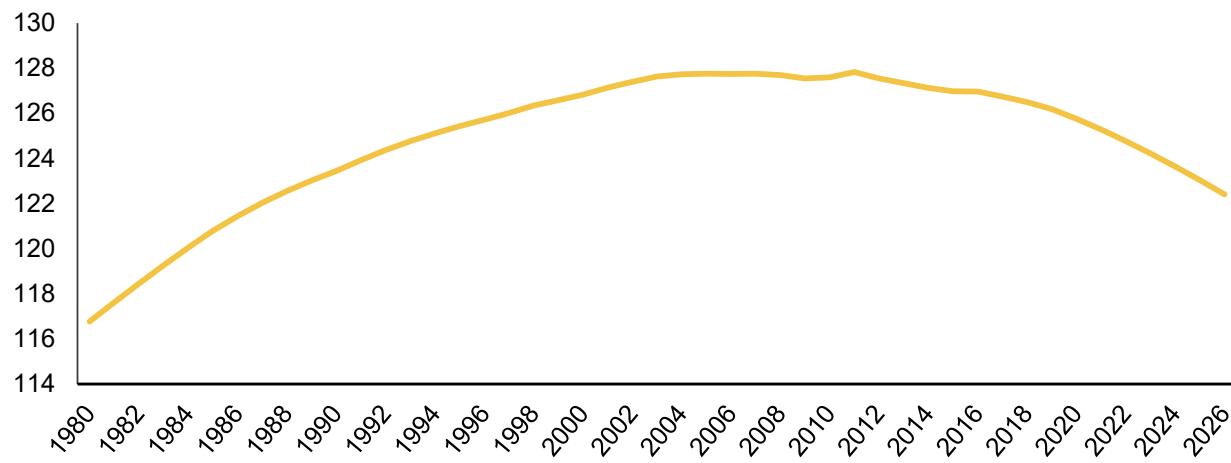
Source: Bloomberg.

Exhibit 54. Japan (QoQ% SAAR)



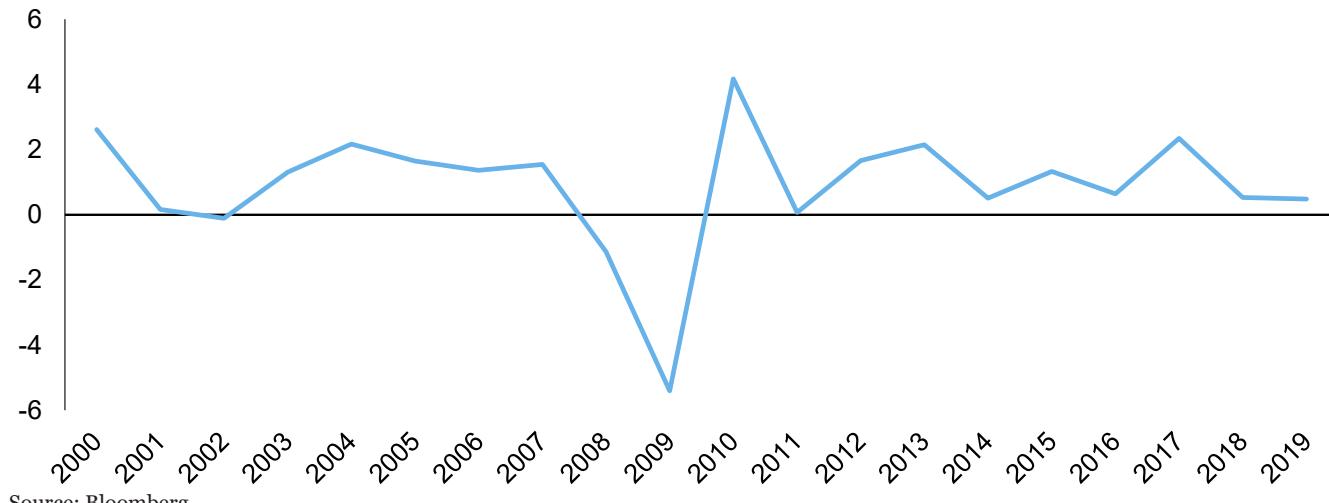
Source: Bloomberg.

Exhibit 55. Japan Population (1980-2026)



Source: Bloomberg.

Exhibit 56. Japan per Capita GDP (yr/yr)



Source: Bloomberg.

Recently, Prime Minister Suga resigned after a short tenure, and Fumio Kishida will replace him. Kishida is not seen as a dynamic leader that is likely to make significant reforms. He is expected to largely continue with the status quo. Press reports suggest that is why he was selected over the more independent and reform-minded Kono Taro. It is too soon to reach any conclusions about what to expect from Kishida. We will be closely monitoring developments in Japan for signs that its multi-decade-long sluggish economic performance is ending and replaced with a more dynamic economy.

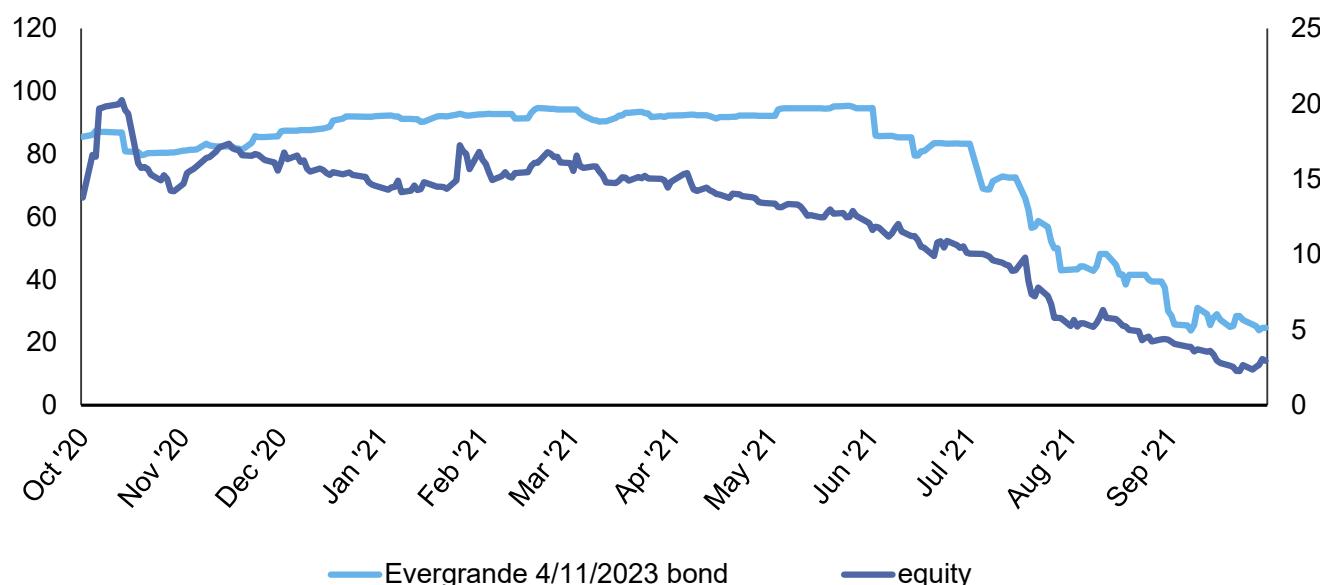
## CHINA

While rising debt in China has been a topic of discussion for several years, in 2021, the issue took on more urgency as Evergrande, a major real estate developer, began to default on its debt. Its equity and bonds fell dramatically as investors questioned whether the government would bail it out or let investors suffer losses (Exhibit 57). We have been cautious about China for a while, due to its rising debt levels and domestic and foreign policies. The

thesis that one must be invested in China since it is a large and growing economy rings false to us. Indeed, despite robust growth rates, the MSCI China Index is no higher today than when it was introduced back in the early 1990s (see Exhibit 10 on page 5).

We would point out that in the future, risks to investing in China are likely to be higher than what investors experienced since the early 1990s. Therefore, we struggle to make sense of how Chinese equities will perform better in the future. We would also point out that China is a significant component of the EM equity index. Despite the faster growth of EM economies, the EM Index has not outperformed the S&P since its introduction (see Exhibit 9 on page 4). Our cautious views with respect to China and EM are out of sync with many who believe that EM assets will outperform due to faster growth. In response, we would point to the historical performance, but we are aware that the past is not always a good guide for the future and will continue to monitor both EM and China for signs of fundamental change.

Exhibit 57. Evergrande Bonds and Equities



Source: Bloomberg.

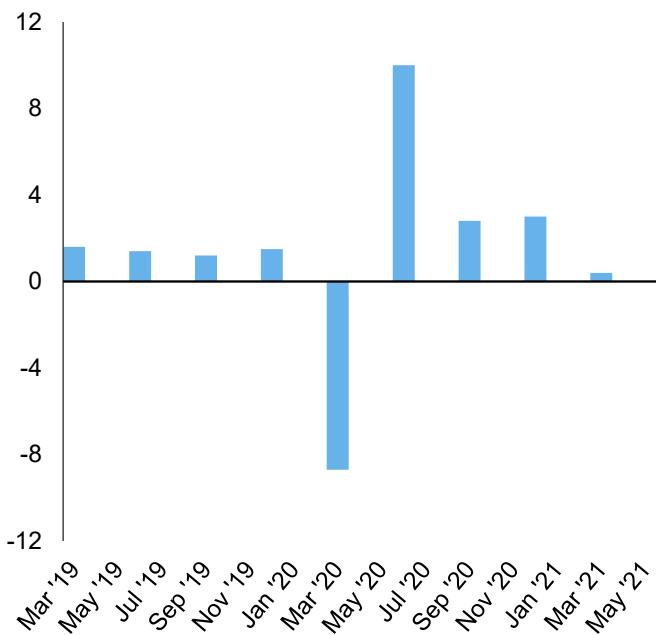
Growth in China slowed in the second half of 2021 (Exhibit 58). Typically, fiscal and monetary authorities respond to slowing growth with new stimulus measures. The issue for China is that debt has been growing rapidly (Exhibit 59). To deal with the risk of rising debt, the government has tried to dampen down the growth in debt, including restricting the shadow banking system (Exhibit 60 on page 28). The growth in debt, combined with an expected decline in population, will make it challenging for China to maintain the growth rates we have seen over the past several years (Exhibit 61 on page 28).

In addition to economic challenges, China also faces a less certain future due to its deteriorating relations with the U.S. During a time of little bipartisanship, one of the few issues that Democrats and Republicans agree on is China. Both political parties have indicated concerns over China, although for different reasons. The Democrats emphasize human rights violations, while Republicans are more concerned over national security. When China was admitted into the World Trade Organization, the expectation was that as China developed, it would become “more like us.” But rather than fulfilling the

promise of adopting less restrictive domestic policies and more friendly relations with other countries, under Xi Jinping, China seems to have moved in the opposite direction.

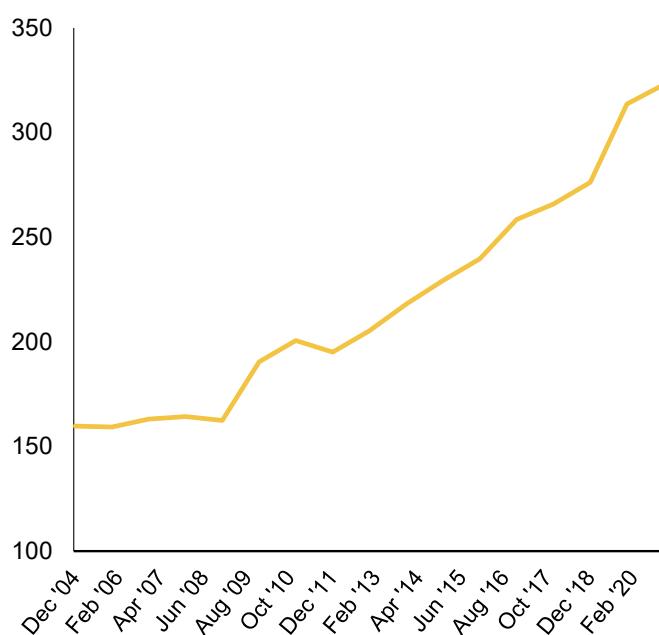
Domestically, China has become more restrictive. Companies in China are required to have a communist party unit within the company and have been pressured to give these units a role in decision-making. This is to ensure that decisions made serve the interest of the communist party. Externally, China has become more aggressive. It has claimed sovereignty over the entire South China Sea, including creating man-made islands, which have been militarized. The Philippines challenged China’s sovereignty claim and took the case to an international tribunal in the Hague, which ruled in the Philippines’ favor. But China has refused to accept the ruling. China has also imposed more restrictions on Hong Kong in violation of the principle “One country, two systems,” which China agreed to in 1997. It has stepped up pressure on Taiwan. And over the past decade, China has built the world’s largest navy.

**Exhibit 58. China GDP Qtr/Qtr**



Source: Bloomberg.

**Exhibit 59. China Total Debt/GDP**



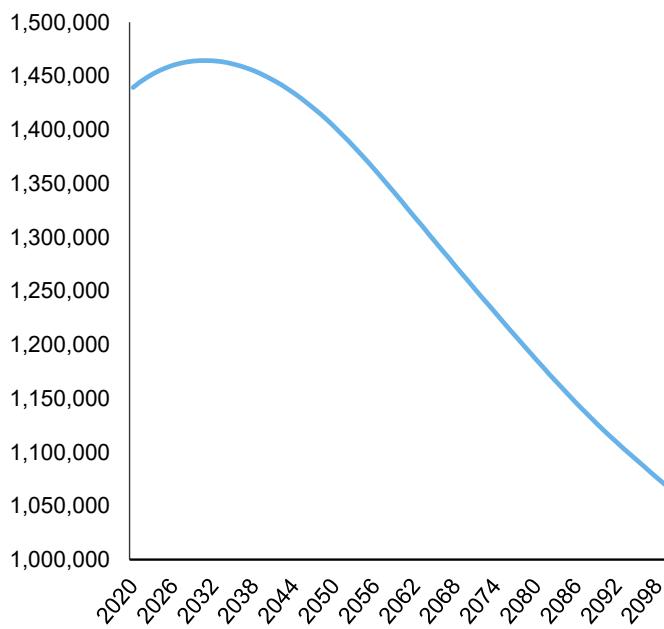
Source: Bloomberg.

Exhibit 60. China Shadow Banking yr/yr



Source: Bloomberg.

Exhibit 61. China Population



Source: United Nations, World Population Prospects.

On the economic front, many countries are concerned over the restricted access to China's market and the forced transfer and theft of intellectual property. Even as the government has promised to do a better job of protecting intellectual property, Chinese courts have ruled in favor of Chinese companies and blocked foreign companies from taking legal action in any other country against Chinese companies violating patents. The World Health Organization tried to investigate the origins of the SARS-Cov-2 virus and has been hampered by China's non-cooperation and destruction of evidence.

The actions taken by China under Xi have raised the alarm in many parts of the world, not only in the U.S. but also in India, Australia, etc. Even Europe, which benefits from trade with China more than the U.S., has raised concerns with Chinese leaders. Over the next several years, we will likely see the U.S. and other countries make arrangements to safeguard their security against a more aggressive China.

Even Stephen Roach, an American economist who was bullish on China for a long time, in mid-2021, warned of a "cold war" caused by actions taken by China.

With the fall of the Soviet Union in the early 1990s, globalization picked up as new countries entered the global economy. This benefitted economic growth, productivity, standards of living and corporate profits, which in turn helped to drive equity prices higher. Going forward, we think we face the risk of slowing globalization or even retrenchment.

# Capital Market Assumptions for Various Asset Classes

## Equity

Over the next several years, the outlook for economic recovery in the post-pandemic world, combined with interest rates that are expected to rise modestly and remain at lower levels versus the historical average, will impact our projections for capital market returns over the intermediate- and long-term. For U.S. equities, while current valuations are above the long-term average, we think that continued lower levels of interest rates will keep valuations higher going forward. We also expect that while moderating, corporate profits will continue to grow above trend over the next several years before returning to the historical averages. Similarly, we expect economic growth to continue to recover strongly in 2022, followed by a return to modest economic growth thereafter.

Given the lower level of interest rates, moderating but continued elevated inflation, economic and profit growth recovery and continuing higher valuation multiples, for U.S. equities, our total return expectation over the intermediate-term is 7.2%, a sizeable increase versus 6.0% in our 2021 CMAs. As noted above, the world looks very different at the end of 2021 than at the end of 2020. The much improved economic backdrop explains the increase in our expected return. Over the long term, we expect U.S. equities to return 7.6%, a modest increase versus the 7.5% we expected last year. After several years of robust growth, we expect that economic and profit growth will revert back to the long-term trend.

While economic conditions are more challenging outside of the U.S., valuations for non-U.S. equities are meaningfully lower than for U.S. equities. We believe the lower valuation will result in slightly higher equity returns over the intermediate-term. For non-U.S. developed market equities, as represented by MSCI EAFE Equity Index, over the intermediate-term, we project a total return of 7.5% versus the 6.8% we expected last year. We estimate 7.5% versus the 6.7% we expected last year over the

intermediate-term for EM equities. Over the long-term, we estimate that non-U.S. developed markets will return 7.3% versus the 7.6% we expected last year; and for EM, we expect a total return of 7.7% versus the 7.9% we expected last year.

Our EM expected returns are lower than what some others expect. The higher expectations from others are largely based on the assumption that higher growth leads to higher equity returns. As we showed above, we believe this assumption is not correct and have pointed out that despite higher growth, both Chinese equities and EM equities more generally have failed to outperform U.S. equities. In addition, while EM have benefitted by expanding globalization, offshoring and increasing global trade in the past, we believe the current trends are less favorable. We would also point out that a large portion of the gap in economic growth between emerging and developed markets is due to China, and as we explained previously, we expect China's economy to continue to slow and face greater uncertainty going forward.

## Fixed Income

In 2021, interest rates stayed low even as the global economy rebounded and inflation increased as global central banks remained very accommodative. In the U.S., the Fed kept the fed funds rate at 0% and continued to buy \$120 billion in Treasuries and mortgage-backed securities per month. Starting toward the end of 2021 and continuing in 2022, we expect the Fed and other major central banks to reduce monetary accommodation slowly. Driven by improving economic and corporate fundamentals and very easy monetary policy, credit markets continued to rally in 2021, taking spreads to historic low levels.

Given current low interest rates and credit spreads combined with our expectations that rates will likely rise slowly over the next several years, we have meaningfully reduced our intermediate-term fixed income expectations. For core bonds, we expect a total return of -0.9% over the intermediate-term

versus -0.2% previously and 3.9% over the long-term versus 3.8% previously. We expect high yield bonds to return 2.4% over the intermediate-term versus 3.2% previously, and over the long-term, we expect a total return of 5.0% versus 6.0% previously.

## ALTERNATIVES

While some investors view alternatives such as private equity, hedge funds, etc., as *sui generis*<sup>3</sup>, we believe that alternative strategies need to be understood based on their underlying economic and market exposures. Therefore, the investment profile of alternatives such as returns and risk are not dissimilar to those of public markets once we normalize or consider the different characteristics, such as leverage. In deriving our CMAs for alternatives, we start with our assumptions for public markets and make the necessary adjustments.

We expect hedge funds to return 5.8% over the intermediate-term versus 5.5% previously, and over the long-term, we expect 6.3% versus 7.1% previously. The modest increase for the intermediate-term estimate is driven by our higher expected return for public market equities.

In a typical private equity buyout transaction, approximately two-thirds of the purchase price is financed via various bonds and loans. Therefore, the expected return is significantly impacted by financing costs. Lower borrowing costs due to lower levels of interest rates and credit spreads combined with higher expectations for public equities lead to higher return expectations for private equity. Over the intermediate-term, we expect private equity to return 10.1%, a significant increase from 8.5% expected previously. While the increase is meaningful, our investment views of private equity and methodology for estimating expected returns have not changed. The increase is simply a function of a higher expected return for public market equities combined with lower financing costs. Our views remain that

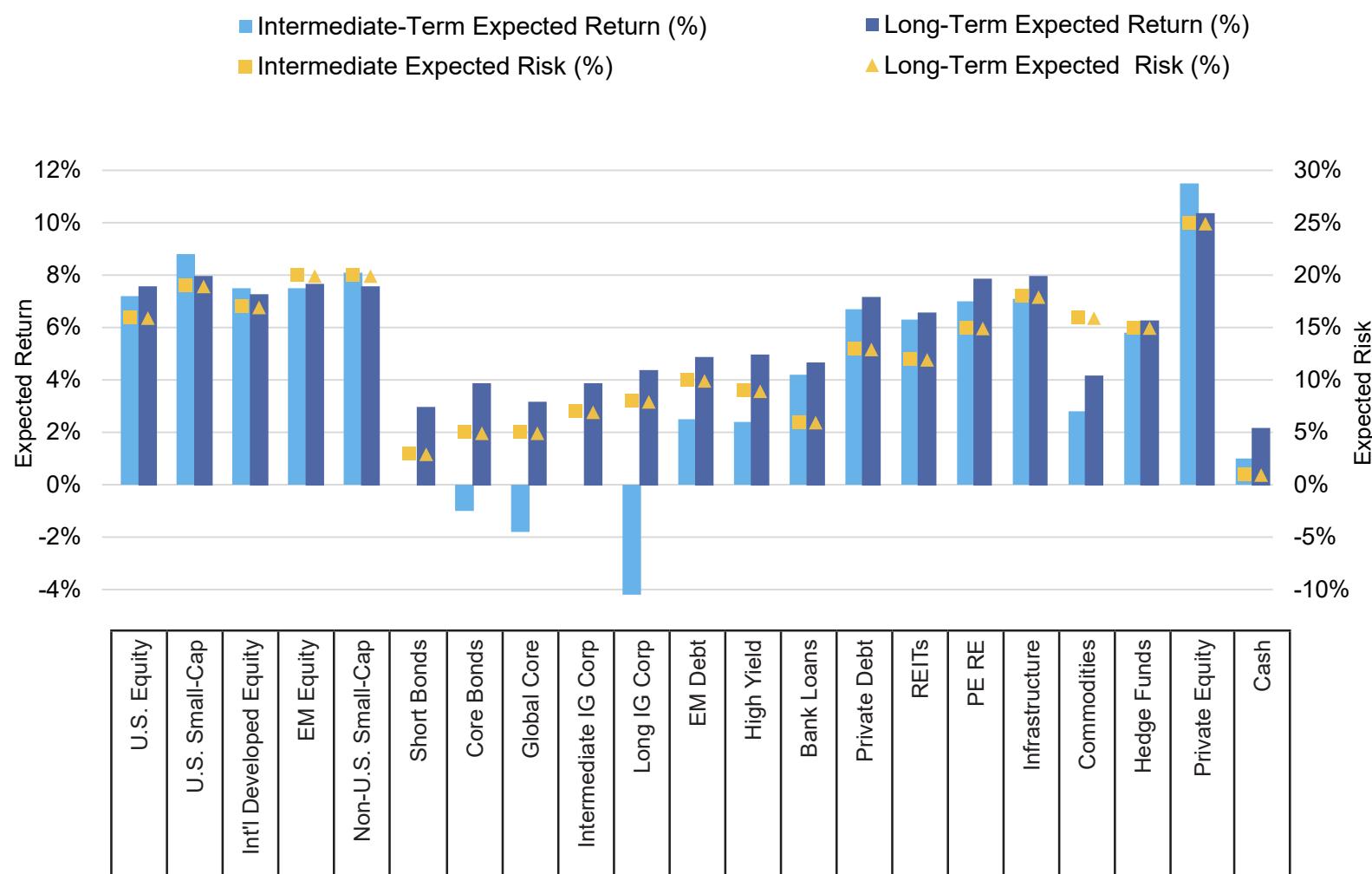
private equity is simply leveraged public equities. That being the case, any increase in expected public market equities is amplified for private equity by the lower cost of leverage.

Over the longer term, we expect a return of 9.2%, lower than 10.5% in our 2021 CMAs.

Private real estate as an asset class includes both high-quality, core properties as well as non-core. For core real estate, most of the total return comes from income, while for non-core properties price appreciation makes up a more meaningful part. Publicly traded REITs own predominantly high-quality core properties, and as such, the expected total return is made up mostly by income combined with some price appreciation. For private real estate, we expect a total return of 7.0% over the intermediate-term versus previous expectation of 6.8%. While over the long-term, we expect a total return of 7.9% versus 7.8% previously. These expectations are up modestly driven by expectations that commercial real estate will continue to recover, and continuing low interest rates will support higher valuation for all asset classes, including real estate. For publicly traded REITs, we expect an annualized total return of 6.3% over the intermediate-term versus 6.0% expected previously, while over the long-term, we expect a total return of 6.6% versus our previous expectation of 6.5%.

<sup>3</sup> *Sui generis* is a Latin phrase that means “of its/his/her/their own kind”, “in a class by itself”, therefore “unique”. A number of disciplines use the term to refer to unique entities.

## Long- and Intermediate-Term Capital Market Assumptions



### Intermediate-Term Annualized Assumptions (Over the Next 5 Years)

Expected Return (%)	7.2	8.8	7.5	7.5	8.1	-0.1	-0.9	-1.8	0.1	-4.2	2.5	2.4	4.2	6.7	6.3	7.0	7.1	2.8	5.8	10.1	0.8
Expected Risk (%)	16	19	17	20	20	3	5	5	7	8	10	9	6	13	12	15	18	16	15	25	1

### Long-Term Annualized Assumptions (Over the Next 30 Years)

Expected Return (%)	7.6	8.0	7.3	7.7	7.6	3.0	3.9	3.2	3.9	4.4	4.9	5.0	4.7	6.8	6.6	7.9	8.0	4.2	6.3	9.2	2.2
Expected Risk (%)	16	19	17	20	20	3	5	5	7	8	10	9	6	13	12	15	18	16	15	25	1

## Asset Class Correlation Assumptions

	Cash	Private Equity	Hedge Funds	Commodities	Infrastructure	PE RE	REITs	Private Debt	Bank Loans	High Yield	EM Debt	Long IG Corp	Intermediate IG Corp	Global Core	Core Bonds	Short Bonds	Non-U.S. Small-Cap	EM Equity	Int'l Developed Equity	U.S. Small-Cap	U.S. Equity
U.S. Equity	1																				
U.S. Small-Cap	0.9	1																			
Int'l Developed Equity	0.8	0.8	1																		
EM Equity	0.7	0.7	0.7	1																	
Non-US Small-Cap	0.8	0.8	0.9	0.8	1																
Short Bonds	0.2	0.2	0.1	0.1	0.1	1															
Core Bonds	0.3	0.3	0.2	0.2	0.2	0.5	1														
Global Core	0.2	0.2	0.2	0.2	0.2	0.4	0.4	1													
Intermediate IG Corp	0.3	0.3	0.2	0.2	0.2	0.7	0.9	0.9	1												
Long IG Corp	0.3	0.3	0.2	0.2	0.2	0.7	0.9	0.9	0.9	1											
EM Debt	0.5	0.5	0.5	0.5	0.5	0.3	0.4	0.4	0.4	0.4	1										
High Yield	0.7	0.7	0.5	0.5	0.5	0.3	0.4	0.4	0.4	0.4	0.4	1									
Bank Loans	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.7	0.7	1								
Private Debt	0.6	0.6	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.8	0.7	1							
REITs	0.5	0.5	0.4	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	1						
PE RE	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.4	0.2	0.4	0.8	1					
Infrastructure	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.4	0.5	1					
Commodities	0.1	0.1	0.1	0.2	0.1	0.4	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	1				
Hedge Funds	0.6	0.6	0.5	0.5	0.5	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.2	1			
Private Equity	0.7	0.7	0.6	0.6	0.6	0.2	0.3	0.3	0.3	0.3	0.5	0.2	0.5	0.4	0.4	0.4	0.1	0.5	1		
Cash	0.1	0.1	0.1	0.1	0.1	0.5	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	

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## G. Morningstar Portfolio Snapshot Report

# Vanguard Total Stock Market ETF (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-20.89	22.09	9.19	14.68	20.95
2021	6.43	8.28	-0.06	9.15	25.72
2022	—	—	—	—	-6.03
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 12-31-21	25.67	—	17.96	16.29	9.20
Std NAV 12-31-21	25.72	—	17.98	16.29	9.04
Mkt Total Ret	18.45	19.82	16.06	14.99	8.84
NAV Total Ret	18.52	19.84	16.08	15.00	8.67
+/- Std Index	-4.77	-0.88	-0.70	-0.43	—
+/- Cat Index	-1.80	-0.68	-0.51	-0.32	—
% Rank Cat	77	39	36	27	—
No. in Cat	1,378	1,236	1,109	817	—

	Subsidized	Unsubsidized
30-day SEC Yield 2022-02-01	1.14	1.14

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 866-499-8473 or visit [www.vanguard.com](http://www.vanguard.com).

## Fees and Expenses

Management Fees % 0.03

Annual Report Net Expense Ratio % 0.03

Annual Report Gross Expense Ratio % 0.03

12b1 Expense % NA

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
1,236 funds	1,109 funds	817 funds	

Morningstar Rating™ 3★ 3★ 4★

Morningstar Risk +Avg +Avg Avg

Morningstar Return Avg Avg +Avg

	3 Yr	5 Yr	10 Yr
--	------	------	-------

Standard Deviation NAV 18.32 16.29 13.65

Standard Deviation MKT 18.23 16.20 13.65

Mean NAV 19.84 16.08 15.00

Mean MKT 19.82 16.06 14.99

Sharpe Ratio 1.04 0.93 1.05

MPT Statistics Standard Index Best Fit Index

NAV Russell 3000 TR USD

Alpha -1.40 -0.07

Beta 1.04 1.00

R-Squared 99.18 99.99

12-Month Yield 1.29%

Potential Cap Gains Exp —

Leveraged No

Leverage Type —

Leverage % 100.00

Primary Prospectus Benchmark CRSP US Total Market TR USD

## Operations

Family: Vanguard

Manager: Multiple

Tenure: 27.2 Years

Total Assets: \$287,298.3 mil

Shares Outstanding: 1,257.24 mil

Type: ETF

Morningstar Analyst Rating™ Overall Morningstar Rating™ Standard Index

Gold

03-08-2021

★★★★

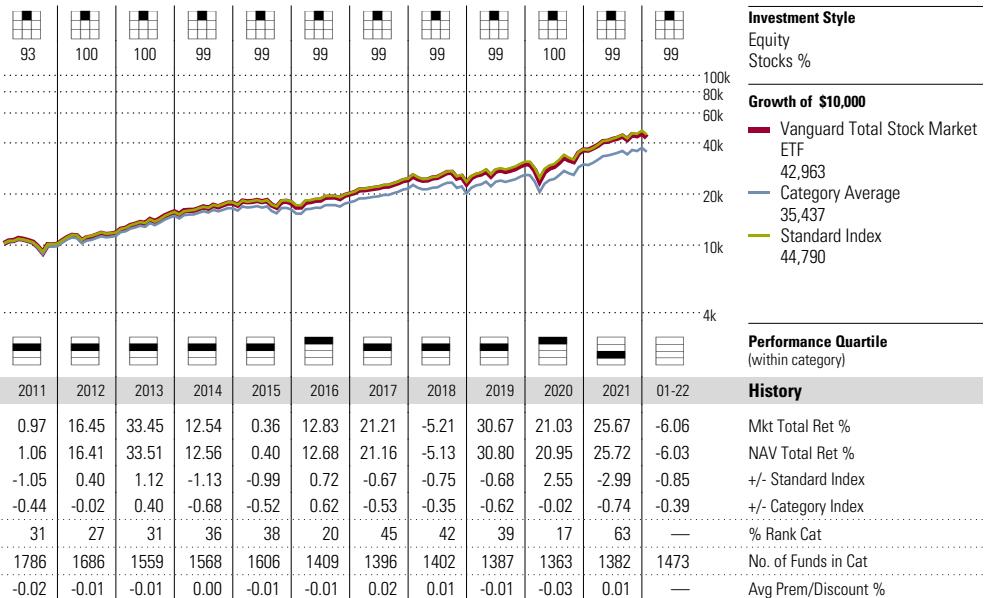
1,236 US Fund Large Blend

S&P 500 TR USD

Russell 1000 TR USD

Morningstar Cat

US Fund Large Blend



Portfolio Analysis 12-31-2021									
Asset Allocation %			Net %	Long %	Short %	Share Chg since 11-2021	Share Amount	Holdings : 4,090 Total Stocks , 1 Total Fixed-Income, 8% Turnover Ratio	Net Assets %
Cash	0.61	0.63	0.01					443 mil Apple Inc	5.71
US Stocks	98.56	98.56	0.00					213 mil Microsoft Corp	5.21
Non-US Stocks	0.83	0.83	0.00					12 mil Amazon.com Inc	2.97
Bonds	0.00	0.00	0.00					9 mil Alphabet Inc Class A	1.80
Other/Not Clsfd	0.00	0.00	0.00					23 mil Tesla Inc	1.75
Total	100.00	100.01	0.01						
Equity Style			Portfolio Statistics		Port Avg	Rel Index	Rel Cat		
Value	Blend	Growth	P/E Ratio TTM	24.0	1.04	0.93		67 mil Meta Platforms Inc Class A	1.64
			P/C Ratio TTM	18.0	1.04	0.93		8 mil Alphabet Inc Class C	1.61
			P/B Ratio TTM	4.3	0.99	24.44		67 mil NVIDIA Corp	1.44
			Geo Avg Mkt Cap \$mil	131578	0.61	0.43		48 mil Berkshire Hathaway Inc Class B	1.05
								27 mil UnitedHealth Group Inc	0.98
								84 mil JPMorgan Chase & Co	0.97
								75 mil Johnson & Johnson	0.93
								30 mil The Home Depot Inc	0.89
								69 mil Procter & Gamble Co	0.82
								47 mil Visa Inc Class A	0.74
Fixed-Income Style			Portfolio Statistics		Avg Eff Maturity	—		Sector Weightings	
Ltd	Mod	Ext	Avg Eff Duration	—				Stocks %	
			Avg Wtd Coupon	4.00				Rel Std Index	
			Avg Wtd Price	—					
Credit Quality Breakdown —			Bond %		Cyclical		31.3		1.03
AAA			Bond %		Basic Materials	2.4	2.4	1.11	
AA			Bond %		Consumer Cyclical	12.1	12.1	1.03	
A			Bond %		Financial Services	12.9	12.9	0.94	
BBB			Bond %		Real Estate	3.8	3.8	1.42	
BB			Bond %		Sensitive		47.2		0.99
B			Bond %		Communication Services	9.3	9.3	0.93	
Below B			Bond %		Energy	2.7	2.7	0.80	
NR			Bond %		Industrials	8.9	8.9	1.09	
			Bond %		Technology	26.3	26.3	1.01	
Regional Exposure			Stocks %		Defensive		21.6		0.97
Americas			Stocks %		Consumer Defensive	5.8	5.8	0.89	
Greater Europe			Stocks %		Healthcare	13.4	13.4	1.02	
Greater Asia			Stocks %		Utilities	2.4	2.4	0.95	

# PGIM Total Return Bond R6 (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-2.84	6.78	1.78	2.38	8.10
2021	-4.44	3.14	-0.01	0.30	-1.15
2022	—	—	—	—	-2.39
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-2.65	4.49	4.09	3.97	4.53
Std 12-31-2021	-1.15	—	4.72	4.44	4.80
Total Return	-2.65	4.49	4.09	3.97	4.53
+/- Std Index	0.32	0.82	1.01	1.38	—
+/- Cat Index	0.01	0.58	0.78	1.00	—
% Rank Cat	64	39	15	12	—
No. in Cat	602	569	496	352	—
	Subsidized	Unsubsidized			
7-day Yield 02-02-22	2.85 <sup>1</sup>	—			
30-day SEC Yield 12-31-21	2.24 <sup>1</sup>	2.23			
1. Contractual waiver; Expires 02-28-2023					

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-225-1852 or visit [www.prudentialfunds.com](http://www.prudentialfunds.com).

## Fees and Expenses

### Sales Charges

Front-End Load %

NA

Deferred Load %

NA

### Fund Expenses

Management Fees %

0.38

12b1 Expense %

NA

Net Expense Ratio %

0.39

Gross Expense Ratio %

0.40

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
569 funds	496 funds	352 funds	

Morningstar Rating™

3★

4★

4★

Morningstar Risk

High

High

High

Morningstar Return

Avg

+Avg

+Avg

3 Yr

5 Yr

10 Yr

Standard Deviation

6.20

5.07

4.42

Mean

4.49

4.09

3.97

Sharpe Ratio

0.62

0.60

0.77

MPT Statistics

Standard Index

Best Fit Index

Morningstar US

Corp Bd TR Hdg USD

Alpha

-0.13

-0.14

Beta

1.36

0.82

R-Squared

63.16

95.07

12-Month Yield

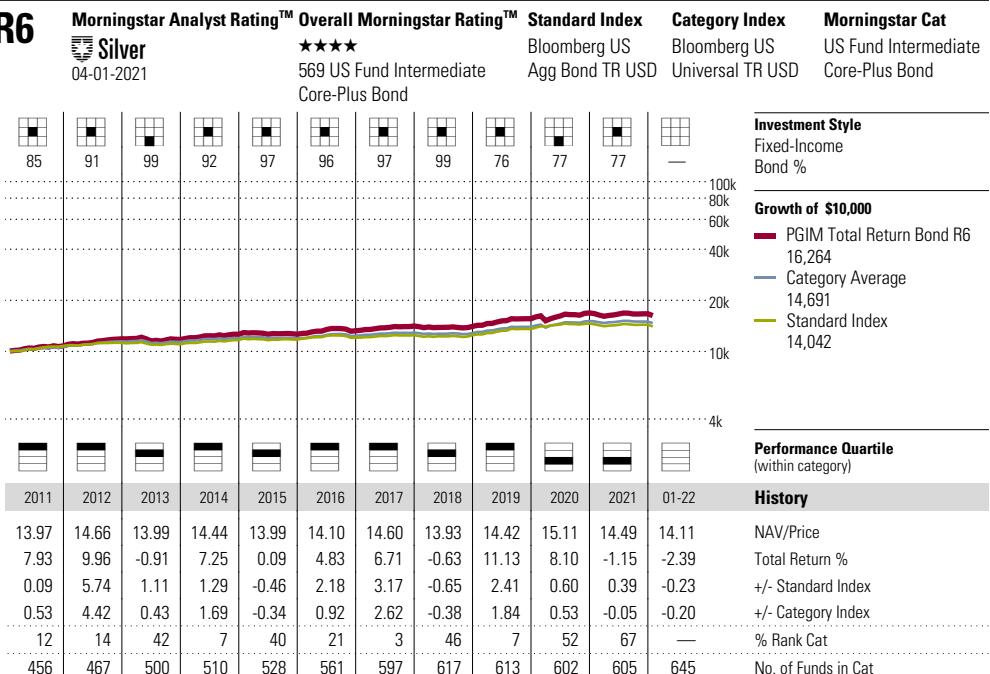
3.13%

Potential Cap Gains Exp

0.13%

## Operations

Family: PGIM Funds (Prudential)



## Portfolio Analysis 12-31-2021

Asset Allocation %	Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %
Cash	-1.58	25.87	27.45			7 Total Stocks , 2,759 Total Fixed-Income, 46% Turnover Ratio	
US Stocks	1.62	1.62	0.00			1,113 mil United States Treasury Bonds 2.25%	2.06
Non-US Stocks	0.00	0.00	0.00			698 mil United States Treasury Bonds 1.375%	1.12
Bonds	97.82	99.74	1.92			601 mil Federal National Mortgage Associat	1.08
Other/Not Clsfld	2.13	2.13	0.00	+		257 mil Bellis Acquisition Company Plc 3.2	0.59
Total	100.00	129.37	29.37	+		334 mil Prudential Inv Portfolios 2	0.59
Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat			
Value	P/E Ratio TTM	—	—	—		296 mil Broadcom Inc 3.187%	0.52
Blend	P/C Ratio TTM	—	—	—		191 mil Greece (Republic Of) 5.2%	0.52
Growth	P/B Ratio TTM	—	—	—		262 mil Slovenia (Republic of) 5.25%	0.50
	Geo Avg Mkt Cap Smil	—	—	—		162 mil Italy (Republic Of) 6%	0.48
						236 mil CVC Cordatus Loan Fund XII Designa	0.47
Fixed-Income Style	Avg Eff Maturity	0.00				217 mil Wells Fargo & Company 4.478%	0.45
Ltd	Avg Eff Duration	7.60				226 mil United States Treasury Bonds 2.5%	0.44
Mod	Avg Wtd Coupon	3.33				240 mil HPS LOAN MANAGEMENT 11-2017 LTD 1.	0.42
Ext	Avg Wtd Price	107.14				229 mil Federal National Mortgage Associat	0.42
						204 mil Providus Clo II Designated Activit	0.41
Sector Weightings	Stocks %					Rel Std Index	
↳ <b>Cyclical</b>							
Basic Materials							
Consumer Cyclical							
Financial Services							
Real Estate							
↳ <b>Sensitive</b>							
Communication Services							
Energy							
Industrials							
Technology							
→ <b>Defensive</b>							
Consumer Defensive							
Healthcare							
Utilities							

# Baird Core Plus Bond Inst (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	0.04	5.75	1.37	1.44	8.80
2021	-3.10	2.13	0.13	-0.12	-1.02
2022	—	—	—	—	-2.25

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-2.76	4.55	3.76	3.55	5.48
Std 12-31-2021	-1.02	—	4.30	3.93	5.61
Total Return	-2.76	4.55	3.76	3.55	5.48
+/- Std Index	0.21	0.89	0.68	0.96	—
+/- Cat Index	-0.10	0.65	0.45	0.58	—
% Rank Cat	72	34	30	28	—
No. in Cat	602	569	496	352	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield 12-31-21	1.79	0.00

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 866-442-2473 or visit [www.bairdfunds.com](http://www.bairdfunds.com).

## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.25
12b1 Expense %	NA

Net Expense Ratio %	0.30
Gross Expense Ratio %	0.30

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
569 funds	496 funds	352 funds	—

Morningstar Rating™	3★	4★	4★
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	Avg	+Avg	+Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation	4.42	3.73	3.39

Mean	4.55	3.76	3.55
Sharpe Ratio	0.87	0.72	0.87

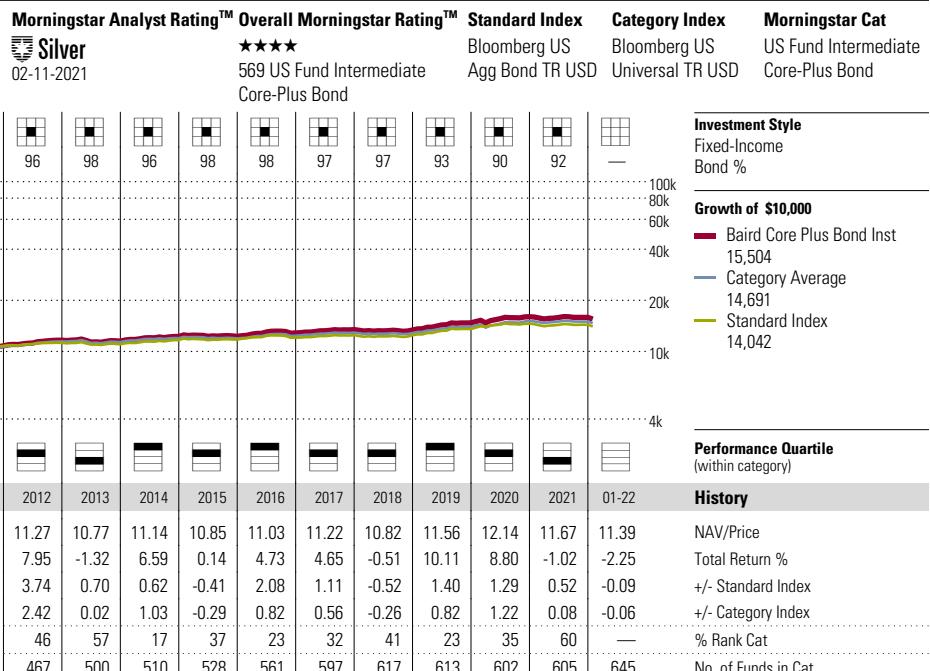
MPT Statistics	Standard Index	Best Fit Index
	Bloomberg US	Universal TR USD

Alpha	0.63	0.15
Beta	1.09	1.16
R-Squared	80.43	95.64

12-Month Yield	2.39%
Potential Cap Gains Exp	6.84%

### Operations

Family:	Baird
Manager:	Multiple
Tenure:	21.4 Years
Objective:	Income
Base Currency:	USD



Portfolio Analysis 12-31-2021					
Asset Allocation %	Net %	Long %	Short %	Share Chg	Holdings : Net Assets
Cash	3.30	3.30	0.00	since 09-2021	1 Total Stocks , 1,536 Total Fixed-Income, 33% Turnover Ratio
US Stocks	0.00	0.00	0.00	—	912 mil United States Treasury Bonds 2.875%
Non-US Stocks	0.00	0.00	0.00	—	901 mil United States Treasury Bonds 2.5%
Bonds	92.03	92.03	0.00	—	876 mil United States Treasury Notes 2%
Other/Not Clsfd	4.66	4.66	0.00	—	835 mil United States Treasury Notes 2.25%
Total	100.00	100.00	0.00	—	851 mil First American Government Obligs U 2.90

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	Net Assets
Value	P/E Ratio TTM	—	—	—	641 mil United States Treasury Bonds 1.375%
Blend	P/C Ratio TTM	7.6	—	—	568 mil United States Treasury Notes 0.375%
Growth	P/B Ratio TTM	3.1	—	—	433 mil United States Treasury Notes 1.125%
High Yield	Geo Avg Mkt Cap Smil	1945	—	—	356 mil United States Treasury Notes 0.625%
Mid Yield					331 mil United States Treasury Notes 1.25%
Low Yield				—	272 mil United States Treasury Notes 2.25%

Fixed-Income Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	Net Assets
Ltd Mod Ext	Avg Eff Maturity	8.23	—	—	—
High Mid Low	Avg Eff Duration	6.54	—	—	—
Med	Avg Wtd Coupon	3.29	—	—	—
Low	Avg Wtd Price	106.73	—	—	—

Sector Weightings	Stocks %	Rel Std Index
↳ Cyclical	0.0	—
Basic Materials	0.0	—
Consumer Cyclical	0.0	—
Financial Services	0.0	—
Real Estate	0.0	—
↳ Sensitive	100.0	—
Communication Services	0.0	—
Energy	100.0	—
Industrials	0.0	—
Technology	0.0	—
→ Defensive	0.0	—
Consumer Defensive	0.0	—
Healthcare	0.0	—
Utilities	0.0	—

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# Vanguard Total International Stock ETF (USD)

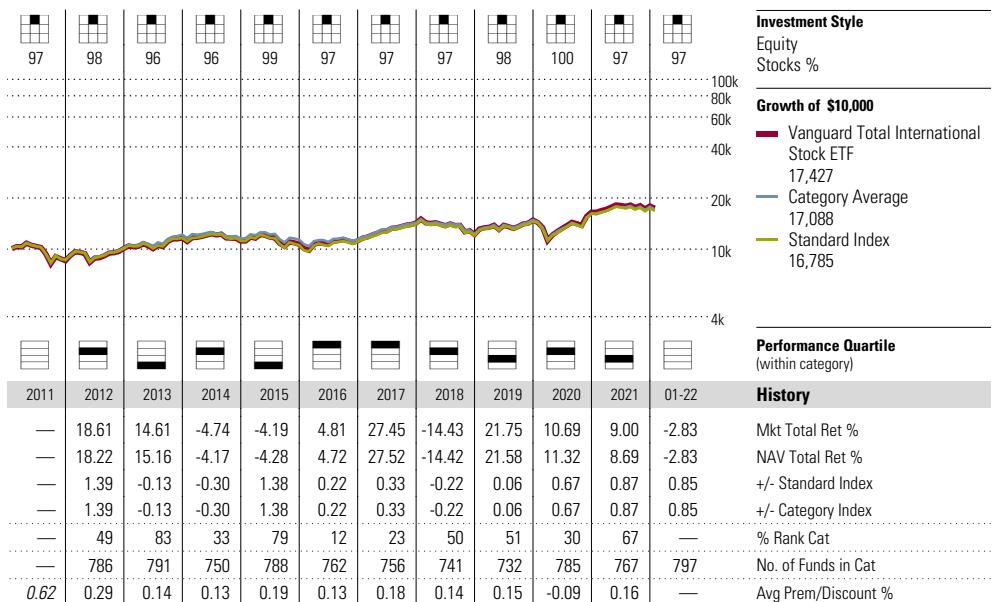
**Morningstar Analyst Rating™** Overall **Morningstar Rating™** Standard Index Category Index Morningstar Cat

**Gold** 12-08-2021 **★★★** 701 US Fund Foreign Large Blend MSCI ACWI Ex USA NR USD MSCI ACWI Ex USA NR USD US Fund Foreign Large Blend

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-24.30	18.12	6.47	16.92	11.32
2021	3.95	5.52	-2.97	2.13	8.69
2022	—	—	—	—	-2.83

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 12-31-21	9.00	—	9.88	7.62	5.43
Std NAV 12-31-21	8.69	—	9.93	7.70	5.31
Mkt Total Ret	5.65	9.85	8.38	6.55	5.11
NAV Total Ret	5.74	9.92	8.46	6.63	4.99
+/- Std Index	2.12	0.83	0.43	0.45	—
+/- Cat Index	2.12	0.83	0.43	0.45	—
% Rank Cat	65	44	35	58	—
No. in Cat	769	701	603	410	—



## Performance Disclosure

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## Fees and Expenses

### Fund Expenses

Management Fees % 0.06

Annual Report Net Expense Ratio % 0.07

Annual Report Gross Expense Ratio % 0.07

12b1 Expense % NA

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
701 funds	603 funds	410 funds	

Morningstar Rating™ 3★ 3★ 3★

Morningstar Risk Avg Avg Avg

Morningstar Return Avg Avg Avg

	3 Yr	5 Yr	10 Yr
701 funds	603 funds	410 funds	

Standard Deviation NAV 17.10 15.13 13.95

Standard Deviation MKT 16.97 15.10 13.98

Mean NAV 9.92 8.46 6.63

Mean MKT 9.85 8.38 6.55

Sharpe Ratio 0.59 0.54 0.49

MPT Statistics Standard Index Best Fit Index

NAV Morningstar Gbl Mkts xUS GR USD

Alpha 0.72 0.13

Beta 1.01 1.00

R-Squared 98.78 98.93

12-Month Yield —

Potential Cap Gains Exp —

Leveraged No

Leverage Type —

Leverage % 100.00

Primary Prospectus Benchmark FTSE Global All Cap ex US (USA) NR USD

## Operations

Family: Vanguard

Manager: Multiple

Tenure: 13.5 Years

Total Assets: \$53,627.0 mil

Shares Outstanding: 861.63 mil

Type: ETF

Asset Allocation %	Net %	Long %	Short %	Share Chg since 11-2021	Share Amount	Holdings: 7,686 Total Stocks , 0 Total Fixed-Income, 8% Turnover Ratio	Net Assets %
Cash	2.44	2.44	0.00	—	314 mil	Taiwan Semiconductor Manufacturing	1.64
US Stocks	0.84	0.84	0.00	+	36 mil	Nestle SA	1.19
Non-US Stocks	96.66	96.66	0.00	—	78 mil	Tencent Holdings Ltd	1.08
Bonds	0.00	0.00	0.00	—	5 mil	ASML Holding NV	0.96
Other/Not Clsfd	0.06	0.06	0.00	—	61 mil	Samsung Electronics Co Ltd	0.95
Total	100.00	100.00	0.00	—	9 mil	Roche Holding AG	0.88
Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	161 mil	Toyota Motor Corp	0.70
Value Blend Growth	P/E Ratio TTM	14.6	1.00	0.90	186 mil	Alibaba Group Holding Ltd Ordinary	0.65
Large Mid Small	P/C Ratio TTM	9.7	1.01	0.94	3 mil	LVMH Moet Hennessy Louis Vuitton SE	0.64
High Mid Low	P/B Ratio TTM	1.8	0.98	3.44	27 mil	Novartis AG	0.56
	Geo Avg Mkt Cap \$mil	30277	0.66	0.54	20 mil	AstraZeneca PLC	0.56
				—	21 mil	Novo Nordisk A/S Class B	0.55
				—	16 mil	Sony Group Corp	0.48
				—	14 mil	SAP SE	0.48
				—	1 mil	Shopify Inc Registered Shs -A- Sub	0.48
Fixed-Income Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	Stocks %	Rel Std Index	
Ltd Mod Ext	Avg Eff Maturity	—	—	—	41.5	0.98	
High Mid Low	Avg Eff Duration	—	—	—			
High Mid Low	Avg Wtd Coupon	—	—	—			
High Mid Low	Avg Wtd Price	—	—	—			
Credit Quality Breakdown	Bond %	Stocks %	Rel Std Index				
AAA	—	—	—	—	—	—	—
AA	—	—	—	—	—	—	—
A	—	—	—	—	—	—	—
BBB	—	—	—	—	—	—	—
BB	—	—	—	—	—	—	—
B	—	—	—	—	—	—	—
Below B	—	—	—	—	—	—	—
NR	—	—	—	—	—	—	—
Regional Exposure	Stocks %	Rel Std Index					
Americas	10.0	0.93	—	—	—	—	—
Greater Europe	44.2	0.98	—	—	—	—	—
Greater Asia	45.8	1.04	—	—	—	—	—

# Harding Loevner International Eq Instl (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-19.37	18.29	8.63	16.13	20.33
2021	0.84	5.41	-2.38	4.58	8.51
2022	—	—	—	—	-5.72

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	3.07	12.86	10.43	8.53	6.69
Std 12-31-2021	8.51	—	12.82	9.83	6.94
Total Return	3.07	12.86	10.43	8.53	6.69
+/- Std Index	-0.56	3.77	2.39	2.35	—
+/- Cat Index	7.03	1.06	0.12	0.99	—
% Rank Cat	35	60	57	39	—
No. in Cat	449	386	333	221	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield	—	—

## Performance Disclosure

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## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.67
12b1 Expense %	NA

Net Expense Ratio %	0.81
Gross Expense Ratio %	0.81

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
386 funds	333 funds	221 funds	—

Morningstar Rating™	3★	3★	3★
Morningstar Risk	-Avg	-Avg	Avg
Morningstar Return	Avg	Avg	Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation	16.41	14.88	13.83
Mean	12.86	10.43	8.53
Sharpe Ratio	0.77	0.67	0.62

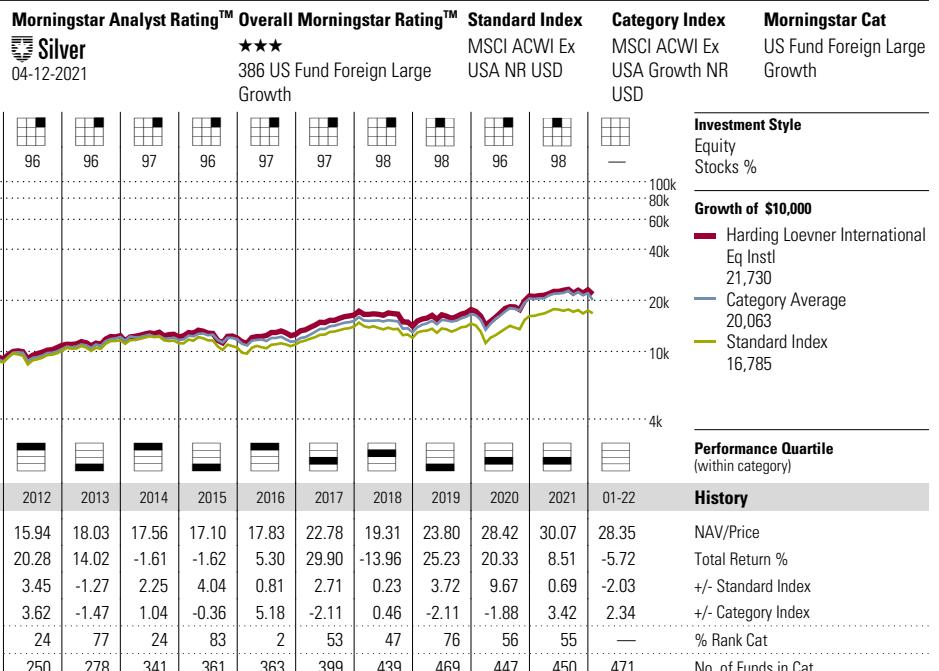
MPT Statistics	Standard Index	Best Fit Index
	MSCI ACWI Ex USA	NR USD

Alpha	3.93	3.93
Beta	0.94	0.94
R-Squared	92.25	92.25

12-Month Yield	—
Potential Cap Gains Exp	36.73%

### Operations

Family:	Harding Loevner
Manager:	Multiple
Tenure:	17.3 Years
Objective:	Foreign Stock



## Portfolio Analysis 12-31-2021

Asset Allocation %	Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %
Cash	2.34	2.34	0.00	since 09-2021	58 Total Stocks , 40 Total Fixed-Income, 14% Turnover Ratio	—	—
US Stocks	0.00	0.00	0.00	—	12 mil	Atlas Copco AB A	3.83
Non-US Stocks	97.66	97.66	0.00	—	7 mil	Taiwan Semiconductor Manufacturing	3.60
Bonds	0.00	0.00	0.00	—	2 mil	L'Oreal SA	3.55
Other/Not Clsfd	0.00	0.00	0.00	—	449,756	Samsung Electronics Co Ltd GDR	3.39
Total	100.00	100.00	0.00	—	16 mil	Infineon Technologies AG	3.36
Equity Style	Port Avg	Rel Index	Rel Cat				
Value	22.1	1.51	0.88	—	3 mil	Schneider Electric SE	3.01
Blend	14.6	1.52	0.83	—	2 mil	Roche Holding AG	2.99
Growth	3.1	1.70	0.84	—	11 mil	Tencent Holdings Ltd	2.97
	77408	1.68	1.27	—	22 mil	DBS Group Holdings Ltd	2.44
				—	203,574	Adyen NV	2.44
				—	638,451	Lonza Group Ltd	2.44
				—	52 mil	AIA Group Ltd	2.39
				—	8 mil	BHP Group Ltd ADR	2.32
				—	2 mil	Allianz SE	2.18
				—	465 mil	Northern Institutional Treasury Pr	2.14
Sector Weightings	Stocks %	Rel Std Index					
↳ Cyclical	27.8	0.66	—	—	—	—	—
Basic Materials	8.9	1.08	—	—	—	—	—
Consumer Cyclical	3.9	0.35	—	—	—	—	—
Financial Services	15.0	0.73	—	—	—	—	—
Real Estate	0.0	0.00	—	—	—	—	—
↳ Sensitive	44.2	1.19	—	—	—	—	—
Communication Services	5.0	0.72	—	—	—	—	—
Energy	3.1	0.56	—	—	—	—	—
Industrials	17.1	1.46	—	—	—	—	—
Technology	18.9	1.46	—	—	—	—	—
↳ Defensive	28.0	1.37	—	—	—	—	—
Consumer Defensive	12.1	1.47	—	—	—	—	—
Healthcare	14.3	1.56	—	—	—	—	—
Utilities	1.6	0.52	—	—	—	—	—

# Voya Intermediate Bond R6 (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-1.52	6.08	1.73	1.82	8.22
2021	-3.08	2.07	0.18	-0.09	-0.99
2022	—	—	—	—	-2.14

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-2.55	4.33	3.73	—	3.44
Std 12-31-2021	-0.99	—	4.28	—	3.74
Total Return	-2.55	4.33	3.73	3.70	3.44
+/- Std Index	0.42	0.66	0.65	1.11	—
+/- Cat Index	0.11	0.42	0.42	0.73	—
% Rank Cat	62	45	31	22	—
No. in Cat	602	569	496	352	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield	—	—

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-992-0180 or visit [www.voyainvestments.com](http://www.voyainvestments.com).

## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.27
12b1 Expense %	NA

Net Expense Ratio %	0.30
Gross Expense Ratio %	0.30

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
569 funds	496 funds	352 funds	—

Morningstar Rating™	3★	4★	4★
Morningstar Risk	+Avg	+Avg	+Avg
Morningstar Return	Avg	+Avg	+Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation	5.06	4.17	3.65

Mean	4.33	3.73	3.70
Sharpe Ratio	0.72	0.64	0.85

MPT Statistics	Standard Index	Best Fit Index
		Bloomberg US Corp Bond TR USD

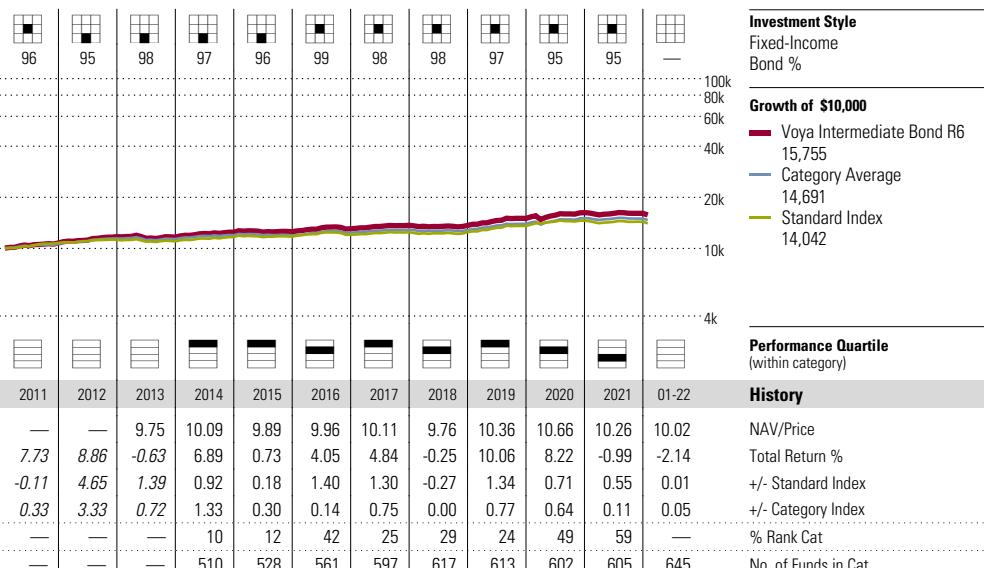
Alpha	0.25	0.31
Beta	1.15	0.67
R-Squared	68.28	94.34

12-Month Yield	—
Potential Cap Gains Exp	0.73%

### Operations

Family:	Voya
Manager:	Multiple
Tenure:	11.5 Years
Objective:	Growth and Income

Morningstar Analyst Rating™	Overall Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver 05-11-2021	★★★ 569 US Fund Intermediate Core-Plus Bond	Bloomberg US Agg Bond TR USD	Bloomberg US Universal TR USD	US Fund Intermediate Core-Plus Bond



Portfolio Analysis 12-31-2021									
Asset Allocation %		Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %	
Cash		-5.12	3.47	8.59			0 Total Stocks , 2,229 Total Fixed-Income, 159% Turnover Ratio		
US Stocks		0.02	0.02	0.01			1,998 Ultra US Treasury Bond Future Mar		3.73
Non-US Stocks		0.00	0.00	0.00			2,068 US Treasury Bond Future Mar 22		3.14
Bonds		102.87	104.19	1.33			286 mil Federal National Mortgage Assocat		2.69
Other/Not Clsfd		2.24	2.24	0.00			260 mil United States Treasury Bonds 2%		2.50
Total		100.00	109.92	9.92			225 mil United States Treasury Notes 0.75%		2.13

Equity Style		Portfolio Statistics		Port Avg	Rel Index	Rel Cat			
Value	Blend	Growth							
			P/E Ratio TTM	—	—	—	158 mil Government National Mortgage Assoc		1.54
			P/C Ratio TTM	—	—	—	159 mil United States Treasury Bonds 2%		1.54
			P/B Ratio TTM	—	—	—	957 Ultra 10 Year US Treasury Note Fut		-1.33
			Geo Avg Mkt Cap \$mil	—	—	—	132 mil Gam 2021-W1 144A 5.25%		1.25
							572 2 Year Treasury Note Future Mar 22		1.18
							811 10 Year Treasury Note Future Mar 22		1.00
							102 mil United States Treasury Notes 1%		0.97
							721 5 Year Treasury Note Future Mar 22		0.83
							80 mil United States Treasury Notes 1.25%		0.76
							63 mil BlackRock Liquidity FedFund Instl		0.60

Fixed-Income Style		Avg Eff Maturity		8.08					
Ltd	Mod	Ext	Hgh	Med	Low				
				Avg Eff Duration	6.60				
				Avg Wtd Coupon	—				
				Avg Wtd Price	103.50				

Sector Weightings		Stocks %	Rel Std Index
↳ Cyclical		—	—
Basic Materials		—	—
Consumer Cyclical		—	—
Financial Services		—	—
Real Estate		—	—
↳ Sensitive		—	—
Communication Services		—	—
Energy		—	—
Industrials		—	—
Technology		—	—
↳ Defensive		—	—
Consumer Defensive		—	—
Healthcare		—	—
Utilities		—	—

Regional Exposure		Stocks %	Rel Std Index
Americas		—	—
Greater Europe		—	—
Greater Asia		—	—

Base Currency:	USD	Purchase Constraints:	A
Ticker:	IIBZX	Incept:	05-31-2013
ISIN:	US92913L5690	Type:	MF
Minimum Initial Purchase:	\$1 mil	Total Assets:	\$9,892.92 mil

# JOHCM International Select Institutional (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-15.45	23.44	9.81	13.17	29.71
2021	0.26	3.82	-1.33	6.33	9.21
2022	—	—	—	—	-9.68

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-1.36	12.59	10.31	10.49	10.39
Std 12-31-2021	9.21	—	13.71	12.43	11.37
Total Return	-1.36	12.59	10.31	10.49	10.39
+/- Std Index	-4.99	3.50	2.27	4.31	—
+/- Cat Index	2.60	0.79	0.01	2.94	—
% Rank Cat	60	67	62	13	—
No. in Cat	449	386	333	221	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield	—	—

## Performance Disclosure

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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 866-260-9549 or visit [www.johcm.com](http://www.johcm.com).

## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.89
12b1 Expense %	NA

### Net Expense Ratio %

Net Expense Ratio %	0.98
Gross Expense Ratio %	0.98

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
386 funds	386 funds	333 funds	221 funds

Morningstar Rating™	3★	3★	4★
Morningstar Risk	-Avg	Low	-Avg
Morningstar Return	Avg	Avg	+Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation	15.93	13.93	13.35

Mean	12.59	10.31	10.49
------	-------	-------	-------

Sharpe Ratio	0.77	0.69	0.77
--------------	------	------	------

MPT Statistics	Standard Index	Best Fit Index
	MSCI World Ex USA	SMID Growth NR

	USD
Alpha	4.55

Beta	0.84	0.81
------	------	------

R-Squared	77.76	90.99
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12-Month Yield	—
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Potential Cap Gains Exp	29.85%
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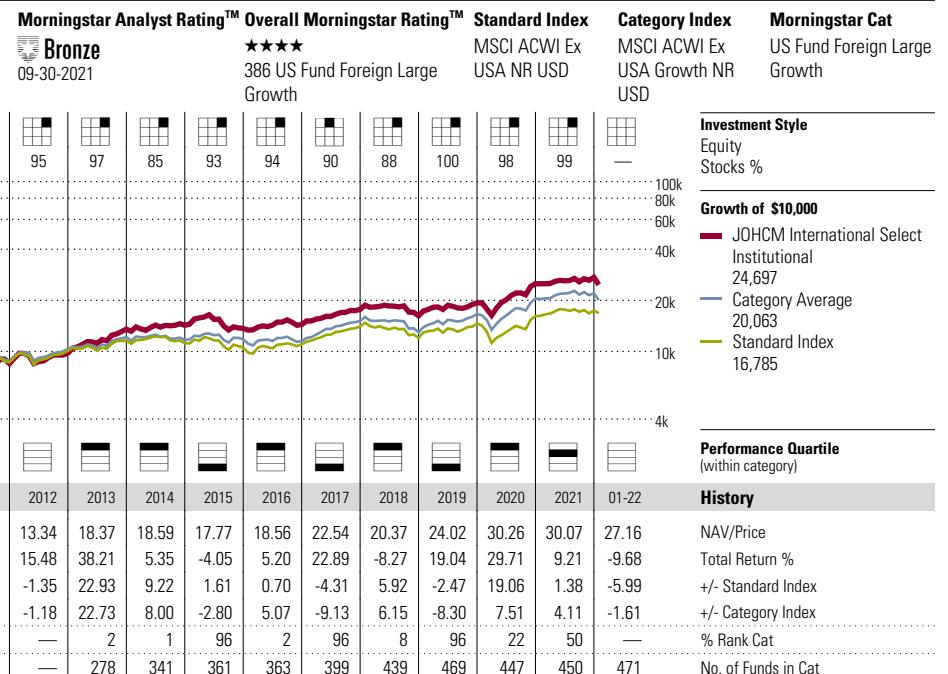
### Operations

Family:	JOHCM Funds
---------	-------------

Manager:	Multiple
----------	----------

Tenure:	12.6 Years
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Objective:	Foreign Stock
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Asset Allocation %	Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %
Cash	0.89	0.89	0.00	since 09-2021	49 Total Stocks	0 Total Fixed-Income, 53% Turnover Ratio	2.36
US Stocks	8.97	8.97	0.00	—	929,406	Linde PLC	2.34
Non-US Stocks	90.14	90.14	0.00	—	3 mil	Sony Group Corp	2.33
Bonds	0.00	0.00	0.00	—	1 mil	Koninklijke DSM NV	2.31
Other/Not Clsfd	0.00	0.00	0.00	—	2 mil	IHS Markit Ltd	2.30
Total	100.00	100.00	0.00	—	7 mil	MediaTek Inc	2.29

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	—	758,003	Accenture PLC Class A	2.29
Value	P/E Ratio TTM	18.6	1.27	0.75	—	5 mil	Recruit Holdings Co Ltd	2.25
Blend	P/C Ratio TTM	12.3	1.28	0.70	—	15 mil	ORIX Corp	2.24
Growth	P/B Ratio TTM	3.1	1.72	0.85	—	379,856	ASML Holding NV	2.22
Large	Geo Avg Mkt Cap \$mil	52049	1.13	0.86	—	2 mil	Aptiv PLC	2.21
Mid	Avg Eff Maturity	—	—	—	—	16 mil	CNH Industrial NV	2.20
Small	Avg Eff Duration	—	—	—	—	9 mil	Koninklijke Ahold Delhaize NV	2.20
High	Avg Wtd Coupon	—	—	—	—	3 mil	Advantest Corp	2.19
Med	Avg Wtd Price	—	—	—	—	360,542	Lonza Group Ltd	2.19
Low	—	—	—	—	—	35 mil	B&M European Value Retail SA	2.17

Sector Weightings	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>36.1</b>	<b>0.85</b>
Basic Materials	11.0	1.34
Consumer Cyclical	11.0	1.00
Financial Services	14.0	0.68
Real Estate	0.0	0.00
<b>Sensitive</b>	<b>45.0</b>	<b>1.21</b>
Communication Services	3.4	0.48
Energy	0.0	0.00
Industrials	13.6	1.16
Technology	28.0	2.16
<b>Defensive</b>	<b>18.9</b>	<b>0.92</b>
Consumer Defensive	6.4	0.77
Healthcare	10.8	1.18
Utilities	1.8	0.59

Base Currency:	USD	Purchase Constraints:	C
Ticker:	JOHIX	Incept:	07-29-2009
ISIN:	US46653M8495	Type:	MF
Minimum Initial Purchase:	\$1 mil	Total Assets:	\$12,708.48 mil

# DoubleLine Core Fixed Income I (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-3.29	5.41	1.84	1.72	5.60
2021	-2.08	1.86	0.14	-0.23	-0.34
2022	—	—	—	—	-1.51

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-1.79	3.37	3.09	3.28	4.54
Std 12-31-2021	-0.34	—	3.53	3.59	4.71
Total Return	-1.79	3.37	3.09	3.28	4.54
+/- Std Index	1.18	-0.29	0.01	0.70	—
+/- Cat Index	0.87	-0.53	-0.21	0.32	—
% Rank Cat	26	84	72	43	—
No. in Cat	602	569	496	352	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield 12-31-21	2.55	2.51

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 877-354-6311 or visit [www.doublelinefunds.com](http://www.doublelinefunds.com).

## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.40
12b1 Expense %	NA

Net Expense Ratio %	0.48
Gross Expense Ratio %	0.48

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
569 funds	496 funds	352 funds	—
Morningstar Rating™	2★	2★	3★
Morningstar Risk	Avg	Avg	Avg

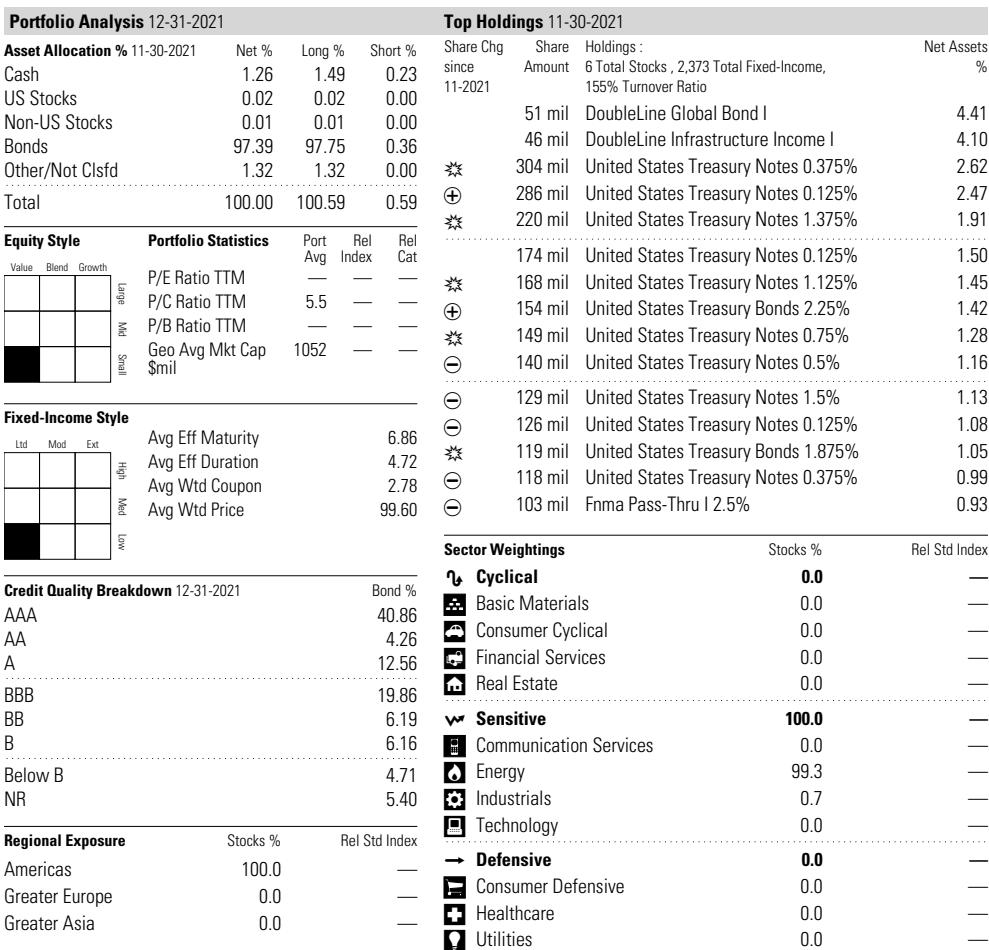
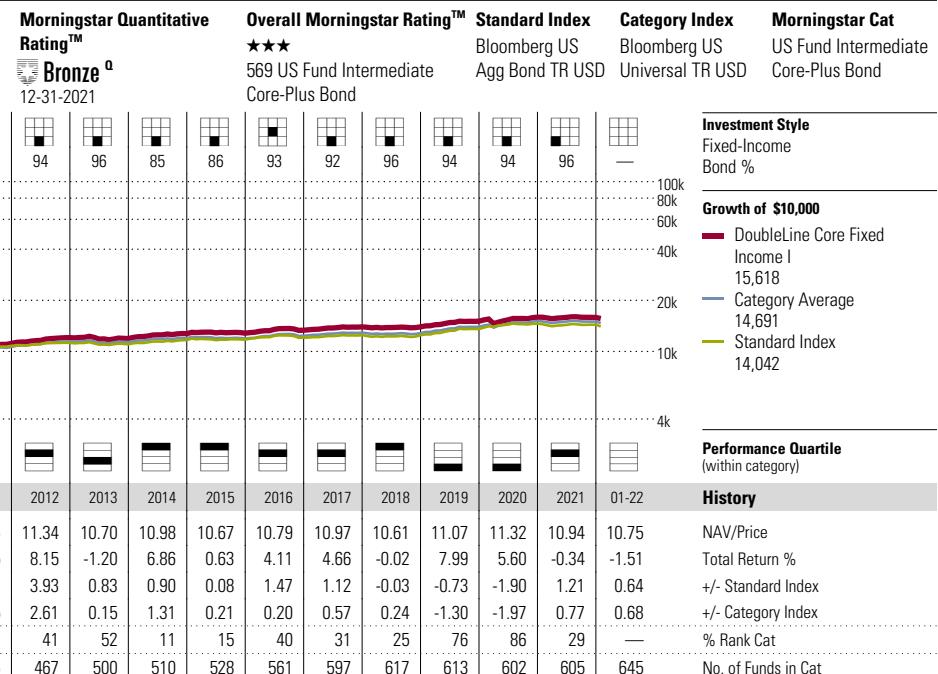
	3 Yr	5 Yr	10 Yr
Standard Deviation	4.87	3.95	3.46
Mean	3.37	3.09	3.28
Sharpe Ratio	0.55	0.52	0.78

MPT Statistics	Standard Index	Best Fit Index
	Morningstar US Corp Bd TR Hdg USD	
Alpha	0.03	-0.35
Beta	0.91	0.63
R-Squared	45.57	89.26

12-Month Yield	2.89%
Potential Cap Gains Exp	0.35%

### Operations

Family:	DoubleLine
Manager:	Multiple
Tenure:	11.7 Years
Objective:	Growth and Income
Base Currency:	USD



Ticker:	DBLFX	Purchase Constraints:	—
ISIN:	US2586203018	Incept:	06-01-2010
Minimum Initial Purchase:	\$100,000	Type:	MF
Min Auto Investment Plan:	\$100,000	Total Assets:	\$11,084.19 mil
Minimum IRA Purchase:	\$5,000		

# Jensen Quality Growth Y (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-17.21	17.35	9.61	11.46	18.70
2021	2.82	7.89	2.17	15.08	30.44
2022	—	—	—	—	-6.83

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	25.00	20.23	18.54	—	17.78
Std 12-31-2021	30.44	—	20.49	—	19.70
Total Return	25.00	20.23	18.54	15.73	17.78

+/- Std Index 1.71 -0.49 1.76 0.31 —

+/- Cat Index 4.69 -0.29 1.95 0.42 —

% Rank Cat 11 31 2 5

No. in Cat 1378 1236 1109 817

Subsidized Unsubsidized

7-day Yield — —

30-day SEC Yield — —

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-992-4144 or visit [www.jenseninvestment.com](http://www.jenseninvestment.com).

## Fees and Expenses

### Sales Charges

Front-End Load % NA

Deferred Load % NA

### Fund Expenses

Management Fees % 0.48

12b1 Expense % NA

Net Expense Ratio % 0.52

Gross Expense Ratio % 0.52

### Risk and Return Profile

3 Yr 5 Yr 10 Yr  
1,236 funds, 1,109 funds 817 funds

Morningstar Rating™ 4★ 5★ 5★

Morningstar Risk -Avg -Avg Low

Morningstar Return +Avg High High

3 Yr 5 Yr 10 Yr

Standard Deviation 16.63 14.77 12.55

Mean 20.23 18.54 15.73

Sharpe Ratio 1.15 1.16 1.18

MPT Statistics Standard Index Best Fit Index

Alpha 1.05 1.05

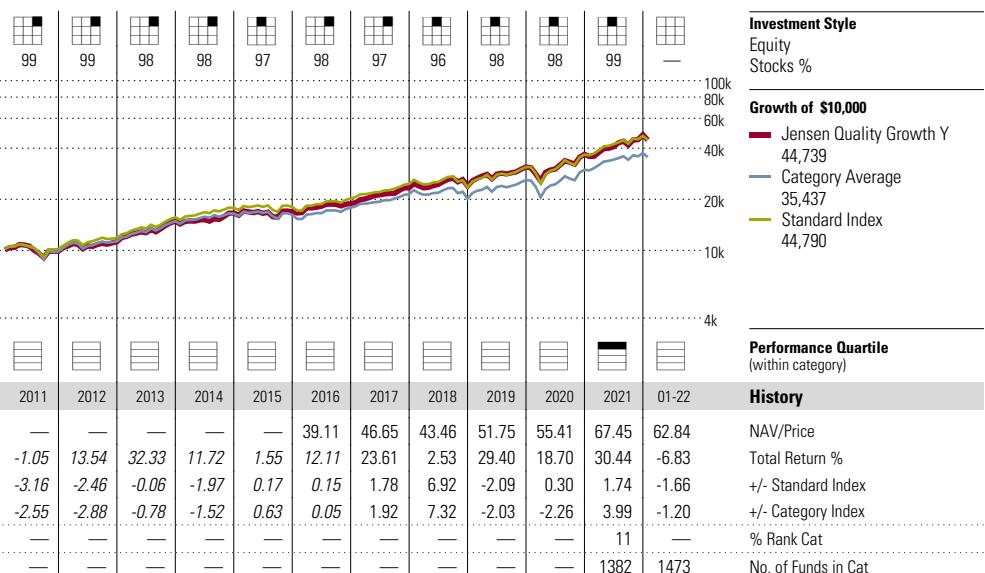
Beta 0.92 0.92

R-Squared 93.57 93.57

12-Month Yield —

Potential Cap Gains Exp 49.20%

Morningstar Analyst Rating™	Overall Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver 11-04-2021	★★★★★ 1,236 US Fund Large Blend	S&P 500 TR USD	Russell 1000 TR USD	US Fund Large Blend



Portfolio Analysis 12-31-2021					
Asset Allocation %	Net %	Long %	Short %	Share Chg	Holdings : Net Assets %
Cash	0.91	0.91	0.00	since 11-2021	29 Total Stocks , 0 Total Fixed-Income, 12% Turnover Ratio
US Stocks	99.09	99.09	0.00	⊖	2 mil Microsoft Corp
Non-US Stocks	0.00	0.00	0.00	262,000	Alphabet Inc Class A
Bonds	0.00	0.00	0.00	4 mil	PepsiCo Inc
Other/Not Clsfd	0.00	0.00	0.00	3 mil	Apple Inc
Total	100.00	100.00	0.00	3 mil	Johnson & Johnson
Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	
Value	P/E Ratio TTM	31.3	1.36	1.22	1 mil Accenture PLC Class A
Blend	P/C Ratio TTM	22.2	1.29	1.15	1 mil UnitedHealth Group Inc
Growth	P/B Ratio TTM	8.8	2.06	1.54	2 mil Stryker Corp
	Geo Avg Mkt Cap \$mil	260508	1.20	0.85	8 mil Pfizer Inc
					2 mil Becton, Dickinson and Co
					3 mil Nike Inc Class B
					3 mil 3M Co
					2 mil Automatic Data Processing Inc
				593,000	Intuit Inc
				4 mil	Cognizant Technology Solutions Cor
Fixed-Income Style	Avg Eff Maturity	—	—	—	
Ltd	Avg Eff Duration	—	—	—	
Mod	Avg Wtd Coupon	—	—	—	
Ext	Avg Wtd Price	—	—	—	
Sector Weightings	Stocks %	Rel Std Index			
↳ Cyclical	15.8	0.52			
Basic Materials	0.0	0.00			
Consumer Cyclical	11.7	1.00			
Financial Services	4.1	0.30			
Real Estate	0.0	0.00			
↳ Sensitive	50.9	1.07			
Communication Services	6.8	0.68			
Energy	0.0	0.00			
Industrials	15.4	1.88			
Technology	28.7	1.11			
↳ Defensive	33.3	1.50			
Consumer Defensive	10.4	1.60			
Healthcare	22.8	1.74			
Utilities	0.0	0.00			

Operations	
Family:	Jensen
Manager:	Multiple
Tenure:	18.1 Years
Objective:	Growth

Base Currency:	USD	Purchase Constraints:	A
Ticker:	JENYX	Incept:	09-30-2016
ISIN:	US4763134081	Type:	MF
Minimum Initial Purchase:	\$1 mil	Total Assets:	\$10,814.90 mil

# PIMCO Commodity Real Ret Strat Instl (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-28.37	11.96	11.70	12.54	0.82
2021	8.63	14.87	7.26	-0.27	33.48
2022	—	—	—	—	7.56
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	38.64	15.06	7.37	-1.52	4.16
Std 12-31-2021	33.48	—	5.99	-1.76	3.79
Total Return	38.64	15.06	7.37	-1.52	4.16
+/- Std Index	3.91	4.05	1.98	0.75	—
+/- Cat Index	3.91	4.05	1.98	0.75	—
% Rank Cat	31	7	20	44	—
No. in Cat	105	101	80	51	—
	Subsidized		Unsubsidized		
7-day Yield	—	—	—	—	—
30-day SEC Yield 12-31-21	8.21 <sup>1</sup>	—	8.11	—	—
1. Contractual waiver; Expires 07-31-2022	—	—	—	—	—

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

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## Fees and Expenses

### Sales Charges

### Front-End Load %

NA

### Deferred Load %

NA

### Fund Expenses

#### Management Fees %

0.74

#### 12b1 Expense %

NA

#### Net Expense Ratio %

0.82

#### Gross Expense Ratio %

0.99

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
101 funds	80 funds	51 funds	
Morningstar Rating™	4★	4★	3★
Morningstar Risk	+Avg	+Avg	+Avg
Morningstar Return	High	+Avg	Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation	18.76	15.92	15.50
Mean	15.06	7.37	-1.52
Sharpe Ratio	0.80	0.46	-0.06

MPT Statistics	Standard Index	Best Fit Index
	Bloomberg	Commodity TR USD

Alpha	2.47	2.47
Beta	1.15	1.15
R-Squared	95.87	95.87

12-Month Yield	21.14%
Potential Cap Gains Exp	-12.41%

## Operations

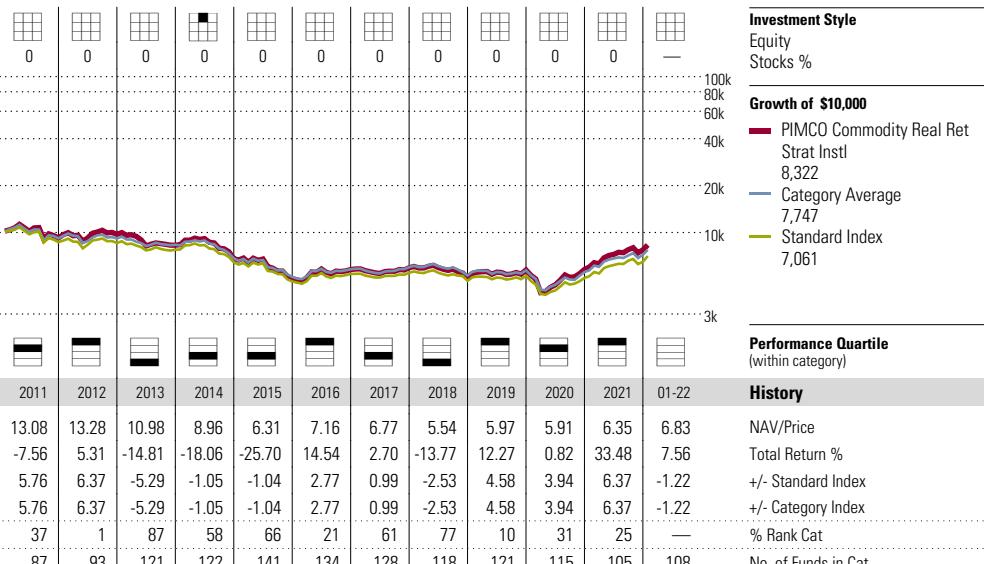
Family: PIMCO

Manager: Multiple

Tenure: 7.1 Years

Objective: Growth and Income

Under Review	Morningstar Analyst Rating™	Overall Morningstar Rating™	Standard Index
02-01-2022	★★★	101 US Fund Commodities Broad Basket	Bloomberg Commodity TR USD



Portfolio Analysis 09-30-2021									
Asset Allocation %		Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %	
Cash		-20.89	34.02	54.91			1 Total Stocks , 589 Total Fixed-Income, 260% Turnover Ratio		
US Stocks		0.01	0.01	0.00			3 mil Pimco Cayman Cmdty Fd Ltd Instl	19.96	
Non-US Stocks		-1.75	0.00	1.75			9,106 Euro Schatz Future Dec 21	-17.46	
Bonds		101.86	166.51	64.65			8,917 5 Year Treasury Note Future Dec 21	16.15	
Other/Not Clsfd		20.77	24.04	3.27			837 mil United States Treasury Notes 0.125%	13.36	
Total		100.00	224.58	124.58			3,097 2 Year Treasury Note Future Dec 21	10.05	
Equity Style		Portfolio Statistics		Port Avg	Rel Index	Rel Cat			
Value	Blend	Growth	P/E Ratio TTM	—	—	—	518 mil	United States Treasury Notes 0.125%	8.20
			P/C Ratio TTM	—	—	—	495 mil	United States Treasury Notes 0.125%	7.81
			P/B Ratio TTM	—	—	—	504 mil	United States Treasury Notes 0.625%	7.78
			Geo Avg Mkt Cap \$mil	—	—	—	425 mil	United States Treasury Notes 0.125%	6.35
				—	—	—	369 mil	United States Treasury Notes 0.5%	5.82
						—	2,692	10 Year Treasury Note Future Dec 21	-5.23
						—	241 mil	United States Treasury Notes 0.375%	3.74
						—	1,284	Euro Bund Future Dec 21	3.73
						—	244 mil	United States Treasury Notes 0.125%	3.72
						—	1,684	Ultra 10 Year US Treasury Note Fut	-3.61
Sector Weightings									
Cyclical		Stocks %							
Basic Materials								—	—
Consumer Cyclical								—	—
Financial Services								—	—
Real Estate								—	—
Sensitive		Stocks %							
Communication Services								—	—
Energy								—	—
Industrials								—	—
Technology								—	—
Defensive		Stocks %							
Consumer Defensive								—	—
Healthcare								—	—
Utilities								—	—



# SPDR® Blmbg Barclays Convert Secs ETF (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-13.56	26.88	14.94	21.66	53.37
2021	0.96	4.65	-1.46	-1.78	2.26
2022	—	—	—	—	-7.12
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 12-31-21	2.17	—	16.82	13.63	13.31
Std NAV 12-31-21	2.26	—	16.87	13.61	13.43
Mkt Total Ret	-7.41	18.04	14.39	12.08	12.54
NAV Total Ret	-7.22	18.22	14.47	12.09	12.68
+/- Std Index	-13.90	7.70	5.59	4.17	—
+/- Cat Index	-0.89	-1.87	-1.64	-1.57	—
% Rank Cat	86	42	35	20	—
No. in Cat	77	73	70	54	—

	Subsidized	Unsubsidized
30-day SEC Yield 2022-02-01	1.70	—

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 866-787-2257 or visit [www.spdrs.com](http://www.spdrs.com).

## Fees and Expenses

### Fund Expenses

Management Fees %	0.40
Annual Report Net Expense Ratio %	0.40
Annual Report Gross Expense Ratio %	0.40
12b1 Expense %	NA

## Risk and Return Profile

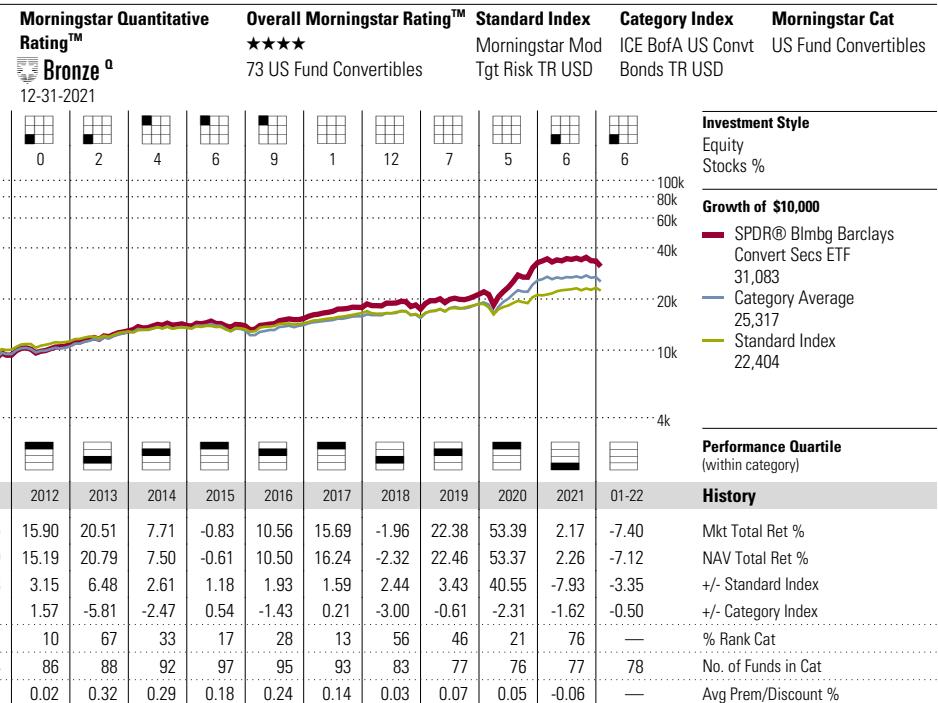
	3 Yr	5 Yr	10 Yr
73 funds	70 funds	54 funds	
Morningstar Rating™	3★	3★	4★
Morningstar Risk	High	High	High

Morningstar Return	Avg	Avg	+Avg
3 Yr	5 Yr	10 Yr	
Standard Deviation NAV	18.25	15.47	12.27
Standard Deviation MKT	18.13	15.43	12.27
Mean NAV	18.22	14.47	12.09
Mean MKT	18.04	14.39	12.08
Sharpe Ratio	0.97	0.88	0.95

MPT Statistics	Standard Index	Best Fit Index
NAV		ICE BofA US Convtr
		Bonds TR USD
Alpha	3.13	-1.32
Beta	1.48	0.99
R-Squared	78.87	98.48
12-Month Yield		2.12%
Potential Cap Gains Exp	—	—
Leveraged	No	—
Leverage Type	—	—
Leverage %	100.00	—
Primary Prospectus Benchmark	Bloomberg US Convtr	—
	Lq Bond TR USD	—

## Operations

Family:	SPDR State Street Global Advisors
Manager:	Multiple
Tenure:	12.8 Years
Total Assets:	\$5.332.8 mil
Shares Outstanding:	68.80 mil
Type:	ETF



# iShares Core S&P Mid-Cap ETF (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-29.70	24.04	4.77	24.36	13.61
2021	13.46	3.62	-1.79	7.98	24.68
2022	—	—	—	—	-7.21
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 12-31-21	24.71	—	13.03	14.13	10.18
Std NAV 12-31-21	24.68	—	13.03	14.12	10.18
Mkt Total Ret	13.97	14.52	10.96	12.56	9.76
NAV Total Ret	13.97	14.49	10.98	12.55	9.76
+/- Std Index	-9.32	-6.22	-5.80	-2.88	—
+/- Cat Index	0.12	-1.65	-1.83	-0.81	—
% Rank Cat	58	50	45	30	—
No. in Cat	390	359	313	208	—

	Subsidized	Unsubsidized
30-day SEC Yield	—	—

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-474-2737 or visit [www.ishares.com](http://www.ishares.com).

## Fees and Expenses

### Fund Expenses

Management Fees % 0.05

Annual Report Net Expense Ratio % 0.05

Annual Report Gross Expense Ratio % 0.05

12b1 Expense % NA

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
359 funds	313 funds	208 funds	
Morningstar Rating™	3★	3★	3★
Morningstar Risk	+Avg	+Avg	Avg

Morningstar Return Avg Avg +Avg

3 Yr 5 Yr 10 Yr

Standard Deviation NAV 22.13 19.53 16.04

Standard Deviation MKT 22.16 19.53 16.07

Mean NAV 14.49 10.98 12.55

Mean MKT 14.52 10.96 12.56

Sharpe Ratio 0.69 0.58 0.78

MPT Statistics Standard Index Best Fit Index

NAV Russell Mid Cap TR USD

Alpha -8.02 -1.96

Beta 1.18 1.05

R-Squared 87.97 97.36

12-Month Yield —

Potential Cap Gains Exp —

Leveraged No

Leverage Type —

Leverage % 100.00

Primary Prospectus Benchmark S&P MidCap 400 TR

## Operations

Family: iShares

Manager: Multiple

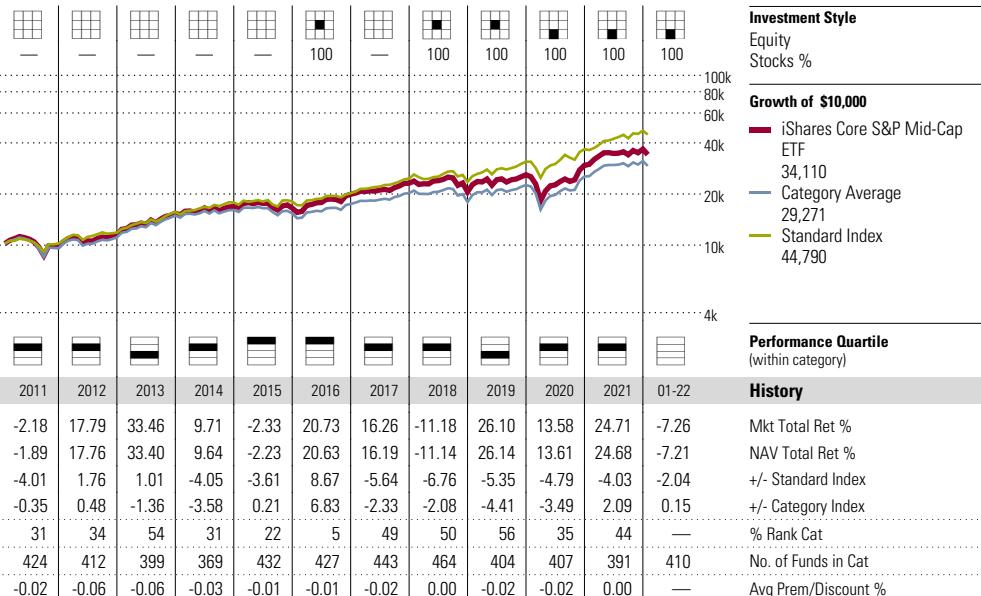
Tenure: 14.1 Years

Total Assets: \$64,469.6 mil

Shares Outstanding: 242.95 mil

Type: ETF

Morningstar Analyst Rating™	Overall Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver 08-03-2021	★★★ 359 US Fund Mid-Cap Blend	S&P 500 TR USD	Russell Mid Cap TR USD	US Fund Mid-Cap Blend



Portfolio Analysis 02-01-2022						Top Holdings 01-27-2022			
Asset Allocation % 01-27-2022			Net %	Long %	Short %	Share Chg since 01-2022	Share Amount	Holdings: 400 Total Stocks , 0 Total Fixed-Income, 20% Turnover Ratio	Net Assets %
Cash	0.26	0.50	0.24					2 mil Molina Healthcare Inc	0.73
US Stocks	99.11	99.11	0.00					3 mil Camden Property Trust	0.70
Non-US Stocks	0.63	0.63	0.00					6 mil Targa Resources Corp	0.60
Bonds	0.00	0.00	0.00					17 mil Medical Properties Trust Inc	0.60
Other/Not Clsfd	0.00	0.00	0.00					5 mil Builders FirstSource Inc	0.56
Total	100.00	100.24	0.24						
Equity Style			Portfolio Statistics		Port Avg	Rel Index	Rel Cat		
Value	Blend	Growth	P/E Ratio TTM	16.0	0.69	0.86		2 mil Nordson Corp	0.55
			P/C Ratio TTM	12.4	0.72	0.83		1 mil Jones Lang LaSalle Inc	0.55
			P/B Ratio TTM	2.5	0.57	7.54		5 mil Graco Inc	0.54
			Geo Avg Mkt Cap \$mil	6646	0.03	0.54		4 mil East West Bancorp Inc	0.53
								761,800 Fair Isaac Corp	0.53
Fixed-Income Style			Avg Eff Maturity		—				
Ltd	Mod	Ext	Avg Eff Duration		—				
			Avg Wtd Coupon		—				
			Avg Wtd Price		—				
Credit Quality Breakdown —						Bond %			
AAA									
AA									
A									
BBB									
BB									
B									
Below B									
NR									
Regional Exposure						Stocks %			Rel Std Index
Americas						99.4	1.00		
Greater Europe						0.3	0.31		
Greater Asia						0.4	1.86		
Sector Weightings						Stocks %			
↳ Cyclical								45.8	1.51
Basic Materials								5.3	2.40
Consumer Cyclical								15.4	1.31
Financial Services								14.8	1.08
Real Estate								10.3	3.87
↳ Sensitive								37.8	0.80
Communication Services								1.5	0.15
Energy								3.0	0.89
Industrials								18.8	2.30
Technology								14.5	0.56
→ Defensive								16.4	0.74
Consumer Defensive								3.9	0.60
Healthcare								9.5	0.73
Utilities								2.9	1.16

# Cohen & Steers Instl Realty Shares (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-22.80	12.85	2.95	8.64	-2.57
2021	8.56	11.98	1.07	15.96	42.47
2022	—	—	—	—	-7.33

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	32.91	15.35	11.99	11.24	12.22
Std 12-31-2021	42.47	—	13.75	12.73	12.66
Total Return	32.91	15.35	11.99	11.24	12.22
+/- Std Index	19.68	-0.07	-0.65	0.57	—
+/- Cat Index	-0.05	4.26	2.93	1.51	—
% Rank Cat	26	10	13	5	—
No. in Cat	253	233	200	149	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield	—	—

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-437-9912 or visit [www.cohenandsteers.com](http://www.cohenandsteers.com).

## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.75
12b1 Expense %	NA
Net Expense Ratio %	0.75
Gross Expense Ratio %	0.76

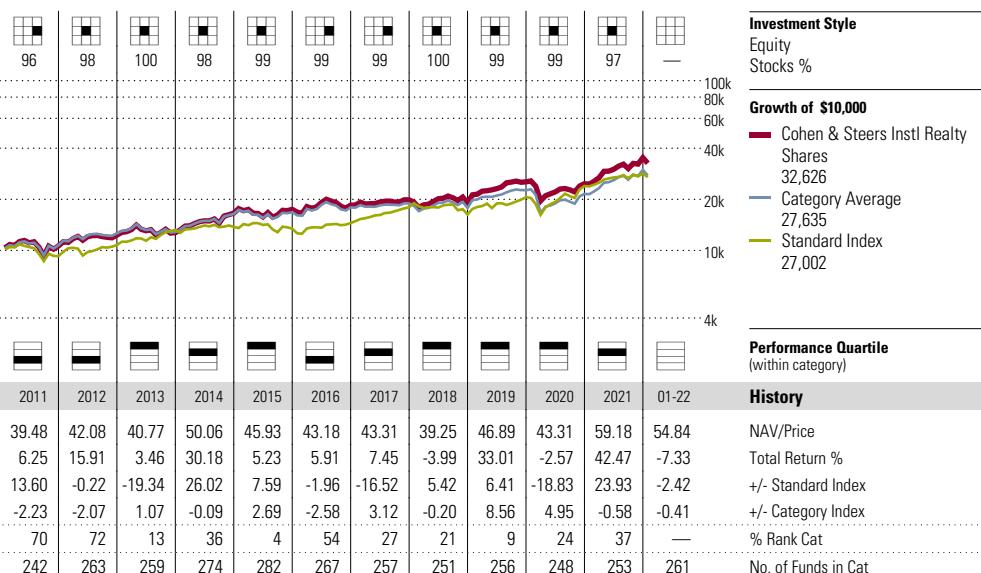
### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
	233 funds	200 funds	149 funds
Morningstar Rating™	4★	5★	5★
Morningstar Risk	-Avg	-Avg	-Avg
Morningstar Return	High	+Avg	High
	3 Yr	5 Yr	10 Yr
Standard Deviation	17.83	16.23	15.00
Mean	15.35	11.99	11.24
Sharpe Ratio	0.85	0.72	0.75
MPT Statistics	Standard Index	Best Fit Index	
		Morningstar US	
		Real Estate TR USD	
Alpha	2.78	4.02	
Beta	0.82	0.93	
R-Squared	62.44	97.02	
12-Month Yield	—	—	
Potential Cap Gains Exp		12.75%	

### Operations

Family:	Cohen & Steers
Manager:	Multiple
Tenure:	14.3 Years
Objective:	Specialty - Real Estate

Morningstar Analyst Rating™	Overall Morningstar Rating™	Standard Index
Bronze 05-24-2021	★★★★★ 233 US Fund Real Estate	MSCI ACWI NR USD



Portfolio Analysis 12-31-2021					
Asset Allocation %	Net %	Long %	Short %	Share Chg	Holdings : Net Assets %
Cash	2.04	2.04	0.00	since 09-2021	35 Total Stocks , 0 Total Fixed-Income, 66% Turnover Ratio
US Stocks	97.41	97.41	0.00	+	3 mil American Tower Corp
Non-US Stocks	0.00	0.00	0.00	+	2 mil Public Storage
Bonds	0.00	0.00	0.00	+	7 mil Duke Realty Corp
Other/Not Clsfd	0.55	0.55	0.00	+	3 mil Simon Property Group Inc
Total	100.00	100.00	0.00	+	4 mil Welltower Inc
Equity Style	Port Avg	Rel Index	Rel Cat		9 mil Healthpeak Properties Inc
Value Blend Growth	P/E Ratio TTM	37.3	1.98	1.00	2 mil Digital Realty Trust Inc
	P/C Ratio TTM	23.4	1.74	0.96	5 mil UDR Inc
	P/B Ratio TTM	3.9	1.38	1.19	6 mil Invitation Homes Inc
	Geo Avg Mkt Cap \$mil	33000	0.30	1.11	4 mil Realty Income Corp
Fixed-Income Style	Avg Eff Maturity	—	—	—	633,028 SBA Communications Corp
Ltd Mod Ext	Avg Eff Duration	—	—	+	698,253 Essex Property Trust Inc
High Med Low	Avg Wtd Coupon	—	—	+	1 mil Prologis Inc
	Avg Wtd Price	—	—	—	5 mil Weyerhaeuser Co
		—	—	—	216,937 Equinix Inc
Sector Weightings					
Cyclical	Stocks %	Rel Std Index			100.0 2.87
Basic Materials	0.0	0.00			
Consumer Cyclical	1.2	0.11			
Financial Services	0.0	0.00			
Real Estate	98.8	36.36			
Sensitive	0.0	0.00			
Communication Services	0.0	0.00			
Energy	0.0	0.00			
Industrials	0.0	0.00			
Technology	0.0	0.00			
Defensive	0.0	0.00			
Consumer Defensive	0.0	0.00			
Healthcare	0.0	0.00			
Utilities	0.0	0.00			

# Principal Real Estate Securities Inst (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-22.72	11.81	2.62	9.14	-3.23
2021	6.98	12.13	1.47	14.71	39.64
2022	—	—	—	—	-7.05
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	30.55	13.89	11.56	11.16	11.93
Std 12-31-2021	39.64	—	13.08	12.66	12.38
Total Return	30.55	13.89	11.56	11.16	11.93
+/- Std Index	17.32	-1.53	-1.08	0.50	—
+/- Cat Index	-2.41	2.80	2.50	1.44	—
% Rank Cat	52	29	17	5	—
No. in Cat	253	233	200	149	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield 12-31-21	1.02	1.02

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-222-5852 or visit [www.principalfunds.com](http://www.principalfunds.com).

## Fees and Expenses

Sales Charges	NA
Front-End Load %	NA
Deferred Load %	NA
Fund Expenses	
Management Fees %	0.80
12b1 Expense %	NA
Net Expense Ratio %	0.91
Gross Expense Ratio %	0.92

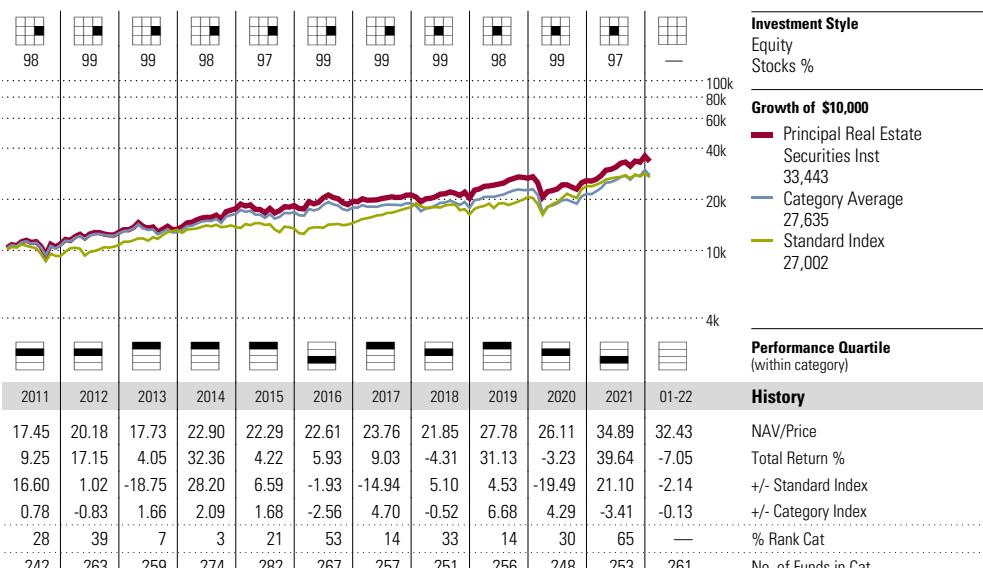
## Risk and Return Profile

	3 Yr	5 Yr	10 Yr
233 funds	200 funds	149 funds	
Morningstar Rating™	4★	4★	5★
Morningstar Risk	-Avg	-Avg	Avg
Morningstar Return	+Avg	+Avg	High
	3 Yr	5 Yr	10 Yr
Standard Deviation	17.86	16.09	15.05
Mean	13.89	11.56	11.16
Sharpe Ratio	0.78	0.70	0.74
MPT Statistics	Standard Index	Best Fit Index	
	Morningstar US		
	Real Estate TR USD		
Alpha	1.12	2.67	
Beta	0.85	0.93	
R-Squared	66.05	97.82	
12-Month Yield	1.88%		
Potential Cap Gains Exp	33.71%		

## Operations

Family:	Principal Funds
Manager:	Multiple
Tenure:	21.2 Years
Objective:	Specialty - Real Estate

Morningstar Analyst Rating™	Overall Morningstar Rating™	Standard Index
Bronze 11-08-2021	★★★★★ 233 US Fund Real Estate	MSCI ACWI NR USD



## Portfolio Analysis 12-31-2021

Asset Allocation %	Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %
Cash	2.49	2.54	0.05			46 Total Stocks , 65 Total Fixed-Income, 31% Turnover Ratio	
US Stocks	97.51	97.51	0.00			3 mil Prologis Inc	7.42
Non-US Stocks	0.00	0.00	0.00			535,036 Equinix Inc	6.03
Bonds	0.00	0.00	0.00			9 mil Invitation Homes Inc	5.48
Other/Not Clsfd	0.00	0.00	0.00			2 mil AvalonBay Communities Inc	5.14
Total	100.00	100.05	0.05			914,033 Essex Property Trust Inc	4.29

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
Value	P/E Ratio TTM	39.9	2.12	1.07
Blend	P/C Ratio TTM	23.5	1.75	0.97
Growth	P/B Ratio TTM	2.9	1.03	0.88
	Geo Avg Mkt Cap \$mil	20694	0.19	0.69

Fixed-Income Style	Avg Eff Maturity	
Ltd	Avg Eff Maturity	—
Mod	Avg Eff Duration	—
Ext	Avg Wtd Coupon	—
High	Avg Wtd Price	—
Med		
Low		

Sector Weightings	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>100.0</b>	<b>2.87</b>
Basic Materials	0.0	0.00
Consumer Cyclical	3.8	0.33
Financial Services	0.0	0.00
Real Estate	96.2	35.42
<b>Sensitive</b>	<b>0.0</b>	<b>0.00</b>
Communication Services	0.0	0.00
Energy	0.0	0.00
Industrials	0.0	0.00
Technology	0.0	0.00
<b>Defensive</b>	<b>0.0</b>	<b>0.00</b>
Consumer Defensive	0.0	0.00
Healthcare	0.0	0.00
Utilities	0.0	0.00

Base Currency:	USD	Purchase Constraints:	A
Ticker:	PIREX	Incept:	03-01-2001
ISIN:	US74253Q5808	Type:	MF
Minimum Initial Purchase:	\$0	Total Assets:	\$7,105.12 mil

# Pacific Funds Floating Rate Income I (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-10.39	6.84	3.03	3.00	1.60
2021	1.32	1.55	0.93	0.76	4.63
2022	—	—	—	—	0.40
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	4.15	4.14	3.73	4.41	4.37
Std 12-31-2021	4.63	—	3.82	4.56	4.37
Total Return	4.15	4.14	3.73	4.41	4.37
+/- Std Index	7.12	0.48	0.65	1.82	—
+/- Cat Index	-0.19	-0.73	-0.50	-0.10	—
% Rank Cat	21	27	20	9	—
No. in Cat	237	226	208	140	—
	Subsidized	Unsubsidized			
7-day Yield 02-02-22	4.01 <sup>1</sup>	—			
30-day SEC Yield 01-31-22	3.46 <sup>1</sup>	3.26			
1. Contractual waiver; Expires 07-31-2022					

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-722-2333 or visit [www.pacificlife.com](http://www.pacificlife.com).

## Fees and Expenses

### Sales Charges

Front-End Load %

NA

Deferred Load %

NA

### Fund Expenses

Management Fees %

0.65

12b1 Expense %

NA

Net Expense Ratio %

0.75

Gross Expense Ratio %

0.94

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
226 funds	208 funds	140 funds	

Morningstar Rating™

4★

4★

5★

Morningstar Risk

-Avg

-Avg

Low

Morningstar Return

+Avg

+Avg

High

Standard Deviation

6.71

5.45

4.18

Mean

4.14

3.73

4.41

Sharpe Ratio

0.52

0.50

0.91

### MPT Statistics

	Standard Index	Best Fit Index S&P/LSTA
--	----------------	-------------------------

Alpha

2.99

0.11

Beta

0.18

0.78

R-Squared

0.93

97.87

12-Month Yield

3.58%

Potential Cap Gains Exp

-5.75%

### Operations

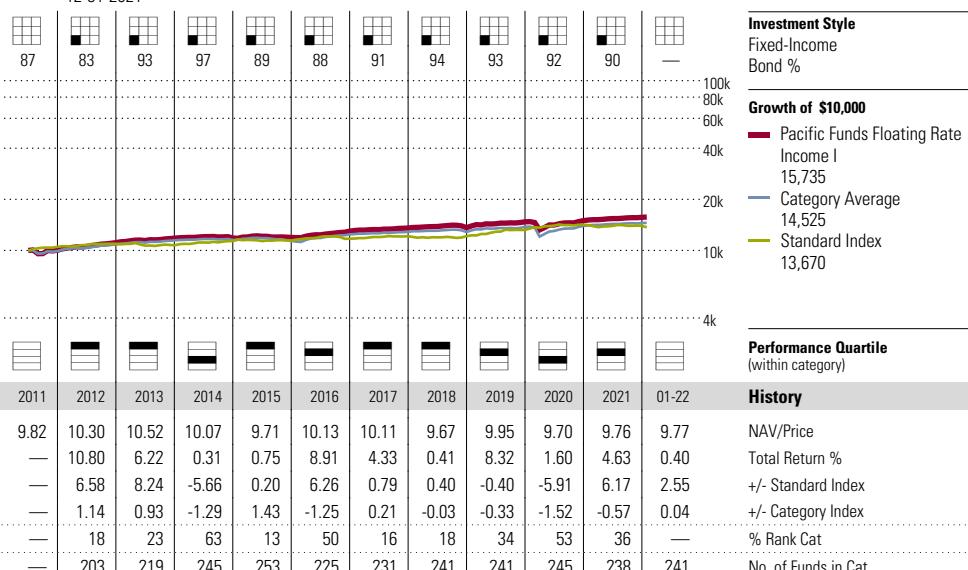
Family: Pacific Funds Series Trust

Manager: Multiple

Tenure: 10.7 Years

Objective: Income

Morningstar Quantitative Rating™	Overall Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Neutral <sup>a</sup> 12-31-2021	★★★★★ 226 US Fund Bank Loan	Bloomberg US Agg Bond TR USD	S&P/LSTA	US Fund Bank Loan



## Portfolio Analysis 12-31-2021

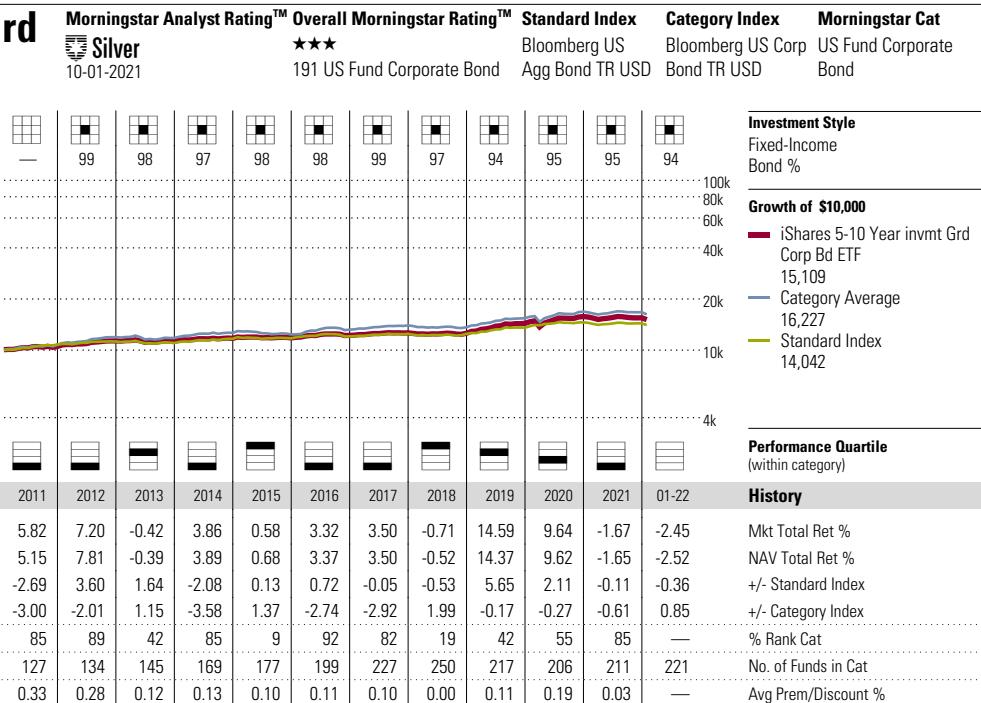
Asset Allocation %	Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %
Cash	9.78	9.78	0.00			1 Total Stocks , 1,893 Total Fixed-Income, 116% Turnover Ratio	
US Stocks	0.00	0.00	0.00	+	286 mil	BlackRock Liquidity T-Fund Instl	9.18
Non-US Stocks	0.00	0.00	0.00	-	55 mil	Petvet Care Centers Llc Term Loan	1.75
Bonds	90.21	90.21	0.00	-	52 mil	Pathway Vet Alliance Llc Term Loan	1.66
Other/Not Clsfd	0.01	0.01	0.00	*	45 mil	Hub International Ltd Term Loan B3	1.44
Total	100.00	100.00	0.00	-	44 mil	Allied Universal Holdco Term Loan B	1.40

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat			
Value	P/E Ratio TTM	—	—	—	43 mil	Packaging Coordinators Term Loan	1.39
Blend	P/C Ratio TTM	—	—	—	40 mil	Realpage Inc Term Loan	1.32
Growth	P/B Ratio TTM	—	—	—	40 mil	Golden Nugget Term Loan B	1.29
	Geo Avg Mkt Cap \$mil	—	—	—	40 mil	Finastra Usa Inc Term Loan B	1.27
		+	—	—	38 mil	Epicor Software Corp Term Loan	1.26
		—	+	—	39 mil	Traverse Midstream Partn Term Loan	1.24
		—	—	*	38 mil	Labl Inc Term Loan B	1.22
		—	—	*	38 mil	Bcp Raptor Ii Llc Term Loan B	1.22
		—	—	*	37 mil	Hunter Us Bidco Inc Term Loan B	1.20
		—	—	*	36 mil	Great Outdoors Group Llc Term Loan	1.15

Fixed-Income Style	Avg Eff Maturity	—					
Ltd	Avg Eff Duration	0.32	—				
Mod	Avg Wtd Coupon	4.71	—				
Ext	Avg Wtd Price	—	—				
		—	—				
Sector Weightings	Stocks %	—					
↳ Cyclical	—	—					
Basic Materials	—	—					
Consumer Cyclical	—	—					
Financial Services	—	—					
Real Estate	—	—					
↳ Sensitive	—	—					
Communication Services	—	—					
Energy	—	—					
Industrials	—	—					
Technology	—	—					
↳ Defensive	—	—					
Consumer Defensive	—	—					
Healthcare	—	—					
Utilities	—	—					

# iShares 5-10 Year Invmt Grd Corp Bd ETF (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-4.74	10.31	1.83	2.44	9.62
2021	-3.85	2.80	0.09	-0.58	-1.65
2022	—	—	—	—	-2.52
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 12-31-21	-1.67	—	4.89	3.88	4.59
Std NAV 12-31-21	-1.65	—	4.89	3.96	4.61
Mkt Total Ret	-3.29	5.41	4.28	3.51	4.40
NAV Total Ret	-3.49	5.45	4.28	3.49	4.40
+/- Std Index	-0.52	1.78	1.20	0.90	—
+/- Cat Index	-0.36	-0.10	-0.20	-0.62	—
% Rank Cat	80	53	56	78	—
No. in Cat	210	191	147	88	—



## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-474-2737 or visit [www.ishares.com](http://www.ishares.com).

## Fees and Expenses

### Fund Expenses

Management Fees % 0.06

Annual Report Net Expense Ratio % 0.06

Annual Report Gross Expense Ratio % 0.06

12b1 Expense % NA

## Risk and Return Profile

	3 Yr	5 Yr	10 Yr
191 funds	147 funds	88 funds	
Morningstar Rating™	3★	3★	2★
Morningstar Risk	Avg	Avg	-Avg
Morningstar Return	Avg	Avg	-Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation NAV	7.13	5.75	4.44
Standard Deviation MKT	7.23	5.85	4.51
Mean NAV	5.45	4.28	3.49
Mean MKT	5.41	4.28	3.51
Sharpe Ratio	0.68	0.57	0.66

MPT Statistics	Standard Index	Best Fit Index
NAV	Corp Bd TR Hdg USD	Morningstar US
Alpha	0.74	0.23
Beta	1.40	0.95
R-Squared	50.38	95.49

12-Month Yield 2.35%

Potential Cap Gains Exp —

Leveraged No

Leverage Type —

Leverage % 100.00

Primary Prospectus Benchmark	ICE BofA 5-10Y US Corp TR USD
------------------------------	-------------------------------

## Operations

Family:	iShares
Manager:	Multiple
Tenure:	10.6 Years
Total Assets:	\$11,278.0 mil
Shares Outstanding:	196.05 mil
Type:	ETF

## Portfolio Analysis 02-01-2022

Asset Allocation % 01-27-2022	Net %	Long %	Short %	Share Chg since 01-2022	Share Amount	Holdings : 0 Total Stocks , 2,570 Total Fixed-Income, 23% Turnover Ratio	Net Assets %
Cash	0.98	1.07	0.09	—	122 mil	BlackRock Cash Funds Treasury SL A	1.07
US Stocks	0.00	0.00	0.00	—	34 mil	T-Mobile USA, Inc. 3.875%	0.32
Non-US Stocks	0.00	0.00	0.00	—	21 mil	Deutsche Telekom International Fin	0.26
Bonds	94.44	94.44	0.00	—	28 mil	Bank of America Corporation 3.419%	0.26
Other/Not Clsfd	4.58	4.58	0.00	—	26 mil	AbbVie Inc. 3.2%	0.24
Total	100.00	100.09	0.09	—	15 mil	Orange S.A. 9%	0.21

## Equity Style

Value	Blend	Growth
Large	—	—
Mid	—	—
Small	—	—
Large	—	—
Mid	—	—
Small	—	—

## Portfolio Statistics

Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	—	—
P/C Ratio TTM	—	—
P/B Ratio TTM	—	—
Geo Avg Mkt Cap \$mil	—	—

## Fixed-Income Style

Ltd	Mod	Ext
High	—	—
Med	—	—
Low	—	—

## Avg Eff Maturity

7.42

Avg Eff Duration 6.41

Avg Wtd Coupon 3.36

Avg Wtd Price 103.69

## Credit Quality Breakdown

### Bond %

AAA	1.19
AA	5.21
A	37.42
BBB	55.86
BB	0.32
B	0.00
Below B	0.00
NR	0.00

## Regional Exposure

### Stocks %

Americas	—
Greater Europe	—
Greater Asia	—

### Rel Std Index

—	—
—	—
—	—
—	—
—	—

## Credit Quality Breakdown

### Bond %

IGIB	—
Incept: 01-05-2007	—
Expiration Date: —	—
Exchange: NASDAQ - ALL MARKETS	—
NAV: 57.73	—
Prem/Discount: 0.16	—

### Mkt Price:

57.82

Base Currency: USD

Legal Structure: Open Ended Investment Company

Backing Bank: BlackRock Fund Advisors

# Virtus KAR International Small-Mid CapR6 (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-25.51	23.26	10.18	23.04	24.46
2021	0.47	7.10	-1.19	-0.47	5.82
2022	—	—	—	—	-9.52
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-1.13	12.37	11.80	—	10.85
Std 12-31-2021	5.82	—	15.09	—	12.55
Total Return	-1.13	12.37	11.80	—	10.85
+/- Std Index	-4.75	3.28	3.77	—	—
+/- Cat Index	2.37	1.75	3.04	—	—
% Rank Cat	48	53	41	—	—
No. in Cat	135	128	116	—	—
	Subsidized	Unsubsidized			
7-day Yield 02-02-22	0.00	—			
30-day SEC Yield 12-31-21	0.57	0.00			

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-243-1574 or visit [www.virtus.com](http://www.virtus.com).

## Fees and Expenses

### Sales Charges

**Front-End Load %** **NA**

**Deferred Load %** **NA**

### Fund Expenses

Management Fees % **0.90**

12b1 Expense % **NA**

**Net Expense Ratio %** **1.06**

**Gross Expense Ratio %** **1.06**

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
128 funds	116 funds	74 funds	

**Morningstar Rating™** **3★**

**Morningstar Risk** **Avg**

**Morningstar Return** **Avg**

	3 Yr	5 Yr	10 Yr
Standard Deviation	20.81	17.47	—

Mean	12.37	11.80	—
------	-------	-------	---

Sharpe Ratio	0.63	0.67	—
--------------	------	------	---

**MPT Statistics**

Standard Index	Best Fit Index
----------------	----------------

MSCI World Ex USA	SMID Growth NR
-------------------	----------------

	USD
--	-----

Alpha	2.76	1.45
-------	------	------

Beta	1.11	1.05
------	------	------

R-Squared	80.07	90.45
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12-Month Yield	2.52%	
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Potential Cap Gains Exp	19.68%	
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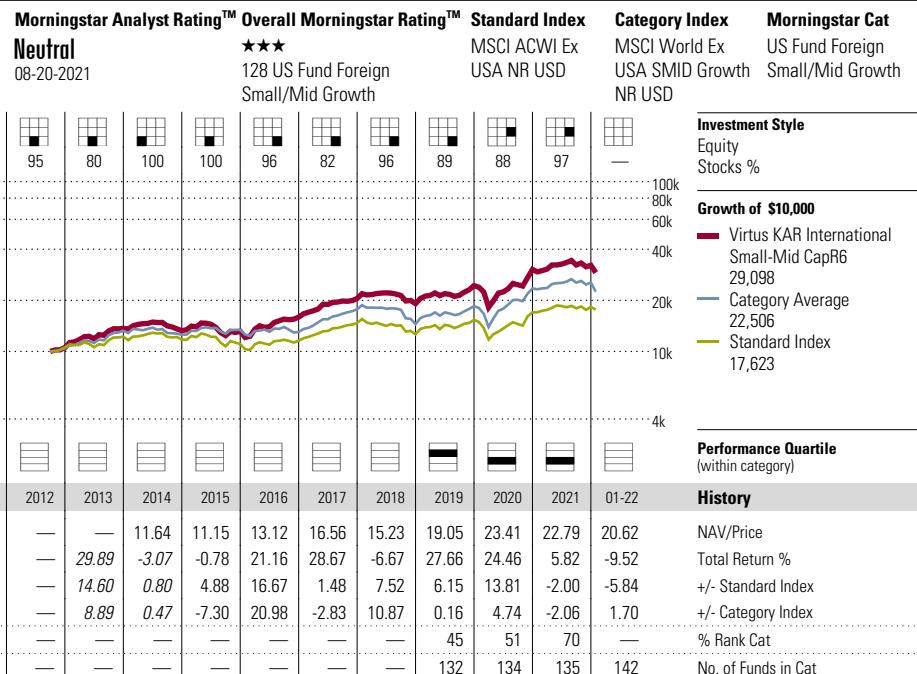
## Operations

Family: **Virtus**

Manager: **Multiple**

Tenure: **9.4 Years**

Objective: **Growth**



## Portfolio Analysis 09-30-2021

Asset Allocation %	Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %
Cash	1.10	3.44	2.35	since 06-2021	56 Total Stocks , 69 Total Fixed-Income, 23% Turnover Ratio		
US Stocks	0.00	0.00	0.00		3 mil HeadHunter Group PLC ADR		5.08
Non-US Stocks	98.90	98.90	0.00		12 mil Rightmove PLC		3.43
Bonds	0.00	0.00	0.00		13 mil Auto Trader Group PLC		3.34
Other/Not Clsfd	0.00	0.00	0.00		2 mil Voltronic Power Technology Corp		3.24
<b>Total</b>	<b>100.00</b>	<b>102.35</b>	<b>2.35</b>		8 mil Infrastruttura Wireless Italiane S		3.00
Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat			
Value	P/E Ratio TTM	24.0	1.63	0.84	6 mil Allegro.EU SA Ordinary Shares		2.96
Blend	P/C Ratio TTM	21.6	2.26	1.07	91 mil Dreyfus Government Cash Mgmt Instl		2.91
Growth	P/B Ratio TTM	4.0	2.18	0.98	840,571 Knorr-Bremse AG Bearer Shares		2.88
	Geo Avg Mkt Cap \$mil	2916	0.06	0.68	34 mil Baltic Classifieds Group PLC		2.81
					10 mil Haw Par Corp Ltd		2.78
					13 mil Marel hf		2.74
					3 mil CAE Inc		2.73
					557,686 Alten		2.61
					5 mil Mortgage Advice Bureau (Holdings)		2.57
					750,501 Kaspi.kz JSC GDR - 144A		2.56
Fixed-Income Style	Avg Eff Maturity	—			Sector Weightings	Stocks %	Rel Std Index
Ltd	Avg Eff Duration	—			● <b>Cyclical</b>	<b>31.4</b>	<b>0.74</b>
Mod	Avg Wtd Coupon	—			Basic Materials	1.3	0.15
Ext	Avg Wtd Price	—			Consumer Cyclical	14.8	1.33
					Financial Services	15.4	0.75
					Real Estate	0.0	0.00
Credit Quality Breakdown	Bond %			● <b>Sensitive</b>	<b>59.3</b>	<b>1.59</b>	
AAA	—			Communication Services	22.1	3.16	
AA	—			Energy	2.0	0.35	
A	—			Industrials	22.9	1.96	
BBB	—			Technology	12.3	0.95	
BB	—			→ <b>Defensive</b>	<b>9.3</b>	<b>0.45</b>	
B	—			Consumer Defensive	5.2	0.63	
Below B	—			Healthcare	4.1	0.44	
NR	—			Utilities	0.0	0.00	
Regional Exposure	Stocks %	Rel Std Index					
Americas	8.0	0.75					
Greater Europe	66.6	1.48					
Greater Asia	25.3	0.57					

# Hartford Schroders Emerging Mkts Eq SDR (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-23.18	19.36	11.23	21.39	23.80
2021	3.53	2.89	-8.06	-2.97	-4.97
2022	—	—	—	—	0.63
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-7.77	9.68	10.09	—	7.49
Std 12-31-2021	-4.97	—	11.42	—	7.49
Total Return	-7.77	9.68	10.09	5.62	7.49
+/- Std Index	-11.39	0.59	2.05	-0.56	—
+/- Cat Index	-0.54	2.49	1.79	1.46	—
% Rank Cat	70	29	20	26	—
No. in Cat	793	726	617	344	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield	—	—

## Performance Disclosure

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 888-843-7824 or visit [www.hartfordfunds.com](http://www.hartfordfunds.com).

## Fees and Expenses

Sales Charges	NA
Front-End Load %	NA
Deferred Load %	NA

## Fund Expenses

Management Fees %	1.01
12b1 Expense %	NA

Net Expense Ratio %	1.07
Gross Expense Ratio %	1.07

## Risk and Return Profile

	3 Yr	5 Yr	10 Yr
726 funds	617 funds	344 funds	—
Morningstar Rating™	4★	4★	4★
Morningstar Risk	-Avg	Avg	-Avg

Morningstar Return	+Avg	+Avg	+Avg
—	—	—	—

	3 Yr	5 Yr	10 Yr
Standard Deviation	18.06	16.65	15.73
Mean	9.68	10.09	5.62
Sharpe Ratio	0.56	0.60	0.39

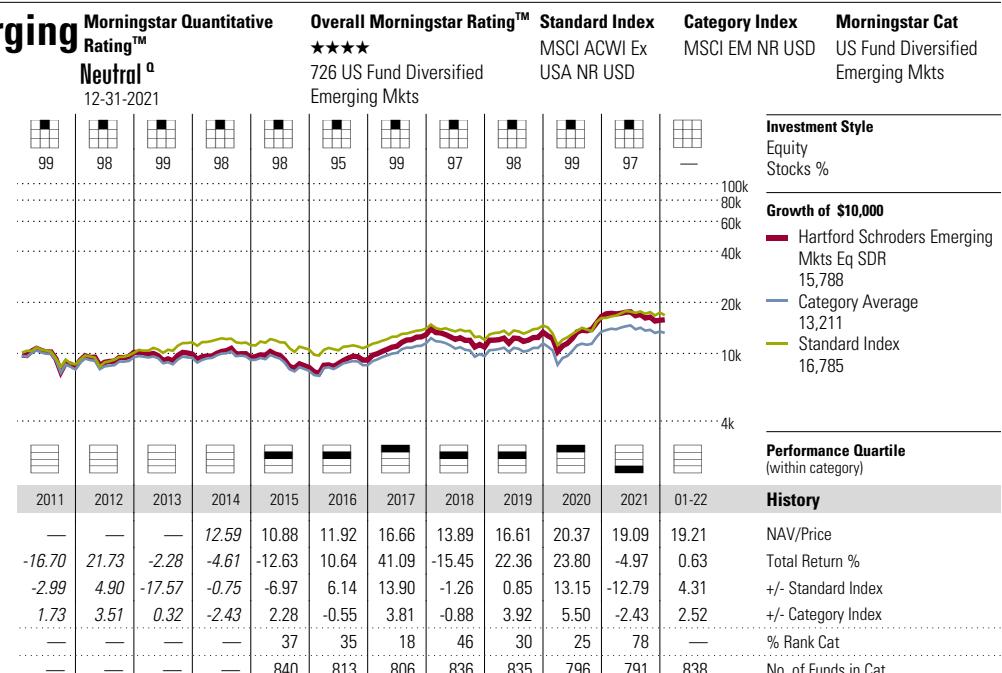
MPT Statistics	Standard Index	Best Fit Index
—	Morningstar EM	TME GR USD

Alpha	1.22	1.81
Beta	0.95	0.98
R-Squared	78.63	96.25

12-Month Yield	—
Potential Cap Gains Exp	19.95%

## Operations

Family:	Hartford Mutual Funds
Manager:	Multiple
Tenure:	15.9 Years
Objective:	Diversified Emerging Markets



# Artisan International Small-Mid Instl (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-21.33	26.86	13.23	17.96	33.31
2021	-1.36	7.40	-1.33	-0.54	3.97
2022	—	—	—	—	-10.40
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-5.51	15.83	12.92	—	10.26
Std 12-31-2021	3.97	—	16.07	—	12.56
Total Return	-5.51	15.83	12.92	9.99	10.26
+/- Std Index	-9.14	6.74	4.88	3.81	—
+/- Cat Index	-2.01	5.20	4.15	2.13	—
% Rank Cat	75	27	26	42	—
No. in Cat	135	128	116	74	—

Subsidized      Unsubsidized

7-day Yield	—	—
30-day SEC Yield	—	—

## Performance Disclosure

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## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	1.05
12b1 Expense %	NA

Net Expense Ratio %	1.10
Gross Expense Ratio %	1.10

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
128 funds	116 funds	74 funds	—
Morningstar Rating™	4★	4★	3★
Morningstar Risk	-Avg	-Avg	Avg

	3 Yr	5 Yr	10 Yr
Standard Deviation	19.06	17.35	15.72
Mean	15.83	12.92	9.99
Sharpe Ratio	0.83	0.73	0.65

MPT Statistics	Standard Index	Best Fit Index
	MSCI World Ex USA	

	USD
Alpha	6.31
Beta	1.01
R-Squared	80.07

12-Month Yield

Potential Cap Gains Exp

19.70%

### Operations

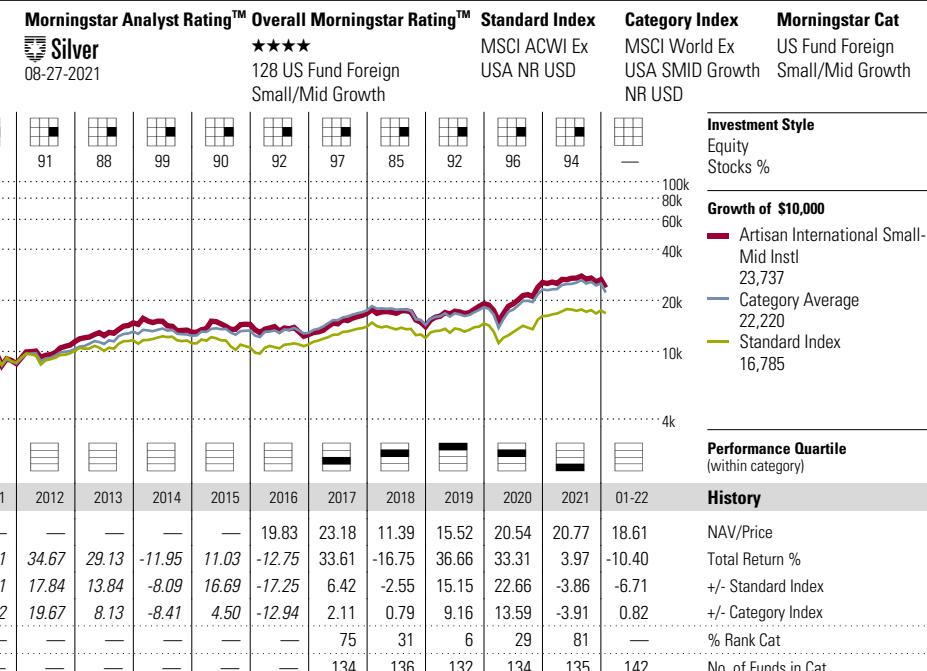
Family: Artisan Partners Limited

Partnership

Manager: Rezo Kanovich

Tenure: 3.3 Years

Objective: Growth



# iShares Core S&P Small-Cap ETF (USD)

Morningstar Analyst Rating™

Silver

06-22-2021

Overall Morningstar Rating™

★★★

597 US Fund Small Blend

Standard Index

S&amp;P 500 TR USD

Category Index

Russell 2000 TR USD

Morningstar Cat

US Fund Small Blend

## Performance 01-31-2022

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-32.65	21.98	3.13	31.29	11.24
2021	18.21	4.49	-2.86	5.60	26.69
2022	—	—	—	—	-7.28
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Std Mkt 12-31-21	26.60	—	12.37	14.47	10.73
Std NAV 12-31-21	26.69	—	12.40	14.47	10.73
Mkt Total Ret	10.64	13.22	10.83	12.90	10.30
NAV Total Ret	10.52	13.20	10.80	12.89	10.30
+/- Std Index	-12.77	-7.51	-5.98	-2.54	—
+/- Cat Index	11.72	1.21	1.11	1.56	—
% Rank Cat	57	47	25	6	—
No. in Cat	630	597	530	353	—

	Subsidized	Unsubsidized
30-day SEC Yield	—	—

## Performance Disclosure

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## Fees and Expenses

## Fund Expenses

Management Fees % 0.06

Annual Report Net Expense Ratio % 0.06

Annual Report Gross Expense Ratio % 0.06

12b1 Expense % NA

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
597 funds	530 funds	353 funds	
Morningstar Rating™	3★	4★	5★
Morningstar Risk	Avg	Avg	Avg

Morningstar Return Avg +Avg High

3 Yr 5 Yr 10 Yr

Standard Deviation NAV 23.87 21.32 17.80

Standard Deviation MKT 23.93 21.38 17.82

Mean NAV 13.20 10.80 12.89

Mean MKT 13.22 10.83 12.90

Sharpe Ratio 0.61 0.54 0.74

MPT Statistics Standard Index Best Fit Index

NAV Russell 2000 Value

Alpha -8.97 1.80

Beta 1.20 0.94

R-Squared 77.03 97.86

12-Month Yield —

Potential Cap Gains Exp —

Leveraged No

Leverage Type —

Leverage % 100.00

Primary Prospectus Benchmark S&P SmallCap 600

TR USD

Family: iShares

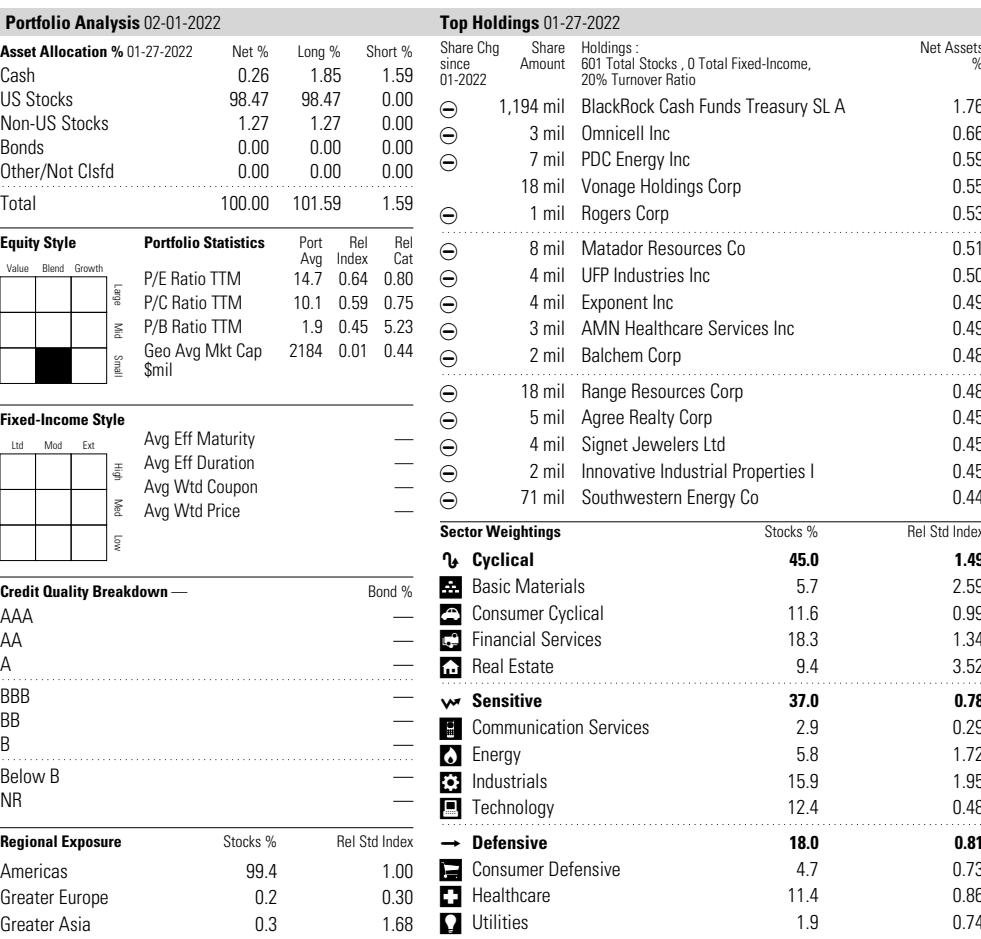
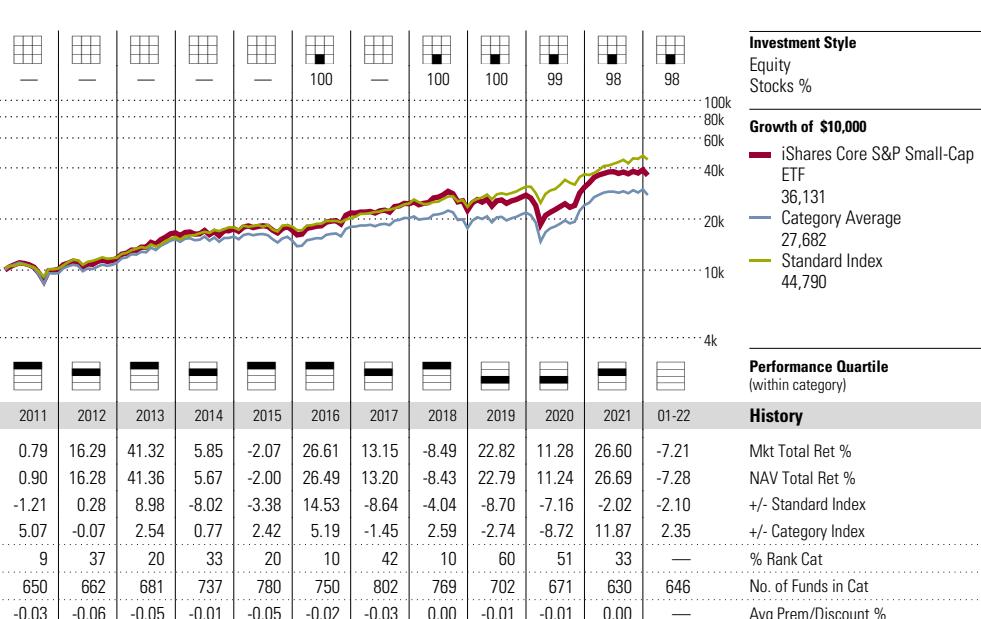
Manager: Multiple

Tenure: 14.1 Years

Total Assets: \$70,781.2 mil

Shares Outstanding: 661.10 mil

Type: ETF



## Portfolio Analysis 02-01-2022

Asset Allocation % 01-27-2022	Net %	Long %	Short %	Share Chg since 01-2022	Share Amount	Holdings: 601 Total Stocks, 0 Total Fixed-Income, 20% Turnover Ratio	Net Assets %
Cash	0.26	1.85	1.59	—	—	1,194 mil	BlackRock Cash Funds Treasury SL A 1.76
US Stocks	98.47	98.47	0.00	—	—	3 mil	Omnicell Inc 0.66
Non-US Stocks	1.27	1.27	0.00	—	—	7 mil	PDC Energy Inc 0.59
Bonds	0.00	0.00	0.00	—	—	18 mil	Vonage Holdings Corp 0.55
Other/Not Clsfd	0.00	0.00	0.00	—	—	1 mil	Rogers Corp 0.53
Total	100.00	101.59	1.59	—	—	—	—

Equity Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	Share Chg since 01-2022	Share Amount	Holdings: 8 mil	Net Assets %
Value	P/E Ratio TTM	14.7	0.64	0.80	—	—	Matador Resources Co 0.51	—
Blend	P/C Ratio TTM	10.1	0.59	0.75	—	—	UFP Industries Inc 0.50	—
Growth	P/B Ratio TTM	1.9	0.45	5.23	—	—	Exponent Inc 0.49	—
Large	Geo Avg Mkt Cap \$mil	2184	0.01	0.44	—	—	AMN Healthcare Services Inc 0.49	—
Mid					—	—	Balchem Corp 0.48	—
Small					—	—	Range Resources Corp 0.48	—

Fixed-Income Style	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	Share Chg since 01-2022	Share Amount	Holdings: 5 mil	Net Assets %
Ltd	Avg Eff Maturity	—	—	—	—	—	Agree Realty Corp 0.45	—
Mod	Avg Eff Duration	—	—	—	—	—	Signet Jewelers Ltd 0.45	—
Ext	Avg Wtd Coupon	—	—	—	—	—	Innovative Industrial Properties I 0.45	—
Hgh	Avg Wtd Price	—	—	—	—	—	Southwestern Energy Co 0.44	—
Med					—	—	—	—
Low					—	—	—	—

Credit Quality Breakdown —	Bond %	Stocks %	Rel Std Index
AAA	—	—	—
AA	—	—	—
A	—	—	—
BBB	—	—	—
BB	—	—	—
B	—	—	—
Below B	—	—	—
NR	—	—	—

Regional Exposure	Stocks %	Rel Std Index
Americas	99.4	1.00
Greater Europe	0.2	0.30
Greater Asia	0.3	1.68

**Operations**

Family: iShares  
 Manager: Multiple  
 Tenure: 14.1 Years  
 Total Assets: \$70,781.2 mil  
 Shares Outstanding: 661.10 mil  
 Type: ETF

Ticker: IJR  
 Incept: 05-22-2000  
 Expiration Date: —  
 Exchange: NYSE ARCA  
 NAV: 106.23  
 Prem/Discount: 0.02

Mkt Price: 106.25  
 Base Currency: USD  
 Legal Structure: Open Ended Investment Company  
 Backing Bank: BlackRock Fund Advisors

# MFS Emerging Markets Debt R6 (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-11.74	11.97	2.80	6.42	8.11
2021	-4.05	3.39	-0.59	-0.93	-2.30
2022	—	—	—	—	-2.56

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-4.05	4.10	3.86	4.34	5.98
Std 12-31-2021	-2.30	—	4.68	4.87	6.19
Total Return	-4.05	4.10	3.86	4.34	5.98
+/- Std Index	-1.08	0.43	0.78	1.76	—
+/- Cat Index	-0.51	0.67	0.11	-0.47	—
% Rank Cat	49	23	29	22	—
No. in Cat	276	262	220	76	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield 12-31-21	3.84	3.83

## Performance Disclosure

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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-225-2606 or visit <http://www.mfs.com>.

## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.67
12b1 Expense %	NA

Net Expense Ratio %	0.71
Gross Expense Ratio %	0.71

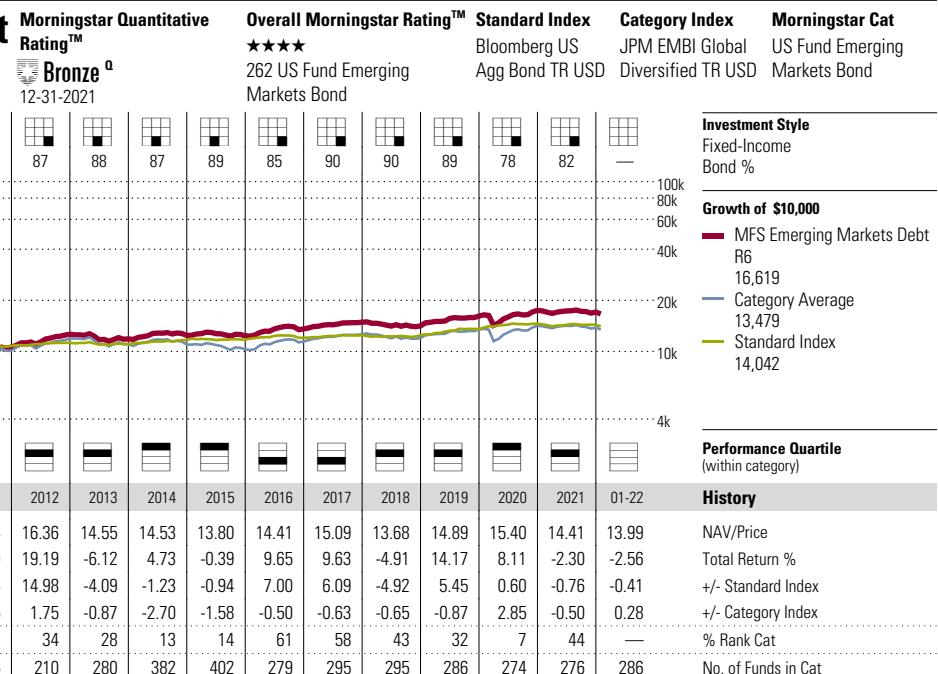
### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
262 funds	220 funds	76 funds	—
Morningstar Rating™	4★	4★	4★
Morningstar Risk	-Avg	-Avg	Low

	3 Yr	5 Yr	10 Yr
Standard Deviation	9.88	8.25	7.48
Mean	4.10	3.86	4.34
Sharpe Ratio	0.38	0.37	0.53

MPT Statistics	Standard Index	Best Fit Index
	Morningstar EM Bd	GR USD
Alpha	0.54	-0.30
Beta	1.11	1.13
R-Squared	16.16	98.04
12-Month Yield	4.58%	—
Potential Cap Gains Exp	—	-1.79%

Operations	MFS
Family:	MFS
Manager:	Multiple
Tenure:	23.6 Years
Objective:	Diversified Emerging Markets
Base Currency:	USD



Portfolio Analysis 12-31-2021											
Asset Allocation %			Net %	Long %	Short %	Share Chg	Share Amount	Holdings :	Net Assets %		
Cash	9.57	19.33	9.76	11-2021				2 Total Stocks , 570 Total Fixed-Income, 56% Turnover Ratio			
US Stocks	0.00	0.00	0.00					1,224 Euro Bund Future Mar 22			-2.54
Non-US Stocks	0.05	0.05	0.00					88 mil Petroleos Mexicanos 7.69%			0.93
Bonds	89.75	92.72	2.98					83 mil Oman (Sultanate Of) 6.75%			0.93
Other/Not Clsfd	0.63	0.63	0.00					78 mil Ukraine (Republic of) 1.258%			0.76
Total	100.00	112.74	12.74					67 mil Dominican Republic 5.875%			0.71
Equity Style			Portfolio Statistics			Port Avg	Rel Index	Rel Cat			
Value	Blend	Growth	P/E Ratio TTM	0.3	—	0.03			0.69		
			P/C Ratio TTM	0.6	—	0.03			57 mil State Grid Overseas Investments (B		
			P/B Ratio TTM	0.4	—	0.36			290 Ultra US Treasury Bond Future Mar		
			Geo Avg Mkt Cap Smil	194	—	0.02			56 mil Petroleos Mexicanos 6.7%		
									82 mil Ecuador (Republic Of) 1%		
									45 mil Southern Gas Corridor 6.875%		
									43 mil Indonesia (Republic of) 4.625%		
									388 10 Year Treasury Note Future Mar 22		
									54 mil Petroleos Mexicanos 6.95%		
									45 mil Petroleos Mexicanos 6.49%		
Sector Weightings											
Cyclical			Stocks %			Rel Std Index			100.0		
Basic Materials									100.0		
Consumer Cyclical									0.0		
Financial Services									0.0		
Real Estate									0.0		
Sensitive			0.0								
Communication Services									0.0		
Energy									0.0		
Industrials									0.0		
Technology									0.0		
Defensive			0.0								
Consumer Defensive									0.0		
Healthcare									0.0		
Utilities									0.0		

# MainStay MacKay High Yield Corp Bd R6 (USD)

Performance 01-31-2022					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2020	-12.55	9.56	4.65	5.00	5.28
2021	1.18	2.80	0.99	0.29	5.35
2022	—	—	—	—	-2.05

Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	2.72	5.85	5.02	—	5.28
Std 12-31-2021	5.35	—	5.72	—	5.59
Total Return	2.72	5.85	5.02	5.75	5.28
+/- Std Index	5.69	2.18	1.95	3.16	—
+/- Cat Index	0.65	-0.12	-0.20	-0.37	—
% Rank Cat	34	34	28	24	—
No. in Cat	678	632	562	373	—

	Subsidized	Unsubsidized
7-day Yield	—	—
30-day SEC Yield 12-31-21	3.53	3.53

## Performance Disclosure

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## Fees and Expenses

### Sales Charges

Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.54
12b1 Expense %	NA

Net Expense Ratio %	0.60
---------------------	------

Gross Expense Ratio %	0.60
-----------------------	------

### Risk and Return Profile

	3 Yr	5 Yr	10 Yr
632 funds	562 funds	373 funds	—

Morningstar Rating™	4★	4★	4★
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Morningstar Risk	Avg	Avg	-Avg
------------------	-----	-----	------

Morningstar Return	Avg	+Avg	+Avg
--------------------	-----	------	------

	3 Yr	5 Yr	10 Yr
--	------	------	-------

Standard Deviation	8.46	6.88	5.81
--------------------	------	------	------

Mean	5.85	5.02	5.75
------	------	------	------

Sharpe Ratio	0.62	0.59	0.89
--------------	------	------	------

MPT Statistics	Standard Index	Best Fit Index
		Morningstar US HY Bd TR USD

Alpha	3.37	0.07
-------	------	------

Beta	0.66	0.92
------	------	------

R-Squared	7.76	98.98
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12-Month Yield	5.56%	—
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Potential Cap Gains Exp	1.54%	—
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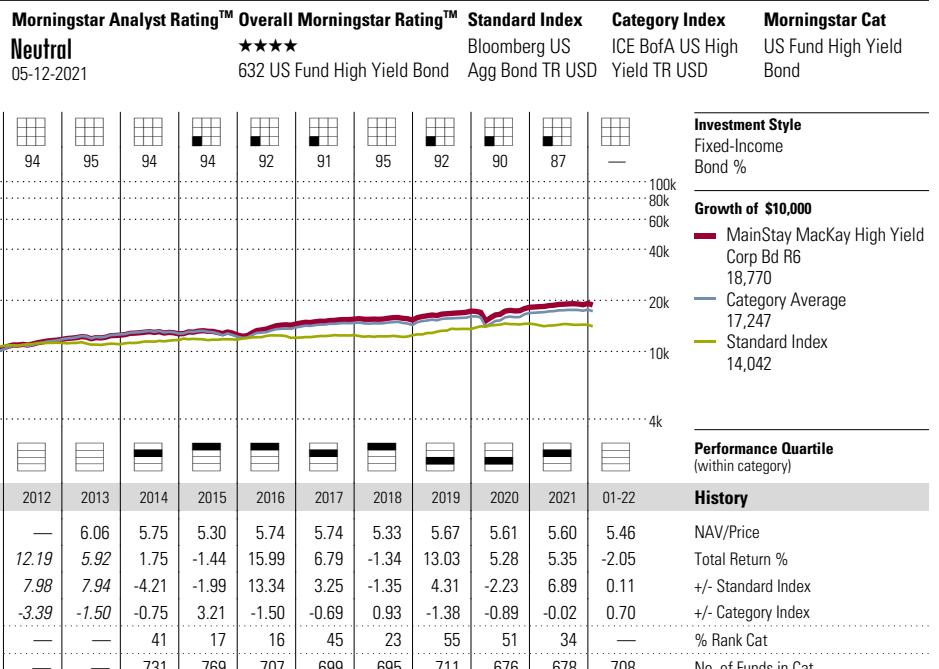
## Operations

Family:	New York Life Investment Management LLC
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Manager:	Andrew Susser
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Tenure:	9.0 Years
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Objective:	Corporate Bond - High Yield
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Portfolio Analysis 12-31-2021				Top Holdings 09-30-2021				
Asset Allocation %		Net %	Long %	Short %	Share Chg	Share since 11-2021	Holdings : 216 Total Stocks , 775 Total Fixed-Income, 40% Turnover Ratio	Net Assets %
Cash	7.46	7.46	0.00	0.00	—	—	216 Total Stocks , 775 Total Fixed-Income, 40% Turnover Ratio	—
US Stocks	2.07	2.07	0.00	0.00	—	—	105 mil Sprint Capital Corporation 6.875%	1.10
Non-US Stocks	0.07	0.07	0.00	0.00	—	—	1 mil Gulfport Energy Corp Ordinary Shar	0.77
Bonds	87.01	87.01	0.00	0.00	—	—	85 mil Fs Energy & Power Fund 7.5%	0.72
Other/Not Clsfld	3.38	3.38	0.00	0.00	—	—	81 mil Talos Prodnt Inc 12%	0.71
Total	100.00	100.00	0.00	0.00	—	—	80 mil TransDigm, Inc. 6.25%	0.69
Equity Style	Portfolio Statistics		Port Avg	Rel Index	Rel Cat	—	79 mil Great Outdoors Group, Llc-Term B-1	0.65
Value	Blend	Growth	P/E Ratio TTM	—	—	—	70 mil Meredith Corp 6.875%	0.59
—	—	—	P/C Ratio TTM	9.7	—	—	64 mil MGM Growth Properties Operating Pa	0.57
—	—	—	P/B Ratio TTM	—	—	—	68 mil Grinding Media Inc. and MC Grindin	0.57
—	—	—	Geo Avg Mkt Cap \$mil	2093	—	—	64 mil Nmg Holding Company Incorporated 7	0.56
Fixed-Income Style	Avg Eff Maturity		5.69	—	—	—	45 mil HCA Inc. 7.5%	0.53
Ltd	Mod	Ext	Avg Eff Duration	3.21	—	—	61 mil Carnival Corporation 5.75%	0.52
—	—	—	Avg Wtd Coupon	5.76	—	—	55 mil Connect Finco SARL/Connect US Finc	0.47
—	—	—	Avg Wtd Price	105.23	—	—	54 mil LCPR Senior Secured Financing Desi	0.47
—	—	—	—	—	—	—	45 mil Smurfit Capital Funding plc 7.5%	0.46
Sector Weightings			Stocks %	—	Rel Std Index	—	—	—
↳ <b>Cyclical</b>			13.2	—	—	—	—	—
Basic Materials			12.3	—	—	—	—	—
Consumer Cyclical			0.1	—	—	—	—	—
Financial Services			0.7	—	—	—	—	—
Real Estate			0.1	—	—	—	—	—
↳ <b>Sensitive</b>			85.7	—	—	—	—	—
Communication Services			0.1	—	—	—	—	—
Energy			67.4	—	—	—	—	—
Industrials			18.0	—	—	—	—	—
Technology			0.3	—	—	—	—	—
→ <b>Defensive</b>			1.1	—	—	—	—	—
Consumer Defensive			0.3	—	—	—	—	—
Healthcare			0.6	—	—	—	—	—
Utilities			0.2	—	—	—	—	—
Regional Exposure	Stocks %		—	Rel Std Index	—	—	—	—
Americas	100.0		—	—	—	—	—	—
Greater Europe	0.0		—	—	—	—	—	—
Greater Asia	0.0		—	—	—	—	—	—
Minimum Initial Purchase: \$0	Purchase Constraints: A		—	—	—	—	—	—
	Incept: 06-17-2013		—	—	—	—	—	—
	Type: MF		—	—	—	—	—	—
	Total Assets: \$11,835.09 mil		—	—	—	—	—	—

# Standardized and Tax Adjusted Returns Disclosure Statement

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end please visit <http://advisor.morningstar.com/familyinfo.asp>.

Standardized Returns assume reinvestment of dividends and capital gains. They depict performance without adjusting for the effects of taxation, but are adjusted to reflect sales charges and ongoing fund expenses.

If adjusted for taxation, the performance quoted would be significantly reduced. For variable annuities, additional expenses will be taken into account, including M&E risk charges, fund-level expenses such as management fees and operating fees, contract-level administration fees, and charges such as surrender, contract, and sales charges. The maximum redemption fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase.

After-tax returns are calculated using the highest individual federal marginal income tax rates, and do not reflect the impact of state and local taxes. Actual after-tax returns depend on the investor's tax situation and may differ from those shown. The after-tax returns shown are not relevant to investors who hold their fund shares through tax-deferred arrangements such as 401(k) plans or an IRA. After-tax returns exclude the effects of either the alternative minimum tax or phase-out of certain tax credits. Any taxes due are as of the time the distributions are made, and the taxable amount and tax character of each distribution are as specified by the fund on the dividend declaration date. Due to foreign tax credits or realized capital losses, after-tax returns may be greater than before-tax returns. After-tax returns for exchange-traded funds are based on net asset value.

## Money Market Fund Disclosures

If money market fund(s) are included in the Standardized Returns table below, each money market fund's name will be followed by a superscripted letter that links it to the applicable disclosure below:

### **Institutional Money Market Funds (designated by an "S"):**

*You could lose money by investing in the fund. Because the share price of the fund will fluctuate, when you sell your shares they may be worth more or less than what you originally paid for them. The fund may impose a fee upon sale of your shares or may temporarily suspend your ability to sell shares if the fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.*

### **Government Money Market Funds that have chosen to rely on the ability to impose liquidity fees and suspend redemptions (designated by an "L") and**

### **Retail Money Market Funds (designated by an "L"):**

*You could lose money by investing in the fund. Although the fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. The fund may impose a fee upon sale of your shares or may temporarily suspend your ability to sell shares if the fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.*

### **Government Money Market Funds that have chosen not to rely on the ability to impose liquidity fees and suspend redemptions (designated by an "N"):**

*You could lose money by investing in the fund. Although the fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.*

Annualized returns 12-31-2021													
Standardized Returns (%)	7-day Yield Subsidized as of date	7-day Yield Unsubsidized as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio %	Max Redemption %	
Artisan International Small-Mid Instl	—	—	3.97	16.07	—	12.56	04-12-2016	NA	NA	1.10	1.10	NA	
Baird Core Plus Bond Inst	—	—	-1.02	4.30	3.93	5.61	09-29-2000	NA	NA	0.30	0.30	NA	
Cohen & Steers Instl Realty Shares	—	—	42.47	13.75	12.73	12.66	02-14-2000	NA	NA	0.75 <sup>1</sup>	0.76	NA	
DoubleLine Core Fixed Income I	—	—	-0.34	3.53	3.59	4.71	06-01-2010	NA	NA	0.48	0.48	NA	
Harding Loevner International Eq Instl	—	—	8.51	12.82	9.83	6.94	05-11-1994	NA	NA	0.81	0.81	NA	
Hartford Schroders Emerging Mkts Eq SDR	—	—	-4.97	11.42	—	7.49	12-30-2014	NA	NA	1.07	1.07	NA	

Annualized returns 12-31-2021													
Standardized Returns (%)	7-day Yield Subsidized as of date	7-day Yield Unsubsidized as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio %	Max Redemption %	
iShares 5-10 Year invmt Grd Corp Bd ETF-NAV	—	—	-1.65	4.89	3.96	4.61	01-05-2007	NA	NA	0.06	0.06	NA	
iShares 5-10 Year invmt Grd Corp Bd ETF-Market	—	—	-1.67	4.89	3.88	4.59	01-05-2007	NA	NA	0.06	0.06	NA	
iShares Core S&P Mid-Cap ETF-NAV	—	—	24.68	13.03	14.12	10.18	05-22-2000	NA	NA	0.05	0.05	NA	
iShares Core S&P Mid-Cap ETF-Market	—	—	24.71	13.03	14.13	10.18	05-22-2000	NA	NA	0.05	0.05	NA	
iShares Core S&P Small-Cap ETF-NAV	—	—	26.69	12.40	14.47	10.73	05-22-2000	NA	NA	0.06	0.06	NA	
iShares Core S&P Small-Cap ETF-Market	—	—	26.60	12.37	14.47	10.73	05-22-2000	NA	NA	0.06	0.06	NA	
iShares Preferred&Income Securities ETF-NAV	—	—	7.09	6.63	6.89	4.84	03-26-2007	NA	NA	0.46	0.46	NA	
iShares Preferred&Income Securities ETF-Market	—	—	7.14	6.68	6.90	4.84	03-26-2007	NA	NA	0.46	0.46	NA	
Jensen Quality Growth Y	—	—	30.44	20.49	—	19.70	09-30-2016	NA	NA	0.52	0.52	NA	
JOHCM International Select Institutional	—	—	9.21	13.71	12.43	11.37	07-29-2009	NA	NA	0.98	0.98	NA	
MainStay MacKay High Yield Corp Bd R6	—	—	5.35	5.72	—	5.59	06-17-2013	NA	NA	0.60	0.60	NA	
MFS Emerging Markets Debt R6	—	—	-2.30	4.68	4.87	6.19	05-01-2006	NA	NA	0.71	0.71	NA	
Pacific Funds Floating Rate Income I	—	—	4.63	3.82	4.56	4.37	06-30-2011	NA	NA	0.75 <sup>2</sup>	0.94	NA	
PGIM Total Return Bond R6	—	—	-1.15	4.72	4.44	4.80	12-27-2010	NA	NA	0.39 <sup>3</sup>	0.40	NA	
PIMCO Commodity Real Ret Strat Instl	—	—	33.48	5.99	-1.76	3.79	06-28-2002	NA	NA	0.82 <sup>4</sup>	0.99	NA	
Principal Real Estate Securities Inst	—	—	39.64	13.08	12.66	12.38	03-01-2001	NA	NA	0.91 <sup>5</sup>	0.92	NA	
SPDR® Blmbg Barclays Convert Secs ETF-NAV	—	—	2.26	16.87	13.61	13.43	04-14-2009	NA	NA	0.40	0.40	NA	
SPDR® Blmbg Barclays Convert Secs ETF-Market	—	—	2.17	16.82	13.63	13.31	04-14-2009	NA	NA	0.40	0.40	NA	
Vanguard Total International Stock ETF-NAV	—	—	8.69	9.93	7.70	5.31	01-26-2011	NA	NA	0.08	0.08	NA	
Vanguard Total International Stock ETF-Market	—	—	9.00	9.88	7.62	5.43	01-26-2011	NA	NA	0.08	0.08	NA	
Vanguard Total Stock Market ETF-NAV	—	—	25.72	17.98	16.29	9.04	05-24-2001	NA	NA	0.03	0.03	NA	
Vanguard Total Stock Market ETF-Market	—	—	25.67	17.96	16.29	9.20	05-24-2001	NA	NA	0.03	0.03	NA	
Virtus KAR International Small-Mid CapR6	—	—	5.82	15.09	—	12.55	11-12-2014	NA	NA	1.06	1.06	NA	
Voya Intermediate Bond R6	—	—	-0.99	4.28	—	3.74	05-31-2013	NA	NA	0.30	0.30	NA	
<b>Bloomberg Commodity TR USD</b>	<b>27.11</b>	<b>3.66</b>	<b>-2.85</b>				<b>— 12-31-1990</b>						
<b>Bloomberg US Agg Bond TR USD</b>	<b>-1.54</b>	<b>3.57</b>	<b>2.90</b>				<b>— 01-03-1980</b>						
<b>Bloomberg US Corp Bond TR USD</b>	<b>-1.04</b>	<b>5.26</b>	<b>4.70</b>				<b>— 01-03-1989</b>						
<b>Bloomberg US Universal TR USD</b>	<b>-1.10</b>	<b>3.84</b>	<b>3.31</b>				<b>— 12-31-1998</b>						
<b>ICE BofA Fxd Rate Pref TR USD</b>	<b>2.24</b>	<b>6.37</b>	<b>6.59</b>				<b>— 02-28-1989</b>						
<b>ICE BofA US Convt Bonds TR USD</b>	<b>3.87</b>	<b>18.38</b>	<b>15.07</b>				<b>— 12-31-1987</b>						
<b>ICE BofA US High Yield TR USD</b>	<b>5.36</b>	<b>6.10</b>	<b>6.72</b>				<b>— 08-29-1986</b>						
<b>JPM EMBI Global Diversified TR USD</b>	<b>-1.80</b>	<b>4.65</b>	<b>5.28</b>				<b>— 07-30-1999</b>						
<b>Morningstar EM Bd GR USD</b>	<b>-2.31</b>	<b>—</b>	<b>—</b>				<b>— 03-01-2020</b>						
<b>Morningstar EM TME GR USD</b>	<b>-1.46</b>	<b>—</b>	<b>—</b>				<b>— 02-25-2019</b>						
<b>Morningstar Gbl Mkts xUS GR USD</b>	<b>8.87</b>	<b>10.41</b>	<b>—</b>				<b>— 06-22-2015</b>						
<b>Morningstar Mod Tgt Risk TR USD</b>	<b>10.19</b>	<b>10.07</b>	<b>8.75</b>				<b>— 02-18-2009</b>						
<b>Morningstar US Core Bd TR USD</b>	<b>-1.61</b>	<b>—</b>	<b>—</b>				<b>— 05-01-2019</b>						
<b>Morningstar US Corp Bd TR Hdg USD</b>	<b>-1.12</b>	<b>—</b>	<b>—</b>				<b>— 05-01-2019</b>						
<b>Morningstar US HY Bd TR USD</b>	<b>5.24</b>	<b>—</b>	<b>—</b>				<b>— 01-01-2020</b>						
<b>Morningstar US Real Estate TR USD</b>	<b>38.28</b>	<b>11.47</b>	<b>11.36</b>				<b>— 12-20-2010</b>						
<b>MSCI ACWI Ex USA Growth NR USD</b>	<b>5.09</b>	<b>13.06</b>	<b>9.13</b>				<b>— 01-01-2001</b>						
<b>MSCI ACWI Ex USA NR USD</b>	<b>7.82</b>	<b>9.61</b>	<b>7.28</b>				<b>— 01-01-2001</b>						
<b>MSCI ACWI NR USD</b>	<b>18.54</b>	<b>14.40</b>	<b>11.85</b>				<b>— 01-01-2001</b>						
<b>MSCI EAFE NR USD</b>	<b>11.26</b>	<b>9.55</b>	<b>8.03</b>				<b>— 03-31-1986</b>						
<b>MSCI EM NR USD</b>	<b>-2.54</b>	<b>9.87</b>	<b>5.49</b>				<b>— 01-01-2001</b>						
<b>MSCI World Ex USA SMID Growth NR USD</b>	<b>7.88</b>	<b>12.29</b>	<b>9.85</b>				<b>— 03-05-2008</b>						
<b>Russell 1000 TR USD</b>	<b>26.45</b>	<b>18.43</b>	<b>16.54</b>				<b>— 12-31-1978</b>						
<b>Russell 2000 TR USD</b>	<b>14.82</b>	<b>12.02</b>	<b>13.23</b>				<b>— 12-31-1978</b>						
<b>Russell 2000 Value TR USD</b>	<b>28.27</b>	<b>9.07</b>	<b>12.03</b>				<b>— 12-31-1978</b>						
<b>Russell 3000 TR USD</b>	<b>25.66</b>	<b>17.97</b>	<b>16.30</b>				<b>— 12-31-1978</b>						
<b>Russell Mid Cap TR USD</b>	<b>22.58</b>	<b>15.10</b>	<b>14.91</b>				<b>— 12-31-1978</b>						

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Annualized returns 12-31-2021												
Standardized Returns (%)	7-day Yield Subsidized as of date	7-day Yield Unsubsidized as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio %	Max Redemption %
<b>S&amp;P 500 TR USD</b>			<b>28.71</b>	<b>18.47</b>	<b>16.55</b>		<b>— 01-30-1970</b>					
<b>S&amp;P United States REIT TR USD</b>			<b>43.05</b>	<b>10.57</b>	<b>11.21</b>		<b>— 12-31-1992</b>					
<b>S&amp;P/LSTA Leveraged Loan TR</b>			<b>5.20</b>	<b>4.27</b>	<b>4.69</b>		<b>— 01-01-1997</b>					
<b>USTREAS T-Bill Auction Ave 3 Mon</b>			<b>0.05</b>	<b>1.11</b>	<b>0.61</b>		<b>— 02-28-1941</b>					

1. Contractual waiver that may expire at any time
2. Contractual waiver; Expires 07-31-2022
3. Contractual waiver; Expires 02-28-2023
4. Contractual waiver; Expires 07-31-2022; Interest expense 0.08%
5. Contractual waiver; Expires 02-28-2022

Return after Tax (%)	On Distribution					On Distribution and Sales of Shares				
	1Yr	5Yr	10Yr	Since Inception	Inception Date	1Yr	5Yr	10Yr	Since Inception	
Artisan International Small-Mid Instl	3.16	12.35	—	9.13	04-12-2016	2.71	11.47	—	8.72	
Baird Core Plus Bond Inst	-2.09	3.03	2.63	3.82	09-29-2000	-0.51	2.77	2.47	3.68	
Cohen & Steers Instl Realty Shares	40.63	11.38	10.00	10.10	02-14-2000	25.55	9.93	9.18	9.63	
DoubleLine Core Fixed Income I	-1.53	2.19	2.10	3.13	06-01-2010	-0.15	2.13	2.10	2.99	
Harding Loevner International Eq Instl	7.61	12.15	9.30	6.23	05-11-1994	5.22	9.95	7.82	5.64	
Hartford Schroders Emerging Mkts Eq SDR	-5.51	10.87	—	6.98	12-30-2014	-2.94	8.88	—	5.73	
iShares 5-10 Year invmt Grd Corp Bd ETF-NAV	-2.61	3.63	2.77	3.26	01-05-2007	-0.94	3.21	2.53	3.02	
iShares Core S&P Mid-Cap ETF-NAV	24.04	12.48	13.61	9.76	05-22-2000	14.59	10.19	11.68	8.71	
iShares Core S&P Small-Cap ETF-NAV	25.87	11.85	13.98	10.35	05-22-2000	15.78	9.66	12.00	9.26	
iShares Preferred&Income Securities ETF-NAV	5.13	4.74	4.99	2.88	03-26-2007	4.15	4.47	4.80	3.07	
Jensen Quality Growth Y	28.12	18.14	—	17.26	09-30-2016	19.19	15.99	—	15.29	
JOHCM International Select Institutional	6.55	12.63	11.68	10.72	07-29-2009	6.75	10.69	10.13	9.37	
MainStay MacKay High Yield Corp Bd R6	3.06	3.29	—	2.87	06-17-2013	3.14	3.30	—	3.01	
MFS Emerging Markets Debt R6	-4.00	2.72	2.81	3.93	05-01-2006	-1.36	2.73	2.84	3.88	
Pacific Funds Floating Rate Income I	2.98	1.91	2.63	2.46	06-30-2011	2.73	2.08	2.66	2.52	
PGIM Total Return Bond R6	-2.37	3.04	2.80	3.12	12-27-2010	-0.69	2.92	2.72	3.02	
PIMCO Commodity Real Ret Strat Instl	22.72	2.55	-3.89	0.35	06-28-2002	19.43	3.00	-2.22	1.93	
Principal Real Estate Securities Inst	37.47	11.65	10.96	10.73	03-01-2001	23.66	9.78	9.69	10.00	
SPDR® Blmbg Barclays Convert Secs ETF-NAV	1.45	15.20	11.67	11.53	04-14-2009	1.34	12.70	10.19	10.25	
Vanguard Total International Stock ETF-NAV	7.53	8.86	6.67	4.33	01-26-2011	5.33	7.45	5.80	3.83	
Vanguard Total Stock Market ETF-NAV	25.05	17.26	15.62	8.54	05-24-2001	15.19	14.23	13.51	7.55	
Virtus KAR International Small-Mid CapR6	3.22	13.92	—	10.82	11-12-2014	4.25	11.70	—	9.33	
Voya Intermediate Bond R6	-2.13	2.75	—	2.27	05-31-2013	-0.59	2.62	—	2.21	

# Mutual Fund Detail Report

## Disclosure Statement

The Mutual Fund Detail Report is supplemental sales literature, and therefore must be preceded or accompanied by the mutual fund's current prospectus or an equivalent statement. Please read this information carefully. In all cases, this disclosure statement should accompany the Mutual Fund Detail Report.

Morningstar is not itself a FINRA-member firm.

All data presented is based on the most recent information available to Morningstar as of the release date and may or may not be an accurate reflection of current data for securities included in the fund's portfolio. There is no assurance that the data will remain the same.

Unless otherwise specified, the definition of "funds" used throughout this Disclosure Statement includes closed-end funds, exchange-traded funds, grantor trusts, index mutual funds, open-ended mutual funds, and unit investment trusts. It does not include exchange-traded notes or exchange-traded commodities.

Prior to 2016, Morningstar's methodology evaluated open-end mutual funds and exchange-traded funds as separate groups. Each group contained a subset of the current investments included in our current comparative analysis. In this report, historical data presented on a calendar-year basis and trailing periods ending at the most-recent month-end reflect the updated methodology.

Risk measures (such as alpha, beta, r-squared, standard deviation, mean, or Sharpe ratio) are calculated for securities or portfolios that have at least a three-year history.

Most Morningstar rankings do not include any adjustment for one-time sales charges, or loads. Morningstar does publish load-adjusted returns, and ranks such returns within a Morningstar Category in certain reports. The total returns for ETFs and fund share classes without one-time loads are equal to Morningstar's calculation of load-adjusted returns. Share classes that are subject to one-time loads relating to advice or sales commissions have their returns adjusted as part of the load-adjusted return calculation to reflect those loads.

### Comparison of Fund Types

Funds, including closed-end funds, exchange-traded funds (ETFs), money market funds, open-end funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publicly-offered funds are investment companies registered with the Securities and Exchange Commission under the Investment Company Act of 1940, as amended. Funds pool money from their investors and manage it according to an investment strategy or objective, which can vary greatly from fund to fund. Funds have the ability to offer diversification and professional management, but also involve risk, including the loss of principal.

A closed-end fund is an investment company, which typically makes one public offering of a fixed number of shares. Thereafter, shares are traded on a secondary market. As a result, the secondary market price may be higher or lower than the closed-end fund's net asset value (NAV). If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. A closed-end mutual fund's expense ratio is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Closed-end funds may also have 12b-1 fees. Income distributions and capital gains of the closed-end fund are subject

to income tax, if held in a taxable account.

An ETF is an investment company that typically has an investment objective of striving to achieve a similar return as a particular market index. The ETF will invest in either all or a representative sample of the securities included in the index it is seeking to imitate. Like closed-end funds, an ETF can be traded on a secondary market and thus have a market price that may be higher or lower than its net asset value. If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. ETFs are not actively managed, so their value may be affected by a general decline in the U.S. market segments relating to their underlying indexes. Similarly, an imperfect match between an ETF's holdings and those of its underlying index may cause its performance to vary from that of its underlying index. The expense ratio of an ETF is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. ETFs do not have 12b-1 fees or sales loads. Capital gains from funds held in a taxable account are subject to income tax. In many, but not all cases, ETFs are generally considered to be more tax-efficient when compared to similarly invested mutual funds.

Holding company depository receipts (HOLDRs) are similar to ETFs, but they focus on narrow industry groups. HOLDRs initially own 20 stocks, which are unmanaged, and can become more concentrated due to mergers, or the disparate performance of their holdings. HOLDRs can only be bought in 100-share increments. Investors may exchange shares of a HOLDR for its underlying stocks at any time.

A money-market fund is an investment company that invests in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit and other highly liquid securities, and pays money market rates of interest. Money markets are not FDIC-insured, may lose money, and are not guaranteed by a bank or other financial institution.

An open-end fund is an investment company that issues shares on a continuous basis. Shares can be purchased from the open-end mutual fund itself, or through an intermediary, but cannot be traded on a secondary market, such as the New York Stock Exchange. Investors pay the open-end mutual fund's current net asset value plus any initial sales loads. Net asset value is calculated daily, at the close of business. Open-end mutual fund shares can be redeemed, or sold back to the fund or intermediary, at their current net asset value minus any deferred sales loads or redemption fees. The expense ratio for an open-end mutual fund is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Open-end funds may also have 12b-1 fees. Income distributions and capital gains of the open-end fund are subject to income tax, if held in a taxable account.

A unit investment trust (UIT) is an investment company organized under a trust agreement between a sponsor and trustee. UITs typically purchase a fixed portfolio of securities and then sell units in the trust to investors. The major difference between a UIT and a mutual fund is that a mutual fund is actively managed, while a UIT is not. On a periodic basis, UITs usually distribute to the unit holder their pro rata share of the trust's net investment income and net realized capital gains, if any. If the trust is one that invests only in tax-free securities, then the income from the trust is also tax-free. UITs generally make one public offering of a fixed number of units. However, in some cases, the sponsor will maintain a secondary market that allows existing unit holders to sell their units and for new investors to buy units. A one-time initial sales charge is deducted from an investment made into the trust. UIT investors may also pay creation and development fees, organization costs, and/or trustee and operation expenses. UIT units may be redeemed by the sponsor at their net

asset value minus a deferred sales charge, and sold to other investors. UITs have set termination dates, at which point the underlying securities are sold and the sales proceeds are paid to the investor. Typically, a UIT investment is rolled over into successive trusts as part of a long-term strategy. A rollover fee may be charged for the exercise of rollover purchases. There are tax consequences associated with rolling over an investment from one trust to the next.

## Performance

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when sold, may be worth more or less than the original investment. Fund portfolio statistics change over time. Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

Morningstar calculates after-tax returns using the highest applicable federal marginal income tax rate plus the investment income tax and Medicare surcharge. As of 2018, this rate is 37% plus 3.8% investment income plus 0.9% Medicare surcharge, or 41.7%. This rate changes periodically in accordance with changes in federal law.

## Pre-Inception Returns

The analysis in this report may be based, in part, on adjusted historical returns for periods prior to the inception of the share class of the fund shown in this report ("Report Share Class"). If pre-inception returns are shown, a performance stream consisting of the Report Share Class and older share class(es) is created. Morningstar adjusts pre-inception returns downward to reflect higher expenses in the Report Share Class, we do not hypothetically adjust returns upwards for lower expenses. For more information regarding calculation of pre-inception returns please see the Morningstar Extended Performance Methodology.

### When pre-inception data is presented in the report, the header at the top of the report will indicate this. In addition, the pre-inception data included in the report will appear in **italics**.

While the inclusion of pre-inception data provides valuable insight into the probable long-term behavior of newer share classes of a fund, investors should be aware that an adjusted historical return can only provide an approximation of that behavior. For example, the fee structures of a retail share class will vary from that of an institutional share class, as retail shares tend to have higher operating expenses and sales charges. These adjusted historical returns are not actual returns. The underlying investments in the share classes used to calculate the pre-performance string will likely vary from the underlying investments held in the fund after inception. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the fund itself.

## 12b1 Expense %

A 12b-1 fee is a fee used to pay for a mutual fund's distribution costs. It is often used as a commission to brokers for selling the fund. The amount of the fee is taken from a fund's returns.

## Alpha

Alpha is a measure of the difference between a security or portfolio's actual returns and its expected performance, given its level of risk (as measured by beta.) Alpha is often seen as a measure of the value added or subtracted by a portfolio manager.

## Asset Allocation

Asset Allocation reflects asset class weightings of the portfolio. The "Other"

category includes security types that are not neatly classified in the other asset classes, such as convertible bonds and preferred stocks, or cannot be classified by Morningstar as a result of missing data. Morningstar may display asset allocation data in several ways, including tables or pie charts. In addition, Morningstar may compare the asset class breakdown of the fund against its three-year average, category average, and/or index proxy.

Asset allocations shown in tables may include a breakdown among the long, short, and net (long positions net of short) positions. These statistics summarize what the fund's managers are buying and how they are positioning the fund's portfolio. When short positions are captured in these portfolio statistics, investors get a more robust description of the fund's exposure and risk. Long positions involve buying the security outright and selling it later, with the hope the security's price rises over time. Short positions are taken with the hope of benefitting from anticipated price declines. The investor borrows the security from another investor, sells it and receives cash, and then is obligated to buy it back at some point in the future. If the price falls after the short sale, the investor will have sold high and can buy low to close the short position and lock in a profit. However, if the price of the security increases after the short sale, the investor will experience a loss buying it at a higher price than the sale price.

Most fund portfolios hold fairly conventional securities, such as long positions in equities and bonds. Morningstar may generate a colored pie chart for these portfolios. Other portfolios use other investment strategies or securities, such as short positions or derivatives, in an attempt to reduce transaction costs, enhance returns, or reduce risk. Some of these securities and strategies behave like conventional securities, while others have unique return and risk characteristics. Portfolios that incorporate investment strategies resulting in short positions or portfolio with relatively exotic derivative positions often report data to Morningstar that does not meet the parameters of the calculation underlying a pie chart's generation. Because of the nature of how these securities are reported to Morningstar, we may not always get complete portfolio information to report asset allocation. Morningstar, at its discretion, may determine if unidentified characteristics of fund holdings are material. Asset allocation and other breakdowns may be rescaled accordingly so that percentages total to 100 percent. (Morningstar used discretion to determine if unidentified characteristics of fund holdings are material, pie charts and other breakdowns may rescale identified characteristics to 100% for more intuitive presentation.)

Note that all other portfolio statistics presented in this report are based on the long (or long rescaled) holdings of the fund only.

## Average Effective Duration

Duration is a time measure of a bond's interest-rate sensitivity. Average effective duration is a weighted average of the duration of the fixed-income securities within a portfolio.

## Average Effective Maturity

Average Effective Maturity is a weighted average of the maturities of all bonds in a portfolio.

## Average Weighted Coupon

A coupon is the fixed annual percentage paid out on a bond. The average weighted coupon is the asset-weighted coupon of each bond in the portfolio.

## Average Weighted Price

Average Weighted Price is the asset-weighted price of bonds held in a portfolio, expressed as a percentage of par (face) value. This number reveals if the portfolio favors bonds selling at prices above or below par value (premium or discount securities respectively.)

## Best Fit Index

Alpha, beta, and R-squared statistics are presented for a broad market index and a "best fit" index. The Best Fit Index identified in this report was determined by Morningstar by calculating R-squared for the fund against approximately 100 indexes tracked by Morningstar. The index representing the highest R-squared is identified as the best fit index. The best fit index may not be the fund's benchmark, nor does it necessarily contain the types of securities that may be held by the fund or portfolio.

## Beta

Beta is a measure of a security or portfolio's sensitivity to market movements (proxied using an index.) A beta of greater than 1 indicates more volatility than the market, and a beta of less than 1 indicates less volatility than the market.

## Credit Quality Breakdown

Credit Quality breakdowns are shown for corporate-bond holdings in the fund's portfolio and depict the quality of bonds in the underlying portfolio. It shows the percentage of fixed-income securities that fall within each credit-quality rating as assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). Bonds not rated by an NRSRO are included in the Other/Not-Classified category.

## Deferred Load %

The back-end sales charge or deferred load is imposed when an investor redeems shares of a fund. The percentage of the load charged generally declines the longer the fund's shares are held by the investor. This charge, coupled with 12b-1 fees, commonly serves as an alternative to a traditional front-end load.

## Expense Ratio %

The expense ratio is the annual fee that all funds charge their shareholders. It expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as front-end or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. The gross expense ratio, in contrast to the net expense ratio, does not reflect any fee waivers in effect during the time period.

## Front-end Load %

The initial sales charge or front-end load is a deduction made from each investment in the fund and is generally based on the amount of the investment.

## Geometric Average Market Capitalization

Geometric Average Market Capitalization is a measure of the size of the companies in which a portfolio invests.

## Growth of 10,000

For funds, this graph compares the growth of an investment of 10,000 (in the base currency of the fund) with that of an index and/or with that of the average for all funds in its Morningstar Category. The total returns are not adjusted to reflect sales charges or the effects of taxation but are adjusted to reflect actual ongoing fund expenses, and they assume reinvestment of dividends and capital gains. If adjusted, effects of sales charges and taxation would reduce the performance quoted. If pre-inception data is included in the analysis, it will be graphed.

The index in the Growth of 10,000 graph is an unmanaged portfolio of specified securities and cannot be invested in directly. The index does not reflect any initial or ongoing expenses. A fund's portfolio may differ significantly from the securities in the index. The index is chosen by Morningstar.

## Management Fees %

The management fee includes the management and administrative fees listed in the Management Fees section of a fund's prospectus. Typically, these fees represent the costs shareholders paid for management and administrative services over the fund's prior fiscal year.

## Maximum Redemption Fee %

The Maximum Redemption Fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase (for example, 30, 180, or 365 days).

## Mean

Mean is the annualized geometric return for the period shown.

## Morningstar Analyst Rating™

The Morningstar Analyst Rating™ is not a credit or risk rating. It is a subjective evaluation performed by Morningstar's manager research group, which consists of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the United States, that subsidiary is Morningstar Research Services LLC, which is registered with and governed by the U.S. Securities and Exchange Commission. The Manager Research Group evaluates investment products based on five key pillars, which are process, performance, people, parent, and price. The Manager Research Group uses this five-pillar evaluation to determine how they believe investment products are likely to perform relative to a benchmark over the long term on a risk adjusted basis. They consider quantitative and qualitative factors in their research. For actively managed strategies, people and process each receive a 45% weighting in their analysis, while parent receives a 10% weighting. For passive strategies, process receives an 80% weighting, while people and parent each receive a 10% weighting. For both active and passive strategies, performance has no explicit weight as it is incorporated into the analysis of people and process; price at the share-class level (where applicable) is directly subtracted from an expected gross alpha estimate derived from the analysis of the other pillars. The impact of the weighted pillar scores for people, process and parent on the final Morningstar Analyst Rating is further modified by a measure of the dispersion of historical alphas among relevant peers. For certain peer groups where standard benchmarking is not applicable, primarily peer groups of investment products using alternative investment strategies, the modification by alpha dispersion is not used.

Separately managed accounts are rated using the methodology for actively managed funds. A proxy fee is deducted from all separately managed accounts in a given Morningstar Category. The proxy fee is based on a survey of separately managed account model-delivery fees.

The Morningstar Analyst Rating scale is Gold, Silver, Bronze, Neutral, and Negative. For active investment products, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an active investment product will be able to deliver positive alpha net of fees relative to the standard benchmark index assigned to the Morningstar category. The level of the rating relates to the level of expected positive net alpha relative to Morningstar category peers for active investment products. For passive investment products, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an investment product will be able to deliver a higher alpha net of fees than the lesser of the relevant Morningstar category median or 0. The level of the rating relates to the level of expected net alpha relative to Morningstar category peers for passive investment products. For certain peer groups where standard benchmarking is not applicable, primarily peer groups of investment products using alternative investment strategies, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an investment product will deliver a weighted pillar score above a predetermined threshold within its peer group. Morningstar Analyst Ratings ultimately reflect the Manager

Research Group's overall assessment, are overseen by an Analyst Rating Committee, and are continuously monitored and reevaluated at least every 14 months.

For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to <http://global.morningstar.com/equitydisclosure>.

The Morningstar Analyst Rating (i) should not be used as the sole basis in evaluating an investment product, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the investment product

### **Morningstar Quantitative Rating™**

Morningstar's quantitative fund ratings consist of: (i) Morningstar Quantitative Rating (overall score), (ii) Quantitative Parent pillar, (iii) Quantitative People pillar, and (iv) Quantitative Process pillar (collectively the "Quantitative Fund Ratings"). The Quantitative Fund Ratings are calculated monthly and derived from the analyst-driven ratings of a fund's peers as determined by statistical algorithms. Morningstar, Inc. calculates Quantitative Fund Ratings for funds when an analyst rating does not exist as part of its qualitative coverage.

- **Morningstar Quantitative Rating:** Intended to be comparable to Morningstar's Analyst Ratings for open-end funds and ETFs, which is the summary expression of Morningstar's forward-looking analysis of a fund. The Morningstar Analyst Rating is based on the analyst's conviction in the fund's ability to outperform its peer group and/or relevant benchmark on a risk-adjusted basis over a full market cycle of at least 5 years. Ratings are assigned on a five-tier scale with three positive ratings of Gold, Silver, and Bronze, a Neutral rating, and a Negative rating. Morningstar calculates the Morningstar Quantitative Rating using a statistical model derived from the Morningstar Analyst Rating our fund analysts assign to open-end funds and ETFs. Please go to <https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx> for information about Morningstar Analyst Rating Morningstar's fund analysts assign to funds.

- **Quantitative Parent pillar:** Intended to be comparable to Morningstar's Parent pillar scores, which provides Morningstar's analyst opinion on the stewardship quality of a firm. Morningstar calculates the Quantitative Parent pillar using an algorithm designed to predict the Parent Pillar score our fund analysts would assign to the fund. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), Low (1).

- **Quantitative People pillar:** Morningstar's People pillar scores, which provides Morningstar's analyst opinion on the fund manager's talent, tenure, and resources. Morningstar calculates the Quantitative People pillar using an algorithm designed to predict the People pillar score our fund analysts would assign to the fund. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), Low (1).

- **Quantitative Process Pillar:** Intended to be comparable to Morningstar's Process pillar scores, which provides Morningstar's analyst opinion on the fund's strategy and whether the management has a competitive advantage enabling it to execute the process and consistently over time. Morningstar calculates the Quantitative Process pillar using an algorithm designed to predict the Process pillar score our fund analysts would assign to the fund. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), and Low (1).

Morningstar Quantitative Ratings **have not been made available** to the issuer of the security prior to publication.

### Risk Warning

The quantitative fund ratings are not statements of fact. Morningstar does not guarantee the completeness or accuracy of the assumptions or models used in determining the quantitative fund ratings. In addition, there is the risk that the return target will not be met due to such things as unforeseen changes in changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, and tax rate. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions. A change in the fundamental factors underlying the quantitative fund ratings can mean that the recommendation is subsequently no longer accurate.

For more information about Morningstar's quantitative methodology, please visit <https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx>

### **Morningstar Category**

Morningstar Category is assigned by placing funds into peer groups based on their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a fund's prospectus may not be sufficiently detailed for our proprietary classification methodology. Funds are placed in a category based on their portfolio statistics and compositions over the past three years. Analysis of performance and other indicative facts are also considered. If the fund is new and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent category assignment. Categories may be changed based on recent changes to the portfolio.

### **Morningstar Rank**

Morningstar Rank is the total return percentile rank within each Morningstar Category. The highest (or most favorable) percentile rank is zero and the lowest (or least favorable) percentile rank is 100. Historical percentile ranks are based on a snapshot of a fund at the time of calculation.

### **Morningstar Rating™**

The Morningstar Rating™ for funds, or "star rating", is calculated for funds and separate accounts with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. For more information about the Morningstar Rating for funds, including its methodology, please go to [global.morningstar.com/managerdisclosures](http://global.morningstar.com/managerdisclosures)

The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+Avg), the middle 35% Average (Avg), the next 22.5% Below Average (-Ave), and the bottom 10% Low (Low). Morningstar Return is

measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

### **Morningstar Risk**

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

### **Morningstar Style Box™**

The Morningstar Style Box™ reveals a fund's investment strategy as of the date noted on this report.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth.) A darkened square in the style box indicates the weighted average style of the portfolio.

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest-rate sensitivity as measured by a bond's effective duration. Morningstar seeks credit rating information from fund companies on a periodic basis (for example, quarterly). In compiling credit rating information, Morningstar accepts credit ratings reported by fund companies that have been issued by all Nationally Recognized Statistical Rating Organizations. For a list of all NRSROs, please visit <http://www.sec.gov/divisions/marketreg/ratingagency.htm>. Additionally, Morningstar accepts foreign credit ratings from widely recognized or registered rating agencies. If two rating organizations/ agencies have rated a security, fund companies are to report the lower rating; if three or more organizations/agencies have rated a security, fund companies are to report the median rating; and in cases where there are more than two organization/agency ratings and a median rating does not exist, fund companies are to use the lower of the two middle ratings.

Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the fund. NRSRO or rating agency ratings can change from time to time.

For credit quality, Morningstar combines the credit rating information provided by the fund companies with an average default rate calculation to come up with a weighted-average credit quality. The weighted-average credit quality is currently a letter that roughly corresponds to the scale used by a leading NRSRO. Bond funds are assigned a style box placement of "low," "medium," or "high" based on their average credit quality. Funds with a "low" credit quality are those whose weighted-average credit quality is determined to be less than "BBB-"; "medium" are those less than "AA-", but greater or equal to "BBB-"; and "high" are those with a weighted-average credit quality of "AA-" or higher. When classifying a bond portfolio, Morningstar first maps the NRSRO credit ratings of the underlying holdings to their respective default rates (as determined by Morningstar's analysis of actual historical default rates).

Morningstar then averages these default rates to determine the average default rate for the entire bond fund. Finally, Morningstar maps this average default rate to its corresponding credit rating along a convex curve.

For interest-rate sensitivity, Morningstar obtains from fund companies the average effective duration. Generally, Morningstar classifies a fixed-income fund's interest-rate sensitivity based on the effective duration of the Morningstar Core Bond Index, which is currently three years. The classification of Limited will be assigned to those funds whose average effective duration is between 25% to 75% of MCBI's average effective duration; funds whose average effective duration is between 75% to 125% of the MCBI will be classified as Moderate; and those that are at 125% or greater of the average effective duration of the MCBI will be classified as Extensive.

For municipal-bond funds, Morningstar also obtains from fund companies the average effective duration. In these cases, static breakpoints are used. These breakpoints are as follows: (i) Limited: 4.5 years or less; (ii) Moderate: more than 4.5 years but less than 7 years; and (iii) Extensive: more than 7 years. In addition, for non-U.S. taxable and non-U.S. domiciled fixed-income funds, static duration breakpoints are used: (i) Limited: less than or equal to 3.5 years; (ii) Moderate: more than 3.5 years but less than or equal to 6 years; (iii) Extensive: more than 6 years.

Interest-rate sensitivity for non-U.S. domiciled funds (excluding funds in convertible categories) may be measured with modified duration when effective duration is not available.

### **P/B Ratio TTM**

The Price/Book Ratio (or P/B Ratio) for a fund is the weighted average of the P/B Ratio of the stocks in its portfolio. Book value is the total assets of a company, less total liabilities. The P/B ratio of a company is calculated by dividing the market price of its outstanding stock by the company's book value, and then adjusting for the number of shares outstanding. Stocks with negative book values are excluded from this calculation. It shows approximately how much an investor is paying for a company's assets based on historical valuations.

### **P/C Ratio TTM**

The Price/Cash Flow Ratio (or P/C Ratio) for a fund is the weighted average of the P/C Ratio of the stocks in its portfolio. The P/C Ratio of a stock represents the amount an investor is willing to pay for a dollar generated from a company's operations. It shows the ability of a company to generate cash and acts as a gauge of liquidity and solvency.

### **P/E Ratio TTM**

The Price/Earnings Ratio (or P/E Ratio) for a fund is the weighted average of the P/E Ratios of the stocks in its portfolio. The P/E Ratio of a stock is the stock's current price divided by the company's trailing 12-month earnings per share. A high P/E Ratio usually indicates the market will pay more to obtain the company's earnings because it believes in the company's abilities to increase their earnings. A low P/E Ratio indicates the market has less confidence that the company's earnings will increase, however value investors may believe such stocks have an overlooked or undervalued potential for appreciation.

### **Percentile Rank in Category**

Percentile Rank is a standardized way of ranking items within a peer group, in this case, funds within the same Morningstar Category. The observation with the largest numerical value is ranked zero the observation with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable for returns (high returns), while higher percentile ranks are generally more favorable for risk measures (low risk).

### **Performance Quartile**

Performance Quartile reflects a fund's Morningstar Rank.

### **Potential Capital Gains Exposure**

Potential Capital Gains Exposure is an estimate of the percent of a fund's assets that represent gains. It measures how much the fund's assets have appreciated, and it can be an indicator of possible future capital gains distributions. A positive potential capital gains exposure value means that the fund's holdings have generally increased in value while a negative value means that the fund has reported losses on its book.

### Quarterly Returns

Quarterly Return is calculated applying the same methodology as Total Return except it represents return through each quarter-end.

### R-Squared

R-squared is the percentage of a security or portfolio's return movements that are explained by movements in its benchmark index, showing the degree of correlation between the security or portfolio and the benchmark. This figure is helpful in assessing how likely it is that beta and alpha are statistically significant. A value of 1 indicates perfect correlation between the security or portfolio and its benchmark. The lower the R-squared value, the lower the correlation.

### Regional Exposure

The regional exposure is a display of the portfolio's assets invested in the regions shown on the report.

### Sector Weightings

Super Sectors represent Morningstar's broadest classification of equity sectors by assigning the 11 equity sectors into three classifications. The Cyclical Super Sector includes industries significantly impacted by economic shifts, and the stocks included in these sectors generally have betas greater than 1. The Defensive Super Sector generally includes industries that are relatively immune to economic cycles, and the stocks in these industries generally have betas less than 1. The Sensitive Super Sector includes industries that ebb and flow with the overall economy, but not severely so. Stocks in the Sensitive Super Sector generally have betas that are close to 1.

### Share Change

Shares Change represents the number of shares of a stock bought or sold by a fund since the previously reported portfolio of the fund.

### Sharpe Ratio

Sharpe Ratio uses standard deviation and excess return (a measure of a security or portfolio's return in excess of the U.S. Treasury three-month Treasury Bill) to determine the reward per unit of risk.

### Standard Deviation

Standard deviation is a statistical measure of the volatility of the security or portfolio's returns. The larger the standard deviation, the greater the volatility of return.

### Standardized Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the security was purchased at the beginning of the period and sold at the end, incurring transaction charges.

### Total Return

Total Return, or "Non Load-Adjusted Return", reflects performance without adjusting for sales charges (if applicable) or the effects of taxation, but it is adjusted to reflect all actual ongoing security expenses and assumes

reinvestment of dividends and capital gains. It is the return an investor would have experienced if the fund was held throughout the period. If adjusted for sales charges and the effects of taxation, the performance quoted would be significantly reduced.

Total Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

### Trailing Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the fund was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Load-Adjusted Monthly Return is calculated applying the same methodology as Standardized Return, except that it represents return through month-end. As with Standardized Return, it reflects the impact of sales charges and ongoing fund expenses, but not taxation. If adjusted for the effects of taxation, the performance quoted would be significantly different.

Trailing Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

## ETF Detail Report Disclosure Statement

The Exchange-Traded Fund (ETF) Detail Report is supplemental sales literature, and therefore must be preceded or accompanied by the mutual fund's current prospectus or an equivalent statement. Please read this information carefully. In all cases, this disclosure statement should accompany the ETF Detail Report. Morningstar is not itself a FINRA-member firm. All data presented is based on the most recent information available to Morningstar as of the release date and may or may not be an accurate reflection of current data for securities included in the fund's portfolio. There is no assurance that the data will remain the same.

Unless otherwise specified, the definition of "funds" used throughout this Disclosure Statement includes closed-end funds, exchange-traded funds, grantor trusts, index mutual funds, open-ended mutual funds, and unit investment trusts. It does not include exchange-traded notes or exchange-traded commodities.

Prior to 2016, Morningstar's methodology evaluated open-end mutual funds and exchange-traded funds as separate groups. Each group contained a subset of the current investments included in our current comparative analysis. In this report, historical data presented on a calendar-year basis and trailing periods ending at the most-recent month-end reflect the updated methodology.

Risk measures (such as alpha, beta, r-squared, standard deviation, mean, or Sharpe ratio) are calculated for securities or portfolios that have at least a three-year history.

Most Morningstar rankings do not include any adjustment for one-time sales charges, or loads. Morningstar does publish load-adjusted returns, and ranks

such returns within a Morningstar Category in certain reports. The total returns for ETFs and fund share classes without one-time loads are equal to Morningstar's calculation of load-adjusted returns. Share classes that are subject to one-time loads relating to advice or sales commissions have their returns adjusted as part of the load-adjusted return calculation to reflect those loads.

### Comparison of Fund Types

Funds, including closed-end funds, exchange-traded funds (ETFs), money market funds, open-end funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publicly-offered funds are investment companies registered with the Securities and Exchange Commission under the Investment Company Act of 1940, as amended. Funds pool money from their investors and manage it according to an investment strategy or objective, which can vary greatly from fund to fund. Funds have the ability to offer diversification and professional management, but also involve risk, including the loss of principal.

A closed-end fund is an investment company, which typically makes one public offering of a fixed number of shares. Thereafter, shares are traded on a secondary market. As a result, the secondary market price may be higher or lower than the closed-end fund's net asset value (NAV). If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. A closed-end mutual fund's expense ratio is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Closed-end funds may also have 12b-1 fees. Income distributions and capital gains of the closed-end fund are subject to income tax, if held in a taxable account.

An ETF is an investment company that typically has an investment objective of striving to achieve a similar return as a particular market index. The ETF will invest in either all or a representative sample of the securities included in the index it is seeking to imitate. Like closed-end funds, an ETF can be traded on a secondary market and thus have a market price that may be higher or lower than its net asset value. If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. ETFs are not actively managed, so their value may be affected by a general decline in the U.S. market segments relating to their underlying indexes. Similarly, an imperfect match between an ETF's holdings and those of its underlying index may cause its performance to vary from that of its underlying index. The expense ratio of an ETF is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. ETFs do not have 12b-1 fees or sales loads. Capital gains from funds held in a taxable account are subject to income tax. In many, but not all cases, ETFs are generally considered to be more tax-efficient when compared to similarly invested mutual funds.

Holding company depository receipts (HOLDRs) are similar to ETFs, but they focus on narrow industry groups. HOLDRs initially own 20 stocks, which are unmanaged, and can become more concentrated due to mergers, or the disparate performance of their holdings. HOLDRs can only be bought in 100-share increments. Investors may exchange shares of a HOLDR for its underlying stocks at any time.

A money-market fund is an investment company that invests in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit and other highly liquid securities, and pays money market rates of interest. Money markets are not FDIC-insured, may lose money, and are not guaranteed by a bank or other financial institution.

An open-end fund is an investment company that issues shares on a continuous basis. Shares can be purchased from the open-end mutual fund itself, or through an intermediary, but cannot be traded on a secondary market, such as the New York Stock Exchange. Investors pay the open-end mutual fund's current net asset value plus any initial sales loads. Net asset value is calculated daily, at the close of business. Open-end mutual fund shares can be redeemed, or sold back to the fund or intermediary, at their current net asset value minus any deferred sales loads or redemption fees. The expense ratio for an open-end mutual fund is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Open-end funds may also have 12b-1 fees. Income distributions and capital gains of the open-end fund are subject to income tax, if held in a taxable account.

A unit investment trust (UIT) is an investment company organized under a trust agreement between a sponsor and trustee. UITs typically purchase a fixed portfolio of securities and then sell units in the trust to investors. The major difference between a UIT and a mutual fund is that a mutual fund is actively managed, while a UIT is not. On a periodic basis, UITs usually distribute to the unit holder their pro rata share of the trust's net investment income and net realized capital gains, if any. If the trust is one that invests only in tax-free securities, then the income from the trust is also tax-free. UITs generally make one public offering of a fixed number of units. However, in some cases, the sponsor will maintain a secondary market that allows existing unit holders to sell their units and for new investors to buy units. A one-time initial sales charge is deducted from an investment made into the trust. UIT investors may also pay creation and development fees, organization costs, and/or trustee and operation expenses. UIT units may be redeemed by the sponsor at their net asset value minus a deferred sales charge, and sold to other investors. UITs have set termination dates, at which point the underlying securities are sold and the sales proceeds are paid to the investor. Typically, a UIT investment is rolled over into successive trusts as part of a long-term strategy. A rollover fee may be charged for the exercise of rollover purchases. There are tax consequences associated with rolling over an investment from one trust to the next.

### Performance

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when sold, may be worth more or less than the original investment. Fund portfolio statistics change over time. Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

The market price noted on the ETF Detail Report is the price of the fund as of the close of trading on the last business day at month-end. This date is listed at the top of the ETF Detail Report.

Morningstar calculates after-tax returns using the highest applicable federal marginal income tax rate plus the investment income tax and Medicare surcharge. As of 2018, this rate is 37% plus 3.8% investment income plus 0.9% Medicare surcharge, or 41.7%. This rate changes periodically in accordance with changes in federal law.

### 12 Month Yield

12 Month Yield is derived by summing the trailing 12-months' income distributions and dividing the sum by the last month's ending NAV, plus any capital gains distributed over the same period. Income refers only to interest payments from fixed-income securities and dividend payoffs from common stocks.

### 12b1 Expense %

A 12b-1 fee is a fee used to pay for a mutual fund's distribution costs. It is often

used as a commission to brokers for selling the fund. The amount of the fee is taken from a fund's returns.

### 30-Day SEC Yield

The 30-day SEC Yield is a calculation based on a 30-day period ending on the last day of the previous month. It is computed by dividing the net investment income per share earned during the period by the maximum offering price per share on the last day of the period. The figure listed lags by one month. When a dash appears, the yield available is more than 30 days old. This information is taken from fund surveys.

### Alpha

Alpha is a measure of the difference between a security or portfolio's actual returns and its expected performance, given its level of risk (as measured by beta.) Alpha is often seen as a measure of the value added or subtracted by a portfolio manager.

### Asset Allocation

Asset Allocation reflects asset class weightings of the portfolio. The "Other" category includes security types that are not neatly classified in the other asset classes, such as convertible bonds and preferred stocks, or cannot be classified by Morningstar as a result of missing data. Morningstar may display asset allocation data in several ways, including tables or pie charts. In addition, Morningstar may compare the asset class breakdown of the fund against its three-year average, category average, and/or index proxy.

Asset allocations shown in tables may include a breakdown among the long, short, and net (long positions net of short) positions. These statistics summarize what the fund's managers are buying and how they are positioning the fund's portfolio. When short positions are captured in these portfolio statistics, investors get a more robust description of the fund's exposure and risk. Long positions involve buying the security outright and selling it later, with the hope the security's price rises over time. Short positions are taken with the hope of benefitting from anticipated price declines. The investor borrows the security from another investor, sells it and receives cash, and then is obligated to buy it back at some point in the future. If the price falls after the short sale, the investor will have sold high and can buy low to close the short position and lock in a profit. However, if the price of the security increases after the short sale, the investor will experience a loss buying it at a higher price than the sale price.

Most fund portfolios hold fairly conventional securities, such as long positions in equities and bonds. Morningstar may generate a colored pie chart for these portfolios. Other portfolios use other investment strategies or securities, such as short positions or derivatives, in an attempt to reduce transaction costs, enhance returns, or reduce risk. Some of these securities and strategies behave like conventional securities, while other have unique return and risk characteristics. Portfolios that incorporate investment strategies resulting in short positions or portfolio with relatively exotic derivative positions often report data to Morningstar that does not meet the parameters of the calculation underlying a pie chart's generation. Because of the nature of how these securities are reported to Morningstar, we may not always get complete portfolio information to report asset allocation. Morningstar, at its discretion, may determine if unidentified characteristics of fund holdings are material. Asset allocation and other breakdowns may be rescaled accordingly so that percentages total to 100 percent. (Morningstar used discretion to determine if unidentified characteristics of fund holdings are material, pie charts and other breakdowns may rescale identified characteristics to 100% for more intuitive presentation.)

Note that all other portfolio statistics presented in this report are based on the long (or long rescaled) holdings of the fund only.

### Average Effective Duration

Duration is a time measure of a bond's interest-rate sensitivity. Average effective duration is a weighted average of the duration of the fixed-income securities within a portfolio.

### Average Effective Maturity

Average Effective Maturity is a weighted average of the maturities of all bonds in a portfolio.

### Average Weighted Coupon

A coupon is the fixed annual percentage paid out on a bond. The average weighted coupon is the asset-weighted coupon of each bond in the portfolio.

### Average Weighted Price

Average Weighted Price is the asset-weighted price of bonds held in a portfolio, expressed as a percentage of par (face) value. This number reveals if the portfolio favors bonds selling at prices above or below par value (premium or discount securities respectively.)

### Best Fit Index

Alpha, beta, and R-squared statistics are presented for a broad market index and a "best fit" index. The Best Fit Index identified in this report was determined by Morningstar by calculating R-squared for the fund against approximately 100 indexes tracked by Morningstar. The index representing the highest R-squared is identified as the best fit index. The best fit index may not be the fund's benchmark, nor does it necessarily contain the types of securities that may be held by the fund or portfolio.

### Beta

Beta is a measure of a security or portfolio's sensitivity to market movements (proxied using an index.) A beta of greater than 1 indicates more volatility than the market, and a beta of less than 1 indicates less volatility than the market.

### Credit Quality Breakdown

Credit Quality breakdowns are shown for corporate-bond holdings in the fund's portfolio and depict the quality of bonds in the underlying portfolio. It shows the percentage of fixed-income securities that fall within each credit-quality rating as assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). Bonds not rated by an NRSRO are included in the Other/Not-Classified category.

### Expense Ratio %

The expense ratio is the annual fee that all funds charge their shareholders. It expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as front-end or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. The gross expense ratio, in contrast to the net expense ratio, does not reflect any fee waivers in effect during the time period.

### Geometric Average Market Capitalization

Geometric Average Market Capitalization is a measure of the size of the companies in which a portfolio invests.

### Growth of 10,000

For funds, this graph compares the growth of an investment of 10,000 (in the base currency of the fund) with that of an index and/or with that of the average for all funds in its Morningstar Category. The total returns are not adjusted to reflect sales charges or the effects of taxation but are adjusted to reflect actual ongoing fund expenses, and they assume reinvestment of dividends and capital

gains. If adjusted, effects of sales charges and taxation would reduce the performance quoted. If pre-inception data is included in the analysis, it will be graphed.

The index in the Growth of 10,000 graph is an unmanaged portfolio of specified securities and cannot be invested in directly. The index does not reflect any initial or ongoing expenses. A fund's portfolio may differ significantly from the securities in the index. The index is chosen by Morningstar.

### Management Fees %

The management fee includes the management and administrative fees listed in the Management Fees section of a fund's prospectus. Typically, these fees represent the costs shareholders paid for management and administrative services over the fund's prior fiscal year.

### Maximum Redemption Fee %

The Maximum Redemption Fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase (for example, 30, 180, or 365 days).

### Mean

Mean is the annualized geometric return for the period shown.

### Morningstar Analyst Rating™

The Morningstar Analyst Rating™ is not a credit or risk rating. It is a subjective evaluation performed by Morningstar's manager research group, which consists of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the United States, that subsidiary is Morningstar Research Services LLC, which is registered with and governed by the U.S. Securities and Exchange Commission. The Manager Research Group evaluates investment products based on five key pillars, which are process, performance, people, parent, and price. The Manager Research Group uses this five-pillar evaluation to determine how they believe investment products are likely to perform relative to a benchmark over the long term on a risk adjusted basis. They consider quantitative and qualitative factors in their research. For actively managed strategies, people and process each receive a 45% weighting in their analysis, while parent receives a 10% weighting. For passive strategies, process receives an 80% weighting, while people and parent each receive a 10% weighting. For both active and passive strategies, performance has no explicit weight as it is incorporated into the analysis of people and process; price at the share-class level (where applicable) is directly subtracted from an expected gross alpha estimate derived from the analysis of the other pillars. The impact of the weighted pillar scores for people, process and parent on the final Morningstar Analyst Rating is further modified by a measure of the dispersion of historical alphas among relevant peers. For certain peer groups where standard benchmarking is not applicable, primarily peer groups of investment products using alternative investment strategies, the modification by alpha dispersion is not used.

Separately managed accounts are rated using the methodology for actively managed funds. A proxy fee is deducted from all separately managed accounts in a given Morningstar Category. The proxy fee is based on a survey of separately managed account model-delivery fees.

The Morningstar Analyst Rating scale is Gold, Silver, Bronze, Neutral, and Negative. For active investment products, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an active investment product will be able to deliver positive alpha net of fees relative to the standard benchmark index assigned to the Morningstar category. The level of the rating relates to the level of expected positive net alpha relative to Morningstar category peers for active investment products. For passive investment products, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an investment product

will be able to deliver a higher alpha net of fees than the lesser of the relevant Morningstar category median or 0. The level of the rating relates to the level of expected net alpha relative to Morningstar category peers for passive investment products. For certain peer groups where standard benchmarking is not applicable, primarily peer groups of investment products using alternative investment strategies, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an investment product will deliver a weighted pillar score above a predetermined threshold within its peer group. Morningstar Analyst Ratings ultimately reflect the Manager Research Group's overall assessment, are overseen by an Analyst Rating Committee, and are continuously monitored and reevaluated at least every 14 months.

For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to <http://global.morningstar.com/equitydisclosures>

The Morningstar Analyst Rating (i) should not be used as the sole basis in evaluating an investment product, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the investment product.

### Morningstar Quantitative Rating™

Morningstar's quantitative fund ratings consist of: (i) Morningstar Quantitative Rating (overall score), (ii) Quantitative Parent pillar, (iii) Quantitative People pillar, and (iv) Quantitative Process pillar (collectively the Quantitative Fund Ratings). The Quantitative Fund Ratings are calculated monthly and derived from the analyst-driven ratings of a fund's peers as determined by statistical algorithms. Morningstar, Inc. calculates Quantitative Fund Ratings for funds when an analyst rating does not exist as part of its qualitative coverage.

### Morningstar Quantitative Rating:

Intended to be comparable to Morningstar's Analyst Ratings for open-end funds and ETFs, which is the summary expression of Morningstar's forward-looking analysis of a fund. The Morningstar Analyst Rating is based on the analyst's conviction in the fund's ability to outperform its peer group and/or relevant benchmark on a risk-adjusted basis over a full market cycle of at least 5 years. Ratings are assigned on a five-tier scale with three positive ratings of Gold, Silver, and Bronze, a Neutral rating, and a Negative rating. Morningstar calculates the Morningstar Quantitative Rating using a statistical model derived from the Morningstar Analyst Rating our fund analysts assign to open-end funds and ETFs. Please go to <https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx> for information about Morningstar Analyst Rating Morningstar's fund analysts assign to funds.

### Quantitative Parent pillar:

Intended to be comparable to Morningstar's Parent pillar scores, which provides Morningstar's analyst opinion on the stewardship quality of a firm. Morningstar calculates the Quantitative Parent pillar using an algorithm designed to predict the Parent Pillar score our fund analysts would assign to the fund. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), Low (1).

### Quantitative People pillar:

Morningstar's People pillar scores, which provides Morningstar's analyst opinion on the fund manager's talent, tenure, and resources. Morningstar calculates the Quantitative People pillar using an algorithm designed to predict the People pillar score our fund analysts would assign to the fund. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), Low (1).

### Quantitative Process Pillar:

Intended to be comparable to Morningstar's Process pillar scores, which provides Morningstar's analyst opinion on the fund's strategy and whether the management has a competitive advantage enabling it to execute the process and consistently over time. Morningstar calculates the Quantitative Process pillar using an algorithm designed to predict the Process pillar score our fund analysts would assign to the fund. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), and Low (1).

Morningstar Quantitative Ratings **have not been made available** to the issuer of the security prior to publication.

### Risk Warning

The quantitative fund ratings are not statements of fact. Morningstar does not guarantee the completeness or accuracy of the assumptions or models used in determining the quantitative fund ratings. In addition, there is the risk that the return target will not be met due to such things as unforeseen changes in changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, and tax rate. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions. A change in the fundamental factors underlying the quantitative fund ratings can mean that the recommendation is subsequently no longer accurate.

For more information about Morningstar's quantitative methodology, please visit <https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx>

### Morningstar Category

Morningstar Category is assigned by placing funds into peer groups based on their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a fund's prospectus may not be sufficiently detailed for our proprietary classification methodology. Funds are placed in a category based on their portfolio statistics and compositions over the past three years. Analysis of performance and other indicative facts are also considered. If the fund is new and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent category assignment. Categories may be changed based on recent changes to the portfolio.

### Morningstar Rank

Morningstar Rank is the total return percentile rank within each Morningstar Category. The highest (or most favorable) percentile rank is zero and the lowest (or least favorable) percentile rank is 100. Historical percentile ranks are based on a snapshot of a fund at the time of calculation.

### Morningstar Rating™

The Morningstar Rating™ for funds, or "star rating", is calculated for funds and separate accounts with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. For more information about the Morningstar Rating

for funds, including its methodology, please go to [global.morningstar.com/managerdisclosures/](http://global.morningstar.com/managerdisclosures/).

### Morningstar Return

The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+Avg), the middle 35% Average (Avg), the next 22.5% Below Average (-Ave), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

### Morningstar Risk

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

### Morningstar Style Box™

The Morningstar Style Box™ reveals a fund's investment strategy as of the date noted on this report.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth.) A darkened square in the style box indicates the weighted average style of the portfolio.

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest-rate sensitivity as measured by a bond's effective duration. Morningstar seeks credit rating information from fund companies on a periodic basis (for example, quarterly). In compiling credit rating information, Morningstar accepts credit ratings reported by fund companies that have been issued by all Nationally Recognized Statistical Rating Organizations. For a list of all NRSROs, please visit <http://www.sec.gov/divisions/marketreg/ratingagency.htm>. Additionally, Morningstar accepts foreign credit ratings from widely recognized or registered rating agencies. If two rating organizations/ agencies have rated a security, fund companies are to report the lower rating; if three or more organizations/agencies have rated a security, fund companies are to report the median rating; and in cases where there are more than two organization/agency ratings and a median rating does not exist, fund companies are to use the lower of the two middle ratings.

Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the fund. NRSRO or rating agency ratings can change from time to time.

For credit quality, Morningstar combines the credit rating information provided by the fund companies with an average default rate calculation to come up with a weighted-average credit quality. The weighted-average credit quality is currently a letter that roughly corresponds to the scale used by a leading

NRSRO. Bond funds are assigned a style box placement of "low," "medium," or "high" based on their average credit quality. Funds with a "low" credit quality are those whose weighted-average credit quality is determined to be less than BBB; "medium" are those less than AA, but greater or equal to BBB; and "high" are those with a weighted-average credit quality of AA or higher. When classifying a bond portfolio, Morningstar first maps the NRSRO credit ratings of the underlying holdings to their respective default rates (as determined by Morningstar's analysis of actual historical default rates). Morningstar then averages these default rates to determine the average default rate for the entire bond fund. Finally, Morningstar maps this average default rate to its corresponding credit rating along a convex curve.

For interest-rate sensitivity, Morningstar obtains from fund companies the average effective duration. Generally, Morningstar classifies a fixed-income fund's interest-rate sensitivity based on the effective duration of the Morningstar Core Bond Index, which is currently three years. The classification of Limited will be assigned to those funds whose average effective duration is between 25% to 75% of MCBI's average effective duration; funds whose average effective duration is between 75% to 125% of the MCBI will be classified as Moderate; and those that are at 125% or greater of the average effective duration of the MCBI will be classified as Extensive.

For municipal-bond funds, Morningstar also obtains from fund companies the average effective duration. In these cases, static breakpoints are used. These breakpoints are as follows: (i) Limited: 4.5 years or less; (ii) Moderate: more than 4.5 years but less than 7 years; and (iii) Extensive: more than 7 years. In addition, for non-U.S. taxable and non-U.S. domiciled fixed-income funds, static duration breakpoints are used: (i) Limited: less than or equal to 3.5 years; (ii) Moderate: more than 3.5 years but less than or equal to 6 years; (iii) Extensive: more than 6 years.

Interest-rate sensitivity for non-U.S. domiciled funds (excluding funds in convertible categories) may be measured with modified duration when effective duration is not available.

### P/B Ratio TTM

The Price/Book Ratio (or P/B Ratio) for a fund is the weighted average of the P/B Ratio of the stocks in its portfolio. Book value is the total assets of a company, less total liabilities. The P/B ratio of a company is calculated by dividing the market price of its outstanding stock by the company's book value, and then adjusting for the number of shares outstanding. Stocks with negative book values are excluded from this calculation. It shows approximately how much an investor is paying for a company's assets based on historical valuations.

### P/C Ratio TTM

The Price/Cash Flow Ratio (or P/C Ratio) for a fund is the weighted average of the P/C Ratio of the stocks in its portfolio. The P/C Ratio of a stock represents the amount an investor is willing to pay for a dollar generated from a company's operations. It shows the ability of a company to generate cash and acts as a gauge of liquidity and solvency.

### P/E Ratio TTM

The Price/Earnings Ratio (or P/E Ratio) for a fund is the weighted average of the P/E Ratios of the stocks in its portfolio. The P/E Ratio of a stock is the stock's current price divided by the company's trailing 12-month earnings per share. A high P/E Ratio usually indicates the market will pay more to obtain the company's earnings because it believes in the company's abilities to increase their earnings. A low P/E Ratio indicates the market has less confidence that the company's earnings will increase, however value investors may believe such stocks have an overlooked or undervalued potential for appreciation.

### Percentile Rank in Category

Percentile Rank is a standardized way of ranking items within a peer group, in this case, funds within the same Morningstar Category. The observation with the largest numerical value is ranked zero the observation with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable for returns (high returns), while higher percentile ranks are generally more favorable for risk measures (low risk).

### Performance Quartile

Performance Quartile reflects a fund's Morningstar Rank.

### Potential Capital Gains Exposure

Potential Capital Gains Exposure is an estimate of the percent of a fund's assets that represent gains. It measures how much the fund's assets have appreciated, and it can be an indicator of possible future capital gains distributions. A positive potential capital gains exposure value means that the fund's holdings have generally increased in value while a negative value means that the fund has reported losses on its book.

### Quarterly Returns

Quarterly Return is calculated applying the same methodology as Total Return except it represents return through each quarter-end.

### R-Squared

R-squared is the percentage of a security or portfolio's return movements that are explained by movements in its benchmark index, showing the degree of correlation between the security or portfolio and the benchmark. This figure is helpful in assessing how likely it is that beta and alpha are statistically significant. A value of 1 indicates perfect correlation between the security or portfolio and its benchmark. The lower the R-squared value, the lower the correlation.

### Regional Exposure

The regional exposure is a display of the portfolio's assets invested in the regions shown on the report.

### Sector Weightings

Super Sectors represent Morningstar's broadest classification of equity sectors by assigning the 11 equity sectors into three classifications. The Cyclical Super Sector includes industries significantly impacted by economic shifts, and the stocks included in these sectors generally have betas greater than 1. The Defensive Super Sector generally includes industries that are relatively immune to economic cycles, and the stocks in these industries generally have betas less than 1. The Sensitive Super Sector includes industries that ebb and flow with the overall economy, but not severely so. Stocks in the Sensitive Super Sector generally have betas that are close to 1.

### Share Change

Shares Change represents the number of shares of a stock bought or sold by a fund since the previously reported portfolio of the fund.

### Sharpe Ratio

Sharpe Ratio uses standard deviation and excess return (a measure of a security or portfolio's return in excess of the U.S. Treasury three-month Treasury Bill) to determine the reward per unit of risk.

### Standard Deviation

Standard deviation is a statistical measure of the volatility of the security or portfolio's returns. The larger the standard deviation, the greater the volatility of return.

### Standardized Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the security was purchased at the beginning of the period and sold at the end, incurring transaction charges.

### Total Return

Total Return, or "Non Load-Adjusted Return", reflects performance without adjusting for sales charges (if applicable) or the effects of taxation, but it is adjusted to reflect all actual ongoing security expenses and assumes reinvestment of dividends and capital gains. It is the return an investor would have experienced if the fund was held throughout the period. If adjusted for sales charges and the effects of taxation, the performance quoted would be significantly reduced.

Total Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

### Trailing Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the fund was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Load-Adjusted Monthly Return is calculated applying the same methodology as Standardized Return, except that it represents return through month-end. As with Standardized Return, it reflects the impact of sales charges and ongoing fund expenses, but not taxation. If adjusted for the effects of taxation, the performance quoted would be significantly different.

Trailing Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

## Investment Risks

**International/Emerging Market Equities:** Investing in international securities involves special additional risks. These risks include, but are not limited to, currency risk, political risk, and risk associated with varying accounting standards. Investing in emerging markets may accentuate these risks.

**Sector Strategies:** Portfolios that invest exclusively in one sector or industry involve additional risks. The lack of industry diversification subjects the investor to increased industry-specific risks.

**Non-Diversified Strategies:** Portfolios that invest a significant percentage of assets in a single issuer involve additional risks, including share price fluctuations, because of the increased concentration of investments.

**Small Cap Equities:** Portfolios that invest in stocks of small companies involve additional risks. Smaller companies typically have a higher risk of failure, and are not as well established as larger blue-chip companies. Historically, smaller-company stocks have experienced a greater degree of market volatility than the

overall market average.

**Mid Cap Equities:** Portfolios that invest in companies with market capitalization below \$10 billion involve additional risks. The securities of these companies may be more volatile and less liquid than the securities of larger companies.

**High-Yield Bonds:** Portfolios that invest in lower-rated debt securities (commonly referred to as junk bonds) involve additional risks because of the lower credit quality of the securities in the portfolio. The investor should be aware of the possible higher level of volatility, and increased risk of default.

**Tax-Free Municipal Bonds:** The investor should note that the income from tax-free municipal bond funds may be subject to state and local taxation and the Alternative Minimum Tax.

**Bonds:** Bonds are subject to interest rate risk. As the prevailing level of bond interest rates rise, the value of bonds already held in a portfolio declines. Portfolios that hold bonds are subject to declines and increases in value due to general changes in interest rates.

**HOLDRs:** The investor should note that these are narrow industry-focused products that, if the industry is hit by hard times, will lack diversification and possible loss of investment would be likely. These securities can trade at a discount to market price, ownership is of a fractional share interest, the underlying investments may not be representative of the particular industry, the HOLDR might be delisted from the AMEX if the number of underlying companies drops below nine, and the investor may experience trading halts.

**Hedge Funds:** The investor should note that hedge fund investing involves specialized risks that are dependent upon the type of strategies undertaken by the manager. This can include distressed or event-driven strategies, long/short strategies, using arbitrage (exploiting price inefficiencies), international investing, and use of leverage, options and/or derivatives. Although the goal of hedge fund managers may be to reduce volatility and produce positive absolute return under a variety of market conditions, hedge funds may involve a high degree of risk and are suitable only for investors of substantial financial means who could bear the entire loss of their investment.

**Bank Loan/Senior Debt:** Bank loans and senior loans are impacted by the risks associated with fixed income in general, including interest rate risk and default risk. They are often non-investment grade; therefore, the risk of default is high. These securities are also relatively illiquid. Managed products that invest in bank loans/senior debt are often highly leveraged, producing a high risk of return volatility.

**Exchange Traded Notes (ETNs):** ETNs are unsecured debt obligations. Any repayment of notes is subject to the issuer's ability to repay its obligations. ETNs do not typically pay interest.

**Leveraged ETFs:** Leveraged investments are designed to meet multiples of the return performance of the index they track and seek to meet their fund objectives on a daily basis (or other time period stated within the prospectus objective). The leverage/gearing ratio is the amount of excess return that a leveraged investment is designed to achieve in comparison to its index performance (i.e. 200%, 300%, -200%, or -300% or 2X, 3X, -2X, -3X). Compounding has the ability to affect the performance of the fund to be either greater or less than the index performance multiplied by the multiple stated within the funds objective over a stated time period.

**Short Positions:** When a short position moves in an unfavorable way, the losses are theoretically unlimited. The broker may demand more collateral and a manager might have to close out a short position at an inopportune time to limit

further losses.

**Long-Short:** Due to the strategies used by long-short funds, which may include but are not limited to leverage, short selling, short-term trading, and investing in derivatives, these funds may have greater risk, volatility, and expenses than those focusing on traditional investment strategies.

**Liquidity Risk:** Closed-end fund, ETF, and HOLDR trading may be halted due to market conditions, impacting an investor's ability to sell a fund.

**Market Price Risk:** The market price of ETFs, HOLDRs, and closed-end funds traded on the secondary market is subject to the forces of supply and demand and thus independent of the NAV. This can result in the market price trading at a premium or discount to the NAV, which will affect an investor's value.

**Market Risk:** The market prices of ETFs and HOLDRs can fluctuate as a result of several factors, such as security-specific factors or general investor sentiment. Therefore, investors should be aware of the prospect of market fluctuations and the impact it may have on the market price.

**Target-Date Funds:** Target-date funds typically invest in other mutual funds and are designed for investors who are planning to retire during the target date year. The fund's target date is the approximate date when investors expect to begin withdrawing their money. A target-date fund's investment objective/strategy typically becomes more conservative over time, primarily by reducing its allocation to equity mutual funds and increasing its allocations in fixed-income mutual funds. An investor's principal value in a target-date fund is not guaranteed at any time, including at the fund's target date.

**High double- and triple-digit returns:** High double- and triple-digit returns were the result of extremely favorable market conditions, which may not continue to be the case. High returns for short time periods must not be a major factor when making investment decisions.

## Benchmark Disclosure

### Bloomberg Commodity TR USD

The DJ UBS Commodity Index is composed of futures contracts on physical commodities. Unlike equities, which typically entitle the holder to a continuing stake in a corporation, commodity futures contracts normally specify a certain date for the delivery of the underlying physical commodity. In order to avoid the delivery process and maintain a long futures position, nearby contracts must be sold and contracts that have not yet reached the delivery period must be purchased. This process is known as "rolling" a futures position.

The DJ UBS Commodity Index is composed of commodities traded on U.S. exchanges, with the exception of aluminum, nickel and zinc, which trade on the London Metal Exchange (LME). The constituents displayed for this index are from the following proxy: iShares Diversified Commodity Swap (DE).

### Bloomberg US Agg Bond TR USD

This index is composed of the BarCap Government/Credit Index, the Mortgage-Backed Securities Index, and the Asset-Backed Securities Index. The returns we publish for the index are total returns, which includes the daily reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares Core US Aggregate Bond ETF.

### Bloomberg US Corp Bond TR USD

Description unavailable.

### Bloomberg US Universal TR USD

BarCap U.S. Universal Bond Index: The U.S. Universal Index mirrors the increasingly popular "Core Plus" choice set used by many U.S.-dollar investors. It is the union of the U.S. Aggregate Index, the U.S. High Yield Corporate Index, the 144A Index, the Eurodollar Index, the Emerging Markets Index, the non-ERISA portion of the CMBS Index, and the CMBS High Yield Index. Municipal debt, private placements, and non-dollar-denominated issues are excluded from the Universal Index. The constituents displayed for this index are from the following proxy: iShares Core Total USD Bond Market ETF.

### ICE BofA Fxd Rate Pref TR USD

Description unavailable. The constituents displayed for this index are from the following proxy: Invesco Preferred ETF.

### ICE BofA US Conv Bonds TR USD

Tracks the returns of U.S.-traded convertible debt issued by companies with a significant presence in the United States. The index is composed of various combinations of convertible structure and credit quality, e.g. it includes investment-grade, speculative-grade, and non-rated issues. The returns we publish for the index are total returns, which include reinvestment of dividends.

### ICE BofA US High Yield TR USD

The US High Yield Master II Index tracks the performance of below investment grade US dollar-denominated corporate bonds publicly issued in the US domestic market. "Yankee" bonds are included in the Index provided the issuer is domiciled in a country having an investment grade foreign currency long-term debt rating. 144a issues are not included in the index until they are exchanged for registered securities. Qualifying bonds must have at least one year remaining term to maturity, a fixed coupon schedule and a minimum amount outstanding of USD 100 million.

### JPM EMBI Global Diversified TR USD

Description unavailable.

### Morningstar EM Bd GR USD

Description unavailable.

### Morningstar EM TME GR USD

Description unavailable.

### Morningstar Gbl Mkts xUS GR USD

Description unavailable.

### Morningstar Mod Tgt Risk TR USD

The Morningstar Moderate Target Risk Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in a static allocation appropriate for U.S. investors who seek average exposure to equity market risk and returns.

### Morningstar US Core Bd TR USD

Description unavailable.

### Morningstar US Corp Bd TR Hdg USD

Description unavailable.

### Morningstar US HY Bd TR USD

Description unavailable.

### Morningstar US Real Estate TR USD

The Real Estate Sector tracks the performance of companies that manufacture machinery, hand-held tools and industrial products. This sector also includes

aerospace and defense firms as well as companies engaged in transportation and logistic services.

#### **MSCI ACWI Ex USA Growth NR USD**

Description unavailable. The constituents displayed for this index are from the following proxy: iShares MSCI ACWI ETF.

#### **MSCI ACWI Ex USA NR USD**

The MSCI AC World ex USA is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global developed and emerging markets. The index consists of 48 developed and emerging market country indices. The returns we publish for the index are total returns, which include reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares MSCI ACWI ex US ETF.

#### **MSCI ACWI NR USD**

The index measures the performance of the large and mid cap segments of all country markets. It is free float-adjusted market-capitalization weighted. The constituents displayed for this index are from the following proxy: iShares MSCI ACWI ETF.

#### **MSCI EAFE NR USD**

This Europe, Australasia, and Far East index is a market-capitalization-weighted index of 21 non-U.S., industrialized country indexes.

This disclosure applies to all MSCI indices: Certain information included herein is derived by Morningstar in part from MSCI's Index Constituents (the "Index Data"). However, MSCI has not reviewed any information contained herein and does not endorse or express any opinion such information or analysis. MSCI does not make any express or implied warranties, representations or guarantees concerning the Index Data or any information or data derived therefrom, and in no event will MSCI have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) relating to any use of this information. The constituents displayed for this index are from the following proxy: Schwab International Index Fund®.

#### **MSCI EM NR USD**

Description unavailable. The constituents displayed for this index are from the following proxy: iShares MSCI Emerging Markets ETF.

#### **MSCI World Ex USA SMID Growth NR USD**

Description unavailable.

#### **Russell 1000 TR USD**

Consists of the 1000 largest companies within the Russell 3000 index, which represents approximately 98% of the investable US equity market. Also known as the Market-Oriented Index, because it represents the group of stocks from which most active money managers choose. The constituents displayed for this index are from the following proxy: iShares Russell 1000 ETF.

#### **Russell 2000 TR USD**

Consists of the 2000 smallest companies in the Russell 3000 Index. The constituents displayed for this index are from the following proxy: iShares Russell 2000 ETF.

#### **Russell 2000 Value TR USD**

Tracks the companies within the Russell 2000 Index that have lower price-to-book ratios and lower forecasted growth values. The constituents displayed for this index are from the following proxy: iShares Russell 2000 Value ETF.

#### **Russell 3000 TR USD**

Composed of the 3000 largest U.S. companies by market capitalization, representing approximately 98% of the U.S. equity market. The constituents displayed for this index are from the following proxy: Vanguard Russell 3000 Index Fund.

#### **Russell Mid Cap TR USD**

Measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 25% of the total market capitalization of the Russell 1000 Index. The constituents displayed for this index are from the following proxy: iShares Russell Mid-Cap ETF.

#### **S&P 500 TR USD**

A market capitalization-weighted index composed of the 500 most widely held stocks whose assets and/or revenues are based in the US; it's often used as a proxy for the U.S. stock market. TR (Total Return) indexes include daily reinvestment of dividends. The constituents displayed for this index are from the following proxy: SPDR® S&P 500 ETF Trust.

#### **S&P United States REIT TR USD**

Description unavailable. The constituents displayed for this index are from the following proxy: First Trust S&P REIT Fund.

#### **S&P/LSTA Leveraged Loan TR**

Description unavailable.

#### **USTREAS T-Bill Auction Ave 3 Mon**

Three-month T-bills are government-backed, short-term investments considered to be risk-free and as good as cash because the maturity is only three months. Morningstar collects yields on the T-bill on a weekly basis from the Wall Street Journal.



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## H. Sample Portfolio Update

**SUMMARY**

- PFM's Multi-Asset Class Investment Committee (the "Committee") has voted to reduce the allocation to convertibles and use the recent market volatility as an opportunity to rebalance multi-asset client portfolios while maintaining a slight overweight to equities and underweight to fixed income.
- Within domestic equity, the Committee voted to add exposure to the S&P 500 Equal Weight Index to reduce exposure to mega-cap companies.
- Within international equity, the Committee voted to add exposure to developed ex-U.S. and to emerging markets, while maintaining an underweight to emerging markets.

**ASSESSMENT**

In the first few weeks of 2022, the equity markets have experienced an increase in volatility, with the S&P 500 Index and Russell 3000 Index experiencing a market correction. In addition, the yield on 10-year Treasury rose since the end of last year while credit spreads widened slightly, but still close to historic lows.

After maintaining accommodative monetary policy through 2021, even as the economy continued to grow above-trend, the U.S. Federal Reserve ("Fed") has indicated an end to its quantitative easing program and projects multiple rate hikes in 2022. As the market considered these rate hikes in the run up to the Fed meeting on January 26th, the equity markets reacted negatively. The Fed is expected to increase rates in March and the pace of further tightening, including shrinking of the Fed's balance sheet, will be driven by inflation expectations - the latest readings for CPI (Consumer Price Inflation) and Core CPI were at 7.0% and 5.5% respectively, the highest levels since 1990. These inflation figures have been impacted by an increase in demand as well as supply constraints, leading it to significantly exceed the Fed's average inflation target of 2.0%.

During periods of low interest rates and accommodative monetary policy, equity markets favored companies with strong growth and, in turn, has placed high valuations on these companies. This has led to outsized returns for mega-cap companies (such as Alphabet and Microsoft) that exhibited strong earnings growth through the slowdown in 2020 and early phases of recovery in 2021. The IMF (International Monetary Fund) expects the U.S. economy to grow at 4.0% and 2.6% in 2022 and 2023, down from 5.6% in 2021. Looking ahead, the Committee expects earnings growth and equity market returns to be more broad-based, as the U.S. economy continues to recover and reopen. Earnings contribution of the top 10 companies in the S&P 500 (based on last 12 months earnings) has fallen recently from 34.0% in 2021 to 26.2%. Earnings growth expectations for an equal weighted S&P 500 Index are better than the market-cap weighted S&P 500 Index, pointing to a broad-based recovery. At the same time, valuations for the equal weighted S&P 500 Index look attractive relative to the market-cap weighted S&P 500 Index. As a result, the Committee voted to add an allocation to the equal weighted S&P 500 Index through the Invesco S&P 500 Equal Weight ETF.

Convertibles were added to multi-asset class portfolios to diversify fixed income exposure at a time of rising interest rates. Given the volatility exhibited by the underlying stocks of the convertibles index and the impact it has had on the recent performance, the Committee has decided to slightly reduce the allocation to convertibles and to slightly increase the allocation to fixed income. Even after this trade, portfolios continue to maintain a significant underweight to fixed income.

According to the IMF, advanced economies are expected to recover to pre-pandemic levels of output this year, while emerging economies are expected to grow below the pre-pandemic level of output driven by

uneven recovery and slower growth in China. The Committee believes that developed economies (outside the U.S.) are on a path of continued economic recovery, with very attractive valuations – MSCI ACWI ex USA currently trades at a 30.2% discount to S&P 500 based on forward 12-month P/E (the 20-year average is 13.3% discount). Japan is expected to show a strong recovery in 2022 due to additional fiscal stimulus unveiled in November 2021 and an accommodative monetary policy. The European recovery in 2021 was hurt by multiple lockdowns and supply chain constraints. With rising vaccination rates and receding supply chain constraints during the latter half of 2022, the Committee voted to add a dedicated allocation to developed ex-U.S. markets through the Vanguard FTSE Developed Markets ETF. The Committee also voted to slightly increase the allocation to emerging markets by increasing exposure to Schroders Global Emerging Markets. At the same time, the Committee maintains a cautious view on China due to rising regulatory concerns and, as a result, client portfolios remain underweight to emerging markets.

The biggest risk to the above outlook is Russia's invasion of Ukraine. Russia has currently lined up troops at the border and is negotiating to ensure that Ukraine is not admitted to NATO (North Atlantic Treaty Organization) and that NATO limits the deployment of weapons in Eastern Europe. The U.S. and other European nations have threatened Russia with harsh sanctions in case of an invasion and are currently pursuing diplomatic negotiations. This volatile situation is weighing on the market sentiment. A full-blown conflict involving all NATO members will have economic and market repercussions. The Committee views that a full-blown global conflict is less likely but is closely monitoring the situation.

### PORTFOLIO IMPLICATIONS

The Committee is looking past the Omicron related slowdown and is positive on economic growth for 2022. After a very strong rebound in 2021, S&P 500 earnings are expected to grow at 9.4% in 2022 (according to FactSet Earnings Insight as of 1/13/2022). Corporate fundamentals remain supportive of equity markets and the Committee is closely watching for an impact of rising input costs and higher inflation on corporate earnings and profit margins. The Fed's tightening policy, inflation expectations, Russia-Ukraine conflict and newer COVID variants that could derail recovery are other factors to closely watch. Amidst this backdrop, multi-asset class portfolios remain overweight equities and underweight fixed income relative to policy targets as the Committee used the recent volatility to rebalance portfolios back to target.

We appreciate your continued confidence in PFMAM. Should you have any specific questions or wish to discuss this topic in more detail, please contact your client manager directly.



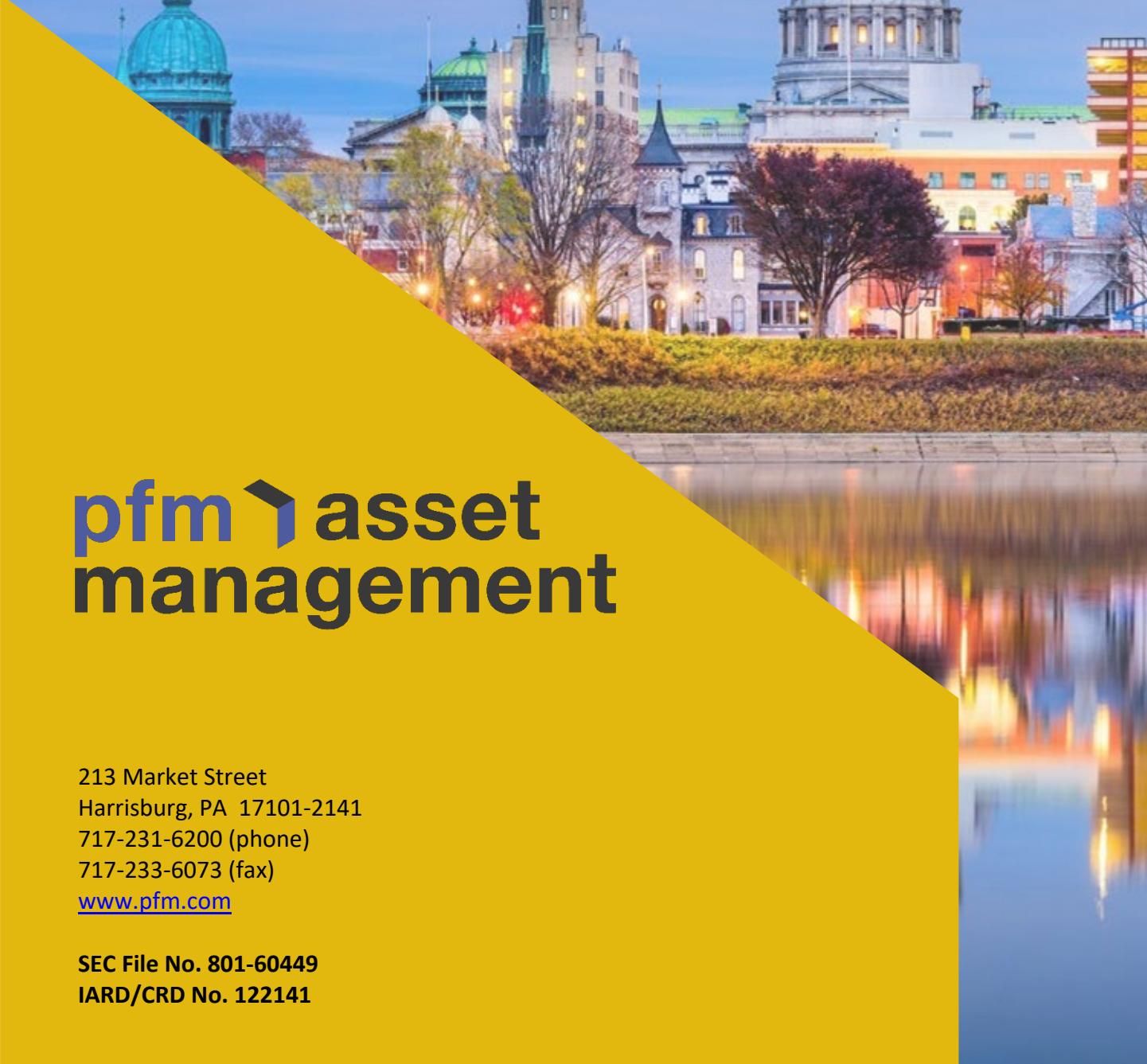
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## **I. PFMAM Form ADV 2A & 2B**

# Form ADV, Part 2A

Brochure

December 23, 2021



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management**

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SEC File No. 801-60449  
IARD/CRD No. 122141

# Brochure

## What you need to know

This brochure provides information about the qualifications and business practices of PFM Asset Management LLC. If you have any questions about the contents of this brochure, please contact us at [pfmamrequest@pfmam.com](mailto:pfmamrequest@pfmam.com). The information in this brochure has not been approved or verified by the United States Securities and Exchange Commission or by any state securities authority.

Additional information about PFM Asset Management LLC is also available on the SEC's website at [www.adviserinfo.sec.gov](http://www.adviserinfo.sec.gov). The searchable IARD/CRD number for PFM Asset Management LLC is 122141.

PFM Asset Management LLC is a Registered Investment Adviser. Registration with the United States Securities and Exchange Commission or any state securities authority does not imply a certain level of skill or training.

## Notice of material changes

The following is a summary of material changes from our last Brochure dated March 30, 2021:

Effective December 7, 2021, PFM Asset Management LLC (PFMAM) became a wholly-owned subsidiary of U.S. Bancorp Asset Management, Inc. (USBAM). USBAM is a direct wholly-owned subsidiary of U.S. Bank National Association (U.S. Bank) and an indirect wholly-owned subsidiary of U.S. Bancorp. PFMAM continues to operate as a separate registered investment adviser.

Changes made throughout this Brochure are reflective of this new relationship and are focused primarily in the following areas:

- Item 4: Advisory Business
- Item 5: Fees and Compensation
- Item 10: Other Financial Industry Activities and Affiliations
- Item 11: Code of Ethics, Participation or Interest in Client Transactions and Personal Trading
- Item 12: Brokerage Practices
- Item 14: Client Referrals and Other Compensation
- Item 15: Custody
- Item 17: Voting Client Securities

We may, at any time, make material changes to this Brochure and if we do, we will either send you a copy or offer to send you a copy (either by electronic means (email) or in hard copy form). If you would like another copy of this Brochure, please download it from the SEC website as indicated above or you may contact our Chief Compliance Officer, Leo Karwejna, at 717-231-6200 or at [pfmamrequest@pfmam.com](mailto:pfmamrequest@pfmam.com).

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#### Item 4: Advisory Business

Effective December 7, 2021, PFMAM became a wholly-owned subsidiary of USBAM. USBAM is a direct wholly-owned subsidiary of U.S. Bank and an indirect wholly-owned subsidiary of U.S. Bancorp. U.S. Bank is not responsible for and does not guarantee the products, services or performance of PFMAM. PFMAM continues to operate as a separate registered investment adviser.

PFMAM is a Delaware limited liability company.

As of December 31, 2020, the amount of client assets we managed on a discretionary basis was \$120,618,630,588 and the amount we managed on a nondiscretionary basis was \$550,367,371. In addition, as of December 31, 2020, we provided investment consulting services with respect to assets in the amount of \$42,869,033,881.

We offer the following types of investment advice:

##### Discretionary Advice

We offer discretionary advisory services for government, nonprofit and other institutional investors who invest in fixed-income and multi-asset class strategies. When a client gives us investment discretion, we have the authority to determine, without obtaining specific approval, (1) overall asset allocation, (2) the specific securities to be bought and sold, (3) the amount of securities to be bought and sold and (4) the broker or dealer through which the securities are bought or sold. For some accounts we may also have discretion to select the manager or sub-adviser to be utilized to manage some, or all, of the portfolio assets. These decisions are subject to limitations of law and restrictions in the contract with our client and limitations in our client's written investment policies. For discretionary advisory engagements, we assume day-to-day management responsibility for the assets covered by the investment advisory agreement. Examples of the securities we may recommend include U.S. Treasury securities, Federal Agency securities, high-grade corporate obligations, mortgage and asset backed securities, municipal securities, institutional mutual funds (including exchange traded funds) and money market instruments. We arrange for the purchase and sale of these securities to meet the investment objectives and cash flow requirements of each client.

We manage many fixed-income portfolios on a total return basis. We also implement liability-driven strategies that seek to generate cash flows from a portfolio of fixed-income securities to match specific liabilities such as bond-funded defeasance accounts, construction accounts and insurance liabilities.

We also provide services to the PFM Multi-Manager Series Trust (MMST or the Trust), a registered open-end investment company, utilizing a manager-of-managers structure. The Trust offers several funds (MMST Funds), with each MMST Fund having specific investment objectives, policies, and restrictions. We are responsible for, among other overall management services, determining investment strategies, selecting and monitoring unaffiliated investment sub-advisers for each MMST Fund and for allocating and reallocating assets among the sub-advisers consistent with each MMST Fund's investment objective and strategies. We can also purchase securities directly for the MMST Funds.

For some of our clients, including trusts, pension plans, endowments, foundations, other post-employment benefits (OPEB) plans or other similar asset pools, we serve as a discretionary manager to invest a client's assets in multiple types of investments. Generally, these accounts include a variety of asset classes, which may include domestic equity, international equity, fixed income and alternative asset classes, including shares of MMST Funds.

We provide discretionary multi-asset class investment services for multi-asset class mandates (sometimes known as outsourced CIO, implemented consulting and a variety of other generic terms). We work with the client to determine a target asset allocation based on a variety of risk and return characteristics. We then implement the asset allocation, either by buying shares of mutual funds (including exchange-traded funds [ETF's] and shares of the MMST Funds) and/or pooled funds or other investment vehicles (collectively, Funds), or by selecting separate investment managers (sub-advisers) who will manage separate accounts of specific asset classes and/or strategies. Under this approach, we have discretion to make the initial selection of the funds or investment sub-advisers. We also provide ongoing periodic monitoring by evaluating the Fund's or the investment sub-adviser's portfolio management philosophy, policies, processes, controls, personnel and investment performance. Clients who hire us give us authority to change, drop or add funds or investment sub-advisers. The client generally gives the investment sub-advisers both investment and brokerage discretion in managing its portion of the portfolio. We prepare for these clients periodic reports on the investment performance of the various funds, investment sub-advisers and the portfolio as a whole.

We also offer clients the option to integrate ESG (Environmental, Social and Governance) factors into the investment approach employed for their separately managed fixed-income or multi-asset class strategies. Through this approach, our clients define objective ESG investment parameters that would be applied to select permitted issuers for their separately managed fixed-income portfolio and permitted funds, strategies and/or managers for their multi-asset class strategies. In addition, our multi-asset class ESG strategy provides clients with the option to implement ESG into a dedicated sleeve of the portfolio or in funds or managers that incorporate ESG themes or considerations.

We utilize third-party ESG data and analytics to evaluate issuer level and equity fund level ESG risks. For multi-asset class strategies, eligible domestic equity funds are required to meet certain screening criteria on a best-efforts basis. We monitor those funds' ESG risk scores to help ensure they continue to exhibit the appropriate ESG risk characteristics.

## **Services to Registered Investment Companies and Local Government Investment Pools**

PFMAM currently provides investment advisory and/or administrative services to 18 pooled investment programs (generally known as local government investment pools) across 15 states and one registered investment company whose series or classes are registered in multiple states. We generally, but not always, provide administration services and an affiliate generally provides distribution services as described in this document. Where PFMAM is the investment adviser to a pooled investment vehicle, investment objectives, guidelines and any investment restrictions are described in the relevant offering documents for the vehicle.

## **Nondiscretionary Advice**

We also may provide advice on a nondiscretionary basis where we offer clients investment recommendations, subject to their specific approval and further execution instructions. In this case our client makes trades directly or specifically approves our purchase or sale of specific securities, which may include non-negotiable certificates of deposit.

## **Consulting Services**

We also provide nondiscretionary investment consulting services to:

- governmental entities,
- public, Taft-Hartley and corporate pension funds,
- hospital endowments and foundations,
- trusts,
- OPEB plans, and
- other similar institutional investors.

As a consultant we may provide advice to the client in developing or revising its investment policy, evaluating investment options, establishing and implementing a target asset allocation, determining performance benchmarks, and selecting money managers, pooled trusts or mutual funds to carry out the client's investment strategy. Subject to the client's specific approval, we may also purchase or sell pooled trusts or mutual funds, hire or drop managers, or reallocate assets between managers or funds.

We typically begin these services by assessing the client's investment objectives, time horizon and risk tolerance. As part of our consulting service, we provide reporting that may include an inventory of holdings, portfolio analytics, credit analysis and investment performance, and whether the client's portfolio complies with its investment policy.

Our consulting services to OPEB plans and pension plans may involve financial reporting, analyzing cash flow implications of different funding strategies, and other matters relating to the OPEB benefits or pension benefits and funding arrangements. Often, we perform these services by working with our client's other professional advisors, such as the client's auditor or actuary.

## Structured Products

We also provide analytical services for structuring and procuring portfolios in connection with the current issuance or advance refunding of municipal bonds and the investment of bond proceeds. For these engagements we arrange for purchases of specific securities that are generally government obligations or structured investments such as forward delivery agreements or guaranteed investment contracts by obtaining bids on a competitive basis or by negotiating on behalf of our client.

## Services for Corporations, Insurers, Banks and Other Similar Financial Institutions

We also provide discretionary and nondiscretionary advice tailored for corporations, insurers, banks and other similar financial institutions which invest in fixed-income securities. These services are tailored to the particular investment needs, restrictions and requirements which apply to these types of clients.

These services may be subject to limitations of certain industry or regulatory requirements, and any other restrictions in the contract with our client and our client's written investment policies. Examples of the securities we may recommend include U.S. Treasury securities, Federal Agency securities, high-grade corporate obligations, mortgage and asset backed securities, institutional bond mutual funds, municipal securities and money market instruments. We arrange for or recommend the purchase and sale of these securities to meet the investment objective, strategies, and risk preferences of each client.

## Stable Value Management

We also offer stable value investment strategies for employee benefit plans that typically include fixed-income investments and benefit-responsive wrap contracts or "wrappers" offered by insurance companies and banks with an overall objective of seeking capital preservation and current income. Stable value strategies are generally offered to defined contribution retirement plan participants either as a separately managed account which we presently offer or via a sponsor's commingled fund.

These structures may utilize any or all of the following types of investments, which we refer to as "stable value contracts":

- **Guaranteed Investment Contracts (GIC):** A stable value investment contract issued by an insurance company that pays a specified rate of return for a specified period and is backed by the financial strength of the issuing entity. The GIC is supported by securities which are typically held on the issuing insurer's balance sheet in either a general or separate account.

- **Synthetic GIC:** A stable value investment contract issued by an insurance company or a bank that simulates the performance of a GIC through the use of financial instruments. The underlying assets associated with a synthetic GIC are held in trust for the benefit of the investing plan's participants. Those assets typically include high-quality fixed-income securities which are actively managed. To enable the policyholder to realize a specific known value for the assets if it there is a need to liquidate them, synthetic GICs utilize a benefit-responsive wrap contract that is designed to provide market, credit and cash flow risk protection to the policyholder.
- **Separate account GIC:** A stable value investment contract issued by an insurance company. The underlying assets which we may sub-advise are owned by the issuing insurance company but held in a separate account for the benefit of a participating plan or plans.

Synthetic GICs and separate account GICs typically require that the account be managed within specified investment guidelines as a part of the underwriting and contract process of the issuer of the contract. These additional guidelines serve to limit the scope or types of investments otherwise included within a client portfolio.

As part of a stable value strategy for the assets we manage, we will make allocations to various underlying internally managed PFMAM and externally managed third-party fixed income investment accounts, monitor and maintain portfolio duration, and coordinate the resources of various investment, legal and compliance professionals and third-party managers. An ongoing review of portfolio structure, cash flow history, guidelines and objectives for each client will occur. We may provide a full range of services such as advising on overall structure or third-party manager asset allocation.

Acquiring stable value contracts is an important aspect of stable value management. Where requested, we will identify and select, or assist in the selection of, the financial organizations issuing stable value contracts and negotiate contracts on behalf of clients.

## General Approach to Advisory Services

We tailor our advisory services taking into account the following factors:

- the services that the client has requested,
- the client's investment objective,
- the client's investment policy,
- the client's time horizon, and
- the client's risk tolerance.

A client may impose additional restrictions, including restrictions on the types, quality or maturity of securities in which we can invest. We adhere to any investment restrictions provided by the client.

## Item 5: Fees and Compensation

The fees we charge our advisory clients vary depending upon several factors including the types of investments permitted, the personnel providing the advisory services, the particular strategy, the size of portfolio being managed, the relationship with the client, and service requirements associated with the account.

Fees may also differ based on account type (e.g., a commingled, pooled account or a separate individual portfolio account).

### Fees for Discretionary Advice – Separate Accounts

We generally receive compensation calculated as a percentage of assets we manage. We receive this compensation after a service is provided, and we bill in arrears on a monthly or quarterly basis. As a general

guideline, we charge the following fees for investment advisory services for fixed-income separate account management and stable value strategy management:

Fixed-Income Assets Under Management	Annual Rate
First \$25,000,000	0.25%
In excess of \$25,000,000	0.15%

Stable Value Assets Under Management	Annual Rate
First \$50,000,000	0.30%
Next \$50,000,000	0.25%
Next \$150,000,000	0.15%
Next \$250,000,000	0.10%
In excess of \$500,000,000	0.075%

Generally, the fees we charge for these types of engagements are calculated based on the value of the assets as determined by us using the agreed-upon measure in the contract with our client.

As a general guideline for the multi-asset class discretionary management, we charge the following fees for investment advisory services:

Assets Under Management	Annual Rate
First \$10,000,000	0.45%
Next \$10,000,000	0.35%
Next \$30,000,000	0.25%
Next \$50,000,000	0.20%
In excess of \$100,000,000	0.15%

Generally, the fees we charge for these types of engagements are calculated based on the agreed-upon measure in the contract with our client, typically market value of assets or amortized value plus accrued interest, as determined by the custodian.

### Registered Investment Companies and Pools

The fees we charge for the investment services we provide to the registered investment company and local government investment pools vary by program. The fee schedule may include various breakpoints depending on asset levels and may include fee caps or waivers which can be triggered by the overall expense ratio of the pool. We may also receive compensation for providing marketing and administrative services to the registered investment company or local government investment pools.

We generally provide these administrative and marketing services as an integral part of our investment advisory services, and the fees we receive for these services may be included as a component of the investment advisory fees we charge.

### **Nondiscretionary Advice**

We generally charge fixed fees for these services, depending upon the services that the client requests, and the complexity of the services.

We also offer nondiscretionary advice on certificate of deposit investment programs, which are designed to provide clients with a fixed rate to a fixed maturity date. Fees typically range up to 0.25% per annum of the cost of the investment purchased by our clients. Under the certificate of deposit programs, we provide clients with the option to set aside moneys in client accounts to pay our fee after we have performed the service.

### **Consulting Services**

For investment consulting services we generally charge clients either a fixed fee or a fee that is based on a percentage of assets. The fixed fee is based on the size of the portfolio, complexity, and scope of services which we perform. As a general guideline, we charge asset-based fees in a range from 0.05% to 0.30% annually, based on the characteristics listed above. From time to time, we charge hourly fees for these types of services.

### **Structured Products**

In these engagements, we usually charge a fixed fee. We and our clients agree upon a fee at the outset of each of these engagements and the fee is a function of the size and complexity of the engagement. The client may pay the fee or may instruct the investment contract counterparty or underwriter in writing to pay our fee on the client's behalf. As a general guideline, the typical fee for investment of municipal bond proceeds in a structured investment, or in a refunding bond escrow structuring and procurement engagement, is less than or equal to 0.20% of the cost of the portfolio or the sum of the total deposits under the agreement. In limited circumstances, the fee percentage will be higher, often because the portfolio is small.

### **Other Important Information About Our Compensation**

Because we tailor our services to the individual needs of a client, we may offer clients more than one of the services described above. In addition, we may also provide services not mentioned above, such as assisting our clients with a one-time purchase or sale of securities. The fees we charge are negotiable and vary depending upon the particular services we perform and the complexity and extent of the work we provide.

We may charge a minimum fee for small accounts, as explained in Item 5, subsection 1 above. Other than these minimum fee requirements, there are no other requirements for maintaining the account.

Fees are negotiable so one client may pay a higher fee than another client with similar investment objectives or goals.

For some accounts, we may charge a minimum fee and for some we may apply a fee cap.

All fees are payable to us only after we perform the services. We do not require our clients to pay our fees in advance. Under the majority of our investment advisory engagements clients authorize us to deduct fees from their investment accounts after they are notified. Under some engagements, the client pays our fees from other sources. The method of payment of our fees is subject to negotiation, and clients have the ability to choose the method of payment, depending on the type of service. For most of our accounts, we bill monthly in arrears. Under some client contracts we bill the client quarterly. For some services, we bill the client on a one-time basis only when we complete the service.

We have an affiliate, PFM Fund Distributors, Inc., that is a broker-dealer under the Securities Exchange Act of 1934. PFM Fund Distributors, Inc. typically serves as exclusive distributor of shares of the registered investment company and local government investment pools (Pooled Funds) for which we serve as investment adviser and/or administrator and we receive fees from this arrangement, as more fully described in Item 10 below.

No supervised person of our affiliated broker-dealer is compensated for the sale of securities.

PFMAM employees are paid a base salary plus a year-end bonus. The annual bonus is dependent upon the profitability of the firm, each group's contribution to the overall profitability of the firm, and each individual's contribution to the group's success. The firm's compensation plan is intended to recognize and reward excellent performance on the part of individuals; however, no PFMAM employee is compensated on a commission-related basis.

## Item 6: Performance-Based Fees and Side-by-Side Management

In rare instances we enter into advisory agreements under which the client pays us a fee, part of which is performance based. For example, we may enter into agreements where the client pays us all or part of our fee to the extent that the performance of the portfolio, we manage exceeds a predetermined benchmark, measured over a designated period of time. We may manage both accounts that are charged a performance-based fee and accounts which are charged other fees, typically a percentage of the value of assets managed. To address any concern that we may have an incentive to favor certain investment opportunities for a performance-based account we follow written procedures designed to allocate trades on an equitable basis considering the investment objectives of the account and without regard to whether an account has a performance-based fee. Accounts with the same objectives and permitted investments should receive a fair allocation over time of similar securities purchased.

## Item 7: Types of Clients

PFMAM provides investment advisory services to institutional investors, including state and local governments and their agencies, local government investment pools, non-profit organizations, pension and OPEB funds, banks and corporations. For information concerning minimum fee requirements, please see Item 5 above.

## Item 8: Methods of Analysis, Investment Strategies and Risk of Loss

### Fixed-Income Portfolios – Analysis and Strategy

Investment strategies are developed by the Fixed-Income Investment Committee which considers the macroeconomic and interest rate conditions described below. The strategies provide guidance for portfolio managers with regard to appropriate duration and sector allocation for individual portfolios. We may use a variety of analyses as well as internal (including affiliates) and external data sources and market research. External sources include various news and information sources, books, government bulletins, databases, research prepared by others and publications from rating agencies, unaffiliated broker-dealers and third-party information providers. We also collect information from clients to determine their liquidity requirements, risk tolerances and any other policies or procedures that guide the investment of the client's assets.

For clients whose objectives are measured by total return or income our investment approach emphasizes the use of active management strategies that seek to add value. For liability-driven investment portfolios, such as those funded with bond proceeds and used to pay project costs, we identify securities whose cash flows are expected to meet a draw schedule and we may modify the portfolio as the draw schedule changes or as investment opportunities present themselves, although in the latter case the draw schedule is considered first when making modifications.

### Our Fixed-Income Active Management Process

The following describes the principles of our fixed-income investment strategy:

- Disciplined decision-making process,

- Duration positioning to manage risk: generally manage durations so they are close to relevant benchmarks, usually no more than +/- 25% of a designated benchmark, and
- Seek relative value through spread analysis, yield curve positioning, sector weightings and duration management.

We use top-down analysis to assess macroeconomic conditions including interest rates, the shape of the yield curve, Federal Reserve monetary policy, and current and historical yield spreads between sectors. Top-down analysis is a key element of our duration and sector allocation decision-making process.

We believe identifying macro-level trends in these areas is important for adding value, controlling risk, and lowering volatility.

We use a bottom-up approach to security selection that seeks to identify those industries and issuers with fundamental characteristics and financial strength that enhances their potential to perform well. We seek to combine fundamentally sound investments into a portfolio that optimizes return potential in consideration of investment guidelines or restrictions.

Lastly, we incorporate low-risk active management techniques designed to augment our relative value approach. We believe active management can capture market inefficiencies that create opportunities for return enhancement. While we expect that every security we buy will be suitable to hold to maturity, we frequently identify opportunities to swap one investment for another to increase earnings, adjust portfolio duration, improve liquidity, or restructure a portfolio to better meet future needs.

Many of the accounts we manage are short and intermediate-term fixed-income assets of governmental entities, so we have tailored our research capabilities and resources to this area of the market. Our portfolio managers and analytical team have access to three major on-line market trading systems: Bloomberg, MarketAxess, and TradeWeb. These systems provide active market quotes, including real-time securities pricing. We also have access to news from Bloomberg News, Dow Jones/Wall Street Journal, CNBC, and other public or specialized news services. In addition, we communicate daily with approximately 30 major government securities dealers and receive market information from them that assists us in identifying specific market opportunities. We supplement these external systems and data sources with proprietary trading tools which we have developed.

After selecting investments to meet cash flow requirements and other objectives, we may position a portfolio's duration to take advantage of expected interest rate movements: positioning with a shorter bias when we expect rates to rise and longer when we expect rates to fall. We establish a duration (or average maturity) target for the portfolio based on our macro view of the economy and the financial markets, the type of funds, cash-flow analysis and benchmark chosen by a client. We seek to add value by re-balancing the portfolio to take advantage of market opportunities and in anticipation of interest rate movements. Duration targets for our strategies are established by our Fixed-Income Investment Committee and may be provided to our clients as a management and oversight tool.

While maintaining the target duration range for a portfolio, we add value through asset allocation strategies which involve sector selection (security type), yield curve placement (maturity), yield spread analysis and issue selection. Our overall view of the financial markets provides the context for selecting maturities which we believe represent the best relative value along the yield curve and the highest potential for enhanced return, for example by "rolling down the curve" and for selecting specific securities within a sector. We perform proprietary analysis on the yield curve to identify "cheap" areas of the curve, and to evaluate a variety of portfolio structures. Using the results of this analysis, our portfolios may be over- or under-weighted in certain maturity ranges.

We think there is a significant opportunity to enhance earnings with a strategy that focuses on the selection of securities based on relative value. Sectors are selected which represent the best relative value based on our sector outlook and historical sector spreads. Investments other than Treasuries are purchased when spreads are wide and

avoided or sold when spreads are narrow. Our portfolio managers and traders are assigned to specific market sectors in order to monitor products and opportunities and these responsibilities run across all portfolios. Individual issues are selected based on our assessment of issuer financial quality and rating trends, interest rate spread, credit trends, issue structure and liquidity. Portfolios are generally diversified by security type and maturity to avoid a significant investment in a single issuer and to accommodate varying cash flow needs to provide periodic liquidity.

We furnish monthly account summaries to each fixed-income portfolio client with assets under continuous management. The summaries include details of all transactions and holdings at the end of the period. We also provide account summaries on a daily basis via our internet portal. We may also provide an investment advice memorandum upon advising and/or completing an order for a buy or sell of securities.

### Fixed-Income Portfolios – Risk

Our fixed-income strategies, like all investment strategies, involve certain risks. For portfolios whose investments are limited to obligations of the U.S government we believe the risk of default is minimal; for those invested in obligations of Federal agencies, we believe the risk is nearly as low as it is for direct obligations of the U.S. government. Portfolios whose investments include corporate and municipal obligations are subject to the risk that an issuer will fail to pay principal or interest on a timely basis, while those containing mortgage-backed securities are subject to the risk of uncertain timing of principal payments. In order to manage risks, we seek to diversify portfolio holdings and we limit our investments in corporate and municipal obligations and in mortgage-backed securities to those that are investment grade.

Portfolios are also subject to interest rate risk. This is because the market value of securities changes as interest rates change, with a rise in rates reducing market values and a decline in rates increasing market values. Changes in interest rates affect longer maturity securities more than they affect shorter maturity securities, other things being equal. We manage this risk by managing these portfolios within duration ranges consistent with portfolio objectives. Nonetheless, investors should expect to experience market value and total return volatility which can include unrealized losses in excess of periodic income. Although the investment strategies we employ do not involve significant or unusual risk beyond that of the general investment grade fixed-income markets, investors should recognize that investing in securities involves a risk of loss that the investor should be prepared to bear. Past performance is not a guarantee of future returns.

The risk of our top-down strategy is that our macro view of the economy and financial markets is wrong and we position a portfolio's duration or sector allocation in a manner that is not optimal. We seek to manage this risk by limiting variations from duration or maturity concentrations from those of client benchmarks and by diversifying holdings among security types. For liability-driven investment portfolios, we seek to minimize market risk by approximately matching portfolio cash flows with expected liabilities.

The risk of our bottom-up strategy is that securities that we include in a portfolio because they are perceived to have relative value may later lose value when compared with the general fixed-income market. We seek to manage this risk by careful and systematic analysis of relative values, by performing credit analysis on issuers of securities we recommend and by diversifying holdings.

Frequent trading of securities can create higher overall transaction costs that will reduce portfolio income. We manage portfolios actively and we seek to minimize trading costs by recommending liquid issues that are actively traded in the markets and by utilizing competitive bidding wherever feasible.

Certain portfolios may invest in ETFs. An ETF is an individual security that trades on an exchange and represents a basket of securities or other assets that is designed to track the performance of specified indices, sectors or asset classes. ETFs are subject to various risks, including the ability of the ETF's managers to meet the investment objective, and to manage appropriately the ETF's portfolio when the underlying securities are redeemed or sold, particularly during periods of market turmoil and as investors' perceptions regarding ETFs or their underlying investments change. There is also no guarantee that an ETF will achieve a high degree of correlation to its targeted index and therefore achieve its investment objective.

Stable value strategies are subject to many of the risks described above as well as those risks related to stable value contracts, which are designed to permit plan participant withdrawals for permitted purposes in accordance with the plan, to occur at book value on the terms set forth in each contract.

The obligations of providers of stable value contracts are those of the providers, not us. There is no guarantee that stable value contracts will continue to be valued at their contract value rather than market or fair value or that providers under stable value contracts will fulfill their obligations. If the assets under a stable value contract were revalued at their market values, for purposes of redeeming investments by participants in a retirement plan, this could cause a significant loss in value to the investor. In addition, certain stable value contracts typically provide for an adjustment to contract value if a security that is part of the covered assets defaults or otherwise has its credit risk deteriorate or becomes “impaired” as defined in the contract.

The market for stable value contracts is limited. There can be no assurance that sufficient stable value contracts will be available in the future to replace or supplement existing contracts or, even if available, will be available on favorable financial terms. Certain stable value providers offer bundled arrangements, under which the provider has both the contract value obligation and the provider (or an affiliate) manages the underlying portfolio.

## **Multi-Asset Class Asset Management – Analysis and Strategy**

The Multi-Asset Class Investment Committee: 1) oversees multi-asset class portfolio strategies by establishing asset allocation targets and approving investment sub-advisers (investment manager)/funds for all discretionary multi-asset class accounts; 2) provides investment and portfolio risk oversight for investment decisions; and 3) determines Capital Market Assumptions that are utilized to develop our multi-asset class portfolio strategies. Capital Market Assumptions are generally determined annually for intermediate- and long-term time periods and include expected returns and volatility measures for a wide range of asset classes. Intermediate-term (five years) assumptions are derived from our assessment of current economic conditions, including corporate profits, balance sheets, and current valuations for various asset classes. Long-term assumptions (thirty years) are derived using an economic building block approach that projects economic and corporate profit growth; and that takes into consideration the fundamental factors driving long-term real economic growth, and our expectation for inflation, productivity and labor force growth. We may use a variety of analyses as well as internal (including affiliates) and external data sources and market research.

We use a consistent approach to multi-asset class accounts that involves:

- **Portfolio planning** – we use a survey to facilitate a discussion with clients on all the asset classes to help decide which should be permitted in the final overall allocation. The survey also provides information about goals, objectives, cash flow projections, risk tolerance, ability to withstand losses, as well as the view of the economy and the markets. The survey is revisited periodically throughout the life of the engagement as client circumstances change.
- **Determining asset allocation structure** – we believe that the asset allocation decision is the most important factor in determining the expected investment return of a portfolio. The use of the portfolio planning survey and Capital Market Assumptions allow us to determine an asset allocation plan for the client. We use a modeling program from Ibbotson Associates (now owned by Morningstar, Inc.), along with a proprietary modeling program which allow us to conduct a detailed asset/liability modeling study. Each model uses the latest historical data on asset class investment returns, volatility, and correlation with other asset classes. Our goal is to determine an “optimal” portfolio. We do this by running a series of tests on each model to determine the probability of achieving the desired investment objective under different market scenarios. Existing funding requirements may override the more subjective “tolerance for loss.” This process helps inform our clients of the range of outcome possibilities associated with each asset allocation plan, and to identify a plan that best meets the expectations set forth in the portfolio planning survey.
- **Investment manager selection** – our research team monitors the investment products included in our client portfolios. The research team corresponds with investment managers on a regular basis and meets with them routinely to maintain an understanding of each manager’s investment process and strategy. As part of ongoing manager due diligence, research analysts run a series of risk/return

statistics, peer universe analysis, portfolio attribution and style analysis on all investment strategies employed in our clients' portfolios to help ensure they continue to be an appropriate component of the overall portfolio.

- **Rebalancing** - we evaluate a client's portfolio regularly to determine the need for rebalancing based on factors including current allocation targets, perceived assessment of relative value, and changes in Capital Market Assumptions. For multi-asset class portfolios where we have discretion, we establish target levels for each asset class in the planning stages along with a minimum /maximum range and may update these as our Capital Markets Assumptions and market conditions change. These parameters are recommended for inclusion in the client's investment policy statement.
- **Ongoing Monitoring** - we monitor a client's asset allocation, as well as the portfolio's money managers/mutual funds on an ongoing basis through detailed analysis and our proprietary manager ranking system. For our discretionary accounts, we may place a manager or fund on the watch list as a result of lagging performance, poor risk metrics and/or qualitative issues, among other things. Removal from the watch list is typically based on several quarters of improved performance against peers and an appropriate benchmark or remediation of other issues. If problems endure, probation is a subsequent step in the process of reviewing managers. Ultimately, if the problem persists, our Multi-Asset Class Investment Committee approves a termination recommendation.
- **Reporting** – we report investment performance for multi-asset class accounts on at least a quarterly basis. Each client receives a report containing its own performance measures allowing the client to review its plan and its investment managers' performance compared to the established benchmark, while monitoring cash flows and other financial indicators. There is also a review of the economy, financial markets and our investment strategy. Quarterly conference calls/meetings are held with clients to review performance reports.

The strategies are implemented in multi-asset class accounts by investing in mutual funds or ETFs advised by advisers that are not affiliated with us. In MMST the strategies are implemented either by allocating assets to investment managers or by investing in mutual funds or ETFs advised by advisers that are not affiliated with us. Shares of MMST Funds may make up a portion or all of the assets of a client's multi-asset class account.

### **Multi-Asset Class Asset Management – Risk**

Investing in multi-asset class strategies involves a risk of loss that an investor should be prepared to bear. The investment strategies we employ do not involve significant or unusual risk beyond that of the general markets for international and domestic equities, fixed income, publicly traded real estate, and other investments we recommend. In order to manage the risks inherent in these markets we seek to diversify portfolios by blending equity, fixed income, and cash-based securities, in a manner that is designed to meet the client's risk tolerance, with the objective of reducing the risk of long-term losses. There is no assurance that the clients objectives will be met. Past performance is not a guarantee of future returns.

Investing in cash, fixed income, and equity funds through separate account managers, mutual funds or ETFs involves risk. Each asset class has its own idiosyncratic risk and return characteristics. In modeling portfolios for our clients, we assess the individual characteristics of asset classes from a historic and forward-looking point of view, to optimize the best blend given the client's investment objectives and tolerance for risk. There is risk that our macro view of the economy and assumptions about asset class characteristics is wrong and we position a portfolio's asset allocation in a manner that is not optimal.

An ETF is an individual security that trades on an exchange and represents a basket of securities or other assets that is designed to track the performance of targeted indices, sectors or asset classes. ETFs are subject to various risks, including the ability of the ETF's managers to meet the investment objective, and to manage appropriately the ETF's portfolio when the underlying securities are redeemed or sold, particularly during periods of market turmoil and as investors' perceptions regarding ETFs or their underlying investments change. There is also no guarantee that an ETF will achieve a high degree of correlation to its targeted index and therefore achieve its investment objective.

## Use of Co- and Sub-Advisers for Certain Strategy Implementations

When third-party managers are engaged to carry out our fixed-income strategy or multi-asset class strategy, they are chosen based upon their skill in specific investment styles or sectors and there is risk involved. We employ a due diligence process to review the capabilities of any proposed third-party manager and monitor third-parties on an ongoing basis. Specifically, we examine their experience, background, expertise, investment philosophies, applicable operational capabilities, and past performance to assess how the manager has invested over a period of time and in different economic conditions. We monitor managers, with such monitoring typically including evaluating the underlying holdings, strategies, concentrations, terms and performing reference checks as part of our initial and/or periodic risk assessment. A risk of investing with a third-party manager who has been successful in the past is that the third-party manager will not be able to replicate that success in the future. In addition, because we do not control the underlying investments in a third-party manager's portfolio, there is also a risk that a manager will deviate from the stated investment mandate or strategy of the portfolio, making it a less suitable investment. Where multiple third-party managers are employed to manage a single account there is risk that the managers will have offsetting strategies or overlapping investment holdings. We do not control a third-party manager's daily business, regulatory compliance or operations, and seek to mitigate the investment, business, regulatory and reputational risks by undertaking due diligence and ongoing monitoring of the managers including monitoring of their adherence to the investment policy and guidelines they are employed to implement.

## ESG Investing – Analysis and Strategy

A growing number of investors are integrating environmental, social, and governance factors (ESG) into the investment decision making process. As such, we have developed an investment approach to help our clients implement ESG into their investment process and to manage ESG compliance on an ongoing basis. Our fixed-income ESG strategy provides our clients with the tools and methodology to develop and implement a customized ESG strategy based on their defined ESG criteria. We employ third-parties such as Sustainalytics who provide ESG data and ratings of companies that issue securities that we may recommend. We may also use third-party sub-advisers to manage funds with specific ESG or impact investing goals, such as geographically-targeted mortgage-backed securities or municipals.

We offer the potential for further customization through a range of screening tools, which can allow our clients to exclude specific issuers, industries, and funds based on certain defined criteria. Once objective ESG criteria are defined, we work with the client to evaluate investment strategies based on ESG investment parameters. Investment parameters are applied using an ESG risk rating system and other evaluation tools. The risk rating system is designed to objectively quantify an issuer's or fund's ESG risk from both an industry/sub-industry and issuer/fund-specific standpoint. Much like traditional credit ratings, the risk rating system provides a basis to evaluate issuers on a consistent basis and facilitates comparisons across industries and issuers.

Our multi-asset class ESG investment strategy enables our clients to select approved funds that meet certain ESG risk rating threshold as determined by third party providers. In addition, our multi-asset class ESG strategy provides clients with the option to implement ESG into a dedicated sleeve of the portfolio or into a customized ESG product that addresses a specific theme.

The following provides some additional detail related to our ESG strategies:

- ESG integration strategies include systematic and explicit consideration of ESG factors in the investment decision-making process.
- Values -based strategies, including screening for or avoiding certain companies or industries as specified by the client.
- Best in class strategies include making investments in companies based on positive ESG performance relative to industry peers.

- Theme-based strategies, including making investments based on specific environmental or social themes or assets related to sustainability.
- Hybrid strategy, including a combination of two or more of the above approaches.

We work through this process with our clients to help them develop and implement ESG investment strategies that are customized to their sustainable investment objectives. This dynamic approach also provides our clients with the flexibility to modify their ESG strategy as their sustainable investment objectives evolve.

## ESG Risk

ESG strategies could cause an account to perform differently compared to accounts that do not utilize ESG investment strategies. The criteria related to certain ESG strategies may result in an account forgoing opportunities to buy certain securities when it might otherwise be advantageous to do so or selling securities for ESG reasons when it might be otherwise disadvantageous for it to do so.

In addition, there is a risk that the companies identified by an ESG strategy do not operate as expected when addressing ESG issues. A company's or fund's ESG performance or performance of the strategy could vary over time, which could cause a portfolio to be temporarily invested in companies that do not comply with the client's objectives in considering ESG characteristics. There can be significant differences in interpretations of what it means for a company to have positive ESG characteristics and strategy investment decisions may differ depending on these interpretations. In making investment decisions, we rely on information and data that could be incomplete or erroneous, which could cause us to incorrectly assess a company's ESG characteristics.

## Consulting Engagements – Analysis Strategy and Risk

For multi-asset class consulting engagements where we do not have discretion, the methods and analysis generally are similar to those for discretionary accounts as described above. However, determining asset allocation, setting an appropriate asset mix and manager selection are the responsibilities of the client, and not us. We generally make recommendations and report the results at quarterly client meetings and follow client direction with regard to selecting managers and re-balancing accounts. As directed by the client, managers may include those that are not approved for our discretionary accounts. In cases where a client directs assets to a manager that is not approved, the level of ongoing diligence we perform may be limited and clients acknowledge this in writing. Risk for these accounts is similar to risk for discretionary multi-asset class accounts.

## Regulatory Risk

Changes to monetary policy by the Federal Reserve or other regulatory actions could expose fixed income and related markets to heightened volatility, interest rate movements, yield spread changes, and reduced liquidity, which may impact the universe of potential investment options, market values, and return potential.

## Cybersecurity Risk

In addition to the risks identified above for each strategy, investing involves various operational and financial risks associated with cybersecurity. These risks include both intentional and unintentional events at our facilities or at one of our clients, third-party counterparties or service providers, that may result in a theft, loss or corruption of data, result in the unauthorized release or other misuse of confidential information, and generally compromise our ability to conduct our business. A cybersecurity breach may also result in a third-party obtaining unauthorized access to our clients' information, including account numbers, account balances, and account holdings. We have established and maintain business continuity plans and cybersecurity systems and protections designed to reduce the risks associated with cybersecurity breaches. However, there are inherent limitations in these plans and

systems, including that certain risks may not have been identified, in large part because different or unknown threats may emerge in the future. As such, there is no guarantee that such efforts will succeed, especially because we do not directly control the cybersecurity systems of clients, issuers, trading counterparties, or third-party service providers. There is also a risk that cybersecurity breaches may not be detected.

## Business, Terrorism, and Catastrophe Risks

These are the risks of loss that may be incurred, indirectly, due to the occurrence of various events, including hurricanes, earthquakes and other natural disasters, terrorism and other catastrophic events such as a pandemic. These catastrophic risks of loss can be substantial and could have a material adverse effect on our business and on clients' portfolios, including investments we make.

## Item 9: Disciplinary Information

We must disclose material facts about any legal or disciplinary event that is material to a client's evaluation of our advisory business or the integrity of our management. Please refer to our ADV, Part 1 for additional details.

## Item 10: Other Financial Industry Activities and Affiliations

We and other entities under the common control of U.S. Bancorp, including USBAM, U.S. Bank, U.S. Bank Global Fund Services (USBGFS), and U.S. Bancorp Investments, Inc. (USBII), are related persons. We have certain relationships with related persons, as described below, which may conflict with clients' interests. At a minimum, conflicts are addressed by disclosing the conflicts to affected clients or prospective clients.

Our affiliate, PFM Fund Distributors, Inc. (PFMFD), is registered as a broker-dealer under the Securities Exchange Act of 1934. Its sole activities are to serve as exclusive distributor to the registered investment company and local government investment pools (Pooled Funds) for which we serve as investment adviser and/or administrator. If our client invests in a Pooled Fund, we disclose this relationship to the client, through the Form ADV Part 2A and the offering statement for the Pooled Fund. In addition, where Pooled Funds are employed as part of our investment strategy, our investment advisory agreement with the client provides that if we invest client assets in a Pooled Fund, either we will not take these assets into account for purposes of calculating our fees under the client's investment advisory agreement, or we will credit the investment advisory fee we earn on the client's Pooled Fund investment against investment advisory fees due us related to the client's separately managed account that holds assets in the Pooled Fund.

We serve as investment adviser to the MMST and the MMST Funds. We may enter arrangements with a third party to compensate for services provided. Such compensation payable to the third party is paid out of the fee we receive from the Pooled Fund. We also serve as administrator and/or investment adviser to the following local government investment pools:

- California Asset Management Trust (CAMP),
- Colorado Statewide Investment Pool (CSIP),
- Florida Public Assets for Liquidity Management (FL PALM),
- Illinois Trust,
- Massachusetts Development Finance Agency Short-Term Asset Reserve Fund (Mass STAR),
- Michigan Liquid Asset Fund Plus (MILAF+),
- Minnesota Association of Governments Investing for Counties (MAGIC),
- Minnesota School District Liquid Asset Fund Plus (MSDLAF+),
- Missouri Securities Investment Program (MOSIP),
- Nebraska Liquid Asset Fund (NLAF),
- New Hampshire Public Deposit Investment Pool (NH PDIP),
- New Jersey Asset & Rebate Management Program (NJ/ARM),
- North Carolina Investment Pool (NCIP),
- Pennsylvania Local Government Investment Trust (PLGIT),
- Pennsylvania OPEB Trust (adviser and distributor only),

- TexasTERM Local Government Investment Pool d/b/a Texas Range Investment Program (Texas Range)
- Virginia State Non-Arbitrage Program (SNAP), and
- Wyoming Government Investment Fund (WGIF).

As of November 30, 2021, PFMFD served as distributor to all pools.

We may receive referral business from our related persons and may pay referral fees to them, as described further under "Client Referrals and Other Compensation" below.

USBAM also provides credit research and analysis to PFMAM, including development and management of various approved issuers lists and approved counterparties used by both PFMAM and USBAM.

U.S. Bank serves as custodian and/or depository for a significant number of our separately managed accounts and Pooled Funds. We may provide various investment advisory services to U.S. Bank for compensation, including managing accounts of certain U.S. Bank clients as sub-adviser under authority delegated by U.S. Bank, for which we may earn a negotiated fee.

We may invest client assets in mutual funds (including the First American Funds for which USBAM serves as investment adviser) or other pooled investment vehicles to whom USBGFS provides services and receives a fee.

USBII, a direct subsidiary of U.S. Bancorp, is a registered broker-dealer and SEC-registered investment adviser. USBII may participate as a member of underwriting syndicates in securities offerings, for which it may receive underwriting discounts or commissions. In certain circumstances and in compliance with applicable laws, regulations and regulatory guidance, including Rule 10f-3 under the Investment Company Act of 1940 (the "Investment Company Act"), we may recommend or purchase such securities for a client from a member of an underwriting syndicate of which USBII is also a member. For non-investment company client accounts, we may recommend or purchase such securities in which USBII participates in the underwriting syndicate if client investment guidelines, restrictions, or other directives do not specifically prohibit the account from purchasing during such securities offering and purchases are made from unaffiliated broker-dealers, unless client consent is obtained to allow for purchases from USBII.

We have no arrangements with other investment advisers for direct or indirect compensation for recommending those advisers to our clients. As a matter of policy and practice, we do not accept any fees, commissions or other forms of compensation from any underlying investment managers or others affiliated with our clients' accounts.

We may invest client assets in the publicly traded securities of other PFMAM clients or prospective clients. In such circumstances, we do not and will not receive any compensation from the issuers specifically for investing client assets in such issuers' securities. We may also invest the assets of the clients in securities issued by companies that are customers of our affiliates. For example, an issuer may be an investment advisory or commercial banking customer of one of our affiliates, or one of our affiliates may be involved in the underwriting or distribution of debt securities purchased by us on behalf of our clients. In such circumstances, the potential for a conflict of interest exists between our obligation to seek the most suitable investments for our clients and the perception that we have an incentive to assist in the success of our affiliate. In certain cases, we may also manage an issuer's proceeds from an underwriting in which an affiliate has been involved, and may receive an advisory fee for doing so, including where we have used our discretionary authority to purchase a portion of that issue for other clients.

PFMAM may have arrangements with certain of its affiliates under which PFMAM may provide supplemental account administration, operations, client service, sales and marketing, product development and management, risk management, information technology, legal and compliance services, human resources and other corporate, finance or administrative services to or for such affiliates or its clients, or PFMAM or its clients may receive

such services from such affiliates. Certain personnel may perform services for both PFMAM and one or more of its affiliates. The scope of certain such services and arrangements varies depending on the particular strategy, distribution channel, program, and client size and type.

### Item 11: Code of Ethics, Participation or Interest in Client Transactions and Personal Trading

Under Rule 204A-1 of the Investment Advisers Act of 1940, our employees are subject to our Code of Ethics ("Code"). Compliance with the Code is a condition of employment for all our employees.

This Code sets out ethical standards applicable to our employees. Employees are expected to maintain the highest ethical standards, embody a business culture that supports actions based on what is right rather than expediency, deal fairly with clients and one another, protect confidential information and seek guidance about ethical questions. More specifically with respect to advisory activities, the Code requires that whenever our personnel act in a fiduciary capacity, we will endeavor to put the client's interest ahead of the firm's. We will disclose actual and potential meaningful conflicts of interest. We will manage actual conflicts in accordance with applicable regulatory and legal standards. If applicable regulatory and legal standards do not permit management of a conflict, we will seek to avoid the conflict.

We will not engage in fraudulent, deceptive or manipulative conduct with respect to clients. We will act with appropriate care, skill and diligence.

Our employees are required to know when we are acting as a fiduciary with respect to the work they are doing. If we are acting as a fiduciary, they are expected to comply with all fiduciary standards which apply to us in performing their duties. In addition, they must also put the client's interest ahead of their own personal interest. An employee's fiduciary duty is a personal obligation. While advisory personnel may rely upon subordinates to perform many tasks that are part of their responsibilities, they are personally responsible for fiduciary obligations even if carried out through subordinates.

In general, the Code expresses our recognition of our responsibilities to the public, clients and professional associates. Our Code also contains various reporting, disclosure and approval requirements regarding employees' personal securities transactions. The Code requires that our employees whom we deem to be "Access Persons" must report certain personal securities transactions, including transactions in mutual funds advised by us, to our Chief Compliance Officer, or to the person he designates. Additionally, designated Access Persons are required to pre-clear personal securities transactions. We prohibit our Access Persons from participating in initial public offerings unless our Chief Compliance Officer gives his approval. We also prohibit our employees from purchasing any security on PFMAM's restricted list.

You can receive a copy of our Code by contacting us at 213 Market Street, Harrisburg, PA 17101, by calling 717-231-6200 or by emailing [pfmamrequest@pfm.com](mailto:pfmamrequest@pfm.com).

On infrequent occasions, our employees may invest in securities that coincidentally we also recommend for purchase or sale in our client accounts. The securities we recommend for purchase and sale within our fixed-income and multi-asset class portfolios are of the type which the Securities and Exchange Commission has expressly recognized as presenting little opportunity for the type of improper trading which compliance with the Code of Ethics reporting requirements is designed to uncover. Further, our employees are subject to our Code described above, and because our personnel are acting in a fiduciary capacity, we require our employees to put the client's interests ahead of their individual interests or that of the firm with respect to the purchase and sale of securities.

We have no obligation to buy, sell or recommend for purchase or sale any security that we or our employees may purchase or sell for themselves or for any of our clients. We have no obligation to seek to obtain any material nonpublic information about any issuer of securities, nor to effect transactions for our clients based on any material nonpublic information as may come into our possession.

In certain circumstances and in compliance with applicable laws, regulations and regulatory guidance, we may effect a transaction between and among clients. We will only perform such transactions when it is determined to be advantageous to participating clients. We will not act as a broker and do not receive compensation (other than our investment advisory fees) related to such transactions. However, we may use a non-affiliated broker to facilitate the trade when determined to be in the client's interests. This is typically the case with client accounts that are not custodied with an affiliate of ours.

Certain client assets are invested in investment companies for which we or an affiliate provide investment advisory services. However, in such circumstances, we do not charge a separate advisory fee with respect to the portion of the assets in a client's account that are invested in such fund(s).

## Item 12: Brokerage Practices

We generally exercise brokerage discretion as follows: typically, our clients allow us to choose the broker or dealer to execute the trades. In these situations, we deal with brokers and dealers whom we determine to be major market makers for the types of securities purchased or sold. As a matter of policy, we do not recommend, request or require a client to direct us to execute transactions through a specified broker-dealer. If a client provides us with an approved list of brokers and dealers, we place all orders for the purchase or sale of securities for the client's account with those brokers or dealers and this may limit our ability to achieve the most favorable price or execution. Under these circumstances, the client and the broker or dealer determine the commission rates.

The factors that we consider in selecting or recommending a particular broker or dealer may include: the execution, clearance and settlement capabilities of the firm; our knowledge of negotiated commission rates currently available and other current transaction costs; the nature of the portfolio transaction; the size of the transaction; the timing of the trade; the activity existing and expected in the market for the particular transaction; confidentiality; the availability of research and research related services provided through such firms (as discussed below); our knowledge of the financial stability of the firm; and our knowledge of actual or apparent operational problems of the firm. Given these factors, our clients may pay transaction costs in excess of those which another firm might have charged for effecting the same transaction.

When we select or recommend a firm that executes orders or is a party to portfolio transactions, relevant factors taken into consideration may also include whether that firm has furnished research and research related products and/or services. We receive a broad range of research services, including information on the economy, industries, groups of securities and individual companies, statistical information, market data, accounting and tax law interpretations, political developments, pricing and appraisal services, credit analysis, risk measurement analysis, performance analysis and other information which may affect the economy and/or security prices. Research may also consist of computer databases. Currently, as a matter of policy, we do not enter into any third party or proprietary soft dollar arrangements where a broker-dealer provides research services in exchange for an expectation of receiving a certain dollar amount of commissions.

From time to time some brokers offer us market commentary and data and statistical research reports on the economy and financial markets and on specific issuers. We believe that this information improves the quality of our investment and trading decisions for the benefit of all our clients. We obtain express authorization from our clients to consider the furnishing of statistical research and other information by the broker or dealer. It is possible that the use of a particular brokerage firm or firms may result from time to time in a less favorable price for a transaction than if we canvassed a broader range of brokers. We believe that the practice of taking into account the furnishing of market information is reasonable. For fixed-income and ETF securities we seek to minimize the effect, if any, of research on the transaction costs by seeking multiple competitive bids and offers and involving major market makers wherever feasible and use electronic trading platforms for many trades to facilitate market access and to minimize transaction costs.

We have no agreement, understanding or other arrangement, either internal or with brokers and/or dealers, which would influence the allocation of securities transactions among brokers and/or dealers, and we do not utilize soft dollar arrangements other than those activities explicitly authorized under Section 28(e) of the Securities Exchange Act of 1934.

In the fixed-income and ETF markets, we may cause securities transactions to be executed for a client's account concurrently with authorizations to purchase or sell the same securities or shares for other accounts we manage. It is our policy where feasible to aggregate the purchase or sale of securities or shares for various client accounts in order to achieve efficiency of execution and better pricing. Each client participating in an aggregate transaction will participate at the same price. Where we receive an allocation that is less than our aggregate order, we normally allocate the securities or shares to the participating client accounts on a pro rata basis in proportion to the size of the orders placed for each account, to the extent that we can. We may increase or decrease the amount of securities or shares allocated to a client if necessary due to factors including avoiding odd lots in a particular security.

We do not currently anticipate effecting brokerage transactions with any broker-dealer affiliated with us, except for potential transactions with USBII, as described above under "Other Financial Industry Activities and Affiliations."

We are prohibited from entering into any agreements or understandings under which brokerage with respect to portfolio securities transactions, or other compensation, is directed to a broker dealer as consideration for the promotion or distribution of the First American Funds' shares, also referred to as "directed brokerage arrangements." Portfolio management and management involved in the process of selecting broker-dealers for portfolio securities transactions are prohibited from considering the level of the First American Funds' sales or promotional efforts of any broker-dealer in connection with such selection process.

### Item 13: Review of Accounts

For fixed-income accounts our Fixed-Income Investment Committee generally meets monthly, or more frequently as necessary to review the overall strategic direction and relative value and market risks. Tactical opportunities are presented routinely through a report and analysis prepared and distributed by a sector specialist and may be discussed at a meeting. These reports highlight interest rate trends and the relative value of different sectors and maturity structures in the market. This investment committee consists of portfolio managers, senior research staff and our chief investment officer.

Ad-hoc strategy discussions take place regularly, and may occur after any significant market moving event, such as sudden changes in financial market conditions, change in general economic conditions, credit ratings downgrades, and/or a material change in the value of a particular portfolio security or market sector.

Our fixed-income portfolio managers and traders are assigned specific accounts and review client portfolios on a regular basis. The review includes upcoming maturities and any upcoming deposits or cash needs in a portfolio. Stable value portfolios are overseen by the Stable Value Investment Committee which also meets monthly, or more frequently as necessary. The stable value portfolio managers and research analysts monitor client positions on a regular basis. They discuss regular cash positions, changes in issuers' credit conditions, anticipated cash flow, economic conditions, potential liquidity needs and anticipated upcoming placements.

Multi-asset class accounts are overseen by our Multi-Asset Class Investment Committee which also meets generally on a monthly basis, or more frequently as necessary to review the overall strategic direction of markets. This investment committee consists of portfolio managers, research staff, our chief investment officer, and other investment professionals. We monitor the performance of multi-asset class accounts on at least a quarterly basis to determine whether the underlying investments selected are performing in line with expectations and are meeting the needs of the individual client. We provide our multi-asset class clients a quarterly analysis of the performance of the underlying funds in which the client's assets are invested and of any reallocation of assets among these

underlying funds. At least annually, we will consult with the client to determine whether there are reasons to revise the client's target investment strategy.

Changes in our Capital Market Assumptions, our outlook for asset class valuation, sudden changes in financial market conditions, and general economic conditions may trigger a review of our multi-asset class accounts. Accounts are reviewed by an investment professional or in consultation with research staff or a portfolio manager. Normally, we sequence account reviews in a manner that provides for first review of the accounts that have the greatest potential exposure to the effects of the event which triggers the review.

Pursuant to our investment advisory agreements, we may also provide quarterly performance and economic reviews for some clients.

The custodian of our multi-asset class portfolio clients provides each client with a monthly statement of account detailing the client's month-end balances and any transactions which occurred during the month. We review these statements monthly to determine whether transactions executed by the custodian are in agreement with any instructions which we or the client provided. In addition, we provide monthly written statements and quarterly performance reports.

#### **Item 14: Client Referrals and Other Compensation**

We maintain relationships with U.S. Bank, and at times with unaffiliated third parties pursuant to which we pay U.S. Bank and such unaffiliated third parties if they are responsible for introducing new client relationships. Under these arrangements, we enter into a written agreement with the party that describes the party's activities on our behalf and the amount we agree to pay the party. The agreement also contains the party's undertaking to act in a manner consistent with our instructions and with the provisions of the Investment Advisers Act of 1940, and to provide the referral with a copy of our Form ADV, Part 2A and Part 2B. If the referral subsequently enters into an investment advisory agreement with us, we pay the solicitor a percentage of our investment advisory fee, which fee arrangement is disclosed to the prospect by the solicitor prior to any contact or meeting with the prospect. From time to time, our employees could be eligible for certain referral fees or awards related to referring business to other U.S. Bancorp affiliates. Such referrals do not occur in the context of providing investment advice or providing investment management services, and do not result in additional fees to the referred party.

#### **Item 15: Custody**

##### **Custody**

We do not have direct custody of client funds or securities. The custody function is performed by other providers such as brokers, banks, or other qualified custodians with whom our clients contract. However, there are certain cases in which we have authority to initiate a withdrawal from a client account to pay our management fees; we are deemed to have custody for regulatory purposes solely as a consequence of this. For example, certain of our clients have authorized us to charge our fee against the account we manage after they have received our invoice. The client also has instructed the custodian to disburse funds from the managed account to pay our advisory fees. At all times, the custodial bank maintains actual custody of those assets. We expect that clients should receive regular statements from their custodians which list their assets, including information such as cost and market value, and transaction activity for the period. We urge clients to review these statements carefully and to contact their custodians if they have any concerns.

##### **Differences Between Our Statements and Custodial Statements**

The statements clients receive from us can differ from the statements clients receive from their custodian. We advise clients to consider the records of its custodian as the official records of its assets. A common difference involves the market value of certain securities. Since custodians may use a different pricing vendor to price securities than we do, the prices for certain securities may vary. In addition, the accounting system used by a client's custodian

may differ from our accounting system and may employ a different reporting method. Our reports are based upon trade date accounting with accruals, whereas some custodians report activity on a settlement date basis with or without accruals. While both reporting methods are accurate and acceptable, clients should be aware of the potential differences that could appear. We urge clients to compare our reports with those received from their custodian and to contact us with any questions they may have.

### Item 16: Investment Discretion

We offer discretionary advisory services with respect to a client's investable assets. When a client gives us investment discretion, we then have the authority to determine, without obtaining their specific approval, (1) overall asset allocation, (2) the manager or sub-adviser to be utilized for the portfolio, (3) the specific securities to be bought and sold, (4) the amount of securities to be bought and sold including overall asset allocation and (5) the broker or dealer through which the securities are bought or sold. These decisions are subject to limitations of law and any other restrictions in the contract with our client or in our client's investment policies. Many of our clients have their own investment policies which usually contain restrictions on the types and credit quality of investments. We agree contractually to follow those guidelines. In addition, many of our clients are subject to state investment statutes or other applicable regulatory requirements which we comply with as well. Our clients typically grant us discretionary authority in the investment advisory agreement which we enter into with them.

### Item 17: Voting Client Securities

Because many of our clients will be invested primarily in fixed income securities, the probability of us receiving a proxy request on behalf of a client is rare. In these situations, while we expect client accounts will rarely hold voting securities, clients may confer upon us complete discretion to vote proxies. We also offer certain of our clients discretionary investment advice on securities which are mutual funds (including ETFs). These mutual funds send us proxies, which we vote on behalf of these discretionary clients if they have given us the authorization to vote them. We also occasionally receive consent requests related to fixed-income securities. Generally we arrange for the portfolio manager overseeing the client's investments to be responsible for making proxy-voting decisions. We seek to vote proxy proposals, consents or resolutions in a manner that serves the best interests of our clients because it is our fiduciary duty to do so. When reviewing whether a proposed action would be in our client's best interests, we take into account the following factors:

- The impact on the valuation of securities,
- The anticipated costs and benefits associated with the proposal,
- An increase or decrease in costs, particularly management fees, of investment in the securities,
- The effect on liquidity, and
- Customary industry and business practices.

In reviewing proxy issues of the type described below, we will apply the following general principles:

- With respect to an election of directors, we will typically vote in favor of the management-proposed slate of directors unless there is a proxy contest for seats on the board of a portfolio fund or other important reasons for withholding votes for directors. We may abstain if there is insufficient information about the nominees disclosed in the proxy statement.
- Similarly, we will also generally support management's recommendation for the appointment of auditors unless there are reasons for us to question the independence or performance of the nominees.

- We will vote in accordance with management's recommendations on issues that are technical and administrative in nature, such as changes to increase the number of directors or to adopt term limits. However, we review and vote on a case-by-case basis any non-routine proposals which are likely to affect the structure and operation of the portfolio company. Examples of these types of proposals include any limitations on shareholder rights, or those which have a material economic effect on the company.
- We will generally vote in favor of proposals that give shareholders a greater vote in the affairs of the company and oppose any measure that seeks to limit those rights.
- We also generally support proposals promoting transparency and accountability within a company to ensure that the directors fulfill their obligations to shareholders.
- We review proposals that result in an increase of compensation to investment advisors and other service providers of portfolio mutual funds on a case-by-case basis, with particular emphasis on the relative performance of the fund.
- We also review proposals relating to executive compensation plans to ensure that the long-term interests of management and shareholders are properly aligned.
- We generally oppose proposals to give shareholders the right to vote on executive compensation.

These policies are not exhaustive due to the variety of proxy voting issues that we may be required to consider.

With the exception of a client's shareholdings in the Pooled Funds, a conflict of interest between us, and a client whose investments are managed by us, is unlikely. We are the investment adviser to the Pooled Funds. We either receive no investment advisory fee from a client for managing client assets which we invest in the Pooled Funds, or we credit to the client any investment advisory fee we receive from the Pooled Funds investment. In regard to voting of securities in the Pooled Funds for which we are the investment adviser (or where it would appear that we have an interest), we apply the following principles:

- If the proposal relates to the matters in which the outcome does not directly affect us, we will follow our general voting policies.
- If the proxy proposal relates to a transaction which directly affects us, or otherwise requires a case-by-case determination by us under our voting policies, we will seek the advice either of the managers of the client or of a qualified, independent third party, and we will submit the proxy statement to them. We will then follow the decision of our client's management or the recommendation of the third party in voting the proxy.

As an affiliate of U.S. Bancorp, a large, multi-service financial institution, we recognize that there are circumstances where we have a perceived or real conflict of interest in voting the proxies of issuers or proxy proponents (e.g., a special interest group) who are clients or potential clients of some part of the U.S. Bancorp enterprise. Directors and officers of such companies may have personal or familial relationships with the U.S. Bancorp enterprise and/or its employees that could give rise to potential conflicts of interest. We will vote proxies in the best interest of our clients regardless of such real or perceived conflicts of interest. To minimize this risk, we will discuss conflict avoidance at least annually with our affiliates to ensure that appropriate parties understand the actual and perceived conflicts of interest we face in voting proxies on behalf of our clients.

If we become aware of a material conflict, we will discuss with our affiliates and determine a course of action designed to address the conflict. Such actions could include, but are not limited to: (1) obtaining instructions from the affected clients on how to vote the proxy; (2) disclosing the conflict to the affected clients and seeking their consent to permit us to vote the proxy; (3) abstaining from voting; (4) voting in proportion to the other shareholders

to the extent this can be determined; or (5) recusing a party from all discussion or consideration of the matter, if the material conflict is due to such person's actual or potential conflict of interest.

In addition to the above, our employees must notify the CCO of any direct, indirect or perceived improper influence exerted by any employee, officer or director within the U.S. Bancorp enterprise about how we should vote proxies. The CCO will investigate any such allegations and report the findings to the appropriate parties, typically the CEO and legal personnel. If it is determined that improper influence was attempted, appropriate action will be taken, which may include disciplinary action, notification of the appropriate senior managers within the U.S. Bancorp enterprise, or notification of the appropriate regulatory authorities. In all cases, we will not consider any improper influence in determining how to vote proxies and will vote in the best interests of clients.

We maintain records relating to all proxy voting for five years. We will provide information to any client about how we voted proxies for securities in the client's account. Our Proxy Voting Policy is available upon request by contacting us at 213 Market Street, Harrisburg, PA 17101, by calling 717-231-6200 or by emailing [pfmamrequest@pfm.com](mailto:pfmamrequest@pfm.com).

Under certain of our engagements we do not assume the responsibility for voting proxies on client securities. The clients make arrangements to receive proxies from their custodian. If we receive a proxy and we do not have authority to vote on it, we forward it to our client. Clients may contact the portfolio manager for their account if they have questions about a particular solicitation.

#### **Item 18: Financial Information**

We are not aware of any financial condition that is reasonably likely to impair our ability to carry out our commitments and responsibilities under our client contracts.

# Form ADV, Part 2B

Brochure Supplement  
December 23, 2021



**pfm** asset  
management

213 Market Street  
Harrisburg, PA 17101-2141  
717-231-6200 (phone)  
[www.pfm.com](http://www.pfm.com)

SEC File No. 801-60449

## Brochure Supplement

### What you need to know

This Brochure Supplement provides information about our investment personnel listed below and supplements the PFM Asset Management LLC brochure. You should have received a copy of that brochure. Please contact our Compliance Department at 717.231.6200, or contact us by emailing [pfmamrequest@pfmam.com](mailto:pfmamrequest@pfmam.com) if you did not receive our Firm's brochure or if you have any questions about the contents of this supplement.

<u>Investment Personnel</u>	<u>Location</u>
Marc D. Ammaturo	Philadelphia, PA
Robert H. Cheddar, CFA	Harrisburg, PA
Sandra A. Costa	New York, NY
Joseph W. Creason	Harrisburg, PA
Michael P. Downs, CFA	Harrisburg, PA
Matthew R. Eisel, CFA	Harrisburg, PA
Alex Gurvich, PhD	Philadelphia, PA
Kyle Jones	Harrisburg, PA
Biagio Manieri, CFA, PhD	Philadelphia, PA
David J. Molin, CFA	New York, NY
Kerri Muskin	Harrisburg, PA
Brian Raubenstine	Harrisburg, PA
Jeffrey H. Rowe, CFA	Harrisburg, PA
Kenneth E. Schiebel, CFA	Harrisburg, PA
Steven J. Schaefer, CFA	New York, NY
James P. Sims, CFA	Harrisburg, PA
Floyd Simpson III, CFA	Philadelphia, PA
John Spagnola	Philadelphia, PA
Surya Pisapati, CFA	Philadelphia, PA

### Harrisburg

213 Market Street  
Harrisburg, PA 17101-2141

### Philadelphia

1735 Market Street, 43<sup>rd</sup> Floor  
Philadelphia, PA 19103

### New York

100 Wall Street, 16<sup>th</sup> Floor  
New York, NY 10005

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## Educational Background and Business Experience

### Item 2

*Item 2 of Form ADV, Part 2B asks us to disclose background in education and business for our supervised persons who formulate the various types of investment advice we offer. Most types of our investment advice are provided to you by a team of more than five individuals. We have prepared background information for the team members who have the most responsibility for the advice the team prepares. We have provided the person's name, year of birth, formal education after high school, and business background (including an identification of the specific positions held) for the preceding five years of our supervised persons. Also listed are certain professional designations held by the supervised person. An explanation of the minimum qualifications required for each designation is included so you may better understand the value of the designation.*

Investment Professional	Educational Background and Business Experience	Area of Focus
<b>Marc D. Ammaturo</b> Year of Birth: 1974	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>• Pennsylvania State University, University Park, PA, Bachelor of Science, Accounting, Graduated 1996</li><li>• University of Maryland, College Park, MD, Master of Business Administration, Finance, Graduated 2004</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Philadelphia, PA, Managing Director, 1/2012 – Present</li></ul>	<ul style="list-style-type: none"><li>• Multi-Asset Class Management</li></ul>
<b>Robert H. Cheddar, CFA</b> Year of Birth: 1966	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>• Susquehanna University, Selinsgrove, PA, Bachelor of Science, Business, Graduated 1988</li><li>• Pennsylvania State University, Malvern, PA, Master of Business Administration, Graduated 2003</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Harrisburg, PA, Managing Director, 1/2011 – Present</li></ul> <p><b>Certifications</b></p> <ul style="list-style-type: none"><li>• Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</li></ul>	<ul style="list-style-type: none"><li>• Fixed Income</li><li>• Credit</li></ul>
<b>Sandra A. Costa</b> Year of Birth: 1976	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>• Post University, Waterbury, CT, Bachelor of Science Finance, Graduated 1998</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, New York, NY, Portfolio Manager, Stable Value, 12/2017 – Present</li><li>• Fiduciary Capital Management, Inc., Senior Vice President &amp; Portfolio Manager, 5/1998 – 12/2017</li></ul>	<ul style="list-style-type: none"><li>• Stable Value</li></ul>

Investment Professional	Educational Background and Business Experience	Area of Focus
<b>Joseph W. Creason, CFA</b> Year of Birth: 1976	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• Shippensburg University, Shippensburg, PA, Bachelor of Science, Finance, and Bachelor of Science, Economics, Graduated 2000</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Harrisburg, PA, Portfolio Manager, 07/2009 – 1/2017; Director/Sr. Portfolio Manager, 2/2017 - Present</li></ul> <p><b><u>Certifications</u></b></p> <p>Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</p>	<ul style="list-style-type: none"><li>• Fixed Income</li><li>• Credit</li></ul>
<b>Michael P. Downs, CFA</b> Year of Birth: 1964	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• The Ohio State University, Columbus, OH, Bachelor of Science, Finance and Accounting, Graduated 1987</li><li>• The Ohio State University, Columbus, OH, Master of Business Administration, Finance, Graduated 1991</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Harrisburg, PA, Portfolio Manager, 4/2014 – Present</li></ul> <p><b><u>Certifications</u></b></p> <p>Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</p>	<ul style="list-style-type: none"><li>• Fixed Income</li></ul>
<b>Matthew R. Eisel, CFA</b> Year of Birth: 1983	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• University of South Carolina, Columbia, SC, Bachelor of Science, Entrepreneurial Management, Finance, and Risk Management &amp; Insurance, Graduated 2005</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Harrisburg, PA, Managing Director, 2/2015 – Present</li></ul> <p><b><u>Certifications</u></b></p> <p>Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</p>	<ul style="list-style-type: none"><li>• Structured Products</li></ul>

Investment Professional	Educational Background and Business Experience	Area of Focus
<b>Alex Gurvich, PhD</b> Year of Birth: 1964	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• University of Chicago, Chicago, IL, Bachelor of Arts, Physics, Graduated 1986</li><li>• INSEAD, Fontainebleau, France, Master of Business Administration, Graduated 1993</li><li>• New York University, New York, NY, Master of Science, Financial Engineering, Graduated 2009</li><li>• Stevens Institute of Technology, Hoboken, NJ, Doctor of Philosophy, Financial Engineering, Graduated 2020</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Philadelphia, PA, Director of Research, 6/2018 – Present</li><li>• Commonfund Asset Management, Wilton, CT, Director Asset Allocation and Quantitative Research, 12/2014 – 5/2017</li></ul>	<ul style="list-style-type: none"><li>• Multi-Asset Class Management</li></ul>
<b>Kyle Jones</b> Year of Birth: 1981	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• Dillard University, New Orleans, LA, Bachelor of Arts, Business Management, Graduated 2003</li><li>• University of Chicago, Chicago, IL, Master of Business Administration, Finance, Graduated 2006</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Harrisburg, PA, Senior Portfolio Strategist, 9/2016 – 1/2019, Managing Director and Co-Head of Portfolio Strategies, 2/2019 – Present</li></ul>	<ul style="list-style-type: none"><li>• Fixed Income</li><li>• Credit</li></ul>
<b>Biagio Manieri, Ph.D., CFA</b> Year of Birth: 1960	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• City College of the City University of New York, New York, NY, Bachelor of Science, Electrical Engineering, Graduated 1983</li><li>• Columbia University, New York, NY, Doctor of Philosophy, International Relations, Graduated 1995</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Philadelphia, PA, Global Chief Multi-Asset Class Strategist; 6/2018 – Present; Managing Director, 2/2017 – Present; Director of Research 1/2012 – 6/2018</li></ul> <p><b><u>Certifications</u></b></p> <ul style="list-style-type: none"><li>• Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</li></ul>	<ul style="list-style-type: none"><li>• Multi-Asset Class Management</li></ul>

Investment Professional	Educational Background and Business Experience	Area of Focus
<b>David J. Molin, CFA</b> Year of Birth: 1970	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>Bentley University, Waltham, MA, Bachelor of Science Finance, Graduated 1992</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>PFM Asset Management LLC, New York, NY, Director of Research, Stable Value, 12/2017 – Present</li><li>Fiduciary Capital Management, Inc., Senior Vice President and Director of Research and Enterprise Risk Management, 6/2000 – 12/2017</li></ul> <p><b>Certifications</b></p> <ul style="list-style-type: none"><li>Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</li></ul>	<ul style="list-style-type: none"><li>Stable Value</li></ul>
<b>Kerri L. Muskin</b> Year of Birth: 1983	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>Pennsylvania State University, Harrisburg, PA, Bachelor of Science, Business Management, Graduated 2006</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>PFM Asset Management LLC, Harrisburg, PA, Portfolio Manager, 7/2012 – 1/2017; Director/Sr. Portfolio Manager, 2/2017—Present</li></ul>	<ul style="list-style-type: none"><li>Fixed Income</li><li>Credit</li></ul>
<b>Surya Pisapati, CFA</b> Year of Birth 1984	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>Jawaharlal Nehru Technological University, Hyderabad, Telangana, India, Bachelors in Mechanical Engineering, Graduated 2005</li><li>Indian Institute of Management, Indore, Madhya Pradesh, India, MBA (Finance), Graduated 2007</li><li>Villanova University, Radnor, PA, MS in Finance, Graduated 2012</li></ul> <p><b>Business Background – Previous Five Years</b></p> <p>PFM Asset Management LLC, Philadelphia, PA, Director of Global Equities &amp; Portfolio Strategist, 1/2021—Present; Manager, Research &amp; Portfolio Strategy, 1/2019 --12/2020; Senior Research Analyst 5/2016--12/2018</p> <p><b>Certifications</b></p> <ul style="list-style-type: none"><li>Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</li></ul>	<ul style="list-style-type: none"><li>Multi-Asset Class Management</li></ul>
<b>Brian Raubenstine</b> Year of Birth: 1983	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>Pennsylvania State University, University Park, PA, Bachelor of Science, Finance, and a Minor in History, Graduated 2006</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>PFM Asset Management LLC, Harrisburg, PA, Senior Portfolio Manager, 9/2008—1/2021; Director, 2/2021 -- Present</li></ul>	<ul style="list-style-type: none"><li>Fixed Income</li><li>Credit</li></ul>

Investment Professional	Educational Background and Business Experience	Area of Focus
<b>Jeffrey H. Rowe, CFA</b> Year of Birth: 1982	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• Pennsylvania State University, University Park, PA, Bachelor of Science, Finance, and a Minor in Supply Chain and Information Systems Technology, Graduated 2005</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Harrisburg, PA, Portfolio Manager, 5/2010 – 1/2017; Managing Director, 2/2017 – Present</li></ul> <p><b><u>Certifications</u></b></p> <ul style="list-style-type: none"><li>• Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</li></ul>	<ul style="list-style-type: none"><li>• Fixed Income</li><li>• Credit</li></ul>
<b>Steven J. Schaefer, CFA</b> Year of Birth: 1960	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• Temple University, Philadelphia, PA, Bachelor of Business Administration, Marketing, Graduated 1982</li><li>• Michigan State University, East Lansing, MI, Master of Business Administration, Finance, Graduated 1984</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, New York, NY, Director Stable Value, 10/2019 - Present</li><li>• Stable Value Solutions LLC, West Hartford, CT, Owner &amp; Founder, 10/2018 - 9/2019</li><li>• MUFG Americas, New York, NY, Director Stable Value, 4/2012 - 2/2018</li></ul> <p><b><u>Certifications</u></b></p> <ul style="list-style-type: none"><li>• Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</li></ul>	<ul style="list-style-type: none"><li>• Stable Value</li></ul>
<b>Kenneth E. Schiebel, CFA</b> Year of Birth: 1959	<p><b><u>Formal Education after High School</u></b></p> <ul style="list-style-type: none"><li>• University of Michigan, Ann Arbor, MI, Bachelor of Arts, Mathematics &amp; Computer Science, Graduated 1981</li></ul> <p><b><u>Business Background – Previous Five Years</u></b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Harrisburg, PA, Managing Director and Co-head of Portfolio Strategies, 1/1997 – 11/2021; Chief Investment Officer, 12/2021-Present</li></ul> <p><b><u>Certifications</u></b></p> <ul style="list-style-type: none"><li>• Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</li></ul>	<ul style="list-style-type: none"><li>• Fixed Income</li><li>• Multi-Asset Class Management</li><li>• Structured Products</li><li>• Credit</li></ul>

Investment Professional	Educational Background and Business Experience	Area of Focus
<b>James P. Sims, CFA</b> Year of Birth: 1970	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>• Georgia State University, Atlanta, GA, Bachelor of Business Administration, Finance, Graduated 1993</li><li>• Georgia State University, Atlanta, GA, Master of Science, Finance, Graduated 1997</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Harrisburg, PA, Managing Director, 10/2021 – Present; Director/Senior Portfolio Manager, 2/2016 – 10/2021</li></ul> <p><b>Certifications</b></p> <ul style="list-style-type: none"><li>• Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item</li></ul>	<ul style="list-style-type: none"><li>• Fixed Income</li><li>• Credit</li></ul>
<b>Floyd Simpson III, CFA</b> Year of Birth: 1980	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>• Truman State University, Kirksville, MO, Bachelor of Business Administration, Finance, Graduated 2002</li><li>• De Paul University, Chicago, IL, Master of Business Administration, Financial Analysis and Strategy, Execution, and Valuation, Graduated 2005</li><li>• Northwestern University, Evanston, IL, School of Continuing Studies-Financial Planning, Completed 2007</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Philadelphia, PA, Senior Managing Consultant, 10/2019 – Present</li><li>• Xponance (FIS Group), Philadelphia, PA, Investment Officer, 9/2010 – 9/2019</li></ul> <p><b>Certifications</b></p> <ul style="list-style-type: none"><li>• Chartered Financial Analyst. An explanation of the minimum qualifications required for this designation is provided at the conclusion of this Item.</li></ul>	<ul style="list-style-type: none"><li>• Multi-Asset Class Management</li></ul>
<b>John S. Spagnola</b> Year of Birth: 1957	<p><b>Formal Education after High School</b></p> <ul style="list-style-type: none"><li>• Yale University, New Haven, CT, Bachelor of Arts, Political Science, Graduated 1980</li></ul> <p><b>Business Background – Previous Five Years</b></p> <ul style="list-style-type: none"><li>• PFM Asset Management LLC, Philadelphia, PA, Managing Director, 1/2003 – Present</li></ul>	<ul style="list-style-type: none"><li>• Multi-Asset Class Management</li></ul>

## **SUMMARY OF PROFESSIONAL DESIGNATIONS**

This Summary should assist you with evaluating the professional designations and the minimum requirements that an individual must meet in order to hold this designation.

### **CFA – Chartered Financial Analyst**

This designation is issued by the CFA Institute ([www.cfainstitute.org](http://www.cfainstitute.org)). The requirements to become a CFA charterholder include: 1) Obtaining a bachelor's degree or equivalent from a 4-year college/university or meeting a combination of higher education and qualified professional work requirements; 2) Passing the three levels of CFA exams, each of which involves approximately 300 hours of self-study; 3) Having at least 4,000 hours of relevant investment-related work experience, completed in a minimum of 36 months; and 4) Abiding by the CFA Code of Ethics. Continuing education is encouraged but not required.

### **CAIA – Chartered Alternative Investment Analyst**

This designation is issued by the Chartered Alternative Investment Analyst Association ([www.caia.org](http://www.caia.org)). In order to participate in the CAIA program, a candidate must: 1) Hold a bachelor's degree or the equivalent, and have more than one year of professional experience (defined as full-time employment in a professional capacity within the regulatory, banking, financial, or related field); or 2) Have at least four years of professional experience. The educational requirements that must be completed involve 200 hours of study for each of the 2 levels, and there are 2 course exams. There is a continuing education requirement every three years.

### **CRPC – Chartered Retirement Planning Counselor**

This designation is awarded by The College for Financial Planning ([www.cffp.edu](http://www.cffp.edu)). In order to participate in the CRPC program individuals must have completed a course of study of investments, insurance, tax, retirement and estate planning issues. The program is designed for 120-150 hours of self-study. The program is self-paced and must be completed in one year from enrollment. Individuals are required to pass an online, timed and proctored end-of-course examination with a score of 70% or higher. Credentials must be renewed every two years by completing 16 hours of continuing education.

### **QPFC – Qualified Plan Financial Consultant**

This designation is the professional credential for financial professionals who sell, advise, market or support qualified retirement plans. QPFC is not an entry-level credential. A minimum of two years' experience in retirement plan related matters is required along with completion of American Society of Pension Professionals & Actuaries' QPA examination series which includes completion of the Plan Financial Consulting Part 1 and Part 2. A candidate must meet one of the following additional requirements: Series 6, 7 or 65 license issued by the Financial Industry Regulatory Authority and two letters of reference demonstrating at least two years of retirement plan related experience; or state-life or annuity insurance license and two letters of reference demonstrating at least two years of retirement plan related experience; or Investment Advisor Representative or Registered Investment Advisor credential and two letters of reference demonstrating at least two years of retirement plan related experience; or two letter of reference demonstrating at least three years of retirement plan experience. Credentialed members must acquire 40 hours of Continuing Education credits (2 of these must be Ethics) in a two-year cycle as well as renew ASPPA membership annually to retain credentials.

## Disciplinary Information

### Item 3

*If there are legal or disciplinary events material to your evaluation of the supervised person, Item 3 requires us to disclose all material facts regarding those events.*

**A. A criminal or civil action in a domestic, foreign or military court of competent jurisdiction in which the supervised person**

1. was convicted of, or pled guilty or nolo contendere ("no contest") to (a) any felony; (b) a misdemeanor that involved investments or an investment-related business, fraud, false statements or omissions, wrongful taking of property, bribery, perjury, forgery, counterfeiting, or extortion; or (c) a conspiracy to commit any of these offenses;
2. is the named subject of a pending criminal proceeding that involves an investment-related business, fraud, false statements or omissions, wrongful taking of property, bribery, perjury, forgery, counterfeiting, extortion, or a conspiracy to commit any of these offenses;
3. was found to have been involved in a violation of an investment-related statute or regulation; or
4. was the subject of any order, judgment, or decree permanently or temporarily enjoining, or otherwise limiting, the supervised person from engaging in any investment-related activity, or from violating any investment-related statute, rule, or order.

Not applicable. None of the personnel listed in Item 2 above has ever been subject to any such criminal or civil action.

**B. An administrative proceeding before the SEC, any other federal regulatory agency, any state regulatory agency, or any foreign financial regulatory authority in which the supervised person**

1. was found to have caused an investment-related business to lose its authorization to do business; or
2. was found to have been involved in a violation of an investment-related statute or regulation and was the subject of an order by the agency or authority
  - (a) denying, suspending, or revoking the authorization of the supervised person to act in an investment-related business;
  - (b) barring or suspending the supervised person's association with an investment-related business;
  - (c) otherwise significantly limiting the supervised person's investment-related activities; or
  - (d) imposing a civil money penalty of more than \$2,500 on the supervised person.

Not applicable. None of the personnel listed in Item 2 above has ever been subject to any such administrative proceeding

**C. A self-regulatory organization (SRO) proceeding in which the supervised person**

1. was found to have caused an investment-related business to lose its authorization to do business; or
2. was found to have been involved in a violation of the SRO's rules and was: (i) barred or suspended from membership or from association with other members or was expelled from membership; (ii) otherwise significantly limited from investment-related activities; or (iii) fined more than \$2,500.

Not applicable. None of the personnel listed in Item 2 above has ever been subject to any such proceeding by an SRO.

**D. Any other proceeding in which a professional attainment, designation, or license of the supervised person was revoked or suspended because of a violation of rules relating to professional conduct. If the supervised person resigned (or otherwise relinquished his attainment, designation, or license) in anticipation of such a proceeding (and the adviser knows, or should have known, of such resignation or relinquishment), disclose the event.**

Not applicable. None of the personnel listed in Item 2 above has ever been subject to any such suspension or revocation.

## Other Business Activities

### Item 4

**A. If the supervised person is actively engaged in any investment-related business or occupation, including if the supervised person is registered, or has an application pending to register, as a broker-dealer, registered representative of a broker-dealer, futures commission merchant ("FCM"), commodity pool operator ("CPO"), commodity trading advisor ("CTA"), or an associated person of an FCM, CPO, or CTA, we are required to disclose this fact and describe the business relationship, if any, between the advisory business and the other business.**

We have an affiliate, PFM Fund Distributors, Inc. ("PFMFD"), which is a broker-dealer registered under the Securities Exchange Act of 1934 and a member of the Financial Industry Regulatory Authority ("FINRA"). PFMFD serves as exclusive distributor of shares of a registered investment company and local government investment pools (Pooled Funds) for which we serve as investment adviser and/or administrator and we receive fees from this arrangement. Messrs. Ammaturo, Eisel, Jones, Schiebel, Simpson and Spagnola are registered representatives of PFMFD.

- If a relationship between the advisory business and the supervised person's other financial industry activities creates a material conflict of interest with clients, describe the nature of the conflict and generally how you address it.**

If a client invests in a Pooled Fund, we disclose this relationship to the client through our firm brochure (the Form ADV, Part 2A) and the offering statement for the Pooled Fund. In addition, if we have an investment advisory arrangement with a client to manage a separate account, our investment advisory agreement with the client provides that if we invest client assets in a Pooled Fund, we will not take these assets into account for purposes of calculating our fees for managing the separate account or we will credit investment advisory fees we earn on the client's Pooled Fund investment against investment advisory fees due us related to the client's separately managed account that holds assets in the Pooled Fund.

- If the supervised person receives commissions, bonuses or other compensation based on the sale of securities or other investment products, including as a broker-dealer or registered representative, and including distribution or service ("trail") fees from the sale of mutual funds, disclose this fact. If this compensation is not cash, explain what type of compensation the supervised person receives. Explain that this practice gives the supervised person an incentive to recommend investment products based on the compensation received, rather than on the client's needs.**

PFMFD registered representatives listed in this Brochure Supplement do not receive commissions, bonuses or other compensation directly based on the sale of shares in the Pooled Funds.

**B. If the supervised person is actively engaged in any business or occupation for compensation not discussed in response to Item 4.A, above, and the other business activity or activities provide a substantial source of the supervised person's income or involve a substantial amount of the supervised person's time, disclose this fact and describe the nature of that business. If the other business activities represent less than 10 percent of the supervised person's time and income, you may presume that they are not substantial.**

None of our supervised persons described in this Brochure Supplement engages in any other business or occupation which provides a substantial source of income or involves a substantial amount of time.

## Additional Compensation

### Item 5

*If someone who is not a client provides an economic benefit to the supervised person for providing advisory services, generally describe the arrangement. For purposes of this Item, economic benefits include sales awards and other prizes, but do not include the supervised person's regular salary. Any bonus that is based, at least in part, on the number or amount of sales, client referrals, or new accounts should be considered an economic benefit, but other regular bonuses should not.*

We do not have any arrangements in which someone other than a client provides any economic benefit to our supervised persons for providing advisory services.

## Supervision

### Item 6

*Explain how you supervise the supervised person, including how you monitor the advice the supervised person provides to clients. Provide the name, title and telephone number of the person responsible for supervising the supervised person's advisory activities on behalf of your firm.*

Kenneth Schiebel as Chief Investment Officer of PFM Asset Management LLC oversees or participates in meetings of the committees which develop investment strategies for the various types of investment advice we offer to our clients. The strategies and advice developed by these committees are then marketed to our clients and prospects by the managing directors of our firm and our additional personnel. As the Chief Investment Officer of the firm, Mr. Schiebel meets regularly with the other members of senior management, the Firm's Chief Compliance Officer, and the Board of Directors and officers of the Firm's parent company. Mr. Schiebel reports to Eric Thole, CEO and President of PFM Asset Management LLC (PFMAM). Mr. Thole is also the CEO and President of U.S. Bancorp Asset Management (USBAM). Effective December 7, 2021, PFMAM became a wholly-owned subsidiary of USBAM. Mr. Schiebel may be reached at 717.231.6215.