



Board of Trustees
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Orono, ME 04469

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www.maine.edu

November 22, 2019

TO: Members of the Investment Committee

FR: Ellen N. Doughty, Clerk of the Board 

RE: **December 2, 2019 - Investment Committee Meeting**

The University of Maine

University of Maine
at Augusta

University of Maine
at Farmington

University of Maine
at Fort Kent

University of Maine
at Machias

University of Maine
at Presque Isle

University of
Southern Maine

The Investment Committee will meet from **9:00 am to 12:00 pm on December 2, 2019**. The meeting will be located in Glickman Library, RM 423/424 at the University of Southern Maine System in Portland. In addition to the USM location, the following Polycom locations and a conference call connection will also be available:

UMA – RM 125, Robinson Hall

UMS – RM 253, Rudman Conference Room, Estabrooke Hall

PHONE: 1-800-605-5167 code – 743544#

Refreshments will be provided at the USM location. The meeting materials have been posted to the Diligent Board Portal and on the Board of Trustees website: <http://www.maine.edu/about-the-system/board-of-trustees/meeting-agendas/investment-committee/>

If you have questions about the meeting arrangements or accessing the meeting materials please call me at 581-5840. If you have any questions or desire additional information about the agenda items, please call Tracy Elliott at 581-5492.

cc: Chancellor Dannel Malloy
Board of Trustees
System Staff
Campus Presidents

Directions to USM

University of Southern Maine

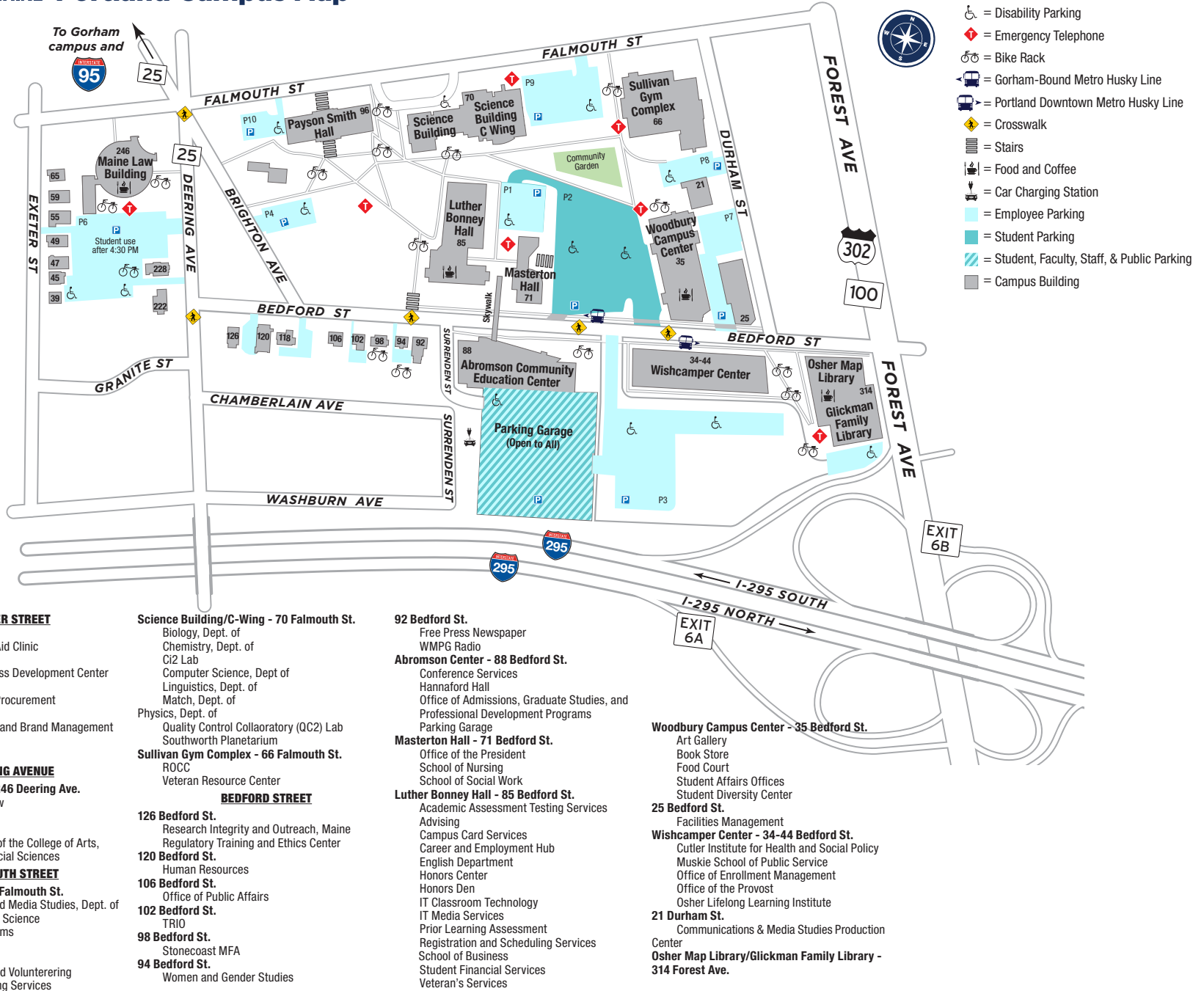
96 Falmouth Street, Portland, Maine

207-780-4480

From I-295 (north or south bound):

Take Exit 6B (Forest Avenue North). Turn left at the first light onto to Bedford Street and proceed until you see the skywalk over the street. Drive under the skywalk and turn left onto Surrenden Street to enter the parking garage.

UNIVERSITY OF SOUTHERN MAINE Portland Campus Map



Board of Trustees

Investment Committee

December 2, 2019
9:00 am to 12:00 pm
Glickman Library Rooms 423 & 424,
University of Southern Maine, Portland

AGENDA

9:00 am – 9:15 am

TAB 1 **FY2021 Endowment Spending Rate**

9:15 am – 9:45 am

TAB 2 **Enterprise Risk Management Update**

9:45 am – 10:45 am

TAB 3 **Defined Contribution Investment Policy Statement**

TAB 4 **Defined Contribution Plan - Quarterly Review**

10:45 am – 12:00 pm

TAB 5 **Outsourced Chief Investment Officer Discussion**

TAB 6 **Performance Review– Managed Investment Pool, Pension Fund and
Operating Fund**

Action items within the Committee purview are noted in green.

Items for Committee decisions and recommendations are noted in red.

*Note: Times are estimated based upon the anticipated length for presentation or discussion of a particular topic.
An item may be brought up earlier or the order of items changed*



AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** FY2021 Endowment Spending Rate
2. **INITIATED BY:** Kelly A. Martin, Chair
3. **BOARD INFORMATION:** **BOARD ACTION: X**
4. **OUTCOME:** **BOARD POLICY:**
 Primary Outcome: Section 709 - Investments
 Enhance fiscal positioning
5. **BACKGROUND:**

The endowment spending rate has been 4.5% since FY13, adjusted down from 4.75% in FY12 and 5% in FY11. These adjustments were made to ensure the sustainability of the long-term spending ability of the endowment funds.

The current FY20 **spending rate** of **4.5%** (which includes an internal management fee, where charged) is currently estimated to generate a distribution of \$5.3 million for the year, including \$4.2 million for endowed spending and \$1.1 million for internal management fees. The estimated FY20 **effective spending rate** for UMS is **3.3%**.

Effective Spending Rate Defined: The distribution for spending divided by the beginning market value (endowment value on or around the beginning of the fiscal year), net of any fees or expenses for managing and administering the endowment. The distribution for spending is the dollar amount withdrawn from the endowment to support the institution's mission.

NACUBO-TIAA Study of Endowments: Annually, the National Association of College and University Business Officers (NACUBO) and TIAA report on endowment performance and management practices in higher education. Data from their most recent 2018 report (see Tab 1.2) shows the average effective spending rate for their 802 participants was 4.4%, which was flat with the prior year. For the category based on assets of \$101-250 million, the effective spending rate is also 4.4%, which is down from 4.6% in the prior year. For the year of this study (2018), the UMS effective spending rate was 3.5% down from 3.8% in the prior year.

NEPC Rate of Return Assumption: NEPC reviewed return expectations for the UMS Managed Investment Pool in June 2019. Their analysis, based on market returns, suggests a return expectation in the range of 6.2% to 7.2% (down from a range of 6.2% to 7.3%). This range does not include investment management fees or assumptions for active manager out-performance. As such, they can substantiate a return assumption of **7.5%** as an expected return, noting significant volatility around this each year. Their enclosed letter provides further detail of their analysis.

FY21 Endowment Distribution Rate per Share and Estimated Budget: Using the endowment spending rate for FY21 that the Investment Committee approves at this December 2nd meeting, Management will provide updated estimated distribution amounts and distribution rates per share to the Committee at its next meeting.

Distribution Rate Calculation: The distribution formula uses a 3-year rolling endowment pool market value average to which a percentage spending rate is applied. The resulting distribution amount is then divided by the total number of shares in the endowment pool to arrive at the distribution rate per share. The UMS Accounting Department uses the approved rate per share in the monthly allocation process whereby each endowment receives a distribution based on the respective number of shares held. UMS does not distribute funds for underwater endowments during the following fiscal year.

6. TEXT OF PROPOSED RESOLUTION:

That the Board of Trustees, acting through the Investment Committee, approve an endowment spending rate of 4.5% for FY21.



To: Tracy Elliott, Director of Finance and Controller

From: Jay E. Roney, CTP, Partner and Kelly Regan, Senior Consultant

Date: May 29, 2019

Subject: Rate of Return Assumption – FY 2019

NEPC would like to update our return expectations for the **University of Maine System Managed Investment Pool**. NEPC's analysis suggests that a return expectation in the range of 6.20% to 7.20% is reasonable. Based upon data highlighted below, we can substantiate a return assumption of 7.50%. This memo provides background and support for this recommendation.

NEPC Assumptions

The NEPC Asset Allocation Committee is responsible for the development of our capital market assumptions. The Committee is drawn from a cross section of NEPC's senior personnel representing both the research and consulting functions of the firm, with expertise covering both public and private markets. Prior to publication, the assumptions are reviewed and approved by the Partner's Research Committee, a separate group composed of NEPC Partners responsible for oversight of the firm's research efforts.

The Asset Allocation Committee publishes two sets of capital market return expectations, a longer-term (30 year) and a shorter-term (5-to-7 year) set. While the long-term time horizon for the Fund would argue for using the 30-year assumptions, the Fund's current asset allocation policy is not likely to persist beyond the shorter-term time frame. We therefore believe that both assumptions should be considered when setting a long-term return assumption.

Many asset class returns are fairly consistent over a long-time horizon, thus, the historical record provides the basis for our longer term expectations. Asset class performance can be much more volatile on a shorter-term basis. In order to develop our 5-7 year forward-looking assumptions, we complement our historical analysis with an in-depth look at the current market environment. This forward-looking analysis is based on current market pricing and a building blocks approach. The focus here is on key economic observations (inflation, real growth, valuation measures) and structural themes that can have meaningful effects on asset class performance.

Below please find the 2019 5-7 year and 30 year expected market returns for the University of Maine System's Managed Investment Pool. Please note that there will be significant volatility around these expected returns each year:

255 State Street | Boston, MA 02109 | TEL: 617.374.1300 | www.nepc.com

BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO



Asset Class	Policy Weight	NEPC 5-7 Year 2019	NEPC 30 Year 2019
Large Cap Equities	22.0%	6.0%	7.5%
Small/Mid Cap Equities	8.0%	6.3%	7.8%
International Equities	13.0%	6.8%	7.8%
International Small Cap Equities	5.0%	7.3%	8.0%
Emerging Market Equities	3.5%	9.3%	9.3%
Emerging Small Cap Market Equities	3.5%	9.5%	9.5%
Domestic Core Bonds	7.0%	3.0%	4.4%
TIPS	7.0%	3.0%	4.0%
Bank Loans	5.0%	5.5%	5.5%
Absolute Return Fixed Income	5.0%	3.9%	4.8%
Global Asset Allocation	15.0%	5.2%	6.2%
Hedge Funds	6.0%	5.5%	6.5%
TOTAL	100.0%	6.2%	7.2%

(Note: Consistent with past years, the total fund return is not the weighted average of the asset class returns above. Returns above are all geometric average returns. The total fund return is calculated using the arithmetic average return, volatility and correlation of each asset class)

As you can see, our return expectations range from 6.20% to 7.20%. Our assumptions are based on market returns. On that basis, they do not include investment management fees or assumptions for active manager out-performance, or alpha. Each manager structure is different, but NEPC believes in active management and our clients have beaten index returns for most years in most asset classes. Although the long-term results of the Managed Investment Pool do not indicate alpha generation, we do not expect this to persist. The last 10 years since the financial crisis has supported risk assets and not investments focused on value, growth at a reasonable price, or diversification as in the Managed Investment Pool.

As a result of these inputs, we can substantiate a return assumption of 7.50% as an expected return, noting that there will be significant volatility around this expected return each year.

Please call us at (617) 374-1300 with any questions.

2018 NACUBO-TIAA Study of Endowments

**Average Annual Effective Spending Rates* for U.S. College and University Endowments
and Affiliated Foundations, Fiscal Years 2018 to 2009**

Size of Endowment	2018 %	2017 %	2016 %	2015 %	2014 %	2013 %	2012 %	2011 %	2010 %	2009 %
Over \$1 Billion	4.6	4.8	4.4	4.3	4.6	4.8	4.7	5.2	5.6	4.6
\$501 Million to \$1 Billion	4.2	4.6	4.3	4.1	4.3	4.6	4.7	5.2	5.7	4.9
\$251 Million to \$500 Million	4.4	4.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
\$101 Million to \$250 Million	4.4	4.6	4.3	4.1	4.3	4.4	4.3	5.0	4.9	4.4
\$51 Million to \$100 Million	4.6	4.5	4.4	4.4	4.4	4.4	4.3	4.5	4.6	4.7
\$25 Million to \$50 Million	4.1	4.2	4.1	4.0	4.2	4.3	3.8	4.0	4.1	4.3
Under \$25 Million	4.1	4.0	3.8	4.5	4.6	4.1	3.7	3.7	3.5	3.9

Type of Institution										
All Public Institutions	3.8	4.1	4.0	4.0	4.1	4.1	4.0	4.5	4.1	4.2
<i>Public College, University or System</i>	3.8	4.1	4.0	3.8	3.8	4.2	3.9	4.3	4.3	3.7
<i>Institution-Related Foundations</i>	3.8	4.1	3.9	4.2	4.3	4.0	4.0	4.1	3.9	4.3
<i>Combined Endowment/Foundation</i>	3.9	4.2	4.1	3.9	4.2	4.4	4.2	5.9	4.6	4.5
All Private Colleges and Universities	4.7	4.6	4.4	4.3	4.5	4.6	4.3	4.6	4.8	4.5

Average (All Institutions)	4.4	4.4	4.3	4.2	4.4	4.4	4.2	4.6	4.5	4.4
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All data are for years ending June 30. Data for 2009 through 2017 are from the NACUBO-Commonfund Study of Endowments.

***The effective spending rate represents the distribution for spending divided by the beginning market value (endowment value on or around the beginning of the fiscal year). The distribution for spending is the dollar amount withdrawn from the endowments to support expenditures on student financial aid, faculty research, maintenance of facilities, and other campus operations, as determined and defined by each institution. The rate is calculated net of investment fees and expenses for managing the endowment.**

Data for fiscal year 2008 come from the 2008 NACUBO Endowment Study. N/A means not available.



AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Enterprise Risk Management
2. **INITIATED BY:** Kelly A. Martin, Chair
3. **BOARD INFORMATION:** X **BOARD ACTION:**
4. **OUTCOME:** **BOARD POLICY:**
 Primary Outcomes: Section 709 - Investments
 Enhance fiscal positioning
5. **BACKGROUND:**

Gretchen Catlin, Risk Manager, will present an update to the Investment Committee regarding the implementation of Enterprise Risk Management (ERM). Previous guidance from Trustees has been reflected in the development and implementation of the ERM program. Trustees suggested that the ERM program should:

- Identify a specific Trustee committee for oversight of each identified risk;
- Rate each risk based on materiality and scope;
- Be manageable within existing resources; and
- Be actionable.

Based these suggestions, Risk Management is preliminarily tracking 15 University risks. One of those risks is assigned to the Investment Committee for oversight. Each risk is also assigned a leader who is responsible for implementing mitigation and control strategies.



Enterprise Risk Management

Investment Board Committee Meeting

Gretchen Catlin, BS, CHC
System Risk Manager

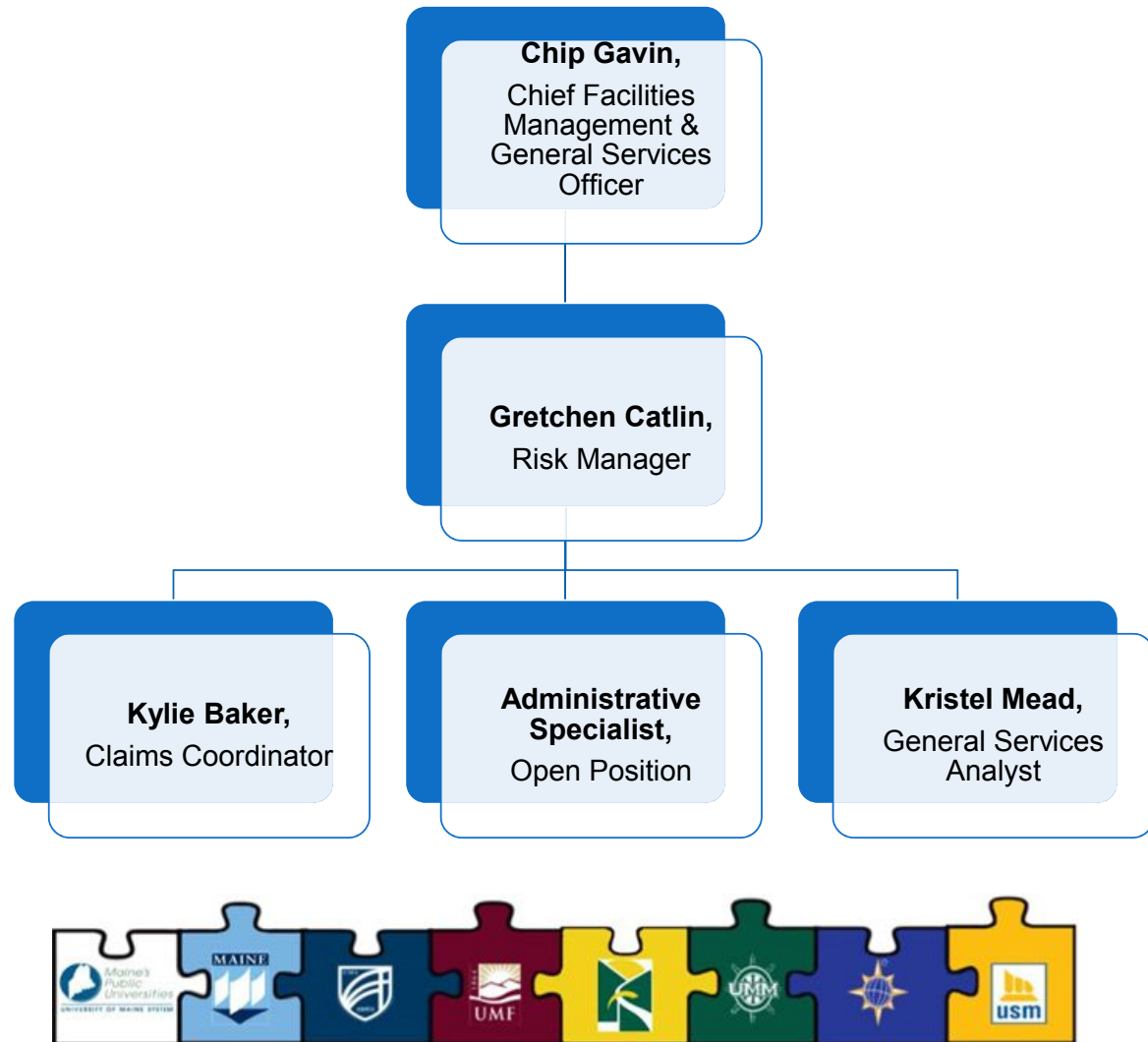
Risk Management Overview

Risk Management's key objective is preventing loss for the University and ensuring our campuses are safe for our students, employees, and guests. This is accomplished by:

- Performing enterprise level risk assessments.
- Procuring and projecting insurance needs for the University. Today Risk Management manages over 30 insurance policies ranging from auto, liability, property, workers compensation, aviation, cyber, crime and more.
- Being the administrative home for registering more than 800 vehicles, 50+ marine-craft, airplanes, and unmanned aerial and nautical vehicles used by students, faculty and staff in carrying out the University's mission.
- Providing guidance and support to the University at the daily operational level and enterprise level.



Department Structure



Executive Summary

- On May 29, 2019, Gretchen Catlin and Chip Gavin provided an Enterprise Risk Management (ERM) update to the Audit Committee. This included a review of the risk assessment tracking tool and ERM implementation schedule.
- Trustees approved the implementation approach which consists of having each enterprise risk assigned to a Board Committee for oversight.
- The University of Maine System is preliminarily monitoring 15 enterprise level risks and each has a designated Trustee committee of oversight, as suggested by Trustees.
- 1 of these risks have been designated to the Investment Committee.



Measuring Risks

			Scope (likelihood risk will occur)			
			Remote 0-10%	Unlikely 11-25%	Possible 26-65%	Likely >65%
			1	2	3	4
Materiality (financial impact of risk)	Negligible <\$400K	1	1	2	3	4
	Low \$400K - \$1M	2	2	4	6	8
	Medium \$1.1M - \$10M	3	3	6	9	12
	High >\$10M	4	4	8	12	16

Risks are scored and prioritized based on materiality and scope.

Materiality X Scope = Risk Score



Risks Assigned to FFT

Risk ID	Description	Materiality	Type	Mitigation Description	Management Locus of Control	Scope	Risk Score
9	Investment Decline	4 (High) > \$10M	Financial	Investment committee oversight	Tracy Elliott, <i>Vice President Finance & Controller</i> Finance	2 (Unlikely 11-25%)	8



Assessing Risk by Investment Fund

	Managed Investment Pool (Umaine Only)	Managed Investment Pool	Pension Fund	Operating Fund	Total Portfolio
Market Value (September 30, 2019, \$mils)	\$158	\$345	\$27	\$298	\$670
% of Total Portfolio	n/a	51.5%	4.0%	44.5%	100.0%
a) 5-7 Year Expected Return (Median) %	6.1%	6.1%	5.4%	3.9%	5.0%
5-7 Year Expected Return (Median) \$	\$10	\$21	\$1	\$12	\$34
b) 5-7 Year Standard Deviation	11.9%	11.9%	8.1%	3.7%	7.7%
1 Standard Deviation Negative Return % (a minus b)	-5.8%	-5.8%	-2.7%	0.2%	-2.7%
1 Standard Deviation Negative Return (\$mils)	(\$9)	(\$20)	(\$1)	\$1	(\$20)
\$10M Dollar Loss Return %	-6.3%	-2.9%	-37.0%	-3.4%	-1.5%
\$10M Dollar Loss (\$mils)	(\$10)	(\$10)	(\$10)	(\$10)	(\$10)
Probability of 1 Year Loss \$10M or Greater	14.9%	22.5%	0.0%	2.4%	19.9%
Negative 5% Return (\$mils)	(\$8)	(\$17)	(\$1)	(\$15)	(\$34)
Probability of 1 Year Return > -5%	17.6%	17.6%	10.0%	0.8%	9.7%
Negative 10% Return (\$mils)	(\$16)	(\$35)	(\$3)	(\$30)	(\$67)
Probability of 1 Year Return > -10%	8.8%	8.8%	2.9%	0.0%	2.6%
Negative 20% Return (\$mils)	(\$32)	(\$69)	(\$5)	(\$60)	(\$134)
Probability of 1 Year Return > -20%	1.4%	1.4%	0.1%	0.0%	0.1%

Note: Total Portfolio % and \$ statistics are based on a dollar weighted asset allocation for the Total Portfolio

Data provided by NEPC

Risk Control Strategies

Risk ID	Description	Control Strategies	Management Locus of Control
9	Investment Decline	<ul style="list-style-type: none"> Annual asset allocation review (winter) Diversification Investment committee oversight and transparency Professional consultant provides third party advice 	Tracy Elliott, <i>Vice President Finance & Controller</i> Finance



Preliminary Risk Tracking Register

RISK REGISTER									
IC	Risk Description	Materiality	Type	Control/Mitigation Descriptio	Control I	BOT Committee	Management locus of control	Frequency (Scop	Measu
1	Personal injury or death of students, employees or guests	3 (Medium) \$1.1M- \$1	Insurable	Safety Program	1.1	HR and Labor Relations	Safety Management	4 (Likely >65%)	12
2	Infrastructure loss threatening to continuity of operations	4 (High) \$>\$10M	Insurable	Preventative Maintenance	2.1	FFT	Facilities Management	3 (Possible 26-65%)	12
3	Loss of state or public confidence in the value and merit of higher education	4 (High) \$>\$10M	Insurable	Focus on Strategic Planning	3.1	Executive	Chancellor	3 (Possible 26-65%)	12
4	Data breach or cyber incident	4 (High) \$>\$10M	Operational	Limitation of PHI on computers	4.1	FFT	ITS	4 (Likely >65%)	16
5	Sexual Harassment Occurrence	4 (High) \$>\$10M	Insurable	Background Screening	5.1	HR and Labor Relations	Human Resources	3 (Possible 26-65%)	12
6	Radical or long-term enrollment change	4 (High) \$>\$10M	Strategic	Strategic Actions and Tracking Enrollment (Facilitation)	6.1	Student and Academic Affairs	Chief Student Affairs Officer	3 (Possible 26-65%)	12
7	Loss of state appropriation or other unanticipated loss of funding threatening solvency or the ability to operate	4 (High) \$>\$10M	Financial	Continued Lobbying effort with State	7.1	Executive	Governmental Relations	2 (Unlikely 11-25%)	8
8	Product Liability lawsuit	4 (High) \$>\$10M	Insurable	Monitoring of Patent and Licensing with Counsel	8.1	Executive	General Counsel	1 (Remote 0-10%)	4
9	Investment Decline	4 (High) \$>\$10M	Financial	Diversification	9.1	Investment	Finance	2 (Unlikely 11-25%)	8
10	Natural disaster threatening to life or property	4 (High) \$>\$10M	Insurable	Business Continuity Planning	10.1	FFT	Risk Management	3 (Possible 26-65%)	12
11	Credit rating downgrade resulting in increased cost of capital and hitting state debt cap	3 (Medium) \$1.1M- \$1	Operational	Routine Auditing	11.1	Audit	Controller	2 (Unlikely 11-25%)	6
12	Inability to obtain quorum of Trustees to take action to the extent threatening to successful or the continuity of operations	3 (Medium) \$1.1M- \$1	Strategic	Master Planning	12.1	Executive	Board of Trustees	2 (Unlikely 11-25%)	6
13	Loss of key officer(s) to the extent threatening to successful or the continuity of operations	3 (Medium) \$1.1M- \$1	Human Capital	Cross-Training	13.1	Executive	Human Resources	3 (Possible 26-65%)	9
14	Event or events threatening to the reputation of a school or schools	4 (High) \$>\$10M	Operational	Effective Public Communications	14.1	Executive	Public Affairs	3 (Possible 26-65%)	12
15	Title IX complaints/lawsuits	4 (High) \$>\$10M	Insurable	Training & Prevention Efforts	15.1	HR and Labor Relations	Human Resources	4 (Likely >65%)	16

Next Steps

Committee meeting implementation schedule:

Committee	Date
Academic & Student Affairs	August 26, 2019 <i>(complete)</i>
Finance, Facilities & Technology	August 28, 2019 <i>(complete)</i>
Audit	October 30, 2019 – Report status <i>(complete)</i>
Investment	December 2, 2019
Human Resources & Labor Relations	January 6, 2020
Audit	May 14, 2020

The Audit Committee status report will include an update on control strategies discussed at each board committee.



Questions?





AGENDA ITEM SUMMARY

- 1. **NAME OF ITEM:** Defined Contribution Plans – Updates to the Investment Policy Statement
- 2. **INITIATED BY:** Kelly A. Martin, Chair
- 3. **BOARD INFORMATION:** **BOARD ACTION:** X
- 4. **OUTCOME:** **BOARD POLICY:**
Primary Outcome: Section 709 - Investments
Enhance fiscal positioning
- 5. **BACKGROUND:**

At the December 2, 2019 meeting, Michael Pratico and Barry Schmitt with CAPTRUST, will provide several updates to the Investment Policy Statement. These updates are the result of several changes to the data utilized in CAPTRUST’s evaluation methodology along with some formatting changes.
- 6. **TEXT OF PROPOSED RESOLUTION:**
That the Investment Committee approves the CAPTRUST recommended updates to the Investment Policy Statement.

**UNIVERSITY OF MAINE SYSTEM
INVESTMENT POLICY STATEMENT
DEFINED CONTRIBUTION RETIREMENT PLANS
APPROVED BY THE INVESTMENT COMMITTEE –
SEPTEMBER 25, 2013
EFFECTIVE FOR THE JUNE 2, 2014 TRANSITION TO A SOLE-
RECORDKEEPER**

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-1- Statement of Purpose

The primary purpose of the University of Maine System Defined Contribution Retirement Plans (the “Plans”) is to provide a retirement benefit for Plan participants and their beneficiaries by offering the opportunity for long-term capital accumulation.

The Plans are structured to offer participants and their beneficiaries a core set of reasonably priced investment options with different risk and return characteristics, which, when combined, will allow for the construction of a portfolio intended to match most participants’ unique retirement investment objectives.

Assets within the Plans may consist of contributions made by both participants and by the University of Maine System (the “University”). The contributions of the University are vested following the schedule outlined in the Plan Document. All assets are subject to the investment direction of eligible participants or their beneficiaries.

-2- Policy Goals & Objectives

The Investment Policy Statement (IPS) is designed to provide meaningful direction in the management of Plan investment options to the Board of Trustees, University System Administration, and the designated Investment Consultant, all who serve as Investment Fiduciaries to the Plans. The IPS is a guideline for the Investment Fiduciaries in fulfilling their responsibilities to exercise considered judgment in acting solely in the long-term interest of Plan participants and their beneficiaries. There may be specific circumstances that the Investment Fiduciaries determine warrant a departure from the guidelines contained herein. In general the IPS:

- Establishes the roles and responsibilities of the Plans’ Investment Fiduciaries;
- Identifies appropriate investment asset classes for inclusion in the Plans’ menu of investment options;
- Establishes a prudent process for selecting appropriate investment options to be made available for participant direction;
- Designates an investment option to which all assets will be directed by the Plan Sponsor in the absence of a positive election by a participant or beneficiary, which will serve as the Plans’ Default Investment Alternatives;
- Establishes a prudent process by which selected investment options generally will be monitored for compliance with this IPS;
- Develops model methods for adding new investment options and for replacing existing investment options that do not comply with the terms of the IPS.

-3- Roles & Responsibilities – Investment Fiduciaries

The University System Administration and Board of Trustees Investment Committee:

Although it is intended that participants will direct their own investment options under the Plans, the University working through the Board of Trustees Investment Committee selects the array of investment options available for participant investment and provides on-going oversight of those investment options. In addition, with respect to a Self-Directed Brokerage Account (SDBA) option, the Committee will oversee selection and ongoing due diligence of the provider and features of the SDBA.

Board of Trustee Bylaw Section 3.1 identifies the Investment Committee as a Standing Committee of the Board and a separate document, called Investment Committee Duties and Responsibilities, further defines the Committee's responsibilities.

The Committee normally will review, at least on an annual basis, the acceptability of the universe of investment options made available within the Plans' chosen administrative environment. The Committee will review the Plans' investment options following the regimen outlined later in this IPS.

The Committee intends to discharge its fiduciary responsibilities with respect to the Plans with the assistance of an independent Investment Consultant.

Plan Investment Consultant:

Responsibilities of the Investment Consultant include:

- Educating the Committee on issues concerning the selection of investment options for the Plans;
- Assisting in the analysis and selection of investment options to be made available for participant investment;
- Assisting the Committee with the on-going review of the investment universe made available within the Plans' chosen administrative environment;
- Assisting the Committee with the review of the performance of the selected investment options, on at least an annual, but more often a quarterly basis, in comparison to their stated objectives and their relative performance and pricing as compared to their peers and designated benchmarks;
- Assisting the Committee in the selection of additional or replacement investment options to be made available for participant investment;
- Bringing information to the Committee, on an ad hoc basis as appropriate, that the Consultant feels may alter the Committee's assessment of a given investment option, asset class or strategy.
- Assisting the Committee with due diligence regarding the SDBA option including but not limited to consideration of the provider's experience and reputation, reasonableness of fees and trading expenses, the ability of the provider to distribute related funds

prospectuses and other related investment materials, and the appropriateness of related transaction and other disclosure notifications.

-4- Plan Investment Asset Classes

The Plans' investment menu is structured in accordance with contemporary investment theory, which holds that the asset allocation decision among a broad range of investment alternatives is the most critical determinant of a portfolio's long-term success or failure. The Committee's goal is to offer a core set of diversified investment options that represent a broad range of different asset classes with different risk and return characteristics.

The Plans' investment options may include, but are not limited to, funds from the following broad asset classes: Capital Preservation; Fixed Income; Asset Allocation, including Balanced, Target Risk, Life Cycle and/or Target Date; Domestic Equity; International Equity and Specialty. These asset classes are described in more detail in Appendices A and C of this IPS.

-5- Investment Selection

The Committee has structured the Plans to offer participants and their beneficiaries a core set of reasonably priced investment options with different risk and return characteristics. Selection of these investment options is done in the context of the Plans' administrative environment (e.g., Non-ERISA, 403(b), 457(b), 401(a)) which can impact the number, type and cost of investment options available to the Plans. The Committee may also consider the method and payment of Plan expenses which can be altered by investment related decisions.

Regarding the asset classes represented within the Plans, the following screening criteria are among those applied to the available actively managed funds:

- Fees – All investment options must charge “reasonable” fees to investors. The expense ratio for a given investment should generally fall below the average expense ratio for the peer group. Exceptions may be made for investment options that the Committee feels may produce performance that would justify higher than average fees.
- Style Consistency – Since each investment option is chosen to fulfill a specific part of the Plans' overall investment menu, investment options should have demonstrated a consistency in investment style and performance. Some variation can be allowed when an investment option's given style moves in and out of favor or when an investment option's successful investments outgrow their initial investment classification.
- Volatility and Diversification – Unless chosen to deliver investment performance that is characteristic of a specific industry or sector of the investment spectrum, investment options generally will be broadly diversified portfolios and will avoid unreasonable overweighting in a given investment, industry or sector. Volatility, as measured by Standard Deviation of returns, should be within reasonable ranges for the given peer group. Other risk measures, including Sharpe ratio, information ratio and beta, may be used as well.

- **Performance** – With few exceptions, all actively managed investment options should rank in the top 50% of their given peer group for the 3 or 5 year annualized period at the time of their selection. While past performance is not indicative of future returns, peer-relative performance offers the Committee perspective on how the investment option has performed over a reasonably demonstrative period of time relative to other choices. In addition to performance, the Committee will consider other variables including but not limited to fees, investment style purity and risk management practices in order to develop a holistic view about a strategy and its appropriateness within the Plans. Passively managed index funds do not need to meet the same ranking criteria, rather such measures as tracking error to the stated benchmark are more important measures of performance.
- **Management & Organization** – Manager tenure and industry experience are values to be emphasized, as is the strength and expertise of an investment option's sponsoring organization. Sponsoring organizations are generally expected to adhere to accepted standards of ethical practice and to comply with all appropriate securities regulations. When necessary, preference will be given to investment management organizations with a proven commitment to the interests of long-term shareholders.
- **Additional Factors** – In addition to the above factors, the Committee will consider other factors, which may be less tangible, including fund specific situations and anomalies in the capital markets or in the Plans' unique situation.

After inclusion in the Plans each investment option is expected to maintain a high level of acceptability as described in the Investment Evaluation section of the IPS.

-6- Investment Evaluation

With the assistance of the Investment Consultant, the Committee will monitor the investment options made available within the Plans to ensure they remain compliant with the criteria used to initially select them for inclusion in the Plans under this IPS or such other or additional criteria as appropriate. As part of that process, the Consultant will rank investment options relative to their peers using a comprehensive proprietary Scoring System (see Appendices B, C, & D.)

The following criteria provide an outline for the evaluation process:

- On a periodic basis (e.g., quarterly), the Plans' Investment Consultant will provide the Committee with a comprehensive report of each investment option's relevant performance and relative rankings against appropriate indexes and within appropriate peer groups. The Investment Consultant will review the report with the Committee at least annually, but generally on a quarterly basis.
- The Investment Consultant will also communicate with the Committee on an ad hoc basis, as appropriate, concerning any material changes affecting any of the selected investment options. Material changes may include management changes, changes to the

investment option's pricing structure or significant changes in the investment option's fundamental policies and procedures.

- The Committee normally will meet with the Investment Consultant, at least annually, to evaluate each investment option as well as the overall status of the Plans' Investment Policy Statement.
- If the Investment Consultant's proprietary Scoring System indicates that a given investment option may no longer meet the appropriate and reasonable standards required to remain included in the Plans' menu, the Consultant will make appropriate recommendations to the Committee.

-7- Replacement of Selected Investment Options

Since the intentions of the Plans are to provide opportunities for long-term asset accumulation for participants and beneficiaries, it is not expected that either the investment universe or specific investment options will change frequently.

It is possible that changes may become desirable or necessary, however, based on the following factors:

- The addition of a new asset class or investment product or alternative is desired. Such an addition will be subject to selection regimen similar to that outlined earlier in the IPS.
- The elimination of a given asset class from the Plans' menu.
- The desire to replace one of the Plans' investment options with another investment option that the Committee thinks will more successfully deliver the desired asset class characteristics. Reasons may include, for example, the availability of options that were not initially open for Committee consideration or a change in the performance or fee structure of a competing option. It may also be true that a given investment option is no longer available through the Plans' chosen administrative environment. Investment options can be removed or changed after a thorough comparative review using the regimen outlined earlier in the IPS.
- The need to replace or eliminate one of the Plans' investment options after noncompliance with this IPS has been established or appears likely.

-8- Self-Directed Brokerage Account

In addition to the selected investment options in the Plans' core menu, the Self-Directed Brokerage Account (SDBA) allows participants an opportunity to allocate money to an expanded range of investment choices. With this option, participants choose to open a separate brokerage account to obtain a specific product not offered by the Plan. Participants may choose from thousands of mutual funds from the brokerage platform.

The Investment Committee, assisted by the Investment Consultant, will oversee the prudent selection and ongoing due diligence of the SDBA provider and related features. In fulfilling that responsibility, the Committee will, among other things, determine that any costs for the SDBA are reasonable and that the accounts themselves are operated according to appropriate securities regulation and under retirement guidelines. However, **the University will not monitor or evaluate the investment options available through the SDBA.** The University will work with the SDBA provider to ensure participants are made aware that, when selecting the SDBA option, the investment alternatives available through the SDBA have not been subjected to any selection process and are not monitored by the University or its Board of Trustees.

-9- Conclusion

It is understood that the guidelines set forth in this statement are meant to serve as a general framework for prudent management of the assets of the Plans. Changing market conditions, economic trends or business needs may necessitate modification of this Investment Policy Statement. Until such modification this document will provide the investment objectives and guidelines for the Plans' assets, subject to the caveats stated herein. The University of Maine System Board of Trustees' Investment Committee will periodically review and approve updates to this IPS as appropriate.

Appendix A –Asset Class Overview

Broad Asset Class	Description
Fixed Income	These investments generally invest the bulk of their assets in the fixed income, or “bond” markets. Investments in this category vary both in terms of the duration of their primary holdings (short term, intermediate term or long term) and in the quality of the issuers of their holdings (government to corporate issuers of varying quality).
Asset Allocation	These investments, like balanced funds, attempt to provide participants with broadly diversified collections of stocks, bonds and money market securities. Each manager specifies either a strategy (e.g. “aggressive”, “moderate” or “conservative”) or a target date (e.g. 2030, 2040, 2050, etc.) that drives the proportionate, or strategic, allocation it follows. Each manager will have its own restrictions, disclosed in its prospectus, which will govern the ranges it may allocate to any given investment or asset class.
Domestic Equity	<p>These investments generally invest the bulk of their assets in ownership (“equity”) securities, or stocks of companies whose headquarters and/or primary business is in the United States. Investments in this category vary both in their objectives (e.g. current income versus long term capital appreciation) and in the types of equity securities they specialize in. Some investments in this category focus on small capitalization or medium capitalization companies versus large capitalization companies. Some funds tend to look for companies whose earnings, or perceived value, are growing at faster rates than other companies (e.g. “growth”) while others focus their investments on companies who for various reasons may be selling for less than the manager believes is its real worth (e.g. “value”).</p> <p>Historically, investments focused on smaller and medium capitalization securities have thrived at different times and in different proportions to investments focused on large capitalization securities. Growth investments have also tended to excel at different times and in different proportion to value investments.</p>
International Equity	<p>These investments generally invest the bulk of their assets in ownership (“equity”) securities, or stocks of companies whose headquarters and/or primary business is outside of the United States. Investments in this category also include regionally focused managers that specialize in a particular part of the world, global managers that can invest in both U.S. and international markets, and emerging market managers that concentrate their investments in markets that are less mature than the world’s developed markets and so may provide opportunities for rapid growth. It is also generally true that higher growth opportunities are tempered significantly by higher risk for loss of capital, at least over shorter terms.</p> <p>Historically international markets have moved in very different cycles than their domestic counterparts.</p>
Specialty	These investments generally invest the bulk of their assets in ownership (“equity”) securities, or stocks of companies in a particular market segment. Historically investments focused on specialty securities have offered a significantly high risk for loss of capital, at least over shorter terms.

Broad Asset Class	Asset Class or Strategy	Benchmark Index	Peer Morningstar Category*
Fixed Income	Fixed Income	BarCap Aggregate Bond Index	Intermediate Term Bond
Asset Allocation	Allocation	S&P 500 / BarCap Agg Blend	Conservative Allocation Moderate Allocation World Allocation
Asset Allocation	Target Date Funds	Vintage Year Appropriate Morningstar Index	Vintage Year Appropriate Morningstar Institutional Category
Domestic Equity	Large Cap U.S. Equity	Russell 1000 Value S&P 500 Russell 1000 Russell 1000 Growth	Large Company Value Large Company Blend Large Company Blend Large Company Growth
Domestic Equity	Mid Cap U.S. Equity	Russell Mid Cap Value Russell Mid Cap Russell Mid Cap Growth	Medium Company Value Medium Company Blend Medium Company Growth
Domestic Equity	Small Cap U.S. Equity	Russell Small Cap Value Russell Small Cap Russell Small Cap Growth	Small Company Value Small Company Blend Small Company Growth
International Equity	International Equity	MSCI EAFE or MSCI ACWI ex US or MSCI Emerging Markets	Foreign Large Value Foreign Large Blend Foreign Large Growth Emerging Markets
Specialty	Specialty	Applicable Index	Applicable Peer Group

*At the Investment Consultant's discretion, Morningstar categories used for scoring purposes may be supplemented by non-mutual fund investments (e.g. collective trusts) and/or contain funds that are not currently categorized by Morningstar as such (e.g. scoring a fund that Morningstar categorizes as mid cap blend, as a mid cap value fund in order to match the utilization of the fund by the plan sponsor).

Appendix B – Investment Evaluation/Scoring System

The **actively managed** investment options will be evaluated relative to their peers using a comprehensive scoring system proprietary to the Investment Consultant. The scoring system is designed to provide a baseline for measurement and discussion with the Committee. **The scoring system is not intended to trigger an automatic and mandated fiduciary outcome or decision for a given score.** It is intended to serve as a tool to help the Plan Sponsor make sound fiduciary decisions. Thus, the comments that follow should be considered in the context that the Scoring System is one tool, not a system that supplants the fiduciary's role in prudently evaluating investment options.

In order to remain in good standing under the scoring system, each plan investment option should accumulate point totals within the acceptable ranges described below. The scoring system measures 8 quantitative areas and 2 qualitative ones. Quantitative scores for mutual fund investment options are calculated at the strategy level using the cheapest share class available.

Quantitative Scoring Areas	Weight	Min Score	Max Score	Description
Risk Adjusted Performance (3 Yr)	10%	4 Pt	10 Pt	Risk-Adjusted Performance measures the level of return that an investment option would generate given a level of risk equivalent to the benchmark index.
Risk Adjusted Performance (5 Yr)	10%	1 Pt	10 Pt	
Performance vs. Peer Group (3 Yr)	10%	4 Pt	10 Pt	Performance vs. Relevant Peer Group measures the percentile rank of an investment option's returns relative to other available options in that category.
Performance vs. Peer Group (5 Yr)	10%	1 Pt	10 Pt	
Style Attribution (3 Year)	7%	3 Pt	7 Pt	Style Attribution indicates the level of style purity of an investment option relative to the benchmark index.
Style Attribution (5 Year)	8%	1 Pt	8 Pt	
Consistency (3 Year)	7%	3 Pt	7 Pt	Consistency indicates the consistent relative value add of the manager as compared to other available options in that category.
Consistency (5 Year)	8%	1Pt	8 Pt	

Qualitative Scoring Areas	Weight	Min Score	Max Score	Description
Management Team	25%	1 Pt	25 Pt	Management Team measures the consistency and quality of an investment option's management group.
Investment Family Items	5%	1 Pt	5 Pt	Investment Family Items measures the stewardship of the investment option's parent company.

Total	100%	20 Pts	100 Pts	Overall Investment Score
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Point System:

Points are awarded in each of the categories of the scoring system according to the following methodologies. In the categories of Risk Adjusted Performance, Performance vs. Relevant Peer Group, Consistency and Style Attribution, points are awarded according to where an investment option ranks on a percentile basis relative to the rest of the peer universe. The table below illustrates this methodology:

% Rank	Top 25%	26- 50%	51- 75%	76- 100%
3 Year Risk-Adjusted Performance	10	9	7	4
5 Year Risk-Adjusted Performance	10	8	5	1
3 Year Peer-Relative	10	9	7	4
5 Year Peer-Relative	10	8	5	1
3 Year Consistency	7	6	5	3
5 Year Consistency	8	6	4	1
3 Year Style	7	6	5	3
5 Year Style	8	6	4	1

Points in the qualitative areas of Management Team and Investment Family Items are awarded on the basis of merit and focus primarily on management team stability, consistency of investment philosophy, firm stewardship, and corporate governance.

If at any time the Committee concludes that an investment option is not meeting the desired objectives or guidelines, the investment option will be considered for termination. In order to remain in good standing an option should total 80 points or greater under the Scoring System. Options that total 70 to and including 79 points will be marked for closer ongoing review by the Plan Committee. Options that score below 70 points will be considered for termination.

Scoring System	Min Score	Max Score
Good Standing	80 Pts	100 Pts
Marked for Review	70 Pts	79 Pts
Considered for Termination	20 Pts	69 Pts

For asset classes where the Investment Consultant believes a peer-relative score is not meaningful, either due to the size or makeup of the asset class, the Investment Consultant may score funds using an alternative quantitative and qualitative framework.

The **passively managed** investment options will be evaluated relative to an applicable benchmark, using a comprehensive scoring system proprietary to the Investment Consultant. The rating methodology evaluates both quantitative and qualitative factors for passively managed investment options and culminates each quarter in one of the following ratings:

Score	Definition
Green	Good Standing
Yellow	Marked for Review
Red	Considered for Termination

When a passively managed option is scored below green the Investment Consultant will clearly articulate to the Committee, at an appropriate time, the reasons for the scoring.

Depending on the type of passively managed option being evaluated, multiple criteria, both quantitative and qualitative, may be used in establishing a rating. Such criteria may include, but are not limited to:

Quantitative

- Tracking error
- Fees
- Peer relative performance

Qualitative

- Fair value pricing methodology
- Securities lending practices
- Replication and Management Strategy
- Management firm experience and stability

Appendix C – Capital Preservation

Asset Class Overview

Broad Asset Class	Description
Capital Preservation	<p>These are usually a) Money Market funds, b) Stable Value funds, or c) Insurance Company Guaranteed Funds.</p> <p><u>Money Market</u> Money Market funds (Treasury / Government / Prime) are mutual funds whose primary objective is safety of principal. Money Markets invest in high quality, short-term securities in an attempt to mitigate interest rate and credit risk. “Short-term” reflects the requirement that a Money Market fund must receive its full principal and interest within 397 days while average maturity may not exceed 90 days. Money Market funds are generally structured to maintain a \$1.00/share Net Asset Value (NAV).</p> <p><u>Stable Value</u> A Stable Value fund is a type of separately managed account or commingled trust investing in high quality, short to intermediate-term fixed income securities presenting minimal interest rate and credit risk. Unique accounting features allow for loss amortization over a period of time, allowing management to invest in longer-term fixed income assets while mitigating risk. Stable Value funds are generally structured to maintain a \$1.00/share NAV.</p> <p><u>Guaranteed Funds</u> A Guaranteed Fund’s primary objective is to provide stable returns while featuring a full principal and interest guarantee. This category represents a type of insurance separate trust, insurance separate account or insurance general account product investing in high quality, intermediate-term securities while offering investors a “guaranteed” rate of return based on the insurance provider’s claims paying ability. Returns are based on a crediting rate formula which resets periodically with limited transparency.</p>

Broad Asset Class	Asset Class or Strategy	Benchmark Index	Peer Morningstar Category
Capital Preservation	Money Market	90 Day U.S. Treasury Bill	N/A
Capital Preservation	Stable Value	Hueler Analytics Stable Value Index	N/A
Capital Preservation	Guaranteed Funds	90 Day U.S. Treasury Bill	N/A

Investment Evaluation/Scoring System

The Capital Preservation options will be evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. The scoring methodology evaluates both quantitative and qualitative factors for the Capital Preservation options and culminates each quarter in one of the following ratings:

Score	Definition
Green	Good Standing
Yellow	Marked for Review
Red	Considered for Termination

When a Capital Preservation option is scored below green the Investment Consultant will clearly articulate to the Committee, at an appropriate time, the reasons for the scoring.

Depending on the type of Capital Preservation option being evaluated, multiple criteria, both quantitative and qualitative, may be used in establishing a rating. Such criteria may include, but are not limited to:

Quantitative

- Crediting Rate/Yield
- Market to Book Ratio
- Average Credit Quality of Portfolio
- Wrap provider/insurer diversification
- Average duration of securities in the portfolio
- Sector allocations

Qualitative

- Management team composition and tenure
- Management firm experience and stability

Appendix D – Target Date Scoring

The scoring for target date investments, most commonly in mutual fund or collective investment trust form, differs from CAPTRUST's scoring of core asset classes. While the principles behind target date evaluation mirror those of the scoring system for traditional options, target date investments are much more complex due to the shifting nature of portfolios through time and therefore require a more complex scoring framework. Each target date manager will receive an overall numerical score as well as a corresponding recommendation for that score. Our qualitative assessment will determine an investment to be 'In Good Standing,' 'Marked for Review' or 'Considered for Termination.' The Consultant believes that both qualitative and quantitative variables are essential to evaluate target date investments, consistent with our traditional asset class scoring system.

This section discusses the 6 major target date assessment categories and describes our methodology for each.

Performance (20 Points Total)

Performance is broken into two categories: risk-adjusted and peer-relative. Both categories are evaluated on a three and five-year basis. Morningstar divides target date investments by vintage year into three institutional categories: Conservative, Moderate and Aggressive.

These categories define peer groups by vintage year, taking into account variations across glidepaths and comparing each vintage year with a relevant peer group. Morningstar reevaluates the Conservative, Moderate and Aggressive categories on a periodic basis to account for investment changes, and categories will be adjusted to be consistent with Morningstar's methodology. The Investment Consultant has determined that Morningstar's methodology is appropriate and will continue to monitor its methodology to ensure that it remains appropriate.

Each target date investment option's vintage year is compared against its designated Morningstar Institutional peer group; then each vintage year's peer-relative score is aggregated to arrive at a total score and each target date family's relative score is ranked based on percentiles. This process is followed for three year peer-relative performance, five year peer-relative performance, three year risk-adjusted performance and five year risk-adjusted performance, providing us with four separate performance measures. The points are allocated based on the following system:

3 and 5-Year Risk-Adjusted and 3 and 5-Year Peer-Relative Scores

% Rank	Top 10%	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Points	5	5	4	4	3	3	2	2	1	1

Once the points are allocated between the four groups, those scores are aggregated to arrive at a total performance score, and that score is **adjusted** based on the following system to recognize that not all of the target date investment options that exist in the Morningstar categories are covered, and an equitable result based on our sample size is desired. Therefore, an adjustment for

the smaller sample size in this major assessment category, and in each of the following 5 major categories, is made by normalizing the scores based on the maximum score obtained in the coverage universe to yield a true peer comparison. This is important given how small differentials can be across peers.

Those adjustments are:

Raw Score (out of 20)	19-20	18	17	16	15	14	13 and below
Adjusted Score	20	19	18	17	16	15	13

For the performance category, this process yields a total performance score by target date family, using the lowest cost share class available to represent each vintage year.

Glidepath Risk: Weightings of Equities and “Other” Asset Classes (10 points)

Target date investment options have varied assumptions across considerations such as savings rates, retirement date, longevity and other factors surrounding retirement. While each family’s assumptions may be justified, evaluating central tendencies through “the wisdom of the crowd” is a worthwhile way to measure two key risks inherent in target date investment options: shortfall risk (not having enough money to retire) and market risk (having too much exposure to risky asset classes subject to greater loss potential). In essence, evaluating dispersion from mean is a way to evaluate how much market or shortfall risk a target date investment option takes relative to all other options. This dispersion is measured based on the following methodology:

Glidepath Risk: Percentage of Equity and “Other” Asset Class scores

% Rank	Top 20%	21-39%	40-60%	61-79%	80-100%
Points	6	8	10	8	6

Glidepath Risk: Regression to Global Equity Index (10 Points)

Target date investment options have demonstrated periods of equity-like risk despite broad diversification claims. Understanding beta, or the slope of the line of best fit in an ordinary least squares regression, helps analyze co-movement between variables. In this case, an assessment is made to determine how a target date investment option’s return series moves relative to a broad index of global equities, represented by 75% S&P 500 and 25% MSCI All-Country World Index ex-USA indices. Both three and five-year betas are determined and averaged, and points are allocated based on the following system.

Glidepath: Regression to Global Equity Index Scores

3 and 5 Year Beta	Beta > .89	$.70 \leq \text{Beta} \leq .89$	Beta < .70
Points	6	8	10

As seen above, this system rewards target date investment options with lower betas based on the view that investors can replicate equity beta elsewhere in their retirement Plans or broad portfolio. Target date options should add value without relying on market beta.

Portfolio Construction (15 Points)

Establishing solid portfolio management discipline and practices are important in improving the odds of target date investment success. This is a qualitative assessment, and points are allocated based on the following variables. These variables are determined based on conversations with managers, reviewing prospectuses/marketing materials and other supporting documentation regarding target date investment methodology:

- Asset class granularity
- Tactical flexibility
- Asset allocation methodology
- Rebalancing methodology
- Investor assumptions used

Underlying Investment Vehicles (15 Points)

Implementation is also critical to the target date success. This category is evaluated through qualitative means, such as:

- Quality of underlying managers
- Manager due diligence and security selection process
- Use and appropriateness of active and passive management if applicable
- Transparency
- Security overlap potential

Target Date Investment Management (25 Points) and Firm (5 points)

This measure is consistent with the traditional scoring system for other investment options.

Points in the qualitative areas of Target Date Investment Management and Firm are awarded on the basis of merit and focus primarily on management team stability, consistency of investment philosophy, firm stewardship, and corporate governance.

Appendix E – Default Investment Option

Default Investment Options are specific investments vehicles that are used when a plan participant or beneficiary fails to make affirmative investment elections. The Committee has decided to appoint a default option for use in situations where a participant may fail to provide investment direction. The default investment option will be a suite of target date funds.

University of Maine IPS

Summary of Changes

The Investment Policy Statement was amended to remove Appendices A through D which were replaced with a separate document entitled the CAPTRUST Investment Policy Monitoring Document. The CAPTRUST Investment Policy Monitoring Document serves as the scoring and monitoring methodology for the plan investments.

As a result, the changes to the IPS are mostly formatting. However, below are the only substantive differences between the old IPS and current version.

Plan Investment Asset Classes – The last sentence references the Investment Policy Monitoring Methodology document instead of the Appendices.

Investment Evaluation – The last sentence references the Investment Policy Monitoring Methodology document instead of the Appendices.

Default Investment Option is no longer associated with an Appendix

The Investment Policy Monitoring Methodology document was updated to remove all references to Morningstar.

We also added the comment “Peer groups are based off of Morningstar open-end mutual fund data. At the discretion of CAPTRUST, peer groups may be supplemented by non-mutual fund investments (e.g. collective investment trusts). Peer groups are maintained by CAPTRUST and reviewed on a quarterly basis.”

The fixed income asset class lists intermediate core bond, intermediate core-plus bond, and world bond.

- Associated indices are Bloomberg BarCap Aggregate Bond Index and Bloomberg BarCap Global Aggregate Bond Index

The peer group for allocations has been changed to “Appropriate Allocation Peer Group”



Investment Policy Statement

**University of Maine System
Defined Contribution
Retirement Plans**

2019



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-1- Statement of Purpose

The primary purpose of the University of Maine System Defined Contribution Retirement Plans (the “Plans”) is to provide a retirement benefit for Plan participants and their beneficiaries by offering the opportunity for long-term capital accumulation.

The Plans are structured to offer participants and their beneficiaries a core set of reasonably priced investment options with different risk and return characteristics, which, when combined, will allow for the construction of a portfolio intended to match most participants’ unique retirement investment objectives.

Assets within the Plans may consist of contributions made by both participants and by the University of Maine System (the “University”). The contributions of the University are vested following the schedule outlined in the Plan Document. All assets are subject to the investment direction of eligible participants or their beneficiaries.

-2- Policy Goals & Objectives

The Investment Policy Statement (IPS) is designed to provide meaningful direction in the management of Plan investment options to the Board of Trustees, University System Administration, and the designated Investment Consultant, all who serve as Investment Fiduciaries to the Plans. The IPS is a guideline for the Investment Fiduciaries in fulfilling their responsibilities to exercise considered judgment in acting solely in the long-term interest of Plan participants and their beneficiaries. There may be specific circumstances that the Investment Fiduciaries determine warrant a departure from the guidelines contained herein. In general the IPS:

- Establishes the roles and responsibilities of the Plans’ Investment Fiduciaries;
- Identifies appropriate investment asset classes for inclusion in the Plans’ menu of investment options;
- Establishes a prudent process for selecting appropriate investment options to be made available for participant direction;
- Designates an investment option to which all assets will be directed by the Plan Sponsor in the absence of a positive election by a participant or beneficiary, which will serve as the Plans’ Default Investment Alternatives;
- Establishes a prudent process by which selected investment options generally will be monitored for compliance with this IPS;
- Develops model methods for adding new investment options and for replacing existing investment options that do not comply with the terms of the IPS.

-3- Roles & Responsibilities- Investment Fiduciaries

The University System Administration and Board of Trustees Investment Committee:

Although it is intended that participants will direct the investment of their accounts under the Plans, the University working through the Board of Trustees Investment Committee selects will the array of investment options available for participant investment and provides on-going oversight of those investment options. In addition, with respect to a Self-Directed Brokerage Account (SDBA) option, the Committee will oversee selection and ongoing due diligence of the provider and features of the SDBA.

Board of Trustee Bylaw Section 3.1 identifies the Investment Committee as a Standing Committee of the Board and a separate document, called Investment Committee Duties and Responsibilities, further defines the Committee's responsibilities.

The Committee normally will review, at least on an annual basis, the acceptability of the universe of investment options made available within the Plans' chosen administrative environment. The Committee will review the Plans' investment options following the regimen outlined later in this IPS.

The Committee intends to discharge its fiduciary responsibilities with respect to the Plans with the assistance of an independent Investment Consultant.

Plan Investment Consultant:

Responsibilities of the Investment Consultant include:

- Educating the Committee on issues concerning the selection of investment options for the Plans;
- Assisting in the analysis and selection of investment options to be made available for participant investment;
- Assisting the Committee with the on-going review of the investment universe made available within the Plans' chosen administrative environment;
- Assisting the Committee with the review of the performance of the selected investment options, on at least an annual, but more often a quarterly basis, in comparison to their stated objectives and their relative performance and pricing as compared to their peers and designated benchmarks;
- Assisting the Committee in the selection of additional or replacement investment options to be made available for participant investment;
- Bringing information to the Committee, on an ad hoc basis as appropriate, that the Consultant feels may alter the Committee's assessment of a given investment option, asset class or strategy.
- Assisting the Committee with due diligence regarding the SDBA option including but not limited to consideration of the provider's experience and reputation, reasonableness of fees and

trading expenses, the ability of the provider to distribute related funds prospectuses and other related investment materials, and the appropriateness of related transaction and other disclosure notifications.

-4- Plan Investment Asset Classes

The Plans' investment menu is structured in accordance with modern portfolio theory which holds that the asset allocation decisions among a broad range of investment alternatives is the most critical determinant of a portfolio's long-term success or failure. The Committee's goal is to offer a core set of diversified investment options that represent a broad range of different asset classes with different risk and return characteristics.

The Plans' investment menu may include, but are not limited to, options from the following broad asset classes: Capital Preservation, Fixed Income, Asset Allocation, including Balanced, Target Risk, Life Cycle and/or Target Date, Domestic Equity, International Equity and Specialty. **These asset classes are described in more detail in CAPTRUST's Investment Policy Monitoring Methodology document.**

-5- Investment Selection

The Committee has structured the Plans to offer participants and their beneficiaries a core set of reasonably priced investment options with different risk and return characteristics. Selection of these investment options is done in the context of the Plans' administrative environment (e.g., Non-ERISA, 403(b), 457(b), 401(a)) which can impact the number, type and cost of investment options available to the Plans. The Committee may also consider the method and payment of Plan expenses which can be altered by investment related decisions.

Regarding the asset classes represented within the Plans, the following screening criteria are among those applied to the available actively managed funds:

Fees – All investment options must charge “reasonable” fees to investors. The expense ratio for a given investment should generally fall below the average expense ratio for the peer group. Exceptions may be made for investment options that the Committee feels may produce performance that would justify higher than average fees.

Style Consistency – Since each investment option is chosen to fulfill a specific part of the Plan's overall investment menu, investment options should have demonstrated a consistency in

investment style and performance. Some variation can be allowed when an investment option's given style moves in and out of favor, or when an investment option's successful investments outgrow their initial investment classification.

Volatility and Diversification – Unless chosen to deliver investment performance that is characteristic of a specific industry or sector of the investment spectrum, investment options generally will be broadly diversified portfolios and will avoid unreasonable overweighting in a given investment, industry or sector. Volatility, as measured by Standard Deviation of returns, should be within reasonable ranges for the given peer group. Other risk measures and ratios, including Sharpe ratio, information ratio and beta, may be used as well.

Performance – With few exceptions, all actively managed investment options should rank in the top 50% of their given peer group for the 3 or 5 year annualized period at the time of their selection. While past performance is not indicative of future returns, peer-relative performance offers the Committee perspective on how the investment option has performed over a reasonably demonstrative period of time relative to other choices. In addition to performance, the Committee will consider other variables including but not limited to fees, investment style purity, and risk management practices, in order to develop a holistic view about a strategy and its appropriateness within the Plans. Passively managed index funds do not need to meet the same ranking criteria; rather, such measures as tracking error to the stated benchmark are more important measures of performance.

Management & Organization – Manager tenure and industry experience are values to be emphasized, as is the strength and expertise of an investment option's sponsoring organization. Sponsoring organizations are generally expected to adhere to accepted standards of ethical practice and to comply with all appropriate securities regulations. When necessary, preference will be given to investment management organizations with a proven commitment to the interests of long-term shareholders.

Additional Factors – In addition to the above factors, the Committee will also consider other factors, which may be less tangible, including fund specific situations and anomalies in the capital markets or in the Plans' unique situation.

After inclusion in the Plans each investment option is expected to maintain a high level of acceptability as described in the Investment Evaluation section of the IPS.

-6- Investment Evaluation

With the assistance of the Investment Consultant, the Committee will monitor the investment options made available within the Plans to ensure they remain compliant with the criteria used to initially select them for inclusion in the Plans under this IPS or such other or additional criteria as appropriate. As part of that process, the Consultant will rank investment options relative to their peers using a comprehensive proprietary Scoring System (see the Investment Policy Monitoring Methodology document)

The following criteria provide an outline for the evaluation process:

- On a periodic basis (e.g., quarterly), the Plans' Investment Consultant will provide the Committee with a comprehensive report of each investment option's relevant performance and relative rankings against appropriate indexes and within appropriate peer groups. The Investment Consultant will review the report with the Committee at least annually, but generally on a quarterly basis.
- The Investment Consultant will also communicate with the Committee on an ad hoc basis, as appropriate, concerning any material changes affecting any of the selected investment options. Material changes may include management changes, changes to the investment option's pricing structure or significant changes in the investment option's fundamental policies and procedures.
- The Committee normally will meet with the Investment Consultant, at least annually, to evaluate each investment option as well as the overall status of the Plans' Investment Policy Statement.
- If the Investment Consultant's proprietary Scoring System indicates that a given investment option may no longer meet the appropriate and reasonable standards required to remain included in the Plans' menu, the Consultant will make appropriate recommendations to the Committee.

-7- Replacement of Selected Investment Options

Since the intention of the Plan is to provide opportunities for long-term asset accumulation for participants and beneficiaries, it is not expected that either the investment asset classes or specific investment options will be changed or deleted frequently.

It is possible that changes may become desirable or necessary, however, based on the following factors:

- The addition of a new asset class or investment alternative that was not a part of the Plan's initial menu. Such an addition will be subject to a similar selection regimen to that outlined earlier in the IPS;

- The elimination of a given asset class from the Plans' menu.
- The desire to replace one of the Plans' investment options with another investment option that the Committee feels will more successfully deliver the desired asset class characteristics. Reasons may include, for example, the availability of options that were not initially open for Committee consideration, or a change in the performance or fee structure of a competing option. It may also be true that a given investment option is no longer available through the Plan's chosen administrative environment. Investment options can be removed or changed after a thorough comparative review using the regimen outlined earlier in the IPS.
- The need to replace or eliminate one of the Plans' investment options after noncompliance with this IPS has been established, or appears likely.

8- Self-Directed Brokerage Account

In addition to the selected investment options in the Plans' core menu, the Self-Directed Brokerage Account (SDBA) allows participants an opportunity to allocate money to an expanded range of investment choices. With this option, participants choose to open a separate brokerage account to obtain a specific product not offered by the Plan. Participants may choose from thousands of mutual funds from the brokerage platform.

The Investment Committee, assisted by the Investment Consultant, will oversee the prudent selection and ongoing due diligence of the SDBA provider and related features. In fulfilling that responsibility, the Committee will, among other things, determine that any costs for the SDBA are reasonable and that the accounts themselves are operated according to appropriate securities regulation and under retirement guidelines. However, **the University will not monitor or evaluate the investment options available through the SDBA.** The University will work with the SDBA provider to ensure participants are made aware that, when selecting the SDBA option, the investment alternatives available through the SDBA have not been subjected to any selection process and are not monitored by the University or its Board of Trustees.

-9- Conclusion

It is understood that the guidelines set forth in this statement are meant to serve as a general framework for prudent management of the assets of the Plans. Changing market conditions, economic trends or business needs may necessitate modification of this Investment Policy Statement. Until such

modification this document will provide the investment objectives and guidelines for the Plans’ assets, subject to the caveats stated herein. The University of Maine System Board of Trustees’ Investment Committee will periodically review and approve updates to this IPS as appropriate.

Approved by University of Maine System, and adopted on this _____ day of _____, 2019.

Signature, Title

Signature, Title

Signature, Title

Signature, Title

Signature, Title

Signature, Title

Signature, Title

Signature, Title

Witnessed by CAPTRUST Financial Advisors & adopted on this _____ day of _____, 2019.

Signature, Title

DEFAULT INVESTMENT OPTION

Default Investment Options are specific investment vehicles that are used when a plan participant or beneficiary fails to make affirmative investment elections. The Committee has decided to appoint a default option for use in situations where a participant may fail to provide investment direction. The default investment option will be a suite of target date funds



CAPTRUST

Financial Advisors

**Investment Policy Monitoring
(Scoring) System Methodology**



As of June 30, 2019

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Appendix A –Asset Class Overview

Broad Asset Class	Description
Fixed Income	These investments generally invest the bulk of their assets in the fixed income, or “bond” markets. Investments in this category vary in terms of the duration of their primary holdings (short term, intermediate term or long term), in the quality of the issuers of their holdings (government to corporate issuers of varying quality), and in the origin of their issuance (issued within or outside of the U.S. bond market).
Asset Allocation	These investments, like balanced funds, attempt to provide participants with a broadly diversified collection of stocks, bonds and money market securities, among other investment asset classes. Each manager commonly specifies either a risk-based strategy (e.g. “aggressive”, “moderate” or “conservative”) or a target date (e.g. 2030, 2040, 2050, etc.) that drives the proportionate, or strategic, allocation it follows. Each manager will have its own restrictions, disclosed in its prospectus or other appropriate governing document, which will define the ranges it may allocate to any given investment or asset class.
Domestic Equity	<p>These investments generally invest the bulk of their assets in ownership (“equity”) securities, or stocks of companies whose headquarters and/or primary business is in the United States. Investments in this category vary both in their objectives (e.g. current income versus long term capital appreciation) and in the types of equity securities they specialize in. Some investments in this category focus on small capitalization or medium capitalization companies versus large capitalization companies. Some funds tend to look for companies whose earnings, or perceived value, are growing at faster rates than other companies (e.g. “growth”) while others focus their investments on companies who for various reasons may be selling for less than the manager believes is its real worth (e.g. “value”).</p> <p>Historically, investments focused on smaller and medium capitalization securities have thrived at different times and in different proportions to investments focused on large capitalization securities. Growth investments have also tended to excel at different times and in different proportion to value investments.</p>
International Equity	These investments generally invest the bulk of their assets in ownership (“equity”) securities, or stocks of companies whose headquarters and/or primary business is outside of the United States. Investments in this category also include regionally focused managers that specialize in a particular part of the world, global managers that can invest in both U.S. and international markets, and emerging market managers that concentrate their investments in markets that are less mature than the world’s developed markets and so may provide opportunities for rapid growth. It is also generally true that higher growth opportunities are tempered significantly by higher risk for loss of capital, at least over shorter terms.

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	Historically international markets have moved in very different cycles than their domestic counterparts.
Specialty	These investments generally invest the bulk of their assets in ownership ("equity") securities, or stocks of companies in a particular market segment. Historically investments focused on specialty securities have offered a significantly high risk for loss of capital, at least over shorter terms.

Benchmarks & Peer Groups:

Broad Asset Class	Asset Class or Strategy	Benchmark Index	Peer Group*
Fixed Income	Intermediate Core Bond Intermediate Core-Plus Bond World Bond	Bloomberg BarCap Aggregate Bond Index Bloomberg BarCap Global Aggregate Bond Index	Intermediate Core Bond Intermediate Core-Plus Bond World Bond
Asset Allocation	Allocation	Appropriate S&P 500 / Bloomberg BarCap Agg Blend	Appropriate Allocation Peer Group
Asset Allocation	Target Date Funds	Vintage Year Appropriate Index	Vintage Year Appropriate Peer Group
Domestic Equity	Large Cap U.S. Equity	Russell 1000 Value Russell 1000 S&P 500 Russell 1000 Growth	Large Company Value Large Company Blend Large Company Growth
Domestic Equity	Mid Cap U.S. Equity	Russell Mid Cap Value Russell Mid Cap Russell Mid Cap Growth	Medium Company Value Medium Company Blend Medium Company Growth
Domestic Equity	Small Cap U.S. Equity	Russell 2000 Value Russell 2000 Russell 2000 Growth	Small Company Value Small Company Blend Small Company Growth
International Equity	International Equity	MSCI EAFE MSCI ACWI ex US MSCI ACWI ex US IMI MSCI Emerging Markets	Foreign Large Value Foreign Large Blend Foreign Large Growth Emerging Markets
Specialty	Specialty	Applicable Index	Applicable Peer Group

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* Peer groups are based off of Morningstar open-end mutual fund data. At the discretion of CAPTRUST, peer groups may be supplemented by non-mutual fund investments (e.g. collective investment trusts). Peer groups are maintained by CAPTRUST and reviewed on a quarterly basis.

Appendix B –Investment Evaluation/Scoring System

The actively managed investment options will be evaluated relative to their peers using a comprehensive scoring system designed to serve as a *guide and an aid* to the Committee, or CAPTRUST when they have discretion (commonly 3(38) for ERISA plans) when evaluating investment options, providing a baseline for measurement and discussion. **The scoring system is not intended to trigger an automatic and mandated outcome or investment decision for a given score.** It is intended to serve as a tool to support sound fiduciary decisions that are in the sole interest of participants and beneficiaries.

Thus, the comments that follow should be considered in the context that the scoring system is one tool, not a system that supplants the fiduciary's role in prudently evaluating investment options. In order to remain in good standing under the scoring system, each plan investment option should accumulate point totals within the acceptable ranges described below. The scoring system measures eight (8) quantitative areas and two (2) qualitative ones, as outlined in the tables below. Quantitative scores for investment options that are mutual funds are calculated at the strategy level using the lowest-cost share class available. Non-mutual fund investment options may be scored based on individual share class or based on a gross of fee product. CAPTRUST maintains discretion over which share class and/or product is considered to be the lowest-cost for purposes of scoring.

Metrics & Points:

Quantitative Scoring Areas	Weight	Min Score	Max Score	Description
Risk Adjusted Perf (3 Yr)	10%	4 Pt	10 Pt	Risk-Adjusted Performance measures the level of return that an investment option would generate given a level of risk equivalent to the benchmark index.
Risk Adjusted Perf (5 Yr)	10%	1 Pt	10 Pt	
Perf vs. Peer Group (3 Yr)	10%	4 Pt	10 Pt	Performance vs. Relevant Peer Group measures the percentile rank of an investment option's returns relative to other available options in that category.
Perf vs. Peer Group (5 Yr)	10%	1 Pt	10 Pt	
Style Attribution (3 Year)	7%	3 Pt	7 Pt	

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Style Attribution (5 Year)	8%	1 Pt	8 Pt	Style Attribution indicates the level of style purity of an investment option relative to the benchmark index.
Confidence (3 Year)	7%	3 Pt	7 Pt	Confidence indicates the consistent relative value add of the manager as compared to other available options in that category.
Confidence (5 Year)	8%	1 Pt	8 Pt	

Qualitative Scoring Areas	Weight	Min Score	Max Score	Description
Management Team	25%	1 Pt	25 Pt	Management Team measures the consistency and quality of an investment option's management group.
Investment Family Items	5%	1 Pt	5 Pt	Investment Family Items measures the stewardship of the investment option's parent company.
Total	100%	20 Pts	100 Pts	Overall Investment Score

Points are awarded in each of the categories of the scoring system according to the following methodologies. In the categories of Risk Adjusted Performance, Performance vs. Relevant Peer Group, and Confidence, points are awarded according to where an investment option ranks on a percentile basis relative to the rest of the peer universe. The table below illustrates this methodology:

% Rank	Top 25%	26-50%	51-75%	76-100%
3 Year Risk-Adjusted	10	9	7	4
5 Year Risk-Adjusted	10	8	5	1
3 Year Peer-Relative	10	9	7	4
5 Year Peer-Relative	10	8	5	1
3 Year Confidence	7	6	5	3
5 Year Confidence	8	6	4	1

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In the category of Style Attribution, points are awarded based on an investment option's level of style consistency relative to the applicable benchmark. Points are assigned using absolute breakpoints and are not peer-relative. These breakpoints are determined by CAPTRUST and are subject to change based on market conditions.

Points in the qualitative areas of Management Team and Investment Family Items are awarded on the basis of merit, and focus primarily on management team stability, consistency of investment philosophy, firm stewardship, and corporate governance.

If at any time the fiduciary concludes that an investment option is not meeting the desired objectives or guidelines, the investment option may be considered for termination. In order to remain in good standing an option should total greater than 80 points under the Scoring System. Options that total between 70 and 79 points will be marked for closer ongoing review by the fiduciary. Options that score below 70 points may be considered for termination.

Scoring System	Min Score	Max Score
In Good Standing Marked	80 Pts	100 Pts
for Review Consider for	70 Pts	79 Pts
Termination	20 Pts	69 Pts

Distinct Investment Options:

For asset classes where CAPTRUST believes a peer-relative score is not meaningful, either due to the size or makeup of the asset class, CAPTRUST may score funds using an alternative quantitative and qualitative framework. The rating methodology evaluates both quantitative and qualitative factors, and culminates each quarter in one of the following ratings:

Score	Definition
Green	In Good Standing Marked
Yellow	for Review Consider for
Red	Termination

An example where this alternative methodology would apply is Multisector Bond investment options.

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Passively Managed Investment Options:

The passively managed investment options will be evaluated relative to an applicable benchmark, using a comprehensive scoring system proprietary to CAPTRUST. The rating methodology evaluates both quantitative and qualitative factors for passively managed investment options, and culminates each quarter in one of the following ratings:

Score	Definition
Green	In Good Standing Marked
Yellow	for Review Consider for
Red	Termination

Depending on the type of passively managed option being evaluated, multiple criteria, both quantitative and qualitative, may be used in establishing a rating. Such criteria may include, but are not limited to:

Quantitative

- Tracking error
- Fees
- Peer relative performance

Qualitative

- Fair value pricing methodology
- Securities lending practices
- Replication and management strategy
- Management firm experience and stability

When a passively managed option is scored below green, CAPTRUST will clearly articulate to the fiduciary, at an appropriate time, the reasons for the scoring.

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Appendix C – Capital Preservation

Broad Asset Class	Description
Capital Preservation	<p>These options may represent a) Money Market options, b) Stable Value options, or c) Insurance Company Guaranteed options.</p> <p><u>Money Market</u> Money Market options (Treasury / Government / Prime) are investment options whose primary objective is safety of principal. Money Markets invest in high quality, short-term securities (full principal and interest within 397 days) in an attempt to mitigate interest rate and credit risk. Money Market options are often structured to maintain a \$1.00/share Net Asset Value (NAV) but it is not guaranteed that they will meet this objective.</p> <p><u>Stable Value</u> A Stable Value fund is a type of separately managed account, insurance separate account, or commingled trust investing in high quality, short to intermediate-term fixed income securities presenting minimal interest rate and credit risk. Unique accounting features allow for gain and loss amortization over a period of time, allowing management to invest in longer-term fixed income assets while mitigating NAV fluctuations. Stable Value funds are generally structured to maintain a \$1.00/share NAV but it is not guaranteed that they will meet this objective.</p> <p><u>Insurance Company Guaranteed Options</u> An Insurance Company Guaranteed Option's primary objective is to provide stable returns while featuring a full principal and interest guarantee. This category represents a type of insurance separate trust, insurance separate account or insurance general account product investing in high quality, intermediate-term securities while offering investors a "guaranteed" rate of return based on the insurance provider's claims paying ability. Returns are based on a crediting rate formula which resets periodically with varying transparency.</p>

Broad Asset Class	Asset Class or Strategy	Benchmark Index	Peer Group
Capital Preservation	Money Market	90 Day U.S. Treasury Bill	N/A
Capital Preservation	Stable Value	Hueler Analytics Stable Value Index	N/A
Capital Preservation	Guaranteed Funds	90 Day U.S. Treasury Bill	N/A

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The Capital Preservation options will be evaluated using a comprehensive scoring methodology proprietary to CAPTRUST. The scoring methodology evaluates both quantitative and qualitative factors for the Capital Preservation options, and culminates each quarter in one of the following ratings:

Score	Definition
Green	In Good Standing Marked
Yellow	for Review Consider for
Red	Termination

Depending on the type of Capital Preservation option being evaluated, multiple criteria, both quantitative and qualitative, may be used in establishing a rating. Such criteria may include, but are not limited to:

Quantitative

- ▢ Crediting Rate/Yield
- ▢ Market to Book Ratio
- ▢ Average Credit Quality of Portfolio
- ▢ Wrap provider/insurer diversification
- ▢ Average duration of securities in the portfolio
- ▢ Sector allocations

Qualitative

- ▢ Management team composition and tenure
- ▢ Management firm experience and stability

When a Capital Preservation option is scored below green, CAPTRUST will clearly articulate to the fiduciary, at an appropriate time, the reasons for the scoring.

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Appendix D – Target Date Scoring

The scoring for target date investments differs from CAPTRUST’s scoring of core asset classes. CAPTRUST believes that both qualitative and quantitative variables are essential to evaluate target date investments, consistent with the traditional asset class scoring system. CAPTRUST’s qualitative assessment will determine an investment to be ‘In Good Standing,’ ‘Marked for Review’ or ‘Consider for Termination.’

Scores for investment options that are mutual funds are calculated at the strategy level using the lowest-cost share class available. This process yields a total quantitative and qualitative score by target date family. Non-mutual fund investment options may be scored based on individual share class or based on a gross of fee product. CAPTRUST maintains discretion over which share class and/or product is considered to be the lowest-cost for purposes of scoring. Scores may be adjusted to account for a smaller sample size.

The below section discusses the major target date assessment categories and describes the methodology for each.

Performance (20 Points Total)

Each target date investment option’s vintage year is compared against an appropriate peer group on both a risk-adjusted and peer-relative basis over three- and five-year periods. Each vintage year’s score is then aggregated to arrive at a total score, and each target date family’s relative score is ranked based on percentiles. Points are allocated based on the following system:

3 and 5-Year Risk-Adjusted and 3 and 5-Year Peer-Relative Scores

% Rank	Top 10%	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Points	5	5	4	4	3	3	2	2	1	1

Once points are allocated to each vintage year, scores are aggregated to arrive at a total performance score.

Glidepath Risk: Weightings of Equities and “Other” Asset Classes (10 points)

Target date investment options have varied assumptions across considerations such as savings rates, retirement date, longevity and other factors surrounding retirement, which can impact their overall

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allocation to equities and equity-like investments throughout the glidepath. Because of these differences, evaluating dispersion from the mean is a way to evaluate how much market (having too much exposure to risky asset classes subject to greater loss potential) or shortfall risk (not having enough money to retire) a target date investment option takes relative to all other options. This dispersion is measured based on the following methodology:

Glidepath Risk: Percentage of Equity and “Other” Asset Class scores

% Rank	Top 20%	21-39%	40-60%	61-79%	80-100%
Points	6	8	10	8	6

Glidepath Risk: Regression to Global Equity Index (10 Points)

For Glidepath Risk, an assessment is made to determine how a target date investment option’s returns move relative to a broad index of global equities. Both three- and five-year betas are determined and averaged, and points are allocated based upon the following system:

Glidepath: Regression to Global Equity Index Scores

3 and 5 Year Beta	Beta > .89	.70 < Beta < .89	Beta < .70
Points	6	8	10

Portfolio Construction (15 Points)

Portfolio Construction is evaluated qualitatively and based on variables such as:

- Investment philosophy
- Tactical asset allocation, if applicable
- Strategic asset allocation
- Risk management

Underlying Investment Vehicles (15 Points)

Underlying Investment Vehicles are evaluated through qualitative means, such as:

- Quality of underlying investments/managers
- Execution of underlying investments/managers
- Use of active and passive management, if applicable
- Transparency into underlying investments/managers

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Target Date Investment Management (25 Points) and Firm (5 Points)

Points in the qualitative areas of Target Date Investment Management and Firm are awarded on the basis of merit, and focus primarily on management team stability, consistency of investment philosophy, firm stewardship, and corporate governance, as well as a commitment to the target date asset class.

RECOMMENDED MANAGER UPDATES

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CARILLON EAGLE SMALL CAP GROWTH

Investment Thesis**Experienced Investment Team**

- Lead portfolio manager Bert Boksen has been with the firm in 1995. He is joined by co-manager Eric Mintz, who has been at the firm since 2005 and assumed his current role in 2011. Assistant PM Chris Sassouni joined the firm in 2003.
- They are supported by an experienced four-person analyst team.

Consistent Investment Process

- The process focuses on firms with accelerating earnings growth of 20%+. The team seeks to identify these ideas early before the market recognizes it, so that valuations are reasonable. The team identifies company-specific catalysts or industry trends. They also look for strong management teams with significant insider ownership.
- The strategy is well-diversified with roughly 110 stocks. Annual portfolio turnover is below 50%. The team has a patient approach as they try not to sell winners too soon especially if the investment thesis is still valid.

Performance

- With the exception of 2013, the strategy remained in the top half of the peer group from 2009-2017 and avoided any significant underperformance vs. the benchmark.

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CARILLON EAGLE SMALL CAP GROWTH

What Changed**2018 Performance Issues**

- Following solid results in 2017, the strategy modestly lagged the benchmark in 2018.
- Technology was the top contributor in 2017, but the top detractor in 2018. Tech holdings Coherent, IPG Photonics, and Cognex declined sharply. These firms sell into Apple's supply chain and were hurt by tariff concerns.
- All three stocks were significant winners for the strategy in 2017. The team did not act quickly enough to reduce the positions as tariff concerns mounted.
- The team tends to let their winners run, which has paid off in the long-term. They have held some stocks in the portfolio for 10+ years. However, they will not let position sizes get above 3% and the largest individual holding is currently 2.6%.
- Healthcare was the largest detractor in 2017 due to the biotech rally. However, it was the leading contributor in 2018 due to positive stock selection in biotech. The strategy has a neutral weight to biotech vs. the benchmark, which is around 12%.
- All of the 2018 underperformance occurred in the first half. The strategy was roughly in-line with the benchmark during the sharp Q4 2018 sell-off.

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CARILLON EAGLE SMALL CAP GROWTH

2019 Performance Issues

- Through the first half of 2019, the strategy was slightly ahead of the benchmark in a very strong rally for small cap growth (+20%).
- Q3 was a difficult period as the strategy lagged the benchmark by over 200 basis points. Underperformance was driven by negative stock selection in healthcare, financials, and consumer discretionary. Stock selection was positive in technology.
- In healthcare, the strategy did not own several biotech stocks that were acquired this year. In addition, healthcare equipment firm Merit Medical was a detractor and the position was sold due to a thesis violation.
- Stock selection in biotech has been strong over the long-term, as the team has a 70-80% success rate in binary outcomes in that area since 2015.
- In financials, Green Dot was a large contributor in 2018 but became a significant detractor in 2019 due to increased industry competition. The team exited the position.

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CARILLON EAGLE SMALL CAP GROWTH

Peer-Relative Performance

- Many of the strategy's peers have benefitted from large sector bets such as overweight technology (software) and underweight biotech. Taking large sector bets has paid off in recent years, as software has been a very strong performer while biotech has lagged.
- The Eagle team does not make large sector bets, as they do not believe that skill is repeatable. Over a full market cycle, we believe that the team's more conservative approach should pay off although it has been a headwind recently.
- The team believes that valuations in software and some areas within healthcare are quite high. Some of those firms are unprofitable and generally do not fit in Eagle's process. Due to its valuation sensitivity, the strategy tends to lag its peers when valuations get stretched.
- While peer-relative results are important, there are currently some unusual dynamics in small cap growth that must be considered.
- Over three and five years, the strategy is trailing the benchmark by roughly 100 basis points but ranks in the fourth quartile of the peer group. Typically, such a modest level of underperformance would not lead to a fourth quartile ranking.
- Thus, we believe the strategy is being overly penalized in the peer rankings.

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CARILLON EAGLE SMALL CAP GROWTH

Mid Cap Growth Strategy

- The team's recent performance in small cap growth has not been as strong as their mid cap growth strategy, which is also on our recommended list and in the top quartile of the peer group over five years.
- An important difference is the benchmark composition. Biotech is a much lower weight in the mid growth index and mid cap biotech firms are typically less risky and volatile.
- In addition, the team has posted better stock selection in financials in the mid growth strategy. This has been a significant swing factor between the two strategies.
- Importantly, the mid growth peer group has not experienced the unusual dynamics seen in small growth.

CAPTRUST View

- We are placing the strategy on watch.
- The strategy has faced stylistic headwinds due to its valuation sensitivity and sector neutral approach. While the team's approach of letting its winners run has been successful over the long-term, it has not worked as well recently. We will monitor this issue in the coming quarters to see if it persists.
- Offsetting these concerns is the experienced and stable investment team.

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DFA EMERGING MARKETS CORE

Topic	The strategy's year to date results lagged the benchmark and were in the fourth quartile of the peer group. While recent performance has been challenging, the strategy's five-year results are only slightly trailing the benchmark and are roughly in-line with the peer group.
Attribution	<p>Year to date underperformance was driven by negative stock selection in consumer discretionary (underweight Alibaba), financials, and consumer staples.</p> <p>The strategy's small cap and value factors have hurt performance this year, while the profitability factor has been a positive contributor.</p> <p>The portfolio continues to be significantly underweight China due to their 17.5% country cap, although that cap is being phased out. The benchmark currently has a 32% weight to China. This positioning can help or hurt performance in the short-term, but typically washes out longer-term.</p>
Our View	<p>We continue to recommend this strategy. DFA's team-based approach ensures that the strategy is not dependent on one portfolio manager.</p> <p>DFA focuses on exploiting several factors in the market - the small cap, value, and profitability premiums. The firm's research suggests that small-cap stocks, value stocks, and more profitable firms tend to outperform over the long-term.</p> <p>The portfolio holds a large number of stocks (roughly 5,000) to provide diversification and reduce individual security risk. Annual portfolio turnover is very low at 5-10% in order to minimize trading costs.</p>

This is not a solicitation to invest, but rather a manager update being delivered to CAPTRUST clients whose assets are invested with the manager who is the subject of this report. The opinions expressed are subject to change without notice. Statistics have been obtained from sources deemed reliable but are not guaranteed to be accurate or complete. Any performance illustrated is past performance and is not indicative of future results.



AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Defined Contribution Plan – Quarterly Review
2. **INITIATED BY:** Kelly A. Martin, Chair
3. **BOARD INFORMATION:** X **BOARD ACTION:**
4. **OUTCOME:** **BOARD POLICY:**
 Primary Outcome: Section 709 - Investments
 Enhance fiscal positioning
5. **BACKGROUND:**
 Michael Pratico and Barry Schmitt, Senior Vice Presidents with CAPTRUST Financial Advisors, will provide a quarterly update regarding the Defined Contribution Plan at the December 2, 2019 Investment Committee meeting.

November 22, 2019

UNIVERSITY OF MAINE SYSTEM
3RD QUARTER, 2019

**DEFINED CONTRIBUTION
QUARTERLY REVIEW**

CAPTRUST

9030 Stony Point Parkway, Suite 540
Richmond, VA 23235

Our mission is to enrich the lives of our clients, colleagues and communities through sound financial advice, integrity, and a commitment to service beyond expectation.

IN THIS REVIEW

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

University of Maine System Defined Contribution Plans

3rd Quarter, 2019 Quarterly Review

prepared by:

Michael S. Pratico

Senior Vice President | Financial Advisor

Barron V. Schmitt

Senior Vice President | Financial Advisor

Section 1

RETIREMENT INDUSTRY UPDATES

Section 2

MARKET COMMENTARY AND REVIEW

Section 3

PLAN INVESTMENT REVIEW

Section 4

FUND FACT SHEETS

Appendix

SECTION 1: RETIREMENT INDUSTRY UPDATES

Period Ending 9.30.19 | Q3 19

University of Maine System

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SECTION 1: RETIREMENT INDUSTRY UPDATES

Industry Updates.....

RECENT SETTLEMENTS HEIGHTEN INTEREST IN PARTICIPANT DATA

A recent focus on data privacy has shined a light on the ownership and value of participant data, increasing interest in how service providers protect and use participant information. Several recent retirement plan legal suits have included plaintiff claims alleging that fees charged by service providers are failing to consider the value of access to participant data for marketing purposes. While defendants deny the claims, some recent settlements have included contractual prohibitions against use of participant information to market products or services unrelated to the plan. While the laws, regulations, and legal precedents governing participant data usage are not as prescriptive as plan fiduciaries might like, fiduciaries should continue to monitor activity and developments surrounding this topic.



DEFINED CONTRIBUTION MARKETPLACE — INDUSTRY UPDATE

Period Ending 9.30.19 | Q3 19

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DESIGNING A RETIREMENT PROGRAM FOR ALL SAVERS

Lifetime income scores, financial health rating systems, and benchmarks are useful tools in helping participants get on track for retirement. However, savings rates over time have always been a primary driver of retirement readiness. Plan sponsors should continue to evaluate their plan designs and savings rates by demographic to ensure their employees are being provided with the opportunity to get on track for retirement.

ASSUMPTIONS	
Pre-Retirement Returns	6%
Post-Retirement Returns	4%
Retirement Age	67
Years in Retirement	20
Inflation Rate	2.2%
Social Security	Included
Replacement Ratio of Current Income at Retirement	70%

AGE	SALARY	SAVINGS NEEDED TO REPLACE 70% OF INCOME	
		Recommended Savings Rate	Annual Savings Estimate (\$)
25	\$35,000	4.9%	\$1,715
	\$50,000	6.1%	\$3,050
	\$75,000	7.7%	\$5,775
	\$125,000	9.9%	\$12,375
	\$250,000	13.1%	\$32,750
35	\$35,000	7.6%	\$2,660
	\$50,000	9.4%	\$4,700
	\$75,000	11.9%	\$8,925
	\$125,000	15.4%	\$19,250
	\$250,000	20.4%	\$51,000
45	\$35,000	12.8%	\$4,480
	\$50,000	15.9%	\$7,950
	\$75,000	20.1%	\$15,075
	\$125,000	25.9%	\$32,375
	\$250,000	34.3%	\$85,750

Source: www.calcxml.com

TOP 10 AREAS OF FOCUS IN DOL RETIREMENT PLAN INVESTIGATIONS

Investigations and enforcement of fiduciary duties under ERISA by the U.S. Department of Labor have been common in recent years. As a result, plan administrators should be aware of the importance of undertaking a proactive review of these potential risks.



Source: Employee Benefit Review, Volume 73, Number 6. "Top 10 Areas of Focus in DOL Investigations of Retirement Plans"

This document is intended to be educational only. CAPTRUST does not render legal, accounting, or tax advice. Please contact your legal, accounting, or tax advisor if you require such counsel.

SECTION 2: MARKET COMMENTARY AND REVIEW

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

SECTION 2: MARKET COMMENTARY AND REVIEW

Market Commentary.....
Market Review.....
Asset Class Returns.....
Index Performance.....

MARKET COMMENTARY

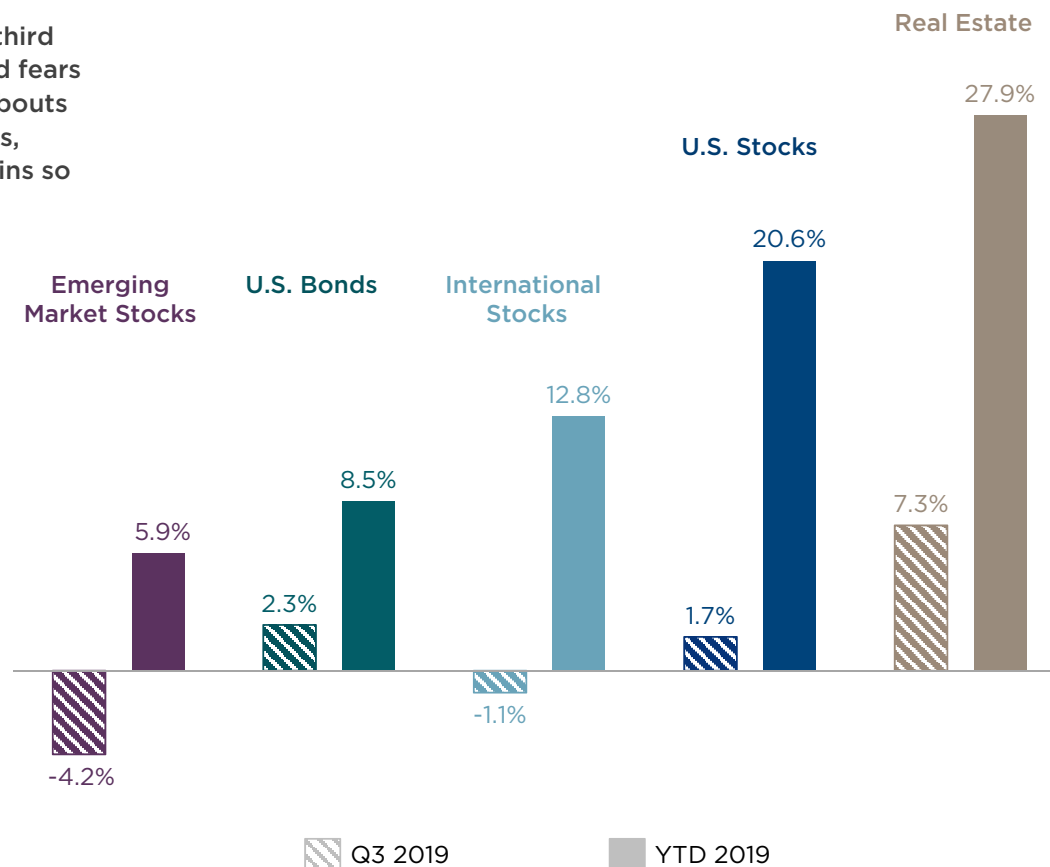
Period Ending 9.30.19 | Q3 19

4.1

SOLID YEAR DESPITE Q3 TURBULENCE

Most asset classes added to their 2019 gains in the third quarter, in spite of attention-grabbing headlines and fears of waning global economic growth. While periodic bouts of news-driven market volatility have irked investors, their patience has been rewarded with generous gains so far this year.

- Despite concerns about slowing economic growth and the ongoing trade dispute with China, U.S. stocks added to their impressive gains and closed out their best first three quarters since 1997.
- International stocks slipped this quarter—weighed down by emerging markets and a strong dollar—but remain in positive territory for the year.
- Bonds rallied again this quarter, building on their year-to-date gains, as interest rates hit multiyear lows.
- Public real estate held onto strong gains, thanks to subdued interest rates and favorable market demand. It is this year's standout performer.



Asset class returns are represented by the following indexes: S&P 500 Index (U.S. large-cap stocks), MSCI EAFE Index (international developed stocks), MSCI Emerging Markets Index (emerging market stocks), Bloomberg Barclays U.S. Aggregate Bond Index (U.S. bonds), and Dow Jones U.S. Real Estate Index (real estate).

MARKET COMMENTARY

Period Ending 9.30.19 | Q3 19

4.1

ECONOMIC OUTLOOK

The global economic picture typically consists of favorable attributes (tailwinds) and challenges (headwinds). Here, we provide our perspective on both and offer our view on which side has the upper hand.

TAILWINDS

Consumer Strength

- Consumer confidence, which has been resilient, plays a pivotal role in driving economic growth, since consumer spending accounts for two-thirds of U.S. gross domestic product.
- Consumer optimism has been buoyed by low unemployment, rising wages, and a strong housing market.



Home Rebound

- Home sales remain strong, boosting economic growth through construction jobs and housing-related spending.
- The housing market has benefited from lower mortgage rates, which make homes more affordable.

Oil Resilience

- The September 14 drone attack on Saudi oil facilities reduced daily output by almost 6 million barrels—or 7% of global production. Although oil prices reacted with a 20% jump, they quickly settled back to near pre-attack levels.
- In the past, such disruptions caused stress to the U.S. economy through higher energy prices, but the U.S. is far less susceptible to oil price shocks today.
- American oil production has more than doubled since 2000, propelling the U.S. to become the global leader in oil production.

HEADWINDS

Lingering Trade Disputes

- Trade tensions continue to impair global economic growth, especially in trade-oriented economies like Germany, South Korea, and Taiwan. The slowdown in China has affected interconnected economies and commodity producers.
- In the U.S., trade policy uncertainty remains the biggest risk to business sentiment, with impacts on business investment, capital spending, and hiring.



Global Political Uncertainty

- A wide range of geopolitical questions—ranging from presidential impeachment and 2020 elections in the U.S. to the continuing Brexit saga and civil unrest in Hong Kong—has weakened business leaders' abilities to forecast.

Challenges in Eurozone

- The combination of U.S.-China trade conflict and Brexit uncertainty comes at a bad time for export-driven European countries like Germany that are already under stress. Countries less dependent upon trade, such as France, have fared better.
- The European Central Bank has pursued aggressive stimulus through unprecedented monetary easing, even as short-term interest rates across Europe are in negative territory.

We see continued resilience in consumer sentiment and labor markets, even as global growth slows amid policy uncertainty.

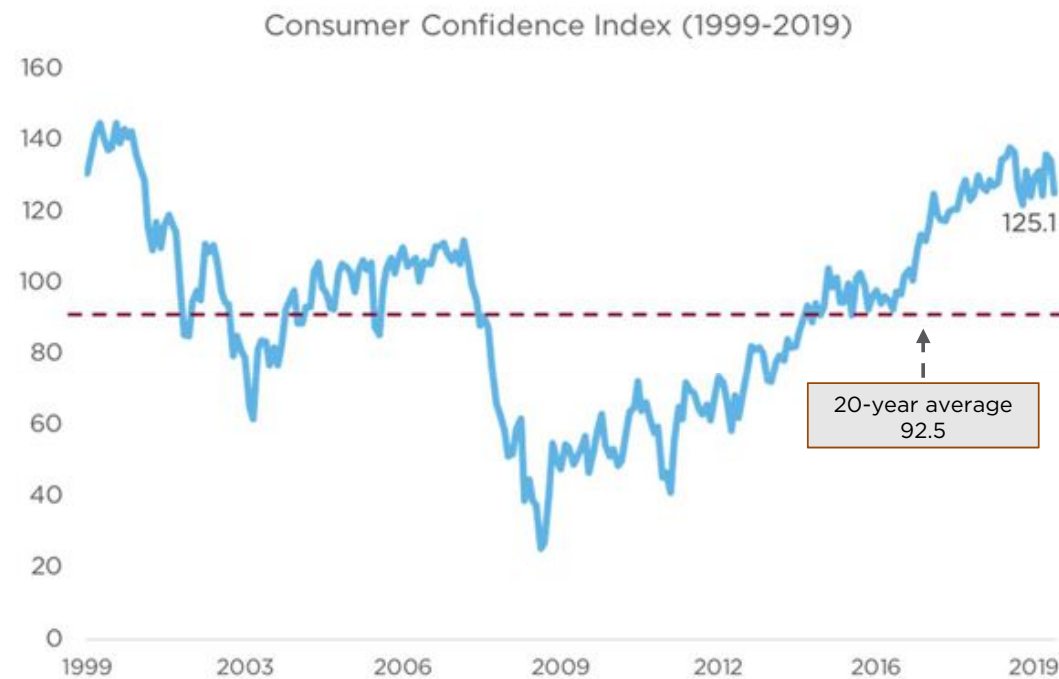
MARKET COMMENTARY

Period Ending 9.30.19 | Q3 19

4.1

CONSUMER CONFIDENCE REMAINS ELEVATED

Consumer confidence, an important indicator on future household spending and saving, remains high by historical standards. Although it is down slightly from the month before, September's Conference Board Consumer Confidence Index value of 125.1 remains well above its 20-year average. Consumer confidence plays a pivotal role in driving economic growth, since consumer spending accounts for two-thirds of U.S. gross domestic product.



OBSERVATIONS

- So far, consumers have shrugged off many of the geopolitical worries that have clouded business confidence. However, the index's August-to-September decline was the largest in nine months.
- A solid U.S. labor market with low unemployment and accelerating wage growth, along with high savings rates and low inflation, have provided support to consumer confidence and spending.
- The U.S. consumer is in good shape heading into the holiday shopping season, but consumers' spending decisions will depend upon their assessments of the labor market, overall economic conditions, and concerns over the price impact of tariffs. Deterioration of any of these factors could prompt consumers to mind their wallets more closely in the checkout lane.

Sources: Bloomberg, CAPTRUST Research

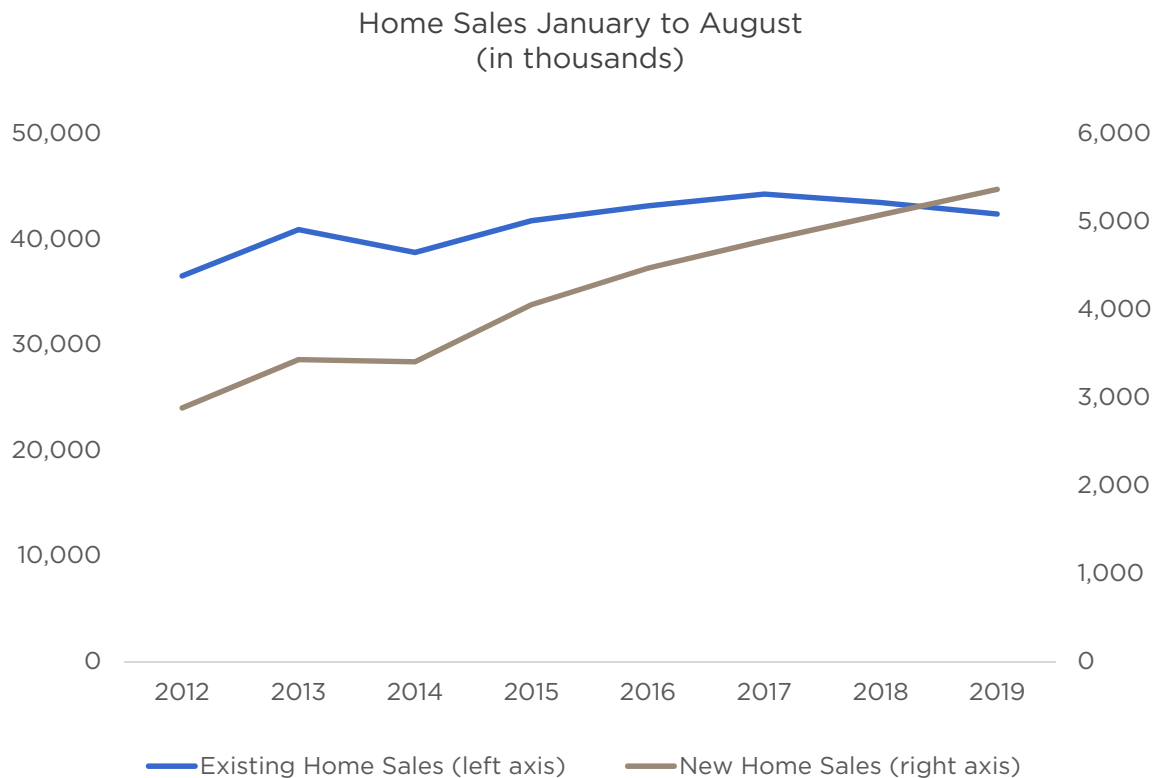
MARKET COMMENTARY

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4.1

CONSTRUCTIVE HOUSING

The U.S. housing market remains robust, increasing economic resilience and boosting employment. U.S. homebuilding activity surged in August, stimulated by lower mortgage rates. Existing and new home sales are both at high levels by historical standards.



OBSERVATIONS

- In August, the interest rate on a 30-year fixed mortgage showed a 20% year-over-year decline, as the combination of strong appetite for safe haven assets and Fed rate cuts pushed down interest rates.
- Booming home sales data reflects strong consumer confidence, since housing accounts for a significant share of consumers' balance sheets.
- Pent-up demand for housing may serve to prolong the housing cycle, as nearly 32% of millennials lived at home in 2018, compared to 28% in 2003.

Sources: U.S. Census Bureau, National Association of Realtors via FactSet, Bloomberg, Cornerstone Macro, CAPTRUST Research

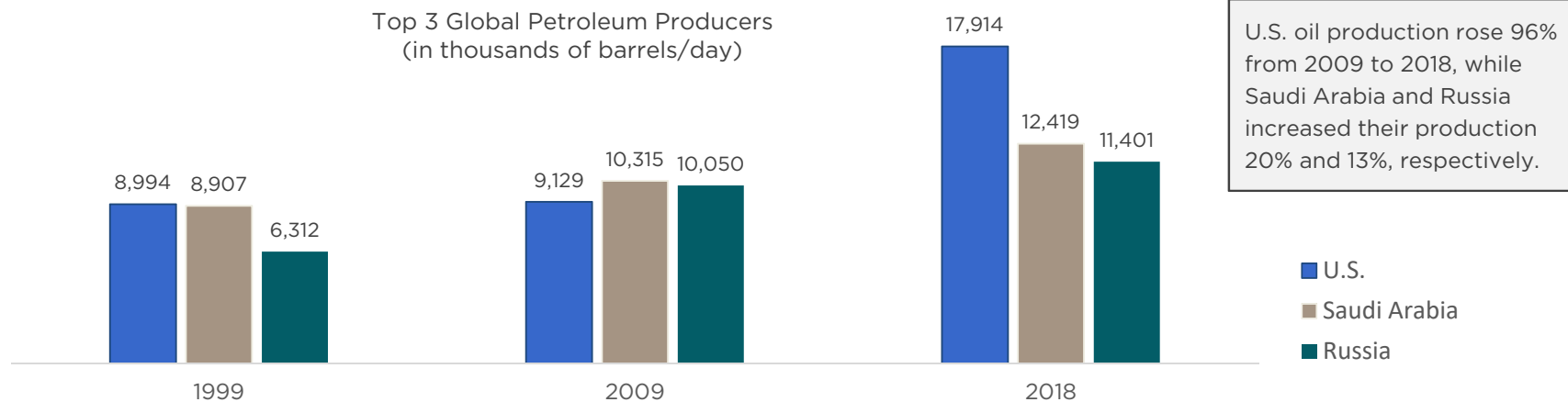
MARKET COMMENTARY

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OIL RESILIENCE: THIS TIME IS DIFFERENT

The September 14 drone attack on major Saudi oil facilities took 5.7 million barrels per day of crude supply off the global market. However, the price impact was fleeting, due in part to the growth of U.S. oil production in recent years. With an 18% share of global oil production, the U.S. is now the largest energy producer in the world, followed by Russia and Saudi Arabia.



OBSERVATIONS

- Attacks on the Saudi Aramco Abqaiq oil processing facility and the Khurais oil field in eastern Saudi Arabia, which represent about 7% of global crude oil production capacity, led to an increase in oil prices. However, production from Saudi Arabia recovered quickly, driving prices back down to near previous levels.
- U.S. oil producers have the capacity to extract and transport more from their oil fields to production facilities on the Texas coast. Several new pipelines have opened, and others will be opening. Rising oil prices are a benefit to domestic producers and stimulate infrastructure investment.
- The U.S. oil trade deficit has narrowed by 90% since 2007 (to roughly \$30 billion), making the domestic economy much less susceptible to oil price shocks.

Sources: U.S. Energy Information Administration, S&P Global, Cornerstone Macro, CAPTRUST Research

MARKET COMMENTARY

Period Ending 9.30.19 | Q3 19

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EUROZONE: WINNERS AND LOSERS

The prolonged U.S.-China trade dispute is revealing winners and losers. For example, it has put pressure on Germany's manufacturing activity, as reflected in Purchasing Manager Index (PMI) data, which is at its lowest level since 2010. Germany's economy is more driven by exports than France's and those of other major economies within the Eurozone. Nominal exports account for 47% of Germany's gross domestic product, compared to 31% in France.



Sources: German Federal Statistical Office, INSEE via FactSet, Bloomberg, CAPTRUST Research

OBSERVATIONS

- Germany, a leading exporter of machinery, vehicles, and computers, has become a loser in the U.S.-China trade war; its export-oriented economy is vulnerable to geopolitical storms.
- Meanwhile, French economic growth is expected to be strong; the country will benefit from its limited exposure to exports, and it recently passed tax and labor reforms. Its corporate tax is scheduled to decline from 32% today to 25% by 2022, which should stimulate capital expenditures and business investments.
- Brexit risk has added additional pressure to European countries—such as Germany, the Netherlands, Ireland, and Belgium—with high levels of U.K. trade exposure.
- The European Central Bank has pursued stimulus through unprecedented monetary easing, even as short-term interest rates across Europe are in negative territory. The response to this stimulus has been muted by the challenges of a less dynamic economy, demographic headwinds, and bank weakness.

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ASSET CLASS RETURNS

Period Ending 9.30.19 | Q3 19

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2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD 2019
International Equities 26.86%	Large-Cap Growth 11.81%	Fixed Income 5.08%	Mid-Cap Growth 46.29%	Small-Cap Growth 29.09%	Fixed Income 7.84%	Mid-Cap Value 18.51%	Small-Cap Growth 43.30%	Mid-Cap Value 14.75%	Large-Cap Growth 5.67%	Small-Cap Value 31.74%	Large-Cap Growth 30.21%	Cash 1.87%	Mid-Cap Growth 25.23%
Small-Cap Value 23.48%	International Equities 11.63%	Cash 1.51%	Large-Cap Growth 37.21%	Mid-Cap Growth 26.38%	Large-Cap Growth 2.64%	Small-Cap Value 18.05%	Mid-Cap Growth 35.74%	Large-Cap Value 13.45%	Fixed Income 0.55%	Mid-Cap Value 20.00%	International Equities 25.62%	Fixed Income 0.01%	Large-Cap Growth 23.30%
Large-Cap Value 22.25%	Mid-Cap Growth 11.43%	Small-Cap Value -28.92%	Small-Cap Growth 34.47%	Mid-Cap Value 24.75%	Large-Cap Value 0.39%	International Equities 17.90%	Small-Cap Value 34.52%	Large-Cap Growth 13.05%	Cash 0.05%	Large-Cap Value 17.34%	Mid-Cap Growth 25.27%	Large-Cap Growth -1.51%	Mid-Cap Value 19.47%
Mid-Cap Value 20.22%	Fixed Income 7.39%	Large-Cap Value -36.85%	Mid-Cap Value 34.21%	Small-Cap Value 24.50%	Cash 0.10%	Large-Cap Value 17.51%	Large-Cap Growth 33.48%	Mid-Cap Growth 11.90%	Mid-Cap Growth -0.20%	Small-Cap Growth 11.32%	Small-Cap Growth 22.17%	Mid-Cap Growth -4.75%	Large-Cap Value 17.81%
Small-Cap Growth 13.35%	Small-Cap Growth 7.05%	Mid-Cap Value -38.44%	International Equities 32.46%	Large-Cap Growth 16.71%	Mid-Cap Value -1.38%	Mid-Cap Growth 15.81%	Mid-Cap Value 33.46%	Fixed Income 5.97%	International Equities -0.39%	Mid-Cap Growth 7.33%	Large-Cap Value 13.66%	Large-Cap Value -8.27%	Small-Cap Growth 15.34%
Mid-Cap Growth 10.66%	Cash 4.71%	Large-Cap Growth -38.44%	Small-Cap Value 20.58%	Large-Cap Value 15.51%	Mid-Cap Growth -1.65%	Large-Cap Growth 15.26%	Large-Cap Value 32.53%	Small-Cap Growth 5.60%	Small-Cap Growth -1.38%	Large-Cap Growth 7.08%	Mid-Cap Value 13.34%	Small-Cap Growth -9.31%	International Equities 13.35%
Large-Cap Growth 9.07%	Large-Cap Value -0.17%	Small-Cap Growth -38.54%	Large-Cap Value 19.69%	International Equities 8.21%	Small-Cap Growth -2.91%	Small-Cap Growth 14.59%	International Equities 23.29%	Small-Cap Value 4.22%	Large-Cap Value -3.83%	Fixed Income 2.65%	Small-Cap Value 7.84%	Mid-Cap Value -12.29%	Small-Cap Value 12.82%
Cash 5.08%	Mid-Cap Value -1.42%	International Equities -43.06%	Fixed Income 5.24%	Fixed Income 5.89%	Small-Cap Value -5.50%	Fixed Income 4.22%	Cash 0.07%	Cash 0.03%	Mid-Cap Value -4.78%	International Equities 1.51%	Fixed Income 3.54%	Small-Cap Value -12.86%	Fixed Income 8.52%
Fixed Income 4.08%	Small-Cap Value -9.78%	Mid-Cap Growth -44.32%	Cash 0.21%	Cash 0.13%	International Equities -11.73%	Cash 0.11%	Fixed Income -2.02%	International Equities -4.48%	Small-Cap Value -7.47%	Cash 0.33%	Cash 0.86%	International Equities -13.36%	Cash 1.81%

Small-Cap Value Stocks (Russell 2000 Value)	Large-Cap Value Stocks (Russell 1000 Value)	International Equities (MSCI EAFE)
Small-Cap Growth Stocks (Russell 2000 Growth)	Mid-Cap Growth Stocks (Russell Mid-Cap Growth)	Fixed Income (Bloomberg Barclays U.S. Aggregate Bond)
Large-Cap Growth Stocks (Russell 1000 Growth)	Mid-Cap Value Stocks (Russell Mid-Cap Value)	Cash (Merrill Lynch 3-Month Treasury Bill)

Source: Markov Processes, Inc., Bloomberg, Mobius

The information contained in this report is from sources believed to be reliable but not warranted by CAPTRUST Financial Advisors to be accurate or complete.

INDEX PERFORMANCE

Period Ending 9.30.19 | Q3 19

INDEXES	Q3 2019	YTD	2018	2017	2016	2015	2014	1 YEAR	3 YEAR	5 YEAR	10 YEAR
90-Day U.S. Treasury	0.56%	1.81%	1.87%	0.86%	0.33%	0.05%	0.03%	2.39%	1.54%	0.98%	0.54%
Bloomberg Barclays Government 1-3 Year	0.59%	3.07%	1.58%	0.45%	0.87%	0.57%	0.64%	4.42%	1.54%	1.34%	1.21%
Bloomberg Barclays Intermediate Govt	1.18%	5.18%	1.43%	1.14%	1.05%	1.18%	2.52%	7.52%	1.82%	2.18%	2.34%
Bloomberg Barclays Muni Bond	1.58%	6.75%	1.28%	5.45%	0.25%	3.30%	9.05%	8.55%	3.19%	3.66%	4.16%
Bloomberg Barclays Intermediate Govt/Credit	1.37%	6.41%	0.88%	2.14%	2.08%	1.07%	3.13%	8.17%	2.40%	2.68%	3.05%
Bloomberg Barclays Intermediate Credit	1.70%	8.46%	0.01%	3.67%	3.68%	0.90%	4.16%	9.27%	3.33%	3.47%	4.31%
Bloomberg Barclays Aggregate Bond	2.27%	8.52%	0.01%	3.54%	2.65%	0.55%	5.97%	10.30%	2.92%	3.38%	3.75%
Bloomberg Barclays Corporate IG Bond	3.05%	13.20%	-2.51%	6.42%	6.11%	-0.68%	7.46%	13.00%	4.50%	4.72%	5.56%
Bloomberg Barclays High Yield	1.33%	11.41%	-2.08%	7.50%	17.13%	-4.47%	2.45%	6.36%	6.07%	5.37%	7.94%
Bloomberg Barclays Global Aggregate	0.72%	6.32%	-1.20%	7.39%	2.09%	-3.15%	0.59%	7.60%	1.59%	1.99%	2.34%
Bloomberg Barclays U.S. Long Corporate	5.61%	22.26%	-7.24%	12.09%	10.97%	-4.61%	15.73%	20.06%	6.48%	6.95%	7.82%
S&P 500	1.70%	20.55%	-4.38%	21.83%	11.96%	1.38%	13.69%	4.25%	13.39%	10.84%	13.24%
Dow Jones Industrial Average	1.83%	17.51%	-3.48%	28.11%	16.50%	0.21%	10.04%	4.21%	16.44%	12.28%	13.56%
NASDAQ Composite	-0.09%	20.56%	-3.88%	28.24%	7.50%	5.73%	13.40%	-0.58%	14.62%	12.23%	14.19%
Russell 1000 Value	1.36%	17.81%	-8.27%	13.66%	17.34%	-3.83%	13.45%	4.00%	9.43%	7.79%	11.46%
Russell 1000	1.42%	20.53%	-4.78%	21.69%	12.05%	0.92%	13.24%	3.87%	13.19%	10.62%	13.23%
Russell 1000 Growth	1.49%	23.30%	-1.51%	30.21%	7.08%	5.67%	13.05%	3.71%	16.89%	13.39%	14.94%
Russell Mid-Cap Value Index	1.22%	19.47%	-12.29%	13.34%	20.00%	-4.78%	14.75%	1.60%	7.82%	7.55%	12.29%
Russell Mid-Cap Index	0.48%	21.93%	-9.06%	18.52%	13.80%	-2.44%	13.22%	3.19%	10.69%	9.10%	13.07%
Russell Mid-Cap Growth Index	-0.67%	25.23%	-4.75%	25.27%	7.33%	-0.20%	11.90%	5.20%	14.50%	11.12%	14.08%
MSCI EAFE	-1.00%	13.35%	-13.36%	25.62%	1.51%	-0.39%	-4.48%	-0.82%	7.01%	3.77%	5.39%
MSCI ACWI ex U.S.	-1.70%	12.06%	-13.78%	27.77%	5.01%	-5.25%	-3.44%	-0.72%	6.85%	3.39%	4.93%
Russell 2000 Value	-0.57%	12.82%	-12.86%	7.84%	31.74%	-7.47%	4.22%	-8.24%	6.54%	7.17%	10.06%
Russell 2000	-2.40%	14.18%	-11.01%	14.65%	21.31%	-4.41%	4.89%	-8.89%	8.23%	8.19%	11.19%
Russell 2000 Growth	-4.17%	15.34%	-9.31%	22.17%	11.32%	-1.38%	5.60%	-9.63%	9.79%	9.08%	12.25%
MSCI Emerging Markets	-4.11%	6.23%	-14.25%	37.75%	11.60%	-14.60%	-1.82%	-1.63%	6.37%	2.71%	3.73%
Dow Jones U.S. Real Estate Index	7.30%	27.91%	-4.03%	9.84%	7.56%	2.14%	27.24%	20.27%	9.32%	10.71%	12.83%
HFRX Absolute Return Index	1.08%	2.75%	-0.49%	3.39%	0.31%	2.86%	0.79%	1.23%	1.75%	1.55%	1.02%
Consumer Price Index (Inflation)	0.16%	2.12%	1.91%	2.11%	2.07%	0.73%	0.76%	1.63%	2.05%	1.51%	1.74%
BLENDED BENCHMARKS	Q3 2019	YTD	2018	2017	2016	2015	2014	1 YEAR	3 YEAR	5 YEAR	10 YEAR
25% S&P 500/5% MSCI EAFE/70% BB Agg	1.99%	11.87%	-1.55%	8.93%	5.00%	0.92%	7.37%	8.57%	5.85%	5.40%	6.35%
30% S&P 500/10% MSCI EAFE/60% BB Agg	1.80%	12.74%	-2.44%	10.90%	5.43%	0.95%	7.21%	7.74%	6.59%	5.82%	6.94%
35% S&P 500/15% MSCI EAFE/50% BB Agg	1.61%	13.59%	-3.34%	12.90%	5.85%	0.97%	7.04%	6.88%	7.33%	6.22%	7.51%
40% S&P 500/20% MSCI EAFE/40% BB Agg	1.42%	14.43%	-4.25%	14.93%	6.26%	0.96%	6.87%	6.01%	8.06%	6.61%	8.07%
45% S&P 500/25% MSCI EAFE/30% BB Agg	1.22%	15.25%	-5.17%	16.99%	6.65%	0.93%	6.69%	5.10%	8.78%	6.99%	8.61%
60% S&P 500/40% Bloomberg Barclays Agg	2.02%	15.83%	-2.28%	14.25%	8.41%	1.40%	10.75%	7.05%	9.34%	8.08%	9.70%

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SECTION 3: PLAN INVESTMENT REVIEW

Period Ending 9.30.19 | Q3 19

University of Maine System

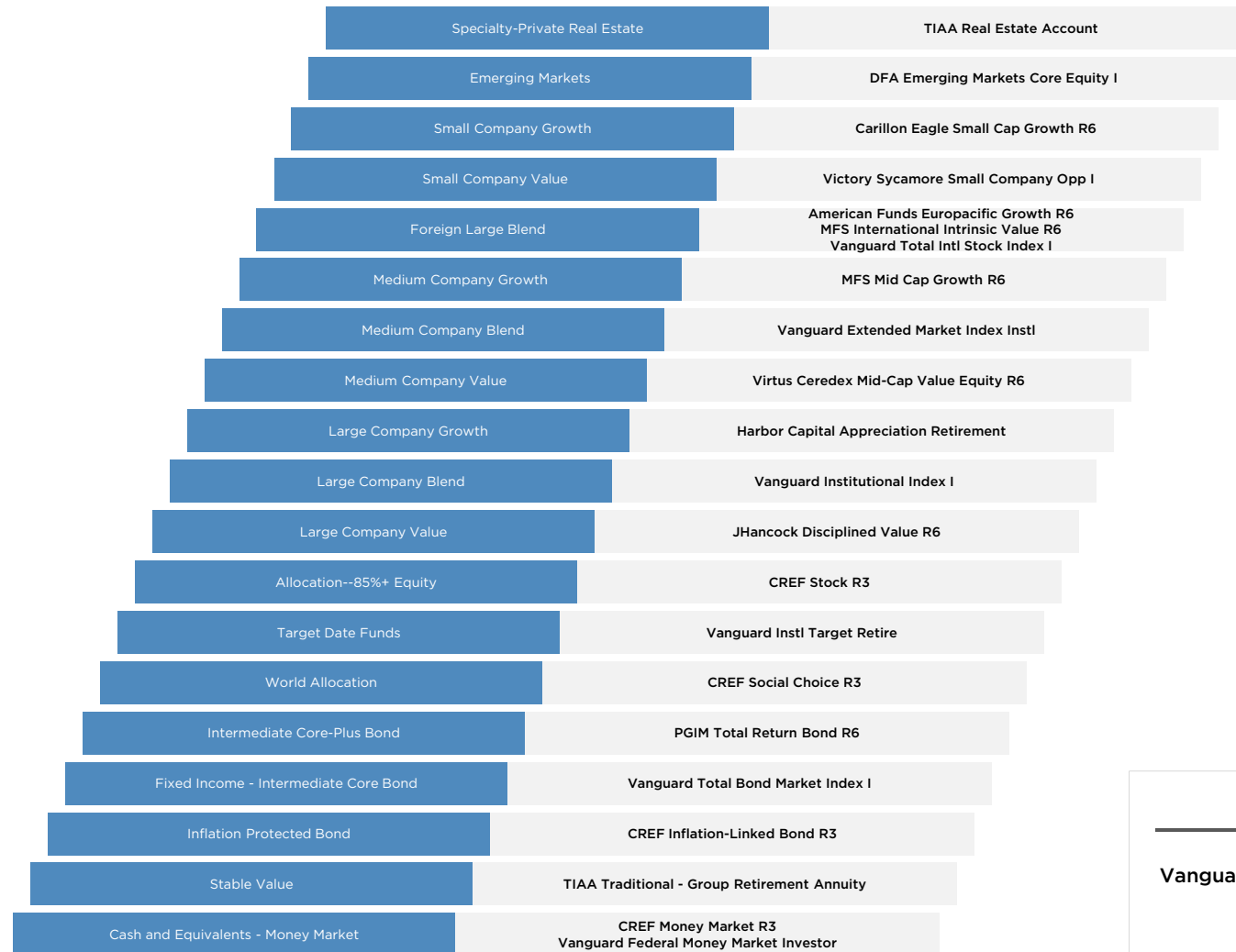
4.1

SECTION 3: PLAN INVESTMENT REVIEW	
Plan Investment Menu Review.....	
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PLAN INVESTMENT REVIEW | PLAN MENU

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University of Maine System

↑
EXPECTED RETURN
↓**QDIA OPTION:****Vanguard Instl Target Retirement**

→ EXPECTED RISK →

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4.1

PLAN INVESTMENT REVIEW | EXECUTIVE ASSET SUMMARY


Period Ending 9.30.19 | Q3 19

University of Maine System

Plan Name	Plan/Contract Number	Plan Assets
University of Maine System Retirement Plan for Faculty and Professionals 403(b) DC	102965	\$1,265,625,994
University of Maine System Retirement Tax Deferred Annuity Plan 403(b) TDA	102966	\$178,591,960
University of Maine System Optional Retirement Savings 403(b)	102967	\$1,521,133
University of Maine System Optional Retirement Savings 401(a)	102968	\$1,167,778
University of Maine System Basic Retirement Plan for Classified Employees 403(b)	102969	\$39,718,500
University of Maine System Basic Retirement Plan for Classified Employees 401(a)	102970	\$78,276,513
University of Maine System Deferred Compensation Plan 457(b)	102971	\$34,503,831
TOTALS		\$1,599,405,609

 <p>University of Maine System * Alternate Carrier Transfers In Date Range July 1, 2019 - September 30, 2019</p>	
Alternate Carrier	Amount
AIG FEDERAL SAVINGS BANK	\$ 368.68
FIDELITY	\$ 79,030.46
METLIFE	\$ 36,834.78
NATIONWIDE TRUST	\$ 444,421.50
NEWPORT TRUST COMPANY	\$ 3,034.87
VALIC	\$ 124,570.69
VOYA	\$ 235,184.23
Total	\$ 923,445.21

* 7 plans : 102965, 102966, 102967, 102968, 102969, 102970 & 102971

 <p><u>Disclosures</u></p> <p>The data provided is for informational purposes only. It is not intended as an offer or solicitation or any similar communication being made for the purchase or sale of any financial instrument / product or as an official confirmation or as an official statement on any transaction.</p> <p>Pursuant to your request for information, enclosed you will find data related to the Plan(s) and/or Investments specified. You have solicited this information for fiduciary due diligence and review purposes related to the referenced Plan. This report should not be used for regulatory filings or for benefit statements.</p> <p>Please be advised that neither TIAA, CREF, nor their affiliates, in their satisfaction of your information request, make any representations or warranties, express or implied, as to the accuracy, completeness, or fitness for any purpose or use of this or other data for the Plan(s) that you may request. Teachers Advisors Inc. or its affiliates will not be liable for any direct, indirect, or consequential loss arising from any use of or reliance on the information supplied.</p>
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These numbers include non-approved assets held at TIAA-CREF that are no longer available for additional investments.

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PLAN BALANCES BY FUND

Period Ending 9.30.19 | Q3 19

University of Maine System

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Allocation Name	Ticker	Maine System Retirement Plan for Faculty and Professionals 403(b) DC - 102965	Maine System Retirement Tax Deferred Annuity Plan 403(b) TDA-	Maine System Optional Retirement Savings 403(b) - 102967	Maine System Optional Retirement Savings 401(a) - 102968	Maine System Basic Retirement Plan for Classified	Maine System Basic Retirement Plan for Classified	Maine System Deferred Compensation Plan 457(b) - 102971	Grand Total	Percent to total
American Funds Europacific Growth R6	REGX	\$8,676,444.77	\$1,271,995.92	\$4,865.17	\$4,281.12	\$130,161.64	\$205,209.14	\$224,732.62	\$10,517,690.38	0.66%
Carillon Eagle Small Cap Growth R6	HSRUX	\$6,091,595.02	\$572,032.18	\$4,135.15	\$3,958.63	\$210,009.71	\$274,564.58	\$179,782.84	\$7,336,078.11	0.46%
CREF Inflation-Linked Bond R3	QCILX	\$14,237,376.02	\$2,609,561.63	\$16,200.14	\$16,465.21	\$561,217.17	\$1,131,138.18	\$567,247.16	\$19,139,205.51	1.20%
CREF Money Market R3	QCMMIX	\$9,784,307.46	\$1,045,434.52	\$9,116.07	\$6,850.34	\$426,779.03	\$1,045,951.33	\$181,810.44	\$12,500,249.19	0.78%
CREF Social Choice R3	QCSCIX	\$34,264,060.77	\$6,018,043.71	\$37,458.99	\$26,250.90	\$1,032,923.67	\$2,844,846.15	\$1,623,009.05	\$45,846,593.24	2.87%
CREF Stock R3	QCSTIX	\$185,281,406.20	\$17,575,846.51	\$191,262.64	\$127,804.51	\$3,265,964.93	\$8,452,689.94	\$1,938,161.76	\$216,833,136.49	13.56%
Default Loan	N/A	\$16,891.09	\$66,353.05	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$83,244.14	0.01%
DFA Emerging Markets Core Equity I	DFCEX	\$14,407,487.30	\$1,839,194.78	\$1,726.39	\$14,499.70	\$669,823.80	\$1,067,375.30	\$575,947.75	\$18,576,055.02	1.16%
Harbor Capital Appreciation Retirement	HNACX	\$18,250,621.01	\$2,554,290.62	\$1,609.44	\$1,402.07	\$2,088,885.09	\$1,809,356.73	\$809,402.58	\$25,515,567.54	1.60%
JHancock Disciplined Value R6	JDVWX	\$24,104,731.51	\$2,548,865.77	\$5,197.60	\$11,531.24	\$860,563.32	\$1,277,835.19	\$674,868.81	\$29,483,593.44	1.84%
MFS International Intrinsic Value R6	MINJX	\$23,511,593.31	\$3,492,053.01	\$4,337.64	\$17,269.90	\$1,019,729.99	\$1,855,474.38	\$755,997.28	\$30,656,455.51	1.92%
MFS Mid Cap Growth R6	OTCKX	\$10,873,385.71	\$1,191,527.59	\$600.50	\$20,975.57	\$401,650.98	\$720,579.54	\$317,592.02	\$13,526,311.91	0.85%
Frozen TIAA Annuities	NOAPRV	\$83,467,359.49	\$13,110,509.04	\$227,445.42	\$185,064.09	\$2,987,340.12	\$11,235,768.11	\$1,895,147.22	\$113,108,633.49	7.07%
PGIM Total Return Bond R6	PTRQX	\$27,070,580.25	\$7,077,198.71	\$10,985.64	\$26,610.93	\$1,094,582.31	\$1,934,374.18	\$1,348,258.57	\$38,562,590.59	2.41%
Self Directed Accounts	SDA	\$39,483,815.59	\$1,913,376.13	\$0.00	\$123,261.67	\$2,163,484.80	\$1,790,170.22	\$754,183.78	\$46,228,292.19	2.89%
TIAA Real Estate Account	QREARX	\$54,172,562.42	\$11,239,226.79	\$42,572.21	\$61,708.15	\$2,230,054.95	\$3,855,027.99	\$2,099,321.83	\$73,700,474.34	4.61%
TIAA Traditional - Group Retirement Annuity	TIAA#	\$430,387,465.90	\$59,653,957.47	\$773,260.96	\$340,609.14	\$6,743,047.08	\$14,974,623.49	\$8,826,320.73	\$521,699,284.77	32.62%
Vanguard Extended Market Index Instl	VIEIX	\$14,622,581.49	\$2,711,553.60	\$2,246.92	\$497.00	\$459,279.80	\$765,859.15	\$765,133.11	\$19,327,151.07	1.21%
Vanguard Federal Money Market Investor	VMFXX	\$2,805,592.14	\$55,557.91	\$0.00	\$0.00	\$19,131.20	\$36,324.08	\$86,972.47	\$3,003,577.80	0.19%
Vanguard Institutional Index I	VINIX	\$77,589,346.34	\$13,089,643.08	\$15,681.65	\$9,179.67	\$1,372,392.01	\$3,940,861.71	\$2,778,650.34	\$98,795,754.80	6.18%
Vanguard Retirement Series	N/A	\$133,261,336.86	\$19,529,827.97	\$161,151.46	\$118,685.82	\$10,113,913.04	\$16,138,277.05	\$5,941,961.32	\$185,265,153.52	11.58%
Vanguard Total Bond Market Index I	VBPIX	\$6,231,781.17	\$1,894,395.75	\$770.07	\$13,843.41	\$131,883.14	\$317,449.83	\$260,578.25	\$8,850,701.62	0.55%
Vanguard Total Intl Stock Index I	VTSNX	\$15,961,921.67	\$2,775,861.57	\$3,359.78	\$815.72	\$665,608.17	\$1,076,230.34	\$976,183.44	\$21,459,980.69	1.34%
Victory Sycamore Small Company Opp I	VSOIX	\$13,148,052.68	\$2,034,807.61	\$2,350.75	\$32,611.53	\$581,313.69	\$779,755.28	\$388,659.39	\$16,967,550.93	1.06%
Virtus Ceredex Mid-Cap Value Equity R6	SMVZX	\$17,923,697.34	\$2,720,844.78	\$4,798.50	\$3,601.96	\$488,760.65	\$746,771.54	\$533,908.33	\$22,422,383.10	1.40%
Total		\$1,265,625,993.51	\$178,591,959.70	\$1,521,133.09	\$1,167,778.28	\$39,718,500.29	\$78,276,513.43	\$34,503,831.09	\$1,599,405,709.39	100.0%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Retirement Plan for Faculty and Professionals 403(b) DC - 102965

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$33,741,188	2.87%	\$9,784,307	0.77%
Cash and Equivalents - Money Market	Vanguard Federal Money Market Investor	\$3,245,798	0.28%	\$2,805,592	0.22%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$433,231,435	36.79%	\$430,387,466	34.01%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$13,977,742	1.19%	\$14,237,376	1.12%
Fixed Income - Intermediate Core Bond	Vanguard Total Bond Market Index I	\$5,319,901	0.45%	\$6,231,781	0.49%
Intermediate Core-Plus Bond	PGIM Total Return Bond R6	\$21,528,393	1.83%	\$27,070,580	2.14%
World Allocation	CREF Social Choice R3	\$31,116,545	2.64%	\$34,264,061	2.71%
Target Date Ret Income Moderate	Vanguard Instl Trgt Retire Inc Instl	-	-	\$5,845,625	0.46%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$6,252,363	0.53%	-	-
Target Date 2015 Moderate	Vanguard Instl Trgt Retire 2015 Instl	-	-	\$6,779,467	0.54%
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$4,581,987	0.39%	-	-
Target Date 2020 Moderate	Vanguard Instl Trgt Retire 2020 Instl	-	-	\$15,618,942	1.23%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$10,668,569	0.91%	-	-
Target Date 2025 Moderate	Vanguard Instl Trgt Retire 2025 Instl	-	-	\$19,227,638	1.52%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$11,636,300	0.99%	-	-
Target Date 2030 Moderate	Vanguard Instl Trgt Retire 2030 Instl	-	-	\$18,419,985	1.46%
Target Date 2030 Moderate	Vanguard Target Retirement 2030 Inv	\$9,811,752	0.83%	-	-
Target Date 2035 Moderate	Vanguard Instl Trgt Retire 2035 Instl	-	-	\$19,005,878	1.50%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Retirement Plan for Faculty and Professionals 403(b) DC - 102965

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$10,491,797	0.89%	-	-
Target Date 2040 Moderate	Vanguard Instl Trgt Retire 2040 Instl	-	-	\$21,879,125	1.73%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$10,398,259	0.88%	-	-
Target Date 2045 Moderate	Vanguard Instl Trgt Retire 2045 Instl	-	-	\$13,480,020	1.07%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$8,840,912	0.75%	-	-
Target Date 2050 Moderate	Vanguard Instl Trgt Retire 2050 Instl	-	-	\$9,320,628	0.74%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$5,836,262	0.50%	-	-
Target Date 2055 Moderate	Vanguard Instl Trgt Retire 2055 Instl	-	-	\$3,207,568	0.25%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$2,071,139	0.18%	-	-
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2060 Instl	-	-	\$476,461	0.04%
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2065 Instl	-	-	\$0	0.00%
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$244,692	0.02%	-	-
Target Date 2060+ Moderate	Vanguard Target Retirement 2065 Inv	\$0	0.00%	-	-
Allocation--85%+ Equity	CREF Stock R3	\$175,595,931	14.91%	\$185,281,406	14.64%
Large Company Value	JHancock Disciplined Value R6	\$16,925,133	1.44%	\$24,104,732	1.90%
Large Company Blend	Vanguard Institutional Index I	\$35,014,254	2.97%	\$77,589,346	6.13%
Large Company Growth	Harbor Capital Appreciation Retirement	\$10,165,637	0.86%	\$18,250,621	1.44%
Medium Company Value	Virtus Ceredex Mid-Cap Value Equity R6	\$9,207,455	0.78%	\$17,923,697	1.42%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Retirement Plan for Faculty and Professionals 403(b) DC - 102965

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Medium Company Blend	Vanguard Extended Market Index Instl	\$14,041,707	1.19%	\$14,622,581	1.16%
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$5,113,494	0.43%	-	-
Medium Company Growth	MFS Mid Cap Growth R6	-	-	\$10,873,386	0.86%
Foreign Large Blend	American Funds Europacific Growth R6	-	-	\$8,676,445	0.69%
Foreign Large Blend	MFS International Intrinsic Value R6	\$19,243,386	1.63%	\$23,511,593	1.86%
Foreign Large Blend	Vanguard Total Intl Stock Index I	\$12,831,913	1.09%	\$15,961,922	1.26%
Foreign Large Growth	Oppenheimer International Growth I	\$3,309,664	0.28%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$7,696,760	0.65%	\$13,148,053	1.04%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$3,516,252	0.30%	\$6,091,595	0.48%
Emerging Markets	DFA Emerging Markets Core Equity I	\$12,978,914	1.10%	\$14,407,487	1.14%
Specialty-Private Real Estate	TIAA Real Estate Account	\$52,094,873	4.42%	\$54,172,562	4.28%
Other Assets	Frozen TIAA Annuities	\$126,995,957	10.78%	\$83,467,359	6.59%
Self-Directed Brokerage	Self Directed Accounts	\$49,871,532	4.23%	\$39,483,816	3.12%
Loan	Default Loan	\$16,365	0.00%	\$16,891	0.00%
TOTALS		\$1,177,614,259	100%	\$1,265,625,994	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Retirement Tax Deferred Annuity Plan 403(b) TDA- 102966

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$2,776,789	1.77%	\$1,045,435	0.59%
Cash and Equivalents - Money Market	Vanguard Federal Money Market Investor	\$213,653	0.14%	\$55,558	0.03%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$56,098,968	35.75%	\$59,653,957	33.40%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$2,381,360	1.52%	\$2,609,562	1.46%
Fixed Income - Intermediate Core Bond	Vanguard Total Bond Market Index I	\$1,339,285	0.85%	\$1,894,396	1.06%
Intermediate Core-Plus Bond	PGIM Total Return Bond R6	\$5,142,723	3.28%	\$7,077,199	3.96%
World Allocation	CREF Social Choice R3	\$5,187,134	3.31%	\$6,018,044	3.37%
Target Date Ret Income Moderate	Vanguard Instl Trgt Retire Inc Instl	-	-	\$2,659,524	1.49%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$1,672,675	1.07%	-	-
Target Date 2015 Moderate	Vanguard Instl Trgt Retire 2015 Instl	-	-	\$1,070,837	0.60%
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$841,090	0.54%	-	-
Target Date 2020 Moderate	Vanguard Instl Trgt Retire 2020 Instl	-	-	\$3,730,917	2.09%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$2,788,232	1.78%	-	-
Target Date 2025 Moderate	Vanguard Instl Trgt Retire 2025 Instl	-	-	\$4,892,737	2.74%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$3,610,502	2.30%	-	-
Target Date 2030 Moderate	Vanguard Instl Trgt Retire 2030 Instl	-	-	\$2,820,701	1.58%
Target Date 2030 Moderate	Vanguard Target Retirement 2030 Inv	\$1,721,577	1.10%	-	-
Target Date 2035 Moderate	Vanguard Instl Trgt Retire 2035 Instl	-	-	\$1,675,754	0.94%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Retirement Tax Deferred Annuity Plan 403(b) TDA- 102966

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$1,117,230	0.71%	-	-
Target Date 2040 Moderate	Vanguard Instl Trgt Retire 2040 Instl	-	-	\$1,837,802	1.03%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$980,701	0.62%	-	-
Target Date 2045 Moderate	Vanguard Instl Trgt Retire 2045 Instl	-	-	\$466,772	0.26%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$304,310	0.19%	-	-
Target Date 2050 Moderate	Vanguard Instl Trgt Retire 2050 Instl	-	-	\$285,281	0.16%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$193,325	0.12%	-	-
Target Date 2055 Moderate	Vanguard Instl Trgt Retire 2055 Instl	-	-	\$83,002	0.05%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$72,237	0.05%	-	-
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2060 Instl	-	-	\$6,501	0.00%
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2065 Instl	-	-	\$0	0.00%
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$4,452	0.00%	-	-
Target Date 2060+ Moderate	Vanguard Target Retirement 2065 Inv	\$0	0.00%	-	-
Allocation--85%+ Equity	CREF Stock R3	\$16,035,834	10.22%	\$17,575,847	9.84%
Large Company Value	JHancock Disciplined Value R6	\$1,802,893	1.15%	\$2,548,866	1.43%
Large Company Blend	Vanguard Institutional Index I	\$9,011,773	5.74%	\$13,089,643	7.33%
Large Company Growth	Harbor Capital Appreciation Retirement	\$1,622,489	1.03%	\$2,554,291	1.43%
Medium Company Value	Virtus Ceredex Mid-Cap Value Equity R6	\$1,000,005	0.64%	\$2,720,845	1.52%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Retirement Tax Deferred Annuity Plan 403(b) TDA- 102966

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Medium Company Blend	Vanguard Extended Market Index Instl	\$2,393,286	1.53%	\$2,711,554	1.52%
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$339,964	0.22%	-	-
Medium Company Growth	MFS Mid Cap Growth R6	-	-	\$1,191,528	0.67%
Foreign Large Blend	American Funds Europacific Growth R6	-	-	\$1,271,996	0.71%
Foreign Large Blend	MFS International Intrinsic Value R6	\$2,816,190	1.79%	\$3,492,053	1.96%
Foreign Large Blend	Vanguard Total Intl Stock Index I	\$1,968,499	1.25%	\$2,775,862	1.55%
Foreign Large Growth	Oppenheimer International Growth I	\$373,437	0.24%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$1,550,403	0.99%	\$2,034,808	1.14%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$244,205	0.16%	\$572,032	0.32%
Emerging Markets	DFA Emerging Markets Core Equity I	\$1,566,956	1.00%	\$1,839,195	1.03%
Specialty-Private Real Estate	TIAA Real Estate Account	\$10,567,548	6.73%	\$11,239,227	6.29%
Other Assets	Frozen TIAA Annuities	\$16,811,525	10.71%	\$13,110,509	7.34%
Self-Directed Brokerage	Self Directed Accounts	\$2,311,384	1.47%	\$1,913,376	1.07%
Loan	Default Loan	\$64,204	0.04%	\$66,353	0.04%
TOTALS		\$156,926,838	100%	\$178,591,960	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Optional Retirement Savings 403(b) - 102967

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$10,011	0.69%	\$9,116	0.60%
Cash and Equivalents - Money Market	Vanguard Federal Money Market Investor	\$0	0.00%	\$0	0.00%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$708,840	48.69%	\$773,261	50.83%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$16,036	1.10%	\$16,200	1.07%
Fixed Income - Intermediate Core Bond	Vanguard Total Bond Market Index I	\$129	0.01%	\$770	0.05%
Intermediate Core-Plus Bond	PGIM Total Return Bond R6	\$10,372	0.71%	\$10,986	0.72%
World Allocation	CREF Social Choice R3	\$33,411	2.29%	\$37,459	2.46%
Target Date Ret Income Moderate	Vanguard Instl Trgt Retire Inc Instl	-	-	\$47,108	3.10%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$270	0.02%	-	-
Target Date 2015 Moderate	Vanguard Instl Trgt Retire 2015 Instl	-	-	\$15,529	1.02%
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$155	0.01%	-	-
Target Date 2020 Moderate	Vanguard Instl Trgt Retire 2020 Instl	-	-	\$55,781	3.67%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$50,294	3.45%	-	-
Target Date 2025 Moderate	Vanguard Instl Trgt Retire 2025 Instl	-	-	\$6,543	0.43%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$2,218	0.15%	-	-
Target Date 2030 Moderate	Vanguard Instl Trgt Retire 2030 Instl	-	-	\$33,138	2.18%
Target Date 2030 Moderate	Vanguard Target Retirement 2030 Inv	\$0	0.00%	-	-
Target Date 2035 Moderate	Vanguard Instl Trgt Retire 2035 Instl	-	-	\$3,053	0.20%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Optional Retirement Savings 403(b) - 102967

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$0	0.00%	-	-
Target Date 2040 Moderate	Vanguard Instl Trgt Retire 2040 Instl	-	-	\$0	0.00%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$0	0.00%	-	-
Target Date 2045 Moderate	Vanguard Instl Trgt Retire 2045 Instl	-	-	\$0	0.00%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$0	0.00%	-	-
Target Date 2050 Moderate	Vanguard Instl Trgt Retire 2050 Instl	-	-	\$0	0.00%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$0	0.00%	-	-
Target Date 2055 Moderate	Vanguard Instl Trgt Retire 2055 Instl	-	-	\$0	0.00%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$0	0.00%	-	-
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2060 Instl	-	-	\$0	0.00%
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2065 Instl	-	-	\$0	0.00%
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$0	0.00%	-	-
Target Date 2060+ Moderate	Vanguard Target Retirement 2065 Inv	\$0	0.00%	-	-
Allocation--85%+ Equity	CREF Stock R3	\$202,585	13.92%	\$191,263	12.57%
Large Company Value	JHancock Disciplined Value R6	\$1,643	0.11%	\$5,198	0.34%
Large Company Blend	Vanguard Institutional Index I	\$12,154	0.83%	\$15,682	1.03%
Large Company Growth	Harbor Capital Appreciation Retirement	\$1,306	0.09%	\$1,609	0.11%
Medium Company Value	Virtus Ceredex Mid-Cap Value Equity R6	\$653	0.04%	\$4,798	0.32%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Optional Retirement Savings 403(b) - 102967

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Medium Company Blend	Vanguard Extended Market Index Instl	\$2,301	0.16%	\$2,247	0.15%
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$45	0.00%	-	-
Medium Company Growth	MFS Mid Cap Growth R6	-	-	\$600	0.04%
Foreign Large Blend	American Funds Europacific Growth R6	-	-	\$4,865	0.32%
Foreign Large Blend	MFS International Intrinsic Value R6	\$3,092	0.21%	\$4,338	0.29%
Foreign Large Blend	Vanguard Total Intl Stock Index I	\$2,712	0.19%	\$3,360	0.22%
Foreign Large Growth	Oppenheimer International Growth I	\$481	0.03%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$1,625	0.11%	\$2,351	0.15%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$225	0.02%	\$4,135	0.27%
Emerging Markets	DFA Emerging Markets Core Equity I	\$1,342	0.09%	\$1,726	0.11%
Specialty-Private Real Estate	TIAA Real Estate Account	\$44,719	3.07%	\$42,572	2.80%
Other Assets	Frozen TIAA Annuities	\$349,219	23.99%	\$227,445	14.95%
Self-Directed Brokerage	Self Directed Accounts	\$0	0.00%	\$0	0.00%
TOTALS		\$1,455,840	100%	\$1,521,133	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Optional Retirement Savings 401(a) - 102968

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$8,004	0.72%	\$6,850	0.59%
Cash and Equivalents - Money Market	Vanguard Federal Money Market Investor	\$0	0.00%	\$0	0.00%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$343,012	31.06%	\$340,609	29.17%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$17,093	1.55%	\$16,465	1.41%
Fixed Income - Intermediate Core Bond	Vanguard Total Bond Market Index I	\$12,738	1.15%	\$13,843	1.19%
Intermediate Core-Plus Bond	PGIM Total Return Bond R6	\$24,413	2.21%	\$26,611	2.28%
World Allocation	CREF Social Choice R3	\$23,450	2.12%	\$26,251	2.25%
Target Date Ret Income Moderate	Vanguard Instl Trgt Retire Inc Instl	-	-	\$56,079	4.80%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$623	0.06%	-	-
Target Date 2015 Moderate	Vanguard Instl Trgt Retire 2015 Instl	-	-	\$13,224	1.13%
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$0	0.00%	-	-
Target Date 2020 Moderate	Vanguard Instl Trgt Retire 2020 Instl	-	-	\$45,330	3.88%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$40,812	3.70%	-	-
Target Date 2025 Moderate	Vanguard Instl Trgt Retire 2025 Instl	-	-	\$2,942	0.25%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$1,361	0.12%	-	-
Target Date 2030 Moderate	Vanguard Instl Trgt Retire 2030 Instl	-	-	\$347	0.03%
Target Date 2030 Moderate	Vanguard Target Retirement 2030 Inv	\$0	0.00%	-	-
Target Date 2035 Moderate	Vanguard Instl Trgt Retire 2035 Instl	-	-	\$763	0.07%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Optional Retirement Savings 401(a) - 102968

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$0	0.00%	-	-
Target Date 2040 Moderate	Vanguard Instl Trgt Retire 2040 Instl	-	-	\$0	0.00%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$0	0.00%	-	-
Target Date 2045 Moderate	Vanguard Instl Trgt Retire 2045 Instl	-	-	\$0	0.00%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$0	0.00%	-	-
Target Date 2050 Moderate	Vanguard Instl Trgt Retire 2050 Instl	-	-	\$0	0.00%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$0	0.00%	-	-
Target Date 2055 Moderate	Vanguard Instl Trgt Retire 2055 Instl	-	-	\$0	0.00%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$0	0.00%	-	-
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2060 Instl	-	-	\$0	0.00%
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2065 Instl	-	-	\$0	0.00%
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$0	0.00%	-	-
Target Date 2060+ Moderate	Vanguard Target Retirement 2065 Inv	\$0	0.00%	-	-
Allocation--85%+ Equity	CREF Stock R3	\$119,792	10.85%	\$127,805	10.94%
Large Company Value	JHancock Disciplined Value R6	\$7,768	0.70%	\$11,531	0.99%
Large Company Blend	Vanguard Institutional Index I	\$6,720	0.61%	\$9,180	0.79%
Large Company Growth	Harbor Capital Appreciation Retirement	\$1,077	0.10%	\$1,402	0.12%
Medium Company Value	Virtus Ceredex Mid-Cap Value Equity R6	\$551	0.05%	\$3,602	0.31%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Optional Retirement Savings 401(a) - 102968

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Medium Company Blend	Vanguard Extended Market Index Instl	\$550	0.05%	\$497	0.04%
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$18,314	1.66%	-	-
Medium Company Growth	MFS Mid Cap Growth R6	-	-	\$20,976	1.80%
Foreign Large Blend	American Funds Europacific Growth R6	-	-	\$4,281	0.37%
Foreign Large Blend	MFS International Intrinsic Value R6	\$16,797	1.52%	\$17,270	1.48%
Foreign Large Blend	Vanguard Total Intl Stock Index I	\$640	0.06%	\$816	0.07%
Foreign Large Growth	Oppenheimer International Growth I	\$200	0.02%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$366	0.03%	\$32,612	2.79%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$408	0.04%	\$3,959	0.34%
Emerging Markets	DFA Emerging Markets Core Equity I	\$15,693	1.42%	\$14,500	1.24%
Specialty-Private Real Estate	TIAA Real Estate Account	\$56,699	5.13%	\$61,708	5.28%
Other Assets	Frozen TIAA Annuities	\$249,934	22.63%	\$185,064	15.85%
Self-Directed Brokerage	Self Directed Accounts	\$137,233	12.43%	\$123,262	10.56%
TOTALS		\$1,104,249	100%	\$1,167,778	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Basic Retirement Plan for Classified Employees 403(b) - 102969

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$1,371,931	3.91%	\$426,779	1.07%
Cash and Equivalents - Money Market	Vanguard Federal Money Market Investor	\$19,321	0.06%	\$19,131	0.05%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$6,550,622	18.65%	\$6,743,047	16.98%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$518,912	1.48%	\$561,217	1.41%
Fixed Income - Intermediate Core Bond	Vanguard Total Bond Market Index I	\$115,399	0.33%	\$131,883	0.33%
Intermediate Core-Plus Bond	PGIM Total Return Bond R6	\$851,848	2.43%	\$1,094,582	2.76%
World Allocation	CREF Social Choice R3	\$910,818	2.59%	\$1,032,924	2.60%
Target Date Ret Income Moderate	Vanguard Instl Trgt Retire Inc Instl	-	-	\$460,337	1.16%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$400,402	1.14%	-	-
Target Date 2015 Moderate	Vanguard Instl Trgt Retire 2015 Instl	-	-	\$620,982	1.56%
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$370,253	1.05%	-	-
Target Date 2020 Moderate	Vanguard Instl Trgt Retire 2020 Instl	-	-	\$2,043,863	5.15%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$1,428,448	4.07%	-	-
Target Date 2025 Moderate	Vanguard Instl Trgt Retire 2025 Instl	-	-	\$2,239,080	5.64%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$1,435,893	4.09%	-	-
Target Date 2030 Moderate	Vanguard Instl Trgt Retire 2030 Instl	-	-	\$1,399,113	3.52%
Target Date 2030 Moderate	Vanguard Target Retirement 2030 Inv	\$695,804	1.98%	-	-
Target Date 2035 Moderate	Vanguard Instl Trgt Retire 2035 Instl	-	-	\$953,616	2.40%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Basic Retirement Plan for Classified Employees 403(b) - 102969

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$461,102	1.31%	-	-
Target Date 2040 Moderate	Vanguard Instl Trgt Retire 2040 Instl	-	-	\$1,143,724	2.88%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$527,090	1.50%	-	-
Target Date 2045 Moderate	Vanguard Instl Trgt Retire 2045 Instl	-	-	\$571,138	1.44%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$378,277	1.08%	-	-
Target Date 2050 Moderate	Vanguard Instl Trgt Retire 2050 Instl	-	-	\$286,927	0.72%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$159,959	0.46%	-	-
Target Date 2055 Moderate	Vanguard Instl Trgt Retire 2055 Instl	-	-	\$300,398	0.76%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$187,988	0.54%	-	-
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2060 Instl	-	-	\$89,522	0.23%
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2065 Instl	-	-	\$5,212	0.01%
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$49,443	0.14%	-	-
Target Date 2060+ Moderate	Vanguard Target Retirement 2065 Inv	\$1,769	0.01%	-	-
Allocation--85%+ Equity	CREF Stock R3	\$3,053,369	8.69%	\$3,265,965	8.22%
Large Company Value	JHancock Disciplined Value R6	\$703,713	2.00%	\$860,563	2.17%
Large Company Blend	Vanguard Institutional Index I	\$989,242	2.82%	\$1,372,392	3.46%
Large Company Growth	Harbor Capital Appreciation Retirement	\$447,951	1.28%	\$2,088,885	5.26%
Medium Company Value	Virtus Ceredex Mid-Cap Value Equity R6	\$314,378	0.90%	\$488,761	1.23%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Basic Retirement Plan for Classified Employees 403(b) - 102969

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Medium Company Blend	Vanguard Extended Market Index Instl	\$436,113	1.24%	\$459,280	1.16%
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$246,048	0.70%	-	-
Medium Company Growth	MFS Mid Cap Growth R6	-	-	\$401,651	1.01%
Foreign Large Blend	American Funds Europacific Growth R6	-	-	\$130,162	0.33%
Foreign Large Blend	MFS International Intrinsic Value R6	\$846,757	2.41%	\$1,019,730	2.57%
Foreign Large Blend	Vanguard Total Intl Stock Index I	\$470,116	1.34%	\$665,608	1.68%
Foreign Large Growth	Oppenheimer International Growth I	\$72,983	0.21%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$213,626	0.61%	\$581,314	1.46%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$162,294	0.46%	\$210,010	0.53%
Emerging Markets	DFA Emerging Markets Core Equity I	\$597,850	1.70%	\$669,824	1.69%
Specialty-Private Real Estate	TIAA Real Estate Account	\$2,054,078	5.85%	\$2,230,055	5.61%
Other Assets	Frozen TIAA Annuities	\$5,424,116	15.44%	\$2,987,340	7.52%
Self-Directed Brokerage	Self Directed Accounts	\$2,656,996	7.56%	\$2,163,485	5.45%
TOTALS		\$35,124,910	100%	\$39,718,500	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Basic Retirement Plan for Classified Employees 401(a) - 102970

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$2,164,846	3.23%	\$1,045,951	1.34%
Cash and Equivalents - Money Market	Vanguard Federal Money Market Investor	\$103,838	0.15%	\$36,324	0.05%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$14,737,647	22.00%	\$14,974,623	19.13%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$1,059,929	1.58%	\$1,131,138	1.45%
Fixed Income - Intermediate Core Bond	Vanguard Total Bond Market Index I	\$246,046	0.37%	\$317,450	0.41%
Intermediate Core-Plus Bond	PGIM Total Return Bond R6	\$1,497,133	2.23%	\$1,934,374	2.47%
World Allocation	CREF Social Choice R3	\$2,555,632	3.81%	\$2,844,846	3.63%
Target Date Ret Income Moderate	Vanguard Instl Trgt Retire Inc Instl	-	-	\$865,586	1.11%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$782,154	1.17%	-	-
Target Date 2015 Moderate	Vanguard Instl Trgt Retire 2015 Instl	-	-	\$1,368,305	1.75%
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$795,796	1.19%	-	-
Target Date 2020 Moderate	Vanguard Instl Trgt Retire 2020 Instl	-	-	\$2,857,394	3.65%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$1,971,028	2.94%	-	-
Target Date 2025 Moderate	Vanguard Instl Trgt Retire 2025 Instl	-	-	\$3,626,426	4.63%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$2,201,354	3.29%	-	-
Target Date 2030 Moderate	Vanguard Instl Trgt Retire 2030 Instl	-	-	\$2,296,170	2.93%
Target Date 2030 Moderate	Vanguard Target Retirement 2030 Inv	\$1,137,658	1.70%	-	-
Target Date 2035 Moderate	Vanguard Instl Trgt Retire 2035 Instl	-	-	\$1,567,901	2.00%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Basic Retirement Plan for Classified Employees 401(a) - 102970

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$929,292	1.39%	-	-
Target Date 2040 Moderate	Vanguard Instl Trgt Retire 2040 Instl	-	-	\$1,733,331	2.21%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$809,531	1.21%	-	-
Target Date 2045 Moderate	Vanguard Instl Trgt Retire 2045 Instl	-	-	\$963,478	1.23%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$613,813	0.92%	-	-
Target Date 2050 Moderate	Vanguard Instl Trgt Retire 2050 Instl	-	-	\$486,981	0.62%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$290,146	0.43%	-	-
Target Date 2055 Moderate	Vanguard Instl Trgt Retire 2055 Instl	-	-	\$288,470	0.37%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$173,984	0.26%	-	-
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2060 Instl	-	-	\$79,372	0.10%
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2065 Instl	-	-	\$4,864	0.01%
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$45,984	0.07%	-	-
Target Date 2060+ Moderate	Vanguard Target Retirement 2065 Inv	\$1,769	0.00%	-	-
Allocation--85%+ Equity	CREF Stock R3	\$7,778,316	11.61%	\$8,452,690	10.80%
Large Company Value	JHancock Disciplined Value R6	\$1,025,700	1.53%	\$1,277,835	1.63%
Large Company Blend	Vanguard Institutional Index I	\$1,719,143	2.57%	\$3,940,862	5.03%
Large Company Growth	Harbor Capital Appreciation Retirement	\$1,027,266	1.53%	\$1,809,357	2.31%
Medium Company Value	Virtus Ceredex Mid-Cap Value Equity R6	\$439,521	0.66%	\$746,772	0.95%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Basic Retirement Plan for Classified Employees 401(a) - 102970

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Medium Company Blend	Vanguard Extended Market Index Instl	\$736,299	1.10%	\$765,859	0.98%
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$412,042	0.61%	-	-
Medium Company Growth	MFS Mid Cap Growth R6	-	-	\$720,580	0.92%
Foreign Large Blend	American Funds Europacific Growth R6	-	-	\$205,209	0.26%
Foreign Large Blend	MFS International Intrinsic Value R6	\$1,517,269	2.26%	\$1,855,474	2.37%
Foreign Large Blend	Vanguard Total Intl Stock Index I	\$728,621	1.09%	\$1,076,230	1.37%
Foreign Large Growth	Oppenheimer International Growth I	\$104,291	0.16%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$340,374	0.51%	\$779,755	1.00%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$198,893	0.30%	\$274,565	0.35%
Emerging Markets	DFA Emerging Markets Core Equity I	\$924,399	1.38%	\$1,067,375	1.36%
Specialty-Private Real Estate	TIAA Real Estate Account	\$3,628,969	5.42%	\$3,855,028	4.92%
Other Assets	Frozen TIAA Annuities	\$12,177,225	18.18%	\$11,235,768	14.35%
Self-Directed Brokerage	Self Directed Accounts	\$2,123,109	3.17%	\$1,790,170	2.29%
TOTALS		\$66,999,016	100%	\$78,276,513	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Deferred Compensation Plan 457(b) - 102971

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$1,205,273	4.00%	\$181,810	0.53%
Cash and Equivalents - Money Market	Vanguard Federal Money Market Investor	\$76,407	0.25%	\$86,972	0.25%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$7,899,472	26.22%	\$8,826,321	25.58%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$557,696	1.85%	\$567,247	1.64%
Fixed Income - Intermediate Core Bond	Vanguard Total Bond Market Index I	\$155,447	0.52%	\$260,578	0.76%
Intermediate Core-Plus Bond	PGIM Total Return Bond R6	\$1,102,632	3.66%	\$1,348,259	3.91%
World Allocation	CREF Social Choice R3	\$1,359,775	4.51%	\$1,623,009	4.70%
Target Date Ret Income Moderate	Vanguard Instl Trgt Retire Inc Instl	-	-	\$589,450	1.71%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$449,876	1.49%	-	-
Target Date 2015 Moderate	Vanguard Instl Trgt Retire 2015 Instl	-	-	\$1,048,914	3.04%
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$506,383	1.68%	-	-
Target Date 2020 Moderate	Vanguard Instl Trgt Retire 2020 Instl	-	-	\$1,401,880	4.06%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$878,160	2.91%	-	-
Target Date 2025 Moderate	Vanguard Instl Trgt Retire 2025 Instl	-	-	\$939,211	2.72%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$971,820	3.23%	-	-
Target Date 2030 Moderate	Vanguard Instl Trgt Retire 2030 Instl	-	-	\$761,612	2.21%
Target Date 2030 Moderate	Vanguard Target Retirement 2030 Inv	\$548,525	1.82%	-	-
Target Date 2035 Moderate	Vanguard Instl Trgt Retire 2035 Instl	-	-	\$520,597	1.51%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Deferred Compensation Plan 457(b) - 102971

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$367,559	1.22%	-	-
Target Date 2040 Moderate	Vanguard Instl Trgt Retire 2040 Instl	-	-	\$418,445	1.21%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$314,980	1.05%	-	-
Target Date 2045 Moderate	Vanguard Instl Trgt Retire 2045 Instl	-	-	\$211,584	0.61%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$157,570	0.52%	-	-
Target Date 2050 Moderate	Vanguard Instl Trgt Retire 2050 Instl	-	-	\$47,147	0.14%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$37,154	0.12%	-	-
Target Date 2055 Moderate	Vanguard Instl Trgt Retire 2055 Instl	-	-	\$2,311	0.01%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$288	0.00%	-	-
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2060 Instl	-	-	\$812	0.00%
Target Date 2060+ Moderate	Vanguard Instl Trgt Retire 2065 Instl	-	-	\$0	0.00%
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$0	0.00%	-	-
Target Date 2060+ Moderate	Vanguard Target Retirement 2065 Inv	\$0	0.00%	-	-
Allocation--85%+ Equity	CREF Stock R3	\$1,778,279	5.90%	\$1,938,162	5.62%
Large Company Value	JHancock Disciplined Value R6	\$606,838	2.01%	\$674,869	1.96%
Large Company Blend	Vanguard Institutional Index I	\$1,500,515	4.98%	\$2,778,650	8.05%
Large Company Growth	Harbor Capital Appreciation Retirement	\$403,685	1.34%	\$809,403	2.35%
Medium Company Value	Virtus Ceredex Mid-Cap Value Equity R6	\$282,698	0.94%	\$533,908	1.55%

CONTINUED...

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.19 | Q3 19

University of Maine System Deferred Compensation Plan 457(b) - 102971

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2018	(%)	CURRENT	(%)
Medium Company Blend	Vanguard Extended Market Index Instl	\$671,538	2.23%	\$765,133	2.22%
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$149,980	0.50%	-	-
Medium Company Growth	MFS Mid Cap Growth R6	-	-	\$317,592	0.92%
Foreign Large Blend	American Funds Europacific Growth R6	-	-	\$224,733	0.65%
Foreign Large Blend	MFS International Intrinsic Value R6	\$604,312	2.01%	\$755,997	2.19%
Foreign Large Blend	Vanguard Total Intl Stock Index I	\$446,512	1.48%	\$976,183	2.83%
Foreign Large Growth	Oppenheimer International Growth I	\$98,030	0.33%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$246,682	0.82%	\$388,659	1.13%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$124,423	0.41%	\$179,783	0.52%
Emerging Markets	DFA Emerging Markets Core Equity I	\$500,334	1.66%	\$575,948	1.67%
Specialty-Private Real Estate	TIAA Real Estate Account	\$2,076,757	6.89%	\$2,099,322	6.08%
Other Assets	Frozen TIAA Annuities	\$3,116,681	10.34%	\$1,895,147	5.49%
Self-Directed Brokerage	Self Directed Accounts	\$932,610	3.10%	\$754,184	2.19%
TOTALS		\$30,128,891	100%	\$34,503,831	100%

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INVESTMENT REVIEW | INVESTMENT POLICY MONITOR

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

INVESTMENT	QUANTITATIVE								QUALITATIVE		TOTALS	
	Risk-Adjusted Performance		vs. Peers Performance		Style		Confidence		Fund Management	Fund Firm	Overall	Total Score
	3 Yr	5 Yr	3 Yr	5 Yr	3 Yr	5 Yr	3 Yr	5 Yr				
Inflation Protected Bond CREF Inflation-Linked Bond R3	▼	▼	▼	▼	●	●	▼	▼	●	●	●	82
Intermediate Core-Plus Bond PGIM Total Return Bond R6	●	●	●	●	●	●	●	●	●	●	●	100
World Allocation CREF Social Choice R3	●	●	●	●	●	●	●	●	●	●	●	100
Large Company Value JHancock Disciplined Value R6	●	▼	●	▼	●	●	●	▼	●	●	●	83
Large Company Growth Harbor Capital Appreciation Retirement	●	●	●	●	●	●	●	●	●	●	●	93
Medium Company Value Virtus Ceredex Mid-Cap Value Equity R6	●	●	●	●	●	●	●	●	●	●	●	100
Medium Company Growth MFS Mid Cap Growth R6	●	●	●	●	●	●	●	●	●	●	●	100
Foreign Large Blend American Funds Europacific Growth R6	●	●	●	●	●	●	●	●	●	●	●	100

LEGEND

●	IN GOOD STANDING	▼	MARKED FOR REVIEW	●	CONSIDER FOR TERMINATION
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The CAPTRUST Investment Policy Monitor ("Scorecard") is an illustration of our monitoring system and is designed to assist our clients in their efforts to provide fiduciary oversight to investment assets. It is not intended as a solicitation to buy any security. The scoring system measures quantitative areas as well as qualitative (or subjective) fields for actively managed investment options. Quantitative scoring areas include Risk Adjusted Performance (3 & 5 yr.); Performance vs. Relevant Peer Group; Style Attribution; and Confidence. Qualitative Scoring Areas measure the quality of the Management Team while also considering the stewardship of the investment option's parent company under Investment Family Items. Qualitative areas of analysis are subjective in nature. CAPTRUST typically requires at least 3 months of monitoring before including an investment in this report. Investments that have been added to our system less than 3 months prior to a report being generated may have a Fund Management assessment of '25' as a default, but will be updated, if necessary, after the first quarter of monitoring to more accurately reflect our system. Investments that are not mutual funds or have less than 3 years of performance history may not be scored. This material is for institutional investor use only and is not intended to be shared with individual investors.

INVESTMENT REVIEW | INVESTMENT POLICY MONITOR

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

INVESTMENT	QUANTITATIVE								QUALITATIVE		TOTALS	
	Risk-Adjusted Performance		vs. Peers Performance		Style		Confidence		Fund Management	Fund Firm	Overall	Total Score
	3 Yr	5 Yr	3 Yr	5 Yr	3 Yr	5 Yr	3 Yr	5 Yr				
Foreign Large Blend MFS International Intrinsic Value R6	●	●	●	●	▼	▼	●	●	●	●	●	97
Small Company Value Victory Sycamore Small Company Opp I	●	●	●	●	●	●	●	●	●	●	●	100
Small Company Growth Carillon Eagle Small Cap Growth R6	▼	▼	▼	▼	●	●	▼	▼	●	●	●	67
Emerging Markets DFA Emerging Markets Core Equity I	▼	▼	▼	▼	●	●	▼	▼	●	●	▼	78

LEGEND

●	IN GOOD STANDING	▼	MARKED FOR REVIEW	●	CONSIDER FOR TERMINATION
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INVESTMENT REVIEW | INVESTMENT POLICY MONITOR

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

TARGET DATE INVESTMENTS

INVESTMENT	QUANTITATIVE						QUALITATIVE				TOTALS	
	Risk-Adjusted Performance		vs. Peers Performance		Glidepath		Portfolio Construct.	Underlying Inv. Vehicles	Fund Mgmt	Fund Firm	Overall	Total Score
	3 Yr	5 Yr	3 Yr	5 Yr	% of Equities	Beta to Equities						
Vanguard Instl Target Retire	●	●	●	●	●	●	●	●	●	●	●	96

CAPITAL PRESERVATION INVESTMENTS

INVESTMENT	Overall	Commentary
CREF Money Market R3	●	This Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.
Vanguard Federal Money Market Investor	●	This Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.
TIAA Traditional - Group Retirement Annuity	●	This Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.

CONTINUED...

The CAPTRUST Financial Advisors Investment Scorecard is an illustration of our monitoring system and is designed to assist our clients in their efforts to provide fiduciary oversight to investment assets. It is not intended as a solicitation to buy any security. The scoring system measures quantitative areas as well as qualitative (or subjective) fields. Quantitative scoring areas for target date funds include Risk Adjusted Performance (3 & 5 yr.); Performance vs. Relevant Peer Group; and Glidepath. Qualitative Scoring Areas for target date funds measure the quality of the Management Team while also considering the stewardship of the investment option's parent company under Investment Family Items. Qualitative areas of analysis are subjective in nature. Qualitative Scoring for Target Date funds also includes a score for Portfolio Construction and Underlying Investment vehicles to express CAPTRUST's views on the manager or strategy. CAPTRUST typically requires at least 3 months of monitoring before including an investment in this report. Investments that have been added to our system less than 3 months prior to a report being generated may have a Fund Management assessment of '25' as a default, but will be updated, if necessary, after the first quarter of monitoring to more accurately reflect our system. Investments that are not mutual funds or have less than 3 years of performance history may not be scored. Capital Preservation options are evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. This methodology incorporates both qualitative and quantitative metrics, depending on the type of capital preservation option being evaluated, and may include quantitative criteria such as: Crediting Rate/Yield, Market to Book Ratio, Average Crediting Quality, Insurer Quality/Diversification, Duration, and Sector Allocations, and/or qualitative criteria such as quality and experience of the Management Team and stewardship of the investment option's parent company. Passively Managed options are evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. This methodology incorporates both qualitative and quantitative metrics and may include quantitative criteria such as: Tracking Error, Fees, and Performance versus relevant peer group, and/or qualitative criteria such as index replication strategy, securities lending practices, and fair value pricing methodology. Distinct investment options are evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. This methodology incorporates both qualitative and quantitative metrics. This material is for institutional investor use only and is not intended to be shared with individual investors.





INVESTMENT REVIEW | INVESTMENT POLICY MONITOR

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

PASSIVE INVESTMENTS

INVESTMENT	Overall	Commentary
Vanguard Total Bond Market Index I		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.
Vanguard Institutional Index I		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.
Vanguard Extended Market Index Instl		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.
Vanguard Total Intl Stock Index I		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.

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INVESTMENT REVIEW | INVESTMENT POLICY MONITOR

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

INVESTMENTS IN DISTINCT ASSET CLASSES

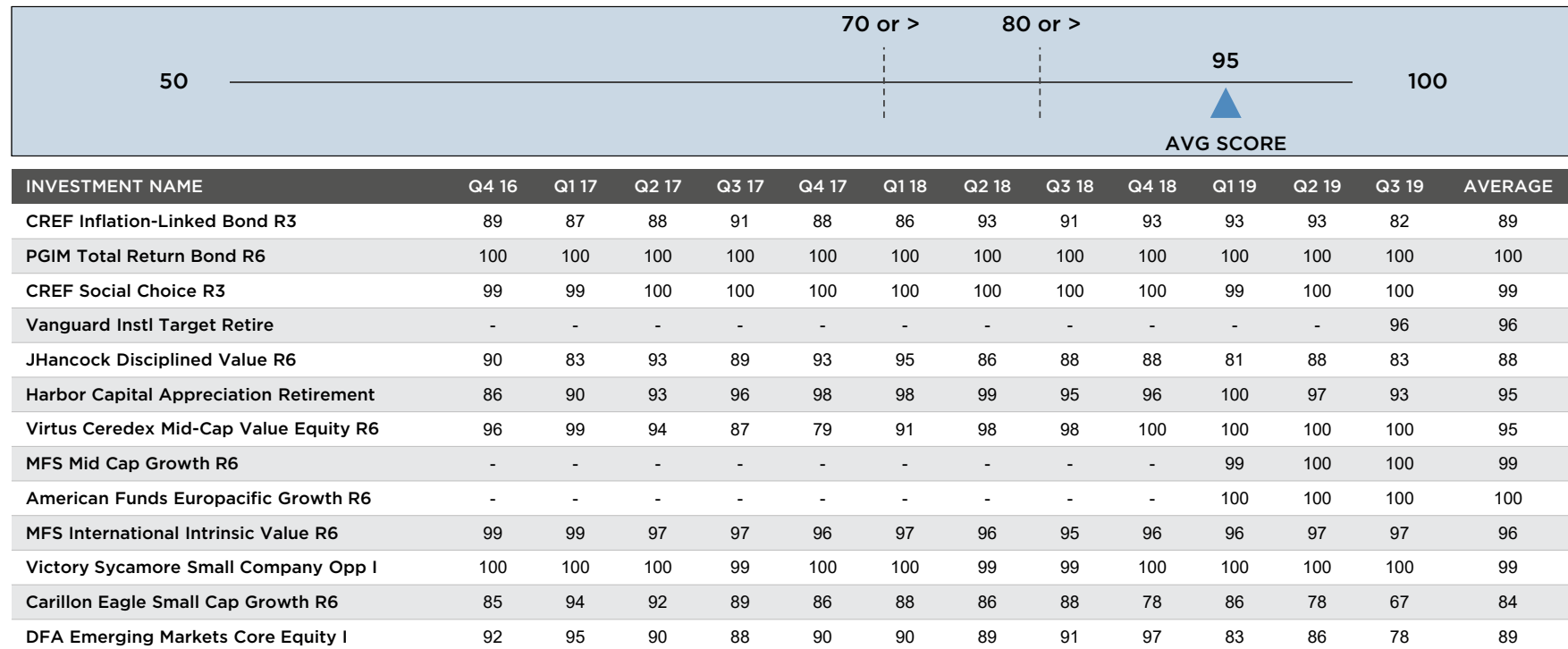
INVESTMENT	Overall	Commentary
CREF Stock R3		This fund currently meets the guidelines set forth by CAPTRUST for distinct investments in the Investment Policy Statement. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, excess return, and risk-adjusted performance.
TIAA Real Estate Account		This fund currently meets the guidelines set forth by CAPTRUST for distinct investments in the Investment Policy Statement. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, excess return, and risk-adjusted performance.

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PLAN INVESTMENT REVIEW | PLAN PERFORMANCE MEASUREMENT

Period Ending 9.30.19 | Q3 19

University of Maine System

Plan Performance Success Rate: Average score of plan investments illustrated below

4.1

SUMMARY: Over the previous quarters the plan investment options have averaged a score of 95.

Scores are calculated quarterly using the CAPTRUST Investment Policy Monitoring System ("Scorecard"). In the 4Q2013, our methodology changed utilizing different quantitative statistics than the prior system resulting in a re-categorization of some specific funds as either "passive" (funds designed to track a given benchmark) or "distinct" funds with a limited number of comparable funds, or funds with distinct strategies that do not have an appropriate benchmark. These funds (passive and/or distinct) will no longer be included in the Plan Performance Measurement Report but will continue to be included on the Investment Policy Monitor and be scored by CAPTRUST for their ability to achieve stated goals.

INVESTMENT REVIEW | SELECT COMMENTARY

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

FUND MANAGEMENT ITEMS	COMMENTARY
American Funds EuroPacific Growth	<p>Capital Group has announced that Portfolio Manager Mark Denning is no longer with the firm. Mark served as a portfolio manager of EuroPacific Growth Fund, Capital World Growth and Income, New World Fund, and New Economy Fund. He had been at the firm for 36 years and on EuroPacific Growth for 28 years. Mark was the longest tenured PM on EuroPac, although almost all of the PMs have been with the firm for 20+ years.</p> <p>This was an unexpected departure that the firm characterized as a personnel issue. Mark was responsible for a 7% sleeve of EuroPac. EuroPac has nine portfolio managers who each manage a sleeve of the portfolio, which reduces the dependence on a single PM. Another sleeve is managed by the research analysts. EuroPac's PM line-up has been stable in recent years, with the latest departure and addition in June 2014. Thus, this change does not impact our view of the strategy.</p> <p>Lara Pellini has been named a portfolio manager of the American Funds EuroPacific Growth strategy. She has 17 years of investment experience, all with Capital Group. As part of the firm's succession planning, she has served as a portfolio manager on the EuroPacific Growth strategy on a trial basis for the past four years.</p>
DFA Emerging Markets Core Equity	<p>DFA has historically capped country weights in its emerging markets strategies to limit portfolio concentration in any one country. As of October 2019, DFA's emerging markets strategies will no longer limit exposure to individual countries to 17.5% at time of purchase.</p>
Carillon Eagle Small Cap Growth	<p>Following solid results in 2017, the strategy modestly lagged the benchmark in 2018. Technology was the top contributor in 2017, but the top detractor in 2018. All of the 2018 underperformance occurred in the first half. The strategy was roughly in-line with the benchmark during the sharp Q4 2018 sell-off. Through the first half of 2019, the strategy was slightly ahead of the benchmark in a very strong rally for small cap growth. Q3 2019 was challenging due to negative stock selection in healthcare, financials, and consumer discretionary. There are currently some unusual dynamics in the small cap growth peer group. Many of the strategy's peers have benefitted from large sector bets such as overweight technology (software) and underweight biotech. Over a full market cycle, we believe that the team's more conservative approach should pay off although it has been a headwind recently. The strategy has faced stylistic headwinds due to its valuation sensitivity. While the team's approach of letting its winners run has been successful over the long-term, it has not worked as well recently. We recommend that clients currently holding the strategy continue to do so as we monitor performance in the coming quarters.</p>

INVESTMENT REVIEW | SELECT COMMENTARY

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

FUND MANAGEMENT ITEMS	COMMENTARY
Harbor Capital Appreciation	Blair Boyer and Natasha Kuhlkin have been added as portfolio managers to the Harbor Capital Appreciation Fund alongside Sig Segalas and Kathleen McCarragher. Mr. Boyer and Ms. Kuhlkin have been members of Jennison's large cap growth team since 2003 and 2004, respectively. Additionally, Mr. Boyer was named co-head of Large Cap Growth Equity, alongside Ms. McCarragher.
John Hancock Disciplined Value	Effective 12/31/2019, Co-CEO and CIO Jay Feeney will become the sole CEO of Boston Partners, taking the lead role he has jointly shared with co-CEO Mark Donovan since 2008. Mr. Donovan, one of four portfolio managers to the John Hancock Disciplined Value Fund, will focus exclusively on his portfolio management responsibilities.
MFS International Intrinsic Value	The MFS International Value Fund has been renamed the MFS International Intrinsic Value Fund. This is a name-only change in an effort to better describe the distinctive value approach that the fund has taken historically.
FUND FIRM ITEMS	COMMENTARY
Dimensional Fund Advisors	<p>Steve Clark has recently rejoined DFA's investment committee after stepping aside in October 2015 to take on additional responsibilities at the firm.</p> <p>Ryan Wiley is now the sole head of global equity trading. John Romiza, previously co-head of global equity trading alongside Ryan, has stepped down from that role to focus on his responsibilities as co-CEO of DFA Ltd.</p> <p>Lastly, Jed Fogdall recently became the sole head of Global Portfolio Management and chair of the investment committee at DFA. Joseph Chi stepped down from his roles as co-head of Global Portfolio Management and chair of the investment committee, but will stay with the firm as an ex-officio member of the investment committee. Mary Phillips, Allen Pu, and Joel Schneider became deputy heads of Portfolio Management, North America.</p>

INVESTMENT REVIEW | SELECT COMMENTARY

Period Ending 9.30.19 | Q3 19

University of Maine System

FUND FIRM ITEMS	COMMENTARY
Victory Capital Management	Victory announced the decision to terminate its agreement to purchase Harvest Volatility Management. Victory had originally agreed to buy Harvest in September 2018.

4.1

PLAN INVESTMENT REVIEW | TARGET DATE REVIEW

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

VANGUARD INSTITUTIONAL TARGET RETIREMENT

MEETING DATE: OCTOBER 21, 2019

FOCUS AREA

Organizational

COMMENTARY

There were no material changes to the target date team during the quarter.

Investments

COMMENTARY

There were no changes made to the underlying investments of the Institutional Target Retirement series during the quarter.

Performance and Positioning

COMMENTARY

Vanguard Institutional Target Retirement Performance Update

Vanguard Institutional Target Retirement performed in line with its benchmark and mostly outperformed peers in the third quarter.

- The series benefitted from large-cap market benchmarks mostly outperforming active managers
- This aided performance given Vanguard Institutional Target Retirement's use of passive strategies and the fact that it holds a larger portion of its equity portfolio in large-cap stocks
- In addition, large-cap stocks mostly outperformed the rest of the market in the third quarter, which further helped Vanguard's peer-relative results
- Somewhat mitigating the series's equity performance was its larger exposure to international and emerging markets equities as the U.S. continues to lead the way
- Lastly, Vanguard's passive fixed income exposure also drove performance as bond indices have continued to outpace active managers for much of the year

There were no changes made to the series's strategic asset allocation during the quarter.

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INVESTMENT NAME	Q3 '19	YTD '19	2018	2017	2016	2015	2014	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
CASH AND EQUIVALENTS - MONEY MARKET											
CREF Money Market R3	0.51%	1.61%	1.46%	0.50%	0.13%	0.00%	0.00%	2.14%	1.20%	0.74%	0.37%
Vanguard Federal Money Market Investor	0.54%	1.71%	1.78%	0.81%	0.30%	0.04%	0.01%	2.26%	1.46%	0.93%	0.47%
ICE BofA ML US Treasury Bill 3 Mon USD	0.56%	1.81%	1.87%	0.86%	0.33%	0.05%	0.03%	2.38%	1.54%	0.98%	0.54%
STABLE VALUE											
TIAA Traditional - Group Retirement Annuity	Current Rate is 3.25%										
ICE BofA ML US Treasury Bill 3 Mon USD	0.56%	1.81%	1.87%	0.86%	0.33%	0.05%	0.03%	2.38%	1.54%	0.98%	0.54%
Hueler Stable Value Index (gross)	0.42%	1.66%	2.26%	1.95%	1.79%	1.77%	1.69%	2.46%	2.16%	2.00%	2.20%
INFLATION PROTECTED BOND											
CREF Inflation-Linked Bond R3	0.70%	5.71%	-0.49%	1.85%	4.23%	-1.68%	3.34%	5.58%	1.76%	1.86%	2.98%
BBgBarc US Treasury US TIPS TR USD	1.35%	7.58%	-1.26%	3.01%	4.68%	-1.44%	3.64%	7.13%	2.21%	2.45%	3.46%
Inflation Protected Bond Universe	0.78%	6.31%	-1.65%	2.51%	4.51%	-2.22%	1.96%	5.25%	1.78%	1.65%	2.72%
FIXED INCOME - INTERMEDIATE CORE BOND											
Vanguard Total Bond Market Index I	2.43%	8.70%	-0.01%	3.57%	2.61%	0.41%	5.90%	10.45%	2.91%	3.36%	3.71%
BBgBarc Aggregate Bond Index	2.27%	8.52%	0.01%	3.54%	2.65%	0.55%	5.97%	10.30%	2.92%	3.38%	3.75%
Intermediate Core Bond Universe	2.00%	7.96%	-0.40%	3.19%	2.54%	0.00%	4.96%	9.35%	2.56%	2.92%	3.61%
INTERMEDIATE CORE-PLUS BOND											
PGIM Total Return Bond R6	2.68%	10.74%	-0.63%	6.71%	4.83%	0.09%	7.25%	12.25%	4.43%	4.66%	5.77%
BBgBarc Aggregate Bond Index	2.27%	8.52%	0.01%	3.54%	2.65%	0.55%	5.97%	10.30%	2.92%	3.38%	3.75%
Intermediate Core Plus Bond Universe	1.96%	8.56%	-0.69%	4.26%	3.90%	-0.50%	5.50%	9.27%	3.18%	3.28%	4.40%

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INVESTMENT NAME	Q3 '19	YTD '19	2018	2017	2016	2015	2014	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
WORLD ALLOCATION											
CREF Social Choice R3	1.89%	14.90%	-4.29%	14.27%	7.40%	-0.87%	6.83%	6.39%	8.05%	6.42%	8.14%
60% MSCI World 40% BBgBarc Agg Index	1.33%	14.44%	-4.76%	14.90%	6.09%	0.26%	5.77%	5.90%	7.79%	6.20%	7.48%
World Allocation Universe	0.06%	11.05%	-7.94%	14.12%	6.11%	-4.32%	1.84%	2.14%	5.22%	3.41%	6.01%
TARGET DATE RET INCOME MODERATE											
Vanguard Instl Trgt Retire Inc Instl	1.49%	10.27%	-1.98%	8.54%	5.29%	-	-	6.73%	5.11%	-	-
Morningstar Lifetime Moderate Income Index	0.87%	9.73%	-2.20%	8.55%	5.98%	-1.30%	4.09%	5.21%	4.99%	4.18%	5.61%
Retirement Income Moderate	1.25%	10.33%	-3.55%	9.24%	4.86%	-1.30%	4.47%	5.63%	4.77%	4.09%	5.16%
TARGET DATE 2015 MODERATE											
Vanguard Instl Trgt Retire 2015 Instl	1.37%	11.24%	-2.91%	11.50%	6.27%	-	-	6.08%	6.22%	-	-
Morningstar Lifetime Moderate 2015 Index	1.33%	12.28%	-3.54%	11.39%	7.10%	-1.73%	5.55%	6.45%	6.19%	5.15%	7.05%
2015 Moderate	1.00%	11.14%	-4.18%	11.21%	6.15%	-1.38%	4.75%	4.99%	5.67%	4.65%	6.58%
TARGET DATE 2020 MODERATE											
Vanguard Instl Trgt Retire 2020 Instl	1.20%	12.65%	-4.21%	14.13%	7.04%	-	-	5.34%	7.12%	-	-
Morningstar Lifetime Moderate 2020 Index	1.41%	13.28%	-4.16%	12.79%	7.66%	-1.88%	5.87%	6.53%	6.78%	5.57%	7.64%
2020 Moderate	0.94%	11.94%	-4.93%	13.25%	6.10%	-1.33%	5.13%	4.68%	6.33%	5.10%	7.22%
TARGET DATE 2025 MODERATE											
Vanguard Instl Trgt Retire 2025 Instl	1.09%	13.70%	-5.02%	15.94%	7.56%	-	-	4.91%	7.83%	-	-
Morningstar Lifetime Moderate 2025 Index	1.38%	14.23%	-4.90%	14.54%	8.39%	-2.06%	6.04%	6.22%	7.51%	6.04%	8.31%
2025 Moderate	0.75%	12.81%	-5.54%	15.15%	6.78%	-1.38%	5.27%	4.13%	7.05%	5.61%	7.91%

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INVESTMENT NAME	Q3 '19	YTD '19	2018	2017	2016	2015	2014	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
TARGET DATE 2030 MODERATE											
Vanguard Instl Trgt Retire 2030 Instl	0.87%	14.27%	-5.82%	17.57%	7.97%	-	-	4.15%	8.32%	-	-
Morningstar Lifetime Moderate 2030 Index	1.22%	15.11%	-5.82%	16.59%	9.26%	-2.30%	6.01%	5.40%	8.31%	6.50%	8.90%
2030 Moderate	0.59%	13.95%	-6.43%	17.27%	7.27%	-1.36%	5.47%	3.53%	7.89%	6.19%	8.48%
TARGET DATE 2035 MODERATE											
Vanguard Instl Trgt Retire 2035 Instl	0.70%	14.88%	-6.56%	19.14%	8.39%	-	-	3.45%	8.84%	-	-
Morningstar Lifetime Moderate 2035 Index	0.93%	15.76%	-6.82%	18.52%	10.07%	-2.58%	5.80%	4.24%	8.96%	6.84%	9.29%
2035 Moderate	0.34%	14.64%	-7.33%	19.10%	7.72%	-1.45%	5.58%	2.67%	8.36%	6.49%	8.84%
TARGET DATE 2040 MODERATE											
Vanguard Instl Trgt Retire 2040 Instl	0.49%	15.40%	-7.31%	20.73%	8.81%	-	-	2.65%	9.32%	-	-
Morningstar Lifetime Moderate 2040 Index	0.66%	16.11%	-7.65%	19.87%	10.61%	-2.83%	5.51%	3.23%	9.30%	6.98%	9.42%
2040 Moderate	0.32%	15.40%	-7.90%	20.10%	7.53%	-1.39%	5.73%	2.36%	8.78%	6.75%	9.09%
TARGET DATE 2045 MODERATE											
Vanguard Instl Trgt Retire 2045 Instl	0.32%	15.79%	-7.87%	21.47%	8.94%	-	-	2.13%	9.47%	-	-
Morningstar Lifetime Moderate 2045 Index	0.46%	16.18%	-8.17%	20.53%	10.84%	-3.03%	5.25%	2.62%	9.37%	6.97%	9.38%
2045 Moderate	0.15%	15.57%	-8.42%	20.57%	7.89%	-1.89%	5.27%	1.79%	8.83%	6.69%	9.01%
TARGET DATE 2050 MODERATE											
Vanguard Instl Trgt Retire 2050 Instl	0.32%	15.76%	-7.87%	21.47%	8.95%	-	-	2.11%	9.47%	-	-
Morningstar Lifetime Moderate 2050 Index	0.37%	16.11%	-8.41%	20.78%	10.89%	-3.19%	5.00%	2.39%	9.32%	6.89%	9.28%
2050 Moderate	0.26%	15.85%	-8.33%	20.76%	7.77%	-1.60%	5.55%	2.09%	9.01%	6.85%	9.15%

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INVESTMENT NAME	Q3 '19	YTD '19	2018	2017	2016	2015	2014	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
TARGET DATE 2055 MODERATE											
Vanguard Instl Trgt Retire 2055 Instl	0.28%	15.77%	-7.84%	21.47%	8.94%	-	-	2.16%	9.48%	-	-
Morningstar Lifetime Moderate 2055 Index	0.31%	16.02%	-8.57%	20.95%	10.90%	-3.34%	4.74%	2.29%	9.26%	6.81%	9.17%
2055 Moderate	0.16%	15.48%	-8.95%	20.73%	8.35%	-1.65%	5.97%	1.35%	8.76%	6.73%	9.40%
TARGET DATE 2060+ MODERATE											
Vanguard Instl Trgt Retire 2060 Instl	0.32%	15.81%	-7.88%	21.42%	8.94%	-	-	2.15%	9.46%	-	-
Vanguard Instl Trgt Retire 2065 Instl	0.31%	15.87%	-7.84%	-	-	-	-	2.22%	-	-	-
Morningstar Lifetime Moderate 2060 Index	0.26%	15.91%	-8.69%	21.06%	10.88%	-3.48%	4.53%	2.22%	9.18%	6.71%	-
2060+ Moderate	0.15%	15.94%	-8.56%	20.72%	8.79%	-1.07%	6.35%	1.49%	9.01%	7.16%	-
ALLOCATION--85%+ EQUITY											
CREF Stock R3	-0.21%	17.03%	-9.65%	23.45%	9.17%	-0.84%	6.41%	-0.01%	10.04%	7.66%	10.04%
85% S&P 500, 15% BBgBarc Agg	1.73%	19.87%	-4.15%	20.67%	11.32%	1.30%	13.12%	4.55%	12.75%	10.37%	12.46%
Allocation--85%+ Equity Universe	-0.04%	15.89%	-9.73%	19.35%	8.67%	-2.36%	5.41%	0.03%	8.55%	6.35%	9.26%
LARGE COMPANY VALUE											
JHancock Disciplined Value R6	1.58%	14.33%	-9.47%	19.33%	14.07%	-4.81%	11.04%	-1.58%	10.12%	7.17%	11.12%
Russell 1000 Value	1.36%	17.81%	-8.27%	13.66%	17.34%	-3.83%	13.45%	4.00%	9.43%	7.79%	11.46%
Large Value Universe	1.47%	16.54%	-8.86%	15.83%	14.54%	-3.98%	10.59%	1.91%	9.33%	7.15%	10.58%
LARGE COMPANY BLEND											
Vanguard Institutional Index I	1.69%	20.54%	-4.42%	21.79%	11.93%	1.37%	13.65%	4.23%	13.36%	10.81%	13.22%
S&P 500 Index	1.70%	20.55%	-4.38%	21.83%	11.96%	1.38%	13.69%	4.25%	13.39%	10.84%	13.24%
Large Blend Universe	1.34%	18.84%	-6.56%	20.39%	10.44%	-0.66%	11.27%	2.60%	11.56%	8.93%	11.71%

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INVESTMENT NAME	Q3 '19	YTD '19	2018	2017	2016	2015	2014	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
LARGE COMPANY GROWTH											
Harbor Capital Appreciation Retirement	-2.11%	18.62%	-0.96%	36.68%	-1.04%	10.99%	9.93%	-0.82%	16.34%	12.74%	14.21%
Russell 1000 Growth	1.49%	23.30%	-1.51%	30.21%	7.08%	5.67%	13.05%	3.71%	16.89%	13.39%	14.94%
Large Growth Universe	-0.64%	20.73%	-2.06%	28.18%	3.16%	3.64%	9.99%	1.96%	14.70%	11.16%	13.13%
MEDIUM COMPANY VALUE											
Virtus Ceredex Mid-Cap Value Equity R6	3.18%	23.17%	-7.58%	11.98%	20.53%	-5.63%	11.05%	6.91%	11.20%	8.75%	12.33%
Russell Mid Cap Value	1.22%	19.47%	-12.29%	13.34%	20.00%	-4.78%	14.75%	1.60%	7.82%	7.55%	12.29%
Mid Value Universe	0.74%	17.58%	-13.85%	13.25%	17.96%	-5.03%	9.54%	-1.50%	7.14%	6.39%	10.66%
MEDIUM COMPANY BLEND											
Vanguard Extended Market Index Instl	-1.60%	17.60%	-9.35%	18.12%	16.15%	-3.24%	7.56%	-3.78%	9.97%	8.54%	12.44%
Russell Mid Cap	0.48%	21.93%	-9.06%	18.52%	13.80%	-2.44%	13.22%	3.19%	10.69%	9.10%	13.07%
Mid Blend Universe	0.22%	18.38%	-11.93%	15.64%	14.12%	-4.71%	8.36%	-1.38%	8.25%	6.44%	10.67%
MEDIUM COMPANY GROWTH											
MFS Mid Cap Growth R6	-0.14%	29.65%	1.21%	26.39%	4.75%	4.60%	8.95%	9.23%	17.90%	13.94%	14.97%
Russell Mid Cap Growth	-0.67%	25.23%	-4.75%	25.27%	7.33%	-0.20%	11.90%	5.20%	14.50%	11.12%	14.08%
Mid Growth Universe	-1.74%	24.03%	-5.62%	24.92%	5.96%	-0.63%	7.15%	2.47%	13.83%	10.35%	12.82%
FOREIGN LARGE BLEND											
American Funds Europacific Growth R6	-1.59%	15.72%	-14.91%	31.17%	1.01%	-0.48%	-2.29%	1.14%	7.38%	5.02%	6.07%
MFS International Intrinsic Value R6	0.14%	17.23%	-8.89%	27.25%	4.31%	6.85%	1.61%	4.56%	8.64%	8.73%	9.45%
Vanguard Total Intl Stock Index I	-1.61%	11.47%	-14.39%	27.55%	4.70%	-4.24%	-4.15%	-1.53%	6.09%	3.17%	4.55%
MSCI EAFE	-1.00%	13.35%	-13.36%	25.62%	1.51%	-0.39%	-4.48%	-0.82%	7.01%	3.77%	5.39%
Foreign Large Blend Universe	-1.38%	12.38%	-15.50%	25.32%	0.90%	-1.43%	-4.98%	-2.30%	5.29%	2.74%	4.58%

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INVESTMENT NAME	Q3 '19	YTD '19	2018	2017	2016	2015	2014	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
SMALL COMPANY VALUE											
Victory Sycamore Small Company Opp I	1.88%	19.00%	-8.26%	11.88%	30.04%	-0.39%	6.80%	1.34%	11.60%	11.51%	12.58%
Russell 2000 Value	-0.57%	12.82%	-12.86%	7.84%	31.74%	-7.47%	4.22%	-8.24%	6.54%	7.17%	10.06%
Small Value Universe	-0.57%	13.23%	-15.69%	9.01%	25.55%	-6.69%	3.43%	-8.56%	5.32%	5.45%	9.56%
SMALL COMPANY GROWTH											
Carillon Eagle Small Cap Growth R6	-6.39%	13.02%	-10.06%	23.40%	10.45%	-0.39%	5.59%	-11.53%	8.97%	8.24%	12.24%
Russell 2000 Growth	-4.17%	15.34%	-9.31%	22.17%	11.32%	-1.38%	5.60%	-9.63%	9.79%	9.08%	12.25%
Small Growth Universe	-4.36%	17.66%	-5.54%	22.33%	11.03%	-2.49%	2.52%	-6.71%	11.95%	9.77%	12.50%
EMERGING MARKETS											
DFA Emerging Markets Core Equity I	-4.18%	4.96%	-15.25%	36.55%	12.35%	-14.86%	-0.91%	-1.75%	4.85%	2.07%	3.74%
MSCI Emerging Markets	-4.11%	6.23%	-14.25%	37.75%	11.60%	-14.60%	-1.82%	-1.63%	6.37%	2.71%	3.73%
Emerging Markets Universe	-3.41%	9.05%	-16.57%	35.29%	8.20%	-13.54%	-2.74%	0.79%	5.25%	1.92%	3.59%
SPECIALTY-PRIVATE REAL ESTATE											
TIAA Real Estate Account	1.17%	4.27%	4.79%	4.37%	5.20%	8.16%	12.22%	5.26%	4.91%	6.12%	7.89%
NCREIF Property Index	1.41%	4.79%	6.71%	6.98%	7.97%	13.33%	11.81%	6.23%	6.76%	8.57%	9.77%
Specialty-Real Estate Universe	7.18%	27.16%	-6.43%	5.96%	6.66%	2.35%	28.26%	17.89%	7.10%	9.37%	12.20%

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SECTION 4: FUND FACT SHEETS

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SECTION 4: FUND FACT SHEETS

Fund Fact Sheets.....

CREF MONEY MARKET R3

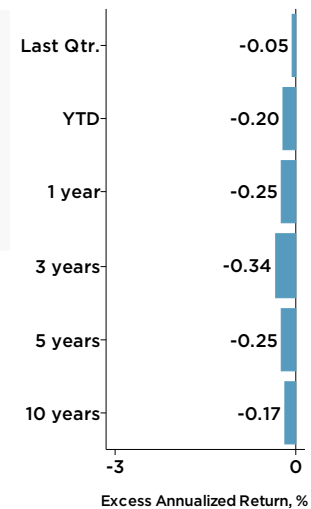
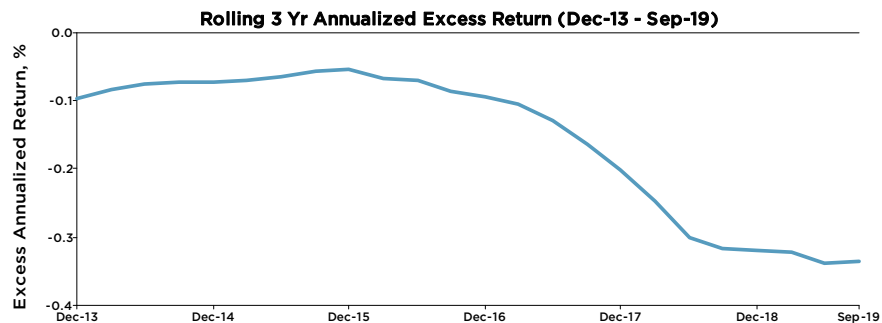
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4.1

INDUSTRY ANALYSIS

Money market yields have fluctuated in recent years due primarily to actions by the United States Federal Reserve. After several years of yields near 0.00%, the Federal Reserve increased the Fed Funds Rate nine times from 2015 through 2018, landing in a target range of 2.25%-2.50%. The increase in the Fed Funds rate benefited money market funds which were able to invest in high yielding bonds. 2019 saw a reversal in this policy from the Federal Reserve as they cut rates by 0.25% in August and again in September. This warrants further attention as the Fed is mulling further reductions to the Fed Funds Rate this year.

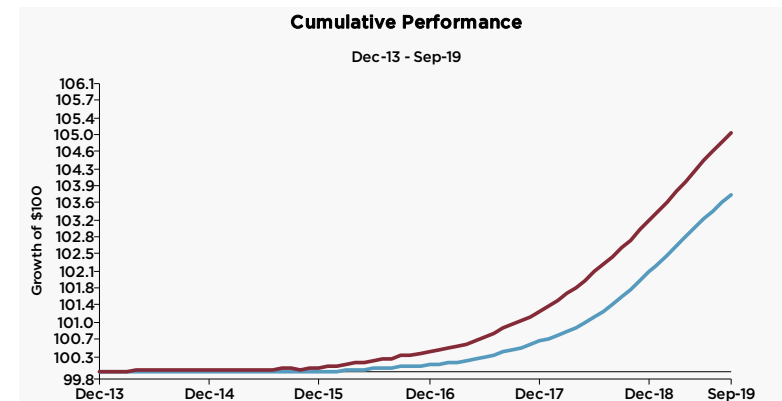
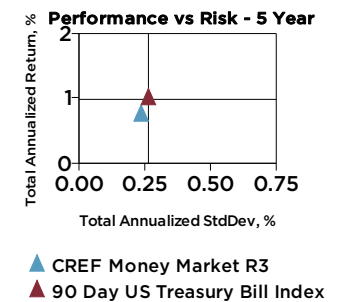
	CREF Money Market R3	90 Day US Treasury Bill Index
TRAILING RETURNS		
Last Qtr.	0.51	0.56
YTD	1.61	1.81
1 Year	2.14	2.39
3 Years	1.20	1.54
5 Years	0.74	0.98
10 Years	0.37	0.54
CALENDAR RETURNS		
2018	1.46	1.87
2017	0.50	0.86
2016	0.13	0.33
2015	0.00	0.05
2014	0.00	0.03
KEY MEASURES / 5 YEAR		
5 Year	0.24	0.26



CREF Money Market R3
■ Excess

INVESTMENT PROFILE

Ticker	-
Strategy Incept Date	-
Prospectus Exp Ratio	-
12 Mo Yield	-



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VANGUARD FEDERAL MONEY MARKET INVESTOR

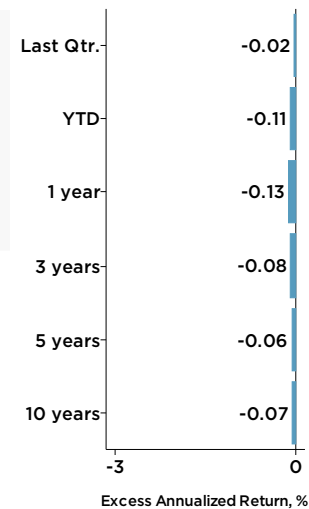
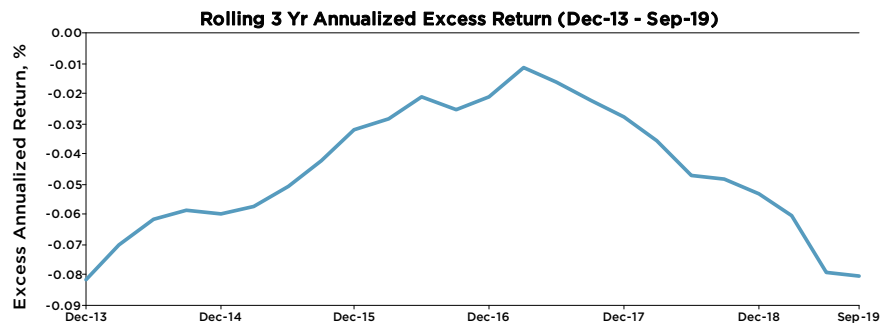
Period Ending 9.30.19 | Q3 19

4.1

INDUSTRY ANALYSIS

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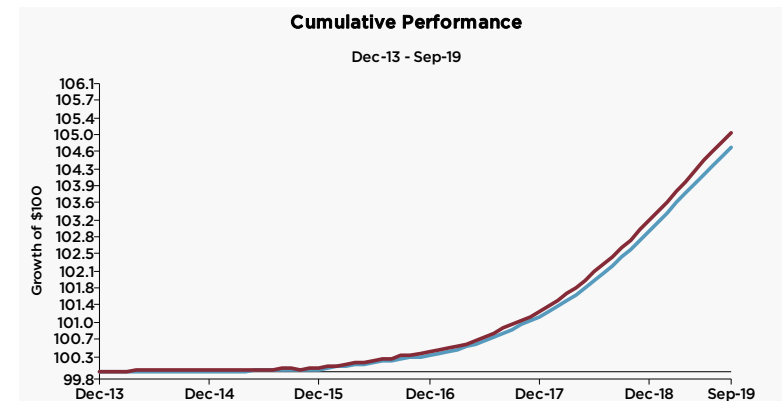
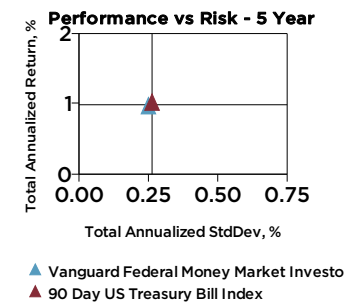
	Vanguard Federal Money Market Investor	90 Day US Treasury Bill Index
TRAILING RETURNS		
Last Qtr.	0.54	0.56
YTD	1.71	1.81
1 Year	2.26	2.39
3 Years	1.46	1.54
5 Years	0.93	0.98
10 Years	0.47	0.54
CALENDAR RETURNS		
2018	1.78	1.87
2017	0.81	0.86
2016	0.30	0.33
2015	0.04	0.05
2014	0.01	0.03
KEY MEASURES / 5 YEAR		
5 Year	0.25	0.26



Vanguard Federal Money Market
■ Excess

INVESTMENT PROFILE

Ticker	VMFXX
Strategy Incept Date	07/13/1981
Prospectus Exp Ratio	0.11%
12 Mo Yield	2.24%



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TIAA TRADITIONAL – GROUP RETIREMENT ANNUITY (GRA)

Period Ending 9.30.19 | Q3 19

4.1

INDUSTRY ANALYSIS

As the DC marketplace continues to grow, capital preservation investment vehicles are becoming increasingly more prevalent in plan fund menus. Consistent increases in the Federal Funds Rate, from 2015 through 2018, drove interest rates higher in the U.S. fixed income marketplace. This interest rate environment, generally, would present a challenge for insurance general account managers as increases in interest rates result in a decline in value for the investments already in general accounts, which in-turn lower the guaranteed. Inversely, increased rates also allow for reinvestment of new cash flows at higher levels which could increase the new business guaranteed rate. In 2018 and early 2019 we have experienced a significant rise in the new business, guaranteed crediting rates. In August 2019, the Federal Reserve reduced the Fed Funds target by 25bps and again in September. Interest rates have subsequently decreased driving new business rates down. Stable value managers continue to evaluate portfolio positioning as the Fed is mulling further reductions in the Fed Funds Rate this year.

CAPTRUST ANALYSIS

Jennifer Dunbar – Senior Manager| Investment Research

The TIAA Traditional Annuity is a guaranteed annuity account (group annuity contract) that is backed by the financial strength and claims-paying ability of TIAA. The product offers participants guaranteed principal and a contractually specified interest rate. The contractually agreed upon minimum annual interest rate is 3%. The TIAA Board of Trustees also reserves the right each year to declare a higher crediting rate to participants which remains effective for a twelve month period that begins each March 1.

The product has a payout structure at the participant level that varies the length of time it takes for a participant to fully redeem. This payout structure is individual contract-specific.

GROSS CREDITING RATES - For Contributions Applied:

7/1/18 - 9/30/18	10/1/18 - 12/31/18	1/1/19 - 3/31/19	4/1/19 - 6/30/19	7/1/19 - 9/30/19
4.00%	4.00%	4.00%	3.50%	3.00%

INVESTMENT DETAILS

Crediting Rate Details:	Current contributions are invested at the new money rate, which can change monthly but is guaranteed until the last day of February. Old Money is grouped by time period into vintages, rate on all vintages are reviewed for reset every March 1 st .
Competing Options:	Allowed.
Minimum Rate:	3.00% during accumulation stage and 2.50% during annuity payout stage, reset annually.

LIQUIDITY PROVISIONS

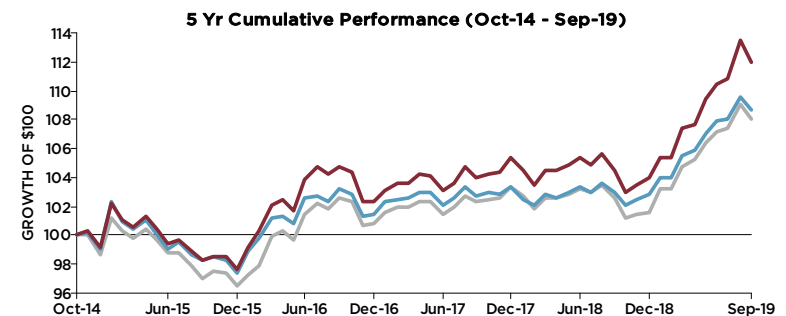
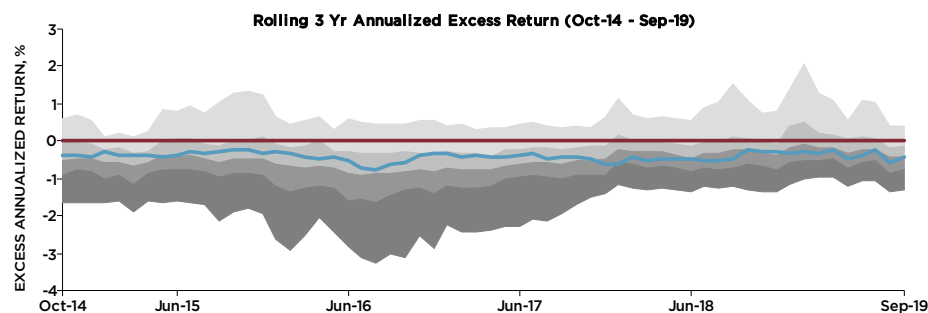
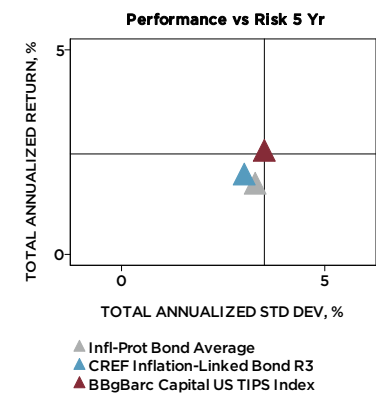
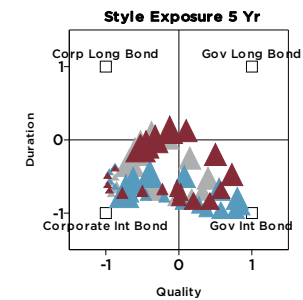
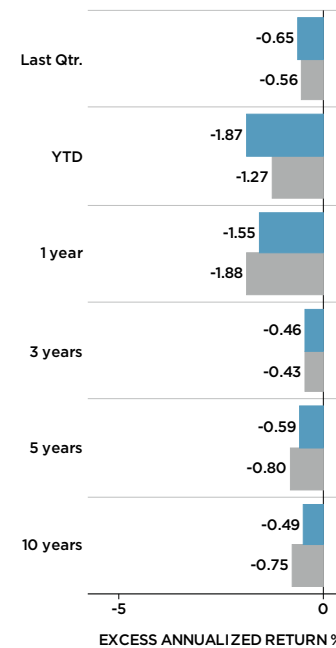
Plan Sponsor	Participant
Not applicable. Contracts are individually owned by the participant.	Lump Sum withdrawals are available within 120 days of termination of employment with a 2.5% surrender charge. Transfers and withdrawals can be made in 10 annual installments (paid over 9 years and 1 day).

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CREF INFLATION-LINKED BOND R3

Period Ending 9.30.19 | Q3 19

	CREF Inflation-Linked Bond R3	Peer Group Rank	BBgBarc Capital US TIPS Index	Infl-Prot Bond	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	3.00	31%	3.51	3.27	201
Sharpe Ratio	0.29	34%	0.42	0.20	201
Alpha	-0.33	39%	0.00	-0.51	201
Beta	0.83	61%	1.00	0.81	201
R-Squared	92.75	40%	100.00	80.80	201
Up Mkt Capture	80.18	62%	100.00	78.78	201
Down Mkt Capture	83.87	38%	100.00	86.32	201
Information Ratio	-0.58	52%	NA	-0.79	201
TRAILING RETURNS					
Last Qtr.	0.70	56%	1.35	0.78	213
YTD	5.71	63%	7.58	6.31	213
1 Year	5.58	57%	7.13	5.25	213
3 Years	1.76	52%	2.21	1.78	205
5 Years	1.86	43%	2.45	1.65	201
10 Years	2.98	40%	3.46	2.72	144
CALENDAR RETURNS					
2018	-0.49	14%	-1.26	-1.65	216
2017	1.85	72%	3.01	2.51	236
2016	4.23	52%	4.68	4.51	243
2015	-1.68	37%	-1.44	-2.22	252
2014	3.34	22%	3.64	1.96	257

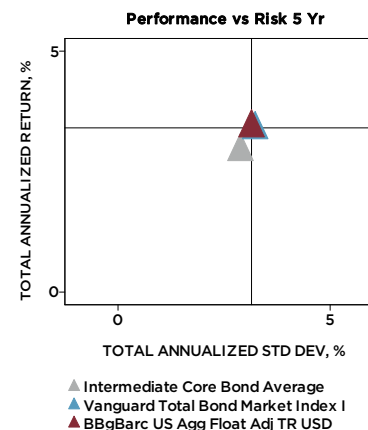
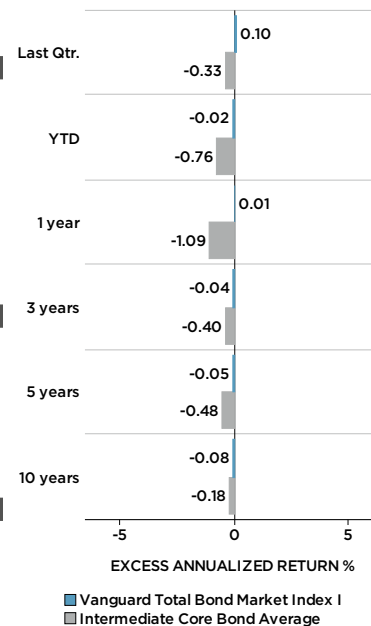
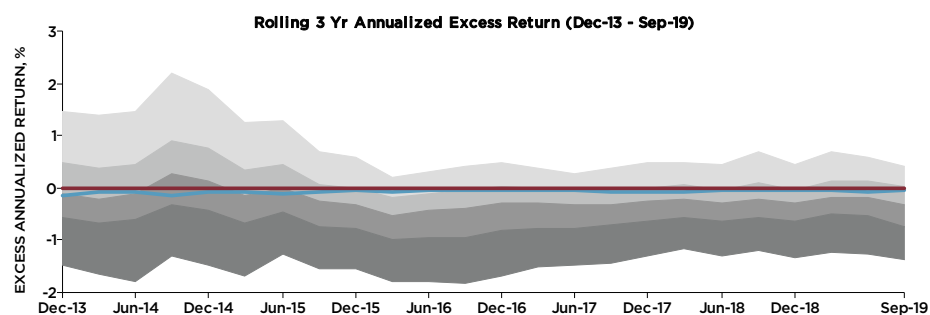


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VANGUARD TOTAL BOND MARKET INDEX I

Period Ending 9.30.19 | Q3 19

	Vanguard Total Bond Market Index I	Peer Group Rank	BBgBarc US Agg Float Adj TR USD	Intermediate Core Bond	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	3.22	97%	3.16	2.88	361
Sharpe Ratio	0.74	39%	0.77	0.67	361
Alpha	-0.08	43%	0.00	-0.20	361
Beta	1.01	4%	1.00	0.88	361
R-Squared	99.33	11%	100.00	93.76	361
Up Mkt Capture	99.83	8%	100.00	87.41	361
Down Mkt Capture	101.29	78%	100.00	89.99	361
Information Ratio	-0.17	24%	NA	-0.80	361
TRAILING RETURNS					
Last Qtr.	2.43	8%	2.33	2.00	401
YTD	8.70	32%	8.72	7.96	399
1 Year	10.45	13%	10.44	9.35	397
3 Years	2.91	30%	2.96	2.56	377
5 Years	3.36	20%	3.40	2.92	361
10 Years	3.71	50%	3.79	3.61	331
CALENDAR RETURNS					
2018	-0.01	29%	-0.08	-0.40	413
2017	3.57	33%	3.63	3.19	472
2016	2.61	44%	2.75	2.54	505
2015	0.41	35%	0.44	0.00	533
2014	5.90	26%	5.85	4.96	585



INVESTMENT PROFILE

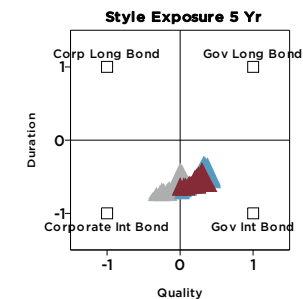
Ticker	VBPIX
CUSIP	921937504
Net Assets \$MM	\$241,309.00
Manager Names	Team Managed
Manager Tenure	6.6 Years
Prospectus Exp Ratio	0.04%
Cat Median Exp Ratio	0.81%
Current 12b-1	N/A
Annlzd Ret Since Incept	5.17%
Inception Date	09/18/1995
Phone Number	888-809-8102
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	17412
% Assets in Top 10 Holdings	4.03%
Avg Mkt Cap \$MM	N/A
Turnover Ratio	54.00%

TOP HOLDINGS

Federal National Mortgage	0.44%
United States Treasury Not	0.43%
United States Treasury Not	0.41%
United States Treasury Not	0.41%
United States Treasury Bon	0.41%

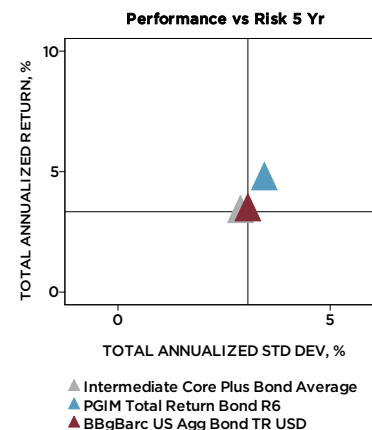
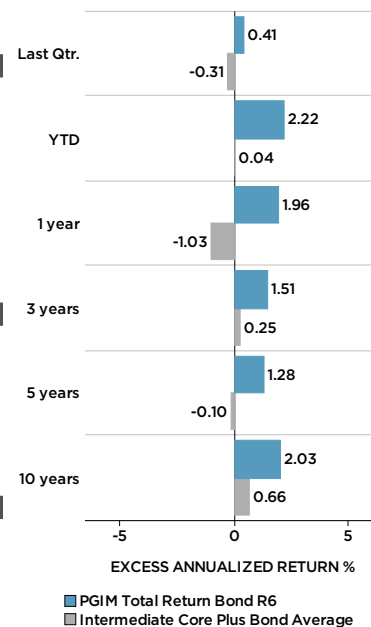
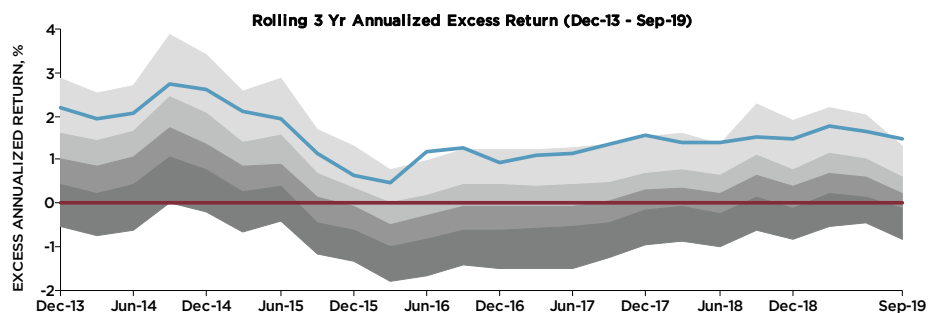


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PGIM TOTAL RETURN BOND R6

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	PGIM Total Return Bond R6	Peer Group Rank	BBgBarc US Agg Bond TR USD	Intermediate Core Plus Bond	# of Funds
Standard Deviation	3.45	94%	3.08	2.89	532
Sharpe Ratio	1.06	10%	0.78	0.80	532
Alpha	1.10	9%	0.00	0.32	532
Beta	1.08	1%	1.00	0.82	532
R-Squared	91.71	25%	100.00	79.54	532
Up Mkt Capture	121.06	1%	100.00	89.86	532
Down Mkt Capture	98.20	85%	100.00	80.99	532
Information Ratio	1.23	1%	NA	-0.08	532
TRAILING RETURNS					
Last Qtr.	2.68	4%	2.27	1.96	624
YTD	10.74	4%	8.52	8.56	624
1 Year	12.25	1%	10.30	9.27	613
3 Years	4.43	4%	2.92	3.18	582
5 Years	4.66	2%	3.38	3.28	532
10 Years	5.77	5%	3.75	4.40	470
CALENDAR RETURNS					
2018	-0.63	45%	0.01	-0.69	612
2017	6.71	2%	3.54	4.26	601
2016	4.83	21%	2.65	3.90	574
2015	0.09	36%	0.55	-0.50	552
2014	7.25	8%	5.97	5.50	543



INVESTMENT PROFILE

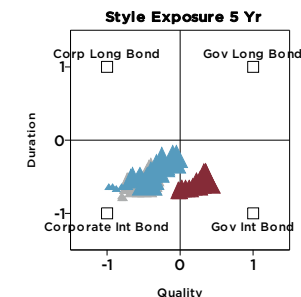
Ticker	PTQRX
CUSIP	74440B884
Net Assets \$MM	\$48,840.00
Manager Names	Team Managed
Manager Tenure	16.9 Years
Prospectus Exp Ratio	0.39%
Cat Median Exp Ratio	0.70%
Current 12b-1	N/A
Annld Ret Since Incept	5.23%
Inception Date	12/27/2010
Phone Number	800-225-1852
Sub Advisor	PGIM Fixed Income

HOLDINGS OVERVIEW

Total Number of Holdings	4073
% Assets in Top 10 Holdings	7.16%
Avg Mkt Cap \$MM	\$947.27
Turnover Ratio	56.00%

TOP HOLDINGS

Portugal (Republic Of)	5.1%	1.50%
PGIM Core Short-Term Boi		1.43%
Hungary (Republic Of)	6.3	0.67%
Republika Slovenija	5.25%	0.62%
SOFI ALTERNATIVE TRUS		0.60%

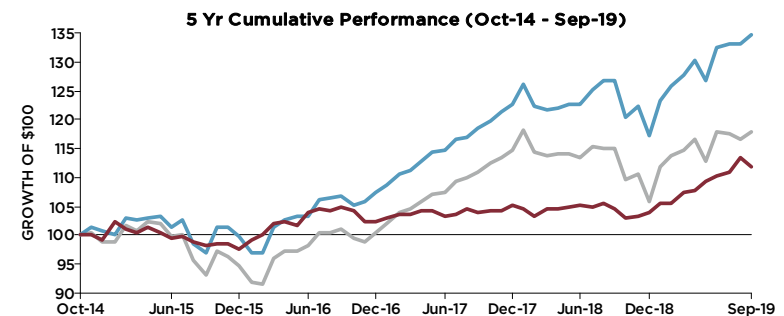
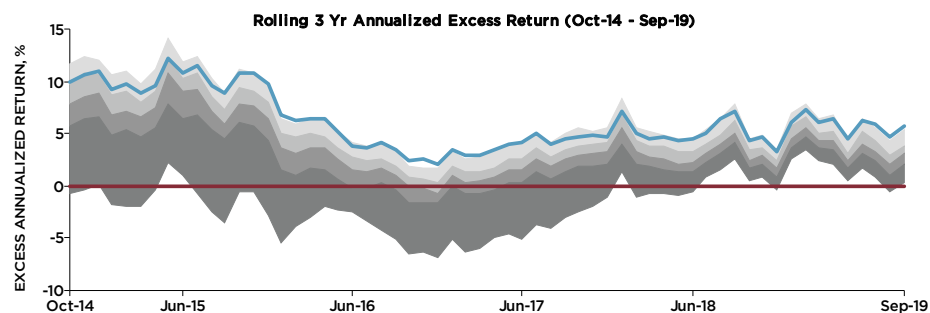
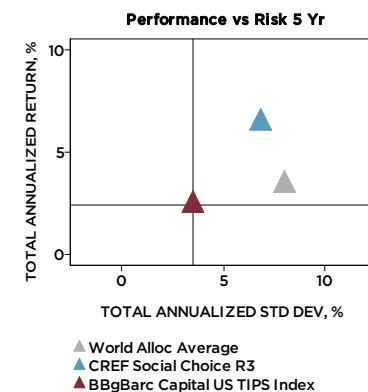
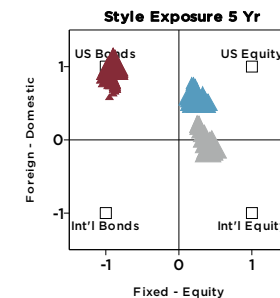
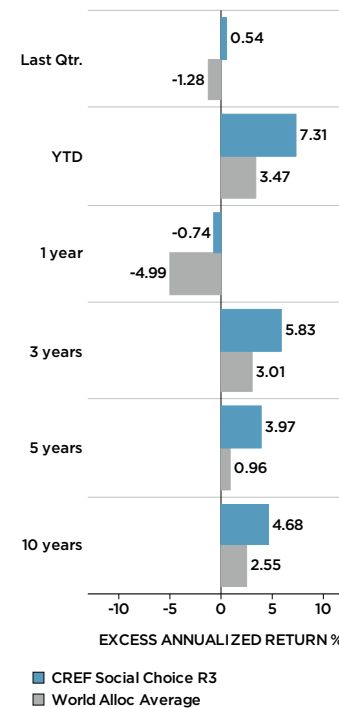


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CREF SOCIAL CHOICE R3

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	CREF Social Choice R3	Peer Group Rank	BBgBarc Capital US TIPS Index	World Alloc	# of Funds
Standard Deviation	6.81	12%	3.51	8.03	371
Sharpe Ratio	0.80	1%	0.42	0.32	371
Alpha	4.94	2%	0.00	1.74	371
Beta	0.34	78%	1.00	0.47	371
R-Squared	2.96	61%	100.00	5.85	371
Up Mkt Capture	106.68	18%	100.00	86.28	371
Down Mkt Capture	7.67	6%	100.00	52.96	371
Information Ratio	0.55	2%	NA	0.13	371
TRAILING RETURNS					
Last Qtr.	1.89	7%	1.35	0.06	463
YTD	14.90	10%	7.58	11.05	458
1 Year	6.39	10%	7.13	2.14	449
3 Years	8.05	3%	2.21	5.22	410
5 Years	6.42	2%	2.45	3.41	371
10 Years	8.14	3%	3.46	6.01	249
CALENDAR RETURNS					
2018	-4.29	3%	-1.26	-7.94	469
2017	14.27	49%	3.01	14.12	508
2016	7.40	27%	4.68	6.11	534
2015	-0.87	19%	-1.44	-4.32	540
2014	6.83	4%	3.64	1.84	534



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VANGUARD INST TARGET RETIREMENT

Period Ending 9.30.19 | Q3 19

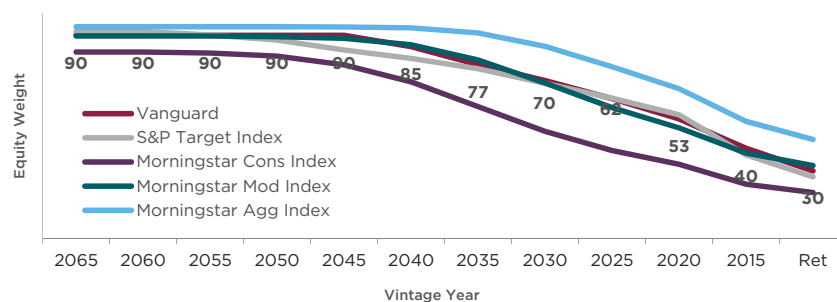
4.1

Investor Assumptions/Glidepath Methodology

Glidepath Management	• Through retirement (assumed at age 65) ending 7 years after retirement
Assumed Investor Savings Rate:	• Contributions start at 5% at age 25 and increase to 10% at age 65. Also includes a 50% employer match up to 3% of salary.
Assumed Investor Income Growth Rate	• 1.1% annual salary growth
Income Replacement	• The portfolios are designed to provide withdrawals in retirement based on multiples of an investor's age 65 salary.
Assumed Accumulated Savings at Retirement	• N/A
Life Expectancy	• Through age 95
Asset Allocation Flexibility	• Strict targets with narrow ranges.
Other Assumptions	• Glidepath was tested against 10,000 potential lifetime return outcomes

Vanguard uses a proprietary capital markets modeling tool to statistically analyze historical data, including interest rates, inflation, and other risk factors for global equities, fixed income, and commodity markets. This tool is used to generate forward-looking distributions of expected returns. Then, by combining these figures with their investor assumptions, Vanguard constructs target portfolios with asset allocations that seek to provide the highest probability of a successful outcome (not outliving retirement savings).

Target Asset Allocation Glidepath per Vintage Year



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* Due to lack of track record, performance data for the Vanguard Target Retirement series is being used for the Vanguard Inst Target Retirement series.

Investment Profile

% Open Architecture:	0%	Active/Passive:	Passive
Inception Date:	6-26-2015	% Active:	0%
Net Assets \$MM:	\$205,469	Manager Tenure:	4.33 years (longest)
Manager Name:	Team	Expense Range:	0.09%
Avg # of Holdings:	5	Investment Structure:	Mutual Fund

Dedicated Asset Class Granularity/Diversification

Emerging Market Equities	Through Intl Index Fund
International/Global Debt	Yes
Inflation-Protected Securities	Yes
High Yield Fixed Income	No
Real Estate	No
Commodities	No

The Vanguard Target Retirement funds allocate to five broad index funds that provide comprehensive exposure to U.S. and non-U.S. equity and bond markets. Using index funds allows Vanguard to provide investment diversification at a low cost while also producing returns in line with equity and fixed income markets. Through its five index funds, the strategies gain exposure to over 25 sub-asset classes, capturing over 90% of the world's investable market.

VANGUARD INST TARGET RETIREMENT

Period Ending 9.30.19 | Q3 19

4.1

Material Changes to the Series

2006:

- Increased minimum equity allocation from 20% to 30%
- Added Emerging Markets Equity

Rationale:

- Participant behavior showed lower savings rate
- Decreased costs within the EM space led to increased liquidity

2010:

- Collapsed three international equity index funds (Europe, Pacific, and Emerging Markets) with Vanguard Total International Stock Index

Rationale:

- More cost-effective way to gain international exposure

2013:

- Replaced the broad TIPs fund with a short-term TIPs allocation
- Eliminated the Prime Money Market fund
- Added a 20% International Bond Index Allocation

Rationale:

- Short-Term TIPs provide better inflation exposure with lower interest rate risk
- Deemed to be an unnecessary asset class
- Dedicated exposure to move more in line with the Global fixed income Market Cap; better FI diversification

2015:

- Increased international stock allocation from 30% to 40%
- Increased International bond allocation from 20% to 30%

Rationale:

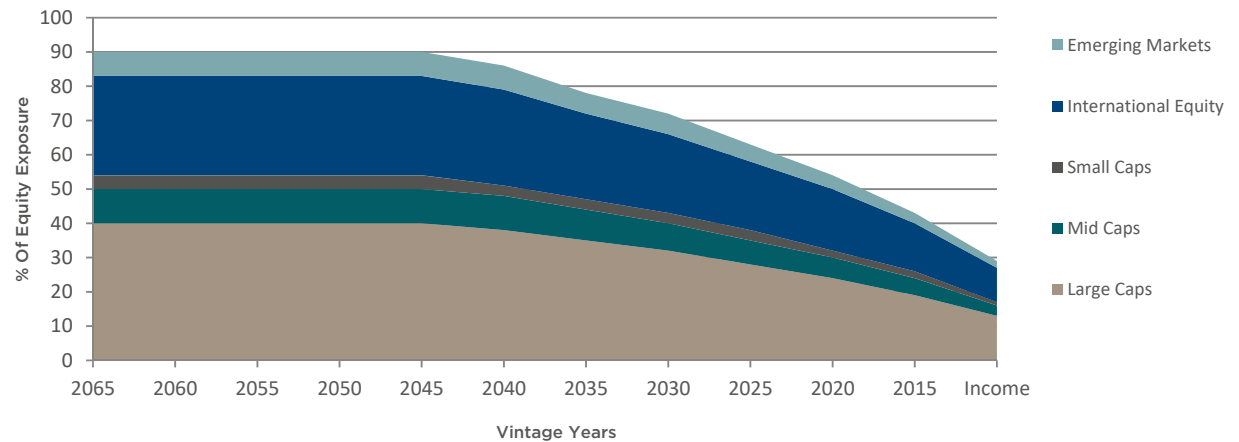
- Move to be more in line with the Global Market Cap

*All information provided by the asset manager, as of 12/31/18. Asset allocations shown are static in nature and do not incorporate any tactical views implemented by the manager.

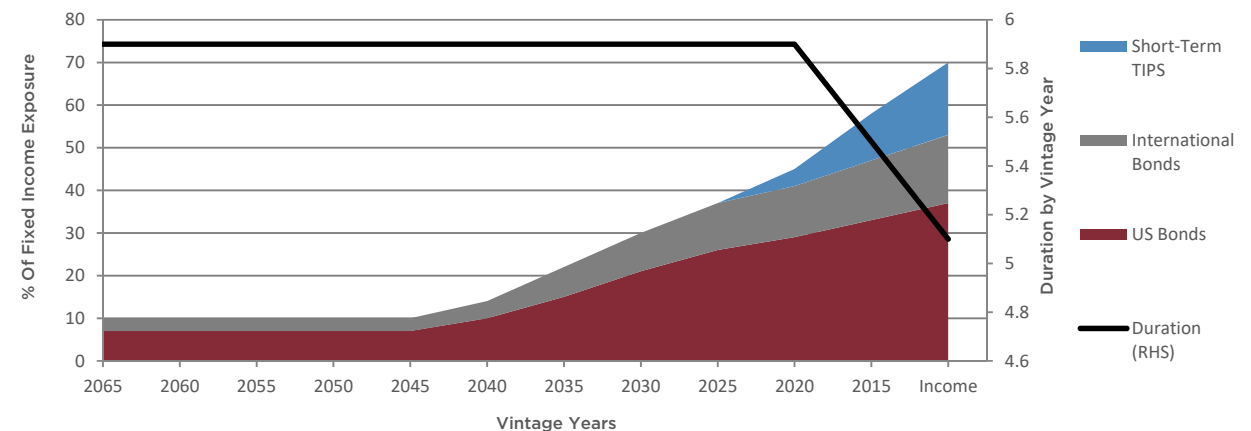
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* Due to lack of track record, performance data for the Vanguard Target Retirement series is being used for the Vanguard Inst Target Retirement series.

Equity Exposure



Fixed Income Exposure



TARGET DATE ANALYSIS

Period Ending 9.30.19 | Q3 19

4.1

	3 Year				5 Year			
	Beta	Sharpe	Up Capture	Down Capture	Beta	Sharpe	Up Capture	Down Capture
Vanguard Target Retirement 2015 Inv	0.88	0.98	93.35	84.13	0.93	0.85	95.70	90.61
Morningstar Target Date 2015	0.95	0.84	93.48	92.41	0.96	0.71	93.29	98.12
S&P Target Date 2015 TR	1.00	0.87	100.00	100.00	1.00	0.79	100.00	100.00

	3 Year				5 Year			
	Beta	Sharpe	Up Capture	Down Capture	Beta	Sharpe	Up Capture	Down Capture
Vanguard Target Retirement 2025 Inv	1.02	0.87	102.80	99.50	1.02	0.73	103.28	101.64
Morningstar Target Date 2025	0.95	0.82	93.40	92.64	0.97	0.64	94.56	99.08
S&P Target Date 2025 TR	1.00	0.84	100.00	100.00	1.00	0.71	100.00	100.00

	3 Year				5 Year			
	Beta	Sharpe	Up Capture	Down Capture	Beta	Sharpe	Up Capture	Down Capture
Vanguard Target Retirement 2045 Inv	1.02	0.76	102.27	100.64	1.03	0.60	102.75	103.90
Morningstar Target Date 2045	1.00	0.73	98.36	98.48	1.02	0.56	98.84	103.03
S&P Target Date 2045 TR	1.00	0.74	100.00	100.00	1.00	0.62	100.00	100.00

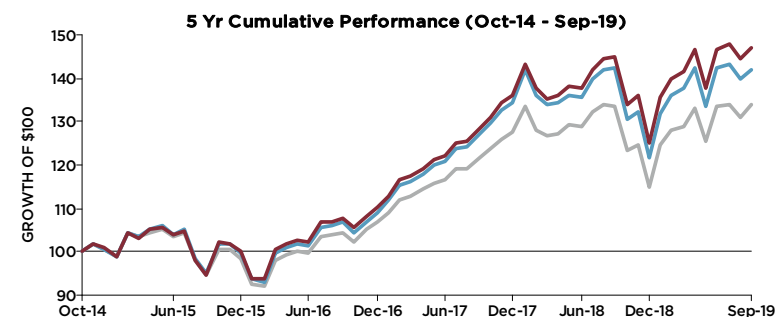
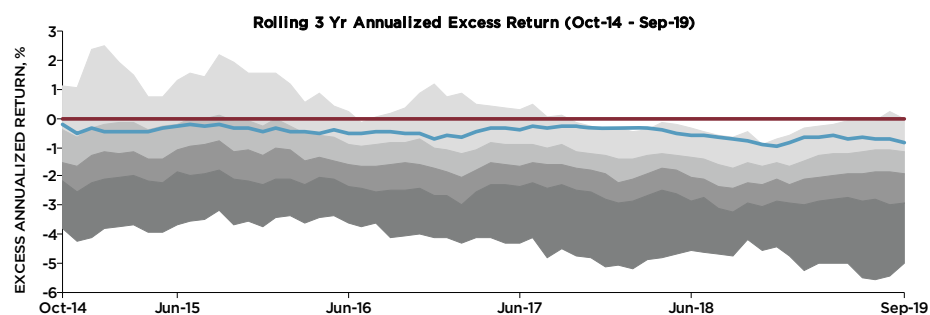
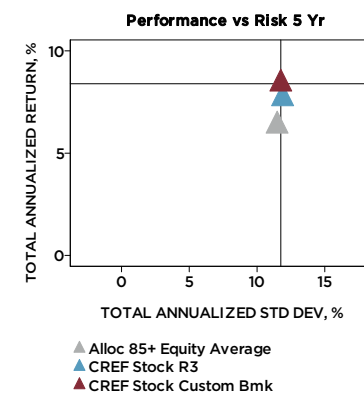
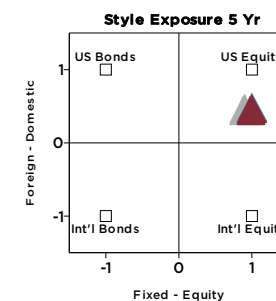
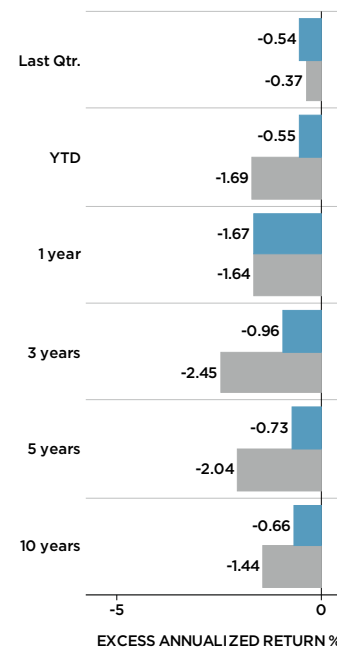
*Lowest cost share class shown

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CREF STOCK R3

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	CREF Stock R3	Peer Group Rank	CREF Stock Custom Bmk	Alloc 85+ Equity	# of Funds
Standard Deviation	11.89	83%	11.76	11.46	171
Sharpe Ratio	0.56	20%	0.63	0.47	171
Alpha	-0.80	26%	0.00	-1.65	171
Beta	1.01	13%	1.00	0.95	171
R-Squared	99.67	1%	100.00	95.05	171
Up Mkt Capture	98.13	8%	100.00	88.36	171
Down Mkt Capture	102.75	74%	100.00	98.32	171
Information Ratio	-0.97	56%	NA	-0.92	171
TRAILING RETURNS					
Last Qtr.	-0.21	59%	0.33	-0.04	181
YTD	17.03	29%	17.59	15.89	180
1 Year	-0.01	51%	1.67	0.03	180
3 Years	10.04	18%	11.00	8.55	174
5 Years	7.66	14%	8.39	6.35	171
10 Years	10.04	15%	10.70	9.26	130
CALENDAR RETURNS					
2018	-9.65	52%	-7.98	-9.73	202
2017	23.45	10%	23.30	19.35	223
2016	9.17	23%	10.41	8.67	233
2015	-0.84	28%	-0.89	-2.36	235
2014	6.41	30%	7.55	5.41	228

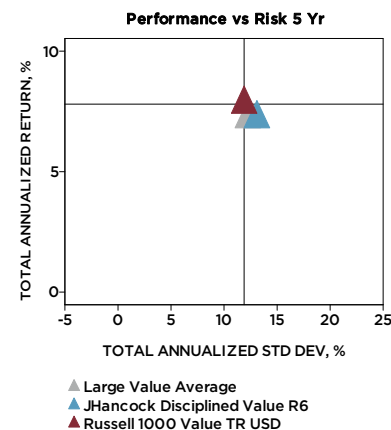
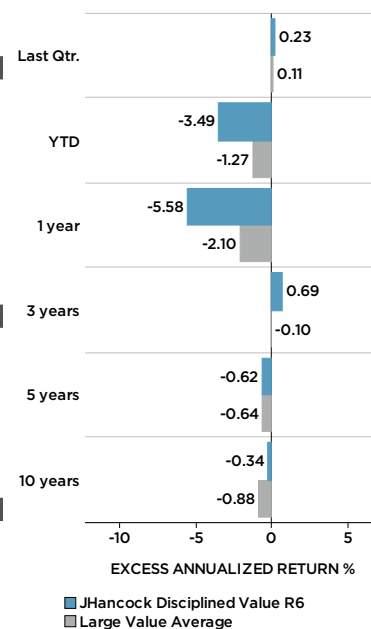
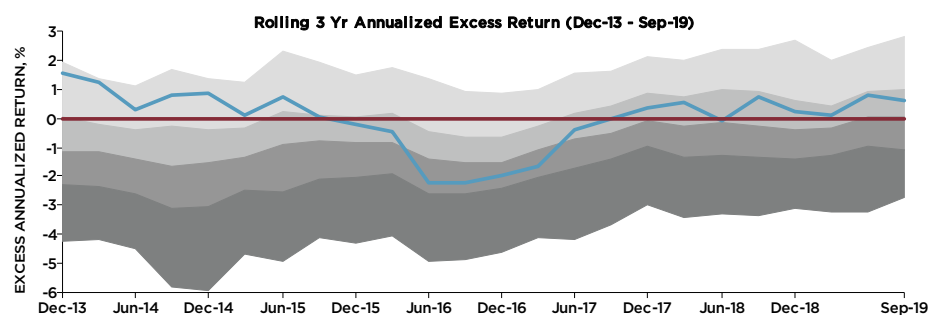


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JHancock Disciplined Value R6

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	JHancock Disciplined Value R6	Peer Group Rank	Russell 1000 Value TR USD	Large Value	# of Funds
Standard Deviation	13.04	77%	11.92	12.20	1041
Sharpe Ratio	0.47	60%	0.57	0.52	1041
Alpha	-1.10	62%	0.00	-0.52	1041
Beta	1.07	24%	1.00	0.98	1041
R-Squared	95.55	38%	100.00	92.24	1041
Up Mkt Capture	101.83	25%	100.00	95.62	1041
Down Mkt Capture	107.04	72%	100.00	98.31	1041
Information Ratio	-0.20	52%	NA	-0.18	1041
TRAILING RETURNS					
Last Qtr.	1.58	49%	1.36	1.47	1157
YTD	14.33	82%	17.81	16.54	1148
1 Year	-1.58	79%	4.00	1.91	1148
3 Years	10.12	35%	9.43	9.33	1109
5 Years	7.17	50%	7.79	7.15	1041
10 Years	11.12	34%	11.46	10.58	932
CALENDAR RETURNS					
2018	-9.47	60%	-8.27	-8.86	1212
2017	19.33	14%	13.66	15.83	1278
2016	14.07	54%	17.34	14.54	1333
2015	-4.81	68%	-3.83	-3.98	1343
2014	11.04	48%	13.45	10.59	1347



INVESTMENT PROFILE

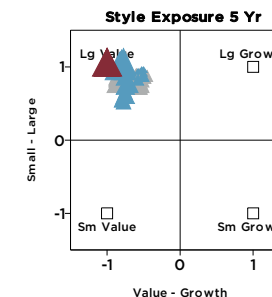
Ticker	JDVWX
CUSIP	47803U418
Net Assets \$MM	\$14,818.00
Manager Names	Team Managed
Manager Tenure	22.8 Years
Prospectus Exp Ratio	0.70%
Cat Median Exp Ratio	1.06%
Current 12b-1	0.00%
Annld Ret Since Incept	12.40%
Inception Date	09/01/2011
Phone Number	888-972-8696
Sub Advisor	Boston Partners Global Investors, Inc

HOLDINGS OVERVIEW

Total Number of Holdings	83
% Assets in Top 10 Holdings	28.54%
Avg Mkt Cap \$MM	\$84,200.97
Turnover Ratio	69.00%

TOP HOLDINGS

Berkshire Hathaway Inc B	4.50%
Bank of America Corporat	3.96%
Comcast Corp Class A	2.96%
JPMorgan Chase & Co	2.92%
Johnson & Johnson	2.57%

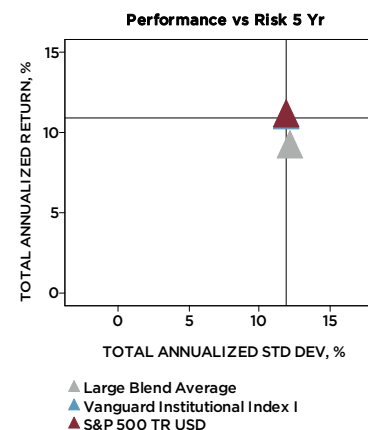
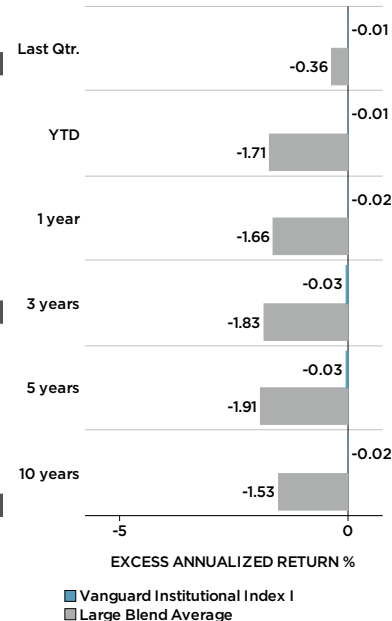
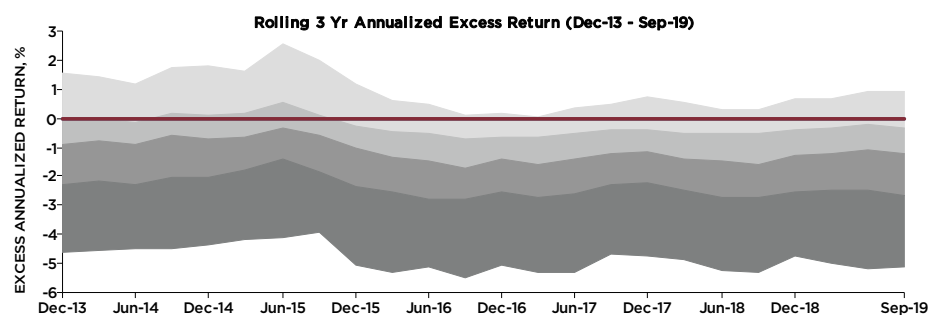


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VANGUARD INSTITUTIONAL INDEX I

Period Ending 9.30.19 | Q3 19

	Vanguard Institutional Index I	Peer Group Rank	S&P 500 TR USD	Large Blend	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	11.93	40%	11.93	12.17	1185
Sharpe Ratio	0.82	14%	0.83	0.66	1185
Alpha	-0.03	16%	0.00	-1.79	1185
Beta	1.00	49%	1.00	0.99	1185
R-Squared	100.00	1%	100.00	93.99	1185
Up Mkt Capture	99.91	14%	100.00	92.75	1185
Down Mkt Capture	100.06	31%	100.00	102.75	1185
Information Ratio	-2.13	93%	NA	-1.19	1185
TRAILING RETURNS					
Last Qtr.	1.69	37%	1.70	1.34	1347
YTD	20.54	29%	20.55	18.84	1329
1 Year	4.23	31%	4.25	2.60	1316
3 Years	13.36	16%	13.39	11.56	1241
5 Years	10.81	11%	10.84	8.93	1185
10 Years	13.22	7%	13.24	11.71	1038
CALENDAR RETURNS					
2018	-4.42	20%	-4.38	-6.56	1331
2017	21.79	29%	21.83	20.39	1385
2016	11.93	27%	11.96	10.44	1455
2015	1.37	21%	1.38	-0.66	1511
2014	13.65	18%	13.69	11.27	1548



INVESTMENT PROFILE

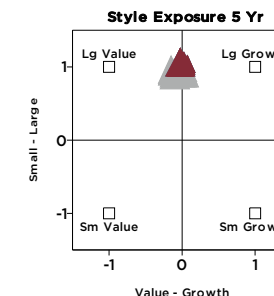
Ticker	VINIX
CUSIP	922040100
Net Assets \$MM	\$227,292.00
Manager Names	Team Managed
Manager Tenure	18.8 Years
Prospectus Exp Ratio	0.04%
Cat Median Exp Ratio	1.07%
Current 12b-1	N/A
Annld Ret Since Incept	9.84%
Inception Date	07/31/1990
Phone Number	888-809-8102
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	508
% Assets in Top 10 Holdings	21.59%
Avg Mkt Cap \$MM	\$110,471.08
Turnover Ratio	6.00%

TOP HOLDINGS

Microsoft Corp	4.32%
Apple Inc	3.73%
Amazon.com Inc	3.01%
Facebook Inc A	1.83%
Berkshire Hathaway Inc E	1.61%

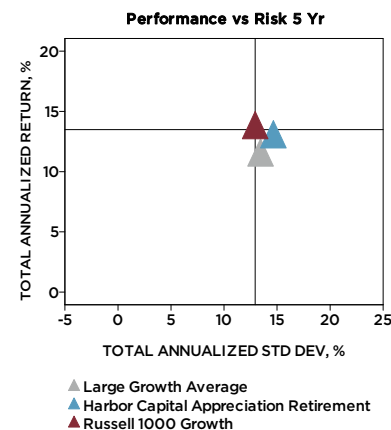
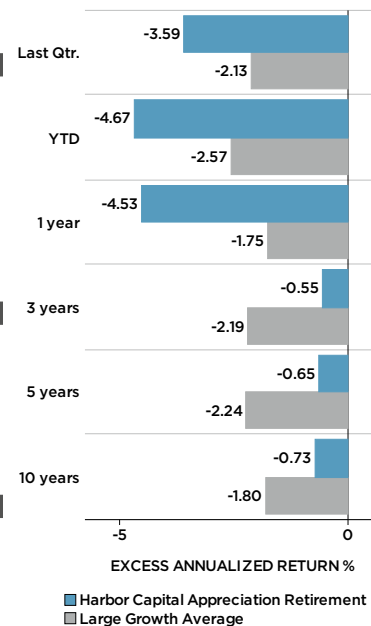
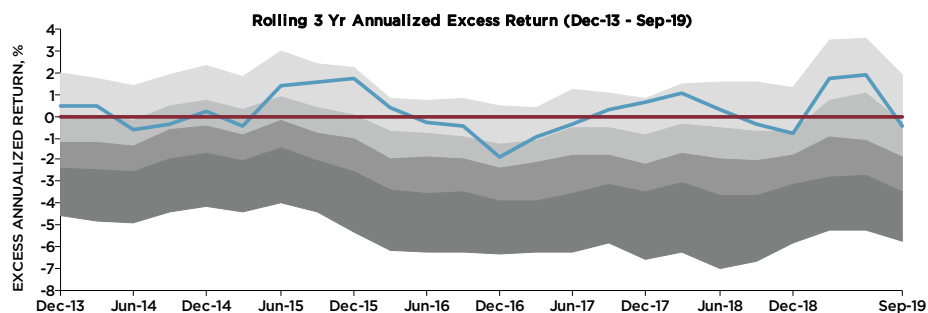


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HARBOR CAPITAL APPRECIATION RETIREMENT

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	Harbor Capital Appreciation Retirement	Peer Group Rank	Russell 1000 Growth	Large Growth	# of Funds
Standard Deviation	14.60	85%	12.88	13.42	1259
Sharpe Ratio	0.81	41%	0.96	0.76	1259
Alpha	-1.77	43%	0.00	-2.12	1259
Beta	1.09	11%	1.00	0.99	1259
R-Squared	92.31	54%	100.00	90.84	1259
Up Mkt Capture	105.70	7%	100.00	93.17	1259
Down Mkt Capture	114.63	86%	100.00	104.24	1259
Information Ratio	-0.14	25%	NA	-0.54	1259
TRAILING RETURNS					
Last Qtr.	-2.11	79%	1.49	-0.64	1372
YTD	18.62	75%	23.30	20.73	1359
1 Year	-0.82	75%	3.71	1.96	1358
3 Years	16.34	28%	16.89	14.70	1310
5 Years	12.74	27%	13.39	11.16	1259
10 Years	14.21	24%	14.94	13.13	1109
CALENDAR RETURNS					
2018	-0.96	39%	-1.51	-2.06	1425
2017	36.68	5%	30.21	28.18	1457
2016	-1.04	84%	7.08	3.16	1573
2015	10.99	4%	5.67	3.64	1665
2014	9.93	54%	13.05	9.99	1715



INVESTMENT PROFILE

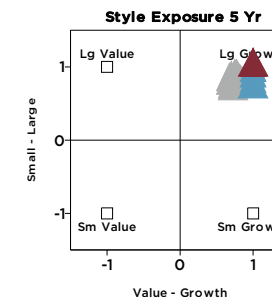
Ticker	HNACX
CUSIP	411512528
Net Assets \$MM	\$29,182.00
Manager Names	Team Managed
Manager Tenure	29.4 Years
Prospectus Exp Ratio	0.58%
Cat Median Exp Ratio	1.15%
Current 12b-1	N/A
Annld Ret Since Incept	16.58%
Inception Date	03/01/2016
Phone Number	800-422-1050
Sub Advisor	Jennison Associates LLC

HOLDINGS OVERVIEW

Total Number of Holdings	60
% Assets in Top 10 Holdings	38.53%
Avg Mkt Cap \$MM	\$152,027.49
Turnover Ratio	40.00%

TOP HOLDINGS

Amazon.com Inc	6.15%
Microsoft Corp	5.34%
Mastercard Inc A	4.11%
Salesforce.com Inc	3.96%
Visa Inc Class A	3.64%

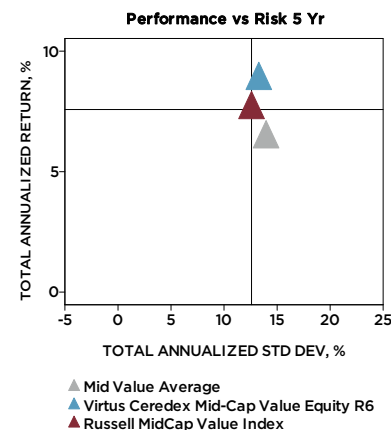
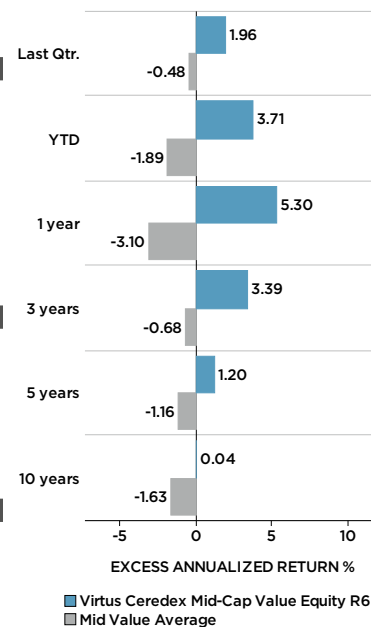
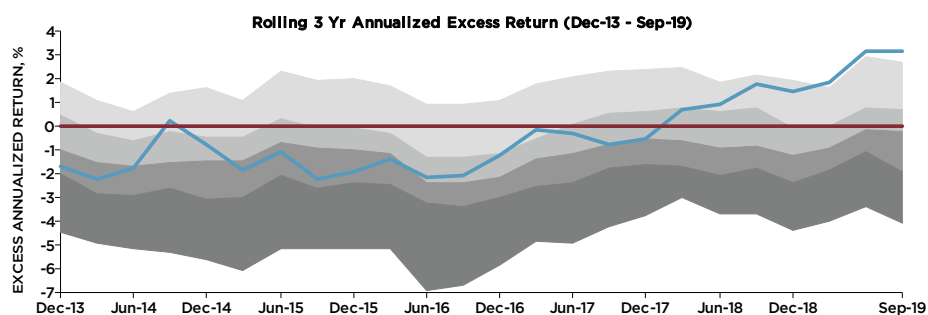


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VIRTUS CEREDEX MID-CAP VALUE EQUITY R6

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	Virtus Ceredex Mid-Cap Value Equity R6	Peer Group Rank	Russell MidCap Value Index	Mid Value	# of Funds
Standard Deviation	13.19	36%	12.61	13.95	358
Sharpe Ratio	0.59	11%	0.52	0.40	358
Alpha	1.10	12%	0.00	-1.57	358
Beta	1.01	64%	1.00	1.06	358
R-Squared	94.21	41%	100.00	92.29	358
Up Mkt Capture	104.73	25%	100.00	98.99	358
Down Mkt Capture	98.07	30%	100.00	106.59	358
Information Ratio	0.35	9%	NA	-0.23	358
TRAILING RETURNS					
Last Qtr.	3.18	4%	1.22	0.74	396
YTD	23.17	5%	19.47	17.58	396
1 Year	6.91	3%	1.60	-1.50	396
3 Years	11.20	3%	7.82	7.14	374
5 Years	8.75	10%	7.55	6.39	358
10 Years	12.33	13%	12.29	10.66	310
CALENDAR RETURNS					
2018	-7.58	5%	-12.29	-13.85	431
2017	11.98	68%	13.34	13.25	435
2016	20.53	32%	20.00	17.96	442
2015	-5.63	60%	-4.78	-5.03	456
2014	11.05	39%	14.75	9.54	441



INVESTMENT PROFILE

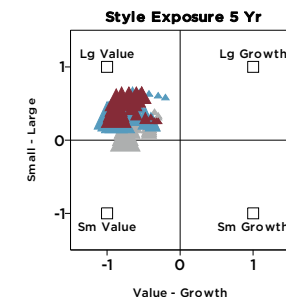
Ticker	SMVZX
CUSIP	92837F441
Net Assets \$MM	\$3,363.00
Manager Names	Don Wordell
Manager Tenure	17.8 Years
Prospectus Exp Ratio	0.79%
Cat Median Exp Ratio	1.14%
Current 12b-1	N/A
Annld Ret Since Incept	8.68%
Inception Date	08/01/2014
Phone Number	888-784-3863
Sub Advisor	Ceredex Value Advisors LLC

HOLDINGS OVERVIEW

Total Number of Holdings	55
% Assets in Top 10 Holdings	33.32%
Avg Mkt Cap \$MM	\$13,997.64
Turnover Ratio	N/A

TOP HOLDINGS

Zimmer Biomet Holdings Ir	5.44%
Humana Inc	4.62%
Marathon Petroleum Corp	3.79%
Energizer Holdings Inc	3.38%
Public Service Enterprise C	3.02%

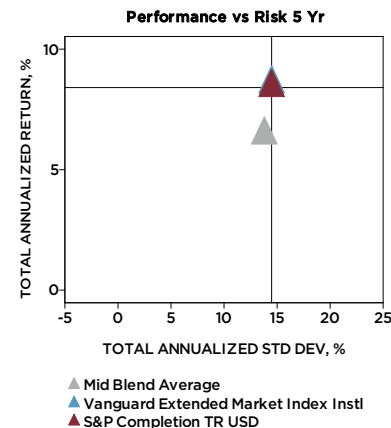
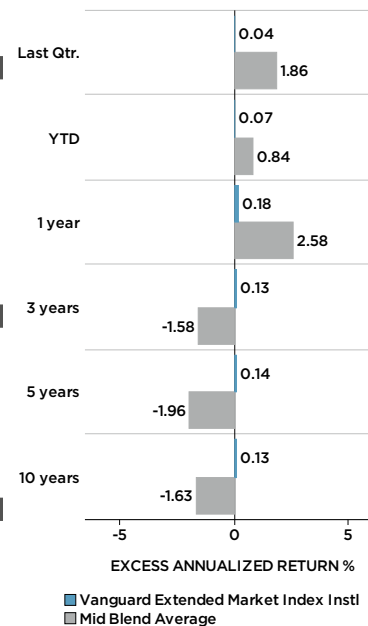
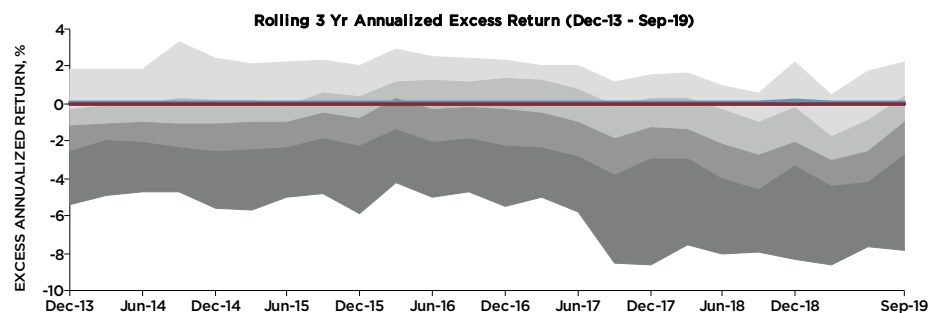


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VANGUARD EXTENDED MARKET INDEX INSTL

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	Vanguard Extended Market Index Instl	Peer Group Rank	S&P Completion TR USD	Mid Blend	# of Funds
Standard Deviation	14.50	81%	14.51	13.72	338
Sharpe Ratio	0.52	34%	0.51	0.41	338
Alpha	0.14	38%	0.00	-1.15	338
Beta	1.00	11%	1.00	0.89	338
R-Squared	100.00	1%	100.00	88.61	338
Up Mkt Capture	100.45	4%	100.00	84.79	338
Down Mkt Capture	99.78	79%	100.00	91.22	338
Information Ratio	1.77	1%	NA	-0.29	338
TRAILING RETURNS					
Last Qtr.	-1.60	84%	-1.64	0.22	395
YTD	17.60	59%	17.53	18.38	393
1 Year	-3.78	69%	-3.96	-1.38	392
3 Years	9.97	28%	9.83	8.25	374
5 Years	8.54	22%	8.40	6.44	338
10 Years	12.44	11%	12.30	10.67	289
CALENDAR RETURNS					
2018	-9.35	26%	-9.57	-11.93	409
2017	18.12	28%	18.11	15.64	426
2016	16.15	41%	15.95	14.12	416
2015	-3.24	47%	-3.35	-4.71	431
2014	7.56	62%	7.50	8.36	428



INVESTMENT PROFILE

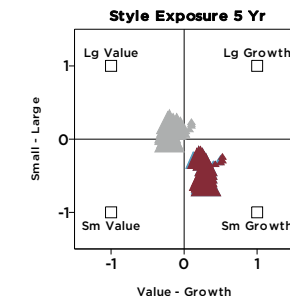
Ticker	VIEIX
CUSIP	922908884
Net Assets \$MM	\$69,318.00
Manager Names	Team Managed
Manager Tenure	21.8 Years
Prospectus Exp Ratio	0.06%
Cat Median Exp Ratio	1.15%
Current 12b-1	N/A
Annld Ret Since Incept	8.50%
Inception Date	07/07/1997
Phone Number	888-809-8102
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	3286
% Assets in Top 10 Holdings	5.10%
Avg Mkt Cap \$MM	\$4,506.71
Turnover Ratio	10.00%

TOP HOLDINGS

ServiceNow Inc	0.99%
Tesla Inc	0.64%
Workday Inc Class A	0.58%
CoStar Group Inc	0.46%
Veeva Systems Inc Class	0.42%

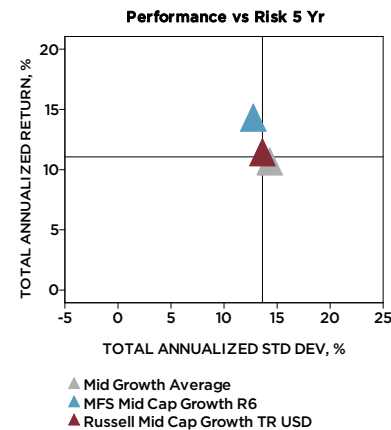
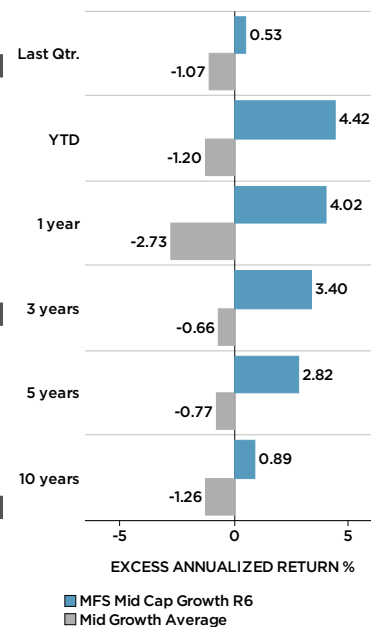
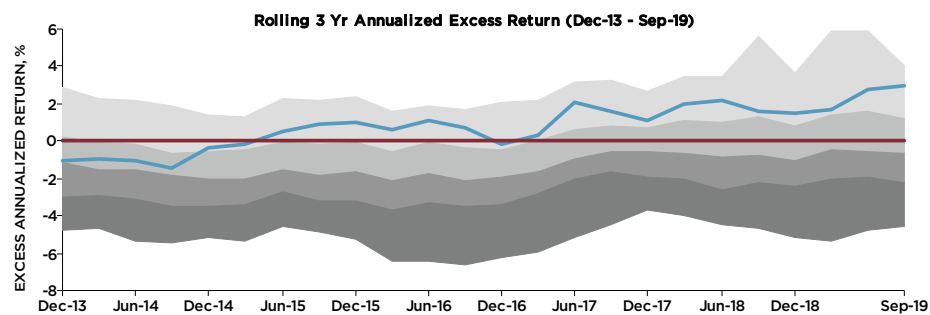


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MFS MID CAP GROWTH R6

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	MFS Mid Cap Growth R6	Peer Group Rank	Russell Mid Cap Growth TR USD	Mid Growth	# of Funds
Standard Deviation	12.81	16%	13.60	14.26	542
Sharpe Ratio	1.01	5%	0.75	0.67	542
Alpha	3.76	7%	0.00	-0.67	542
Beta	0.91	81%	1.00	0.99	542
R-Squared	92.89	44%	100.00	89.92	542
Up Mkt Capture	101.36	26%	100.00	96.92	542
Down Mkt Capture	83.10	10%	100.00	100.35	542
Information Ratio	0.70	5%	NA	-0.20	542
TRAILING RETURNS					
Last Qtr.	-0.14	24%	-0.67	-1.74	586
YTD	29.65	9%	25.23	24.03	583
1 Year	9.23	9%	5.20	2.47	581
3 Years	17.90	7%	14.50	13.83	561
5 Years	13.94	8%	11.12	10.35	542
10 Years	14.97	9%	14.08	12.82	499
CALENDAR RETURNS					
2018	1.21	9%	-4.75	-5.62	596
2017	26.39	35%	25.27	24.92	619
2016	4.75	56%	7.33	5.96	655
2015	4.60	9%	-0.20	-0.63	675
2014	8.95	32%	11.90	7.15	694



INVESTMENT PROFILE

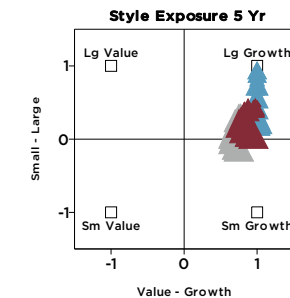
Ticker	OTCKX
CUSIP	552987554
Net Assets \$MM	\$6,242.00
Manager Names	Team Managed
Manager Tenure	10.9 Years
Prospectus Exp Ratio	0.77%
Cat Median Exp Ratio	1.25%
Current 12b-1	N/A
Annld Ret Since Incept	15.55%
Inception Date	01/02/2013
Phone Number	800-225-2606
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	95
% Assets in Top 10 Holdings	24.49%
Avg Mkt Cap \$MM	\$17,195.41
Turnover Ratio	33.00%

TOP HOLDINGS

Bright Horizons Family Sol	4.00%
Fidelity National Informati	2.77%
Global Payments Inc	2.58%
Verisk Analytics Inc	2.33%
Fiserv Inc	2.23%

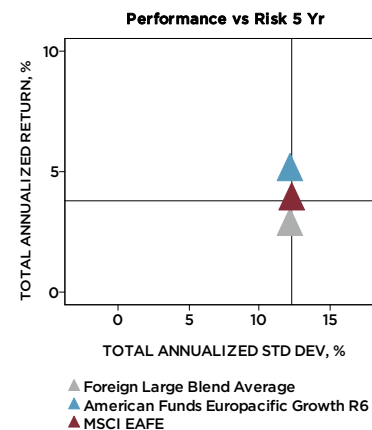
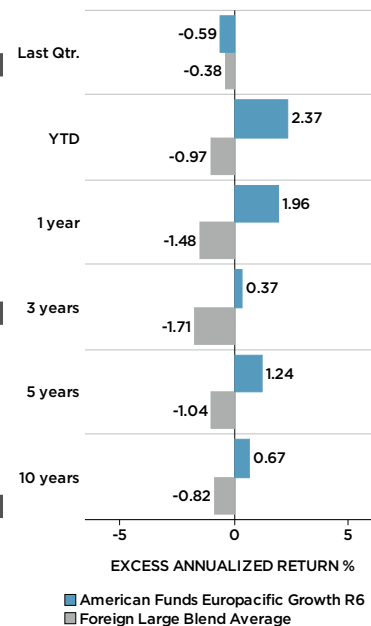
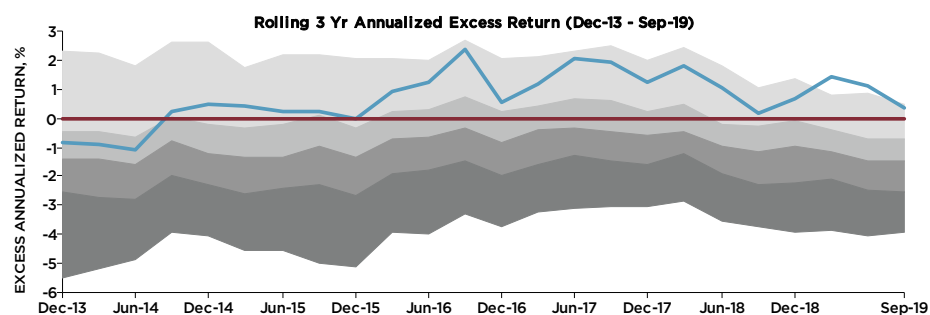


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AMERICAN FUNDS EUROPACIFIC GROWTH R6

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	American Funds Europacific Growth R6	Peer Group Rank	MSCI EAFE	Foreign Large Blend	# of Funds
Standard Deviation	12.15	60%	12.25	12.22	578
Sharpe Ratio	0.33	6%	0.23	0.15	578
Alpha	1.42	5%	0.00	-0.91	578
Beta	0.94	65%	1.00	0.95	578
R-Squared	89.43	81%	100.00	91.55	578
Up Mkt Capture	93.33	37%	100.00	90.94	578
Down Mkt Capture	85.61	14%	100.00	96.33	578
Information Ratio	0.30	5%	NA	-0.29	578
TRAILING RETURNS					
Last Qtr.	-1.59	60%	-1.00	-1.38	708
YTD	15.72	11%	13.35	12.38	688
1 Year	1.14	14%	-0.82	-2.30	681
3 Years	7.38	6%	7.01	5.29	647
5 Years	5.02	4%	3.77	2.74	578
10 Years	6.07	8%	5.39	4.58	498
CALENDAR RETURNS					
2018	-14.91	47%	-13.36	-15.50	694
2017	31.17	4%	25.62	25.32	742
2016	1.01	46%	1.51	0.90	762
2015	-0.48	37%	-0.39	-1.43	740
2014	-2.29	17%	-4.48	-4.98	754



INVESTMENT PROFILE

Ticker	RERGX
CUSIP	298706821
Net Assets \$MM	\$158,448.00
Manager Names	Team Managed
Manager Tenure	18.3 Years
Prospectus Exp Ratio	0.49%
Cat Median Exp Ratio	1.14%
Current 12b-1	N/A
Annlzd Ret Since Incept	8.66%
Inception Date	05/01/2009
Phone Number	800-421-4225
Sub Advisor	N/A

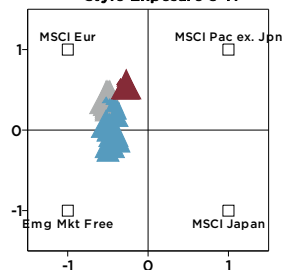
HOLDINGS OVERVIEW

Total Number of Holdings	330
% Assets in Top 10 Holdings	21.49%
Avg Mkt Cap \$MM	\$45,774.68
Turnover Ratio	35.00%

TOP HOLDINGS

AIA Group Ltd	3.04%
Airbus SE	2.89%
HDFC Bank Ltd	2.46%
Alibaba Group Holding Lt	2.38%
Nintendo Co Ltd	2.32%

Style Exposure 5 Yr

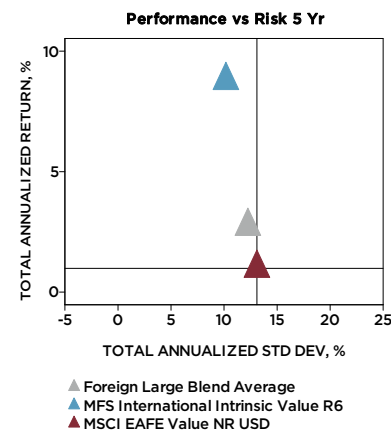
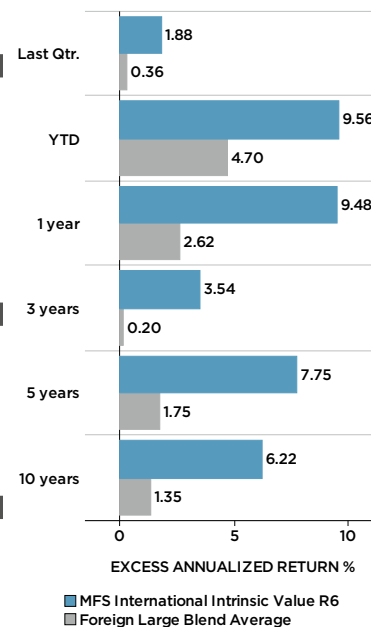
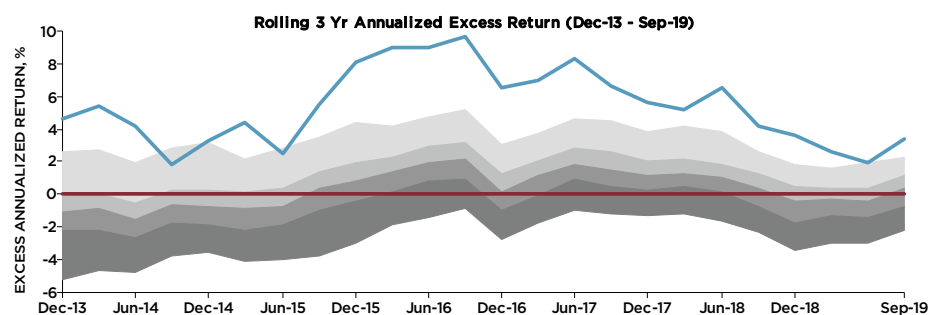


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MFS INTERNATIONAL INTRINSIC VALUE R6

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	MFS International Intrinsic Value R6	Peer Group Rank	MSCI EAFE Value NR USD	Foreign Large Blend	# of Funds
Standard Deviation	10.22	4%	13.15	12.22	578
Sharpe Ratio	0.76	1%	0.00	0.15	578
Alpha	7.75	1%	0.00	1.75	578
Beta	0.60	98%	1.00	0.86	578
R-Squared	60.28	100%	100.00	84.76	578
Up Mkt Capture	74.57	93%	100.00	86.39	578
Down Mkt Capture	36.57	1%	100.00	78.74	578
Information Ratio	0.91	1%	NA	0.34	578
TRAILING RETURNS					
Last Qtr.	0.14	8%	-1.74	-1.38	708
YTD	17.23	5%	7.67	12.38	688
1 Year	4.56	3%	-4.92	-2.30	681
3 Years	8.64	2%	5.10	5.29	647
5 Years	8.73	1%	0.99	2.74	578
10 Years	9.45	1%	3.23	4.58	498
CALENDAR RETURNS					
2018	-8.89	2%	-14.78	-15.50	694
2017	27.25	28%	21.44	25.32	742
2016	4.31	14%	5.02	0.90	762
2015	6.85	1%	-5.68	-1.43	740
2014	1.61	3%	-5.39	-4.98	754



INVESTMENT PROFILE

Ticker	MINJX
CUSIP	552746349
Net Assets \$MM	\$28,141.00
Manager Names	Team Managed
Manager Tenure	10.9 Years
Prospectus Exp Ratio	0.63%
Cat Median Exp Ratio	1.14%
Current 12b-1	N/A
Annld Ret Since Incept	6.92%
Inception Date	05/01/2006
Phone Number	800-225-2606
Sub Advisor	N/A

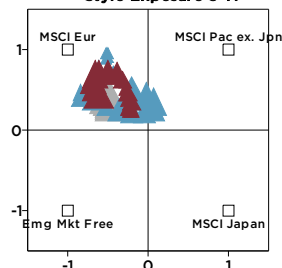
HOLDINGS OVERVIEW

Total Number of Holdings	105
% Assets in Top 10 Holdings	29.70%
Avg Mkt Cap \$MM	\$26,337.33
Turnover Ratio	6.00%

TOP HOLDINGS

Nestle SA	5.82%
Givaudan SA	3.41%
Cadence Design Systems	3.40%
Pernod Ricard SA	2.97%
Diageo PLC	2.69%

Style Exposure 5 Yr

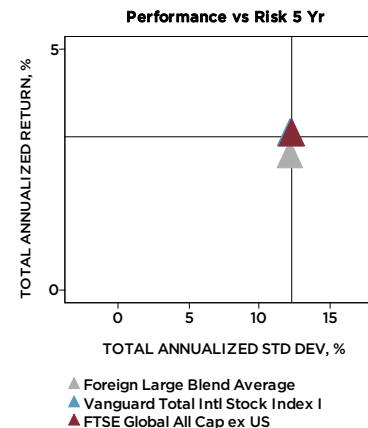
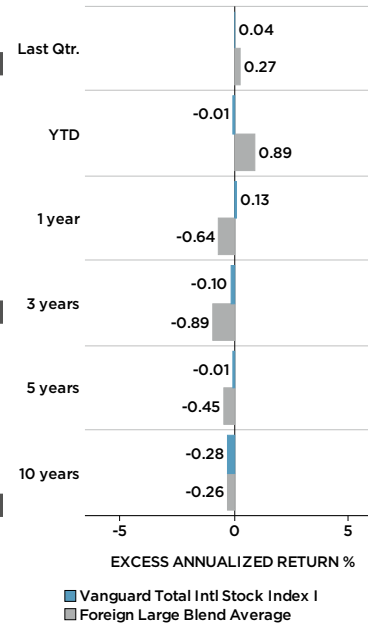
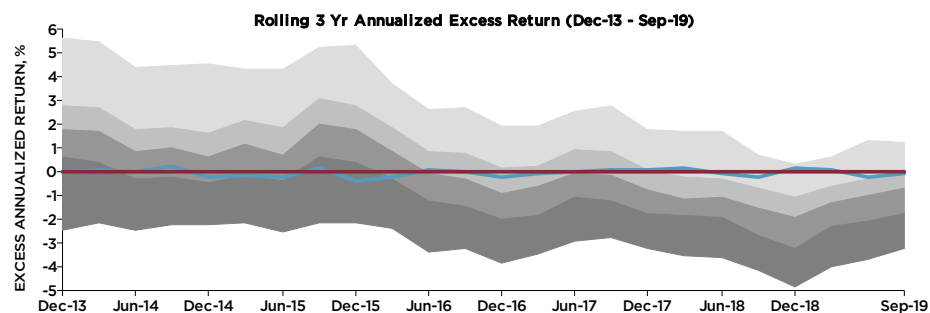


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VANGUARD TOTAL INTL STOCK INDEX I

Period Ending 9.30.19 | Q3 19

	Vanguard Total Intl Stock Index I	Peer Group Rank	FTSE Global All Cap ex US	Foreign Large Blend	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	12.09	57%	12.33	12.22	578
Sharpe Ratio	0.18	35%	0.18	0.15	578
Alpha	0.05	37%	0.00	-0.33	578
Beta	0.97	32%	1.00	0.94	578
R-Squared	98.31	2%	100.00	90.99	578
Up Mkt Capture	97.05	27%	100.00	92.59	578
Down Mkt Capture	97.05	63%	100.00	94.86	578
Information Ratio	-0.01	36%	NA	-0.12	578
TRAILING RETURNS					
Last Qtr.	-1.61	61%	-1.65	-1.38	708
YTD	11.47	69%	11.48	12.38	688
1 Year	-1.53	37%	-1.66	-2.30	681
3 Years	6.09	32%	6.19	5.29	647
5 Years	3.17	36%	3.19	2.74	578
10 Years	4.55	55%	4.84	4.58	498
CALENDAR RETURNS					
2018	-14.39	38%	-14.62	-15.50	694
2017	27.55	25%	27.41	25.32	742
2016	4.70	11%	4.72	0.90	762
2015	-4.24	82%	-4.29	-1.43	740
2014	-4.15	31%	-3.39	-4.98	754



INVESTMENT PROFILE

Ticker	VTSNX
CUSIP	921909784
Net Assets \$MM	\$384,493.00
Manager Names	Team Managed
Manager Tenure	11.2 Years
Prospectus Exp Ratio	0.08%
Cat Median Exp Ratio	1.14%
Current 12b-1	N/A
Annld Ret Since Incept	4.37%
Inception Date	11/29/2010
Phone Number	800-662-7447
Sub Advisor	N/A

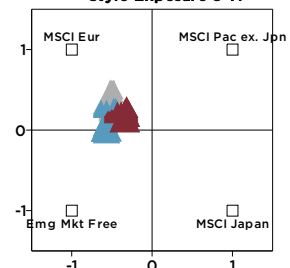
HOLDINGS OVERVIEW

Total Number of Holdings	7052
% Assets in Top 10 Holdings	8.41%
Avg Mkt Cap \$MM	\$22,350.60
Turnover Ratio	3.00%

TOP HOLDINGS

Nestle SA	1.43%
Tencent Holdings Ltd	1.01%
Alibaba Group Holding Ltd	0.90%
Taiwan Semiconductor Mar	0.84%
Novartis AG	0.84%

Style Exposure 5 Yr

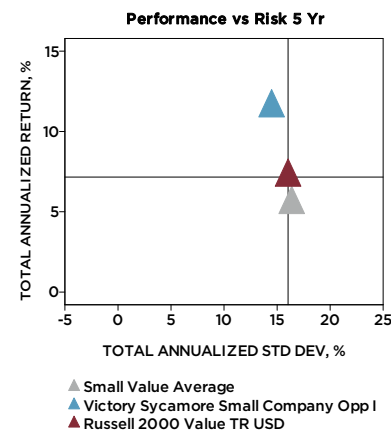
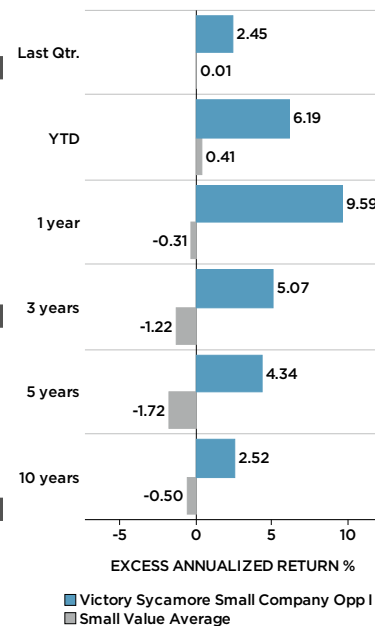
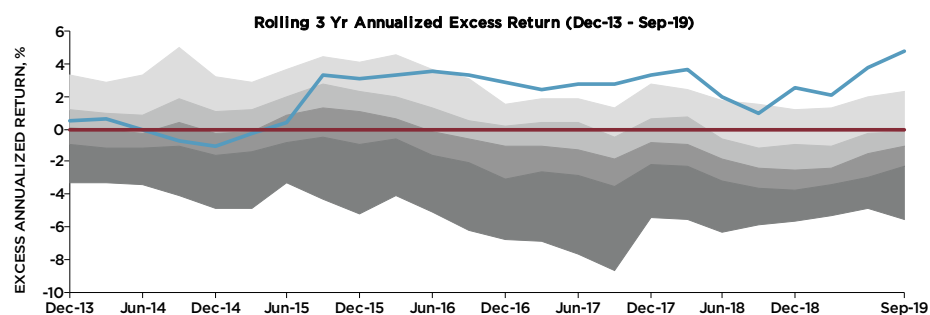


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VICTORY SYCAMORE SMALL COMPANY OPP I

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	Victory Sycamore Small Company Opp I	Peer Group Rank	Russell 2000 Value TR USD	Small Value	# of Funds
Standard Deviation	14.53	10%	16.08	16.34	378
Sharpe Ratio	0.72	1%	0.38	0.28	378
Alpha	5.08	1%	0.00	-1.55	378
Beta	0.88	85%	1.00	0.97	378
R-Squared	95.03	41%	100.00	92.01	378
Up Mkt Capture	101.36	19%	100.00	91.54	378
Down Mkt Capture	80.85	11%	100.00	98.44	378
Information Ratio	1.07	1%	NA	-0.34	378
TRAILING RETURNS					
Last Qtr.	1.88	9%	-0.57	-0.57	416
YTD	19.00	7%	12.82	13.23	416
1 Year	1.34	2%	-8.24	-8.56	412
3 Years	11.60	1%	6.54	5.32	401
5 Years	11.51	1%	7.17	5.45	378
10 Years	12.58	2%	10.06	9.56	331
CALENDAR RETURNS					
2018	-8.26	3%	-12.86	-15.69	414
2017	11.88	23%	7.84	9.01	425
2016	30.04	19%	31.74	25.55	438
2015	-0.39	6%	-7.47	-6.69	445
2014	6.80	14%	4.22	3.43	442



INVESTMENT PROFILE

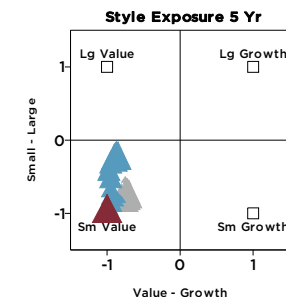
Ticker	VSOIX
CUSIP	92646A815
Net Assets \$MM	\$5,572.00
Manager Names	Team Managed
Manager Tenure	21.4 Years
Prospectus Exp Ratio	0.88%
Cat Median Exp Ratio	1.27%
Current 12b-1	0.00%
Annld Ret Since Incept	9.16%
Inception Date	08/31/2007
Phone Number	800-539-3863
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	107
% Assets in Top 10 Holdings	14.66%
Avg Mkt Cap \$MM	\$2,493.86
Turnover Ratio	43.00%

TOP HOLDINGS

EMCOR Group Inc	1.62%
Avanos Medical Inc	1.58%
UniFirst Corp	1.53%
Axis Capital Holdings Ltd	1.46%
Pinnacle Financial Partner	1.45%

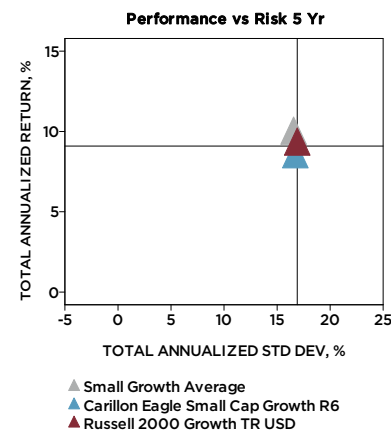
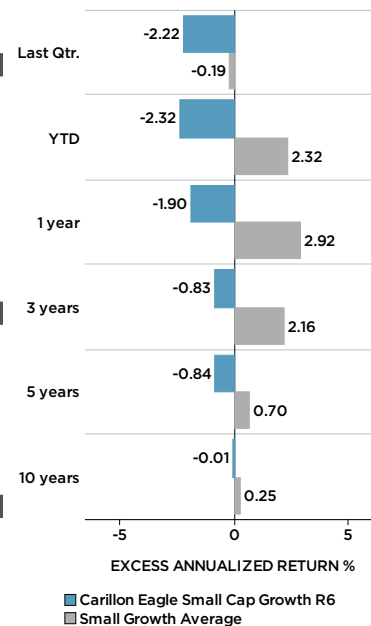
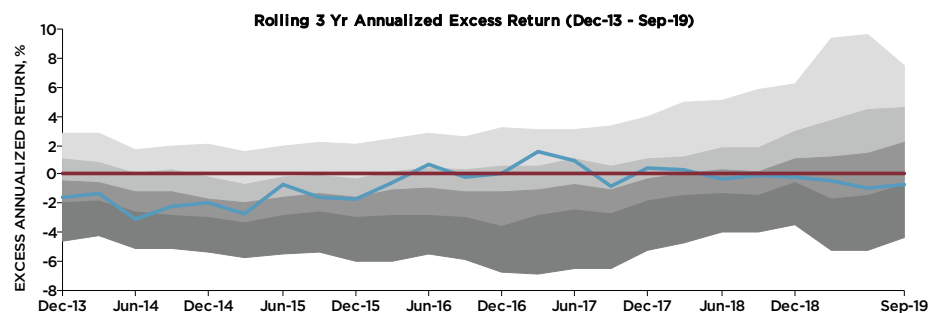


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CARILLON EAGLE SMALL CAP GROWTH R6

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	Carillon Eagle Small Cap Growth R6	Peer Group Rank	Russell 2000 Growth TR USD	Small Growth	# of Funds
Standard Deviation	16.79	63%	16.91	16.50	620
Sharpe Ratio	0.43	76%	0.48	0.54	620
Alpha	-0.60	78%	0.00	1.30	620
Beta	0.97	27%	1.00	0.93	620
R-Squared	95.32	24%	100.00	90.55	620
Up Mkt Capture	96.83	40%	100.00	94.53	620
Down Mkt Capture	100.13	84%	100.00	90.05	620
Information Ratio	-0.21	77%	NA	0.11	620
TRAILING RETURNS					
Last Qtr.	-6.39	78%	-4.17	-4.36	660
YTD	13.02	83%	15.34	17.66	659
1 Year	-11.53	81%	-9.63	-6.71	658
3 Years	8.97	76%	9.79	11.95	642
5 Years	8.24	74%	9.08	9.77	620
10 Years	12.24	57%	12.25	12.50	556
CALENDAR RETURNS					
2018	-10.06	78%	-9.31	-5.54	675
2017	23.40	44%	22.17	22.33	718
2016	10.45	52%	11.32	11.03	739
2015	-0.39	27%	-1.38	-2.49	758
2014	5.59	24%	5.60	2.52	772



INVESTMENT PROFILE

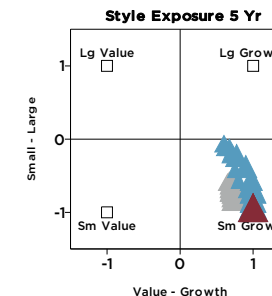
Ticker	HSRUX
CUSIP	14214L452
Net Assets \$MM	\$4,139.00
Manager Names	Team Managed
Manager Tenure	23.8 Years
Prospectus Exp Ratio	0.65%
Cat Median Exp Ratio	1.31%
Current 12b-1	0.00%
Annld Ret Since Incept	10.67%
Inception Date	08/15/2011
Phone Number	800-421-4184
Sub Advisor	Eagle Asset Management, Inc.

HOLDINGS OVERVIEW

Total Number of Holdings	115
% Assets in Top 10 Holdings	20.50%
Avg Mkt Cap \$MM	\$3,368.51
Turnover Ratio	35.00%

TOP HOLDINGS

Quaker Chemical Corp	3.03%
Planet Fitness Inc A	2.38%
Trex Co Inc	1.97%
RealPage Inc	1.94%
Woodward Inc	1.92%

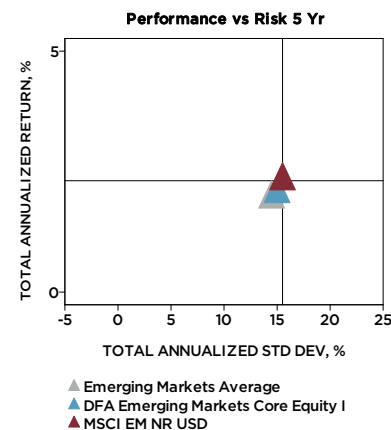
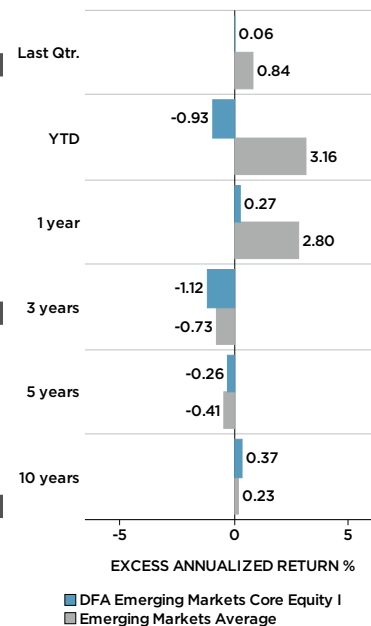
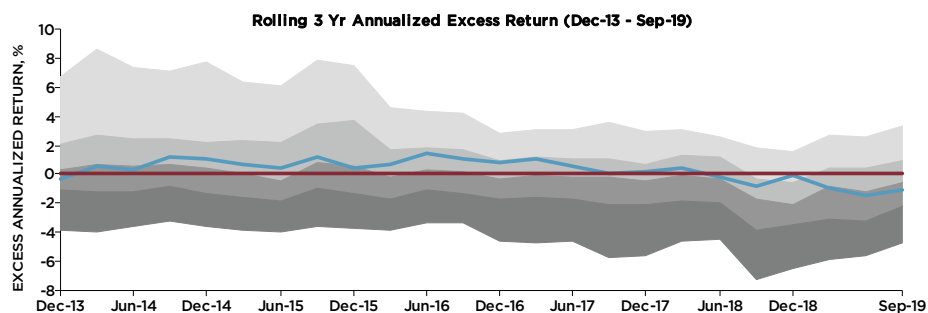


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DFA EMERGING MARKETS CORE EQUITY I

Period Ending 9.30.19 | Q3 19

KEY MEASURES / 5 YEAR	DFA Emerging Markets Core Equity I	Peer Group Rank	MSCI EM NR USD	Emerging Markets	# of Funds
Standard Deviation	14.95	57%	15.55	14.53	631
Sharpe Ratio	0.07	51%	0.09	0.06	631
Alpha	-0.19	52%	0.00	-0.24	631
Beta	0.95	34%	1.00	0.88	631
R-Squared	97.11	7%	100.00	88.16	631
Up Mkt Capture	96.72	39%	100.00	88.83	631
Down Mkt Capture	98.18	72%	100.00	91.27	631
Information Ratio	-0.10	55%	NA	-0.07	631
TRAILING RETURNS					
Last Qtr.	-4.18	69%	-4.25	-3.41	802
YTD	4.96	81%	5.89	9.05	794
1 Year	-1.75	69%	-2.02	0.79	780
3 Years	4.85	56%	5.97	5.25	719
5 Years	2.07	52%	2.33	1.92	631
10 Years	3.74	45%	3.37	3.59	346
CALENDAR RETURNS					
2018	-15.25	37%	-14.57	-16.57	799
2017	36.55	48%	37.28	35.29	823
2016	12.35	20%	11.19	8.20	864
2015	-14.86	59%	-14.92	-13.54	851
2014	-0.91	31%	-2.19	-2.74	796



INVESTMENT PROFILE

Ticker	DFCEX
CUSIP	233203421
Net Assets \$MM	\$27,498.00
Manager Names	Team Managed
Manager Tenure	9.6 Years
Prospectus Exp Ratio	0.52%
Cat Median Exp Ratio	1.39%
Current 12b-1	N/A
Annlzd Ret Since Incept	6.98%
Inception Date	04/05/2005
Phone Number	888-576-1167
Sub Advisor	DFA Australia Limited/ Dimensional Fund Advisors Ltd

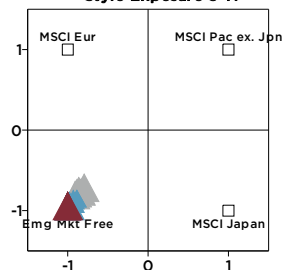
HOLDINGS OVERVIEW

Total Number of Holdings	5002
% Assets in Top 10 Holdings	13.44%
Avg Mkt Cap \$MM	\$8,632.35
Turnover Ratio	4.00%

TOP HOLDINGS

Samsung Electronics Co Ltd	3.95%
Tencent Holdings Ltd	1.81%
Taiwan Semiconductor Mar	1.72%
Taiwan Semiconductor Mar	1.26%
Alibaba Group Holding Ltd	0.88%

Style Exposure 5 Yr

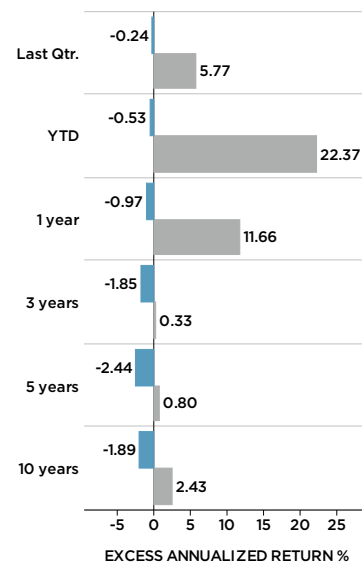
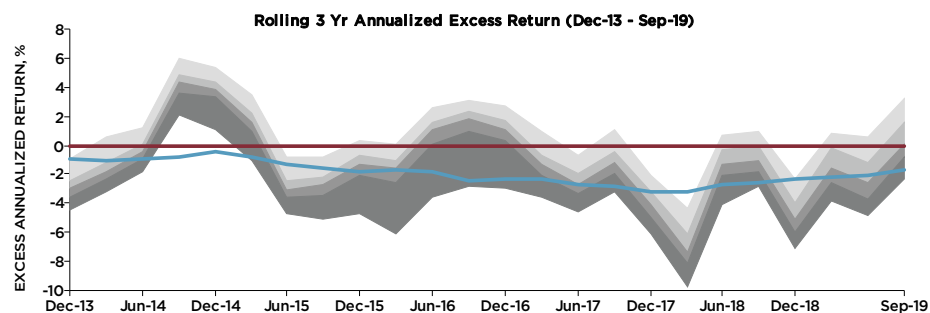


Performance Disclosure: For use with CAPTRUST clients only. Mutual fund investing involves risk. Please visit captrustadvisors.com/risk-disclosures/ for a detailed description of the risks associated with investing by asset class. Statistics and data have been derived from Morningstar and are not guaranteed to be accurate or complete. Performance data included here represents past performance and does not guarantee future results. This is not a solicitation to invest. Each mutual fund has a prospectus with a complete description of the risks associated with investing in the specific fund. To request a prospectus on this fund, please call CAPTRUST at (800)216-0645.

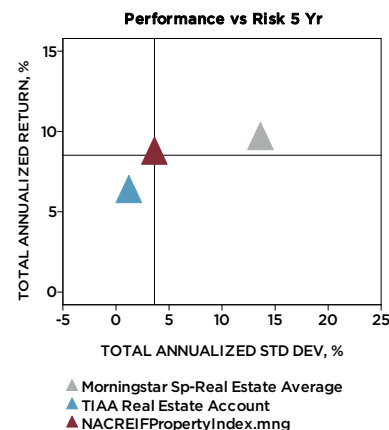
TIAA REAL ESTATE ACCOUNT

Period Ending 9.30.19 | Q3 19

	TIAA Real Estate Account	Peer Group Rank	ACREIF Property Index.mn	Morningstar Sp-Real Estate	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	1.15	1%	3.67	13.56	231
Sharpe Ratio	4.47	1%	2.07	0.63	231
Alpha	4.89	77%	0.00	6.23	231
Beta	0.03	92%	1.00	0.28	231
R-Squared	0.98	37%	100.00	0.78	231
Up Mkt Capture	71.48	97%	100.00	109.33	231
Down Mkt Capture	NA	0%	NA	NA	0
Information Ratio	-0.61	100%	NA	0.05	231
TRAILING RETURNS					
Last Qtr.	1.17	100%	1.41	7.18	249
YTD	4.27	100%	4.79	27.16	249
1 Year	5.26	98%	6.23	17.89	247
3 Years	4.91	91%	6.76	7.10	236
5 Years	6.12	97%	8.57	9.37	231
10 Years	7.89	100%	9.77	12.20	192
CALENDAR RETURNS					
2018	4.79	1%	6.71	-6.43	245
2017	4.37	65%	6.98	5.96	263
2016	5.20	73%	7.97	6.66	283
2015	8.16	1%	13.33	2.35	287
2014	12.22	99%	11.81	28.26	286



■ TIAA Real Estate Account
■ Morningstar Sp-Real Estate Average



INVESTMENT PROFILE

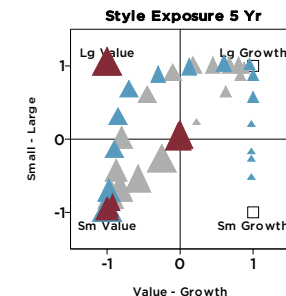
ID VAUSA059TL
 Cusip 878094200
 Net Assets \$ \$27,034,985,088.09
 Manager Name Team Managed
 Manager Start Date 2016-05-01
 Expense Ratio 0.76%
 Cat Median Exp Ratio 1.23%
 Annlzd Ret Since Incept 6.27%
 Inception Date 10-02-1995
 Share Class Incep Date 10/02/1995
 Phone Number 877-518-9161
 Sub Advisor

HOLDINGS OVERVIEW

% Assets in Top 10 Holdings 21.00%
 Avg Mkt Cap \$MM \$16,166.83
 Turnover Ratio 11.80%

TOP HOLDINGS

Ddr Joint Venture 2.82%
 Fashion Show 2.69%
 1001 Pennsylvania Avenue 2.67%
 The Florida Mall 2.61%
 Fourth And Madison 2.05%



Performance Disclosure: For use with CAPTRUST clients only. Mutual fund investing involves risk. Please visit captrustadvisors.com/risk-disclosures/ for a detailed description of the risks associated with investing by asset class. Statistics and data have been derived from Morningstar and are not guaranteed to be accurate or complete. Performance data included here represents past performance and does not guarantee future results. This is not a solicitation to invest. Each mutual fund has a prospectus with a complete description of the risks associated with investing in the specific fund. To request a prospectus on this fund, please call CAPTRUST at (800)216-0645.

APPENDIX

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

APPENDIX

Your CAPTRUST Service Team.....
Glossary of Terms.....
Evaluation Methodology.....

YOUR CAPTRUST SERVICE TEAM MEMBERS

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

TEAM MEMBERS	RESPONSIBILITIES
Barron V. Schmitt Senior Vice President Financial Advisor Barry.Schmitt@captrust.com	Account Role: Lead Consultant Our Lead Consultants serve as the primary relationship manager for the fiduciaries of corporate retirement plans. They oversee and ensure quality delivery of comprehensive investment advisory services. They are available to assist with any aspect of clients' accounts, or put them in contact with the appropriate resources here at CAPTRUST.
Michael S. Pratico Senior Vice President Financial Advisor Barry.Schmitt@captrust.com	Account Role: Consultant Our Consultants have responsibility for client project management, client meetings, report preparation, and presentation. Projects involve the establishment of investment policies and objectives, asset allocation modeling, investment manager analyses and searches, fee analysis, performance evaluation, and other specialized projects. In addition, they will provide comprehensive written investment option and plan reviews, as well as monitor overall results and service delivery to ensure complete satisfaction.
Cheryl Walters Client Management Consultant Cheryl.Walters@captrust.com	Account Role: Client Management Consultant The Client Management Consultants are focused on overall client management from initial conversion of new plans to CAPTRUST throughout their 'life' at CAPTRUST. As the primary contact for day-to-day client service needs, the main goal of the Client Management Consultant is to deliver exceptional proactive client service. On a daily basis, the Client Management Consultants are available to assist employees with questions related to plan enrollment and education, available investment options, and other areas.
Andrew Battle Client Relationship Manager Drew.Battle@captrust.com	Account Role: Client Management Consultant The Client Management Consultants are focused on overall client management from initial conversion of new plans to CAPTRUST throughout their 'life' at CAPTRUST. As the primary contact for day-to-day client service needs, the main goal of the Client Management Consultant is to deliver exceptional proactive client service. On a daily basis, the Client Management Consultants are available to assist employees with questions related to plan enrollment and education, available investment options, and other areas.
Scott T. Matheson, CFA, CPA Senior Director Defined Contribution Practice Leader Scott.Matheson@captrust.com	Account Role: Research Analyst Our Investment Analysts conduct investment manager research, asset allocation studies, portfolio monitoring and performance measurement. Some of their specific duties include: evaluating fund lineups and investment options, reporting due diligence findings to clients, and researching the various universes for viable investment options. Our team monitors and evaluates mutual funds, separate account managers and alternative investments for use with current and prospective clients.

GLOSSARY

ALPHA

Alpha measures a manager's rate of return in excess of that which can be explained by its systematic risk, or Beta. It is a result of regressing a manager's returns against those of a benchmark index. A positive alpha implies that a manager has added value relative to its benchmark on a risk-adjusted basis.

BATTING AVERAGE

Batting Average, an indicator of consistency, measures the percentage of time an active manager outperformed the benchmark.

BETA

Beta measures a manager's sensitivity to systematic, or market risk. Beta is a result of the analysis regressing a manager's returns against those of a benchmark Index. A manager with a Beta of 1 should move perfectly with a benchmark. A Beta of less than 1 implies that a manager's returns are less volatile than the market's (i.e., selected benchmarks). A Beta of greater than 1 implies that a manager exhibits greater volatility than the market (i.e., selected benchmark).

CAPTURE RATIO

Up Market Capture is the average return of a manager relative to a benchmark index using only periods where the benchmark return was positive. Down Market Capture is the average return of a manager relative to a benchmark index using only periods where the benchmark return was negative. An Up Market Capture of greater than 100% and a Down Market Capture of less than 100% is considered desirable.

INFORMATION RATIO

The Information Ratio measures a manager's excess return over the passive index divided by the volatility of that excess return, or Tracking Error. To obtain a higher Information Ratio, which is preferable, a manager must demonstrate the ability to generate returns above its benchmark while avoiding large performance swings relative to that same benchmark.

PERCENTILE RANK

Percentile Rankings are based on a manager's performance relative to all other available funds in its universe. Percentiles range from 1, being the best, to 100 being the worst. A ranking in the 50th percentile or above demonstrates that the manager has performed better on a relative basis than at least 50% of its peers.

RISK-ADJUSTED PERFORMANCE

Risk-adjusted Performance, or RAP, measures the level of return that an investment option would generate given a level of risk equivalent to the benchmark index.

R-SQUARED

R-squared measures the portion of a manager's movements that are explained by movements in a benchmark index. R-squared values range from 0 to 100. An R-squared of 100 means that all movements of a manager are completely explained by movements in the index. This measurement is identified as the coefficient of determination from a regression equation. A high R-squared value supports the validity of the Alpha and Beta measures, and it can be used as a measure of style consistency.

SHARPE RATIO

Sharpe ratio measures a manager's return per unit of risk, or standard deviation. It is the ratio of a manager's excess return above the risk-free rate divided by a manager's standard deviation. A higher Sharpe ratio implies greater manager efficiency.

STANDARD DEVIATION

Standard Deviation is a measure of the extent to which observations in a series vary from the arithmetic mean of the series. This measure of volatility or risk allows the estimation of a range of values for a manager's returns. The wider the range, the more uncertainty, and, therefore, the riskier a manager is assumed to be.

TRACKING ERROR

Tracking Error is the standard deviation of the portfolio's residual (i.e. excess) returns. The lower the tracking error, the closer the portfolio returns have been to its risk index. Aggressively managed portfolios would be expected to have higher tracking errors than portfolios with a more conservative investment style.

TREYNOR RATIO


The Treynor Ratio is a measure of reward per unit of risk. With Treynor, the numerator (i.e. reward) is defined as the annualized excess return of the portfolio versus the risk-free rate. The denominator (i.e. risk) is defined as the portfolio beta. The result is a measure of excess return per unit of portfolio systematic risk. As with Sharpe and Sortino, the Treynor Ratio only has value when it is used as the basis of comparison between portfolios. The higher the Treynor Ratio, the better.

INVESTMENT REVIEW | EVALUATION METHODOLOGY

Period Ending 9.30.19 | Q3 19

University of Maine System

4.1

	QUANTITATIVE EVALUATION ITEMS	QUALITATIVE EVALUATION ITEMS
 MARKED FOR REVIEW The following categories of the Investment Policy Monitor appear “Marked For Review” when:	<p>3/5 Year Risk- adjusted Performance</p> <p>The investment option's 3 or 5 Year Annualized Risk Adjusted Performance falls below the 50th percentile of the peer group.</p> <p>3/5 Year Performance vs. Peers</p> <p>The investment option's 3 or 5 Year Annualized Peer Relative Performance falls below the 50th percentile of the peer group.</p> <p>3/5 Year Style</p> <p>The investment option's 3 or 5 Year R-Squared measure falls below the absolute threshold set per asset class.</p> <p>3/5 Year Confidence</p> <p>The investment option's 3 or 5 Year Confidence Rating falls below the 50th percentile of the peer group.</p> <p>Glidepath Assessment</p> <p>% of Equity Exposure: The combined percentage of an investment option's equity exposure ranks in the top 20th percentile or bottom 20th percentile of the peer group.</p> <p>Regression to the Benchmark: The investment option's sensitivity to market risk - as measured by beta relative to a Global Equity Index - is above 0.89.</p>	<p>Fund Management</p> <p>A significant disruption to the investment option's management team has been discovered.</p> <p>Fund Family</p> <p>A significant disruption to the investment option's parent company has been discovered.</p> <p>Portfolio Construction</p> <p>The investment option's combined Portfolio Construction score is 6 or below out of a possible 15 points.</p> <p>Underlying Investment Vehicles</p> <p>The investment option's combined Underlying Investment Vehicles score is 6 or below out of a possible 15 points.</p>

CAPTRUST's Investment Policy Monitoring Methodology

The Investment Policy Monitoring Methodology document describes the systems and procedures CAPTRUST uses to monitor and evaluate the investment vehicles in your plan/account on a quarterly basis.

Our current Investment Policy Monitoring Methodology document can be accessed through the following link:

captrust.com/investmentmonitoring



AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Outsourced Chief Investment Officer Discussion
2. **INITIATED BY:** Kelly A. Martin, Chair
3. **BOARD INFORMATION:** X **BOARD ACTION:**
4. **OUTCOME:** **BOARD POLICY:**
 Primary Outcomes: Section 709 - Investments
 Enhance fiscal positioning
5. **BACKGROUND:**

Chris Klapinsky of NEPC will deliver an educational presentation on Outsourced Chief Investment Officer (OCIO) investment consulting. Chris will discuss what OCIO is, the benefits and considerations, costs, and NEPC's OCIO capabilities.

NEPC will refer to the enclosed OCIO presentation during the December 2, 2019 Investment Committee meeting.

November 22, 2019

OCIO DISCUSSION



UNIVERSITY OF MAINE SYSTEM

December 2, 2019

Jay E. Roney, Partner

Chris Klapinsky, CFA, Partner

Kelly Regan, Senior Consultant



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NEPC'S OCIO SERVICES

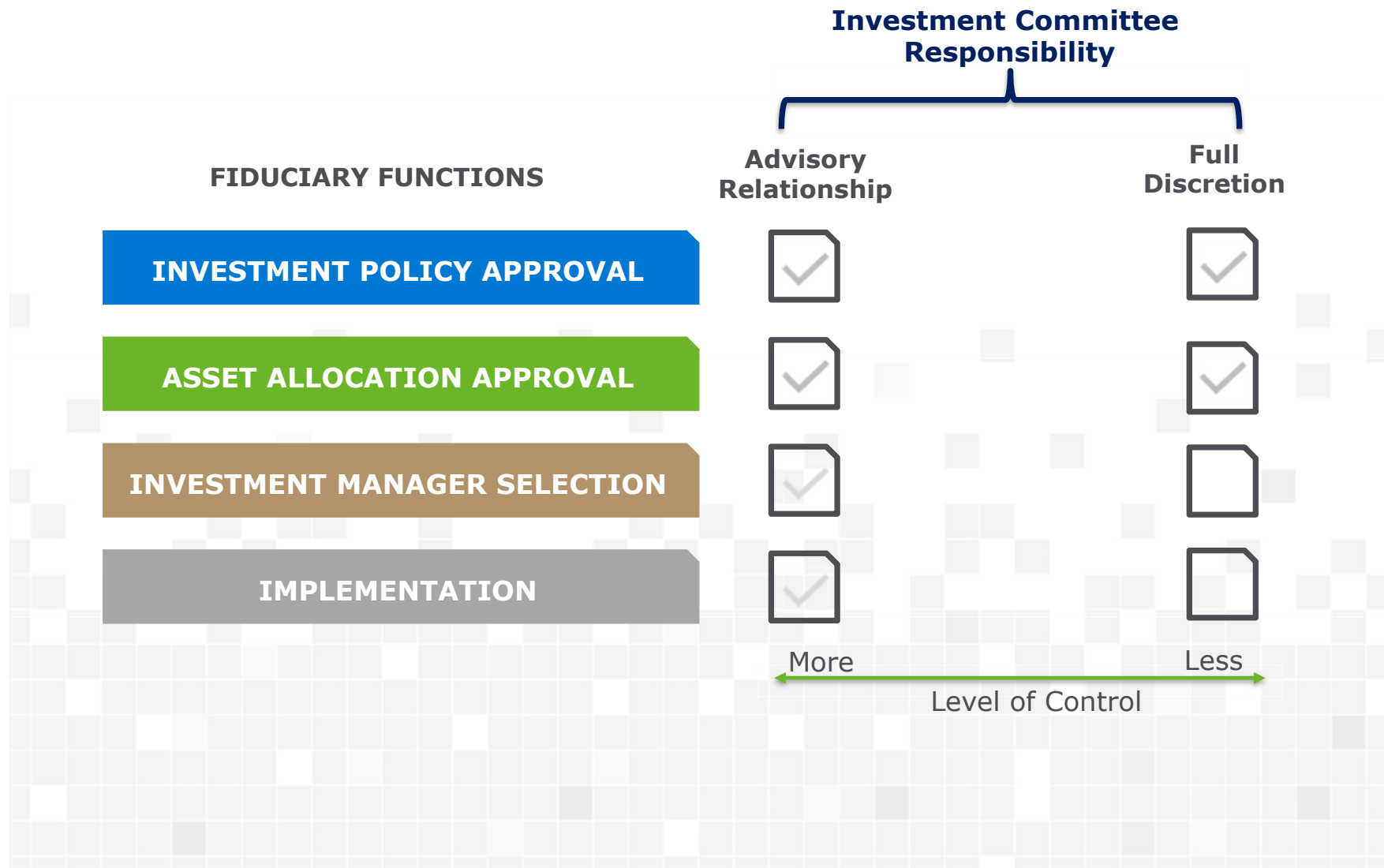
NEPC, LLC

OUTSOURCED CIO (OCIO): DEFINED

- “A client delegates most or a portion of their trustee governance responsibilities to a third party, potentially including plan design, investment decisions, implementation and on-going investment oversight”
- Other terms for OCIO include:
 - Discretionary Management
 - Implemented Consulting
 - Delegated Services



NEPC RELATIONSHIP MODELS



OUTSOURCED CIO STATISTICS

131

investment programs¹

\$29.5

billion in aggregate assets¹

19

investment and operational
professionals²

daily monitoring
of your portfolio

**significant
experience**

coordinating client
implementations and
manager conversions



¹As of 6/30/2019

²As of 6/30/2019

OUTSOURCED CIO: THE BENEFITS

*We do the "heavy lifting,"
empowering you to focus
on core competencies*

- Potentially lower fees & costs
- Potentially better access due to lower negotiated investment minimums
- We can rapidly deploy assets to potentially enhance returns
- Potentially stronger governance practices
- Completely unbundled portfolio construction to minimize conflicts of interest



BE DYNAMIC: SAMPLE CHANGES

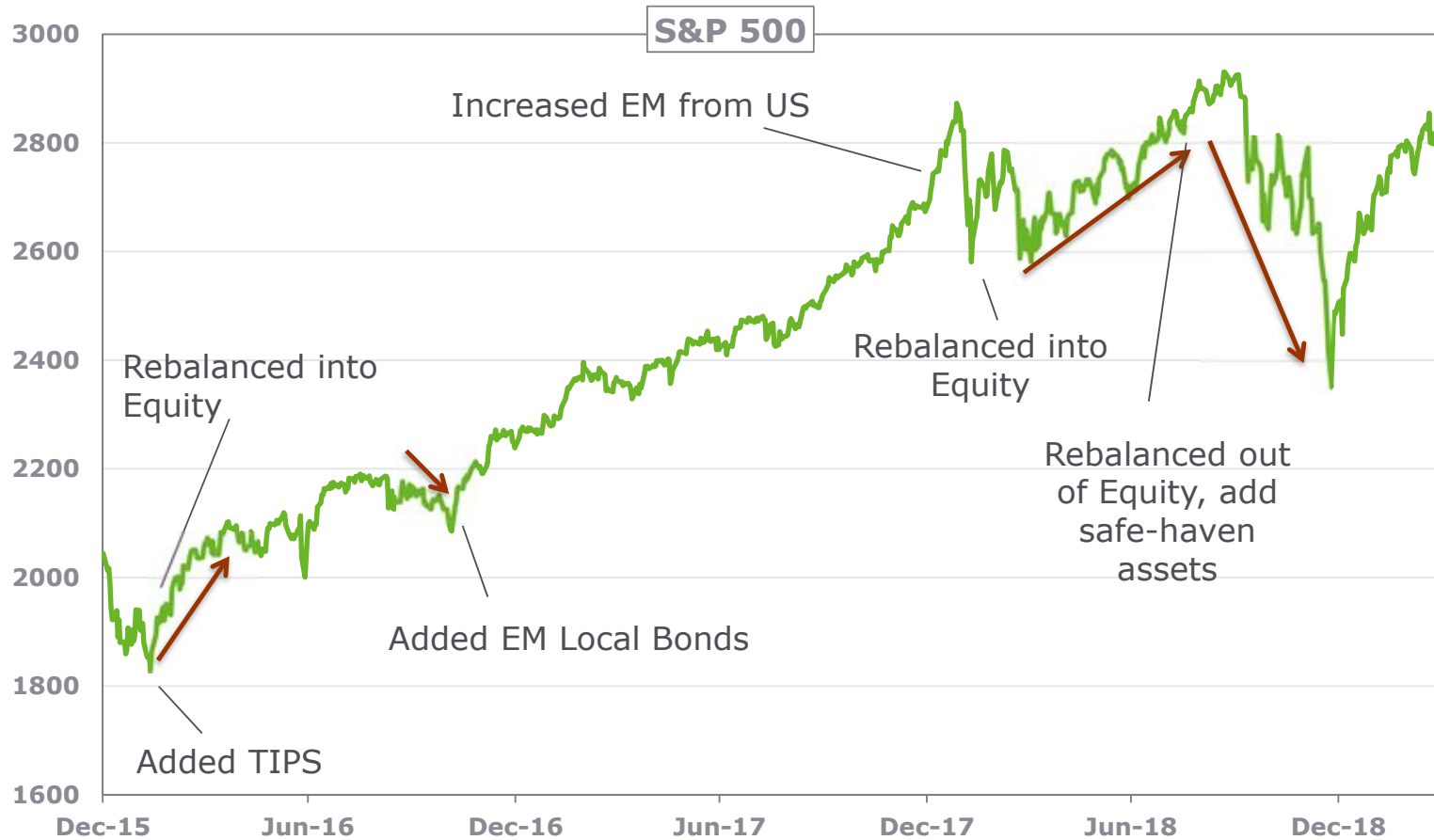


Chart shows examples of changes made by NEPC. Not all opportunities are suitable for all clients.

OCIO OPERATIONS



EXPERIENCE

Dedicated service team supporting trading, operations, legal and compliance



IMPLEMENTATION

Significant experience with conversions, recordkeeper coordination, manager transitions, and contracting



LEGAL OVERSIGHT

Internal/ External counsel reviews
Document Execution



REPRESENTATIVE CLIENT LIST

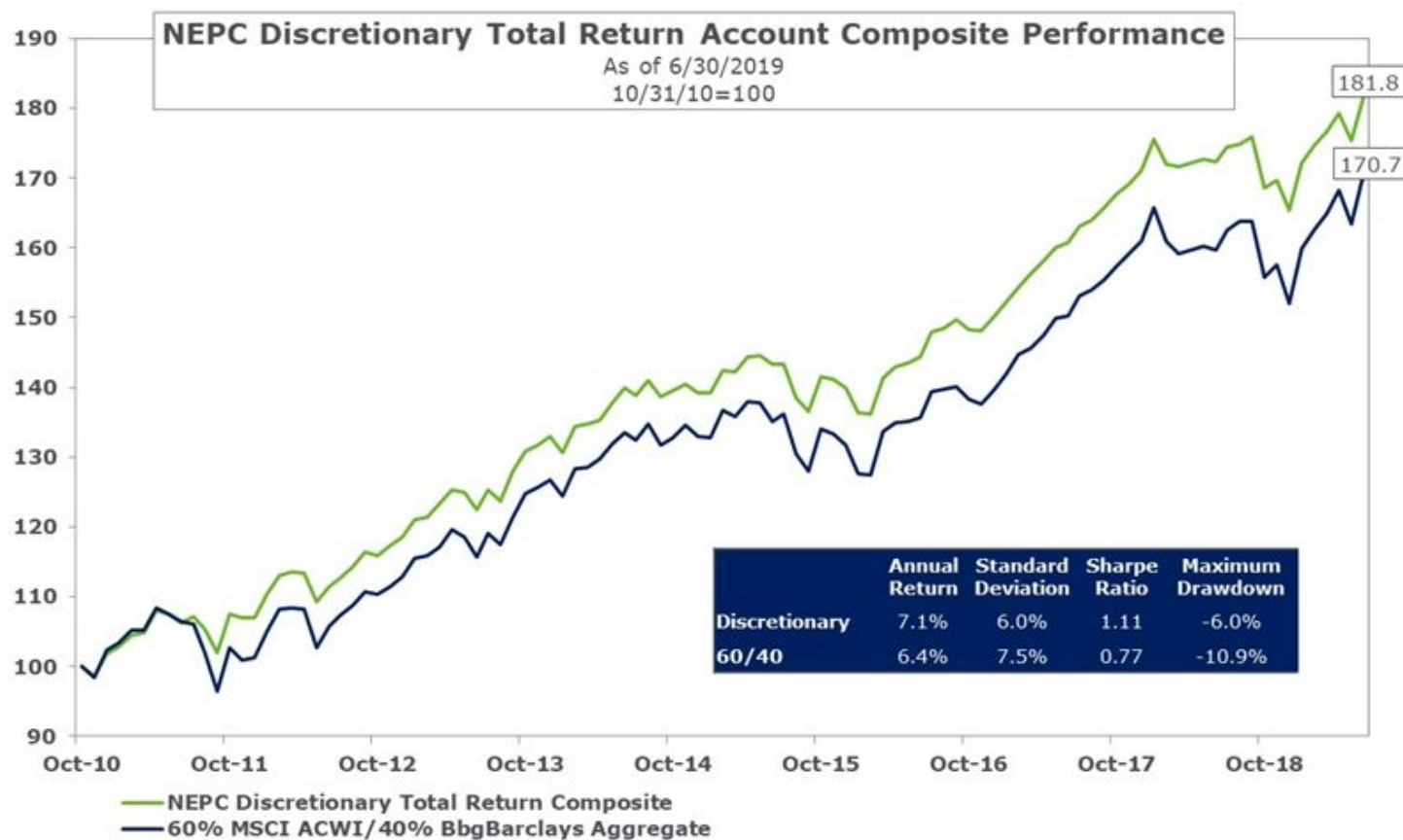
- America for Bulgaria Foundation
- American Geophysical Union
- Americans for the Arts
- Babson College
- Barnabas Foundation
- Bradley University
- Bryant University
- Boston Medical Center
- Calvin Theological Seminary
- Central Michigan University
- City of Boston - Trust Funds
- Colorado State University Foundation
- Columbus Medical Association Foundation
- Community Foundation for SE Michigan
- Concord Academy
- Covenant Health Systems
- Creighton University
- Crotched Mountain Foundation
- Culver Academies
- Diocese Of Buffalo
- Eastern Michigan University
- Fairfield County's Community Foundation
- Father Flanagan's Boys' Home
- GAVI Alliance
- Geneseo Foundation (SUNY)
- Goodwill of North Georgia
- H.E. Butt Foundation
- Hebrew Immigrant Aid Society (HIAS)
- Hudson-Webber Foundation
- Lesley University
- Masonic Grand Lodge of California
- National Fire Protection Association
- Northwest Area Foundation
- NYC Foundation for Cerebral Palsy
- OK Tobacco Settlement Endowment
- Protestant Episcopal Cathedral Foundation
- Society of Jesus
- Statler Foundation
- Texas A&M Foundation
- Texas Tech University System
- The Colorado Trust
- The Jewish Federations of North America
- The LCMS Foundation
- The Overbrook Foundation
- Unitarian Universalists Congregations
- United Way of Massachusetts Bay
- University of Central Florida
- University of Detroit Mercy
- University of Maine System
- Wayne State University
- Wisconsin Alumni Research Foundation

Indicates OCIO/discretionary relationships



As of 9/30/2019. The above client list is only a sample. It is not known whether or not the clients approve of the services received. It should not be considered an endorsement by any individual client listed.

OUR CLIENT RESULTS



Statistics calculated with monthly data, 60% MSCI ACWI/40% Bbg Barclays Aggregate Performance assumes monthly rebalancing to target weights. NEPC Total Return Composite is composed of 23 investment pools and total assets of \$6,637 million and is gross of NEPC's advisory fee. Composite returns are market weighted. Past performance is no guarantee of future results. Please see additional information on the Disclosure page.

POTENTIAL PORTFOLIO CHANGES

- Swap out various managers for ones with lower negotiated fees
- Rotate a significant portion of the Public Equity portfolio to “global” mandates
 - Our global preferred managers have produced significant outperformance
- Reduce the exposure to the GAA category
- Evaluate the existing Fund of Hedge Fund mandate



DISCLOSURES

NEPC, LLC

This document may contain confidential or proprietary information and is intended only for the designated recipient(s). If you are not a designated recipient, you may not copy or distribute this document.

Certain information, including that relating to market indices, was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

INVESTMENT METRICS PLAN UNIVERSE

- As of 3/31/2019 the Investment Metrics Universe contained actual, custodian-supplied and audited data on 3,045 plan sponsors, representing roughly \$2.1 trillion in assets. This data is drawn from 55 independent investment consulting firms, including NEPC.

ICC UNIVERSE

- Through 2011, universe rankings were based on the ICC Universe, which was populated by 12 independent investment consulting firms, including NEPC, and supplemented by many of the performance measurement clients of State Street Bank.

CLIENT RESULTS DISCLOSURES – ALL CLIENTS

- Past performance is no guarantee of future results.
- NEPC acts in an advisory capacity-only for many clients and does not have discretion over those client assets. As a result, a client's investment performance may not be attributable solely to NEPC's advice.
- NEPC's Overall Composite is compiled from all Pension Plans, Endowments and Foundations for which NEPC is the sole full-retainer consultant. Plans are included in the Composite provided they have exposure to equity and bonds (including alternatives) of at least 25% each, and no more than 20% to other assets such as cash and GIC's.
- New clients are added to the Overall Composite with the first full quarter of a new manager selected from an NEPC search, or after one year as an NEPC client, whichever comes first, provided that the plan is globally diversified.
- Results are reported gross of NEPC advisory fees.
- NEPC's fees for advisory clients vary considerably depending on client size and complexity.

CLIENT RESULTS DISCLOSURES – DISCRETIONARY CLIENTS

- Past performance is no guarantee of future results.
- NEPC's fees for discretionary services vary by client but generally range from 3-50 basis points (0.03%-0.50%) of assets per year.
- Methodology and criteria
- All returns are net of underlying investment manager fees, but gross of NEPC's discretionary fee.
- NEPC's discretionary composites are compiled from all plans for which NEPC has discretion and is the sole discretionary manager.
- Each NEPC discretionary client is in at least one NEPC discretionary composite.
- Clients are included in a NEPC discretionary composite after one full calendar quarter as a NEPC discretionary client.



ALTERNATIVE INVESTMENT DISCLOSURES

- It is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds, real estate and private equity:
 - Performance can be volatile and investors could lose all or a substantial portion of their investment
 - Leverage and other speculative practices may increase the risk of loss
 - Past performance may be revised due to the revaluation of investments
 - These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms
 - A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value
 - These funds are not subject to the same regulatory requirements as registered investment vehicles
 - Managers are not required to provide periodic pricing or valuation information to investors
 - These funds may have complex tax structures and delays in distributing important tax information
 - These funds often charge high fees
 - Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy

PRIVATE EQUITY, REAL ESTATE AND REAL ASSETS PERFORMANCE BENCHMARKING METHODOLOGY AND INFORMATION DISCLOSURES

- Past performance is no guarantee of future results.
- Investment results include funds that were rated "Preferred" by the NEPC Alternative Assets Committee. Investment results include those clients for which NEPC has discretionary authority as well as those where NEPC acts in an advisory capacity. They include all types of clients and plans for whom NEPC serves or served as a consultant and provided advice on private equity.
- Returns are based on the client commitment that had the earliest cash flow into each recommended product. Vintage year classifications are made based upon the year of the first cash flow from this client into the Fund.
- In cases where no current NEPC client is invested in a product (due to a client changing consultants), vintage year and return data was used from either the manager, Preqin or from another limited partner in the fund who publicly discloses investment returns.
- Each internal rate of return is net of management fees and carried interest (both paid and accrued) and is computed on an annualized, dollar-weighted basis. Performance aggregates are created by equal-weighting each Preferred-rated fund.
- Strategy classifications are made by NEPC based on a review of the stated strategy of each investment. Funds included are primarily limited partnerships, including funds-of-funds. Private equity investments include buyouts, venture capital, growth equity, special situations/turnarounds, equity-oriented distressed buyouts, co-investment funds, primary fund-of-funds and secondary funds. Real estate investments include value-add, debt and opportunistic funds. Real assets investments include energy, energy credit/mezz, multi-strategy, natural resources, metals & mining and infrastructure funds.
- Only funds from vintage years 2007–2015 were benchmarked, as performance for funds who have been investing for less than three years is deemed to be too young to be meaningful.
- To compute the quartile performance of each fund, funds were matched against similar strategies and geographic regions tracked by CJA and Preqin; however, it is important to note that some funds have investment strategies that could be benchmarked against multiple categories.
- Attempts were made to match the geographic strategy of each fund. In cases where the benchmark provider did not have a large data set a global strategy benchmark was used.
- For some vintage years, the benchmark provider may have provided median but not upper and lower quartile cut-off metrics. In these cases, to estimate the upper and lower quartile cut-offs, NEPC used the average quartile-to-median differential for the vintage years preceding and following the vintage year with the missing quartile cut-offs.
- All fund and benchmark returns are as of December 31, 2018.
- The information in this report has been obtained from sources NEPC believes to be reliable. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.





AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Performance Review– Managed Investment Pool, Pension Fund and Operating Fund
2. **INITIATED BY:** Kelly A. Martin, Chair
3. **BOARD INFORMATION:** X **BOARD ACTION:**
4. **OUTCOME:** **BOARD POLICY:**
Primary Outcomes: Section 709 - Investments
Enhance fiscal positioning

5. **BACKGROUND:**

Kelly Regan and Jay Roney of NEPC will provide a brief overview of performance for all three portfolios for the quarter ended September 30, 2019.

NEPC will refer to the enclosed executive summary performance report during the December 2, 2019 Investment Committee meeting. The supplemental performance materials for the quarter ended September 30, 2019 are for reference purposes only and will not be reviewed during the meeting.

November 22, 2019

THIRD QUARTER 2019 INVESTMENT REVIEW

UNIVERSITY OF MAINE SYSTEM



December 2, 2019

Jay E. Roney, Partner

Kelly Regan, Senior Consultant



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THIRD QUARTER 2019 MARKET ENVIRONMENT

NEPC, LLC

PERFORMANCE OVERVIEW

Q3 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
											
3.4%	1.4	-32 bps	1.7%	-1.1%	-4.2%	2.3%	1.3%	1.5%	-7.0%	4.4%	7.4%

Global central banks shifted toward easier monetary policy, providing support for risk-assets, even as uncertainty around trade and slowing global growth continue to temper returns

The decline in global yields also reflected these concerns – leading to positive returns across safe-haven fixed income. Within credit, spreads were relatively flat, but broadly remain below medians

Oil experienced a volatile month as geopolitical concerns influenced spot prices following a bombing of Saudi Arabia's oil infrastructure

Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Developed Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM EMBI Global Diversified Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITS (NAREIT Composite Index). Source: FactSet



September 30, 2019

INDEX PERFORMANCE SUMMARY AS OF SEPTEMBER 30, 2019

Domestic Equity Benchmarks		Qtr.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Large Core	S&P 500	1.7%	20.6%	4.3%	13.4%	10.8%	13.2%
Small Core	Russell 2000	-2.4%	14.2%	-8.9%	8.2%	8.2%	11.2%
Small Growth	Russell 2000 Growth	-4.2%	15.3%	-9.6%	9.8%	9.1%	12.2%
Small Value	Russell 2000 Value	-0.6%	12.8%	-8.2%	6.5%	7.2%	10.1%
Large Core	Russell 1000	1.4%	20.5%	3.9%	13.2%	10.6%	13.2%
Large Growth	Russell 1000 Growth	1.5%	23.3%	3.7%	16.9%	13.4%	14.9%
Large Value	Russell 1000 Value	1.4%	17.8%	4.0%	9.4%	7.8%	11.5%
Mid Core	S&P Mid Cap 400	-0.1%	17.9%	-2.5%	9.4%	8.9%	12.6%
REIT	NAREIT Composite	7.4%	27.4%	19.7%	9.1%	10.9%	13.2%
Int'l Equity Benchmarks		Qtr.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
International Developed	MSCI EAFE	-1.1%	12.8%	-1.3%	6.5%	3.3%	4.9%
Emerging Equity	MSCI EM	-4.2%	5.9%	-2.0%	6.0%	2.3%	3.4%
Small Cap Int'l	S&P EPAC SmallCap	-1.6%	11.0%	-7.1%	5.5%	5.8%	7.4%
World ex-US	MSCI ACWI ex-US	-1.8%	11.6%	-1.2%	6.3%	2.9%	4.5%
Domestic FI Benchmarks		Qtr.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Core Bonds	Barclays Aggregate	2.3%	8.5%	10.3%	2.9%	3.4%	3.7%
Municipal Bond	Barclays Municipal	1.6%	6.7%	8.6%	3.2%	3.7%	4.2%
High Yield	Barclays US High Yield	1.3%	11.4%	6.4%	6.1%	5.4%	7.9%
Intermediate Gov/Cred	Barclays Interm. Gov/Credit	1.4%	6.4%	8.2%	2.4%	2.7%	3.0%
Long Gov/Credit	Barclays Long Gov/Credit	6.6%	20.9%	21.9%	5.6%	6.8%	7.4%
Long Credit	Barclays Long Credit	5.6%	21.9%	19.9%	6.5%	6.9%	7.8%
Long Treasuries	Barclays US 20+ Yr Treas	8.2%	20.2%	25.2%	4.1%	7.0%	7.0%
Cash	BofA ML US 3-Month T-Bill	0.6%	1.8%	2.4%	1.5%	1.0%	0.5%
Inflation	Barclays US TIPS 1-10 Yr	0.6%	5.8%	5.7%	1.9%	2.0%	2.7%
STRIPS	Barclays 20+ Yr STRIPS	12.0%	28.4%	34.3%	5.3%	9.4%	9.5%
Global FI Benchmarks		Qtr.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Gov. Bonds	FTSE WGBI	0.8%	6.3%	8.1%	1.2%	1.8%	1.7%
Em. Mkt. Bonds (Local)	JPM GBI-EM Glob. Div.	-0.8%	7.9%	10.1%	3.1%	0.6%	2.5%
Global Inflation	Barclays Global ILB	1.7%	8.0%	7.2%	2.1%	2.1%	3.3%
Diversified Benchmark		Qtr.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Diversified	Diversified*	1.2%	14.7%	4.6%	7.9%	6.8%	8.5%
Alternative Benchmarks		Qtr.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Commodities	Bloomberg Commodity Index	-1.8%	3.1%	-6.6%	-1.5%	-7.2%	-4.3%
Real Estate	NCREIF Property Index**	1.5%	3.3%	6.5%	6.9%	8.8%	9.2%

* 35% LC, 10% SC, 12% Int'l, 3% Emerging, 25% FI, 5% HY, 5% Global FI, 5% REITS

**As of 6/30/2019



September 30, 2019

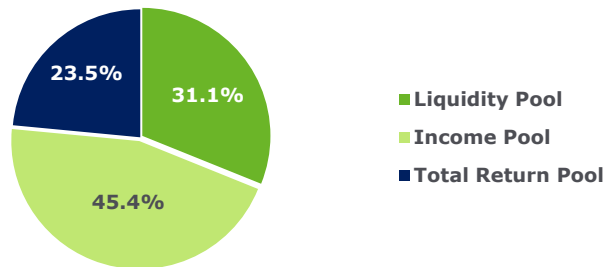
OPERATING FUND PERFORMANCE REVIEW

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION

Plan Assets: \$297.6 Million



FUND PERFORMANCE: NET OF FEES

	QTR (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
COMPOSITE	0.6	5.2	3.9	3.1	2.3	2.7
ALLOCATION INDEX	0.7	5.4	4.0	3.3	2.6	2.6

FUND COMMENTS

Asset Allocation

The Fund's assets as of September 30, 2019 were \$297.6 million. This represents a \$41 million increase from the previous quarter.

The Liquidity Pool (31.1% vs. 30.0%), Income Pool (45.4% vs. 47.5%) and Total Return Pool (23.5% vs. 22.5%) are close to policy targets and within policy ranges. Throughout the year, asset allocation will change based on cash inflows and outflows. NEPC reviews this on a monthly basis.

Performance (Net of Fees)

The Fund returned 0.6% during the third quarter and 5.2% year-to-date. Year-to-date, all managers posted positive returns.

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

Rebalancing was provided during the quarter to rebalance funds from the Income Pool to the Liquidity Pool for operating cash needs.

Recommendations

There are no recommendations at this time.

Investment Manager Updates

Manager updates are detailed in the due diligence section of the report.



September 30, 2019

OPERATING FUND PERFORMANCE REVIEW

Ending September 30, 2019

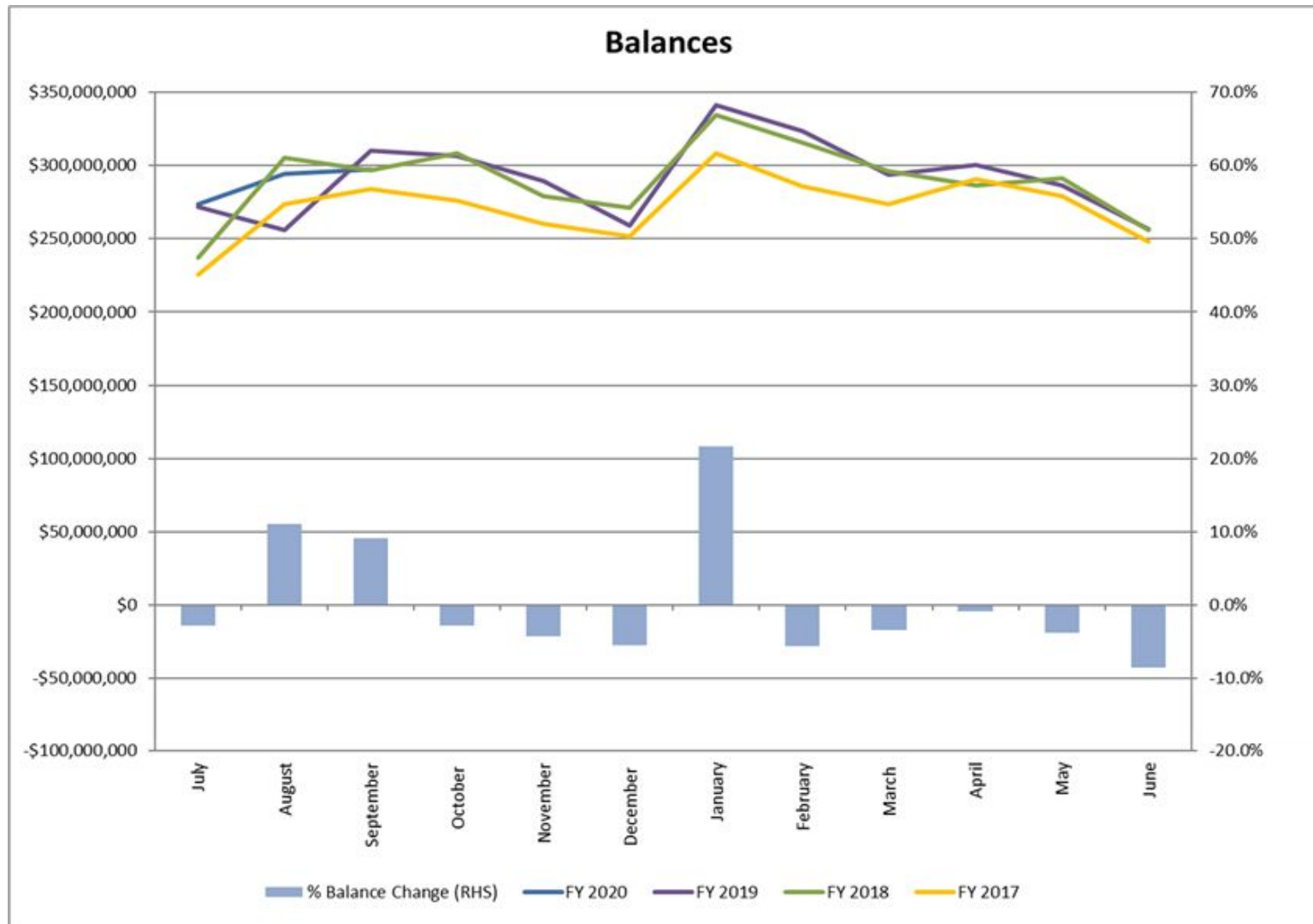
	Market Value (\$)	% of Portfolio	Policy %	Universe	Qtr (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Operating Funds Composite	\$297,558,317	100.0%	100.0%		0.6		5.2		3.9		3.1		2.3		2.7	
<i>Allocation Index</i>					<i>0.7</i>		<i>5.4</i>		<i>4.0</i>		<i>3.3</i>		<i>2.6</i>		<i>2.6</i>	
Liquidity Pool Composite	\$92,575,648	31.1%	30.0%		0.5		1.7		2.2		1.4		1.0		0.6	
State Pool	\$52,609,685	17.7%			0.6		1.7		2.3		1.5		1.0		0.7	
BOA General Fund	\$5,212,920	1.8%			0.1		0.7		1.1		0.5		0.3			
Federated Gov't Obligations	\$28,425,004	9.6%			0.6		1.7		2.3		1.4					
JP Morgan US Gov't Money Market Fund	\$6,328,039	2.1%			0.5		1.7		2.2		1.4					
<i>FTSE T-Bill 3 Months TR</i>					<i>0.6</i>		<i>1.8</i>		<i>2.4</i>		<i>1.5</i>		<i>1.0</i>		<i>0.5</i>	
Income Pool Composite	\$135,101,819	45.4%	47.5%		1.1		5.2		5.3		2.5		2.3		3.1	
Income Research + Management	\$71,347,106	24.0%	26.0%	eV US Short Duration Fixed Inc	0.8	57	3.6	64	4.6	50	1.8	72	1.7	68		
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>					<i>0.7</i>		<i>3.4</i>		<i>4.6</i>		<i>1.8</i>		<i>1.6</i>		<i>1.5</i>	
BlackRock Strategic Income Opportunities	\$20,473,805	6.9%	7.0%	eV US Enh Fixed Inc	0.9	74	6.1	65	5.5	57	3.9	1				
<i>3-Month Libor Total Return USD</i>					<i>0.6</i>		<i>1.9</i>		<i>2.6</i>		<i>1.9</i>		<i>1.3</i>		<i>0.8</i>	
Loomis Sayles Bank Loans	\$22,661,764	7.6%	7.0%	eV US Bank Loan Fixed Inc	1.3	27	6.7	52	3.3	31	3.7	87	3.6	75	4.3	88
<i>Loomis Bank Loans Custom Index</i>					<i>1.5</i>		<i>7.8</i>		<i>4.0</i>		<i>4.0</i>		<i>4.1</i>		<i>5.3</i>	
Vanguard Total Bond Market Instl' Fund	\$20,619,144	6.9%	7.5%	eV All US Fixed Inc	2.4	19	8.7	46	10.5	21	2.9	56	3.4	51	3.7	58
<i>BBgBarc US Aggregate TR</i>					<i>2.3</i>		<i>8.5</i>		<i>10.3</i>		<i>2.9</i>		<i>3.4</i>		<i>3.7</i>	
Total Return Pool Composite	\$69,880,850	23.5%	22.5%		-0.4		9.7		2.5		5.7		4.0		5.4	
Lighthouse	\$14,367,408	4.8%	5.0%	eV Alt - Long/Short Equity	-1.7	62	5.7	59	-3.1	62	3.3	69				
<i>Credit Suisse Long Shrt Eqt USD</i>					<i>0.1</i>		<i>6.8</i>		<i>-0.4</i>		<i>4.8</i>		<i>3.4</i>		<i>4.9</i>	
Newton Global Real Return	\$14,244,786	4.8%	4.0%	eV Global TAA	0.6	44	9.7	64	8.1	15						
<i>60% MSCI ACWI (Net)/ 40% BBgBarc Global Ag</i>					<i>0.3</i>		<i>12.4</i>		<i>4.2</i>		<i>6.6</i>		<i>4.9</i>		<i>6.1</i>	
PIMCO All Asset	\$13,285,304	4.5%	4.0%	eV Global TAA	-0.6	72	7.6	68	4.0	33	5.1	52	3.2	65	5.3	59
<i>Blended Index</i>					<i>1.2</i>		<i>9.3</i>		<i>7.9</i>		<i>3.9</i>		<i>4.1</i>		<i>5.1</i>	
Vanguard Total World Stock Index	\$27,983,352	9.4%	9.5%	eV Global All Cap Equity	0.0	36	16.2	46	1.0	40	9.7	37	6.9	41		
<i>FTSE Global All Cap Index</i>					<i>0.0</i>		<i>16.2</i>		<i>1.0</i>		<i>9.5</i>		<i>5.8</i>		<i>7.0</i>	

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September 30, 2019

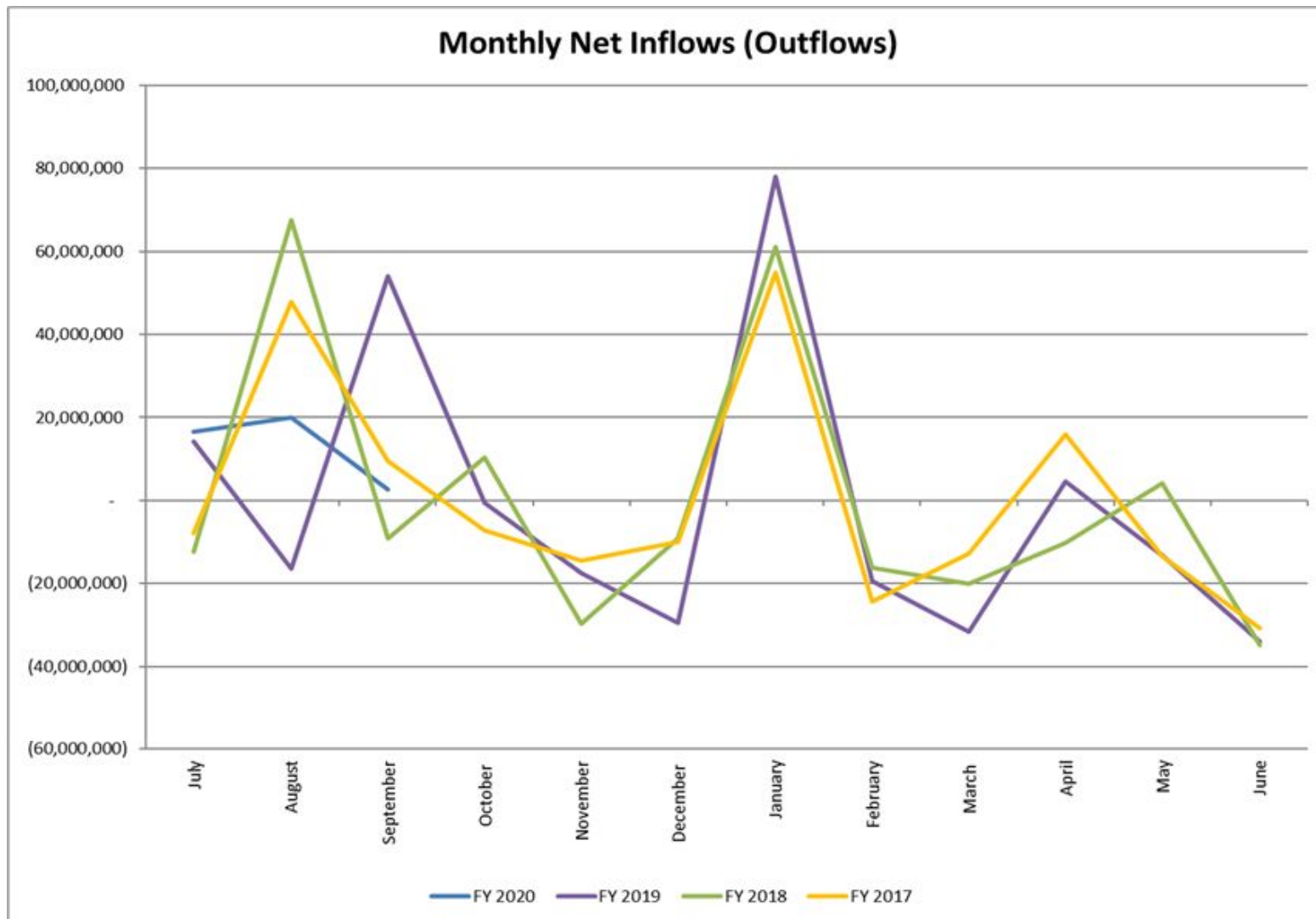
BALANCES AND MONTHLY CHANGES



September 30, 2019

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MONTHLY NET INFLOWS (OUTFLOWS)



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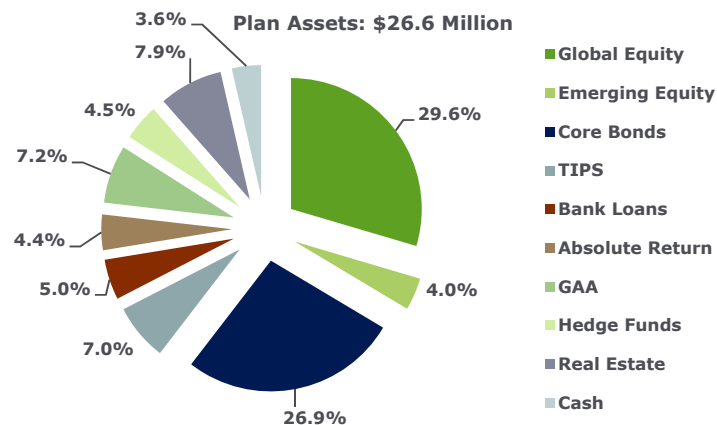
September 30, 2019

PENSION FUND PERFORMANCE REVIEW

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION



FUND COMMENTS

Asset Allocation

The Fund's assets were \$26.6 million as of September 30, 2019 a \$380 thousand increase during the third quarter. During the 3rd quarter there was a net cash inflow of \$160 thousand and investment gains of \$220 thousand. All asset classes are within policy ranges.

Performance (Net of Fees)

The Fund returned 1.2% in the 3rd quarter and 9.6% year-to-date.

Year-to-date, managers in aggregate matched benchmarks (Composite vs. Allocation Index).

FUND PERFORMANCE: NET OF FEES

	QTR (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
COMPOSITE	1.2	9.6	5.1	5.0	3.9	6.0
ALLOC. INDEX	0.8	9.7	4.0	5.6	4.9	6.4
POLICY INDEX	0.9	10.4	4.7	5.9	5.1	6.9

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

Rebalancing was provided over the quarter to cover benefit payments, expenses and to move towards the new asset allocation. Walter Scott, the Fund's new global equity manager, was funded in July 2019.

Recommendations

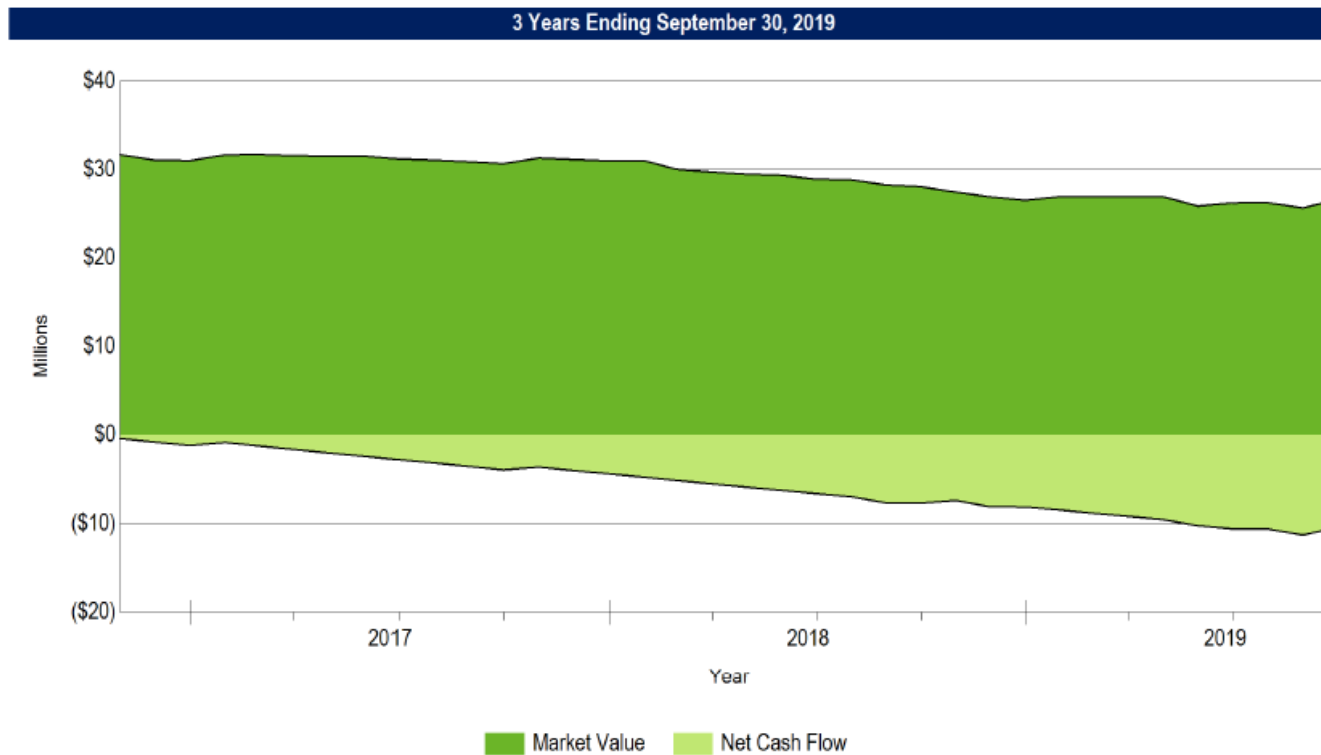
There are no recommendations at this time.

Investment Manager Updates

Manager updates are detailed in the due diligence section of the report.



ASSET GROWTH SUMMARY



	Quarter-To-Date	Year-To-Date	One Year	Three Years
Beginning Market Value	\$26,231,215	\$26,520,627	\$28,081,876	\$32,428,288
Net Cash Flow	\$159,747	-\$2,323,154	-\$2,742,809	-\$10,439,959
Net Investment Change	\$219,545	\$2,413,033	\$1,271,439	\$4,622,177
Ending Market Value	\$26,610,506	\$26,610,506	\$26,610,506	\$26,610,506



September 30, 2019

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PENSION PERFORMANCE OVERVIEW

Ending September 30, 2019

	Market Value(\$)	% of Portfolio	Policy %	Universe	Qtr (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Pension Composite	\$26,610,506	100.0%	100.0%		1.2		9.6		5.1		5.0		3.9		6.0	
<i>Allocation Index</i>					<i>0.8</i>		<i>9.7</i>		<i>4.0</i>		<i>5.6</i>		<i>4.9</i>		<i>6.4</i>	
<i>Policy Index</i>					<i>0.9</i>		<i>10.4</i>		<i>4.7</i>		<i>5.9</i>		<i>5.1</i>		<i>6.9</i>	
Total Global Equity	\$7,869,528	29.6%	30.0%	eA Global All Cap Equity												
<i>MSCI World</i>					<i>0.5</i>		<i>17.6</i>		<i>1.8</i>		<i>10.2</i>		<i>7.2</i>		<i>9.0</i>	
Walter Scott Global Equity Fund	\$7,869,528	29.6%	30.0%	eA Global All Cap Equity												
<i>MSCI World</i>					<i>0.5</i>		<i>17.6</i>		<i>1.8</i>		<i>10.2</i>		<i>7.2</i>		<i>9.0</i>	
Emerging Markets Equity	\$1,056,811	4.0%	3.0%	eV Emg Mkts Equity Net Median	-2.2	18	1.1	98	-2.1	65	-2.3	99	-3.0	99	--	
<i>MSCI Emerging Markets</i>					<i>-4.2</i>		<i>5.9</i>		<i>-2.0</i>		<i>6.0</i>		<i>2.3</i>		<i>3.4</i>	
Mondrian EM Small Cap	\$1,056,811	4.0%	3.0%	eV Emg Mkts Equity	-2.2	18	1.1	98	-2.1	65	-2.3	99	-3.0	99		
<i>MSCI Emerging Markets Small Cap</i>					<i>-4.6</i>		<i>1.8</i>		<i>-5.5</i>		<i>1.3</i>		<i>-0.1</i>		<i>3.2</i>	
Total Fixed Income	\$11,518,212	43.3%	43.0%	eV All US Fixed Inc Net Median	1.8	38	7.8	48	8.3	41	2.9	58	3.1	57	4.2	49
<i>BBgBarc US Aggregate TR</i>					<i>2.3</i>		<i>8.5</i>		<i>10.3</i>		<i>2.9</i>		<i>3.4</i>		<i>3.7</i>	
Vanguard Total Bond Market Index	\$7,147,056	26.9%	26.0%	eV US Core Fixed Inc	2.4	21	8.7	64	10.5	40	2.9	68				
<i>BBgBarc US Aggregate TR</i>					<i>2.3</i>		<i>8.5</i>		<i>10.3</i>		<i>2.9</i>		<i>3.4</i>		<i>3.7</i>	
Vanguard Inflation-Protected Securities	\$937,555	3.5%	3.5%	eV US TIPS / Inflation Fixed Inc	1.4	20	7.6	43	7.1	34						
<i>BBgBarc US TIPS TR</i>					<i>1.3</i>		<i>7.6</i>		<i>7.1</i>		<i>2.2</i>		<i>2.4</i>		<i>3.5</i>	
Vanguard Short-Term Inflation-Protected Securities - VTSI	\$912,335	3.4%	3.5%	eV US TIPS / Inflation Fixed Inc	0.4	88										
<i>BBgBarc US TIPS 1-5 Yr TR</i>					<i>0.3</i>		<i>3.9</i>		<i>3.7</i>		<i>1.6</i>		<i>1.3</i>		<i>1.8</i>	
BlackRock Strategic Income Opportunities	\$1,180,014	4.4%	5.0%	eV US Enh Fixed Inc	0.9	73	6.1	50	5.6	57						
<i>3-Month Libor Total Return USD</i>					<i>0.6</i>		<i>1.9</i>		<i>2.6</i>		<i>1.9</i>		<i>1.3</i>		<i>0.8</i>	
Bain Capital Senior Loan Fund	\$1,341,252	5.0%	5.0%	eV US Bank Loan Fixed Inc	0.7	84	6.4	53	3.2	35						
<i>Credit Suisse Leveraged Loans</i>					<i>0.9</i>		<i>6.4</i>		<i>3.1</i>		<i>4.7</i>		<i>4.1</i>		<i>5.4</i>	

6.1



September 30, 2019

PENSION PERFORMANCE OVERVIEW

Ending September 30, 2019

	Market Value(\$)	% of Portfolio	Policy %	Universe	Qtr (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total GAA	\$1,907,513	7.2%	8.0%	eV Global TAA Net Median	0.7	43	11.7	36	7.2	18	4.6	56	2.9	67	4.8	69
<i>65% MSCI ACWI (Net) / 35% BBgBarc Global Agg</i>					0.3		12.9		3.9		7.0		5.2		6.4	
Newton Global Real Return	\$1,907,513	7.2%	8.0%	eV Global TAA	0.7	43	9.6	60	8.1	15	3.4	74				
<i>60% MSCI ACWI (Net) / 40% FTSE WGBI</i>					0.4		12.4		4.4		6.4		4.9		5.9	
Total Alternative Investments	\$1,201,323	4.5%	5.0%		-1.7		5.7		-3.1		2.4		1.2		2.3	
<i>HFRI Fund of Funds Composite Index</i>					-0.8		5.3		0.1		3.2		2.0		2.7	
Lighthouse	\$1,201,323	4.5%	5.0%	eV Alt - Long/Short Equity	-1.7	62	5.7	65	-3.1	62	3.3	69				
<i>Credit Suisse Long Shrt Eqt USD</i>					0.1		6.8		-0.4		4.8		3.4		4.9	
Total Real Assets	\$2,100,680	7.9%	8.0%		1.6		4.5		5.8		7.7		9.4			
Principal	\$2,100,680	7.9%	8.0%		1.6		4.5		5.8		7.7		9.4		10.6	
<i>NCREIF ODCE</i>					1.3		3.8		5.6		7.3		9.3		10.9	
Total Cash	\$956,439	3.6%	3.0%		0.5		1.6		2.0		1.3		0.8		0.4	
Distribution Account	\$956,439	3.6%	3.0%		0.5		1.6		2.0		1.3		0.8		0.4	
<i>91 Day T-Bills</i>					0.5		1.7		2.3		1.5		1.0		0.5	

6.1



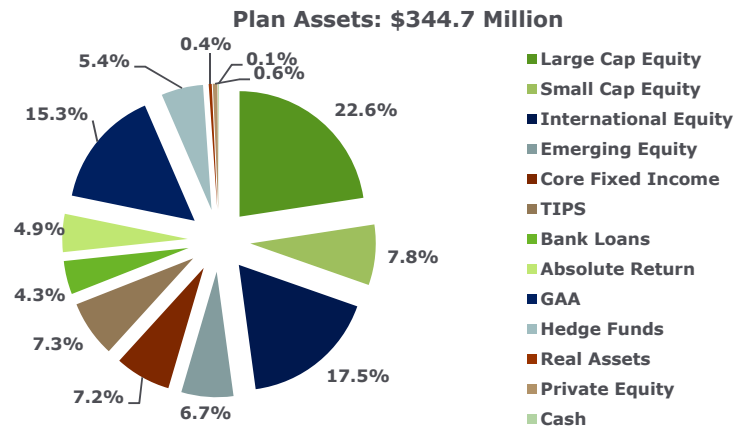
September 30, 2019

MANAGED INVESTMENT POOL PERFORMANCE REVIEW

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION



FUND COMMENTS

Asset Allocation

MIP assets were \$344.7 million as of September 30, 2019, a \$413 thousand decrease over the quarter. During the 3rd quarter there was a \$417 thousand net cash inflow and investment losses of \$830 thousand. All asset classes are within policy ranges.

Performance (Net of Fees)

The Fund returned -0.4% in the 3rd quarter and 10.0% year-to-date, ranking in the 84th and 83rd percentiles, respectively.

Most asset classes posted positive returns year-to-date with the exception of Timber. U.S. Large Cap equity was the top contributor to Fund's performance.

MIP PERFORMANCE: NET OF FEES

	QTR (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
COMPOSITE	-0.4	10.0	1.2	5.6	3.9	6.4
ALLOC. INDEX	0.2	11.4	2.2	6.6	5.0	6.5
POLICY INDEX	0.0	11.3	2.3	7.0	5.4	6.8
RANK (E&F \$100-500M)	84	83	86	95	96	89

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

Rebalancing was provided over the quarter to invest contributions and move towards the new asset allocation.

Recommendations

There are no recommendations at this time.

Investment Manager Updates

Manager updates are detailed in the due diligence section of the report.



PRIVATE MARKETS UPDATE

- **The System invests in a number of private markets assets, committing capital for longer time periods to obtain illiquidity premiums and exposure to alternative markets**
- **Landmark Equity Partners XV**
 - Secondary Private Equity fund, purchasing interests in venture capital, growth equity and buyout funds, and to a lesser extent, special situation and energy funds
 - Strategy is diversified, investing in ~200 partnerships
 - Fund has a 4 year investment period and 10 year term
 - The System committed \$5 million in 2014 and has a remaining commitment of \$1.8 million
 - Since inception, the strategy has an IRR of 14.7%, net of fees (6/30/19)
- **Hancock Timberland VII**
 - Private Real Asset Timber Fund structured for the purpose of making direct and indirect investments in commercial timberland
 - The System has been invested in the strategy since 2005
 - Fund has a 3 year acquisition period, 8 year investment period, 2 year wind up period and 2 year extension period (estimated)
 - The System committed \$5 million in 2005 and there are no remaining commitments, the Fund is winding up
 - Since inception, the strategy has an IRR of 1.1%, net of fees (9/30/19)

6.1



MIP PERFORMANCE OVERVIEW

As of September 30, 2019

	Market Value(\$)	% of Portfolio	Policy %	Universe	Qtr (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
MIP Composite	\$344,739,612	100.0%	100.0%		-0.4	84	10.0	83	1.2	86	5.6	95	3.9	96	6.4	89
Allocation Index					0.2	56	11.4	51	2.2	61	6.6	74	5.0	69	6.5	86
Policy Index					0.0	63	11.3	54	2.3	59	7.0	64	5.4	53	6.8	78
InvMetrics All E&F \$100mm - \$500mm Net Median					0.2		11.4		2.7		7.4		5.4		7.3	
Total Domestic Large Cap	\$78,021,514	22.6%	22.0%	eV US Large Cap Core Equity	1.7	51	20.5	39	4.2	41	13.3	28	10.8	22	13.2	22
S&P 500					1.7		20.6		4.3		13.4		10.8		13.2	
SSgA S&P 500	\$78,021,514	22.6%	22.0%	eV US Large Cap Core Equity	1.7	51	20.5	39	4.2	41	13.3	28	10.8	22	13.2	22
S&P 500					1.7		20.6		4.3		13.4		10.8		13.2	
Total Domestic Small/Mid Cap	\$26,723,516	7.8%	8.0%	eV US Small-Mid Cap Equity	-1.9	64	14.8	80	-8.1	79	9.5	51	7.0	63	12.0	45
Russell 2500					-1.3		17.7		-4.0		9.5		8.6		12.2	
Westfield Capital	\$13,640,637	4.0%	4.0%	eV US Small-Mid Cap Growth Equity	-2.6	46	17.7	70	-5.5	72	12.7	54	8.3	69	13.3	43
Russell 2500 Growth					-3.2		20.0		-4.1		12.3		10.2		13.5	
DFA	\$13,082,879	3.8%	4.0%	eV US Small Cap Value Equity	-1.2	70	11.9	80	-10.5	76	5.4	64	5.1	73		
Russell 2000 Value					-0.6		12.8		-8.2		6.5		7.2		10.1	
Total International Equity (incl. emerging markets)	\$83,173,046	24.1%	25.0%	eV All ACWI ex-US Equity	-3.0	80	7.7	86	-4.3	67	3.4	90	1.5	86	4.6	82
MSCI EAFE					-1.1		12.8		-1.3		6.5		3.3		4.9	
Morgan Stanley	\$21,627,219	6.3%	6.5%	eV All EAFE Equity	-1.7	63	12.1	51	-2.0	32	5.7	53	2.4	80	4.9	81
Globeflex	\$21,032,599	6.1%	6.5%	eV All EAFE Equity	-3.3	95	6.2	95	-11.5	96	3.3	88	2.3	82	5.0	75
MSCI EAFE					-1.1		12.8		-1.3		6.5		3.3		4.9	
Kabouter International Opportunities Offshore Fund II	\$17,500,592	5.1%	5.0%	eV EAFE Small Cap Equity	-3.9	95	7.9	76	-7.2	38						
MSCI EAFE Small Cap					-0.4		12.1		-5.9		5.9		6.0		7.5	
Emerging Markets Equity	\$23,012,636	6.7%	7.0%	eV Emg Mkts Equity	-3.2	34	5.6	70	2.2	27	1.4	97	-0.4	97		
MSCI Emerging Markets					-4.2		5.9		-2.0		6.0		2.3		3.4	
Aberdeen Emerging Mkts	\$12,111,153	3.5%	3.5%	eV Emg Mkts Equity	-4.2	59	10.0	31	6.3	8	4.9	61	2.2	56	5.0	27
MSCI Emerging Markets					-4.2		5.9		-2.0		6.0		2.3		3.4	
Mondrian EM Small Cap	\$10,901,483	3.2%	3.5%	eV Emg Mkts Equity	-2.2	18	1.1	98	-2.1	65	-2.3	99	-3.0	99		
MSCI Emerging Markets Small Cap					-4.6		1.8		-5.5		1.3		-0.1		3.2	

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September 30, 2019

MIP PERFORMANCE OVERVIEW

As of September 30, 2019

	Market Value(\$)	% of Portfolio	Policy %	Universe	Qtr (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fixed Income	\$81,848,824	23.7%	24.0%	eV All US Fixed Inc	1.2	61	6.9	54	6.2	62	3.1	50	3.0	59	5.0	36
<i>BBgBarc US Aggregate TR</i>					2.3		8.5		10.3		2.9		3.4		3.7	
<i>Commonfund</i>	<i>\$24,976,992</i>	<i>7.2%</i>	<i>7.0%</i>	<i>eV US Core Fixed Inc</i>	2.1	86	8.5	74	9.2	91	3.6	16	3.6	39	4.8	16
<i>BBgBarc US Aggregate TR</i>					2.3		8.5		10.3		2.9		3.4		3.7	
<i>Vanguard Inflation-Protected Securities</i>	<i>\$12,779,009</i>	<i>3.7%</i>	<i>3.5%</i>	<i>eV US TIPS / Inflation Fixed Inc</i>	1.4	20	7.6	43	7.1	34	2.1	68				
<i>BBgBarc US TIPS TR</i>					1.3		7.6		7.1		2.2		2.4		3.5	
<i>Vanguard Short-Term Inflation-Protected Securities</i>	<i>\$12,244,139</i>	<i>3.6%</i>	<i>3.5%</i>	<i>eV US TIPS / Inflation Fixed Inc Net Median</i>	0.4	88										
<i>BBgBarc US TIPS 1-5 Yr TR</i>					0.3		3.9		3.7		1.6		1.3		1.8	
<i>Blackrock Strategic Income Opportunities</i>	<i>\$16,905,812</i>	<i>4.9%</i>	<i>5.0%</i>	<i>eV US Enh Fixed Inc</i>	0.9	73	6.1	51	5.5	57						
<i>3-Month Libor Total Return USD</i>					0.6		1.9		2.6		1.9		1.3		0.8	
<i>Bain Capital Senior Loan Fund</i>	<i>\$14,942,871</i>	<i>4.3%</i>	<i>5.0%</i>	<i>eV US Bank Loan Fixed Inc</i>	0.7	84	6.4	53	3.2	35						
<i>Credit Suisse Leveraged Loans</i>					0.9		6.4		3.1		4.7		4.1		5.4	
Total GAA	\$52,653,823	15.3%	15.0%	eV Global TAA	-0.4	70	8.4	68	3.9	34	3.7	65	2.4	73	4.3	77
<i>65% MSCI ACWI (Net) / 35% BBgBarc Global Agg</i>					0.3		12.9		3.9		7.0		5.2		6.4	
<i>GMO Global Absolute Return</i>	<i>\$25,696,969</i>	<i>7.5%</i>	<i>7.5%</i>	<i>eV Global TAA</i>	-1.4	83	5.3	82	0.9	61	3.4	75	2.1	77	4.4	73
<i>Blended Index</i>					1.2		9.3		7.9		3.9		4.1		5.1	
<i>Newton Global Real Return</i>	<i>\$26,956,854</i>	<i>7.8%</i>	<i>7.5%</i>	<i>eV Global TAA</i>	0.7	43	9.6	60	8.1	15	3.4	74				
<i>60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg</i>					0.3		12.4	29			6.6		4.9		6.1	
Total Hedge Funds	\$18,586,057	5.4%	6.0%		-1.7	62	5.7	65	-3.1	62	2.4	75	0.6	83	2.0	91
<i>HFRI Fund of Funds Composite Index</i>					-0.8		5.3		0.1		3.2		2.0		2.7	
<i>Lighthouse</i>	<i>\$18,586,057</i>	<i>5.4%</i>	<i>6.0%</i>	<i>eV Alt - Long/Short Equity</i>	-1.7	62	5.7	65	-3.1	62	3.3	69				
<i>Credit Suisse Long Shrt Eqt USD</i>					0.1		6.8		-0.4		4.8		3.4		4.9	
Total Real Assets	\$1,522,388	0.4%	0.0%		-0.1		-1.0		-6.1		-3.5		0.3		0.1	
<i>John Hancock Timber Fund</i>	<i>\$1,522,388</i>	<i>0.4%</i>	<i>0.0%</i>		-0.1		-1.0		-6.1		-3.5		0.3		0.1	
<i>NCREIF Timberland Index</i>					0.2		1.3		2.1		3.1		4.4		4.0	
Private Equity	\$1,958,723	0.6%	0.0%		0.0		3.4		-3.2		11.8		7.5			
<i>Landmark Equity Partners XV</i>	<i>\$1,958,723</i>	<i>0.6%</i>	<i>0.0%</i>		0.0		3.4		-3.2		11.8		7.5			
<i>Cambridge Associates US All PE (1 Qtr Lag)</i>					4.6		7.8		11.9		15.6		11.7			
Total Cash	\$251,721	0.1%	0.0%													
<i>Distribution Account</i>	<i>\$251,721</i>	<i>0.1%</i>	<i>0.0%</i>		0.5		1.6		2.0		1.2		0.7		0.4	
<i>91 Day T-Bills</i>					0.5		1.7		2.3		1.5		1.0		0.5	

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September 30, 2019

INVESTMENT MANAGER DUE DILIGENCE

NEPC, LLC

DUE DILIGENCE MONITOR

The items below summarize the recent quarter's performance and any changes or announcements from your Plan managers/funds. A "-" indicates there were no material announcements. A "Yes" indicates there was an announcement and a summary is provided separately. NEPC's Due Diligence Committee meets every two weeks to review events as they relate to investment managers and determines if any action should be taken by NEPC and/or by our clients. They rate events: No Action, Watch, Hold, Client Review or Terminate. With respect to Performance, a "-" indicates the manager/fund performed in line with the majority of managers/funds in the category; only outliers (placement in the Top or Bottom Quartile) are highlighted. Your Consultant's Recommendation is refreshed quarterly in view of the recent quarter's developments (performance, manager events, and any of the longer-term trending data). NEPC considers ourselves to be a fiduciary, as ERISA defines the term in Section 3(21).

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Fund	Portfolio	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
Aberdeen	MIP & Pension	No	Maintain Hold
Lighthouse	MIP, Pension & Operating	No	Maintain Watch
Blackrock	MIP, Pension & Operating	No	Maintain Watch
PIMCO	Operating	Yes	No Action
IR+M	Operating	Yes	No Action
BNY Mellon	MIP & Pension	Yes	No Action

NEPC Due Diligence Committee Recommendation Key	
No Action	Informational items have surfaced; no action is recommended.
Watch	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
Hold	Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
Client Review	Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager.
Terminate	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager.



September 30, 2019

APPENDIX & DISCLAIMERS

NEPC, LLC

HIGHLIGHTS OF 2019 THIRD QUARTER HAPPENINGS AT NEPC

NEPC INSIGHTS

- 2019 Second Quarter Market Thoughts
- White Paper: "Determining Spending Levels for an Individual Portfolio"
- White Paper: "Are you Getting Independent and Objective Investment Advice?"
- "What a Long, Strange Trip It's Been – The Journey of the First 401(k) Participants"
- "Dollars and Cents: Transitioning Decisions into Dollars for Defined Contribution Participants"
- Taking Stock: "What is the Yield Curve Signaling? Part 2"
- Taking Stock: "What Happened to the Data-Dependent Fed?"
- Taking Stock: "A Multi-Asset Strategy That's the Right Fit For You"
- Taking Stock: "Healthcare Organizations Maintain Economic Optimism Despite Geopolitical Concerns"
- Taking Stock: "Getting Those Dollars and Cents to Add Up in Retirement Planning"
- Taking Stock: "Dear Millennials, What Do You Want from Your Investment Portfolio?"
- Taking Stock: "Is Help on the Way for Struggling Multiemployer Pensions?"
- Taking Stock: "Pension Liabilities Rise in Q2"

WEBINAR REPLAYS

- NEPC's 2019 Q2 Quarterly Market Thoughts Call

To download NEPC's recent insights and webinar replays, visit: www.NEPC.com/insights



HIGHLIGHTS OF 2019 THIRD QUARTER HAPPENINGS AT NEPC

NEPC GIVES BACK

- NEPC sponsored a volunteer day with the Greater Boston chapter of Habitat for Humanity. Our volunteers spent their day helping to build homes for low-income families in need of decent and affordable housing.
- NEPC employees volunteered at the Greater Boston Food Bank (GBFB) on October 3rd. GBFB is the largest hunger-relief organization in New England and among the largest food banks in the country. The food banks are committed to increasing food distribution to provide at least one meal a day to every person in need, while supporting healthy lives and healthy communities. We had a group of about 20 volunteers who sorted and packed a total of 6,961 pounds of food and drink, which came to a total of 5,801 meals.



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September 30, 2019

GLOSSARY OF TERMS

Alpha - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

Alpha Jensen - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

Annualized Excess Return over Benchmark - Annualized fund return minus the annualized benchmark return for the calculated return.

Annualized Return - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

Beta - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

Information Ratio - A measure of the risk adjusted return of a financial security, asset, or portfolio.

Formula:

(Annualized Return of Portfolio - Annualized Return of Benchmark)/Annualized Standard Deviation(Period Portfolio Return - Period Benchmark Return). To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.

R-Squared - Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

Sharpe Ratio - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

Sortino Ratio - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

Formula:

*Calculation Average (X-Y)/Downside Deviation (X-Y) * 2
Where X=Return Series X Y = Return Series Y which is the risk free return (91 day T-bills)*

Standard Deviation - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

Formula:

(Annualized Return of Portfolio - Annualized Return of Risk Free) / Annualized Standard Deviation (Portfolio Returns)

Tracking Error - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

Formula:

*Tracking Error = Standard Deviation (X-Y) * $\sqrt{(\# \text{ of periods per year})}$*

Where X = periods portfolio return and Y = the period's benchmark return

For monthly returns, the periods per year = 12

For quarterly returns, the periods per year = 4

Treynor Ratio - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

Formula:

(Portfolio Average Return - Average Return of Risk-Free Rate)/Portfolio Beta

Up/Down Capture Ratio - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

UpsideCapture = TotalReturn(FundReturns)/TotalReturns(BMReturn) when Period Benchmark Return is >= 0

DownsideCapture = TotalReturn(FundReturns)/TotalReturns(BMReturn) when Benchmark < 0

Data Source: InvestorForce



September 30, 2019

INFORMATION DISCLAIMER AND REPORTING METHODOLOGY

Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may not be available from the source or may be preliminary and subject to change.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodial bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- This report is provided as a management aid for the client's internal use only. Performance contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of Return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.



THIRD QUARTER 2019 SUPPLEMENTAL PERFORMANCE



UNIVERSITY OF MAINE SYSTEM MANAGED INVESTMENT POOL

December 2, 2019

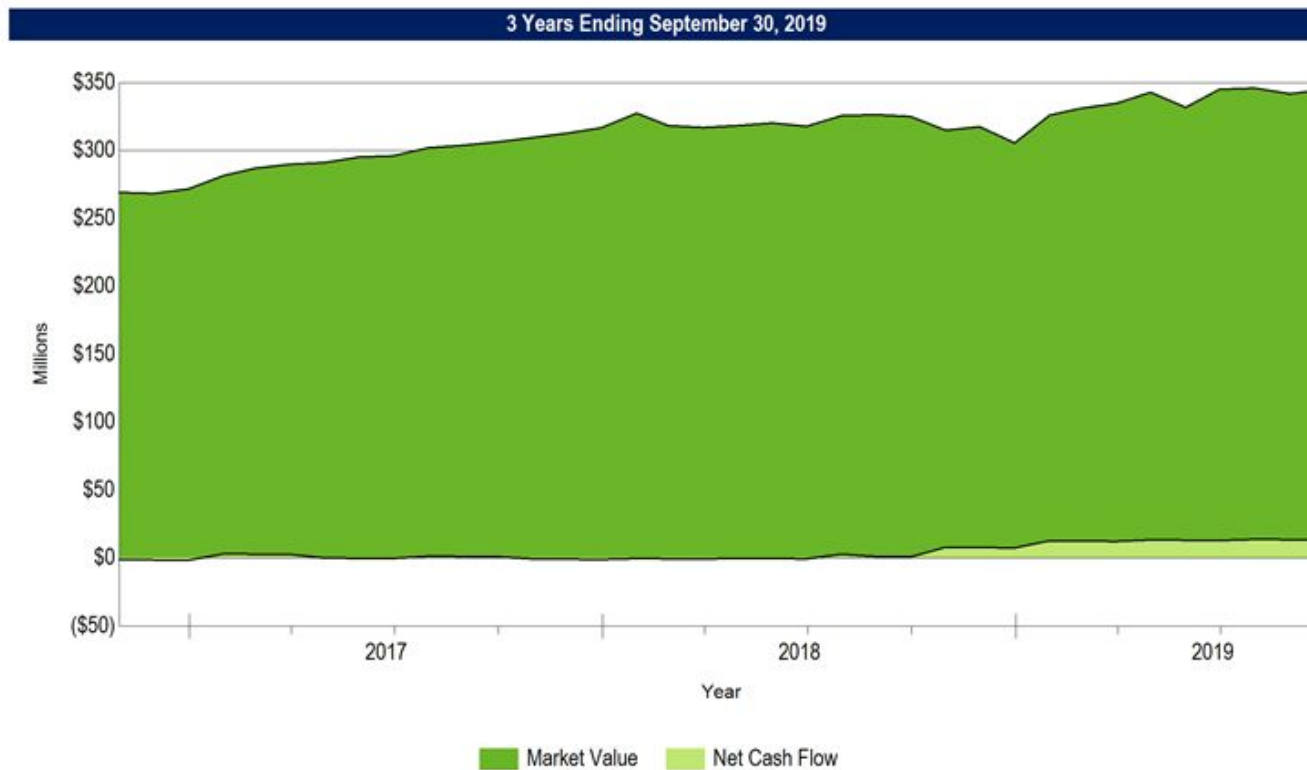
Jay E. Roney, Partner

Kelly Regan, Senior Consultant



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

ASSET GROWTH SUMMARY



	Last Three Months	Year-To-Date	One Year	Three Years
Beginning Market Value	\$345,152,104	\$305,625,905	\$325,124,530	\$274,006,109
Net Cash Flow	\$417,393	\$5,858,954	\$12,554,475	\$13,374,954
Net Investment Change	-\$829,884	\$33,254,753	\$7,060,607	\$57,358,549
Ending Market Value	\$344,739,612	\$344,739,612	\$344,739,612	\$344,739,612



September 30, 2019

CASH FLOW SUMMARY

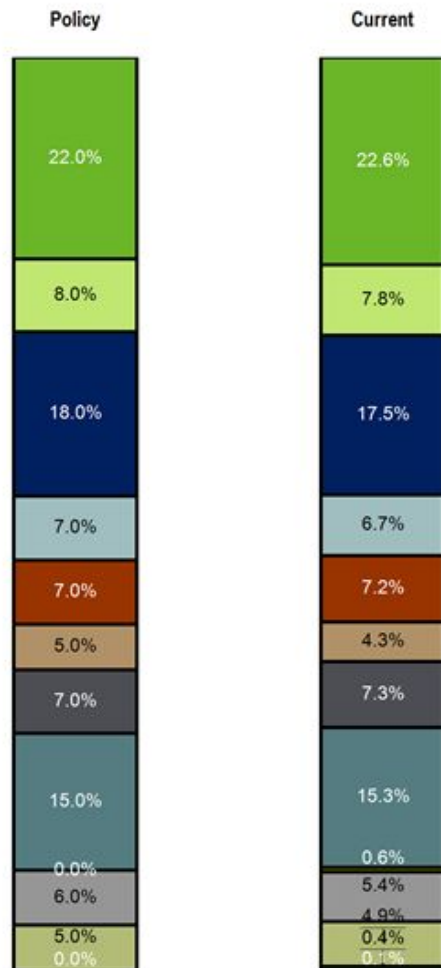
	3 Months Ending September 30, 2019					Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	
Aberdeen Emerging Mkts	\$12,638,783	\$0	-\$33,499	-\$33,499	-\$494,132	\$12,111,153
Bain Capital Senior Loan Fund	\$14,844,470	\$0	-\$18,765	-\$18,765	\$117,166	\$14,942,871
Blackrock Strategic Income Opportunities	\$16,757,086	\$0	-\$22,359	-\$22,359	\$171,085	\$16,905,812
Commonfund	\$24,469,825	\$0	-\$9,931	-\$9,931	\$517,097	\$24,976,992
DFA	\$13,240,018	\$0	-\$13,243	-\$13,243	-\$143,895	\$13,082,879
Distribution Account	\$1,199,579	\$1,048,079	-\$1,997,660	-\$949,581	\$1,723	\$251,721
Globeflex	\$21,751,939	\$0	-\$39,271	-\$39,271	-\$680,069	\$21,032,599
GMO Global Absolute Return	\$26,007,598	\$0	-\$63,934	-\$63,934	-\$246,695	\$25,696,969
John Hancock Timber Fund	\$1,523,353	\$0	-\$2,328	-\$2,328	\$1,363	\$1,522,388
Kabouter International Opportunities Offshore Fund II	\$18,214,826	\$0	-\$44,174	-\$44,174	-\$670,059	\$17,500,592
Landmark Equity Partners XV	\$1,918,577	\$105,056	-\$64,910	\$40,146	\$0	\$1,958,723
Lighthouse	\$18,915,957	\$0	\$0	\$0	-\$329,899	\$18,586,057
Mondrian EM Small Cap	\$11,142,353	\$0	-\$52,306	-\$52,306	-\$188,564	\$10,901,483
Morgan Stanley	\$21,999,116	\$0	-\$50,912	-\$50,912	-\$320,985	\$21,627,219
Newton Global Real Return	\$26,781,582	\$0	-\$53,937	-\$53,937	\$229,209	\$26,956,854
SSgA S&P 500	\$74,947,334	\$1,800,000	-\$17,217	\$1,782,783	\$1,291,397	\$78,021,514
Vanguard Inflation-Protected Securities	\$12,596,586	\$0	-\$2,236	-\$2,236	\$184,659	\$12,779,009
Vanguard Short-Term Inflation-Protected Securities	\$12,194,837	\$0	-\$1,223	-\$1,223	\$50,526	\$12,244,139
Westfield Capital	\$14,008,285	\$12,533	-\$60,369	-\$47,836	-\$319,812	\$13,640,637
Total	\$345,152,104	\$2,965,668	-\$2,548,275	\$417,393	-\$829,884	\$344,739,612

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September 30, 2019

ASSET CLASS ALLOCATIONS

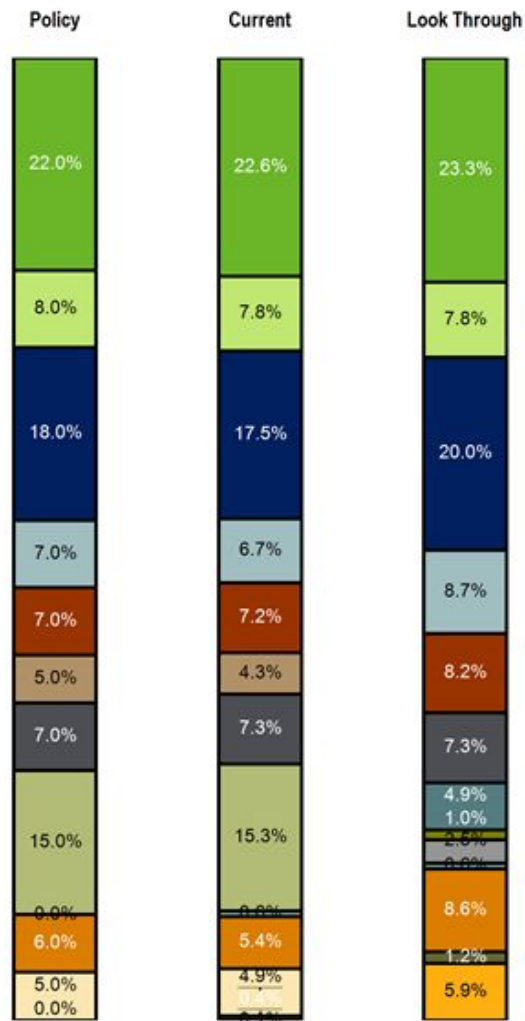


Asset Allocation vs. Target							
	Current	Policy	Current	Difference	Policy Range	Within Range	
Large Cap Equity	\$78,021,514	22.0%	22.6%	0.6%	17.0% - 27.0%	Yes	
Small/Mid Cap Equity	\$26,723,516	8.0%	7.8%	-0.2%	3.0% - 13.0%	Yes	
International Equity	\$60,160,411	18.0%	17.5%	-0.5%	8.0% - 28.0%	Yes	
Emerging Markets Equity	\$23,012,636	7.0%	6.7%	-0.3%	0.0% - 14.0%	Yes	
Core Bonds	\$24,976,992	7.0%	7.2%	0.2%	2.0% - 12.0%	Yes	
Bank Loans	\$14,942,871	5.0%	4.3%	-0.7%	0.0% - 10.0%	Yes	
TIPS	\$25,023,149	7.0%	7.3%	0.3%	0.0% - 14.0%	Yes	
Global Asset Allocation	\$52,653,823	15.0%	15.3%	0.3%	10.0% - 20.0%	Yes	
Private Equity	\$1,958,723	0.0%	0.6%	0.6%	0.0% - 5.0%	Yes	
Hedge Funds	\$18,586,057	6.0%	5.4%	-0.6%	0.0% - 10.0%	Yes	
Absolute Return	\$16,905,812	5.0%	4.9%	-0.1%	0.0% - 10.0%	Yes	
Real Assets	\$1,522,388	0.0%	0.4%	0.4%	0.0% - 6.0%	Yes	
Cash	\$251,721	0.0%	0.1%	0.1%	0.0% - 10.0%	Yes	
Total	\$344,739,612	100.0%	100.0%				

Note: International equity policy targets and ranges include international small cap equity. Emerging market equity policy targets and ranges include emerging market small cap equity. TIPS policy targets and ranges include short-term TIPS.



ASSET CLASS ALLOCATIONS



Asset Allocation			
	Policy	Current	Look Through
Large Cap Equity	22.0%	22.6%	23.3%
Small/Mid Cap Equity	8.0%	7.8%	7.8%
International Equity	18.0%	17.5%	20.0%
Emerging Markets Equity	7.0%	6.7%	8.7%
Core Bonds	7.0%	7.2%	8.2%
Bank Loans	5.0%	4.3%	--
TIPS	7.0%	7.3%	7.3%
Multi-Sector Fixed Income	--	--	4.9%
Fixed Income - Emerging	--	--	1.0%
Global Bonds	--	--	2.5%
Global Asset Allocation	15.0%	15.3%	--
Private Equity	0.0%	0.6%	0.6%
Hedge Funds	6.0%	5.4%	8.6%
Absolute Return	5.0%	4.9%	--
Real Assets	0.0%	0.4%	1.2%
Cash	0.0%	0.1%	5.9%
Total	100.0%	100.0%	100.0%

Net Asset Allocation breaks out the exposure of GAA managers.

Asset class weights may not add up to 100%.

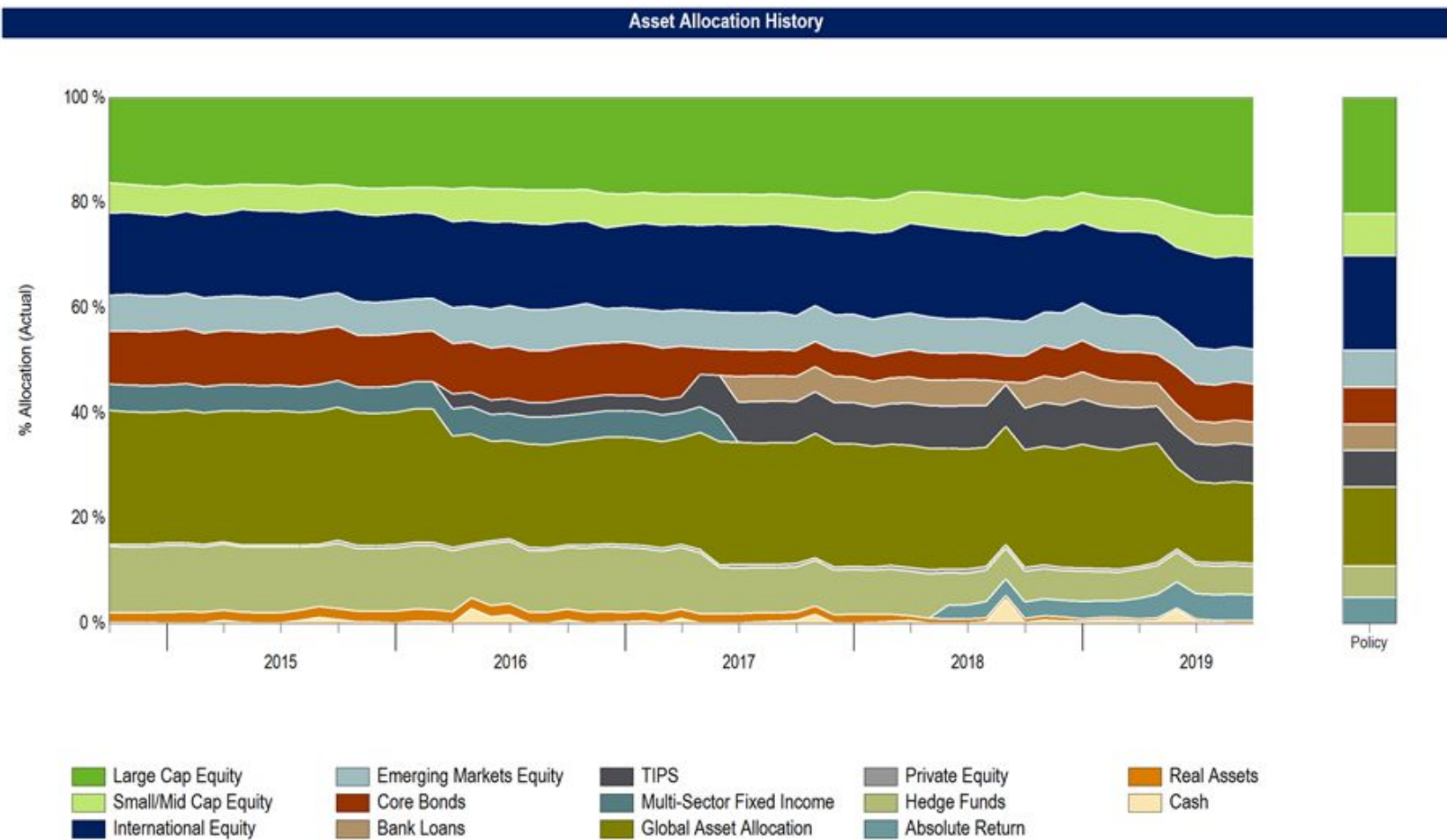
The 60% MSCI ACWI/40% CITI WGBI Index is broken down into the following categories: 33.5% Domestic Equities, 19.6% Int'l Equities, 6.9% Emerging Equities, 15.7% US Treasury Bonds, 12.3% European Government Bonds, 7.4% Japanese Debt, 2.1% United Kingdom Bonds and 2.6% Developing Markets Bonds.

Diversified Fixed Income bucket includes: multi-sector fixed income, non-U.S. fixed income, and emerging fixed income.



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ASSET ALLOCATION HISTORY

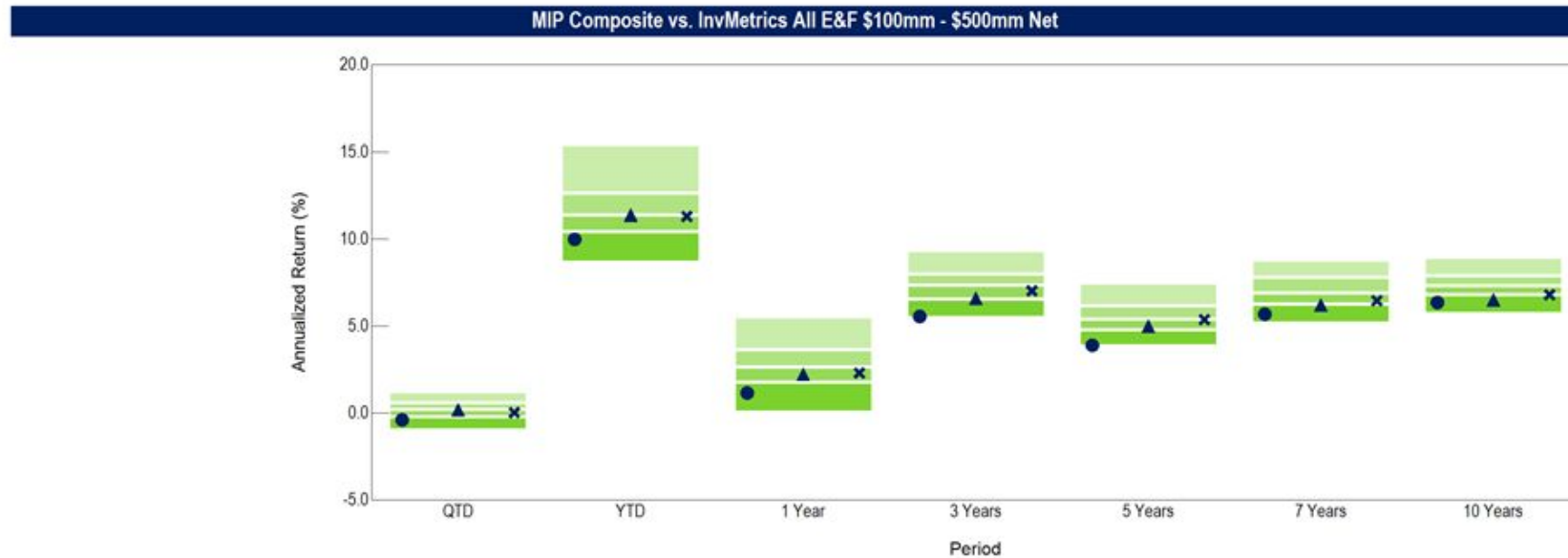


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RETURNS VS. PEER UNIVERSE

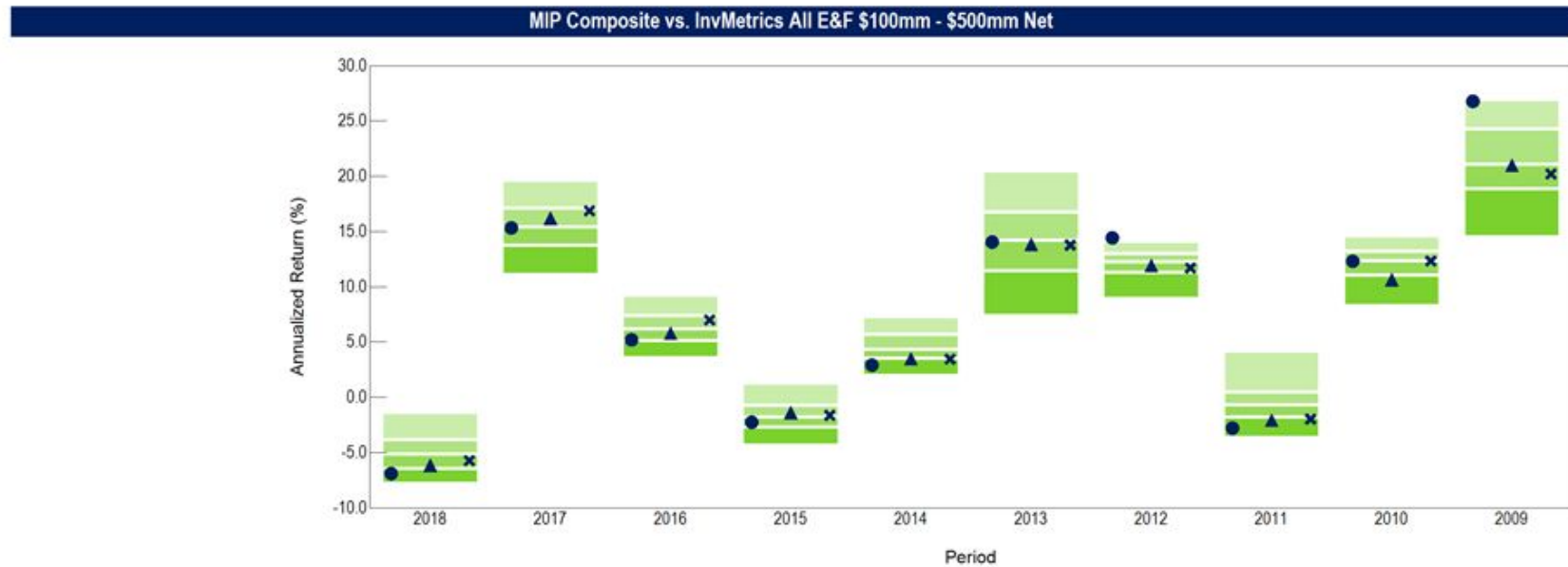


		Return (Rank)													
5th Percentile		1.2	15.4	5.5	9.3	7.4	8.8	8.9							
25th Percentile		0.6	12.7	3.7	8.0	6.2	7.8	7.9							
Median		0.2	11.4	2.7	7.4	5.4	6.9	7.3							
75th Percentile		-0.2	10.5	1.8	6.6	4.8	6.3	6.8							
95th Percentile		-0.9	8.7	0.1	5.5	3.9	5.2	5.7							
# of Portfolios		248	245	244	231	221	205	184							
●	MIP Composite	-0.4	(84)	10.0	(83)	1.2	(86)	5.6	(95)	3.9	(96)	5.7	(91)	6.4	(89)
▲	Allocation Index	0.2	(56)	11.4	(51)	2.2	(61)	6.6	(74)	5.0	(69)	6.2	(79)	6.5	(86)
×	Policy Index	0.0	(63)	11.3	(54)	2.3	(59)	7.0	(64)	5.4	(53)	6.5	(68)	6.8	(78)



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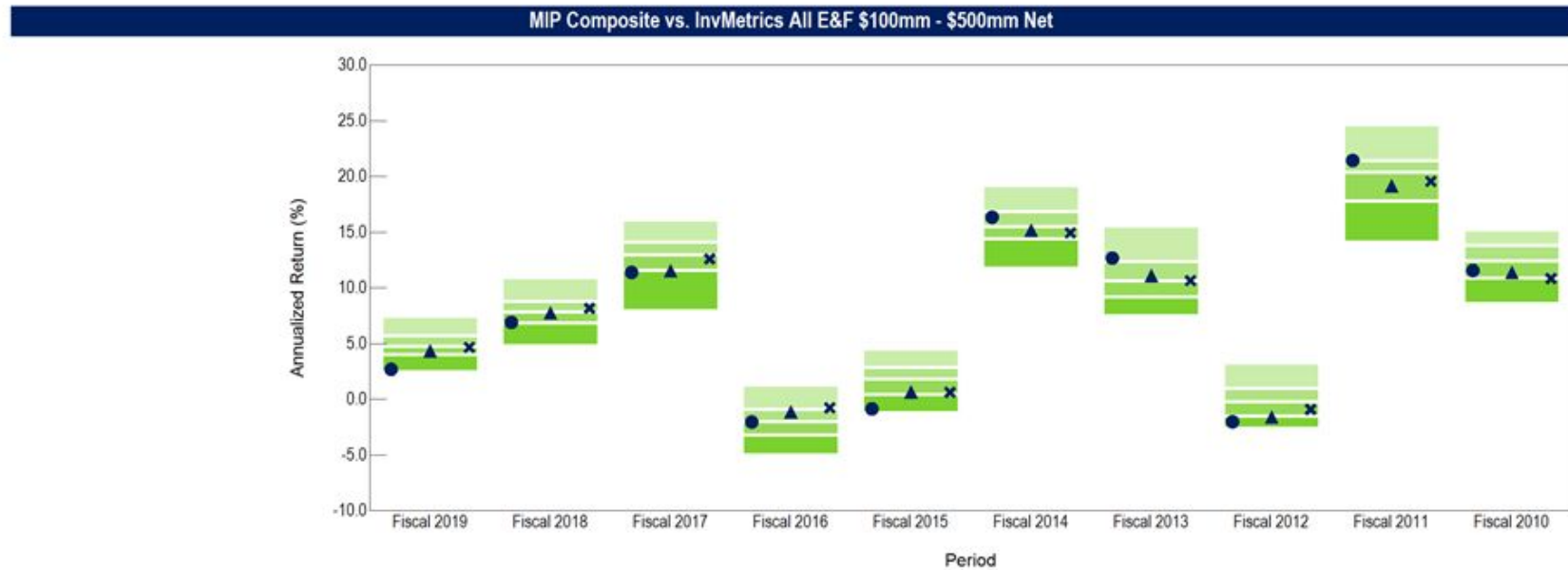
RETURNS VS. PEER UNIVERSE



	Return (Rank)									
5th Percentile	-1.4	19.6	9.2	1.3	7.3	20.5	14.1	4.2	14.6	26.9
25th Percentile	-3.8	17.2	7.4	-0.7	5.7	16.8	13.0	0.5	13.3	24.3
Median	-5.1	15.4	6.2	-1.7	4.4	14.2	12.3	-0.6	12.4	21.1
75th Percentile	-6.4	13.8	5.2	-2.7	3.6	11.5	11.3	-1.8	11.1	18.9
95th Percentile	-7.8	11.1	3.6	-4.3	2.0	7.4	9.0	-3.6	8.3	14.6
# of Portfolios	231	177	186	142	98	75	78	75	70	69
● MIP Composite	-6.9 (86)	15.3 (53)	5.2 (75)	-2.2 (64)	2.9 (86)	14.1 (54)	14.4 (3)	-2.8 (90)	12.3 (53)	26.8 (9)
▲ Allocation Index	-6.1 (71)	16.2 (37)	5.8 (58)	-1.4 (44)	3.5 (77)	13.9 (57)	11.9 (58)	-2.1 (79)	10.7 (83)	21.0 (52)
× Policy Index	-5.7 (61)	16.9 (29)	7.0 (36)	-1.6 (48)	3.5 (78)	13.8 (57)	11.7 (64)	-2.0 (78)	12.3 (51)	20.2 (66)



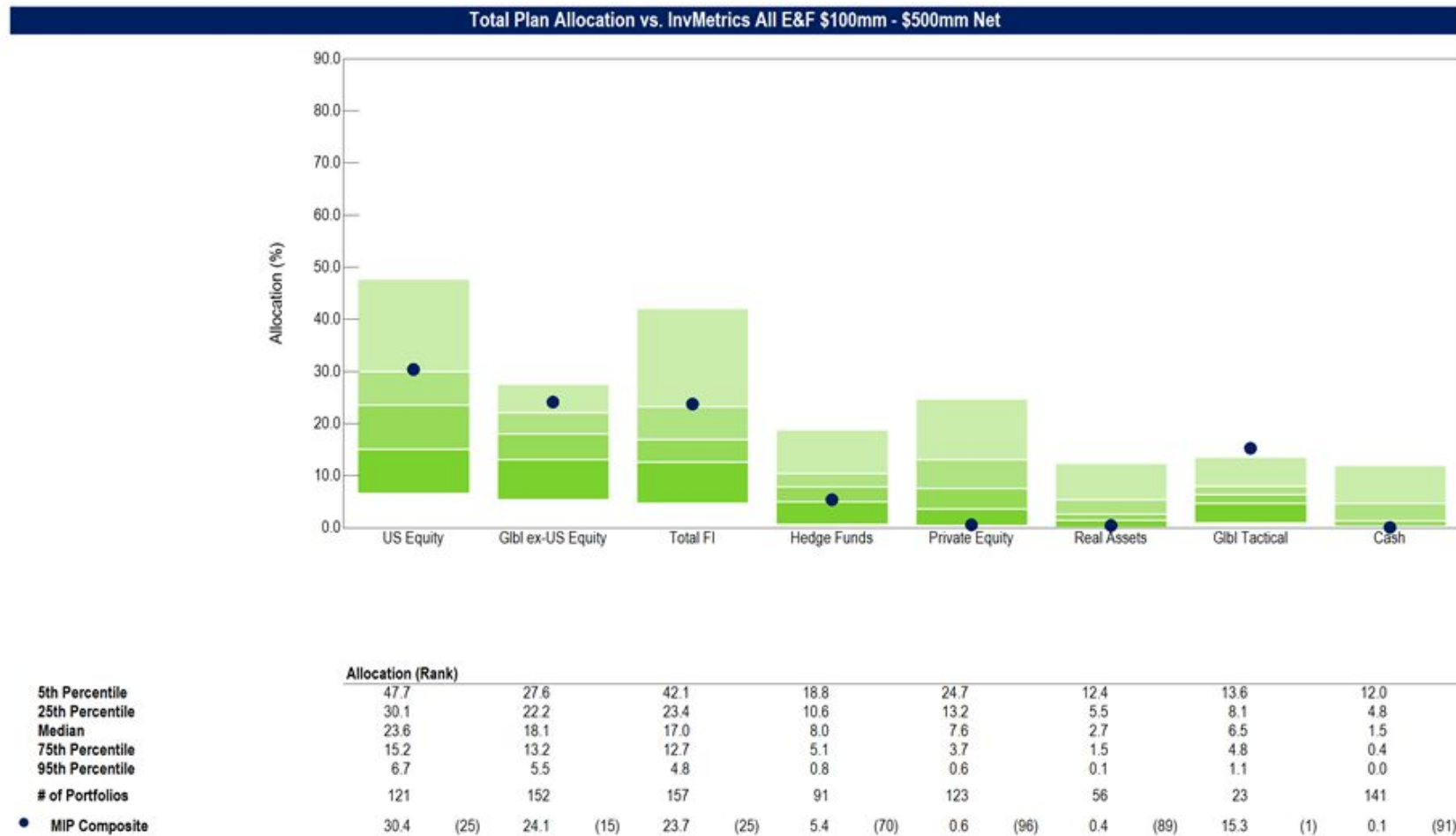
RETURNS VS. PEER UNIVERSE



	Return (Rank)									
5th Percentile	7.4	10.9	16.1	1.2	4.5	19.2	15.5	3.3	24.7	15.2
25th Percentile	5.8	8.8	14.1	-0.9	2.9	16.9	12.4	1.0	21.4	13.8
Median	4.8	7.9	13.0	-2.0	1.9	15.5	10.7	-0.2	20.4	12.4
75th Percentile	4.0	6.9	11.6	-3.2	0.4	14.5	9.2	-1.5	17.8	10.9
95th Percentile	2.5	4.8	8.0	-4.9	-1.2	11.8	7.6	-2.6	14.1	8.6
# of Portfolios	273	170	180	157	130	83	81	75	73	69
● MIP Composite	2.7 (94)	6.9 (74)	11.4 (78)	-2.0 (52)	-0.9 (94)	16.3 (32)	12.7 (23)	-2.0 (88)	21.4 (24)	11.6 (64)
▲ Allocation Index	4.3 (68)	7.8 (54)	11.6 (76)	-1.1 (29)	0.7 (70)	15.2 (63)	11.1 (45)	-1.6 (83)	19.2 (66)	11.4 (68)
× Policy Index	4.7 (54)	8.2 (43)	12.6 (59)	-0.8 (24)	0.6 (70)	14.9 (65)	10.7 (50)	-0.9 (66)	19.6 (60)	10.8 (80)



ALLOCATIONS VS. PEER UNIVERSE



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September 30, 2019

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
MIP Composite	344,739,612	100.0	100.0	-0.4	10.0	1.2	5.6	3.9	5.7	6.4
Allocation Index				0.2	11.4	2.2	6.6	5.0	6.2	6.5
Policy Index				0.0	11.3	2.3	7.0	5.4	6.5	6.8
Total Domestic Large Cap	78,021,514	22.6	22.0	1.7	20.5	4.2	13.3	10.8	13.1	13.2
S&P 500				1.7	20.6	4.3	13.4	10.8	13.3	13.2
SSgA S&P 500	78,021,514	22.6	22.0	1.7	20.5	4.2	13.3	10.8	13.2	13.2
S&P 500				1.7	20.6	4.3	13.4	10.8	13.3	13.2
Total Domestic Small/Mid Cap	26,723,516	7.8	8.0	-1.9	14.8	-8.1	9.5	7.0	11.1	12.0
Russell 2500				-1.3	17.7	-4.0	9.5	8.6	11.4	12.2
Westfield Capital	13,640,637	4.0	4.0	-2.6	17.7	-5.5	12.7	8.3	12.1	13.3
Russell 2500 Growth				-3.2	20.0	-4.1	12.3	10.2	12.8	13.5
DFA	13,082,879	3.8	4.0	-1.2	11.9	-10.5	5.4	5.1	9.6	--
Russell 2000 Value				-0.6	12.8	-8.2	6.5	7.2	9.4	10.1
Total International Equity (including emerging markets)	83,173,046	24.1	25.0	-3.0	7.7	-4.3	3.4	1.5	3.7	4.6
MSCI EAFE				-1.1	12.8	-1.3	6.5	3.3	6.1	4.9
Morgan Stanley	21,627,219	6.3	6.5	-1.7	12.1	-2.0	5.7	2.4	5.2	4.9
Globeflex	21,032,599	6.1	6.5	-3.3	6.2	-11.5	3.3	2.3	5.4	5.0
MSCI EAFE				-1.1	12.8	-1.3	6.5	3.3	6.1	4.9
Kabouter International Opportunities Offshore Fund II	17,500,592	5.1	5.0	-3.9	7.9	-7.2	--	--	--	--
MSCI EAFE Small Cap				-0.4	12.1	-5.9	5.9	6.0	8.6	7.5
Emerging Markets Equity	23,012,636	6.7	7.0	-3.2	5.6	2.2	1.4	-0.4	0.3	--
MSCI Emerging Markets				-4.2	5.9	-2.0	6.0	2.3	2.4	3.4
Aberdeen Emerging Mkts	12,111,153	3.5	3.5	-4.2	10.0	6.3	4.9	2.2	1.9	5.0
MSCI Emerging Markets				-4.2	5.9	-2.0	6.0	2.3	2.4	3.4
Mondrian EM Small Cap	10,901,483	3.2	3.5	-2.2	1.1	-2.1	-2.3	-3.0	--	--
MSCI Emerging Markets Small Cap				-4.6	1.8	-5.5	1.3	-0.1	1.8	3.2
Total Fixed Income	81,848,824	23.7	24.0	1.2	6.9	6.2	3.1	3.0	3.6	5.0
BBgBarc US Aggregate TR				2.3	8.5	10.3	2.9	3.4	2.7	3.7
Commonfund	24,976,992	7.2	7.0	2.1	8.5	9.2	3.6	3.6	3.4	4.8
BBgBarc US Aggregate TR				2.3	8.5	10.3	2.9	3.4	2.7	3.7
Vanguard Inflation-Protected Securities	12,779,009	3.7	3.5	1.4	7.6	7.1	2.1	--	--	--
BBgBarc US TIPS TR				1.3	7.6	7.1	2.2	2.4	1.1	3.5
Vanguard Short-Term Inflation-Protected Securities	12,244,139	3.6	3.5	0.4	--	--	--	--	--	--
BBgBarc US TIPS 1-5 Yr TR				0.3	3.9	3.7	1.6	1.3	0.8	1.8
Blackrock Strategic Income Opportunities	16,905,812	4.9	5.0	0.9	6.1	5.5	--	--	--	--
3-Month Libor Total Return USD				0.6	1.9	2.6	1.9	1.3	1.0	0.8
Bain Capital Senior Loan Fund	14,942,871	4.3	5.0	0.7	6.4	3.2	--	--	--	--
Credit Suisse Leveraged Loans				0.9	6.4	3.1	4.7	4.1	4.4	5.4



September 30, 2019

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Total GAA	52,653,823	15.3	15.0	-0.4	8.4	3.9	3.7	2.4	3.5	4.3
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				0.3	12.9	3.9	7.0	5.2	6.2	6.4
GMO Global Absolute Return	25,696,969	7.5	7.5	-1.4	5.3	0.9	3.4	2.1	3.5	4.4
Blended Index				1.2	9.3	7.9	3.9	4.1	3.6	5.1
Newton Global Real Return	26,956,854	7.8	7.5	0.7	9.6	8.1	3.4	--	--	--
60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg				0.3	12.4	4.2	6.6	4.9	5.9	6.1
Total Hedge Funds	18,586,057	5.4	6.0	-1.7	5.7	-3.1	2.4	0.6	2.1	2.0
HFRI Fund of Funds Composite Index				-0.8	5.3	0.1	3.2	2.0	3.2	2.7
Lighthouse	18,586,057	5.4	6.0	-1.7	5.7	-3.1	3.3	--	--	--
Credit Suisse Long Shrt Eqt USD				0.1	6.8	-0.4	4.8	3.4	5.6	4.9
Total Real Assets	1,522,388	0.4	0.0	-0.1	-1.0	-6.1	-3.5	0.3	4.1	--
NCREIF Timberland Index				0.2	1.3	2.1	3.1	4.4	6.0	4.0
John Hancock Timber Fund	1,522,388	0.4	0.0	-0.1	-1.0	-6.1	-3.5	0.3	4.1	0.1
NCREIF Timberland Index				0.2	1.3	2.1	3.1	4.4	6.0	4.0
Private Equity	1,958,723	0.6	0.0	0.0	3.4	-3.2	11.8	7.5	--	--
Landmark Equity Partners XV	1,958,723	0.6	0.0	0.0	3.4	-3.2	11.8	7.5	--	--
Cambridge Associates US All PE (1 Qtr Lag)				4.6	7.8	11.9	15.6	11.7	13.9	14.7
Total Cash	251,721	0.1	0.0							
Distribution Account	251,721	0.1	0.0	0.5	1.6	2.0	1.2	0.7	0.5	0.4
91 Day T-Bills				0.5	1.7	2.3	1.5	1.0	0.7	0.5

Notes:

Fiscal YTD begins 7/1

Blended Index: 40% BC Aggregate, 30% BC U.S. TIPS 1-10YR, 10% S&P 500, 10% BC High Yield, 10% JPM EMBI+

Returns are net of manager fees.

John Hancock Timber market value as of 09/30/19.

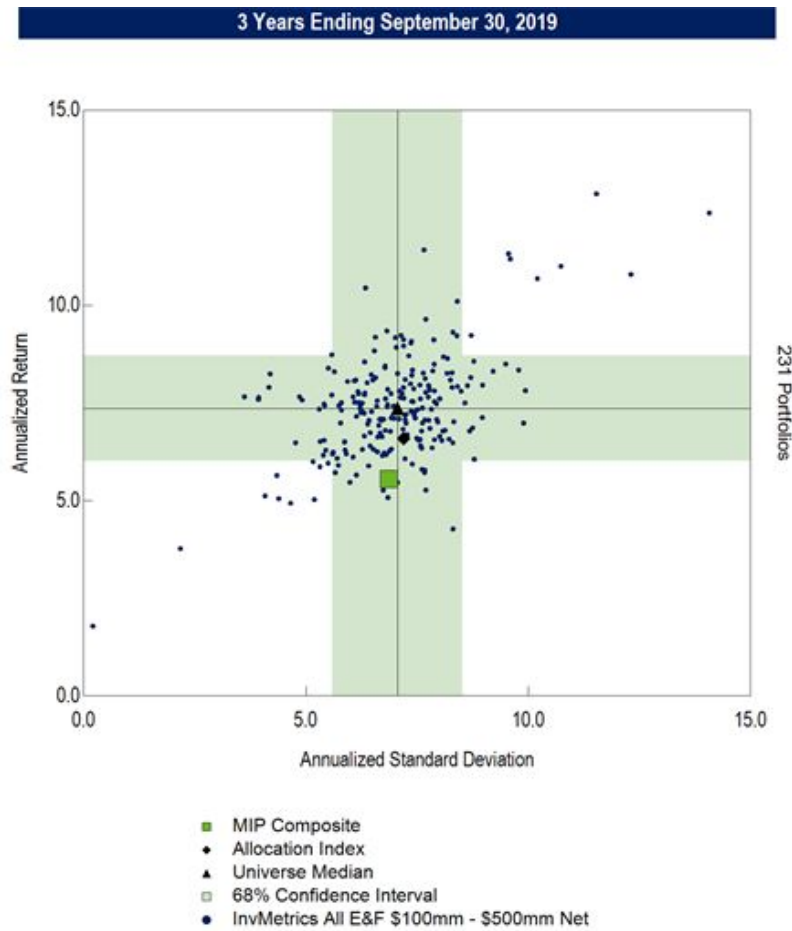
Landmark market value estimated as of 09/30/19.

Cash account includes \$434 currently being held in the TCW account.

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September 30, 2019

TOTAL PLAN RISK/RETURN - 3 YEAR



3 Years Ending September 30, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
MIP Composite	5.6%	95	6.9%	46
Allocation Index	6.6%	74	7.2%	55
Policy Index	7.0%	64	7.4%	63
InvMetrics All E&F \$100mm - \$500mm Net Median	7.4%	--	7.1%	--

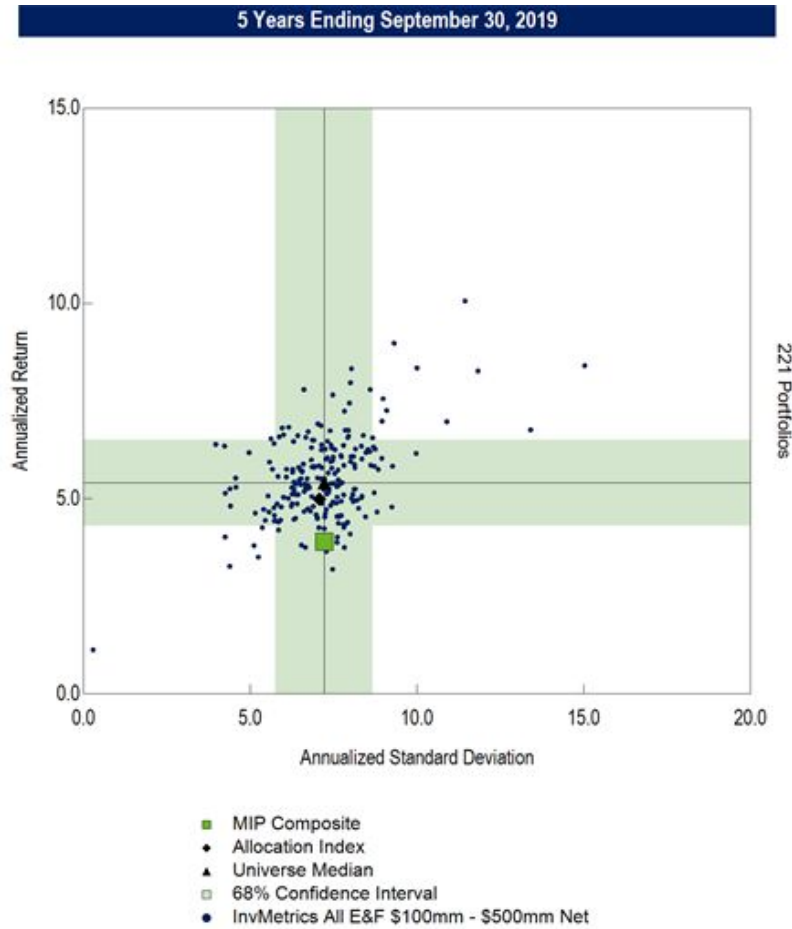
3 Years Ending September 30, 2019				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
MIP Composite	0.6	96	0.7	94
Allocation Index	0.7	79	0.8	73
Policy Index	0.7	74	0.8	65
InvMetrics All E&F \$100mm - \$500mm Net Median	0.8	--	0.9	--

*Returns are net of fees.



September 30, 2019

TOTAL PLAN RISK/RETURN - 5 YEAR



5 Years Ending September 30, 2019				
	Annzd Ret	Rank	Annzd Std Dev	Rank
MIP Composite	3.9%	96	7.2%	51
Allocation Index	5.0%	69	7.1%	45
Policy Index	5.4%	53	7.2%	51
InvMetrics All E&F \$100mm - \$500mm Net Median	5.4%	--	7.2%	--

5 Years Ending September 30, 2019				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
MIP Composite	0.4	98	0.5	95
Allocation Index	0.6	69	0.7	67
Policy Index	0.6	58	0.8	53
InvMetrics All E&F \$100mm - \$500mm Net Median	0.6	--	0.8	--

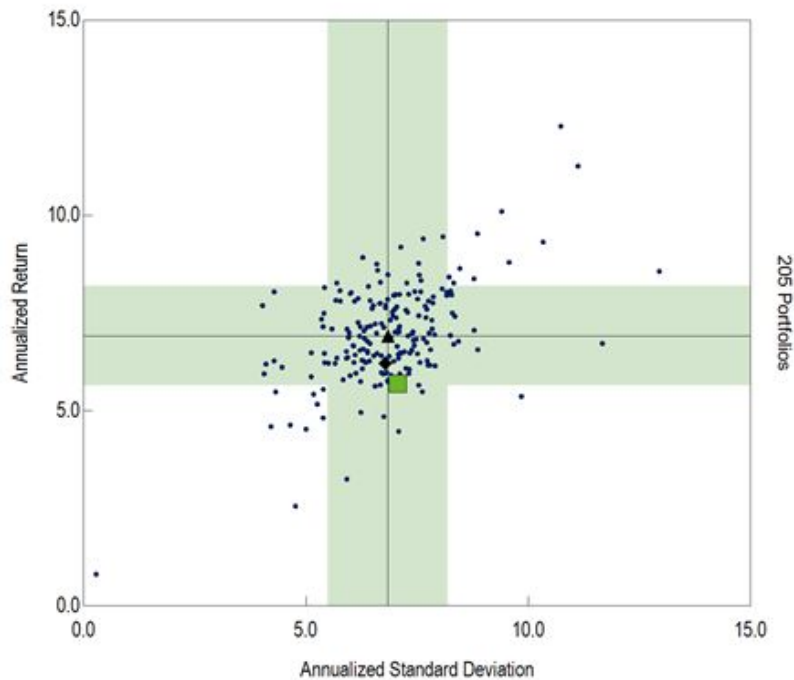
*Returns are net of fees.



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TOTAL PLAN RISK/RETURN - 7 YEAR

7 Years Ending September 30, 2019



7 Years Ending September 30, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
MIP Composite	5.7%	91	7.1%	60
Allocation Index	6.2%	79	6.8%	47
Policy Index	6.5%	68	6.9%	51
InvMetrics All E&F \$100mm - \$500mm Net Median	6.9%	--	6.8%	--

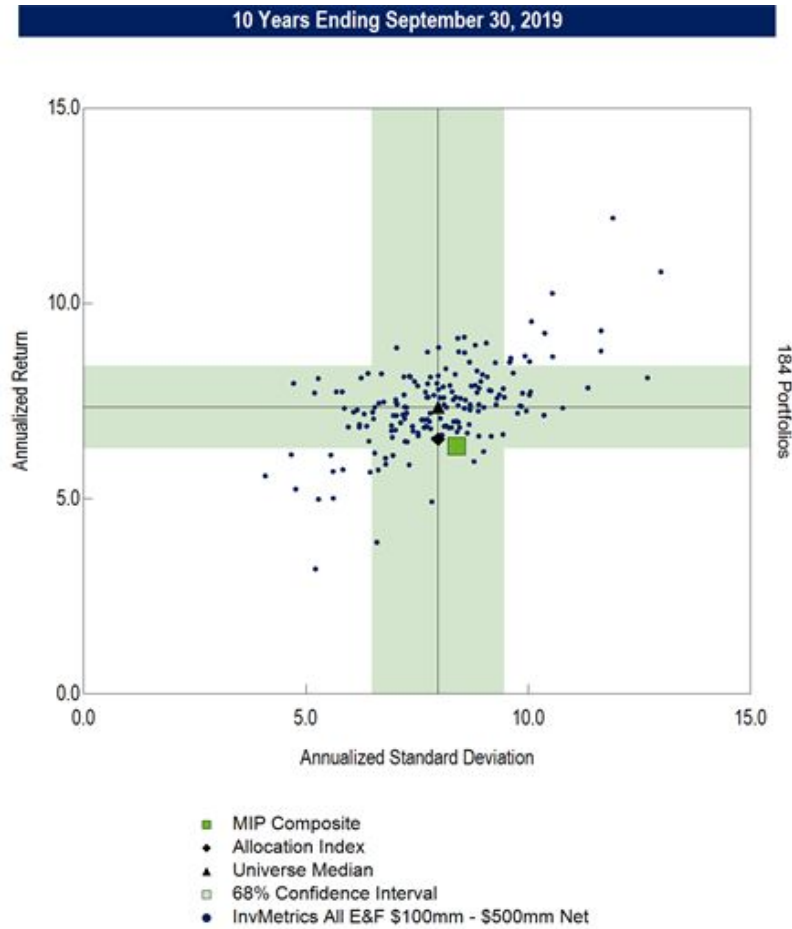
7 Years Ending September 30, 2019				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
MIP Composite	0.7	94	1.0	89
Allocation Index	0.8	73	1.1	70
Policy Index	0.8	69	1.2	63
InvMetrics All E&F \$100mm - \$500mm Net Median	0.9	--	1.2	--

*Returns are net of fees.



September 30, 2019

TOTAL PLAN RISK/RETURN - 10 YEAR



10 Years Ending September 30, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
MIP Composite	6.4%	89	8.4%	62
Allocation Index	6.5%	86	8.0%	51
Policy Index	6.8%	78	8.0%	50
InvMetrics All E&F \$100mm - \$500mm Net Median	7.3%	--	8.0%	--

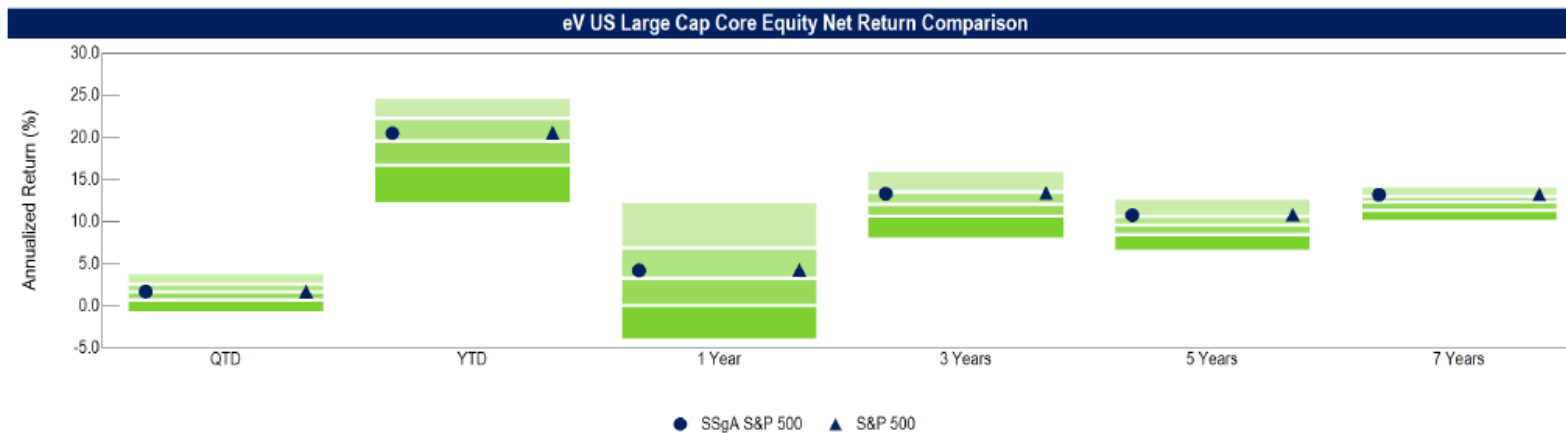
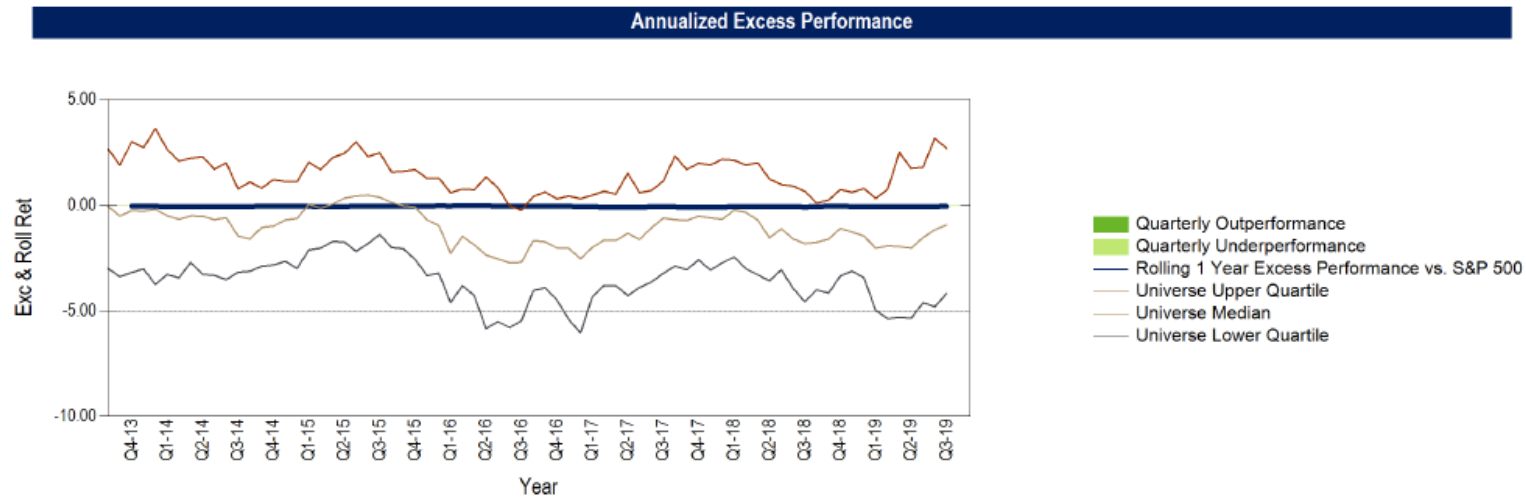
10 Years Ending September 30, 2019				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
MIP Composite	0.7	92	1.0	91
Allocation Index	0.8	84	1.1	77
Policy Index	0.8	73	1.2	57
InvMetrics All E&F \$100mm - \$500mm Net Median	0.8	--	1.2	--

*Returns are net of fees.



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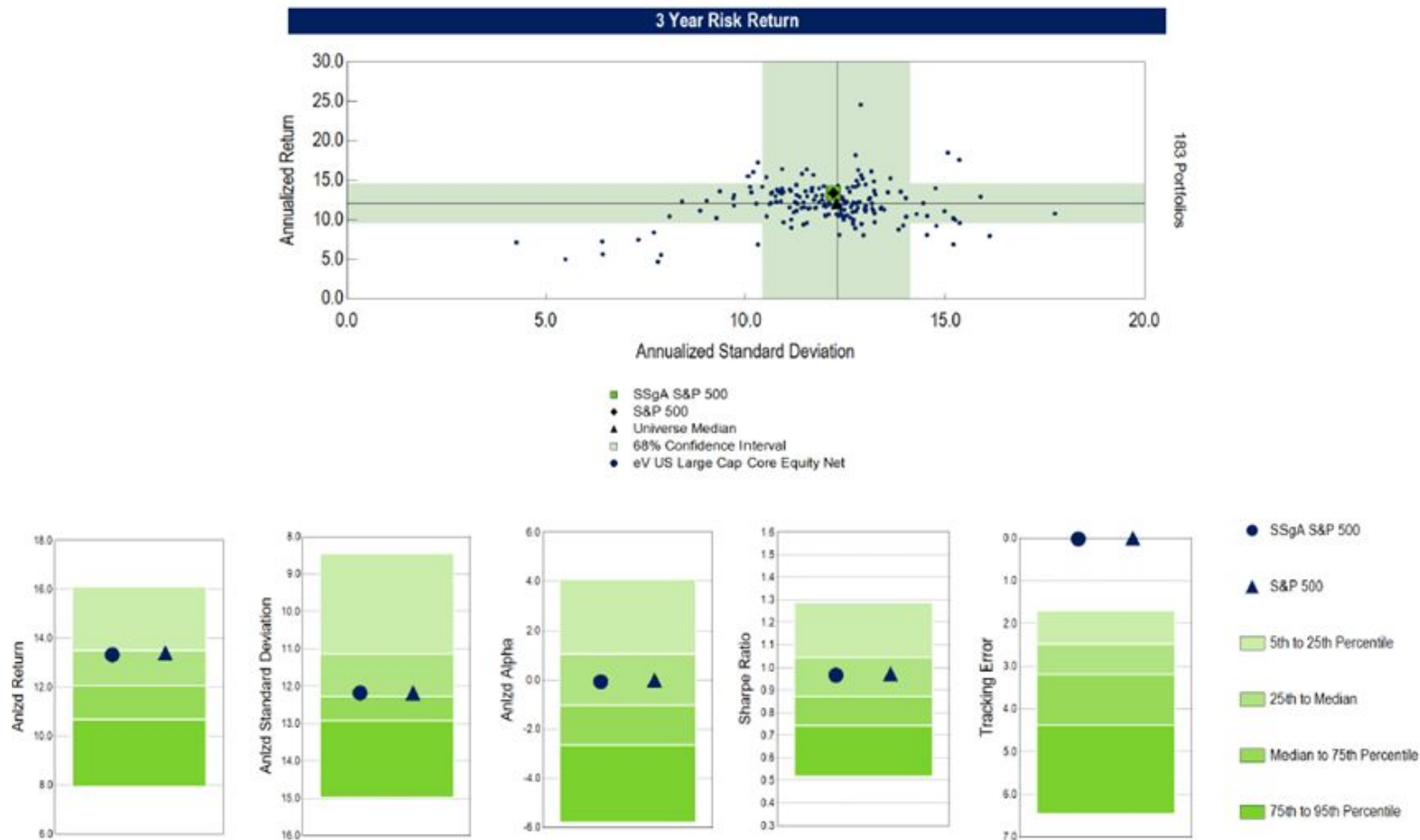
SSGA S&P 500



September 30, 2019

SSGA S&P 500

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September 30, 2019

SSGA S&P 500

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Characteristics		
	Portfolio	S&P 500
Number of Holdings	506	505
Weighted Avg. Market Cap. (\$B)	230.4	230.5
Median Market Cap. (\$B)	22.4	22.5
Price To Earnings	20.6	20.5
Price To Book	3.7	3.6
Price To Sales	2.1	2.1
Return on Equity (%)	26.7	26.5
Yield (%)	2.0	2.0
Beta		1.0
R-Squared		1.0

Equity Sector Attribution												
	Attribution Effects				Returns		Ending Sector Weights					
	Total Effects		Selection Effect		Allocation Effect		Interaction Effects		Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.0%		0.0%		0.0%		0.0%		-6.5%	-6.5%	4.5%	4.6%
Materials	0.0%		0.0%		0.0%		0.0%		-0.1%	-0.1%	2.7%	2.7%
Industrials	0.0%		0.0%		0.0%		0.0%		0.9%	0.9%	9.2%	9.4%
Consumer Discretionary	0.0%		0.0%		0.0%		0.0%		0.5%	0.5%	10.0%	10.1%
Consumer Staples	0.0%		0.0%		0.0%		0.0%		6.1%	6.1%	7.5%	7.4%
Health Care	0.0%		0.0%		0.0%		0.0%		-2.2%	-2.2%	13.5%	13.6%
Financials	0.0%		0.0%		0.0%		0.0%		2.0%	2.0%	12.9%	13.1%
Information Technology	0.0%		0.0%		0.0%		0.0%		3.4%	3.4%	21.7%	21.9%
Communication Services	0.0%		0.0%		0.0%		0.0%		2.2%	2.2%	10.2%	10.5%
Utilities	0.0%		0.0%		0.0%		0.0%		9.4%	9.4%	3.5%	3.4%
Real Estate	0.0%		0.0%		0.0%		0.0%		7.7%	7.7%	3.2%	3.2%
Cash	0.0%		0.0%		0.0%		0.0%		0.5%	-	1.1%	0.0%
Unclassified	0.0%		0.0%		0.0%		0.0%		-4.5%	-	--	-
Portfolio	0.0%	=	0.0%	+	0.0%	+	0.0%		1.7%	1.7%	100.0%	100.0%

*Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of period portfolio. Results may differ from actual performance. Returns are net of fees.



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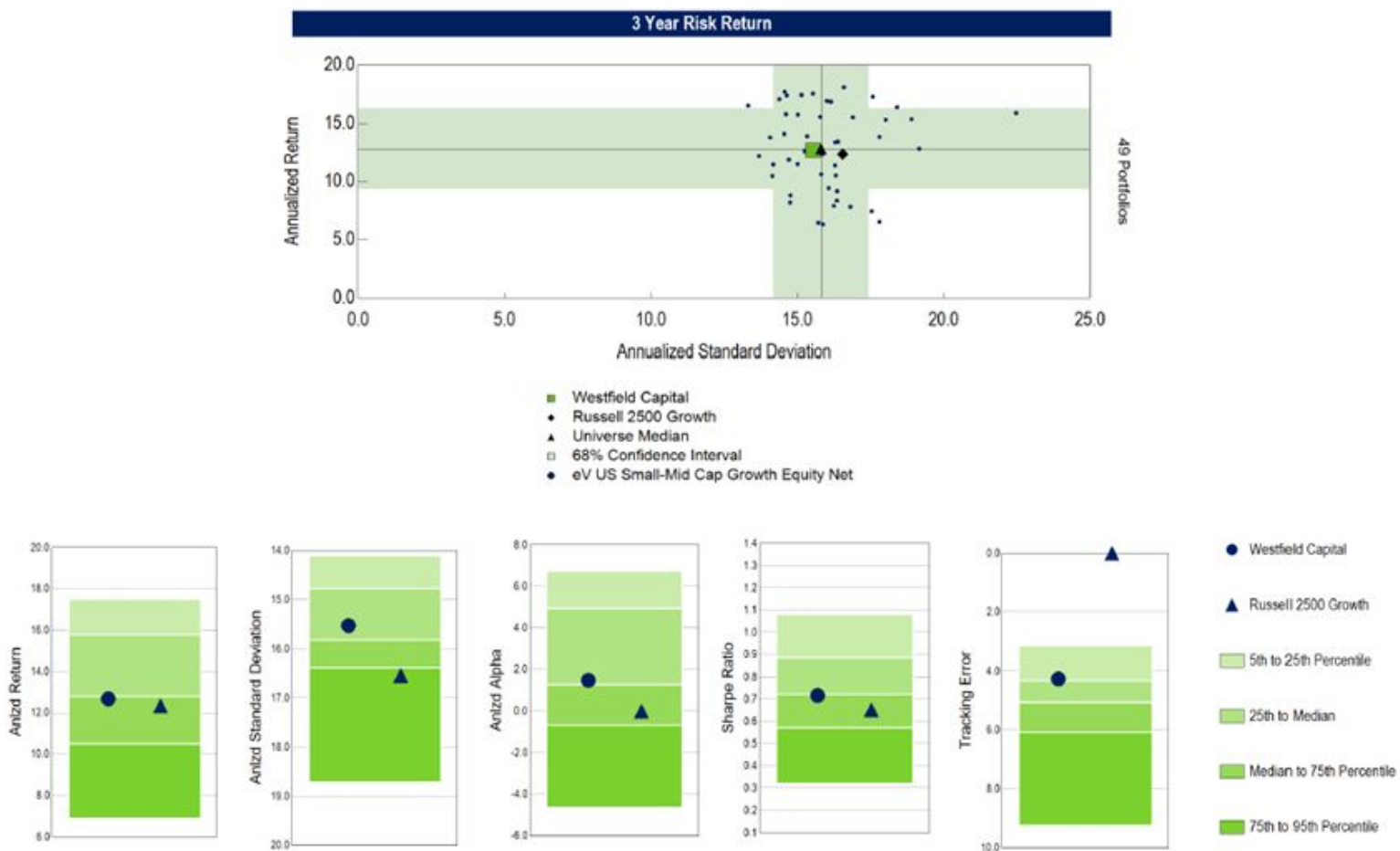
WESTFIELD CAPITAL

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WESTFIELD CAPITAL

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September 30, 2019

WESTFIELD CAPITAL

Characteristics	Portfolio	Russell 2500 Growth
Number of Holdings	69	1,376
Weighted Avg. Market Cap. (\$B)	8.8	5.2
Median Market Cap. (\$B)	6.5	1.2
Price To Earnings	27.1	26.8
Price To Book	4.6	5.1
Price To Sales	2.5	2.0
Return on Equity (%)	7.6	4.9
Yield (%)	0.6	0.7
Beta		1.0
R-Squared		1.0

Top Positive Contributors	Relative Contribution %	Return %
MEDICINES COMPANY	0.8%	37.1%
TELEDYNE TECHS.	0.4%	17.6%
HUNT JB TRANSPORT SVS.	0.3%	21.4%
SUN COMMUNITIES	0.3%	16.4%
ENTEGRIS	0.3%	26.3%
QTS REALTY TRUST CLA	0.2%	12.3%
TOPBUILD	0.2%	16.5%
BURLINGTON STORES	0.2%	17.4%
PERFORMANCE FOOD GROUP	0.2%	14.9%
SUMMIT MATERIALS 'A'	0.1%	15.3%

Top Negative Contributors	Relative Contribution %	Return %
SAREPTA THERAPEUTICS	-0.8%	-50.4%
COVETRUS	-0.4%	-51.4%
AGIOS PHARMACEUTICALS	-0.4%	-35.0%
DIAMONDBACK ENERGY	-0.3%	-17.3%
METTLER TOLEDO INTL.	-0.3%	-16.1%
MERITOR	-0.2%	-23.7%
BLUEPRINT MEDICINES	-0.2%	-22.1%
ORION ENGINEERED CARBONS	-0.2%	-21.0%
EXACT SCIS.	-0.2%	-23.4%
NEW RELIC	-0.2%	-29.0%

	Equity Sector Attribution				Returns		Ending Sector Weights	
	Total Effects	Selection Effect	Attribution Effects		Portfolio	Benchmark	Portfolio	Benchmark
			Allocation Effect	Interaction Effects				
Energy	-0.3%	0.0%	-0.4%	0.1%	-13.7%	-17.5%	3.6%	0.5%
Materials	-0.2%	-0.1%	0.0%	0.0%	-5.1%	-1.7%	4.8%	3.6%
Industrials	0.3%	0.5%	-0.1%	-0.1%	2.7%	-0.2%	15.9%	17.9%
Consumer Discretionary	-0.1%	0.0%	-0.1%	0.0%	-1.7%	-1.5%	7.6%	13.9%
Consumer Staples	0.1%	0.2%	0.0%	-0.1%	14.9%	4.1%	1.5%	2.2%
Health Care	0.0%	0.0%	0.0%	0.0%	-8.0%	-8.2%	22.7%	22.4%
Financials	0.4%	0.4%	0.0%	0.1%	2.3%	-3.0%	8.1%	6.4%
Information Technology	0.1%	0.2%	0.0%	0.0%	-1.7%	-2.3%	27.2%	25.1%
Communication Services	0.1%	0.1%	0.0%	0.0%	-4.8%	-6.6%	1.9%	2.9%
Utilities	0.0%	--	0.0%	--	--	12.4%	0.0%	0.9%
Real Estate	0.5%	0.1%	0.2%	0.1%	11.2%	6.5%	3.9%	4.3%
Cash	0.1%	0.0%	0.1%	0.0%	0.5%	--	2.8%	0.0%
Portfolio	1.1%	=	1.3%	+	-1.9%	-3.0%	100.0%	100.0%

*Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of period portfolio. Results may differ from actual performance. Returns are net of fees.

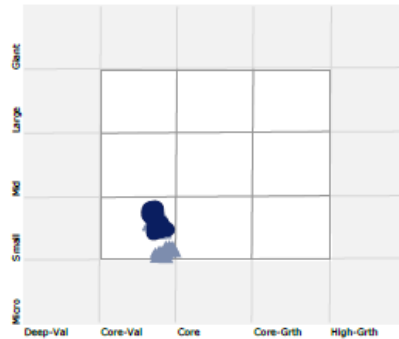


September 30, 2019

DFA US TARGETED VALUE I

Holdings Based Style Trail (5 Years)

Time Period: 10/31/2014 to 9/30/2019



• DFA US Targeted Value I • Russell 2000 Value TR USD

Portfolio Statistics

	Fund	Index
# of Holdings	1,525	1,402
% Asset in Top 10 Holdings	5.9	4.8
Turnover Ratio %	23.0	
P/E Ratio	12.5	13.7
P/B Ratio	1.2	1.3
LT Earn Growth	10.9	9.2
Hist Earn Growth	8.7	11.2
12 Mo Yield	1.3	

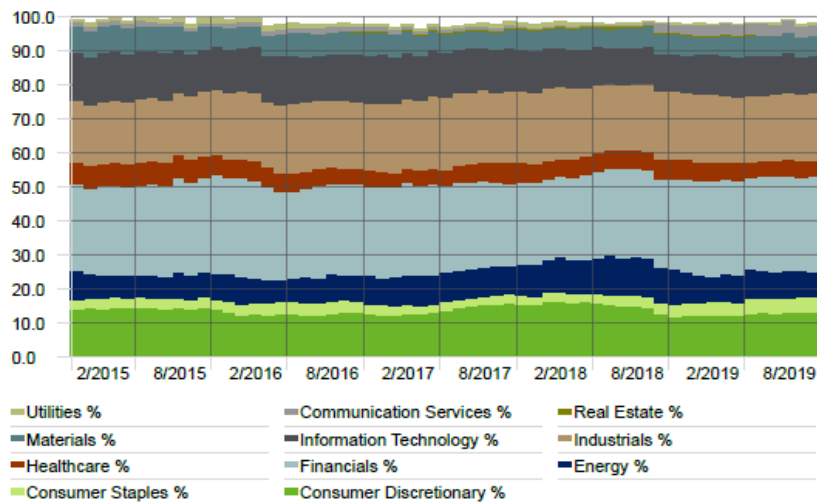
Market Capitalization Breakdown

	Fund	Index
Market Cap Giant %	0.0	0.0
Market Cap Large %	0.6	0.0
Market Cap Mid %	32.3	11.1
Market Cap Small %	55.7	71.6
Market Cap Micro %	11.5	17.3
Average Market Cap (mil)	2,192.5	1,490.0

Top 10 Holdings

	Portf Weight %	3 Month Ret %
S+p500 Emini Fut Sep19 Xome 20190920	0.78	
Arrow Electronics Inc	0.64	4.64
Reliance Steel & Aluminum Co	0.62	5.91
Genesee & Wyoming Inc Class A	0.59	10.51
Post Holdings Inc	0.56	1.80
US Foods Holding Corp	0.56	14.93
People's United Financial Inc	0.54	-5.77
Toll Brothers Inc	0.54	12.40
AECOM	0.52	-0.77
Avnet Inc	0.52	-1.27

Historical Sector Allocations (5 Years)



Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Communication Services	3.25	2.66	-6.66	-5.73	-0.05	-0.03	-0.08
Consumer Discretionary	13.32	9.11	3.50	5.63	0.23	-0.28	-0.06
Consumer Staples	4.28	2.44	3.18	3.15	0.05	0.00	0.06
Energy	7.81	5.98	-17.63	-21.36	-0.47	0.34	-0.13
Financials	27.84	30.18	0.72	0.50	0.00	0.06	0.06
Health Care	4.61	4.61	-4.28	-6.23	-0.01	0.09	0.08
Industrials	19.79	12.22	-0.31	-0.52	-0.05	0.04	-0.01
Information Technology	11.05	9.75	2.85	6.02	0.01	-0.36	-0.35
Materials	5.91	4.39	-2.93	-4.42	-0.08	0.10	0.02
Real Estate	0.23	11.66	-2.66	5.47	-0.56	-0.02	-0.58
Utilities	0.18	6.80	15.03	4.63	-0.27	0.02	-0.25
Attribution Total	98.26	99.81	-1.02	0.23	-1.20	-0.05	-1.25
Cash	0.73	0.00					
Other	0.61	0.00					
Total	100.00	100.00					
Expense Ratio			0.09	0.00			
Residual(Reported - Attribution + Expense)			-0.07	-0.80			



Source: Morningstar

September 30, 2019

DFA US TARGETED VALUE I

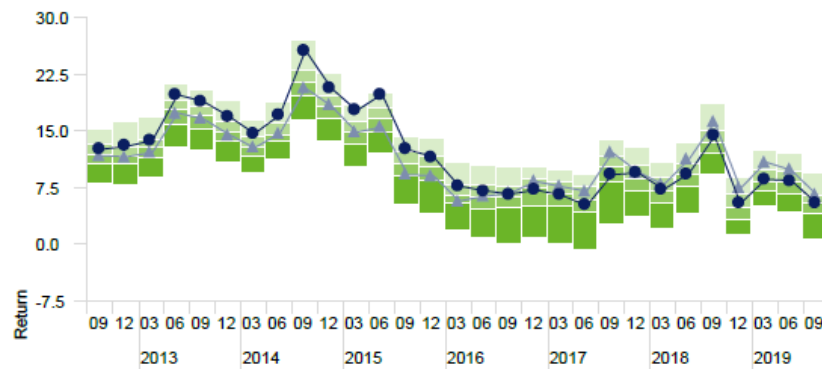
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	94.4	100.0
Alpha	-1.7	0.0
Beta	1.0	1.0
Std Dev	14.5	14.8
Up Capture Ratio	86.8	100.0
Down Capture Ratio	101.5	100.0
Sharpe Ratio (geo)	0.3	0.4
Information Ratio (geo)	-0.5	
Tracking Error	3.5	0.0
Correlation	1.0	1.0

Rolling Return (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—DFA US Targeted Value I

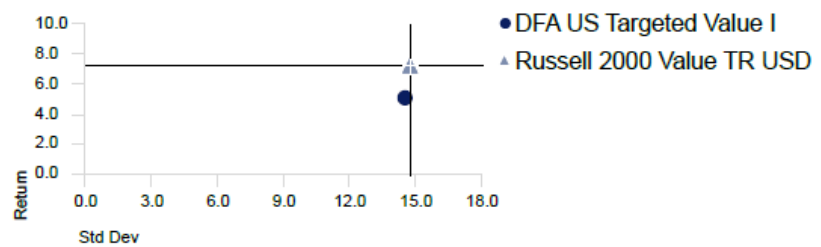
—Russell 2000 Value TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
DFA US Targeted Value I	31.9	37	29.0	24	-6.3	72	19.2	23	43.0	10	2.9	65	-5.7	46	26.9	40	9.6	40	-15.8	55
Russell 2000 Value TR USD	20.6		24.5		-5.5		18.1		34.5		4.2		-7.5		31.7		7.8		-12.9	

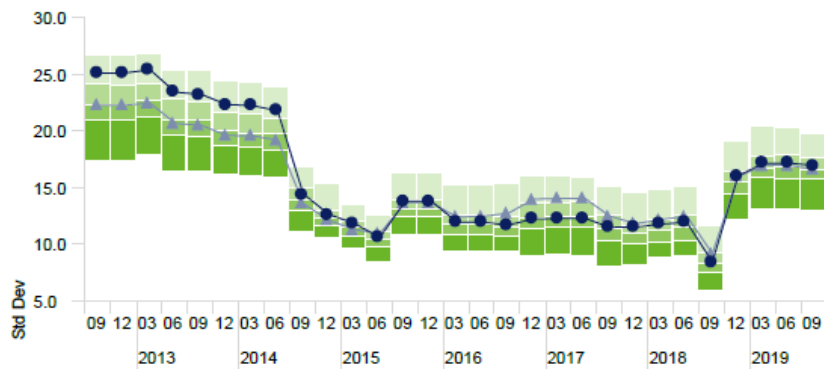
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—DFA US Targeted Value I

—Russell 2000 Value TR USD



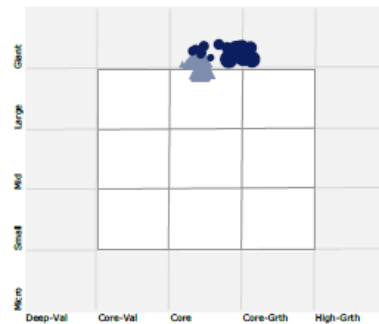
Source: Morningstar

September 30, 2019

MORGAN STANLEY INTERNATIONAL EQUITY I

Holdings Based Style Trail (5 Years)

Time Period: 10/31/2014 to 9/30/2019



* Morgan Stanley Inst International Eq I - MSCI EAFE NR USD

Portfolio Statistics

	Fund	Index
# of Holdings	65	923
% Asset in Top 10 Holdings	33.2	11.9
Turnover Ratio %	34.0	
P/E Ratio	18.9	16.0
P/B Ratio	2.1	1.6
LT Eam Growth	8.7	7.3
Hist Eam Growth	3.7	4.9
12 Mo Yield	2.1	

Market Capitalization Breakdown

	Fund	Index
Market Cap Giant %	56.9	49.5
Market Cap Large %	36.6	36.5
Market Cap Mid %	6.5	14.0
Market Cap Small %	0.0	0.0
Market Cap Micro %	0.0	0.0
Average Market Cap	49,633.4	36,104.2
Equity Region Developed %	96.1	99.2
Equity Region Emerging %	3.9	0.8

Top Ten Holdings

	Port Weight %	3 Month Return
Reckitt Benckiser Group PLC	4.29	-0.01
Unilever NV DR	3.98	-4.27
SAP SE	3.68	-14.48
RELX PLC	3.24	-1.32
GlaxoSmithKline PLC	3.12	8.31
AIA Group Ltd	3.06	-12.01
Pernod Ricard SA	3.06	-2.77
Kirin Holdings Co Ltd	2.95	-1.83
Henkel AG & Co KGaA Participating Preferred	2.93	1.05
Heineken NV	2.93	-2.65

Sector Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Communication Services	3.03	5.47	-5.49	-0.88	0.01	-0.15	-0.15
Consumer Discretionary	2.44	11.20	3.92	0.30	-0.11	0.09	-0.02
Consumer Staples	30.63	11.99	-0.59	2.07	0.61	-0.84	-0.23
Energy	4.94	5.30	-6.73	-6.34	0.02	-0.03	-0.01
Financials	15.04	18.55	-6.78	-2.56	0.02	-0.66	-0.63
Health Care	15.81	11.44	0.27	2.45	0.16	-0.34	-0.18
Industrials	12.93	14.75	1.46	-1.77	0.01	0.42	0.44
Information Technology	8.60	6.73	-1.85	-0.54	0.01	-0.12	-0.11
Materials	4.16	7.20	2.78	-5.38	0.15	0.33	0.48
Real Estate	0.00	3.61		-1.11	0.01	0.00	0.01
Utilities	0.00	3.77		2.47	-0.13	0.00	-0.13
Attribution Total	97.57	100.00	-1.51	-0.98	0.77	-1.30	-0.53
Cash	1.98	0.00					
Missing Performance	0.45	0.00					
Total	100.00	100.00					

Region Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Asia - Developed	7.36	4.93	-3.36	-9.44	-0.23	0.47	0.24
Asia - Emerging	3.74	0.67	-4.30	-3.25	-0.07	-0.04	-0.11
Australasia	0.00	7.17		-1.11	0.01	0.00	0.01
Canada	6.01	0.00	5.71		0.39	0.00	0.39
Europe - ex Euro	4.81	14.53	-2.89	-1.14	0.02	-0.09	-0.07
Eurozone	38.87	30.35	-3.28	-1.72	-0.07	-0.62	-0.70
Japan	11.89	24.03	1.70	3.16	-0.48	-0.17	-0.66
Latin America	0.00	0.04		-17.69	0.01	0.00	0.01
Middle East	0.00	0.45		-1.96	0.00	0.00	0.00
United Kingdom	22.39	16.21	-0.53	-2.52	-0.10	0.45	0.35
United States	2.51	1.62	-1.85	-1.76	-0.01	0.00	-0.01
Attribution Total	97.57	100.00	-1.51	-0.98	-0.53	0.00	-0.53
Cash	1.98	0.00					
Missing Performance	0.45	0.00					
Total	100.00	100.00					



Source: Morningstar

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MORGAN STANLEY INTERNATIONAL EQUITY I

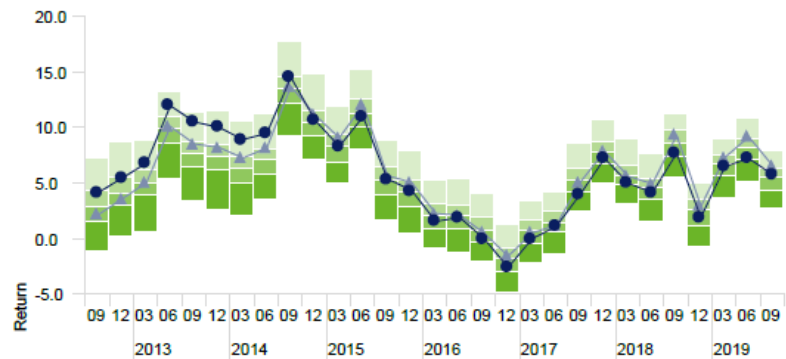
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	92.9	100.0
Alpha	-0.7	0.0
Beta	1.0	1.0
Std Dev	11.3	11.4
Up Capture Ratio	90.9	100.0
Down Capture Ratio	98.6	100.0
Sharpe Ratio (geo)	0.1	0.2
Information Ratio (geo)	-0.3	
Tracking Error	3.0	0.0
Correlation	1.0	1.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Morgan Stanley Inst International Eq I

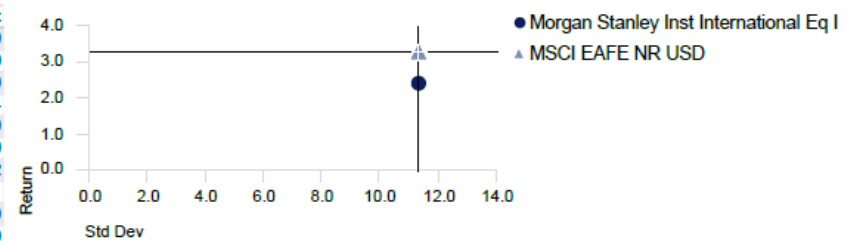
—MSCI EAFE NR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Morgan Stanley Inst International Eq I	21.6	85	6.1	87	-7.6	5	19.6	26	20.4	43	-6.1	64	0.4	30	-2.0	82	25.2	53	-13.8	37
MSCI EAFE NR USD	31.8		7.8		-12.1		17.3		22.8		-4.9		-0.8		1.0		25.0		-13.8	

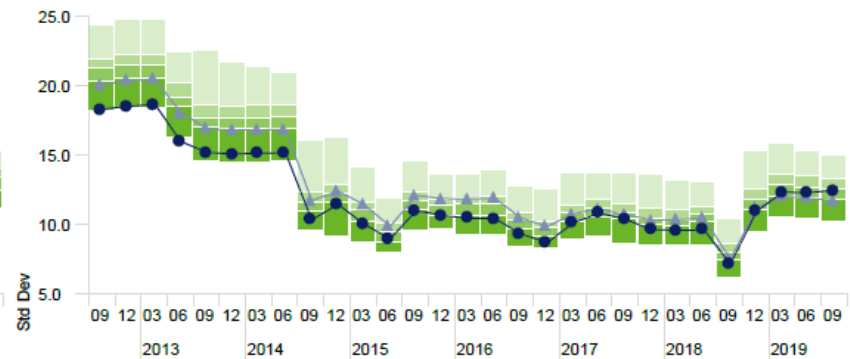
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Morgan Stanley Inst International Eq I

—MSCI EAFE NR USD

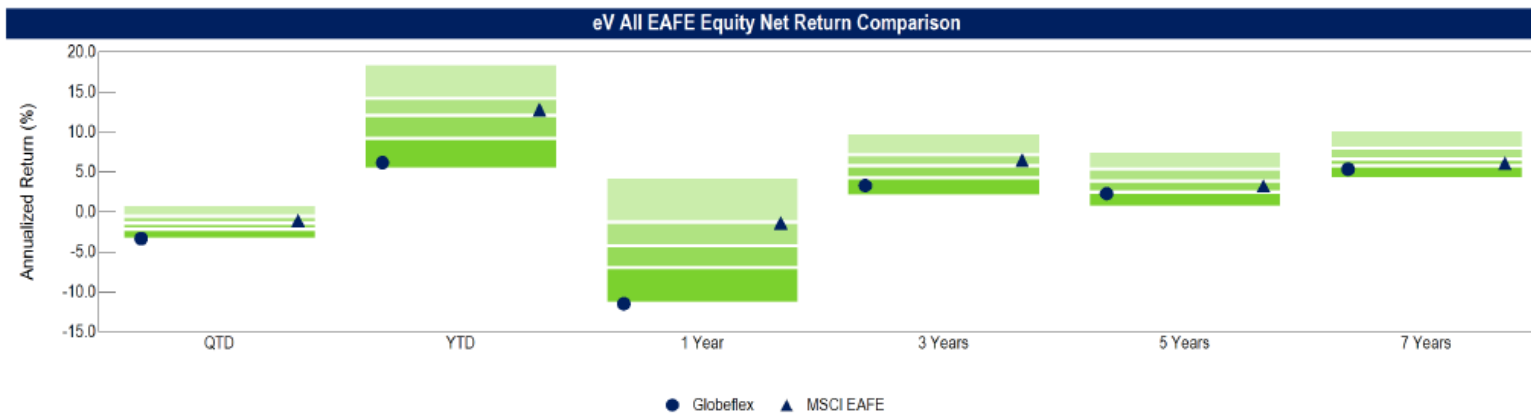


Source: Morningstar

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GLOBEFLEX

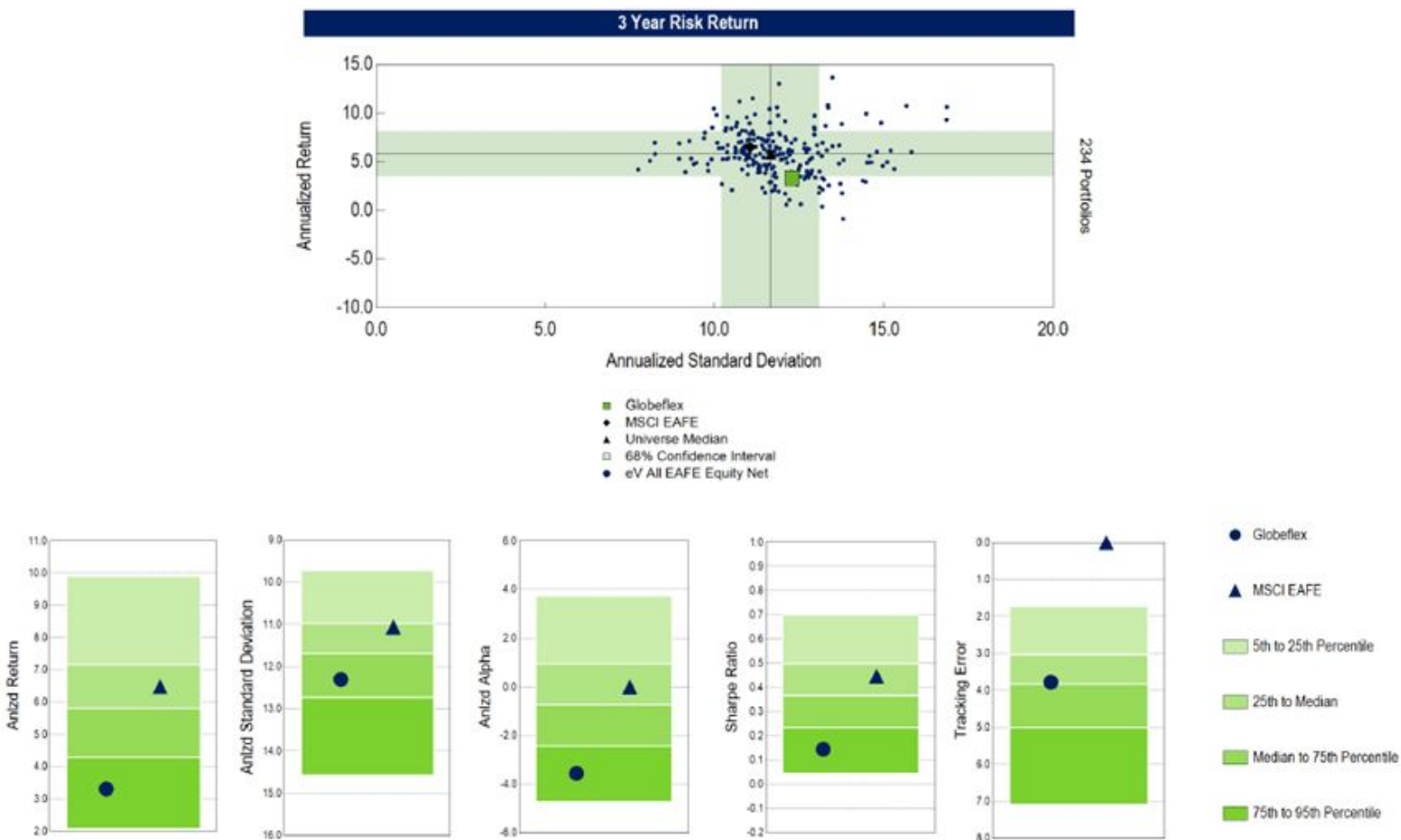
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Characteristics	Portfolio	MSCI EAFE
Number of Holdings	125	922
Weighted Avg. Market Cap. (\$B)	29.8	59.7
Median Market Cap. (\$B)	9.6	9.9
Price To Earnings	13.2	15.8
Price To Book	2.2	2.3
Price To Sales	0.8	1.1
Return on Equity (%)	18.3	14.3
Yield (%)	3.5	3.3
Beta		1.0
R-Squared		1.0

Top Positive Contributors	Relative Contribution %	Return %
KLAB	0.2%	36.8%
OMV	0.2%	10.0%
SOMPO HOLDINGS	0.2%	10.0%
VEIDEKKE	0.1%	15.7%
MERCK KGAA	0.1%	7.8%
OLYMPUS	0.1%	21.4%
EMPIRE 'A'	0.1%	7.7%
GALENICA SANTE	0.1%	14.3%
REDROW	0.1%	13.7%
QANTAS AIRWAYS	0.1%	14.4%

Top Negative Contributors	Relative Contribution %	Return %
BAM GROEP KON.	-0.4%	-43.9%
EVRAZ	-0.4%	-28.0%
IPSEN	-0.4%	-30.5%
FERREXPO	-0.4%	-42.3%
ENERFLEX WNL	-0.2%	-32.2%
BHP GROUP	-0.2%	-13.7%
CIMIC GROUP	-0.2%	-31.0%
RIO TINTO	-0.2%	-11.2%
INGHAMS GROUP	-0.1%	-22.2%
CI FINANCIAL	-0.1%	-9.8%

	Equity Sector Attribution										
	Attribution Effects				Returns		Ending Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.2%	-0.2%	0.0%	-2.5%	-6.3%	10.3%	5.1%			
Materials	-1.3%	-0.6%	-0.2%	-0.5%	-13.7%	-5.4%	8.3%	7.2%			
Industrials	-0.7%	-0.3%	0.0%	-0.3%	-5.0%	-2.0%	16.4%	14.8%			
Consumer Discretionary	0.3%	0.7%	-0.1%	-0.3%	4.9%	0.3%	7.1%	11.4%			
Consumer Staples	-0.3%	-0.8%	-0.2%	0.8%	-4.1%	2.1%	4.0%	11.8%			
Health Care	-0.3%	-0.3%	0.2%	-0.2%	0.3%	2.4%	16.7%	11.3%			
Financials	0.6%	0.3%	0.1%	0.2%	0.2%	-2.5%	14.0%	18.8%			
Information Technology	0.1%	0.1%	0.0%	0.0%	0.7%	-0.5%	4.9%	6.8%			
Communication Services	-0.2%	-0.1%	0.0%	-0.1%	-2.2%	-0.8%	9.1%	5.4%			
Utilities	-0.2%	-0.2%	0.0%	0.0%	-2.2%	2.5%	3.5%	3.7%			
Real Estate	0.1%	0.1%	0.0%	0.0%	1.2%	-1.1%	5.0%	3.5%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	-1.7%	=	-1.0%	+	-0.5%	+	-0.3%	-2.7%	-1.0%	99.2%	100.0%

*Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of period portfolio. Results may differ from actual performance. Returns are net of fees.



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GLOBEFLEX

Country Allocation				
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)	Manager Return (USD)	Index Return (USD)
Americas				
Canada	12.0%	0.0%	-1.7%	0.7%
Total-Americas	12.1%	0.0%	-1.6%	--
Europe				
Austria	2.7%	0.2%	8.8%	-3.0%
Denmark	0.7%	1.7%	1.6%	-0.9%
France	10.1%	11.3%	-4.1%	-1.6%
Germany	6.0%	8.5%	1.0%	-4.0%
Italy	5.8%	2.3%	-3.2%	0.2%
Netherlands	4.0%	3.7%	-14.3%	3.6%
Norway	0.6%	0.7%	8.1%	-3.3%
Portugal	1.1%	0.2%	-9.4%	1.9%
Spain	2.0%	2.9%	-4.1%	-3.8%
Sweden	2.2%	2.6%	-6.4%	-4.8%
Switzerland	4.9%	9.3%	1.8%	0.3%
United Kingdom	14.6%	16.3%	-7.3%	-2.5%
Total-Europe	55.0%	62.2%	-3.7%	-1.7%

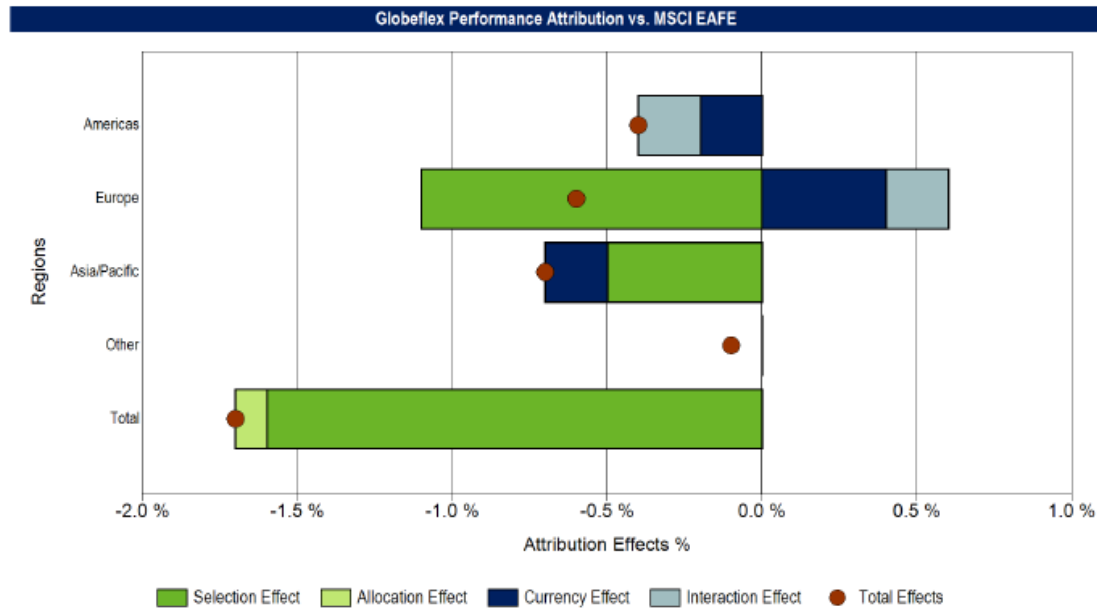
Country Allocation				
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)	Manager Return (USD)	Index Return (USD)
AsiaPacific				
Australia	7.8%	7.1%	-4.9%	-1.3%
Hong Kong	2.6%	3.7%	-2.3%	-11.9%
Japan	19.7%	24.9%	0.6%	3.2%
Korea*	2.3%	0.0%	-1.8%	-4.7%
New Zealand	0.3%	0.2%	-17.3%	-2.7%
Total-AsiaPacific	32.9%	37.2%	-1.5%	0.3%
Totals				
Developed	97.7%	100.0%	-2.7%	-1.0%
Emerging*	2.3%	0.0%	-1.8%	--

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GLOBEFLEX



	Returns and Ending Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Totals									
Americas	-1.6%	-	12.1%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.4%
Europe	-3.7%	-1.7%	55.0%	62.2%	-1.1%	0.0%	0.4%	0.2%	-0.6%
Asia/Pacific	-1.5%	0.3%	32.9%	37.2%	-0.5%	0.0%	-0.2%	0.0%	-0.7%
Other	-8.5%	-3.6%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	-0.1%
Total	-2.7%	-1.0%	100.0%	100.0%	-1.6%	-0.1%	0.0%	0.0%	-1.7%
Totals									
Developed	-2.7%	-1.0%	97.7%	100.0%	-1.8%	0.0%	0.2%	0.1%	-1.6%
Emerging*	-1.8%	-	2.3%	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.1%



KABOUTER INT'L OPPS OFFSHORE FUND II

SECTOR ATTRIBUTION W/CURRENCY

	Average Weight			Contribution to Return			Total Return		Attribution Analysis				
	Port. Average Weight	Bench. Average Weight	Variation in Average Weight	Port. Contrib. To Return	Bench. Contrib. To Return	Variation in Contribution To Return	Port. Total Return	Bench. Total Return	Total Effect	Allocation Effect (Local)	Selection Effect (Local)	Total Currency Effect	
Total	100.00	100.00	--	-3.73	-0.32	-3.41	-3.73	-0.32	-3.41	-0.66	-3.23	0.48	
Communication Services	--	5.21	-5.21	--	0.11	-0.11	--	2.07	-0.12	-0.14	--	0.02	
Consumer Discretionary	4.18	12.55	-8.36	-0.10	0.13	-0.23	-2.57	0.96	-0.26	-0.08	-0.03	-0.15	
Consumer Staples	1.95	6.48	-4.52	0.33	0.00	0.33	18.11	0.11	0.31	-0.00	0.30	0.01	
Energy	--	2.60	-2.60	--	-0.19	0.19	--	-6.98	0.18	0.15	--	0.03	
Etf	1.35	--	1.35	-0.09	--	-0.09	-0.30	--	-0.01	-0.06	--	0.05	
Financials	8.14	10.55	-2.41	-0.90	-0.26	-0.64	-10.73	-2.25	-0.66	0.03	-0.68	-0.02	
Health Care	20.75	7.55	13.20	-0.95	-0.10	-0.85	-4.59	-1.16	-0.84	-0.05	-1.01	0.22	
Industrials	24.22	21.09	3.13	-0.68	-0.56	-0.12	-2.81	-2.60	-0.14	-0.09	-0.19	0.15	
Information Technology	16.50	9.67	6.83	-1.32	0.11	-1.43	-8.18	1.16	-1.42	0.05	-1.46	-0.01	
Materials	11.00	8.01	2.99	-0.94	-0.48	-0.46	-8.44	-5.77	-0.48	-0.14	-0.48	0.14	
Real Estate	4.43	13.70	-9.27	0.52	0.86	-0.33	12.22	6.25	-0.31	-0.56	0.23	0.01	
Utilities	7.48	2.47	5.01	0.41	0.09	0.33	5.91	3.27	0.34	0.24	0.09	0.01	

*Returns are gross of fees



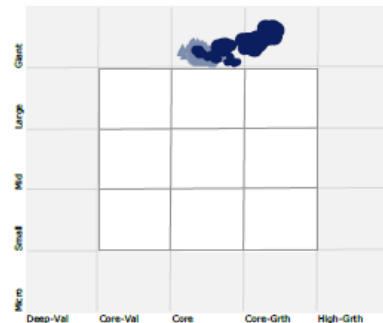
Source: Kabouter

September 30, 2019

ABERDEEN EMERGING MARKET EQUITY

Holdings Based Style Trail (5 Years)

Time Period: 10/31/2014 to 9/30/2019



Aberdeen Emerging Markets Instl MSCI EM NR USD

Portfolio Statistics

	Fund	Index
# of Holdings	63	1,201
% Asset in Top 10 Holdings	39.3	23.2
Turnover Ratio %	20.4	
P/E Ratio	16.3	12.8
P/B Ratio	2.5	1.5
LT Eam Growth	8.0	7.8
Hist Eam Growth	12.7	8.4
12 Mo Yield	1.3	

Market Capitalization Breakdown

	Fund	Index
Market Cap Giant %	73.9	54.7
Market Cap Large %	21.6	32.3
Market Cap Mid %	4.4	11.9
Market Cap Small %	0.0	1.1
Market Cap Micro %	0.2	0.0
Average Market Cap	44,686.7	29,494.6
Equity Region Developed %	22.9	26.8
Equity Region Emerging %	77.1	73.2

Top Ten Holdings

	Port Weight %	3 Month Return
Tencent Holdings Ltd	6.03	-6.67
Taiwan Semiconductor Manufacturing Co Ltd	5.77	14.77
Samsung Electronics Co Ltd Participating Preferred	5.41	-0.31
Housing Development Finance Corp Ltd	4.51	-11.38
Ping An Insurance (Group) Co. of China Ltd Class H	3.93	-3.44
Bank Bradesco SAADR	3.39	-16.44
Naspers Ltd Class N	3.04	-8.81
AIA Group Ltd	2.79	-12.01
China Resources Land Ltd	2.22	-4.42
Fomento Economico Mexicano SAB de CV ADR	2.20	-5.34

Sector Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Communication Services	11.04	11.74	-8.37	-5.02	0.00	-0.38	-0.39
Consumer Discretionary	13.03	13.66	-6.28	-3.55	0.00	-0.37	-0.36
Consumer Staples	10.92	6.73	3.31	-0.78	0.16	0.44	0.60
Energy	4.14	6.25	-7.05	-5.12	0.04	-0.09	-0.05
Financials	27.58	24.83	-6.92	-7.71	-0.10	0.22	0.12
Health Care	0.80	2.66	13.65	-6.54	0.04	0.14	0.19
Industrials	2.61	5.35	-5.81	-5.05	0.01	-0.01	0.00
Information Technology	14.30	14.18	6.95	5.79	0.02	0.15	0.17
Materials	8.47	7.37	-12.82	-10.34	-0.08	-0.22	-0.30
Real Estate	5.44	2.95	-4.83	-8.69	-0.11	0.22	0.10
Utilities	0.00	2.81		-3.31	-0.02	0.00	-0.02
Attribution Total	98.33	98.52	-4.17	-4.24	-0.03	0.10	0.07
Cash	1.67	0.00					
Missing Performance	0.00	1.48					
Total	100.00	100.00					

Region Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Africa	4.28	5.72	-14.38	-12.72	0.13	-0.06	0.06
Asia - Developed	19.00	23.56	-2.03	0.40	-0.19	-0.47	-0.66
Asia - Emerging	51.46	48.28	-3.70	-5.10	-0.01	0.75	0.74
Europe - Emerging	3.03	4.55	3.84	-3.83	0.00	0.23	0.22
Europe - ex Euro	1.05	0.00	0.87		0.06	0.00	0.06
Eurozone	1.19	0.36	-16.11	-0.87	0.03	-0.16	-0.13
Latin America	17.53	12.14	-7.25	-5.54	-0.05	-0.32	-0.36
Middle East	0.00	3.56		-4.52	0.04	0.00	0.04
United Kingdom	0.00	0.08		2.01	0.00	0.00	0.00
United States	0.80	0.29	13.65	-1.62	0.01	0.11	0.11
Attribution Total	98.33	98.52	-4.17	-4.24	0.00	0.07	0.07
Cash	1.67	0.00					
Missing Performance	0.00	1.48					
Total	100.00	100.00					



Source: Morningstar

September 30, 2019

ABERDEEN EMERGING MARKET EQUITY

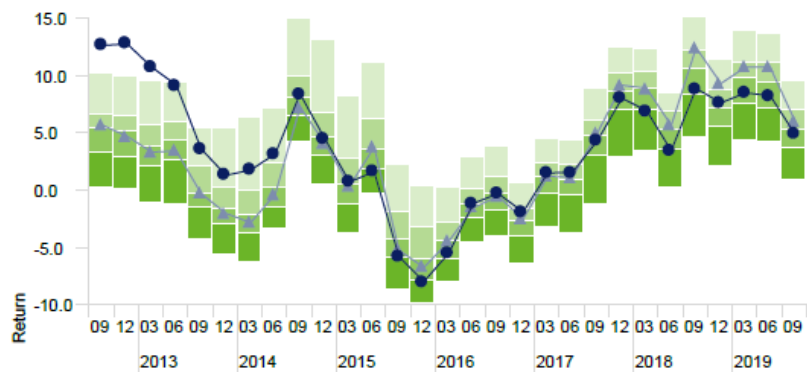
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	88.7	100.0
Alpha	0.0	0.0
Beta	0.9	1.0
Std Dev	13.8	14.4
Up Capture Ratio	95.4	100.0
Down Capture Ratio	95.7	100.0
Sharpe Ratio (geo)	0.1	0.1
Information Ratio (geo)	0.0	
Tracking Error	4.9	0.0
Correlation	0.9	1.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Aberdeen Emerging Markets Instl

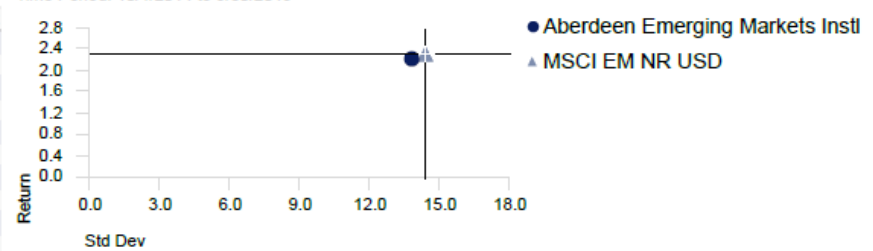
—MSCI EM NR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Aberdeen Emerging Markets Instl	76.6	32	27.6	6	-11.0	4	26.2	8	-7.5	93	-2.5	43	-13.7	45	12.0	24	30.2	70	-14.6	35
MSCI EM NR USD	78.5		18.9		-18.4		18.2		-2.6		-2.2		-14.9		11.2		37.3		-14.6	

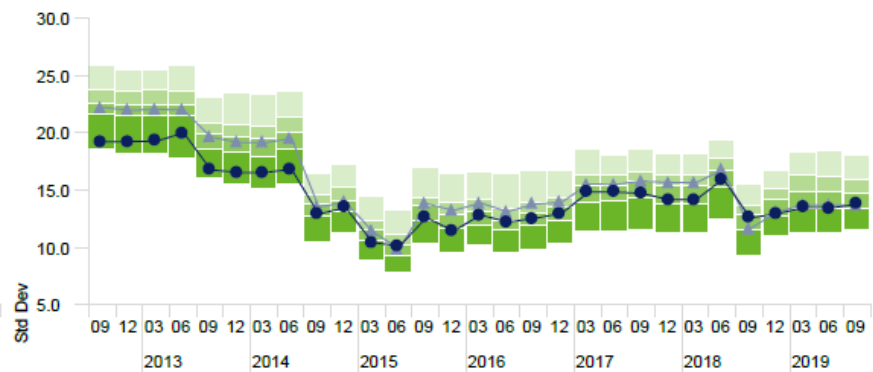
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Aberdeen Emerging Markets Instl

—MSCI EM NR USD

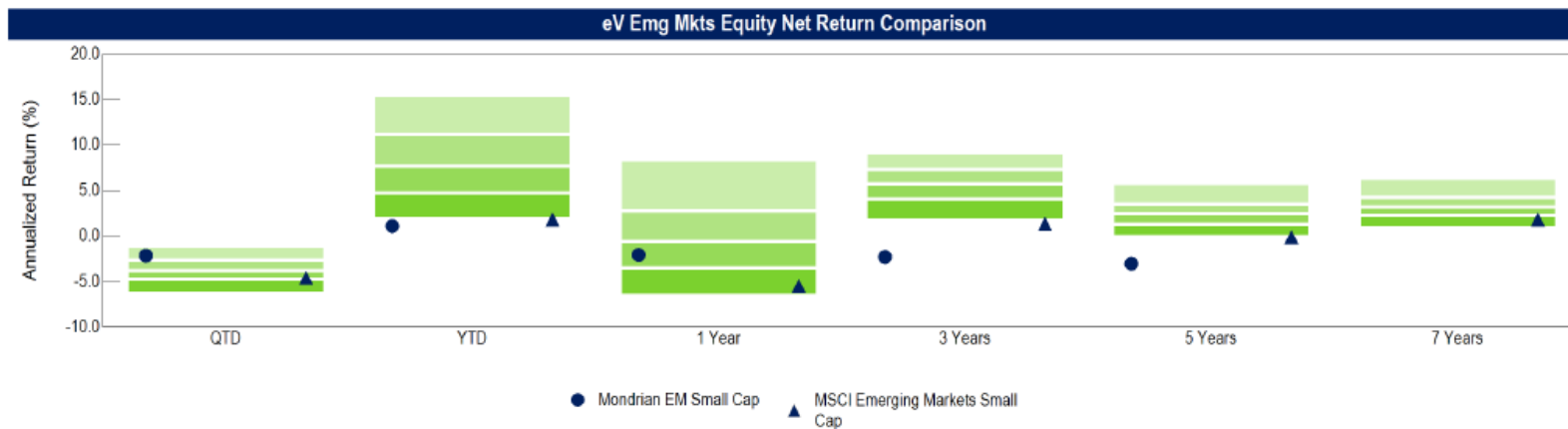


Source: Morningstar

September 30, 2019

MONDRIAN EM SMALL CAP

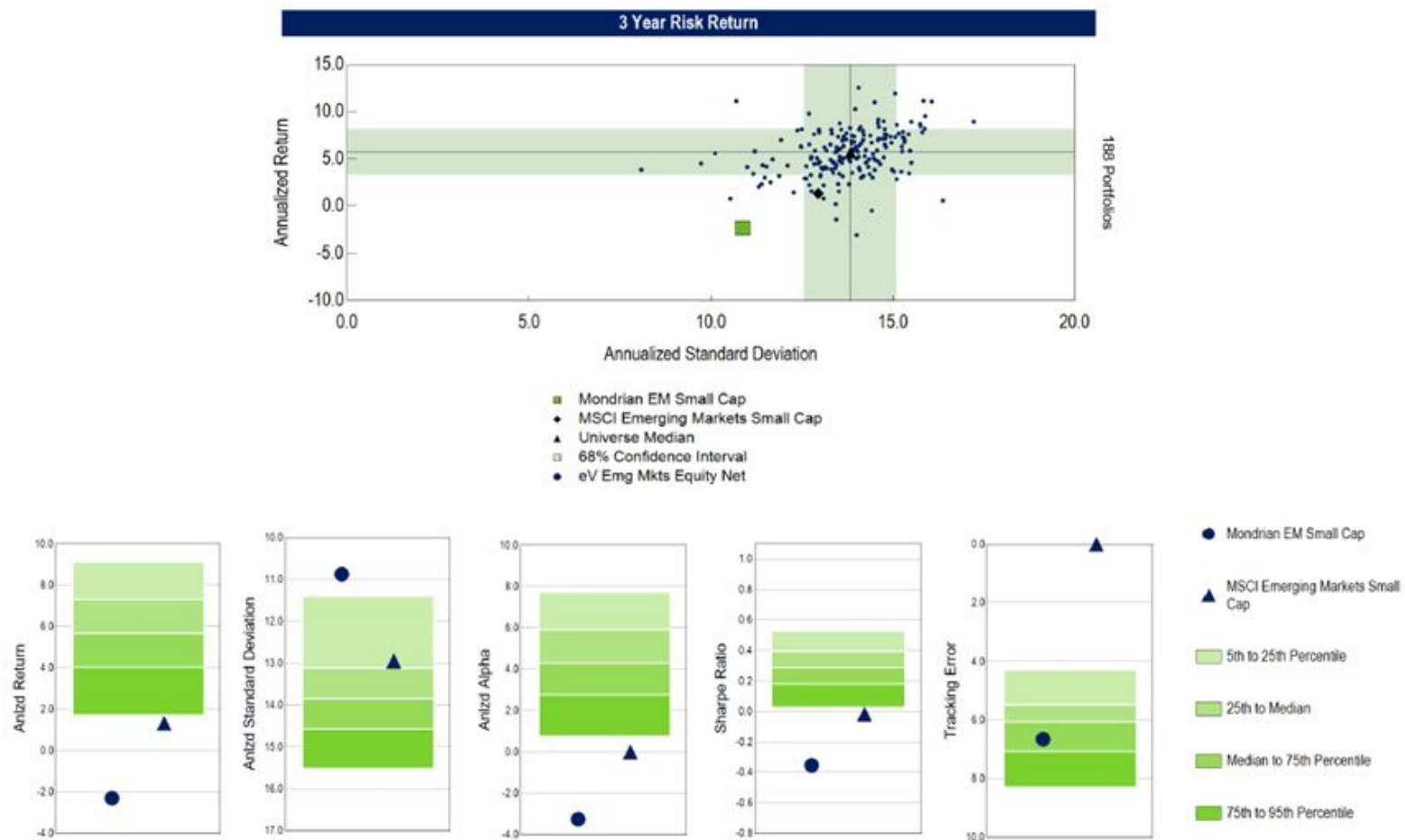
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September 30, 2019

MONDRIAN EM SMALL CAP

6.1



September 30, 2019

MONDRIAN EM SMALL CAP

Characteristics		MSCI Emerging Markets Small Cap
	Portfolio	
Number of Holdings	103	1,623
Weighted Avg. Market Cap. (\$B)	1.4	1.2
Median Market Cap. (\$B)	0.9	0.6
Price To Earnings	17.8	13.1
Price To Book	3.0	2.2
Price To Sales	2.2	0.8
Return on Equity (%)	17.5	12.5
Yield (%)	2.6	2.9
Beta		1.0
R-Squared		1.0

Top Positive Contributors		
	Relative Contribution %	Return %
BERGER PAINTS INDIA	0.4%	34.2%
GREENTOWN SER.GP.	0.3%	21.6%
KANSAI NEROLAC PAINTS	0.2%	15.9%
MICROPORT SCIENTIFIC	0.2%	22.0%
THUNDER SFTW.TECH.'A'	0.2%	20.8%
FINE ORGANIC INDUSTRIES	0.2%	18.6%
ASCENDAS INDIA TRUST	0.1%	12.2%
DINO POLSKA SA	0.1%	11.6%
PI INDUSTRIES	0.1%	8.7%
PACIFIC HOSPITAL SUPPLY	0.1%	16.2%

Top Negative Contributors		
	Relative Contribution %	Return %
KOLMAR KOREA	-0.4%	-32.6%
CONCEPCION INDUSTRIAL	-0.3%	-25.9%
SINOSOFT TECHNOLOGY GP.	-0.3%	-21.1%
TONG REN TANG TECHS.'H'	-0.2%	-23.7%
NEXTEER AUTOMOTIVE GROUP	-0.2%	-33.7%
D&L INDUSTRIES	-0.2%	-15.9%
ALICORP	-0.2%	-12.5%
MANILA WATER	-0.2%	-20.3%
LEMON TREE HOTELS	-0.2%	-16.9%
HAND ENTERPRISE SLTN.'A'	-0.2%	-14.9%

Equity Sector Attribution											
	Attribution Effects							Returns		Ending Sector Weights	
	Total Effects		Selection Effect		Allocation Effect		Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.1%		0.2%		0.0%		-0.1%	3.7%	-5.7%	1.2%	2.3%
Materials	1.1%		1.3%		0.0%		-0.1%	6.7%	-3.9%	10.2%	12.1%
Industrials	0.8%		0.7%		0.0%		0.1%	-0.7%	-5.9%	17.3%	14.3%
Consumer Discretionary	-0.1%		-0.4%		0.0%		0.2%	-5.4%	-4.0%	12.7%	13.8%
Consumer Staples	-0.1%		0.1%		-0.1%		-0.1%	-4.7%	-5.9%	14.2%	6.5%
Health Care	0.5%		0.4%		-0.1%		0.3%	-1.2%	-7.3%	14.3%	7.9%
Financials	0.9%		0.8%		0.6%		-0.5%	-6.1%	-11.2%	2.7%	9.8%
Information Technology	-1.3%		-1.3%		-0.6%		0.6%	-4.0%	5.7%	6.7%	15.8%
Communication Services	0.2%		0.1%		0.0%		0.0%	-3.9%	-7.6%	4.1%	4.0%
Utilities	-0.1%		-0.3%		0.0%		0.2%	-10.6%	-6.1%	3.7%	4.9%
Real Estate	0.9%		1.2%		0.0%		-0.3%	8.3%	-4.6%	6.8%	8.1%
Cash	0.3%		0.0%		0.3%		0.0%	0.5%	-	4.5%	0.0%
Portfolio	3.1%	=	2.7%	+	0.1%	+	0.2%	-1.2%	-4.3%	98.4%	99.4%

* Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of period portfolio. Results may differ from actual performance. Returns are gross of fees.



September 30, 2019

6.1

MONDRIAN EM SMALL CAP

6.1

Sector Allocation*

	Fund	MSCI EM SC
Communication Services	4.0	4.1
Consumer Discretionary	12.5	14.1
Consumer Staples	13.9	6.5
Energy	1.2	2.2
Financials	4.3	9.8
Health Care	16.0	7.8
Industrials	17.2	14.2
Information Technology	9.0	15.7
Materials	11.2	12.2
Real Estate	6.8	8.5
Utilities	3.7	4.9
Cash	0.3	—
TOTAL	100.0	100.0

Country Allocation*

	Fund	MSCI EM SC
Latin America	9.2	13.7
Brazil	3.7	8.7
Mexico	3.4	2.8
Peru	2.0	—
Europe, Middle East & Africa	13.4	14.9
Czech Republic	1.5	0.1
Estonia	1.2	—
Kuwait	1.7	—
Poland	2.7	0.9
Saudi Arabia	2.9	2.6
Slovenia	0.7	—
South Africa	0.9	5.6
UAE	1.0	0.7
United Kingdom	0.8	—
Asia	77.2	71.4
North Asia	33.7	45.6
China/Hong Kong	20.7	10.7
South Korea	5.5	14.9
Taiwan	7.5	20.0
South Asia	43.5	25.1
India	29.2	13.9
Indonesia	4.6	2.4
Malaysia	3.4	3.1
Philippines	3.7	0.9
Thailand	2.6	4.8
Cash	0.3	—
TOTAL	100.0	100.0

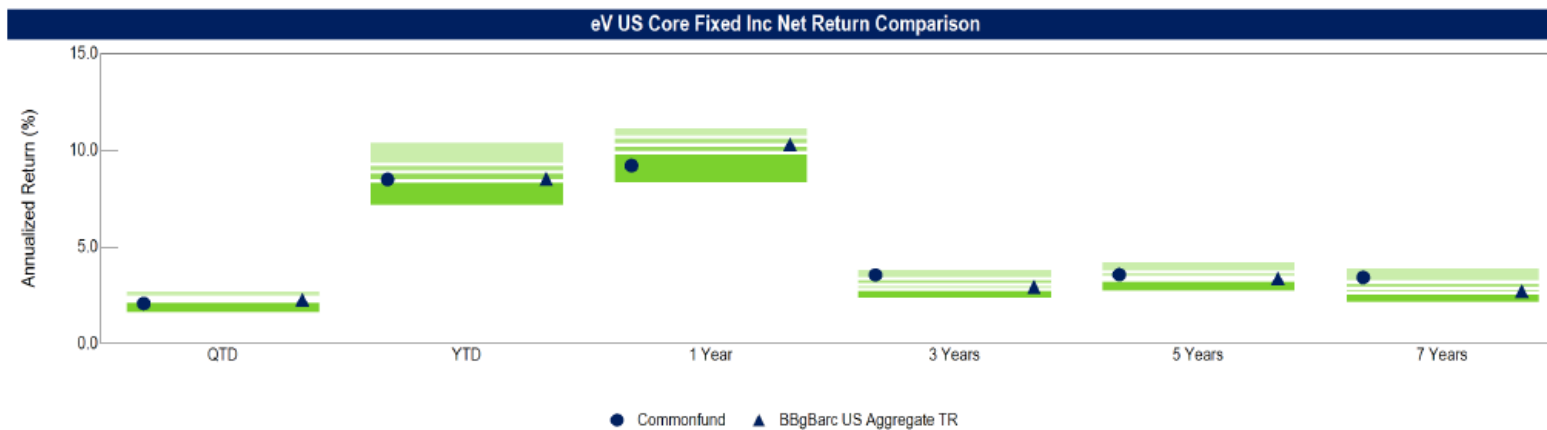
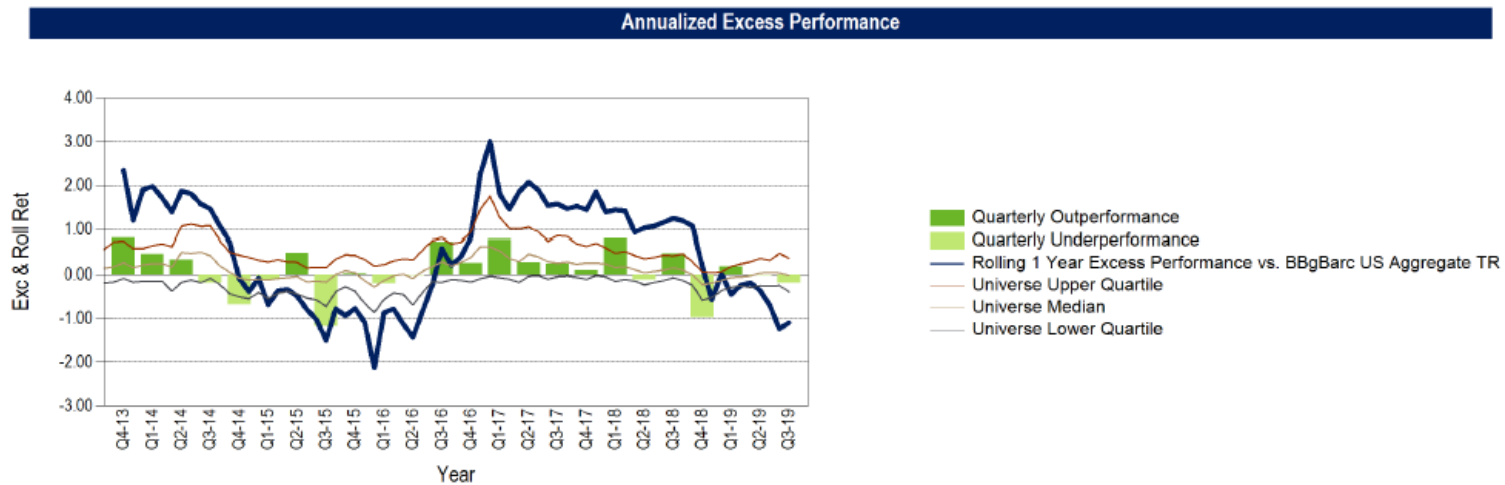


Source: Mondrian

September 30, 2019

COMMONFUND

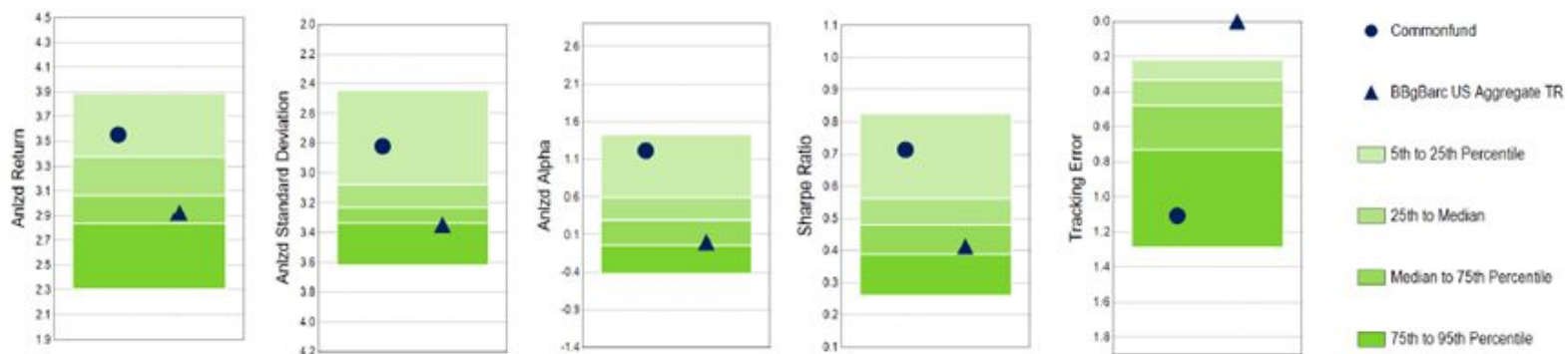
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September 30, 2019

COMMONFUND

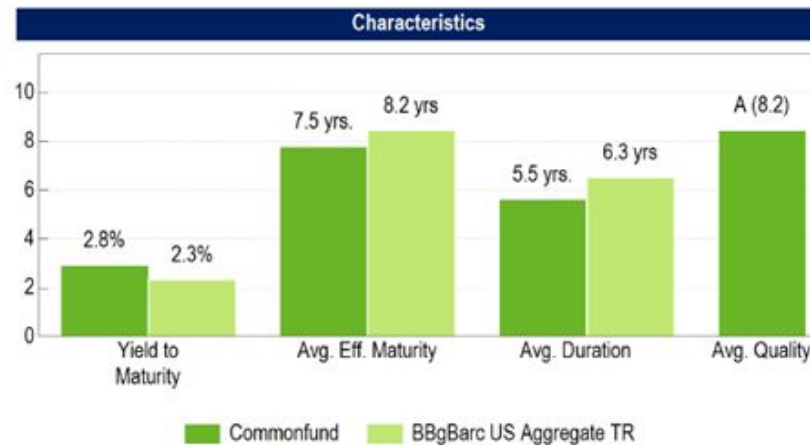
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September 30, 2019

COMMONFUND

6.1



COMMONFUND

Multi-Strategy Bond Fund: Investment Managers

Investment Managers	Core	Credit	Opportunistic
Bain Capital Specialty Fin.		X	
Brandywine Asset Management			X
Cerberus Capital Management		X	
Credit Partnerships CF 2018		X	
Direct Trading (Tsy Fut)			X
Distressed Debt Partnerships		X	
Income Research & Management (IRM)	X		
PIMCO Income Fund (PIMIX)			X
Rimrock Capital Management	X		
Western Asset	X		X

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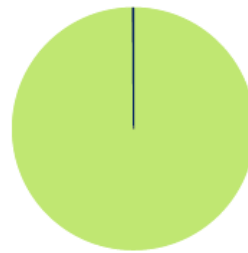
Source: Commonfund

September 30, 2019

VANGUARD INFLATION PROTECTED SECURITIES

Asset Allocation

Portfolio Date: 8/31/2019



• Stock	0.0
• Bond	99.9
• Cash	0.1
• Other	0.0
Total	100.0

Fixed Income Statistics

Portfolio Date: 8/31/2019

Morningstar Fixed Income Style Box™			
	Ltd	Mod	Ext
High			
Med			
Low			

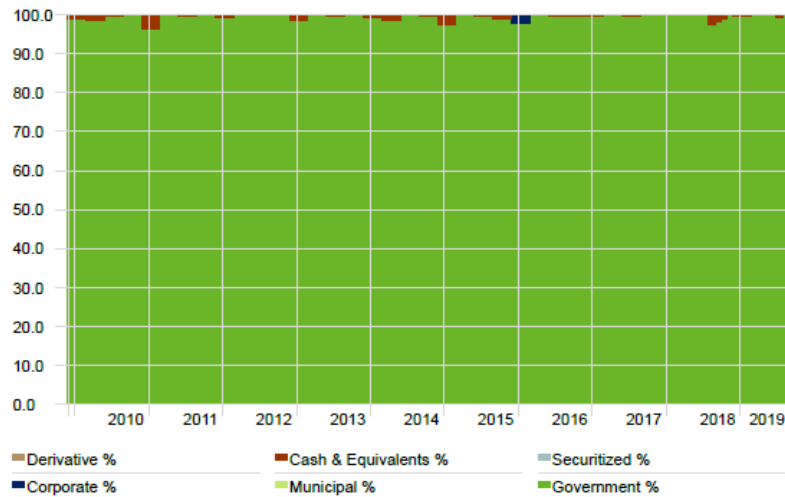
Fixed-Income Stats	
Average Eff Duration	7.9
Average Eff Maturity	8.7
Average Coupon	0.8
Average Price	107.2

Credit Quality Breakdown

Portfolio Date: 8/31/2019

	Fund	Index
AAA %	100.0	
AA %	0.00	
A %	0.00	
BBB %	0.00	
BB %	0.00	
B %	0.00	
Below B %	0.00	
Not Rated %	0.00	
Yield to Maturity		

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	4.78
United States Treasury Notes 0.38%	BOND - GOV'T INFLATION PROTECTED	3.86
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	3.79
United States Treasury Notes 0.38%	BOND - GOV'T INFLATION PROTECTED	3.74
United States Treasury Notes 0.25%	BOND - GOV'T INFLATION PROTECTED	3.68
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	3.61
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	3.54
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	3.52
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	3.38
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	3.27



Source: Morningstar

September 30, 2019

VANGUARD INFLATION PROTECTED SECURITIES

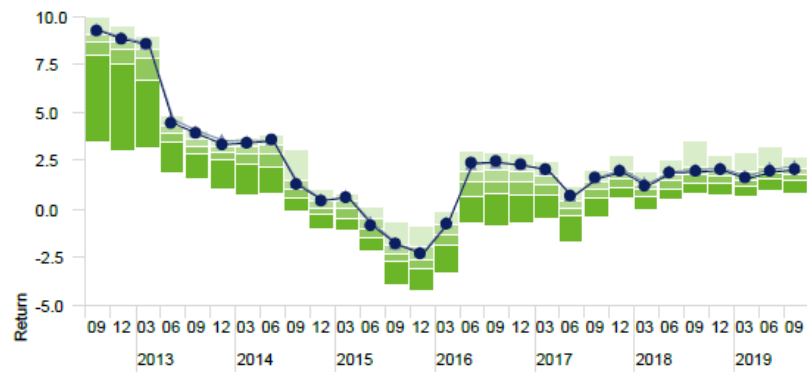
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	99.4	100.0
Alpha	-0.1	0.0
Beta	1.0	1.0
Std Dev	3.4	3.3
Up Capture Ratio	100.3	100.0
Down Capture Ratio	105.3	100.0
Sharpe Ratio (geo)	0.4	0.4
Information Ratio (geo)	-0.3	
Tracking Error	0.3	0.0
Correlation	1.0	1.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Inflation-Protected Secs Adm

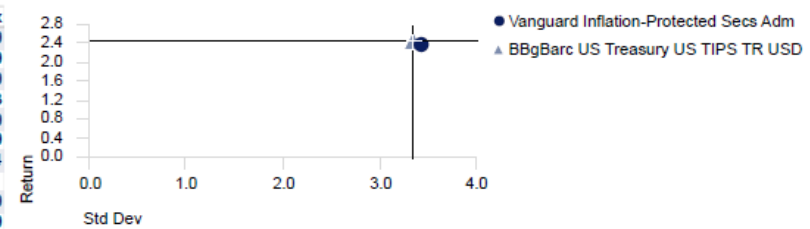
—BBGBarc US Treasury US TIPS TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Vanguard Inflation-Protected Secs Adm	11.0	31	6.3	29	13.3	8	6.9	23	-8.9	54	4.0	5	-1.7	32	4.6	40	2.9	39	-1.4	47
BBGBarc US Treasury US TIPS TR USD	11.4		6.3		13.6		7.0		-8.6		3.6		-1.4		4.7		3.0		-1.3	

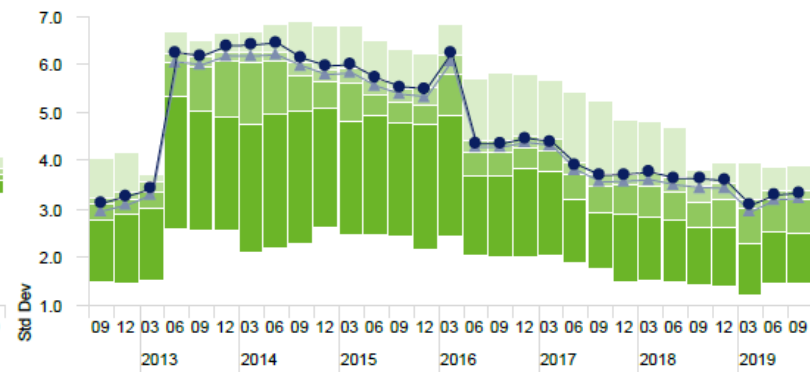
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Inflation-Protected Secs Adm

—BBGBarc US Treasury US TIPS TR USD



Source: Morningstar

September 30, 2019

VANGUARD SHORT-TERM TIPS

Asset Allocation

Portfolio Date: 8/31/2019



• Stock	0.0
• Bond	100.0
• Cash	0.0
• Other	0.0
Total	100.0

Fixed Income Statistics

Portfolio Date: 8/31/2019

Morningstar Fixed Income Style Box™			
	Ltd	Mod	Ext
High			
Med			
Low			

Fixed-Income Stats

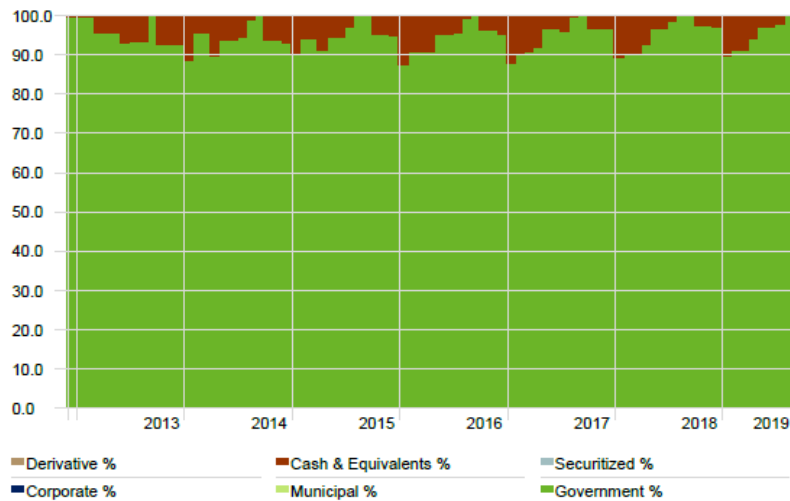
Average Eff Duration	2.7
Average Eff Maturity	2.7
Average Coupon	0.4
Average Price	100.3
Yield to Maturity	

Credit Quality Breakdown

Portfolio Date: 8/31/2019

	Fund	Index
AAA %	100.0	
AA %	0.00	
A %	0.00	
BBB %	0.00	
BB %	0.00	
B %	0.00	
Below B %	0.00	
Not Rated %	0.00	

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	8.63
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.48
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	7.33
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	7.32
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.32
United States Treasury Notes 0.38%	BOND - GOV'T INFLATION PROTECTED	7.26
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.21
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.20
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.08
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	6.93



September 30, 2019

VANGUARD SHORT-TERM TIPS

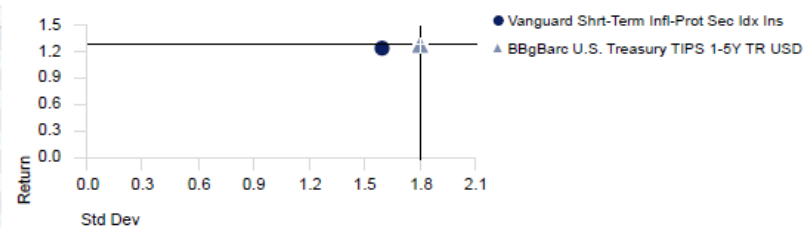
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	99.3	100.0
Alpha	0.0	0.0
Beta	0.9	1.0
Std Dev	1.6	1.8
Up Capture Ratio	93.6	100.0
Down Capture Ratio	87.5	100.0
Sharpe Ratio (geo)	0.1	0.1
Information Ratio (geo)	-0.1	
Tracking Error	0.3	0.0
Correlation	1.0	1.0

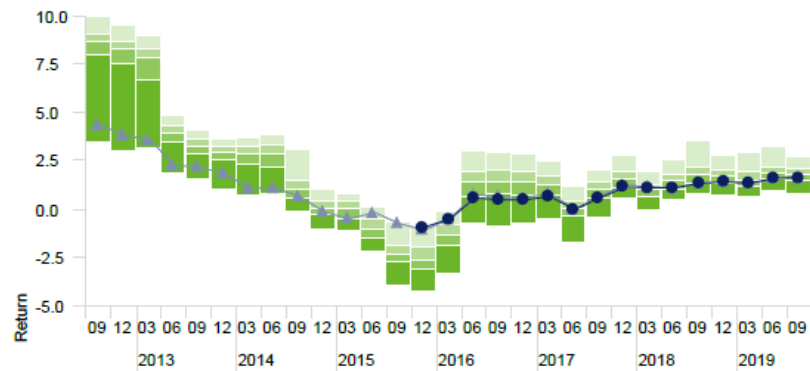
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

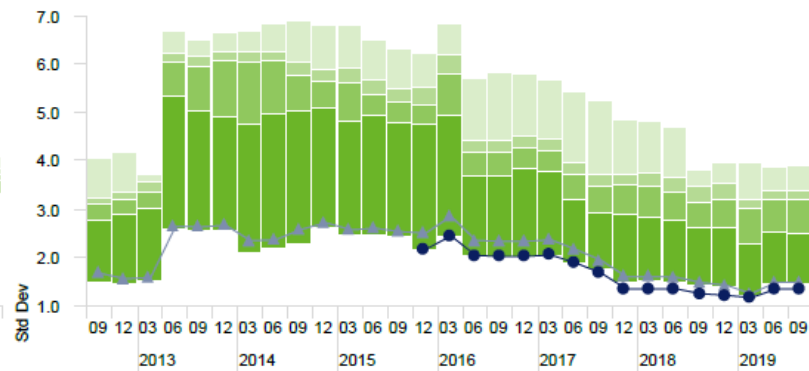


—Vanguard Shrt-Term Infl-Prot Sec Idx Ins

—BBgBarc U.S. Treasury TIPS 1-5Y TR USD

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Shrt-Term Infl-Prot Sec Idx Ins

—BBgBarc U.S. Treasury TIPS 1-5Y TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Vanguard Shrt-Term Infl-Prot Sec Idx Ins									-1.5	5	-1.1	88	-0.2	2	2.8	91	0.8	85	0.6	1
BBgBarc U.S. Treasury TIPS 1-5Y TR USD	11.5		3.9		4.9		2.7		-2.0		-1.1		-0.1		3.1		0.8		0.4	

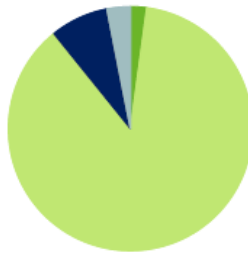


September 30, 2019

BLACKROCK STRATEGIC INCOME

Asset Allocation

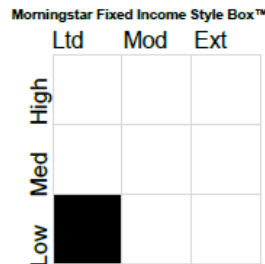
Portfolio Date: 7/31/2019



• Stock	2.1
• Bond	87.1
• Cash	7.7
• Other	3.1
Total	100.0

Fixed Income Statistics

Portfolio Date: 3/31/2019



Fixed-Income Stats

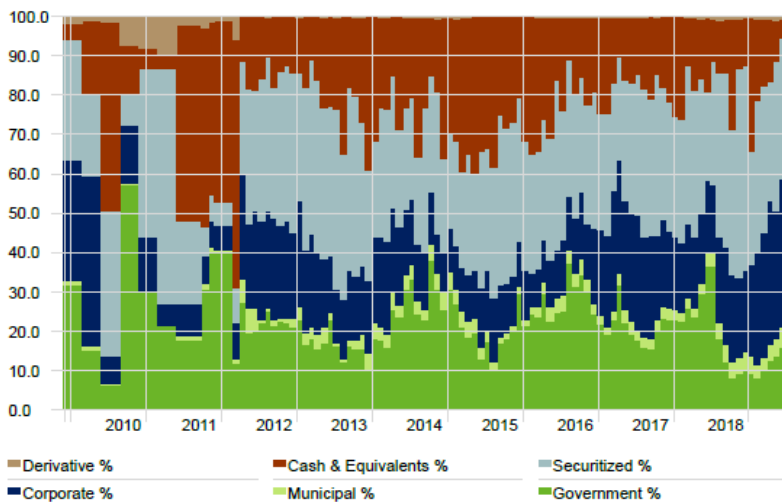
Average Eff Duration	2.9
Average Eff Maturity	7.7
Average Coupon	4.5
Average Price	103.5

Credit Quality Breakdown

Portfolio Date: 6/30/2019

	Fund	Index
AAA %	25.0	
AA %	6.34	
A %	13.46	
BBB %	18.92	
BB %	13.83	
B %	8.35	
Below B %	3.66	
Not Rated %	10.47	
Yield to Maturity		

Historical Sector Allocations (10 Years)



Top Holdings

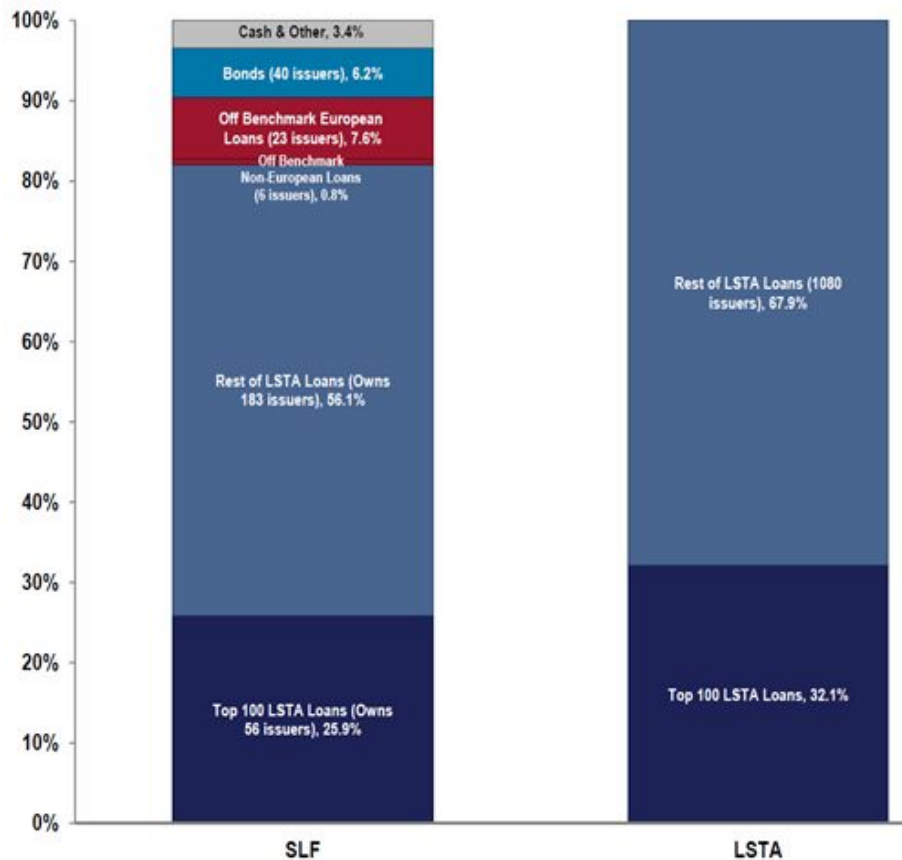
	Detail Holding Type	Portfolio Weighting %
iShares iBoxx \$ Invmt Grade Corp Bd ETF	MUTUAL FUND - ETF	1.08
iShares JP Morgan USD Em Mkts Bd ETF	MUTUAL FUND - ETF	0.93
Fnma Pass-Thru I 3%	BOND - GOV'T AGENCY PASS-THRU	0.81
Japan (Government Of) 0.1%	BOND - GOV'T INFLATION PROTECTED	0.76
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.73
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.73
SPDR® Blmbg Barclays High Yield Bd ETF	MUTUAL FUND - ETF	0.66
BlackRock Liquidity T-Fund Instl	MUTUAL FUND - MONEY MARKET	0.61
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.59
Fnma Pass-Thru I 4%	BOND - GOV'T AGENCY PASS-THRU	0.53



Source: Morningstar

September 30, 2019

BAIN CAPITAL SENIOR LOAN FUND



Top 5 Winners & Losers	
Winners	
Issuer	bps
Ascend Performance	2
Upfield	2
Intelsat	2
Tele Columbus	2
CPG International	1
Rest of Winners	61
Total Winners	70
Losers	
Issuer	bps
Algoma Steel	(41)
Murray Energy	(21)
GTT Communications, Inc.	(3)
Ultra Petroleum Corporation	(3)
NPC International	(3)
Rest of Losers	(34)
Total Losers	(105)

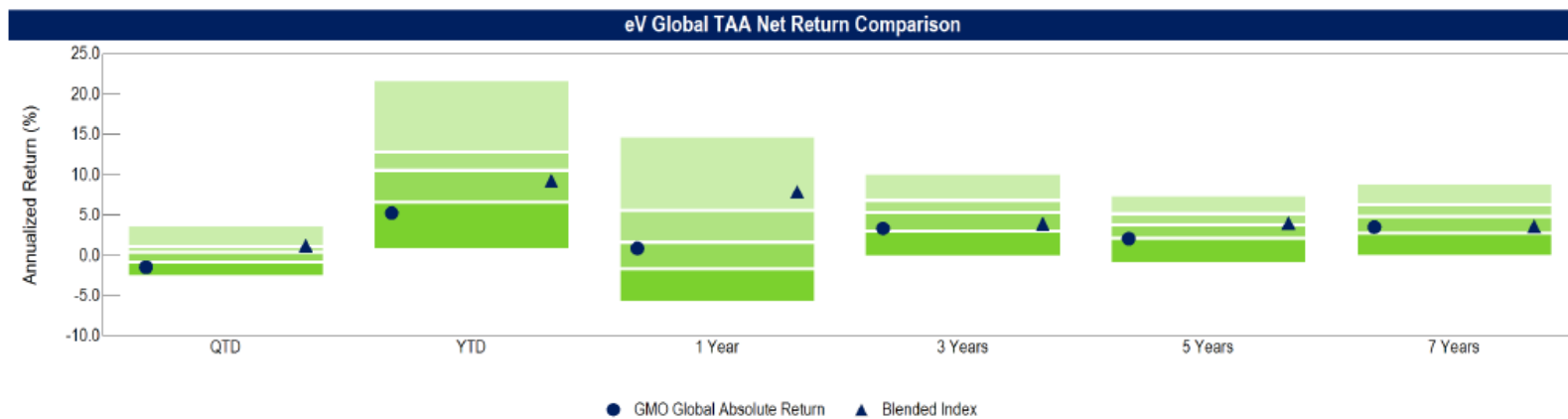
6.1



Source: Bain Capital

September 30, 2019

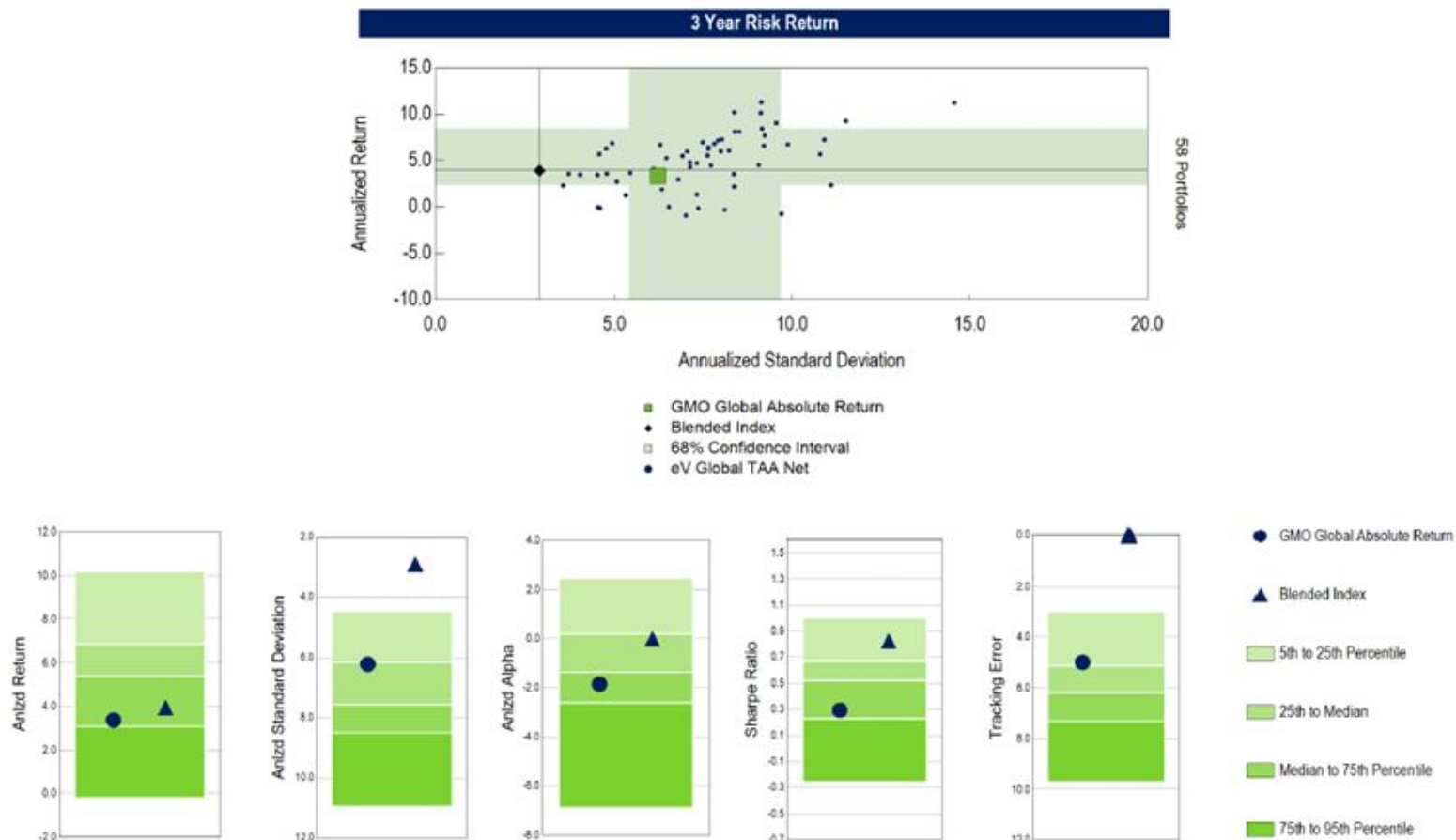
GMO GLOBAL ABSOLUTE RETURN



September 30, 2019

GMO GLOBAL ABSOLUTE RETURN

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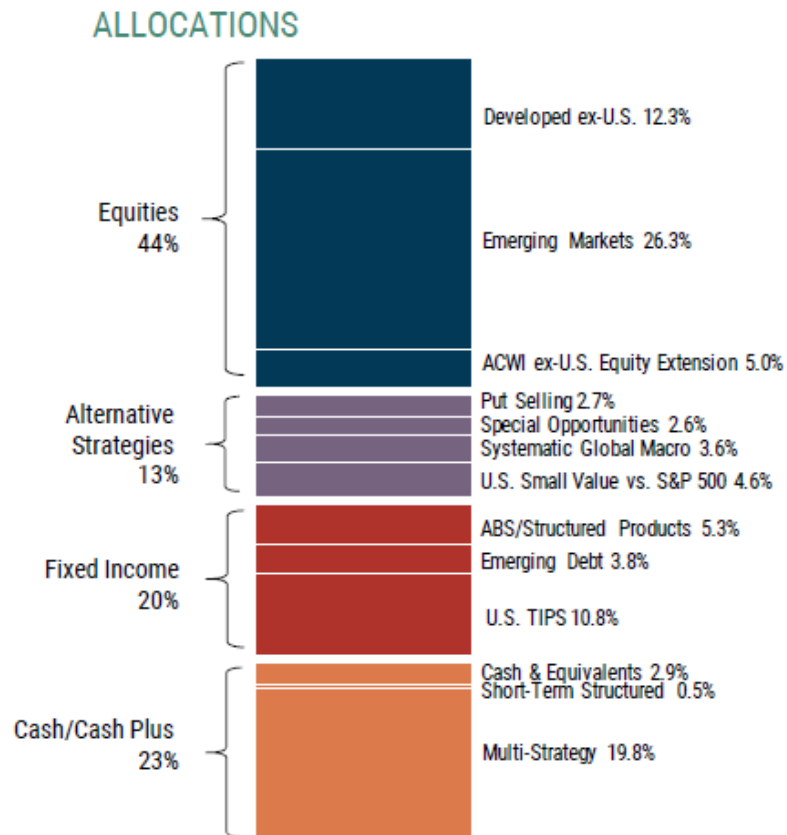


September 30, 2019

GMO GLOBAL ABSOLUTE RETURN

Strategy Composition

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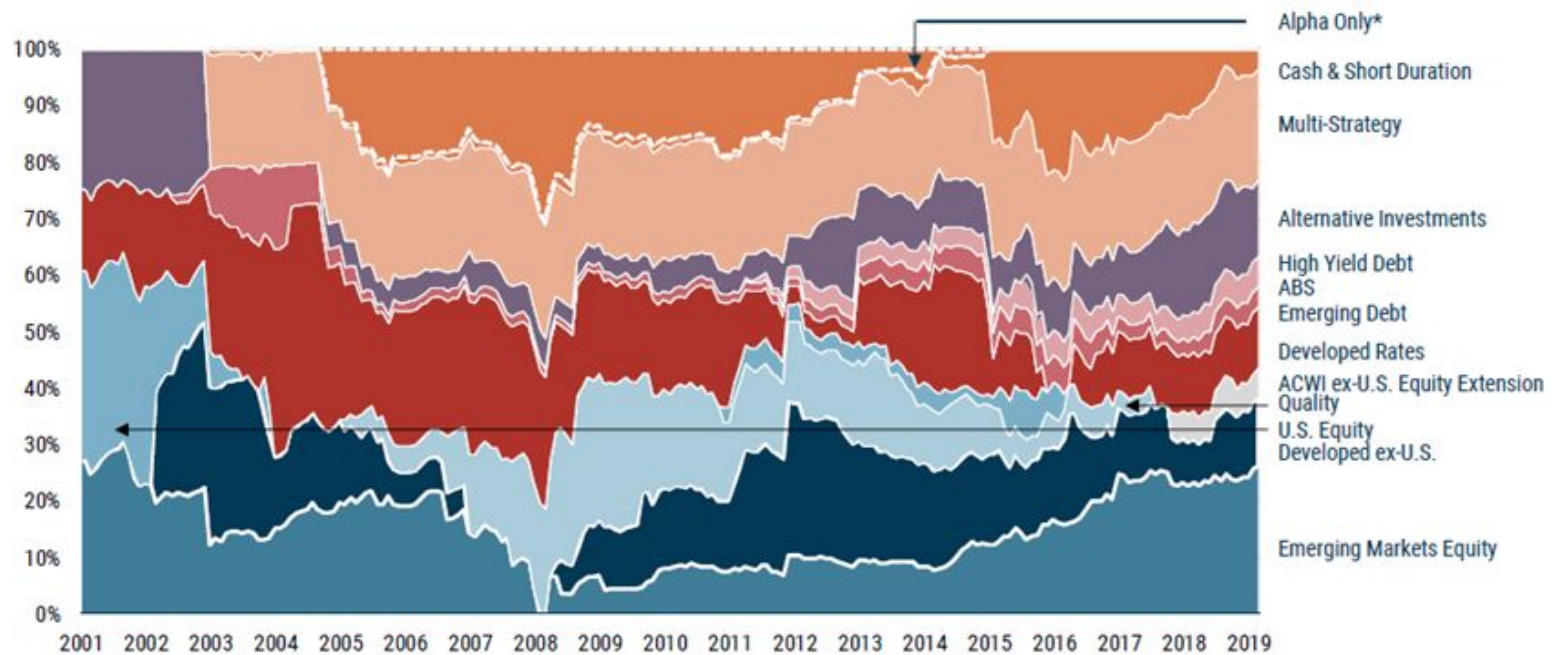
Source: GMO



September 30, 2019

GMO GLOBAL ABSOLUTE RETURN

Allocation History



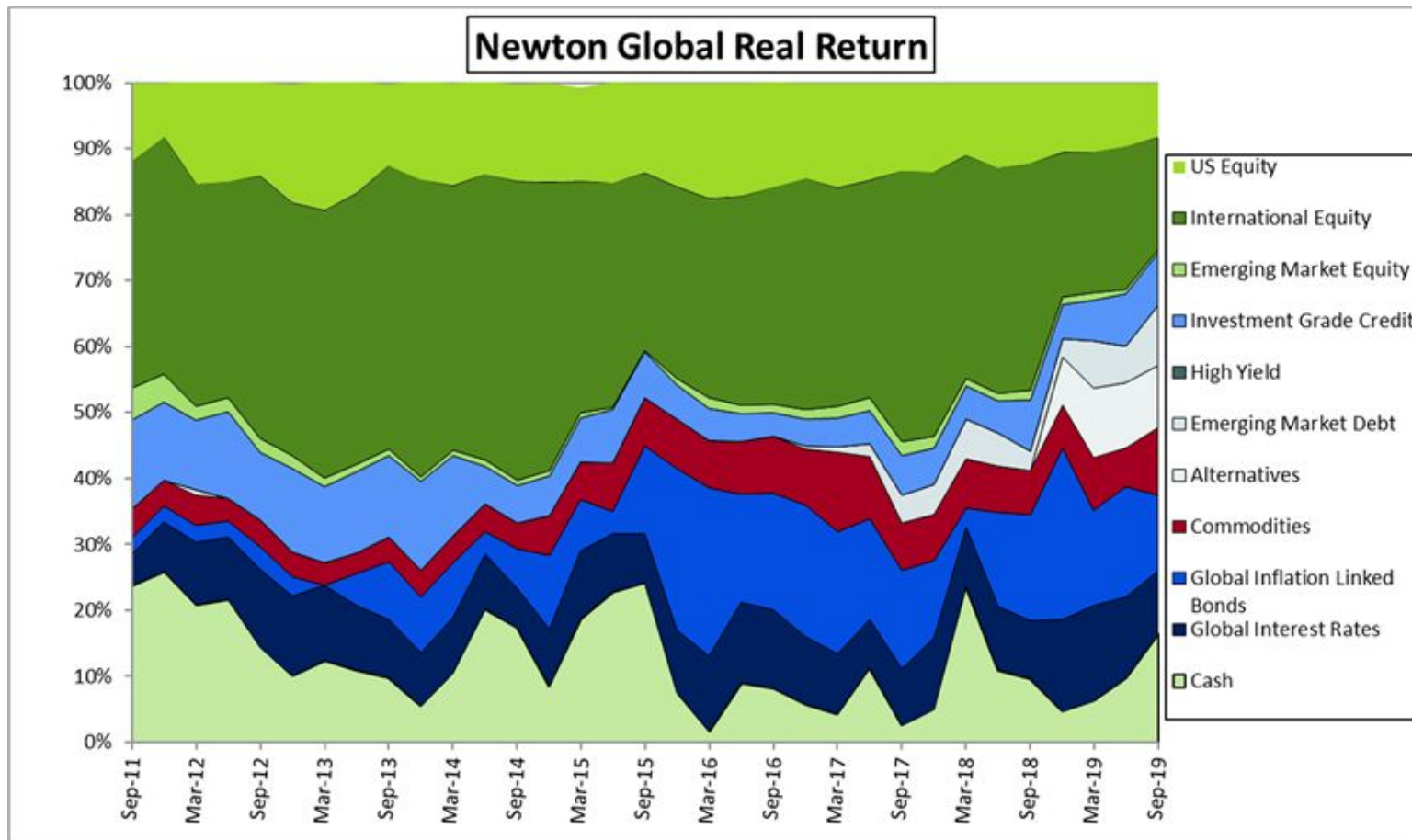
Source: GMO



September 30, 2019

6.1

NEWTON GLOBAL REAL RETURN



6.1



Source: Newton

September 30, 2019

LIGHTHOUSE GLOBAL LONG/SHORT

General Fund Information			
Fund Name	Lighthouse Global Long/Short Fund		
Management Company	Lighthouse Investment Partners, LLC		
Location	Palm Beach, FL		
Firm AUM	\$13.5 billion	Strategy	Fund of Fund
Fund AUM	\$1.0 billion	Sub-Strategy	Long/Short Equity
Portfolio Managers	Ethan Baron	Direct or FOF	FOF

Terms	
Share Class	--
Minimum Investment	\$1 million
Management Fee	1.15%
Incentive Fee	--
Hurdle Rate	None
High Water Mark	Yes
Subscription	Monthly
Redemption	Quarterly (60 days notice) or Monthly (90 days notice)
Lock-Up	None

Investment Strategy
Lighthouse's Global Long/Short Fund is a global portfolio of 20-30 separately managed accounts with industry sector and country specialist managers. The geographical allocations are similar to the MSCI World Index (30%-75% Americas, 10%-35% Europe, 5%-35% Asia).
The Fund targets returns greater than 10% over market cycles with 6%-8% volatility and an equity beta of 0.2–0.4 to the MSCI World Index.

Strategy Information

Region Allocation & Attribution

Region	Net	Gross
Developed North America	4.1%	184.0%
Developed Europe	8.8%	45.0%
Developed Asia	0.8%	52.0%
Emerging Markets	12.5%	20.1%
Hedges / Other	0.0%	0.1%

	Developed North America	Developed Europe	Developed Asia	Emerging Markets	Hedges / Other
Var ^{RI}	0.23%	0.08%	0.02%	0.19%	0.00%
QTD ^{RI}	-2.07%	-0.08%	0.12%	0.32%	-0.44%

Sector Allocation & Attribution

Sector	Net	Gross
Communication Services	5.8%	13.8%
Consumer Discretionary	4.0%	36.1%
Consumer Staples	0.3%	12.8%
Energy	0.7%	10.0%
Financials	4.0%	47.0%
Healthcare	3.9%	45.8%
Industrials	-3.0%	43.1%
Technology	2.9%	28.9%
Materials	4.3%	15.0%
Real Estate	0.1%	22.4%
Utilities	0.9%	7.0%
Hedges / Other	0.1%	-0.2%

	Communication Services	Consumer Discretionary	Consumer Staples	Energy	Financials	Healthcare	Industrials	Technology	Materials	Real Estate	Utilities	Hedges / Other
Var ^{RI}	0.13%	0.14%	0.02%	0.00%	-0.09%	0.10%	0.01%	0.14%	0.07%	0.02%	0.02%	-0.03%
QTD ^{RI}	-0.75%	0.18%	-0.21%	0.03%	-0.45%	-0.63%	0.02%	-0.11%	-0.45%	0.03%	0.19%	0.00%



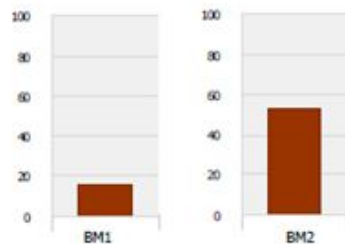
For more information please see NEPC's Investment Due Diligence Report and Operational Due Diligence Report

September 30, 2019

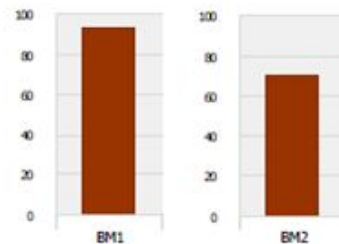
LIGHTHOUSE GLOBAL LONG/SHORT

Monthly Performance														Performance Analysis			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year		Lighthouse Global Long/Short Fund, L.P.	S&P 500	Bloomberg Barclays US Aggregate
2019	3.5	0.8	0.3	1.7	-0.7	1.2	1.0	-0.8	-2.3	---	---	---	4.6	Since Inception Return	52	8.5	4.2
2018	2.4	-0.3	-0.5	0.8	3.1	-1.9	0.3	-0.6	-0.4	-5.1	-2.0	-1.8	-5.8	1 Yr Return	-4.3	4.3	10.3
2017	1.6	0.3	1.1	-0.5	-0.3	0.0	0.7	1.0	0.1	2.2	-0.6	1.1	6.7	3 Yr Return	1.9	13.4	2.9
2016	-3.6	-0.7	-0.4	0.6	1.0	0.3	1.7	-0.2	1.0	-0.9	1.2	0.3	0.0	5 Yr Return	2.8	10.8	3.4
2015	1.0	1.0	1.6	-0.5	1.1	0.2	0.4	-0.8	-1.0	2.2	0.0	1.7	7.2	7 Yr Return	5.4	13.3	2.7
2014	0.9	1.8	-1.7	-2.0	1.2	1.9	-0.5	1.7	-0.1	0.3	1.2	0.6	5.3	10 Yr Return	4.7	13.2	3.7
2013	3.2	0.5	2.7	1.5	1.0	1.0	2.2	-0.3	2.2	1.2	1.1	2.4	20.5	Best Month	3.5	10.9	3.7
2012	1.7	1.7	1.6	1.2	-3.7	0.5	0.2	1.1	1.3	-0.1	0.8	0.4	6.7	Worst Month	-6.4	-16.8	-2.4
2011	-0.2	1.2	0.7	2.1	-1.1	-1.5	0.6	-3.1	-0.6	1.7	-1.0	-0.6	-1.9	Percent Profitable Periods	66.7	68.4	66.5
2010	0.0	0.3	1.9	0.6	-2.4	-1.7	1.7	-0.6	1.3	1.8	0.2	2.1	5.1	Product Inception Date	01/01/2005	---	---
2009	0.3	-0.5	1.1	1.3	2.3	0.7	1.6	1.4	1.5	-0.9	0.3	0.9	10.2				
2008	-3.2	1.2	-4.7	1.5	2.8	-0.5	-1.4	-0.3	-6.4	-2.0	-0.6	0.0	-13.1				
2007	2.7	0.4	1.5	2.6	3.2	1.3	-0.2	-2.3	1.8	3.3	-2.4	0.2	12.6				

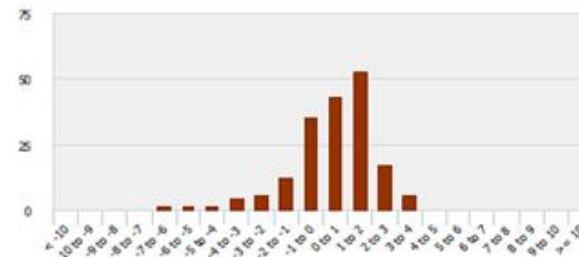
Outperform BM in Up Markets



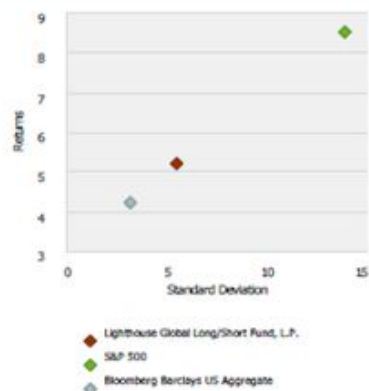
Outperform BM in Down Markets



Distribution of Returns



Risk/Return Profile



Underwater Drawdown



Risk Analysis

Since Inception Standard Deviation	5.5	13.9	3.2
3 Yr Standard Deviation	5.5	12.2	3.3
5 Yr Standard Deviation	5.0	11.9	3.1
7 Yr Standard Deviation	4.9	11.1	3.0
10 Yr Standard Deviation	5.0	12.5	2.9
Sharpe Ratio	0.7	0.5	0.9
Sortino Ratio	1.0	0.7	1.6
Loss Deviation	3.9	9.7	1.8
Max Drawdown	15.2	50.9	3.8
Max Drawdown Length	16	16	7
Max Drawdown Recovery Length	25	37	2

Comparison to Benchmarks

Annualized Alpha	3.0	5.8
Beta	0.2	-0.1
Correlation Coefficient	0.6	-0.1
R-Squared	0.4	0.0



September 30, 2019

6.1

JOHN HANCOCK TIMBER

INVESTMENTS

<u>Property</u>	<u>Location</u>	<u>Acquisition date</u>	<u>Acres</u>	<u>Independent appraisals</u>		<u>Book value</u>	<u>Fair market value</u>	<u>Unrealized appreciation (depreciation)</u>
				<u>Last</u>	<u>Next</u>			
Tyler	TX	10/31/05	\$6,605	Dec-18	Dec-19	\$ 76,014,984	\$ 172,037,485	\$ 96,022,501
Total equity real estate			\$6,605			\$ 76,014,984	\$ 172,037,485	\$ 96,022,501
<u>Other investments</u>		<u>Acquisition date</u>						
Red River Timberlands Company *	LA, TX	4/1/08	269	Dec-17	NA	\$ 19,107,053	\$ 19,089,577	\$ (17,476)
Total other investments			269			\$ 19,107,053	\$ 19,089,577	\$ (17,476)

6.1

INVESTMENT REGIONS

Hancock Timber Resource Group Total Assets Under Management by Geographical Location As of June 30, 2019

<u>NCREIF Region</u>	<u>Real Estate Market Value</u>	<u>Market Value (%)</u>	<u>Acres</u>	<u>Acres (%)</u>
Northeast	\$ 113,925,000	1.1%	42,950	0.8%
Lake States	253,900,939	2.4%	440,109	7.8%
Pacific Northwest	2,543,938,433	23.6%	1,156,246	20.5%
Southeast	1,907,395,705	17.7%	1,069,396	18.9%
Southwest	1,426,136,136	13.2%	720,334	12.8%
Non - U.S.A	4,534,192,751	42.1%	2,217,779	39.3%
	\$ 10,779,488,964	100.0%	5,646,814	100.0%



Source: Hancock

September 30, 2019

LANDMARK EQUITY PARTNERS XV

General Fund Information			
Fund Name	Landmark Equity Partners XV		
General Partner	Landmark Partners		
Main Address	10 Mill Pond Lane, Simsbury, CT 06070		
Target Fund Size	\$2.5B	Expected Final Close	Up to 15 months after Initial Closing
Capital Raised	\$3.25B	Closes to Date	Yes
Investment Period	3-4 years	Minimum Investment	\$10M (negotiable)
Term of Entity	10 years from initial close, subject to 2 one-year extensions at GP's discretion	Investment Structure	Delaware L.P.
Key Persons	There are 6 members of the Key Person clause	Fund Auditor	PWC
Size of Fund Team	78 professionals (includes investment and administrative)	Number of Past Funds	28 (across all strategies)

GP Fees, Promote and Commitment	
Preferred Return	<ul style="list-style-type: none"> 8% per annum
GP Fees	Years 1 - 4: 1.00% of LP's capital commitments Years 5 - 8: 1.00% of the aggregate amount of LP's capital contributions plus amounts subject to call for Fund obligations Years 8 - remaining life of fund: 1.00% of LP's investment percentage of the reported value of Fund XV's portfolio investments
GP Commitment	<ul style="list-style-type: none"> 1% of aggregate commitments
Carried Interest	<ul style="list-style-type: none"> 10% on secondary investments only

Fund Strategy			
Investment Strategy	<ul style="list-style-type: none"> Landmark XV's primary objective is to acquire interests in private equity investments through secondary transactions. Landmark will build a diversified portfolio of private equity partnership interests diversified by strategy, geography and vintage year. Landmark strives to execute transactions on a negotiated basis and acquire portfolios of interests in private equity funds and direct investments through secondary market transactions that are unique, may require structuring, and where the opportunity for value creation exists. 		
Target Net Returns	Landmark aims to return a 1.6x-1.8x net multiple and a 15%-20% net IRR	Direct or fund of funds	Fund of funds (secondary interests)
Investment Style	Secondary	Target Fund Leverage	May use up to 10% leverage on aggregate commitment amount
Target Asset Types	Secondary investments in limited partnership interests	Target Geographies	Global (primary focus North America and Europe)
		Target Deal Size	No stated minimums or maximums

Fund Sourcing and Asset Management Capabilities	
Sourcing Capabilities	<ul style="list-style-type: none"> Reactive deal flow is attributed to inbound leads from limited partners, general partners and intermediaries - generally in the form of an auction. Firm will only consider participating in a competitive process if it believes it has an edge on its competitors with regard to familiarity of a portfolio and/or believes the assets are mispriced. Utilizes its proprietary database, quantitative research, and portfolio management tools to proactively engage with potential sellers with the ultimate goal of sourcing investments on an exclusive basis. Believes that deal exclusivity hinges on talking to LPs who do not yet realize that they are potential sellers. Two-thirds of their non-auctioned deal flow is due to their research tool projects undertaken with potential sellers.
Value Add	<ul style="list-style-type: none"> Focus on sourcing exclusive transactions should on average produce pricing that is lower than the prices available in the auction channel. Strives to arrange preferred structures to protect downside while preserving commensurate upside participation. Proactive sourcing model allows the investment team more time and better access to data to conduct due diligence.



6.1

September 30, 2019

APPENDIX

NEPC, LLC

GLOSSARY OF TERMS

Alpha - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

Alpha Jensen - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

Annualized Excess Return over Benchmark - Annualized fund return minus the annualized benchmark return for the calculated return.

Annualized Return - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

Beta - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

Information Ratio - A measure of the risk adjusted return of a financial security, asset, or portfolio.

Formula:

$$\frac{(\text{Annualized Return of Portfolio} - \text{Annualized Return of Benchmark})}{\text{Annualized Standard Deviation}(\text{Period Portfolio Return} - \text{Period Benchmark Return})}$$
 To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.

R-Squared - Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

Sharpe Ratio - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

Sortino Ratio - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

Formula:

$$\text{Calculation Average } (X-Y) / \text{Downside Deviation } (X-Y) * 2$$
 Where X = Return Series X Y = Return Series Y which is the risk free return (91 day T-bills)

Standard Deviation - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

Formula:

$$(\text{Annualized Return of Portfolio} - \text{Annualized Return of Risk Free}) / \text{Annualized Standard Deviation (Portfolio Returns)}$$

Tracking Error - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

Formula:

$$\text{Tracking Error} = \text{Standard Deviation } (X-Y) * \sqrt{(\# \text{ of periods per year})}$$
 Where X = periods portfolio return and Y = the period's benchmark return
 For monthly returns, the periods per year = 12
 For quarterly returns, the periods per year = 4

Treynor Ratio - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

Formula:

$$(\text{Portfolio Average Return} - \text{Average Return of Risk-Free Rate}) / \text{Portfolio Beta}$$

Up/Down Capture Ratio - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

$$\text{Upside Capture} = \text{TotalReturn}(\text{FundReturns}) / \text{TotalReturns}(\text{BMReturn}) \text{ when Period Benchmark Return is } > = 0$$

$$\text{Downside Capture} = \text{TotalReturn}(\text{FundReturns}) / \text{TotalReturns}(\text{BMReturn}) \text{ when Benchmark } < 0$$

Data Source: InvestorForce



INFORMATION DISCLAIMER AND REPORTING METHODOLOGY

Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may not be available from the source or may be preliminary and subject to change.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodial bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- This report is provided as a management aid for the client's internal use only. Performance contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of Return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.



THIRD QUARTER 2019 SUPPLEMENTAL PERFORMANCE



UNIVERSITY OF MAINE SYSTEM PENSION PLAN

December 2, 2019

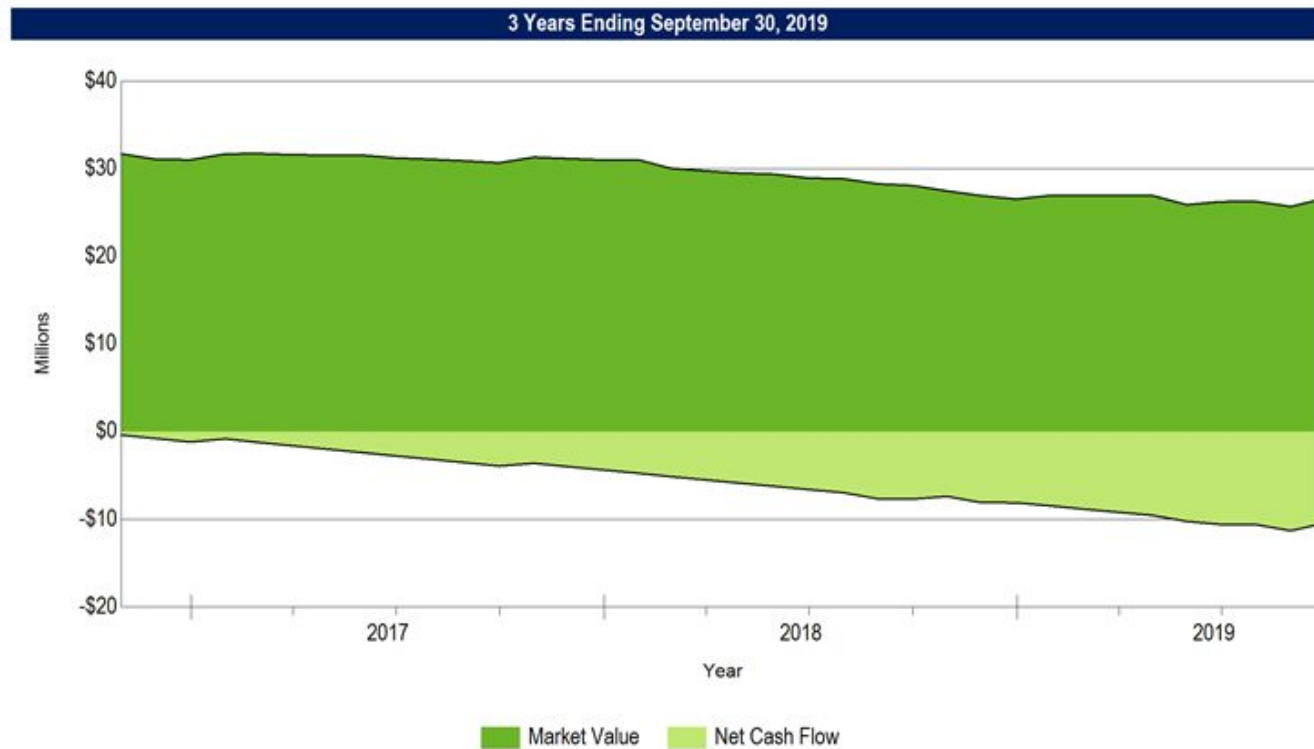
Jay E. Roney, Partner

Kelly Regan, Senior Consultant



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

ASSET GROWTH SUMMARY



	Quarter-To-Date	Year-To-Date	One Year	Three Years
Beginning Market Value	\$26,231,215	\$26,520,627	\$28,081,876	\$32,428,288
Net Cash Flow	\$159,747	-\$2,323,154	-\$2,742,809	-\$10,439,959
Net Investment Change	\$219,545	\$2,413,033	\$1,271,439	\$4,622,177
Ending Market Value	\$26,610,506	\$26,610,506	\$26,610,506	\$26,610,506



September 30, 2019

CASH FLOW SUMMARY

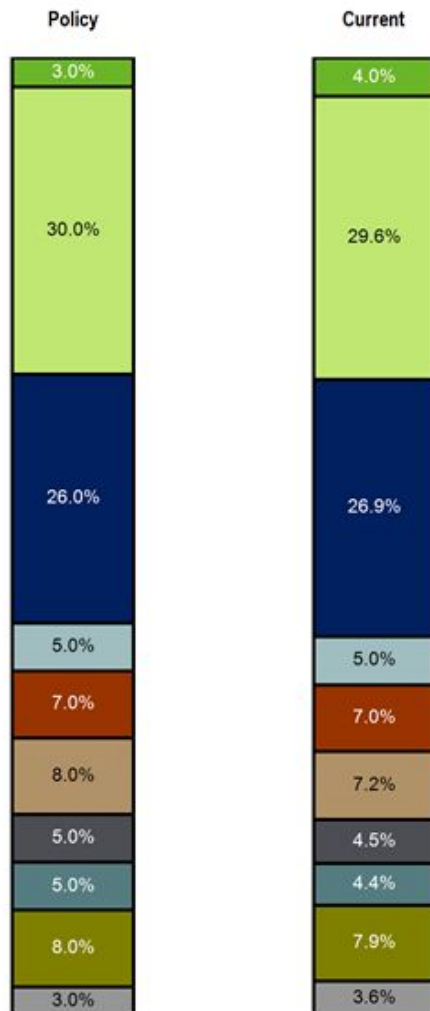
	Quarter Ending September 30, 2019					Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	
Bain Capital Senior Loan Fund	\$1,332,420	\$0	-\$1,684	-\$1,684	\$10,517	\$1,341,252
BlackRock Strategic Income Opportunities	\$1,169,633	\$0	-\$1,561	-\$1,561	\$11,942	\$1,180,014
Distribution Account	\$323,729	\$9,348,004	-\$8,717,438	\$630,566	\$2,144	\$956,439
Lighthouse	\$1,222,647	\$0	\$0	\$0	-\$21,323	\$1,201,323
Mondrian EM Small Cap	\$1,079,913	\$0	-\$4,835	-\$4,835	-\$18,267	\$1,056,811
Newton Global Real Return	\$1,895,111	\$0	-\$3,817	-\$3,817	\$16,219	\$1,907,513
Principal	\$2,166,571	\$0	-\$100,000	-\$100,000	\$34,108	\$2,100,680
Vanguard Inflation-Protected Securities	\$924,171	\$0	-\$164	-\$164	\$13,548	\$937,555
Vanguard Short-Term Inflation-Protected Securities - VTSPX	\$908,662	\$0	-\$91	-\$91	\$3,764	\$912,335
Vanguard Total Bond Market Index	\$7,221,076	\$0	-\$251,259	-\$251,259	\$177,239	\$7,147,056
Walter Scott Global Equity Fund	\$0	\$8,000,000	-\$10,120	\$7,989,880	-\$120,352	\$7,869,528
Z TERMINATED Morgan Stanley Int'l	\$3,184,622	\$0	-\$3,205,328	-\$3,205,328	\$20,706	--
Z TERMINATED SSgA R2000 Index Fund Non Lending	\$1,409,414	\$0	-\$1,405,317	-\$1,405,317	-\$4,097	--
Z TERMINATED Vanguard S&P 500 Index	\$3,393,247	\$0	-\$3,486,644	-\$3,486,644	\$93,397	--
Total	\$26,231,215	\$17,348,004	-\$17,188,258	\$159,747	\$219,545	\$26,610,506

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September 30, 2019

ASSET ALLOCATION



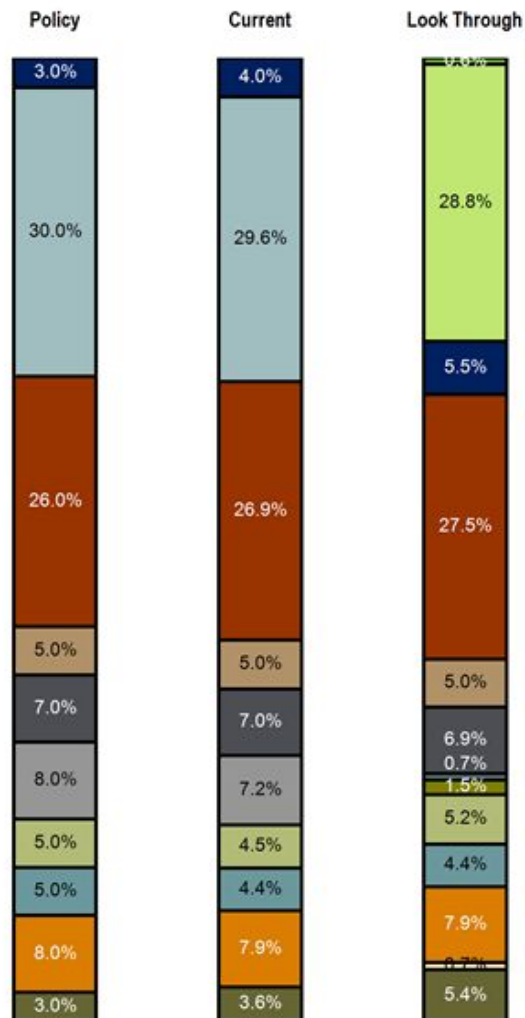
Asset Allocation vs. Target							
	Current	Policy	Current	Difference	Policy Range	Within Range	
Emerging Markets Equity	\$1,056,811	3.0%	4.0%	1.0%	0.0% - 7.0%	Yes	
Global Equity	\$7,869,528	30.0%	29.6%	-0.4%	25.0% - 35.0%	Yes	
Core Bonds	\$7,147,056	26.0%	26.9%	0.9%	20.0% - 30.0%	Yes	
Bank Loans	\$1,341,252	5.0%	5.0%	0.0%	0.0% - 10.0%	Yes	
TIPS	\$1,849,890	7.0%	7.0%	0.0%	0.0% - 14.0%	Yes	
Global Asset Allocation	\$1,907,513	8.0%	7.2%	-0.8%	5.0% - 13.0%	Yes	
Hedge Funds	\$1,201,323	5.0%	4.5%	-0.5%	0.0% - 10.0%	Yes	
Absolute Return	\$1,180,014	5.0%	4.4%	-0.6%	0.0% - 10.0%	Yes	
Real Estate	\$2,100,680	8.0%	7.9%	-0.1%	0.0% - 10.0%	Yes	
Cash	\$956,439	3.0%	3.6%	0.6%	0.0% - 10.0%	Yes	
Total	\$26,610,506	100.0%	100.0%				

Note: Emerging market equity policy targets and ranges include emerging market small cap equity. TIPS policy targets and ranges include short-term TIPS.



September 30, 2019

ASSET ALLOCATION



Asset Allocation			
	Policy	Current	Look Through
Large Cap Equity	--	--	0.6%
Developed International Equity	--	--	28.8%
Emerging Markets Equity	3.0%	4.0%	5.5%
Global Equity	30.0%	29.6%	--
Core Bonds	26.0%	26.9%	27.5%
Bank Loans	5.0%	5.0%	5.0%
TIPS	7.0%	7.0%	6.9%
Fixed Income - Emerging	--	--	0.7%
Global Bonds	--	--	1.5%
Global Asset Allocation	8.0%	7.2%	--
Hedge Funds	5.0%	4.5%	5.2%
Absolute Return	5.0%	4.4%	4.4%
Real Estate	8.0%	7.9%	7.9%
Real Assets	--	--	0.7%
Cash	3.0%	3.6%	5.4%
Total	100.0%	100.0%	100.0%

Net Asset Allocation breaks out the exposure of GAA and Global Equity managers.

Asset class weights may not add up to 100% due to rounding.

The 60% MSCI ACWI/40% CITI WGBI Index is broken down into the following categories: 31.8% Domestic Equities, 24.2% Int'l Equities, 4.1% Emerging Equities, 13.3% US Treasury Bonds, 12.7% European Government Bonds, 8.8% Japanese Debt, 2.6% United Kingdom Bonds and 2.6% Developing Markets Bonds.

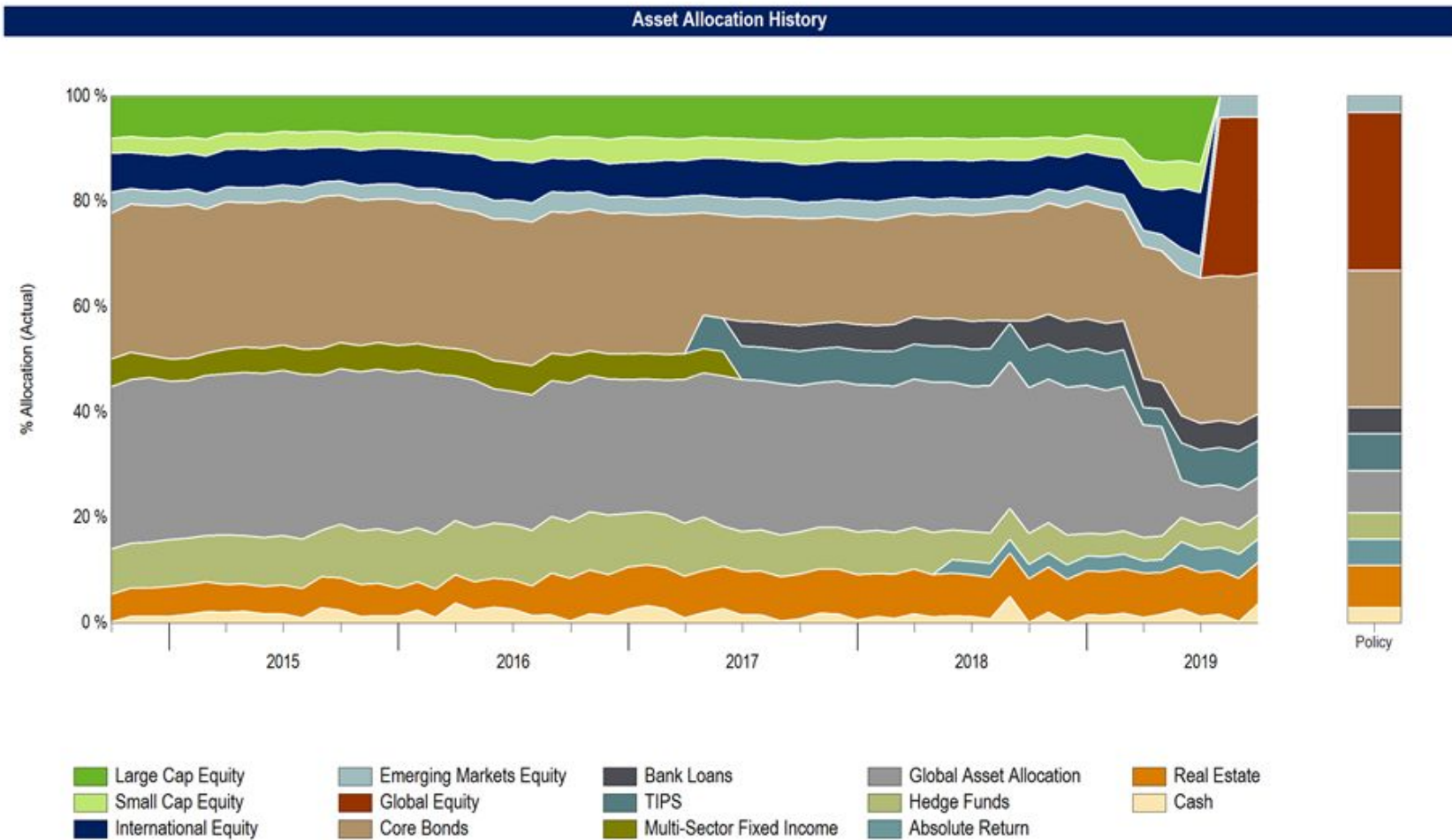
Emerging Markets Equity bucket includes Emerging Markets Small Cap.

TIPS bucket includes: TIPS and Short Term TIPS.



September 30, 2019

ASSET ALLOCATION HISTORY

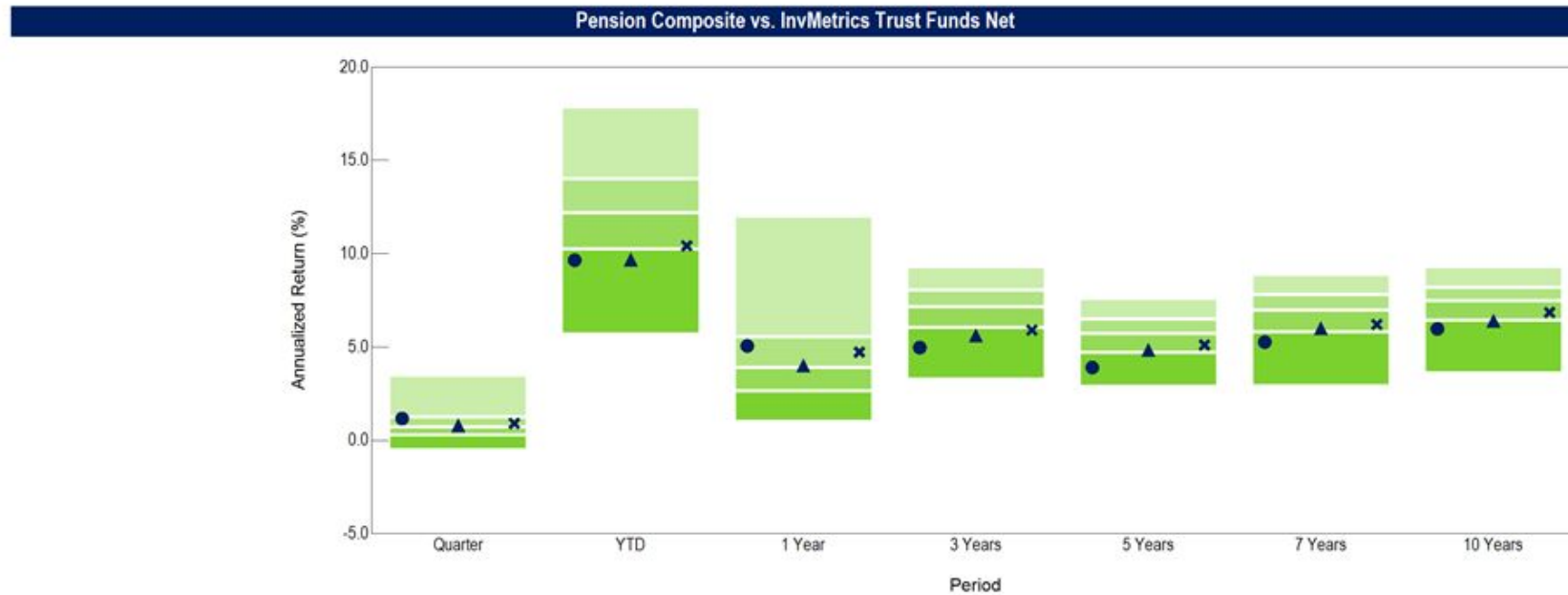


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September 30, 2019

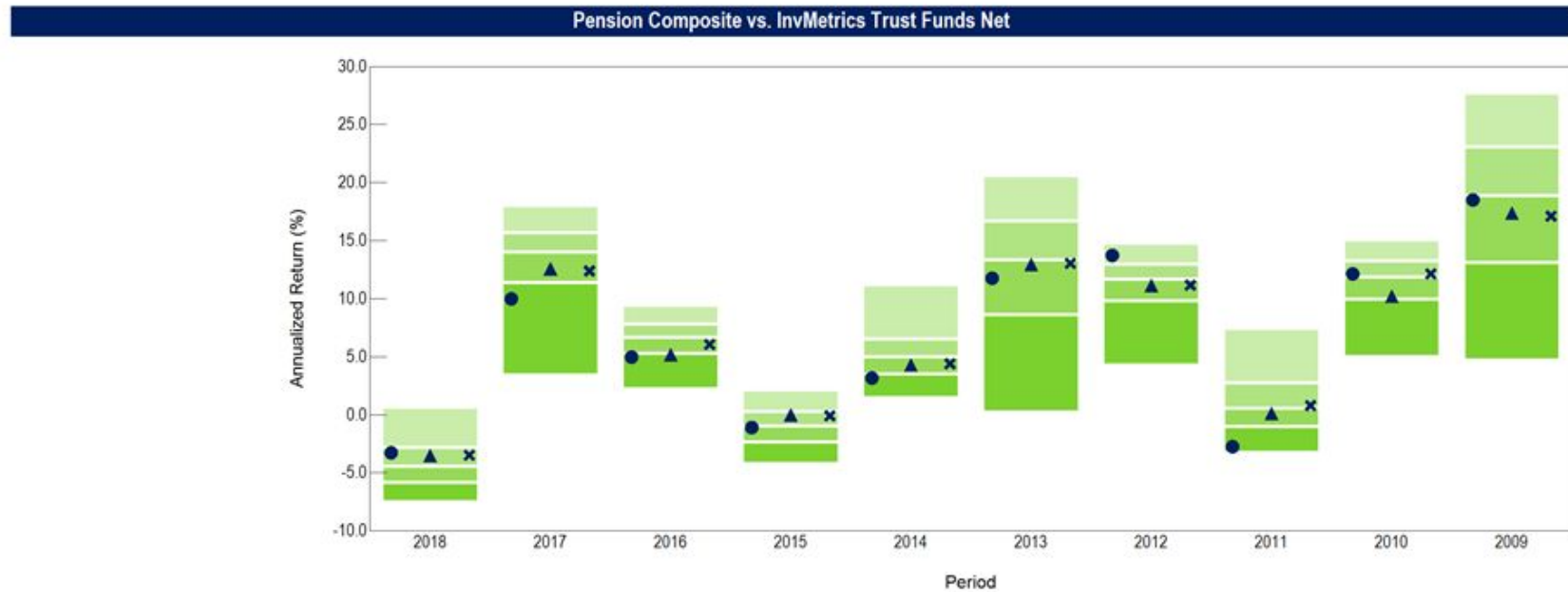
RETURNS VS. PEER UNIVERSE



	Return (Rank)													
5th Percentile	3.5		17.8		12.0		9.3		7.6		8.9		9.3	
25th Percentile	1.3		14.0		5.6		8.1		6.5		7.8		8.2	
Median	0.7		12.2		3.9		7.2		5.7		7.0		7.5	
75th Percentile	0.3		10.3		2.7		6.1		4.7		5.8		6.5	
95th Percentile	-0.5		5.7		1.0		3.3		2.9		2.9		3.6	
# of Portfolios	3,840		3,806		3,779		3,527		3,198		2,900		2,438	
● Pension Composite	1.2	(29)	9.6	(81)	5.1	(31)	5.0	(87)	3.9	(88)	5.3	(82)	6.0	(81)
▲ Allocation Index	0.8	(47)	9.7	(81)	4.0	(49)	5.6	(81)	4.9	(72)	6.0	(73)	6.4	(76)
✕ Policy Index	0.9	(41)	10.4	(74)	4.7	(36)	5.9	(78)	5.1	(66)	6.2	(70)	6.9	(69)



RETURNS VS. PEER UNIVERSE

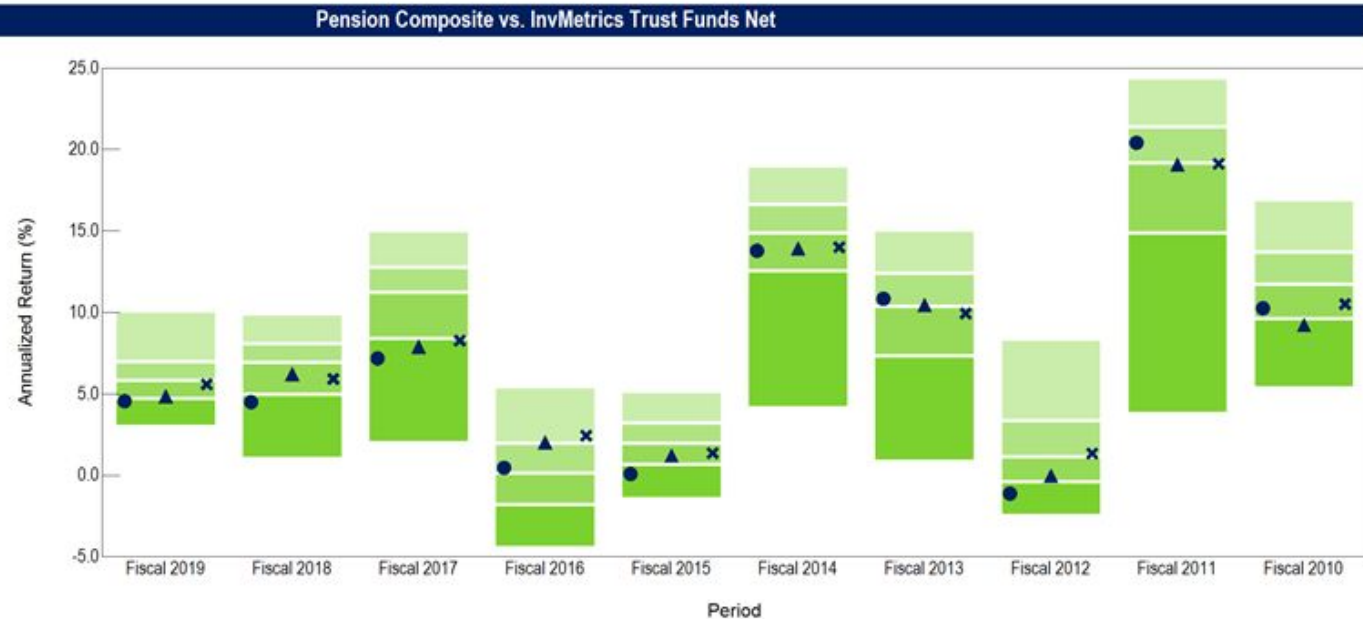


	Return (Rank)									
5th Percentile	0.7	18.0	9.4	2.1	11.2	20.6	14.8	7.4	15.1	27.7
25th Percentile	-2.8	15.7	7.9	0.3	6.6	16.7	13.0	2.8	13.3	23.1
Median	-4.4	14.1	6.7	-0.9	5.0	13.4	11.7	0.6	11.9	18.9
75th Percentile	-5.8	11.4	5.3	-2.3	3.6	8.7	9.8	-1.0	10.0	13.2
95th Percentile	-7.5	3.5	2.3	-4.2	1.5	0.3	4.3	-3.2	5.0	4.8
# of Portfolios	3,627	2,518	2,446	2,339	2,007	1,709	1,539	1,403	1,326	1,233
● Pension Composite	-3.3 (32)	10.0 (80)	5.0 (80)	-1.1 (54)	3.2 (82)	11.8 (60)	13.7 (14)	-2.7 (92)	12.1 (47)	18.5 (52)
▲ Allocation Index	-3.5 (35)	12.6 (67)	5.2 (77)	0.0 (32)	4.3 (64)	13.0 (53)	11.2 (60)	0.1 (57)	10.2 (73)	17.4 (58)
× Policy Index	-3.5 (34)	12.4 (69)	6.1 (64)	-0.1 (34)	4.4 (62)	13.1 (52)	11.2 (60)	0.8 (47)	12.2 (47)	17.1 (59)



RETURNS VS. PEER UNIVERSE

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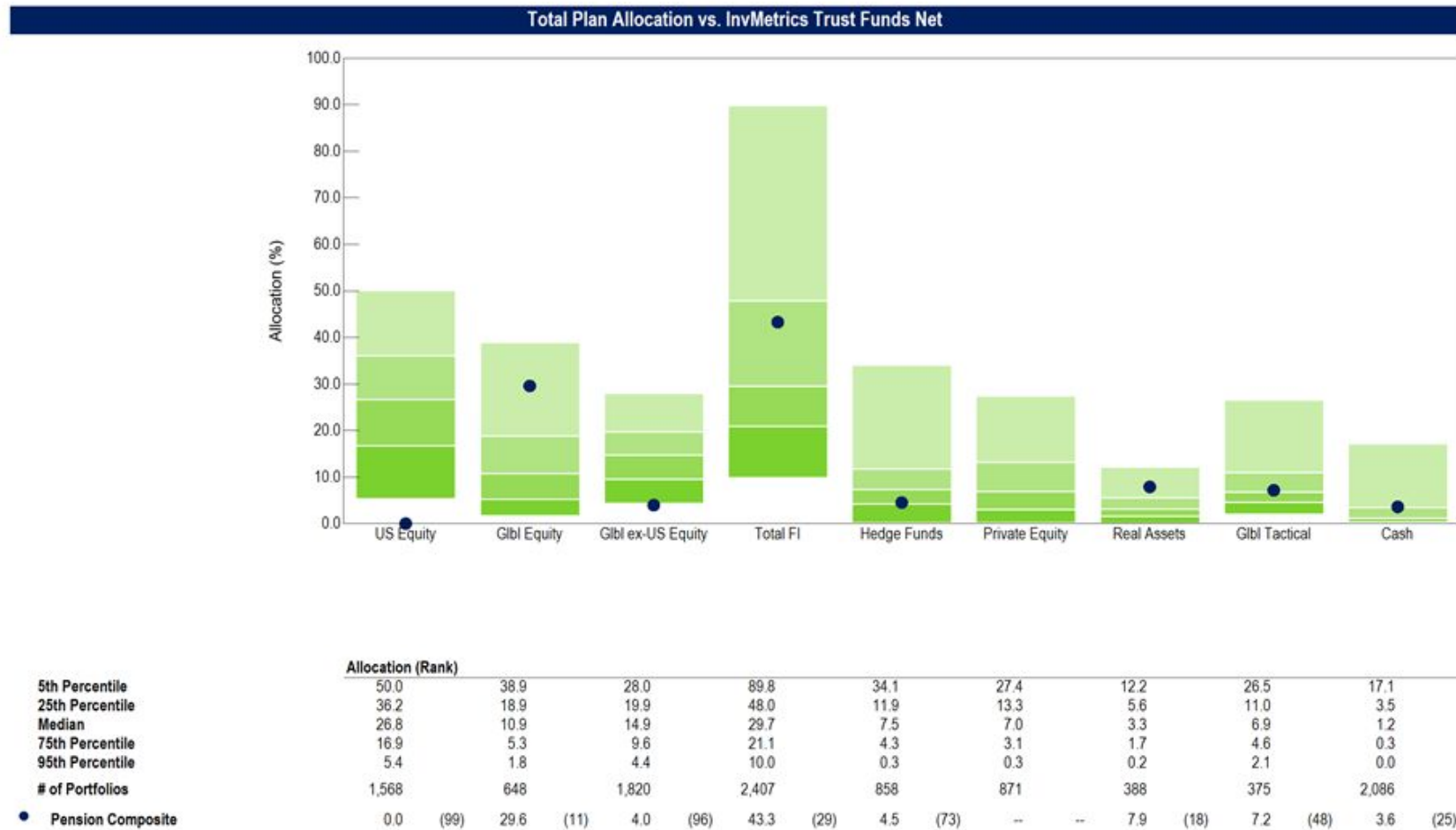


	Return (Rank)									
5th Percentile	10.1	9.9	15.0	5.4	5.1	19.0	15.0	8.4	24.4	16.9
25th Percentile	7.0	8.1	12.8	2.0	3.3	16.6	12.4	3.4	21.4	13.7
Median	5.9	7.0	11.2	0.1	2.0	14.9	10.4	1.2	19.2	11.7
75th Percentile	4.7	5.0	8.4	-1.8	0.7	12.6	7.4	-0.4	14.9	9.6
95th Percentile	3.0	1.0	2.0	-4.4	-1.4	4.2	0.9	-2.4	3.8	5.4
# of Portfolios	3,804	2,424	2,780	2,289	2,198	1,565	1,828	1,431	1,362	1,279
● Pension Composite	4.6 (79)	4.5 (78)	7.2 (81)	0.5 (46)	0.1 (84)	13.8 (66)	10.8 (44)	-1.1 (86)	20.4 (36)	10.3 (70)
▲ Allocation Index	4.9 (73)	6.2 (63)	7.9 (78)	2.0 (25)	1.2 (67)	13.9 (65)	10.5 (49)	0.0 (70)	19.1 (51)	9.2 (78)
× Policy Index	5.6 (57)	5.9 (67)	8.3 (76)	2.4 (21)	1.4 (64)	14.0 (64)	9.9 (55)	1.3 (48)	19.1 (51)	10.5 (67)



September 30, 2019

ALLOCATIONS VS. PEER UNIVERSE

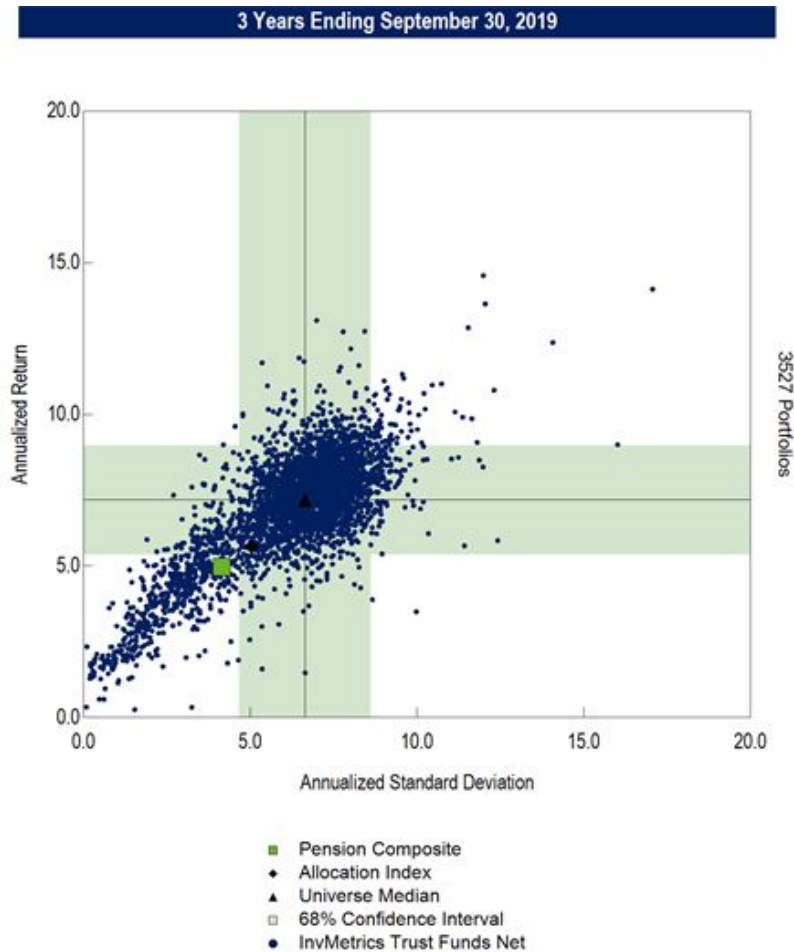


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September 30, 2019

TOTAL PLAN RISK/RETURN - 3 YEAR



3 Years Ending September 30, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	5.0%	87	4.1%	16
Allocation Index	5.6%	81	5.0%	21
Policy Index	5.9%	78	5.0%	21
InvMetrics Trust Funds Net Median	7.2%	--	6.6%	--

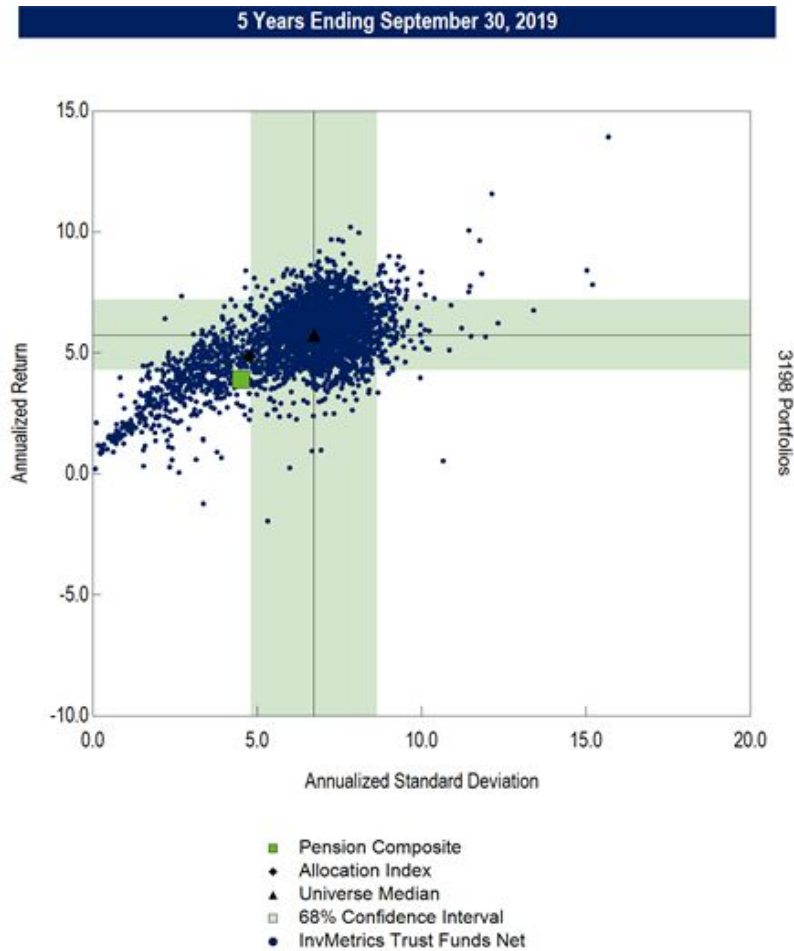
3 Years Ending September 30, 2019				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.8	60	1.0	40
Allocation Index	0.8	63	0.9	56
Policy Index	0.9	49	1.0	39
InvMetrics Trust Funds Net Median	0.9	--	1.0	--

*Returns are net of fees.



September 30, 2019

TOTAL PLAN RISK/RETURN - 5 YEAR



5 Years Ending September 30, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	3.9%	88	4.5%	17
Allocation Index	4.9%	72	4.8%	18
Policy Index	5.1%	66	4.8%	19
InvMetrics Trust Funds Net Median	5.7%	--	6.7%	--

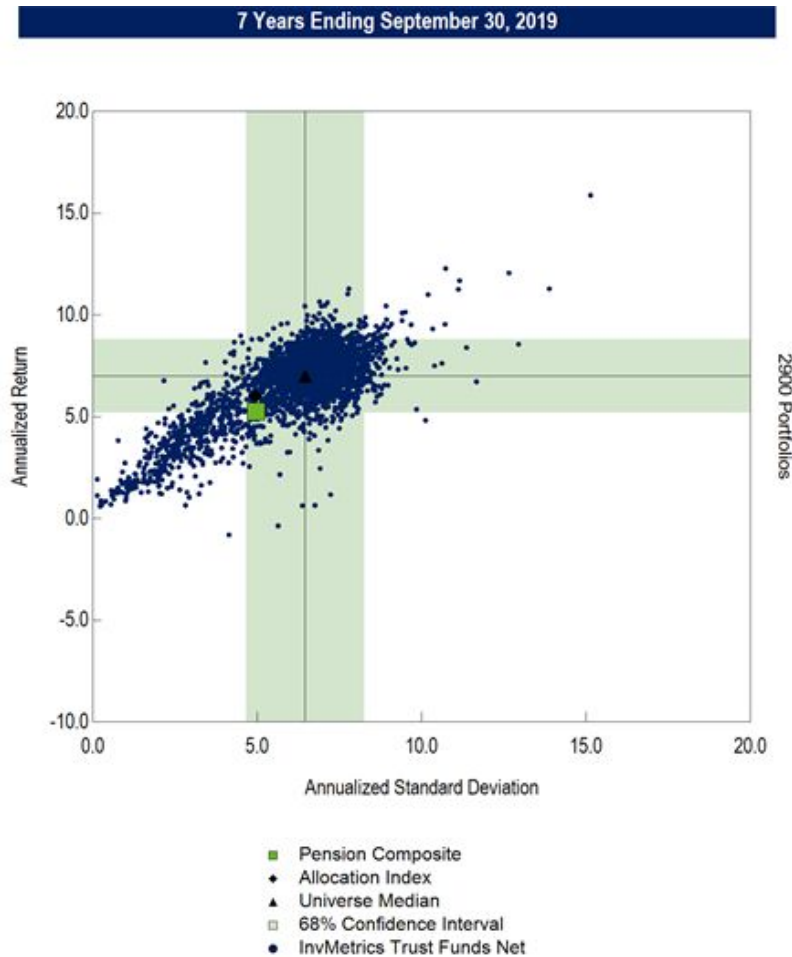
5 Years Ending September 30, 2019				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.7	68	1.0	47
Allocation Index	0.8	37	1.0	35
Policy Index	0.9	30	1.1	26
InvMetrics Trust Funds Net Median	0.7	--	0.9	--

*Returns are net of fees.



September 30, 2019

TOTAL PLAN RISK/RETURN - 7 YEAR



7 Years Ending September 30, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	5.3%	82	5.0%	20
Allocation Index	6.0%	73	5.0%	20
Policy Index	6.2%	70	5.0%	20
InvMetrics Trust Funds Net Median	7.0%	--	6.5%	--

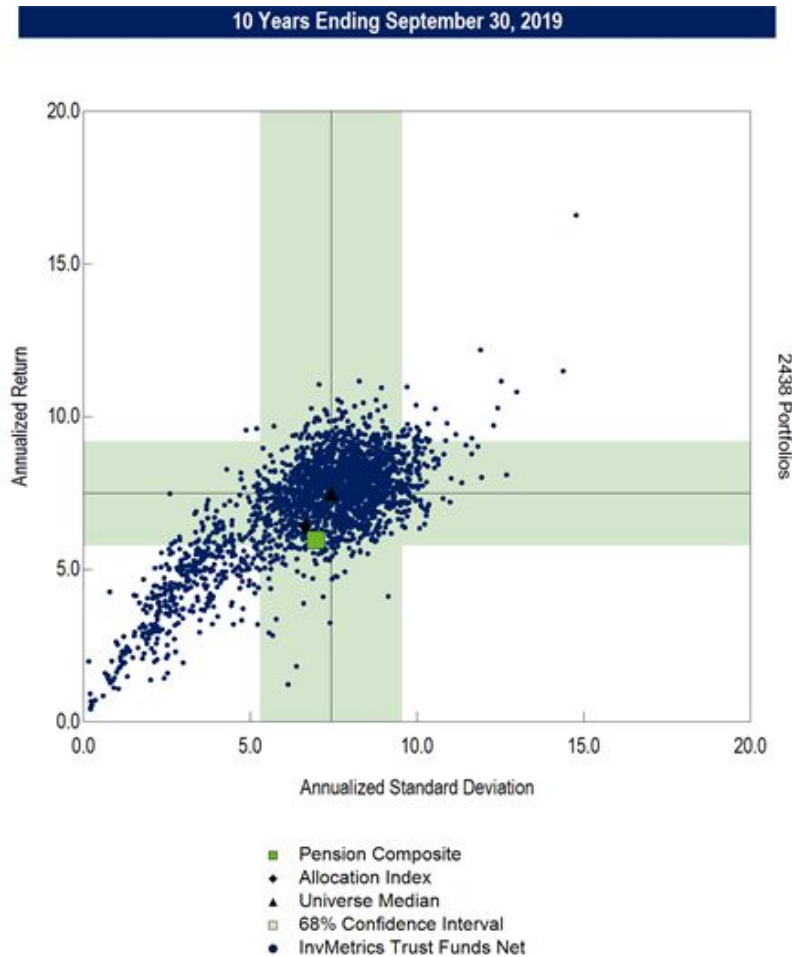
7 Years Ending September 30, 2019				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.9	66	1.5	29
Allocation Index	1.1	35	1.6	24
Policy Index	1.1	29	1.7	16
InvMetrics Trust Funds Net Median	1.0	--	1.3	--

*Returns are net of fees.



September 30, 2019

TOTAL PLAN RISK/RETURN - 10 YEAR



10 Years Ending September 30, 2019				
	Annzd Ret	Rank	Annzd Std Dev	Rank
Pension Composite	6.0%	81	7.0%	38
Allocation Index	6.4%	76	6.6%	32
Policy Index	6.9%	69	6.4%	28
InvMetrics Trust Funds Net Median	7.5%	--	7.4%	--

10 Years Ending September 30, 2019				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.8	86	1.1	84
Allocation Index	0.9	66	1.3	63
Policy Index	1.0	44	1.5	33
InvMetrics Trust Funds Net Median	1.0	--	1.4	--

*Returns are net of fees.



September 30, 2019

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Pension Composite	26,610,506	100.0	100.0	1.2	9.6	5.1	5.0	3.9	5.3	6.0
Allocation Index				0.8	9.7	4.0	5.6	4.9	6.0	6.4
Policy Index				0.9	10.4	4.7	5.9	5.1	6.2	6.9
Total Global Equity	7,869,528	29.6	30.0	--	--	--	--	--	--	--
MSCI World				0.5	17.6	1.8	10.2	7.2	9.7	9.0
Walter Scott Global Equity Fund	7,869,528	29.6	30.0	--	--	--	--	--	--	--
MSCI World				0.5	17.6	1.8	10.2	7.2	9.7	9.0
Emerging Markets Equity	1,056,811	4.0	3.0	-2.2	1.1	-2.1	-2.3	-3.0	-1.4	--
MSCI Emerging Markets				-4.2	5.9	-2.0	6.0	2.3	2.4	3.4
Mondrian EM Small Cap	1,056,811	4.0	3.0	-2.2	1.1	-2.1	-2.3	-3.0	--	--
MSCI Emerging Markets Small Cap				-4.6	1.8	-5.5	1.3	-0.1	1.8	3.2
Total Fixed Income	11,518,212	43.3	43.0	1.8	7.8	8.3	2.9	3.1	3.0	4.2
BBGBarc US Aggregate TR				2.3	8.5	10.3	2.9	3.4	2.7	3.7
Vanguard Total Bond Market Index	7,147,056	26.9	26.0	2.4	8.7	10.5	2.9	--	--	--
BBGBarc US Aggregate TR				2.3	8.5	10.3	2.9	3.4	2.7	3.7
Vanguard Inflation-Protected Securities	937,555	3.5	3.5	1.4	7.6	7.1	--	--	--	--
BBGBarc US TIPS TR				1.3	7.6	7.1	2.2	2.4	1.1	3.5
Vanguard Short-Term Inflation-Protected Securities - VTSPX	912,335	3.4	3.5	0.4	--	--	--	--	--	--
BBGBarc US TIPS 1-5 Yr TR				0.3	3.9	3.7	1.6	1.3	0.8	1.8
BlackRock Strategic Income Opportunities	1,180,014	4.4	5.0	0.9	6.1	5.6	--	--	--	--
3-Month Libor Total Return USD				0.6	1.9	2.6	1.9	1.3	1.0	0.8
Bain Capital Senior Loan Fund	1,341,252	5.0	5.0	0.7	6.4	3.2	--	--	--	--
Credit Suisse Leveraged Loans				0.9	6.4	3.1	4.7	4.1	4.4	5.4
Total GAA	1,907,513	7.2	8.0	0.7	11.7	7.2	4.6	2.9	3.6	4.8
65% MSCI ACWI (Net) / 35% BBGBarc Global Agg				0.3	12.9	3.9	7.0	5.2	6.2	6.4
Newton Global Real Return	1,907,513	7.2	8.0	0.7	9.6	8.1	3.4	--	--	--
60% MSCI ACWI (Net) / 40% FTSE WGBI				0.4	12.4	4.4	6.4	4.9	5.6	5.9
Total Alternative Investments	1,201,323	4.5	5.0	-1.7	5.7	-3.1	2.4	1.2	2.4	2.3
HFRI Fund of Funds Composite Index				-0.9	5.2	0.0	3.2	1.9	3.2	2.7
Lighthouse	1,201,323	4.5	5.0	-1.7	5.7	-3.1	3.3	--	--	--
Credit Suisse Long Shrt Eqt USD				0.1	6.8	-0.4	4.8	3.4	5.6	4.9
Total Real Assets	2,100,680	7.9	8.0							
Principal	2,100,680	7.9	8.0	1.6	4.5	5.8	7.7	9.4	10.1	10.6
NCREIF ODCE				1.3	3.8	5.6	7.3	9.3	10.3	10.9
Total Cash	956,439	3.6	3.0							
Distribution Account	956,439	3.6	3.0	0.5	1.6	2.0	1.3	0.8	0.5	0.4
91 Day T-Bills				0.5	1.7	2.3	1.5	1.0	0.7	0.5

Fiscal YTD begins 7/1

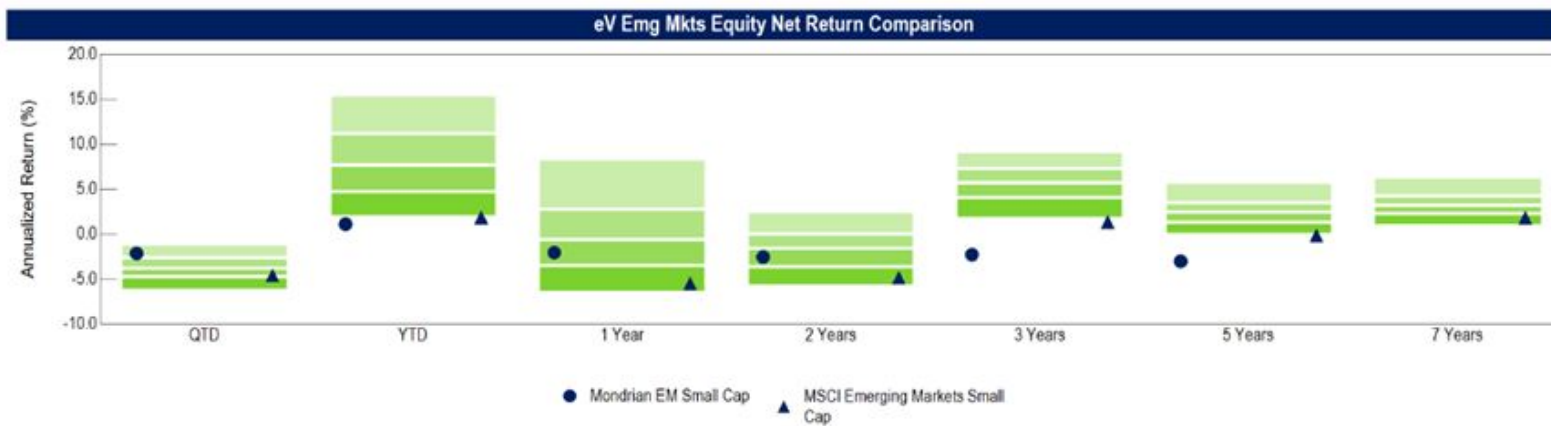
Returns are net of manager fees.



September 30, 2019

MONDRIAN EM SMALL CAP

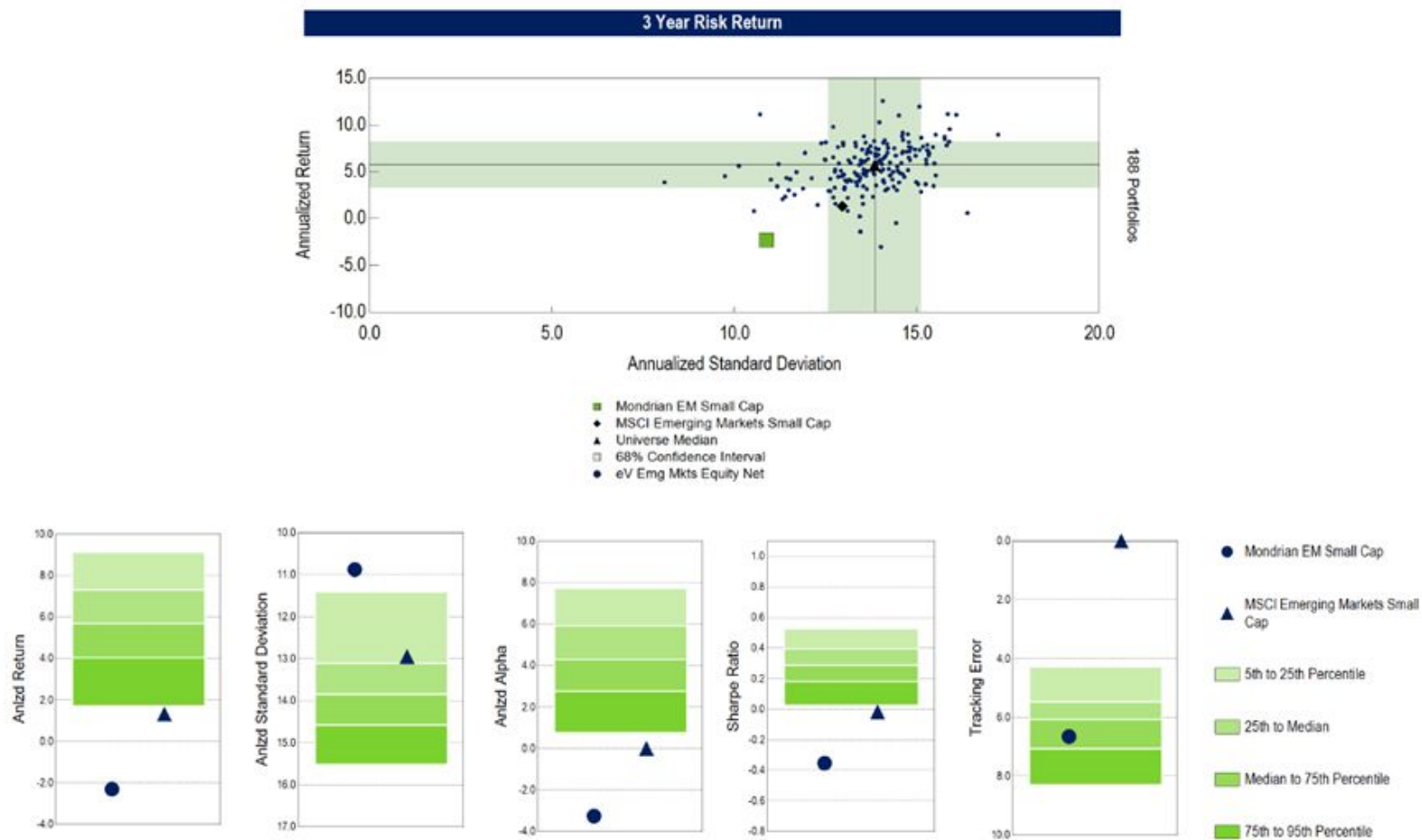
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September 30, 2019

MONDRIAN EM SMALL CAP

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September 30, 2019

MONDRIAN EM SMALL CAP

Characteristics	MSCI Emerging Markets Small Cap	
	Portfolio	
Number of Holdings	103	1,623
Weighted Avg. Market Cap. (\$B)	1.4	1.2
Median Market Cap. (\$B)	0.9	0.6
Price To Earnings	17.8	13.1
Price To Book	3.0	2.2
Price To Sales	2.2	0.8
Return on Equity (%)	17.5	12.5
Yield (%)	2.6	2.9
Beta		1.0
R-Squared		1.0

Top Positive Contributors	Relative Contribution %		Return %
BERGER PAINTS INDIA	0.4%		34.2%
GREENTOWN SER.GP.	0.3%		21.6%
KANSAI NEROLAC PAINTS	0.2%		15.9%
MICROPORT SCIENTIFIC	0.2%		22.0%
THUNDER SFTW.TECH.'A'	0.2%		20.8%
FINE ORGANIC INDUSTRIES	0.2%		18.6%
ASCENDAS INDIA TRUST	0.1%		12.2%
DINO POLSKA SA	0.1%		11.6%
PI INDUSTRIES	0.1%		8.7%
PACIFIC HOSPITAL SUPPLY	0.1%		16.2%

Top Negative Contributors	Relative Contribution %		Return %
KOLMAR KOREA	-0.4%		-32.6%
CONCEPCION INDUSTRIAL	-0.3%		-25.9%
SINOSOFT TECHNOLOGY GP.	-0.3%		-21.1%
TONG REN TANG TECHS.'H'	-0.2%		-23.7%
NEXTEER AUTOMOTIVE GROUP	-0.2%		-33.7%
D&L INDUSTRIES	-0.2%		-15.9%
ALICORP	-0.2%		-12.5%
MANILA WATER	-0.2%		-20.3%
LEMON TREE HOTELS	-0.2%		-16.9%
HAND ENTERPRISE SLTN.'A'	-0.2%		-14.9%

	Equity Sector Attribution							
	Attribution Effects				Returns		Ending Sector Weights	
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.1%	0.2%	0.0%	-0.1%	3.7%	-5.7%	1.2%	2.3%
Materials	1.1%	1.3%	0.0%	-0.1%	6.7%	-3.9%	10.2%	12.1%
Industrials	0.8%	0.7%	0.0%	0.1%	-0.7%	-5.9%	17.3%	14.3%
Consumer Discretionary	-0.1%	-0.4%	0.0%	0.2%	-5.4%	-4.0%	12.7%	13.8%
Consumer Staples	-0.1%	0.1%	-0.1%	-0.1%	-4.7%	-5.9%	14.2%	6.5%
Health Care	0.5%	0.4%	-0.1%	0.3%	-1.2%	-7.3%	14.3%	7.9%
Financials	0.9%	0.8%	0.6%	-0.5%	-6.1%	-11.2%	2.7%	9.8%
Information Technology	-1.3%	-1.3%	-0.6%	0.6%	-4.0%	5.7%	6.7%	15.8%
Communication Services	0.2%	0.1%	0.0%	0.0%	-3.9%	-7.6%	4.1%	4.0%
Utilities	-0.1%	-0.3%	0.0%	0.2%	-10.6%	-6.1%	3.7%	4.9%
Real Estate	0.9%	1.2%	0.0%	-0.3%	8.3%	-4.6%	6.8%	8.1%
Cash	0.3%	0.0%	0.3%	0.0%	0.5%	--	4.5%	0.0%
Unclassified	-0.1%	0.0%	0.0%	-0.1%	-8.6%	-4.3%	1.6%	0.6%
Portfolio	3.1%	=	2.7%	+	0.1%	+	0.2%	
					-1.2%	-4.3%	100.0%	100.0%



September 30, 2019

MONDRIAN EM SMALL CAP

Sector Allocation*

	Fund	MSCI EM SC
Communication Services	4.0	4.1
Consumer Discretionary	12.5	14.1
Consumer Staples	13.9	6.5
Energy	1.2	2.2
Financials	4.3	9.8
Health Care	16.0	7.8
Industrials	17.2	14.2
Information Technology	9.0	15.7
Materials	11.2	12.2
Real Estate	6.8	8.5
Utilities	3.7	4.9
Cash	0.3	—
TOTAL	100.0	100.0

Country Allocation*

	Fund	MSCI EM SC
Latin America	9.2	13.7
Brazil	3.7	8.7
Mexico	3.4	2.8
Peru	2.0	—
Europe, Middle East & Africa	13.4	14.9
Czech Republic	1.5	0.1
Estonia	1.2	—
Kuwait	1.7	—
Poland	2.7	0.9
Saudi Arabia	2.9	2.6
Slovenia	0.7	—
South Africa	0.9	5.6
UAE	1.0	0.7
United Kingdom	0.8	—
Asia	77.2	71.4
North Asia	33.7	45.6
China/Hong Kong	20.7	10.7
South Korea	5.5	14.9
Taiwan	7.5	20.0
South Asia	43.5	25.1
India	29.2	13.9
Indonesia	4.6	2.4
Malaysia	3.4	3.1
Philippines	3.7	0.9
Thailand	2.6	4.8
Cash	0.3	—
TOTAL	100.0	100.0



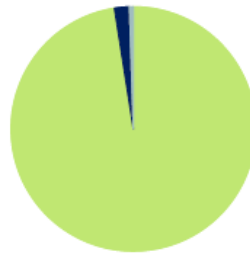
Source: Mondrian

September 30, 2019

VANGUARD TOTAL BOND MARKET I

Asset Allocation

Portfolio Date: 8/31/2019



• Stock	0.0
• Bond	97.5
• Cash	2.0
• Other	0.5
Total	100.0

Fixed Income Statistics

Portfolio Date: 8/31/2019

Morningstar Fixed Income Style Box™

	Ltd	Mod	Ext
High			
Med			
Low			

Fixed-Income Stats

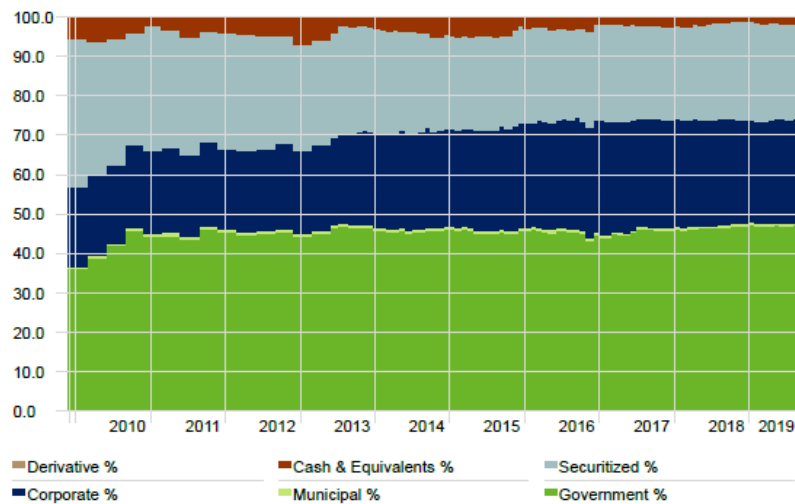
Average Eff Duration	6.2
Average Eff Maturity	8.3
Average Coupon	3.2
Average Price	108.1
AAA %	
AA %	
A %	
BBB %	
BB %	
B %	
Below B %	
Not Rated %	
Yield to Maturity	2.35

Credit Quality Breakdown

Portfolio Date: 8/31/2019

	Fund	Index
AAA %	67.7	
AA %	3.45	
A %	11.15	
BBB %	17.72	
BB %	0.00	
B %	0.00	
Below B %	0.00	
Not Rated %	0.00	
Yield to Maturity	2.35	

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
Cmt Market Liquidity Rate	MUTUAL FUND - MONEY MARKET	1.97
Federal National Mortgage Association 3.5%	BOND - GOV'T AGENCY PASS-THRU	0.44
United States Treasury Notes 2.88%	BOND - GOV'T/TREASURY	0.43
United States Treasury Notes 2.12%	BOND - GOV'T/TREASURY	0.41
United States Treasury Notes 2.12%	BOND - GOV'T/TREASURY	0.41
United States Treasury Bonds 2.88%	BOND - GOV'T/TREASURY	0.41
United States Treasury Notes 3.12%	BOND - GOV'T/TREASURY	0.40
United States Treasury Notes 1.75%	BOND - GOV'T/TREASURY	0.40
United States Treasury Notes 2%	BOND - GOV'T/TREASURY	0.39
United States Treasury Notes 2.38%	BOND - GOV'T/TREASURY	0.37



Source: Morningstar

September 30, 2019

VANGUARD TOTAL BOND MARKET I

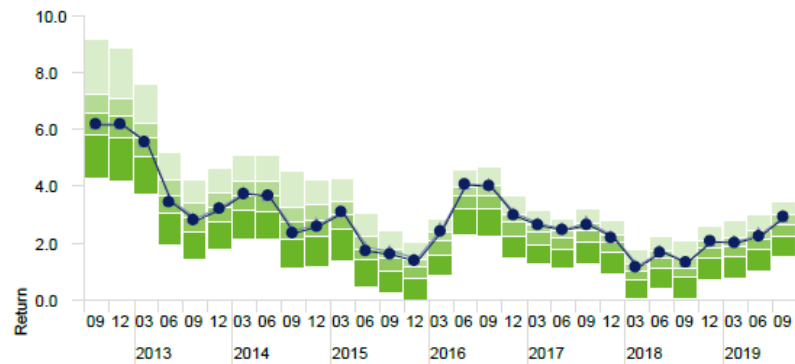
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	99.8	100.0
Alpha	-0.1	0.0
Beta	1.0	1.0
Std Dev	3.4	3.3
Up Capture Ratio	101.1	100.0
Down Capture Ratio	105.0	100.0
Sharpe Ratio (geo)	0.7	0.7
Information Ratio (geo)	-0.1	0.0
Tracking Error	0.2	0.0
Correlation	1.0	1.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Total Bond Market Index I

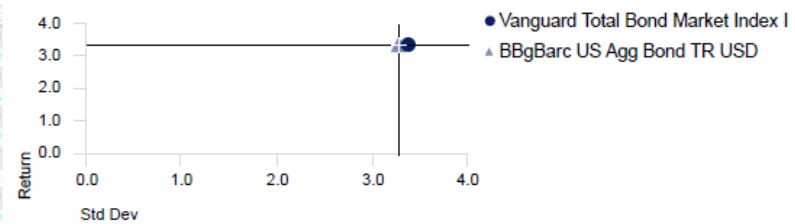
—BBgBarc US Agg Bond TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Vanguard Total Bond Market Index I	6.1	89	6.6	70	7.7	11	4.2	83	-2.1	67	5.9	30	0.4	28	2.6	62	3.6	55	0.0	30
BBgBarc US Agg Bond TR USD	5.9		6.5		7.8		4.2		-2.0		6.0		0.5		2.6		3.5		0.0	

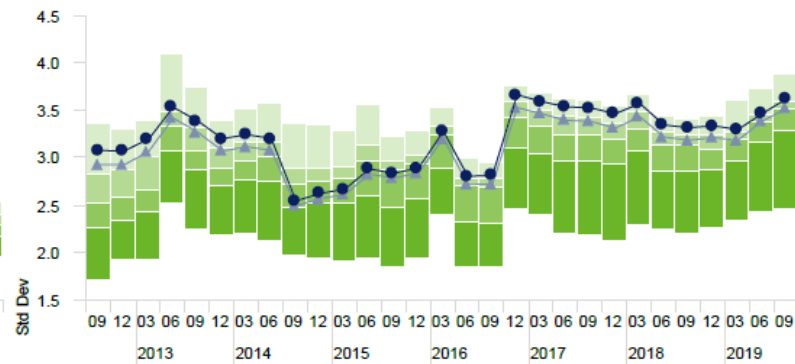
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Total Bond Market Index I

—BBgBarc US Agg Bond TR USD



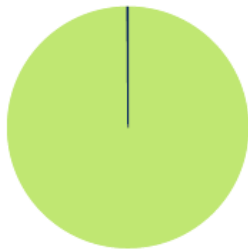
Source: Morningstar

September 30, 2019

VANGUARD INFLATION PROTECTED SECURITIES

Asset Allocation

Portfolio Date: 8/31/2019



• Stock	0.0
• Bond	99.9
• Cash	0.1
• Other	0.0
Total	100.0

Fixed Income Statistics

Portfolio Date: 8/31/2019

Morningstar Fixed Income Style Box™			
	Ltd	Mod	Ext
High			
Med			
Low			

Fixed-Income Stats

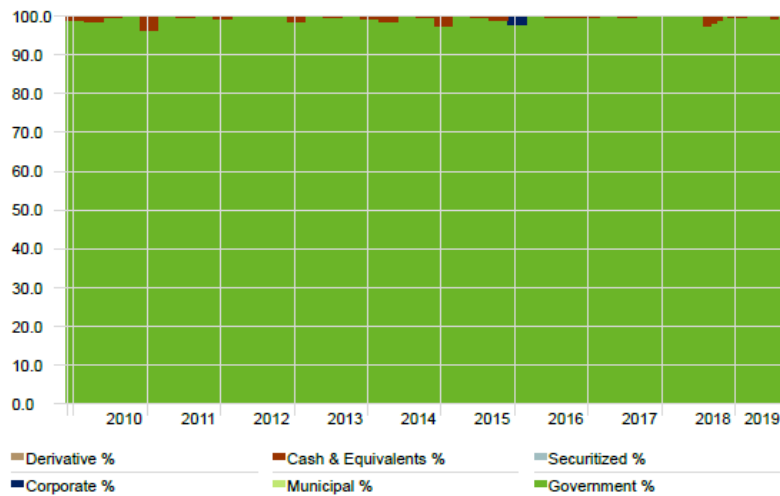
Average Eff Duration	7.9
Average Eff Maturity	8.7
Average Coupon	0.8
Average Price	107.2

Credit Quality Breakdown

Portfolio Date: 8/31/2019

	Fund	Index
AAA %	100.0	
AA %	0.00	
A %	0.00	
BBB %	0.00	
BB %	0.00	
B %	0.00	
Below B %	0.00	
Not Rated %	0.00	
Yield to Maturity		

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	4.78
United States Treasury Notes 0.38%	BOND - GOV'T INFLATION PROTECTED	3.86
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	3.79
United States Treasury Notes 0.38%	BOND - GOV'T INFLATION PROTECTED	3.74
United States Treasury Notes 0.25%	BOND - GOV'T INFLATION PROTECTED	3.68
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	3.61
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	3.54
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	3.52
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	3.38
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	3.27



Source: Morningstar

September 30, 2019

VANGUARD INFLATION PROTECTED SECURITIES

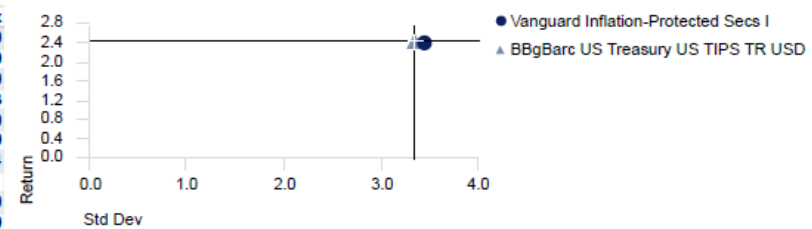
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	99.4	100.0
Alpha	-0.1	0.0
Beta	1.0	1.0
Std Dev	3.4	3.3
Up Capture Ratio	100.9	100.0
Down Capture Ratio	104.8	100.0
Sharpe Ratio (geo)	0.4	0.4
Information Ratio (geo)	-0.1	
Tracking Error	0.3	0.0
Correlation	1.0	1.0

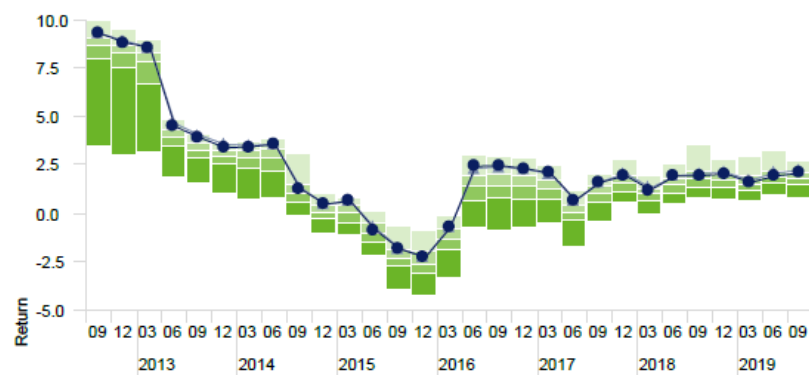
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

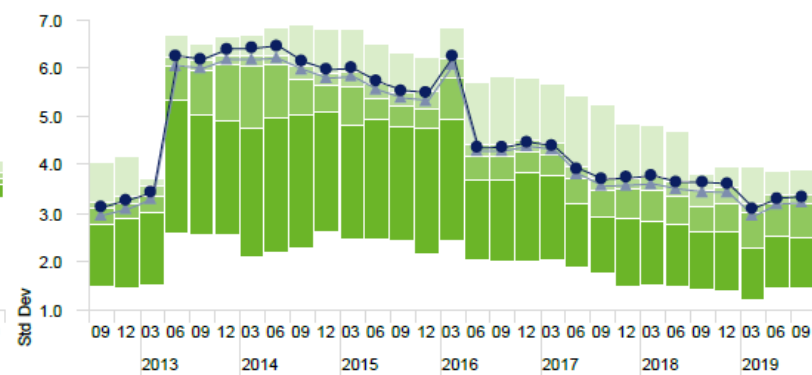


—Vanguard Inflation-Protected Secs I

—BBgBarc US Treasury US TIPS TR USD

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Inflation-Protected Secs I

—BBgBarc US Treasury US TIPS TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Vanguard Inflation-Protected Secs I	11.0	29	6.3	28	13.4	6	6.9	24	-8.8	52	4.1	5	-1.7	31	4.6	39	3.0	34	-1.4	48
BBgBarc US Treasury US TIPS TR USD	11.4		6.3		13.6		7.0		-8.6		3.6		-1.4		4.7		3.0		-1.3	



Source: Morningstar

September 30, 2019

VANGUARD SHORT-TERM TIPS

Asset Allocation

Portfolio Date: 8/31/2019



● Stock	0.0
● Bond	100.0
● Cash	0.0
● Other	0.0
Total	100.0

Fixed Income Statistics

Portfolio Date: 8/31/2019

Morningstar Fixed Income Style Box™			
	Ltd	Mod	Ext
High			
Med			
Low			

Fixed-Income Stats

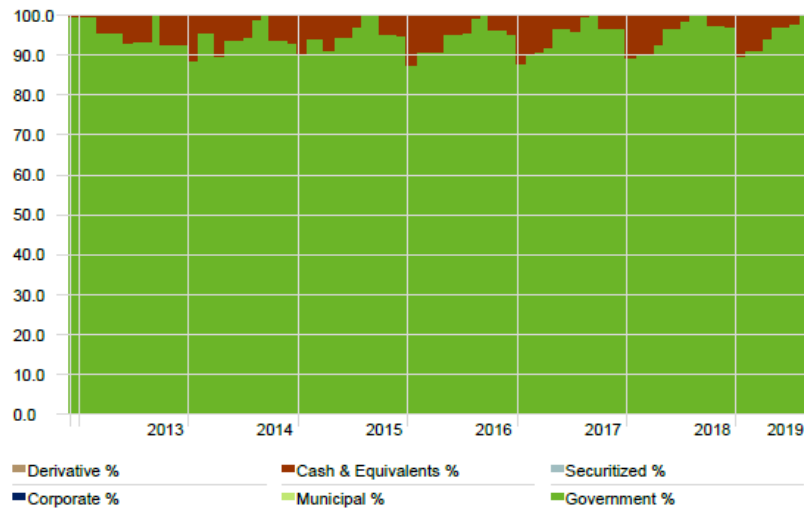
Average Eff Duration	2.7
Average Eff Maturity	2.7
Average Coupon	0.4
Average Price	100.3

Credit Quality Breakdown

Portfolio Date: 8/31/2019

	Fund	Index
AAA %	100.0	
AA %	0.00	
A %	0.00	
BBB %	0.00	
BB %	0.00	
B %	0.00	
Below B %	0.00	
Not Rated %	0.00	
Yield to Maturity		

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	8.63
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.48
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	7.33
United States Treasury Notes 0.62%	BOND - GOV'T INFLATION PROTECTED	7.32
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.32
United States Treasury Notes 0.38%	BOND - GOV'T INFLATION PROTECTED	7.26
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.21
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.20
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	7.08
United States Treasury Notes 0.12%	BOND - GOV'T INFLATION PROTECTED	6.93



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VANGUARD SHORT-TERM TIPS

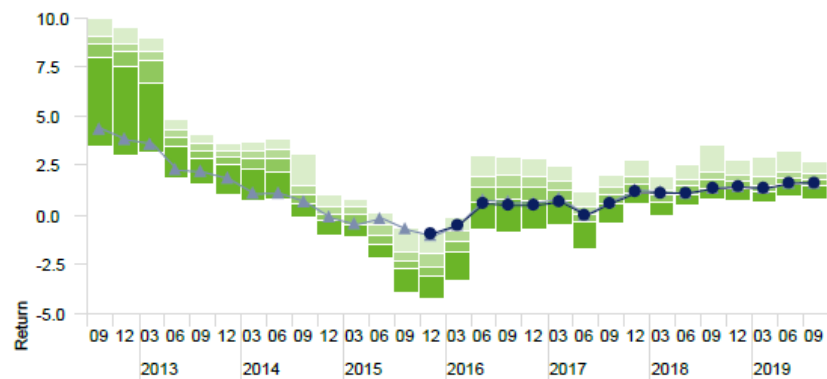
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	99.3	100.0
Alpha	0.0	0.0
Beta	0.9	1.0
Std Dev	1.6	1.8
Up Capture Ratio	93.6	100.0
Down Capture Ratio	87.5	100.0
Sharpe Ratio (geo)	0.1	0.1
Information Ratio (geo)	-0.1	
Tracking Error	0.3	0.0
Correlation	1.0	1.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Shrt-Term Infl-Prot Sec Idx Ins

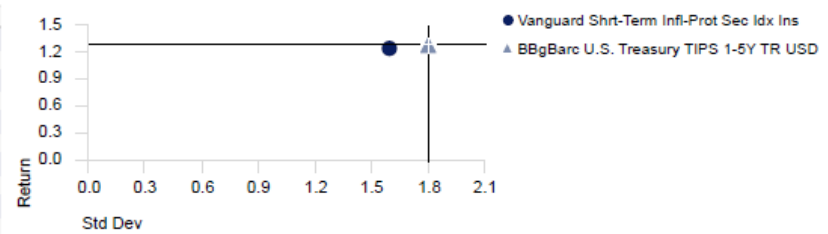
—BBgBarc U.S. Treasury TIPS 1-5Y TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Vanguard Shrt-Term Infl-Prot Sec Idx Ins									-1.5	5	-1.1	88	-0.2	2	2.8	91	0.8	85	0.6	1
BBgBarc U.S. Treasury TIPS 1-5Y TR USD	11.5		3.9		4.9		2.7		-2.0		-1.1		-0.1		3.1		0.8		0.4	

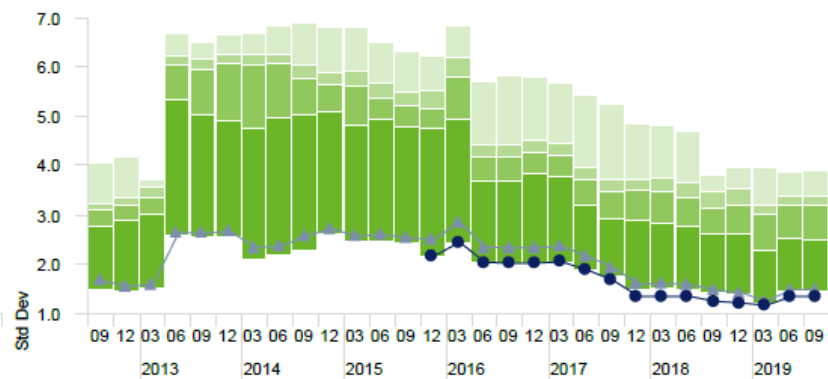
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Shrt-Term Infl-Prot Sec Idx Ins

—BBgBarc U.S. Treasury TIPS 1-5Y TR USD

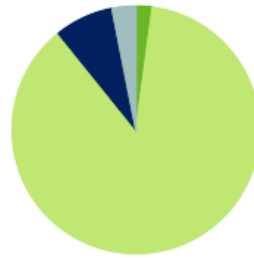


September 30, 2019

BLACKROCK STRATEGIC INCOME

Asset Allocation

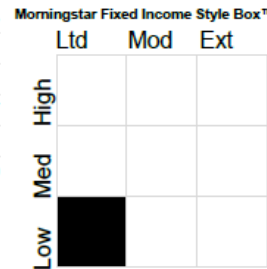
Portfolio Date: 7/31/2019



Stock	2.1
Bond	87.1
Cash	7.7
Other	3.1
Total	100.0

Fixed Income Statistics

Portfolio Date: 3/31/2019



Fixed-Income Stats

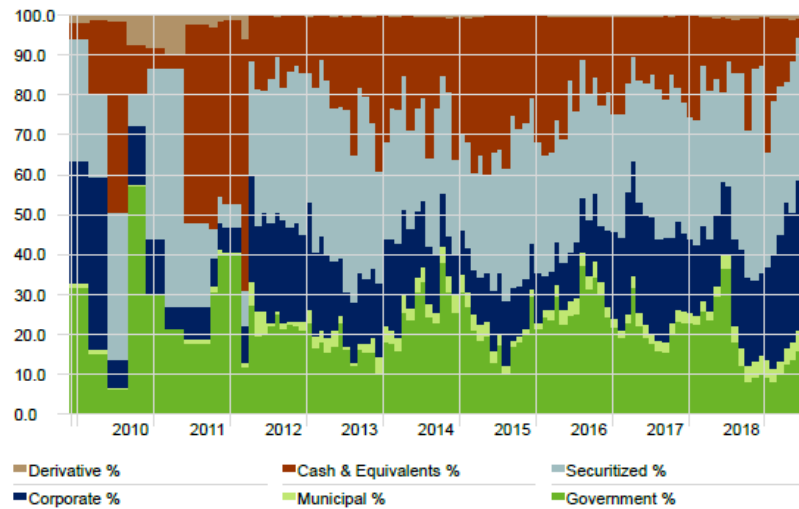
Average Eff Duration	2.9
Average Eff Maturity	7.7
Average Coupon	4.5
Average Price	103.5

Credit Quality Breakdown

Portfolio Date: 6/30/2019

	Fund	Index
AAA %	25.0	
AA %	6.34	
A %	13.46	
BBB %	18.92	
BB %	13.83	
B %	8.35	
Below B %	3.66	
Not Rated %	10.47	
Yield to Maturity		

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
iShares iBoxx \$ Invmt Grade Corp Bd ETF	MUTUAL FUND - ETF	1.08
iShares JP Morgan USD Em Mkts Bd ETF	MUTUAL FUND - ETF	0.93
Fnma Pass-Thru I 3%	BOND - GOV'T AGENCY PASS-THRU	0.81
Japan (Government Of) 0.1%	BOND - GOV'T INFLATION PROTECTED	0.76
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.73
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.73
SPDR® Blmbg Barclays High Yield Bd ETF	MUTUAL FUND - ETF	0.66
BlackRock Liquidity T-Fund Instl	MUTUAL FUND - MONEY MARKET	0.61
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.59
Fnma Pass-Thru I 4%	BOND - GOV'T AGENCY PASS-THRU	0.53



Source: Morningstar

September 30, 2019

BLACKROCK STRATEGIC INCOME

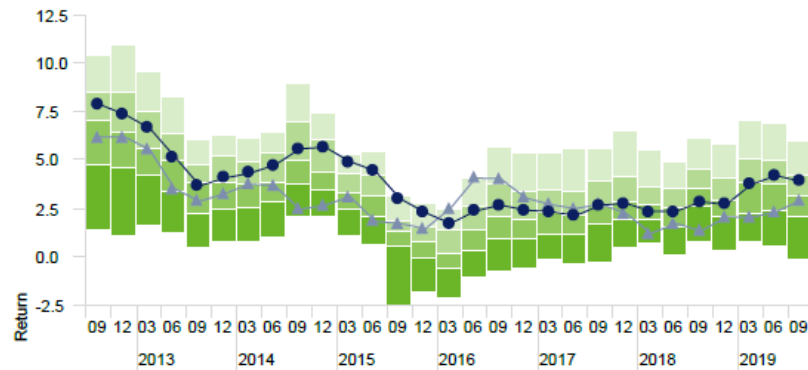
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	7.8	100.0
Alpha	1.4	0.0
Beta	0.2	1.0
Std Dev	2.1	3.3
Up Capture Ratio	61.0	100.0
Down Capture Ratio	2.6	100.0
Sharpe Ratio (geo)	0.9	0.7
Information Ratio (geo)	-0.1	
Tracking Error	3.3	0.0
Correlation	0.3	1.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—BlackRock Strategic Income Opps K

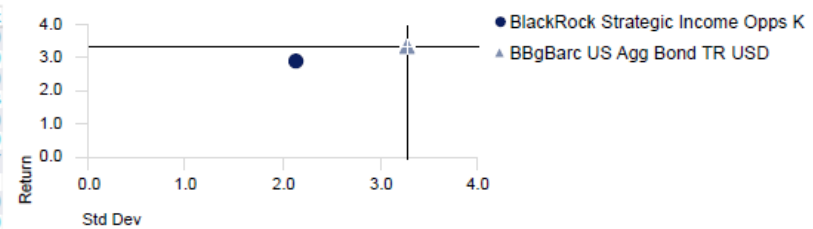
—BBgBarc US Agg Bond TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
BlackRock Strategic Income Opps K	25.2		13.4		-0.7		9.9		3.3		3.9		-0.3		3.7		5.0		-0.5	
BBgBarc US Agg Bond TR USD	5.9		6.5		7.8		4.2		-2.0		6.0		0.5		2.6		3.5		0.0	

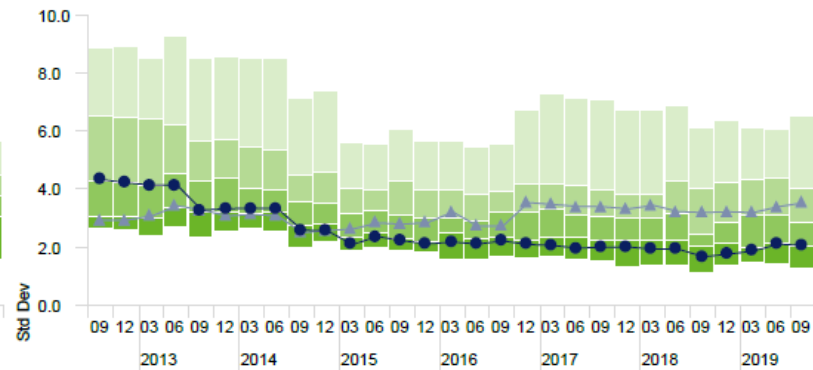
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—BlackRock Strategic Income Opps K

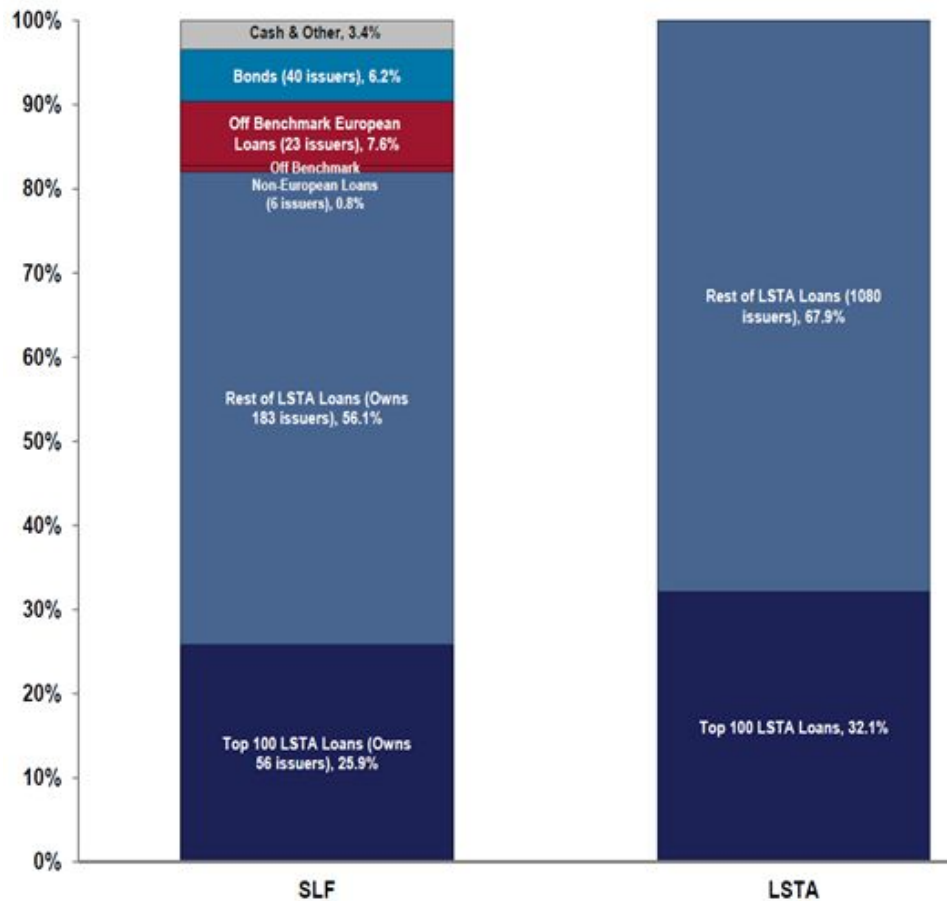
—BBgBarc US Agg Bond TR USD



Source: Morningstar

September 30, 2019

BAIN CAPITAL SENIOR LOAN FUND



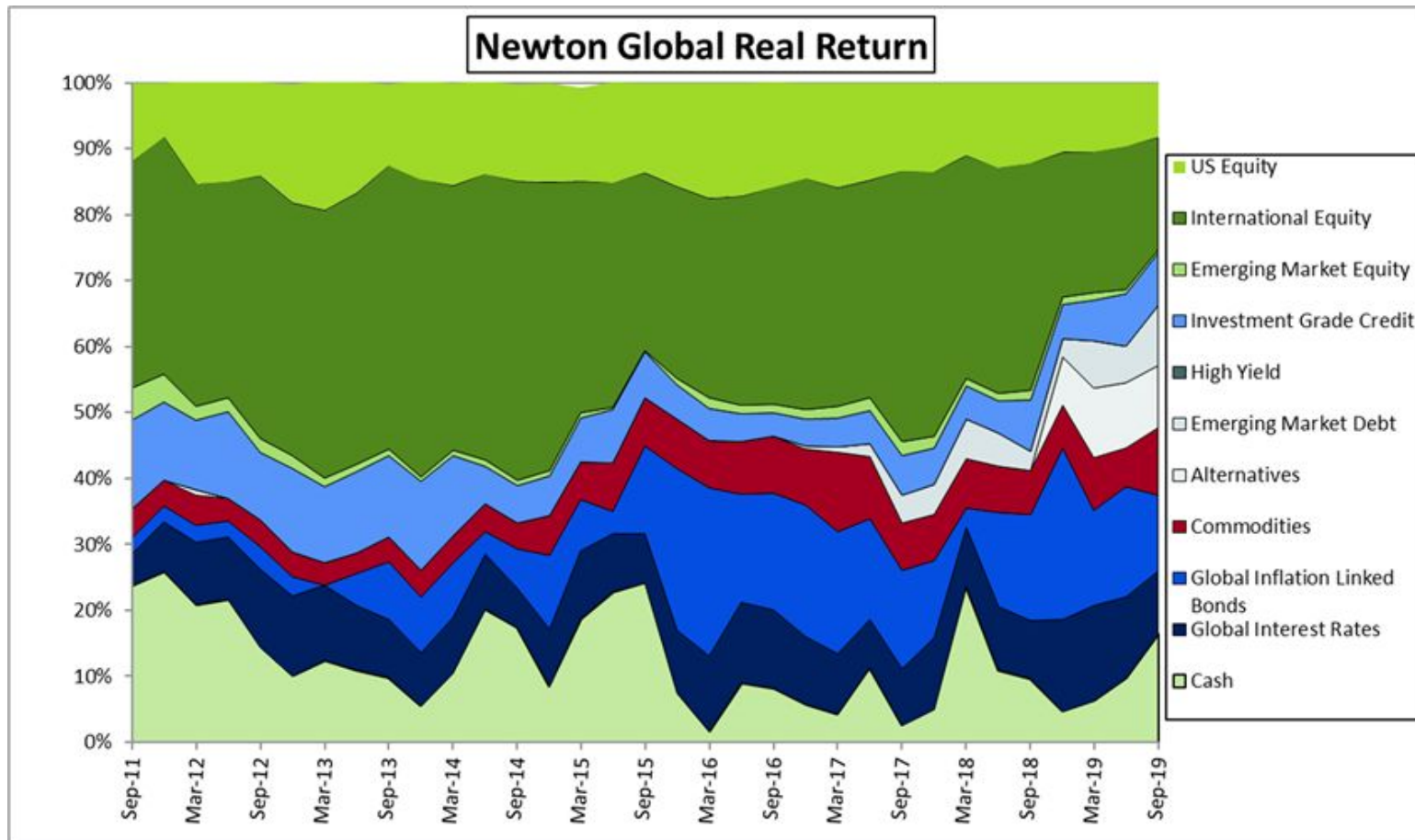
Top 5 Winners & Losers	
Winners	
Issuer	bps
Ascend Performance	2
Upfield	2
Intelsat	2
Tele Columbus	2
CPG International	1
Rest of Winners	61
Total Winners	70
Losers	
Issuer	bps
Algoma Steel	(41)
Murray Energy	(21)
GTT Communications, Inc.	(3)
Ultra Petroleum Corporation	(3)
NPC International	(3)
Rest of Losers	(34)
Total Losers	(105)



Source: Bain Capital

September 30, 2019

NEWTON GLOBAL REAL RETURN



6.1



Source: Newton

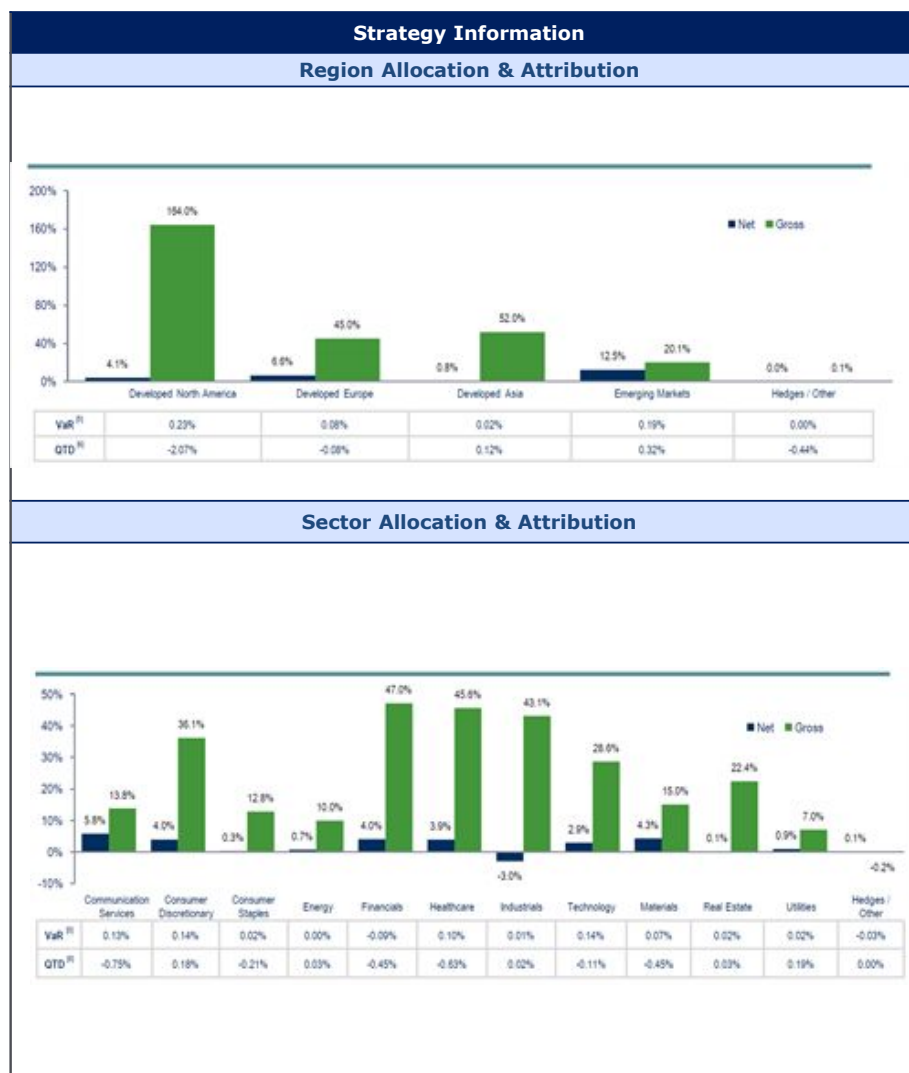
September 30, 2019

LIGHTHOUSE GLOBAL LONG/SHORT

General Fund Information			
Fund Name	Lighthouse Global Long/Short Fund		
Management Company	Lighthouse Investment Partners, LLC		
Location	Palm Beach, FL		
Firm AUM	\$13.5 billion	Strategy	Fund of Fund
Fund AUM	\$1.0 billion	Sub-Strategy	Long/Short Equity
Portfolio Managers	Ethan Baron	Direct or FOF	FOF

Terms	
Share Class	--
Minimum Investment	\$1 million
Management Fee	1.15%
Incentive Fee	--
Hurdle Rate	None
High Water Mark	Yes
Subscription	Monthly
Redemption	Quarterly (60 days notice) or Monthly (90 days notice)
Lock-Up	None

Investment Strategy
Lighthouse's Global Long/Short Fund is a global portfolio of 20-30 separately managed accounts with industry sector and country specialist managers. The geographical allocations are similar to the MSCI World Index (30%-75% Americas, 10%-35% Europe, 5%-35% Asia).
The Fund targets returns greater than 10% over market cycles with 6%-8% volatility and an equity beta of 0.2–0.4 to the MSCI World Index.



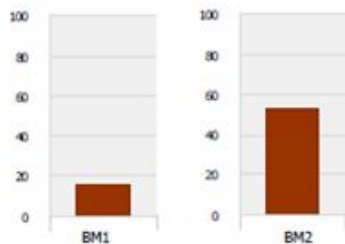
For more information please see NEPC's Investment Due Diligence Report and Operational Due Diligence Report

September 30, 2019

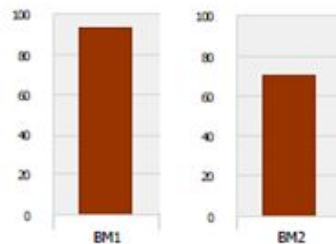
LIGHTHOUSE GLOBAL LONG/SHORT

Monthly Performance														Performance Analysis			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year		Lighthouse Global Long/Short Fund, L.P.	S&P 500	Bloomberg Barclays US Aggregate
2019	3.5	0.8	0.3	1.7	-0.7	1.2	1.0	-0.8	-2.3	---	---	---	4.6	Since Inception Return	52	8.5	4.2
2018	2.4	-0.3	-0.5	0.8	3.1	-1.9	0.3	-0.6	-0.4	-5.1	-2.0	-1.8	-5.8	1 Yr Return	-4.3	4.3	10.3
2017	1.6	0.3	1.1	-0.5	-0.3	0.0	0.7	1.0	0.1	2.2	-0.6	1.1	6.7	3 Yr Return	1.9	13.4	2.9
2016	-3.6	-0.7	-0.4	0.6	1.0	0.3	1.7	-0.2	1.0	-0.9	1.2	0.3	0.0	5 Yr Return	2.8	10.8	3.4
2015	1.0	1.0	1.6	-0.5	1.1	0.2	0.4	-0.8	-1.0	2.2	0.0	1.7	7.2	7 Yr Return	5.4	13.3	2.7
2014	0.9	1.8	-1.7	-2.0	1.2	1.9	-0.5	1.7	-0.1	0.3	1.2	0.6	5.3	10 Yr Return	4.7	13.2	3.7
2013	3.2	0.5	2.7	1.5	1.0	1.0	2.2	-0.3	2.2	1.2	1.1	2.4	20.5	Best Month	3.5	10.9	3.7
2012	1.7	1.7	1.6	1.2	-3.7	0.5	0.2	1.1	1.3	-0.1	0.8	0.4	6.7	Worst Month	-6.4	-16.8	-2.4
2011	-0.2	1.2	0.7	2.1	-1.1	-1.5	0.6	-3.1	-0.6	1.7	-1.0	-0.6	-1.9	Percent Profitable Periods	66.7	68.4	66.5
2010	0.0	0.3	1.9	0.6	-2.4	-1.7	1.7	-0.6	1.3	1.8	0.2	2.1	5.1	Product Inception Date	01/01/2005	---	---
2009	0.3	-0.5	1.1	1.3	2.3	0.7	1.6	1.4	1.5	-0.9	0.3	0.9	10.2				
2008	-3.2	1.2	-4.7	1.5	2.8	-0.5	-1.4	-0.3	-6.4	-2.0	-0.6	0.0	-13.1				
2007	2.7	0.4	1.5	2.6	3.2	1.3	-0.2	-2.3	1.8	3.3	-2.4	0.2	12.6				

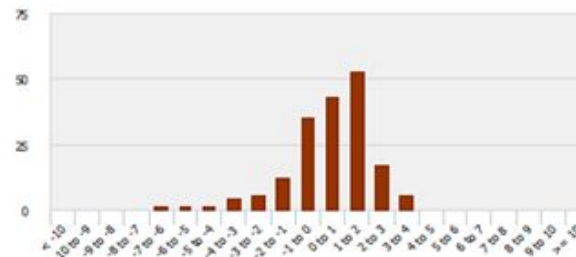
Outperform BM in Up Markets



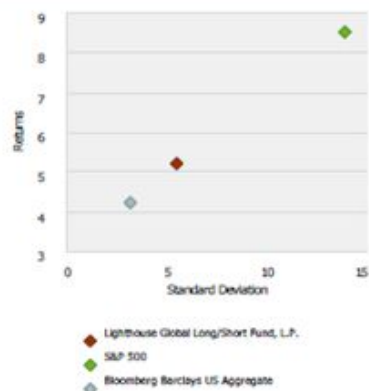
Outperform BM in Down Markets



Distribution of Returns



Risk/Return Profile



Underwater Drawdown



Risk Analysis

Since Inception Standard Deviation	5.5	13.9	3.2
3 Yr Standard Deviation	5.5	12.2	3.3
5 Yr Standard Deviation	5.0	11.9	3.1
7 Yr Standard Deviation	4.9	11.1	3.0
10 Yr Standard Deviation	5.0	12.5	2.9
Sharpe Ratio	0.7	0.5	0.9
Sortino Ratio	1.0	0.7	1.6
Loss Deviation	3.9	9.7	1.8
Max Drawdown	15.2	50.9	3.8
Max Drawdown Length	16	16	7
Max Drawdown Recovery Length	25	37	2

Comparison to Benchmarks

Annualized Alpha	3.0	5.8
Beta	0.2	-0.1
Correlation Coefficient	0.6	-0.1
R-Squared	0.4	0.0



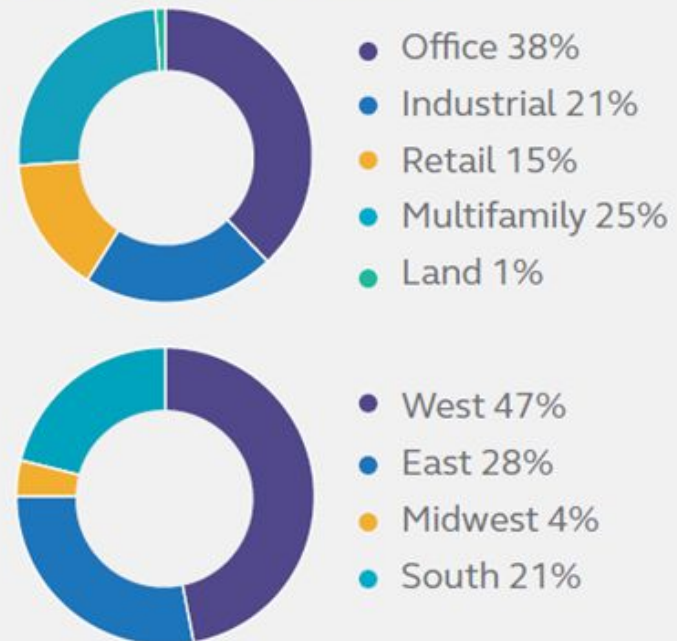
September 30, 2019

PRINCIPAL U.S. PROPERTY

3Q2019 key statistics

Inception date	January, 1982
Gross asset value	\$10.70 billion
Net asset value	\$8.50 billion
Number of investments	129
Number of markets	43
Core portfolio occupancy*	93.0%
Cash to gross assets	6.3%
Leverage ratio**	18.0%

Diversification



Source: Principal

September 30, 2019

APPENDIX

NEPC, LLC

September 30, 2019

GLOSSARY OF TERMS

Alpha - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

Alpha Jensen - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

Annualized Excess Return over Benchmark - Annualized fund return minus the annualized benchmark return for the calculated return.

Annualized Return - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

Beta - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

Information Ratio - A measure of the risk adjusted return of a financial security, asset, or portfolio.

Formula:

$$\frac{(\text{Annualized Return of Portfolio} - \text{Annualized Return of Benchmark}) / \text{Annualized Standard Deviation}(\text{Period Portfolio Return} - \text{Period Benchmark Return})}{\text{To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.}}$$

R-Squared - Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

Sharpe Ratio - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

Sortino Ratio - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

Formula:

$$\text{Calculation Average } (X-Y) / \text{Downside Deviation } (X-Y) * 2$$
Where X=Return Series X Y = Return Series Y which is the risk free return (91 day T-bills)

Standard Deviation - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

Formula:

$$(\text{Annualized Return of Portfolio} - \text{Annualized Return of Risk Free}) / \text{Annualized Standard Deviation (Portfolio Returns)}$$

Tracking Error - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

Formula:

$$\text{Tracking Error} = \text{Standard Deviation } (X-Y) * \sqrt{(\# \text{ of periods per year})}$$
Where X = periods portfolio return and Y = the period's benchmark return
For monthly returns, the periods per year = 12
For quarterly returns, the periods per year = 4

Treynor Ratio - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

Formula:

$$(\text{Portfolio Average Return} - \text{Average Return of Risk-Free Rate}) / \text{Portfolio Beta}$$

Up/Down Capture Ratio - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

$$\text{UpsideCapture} = \text{TotalReturn}(\text{FundReturns}) / \text{TotalReturns}(\text{BMReturn}) \text{ when Period Benchmark Return is } > = 0$$

$$\text{DownsideCapture} = \text{TotalReturn}(\text{FundReturns}) / \text{TotalReturns}(\text{BMReturn}) \text{ when Benchmark } < 0$$

Data Source: InvestorForce



INFORMATION DISCLAIMER AND REPORTING METHODOLOGY

Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may not be available from the source or may be preliminary and subject to change.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodial bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- This report is provided as a management aid for the client's internal use only. Performance contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of Return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.



THIRD QUARTER 2019 SUPPLEMENTAL PERFORMANCE UNIVERSITY OF MAINE SYSTEM OPERATING FUND



December 2, 2019

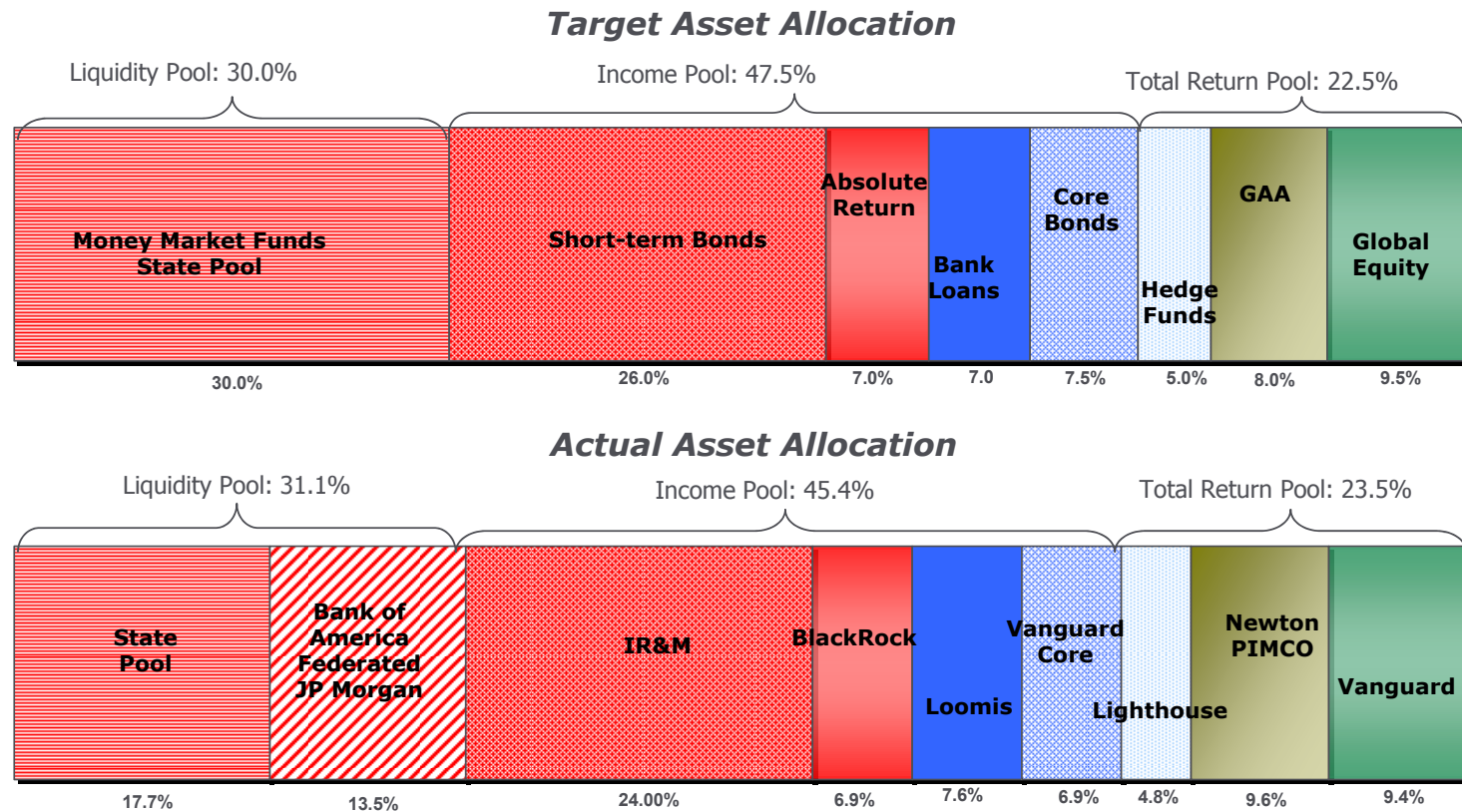
Jay E. Roney, Partner

Kelly Regan, Senior Consultant



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

TOTAL FUND ASSET ALLOCATION



*May not add up to 100% due to rounding



TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Operating Funds Composite	297,558,317	100.0	100.0	0.6	5.2	3.9	3.1	2.3	2.4	2.7
<i>Allocation Index</i>				0.7	5.4	4.0	3.3	2.6	2.6	2.6
Liquidity Pool Composite	92,575,648	31.1	30.0	0.5	1.7	2.2	1.4	1.0	0.7	0.6
State Pool	52,609,685	17.7		0.6	1.7	2.3	1.5	1.0	0.8	0.7
BOA General Fund	5,212,920	1.8		0.1	0.7	1.1	0.5	0.3	0.2	–
Federated Gov't Obligations	28,425,004	9.6		0.6	1.7	2.3	1.4	–	–	–
JP Morgan US Gov't Money Market Fund	6,328,039	2.1		0.5	1.7	2.2	1.4	–	–	–
<i>FTSE T-Bill 3 Months TR</i>				0.6	1.8	2.4	1.5	1.0	0.7	0.5
Income Pool Composite	135,101,819	45.4	47.5	1.1	5.2	5.3	2.5	2.3	2.2	3.1
Income Research + Management	71,347,106	24.0	26.0	0.8	3.6	4.6	1.8	1.7	–	–
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>				0.7	3.4	4.6	1.8	1.6	1.3	1.5
BlackRock Strategic Income Opportunities	20,473,805	6.9	7.0	0.9	6.1	5.5	3.9	–	–	–
<i>3-Month Libor Total Return USD</i>				0.6	1.9	2.6	1.9	1.3	1.0	0.8
Loomis Sayles Bank Loans	22,661,764	7.6	7.0	1.3	6.7	3.3	3.7	3.6	3.5	4.3
<i>Loomis Bank Loans Custom Index</i>				1.5	7.8	4.0	4.0	4.1	4.2	5.3
Vanguard Total Bond Market Instl' Fund	20,619,144	6.9	7.5	2.4	8.7	10.5	2.9	3.4	2.7	3.7
<i>BBgBarc US Aggregate TR</i>				2.3	8.5	10.3	2.9	3.4	2.7	3.7
Total Return Pool Composite	69,880,850	23.5	22.5	-0.4	9.7	2.5	5.7	4.0	4.5	5.4
Lighthouse	14,367,408	4.8	5.0	-1.7	5.7	-3.1	3.3	–	–	–
<i>Credit Suisse Long Shrt Eqt USD</i>				0.1	6.8	-0.4	4.8	3.4	5.6	4.9
Newton Global Real Return	14,244,786	4.8	4.0	0.6	9.7	8.1	–	–	–	–
<i>60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg</i>				0.3	12.4	4.2	6.6	4.9	5.9	6.1
PIMCO All Asset	13,285,304	4.5	4.0	-0.6	7.6	4.0	5.1	3.2	3.3	5.3
<i>Blended Index</i>				1.2	9.3	7.9	3.9	4.1	3.6	5.1
Vanguard Total World Stock Index	27,983,352	9.4	9.5	0.0	16.2	1.0	9.7	6.9	–	–
<i>FTSE Global All Cap Index</i>				0.0	16.2	1.0	9.5	5.8	7.7	7.0

Returns are net of manager fees.

The inception date for the allocation index is 07/01/2009

Fiscal YTD begins 7/1

Blended Index: 40% BC Aggregate / 30% BC U.S. TIPS 1-10YR / 10% S&P 500 / 10% BC High Yield / 10% JPM EMBI+

Loomis Bank Loans Custom Index blends performance of "S&P/LSTA Leveraged Loan Index" before 9/1/2014 and "S&P/LSTA Leveraged BB Loan Index" after 9/1/2014.

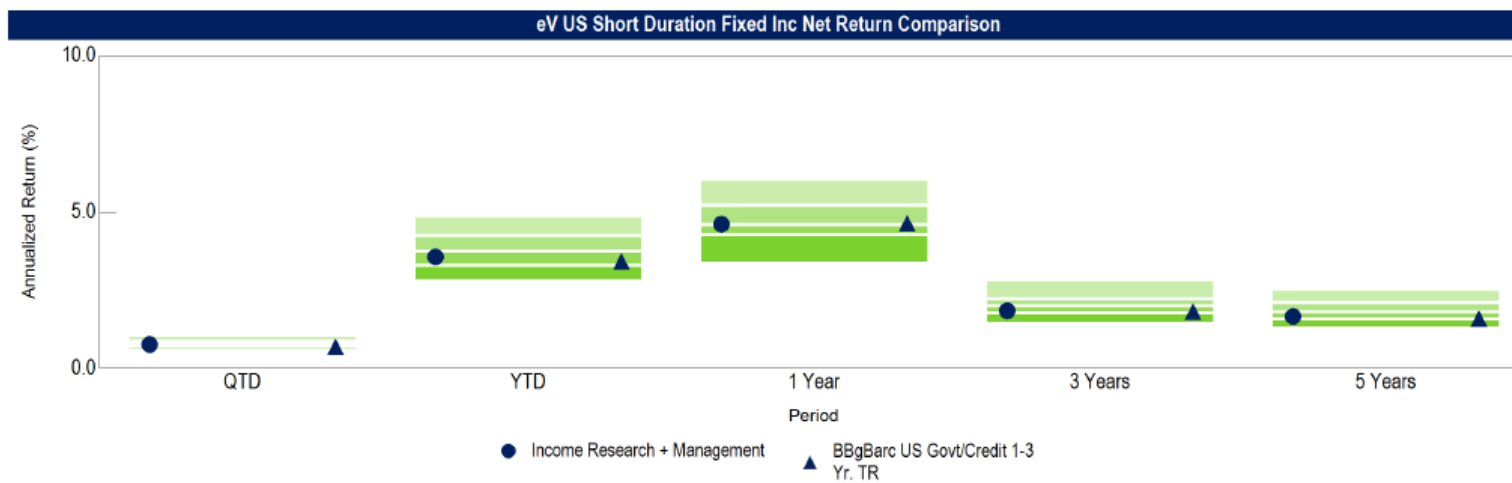
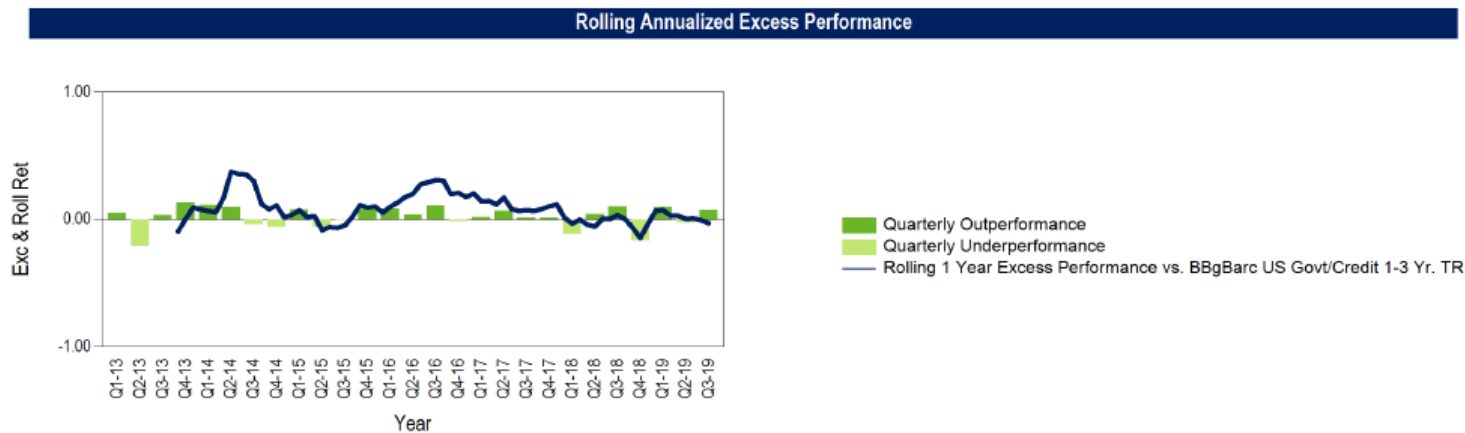
Composite excludes external loans.



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INCOME RESEARCH + MANAGEMENT

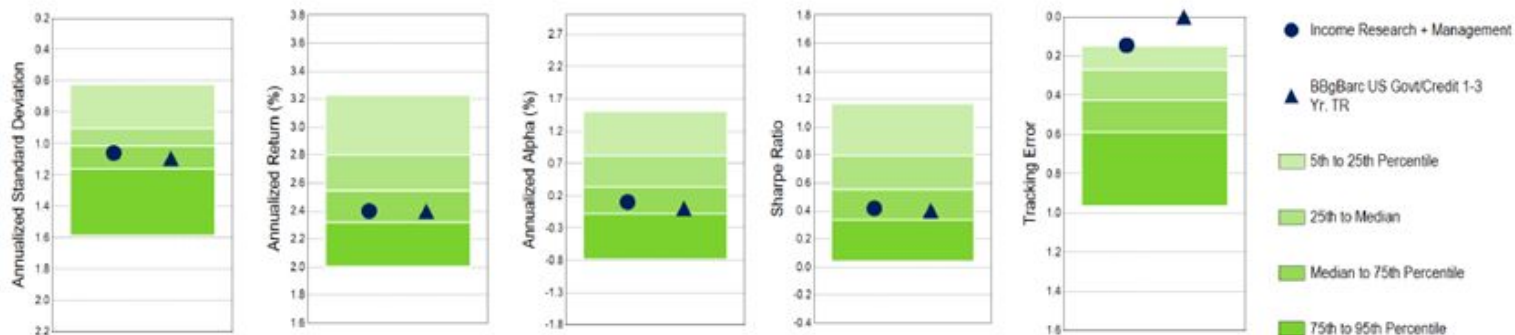
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September 30, 2019

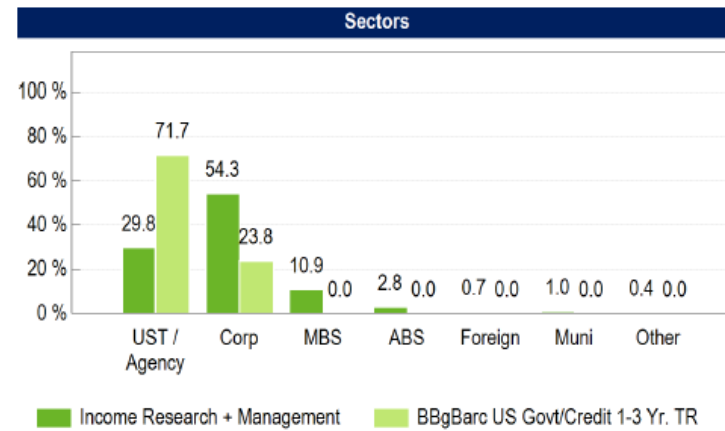
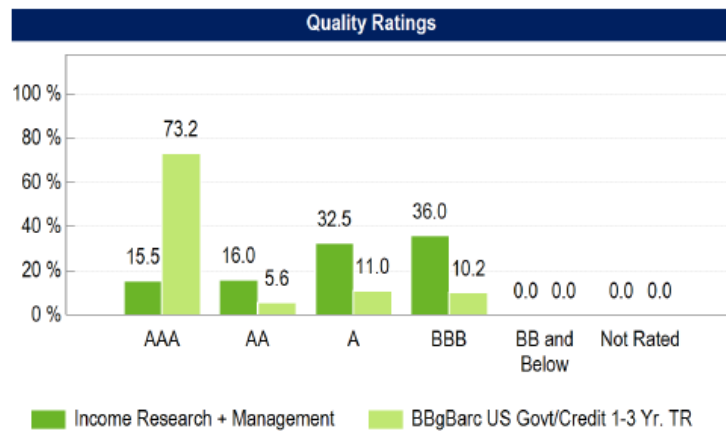
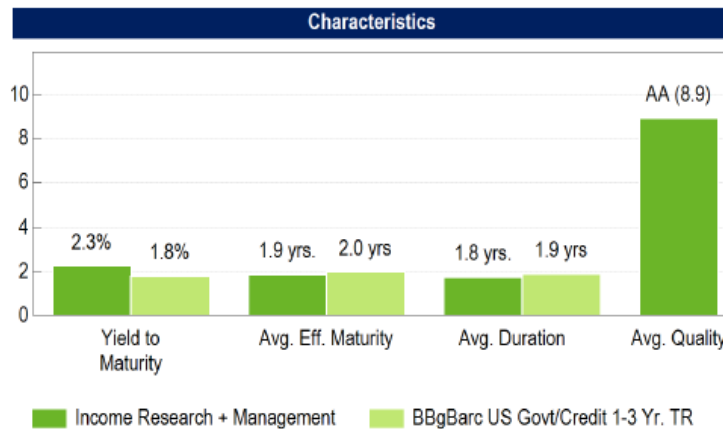
INCOME RESEARCH + MANAGEMENT

6.1



INCOME RESEARCH + MANAGEMENT

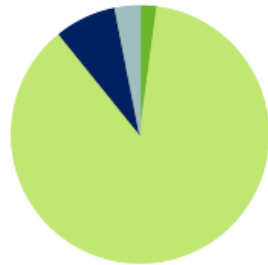
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BLACKROCK STRATEGIC INCOME

Asset Allocation

Portfolio Date: 7/31/2019



- Stock
- Bond
- Cash
- Other

Total

%

Fixed Income Statistics

Portfolio Date: 3/31/2019

Morningstar Fixed Income Style Box™			
	Ltd	Mod	Ext
High			
Med			
Low			

Fixed-Income Stats

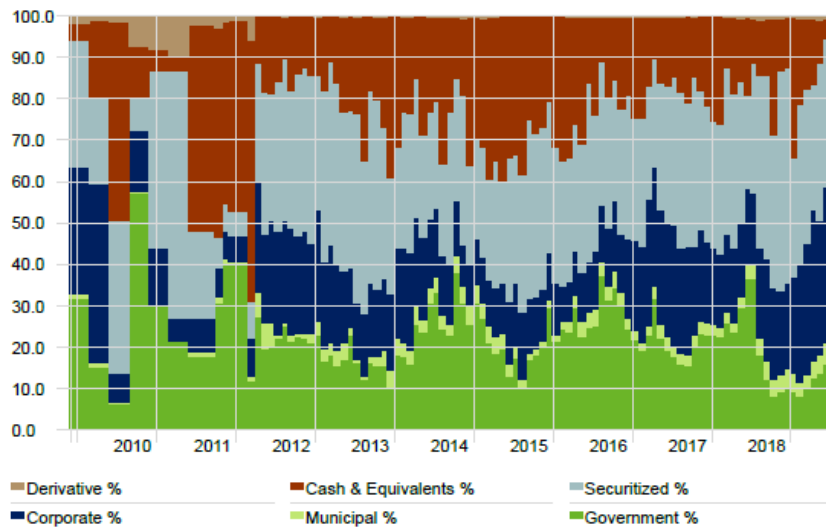
Average Eff Duration	2.9
Average Eff Maturity	7.7
Average Coupon	4.5
Average Price	103.5

Credit Quality Breakdown

Portfolio Date: 6/30/2019

	Fund	Index
AAA %	25.0	
AA %	6.34	
A %	13.46	
BBB %	18.92	
BB %	13.83	
B %	8.35	
Below B %	3.66	
Not Rated %	10.47	
Yield to Maturity		

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
iShares iBoxx \$ Invmt Grade Corp Bd ETF	MUTUAL FUND - ETF	1.08
iShares JP Morgan USD Em Mkts Bd ETF	MUTUAL FUND - ETF	0.93
Fnma Pass-Thru I 3%	BOND - GOV'T AGENCY PASS-THRU	0.81
Japan (Government Of) 0.1%	BOND - GOV'T INFLATION PROTECTED	0.76
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.73
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.73
SPDR® Blmbg Barclays High Yield Bd ETF	MUTUAL FUND - ETF	0.66
BlackRock Liquidity T-Fund Instl	MUTUAL FUND - MONEY MARKET	0.61
Fnma Pass-Thru I 4.5%	BOND - GOV'T AGENCY PASS-THRU	0.59
Fnma Pass-Thru I 4%	BOND - GOV'T AGENCY PASS-THRU	0.53



Source: Morningstar

September 30, 2019

BLACKROCK STRATEGIC INCOME

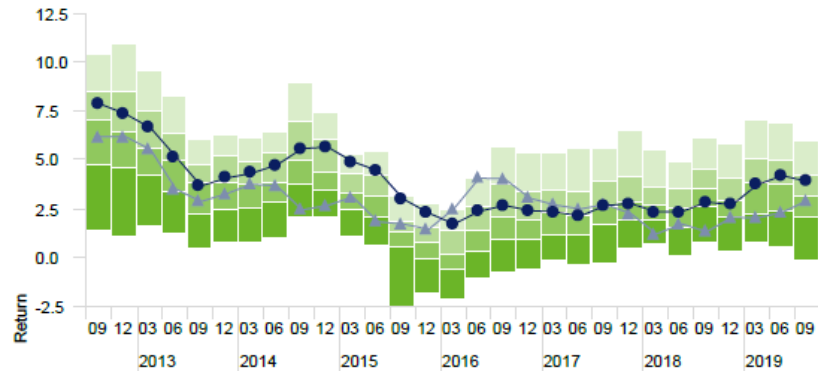
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	7.8	100.0
Alpha	1.4	0.0
Beta	0.2	1.0
Std Dev	2.1	3.3
Up Capture Ratio	61.0	100.0
Down Capture Ratio	2.6	100.0
Sharpe Ratio (geo)	0.9	0.7
Information Ratio (geo)	-0.1	
Tracking Error	3.3	0.0
Correlation	0.3	1.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—BlackRock Strategic Income Opps K

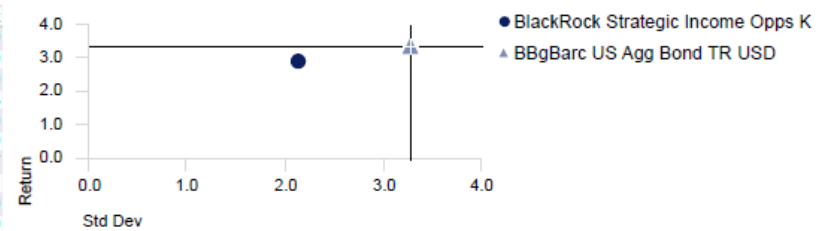
—BBgBarc US Agg Bond TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
BlackRock Strategic Income Opps K	25.2		13.4		-0.7		9.9		3.3		3.9		-0.3		3.7		5.0	37	-0.5	46
BBgBarc US Agg Bond TR USD	5.9		6.5		7.8		4.2		-2.0		6.0		0.5		2.6		3.5		0.0	

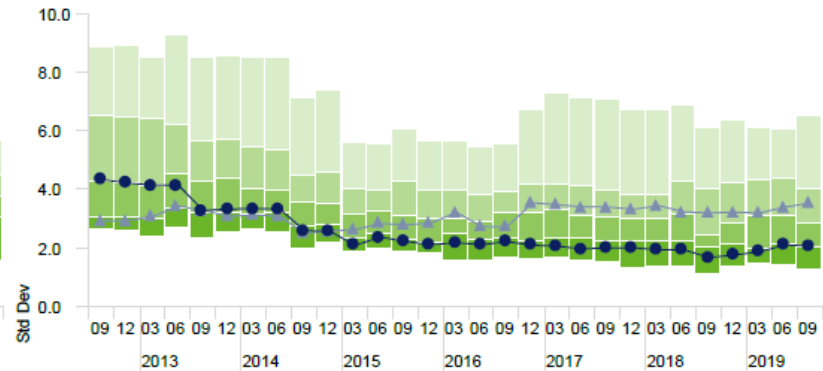
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—BlackRock Strategic Income Opps K

—BBgBarc US Agg Bond TR USD



Source: Morningstar

September 30, 2019

LOOMIS SAYLES BANK LOANS

HOLDINGS BY INDUSTRY (%)

Technology	9.9	Food & Beverage	2.3	Insurance	0.7
Building Materials	7.3	P&C	2.3	Media - NonCable	0.7
Consumer Cyclical Services	6.0	Leisure	1.8	Diversified Manufacturing	0.6
Media Entertainment	5.9	Transportation Services	1.8	Internet & Data	0.6
Healthcare	5.3	Electric	1.7	Health Insurance	0.6
Chemicals	4.9	REITS	1.6	Brokerage	0.5
Industrials - Other	4.6	Environmental	1.4	Midstream	0.5
Consumer Products	3.6	Packaging	1.4	Construction Machinery	0.5
Pharmaceuticals	3.2	Media - Cable	1.3	Metals and Mining	0.4
Retailers	3.2	Entertainment	1.1	Lodging	0.3
Financial Other	3.1	Aerospace/Defense	0.9	Conglomerates	0.3
Cable Satellite	3.1	Refining	0.9	Energy - Integrated	0.2
Restaurants	2.9	Oil Field Services	0.8	Banking	0.2
Gaming	2.9	Wireless	0.8	Supermarkets	0.1
Automotive	2.5	Home Construction	0.8	Consumer Services	0.1
				Cash & Equivalents	4.3

CREDIT QUALITY (%)

	Portfolio	S&P/LSTA Leveraged Loan Index
AA	-	-
A	-	-
BBB	5.1	9.8
BB	52.6	26.0
B	37.5	56.2
CCC & Lower	0.4	6.3
Not Rated	-	1.7
Cash & Equivalents	4.3	-
Second Lien	-	3.5
Avg. Credit Quality	BB-	B+

Reflects the credit ratings assigned by Standard & Poors. If shown, the S&P/LSTA US BB Ratings Loan Index would be rated 100% BB.

SECTOR DISTRIBUTION (%)

	Portfolio
Industrial	85.2
Financial	8.9
Utility	1.7
Cash & Equivalents	4.3

COUNTRY DISTRIBUTION (%)

	Portfolio
United States	92.1
Canada	3.2
Other	4.7

TOP FIVE HOLDINGS (%)

	Portfolio
Burger King Corporation	1.3
CommScope, Inc.	1.0
Nielsen Finance LLC	0.8
Virgin Media Bristol LLC	0.8
Xerox Business Services LLC	0.8



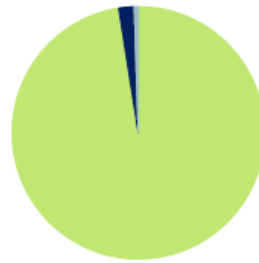
Source: Loomis Sayles

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VANGUARD TOTAL BOND MARKET I

Asset Allocation

Portfolio Date: 8/31/2019



• Stock	0.0
• Bond	97.5
• Cash	2.0
• Other	0.5
Total	100.0

Fixed Income Statistics

Portfolio Date: 8/31/2019

Morningstar Fixed Income Style Box™			
%	Ltd	Mod	Ext
High			
Med			
Low			

Fixed-Income Stats

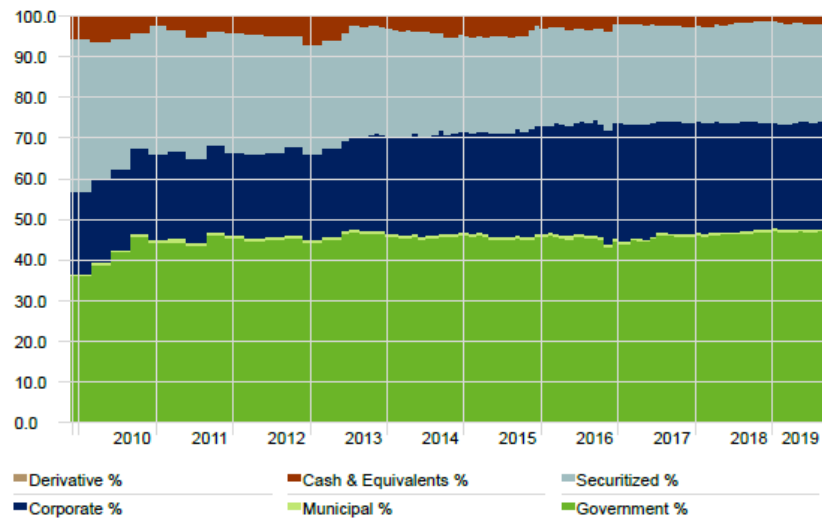
Average Eff Duration	6.2
Average Eff Maturity	8.3
Average Coupon	3.2
Average Price	108.1

Credit Quality Breakdown

Portfolio Date: 8/31/2019

	Fund	Index
AAA %	67.7	
AA %	3.45	
A %	11.15	
BBB %	17.72	
BB %	0.00	
B %	0.00	
Below B %	0.00	
Not Rated %	0.00	
Yield to Maturity	2.35	

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
Cmt Market Liquidity Rate	MUTUAL FUND - MONEY MARKET	1.97
Federal National Mortgage Association 3.5%	BOND - GOV'T AGENCY PASS-THRU	0.44
United States Treasury Notes 2.88%	BOND - GOV'T/TREASURY	0.43
United States Treasury Notes 2.12%	BOND - GOV'T/TREASURY	0.41
United States Treasury Notes 2.12%	BOND - GOV'T/TREASURY	0.41
United States Treasury Bonds 2.88%	BOND - GOV'T/TREASURY	0.41
United States Treasury Notes 3.12%	BOND - GOV'T/TREASURY	0.40
United States Treasury Notes 1.75%	BOND - GOV'T/TREASURY	0.40
United States Treasury Notes 2%	BOND - GOV'T/TREASURY	0.39
United States Treasury Notes 2.38%	BOND - GOV'T/TREASURY	0.37



Source: Morningstar

September 30, 2019

VANGUARD TOTAL BOND MARKET I

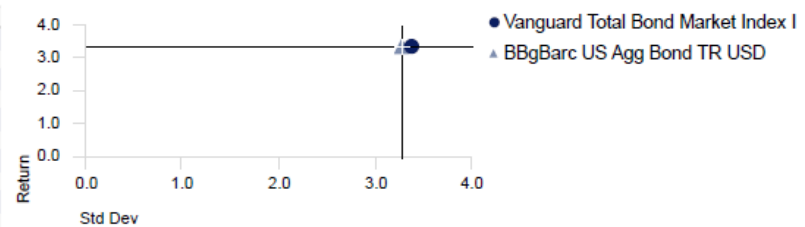
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	99.8	100.0
Alpha	-0.1	0.0
Beta	1.0	1.0
Std Dev	3.4	3.3
Up Capture Ratio	101.1	100.0
Down Capture Ratio	105.0	100.0
Sharpe Ratio (geo)	0.7	0.7
Information Ratio (geo)	-0.1	
Tracking Error	0.2	0.0
Correlation	1.0	1.0

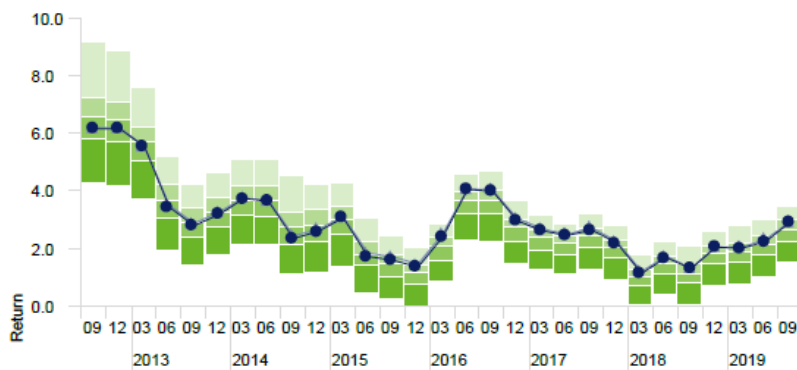
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Returns (3 Years)

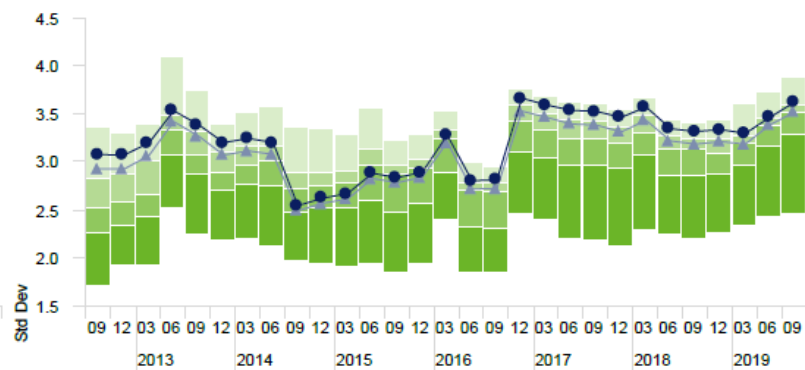
Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Total Bond Market Index I —BBgBarc US Agg Bond TR USD

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Total Bond Market Index I —BBgBarc US Agg Bond TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Vanguard Total Bond Market Index I	6.1	89	6.6	70	7.7	11	4.2	83	-2.1	67	5.9	30	0.4	28	2.6	62	3.6	55	0.0	30
BBgBarc US Agg Bond TR USD	5.9		6.5		7.8		4.2		-2.0		6.0		0.5		2.6		3.5		0.0	



Source: Morningstar

September 30, 2019

LIGHTHOUSE GLOBAL LONG/SHORT

General Fund Information			
Fund Name	Lighthouse Global Long/Short Fund		
Management Company	Lighthouse Investment Partners, LLC		
Location	Palm Beach, FL		
Firm AUM	\$13.5 billion	Strategy	Fund of Fund
Fund AUM	\$1.0 billion	Sub-Strategy	Long/Short Equity
Portfolio Managers	Ethan Baron	Direct or FOF	FOF

Terms	
Share Class	--
Minimum Investment	\$1 million
Management Fee	1.15%
Incentive Fee	--
Hurdle Rate	None
High Water Mark	Yes
Subscription	Monthly
Redemption	Quarterly (60 days notice) or Monthly (90 days notice)
Lock-Up	None

Investment Strategy
Lighthouse's Global Long/Short Fund is a global portfolio of 20-30 separately managed accounts with industry sector and country specialist managers. The geographical allocations are similar to the MSCI World Index (30%-75% Americas, 10%-35% Europe, 5%-35% Asia).
The Fund targets returns greater than 10% over market cycles with 6%-8% volatility and an equity beta of 0.2–0.4 to the MSCI World Index.

Strategy Information

Region Allocation & Attribution

Region	Net (%)	Gross (%)
Developed North America	4.1%	184.0%
Developed Europe	8.8%	45.0%
Developed Asia	0.8%	52.0%
Emerging Markets	12.9%	20.1%
Hedges / Other	0.0%	0.1%

	VaR ^{RI}	QTD ^{RI}
Developed North America	0.23%	-2.67%
Developed Europe	0.08%	-0.08%
Developed Asia	0.02%	0.12%
Emerging Markets	0.19%	0.32%
Hedges / Other	0.00%	-0.44%

Sector Allocation & Attribution

Sector	Net (%)	Gross (%)
Communication Services	5.8%	13.8%
Consumer Discretionary	4.0%	36.1%
Consumer Staples	0.3%	12.8%
Energy	0.7%	10.0%
Financials	4.0%	47.0%
Healthcare	3.9%	45.8%
Industrials	-3.0%	43.1%
Technology	2.9%	28.6%
Materials	4.3%	15.0%
Real Estate	0.1%	22.4%
Utilities	0.9%	7.0%
Hedges / Other	0.1%	-0.2%

	VaR ^{RI}	QTD ^{RI}
Communication Services	0.13%	-0.75%
Consumer Discretionary	0.14%	0.18%
Consumer Staples	0.02%	-0.21%
Energy	0.00%	0.03%
Financials	-0.09%	-0.45%
Healthcare	0.10%	-0.63%
Industrials	0.01%	0.02%
Technology	0.14%	-0.11%
Materials	0.07%	-0.45%
Real Estate	0.02%	0.03%
Utilities	0.02%	0.19%
Hedges / Other	-0.03%	0.00%



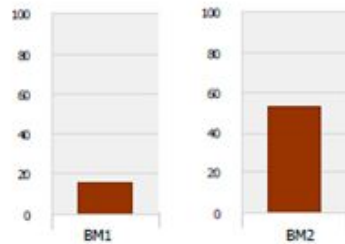
For more information please see NEPC's Investment Due Diligence Report and Operational Due Diligence Report

September 30, 2019

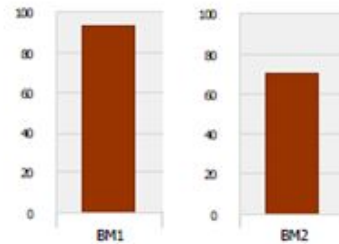
LIGHTHOUSE GLOBAL LONG/SHORT

Monthly Performance														Performance Analysis			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year		Lighthouse Global Long/Short Fund, L.P.	S&P 500	Bloomberg Barclays US Aggregate
2019	3.5	0.8	0.3	1.7	-0.7	1.2	1.0	-0.8	-2.3	---	---	---	4.6	Since Inception Return	52	8.5	4.2
2018	2.4	-0.3	-0.5	0.8	3.1	-1.9	0.3	-0.6	-0.4	-5.1	-2.0	-1.8	-5.8	1 Yr Return	-4.3	4.3	10.3
2017	1.6	0.3	1.1	-0.5	-0.3	0.0	0.7	1.0	0.1	2.2	-0.6	1.1	6.7	3 Yr Return	1.9	13.4	2.9
2016	-3.6	-0.7	-0.4	0.6	1.0	0.3	1.7	-0.2	1.0	-0.9	1.2	0.3	0.0	5 Yr Return	2.8	10.8	3.4
2015	1.0	1.0	1.6	-0.5	1.1	0.2	0.4	-0.8	-1.0	2.2	0.0	1.7	7.2	7 Yr Return	5.4	13.3	2.7
2014	0.9	1.8	-1.7	-2.0	1.2	1.9	-0.5	1.7	-0.1	0.3	1.2	0.6	5.3	10 Yr Return	4.7	13.2	3.7
2013	3.2	0.5	2.7	1.5	1.0	1.0	2.2	-0.3	2.2	1.2	1.1	2.4	20.5	Best Month	3.5	10.9	3.7
2012	1.7	1.7	1.6	1.2	-3.7	0.5	0.2	1.1	1.3	-0.1	0.8	0.4	6.7	Worst Month	-6.4	-16.8	-2.4
2011	-0.2	1.2	0.7	2.1	-1.1	-1.5	0.6	-3.1	-0.6	1.7	-1.0	-0.6	-1.9	Percent Profitable Periods	66.7	68.4	66.5
2010	0.0	0.3	1.9	0.6	-2.4	-1.7	1.7	-0.6	1.3	1.8	0.2	2.1	5.1	Product Inception Date	01/01/2005	---	---
2009	0.3	-0.5	1.1	1.3	2.3	0.7	1.6	1.4	1.5	-0.9	0.3	0.9	10.2				
2008	-3.2	1.2	-4.7	1.5	2.8	-0.5	-1.4	-0.3	-6.4	-2.0	-0.6	0.0	-13.1				
2007	2.7	0.4	1.5	2.6	3.2	1.3	-0.2	-2.3	1.8	3.3	-2.4	0.2	12.6				

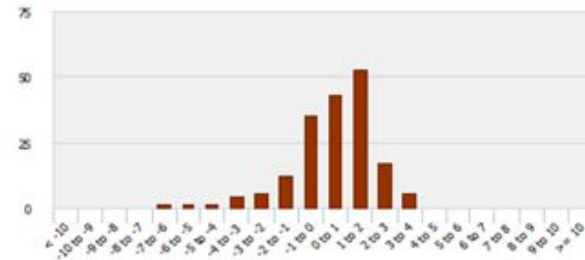
Outperform BM in Up Markets



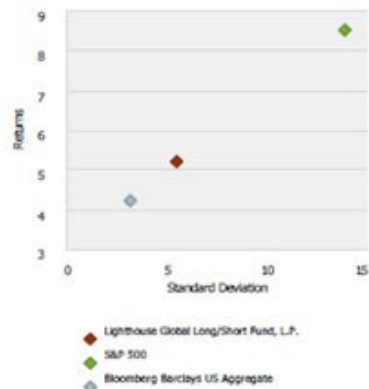
Outperform BM in Down Markets



Distribution of Returns



Risk/Return Profile



Underwater Drawdown



Risk Analysis

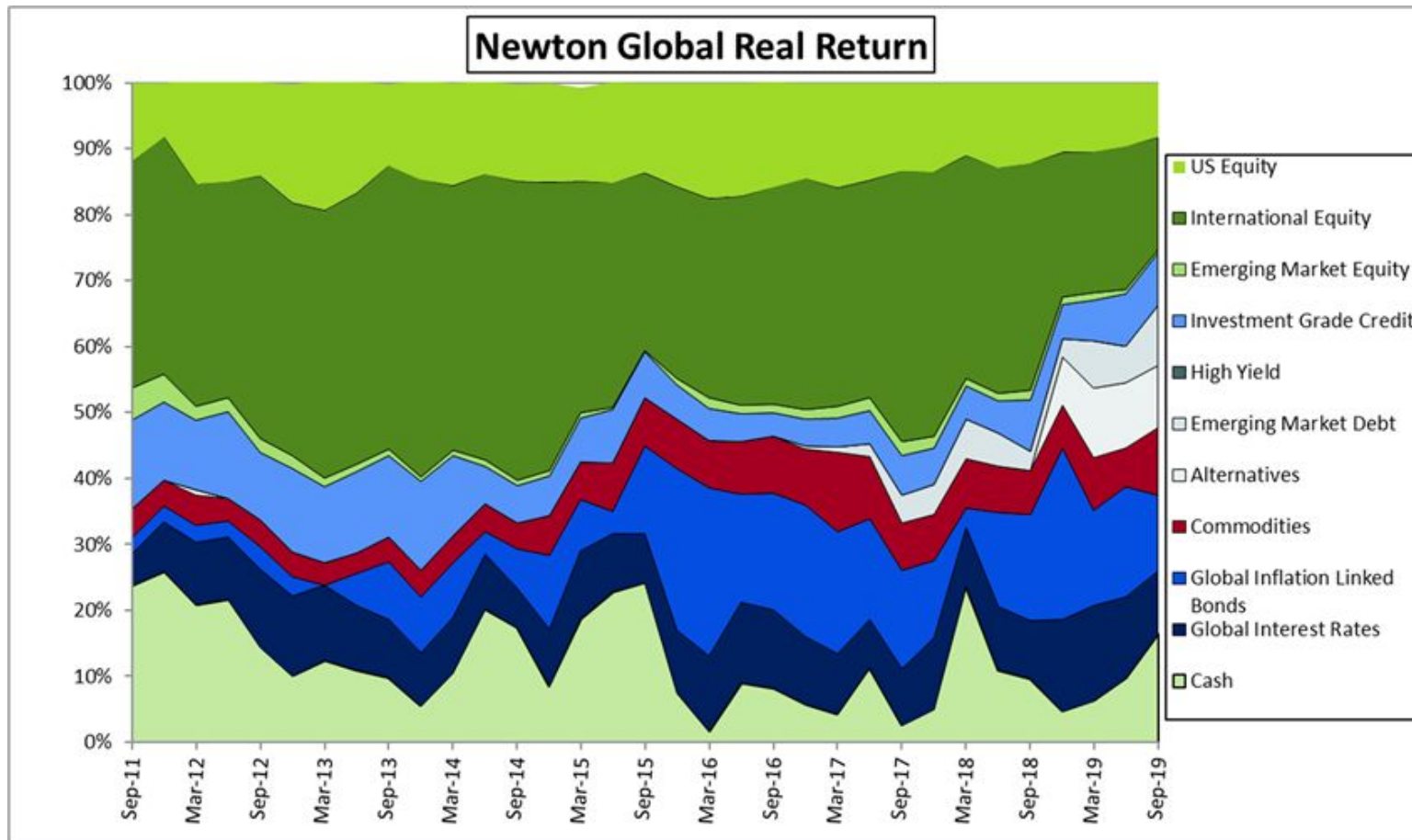
Since Inception Standard Deviation	5.5	13.9	3.2
3 Yr Standard Deviation	5.5	12.2	3.3
5 Yr Standard Deviation	5.0	11.9	3.1
7 Yr Standard Deviation	4.9	11.1	3.0
10 Yr Standard Deviation	5.0	12.5	2.9
Sharpe Ratio	0.7	0.5	0.9
Sortino Ratio	1.0	0.7	1.6
Loss Deviation	3.9	9.7	1.8
Max Drawdown	15.2	50.9	3.8
Max Drawdown Length	16	16	7
Max Drawdown Recovery Length	25	37	2

Comparison to Benchmarks

Annualized Alpha	3.0	5.8
Beta	0.2	-0.1
Correlation Coefficient	0.6	-0.1
R-Squared	0.4	0.0



NEWTON GLOBAL REAL RETURN



6.1



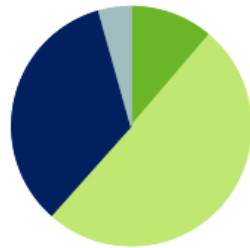
Source: Newton

September 30, 2019

PIMCO ALL ASSET

Asset Allocation

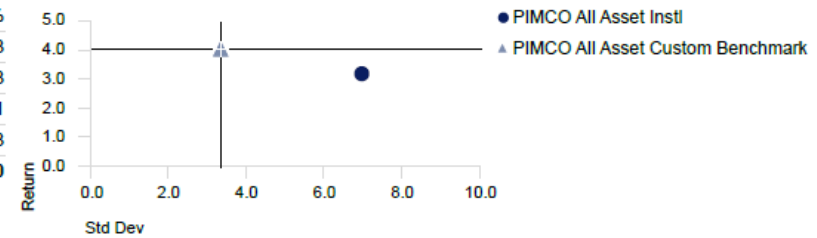
Portfolio Date: 6/30/2019



	%
Stock	11.3
Bond	50.3
Cash	34.1
Other	4.3
Total	100.0

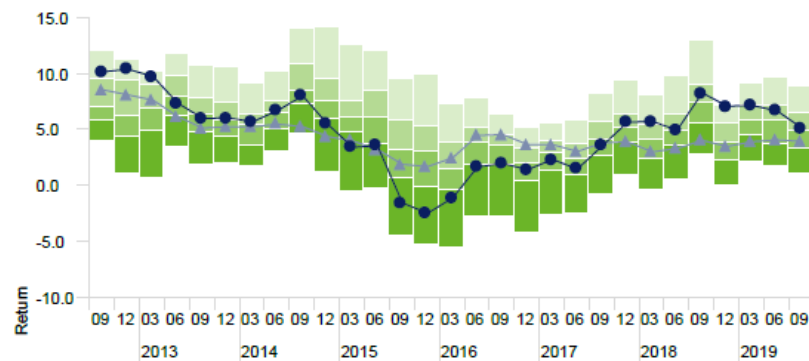
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

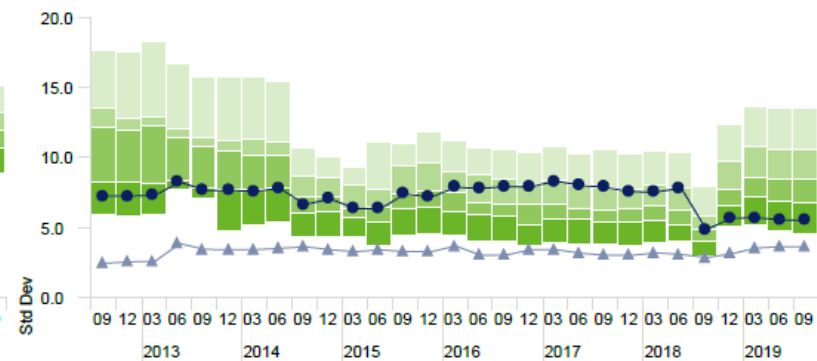


—PIMCO All Asset Instl

—PIMCO All Asset Custom Benchmark

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—PIMCO All Asset Instl

—PIMCO All Asset Custom Benchmark

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
PIMCO All Asset Instl	23.0	58	13.7	18	2.4	13	15.4	11	0.8	82	0.8	71	-8.7	78	13.3	7	14.0	42	-5.0	22
PIMCO All Asset Custom Benchmark	16.5		8.5		7.6		8.1		0.2		4.9		0.0		6.1		5.6		-1.1	



Source: Morningstar

PIMCO ALL ASSET

Fund Name	All Asset Fund														
Total Fund Net Assets (\$US MM)	17,450.3														
	6/30/2014	12/31/2014	6/30/2015	12/31/2015	6/30/2016	12/31/2016	6/30/2017	12/31/2017	6/30/2018	12/31/2018	3/31/2019	6/30/2019	7/31/2019	8/31/2019	9/30/2019
Third Pillar	78.71%	74.17%	85.75%	81.91%	81.04%	74.27%	70.05%	70.82%	74.15%	74.69%	79.97%	79.70%	78.88%	78.50%	79.83%
Emerging Markets Equities	12.81%	11.83%	13.87%	14.11%	22.17%	18.77%	17.60%	17.76%	18.35%	22.87%	23.68%	24.91%	23.48%	24.23%	25.77%
RAE Emerging Markets Fund	-	-	-	-	4.22%	4.63%	4.47%	5.33%	5.31%	6.68%	7.40%	8.70%			
RAE PLUS EMG Fund	5.99%	4.12%	4.73%	4.65%	6.11%	3.39%	3.70%	6.41%	9.14%	11.95%	11.97%	12.08%			
RAE Low Volatility PLUS EMG Fund	6.80%	7.70%	8.94%	9.46%	11.63%	10.74%	9.33%	5.76%	2.97%	3.30%	3.23%	2.84%			
EqS Emerging Markets Fund	0.02%	0.02%	-	-	-	-	-	-	-	-	-	-			
RAFI Dynamic Multi-Factor EM Equity ETF	-	-	-	-	-	-	-	0.26%	0.92%	0.94%	0.97%	1.30%			
Commodities and REITs	8.76%	9.89%	8.36%	5.82%	5.83%	8.28%	8.28%	10.66%	10.41%	8.48%	5.42%	6.66%	8.12%	8.10%	8.63%
CommoditiesPLUS™ Strategy Fund	3.03%	3.06%	2.19%	1.68%	3.12%	3.47%	4.05%	5.38%	4.72%	3.25%	3.43%	3.70%			
CommodityRealReturn Strategy Fund®	1.66%	3.97%	2.18%	1.62%	0.89%	0.53%	1.05%	1.08%	1.10%	1.21%	1.04%	1.00%			
RealEstateRealReturn Strategy Fund	4.06%	2.86%	1.99%	2.23%	1.53%	1.26%	3.19%	4.20%	4.59%	4.02%	3.95%	3.38%			
Emerging Markets Bonds	19.86%	18.83%	22.48%	20.83%	17.67%	19.97%	20.55%	20.11%	18.62%	17.72%	15.43%	15.47%	15.29%	14.24%	14.44%
Emerging Local Bond Fund	7.42%	9.10%	9.79%	8.48%	6.94%	6.98%	6.76%	6.44%	5.70%	5.73%	4.42%	3.93%			
Emerging Markets Currency and Short-Term Investments Fund	7.10%	9.05%	12.29%	11.94%	10.73%	12.99%	13.80%	13.66%	12.92%	11.99%	11.00%	11.54%			
Emerging Markets Bond Fund	3.90%	0.47%	0.29%	0.32%	-	-	-	-	-	-	-	-			
Emerging Markets Corporate Bond Fund	1.43%	0.20%	0.07%	0.09%	-	-	-	-	-	-	-	-			
Credit	21.84%	14.21%	15.23%	15.32%	17.72%	17.46%	14.08%	12.40%	12.17%	8.16%	8.48%	7.36%	7.76%	7.46%	6.54%
High Yield Fund	1.11%	2.04%	2.88%	2.53%	2.90%	2.35%	1.01%	0.59%	0.50%	1.03%	1.06%	0.71%			
High Yield Spectrum Fund	3.69%	2.90%	3.20%	3.84%	4.67%	4.64%	2.50%	1.55%	1.59%	1.59%	1.62%	1.40%			
Income Fund	10.28%	6.21%	6.01%	6.34%	7.51%	7.63%	6.62%	6.27%	7.00%	5.54%	5.80%	5.25%			
Diversified Income Fund	3.21%	0.10%	0.21%	0.24%	0.57%	0.49%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%			
Low Duration Income Fund	1.75%	0.06%	0.33%	0.29%	-	-	-	-	-	-	-	-			
Senior Floating Rate Fund	1.79%	2.30%	2.61%	2.07%	2.06%	2.34%	3.81%	3.99%	2.99%	0.00%	0.00%	0.00%			
Convertible Fund	-	-	-	-	-	-	-	-	-	-	-	-			
European Convertible Fund	-	-	-	-	-	-	-	-	-	-	-	-			
Global Bonds	1.21%	6.35%	1.07%	1.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
International Bond Fund (Unhedged)	0.26%	0.30%	0.30%	0.29%	-	-	-	-	-	-	-	-			
Global Advantage Strategy Fund	0.95%	0.05%	0.76%	0.68%	-	-	-	-	-	-	-	-			
Global Bond Opportunities Fund (Unhedged)	-	-	-	-	-	-	-	-	-	-	-	-			
Inflation Linked Bonds	0.90%	2.73%	7.88%	7.90%	3.21%	3.85%	3.97%	3.75%	2.61%	1.93%	7.33%	6.73%	7.02%	7.26%	7.15%
Real Return Fund	0.29%	1.38%	1.29%	0.81%	0.18%	3.19%	3.53%	3.32%	2.16%	1.49%	1.26%	1.06%			
Long-Term Real Return Fund	0.53%	1.27%	6.50%	8.99%	2.91%	0.54%	0.44%	0.43%	0.44%	0.44%	6.07%	5.67%			
Global Advantage® Inflation-Linked Bond ETF	0.08%	0.08%	0.08%	0.10%	0.12%	0.12%	-	-	-	-	-	-			
Alternative Strategies	13.34%	16.33%	19.09%	17.05%	14.74%	8.98%	5.85%	6.16%	12.00%	15.54%	16.74%	17.16%	17.22%	17.22%	17.91%
Dynamic Bond Fund	2.53%	1.79%	2.44%	2.08%	1.96%	-	-	-	-	1.58%	1.53%	1.49%			
Credit Opportunities Bond Fund	2.78%	0.76%	0.44%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
Mortgage Opportunities and Bond Fund	0.55%	0.61%	0.66%	0.74%	0.78%	0.74%	0.72%	0.69%	0.71%	0.74%	0.71%	0.79%			
TRENDS Managed Futures Strategy Fund	0.16%	0.19%	0.20%	0.26%	0.29%	0.30%	0.28%	0.29%	0.29%	1.08%	1.02%	1.00%			
EqS Long/Short Fund	0.47%	0.49%	0.25%	-	-	-	-	-	-	-	-	-			
RAE Worldwide Long/Short PLUS Fund	-	3.08%	7.49%	7.96%	7.28%	5.73%	3.06%	3.03%	5.15%	6.25%	6.76%	6.40%			
RAE Fundamental Advantage PLUS Fund	2.62%	4.64%	3.75%	2.62%	2.20%	1.06%	1.59%	2.14%	5.85%	5.85%	6.72%	7.48%			
RAE Worldwide Fundamental Adv PLUS Fund	4.24%	4.57%	3.86%	3.16%	2.23%	1.15%	-	-	-	-	-	-			

Source: PIMCO



September 30, 2019

6.1

PIMCO ALL ASSET

	6/30/2014	12/31/2014	6/30/2015	12/31/2015	6/30/2016	12/31/2016	6/30/2017	12/31/2017	6/30/2018	12/31/2018	3/31/2019	6/30/2019	7/31/2019	8/31/2019	9/30/2019
Second Pillar	9.05%	13.80%	6.15%	10.78%	10.63%	14.67%	20.07%	19.88%	19.91%	19.63%	13.93%	13.84%	14.82%	15.30%	14.06%
US Core Bonds	3.10%	4.55%	3.17%	3.66%	6.28%	4.68%	7.71%	7.21%	6.46%	4.17%	4.55%	4.16%	4.16%	4.04%	3.54%
Total Return Fund	3.07%	2.25%	1.39%	1.65%	3.41%	1.92%	4.44%	4.90%	4.25%	2.07%	2.49%	2.16%			
Investment Grade Credit Bond Fund	0.02%	2.34%	1.78%	2.01%	2.87%	2.76%	3.26%	2.30%	2.21%	2.09%	2.07%	2.00%			
Mortgage-Backed Securities Fund	-	-	-	-	-	-	-	-	-	-	-	-			
GNMA and Government Securities Fund	-	-	-	-	-	-	-	-	-	-	-	-			
US Long Maturity Bonds	4.82%	7.70%	1.52%	2.31%	2.55%	5.30%	8.63%	5.79%	5.22%	9.56%	5.11%	6.33%	6.79%	7.20%	6.74%
Extended Duration Fund	-	-	-	-	0.42%	1.51%	2.91%	3.13%	3.52%	4.61%	2.83%	3.47%			
Long-Term US Government Fund	0.27%	3.91%	0.00%	0.00%	1.18%	2.41%	4.42%	4.29%	3.45%	3.64%	0.97%	1.50%			
Long-Term Credit Bond Fund	4.20%	1.93%	0.57%	0.88%	0.27%	0.17%	-	-	-	-	-	-			
Long Duration Total Return Fund	0.35%	1.86%	0.95%	1.42%	0.68%	1.20%	1.30%	1.28%	1.26%	1.31%	1.31%	1.36%			
Short-Term Bonds	1.13%	1.52%	1.46%	4.81%	1.80%	4.69%	3.73%	3.97%	5.23%	5.91%	4.27%	3.35%	3.95%	4.07%	3.75%
Low Duration Fund	0.94%	0.53%	0.87%	1.54%	1.26%	2.44%	3.37%	3.34%	4.89%	5.33%	3.93%	3.01%			
Low Duration Exchange Traded Fund	0.20%	0.22%	0.24%	0.19%	-	-	-	-	-	-	-	-			
Short Term Fund	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-			
Government Money Market Fund	-	0.80%	0.35%	-	0.54%	2.26%	0.37%	0.63%	0.34%	0.56%	0.34%	0.34%			
Money Market Fund	-	-	-	3.13%	-	-	-	-	-	-	-	-			
Net Short Duration Instruments	-0.01%	-0.02%	-0.01%	-0.04%	0.00%	-0.01%	-0.01%	0.00%	0.00%	0.01%	0.00%	0.00%			
First Pillar	12.24%	12.03%	8.10%	7.32%	8.33%	11.06%	9.88%	9.30%	5.95%	5.68%	6.10%	6.46%	6.31%	6.20%	6.11%
US Equities	1.12%	4.83%	2.38%	1.63%	0.55%	0.25%	0.26%	0.27%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RAE PLUS Fund	0.03%	0.55%	0.21%	-	-	-	-	-	-	-	-	-			
RAE Low Volatility PLUS Fund	0.41%	2.70%	1.74%	1.21%	0.55%	0.25%	0.25%	0.27%	0.28%	-	-	-			
RAE PLUS Small Fund	0.65%	0.74%	0.43%	0.32%	-	-	-	-	-	-	-	-			
StocksPLUS® Small Fund	0.02%	0.02%	-	-	-	-	-	-	-	-	-	-			
Fundamental IndexPLUS™	-	0.00%	-	-	-	-	-	-	-	-	-	-			
StocksPLUS® Fund	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-			
StocksPLUS® Absolute Return Fund	0.01%	0.01%	-	-	-	-	-	-	-	-	-	-			
Developed ex-US Equities	11.12%	8.90%	5.73%	5.79%	7.78%	10.81%	9.62%	9.03%	5.67%	5.68%	6.10%	6.46%	6.31%	6.20%	6.11%
RAE PLUS International Fund	3.16%	3.01%	1.80%	1.51%	1.56%	2.51%	3.45%	3.43%	0.50%	0.91%	0.96%	1.33%			
RAE Low Volatility PLUS Intl Fund	5.73%	3.79%	4.13%	4.24%	3.35%	5.31%	2.50%	1.80%	1.83%	1.73%	1.92%	1.91%			
StocksPLUS® International Fund (USD-Hedged)	0.01%	0.01%	-	0.05%	2.58%	2.83%	2.94%	3.02%	3.08%	3.04%	3.21%	3.22%			
StocksPLUS® International Fund (Unhedged)	0.02%	0.02%	-	-	0.29%	0.16%	0.73%	0.77%	0.26%	-	-	-			
EqS Global Dividend Fund	0.01%	0.01%	-	-	-	-	-	-	-	-	-	-			
EqS Pathfinder Fund	2.19%	1.16%	-	-	-	-	-	-	-	-	-	-			

Source: PIMCO

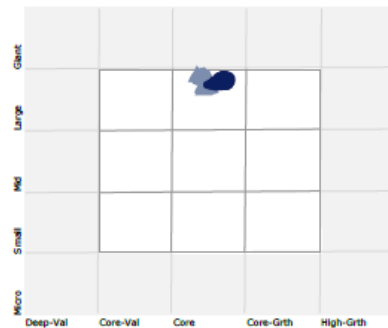


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VANGUARD TOTAL WORLD STOCK INDEX I

Holdings Based Style Trail (5 Years)

Time Period: 10/31/2014 to 9/30/2019



+ Vanguard Total World Stock Index I - FTSE Global All Cap ex US TR USD

Portfolio Statistics

	Fund	Index
# of Holdings	8,156	7,127
% Asset in Top 10 Holdings	10.1	8.6
Turnover Ratio %	9.0	
P/E Ratio	16.9	14.7
P/B Ratio	2.0	1.5
LT Eam Growth	8.9	7.8
Hist Eam Growth	9.1	5.3
12 Mo Yield	2.4	

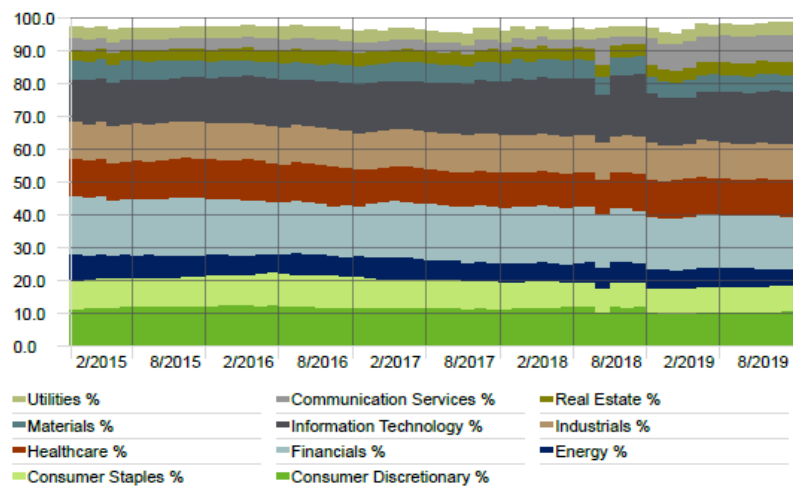
Market Capitalization Breakdown

	Fund	Index
Market Cap Giant %	45.8	43.8
Market Cap Large %	30.2	31.1
Market Cap Mid %	18.3	19.1
Market Cap Small %	5.1	5.3
Market Cap Micro %	0.5	0.7
Average Market Cap (mil)	41,968.1	22,428.9

Top 10 Holdings

	Portf Weight %	3 Month Ret %
Microsoft Corp	2.01	4.13
Apple Inc	1.85	13.55
Amazon.com Inc	1.42	-8.33
Facebook Inc A	0.86	-7.73
Cmt Market Liquidity Rate	0.77	
Alphabet Inc A	0.70	12.78
JPMorgan Chase & Co	0.69	5.98
Alphabet Inc Class C	0.68	12.78
Johnson & Johnson	0.66	-8.43
Nestle SA	0.65	4.76

Historical Sector Allocations (5 Years)



Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Communication Services	8.14		0.21				
Consumer Discretionary	10.80		0.01				
Consumer Staples	7.87		3.30				
Energy	5.27		-5.68				
Financials	16.00		-0.93				
Health Care	11.09		-1.76				
Industrials	11.08		-0.85				
Information Technology	15.84		2.54				
Materials	5.06		-4.14				
Real Estate	3.99		3.35				
Utilities	3.31		5.23				
Unclassified	0.00		-0.71				
Attribution Total	98.47		0.00				
Cash	0.79						
Bond	0.02						
Other	0.03						
Total	100.00						
Expense Ratio				0.02			
Residual(Reported - Attribution + Expense)				-0.01			



Source: Morningstar

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VANGUARD TOTAL WORLD STOCK INDEX I

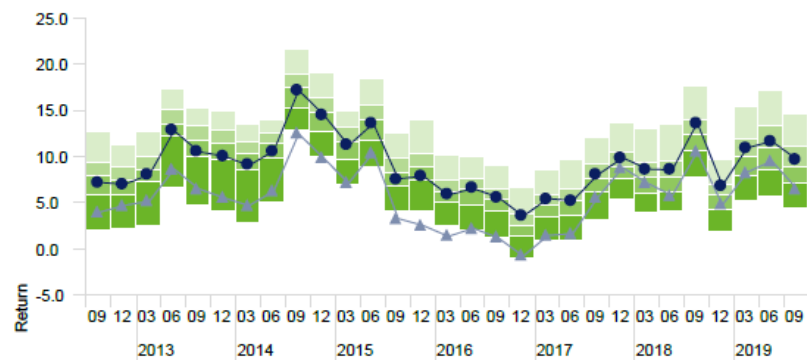
Risk & Return Characteristics (5 Years)

Time Period: 10/1/2014 to 9/30/2019

	Fund	Index
R2	91.0	100.0
Alpha	3.6	0.0
Beta	0.9	1.0
Std Dev	10.9	11.6
Up Capture Ratio	101.7	100.0
Down Capture Ratio	57.3	100.0
Sharpe Ratio (geo)	0.5	0.2
Information Ratio (geo)	1.0	
Tracking Error	3.5	0.0
Correlation	1.0	1.0

Rolling Return (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



— Vanguard Total World Stock Index I

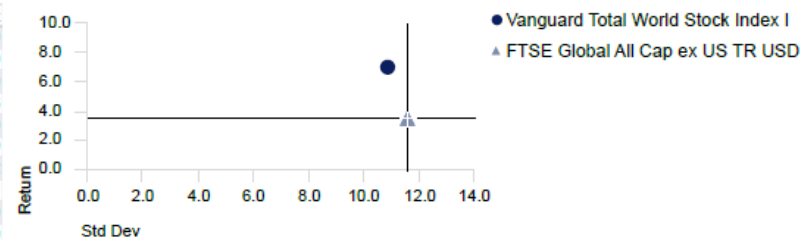
— FTSE Global All Cap ex US TR USD

Calendar Year Returns

	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
Vanguard Total World Stock Index I	33.7	44	13.1	46	-7.7	48	17.4	40	23.0	63	4.0	34	-1.9	54	8.8	18	24.2	40	-9.7	52
FTSE Global All Cap ex US TR USD	45.0		13.2		-14.0		17.9		15.9		-3.1		-4.0		5.0		27.8		-14.4	

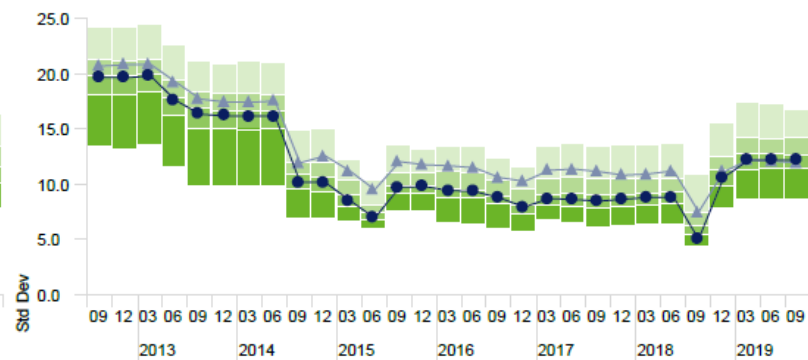
Risk & Return Illustration (5 Years)

Time Period: 10/1/2014 to 9/30/2019



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



— Vanguard Total World Stock Index I

— FTSE Global All Cap ex US TR USD



Source: Morningstar

September 30, 2019

APPENDIX

NEPC, LLC

GLOSSARY OF TERMS

Alpha - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

Alpha Jensen - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

Annualized Excess Return over Benchmark - Annualized fund return minus the annualized benchmark return for the calculated return.

Annualized Return - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

Beta - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

Information Ratio - A measure of the risk adjusted return of a financial security, asset, or portfolio.

Formula:

$$\frac{(\text{Annualized Return of Portfolio} - \text{Annualized Return of Benchmark})}{\text{Annualized Standard Deviation}(\text{Period Portfolio Return} - \text{Period Benchmark Return})}$$
 To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.

R-Squared - Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

Sharpe Ratio - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

Sortino Ratio - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

Formula:

$$\text{Calculation Average } (X-Y) / \text{Downside Deviation } (X-Y) * 2$$
 Where X = Return Series X Y = Return Series Y which is the risk free return (91 day T-bills)

Standard Deviation - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

Formula:

$$\frac{(\text{Annualized Return of Portfolio} - \text{Annualized Return of Risk Free})}{\text{Annualized Standard Deviation (Portfolio Returns)}}$$

Tracking Error - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

Formula:

$$\text{Tracking Error} = \text{Standard Deviation } (X-Y) * \sqrt{\# \text{ of periods per year}}$$
 Where X = periods portfolio return and Y = the period's benchmark return
 For monthly returns, the periods per year = 12
 For quarterly returns, the periods per year = 4

Treynor Ratio - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

Formula:

$$\frac{(\text{Portfolio Average Return} - \text{Average Return of Risk-Free Rate})}{\text{Portfolio Beta}}$$

Up/Down Capture Ratio - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

$$\text{UpsideCapture} = \frac{\text{TotalReturn}(\text{FundReturns})}{\text{TotalReturns}(\text{BMReturn})} \text{ when Period Benchmark Return is } > = 0$$

$$\text{DownsideCapture} = \frac{\text{TotalReturn}(\text{FundReturns})}{\text{TotalReturns}(\text{BMReturn})} \text{ when Benchmark } < 0$$

Data Source: InvestorForce



INFORMATION DISCLAIMER AND REPORTING METHODOLOGY

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- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
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