



Board of Trustees
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Orono, ME 04469

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March 29, 2018

TO: Members of the Investment Committee

FR: Ellen N. Doughty, Interim Clerk of the Board



The University of Maine

RE: **April 4, 2018 Investment Committee Meeting**

University of Maine
at Augusta

The Investment Committee will meet from **1:00 pm to 4:00pm on April 4, 2018.**
The following Polycom sites and conference call connection will be available:

University of Maine
at Farmington

Polycom:

UMS – 253 Estabrooke Hall, 15 Estabrooke Drive, Orono

University of Maine
at Fort Kent

USM – 703 Law, Portland

UMF – Executive Conference Room, Merrill Hall

University of Maine
at Machias

UMFK – Alumni Conference Room

PHONE: 1-800-605-5167 code – 743544#

University of Maine
at Presque Isle

University of
Southern Maine

The meeting materials have been posted to the Diligent Board Portal under Investment Committee section. Also these materials will be posted on the Board of Trustees website (<http://www.maine.edu/about-the-system/board-of-trustees/meeting-agendas/investment-committee/>). Light refreshments will be provided at the Estabrooke Hall location only. If you have questions about the meeting arrangements or accessing the meeting materials please call me at 581-5840.

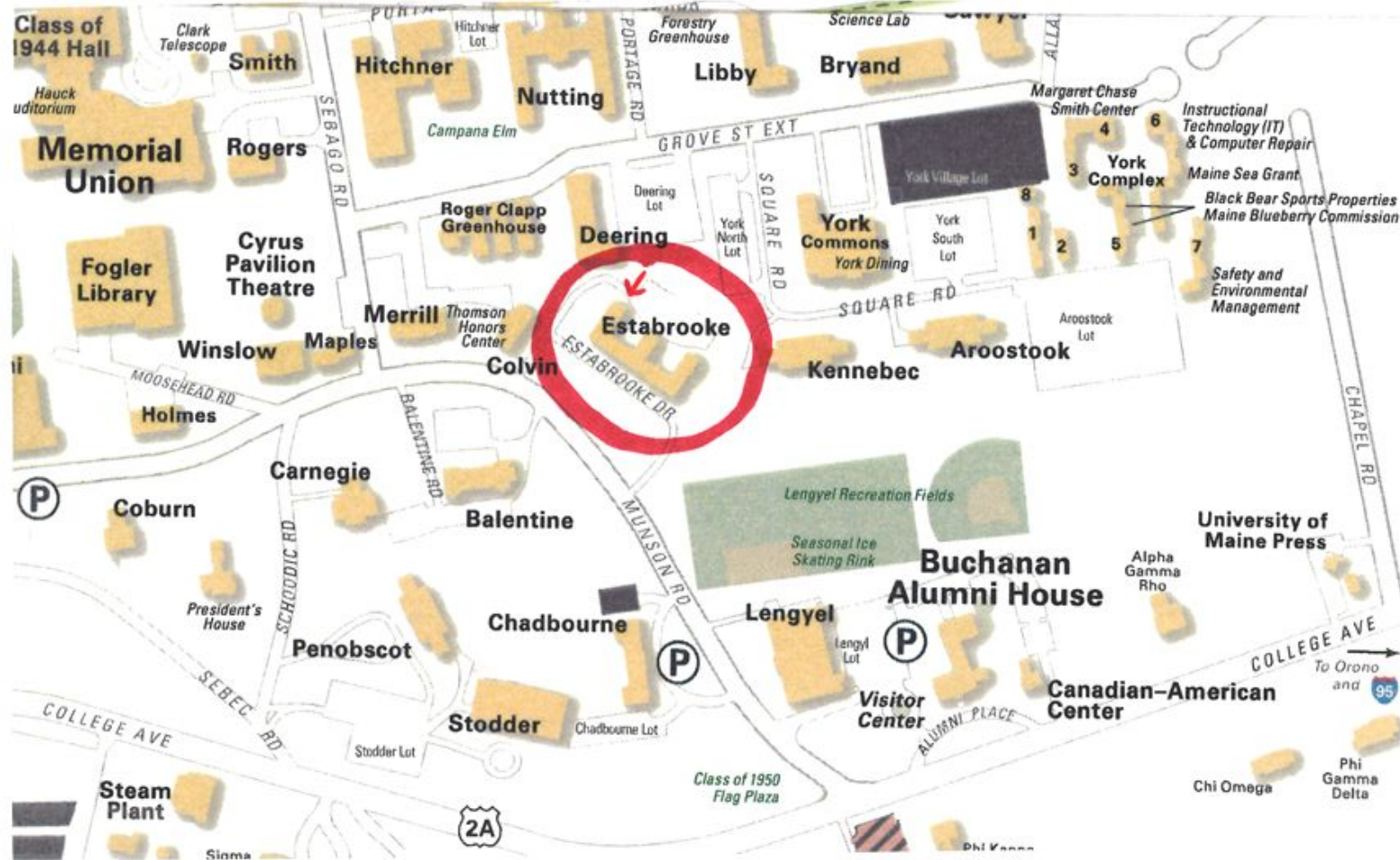
If you have any questions or desire additional information about the agenda items, please call Tracy Elliott at 581-5492.

cc: Chancellor James Page
Trustees who are not members of the Committee
Presidents
Ryan Low
Robert Neely
Tracy Elliott

University of Maine System

15 Estabrooke Drive, Orono

Rudman Conference Room
253 Estabrooke Hall, 2nd Floor
15 Estabrooke Drive, Orono



Directions to the UMS located on the UMaine Campus

From the South on I-95: take exit 191 to Kelly Road and turn right. Continue on Kelly Road for 1 mile until you reach the traffic light, then turn left onto Route 2 and go through downtown Orono. Cross the river. Turn left at the lights onto College Avenue. Buchanan Alumni House will be the first campus-related building on your right. Right after the Buchanan Alumni House, take a right onto Muson Road. Estabrooke Hall is the building on the right after Lengyel.

From the North on I-95: take exit 191 to Kelly Road and turn left. Continue on Kelly Road for 1 mile until you reach the traffic light, then turn left onto Route 2 and go through downtown Orono. Cross the river. Turn left at the lights onto College Avenue. Buchanan Alumni House will be the first campus-related building on your right. Right after the Buchanan Alumni House, take a right onto Muson Road. Estabrooke Hall is the building on the right after Lengyel.

The UMS is located on the 2nd floor of Estabrooke Hall. Enter Estabrooke Hall from the back of the building, the entrance closes to Deering Hall.

Board of Trustees

Investment Committee

April 4, 2018, 1pm - 4pm
Rudman Conference Room, 253 Estabrooke Hall, Orono

AGENDA

- 1:00 pm
TAB 1 [FY19 UMS Endowment Spending Rate](#)
- 1:10 pm Portfolio Performance Reviews:
TAB 2 [Performance Executive Summary](#)
TAB 3 [Managed Investment Pool \(MIP\)](#)
TAB 4 [Defined Benefit Pension Fund](#)
TAB 5 [Operating Fund](#)
- 2:00 pm
[TAB 6](#) [Capital Market Review and Asset Allocation Discussion](#)
- 2:30 pm
TAB 7 [MSCI Environmental, Social and Governance \(ESG\) Report Update](#)
- 3:00 pm Defined Contribution Plans:
TAB 8 [Quarterly Review](#)
[TAB 9](#) [Removing Small Balances from the Defined Contribution Plans](#)

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 for effective deliberation of matters before the Committee.



AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** FY19 Endowment Spending Rate
2. **INITIATED BY:** Kelly Martin, Chair
3. **BOARD INFORMATION:** X **BOARD ACTION:**
4. **OUTCOME:** **BOARD POLICY:**
 Primary Outcome: Section 709 - Investments
 Enhance fiscal positioning
5. **BACKGROUND:**

At its December 5, 2017 meeting, the Investment Committee reviewed and supported the recommended fiscal year 2019 (FY19) endowment spending rate of 4.5%. The Board of Trustees approved the rate at their January 29, 2018 meeting.

For informational purposes, the UMS Accounting Department prepared a summary of estimated endowment funds to be distributed during FY19. The 4.5% rate is estimated to generate a distribution of \$5.4 million for the fiscal year, including almost \$4.3 million for endowed spending and \$1.1 million for a management fee as detailed on the accompanying spreadsheet.

**UNIVERSITY OF MAINE SYSTEM
ENDOWMENT SPENDING RATE AND DISTRIBUTION RATE PER SHARE - FY 19**

Market Value for endowments subject to the UMS spending rule:

<u>Year</u>	<u>MV*</u>
Nov-15 (for FY2017)	\$ 116,329,762
Oct-16 (for FY2018)	\$ 115,488,377
Oct-17 (for FY2019)	<u>\$ 128,504,394</u>
Three year average	\$ 120,107,511
Spending Rate	4.50%
Spending Amount	<u><u>\$ 5,404,838</u></u>

Annual Distribution Rate Per Share for FY19:*

Dist. Rate Per Share for FY19 = Net Estimated Endow Amount to be Distrib/Total Shares:

	UM	USM	GUS	All Others
FY19 Share Rate - Gift Accounts	\$ 10.80291	\$ 10.80291	\$ 14.12688	\$ 14.95787
FY19 Share Rate - Management Fee Accounts	\$ 4.15496	\$ 4.15496	\$ 0.83099	\$ -
FY19 Share Rate - Full	\$ 14.95787	\$ 14.95787	\$ 14.95787	\$ 14.95787

Total Estimated Shares for FY19:

Shares subject to UMS spending rule and not underwater

Shares subject to UMS spending rule and underwater

Total Shares as of October 2017

Total	UM	USM	GUS	All Others
361,337	219,623	46,216	22,005	73,472
0	0	0	0	0
361,337	219,623	46,216	22,005	73,472

Calculation of Annual Distribution for FY19:

Amount Distributed for Endowed Spending

Amount Distributed for the Management Fee

Amount Distributed Including Management Fee (rate per share X number of shares)

Amount Reinvested Back Into Underwater Investments **

Total Allocation (Distributed Plus Amount Returned to Principal for Underwater Investments)

Total	UM	USM	GUS	All Others
\$ 4,282,000	\$ 2,372,877	\$ 499,268	\$ 310,863	\$ 1,098,992
1,122,837	912,525	192,026	18,286	-
\$ 5,404,837	\$ 3,285,402	\$ 691,294	\$ 329,149	\$ 1,098,992
-	-	-	-	-
\$ 5,404,837	\$ 3,285,402	\$ 691,294	\$ 329,149	\$ 1,098,992

* In FY17 the UM and USM share rate for management fee accounts increased from .25% to 1.25% and remained the same for FY18 and FY19.

Governance and University Services (GUS), stayed at .25%. No other campus applies a management fee.

** UMS had no underwater endowments for this period.



AGENDA ITEM SUMMARY

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

5. **BACKGROUND:**

Enclosed for your information is the executive summary performance report for all three portfolios for the quarter ended December 31, 2017.

Kelly Regan and Jay Roney of NEPC will provide a brief review at the March 8, 2018 Investment Committee meeting.

2/26/2018

FOURTH QUARTER 2017 INVESTMENT PERFORMANCE SUMMARY



UNIVERSITY OF MAINE SYSTEM

March 8, 2018

Jay E. Roney, Partner

Kelly Regan, Senior Consultant



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

MARKET REVIEW

NEPC, LLC

PERFORMANCE SUMMARY AS OF DECEMBER 31, 2017

Domestic Equity Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Large Core	S&P 500	6.6%	21.8%	11.4%	15.8%	8.5%
Small Core	Russell 2000	3.3%	14.6%	10.0%	14.1%	8.7%
Small Growth	Russell 2000 Growth	4.6%	22.2%	10.3%	15.2%	9.2%
Small Value	Russell 2000 Value	2.0%	7.8%	9.5%	13.0%	8.2%
Large Core	Russell 1000	6.6%	21.7%	11.2%	15.7%	8.6%
Large Growth	Russell 1000 Growth	7.9%	30.2%	13.8%	17.3%	10.0%
Large Value	Russell 1000 Value	5.3%	13.7%	8.7%	14.0%	7.1%
Mid Core	S&P Mid Cap 400	6.3%	16.2%	11.1%	15.0%	10.0%
REIT	NAREIT Composite	2.3%	9.3%	6.9%	9.7%	7.5%
Int'l Equity Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
International Developed	MSCI EAFE	4.2%	25.0%	7.8%	7.9%	1.9%
Emerging Equity	MSCI EM	7.4%	37.3%	9.1%	4.3%	1.7%
Small Cap Int'l	S&P EPAC SmallCap	6.4%	34.0%	14.1%	13.1%	5.6%
World ex-US	MSCI ACWI ex-US	5.0%	27.2%	7.8%	6.8%	1.8%
Domestic FI Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Core Bonds	Barclays Aggregate	0.4%	3.5%	2.2%	2.1%	4.0%
Municipal Bond	Barclays Municipal	0.7%	5.4%	3.0%	3.0%	4.5%
High Yield	Barclays US High Yield	0.5%	7.5%	6.4%	5.8%	8.0%
Intermediate Gov/Cred	Barclays Intern. Gov/Credit	-0.2%	2.1%	1.8%	1.5%	3.3%
Long Gov/Credit	Barclays Long Gov/Credit	2.8%	10.7%	4.5%	4.4%	7.3%
Long Credit	Barclays Long Credit	3.2%	12.2%	5.7%	5.1%	7.7%
Long Treasuries	Barclays US 20+ Yr Treas	2.6%	9.0%	2.8%	3.6%	6.6%
Cash	BofA ML US 3-Month T-Bill	0.3%	0.9%	0.4%	0.3%	0.4%
Inflation	Barclays US TIPS 1-10 Yr	0.5%	1.9%	1.8%	0.1%	2.8%
Global Inflation	Barclays Global ILB	2.9%	8.7%	2.4%	1.4%	3.3%
STRIPS	Barclays 20+ Yr STRIPS	4.5%	13.7%	3.5%	5.1%	9.0%
Global FI Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Gov. Bonds	Citigroup WGBI	1.0%	7.5%	1.7%	0.1%	2.7%
Em. Mkt. Bonds (Local)	JPM GBI-EM Glob. Div.	0.8%	15.2%	2.5%	-1.5%	3.6%
Diversified Benchmark		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Diversified	Diversified*	3.6%	15.1%	7.4%	9.3%	6.0%
Alternative Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Commodities	Bloomberg Commodity Index	4.7%	1.7%	-5.0%	-8.5%	-6.8%
Real Estate	NCREIF Property Index**	1.7%	6.9%	9.8%	10.3%	6.2%

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

**As of 09/30/2017



December 31, 2017

PERFORMANCE SUMMARY AS OF DECEMBER 31, 2017

	2010	2011	2012	2013	2014	2015	2016	Q1	Q2	Q3	Oct	Nov	Dec	Q4	YTD
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	11.4%	6.3%	7.9%	3.5%	0.2%	3.6%	7.4%	37.3%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	7.2%	6.1%	5.4%	1.5%	1.0%	1.6%	4.2%	25.0%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	6.9%	4.3%	5.2%	2.1%	1.9%	1.6%	5.7%	24.0%
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	6.1%	3.1%	4.5%	2.3%	3.1%	1.1%	6.6%	21.8%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	6.0%	3.1%	4.5%	2.3%	3.0%	1.1%	6.6%	21.7%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	3.8%	2.1%	4.7%	1.5%	3.3%	0.3%	5.2%	16.8%
JPM GBI-EM Glob Div	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	6.5%	3.6%	3.6%	-2.8%	1.7%	2.0%	0.8%	15.2%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	2.5%	2.5%	5.7%	0.9%	2.9%	-0.4%	3.3%	14.6%
BC US STRIPS 20+ Yr	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	1.8%	6.1%	0.7%	0.1%	1.5%	2.8%	4.5%	13.7%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	1.7%	4.7%	2.2%	0.7%	0.4%	2.0%	3.2%	12.2%
BC US Govt/Cred Long	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	6.7%	1.6%	4.4%	1.5%	0.4%	0.5%	1.9%	2.8%	10.7%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	3.9%	2.2%	2.6%	0.4%	0.1%	0.7%	1.2%	10.3%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	4.1%	2.0%	1.5%	0.3%	0.3%	1.3%	1.8%	9.7%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	2.7%	2.2%	2.0%	0.4%	-0.3%	0.3%	0.5%	7.5%
BC Global Agg	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.8%	2.6%	1.8%	-0.4%	1.1%	0.3%	1.1%	7.4%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	2.1%	0.8%	1.8%	1.3%	0.1%	-	1.4%	6.2%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	1.6%	2.0%	1.1%	0.2%	-0.5%	1.0%	0.7%	5.4%
FTSE NAREIT Eqty REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	1.2%	1.5%	0.9%	-1.0%	2.7%	-0.2%	1.5%	5.2%
CS Leveraged Loan	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	9.9%	1.2%	0.8%	1.1%	0.7%	0.1%	0.4%	1.2%	4.2%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.8%	1.4%	0.8%	0.1%	-0.1%	0.5%	0.4%	3.5%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	1.3%	-0.4%	0.9%	0.2%	0.1%	0.9%	1.3%	3.0%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	-2.3%	-3.2%	2.5%	2.1%	-0.5%	3.0%	4.7%	1.7%
BC US Govt/Cred 1-3	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.3%	0.4%	0.3%	0.3%	0.0%	-0.2%	0.0%	-0.2%	0.8%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	3.9%	-6.4%	-3.0%	-4.1%	-1.4%	4.7%	-0.9%	-6.5%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse



December 31, 2017

NEPC 2018 THEMES, ACTIONS AND OPPORTUNITIES FOR CLIENTS

Key Market Themes

Extended US Economic Cycle
Synchronized Economic Resurgence
Federal Reserve Gradualism
China Transitions
Globalization Backlash

Key Market Themes are factors that define global markets and can be expected to both evolve and remain relevant without a clear timeline of conclusion. At times, themes may be challenged. Disruption of a theme will likely produce significant volatility and change market dynamics.

Current Opportunities

Trim US Equity Gains
Overweight Non-US Developed Market Equities
Maintain a Market Overweight to Emerging Market Equities
Allocate to TIPS from Core Bonds
Reduce Return Seeking Credit Exposure
Fund Emerging Local Debt
Add Macro Hedge Fund
Add Long Volatility Exposure

Current Opportunities are investment ideas that represent an action with the goal of improving investment outcomes relative to an investor's strategic asset allocation. These investment ideas are likely to change more frequently as market dynamics and valuations shift over time.



KEY MARKET THEMES

Extended US Economic Cycle

Economic cycles do not die of old age

The US economy is in an extended expansionary cycle despite being eight years removed from the last recession

Financial health of US consumers and ongoing recovery of the housing market continue to drive economic growth

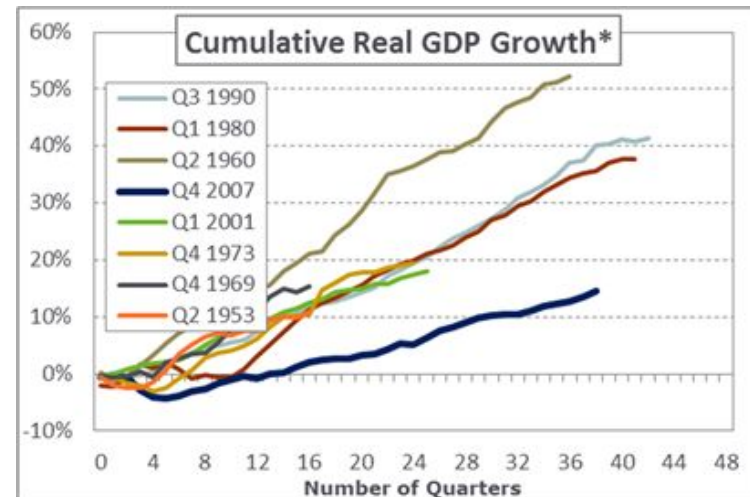
A prolonged US economic expansion can support a continued rally for US equities despite elevated valuation levels

US financial conditions remain loose and support steady economic gains

Low inflation provides a foundation for positive economic conditions and reinforces the Fed's gradual monetary policy approach

Moderating US dollar strength is another form of easy financial conditions, benefiting global trade flows and credit creation

Reversal in these easy conditions may be fueled by actions outside the US, such as a misstep by global central banks and/or increased volatility in the Chinese yuan



Source: (Top) Bloomberg, *Cumulative GDP growth from prior cycle peak
Source: (Bottom) Federal Reserve Bank of Chicago and Kansas City



KEY MARKET THEMES

Extended US Economic Cycle

Excess capacity remains in the system and provides fuel for the expansion

Labor market gains have been robust but slack remains as many have not returned to the workforce

Muted wage gains and low inflation metrics are reflective of the excess capacity remaining in the US economy

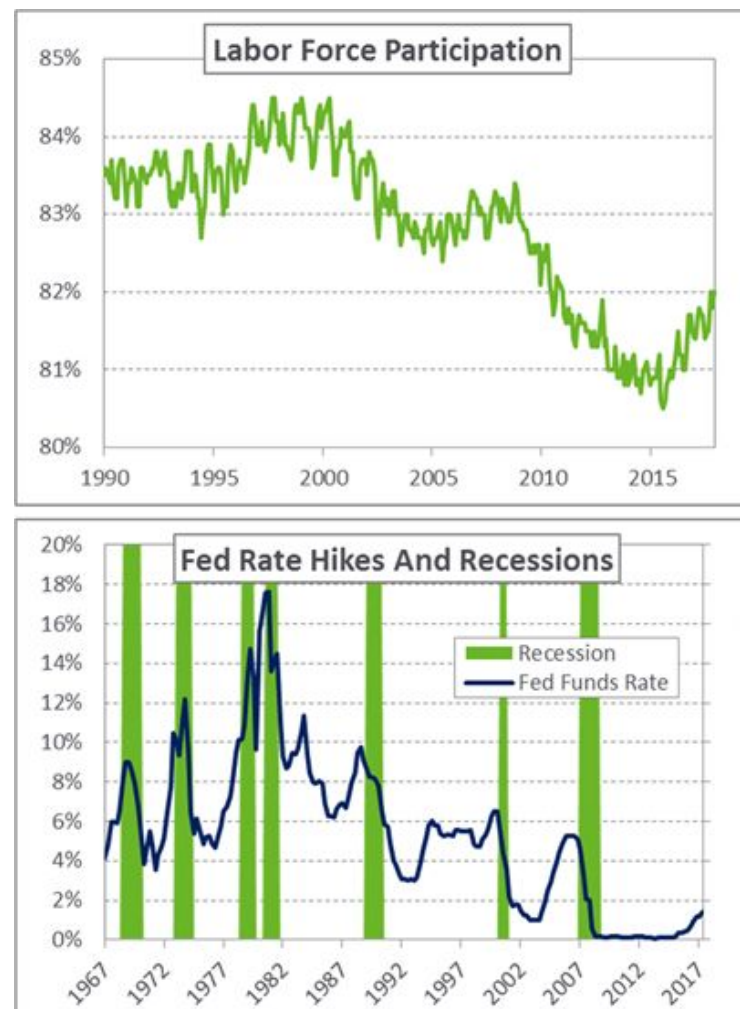
Tax cuts and fiscal stimulus can potentially remove spare economic capacity and be a catalyst for an uptick in inflation measures

US recession concerns are muted

An acceleration in inflation leading to a tightening of financial conditions has historically been a catalyst to end economic expansions

However, improved US household balance sheets have room to expand and support further consumer spending gains

Improving global economic conditions reinforce an expansion of the US economy as global growth factors synchronize



Source: (Top) Federal Reserve Bank of St. Louis
Source: (Bottom) Federal Reserve, NEPC



December 31, 2017

KEY MARKET THEMES

Synchronized Economic Resurgence

Global economic conditions are improving in a synchronized fashion

Coordinated global growth factors reinforce economic gains across the globe and are distinct from the extension of the US economic cycle

Non-US corporate revenues and equities are best positioned to benefit from a widespread boost in global economic conditions

Positive growth rates harmonized across the globe are relatively rare

Conditions are the result of Europe, Japan, and large parts of the emerging world transitioning out of economic malaise

Persistence of the theme over several years would provide a substantial benefit to equity markets globally – specifically in Europe and Japan

Historically, periods of synchronized growth have been derailed by higher inflation levels and central banks tightening policy



Source: (Top) OECD
Source: (Bottom) OECD



December 31, 2017

KEY MARKET THEMES

Synchronized Economic Resurgence

Erosion of excess economic capacity is a catalyst to boost economic gains

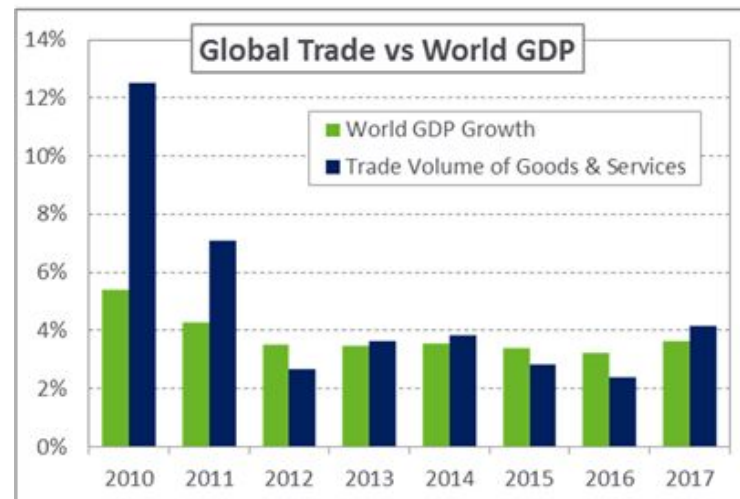
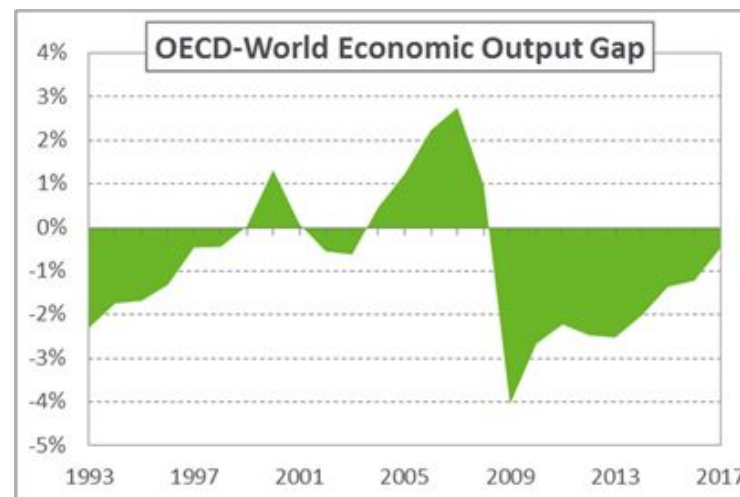
Despite recent labor market improvements, potential for labor reform in Europe and improved workforce participation in Japan offer multi-year benefits to economic growth

Material decline in emerging market inflation provides a cushion for real interest rates to fall and fuel an expansion of economic activity

Economic resurgence is delicate and can be disrupted by lingering global risk factors

US dollar strength, dislocation in China's credit expansion, and restrictive US trade policy pose the greatest threats

The foundation of synchronized economic resurgence is the continuation of positive trends associated with the other key market themes



Source: (Top) OECD
Source: (Bottom) IMF



December 31, 2017

KEY MARKET THEMES

Federal Reserve Gradualism

The Federal Reserve is expected to slowly increase interest rates

Expected path of Fed policy through 2020 matters more than timing of the next hike as the disconnect between market expectations and Fed signaling has grown

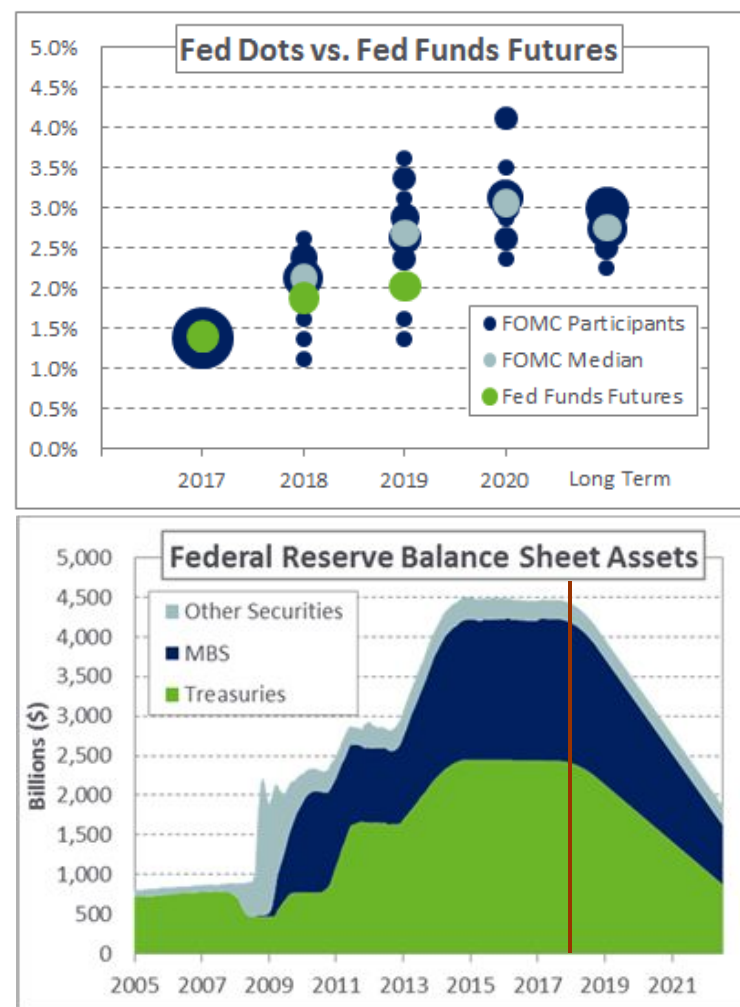
A relatively accommodative Fed is likely to continue, unless there is a dramatic acceleration in inflation

The Fed's balance sheet normalization is a low grade tightening of monetary policy but its impact is untested

Fed is expected to be careful and data dependent yet balance sheet disbursement into a strong economy will likely have tightening effects – in the same way balance sheet expansion had easing effects

The balance sheet will gradually shrink over time assuming conditions remain supportive

The gradual progression of balance sheet reduction combined with the accommodative policies of global central banks supports easy global financial conditions



Source: (Top) Bloomberg, NEPC
Source: (Bottom) Bloomberg, NEPC



December 31, 2017

KEY MARKET THEMES

Federal Reserve Gradualism

Gradualism is the policy of choice globally as the major central banks manage unprecedented initiatives

ECB's QE program is expanding but at a slower rate

However, the reinvestment of balance sheet holdings is likely to continue for an extended period of time

Bank of Japan's QE yield-curve control program has rapidly slowed bond purchases but solidified steepness in the yield curve

Inflation expected to shift marginally higher in the coming years

Improvements in wage growth and aggregate economic activity support modest upticks in inflation but still within the Fed's tolerance bands to gradually raise rates

Fed has stated a willingness to let the economy "run hot" and accept some inflation to repair the deflationary effects of the past decade



Source: (Top) Bloomberg, NEPC
Source: (Bottom): Bloomberg, FRED



December 31, 2017

KEY MARKET THEMES

China Transitions

China is the global growth engine but faces fundamental transitions

China's economic transition is pivoting from production and investment focused to a service and consumption based economy

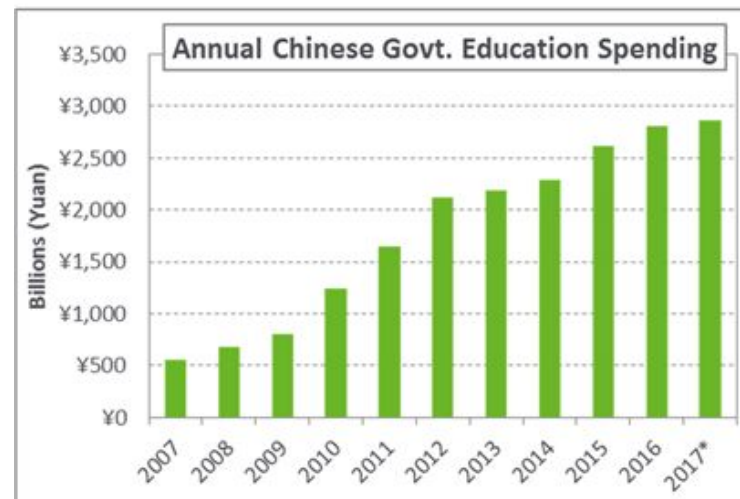
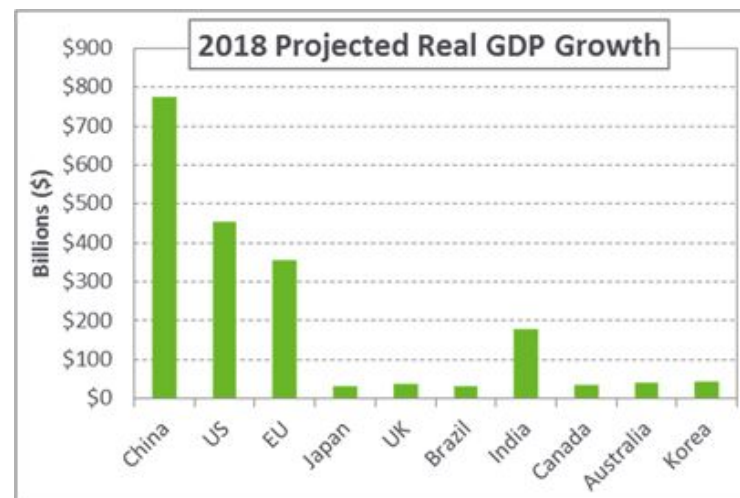
Fixed investment is required to sustain the production based economy and support employment as the rural population moves to urban centers

Any disruption to these transitions will have global repercussions due to China's role in the global economy

China must manage competing social goals in attempting to sustain growth

Engineering an orderly transition to a consumer-led economy requires supporting employment outside the major cities and improving quality of life metrics such as air quality in the urban centers

Future growth in a services based economy requires advancement in productivity, technology, and a more skilled labor force



Source: (Top) Bloomberg

Source: (Bottom) Bloomberg, *Includes estimate for Nov/Dec 2017



December 31, 2017

KEY MARKET THEMES

China Transitions

The PBOC is tasked with straddling a delicate path as the economy evolves

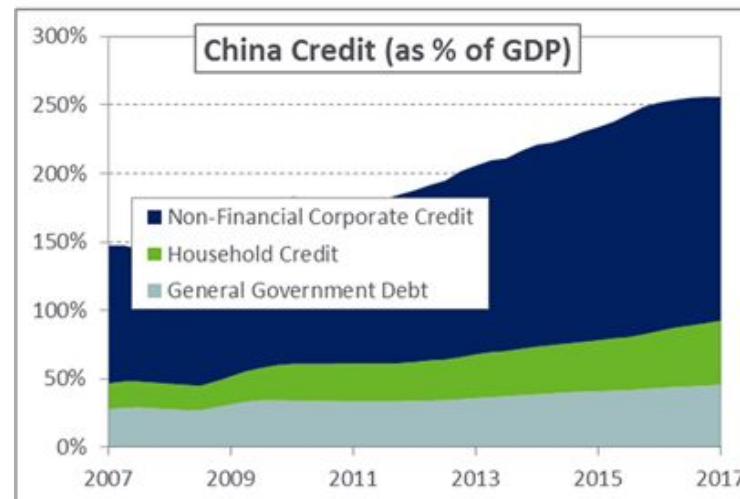
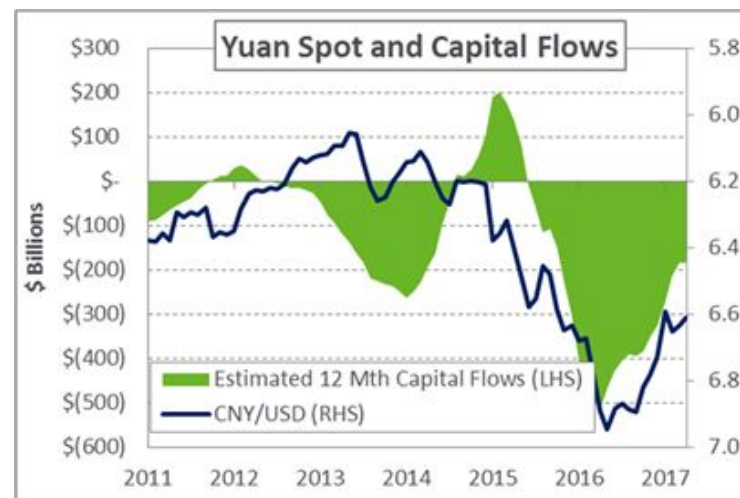
China maintains control of its currency and monetary policy but would have to make concessions to open its capital account and allow the free movement of capital in order to encourage investment

Restrictions on capital markets are slowly being eased, with an eye towards limiting social disruption

China's government is negotiating a balance of tightening credit expansion and support for economic growth

Continued credit expansion and real estate development risk inflating asset price bubbles and pose a systemic risk

Markets have responded positively to the PBOC's management of a more stable yuan as capital outflow pressure has eased but currency devaluation remains a tail risk



Source: (Top) Bloomberg, NEPC

Source: (Bottom) Bank of International Settlements



December 31, 2017

KEY MARKET THEMES

Globalization Backlash

Uneven economic growth and wage gains have fueled political discontent in the developed world

Election results in France have assuaged fears of political gridlock in the EU

Italian election in first half of 2018 is another potential flashpoint on globalization

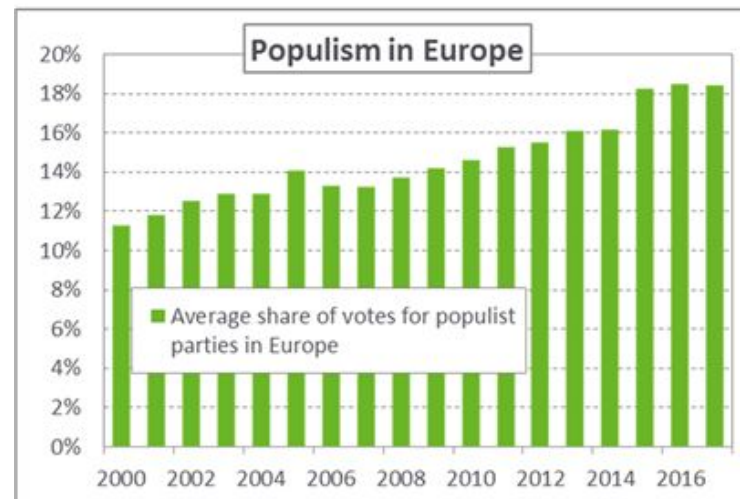
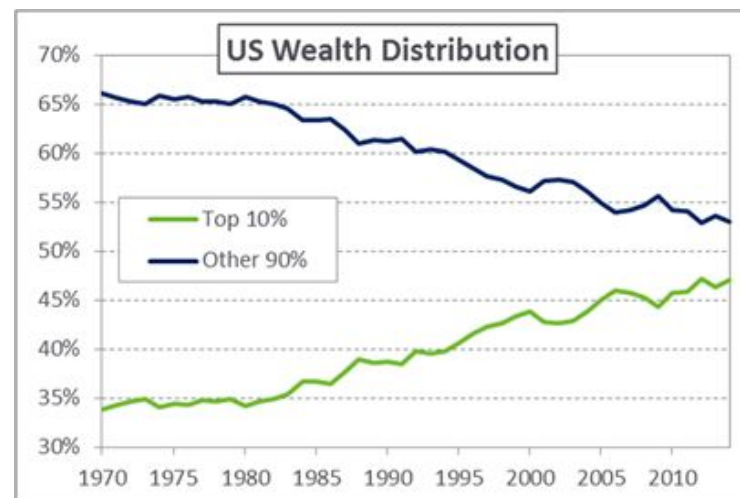
Anti-establishment political bias is likely a long term trend and potentially leads to higher levels of currency volatility over time

For many nations, a turn inward is associated with globalization fatigue

Often fuels greater expression of nationalism and increased geopolitical risks as multilateral relationships are reassessed

Populist movements destabilize the political order and shifts away from political orthodoxy heighten tail risks

However, equity markets often overreact to geopolitical concerns and sell-offs can be a buying opportunity for investors



Source: (Top) World Wealth & Income Database
Source: (Bottom) World Bank



KEY MARKET THEMES

Globalization Backlash

Major shifts in US trade policy did not materialize in 2017

However, a more aggressive protectionist policy would represent a material risk to global markets and the world economy

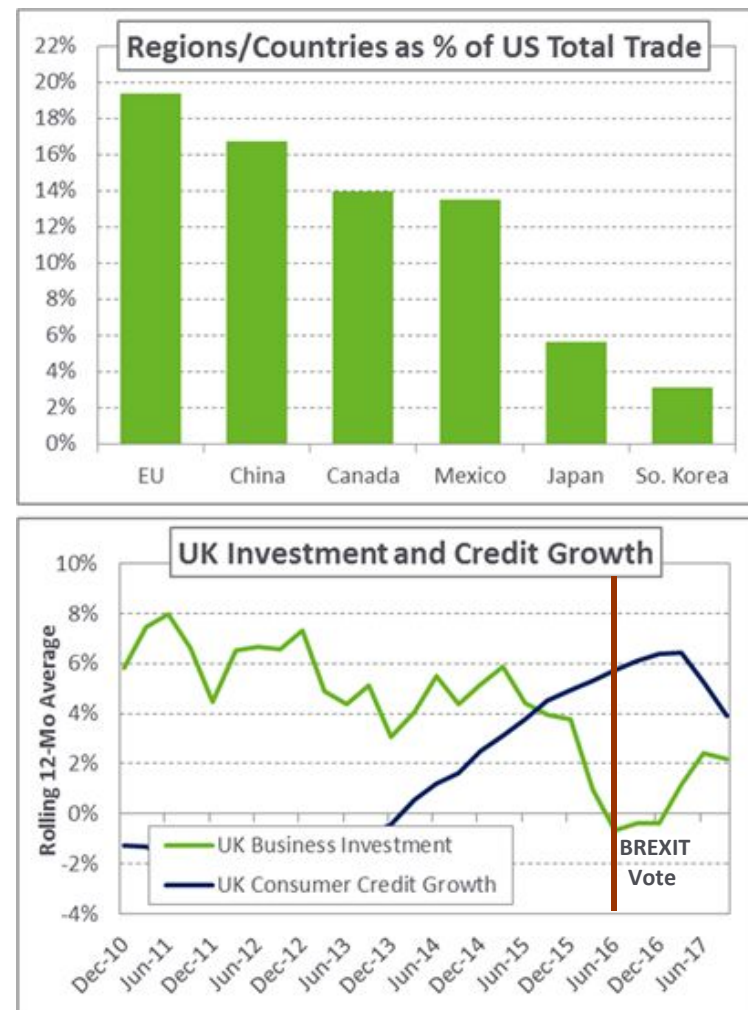
Markets have taken to interpreting the US administration's rhetoric with a grain of salt but ongoing NAFTA negotiations are a concern

The UK serves as a live case study for the effects of globalization backlash

While it is early in the process, economic metrics across the country have turned lower in the 18 months since UK voted to leave the European Union

Expected disruption to financial regulations, customs controls, and business confidence in the UK are proving to be a cautionary tale for a turn away from globalization

However, the economic unease of voters remain and popularity of anti-establishment political parties poses a risk to the global economic order



CURRENT OPPORTUNITIES

Trim US Equity Gains

US stocks have posted strong returns over the last 9 years

US stocks are “priced for perfection” with valuations and profit margins hovering near secular highs despite the recent earnings growth improvement

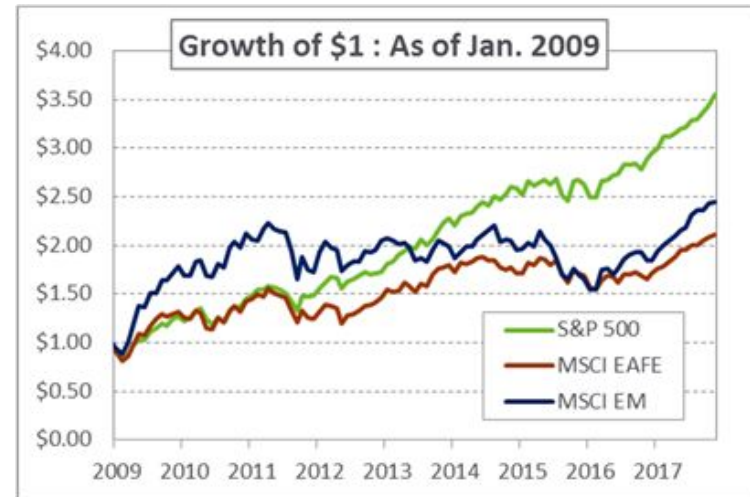
However, a prolonged US economic expansion can continue to support a rally in US equities, specifically small-cap stocks that may benefit from corporate tax cuts

Reduce US large-cap exposure to fund global equity strategies

Opportunity for alpha generation and total return is greater outside the US

US equities are also a viable funding source for private market commitments

Should US equity markets decline materially, look to rebalance to exploit market volatility



Source: (Top) Federal Reserve Bank of St. Louis
Source: (Bottom) S&P, MSCI, Bloomberg



December 31, 2017

CURRENT OPPORTUNITIES

Overweight Non-US Developed Market Equities

A multi-year earnings recovery in EAFE markets offers the potential for an elevated return

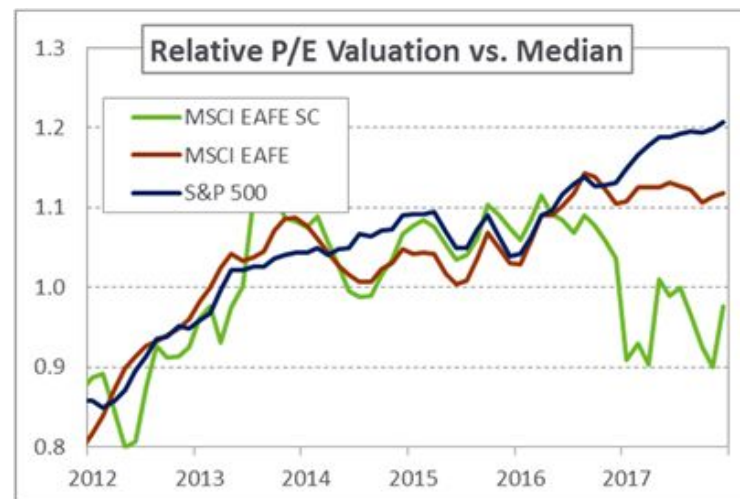
Catalysts for outperformance are present with improving economic conditions in Europe and continued corporate governance improvements in Japan

Earnings recovery appears to be taking hold in Europe where an uncertain political outlook has gained clarity

Non-US small cap and global equity are preferred for implementation

These strategies offer the best opportunity to exploit valuation discrepancies among stocks across countries and sectors

Hedging a portion of non-US developed currency exposure remains a strategic recommendation



Source: (Top) Bloomberg, NEPC

Source: (Bottom) S&P, MSCI, Bloomberg, NEPC



December 31, 2017

CURRENT OPPORTUNITIES

Maintain Overweight to Emerging Market Equities

Emerging equities offer the highest total return potential for investors

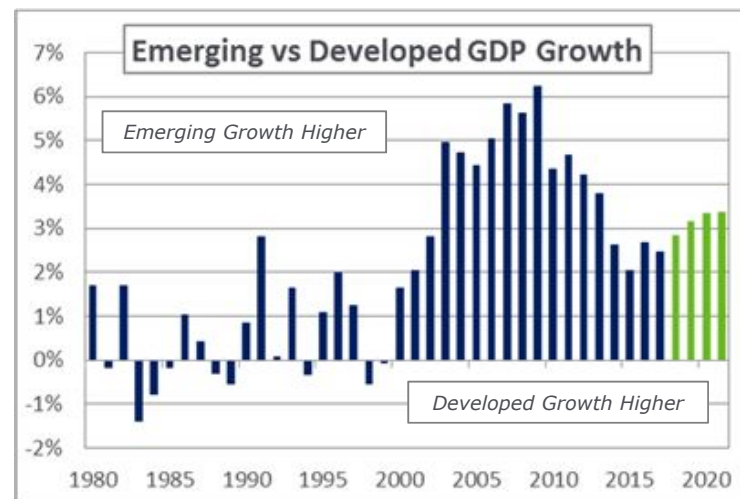
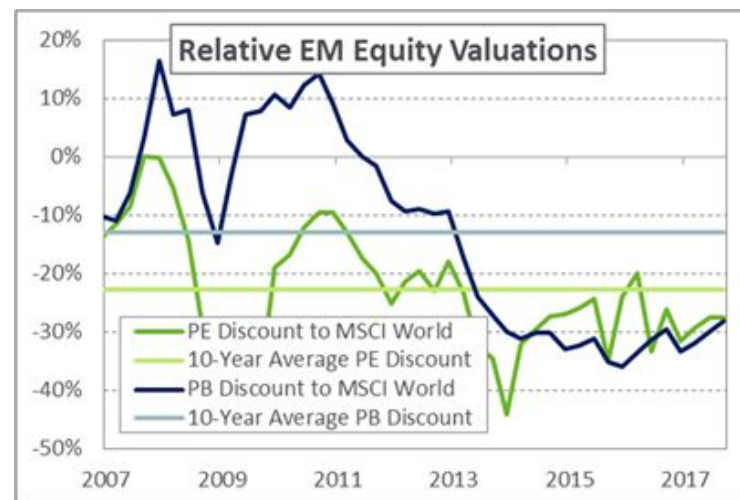
Valuation levels and fundamentals suggest an overweight relative to global equity market cap weights (e.g. 15% to 20%)

Growth premium relative to the developed world persists as economic conditions in EM improve due to synchronized global growth

High tracking error strategies offer greater flexibility to invest across emerging countries and are preferred to benchmark focused mandates

Opportunity set for excess return appears more abundant in EM versus developed markets

Strategies that invest down the market cap spectrum can offer investors more pure local growth exposure



Source: (Top) MSCI, Bloomberg
Source: (Bottom) IMF



December 31, 2017

CURRENT OPPORTUNITIES

Allocate to TIPS from Core Bonds

Duration exposure remains a key asset allocation building block for a diversified portfolio

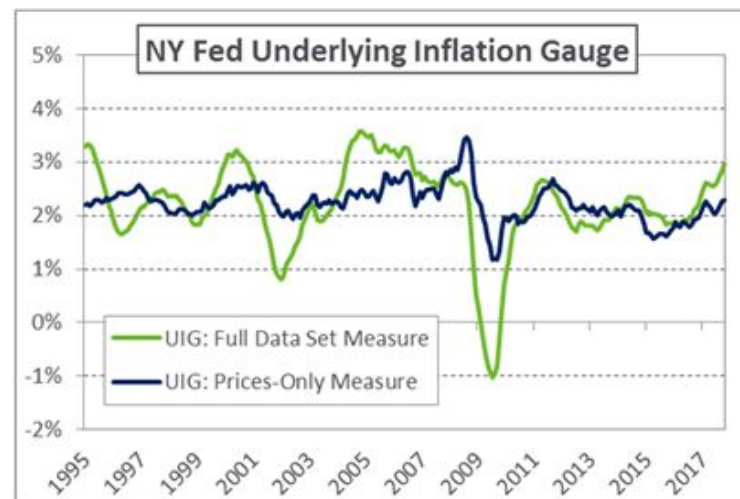
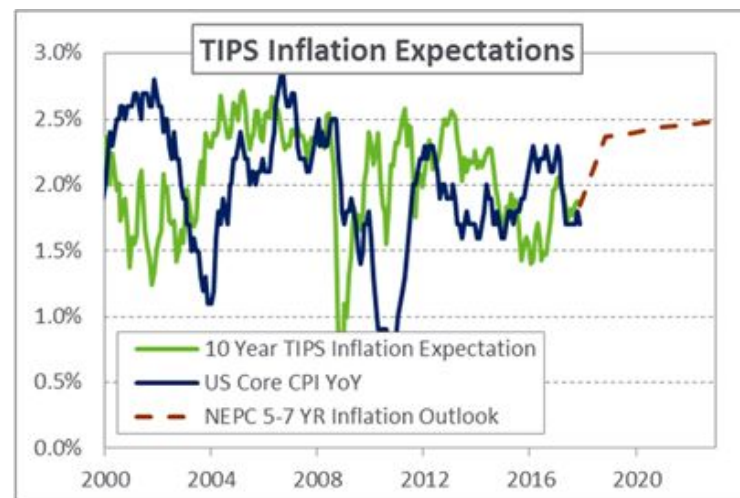
TIPS offer safe haven exposure with an explicit hedge for realized inflation and can be implemented with a low cost passive strategy

Current core bond yields offer limited cushion before taking on losses in a rising interest rate environment

Increase in inflation expectations would favor TIPS over nominal bonds

TIPS yields are priced off real rates and sensitive to Fed tightening but a gradual path of normalization should mitigate the risk of a sharp rise in real interest rates

An allocation to TIPS diversifies core bond exposure and improves risk balance across economic environments



Source: (Top) Bureau of Labor Statistics, Bloomberg, NEPC
Source: (Bottom) New York Fed



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CURRENT OPPORTUNITIES

Reduce Return Seeking Credit Exposure

Over the last 18 months, high yield bonds have provided strong gains

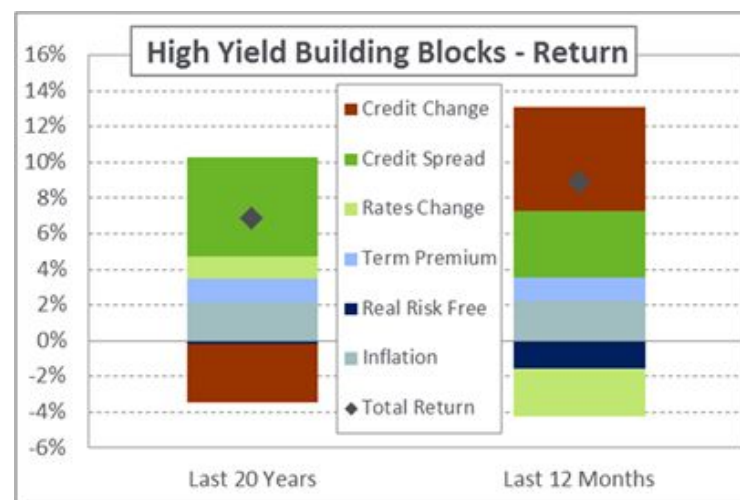
Attractive credit spreads seen in early 2016 have now fallen below historic medians and do not appear to fully compensate investors for the risk

Reallocate gains from liquid credit markets to other areas of the portfolio (e.g. equity, private markets, safe haven fixed income)

Valuations of other credit sectors appear stretched with dollar based EMD also looking expensive

Recommend investors eliminate or reduce dollar-denominated emerging market debt as both sovereign and corporate spreads have tightened

We encourage reallocating the proceeds of dollar based EMD to a smaller mandate in EMD local or moving to other areas of the portfolio (e.g. equity, idiosyncratic credit opportunities)



Source: (Top) MSCI, Bloomberg
Source: (Bottom) IMF



December 31, 2017

CURRENT OPPORTUNITIES

Fund Emerging Local Debt

EM local debt offers an attractive total return opportunity

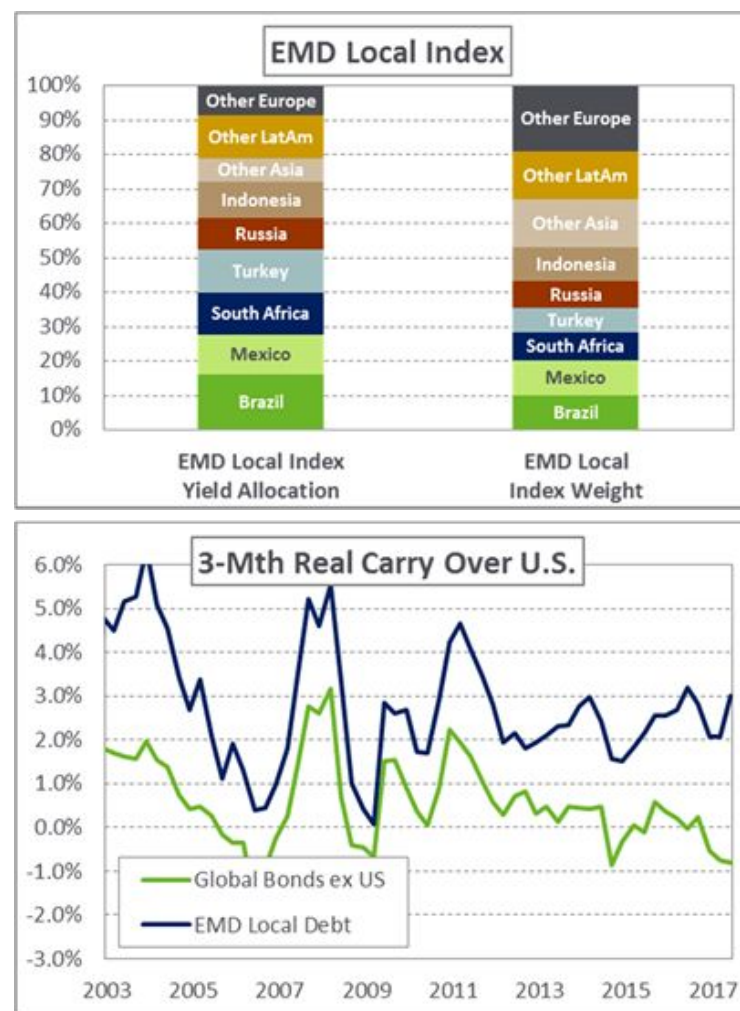
Above average index yield relative to developed world provides a cushion to offset potentially high currency volatility

Valuations for many emerging market currencies remain attractive despite recent rally in select markets

For tactically oriented investors, look to fund emerging local debt from high yield and dollar denominated EMD

Preferred implementation is a stand alone EM local debt strategy

For investors with an existing dollar denominated EMD allocation, we encourage shifting the exposure to local currency debt but reduce the exposure size to account for the higher volatility of emerging local currency debt



Source: (Top) JP Morgan

Source: (Bottom) JP Morgan, Bloomberg, NEPC



December 31, 2017

CURRENT OPPORTUNITIES

Add Macro Hedge Funds

Macro hedge fund strategies offer broad benefits to a total portfolio

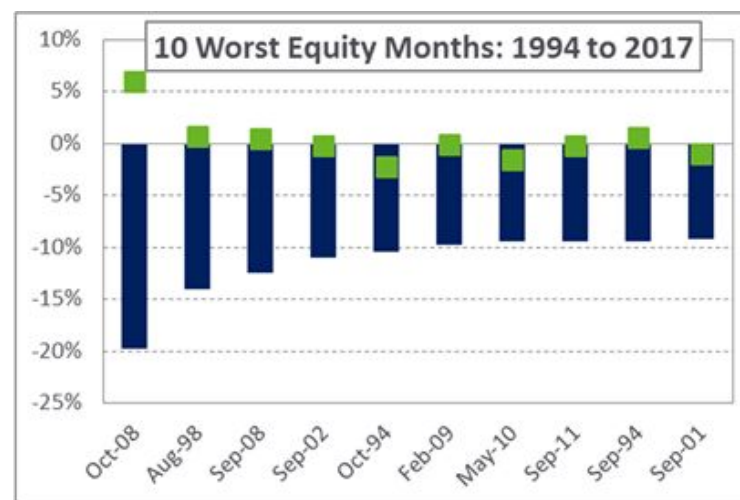
Allocations of size (e.g. 5%) help to mitigate the left-tail of a portfolio return distribution

Investors should be targeted in their approach to portfolio construction as manager selection is paramount

Fund systematic global macro from broad based GAA and hedge fund of fund strategies

Systematic strategies tend to exhibit low correlation to equity markets and are strong diversifiers within a total portfolio

Many systematic macro strategies exhibit "crisis alpha" or excess performance in risk-off periods



Global Macro Strategies*

Discretionary

Directional

Relative Value

Systematic

Fundamental Systematic

Trend-Following

Source: (Top) eVestment, HFRI

*Not intended to be an all inclusive Macro sub-strategy list



December 31, 2017

CURRENT OPPORTUNITIES

Add Long Volatility Exposure

Volatility levels for global markets are near historic lows

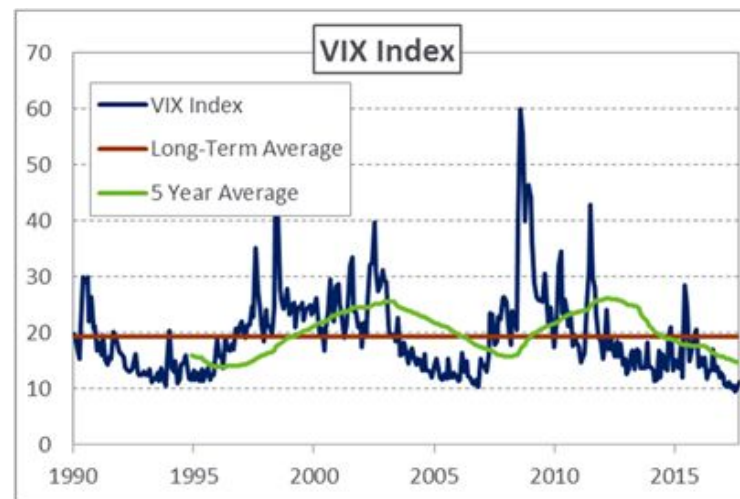
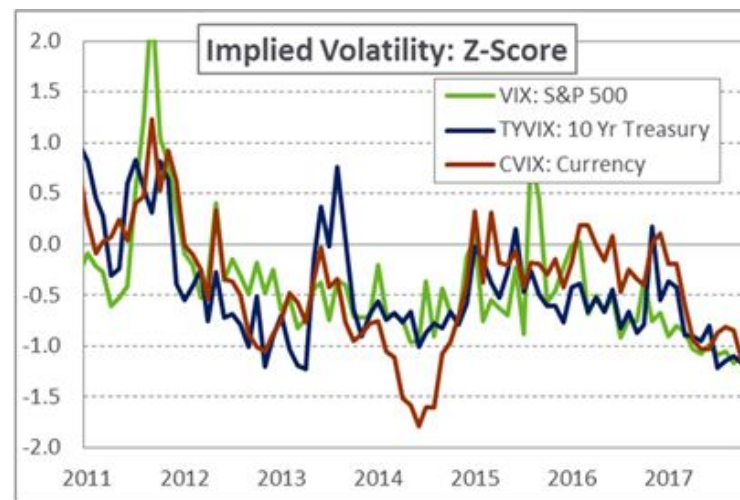
Long volatility exposure positively benefits from rising asset class volatility and an allocation of 1% to 2% can provide a significant return contribution should volatility normalize

Exposure is not without risk. Losses would be expected if market volatility continues to decline. Discipline of a multi-year time horizon is required should volatility levels move slowly back to normal levels

Long volatility strategies with positive carry are the only implementation option we recommend

Purchasing S&P VIX is a costly method to implement long volatility exposure due to the negative roll yield of the VIX curve

Suited for opportunistic investors and ideally funded from traditional GAA strategies



Source: (Top) Bloomberg
Source: (Bottom) Bloomberg



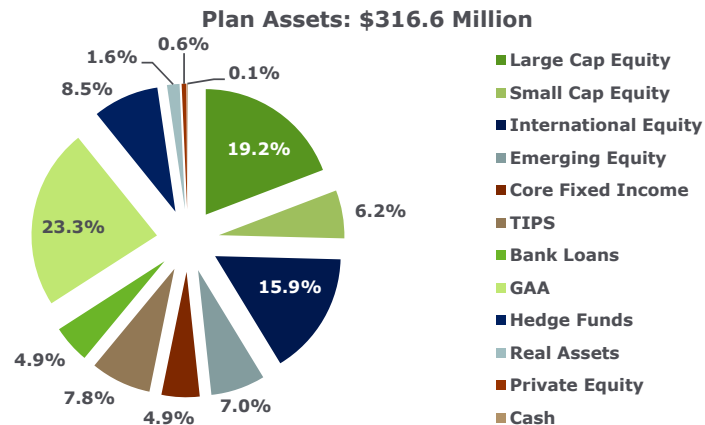
December 31, 2017

MANAGED INVESTMENT POOL (MIP)

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION



PLAN COMMENTS

Asset Allocation

MIP assets were \$316.6 million as of December 31, 2017, a \$10.2 million increase over the quarter. During the 4th quarter there was a \$2.0 million cash outflow from the Pool and investment gains of \$12.2 million. All asset classes are within policy ranges.

Performance (Net of Fees)

The Plan returned 3.8% in the 4th quarter and 15.2% over the one year period, ranking in the 28th and 55th percentiles, respectively.

The rate of return assumption for the portfolio in 2017 was 7.5% and the MIP exceeded this calendar year-to-date. It is important to note that there will be volatility around these expected returns each year.

MIP PERFORMANCE: NET OF FEES

	QTR (%)	FYTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	7 YR (%)	10 YR (%)
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COMPOSITE	3.8	6.7	15.2	5.8	6.8	6.4	4.8
ALLOC. INDEX	3.9	7.8	16.2	6.6	7.4	6.6	4.7
POLICY INDEX	3.9	7.9	16.9	7.2	7.7	6.8	5.3
RANK (E&F \$100-500M)	28	65	55	77	84	82	70

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

Rebalancing was provided to cover disbursements.

Recommendations

NEPC has provided information surrounding asset allocation under separate cover.

Investment Manager Updates

Newton, Guggenheim and GMO had announcements during the 4th quarter; no action is recommended.



December 31, 2017

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 \$2.37 million
 - Since inception, the strategy has an IRR of 16.5%, net of fees (9/30/17)
- **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 1.5%, net of fees (12/31/17)



TOTAL PLAN PERFORMANCE DETAIL - NET

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
MIP Composite	316,629,173	100.0	100.0	3.8	6.7	15.2	15.2	10.1	5.8	6.8	6.4	4.8
Allocation Index				3.9	7.8	16.2	16.2	10.9	6.6	7.4	6.6	4.7
Policy Index				3.9	7.9	16.9	16.9	11.8	7.2	7.7	6.8	5.3
Total Domestic Large Cap	60,670,469	19.2	16.0	6.6	11.4	21.7	21.7	16.7	11.3	15.3	13.4	8.9
S&P 500				6.6	11.4	21.8	21.8	16.8	11.4	15.8	13.8	8.5
SSgA S&P 500	60,670,469	19.2	16.0	6.6	11.4	21.7	21.7	16.7	11.3	15.7	13.7	8.5
S&P 500				6.6	11.4	21.8	21.8	16.8	11.4	15.8	13.8	8.5
Total Domestic Small/Mid Cap	19,549,085	6.2	6.0	7.3	12.3	20.4	20.4	18.0	10.2	14.7	12.6	9.8
Russell 2500				5.2	10.2	16.8	16.8	17.2	10.1	14.3	12.2	9.2
Westfield Capital	10,817,843	3.4	3.0	9.6	14.3	30.7	30.7	16.6	9.8	14.4	12.8	9.8
Russell 2500 Growth				6.3	12.5	24.5	24.5	16.9	10.9	15.5	13.0	9.6
DFA	8,731,242	2.8	3.0	4.5	10.0	9.6	9.6	17.9	9.5	14.1	11.6	--
Russell 2000 Value				2.0	7.3	7.8	7.8	19.2	9.5	13.0	10.8	8.2
Total International Equity (including emerging markets)	72,576,996	22.9	23.0	5.1	9.5	27.1	27.1	12.9	7.5	6.0	5.5	2.2
MSCI EAFE				4.2	9.9	25.0	25.0	12.4	7.8	7.9	6.0	1.9
Morgan Stanley	19,340,979	6.1	6.3	3.8	7.3	25.2	25.2	10.8	7.2	6.8	6.3	2.9
Globeflex	19,711,463	6.2	6.3	3.8	12.1	30.1	30.1	13.6	9.8	9.2	7.2	1.6
MSCI EAFE				4.2	9.9	25.0	25.0	12.4	7.8	7.9	6.0	1.9
Kabouter International Opportunities Offshore Fund II	11,436,908	3.6	3.5	--	--	--	--	--	--	--	--	--
MSCI EAFE Small Cap				6.1	14.0	33.0	33.0	16.6	14.2	12.9	9.2	5.8
Emerging Markets Equity	22,087,646	7.0	7.0	8.0	8.6	25.3	25.3	14.0	4.7	1.2	2.5	--
MSCI Emerging Markets				7.4	15.9	37.3	37.3	23.5	9.1	4.3	2.6	1.7
Aberdeen Emerging Mkts	10,917,498	3.4	3.5	4.9	9.4	30.2	30.2	20.8	8.0	2.6	3.5	--
MSCI Emerging Markets				7.4	15.9	37.3	37.3	23.5	9.1	4.3	2.6	1.7
Mondrian EM Small Cap	11,170,148	3.5	3.5	11.2	7.5	19.9	19.9	7.5	1.4	--	--	--
MSCI Emerging Markets Small Cap				9.2	15.4	33.8	33.8	17.0	8.4	5.4	2.1	2.8
Total Fixed Income	55,927,758	17.7	18.0	1.0	1.9	5.1	5.1	5.2	2.7	3.2	4.7	4.7
BBgBarc US Aggregate TR				0.4	1.2	3.5	3.5	3.1	2.2	2.1	3.2	4.0
Commonfund	15,553,798	4.9	5.0	0.5	1.6	5.0	5.0	4.2	2.7	2.9	4.2	4.5
BBgBarc US Aggregate TR				0.4	1.2	3.5	3.5	3.1	2.2	2.1	3.2	4.0
Vanguard Inflation-Protected Securities	24,799,411	7.8	8.0	1.2	2.0	3.0	3.0	--	--	--	--	--
BBgBarc US TIPS TR				1.3	2.1	3.0	3.0	3.8	2.0	0.1	2.9	3.5



December 31, 2017

TOTAL PLAN PERFORMANCE DETAIL - NET

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Guggenheim US Bank Loans	15,574,549	4.9	5.0	1.1	2.1	--	--	--	--	--	--	--
Credit Suisse Leveraged Loans				1.2	2.2	4.2	4.2	7.0	4.5	4.3	4.7	4.6
Total GAA	73,794,563	23.3	23.0	2.2	4.2	11.7	11.7	8.0	3.8	4.0	3.7	--
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				4.1	8.2	17.9	17.9	11.8	6.8	7.3	6.5	4.4
GMO Global Absolute Return	24,528,949	7.7	7.7	3.0	5.3	13.6	13.6	8.5	4.2	4.8	5.4	4.8
Blended Index				1.0	2.4	5.6	5.6	5.9	3.9	3.3	4.6	4.9
Wellington	24,964,485	7.9	7.7	2.8	6.6	17.4	17.4	11.4	7.5	6.7	4.2	--
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				4.1	8.2	17.9	17.9	11.8	6.8	7.3	6.5	4.4
Newton Global Real Return	24,301,128	7.7	7.7	0.7	0.6	4.3	4.3	--	--	--	--	--
60% MSCI ACWI (Net) / 40% BBgBarc Global Agg				3.9	7.8	17.1	17.1	11.2	6.5	6.8	6.1	4.3
Total Hedge Funds	26,940,771	8.5	9.0	2.1	4.0	5.6	5.6	4.2	1.7	2.7	1.8	1.4
HFRI Fund of Funds Composite Index				2.0	4.3	7.7	7.7	4.0	2.6	4.0	2.7	1.1
EntrustPermal	8,699,775	2.7	3.0	0.5	2.3	3.2	3.2	3.8	1.1	3.2	3.0	--
HFRI Fund of Funds Composite Index				2.0	4.3	7.7	7.7	4.0	2.6	4.0	2.7	1.1
Lighthouse	18,240,996	5.8	6.0	2.9	4.9	7.4	7.4	3.7	--	--	--	--
Credit Suisse Long Shrt Eqt USD				3.3	6.4	13.4	13.4	4.7	4.3	7.1	5.1	4.0
Total Real Assets	5,135,385	1.6	3.0	4.2	2.1	1.8	1.8	-2.0	-0.1	2.7	3.7	--
NCREIF Timberland Index				1.5	2.1	3.6	3.6	3.2	3.8	6.2	5.8	4.4
John Hancock Timber Fund	5,135,385	1.6	3.0	4.2	2.1	1.8	1.8	-2.0	-0.1	2.7	3.8	-0.1
NCREIF Timberland Index				1.5	2.1	3.6	3.6	3.2	3.8	6.2	5.8	4.4
Private Equity	1,810,544	0.6	2.0	0.0	4.1	7.7	7.7	11.0	8.4	--	--	--
Landmark Equity Partners XV	1,810,544	0.6	2.0	0.0	4.1	7.7	7.7	11.0	8.4	--	--	--
Cambridge Associates US All PE (1 Qtr Lag)				3.8	7.5	16.7	16.7	12.7	10.4	13.3	13.7	9.6
Total Cash	223,603	0.1	0.0									
Distribution Account	223,603	0.1	0.0	0.2	0.4	0.6	0.6	0.3	0.2	0.1	0.1	0.4
91 Day T-Bills				0.3	0.6	0.9	0.9	0.6	0.4	0.3	0.2	0.3

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 12/31/17

Landmark market value as of 12/31/17



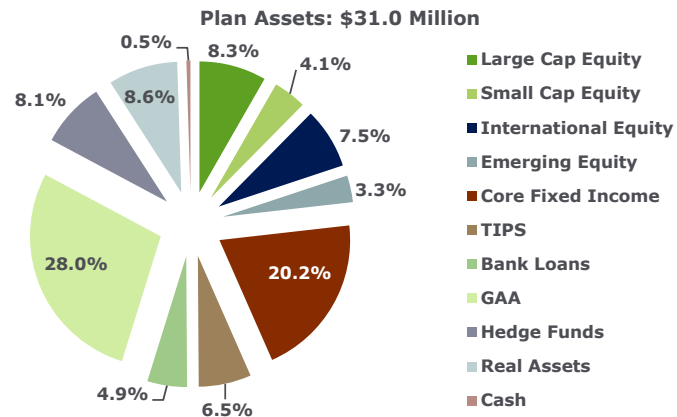
December 31, 2017

PENSION FUND

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION



PLAN COMMENTS

Asset Allocation

The Plan's assets were \$31 million as of December 31, 2017, a \$0.4 million increase during the fourth quarter. Investment gains were \$0.8 million and benefit payments amounted to \$0.4 million. All asset classes are within policy ranges.

Performance (Net of Fees)

The Plan returned 2.4% in the 4th quarter and 10.0% over the one year period, ranking in the 79th and 80th percentiles, respectively.

The Pension Fund ranks below median over all time periods due to the Fund's conservative asset allocation and manager underperformance.

The rate of return assumption for the portfolio in 2017 is 6.25% and the Pension Fund exceeded this calendar year-to-date. It is important to note that there will be volatility around these expected returns each year.

PLAN PERFORMANCE: NET OF FEES

	QTR (%)	FYTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	7 YR (%)	10 YR (%)
COMPOSITE	2.4	4.2	10.0	4.5	5.7	5.5	3.8
ALLOC. INDEX	3.0	6.1	12.6	5.8	6.9	6.5	4.4
POLICY INDEX	2.8	5.9	12.4	6.0	7.1	6.7	5.2
RANK (TRUST FUNDS)	79	83	80	84	81	81	88

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

The System implemented a portfolio rebalance during the quarter to bring asset allocation in-line with policy targets and meet monthly benefit payments and expenses.

Recommendations

NEPC has provided information surrounding asset allocation under separate cover.

Investment Manager Updates

Newton, Guggenheim and Vanguard had announcements during the 4th quarter; no action is recommended.



December 31, 2017

TOTAL PLAN PERFORMANCE DETAIL - NET

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Pension Composite	30,986,608	100.0	100.0	2.4	4.2	10.0	10.0	7.5	4.5	5.7	5.5	3.8
Allocation Index				3.0	6.1	12.6	12.6	8.8	5.8	6.9	6.5	4.4
Policy Index				2.8	5.9	12.4	12.4	9.2	6.0	7.1	6.7	5.2
Total Domestic Large Cap	2,557,117	8.3	8.0	6.6	11.4	21.8	21.8	16.8	11.4	15.5	12.8	7.0
S&P 500				6.6	11.4	21.8	21.8	16.8	11.4	15.8	13.8	8.5
Vanguard S&P 500 Index	2,557,117	8.3	8.0	6.6	11.4	21.8	21.8	16.8	11.4	--	--	--
S&P 500				6.6	11.4	21.8	21.8	16.8	11.4	15.8	13.8	8.5
Total Small Cap Composite	1,280,095	4.1	4.0	3.3	9.2	14.6	14.6	18.0	9.9	13.9	11.4	--
Russell 2000				3.3	9.2	14.6	14.6	17.9	10.0	14.1	11.6	8.7
SSgA R2000 Index Fund Non Lending	1,280,095	4.1	4.0	3.3	9.2	14.6	14.6	18.0	9.9	13.9	11.4	--
Russell 2000				3.3	9.2	14.6	14.6	17.9	10.0	14.1	11.6	8.7
Total International Equity (including emerging markets)	3,347,565	10.8	10.0	6.0	7.3	23.4	23.4	9.9	5.5	4.7	4.9	1.9
MSCI EAFE				4.2	9.9	25.0	25.0	12.4	7.8	7.9	6.0	1.9
Morgan Stanley Int'l	2,315,686	7.5	7.0	3.8	7.3	25.2	25.2	11.0	7.3	6.9	6.4	2.9
MSCI EAFE				4.2	9.9	25.0	25.0	12.4	7.8	7.9	6.0	1.9
Emerging Markets Equity	1,031,879	3.3	3.0	11.2	7.5	19.9	19.9	7.5	1.4	-0.2	--	--
MSCI Emerging Markets				7.4	15.9	37.3	37.3	23.5	9.1	4.3	2.6	1.7
Mondrian EM Small Cap	1,031,879	3.3	3.0	11.2	7.5	19.9	19.9	7.5	1.4	--	--	--
MSCI Emerging Markets Small Cap				9.2	15.4	33.8	33.8	17.0	8.4	5.4	2.1	2.8
Total Fixed Income	9,798,963	31.6	32.0	0.7	1.5	4.1	4.1	3.9	2.5	2.3	3.7	5.1
BBgBarc US Aggregate TR				0.4	1.2	3.5	3.5	3.1	2.2	2.1	3.2	4.0
Vanguard Total Bond Market Index	6,264,444	20.2	20.0	0.4	1.1	3.6	3.6	3.1	2.2	--	--	--
BBgBarc US Aggregate TR				0.4	1.2	3.5	3.5	3.1	2.2	2.1	3.2	4.0
Vanguard Inflation-Protected Securities	2,021,769	6.5	7.0	1.2	2.0	--	--	--	--	--	--	--
BBgBarc US TIPS TR				1.3	2.1	3.0	3.0	3.8	2.0	0.1	2.9	3.5
Guggenheim US Bank Loans	1,512,750	4.9	5.0	1.1	2.1	--	--	--	--	--	--	--
Credit Suisse Leveraged Loans				1.2	2.2	4.2	4.2	7.0	4.5	4.3	4.7	4.6
Total GAA	8,667,712	28.0	27.5	1.8	3.6	10.8	10.8	7.8	3.6	3.4	3.3	--
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				4.1	8.2	17.9	17.9	11.8	6.8	7.3	6.5	4.4
Wellington	4,509,836	14.6	13.8	2.7	6.5	17.4	17.4	11.5	7.6	6.8	4.3	--
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				4.1	8.2	17.9	17.9	11.8	6.8	7.3	6.5	4.4
Newton Global Real Return	4,157,876	13.4	13.8	0.7	0.6	4.3	4.3	--	--	--	--	--
60% MSCI ACWI (Net) / 40% CITI WGBI				3.8	7.8	17.1	17.1	11.2	6.4	6.5	5.8	4.2



December 31, 2017

TOTAL PLAN PERFORMANCE DETAIL - NET

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Total Alternative Investments	2,495,354	8.1	7.5	2.1	4.1	5.7	5.7	3.9	2.2	3.3	2.1	--
HFRI Fund of Funds Composite Index				2.0	4.3	7.7	7.7	4.0	2.6	4.0	2.7	1.1
EntrustPermal	776,348	2.5	2.5	0.5	2.3	3.2	3.2	3.8	1.1	3.2	3.0	--
HFRI Fund of Funds Composite Index				2.0	4.3	7.7	7.7	4.0	2.6	4.0	2.7	1.1
Lighthouse	1,719,006	5.5	5.0	2.9	4.9	7.4	7.4	3.7	--	--	--	--
Credit Suisse Long Shrt Eqt USD				3.3	6.4	13.4	13.4	4.7	4.3	7.1	5.1	4.0
Total Real Assets	2,661,149	8.6	8.0									
Principal	2,661,149	8.6	8.0	1.8	3.9	7.9	7.9	8.5	10.1	11.2	11.9	4.2
NCREIF ODCE				2.1	4.0	7.6	7.6	8.2	10.4	11.5	12.1	5.0
Total Cash	178,653	0.6	3.0									
Distribution Account	178,653	0.6	3.0	0.2	0.4	0.6	0.6	0.3	0.2	0.1	0.1	0.4
91 Day T-Bills				0.3	0.6	0.9	0.9	0.6	0.4	0.3	0.2	0.3

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



December 31, 2017

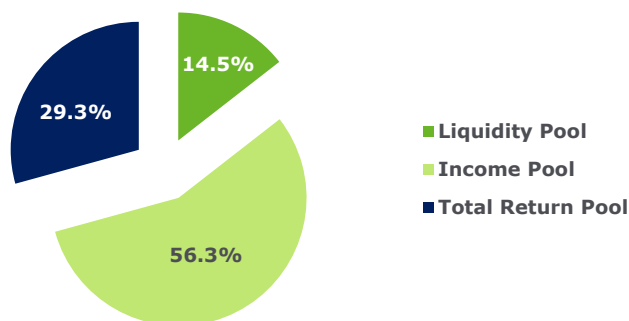
OPERATING FUND

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION

Plan Assets: \$271.3 Million



PLAN COMMENTS

Asset Allocation

The Fund's assets as of December 31, 2017 were \$271.3 million. This represents a \$25.3 million increase from the previous quarter.

The Liquidity Pool (14.5% v 25.0%), Income Pool (56.3% v 50.0%) and Total Return Pool (29.3% v 25.0%) are all within allowable 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 1.0% during the 4th quarter and 4.4% for the one year period.

The rate of return assumption for the portfolio in 2017 was 4.0% and the Operating Fund exceeded this calendar year-to-date. It is important to note that there will be volatility around these expected returns each year.

FUND PERFORMANCE: NET OF FEES

	QTR (%)	FYTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	7 YR (%)	10 YR (%)
COMPOSITE	1.0	2.0	4.4	2.3	2.1	2.4	2.4
ALLOC. INDEX	1.1	2.3	4.7	2.6	2.5	2.5	--

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

The System implemented a portfolio rebalance in September to bring asset allocation in-line with policy targets.

Recommendations

NEPC has provided information surrounding asset allocation under separate cover.

Investment Manager Updates

Newton and Vanguard had announcements during the 4th quarter; no action is recommended.



December 31, 2017

TOTAL PLAN PERFORMANCE DETAIL - NET

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Operating Funds Composite	271,320,272	100.0	100.0	1.0	2.0	4.4	4.0	2.3	2.1	2.4	2.4
<i>Allocation Index</i>				1.1	2.3	4.7	3.8	2.6	2.5	2.5	--
Liquidity Pool Composite	39,289,864	14.5	25.0	0.2	0.5	0.9	0.6	0.5	0.4	0.3	0.6
State Pool	19,094,610	7.0		0.3	0.6	1.0	0.8	0.6	0.5	0.4	0.7
BOA General Fund	4,157,744	1.5		0.0	0.0	0.0	0.0	0.0	0.0	--	--
Federated Gov't Obligations	585,841	0.2		0.2	0.5	0.7	--	--	--	--	--
JP Morgan US Gov't Money Market Fund	15,451,669	5.7		0.1	0.4	0.7	--	--	--	--	--
<i>Citi 3mth Treasury Bill</i>				0.3	0.5	0.8	0.6	0.4	0.2	0.2	0.3
Income Pool Composite	152,660,085	56.3	50.0	0.3	0.9	2.2	2.8	2.1	1.8	2.3	2.9
Income Research + Management	81,183,721	29.9	26.7	-0.2	0.1	0.9	1.2	1.1	0.9	--	--
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>				-0.2	0.1	0.8	1.1	0.9	0.8	1.0	1.9
BlackRock Strategic Income Opportunities	20,427,669	7.5	6.7	0.9	2.4	4.9	4.2	--	--	--	--
<i>3-Month Libor Total Return USD</i>				0.4	0.7	1.3	1.0	0.8	0.6	0.5	0.8
Loomis Sayles Bank Loans	20,396,760	7.5	6.7	0.9	1.8	3.1	5.3	3.8	3.3	3.9	3.8
<i>Loomis Bank Loans Custom Index</i>				1.1	2.1	3.4	5.4	4.3	4.1	4.5	4.9
Vanguard Total Bond Market Instl [®] Fund	14,958,229	5.5	5.0	0.4	1.1	3.6	3.1	2.2	2.0	3.1	--
<i>BBgBarc US Aggregate TR</i>				0.4	1.2	3.5	3.1	2.2	2.1	3.2	4.0
Vanguard Inflation-Protected Securities	15,693,706	5.8	5.0	1.2	2.0	--	--	--	--	--	--
<i>BBgBarc US TIPS TR</i>				1.3	2.1	3.0	3.8	2.0	0.1	2.9	3.5
Total Return Pool Composite	79,370,323	29.3	25.0	3.2	5.9	12.9	10.1	5.3	5.1	5.2	4.6
Lighthouse	14,100,668	5.2	5.0	2.9	4.9	7.3	3.7	--	--	--	--
<i>Credit Suisse Long Shrt Eqt USD</i>				3.3	6.4	13.4	4.7	4.3	7.1	5.1	4.0
Newton Global Real Return	20,029,513	7.4	6.3	0.7	0.6	4.3	--	--	--	--	--
<i>60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg</i>				3.9	7.8	17.1	11.2	6.5	6.8	6.1	4.3
PIMCO All Asset	20,546,994	7.6	6.3	3.1	6.5	14.0	13.7	5.6	3.7	5.1	5.3
<i>Blended Index</i>				1.0	2.4	5.6	5.9	3.9	3.3	4.6	4.9
Vanguard Total World Stock Index	24,693,148	9.1	7.5	5.6	11.2	24.2	16.2	9.9	--	--	--
<i>FTSE Global All Cap Index</i>				5.9	11.5	24.2	16.3	9.9	11.4	8.8	4.3

Notes:

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.



December 31, 2017

MANAGER DUE DILIGENCE MONITOR

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).

Fund	MIP	Pension	Operating	NEPC Rating	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
Aberdeen	x			Preferred	No	Maintain Hold
GMO	x			Preferred	Yes	Upgraded to No Action
EntrustPermal	x	x		Neutral	No	Maintain Hold
Newton	x	x	x	Preferred	Yes	No Action
SSgA	x	x		Preferred	Yes	No Action
Guggenheim	x	x		Preferred	Yes	Hold
Globeflex	x			Preferred	Yes	No Action
Vanguard		x	x	Preferred	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.					



December 31, 2017

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:

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

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



December 31, 2017

INFORMATION DISCLAIMER

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.





AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Performance Review – Managed Investment Pool

2. **INITIATED BY:** Kelly Martin, Chair

3. **BOARD INFORMATION:** X

BOARD ACTION:

4. **OUTCOME:**

Primary Outcomes:

Enhance fiscal positioning

BOARD POLICY:

Section 709 - Investments

5. **BACKGROUND:**

Enclosed for your information is the executive summary performance report for the Managed Investment Pool portfolio for the quarter ended December 31, 2017.

Kelly Regan and Jay Roney of NEPC will provide a brief review at the March 8, 2018 Investment Committee meeting.

2/26/2018

FOURTH QUARTER 2017 INVESTMENT REVIEW



UNIVERSITY OF MAINE SYSTEM MANAGED INVESTMENT POOL

March 8, 2018

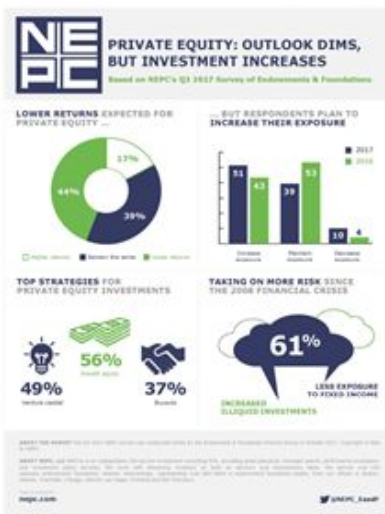
Jay E. Roney, Partner

Kelly Regan, Senior Consultant



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

HIGHLIGHTS OF FOURTH QUARTER HAPPENINGS AT NEPC



NEPC INSIGHTS

- White Paper: Terminated-Vested Lump Sum Payouts
- White Paper: Power Up Your Pension Plans
- Taking Stock: Could ESG Analysis Have Helped Equifax Investors?
- Taking Stock: Ten Years Since The Global Financial Crisis, Part 1: Then and Now
- Taking Stock: No Lull After the Storm for Puerto Rico Bonds
- Taking Stock: Tax Reform Update
- Market Chatter: It's Always Sunny on Sand Hill Road
- Market Chatter: The E-Commerce Grinch that Stole the US Storefront?
- Market Chatter: Endowment Tax Reform Leaves Less to be Thankful for
- NEPC's 2017 Hedge Fund Operational Due Diligence Survey Results
- NEPC's 2017 Defined Benefit Trends Survey Infographic
- NEPC's 2017 Defined Benefit Plan Trends Survey – Healthcare Highlights Infographic
- Taking Stock: What Do Revised Mortality Tables Mean for Terminated-Vested Lump Sum Payouts?
- 2017 Third Quarter Market Thoughts
- 2017 Q3 Endowment & Foundation Survey Results and Infographic

WEBINAR REPLAYS

- NEPC's 2017 Defined Benefit Plan Trends Survey

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

RECENT UPDATES

- Our team continues to grow: Please join us in welcoming our senior consultant and insurance specialist, Andrew Coupe.
- NEPC was featured in over 35 news articles including *Bloomberg*, *Pensions & Investments* and *FundFire*, to name a few.
- NEPC's Chris Levell, ASA, CFA, CAIA, Partner, Client Strategy, was named a finalist in *Chief Investment Officer's* Consultant of the Year list.
- NEPC's Brandon Parrish, CFA, CAIA, Private Wealth Consultant, was featured in *Private Asset Management's* Top Read Stories for 2017 for his article "An Intuitive Approach for High Net Worth Clients."



MARKET OUTLOOK

NEPC, LLC

PERFORMANCE SUMMARY AS OF DECEMBER 31, 2017

Domestic Equity Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Large Core	S&P 500	6.6%	21.8%	11.4%	15.8%	8.5%
Small Core	Russell 2000	3.3%	14.6%	10.0%	14.1%	8.7%
Small Growth	Russell 2000 Growth	4.6%	22.2%	10.3%	15.2%	9.2%
Small Value	Russell 2000 Value	2.0%	7.8%	9.5%	13.0%	8.2%
Large Core	Russell 1000	6.6%	21.7%	11.2%	15.7%	8.6%
Large Growth	Russell 1000 Growth	7.9%	30.2%	13.8%	17.3%	10.0%
Large Value	Russell 1000 Value	5.3%	13.7%	8.7%	14.0%	7.1%
Mid Core	S&P Mid Cap 400	6.3%	16.2%	11.1%	15.0%	10.0%
REIT	NAREIT Composite	2.3%	9.3%	6.9%	9.7%	7.5%
Int'l Equity Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
International Developed	MSCI EAFE	4.2%	25.0%	7.8%	7.9%	1.9%
Emerging Equity	MSCI EM	7.4%	37.3%	9.1%	4.3%	1.7%
Small Cap Int'l	S&P EPAC SmallCap	6.4%	34.0%	14.1%	13.1%	5.6%
World ex-US	MSCI ACWI ex-US	5.0%	27.2%	7.8%	6.8%	1.8%
Domestic FI Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Core Bonds	Barclays Aggregate	0.4%	3.5%	2.2%	2.1%	4.0%
Municipal Bond	Barclays Municipal	0.7%	5.4%	3.0%	3.0%	4.5%
High Yield	Barclays US High Yield	0.5%	7.5%	6.4%	5.8%	8.0%
Intermediate Gov/Cred	Barclays Intern. Gov/Credit	-0.2%	2.1%	1.8%	1.5%	3.3%
Long Gov/Credit	Barclays Long Gov/Credit	2.8%	10.7%	4.5%	4.4%	7.3%
Long Credit	Barclays Long Credit	3.2%	12.2%	5.7%	5.1%	7.7%
Long Treasuries	Barclays US 20+ Yr Treas	2.6%	9.0%	2.8%	3.6%	6.6%
Cash	BofA ML US 3-Month T-Bill	0.3%	0.9%	0.4%	0.3%	0.4%
Inflation	Barclays US TIPS 1-10 Yr	0.5%	1.9%	1.8%	0.1%	2.8%
Global Inflation	Barclays Global ILB	2.9%	8.7%	2.4%	1.4%	3.3%
STRIPS	Barclays 20+ Yr STRIPS	4.5%	13.7%	3.5%	5.1%	9.0%
Global FI Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Gov. Bonds	Citigroup WGBI	1.0%	7.5%	1.7%	0.1%	2.7%
Em. Mkt. Bonds (Local)	JPM GBI-EM Glob. Div.	0.8%	15.2%	2.5%	-1.5%	3.6%
Diversified Benchmark		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Diversified	Diversified*	3.6%	15.1%	7.4%	9.3%	6.0%
Alternative Benchmarks		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Commodities	Bloomberg Commodity Index	4.7%	1.7%	-5.0%	-8.5%	-6.8%
Real Estate	NCREIF Property Index**	1.7%	6.9%	9.8%	10.3%	6.2%

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

**As of 09/30/2017



INDEX PERFORMANCE SUMMARY

	2010	2011	2012	2013	2014	2015	2016	Q1	Q2	Q3	Oct	Nov	Dec	Q4	YTD
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	11.4%	6.3%	7.9%	3.5%	0.2%	3.6%	7.4%	37.3%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	7.2%	6.1%	5.4%	1.5%	1.0%	1.6%	4.2%	25.0%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	6.9%	4.3%	5.2%	2.1%	1.9%	1.6%	5.7%	24.0%
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	6.1%	3.1%	4.5%	2.3%	3.1%	1.1%	6.6%	21.8%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	6.0%	3.1%	4.5%	2.3%	3.0%	1.1%	6.6%	21.7%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	3.8%	2.1%	4.7%	1.5%	3.3%	0.3%	5.2%	16.8%
JPM GBI-EM Glob Div	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	6.5%	3.6%	3.6%	-2.8%	1.7%	2.0%	0.8%	15.2%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	2.5%	2.5%	5.7%	0.9%	2.9%	-0.4%	3.3%	14.6%
BC US STRIPS 20+ Yr	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	1.8%	6.1%	0.7%	0.1%	1.5%	2.8%	4.5%	13.7%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	1.7%	4.7%	2.2%	0.7%	0.4%	2.0%	3.2%	12.2%
BC US Govt/Cred Long	10.2%	22.5%	8.8%	-8.8%	19.3%	-3.3%	6.7%	1.6%	4.4%	1.5%	0.4%	0.5%	1.9%	2.8%	10.7%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	3.9%	2.2%	2.6%	0.4%	0.1%	0.7%	1.2%	10.3%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	4.1%	2.0%	1.5%	0.3%	0.3%	1.3%	1.8%	9.7%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	2.7%	2.2%	2.0%	0.4%	-0.3%	0.3%	0.5%	7.5%
BC Global Agg	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.8%	2.6%	1.8%	-0.4%	1.1%	0.3%	1.1%	7.4%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	2.1%	0.8%	1.8%	1.3%	0.1%	-	1.4%	6.2%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	1.6%	2.0%	1.1%	0.2%	-0.5%	1.0%	0.7%	5.4%
FTSE NAREIT Eqty REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	1.2%	1.5%	0.9%	-1.0%	2.7%	-0.2%	1.5%	5.2%
CS Leveraged Loan	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	9.9%	1.2%	0.8%	1.1%	0.7%	0.1%	0.4%	1.2%	4.2%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.8%	1.4%	0.8%	0.1%	-0.1%	0.5%	0.4%	3.5%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	1.3%	-0.4%	0.9%	0.2%	0.1%	0.9%	1.3%	3.0%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	-2.3%	-3.2%	2.5%	2.1%	-0.5%	3.0%	4.7%	1.7%
BC US Govt/Cred 1-3	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.3%	0.4%	0.3%	0.3%	0.0%	-0.2%	0.0%	-0.2%	0.8%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	3.9%	-6.4%	-3.0%	-4.1%	-1.4%	4.7%	-0.9%	-6.5%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse



NEPC 2018 THEMES, ACTIONS AND OPPORTUNITIES FOR CLIENTS

Key Market Themes

Extended US Economic Cycle
Synchronized Economic Resurgence
Federal Reserve Gradualism
China Transitions
Globalization Backlash

Key Market Themes are factors that define global markets and can be expected to both evolve and remain relevant without a clear timeline of conclusion. At times, themes may be challenged. Disruption of a theme will likely produce significant volatility and change market dynamics.

Current Opportunities

Trim US Equity Gains
Overweight Non-US Developed Market Equities
Maintain a Market Overweight to Emerging Market Equities
Allocate to TIPS from Core Bonds
Reduce Return Seeking Credit Exposure
Fund Emerging Local Debt
Add Macro Hedge Fund
Add Long Volatility Exposure

Current Opportunities are investment ideas that represent an action with the goal of improving investment outcomes relative to an investor's strategic asset allocation. These investment ideas are likely to change more frequently as market dynamics and valuations shift over time.



KEY MARKET THEMES

Extended US Economic Cycle

Economic cycles do not die of old age

The US economy is in an extended expansionary cycle despite being eight years removed from the last recession

Financial health of US consumers and ongoing recovery of the housing market continue to drive economic growth

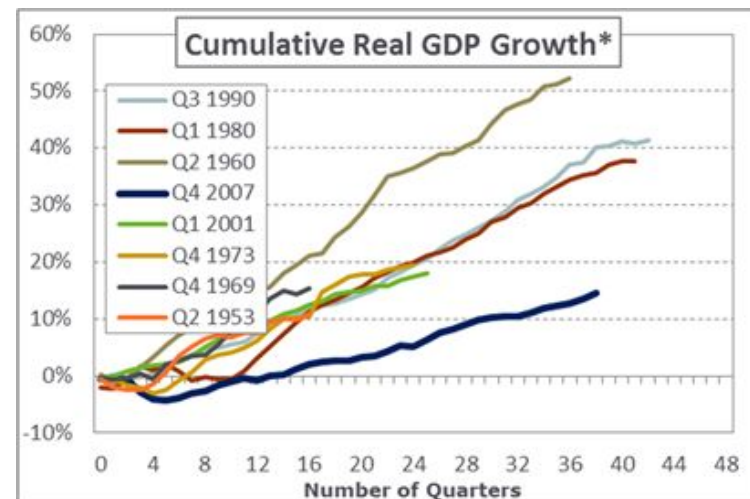
A prolonged US economic expansion can support a continued rally for US equities despite elevated valuation levels

US financial conditions remain loose and support steady economic gains

Low inflation provides a foundation for positive economic conditions and reinforces the Fed's gradual monetary policy approach

Moderating US dollar strength is another form of easy financial conditions, benefiting global trade flows and credit creation

Reversal in these easy conditions may be fueled by actions outside the US, such as a misstep by global central banks and/or increased volatility in the Chinese yuan



Source: (Top) Bloomberg, *Cumulative GDP growth from prior cycle peak
Source: (Bottom) Federal Reserve Bank of Chicago and Kansas City



KEY MARKET THEMES

Extended US Economic Cycle

Excess capacity remains in the system and provides fuel for the expansion

Labor market gains have been robust but slack remains as many have not returned to the workforce

Muted wage gains and low inflation metrics are reflective of the excess capacity remaining in the US economy

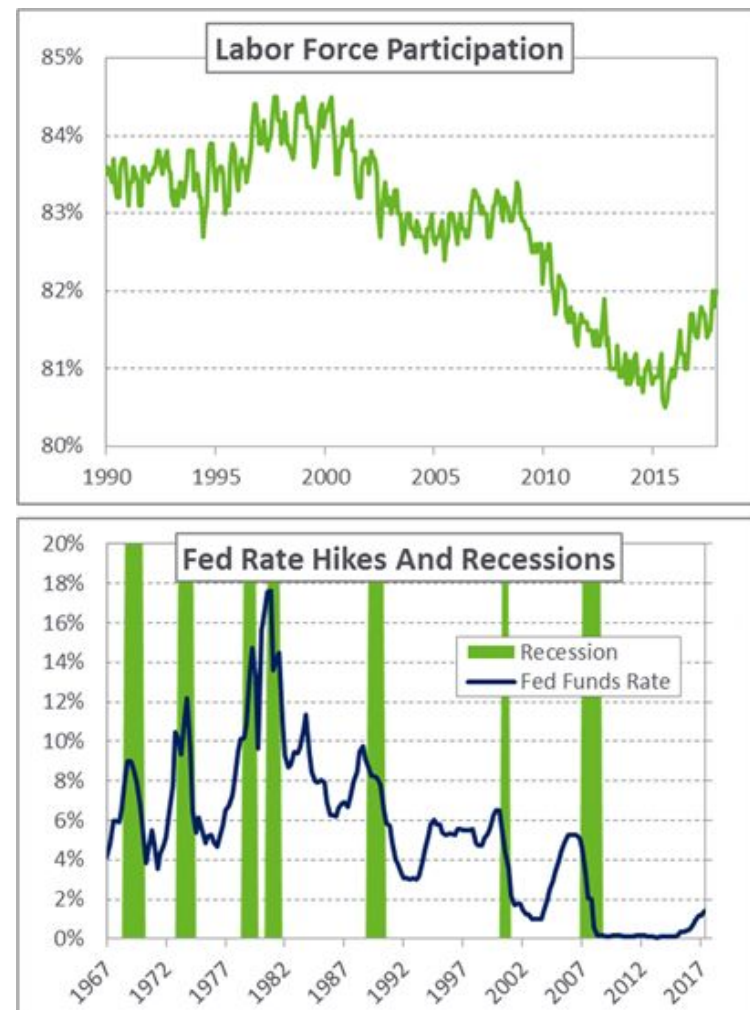
Tax cuts and fiscal stimulus can potentially remove spare economic capacity and be a catalyst for an uptick in inflation measures

US recession concerns are muted

An acceleration in inflation leading to a tightening of financial conditions has historically been a catalyst to end economic expansions

However, improved US household balance sheets have room to expand and support further consumer spending gains

Improving global economic conditions reinforce an expansion of the US economy as global growth factors synchronize



Source: (Top) Federal Reserve Bank of St. Louis

Source: (Bottom) Federal Reserve, NEPC



KEY MARKET THEMES

Synchronized Economic Resurgence

Global economic conditions are improving in a synchronized fashion

Coordinated global growth factors reinforce economic gains across the globe and are distinct from the extension of the US economic cycle

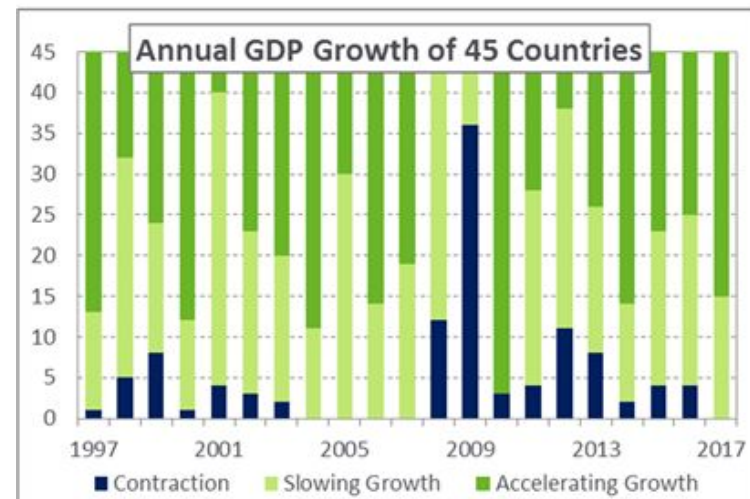
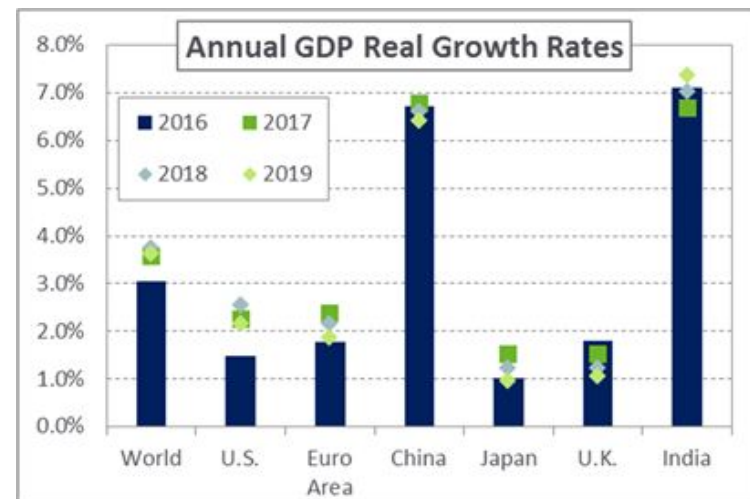
Non-US corporate revenues and equities are best positioned to benefit from a widespread boost in global economic conditions

Positive growth rates harmonized across the globe are relatively rare

Conditions are the result of Europe, Japan, and large parts of the emerging world transitioning out of economic malaise

Persistence of the theme over several years would provide a substantial benefit to equity markets globally – specifically in Europe and Japan

Historically, periods of synchronized growth have been derailed by higher inflation levels and central banks tightening policy



Source: (Top) OECD
Source: (Bottom) OECD



KEY MARKET THEMES

Synchronized Economic Resurgence

Erosion of excess economic capacity is a catalyst to boost economic gains

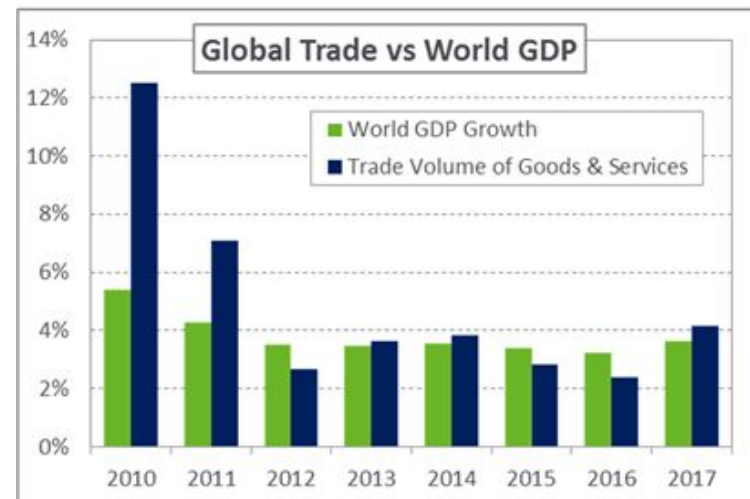
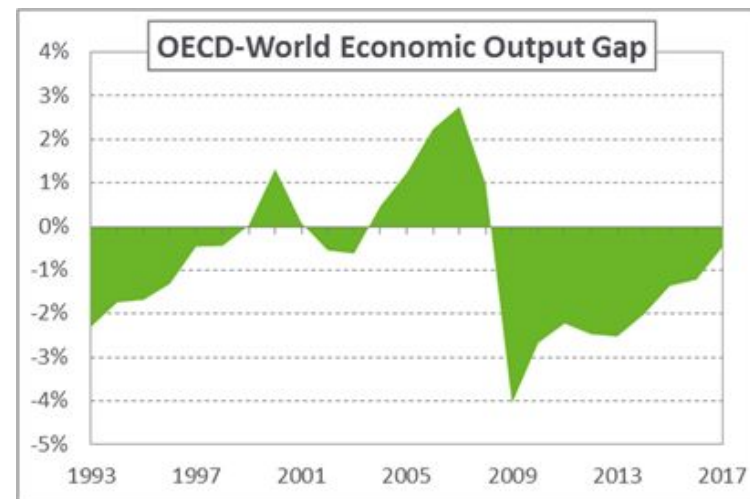
Despite recent labor market improvements, potential for labor reform in Europe and improved workforce participation in Japan offer multi-year benefits to economic growth

Material decline in emerging market inflation provides a cushion for real interest rates to fall and fuel an expansion of economic activity

Economic resurgence is delicate and can be disrupted by lingering global risk factors

US dollar strength, dislocation in China's credit expansion, and restrictive US trade policy pose the greatest threats

The foundation of synchronized economic resurgence is the continuation of positive trends associated with the other key market themes



Source: (Top) OECD
Source: (Bottom) IMF



KEY MARKET THEMES

Federal Reserve Gradualism

The Federal Reserve is expected to slowly increase interest rates

Expected path of Fed policy through 2020 matters more than timing of the next hike as the disconnect between market expectations and Fed signaling has grown

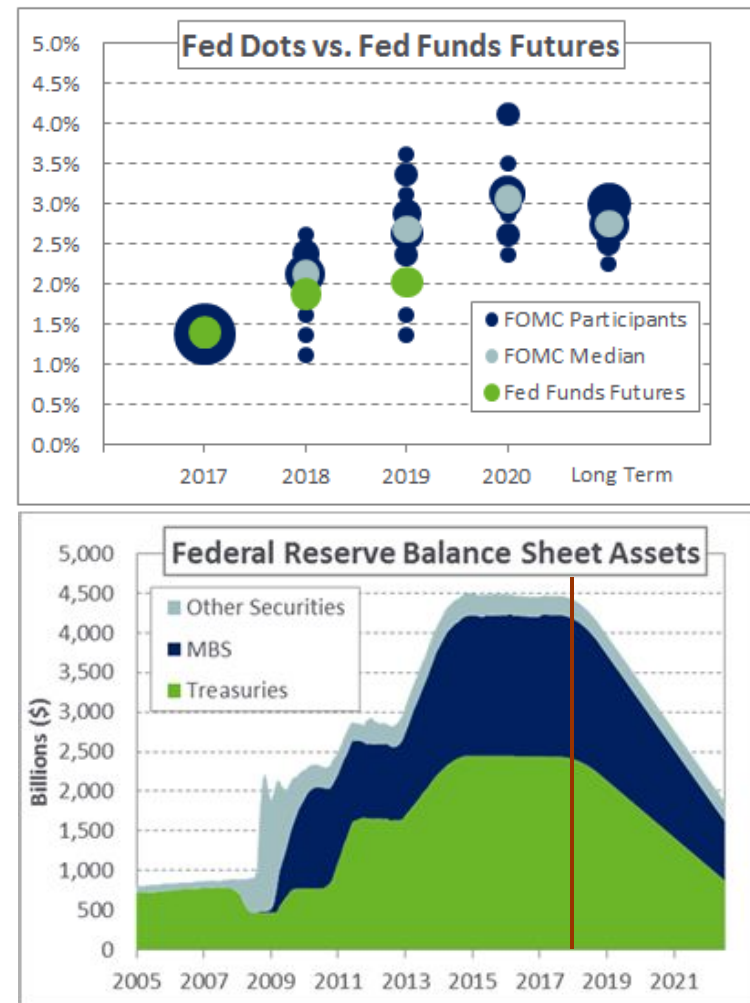
A relatively accommodative Fed is likely to continue, unless there is a dramatic acceleration in inflation

The Fed's balance sheet normalization is a low grade tightening of monetary policy but its impact is untested

Fed is expected to be careful and data dependent yet balance sheet disbursement into a strong economy will likely have tightening effects – in the same way balance sheet expansion had easing effects

The balance sheet will gradually shrink over time assuming conditions remain supportive

The gradual progression of balance sheet reduction combined with the accommodative policies of global central banks supports easy global financial conditions



Source: (Top) Bloomberg, NEPC
Source: (Bottom) Bloomberg, NEPC



KEY MARKET THEMES

Federal Reserve Gradualism

Gradualism is the policy of choice globally as the major central banks manage unprecedented initiatives

ECB's QE program is expanding but at a slower rate

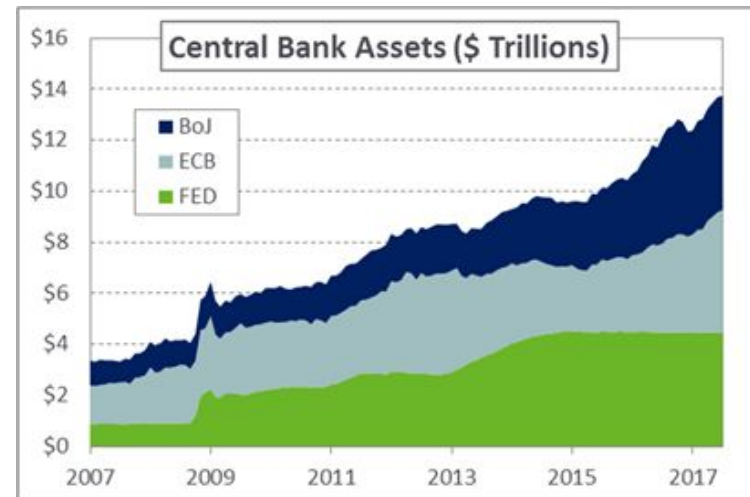
However, the reinvestment of balance sheet holdings is likely to continue for an extended period of time

Bank of Japan's QE yield-curve control program has rapidly slowed bond purchases but solidified steepness in the yield curve

Inflation expected to shift marginally higher in the coming years

Improvements in wage growth and aggregate economic activity support modest upticks in inflation but still within the Fed's tolerance bands to gradually raise rates

Fed has stated a willingness to let the economy "run hot" and accept some inflation to repair the deflationary effects of the past decade



Source: (Top) Bloomberg, NEPC

Source: (Bottom): Bloomberg, FRED



KEY MARKET THEMES

China Transitions

China is the global growth engine but faces fundamental transitions

China's economic transition is pivoting from production and investment focused to a service and consumption based economy

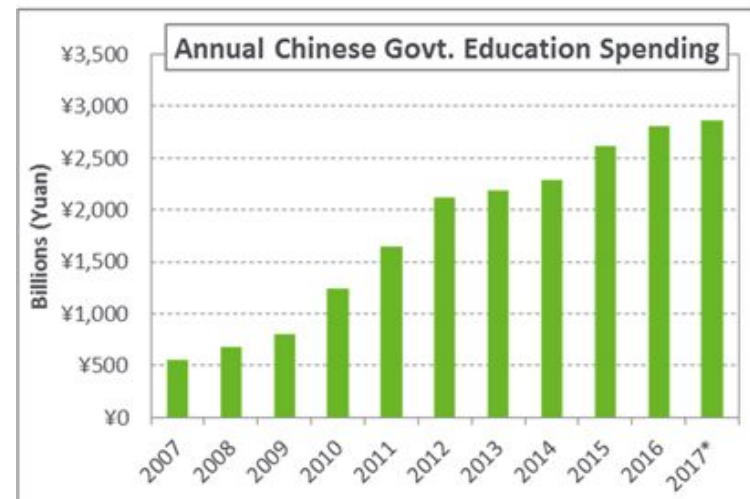
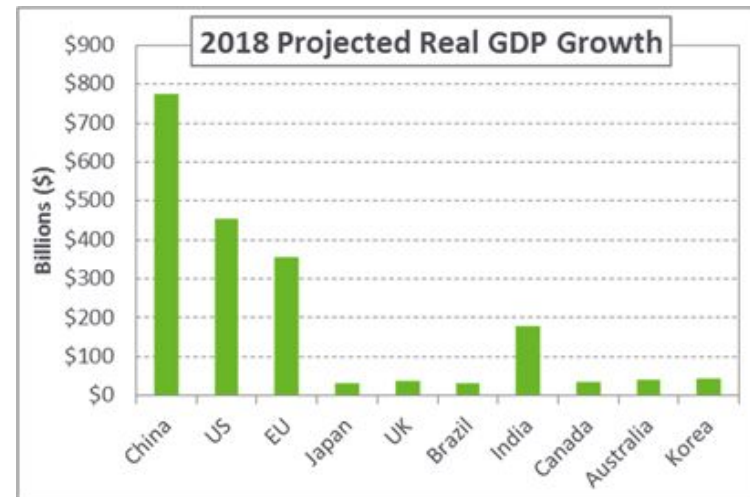
Fixed investment is required to sustain the production based economy and support employment as the rural population moves to urban centers

Any disruption to these transitions will have global repercussions due to China's role in the global economy

China must manage competing social goals in attempting to sustain growth

Engineering an orderly transition to a consumer-led economy requires supporting employment outside the major cities and improving quality of life metrics such as air quality in the urban centers

Future growth in a services based economy requires advancement in productivity, technology, and a more skilled labor force



Source: (Top) Bloomberg

Source: (Bottom) Bloomberg, *Includes estimate for Nov/Dec 2017



KEY MARKET THEMES

China Transitions

The PBOC is tasked with straddling a delicate path as the economy evolves

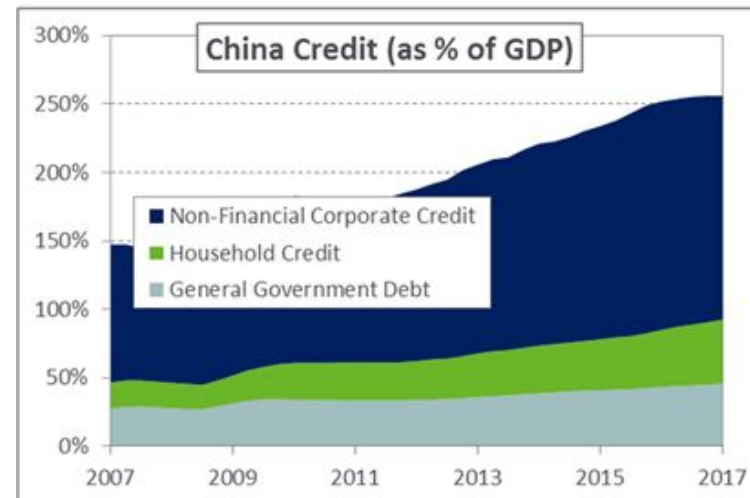
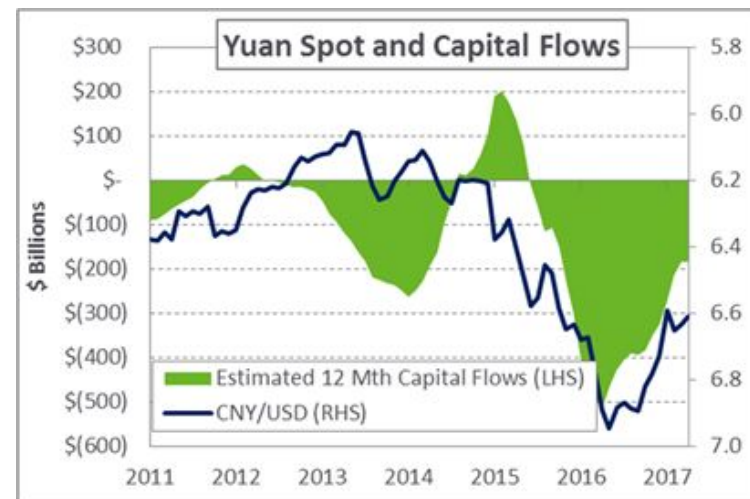
China maintains control of its currency and monetary policy but would have to make concessions to open its capital account and allow the free movement of capital in order to encourage investment

Restrictions on capital markets are slowly being eased, with an eye towards limiting social disruption

China's government is negotiating a balance of tightening credit expansion and support for economic growth

Continued credit expansion and real estate development risk inflating asset price bubbles and pose a systemic risk

Markets have responded positively to the PBOC's management of a more stable yuan as capital outflow pressure has eased but currency devaluation remains a tail risk



Source: (Top) Bloomberg, NEPC

Source: (Bottom) Bank of International Settlements



KEY MARKET THEMES

Globalization Backlash

Uneven economic growth and wage gains have fueled political discontent in the developed world

Election results in France have assuaged fears of political gridlock in the EU

Italian election in first half of 2018 is another potential flashpoint on globalization

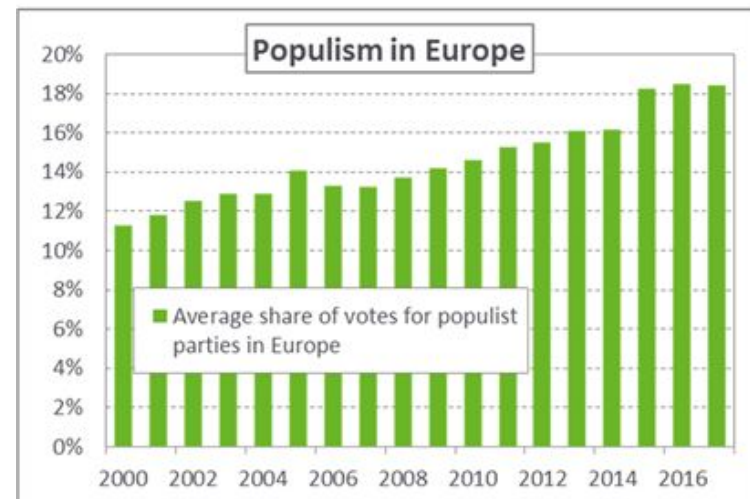
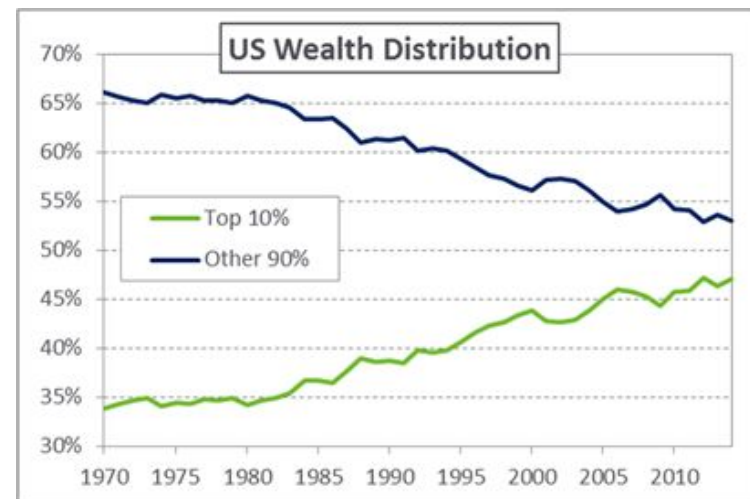
Anti-establishment political bias is likely a long term trend and potentially leads to higher levels of currency volatility over time

For many nations, a turn inward is associated with globalization fatigue

Often fuels greater expression of nationalism and increased geopolitical risks as multilateral relationships are reassessed

Populist movements destabilize the political order and shifts away from political orthodoxy heighten tail risks

However, equity markets often overreact to geopolitical concerns and sell-offs can be a buying opportunity for investors



Source: (Top) World Wealth & Income Database

Source: (Bottom) World Bank



KEY MARKET THEMES

Globalization Backlash

Major shifts in US trade policy did not materialize in 2017

However, a more aggressive protectionist policy would represent a material risk to global markets and the world economy

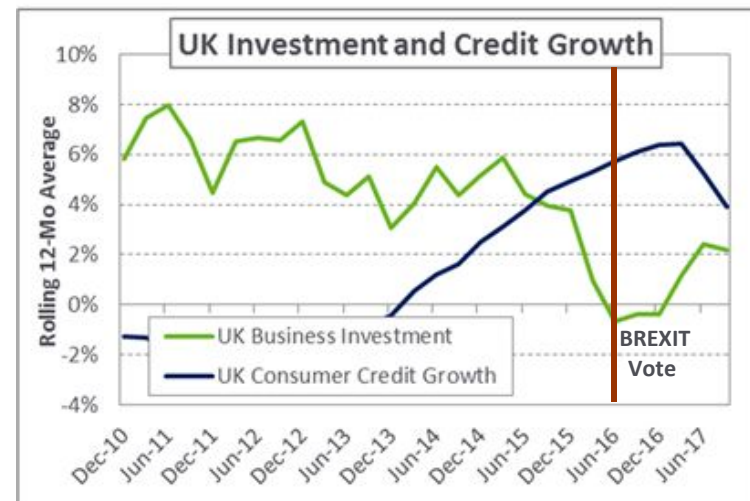
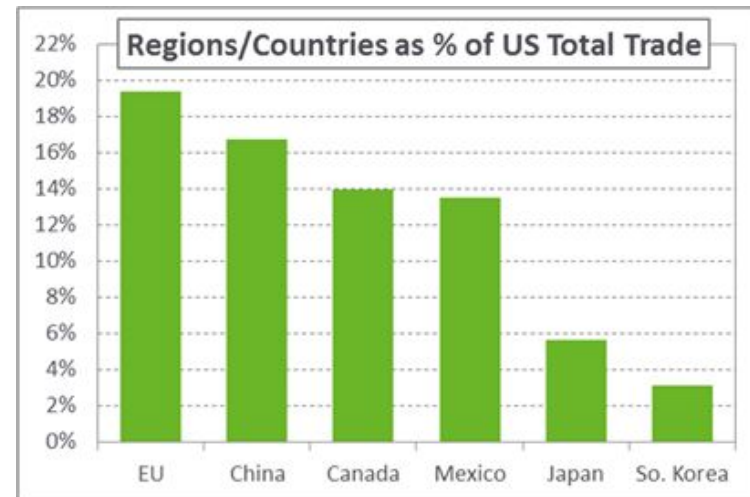
Markets have taken to interpreting the US administration's rhetoric with a grain of salt but ongoing NAFTA negotiations are a concern

The UK serves as a live case study for the effects of globalization backlash

While it is early in the process, economic metrics across the country have turned lower in the 18 months since UK voted to leave the European Union

Expected disruption to financial regulations, customs controls, and business confidence in the UK are proving to be a cautionary tale for a turn away from globalization

However, the economic unease of voters remain and popularity of anti-establishment political parties poses a risk to the global economic order



Source: (Top) Federal Reserve Bank of St. Louis

Source: (Bottom) Bloomberg



CURRENT OPPORTUNITIES

Trim US Equity Gains

US stocks have posted strong returns over the last 9 years

US stocks are “priced for perfection” with valuations and profit margins hovering near secular highs despite the recent earnings growth improvement

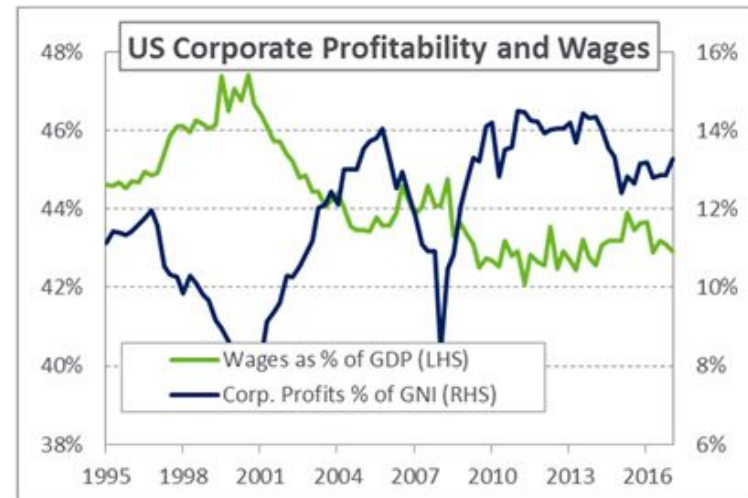
However, a prolonged US economic expansion can continue to support a rally in US equities, specifically small-cap stocks that may benefit from corporate tax cuts

Reduce US large-cap exposure to fund global equity strategies

Opportunity for alpha generation and total return is greater outside the US

US equities are also a viable funding source for private market commitments

Should US equity markets decline materially, look to rebalance to exploit market volatility



Source: (Top) Federal Reserve Bank of St. Louis
Source: (Bottom) S&P, MSCI, Bloomberg



CURRENT OPPORTUNITIES

Overweight Non-US Developed Market Equities

A multi-year earnings recovery in EAFE markets offers the potential for an elevated return

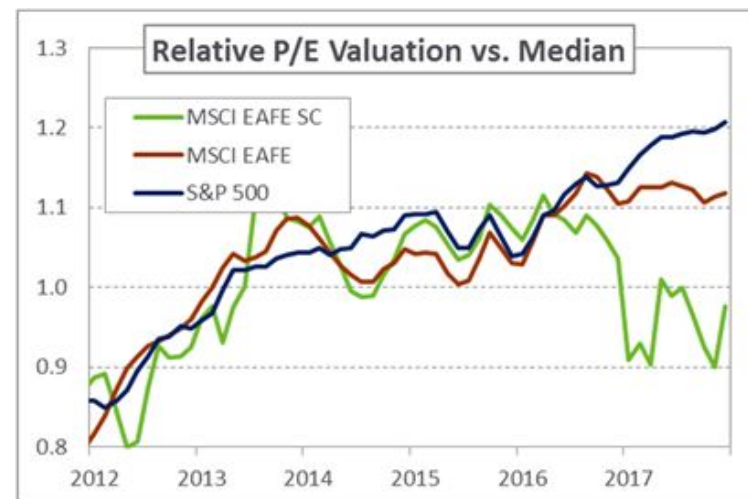
Catalysts for outperformance are present with improving economic conditions in Europe and continued corporate governance improvements in Japan

Earnings recovery appears to be taking hold in Europe where an uncertain political outlook has gained clarity

Non-US small cap and global equity are preferred for implementation

These strategies offer the best opportunity to exploit valuation discrepancies among stocks across countries and sectors

Hedging a portion of non-US developed currency exposure remains a strategic recommendation



Source: (Top) Bloomberg, NEPC

Source: (Bottom) S&P, MSCI, Bloomberg, NEPC



CURRENT OPPORTUNITIES

Maintain Overweight to Emerging Market Equities

Emerging equities offer the highest total return potential for investors

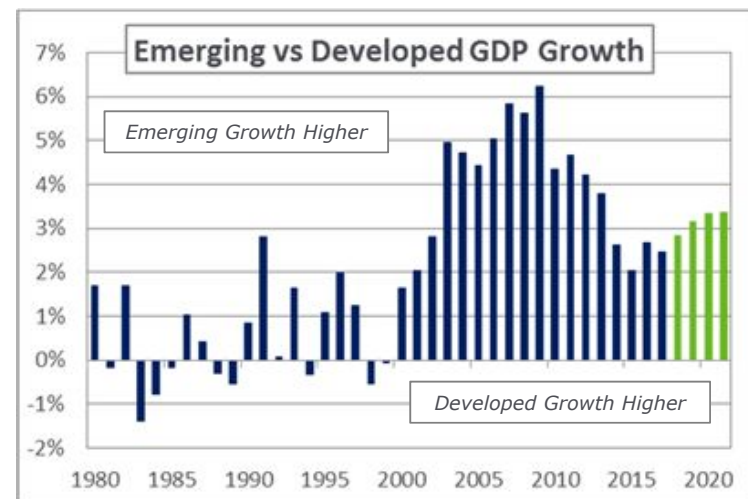
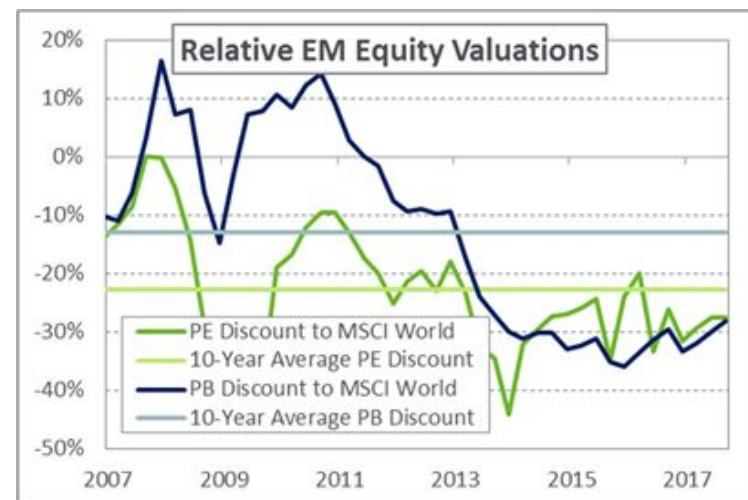
Valuation levels and fundamentals suggest an overweight relative to global equity market cap weights (e.g. 15% to 20%)

Growth premium relative to the developed world persists as economic conditions in EM improve due to synchronized global growth

High tracking error strategies offer greater flexibility to invest across emerging countries and are preferred to benchmark focused mandates

Opportunity set for excess return appears more abundant in EM versus developed markets

Strategies that invest down the market cap spectrum can offer investors more pure local growth exposure



Source: (Top) MSCI, Bloomberg
Source: (Bottom) IMF



CURRENT OPPORTUNITIES

Allocate to TIPS from Core Bonds

Duration exposure remains a key asset allocation building block for a diversified portfolio

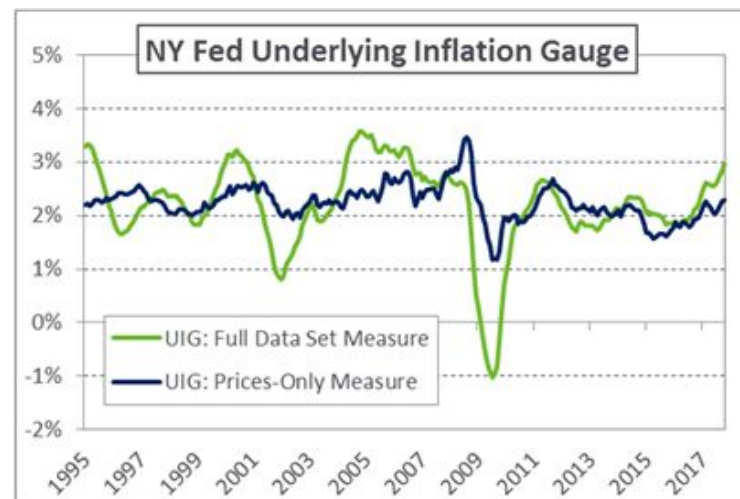
TIPS offer safe haven exposure with an explicit hedge for realized inflation and can be implemented with a low cost passive strategy

Current core bond yields offer limited cushion before taking on losses in a rising interest rate environment

Increase in inflation expectations would favor TIPS over nominal bonds

TIPS yields are priced off real rates and sensitive to Fed tightening but a gradual path of normalization should mitigate the risk of a sharp rise in real interest rates

An allocation to TIPS diversifies core bond exposure and improves risk balance across economic environments



Source: (Top) Bureau of Labor Statistics, Bloomberg, NEPC

Source: (Bottom) New York Fed



CURRENT OPPORTUNITIES

Reduce Return Seeking Credit Exposure

Over the last 18 months, high yield bonds have provided strong gains

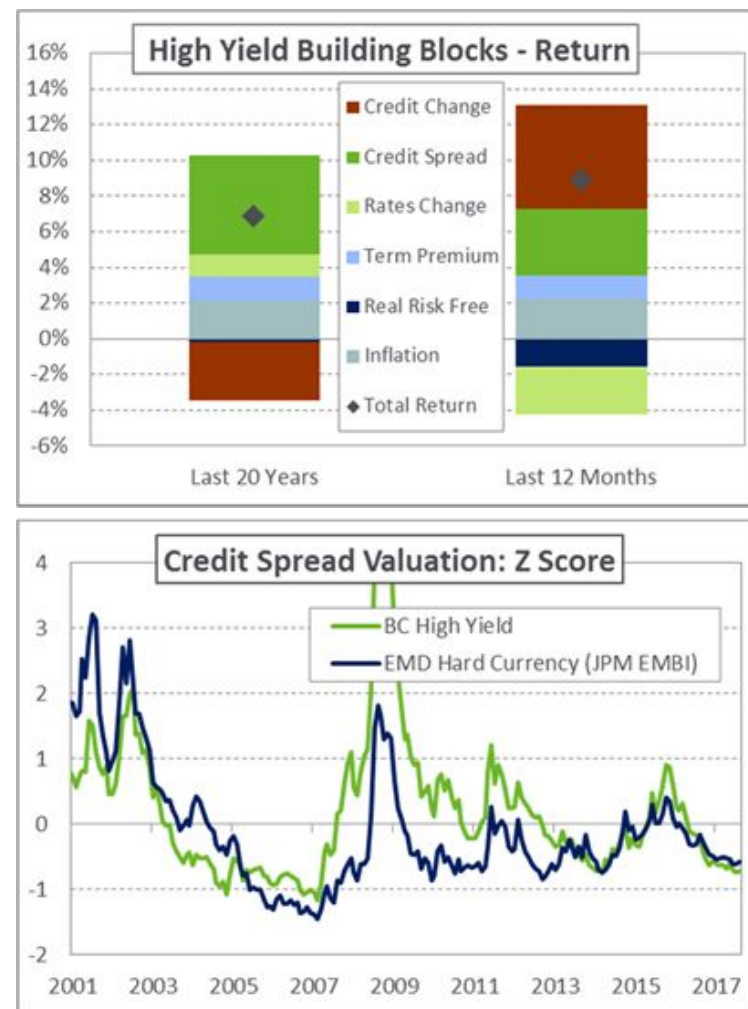
Attractive credit spreads seen in early 2016 have now fallen below historic medians and do not appear to fully compensate investors for the risk

Reallocate gains from liquid credit markets to other areas of the portfolio (e.g. equity, private markets, safe haven fixed income)

Valuations of other credit sectors appear stretched with dollar based EMD also looking expensive

Recommend investors eliminate or reduce dollar-denominated emerging market debt as both sovereign and corporate spreads have tightened

We encourage reallocating the proceeds of dollar based EMD to a smaller mandate in EMD local or moving to other areas of the portfolio (e.g. equity, idiosyncratic credit opportunities)



Source: (Top) MSCI, Bloomberg
Source: (Bottom) IMF



CURRENT OPPORTUNITIES

Fund Emerging Local Debt

EM local debt offers an attractive total return opportunity

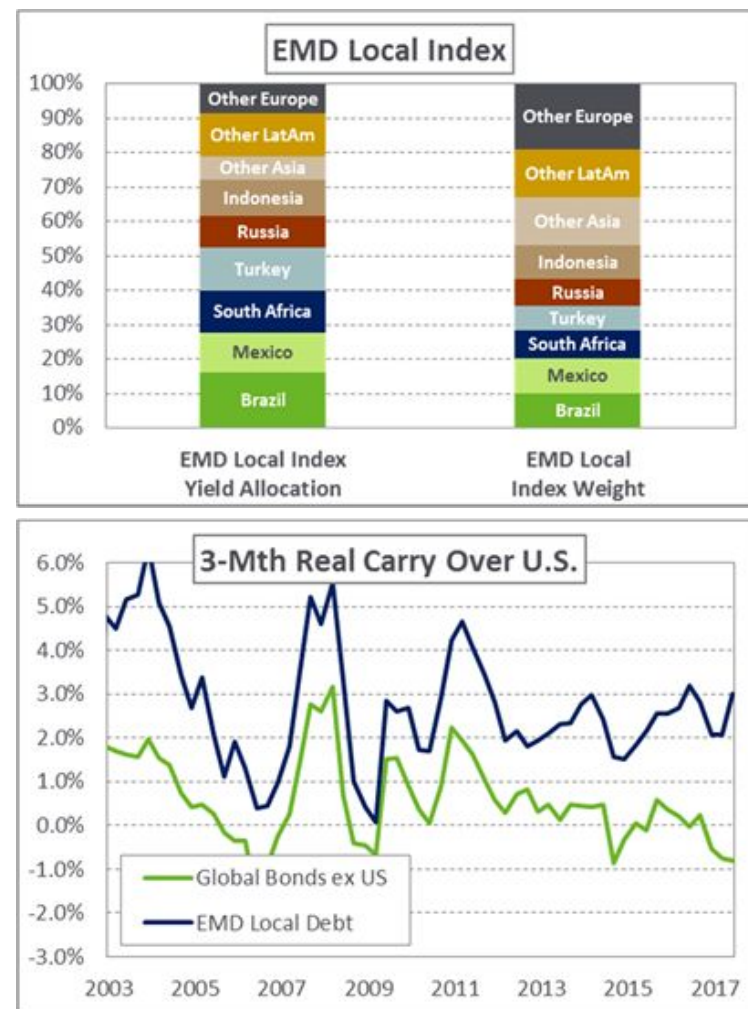
Above average index yield relative to developed world provides a cushion to offset potentially high currency volatility

Valuations for many emerging market currencies remain attractive despite recent rally in select markets

For tactically oriented investors, look to fund emerging local debt from high yield and dollar denominated EMD

Preferred implementation is a stand alone EM local debt strategy

For investors with an existing dollar denominated EMD allocation, we encourage shifting the exposure to local currency debt but reduce the exposure size to account for the higher volatility of emerging local currency debt



Source: (Top) JP Morgan

Source: (Bottom) JP Morgan, Bloomberg, NEPC



CURRENT OPPORTUNITIES

Add Macro Hedge Funds

Macro hedge fund strategies offer broad benefits to a total portfolio

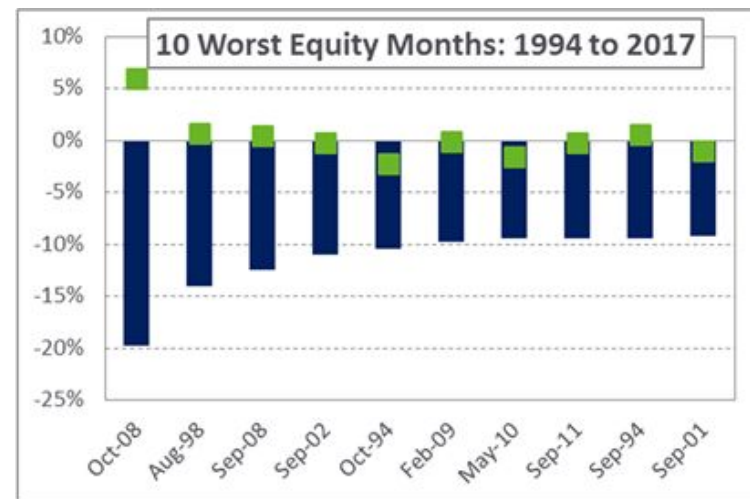
Allocations of size (e.g. 5%) help to mitigate the left-tail of a portfolio return distribution

Investors should be targeted in their approach to portfolio construction as manager selection is paramount

Fund systematic global macro from broad based GAA and hedge fund of fund strategies

Systematic strategies tend to exhibit low correlation to equity markets and are strong diversifiers within a total portfolio

Many systematic macro strategies exhibit "crisis alpha" or excess performance in risk-off periods



Global Macro Strategies*

Discretionary

Directional

Relative Value

Systematic

Fundamental Systematic

Trend-Following

Source: (Top) eVestment, HFRI

*Not intended to be an all inclusive Macro sub-strategy list



CURRENT OPPORTUNITIES

Add Long Volatility Exposure

Volatility levels for global markets are near historic lows

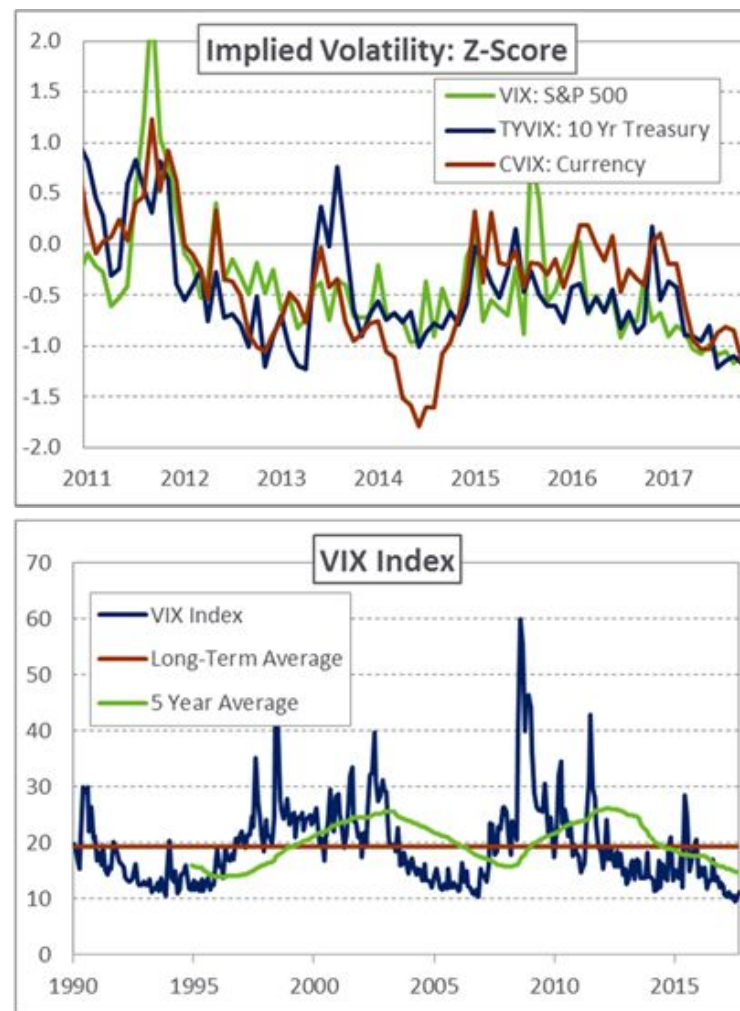
Long volatility exposure positively benefits from rising asset class volatility and an allocation of 1% to 2% can provide a significant return contribution should volatility normalize

Exposure is not without risk. Losses would be expected if market volatility continues to decline. Discipline of a multi-year time horizon is required should volatility levels move slowly back to normal levels

Long volatility strategies with positive carry are the only implementation option we recommend

Purchasing S&P VIX is a costly method to implement long volatility exposure due to the negative roll yield of the VIX curve

Suited for opportunistic investors and ideally funded from traditional GAA strategies



Source: (Top) Bloomberg
Source: (Bottom) Bloomberg

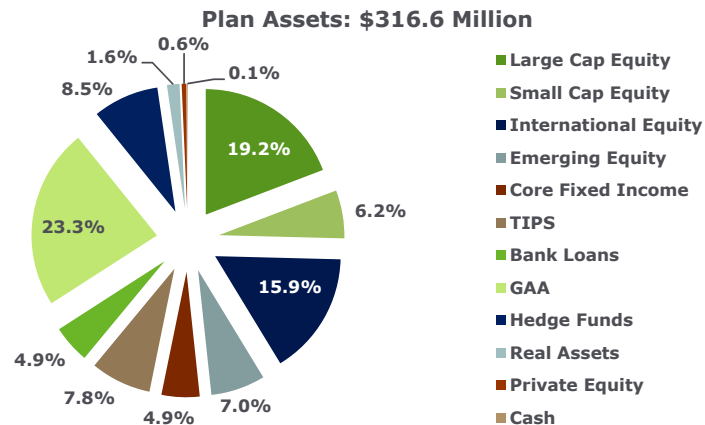


EXECUTIVE SUMMARY

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION



PLAN COMMENTS

Asset Allocation

MIP assets were \$316.6 million as of December 31, 2017, a \$10.2 million increase over the quarter. During the 4th quarter there was a \$2.0 million cash outflow from the Pool and investment gains of \$12.2 million. All asset classes are within policy ranges.

Performance (Net of Fees)

The Plan returned 3.8% in the 4th quarter and 15.2% over the one year period, ranking in the 28th and 55th percentiles, respectively.

The rate of return assumption for the portfolio in 2017 was 7.5% and the MIP exceeded this calendar year-to-date. It is important to note that there will be volatility around these expected returns each year.

MIP PERFORMANCE: NET OF FEES

	QTR (%)	FYTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	7 YR (%)	10 YR (%)
--	---------	----------	----------	----------	----------	----------	-----------

COMPOSITE	3.8	6.7	15.2	5.8	6.8	6.4	4.8
ALLOC. INDEX	3.9	7.8	16.2	6.6	7.4	6.6	4.7
POLICY INDEX	3.9	7.9	16.9	7.2	7.7	6.8	5.3
RANK (E&F \$100-500M)	28	65	55	77	84	82	70

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

Rebalancing was provided to cover disbursements.

Recommendations

NEPC has provided information surrounding asset allocation under separate cover.

Investment Manager Updates

Newton, Guggenheim and GMO had announcements during the 4th quarter; no action is recommended.



INVESTMENT MANAGER UPDATES

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
Aberdeen Asset Management <i>Emerging Markets Equity</i>	No	Maintain Hold
EntrustPermal Ltd. <i>Fixed Income Holdings Inst.</i>	No	Maintain Hold
Newton Investment Management <i>Newton Global Real Return USD</i>	Yes	No Action
Guggenheim Investments <i>US Bank Loans</i>	Yes	Maintain Hold
Grantham, Mayo, Van Otterloo & Co. LLC <i>Global Allocation Absolute Return Strategy</i>	Yes	Upgraded to No Action



TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
MIP Composite	316,629,173	100.0	100.0	3.8	6.7	15.2	15.2	10.1	5.8	6.8	6.4	4.8
Allocation Index				3.9	7.8	16.2	16.2	10.9	6.6	7.4	6.6	4.7
Policy Index				3.9	7.9	16.9	16.9	11.8	7.2	7.7	6.8	5.3
Total Domestic Large Cap	60,670,469	19.2	16.0	6.6	11.4	21.7	21.7	16.7	11.3	15.3	13.4	8.9
S&P 500				6.6	11.4	21.8	21.8	16.8	11.4	15.8	13.8	8.5
SSgA S&P 500	60,670,469	19.2	16.0	6.6	11.4	21.7	21.7	16.7	11.3	15.7	13.7	8.5
S&P 500				6.6	11.4	21.8	21.8	16.8	11.4	15.8	13.8	8.5
Total Domestic Small/Mid Cap	19,549,085	6.2	6.0	7.3	12.3	20.4	20.4	18.0	10.2	14.7	12.6	9.8
Russell 2500				5.2	10.2	16.8	16.8	17.2	10.1	14.3	12.2	9.2
Westfield Capital	10,817,843	3.4	3.0	9.6	14.3	30.7	30.7	16.6	9.8	14.4	12.8	9.8
Russell 2500 Growth				6.3	12.5	24.5	24.5	16.9	10.9	15.5	13.0	9.6
DFA	8,731,242	2.8	3.0	4.5	10.0	9.6	9.6	17.9	9.5	14.1	11.6	--
Russell 2000 Value				2.0	7.3	7.8	7.8	19.2	9.5	13.0	10.8	8.2
Total International Equity (including emerging markets)	72,576,996	22.9	23.0	5.1	9.5	27.1	27.1	12.9	7.5	6.0	5.5	2.2
MSCI EAFE				4.2	9.9	25.0	25.0	12.4	7.8	7.9	6.0	1.9
Morgan Stanley	19,340,979	6.1	6.3	3.8	7.3	25.2	25.2	10.8	7.2	6.8	6.3	2.9
Globeflex	19,711,463	6.2	6.3	3.8	12.1	30.1	30.1	13.6	9.8	9.2	7.2	1.6
MSCI EAFE				4.2	9.9	25.0	25.0	12.4	7.8	7.9	6.0	1.9
Kabouter International Opportunities Offshore Fund II	11,436,908	3.6	3.5	--	--	--	--	--	--	--	--	--
MSCI EAFE Small Cap				6.1	14.0	33.0	33.0	16.6	14.2	12.9	9.2	5.8
Emerging Markets Equity	22,087,646	7.0	7.0	8.0	8.6	25.3	25.3	14.0	4.7	1.2	2.5	--
MSCI Emerging Markets				7.4	15.9	37.3	37.3	23.5	9.1	4.3	2.6	1.7
Aberdeen Emerging Mkts	10,917,498	3.4	3.5	4.9	9.4	30.2	30.2	20.8	8.0	2.6	3.5	--
MSCI Emerging Markets				7.4	15.9	37.3	37.3	23.5	9.1	4.3	2.6	1.7
Mondrian EM Small Cap	11,170,148	3.5	3.5	11.2	7.5	19.9	19.9	7.5	1.4	--	--	--
MSCI Emerging Markets Small Cap				9.2	15.4	33.8	33.8	17.0	8.4	5.4	2.1	2.8
Total Fixed Income	55,927,758	17.7	18.0	1.0	1.9	5.1	5.1	5.2	2.7	3.2	4.7	4.7
BBgBarc US Aggregate TR				0.4	1.2	3.5	3.5	3.1	2.2	2.1	3.2	4.0
Commonfund	15,553,798	4.9	5.0	0.5	1.6	5.0	5.0	4.2	2.7	2.9	4.2	4.5
BBgBarc US Aggregate TR				0.4	1.2	3.5	3.5	3.1	2.2	2.1	3.2	4.0
Vanguard Inflation-Protected Securities	24,799,411	7.8	8.0	1.2	2.0	3.0	3.0	--	--	--	--	--
BBgBarc US TIPS TR				1.3	2.1	3.0	3.0	3.8	2.0	0.1	2.9	3.5



TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Guggenheim US Bank Loans	15,574,549	4.9	5.0	1.1	2.1	--	--	--	--	--	--	--
Credit Suisse Leveraged Loans				1.2	2.2	4.2	4.2	7.0	4.5	4.3	4.7	4.6
Total GAA	73,794,563	23.3	23.0	2.2	4.2	11.7	11.7	8.0	3.8	4.0	3.7	--
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				4.1	8.2	17.9	17.9	11.8	6.8	7.3	6.5	4.4
GMO Global Absolute Return	24,528,949	7.7	7.7	3.0	5.3	13.6	13.6	8.5	4.2	4.8	5.4	4.8
Blended Index				1.0	2.4	5.6	5.6	5.9	3.9	3.3	4.6	4.9
Wellington	24,964,485	7.9	7.7	2.8	6.6	17.4	17.4	11.4	7.5	6.7	4.2	--
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				4.1	8.2	17.9	17.9	11.8	6.8	7.3	6.5	4.4
Newton Global Real Return	24,301,128	7.7	7.7	0.7	0.6	4.3	4.3	--	--	--	--	--
60% MSCI ACWI (Net) / 40% BBgBarc Global Agg				3.9	7.8	17.1	17.1	11.2	6.5	6.8	6.1	4.3
Total Hedge Funds	26,940,771	8.5	9.0	2.1	4.0	5.6	5.6	4.2	1.7	2.7	1.8	1.4
HFRI Fund of Funds Composite Index				2.0	4.3	7.7	7.7	4.0	2.6	4.0	2.7	1.1
EntrustPermal	8,699,775	2.7	3.0	0.5	2.3	3.2	3.2	3.8	1.1	3.2	3.0	--
HFRI Fund of Funds Composite Index				2.0	4.3	7.7	7.7	4.0	2.6	4.0	2.7	1.1
Lighthouse	18,240,996	5.8	6.0	2.9	4.9	7.4	7.4	3.7	--	--	--	--
Credit Suisse Long Shrt Eqt USD				3.3	6.4	13.4	13.4	4.7	4.3	7.1	5.1	4.0
Total Real Assets	5,135,385	1.6	3.0	4.2	2.1	1.8	1.8	-2.0	-0.1	2.7	3.7	--
NCREIF Timberland Index				1.5	2.1	3.6	3.6	3.2	3.8	6.2	5.8	4.4
John Hancock Timber Fund	5,135,385	1.6	3.0	4.2	2.1	1.8	1.8	-2.0	-0.1	2.7	3.8	-0.1
NCREIF Timberland Index				1.5	2.1	3.6	3.6	3.2	3.8	6.2	5.8	4.4
Private Equity	1,810,544	0.6	2.0	0.0	4.1	7.7	7.7	11.0	8.4	--	--	--
Landmark Equity Partners XV	1,810,544	0.6	2.0	0.0	4.1	7.7	7.7	11.0	8.4	--	--	--
Cambridge Associates US All PE (1 Qtr Lag)				3.8	7.5	16.7	16.7	12.7	10.4	13.3	13.7	9.6
Total Cash	223,603	0.1	0.0									
Distribution Account	223,603	0.1	0.0	0.2	0.4	0.6	0.6	0.3	0.2	0.1	0.1	0.4
91 Day T-Bills				0.3	0.6	0.9	0.9	0.6	0.4	0.3	0.2	0.3

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 12/31/17

Landmark market value as of 12/31/17



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 \$2.37 million
 - Since inception, the strategy has an IRR of 16.5%, net of fees (9/30/17)
- **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 1.5%, net of fees (12/31/17)



PLAN SUMMARY AND STATISTICS

NEPC, LLC

ASSET GROWTH SUMMARY



	Last Three Months	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	\$306,415,299	\$296,129,542	\$271,766,432	\$265,242,093
Net Cash Flow	-\$2,032,209	-\$791,142	\$495,242	-\$4,968,450
Net Investment Change	\$12,246,083	\$21,290,773	\$44,367,500	\$56,355,530
Ending Market Value	\$316,629,173	\$316,629,173	\$316,629,173	\$316,629,173

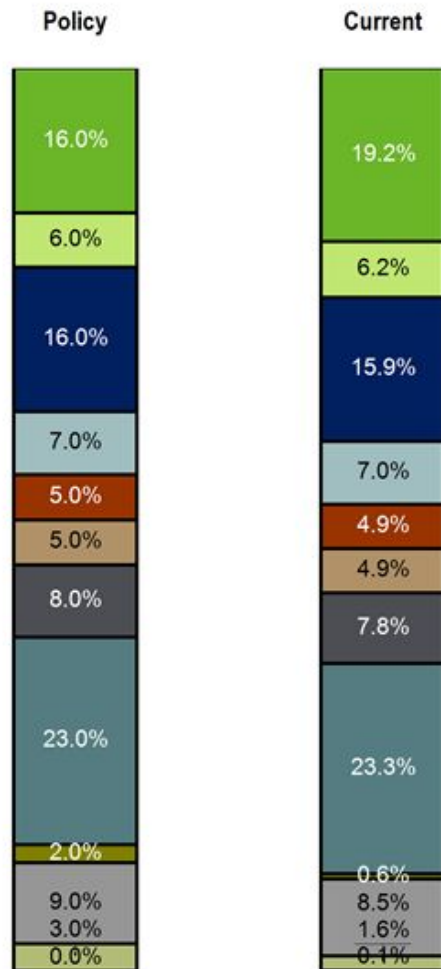


CASH FLOW SUMMARY

	3 Months Ending December 31, 2017					
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Aberdeen Emerging Mkts	\$10,404,788	\$0	-\$29,242	-\$29,242	\$541,952	\$10,917,498
Commonfund	\$14,978,703	\$500,000	-\$6,135	\$493,866	\$81,230	\$15,553,798
DFA	\$8,355,128	\$0	-\$8,824	-\$8,824	\$384,938	\$8,731,242
Distribution Account	\$1,529,050	\$15,152,299	-\$16,461,637	-\$1,309,338	\$3,891	\$223,603
EntrustPermal	\$8,660,351	\$0	\$0	\$0	\$39,424	\$8,699,775
Globeflex	\$26,366,469	\$0	-\$7,541,118	-\$7,541,118	\$886,112	\$19,711,463
GMO Global Absolute Return	\$23,754,222	\$0	-\$60,704	-\$60,704	\$835,431	\$24,528,949
Guggenheim US Bank Loans	\$14,606,944	\$800,000	-\$19,081	\$780,919	\$186,686	\$15,574,549
John Hancock Timber Fund	\$5,020,486	\$0	-\$97,500	-\$97,500	\$212,399	\$5,135,385
Kabouter International Opportunities Offshore Fund II	--	\$11,000,000	-\$18,981	\$10,981,019	\$455,889	\$11,436,908
Landmark Equity Partners XV	\$1,936,205	\$147,427	-\$273,088	-\$125,661	\$0	\$1,810,544
Lighthouse	\$17,726,360	\$0	\$0	\$0	\$514,636	\$18,240,996
Mondrian EM Small Cap	\$10,034,981	\$0	-\$72,022	-\$72,022	\$1,207,189	\$11,170,148
Morgan Stanley	\$25,572,936	\$0	-\$7,045,388	-\$7,045,388	\$813,432	\$19,340,979
Newton Global Real Return	\$22,431,040	\$1,700,000	-\$48,592	\$1,651,408	\$218,681	\$24,301,128
SSgA S&P 500	\$56,905,291	\$0	-\$13,811	-\$13,811	\$3,778,989	\$60,670,469
Vanguard Inflation-Protected Securities	\$24,000,246	\$500,000	-\$4,307	\$495,693	\$303,472	\$24,799,411
Wellington	\$24,251,445	\$0	-\$107,292	-\$107,292	\$820,332	\$24,964,485
Westfield Capital	\$9,880,655	\$0	-\$24,213	-\$24,213	\$961,401	\$10,817,843
Total	\$306,415,299	\$29,799,726	-\$31,831,935	-\$2,032,209	\$12,246,083	\$316,629,173



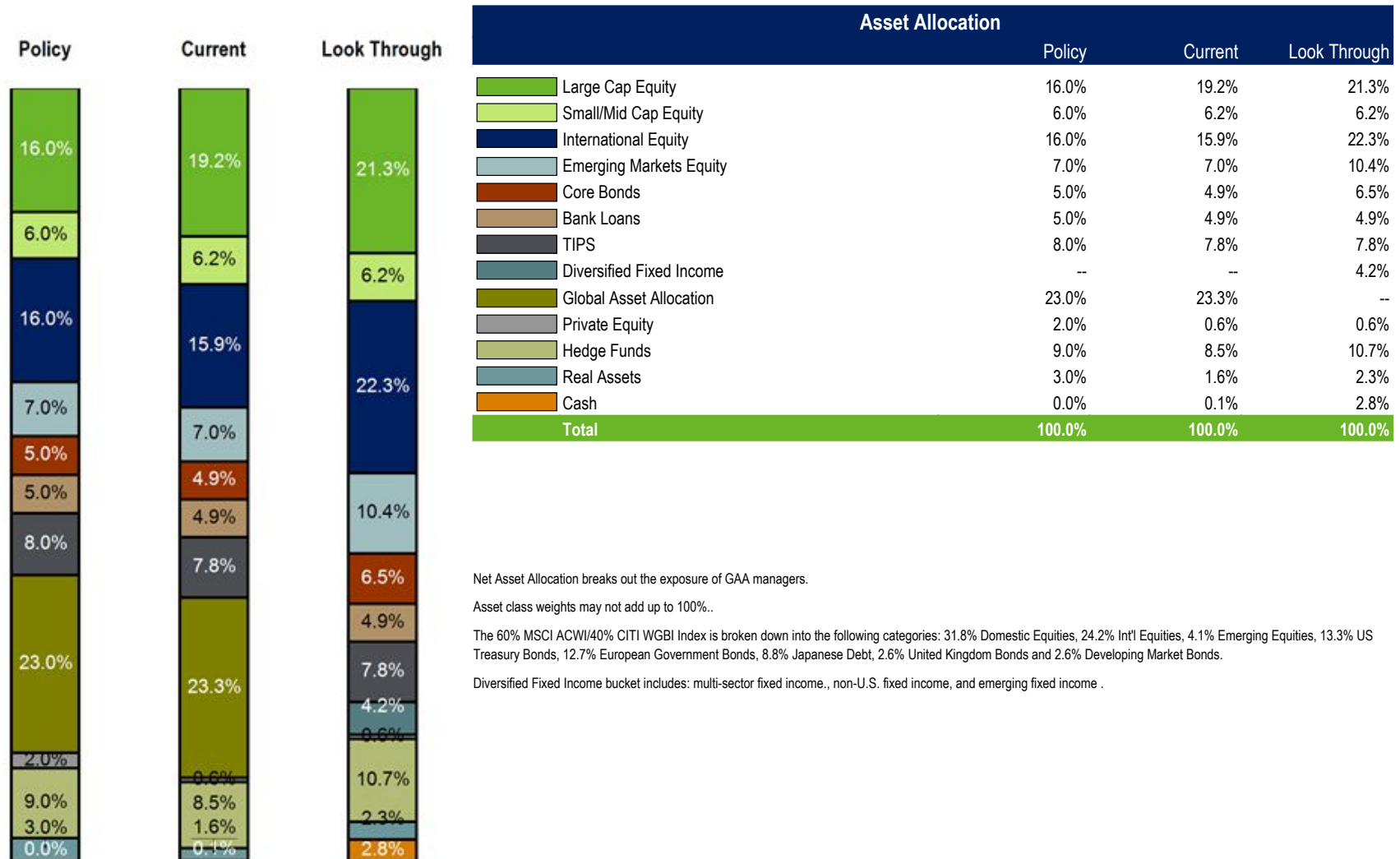
ASSET CLASS ALLOCATIONS



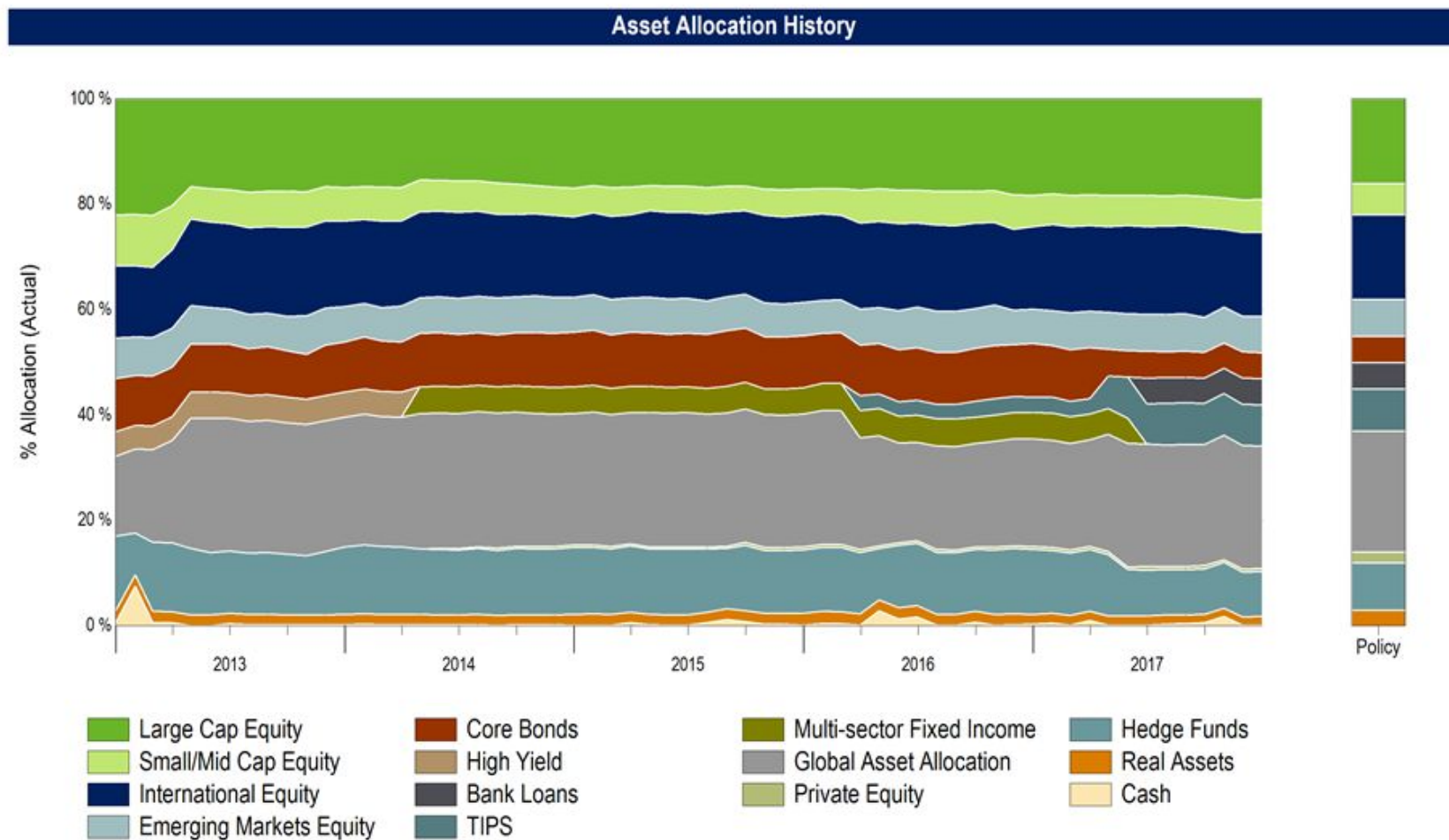
Asset Allocation vs. Target							
	Current	Policy	Current	Difference	Policy Range	Within Range	
Large Cap Equity	\$60,670,469	16.0%	19.2%	3.2%	11.0% - 21.0%	Yes	
Small/Mid Cap Equity	\$19,549,085	6.0%	6.2%	0.2%	0.0% - 9.0%	Yes	
International Equity	\$50,489,351	16.0%	15.9%	-0.1%	11.0% - 21.0%	Yes	
Emerging Markets Equity	\$22,087,646	7.0%	7.0%	0.0%	0.0% - 10.0%	Yes	
Core Bonds	\$15,553,798	5.0%	4.9%	-0.1%	0.0% - 10.0%	Yes	
Bank Loans	\$15,574,549	5.0%	4.9%	-0.1%	0.0% - 8.0%	Yes	
TIPS	\$24,799,411	8.0%	7.8%	-0.2%	4.0% - 12.0%	Yes	
Global Asset Allocation	\$73,794,563	23.0%	23.3%	0.3%	18.0% - 28.0%	Yes	
Private Equity	\$1,810,544	2.0%	0.6%	-1.4%	0.0% - 5.0%	Yes	
Hedge Funds	\$26,940,771	9.0%	8.5%	-0.5%	0.0% - 15.0%	Yes	
Real Assets	\$5,135,385	3.0%	1.6%	-1.4%	0.0% - 6.0%	Yes	
Cash	\$223,603	0.0%	0.1%	0.1%	0.0% - 10.0%	Yes	
Total	\$316,629,173	100.0%	100.0%				



ASSET CLASS ALLOCATIONS

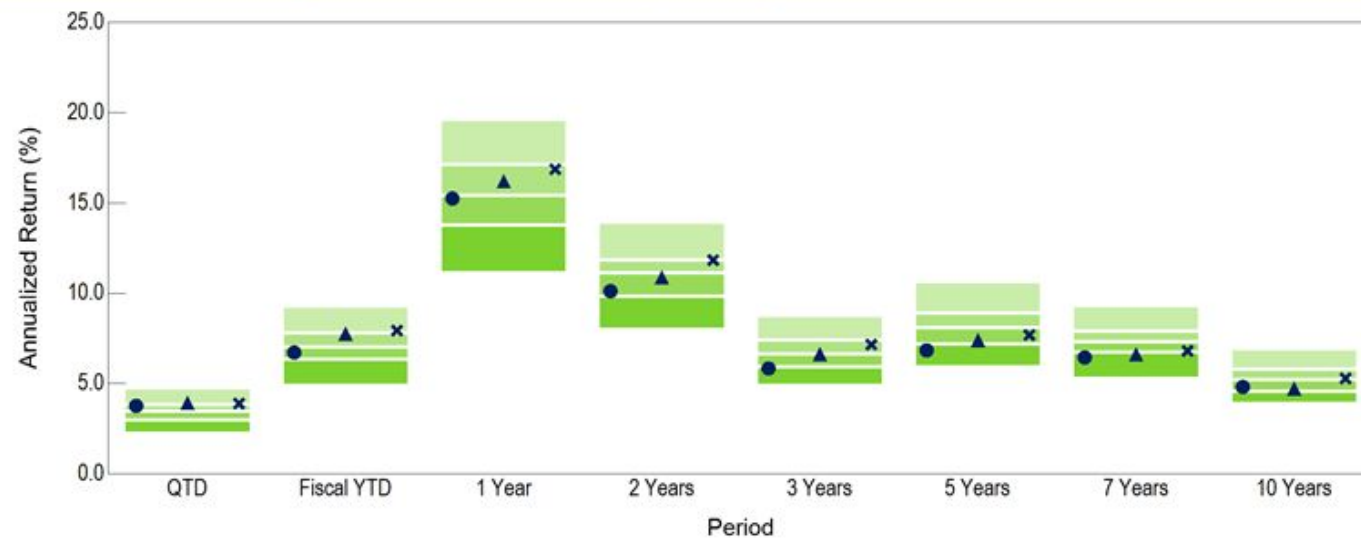


ASSET ALLOCATION HISTORY



RETURNS VS. PEER UNIVERSE

MIP Composite vs. InvestorForce All E&F \$100mm - \$500mm Net



	Return (Rank)							
5th Percentile	4.8	9.3	19.6	13.9	8.8	10.6	9.3	6.9
25th Percentile	3.8	7.8	17.2	11.9	7.4	8.9	7.9	5.8
Median	3.5	7.0	15.4	11.2	6.6	8.1	7.3	5.2
75th Percentile	3.0	6.4	13.8	9.9	6.0	7.2	6.7	4.6
95th Percentile	2.3	4.9	11.1	8.0	4.9	5.9	5.3	3.9
# of Portfolios	180	178	177	173	167	151	144	133
• MIP Composite	3.8 (28)	6.7 (65)	15.2 (55)	10.1 (71)	5.8 (77)	6.8 (84)	6.4 (82)	4.8 (70)
▲ Allocation Index	3.9 (21)	7.8 (27)	16.2 (37)	10.9 (56)	6.6 (51)	7.4 (71)	6.6 (77)	4.7 (74)
× Policy Index	3.9 (23)	7.9 (19)	16.9 (29)	11.8 (26)	7.2 (33)	7.7 (63)	6.8 (72)	5.3 (48)



RETURNS VS. PEER UNIVERSE

MIP Composite vs. InvestorForce All E&F \$100mm - \$500mm Net

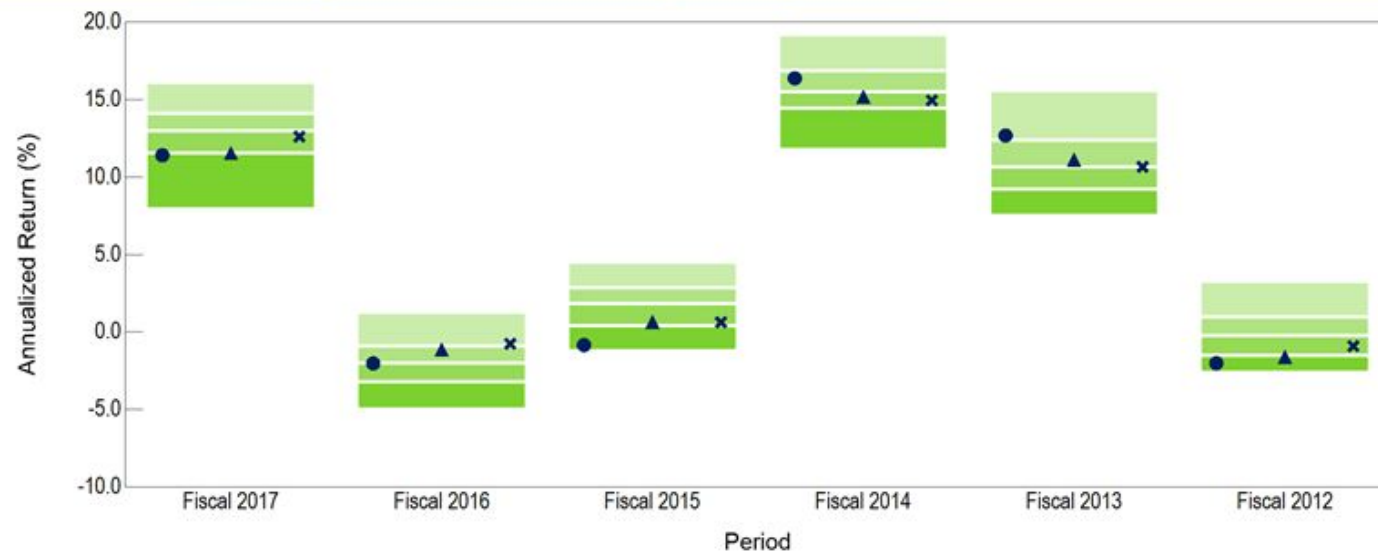


	Return (Rank)									
5th Percentile	19.6	9.2	1.3	7.3	20.5	14.1	4.2	14.6	26.9	-15.9
25th Percentile	17.2	7.4	-0.7	5.7	16.8	13.0	0.5	13.3	24.3	-23.4
Median	15.4	6.2	-1.7	4.4	14.2	12.3	-0.6	12.4	21.1	-26.9
75th Percentile	13.8	5.2	-2.7	3.6	11.5	11.3	-1.8	11.1	18.9	-29.5
95th Percentile	11.1	3.6	-4.3	2.0	7.4	9.0	-3.6	8.3	14.6	-32.7
# of Portfolios	177	186	142	98	75	78	75	70	69	67
• MIP Composite	15.2 (55)	5.2 (75)	-2.2 (64)	2.9 (86)	14.1 (53)	14.4 (3)	-2.8 (90)	12.3 (53)	26.8 (9)	-27.4 (57)
▲ Allocation Index	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)	-24.3 (30)
× Policy Index	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)	-21.8 (16)



RETURNS VS. PEER UNIVERSE

MIP Composite vs. InvestorForce All E&F \$100mm - \$500mm Net

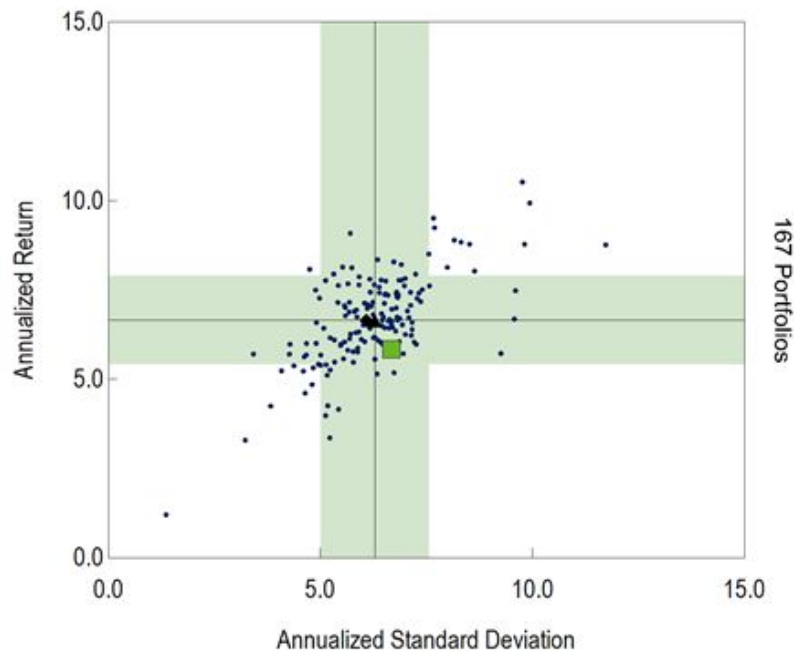


	Return (Rank)											
5th Percentile	16.1	1.2	4.5	19.2	15.5	3.3						
25th Percentile	14.1	-0.9	2.9	16.9	12.4	1.0						
Median	13.0	-2.0	1.9	15.5	10.7	-0.2						
75th Percentile	11.6	-3.2	0.4	14.5	9.2	-1.5						
95th Percentile	8.0	-4.9	-1.2	11.8	7.6	-2.6						
# of Portfolios	180	157	130	83	81	75						
• MIP Composite	11.4	(78)	-2.0	(51)	-0.8	(94)	16.4	(32)	12.7	(23)	-2.0	(88)
▲ Allocation Index	11.6	(76)	-1.1	(29)	0.7	(70)	15.2	(63)	11.1	(45)	-1.6	(83)
× Policy Index	12.6	(59)	-0.8	(24)	0.6	(70)	14.9	(65)	10.7	(50)	-0.9	(66)



TOTAL PLAN RISK/RETURN - 3 YEAR

3 Years Ending December 31, 2017



- MIP Composite
- ◆ Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce All E&F \$100mm - \$500mm Net

3 Years Ending December 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
MIP Composite	5.8%	77	6.7%	67
Allocation Index	6.6%	51	6.1%	43
Policy Index	7.2%	33	6.2%	44
InvestorForce All E&F \$100mm - \$500mm Net Median	6.6%	--	6.3%	--

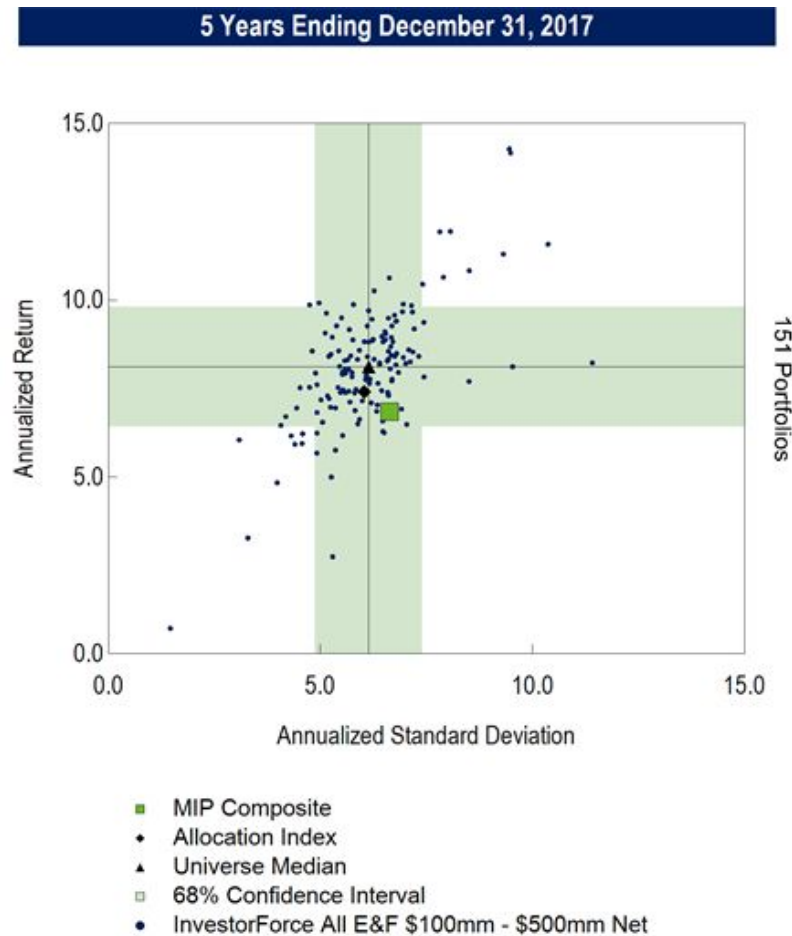
3 Years Ending December 31, 2017

	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
MIP Composite	0.8	90	1.1	83
Allocation Index	1.0	43	1.4	33
Policy Index	1.1	28	1.6	14
InvestorForce All E&F \$100mm - \$500mm Net Median	1.0	--	1.3	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 5 YEAR



5 Years Ending December 31, 2017				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
MIP Composite	6.8%	84	6.6%	72
Allocation Index	7.4%	71	6.0%	46
Policy Index	7.7%	63	6.0%	45
InvestorForce All E&F \$100mm - \$500mm Net Median	8.1%	--	6.1%	--

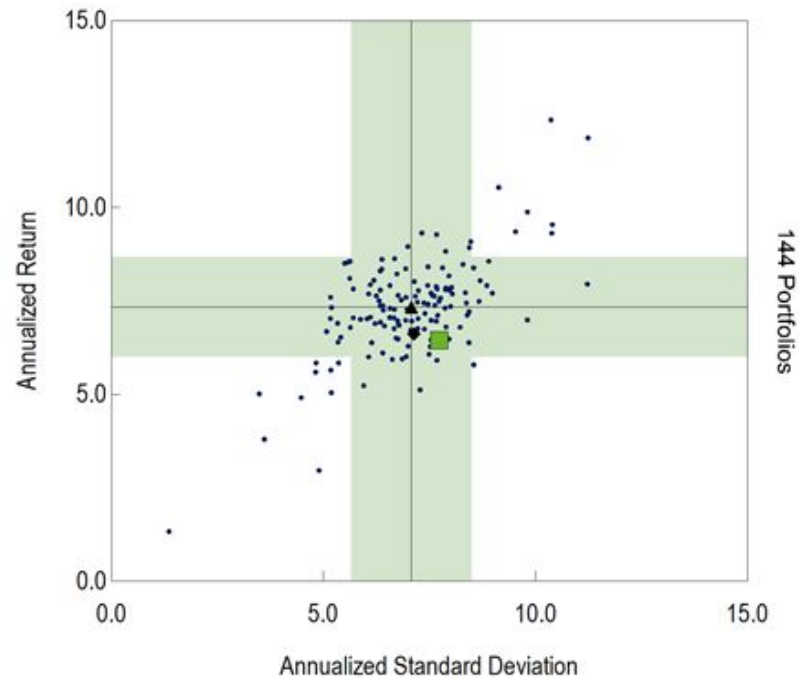
5 Years Ending December 31, 2017				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
MIP Composite	1.0	92	1.6	90
Allocation Index	1.2	72	1.9	60
Policy Index	1.2	62	2.0	47
InvestorForce All E&F \$100mm - \$500mm Net Median	1.3	--	2.0	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 7 YEAR

7 Years Ending December 31, 2017



- MIP Composite
- ◆ Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce All E&F \$100mm - \$500mm Net

7 Years Ending December 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
MIP Composite	6.4%	82	7.7%	73
Allocation Index	6.6%	77	7.1%	51
Policy Index	6.8%	72	7.1%	51
InvestorForce All E&F \$100mm - \$500mm Net Median	7.3%	--	7.1%	--

7 Years Ending December 31, 2017

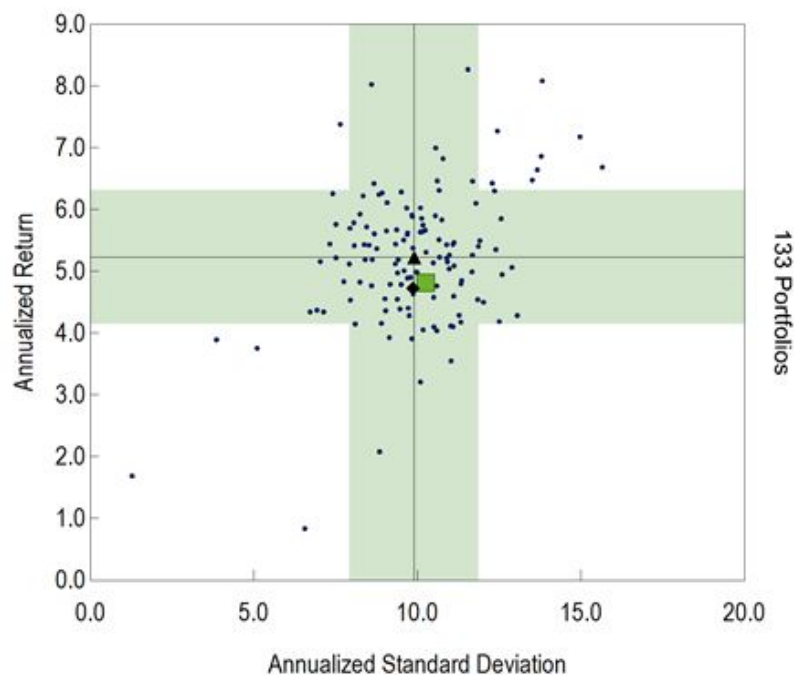
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
MIP Composite	0.8	93	1.1	90
Allocation Index	0.9	76	1.2	73
Policy Index	0.9	71	1.3	55
InvestorForce All E&F \$100mm - \$500mm Net Median	1.0	--	1.3	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 10 YEAR

10 Years Ending December 31, 2017



- MIP Composite
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce All E&F \$100mm - \$500mm Net

10 Years Ending December 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
MIP Composite	4.8%	70	10.3%	59
Allocation Index	4.7%	74	9.9%	49
Policy Index	5.3%	48	9.4%	37
InvestorForce All E&F \$100mm - \$500mm Net Median	5.2%	--	9.9%	--

10 Years Ending December 31, 2017

	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
MIP Composite	0.4	72	0.5	60
Allocation Index	0.4	70	0.5	61
Policy Index	0.5	42	0.7	25
InvestorForce All E&F \$100mm - \$500mm Net Median	0.5	--	0.6	--

*Returns are net of fees.



FOURTH QUARTER 2017 INVESTMENT REVIEW



UNIVERSITY OF MAINE SYSTEM MANAGED INVESTMENT POOL

March 8, 2018

Jay E. Roney, Partner

Kelly Regan, Senior Consultant

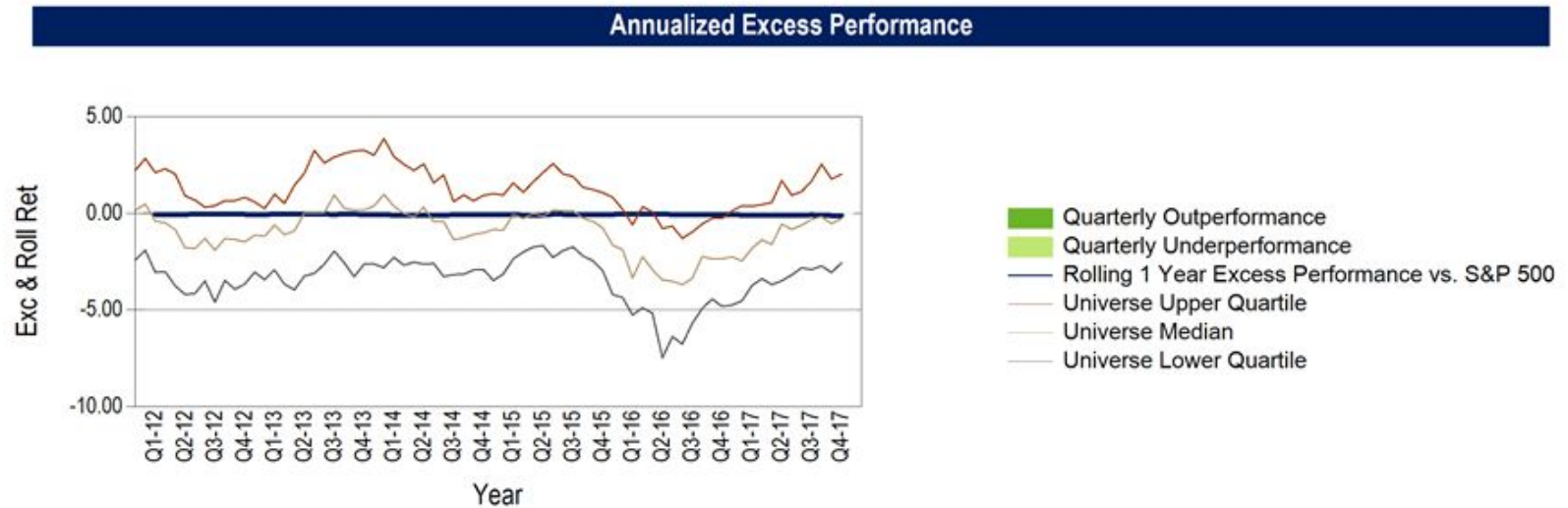


BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

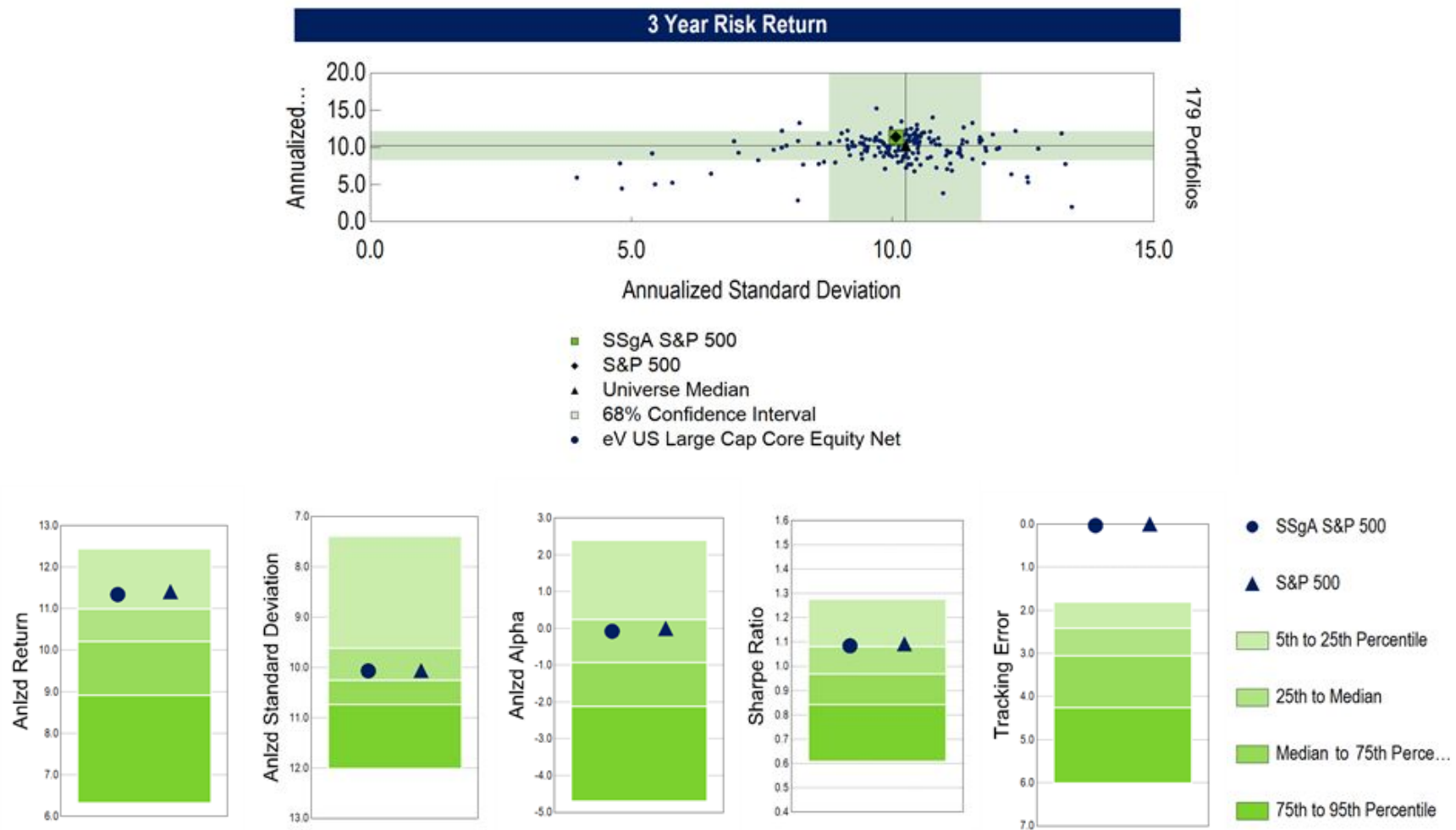
MANAGER ANALYSIS

NEPC, LLC

SSgA S&P 500



SSgA S&P 500



*Returns are net of fees.

SSgA S&P 500

Characteristics	Portfolio	S&P 500
Number of Holdings	505	505
Weighted Avg. Market Cap. (\$B)	180.4	180.1
Median Market Cap. (\$B)	21.5	21.6
Price To Earnings	27.5	24.8
Price To Book	6.1	4.9
Price To Sales	3.8	3.5
Return on Equity (%)	24.5	20.4
Yield (%)	1.9	1.9
Beta		1.0
R-Squared		1.0

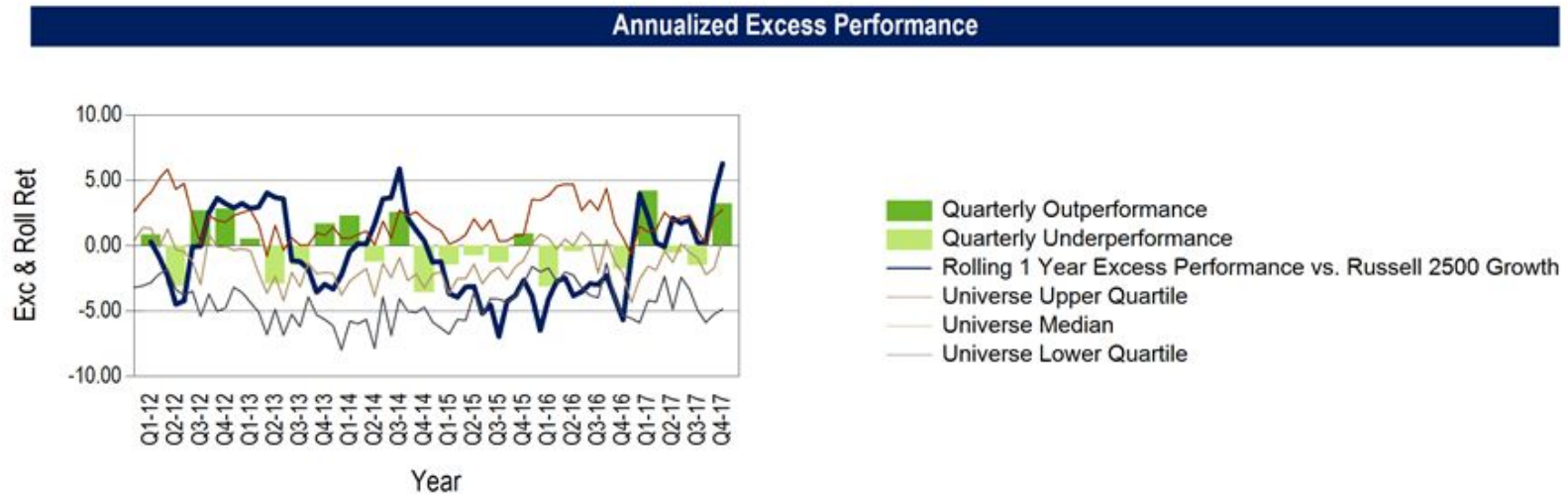
Top Positive Contributors		
	Relative Contribution %	Return %
MICROSOFT	0.0%	15.4%
APPLE	0.0%	10.2%
AMAZON.COM	0.0%	21.6%
WALMART	0.0%	27.0%
QUALCOMM	0.0%	24.5%
ADVANCED MICRO DEVC.	0.0%	-19.4%
RANGE RES.	0.0%	-12.7%
JP MORGAN CHASE & CO.	0.0%	12.6%
BOEING	0.0%	16.6%
PG&E	0.0%	-34.2%

Top Negative Contributors		
	Relative Contribution %	Return %
BROWN-FORMAN 'B'	0.0%	26.8%
L BRANDS	0.0%	46.5%
GGP	0.0%	14.8%
GENERAL ELECTRIC	0.0%	-27.3%
CROWN CASTLE INTL.	0.0%	12.1%
STRYKER	0.0%	9.4%
DOLLAR TREE	0.0%	23.6%
FLUOR	0.0%	23.2%
DARDEN RESTAURANTS	0.0%	22.8%
FOOT LOCKER	0.0%	34.4%

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%	6.1%	6.1%	6.0%	6.1%	
Materials	0.0%	0.0%	0.0%	0.0%	6.9%	6.9%	3.0%	3.0%	
Industrials	0.0%	0.0%	0.0%	0.0%	6.1%	6.1%	10.2%	10.3%	
Consumer Discretionary	0.0%	0.0%	0.0%	0.0%	9.9%	9.9%	12.1%	12.2%	
Consumer Staples	0.0%	0.0%	0.0%	0.0%	6.5%	6.5%	8.2%	8.2%	
Health Care	0.0%	0.0%	0.0%	0.0%	1.5%	1.5%	13.7%	13.7%	
Financials	0.0%	0.0%	0.0%	0.0%	8.6%	8.6%	14.7%	14.8%	
Information Technology	0.0%	0.0%	0.0%	0.0%	9.0%	9.0%	23.7%	23.8%	
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	3.8%	3.8%	2.1%	2.1%	
Utilities	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	2.9%	2.9%	
Real Estate	0.0%	0.0%	0.0%	0.0%	3.2%	3.2%	2.9%	2.9%	
Cash	0.0%	--	--	--	--	--	0.6%	0.0%	
Unclassified	0.0%	--	--	--	--	--	--	--	
Portfolio	0.0%	=	0.0%	+	0.0%	+	0.0%		
					6.7%	6.7%	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.

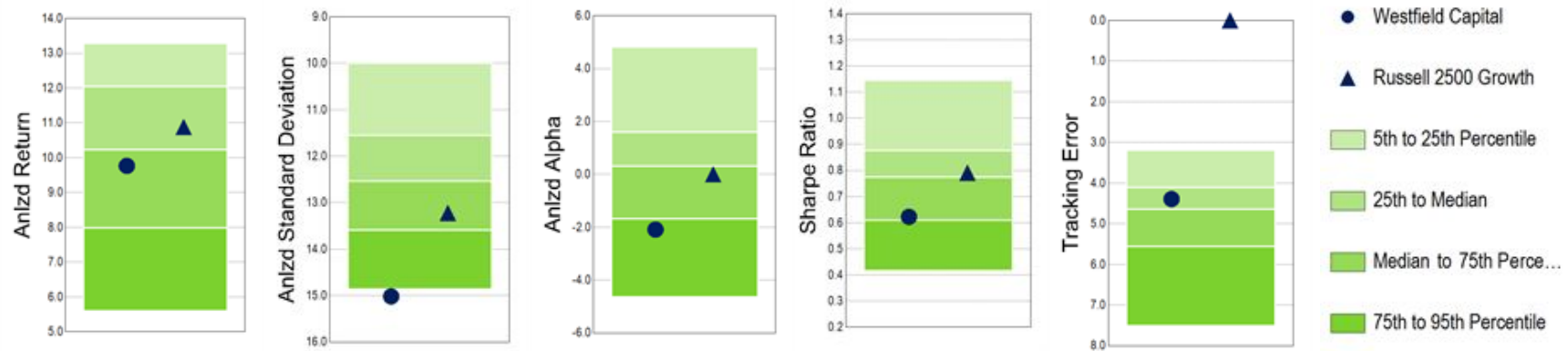
WESTFIELD CAPITAL



*Returns are net of fees.



WESTFIELD CAPITAL



*Returns are net of fees.



WESTFIELD CAPITAL

Characteristics			Top Positive Contributors			Top Negative Contributors		
Portfolio	Russell 2500 Growth	Relative Contribution %	Return %	Relative Contribution %	Return %			
Number of Holdings	72	1,435	NEKTAR THERAPEUTICS	2.3%	148.8%	ENVISION HEALTHCARE	-0.3%	-23.1%
Weighted Avg. Market Cap. (\$B)	7.5	5.5	TOTAL SYSTEM SERVICES	0.5%	20.9%	MEDICINES COMPANY	-0.2%	-26.2%
Median Market Cap. (\$B)	7.0	1.4	BUILDERS FIRSTSOURCE	0.4%	21.1%	WRIGHT MEDICAL GROUP	-0.2%	-14.2%
Price To Earnings	27.8	25.9	BOYD GAMING	0.4%	34.7%	JAZZ PHARMACEUTICALS	-0.2%	-7.9%
Price To Book	6.2	6.7	KLX (FRA)	0.3%	29.0%	NCR	-0.1%	-9.4%
Price To Sales	3.7	3.7	DIAMONDBACK ENERGY	0.3%	28.9%	VAIL RESORTS	-0.1%	-6.0%
Return on Equity (%)	7.5	14.7	LENNOX INTL.	0.3%	16.6%	INPHI	-0.1%	-7.8%
Yield (%)	0.6	0.7	AVERY DENNISON	0.3%	17.3%	BURLINGTON STORES	-0.1%	28.9%
Beta		1.0	OLD DOMINION FGT.LINES	0.3%	19.6%	WEX	0.0%	25.9%
R-Squared		1.0	FORTINET	0.3%	21.9%	BIOERATIV	0.0%	-5.5%

Equity Sector Attribution											
	Attribution Effects				Returns		Ending Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.3%	0.2%	0.0%	0.1%	19.9%	7.5%	3.0%	1.6%			
Materials	0.1%	0.1%	0.0%	0.0%	6.9%	4.8%	6.7%	6.4%			
Industrials	0.5%	0.5%	0.0%	0.0%	11.4%	8.6%	20.4%	19.4%			
Consumer Discretionary	0.5%	0.6%	-0.1%	-0.1%	12.8%	8.5%	12.3%	15.0%			
Consumer Staples	-0.1%	-0.1%	0.0%	0.0%	4.6%	8.3%	1.7%	2.3%			
Health Care	1.7%	1.7%	0.0%	0.1%	12.8%	3.4%	17.1%	17.6%			
Financials	-0.3%	-0.3%	0.0%	0.0%	5.5%	9.5%	7.7%	7.6%			
Information Technology	0.7%	0.8%	0.0%	-0.1%	8.7%	5.4%	25.8%	25.3%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	6.9%	1.2%	1.3%	0.8%			
Utilities	0.0%	--	0.0%	--	--	7.0%	0.0%	0.4%			
Real Estate	0.1%	0.1%	0.0%	0.0%	5.2%	3.5%	3.2%	3.5%			
Cash	-0.2%	0.0%	-0.2%	0.0%	0.3%	--	0.9%	0.0%			
Portfolio	3.5%	=	3.7%	+	-0.3%	+	0.0%	9.8%	6.4%	100.0%	100.0%

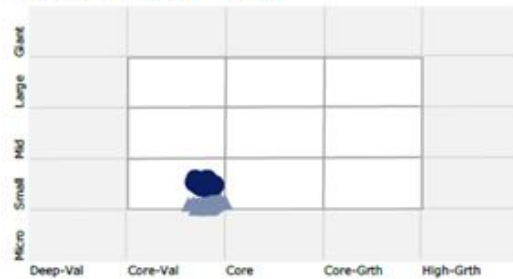
*Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of period portfolio. Results may differ from actual performance. Returns are net of fees.



DFA US TARGETED VALUE I

Holdings Based Style Trail (5 Years)

Time Period: 1/31/2013 to 12/31/2017



● DFA US Targeted Value I
 + Russell 2000 Value TR USD

Portfolio Statistics

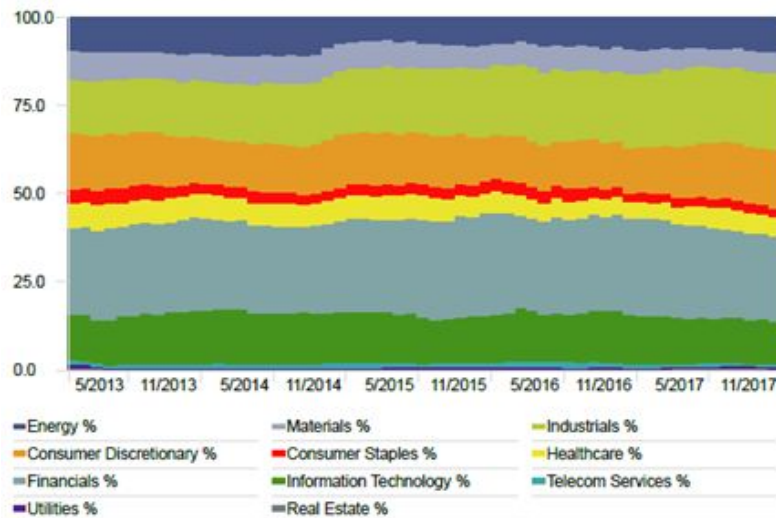
	Fund	Index
# of Holdings	1,426	1,386
% Asset in Top 10 Holdings	7.7	4.6
Turnover Ratio %	28.0	
P/E Ratio	19.6	19.9
P/B Ratio	1.5	1.5
LT Earn Growth	10.6	9.7
Hist Earn Growth	-1.6	-4.1
12 Mo Yield	1.1	

Market Capitalization Breakdown

Portfolio Date: 11/30/2017

	Fund	Index
Market Cap Giant %	0.0	0.0
Market Cap Large %	0.0	0.0
Market Cap Mid %	27.6	4.8
Market Cap Small %	48.0	56.8
Market Cap Micro %	24.5	38.4
Average Market Cap (mil)	2,470.2	1,641.4

Historical Sector Allocations (5 Years)



Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Consumer Discretionary	15.90	10.32	10.36	6.74	0.29	0.56	0.85
Consumer Staples	2.57	2.71	-0.69	5.92	0.00	-0.18	-0.18
Energy	9.38	6.23	9.73	6.52	0.18	0.29	0.48
Financials	23.79	30.83	1.32	0.74	0.10	0.14	0.23
Health Care	5.45	6.11	-4.05	-0.20	0.01	-0.23	-0.22
Industrials	21.07	11.90	7.00	4.47	0.24	0.53	0.77
Information Technology	12.15	9.17	-1.14	-0.20	-0.07	-0.11	-0.18
Materials	5.64	4.23	8.25	3.66	0.02	0.26	0.29
Real Estate	0.46	10.83	-6.48	-1.24	0.34	-0.02	0.32
Telecommunication Services	0.68	0.56	-4.43	-7.86	-0.01	0.02	0.01
Utilities	0.69	6.77	7.55	0.49	0.09	0.05	0.14
Attribution Total	97.79	99.66	4.54	2.03	1.20	1.32	2.51
Cash	0.98	0.00					
Other	0.88	0.00					
Missing Performance	0.35	0.34					
Total	100.00	100.00					
Reported Total			4.50	2.05			
Expense Ratio			0.10	0.00			
Residual(Reported - Attribution + Expense)			0.06	0.02			



Source: Morningstar

DFA US TARGETED VALUE I

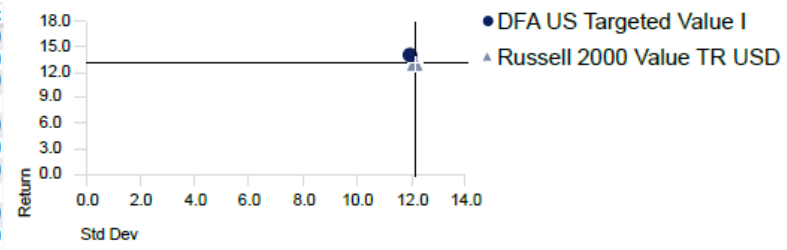
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	89.3	100.0
Alpha	1.8	0.0
Beta	0.9	1.0
Std Dev	12.0	12.1
Up Capture Ratio	100.9	100.0
Down Capture Ratio	82.4	100.0
Sharpe Ratio (geo)	1.1	1.0
Information Ratio (geo)	0.2	
Tracking Error	4.0	0.0
Correlation	0.9	1.0

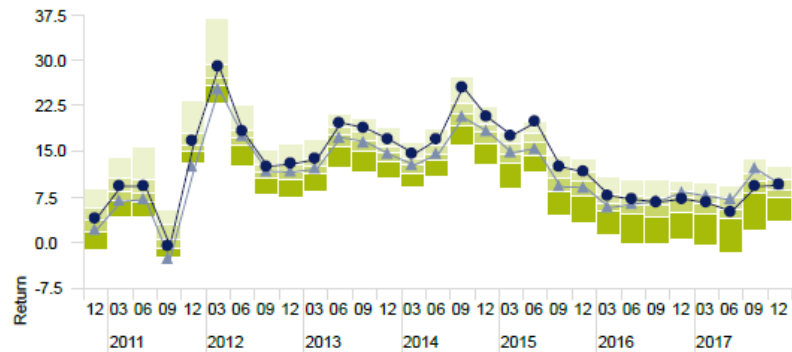
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

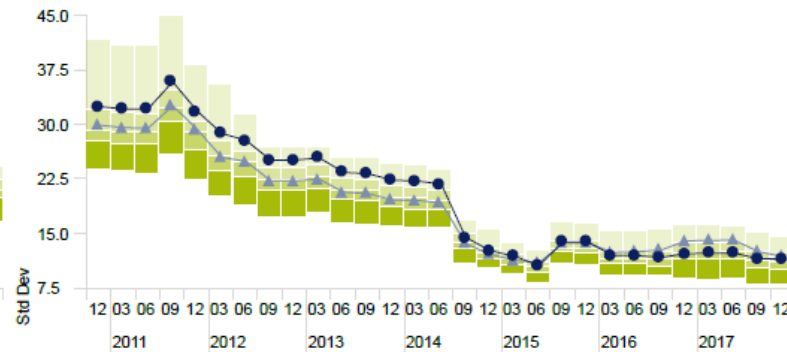


— DFA US Targeted Value I

— Russell 2000 Value TR USD

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



— DFA US Targeted Value I

— Russell 2000 Value TR USD

Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
DFA US Targeted Value I	-33.8	68	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
Russell 2000 Value TR USD	-28.9		20.6		24.5		-5.5		18.1		34.5		4.2		-7.5		31.7		7.8	

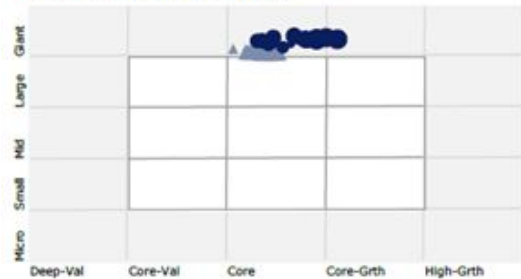


Source: Morningstar

MORGAN STANLEY INTERNATIONAL EQUITY I

Holdings Based Style Trail (5 Years)

Time Period: 1/31/2013 to 12/31/2017



● Morgan Stanley Int'l International Eq I
 ▲ MSCI EAFE NR USD

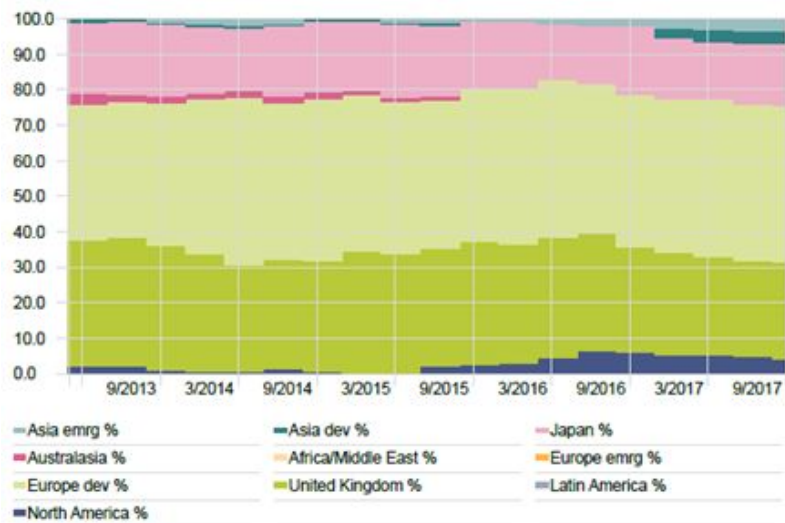
Portfolio Statistics

	Fund	Index
# of Holdings	67	928
% Asset in Top 10 Holdings	37.3	11.4
Turnover Ratio %	33.0	
P/E Ratio	21.0	17.6
P/B Ratio	2.7	1.7
LT Earn Growth	10.8	9.3
Hist Earn Growth	-2.9	0.2
12 Mo Yield	1.9	

Market Capitalization Breakdown

	Fund	Index
Portfolio Date: 9/30/2017		
Market Cap Giant %	69.9	58.5
Market Cap Large %	23.4	34.7
Market Cap Mid %	6.7	6.7
Market Cap Small %	0.0	0.0
Market Cap Micro %	0.0	0.0
Average Market Cap	54,136.1	35,976.9
Equity Region Developed %	96.7	99.4
Equity Region Emerging %	3.3	0.6

Historical Country Allocations (5 Years)



Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Consumer Discretionary	4.85	12.21	6.50	5.58	-0.10	0.05	-0.05
Consumer Staples	29.81	11.22	7.58	4.98	0.15	0.78	0.93
Energy	2.30	5.16	2.46	10.16	-0.16	-0.18	-0.34
Financials	13.54	21.26	6.34	3.19	0.08	0.43	0.51
Health Care	15.05	10.31	-6.51	-0.09	-0.24	-1.05	-1.29
Industrials	14.99	14.52	6.84	4.81	0.00	0.31	0.31
Information Technology	9.42	6.42	9.09	5.06	0.02	0.38	0.41
Materials	5.05	7.93	-1.24	7.47	-0.09	-0.46	-0.55
Real Estate	0.48	3.37	0.10	5.15	-0.03	-0.02	-0.05
Telecommunication Services	2.15	4.06	-0.15	0.78	0.06	-0.03	0.04
Utilities	0.00	3.34		-0.95	0.17	0.00	0.17
Attribution Total	97.65	99.80	4.29	4.21	-0.14	0.22	0.08
Cash	2.35	0.00					
Other	0.00	0.03					
Missing Performance	0.00	0.17					
Total	100.00	100.00					
Reported Total			3.79	4.23			
Expense Ratio			0.25	0.00			
Residual(Reported - Attribution + Expense)			-0.25	0.02			



Source: Morningstar

MORGAN STANLEY INTERNATIONAL EQUITY I

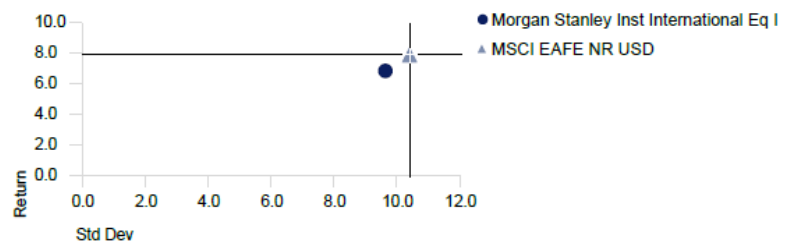
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	90.4	100.0
Alpha	-0.1	0.0
Beta	0.9	1.0
Std Dev	9.6	10.4
Up Capture Ratio	89.8	100.0
Down Capture Ratio	94.5	100.0
Sharpe Ratio (geo)	0.7	0.7
Information Ratio (geo)	-0.3	
Tracking Error	3.2	0.0
Correlation	1.0	1.0

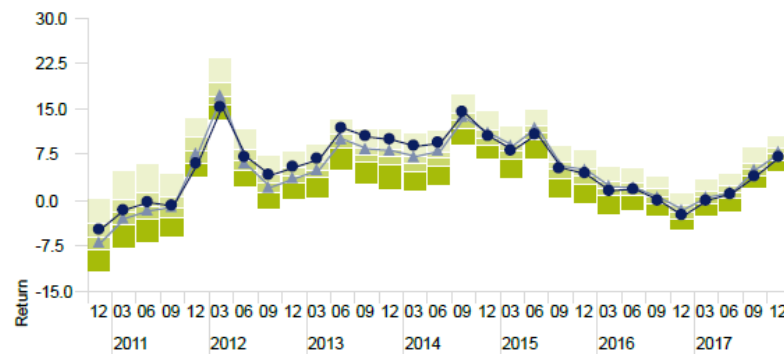
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

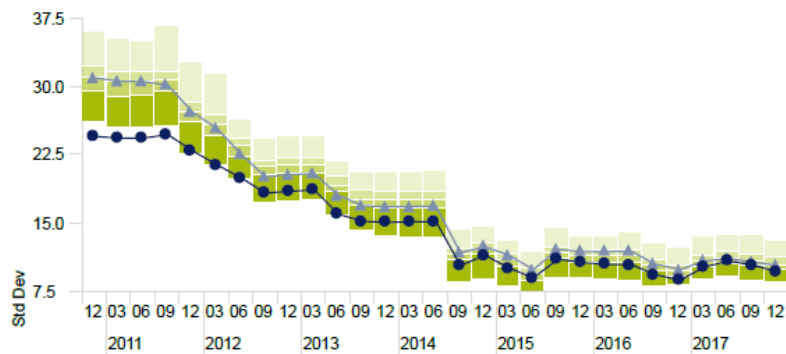


—Morgan Stanley Inst International Eq I

—MSCI EAFE NR USD

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Morgan Stanley Inst International Eq I

—MSCI EAFE NR USD

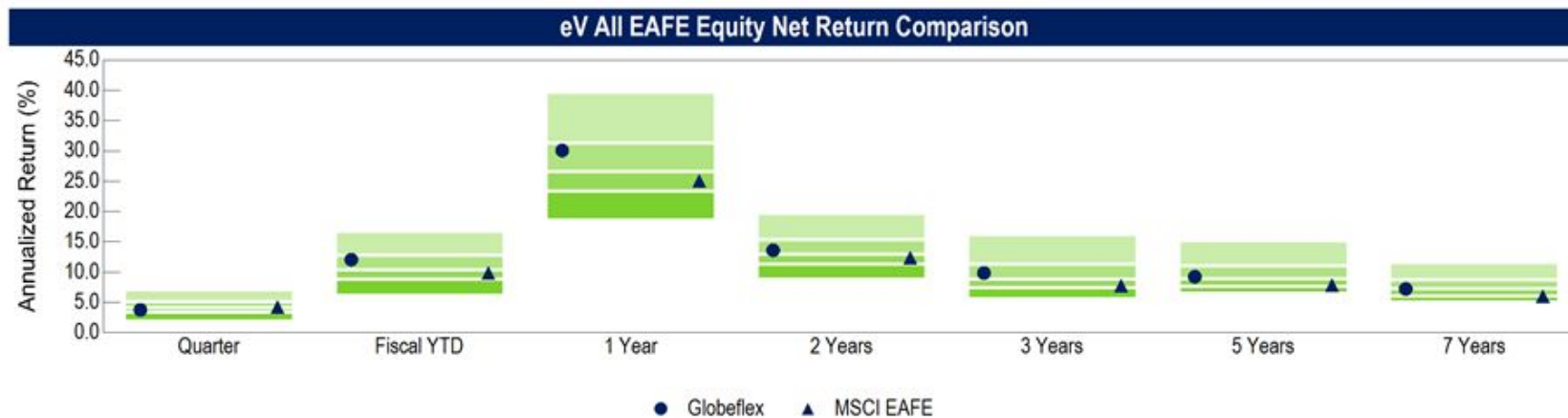
Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Morgan Stanley Inst International Eq I	-33.1	8	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
MSCI EAFE NR USD	-43.4		31.8		7.8		-12.1		17.3		22.8		-4.9		-0.8		1.0		25.0	



Source: Morningstar

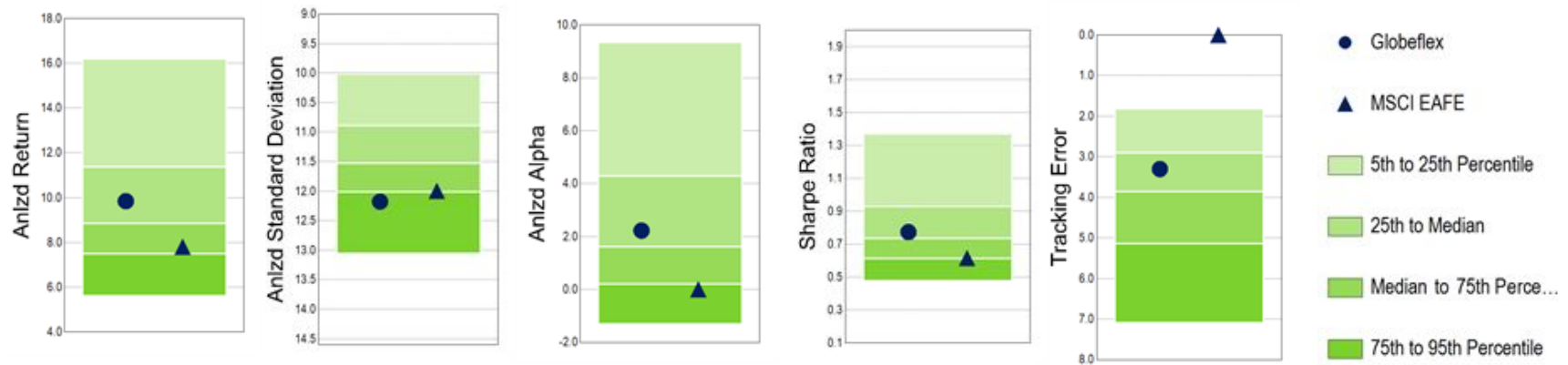
GLOBEFLEX



*Returns are net of fees.



GLOBEFLEX



*Returns are net of fees.



GLOBEFLEX

Characteristics	Portfolio	MSCI EAFE
Number of Holdings	125	928
Weighted Avg. Market Cap. (\$B)	29.2	59.8
Median Market Cap. (\$B)	10.1	11.5
Price To Earnings	16.9	20.4
Price To Book	2.7	2.7
Price To Sales	1.6	2.1
Return on Equity (%)	18.4	13.8
Yield (%)	2.4	2.9
Beta		1.0
R-Squared		1.0

Top Positive Contributors		
	Relative Contribution %	Return %
BLUESCOPE STEEL	0.6%	39.7%
TSUGAMI	0.4%	52.7%
SHOWA DENKO KK	0.3%	38.1%
WHITEHAVEN COAL	0.3%	27.1%
TENCENT HOLDINGS	0.2%	20.7%
AENA SME	0.2%	12.4%
DEUTSCHE LUFTHANSA	0.2%	33.2%
OMV	0.2%	8.9%
SCREEN HOLDINGS	0.2%	18.1%
AKER BP	0.2%	28.6%

Top Negative Contributors		
	Relative Contribution %	Return %
VESTAS WINDSYSTEMS	-0.3%	-23.0%
SUBSEA 7	-0.1%	-8.4%
IPSEN	-0.1%	-10.1%
SARAS	-0.1%	-10.3%
PEUGEOT	-0.1%	-14.5%
H LUNDBECK	-0.1%	-12.0%
PHILIPS LIGHTING	-0.1%	-9.0%
NORBORD	-0.1%	-9.4%
INCHCAPE	-0.1%	-8.6%
EXOR ORD	-0.1%	-3.3%

Equity Sector Attribution								
	Attribution Effects				Returns		Ending Sector Weights	
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.1%	-0.1%	0.3%	-0.1%	7.7%	10.3%	13.0%	5.3%
Materials	0.5%	0.0%	0.3%	0.1%	9.0%	8.3%	13.6%	8.2%
Industrials	0.5%	0.4%	0.0%	0.1%	7.7%	4.8%	17.8%	14.7%
Consumer Discretionary	-0.5%	-0.5%	0.0%	-0.1%	1.3%	5.3%	12.3%	12.3%
Consumer Staples	-0.2%	-0.3%	-0.1%	0.2%	2.1%	5.0%	3.4%	11.1%
Health Care	-0.1%	-0.3%	0.1%	0.1%	-2.9%	-0.1%	6.9%	10.1%
Financials	0.4%	0.4%	0.1%	-0.1%	5.3%	3.1%	14.4%	21.2%
Information Technology	0.5%	0.2%	0.0%	0.3%	10.3%	5.0%	8.7%	6.5%
Telecommunication Services	-0.1%	-0.1%	0.0%	0.0%	-1.8%	0.7%	4.8%	3.9%
Utilities	0.0%	0.0%	0.0%	0.0%	0.0%	-1.0%	3.0%	3.2%
Real Estate	0.0%	0.2%	-0.1%	-0.1%	13.0%	7.4%	2.1%	3.5%
Cash	0.0%	--	--	--	--	--	0.0%	0.0%
Portfolio	1.1%	=	-0.1%	+	0.8%	+	0.5%	
					5.4%	4.3%	100.0%	99.9%

*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.



GLOBEFLEX

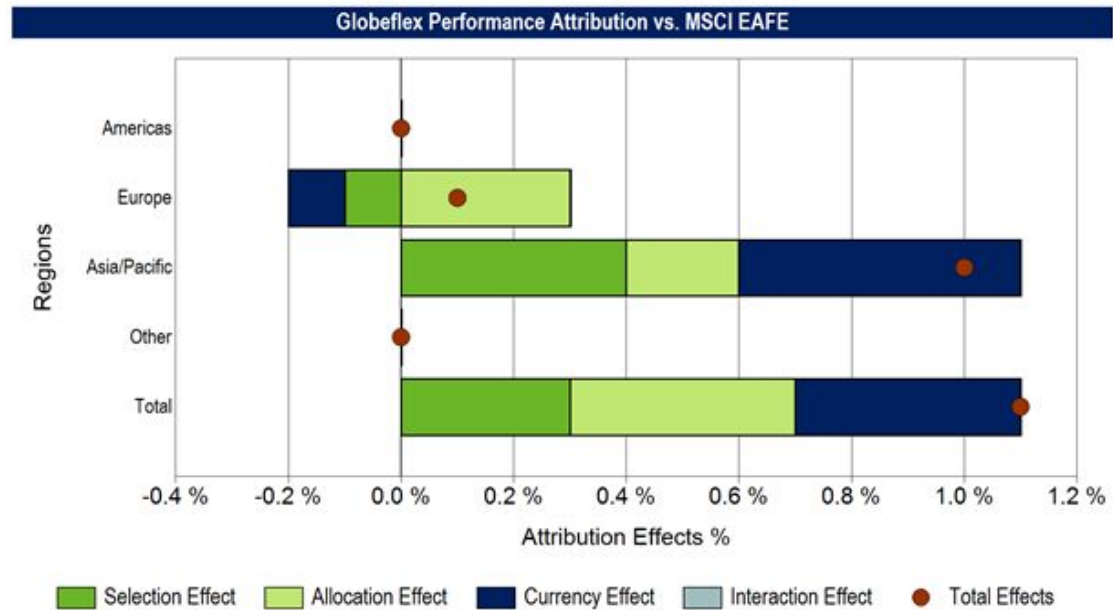
Country Allocation				
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)	Manager Return (USD)	Index Return (USD)
Americas				
Canada	10.4%	0.0%	2.7%	4.3%
United States	0.6%	0.0%	12.9%	6.4%
Total-Americas	11.0%	0.0%	3.4%	--
Europe				
Austria	2.2%	0.3%	8.9%	5.8%
Denmark	1.7%	1.8%	-19.0%	2.3%
Finland	0.5%	0.9%	-10.6%	-2.5%
France	6.9%	10.7%	0.6%	1.6%
Germany	6.4%	9.8%	2.2%	2.5%
Ireland	1.0%	0.5%	4.9%	3.7%
Italy	4.4%	2.4%	-0.1%	-2.2%
Netherlands	2.4%	3.6%	3.0%	1.2%
Norway	1.9%	0.7%	1.3%	2.3%
Portugal	0.6%	0.1%	--	-2.0%
Spain	4.2%	3.2%	5.7%	-1.5%
Sweden	1.6%	2.7%	2.3%	-3.7%
Switzerland	2.3%	8.0%	2.2%	1.8%
United Kingdom	17.4%	17.6%	4.8%	5.8%
Total-Europe	53.5%	63.4%	2.1%	2.3%

Country Allocation				
	Manager Ending Allocation (USD)	Index Ending Allocation (USD)	Manager Return (USD)	Index Return (USD)
AsiaPacific				
Australia	7.5%	6.9%	15.7%	6.7%
Hong Kong	3.4%	3.6%	13.2%	7.7%
Japan	18.2%	24.1%	8.8%	8.5%
Korea*	6.3%	0.0%	6.8%	11.4%
Total-AsiaPacific	35.5%	36.1%	10.3%	8.1%
Totals				
Developed	93.7%	100.0%	5.3%	4.3%
Emerging*	6.3%	0.0%	6.8%	--

*Returns are net of fees.



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	3.4%	--	11.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Europe	2.1%	2.3%	53.5%	63.4%	-0.1%	0.3%	-0.1%	0.0%	0.1%
Asia/Pacific	10.3%	8.1%	35.5%	36.1%	0.4%	0.2%	0.5%	0.0%	1.0%
Other	5.2%	3.8%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	5.4%	4.3%	100.0%	100.0%	0.3%	0.4%	0.4%	0.0%	1.1%
Totals									
Developed	5.3%	4.3%	93.7%	100.0%	1.1%	0.0%	-0.1%	-0.1%	0.9%
Emerging*	6.8%	--	6.3%	0.0%	0.0%	0.0%	0.5%	-0.3%	0.2%

*Returns are net of fees.



ABERDEEN EME

Holdings Based Style Trail (5 Years)

Time Period: 1/31/2013 to 12/31/2017



Aberdeen Emerging Markets Inst

MSCI EM NR USD

Portfolio Statistics

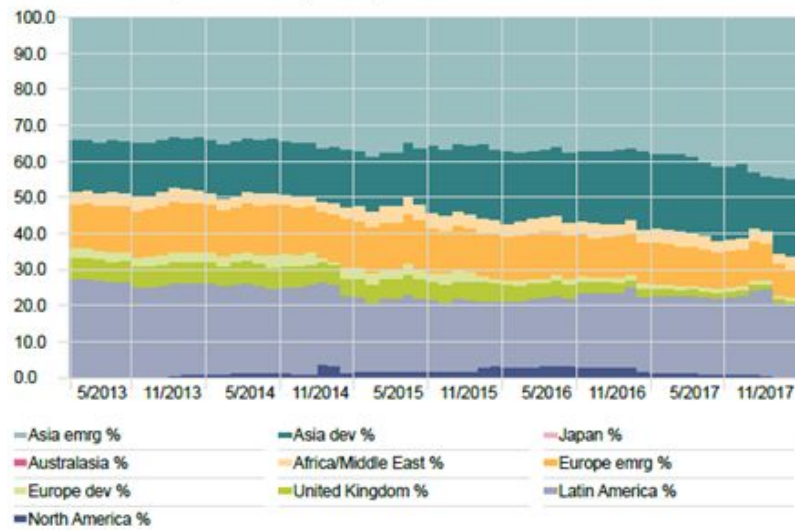
	Fund	Index
# of Holdings	67	846
% Asset in Top 10 Holdings	32.3	25.0
Turnover Ratio %	16.6	
P/E Ratio	16.8	14.7
P/B Ratio	2.3	1.8
LT Eam Growth	13.2	12.9
Hist Eam Growth	6.8	2.1
12 Mo Yield	1.3	

Market Capitalization Breakdown

Portfolio Date: 11/30/2017

	Fund	Index
Market Cap Giant %	58.1	58.9
Market Cap Large %	35.6	32.4
Market Cap Mid %	5.3	8.3
Market Cap Small %	1.0	0.3
Market Cap Micro %	0.0	0.1
Average Market Cap	30,136.9	33,993.8
Equity Region Developed %	23.5	29.1
Equity Region Emerging %	76.5	70.9

Historical Country Allocations (5 Years)



Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Consumer Discretionary	11.83	10.35	6.97	8.69	0.02	-0.16	-0.14
Consumer Staples	17.65	6.31	2.74	7.98	0.05	-0.96	-0.90
Energy	3.51	5.77	-1.49	7.87	0.01	-0.38	-0.37
Financials	26.87	23.21	2.48	8.02	0.02	-1.52	-1.51
Health Care	1.13	2.34	5.29	17.37	-0.12	-0.13	-0.25
Industrials	2.80	5.51	8.39	3.63	0.10	0.14	0.23
Information Technology	16.02	28.04	13.54	7.14	-0.07	0.97	0.91
Materials	8.29	7.18	10.88	8.64	0.01	0.19	0.21
Real Estate	6.04	2.68	-0.87	1.59	-0.19	-0.16	-0.35
Telecommunication Services	4.46	4.94	5.44	3.02	0.03	0.12	0.14
Utilities	0.00	2.52		1.04	0.16	0.00	0.16
Attribution Total	98.61	98.84	5.36	7.23	0.03	-1.90	-1.87
Cash	1.26	0.00					
Other	0.00	0.10					
Missing Performance	0.14	1.06					
Total	100.00	100.00					
Reported Total			4.93	7.44			
Expense Ratio			0.29	0.00			
Residual(Reported - Attribution + Expense)			-0.14	0.21			



Source: Morningstar

ABERDEEN EME

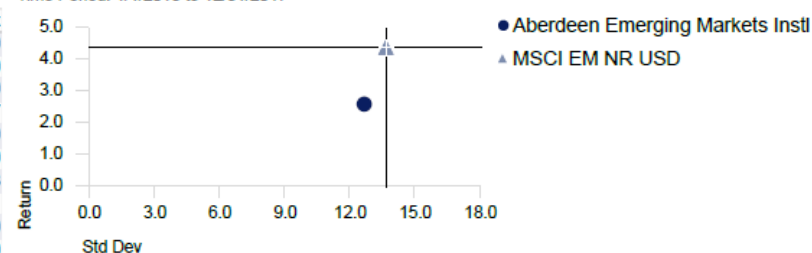
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	89.3	100.0
Alpha	-1.2	0.0
Beta	0.9	1.0
Std Dev	12.7	13.7
Up Capture Ratio	81.6	100.0
Down Capture Ratio	93.2	100.0
Sharpe Ratio (geo)	0.2	0.3
Information Ratio (geo)	-0.4	
Tracking Error	4.5	0.0
Correlation	0.9	1.0

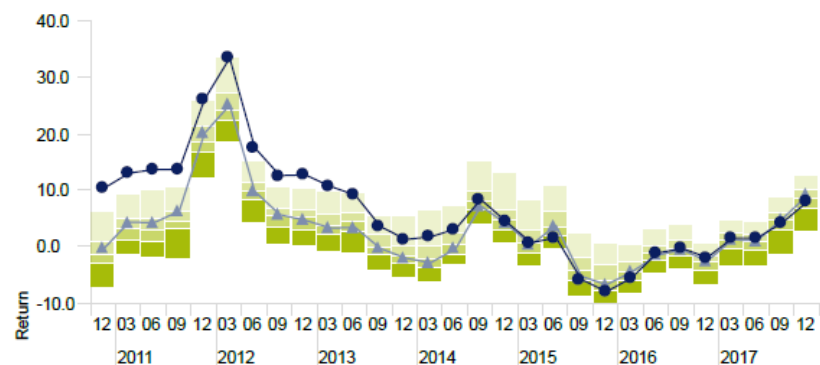
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

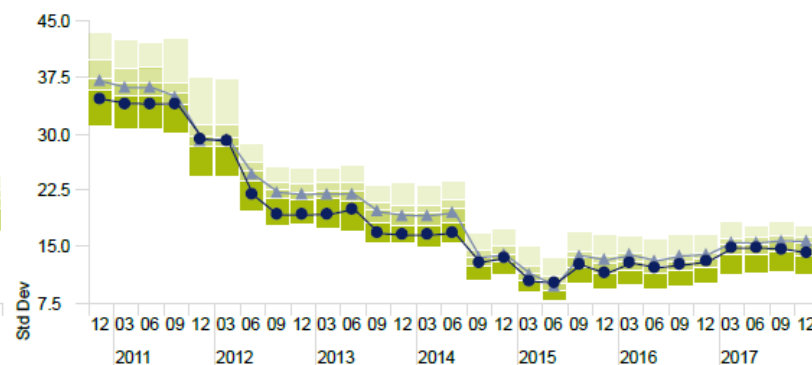


—Aberdeen Emerging Markets Instl

—MSCI EM NR USD

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Aberdeen Emerging Markets Instl

—MSCI EM NR USD

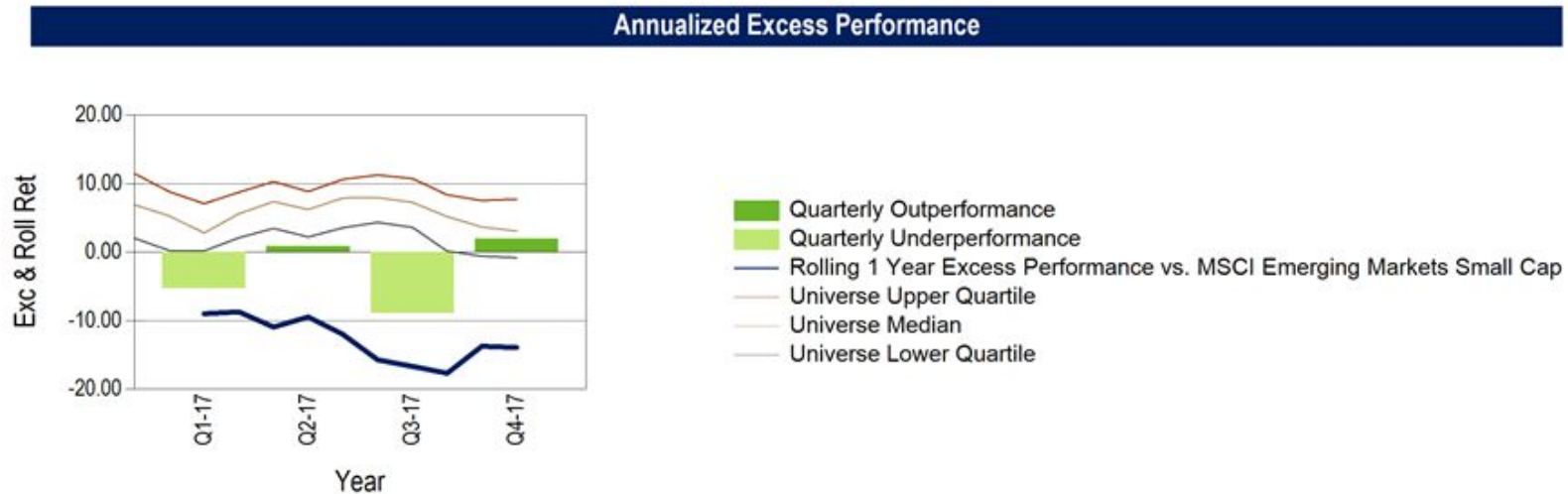
Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Aberdeen Emerging Markets Instl	-40.4	1	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
MSCI EM NR USD	-53.3		78.5		18.9		-18.4		18.2		-2.6		-2.2		-14.9		11.2		37.3	



Source: Morningstar

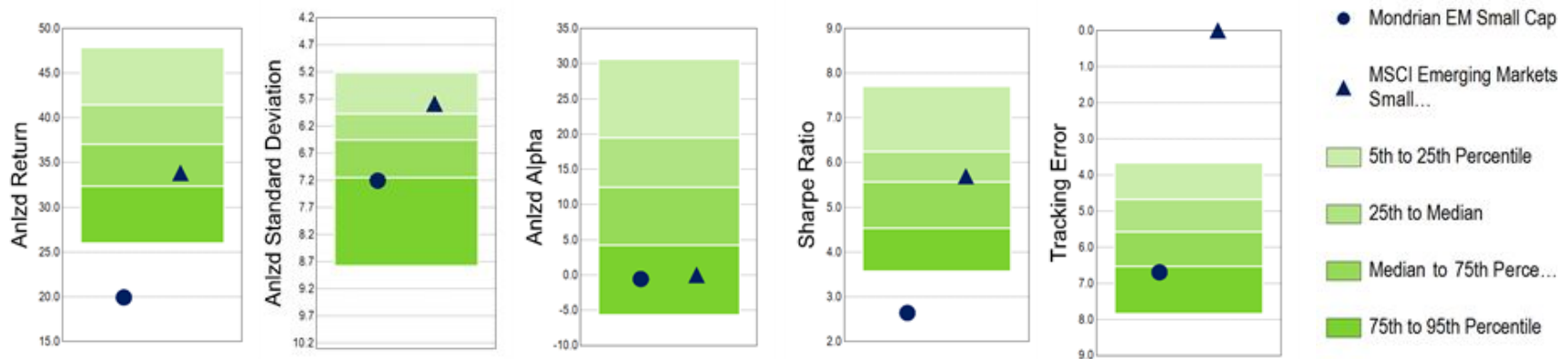
MONDRIAN EM SMALL CAP



*Returns are net of fees.



MONDRIAN EM SMALL CAP



*Returns are net of fees.



MONDRIAN EM SMALL CAP

Characteristics	Portfolio	MSCI Emerging Markets Small Cap
Number of Holdings	109	1,822
Weighted Avg. Market Cap. (\$B)	1.7	1.4
Median Market Cap. (\$B)	1.0	0.8
Price To Earnings	35.1	19.6
Price To Book	5.7	2.8
Price To Sales	3.9	2.1
Return on Equity (%)	20.6	12.9
Yield (%)	1.8	2.0
Beta		1.0

Top Positive Contributors		
	Relative Contribution %	Return %
HARTALEGA HOLDINGS	0.8%	60.7%
PAGE INDUSTRIES	0.6%	42.0%
DIALOG GROUP	0.5%	31.7%
VARUN BEVERAG	0.5%	31.1%
CPMC HOLDINGS	0.5%	34.5%
NEXTEER AUTOMOTIVE GROUP	0.4%	39.0%
PI INDUSTRIES	0.4%	33.3%
AIRTAC INTERNATIONAL GP.	0.4%	30.4%
EMAMI	0.3%	24.4%
FU SHOU YUAN INTL.GP.	0.3%	29.7%

Top Negative Contributors		
	Relative Contribution %	Return %
ARWANA CITRAMULIA	-0.2%	-19.2%
FIBRA HOTEL REIT	-0.2%	-22.1%
CORPORACION INMOBILIARIA VESTA	-0.2%	-13.1%
BIOTOSCANA INVESTMENTS BDR	-0.2%	-18.8%
BOER POWER HOLDINGS	-0.1%	-27.4%
AKR CORPORINDO	-0.1%	-11.2%
FIBRA INN REIT	-0.1%	-11.9%
WILSON SONS BDR (BSP)	-0.1%	-9.5%
EOH	-0.1%	-21.5%
MQR.MEX.RLST.MAN.DE CV REIT	-0.1%	-18.8%

Equity Sector Attribution									
	Attribution Effects				Returns		Ending Sector Weights		
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	0.4%	0.5%	0.0%	-0.1%	31.7%	4.6%	1.7%	2.3%	
Materials	0.9%	1.3%	-0.1%	-0.4%	23.7%	12.3%	10.1%	12.0%	
Industrials	0.2%	0.4%	0.0%	-0.1%	7.6%	6.3%	15.4%	14.4%	
Consumer Discretionary	1.3%	1.7%	0.0%	-0.4%	18.9%	8.8%	14.8%	16.5%	
Consumer Staples	0.6%	0.1%	0.1%	0.3%	15.0%	12.8%	13.4%	6.8%	
Health Care	-0.1%	-0.7%	1.7%	-1.1%	13.0%	24.7%	22.4%	8.8%	
Financials	0.1%	0.3%	0.3%	-0.4%	3.3%	4.8%	2.1%	9.0%	
Information Technology	-0.5%	-0.2%	0.0%	-0.2%	7.9%	9.7%	4.4%	16.4%	
Telecommunication Services	0.0%	--	0.0%	--	--	4.2%	0.0%	0.9%	
Utilities	0.1%	0.0%	0.0%	0.1%	6.2%	4.7%	4.1%	4.0%	
Real Estate	-0.2%	0.0%	0.0%	-0.3%	-1.2%	1.4%	7.8%	8.5%	
Cash	-0.4%	0.0%	-0.4%	0.0%	0.3%	--	1.2%	0.0%	
Portfolio	2.7%	=	3.3%	+	11.8%	9.1%	97.3%	99.6%	

*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.

MONDRIAN EM SMALL CAP

Sector Allocation

	Fund	MSCI EM SC
Consumer Discretionary	14.6	16.6
Consumer Staples	15.8	6.9
Energy	1.6	2.2
Financials	2.1	8.7
Health Care	23.5	8.8
Industrials	15.2	14.4
Information Technology	4.3	16.6
Materials	10.0	12.1
Real Estate	7.7	8.8
Telecommunication Services	-	0.9
Utilities	4.0	4.0
Cash	1.1	-
TOTAL	100.0	100.0

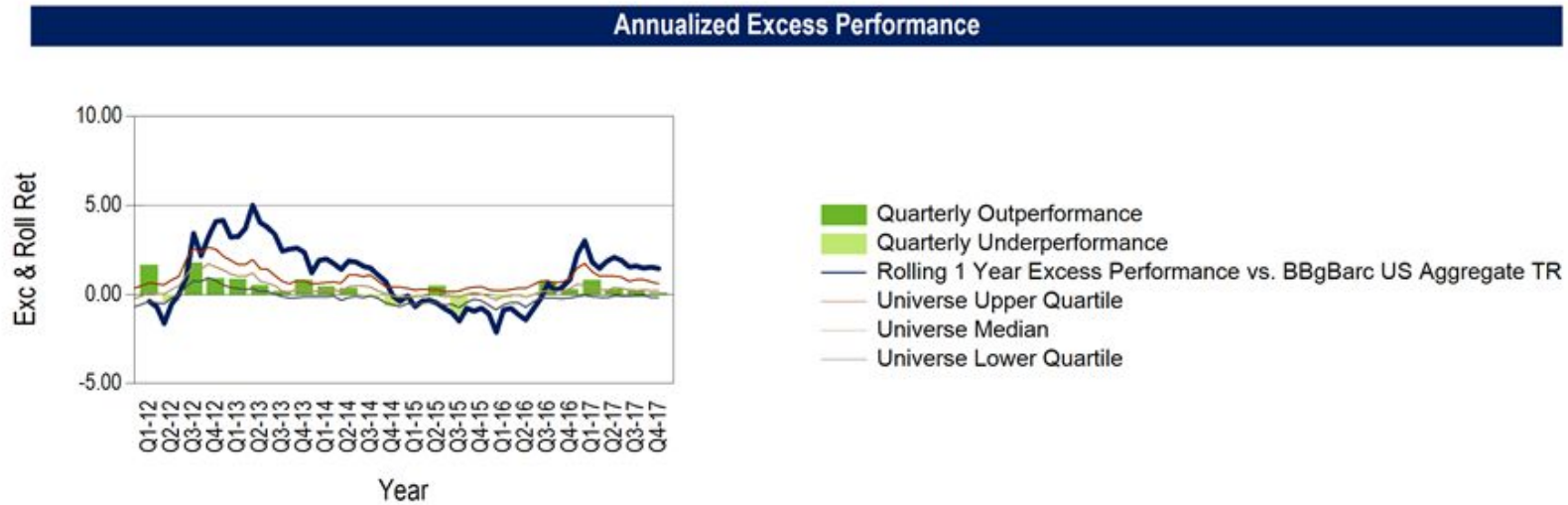
Country Allocation

	Fund	MSCI EM SC
LATIN AMERICA	10.5	9.7
Brazil	3.6	5.4
Mexico	4.8	2.5
Peru	2.1	0.2
EUROPE, MIDDLE EAST & AFRICA	6.1	10.8
Poland	2.6	1.0
Saudi Arabia	1.4	-
South Africa	2.1	5.5
PACIFIC-ASIA	82.3	79.5
North Asia	31.6	53.4
China/Hong Kong	17.7	19.6
South Korea	6.6	16.5
Taiwan	7.3	17.3
South Asia	50.7	25.3
India	28.7	15.2
Indonesia	7.9	2.2
Malaysia	6.6	3.3
Philippines	4.0	0.9
Thailand	3.5	3.7
Cash	1.1	-
TOTAL	100.0	100.0



Source: Mondrian

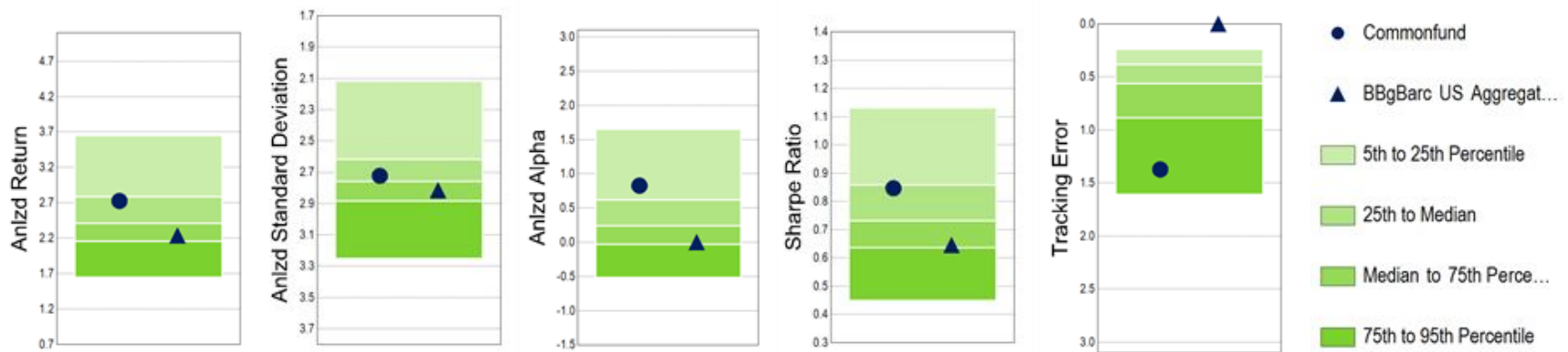
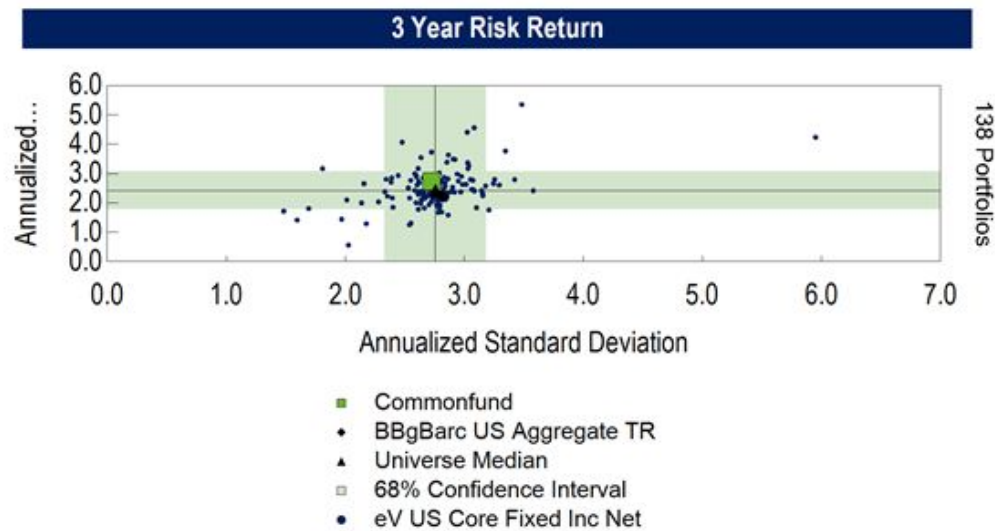
COMMONFUND



*Returns are net of fees.



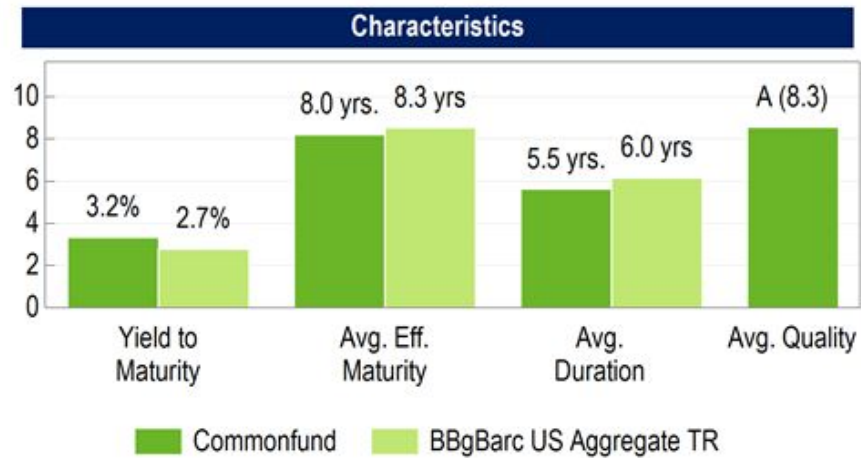
COMMONFUND



*Returns are net of fees.



COMMONFUND



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		X	
Income Research & Management (IRM)	X		
Other (Iceland)			X
PIMCO			X
Rimrock Capital Management	X		
Rimrock Capital Management			X
Sit Investment Associates			X
Western Asset Management Company (WAMCO)	X		

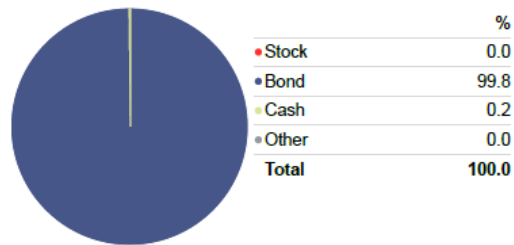


Source: Commonfund

VANGUARD INFLATION PROTECTED SECURITIES

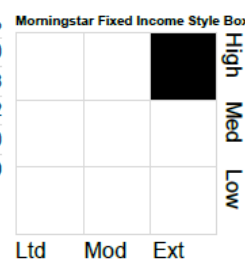
Asset Allocation

Portfolio Date: 9/30/2017



Fixed Income Statistics

Portfolio Date: 9/30/2017



Fixed-Income Stats

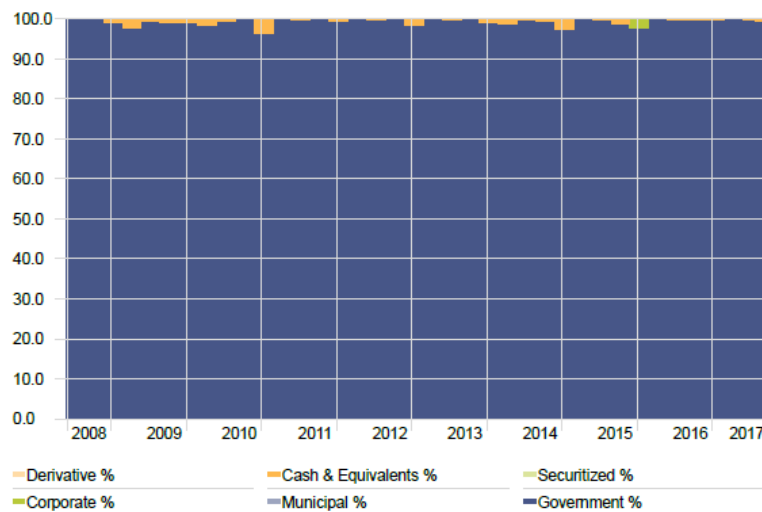
Average Eff Duration	8.0	AAA %
Average Eff Maturity	8.5	AA %
Average Coupon	0.8	A %
Average Price	114.1	BBB %
Average Credit Quality	AAA	BB %
		B %
		Below B %
		Not Rated %
		Yield to Maturity

Credit Quality Breakdown

Portfolio Date: 9/30/2017

	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 %
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.59
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.29
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.26
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.03
US Treasury TIP	BOND - GOV'T INFLATION PROTECTED	3.90
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.89
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.87
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.81
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.79
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.75



Source: Morningstar

VANGUARD INFLATION PROTECTED SECURITIES

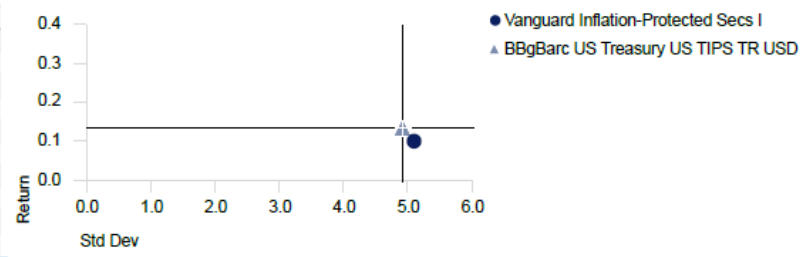
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	99.6	100.0
Alpha	0.0	0.0
Beta	1.0	1.0
Std Dev	5.1	4.9
Up Capture Ratio	101.9	100.0
Down Capture Ratio	102.9	100.0
Sharpe Ratio (geo)	0.0	0.0
Information Ratio (geo)	-0.1	0.0
Tracking Error	0.4	0.0
Correlation	1.0	1.0

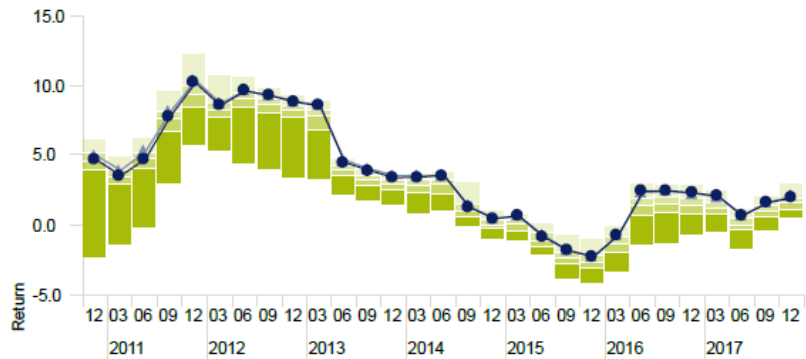
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

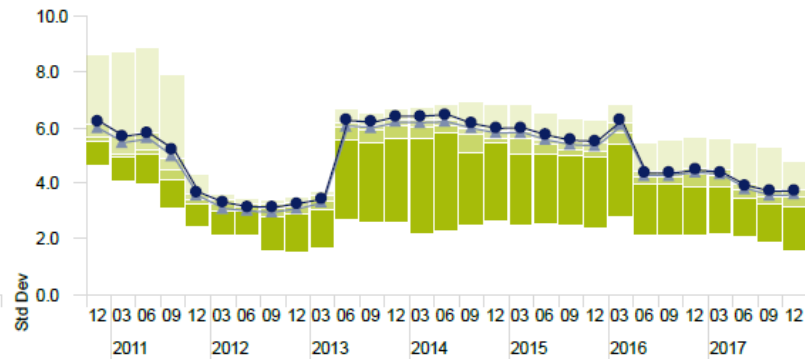


—Vanguard Inflation-Protected Secs I

—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

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Vanguard Inflation-Protected Secs I	-2.8	56	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
BBgBarc US Treasury US TIPS TR USD	-2.4		11.4		6.3		13.6		7.0		-8.6		3.6		-1.4		4.7		3.0	



Source: Morningstar

GUGGENHEIM US BANK LOANS

Characteristics

	US Bank Loans Composite	Credit Suisse Leveraged Loan Index
Effective Duration	0.14 years	0.13 years
Average Coupon	4.72%	5.10%
Average Market Price	\$99.13	\$98.75
Average YTM	5.22%	5.96%
Average YTW	2.86%	3.02%
Average OAS	278	339
Average Credit Quality ²	B+	B
WAL to Worst	1.20 years	1.20 years
No. of Issuers	222	1212

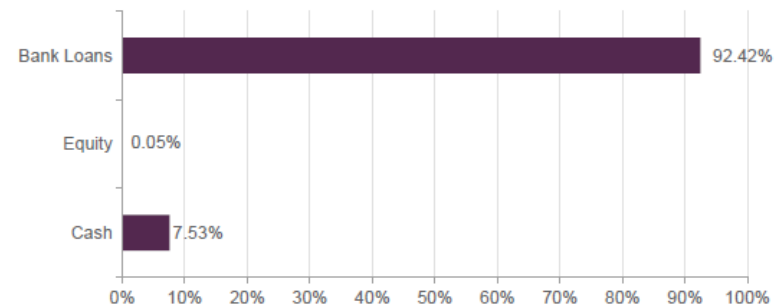
Performance & Risk Analysis (Since Inception)

	US Bank Loans Composite (Gross)	Credit Suisse Leveraged Loan Index
Annualized Return	6.95%	5.13%
Excess Return	1.82%	–
Standard Deviation	4.98%	6.27%
Correlation	0.97	1
Information Ratio	0.96	–
Sharpe Ratio	1.17	0.64

Industry Allocation

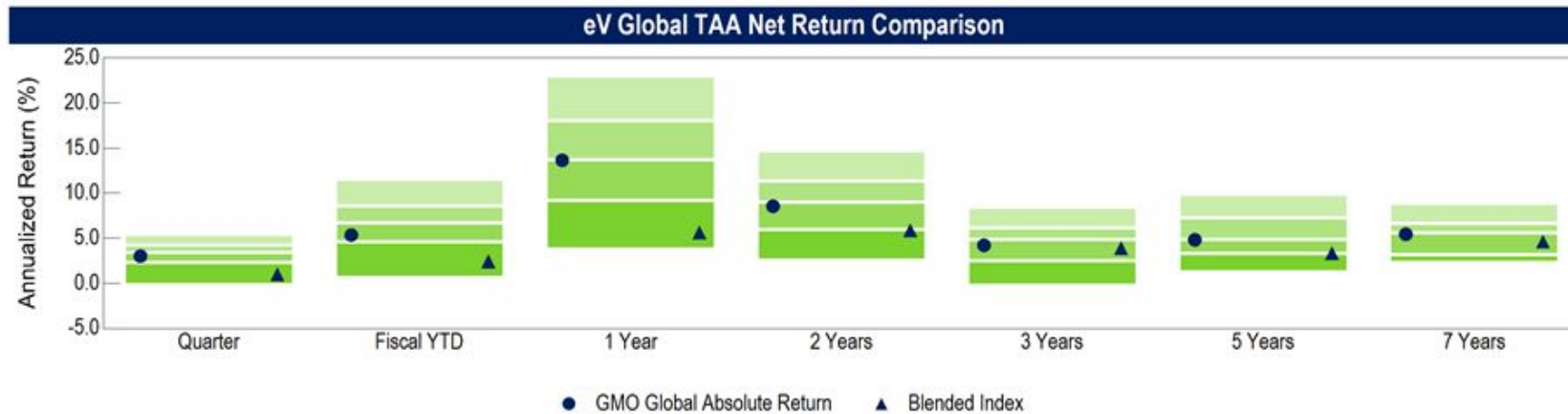
	Guggenheim	Index
Banking	0.00%	0.33%
Basic Industry	2.45%	5.20%
Brokerage	1.16%	0.55%
Capital Goods	11.20%	9.06%
Communications	7.95%	14.04%
Consumer Cyclical	19.33%	19.01%
Consumer Non Cyclical	21.31%	17.68%
Electric	2.88%	2.55%
Energy	1.30%	3.59%
Finance Companies	2.91%	2.29%
Insurance	1.83%	1.63%
Other Financials	0.63%	1.13%
Other Industry	2.67%	6.36%
Technology	15.77%	13.55%
Transportation	1.03%	2.04%
Cash	7.53%	0.00%
Other ³	0.04%	0.97%

Asset Class Allocation



Source: Guggenheim

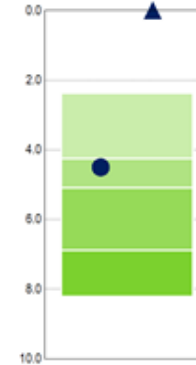
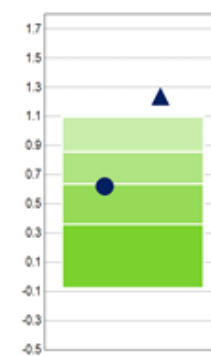
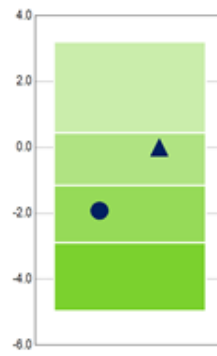
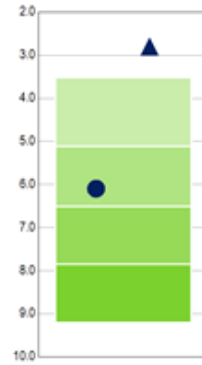
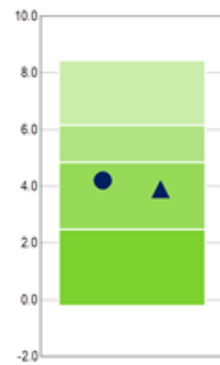
GMO GLOBAL ABSOLUTE RETURN



*Returns are net of fees.

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

GMO GLOBAL ABSOLUTE RETURN

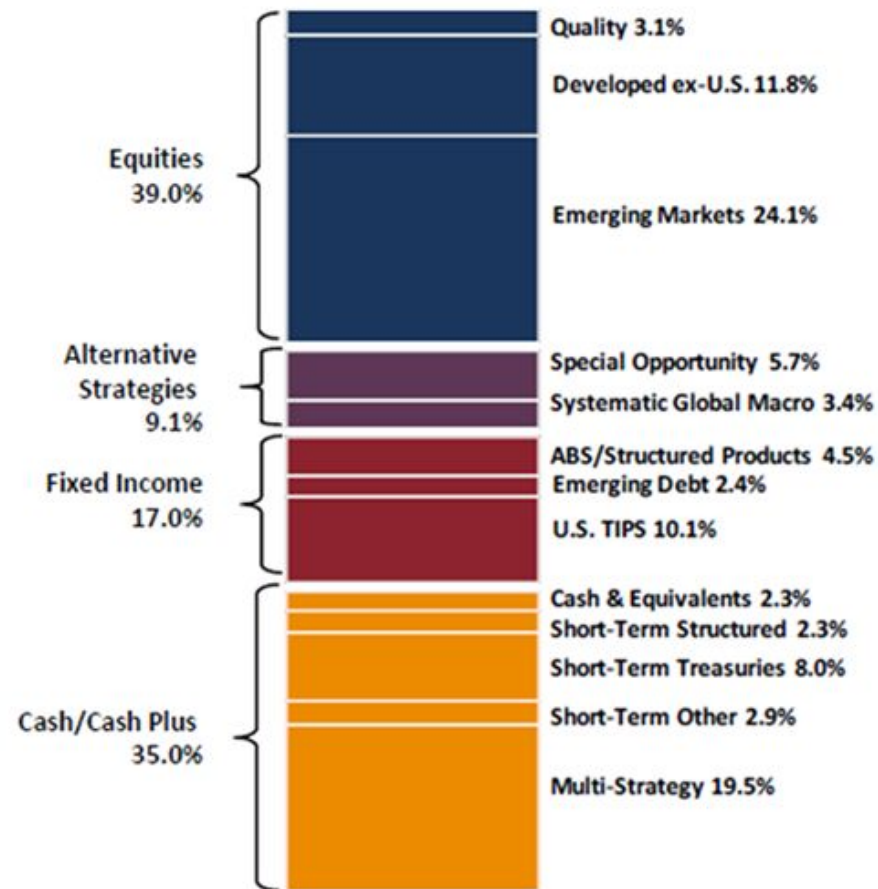


*Returns are net of fees.

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

GMO GLOBAL ABSOLUTE RETURN

Strategy Composition

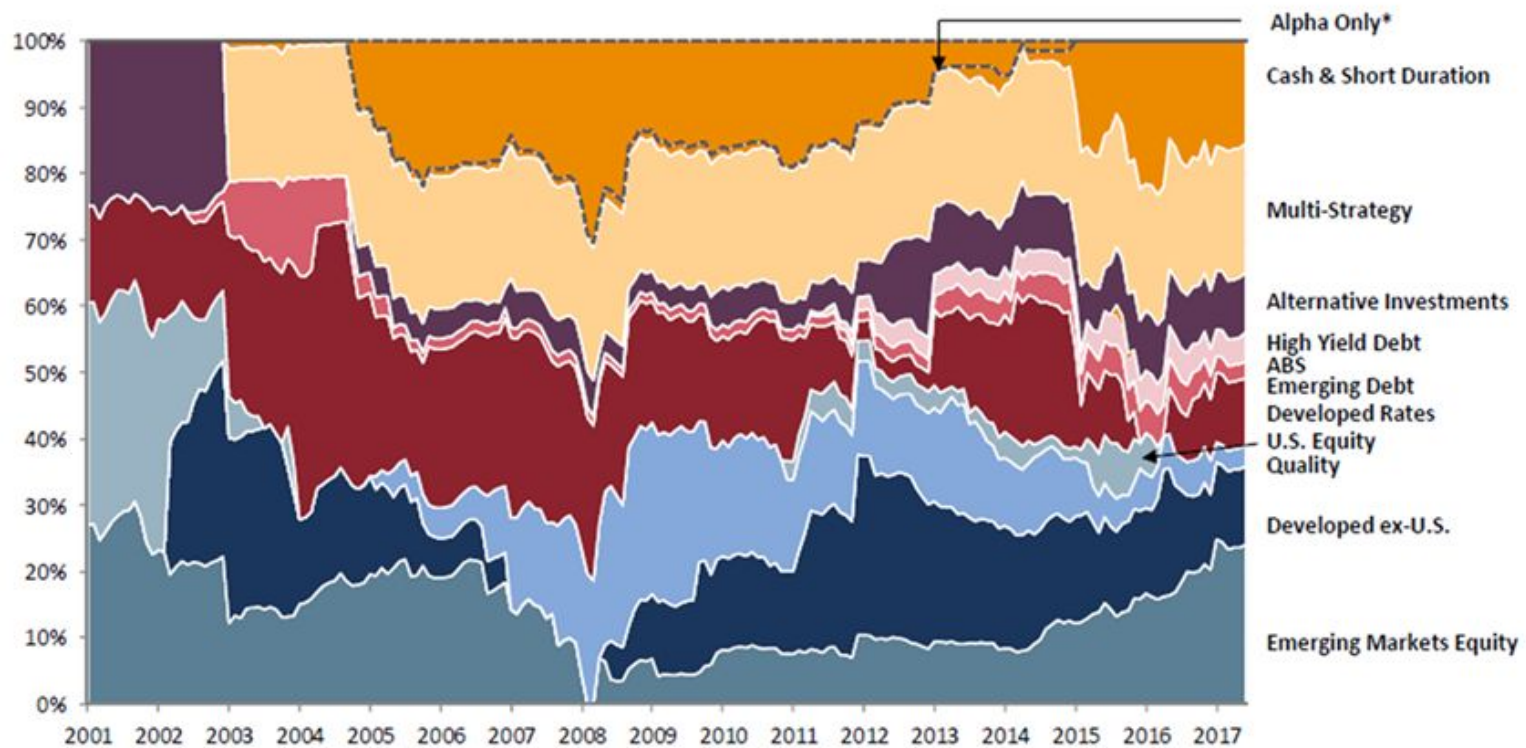


Source: GMO



GMO GLOBAL ABSOLUTE RETURN

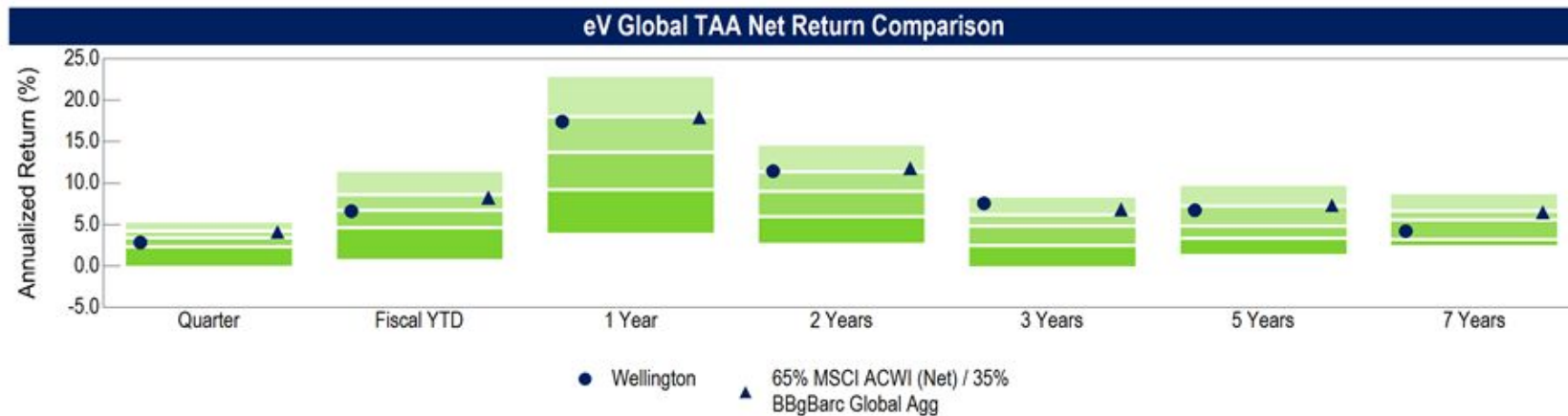
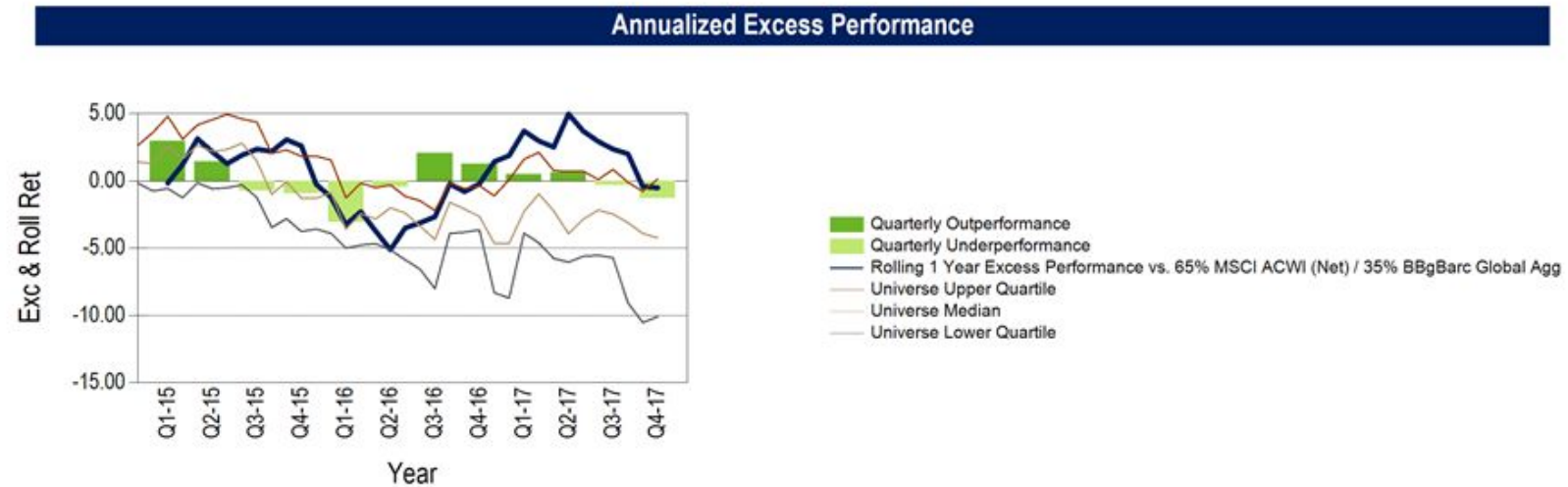
Allocation History



Source: GMO



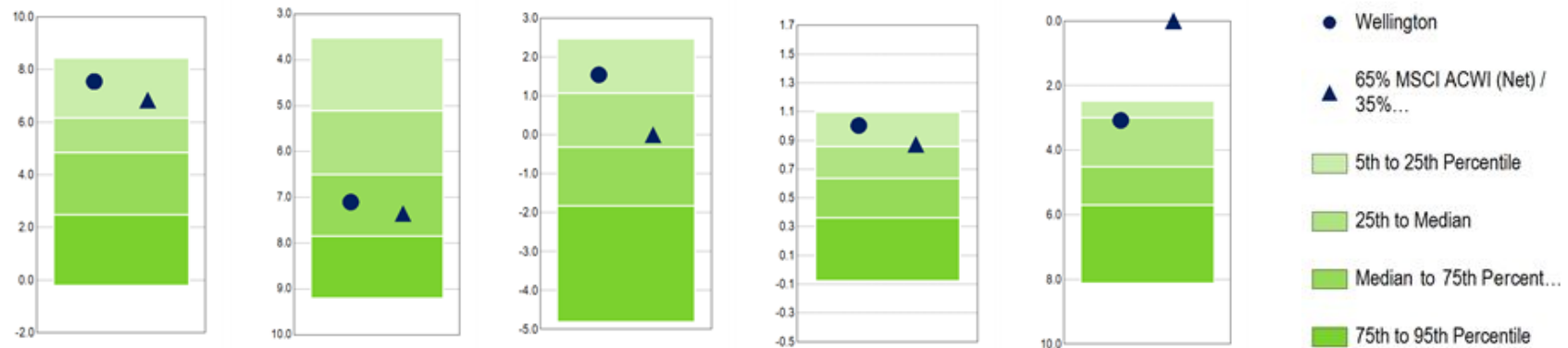
WELLINGTON OPPORTUNISTIC



*Returns are net of fees.



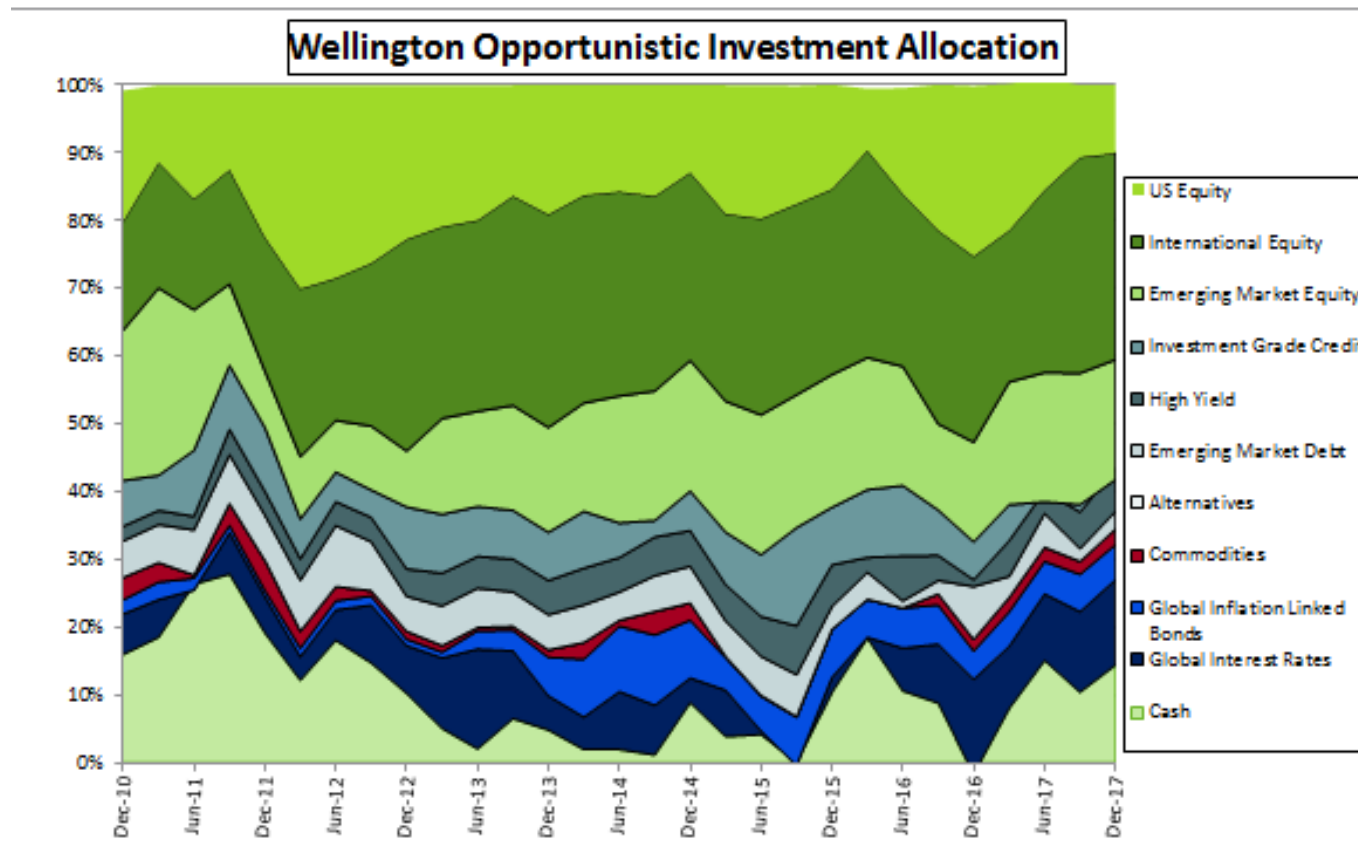
WELLINGTON OPPORTUNISTIC



*Returns are net of fees.

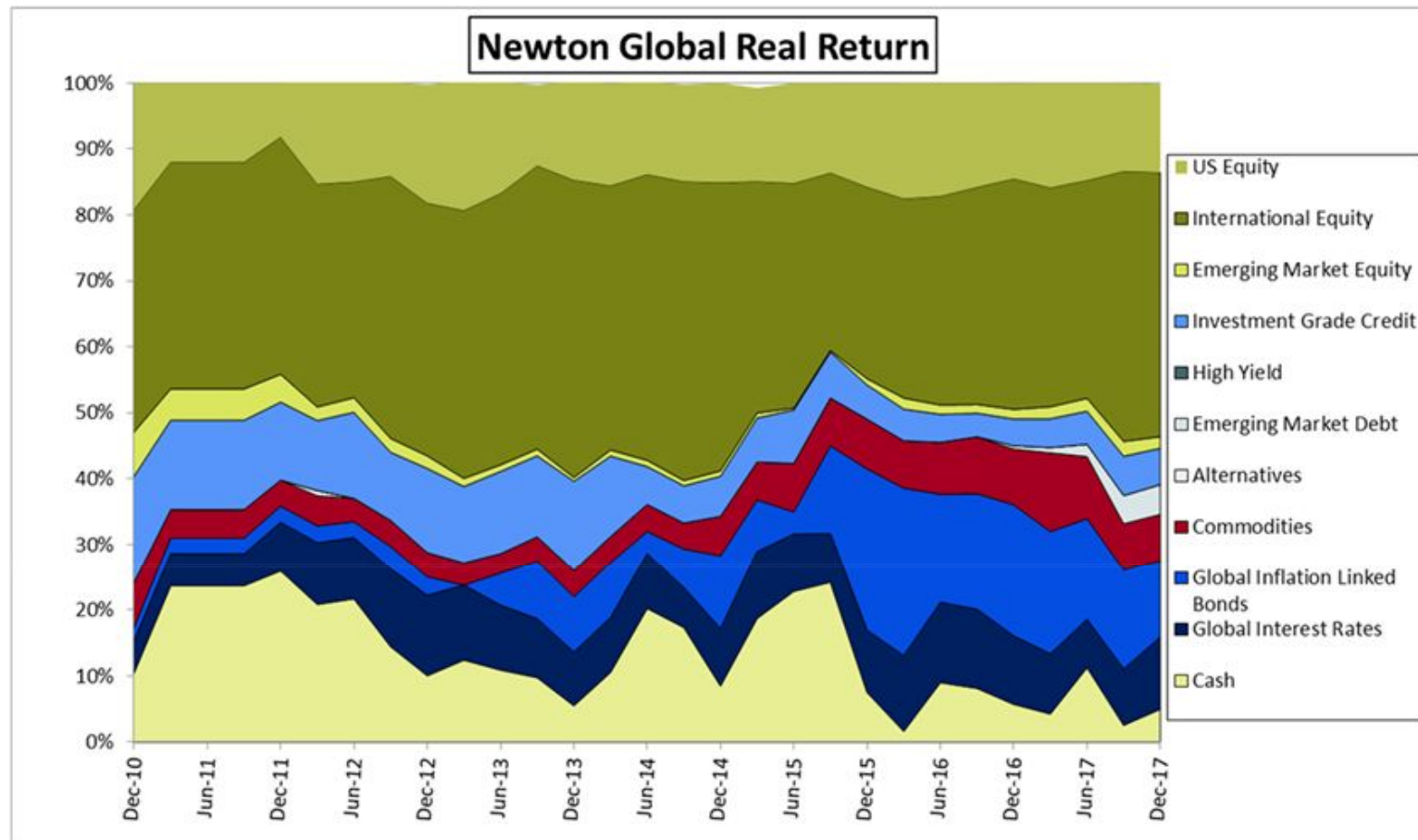


WELLINGTON OPPORTUNISTIC



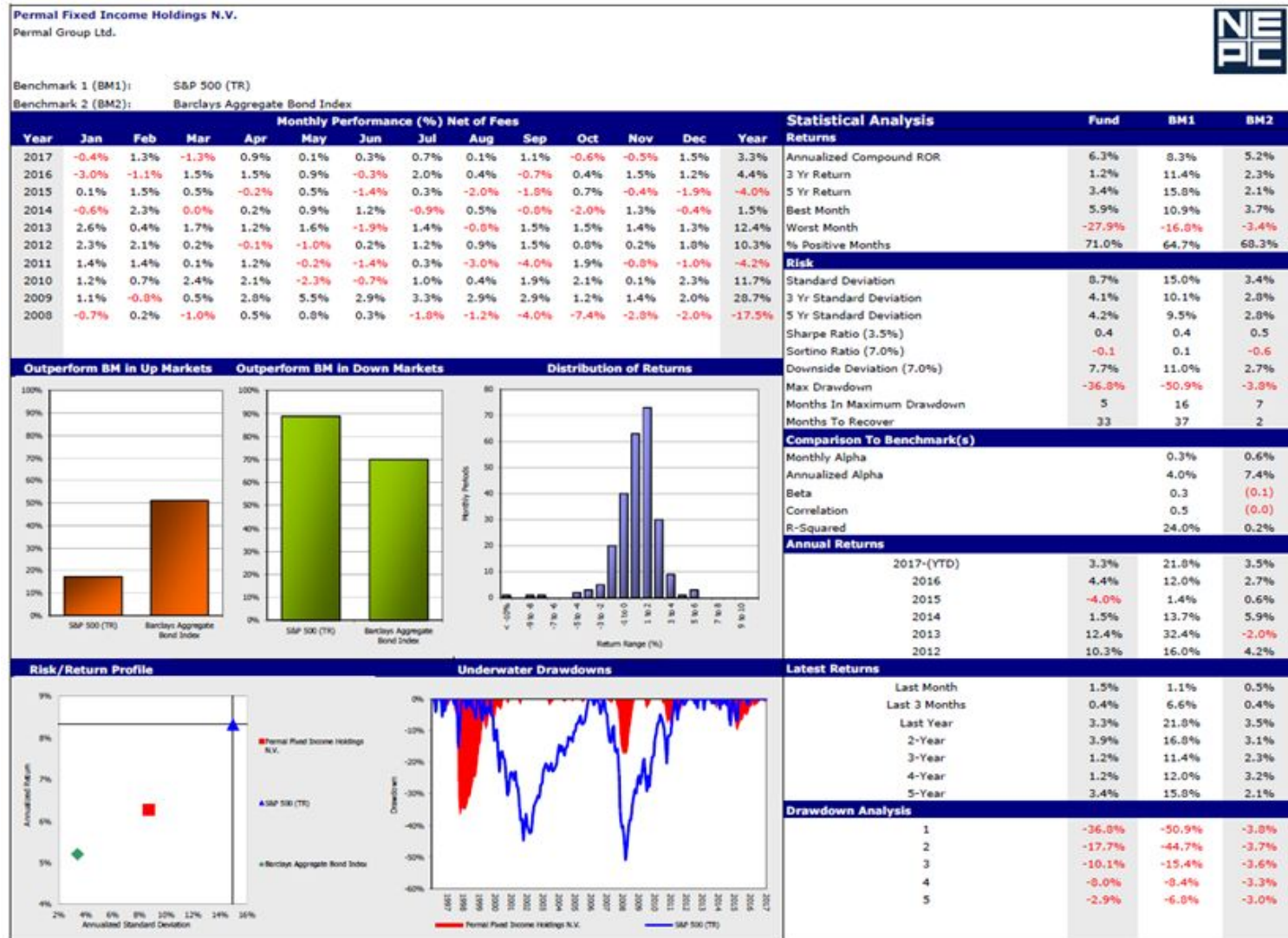
Source: Wellington

NEWTON GLOBAL REAL RETURN



Source: Newton

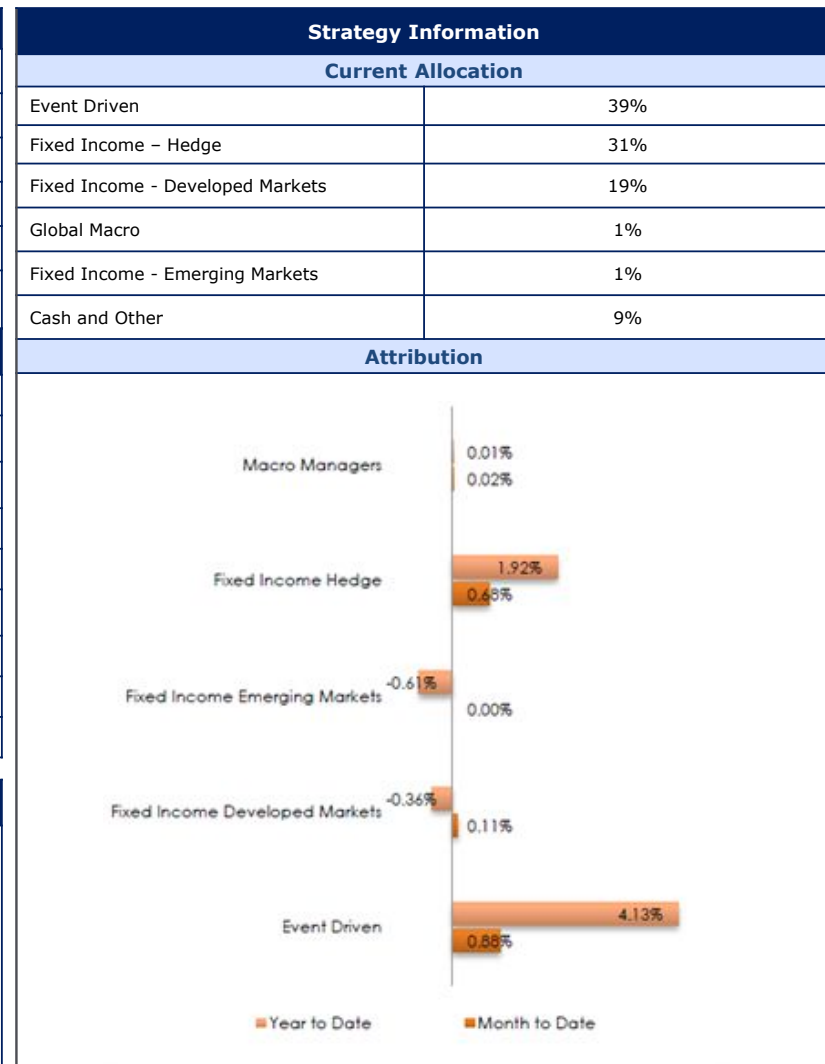
ENTRUSTPERMAL FIXED INCOME HOLDINGS



ENTRUSTPERMAL FIXED INCOME HOLDINGS

General Fund Information			
Fund Name	EnTrustPermal Fixed Income Holdings		
Management Company	EnTrustPermal		
Location	New York, NY		
Firm AUM	\$20.9 Billion	Strategy	Fund of Fund
Strategy AUM	\$779.9 Million	Sub-Strategy	Multi-Strategy
Portfolio Managers	Robert Kaplan, Clark Fenton, Javier Dyer	Direct or FOF	FOF
Terms			
Share Class	-		
Minimum Investment	\$1 million		
Management Fee	0.95%		
Incentive Fee	None		
Hurdle Rate	None		
High Water Mark	None		
Subscription	Monthly		
Redemption	Monthly with 20 days		
Lock-Up	None		

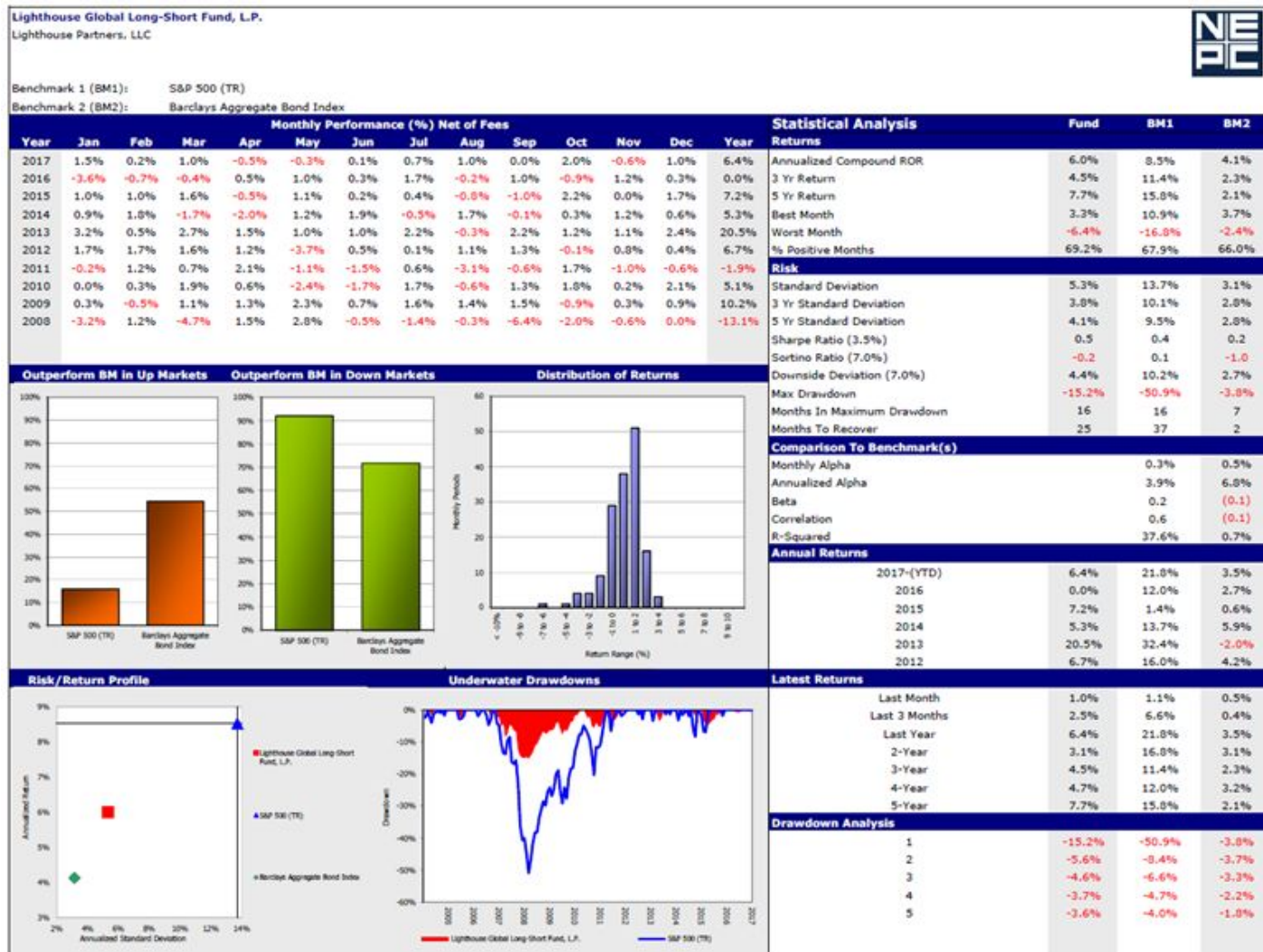
Investment Strategy	
<p>Permal Fixed Income Holdings features a performance-oriented investment philosophy that employs a unique combination of fixed-income spread strategies, opportunistic bets on events, and nimble, liquid macro strategies. It is positioned as both a performance enhancer and a good diversifier to a core hedge fund allocation</p>	



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



LIGHTHOUSE GLOBAL LONG/SHORT



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	\$10.4 billion	Strategy	Fund of Fund
Strategy AUM	\$1.8 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
<p>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).</p> <p>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.</p>

Strategy Information

Current Allocation

Region exposures and contribution 2014Q4

	Developed North America	Developed Europe	Developed Asia	Emerging Markets	Hedges / Other
Net TM	0.23%	0.06%	-0.02%	0.03%	0.02%
GTD TM	0.96%	0.53%	0.38%	0.72%	-0.18%

Attribution

Sector exposure and contribution 2014Q4

	Consumer Discretionary	Consumer Staples	Energy	Financials	Healthcare	Industrials	Technology	Materials	Real Estate	Telecom	Utilities	Hedges / Other
Net TM	0.03%	0.03%	0.01%	0.03%	0.06%	0.04%	0.06%	0.03%	0.02%	0.01%	0.00%	0.01%
GTD TM	0.81%	0.00%	0.27%	0.93%	0.24%	0.54%	0.01%	0.41%	0.25%	0.12%	0.02%	-1.22%

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



JOHN HANCOCK TIMBER

INVESTMENTS

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>			
Pinchot	WA	10/31/05	33,722	Dec-16	NA	39,941,717	152,940,000	112,998,283
Phum Grove	PA/NY	10/31/05	15,205	Dec-16	NA	45,095,730	40,920,000	(4,175,730)
Tyler	TX	10/31/05	86,793	Dec-17	Dec-18	76,421,657	166,000,000	89,578,343
Total equity real estate			135,720			\$ 161,459,104	\$ 359,860,000	\$ 198,400,896
Other investments								
		<u>Acquisition date</u>						
Red River Timberlands Company *	LA, TX	4/1/08	119,324	Dec-17	Dec-18	111,028,383	128,874,245	17,845,862
Total other investments			119,324			\$ 111,028,383	\$ 128,874,245	\$ 17,845,862

INVESTMENT REGIONS

Hancock Timber Resource Group Total Assets Under Management by Geographical Location As of December 31, 2017

<u>Property Count</u>	<u>NCREIF Region</u>	<u>Real Estate Market Value</u>	<u>Market Value (%)</u>	<u>Acres</u>	<u>Acres (%)</u>
2	Northeast	\$ 178,325,807	1.6%	58,155	1%
3	Lake States	266,781,419	2.4%	441,356	7%
36	Pacific Northwest	2,848,299,704	26.0%	1,270,436	21%
28	Southeast	1,155,254,161	10.5%	624,559	11%
21	Southwest	2,326,629,446	21.2%	1,273,303	21%
9	Non - U.S.A	4,178,262,279	38.1%	2,263,928	38%
99		\$ 10,953,552,816	100.0%	5,931,737	100%



Source: Hancock

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.

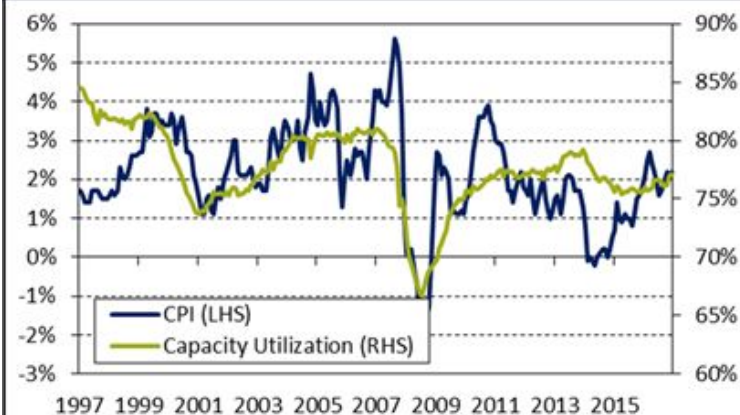


APPENDIX

NEPC, LLC

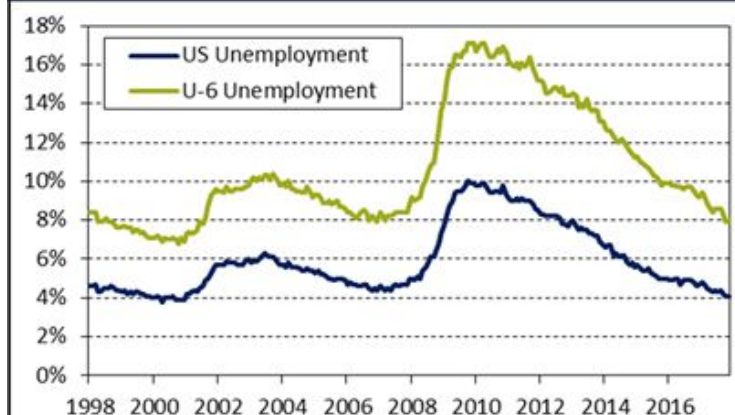
US ECONOMIC INDICATORS

Inflation continues to hover around 2%



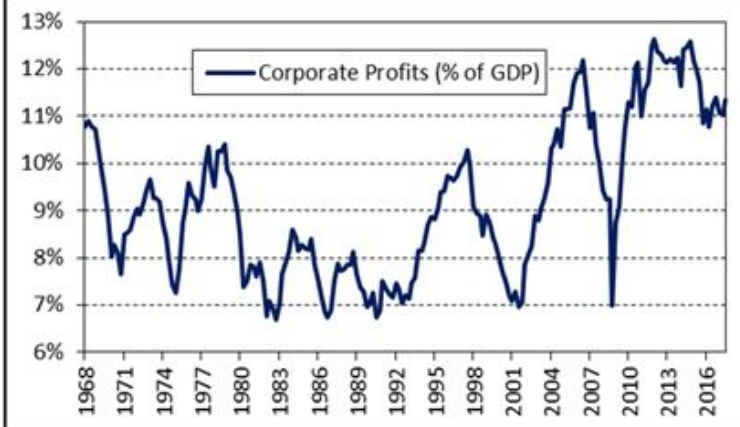
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics

Unemployment remains near historic lows



Source: Bloomberg, Bureau of Labor Statistics

Corporate profits as a % of GDP have increased slightly



Source: Bloomberg, Bureau of Economic Analysis

Manufacturing has retreated slightly, though remains elevated

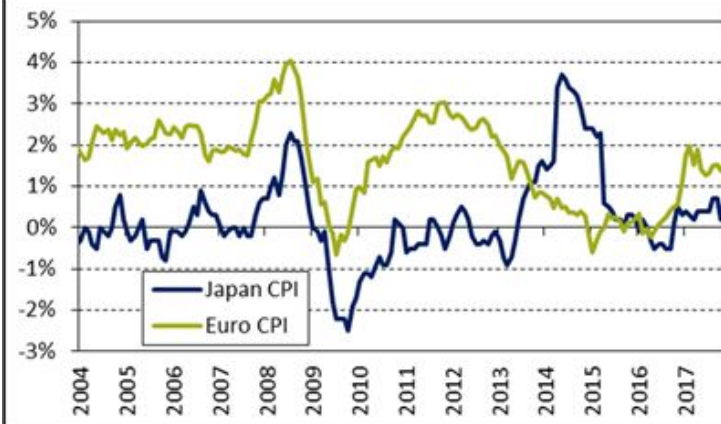


Source: Bloomberg, Institute for Supply Management



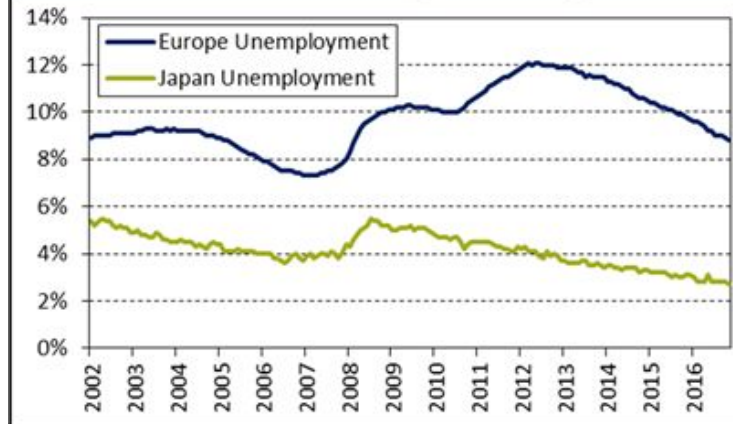
INTERNATIONAL ECONOMIC INDICATORS

Euro and Japan inflation have increased slightly



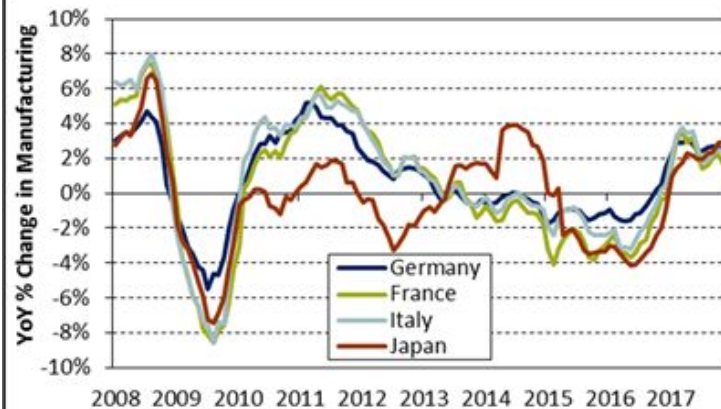
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Unemployment numbers continue to grind lower in Europe and Japan



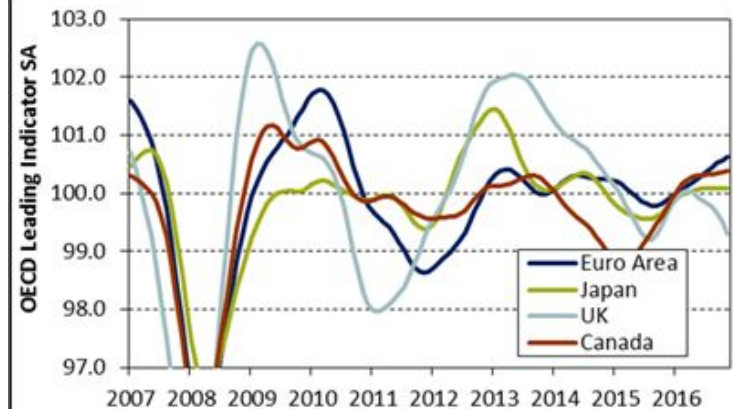
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Manufacturing has slowed slightly in European countries



Source: Bloomberg, OECD, Eurostat

Ex-UK, Euro-area leading indicators remain strong

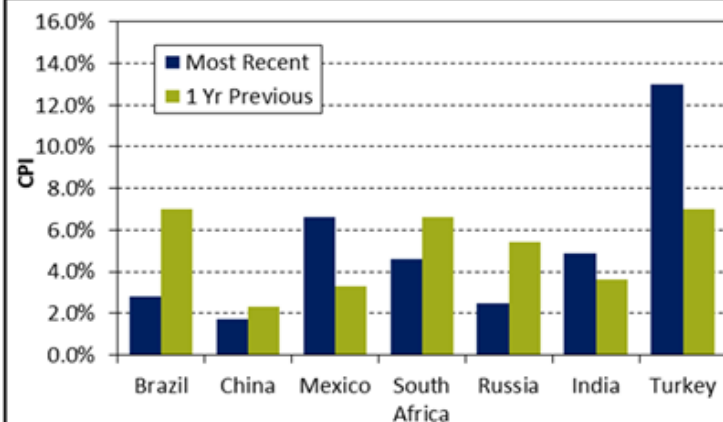


Source: Bloomberg, OECD



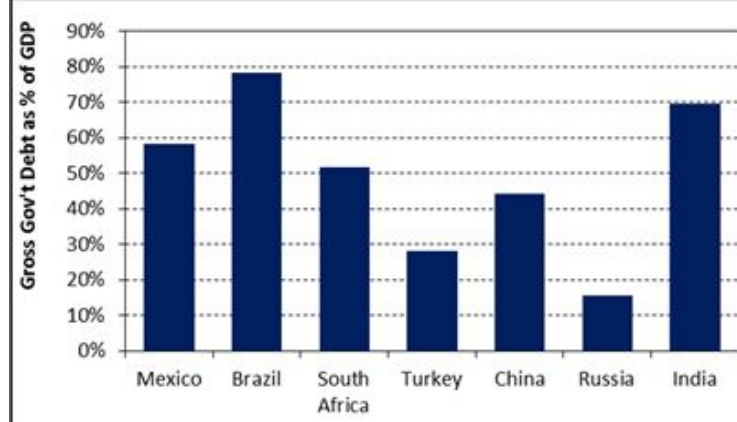
EMERGING MARKET ECONOMIC INDICATORS

EM inflation varies by country



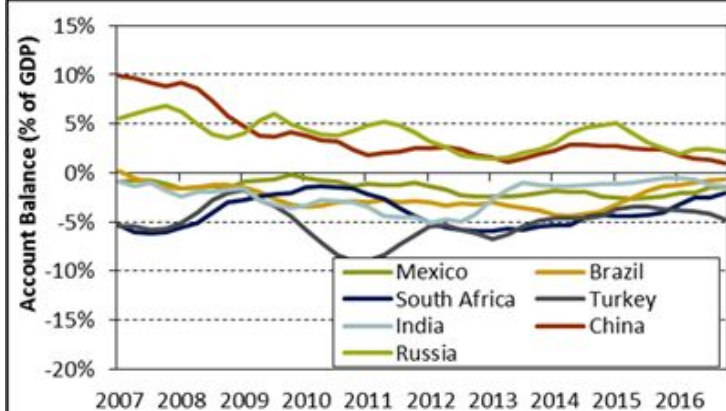
Source: Bloomberg

Relatively healthy debt/GDP ratios



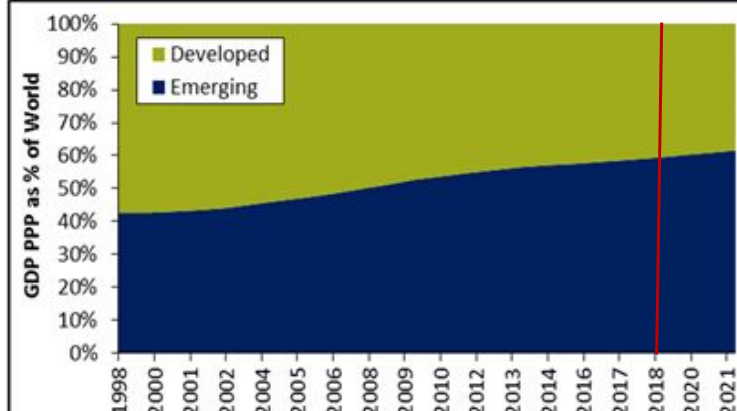
Source: Bloomberg, IMF

Account balances remain steady



Source: Bloomberg

EM continues trending higher as a percent of global output

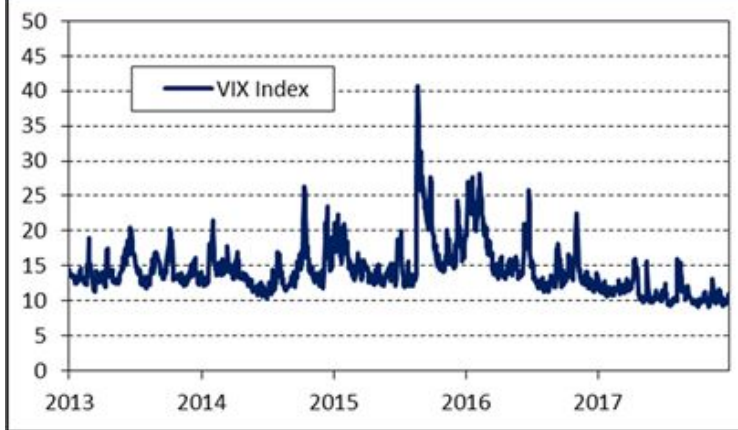


Source: Bloomberg, IMF



VOLATILITY

Equity volatility remains near historic lows



Source: Bloomberg, CBOE

Treasury volatility continues to decline



Source: Bloomberg, Merrill Lynch

Currency volatility remains low



Source: Bloomberg, Deutsche Bank

Commodity volatility is trending downward

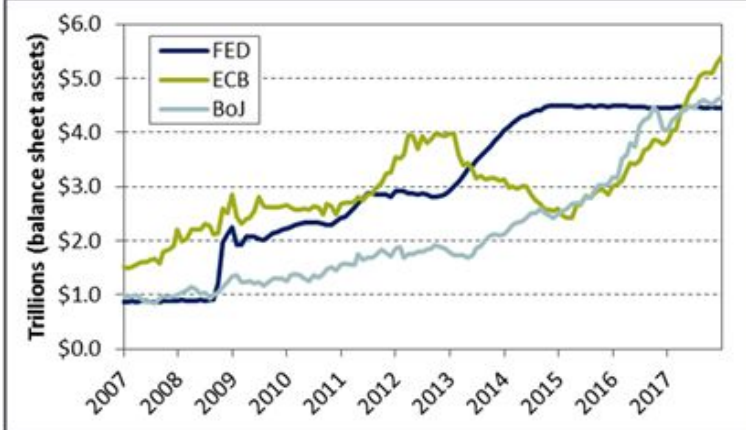


Source: Bloomberg, Merrill Lynch



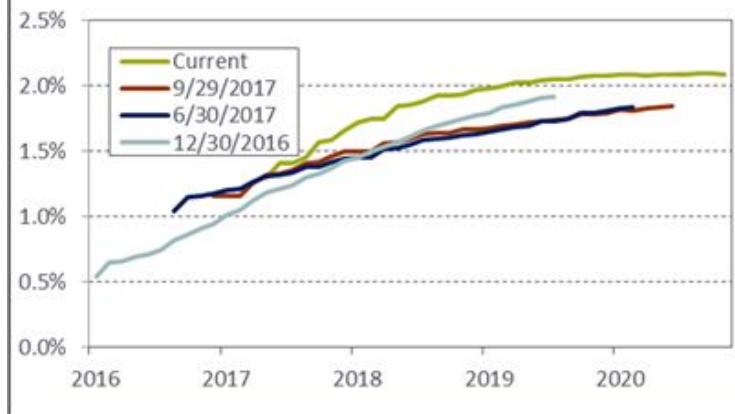
CENTRAL BANKS

Euro strength continues to impact total balance sheet assets



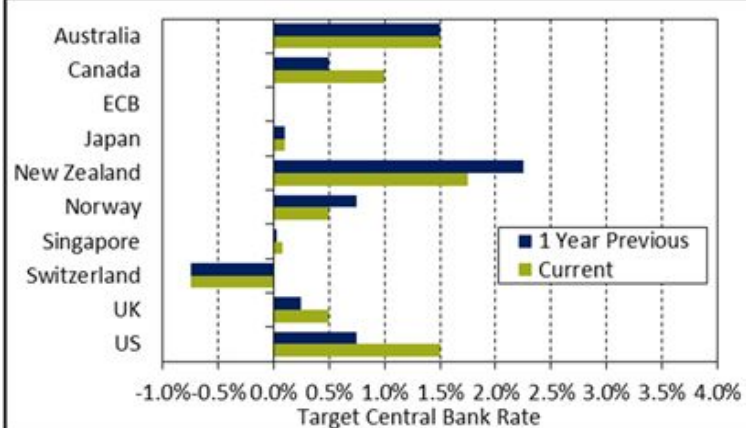
Source: Bloomberg, Federal Reserve, Bank of Japan, ECB, NEPC

The yield curve has shifted upward with a December Fed hike



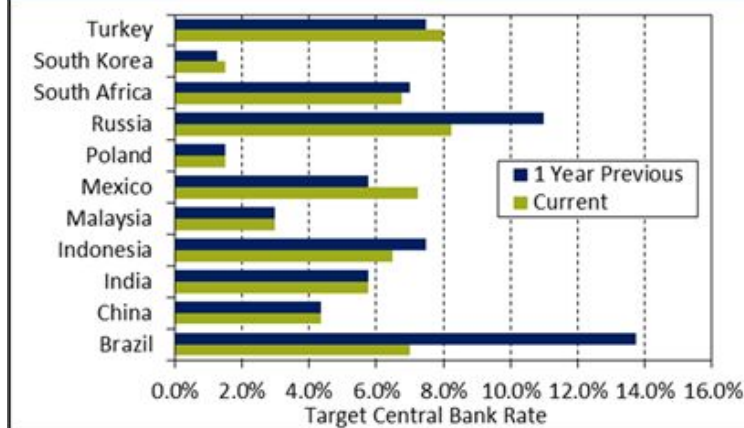
Source: Bloomberg, Federal Reserve

Developed markets have broadly started increasing rates



Source: Bloomberg

EM central bank policies vary by country-specific economic conditions

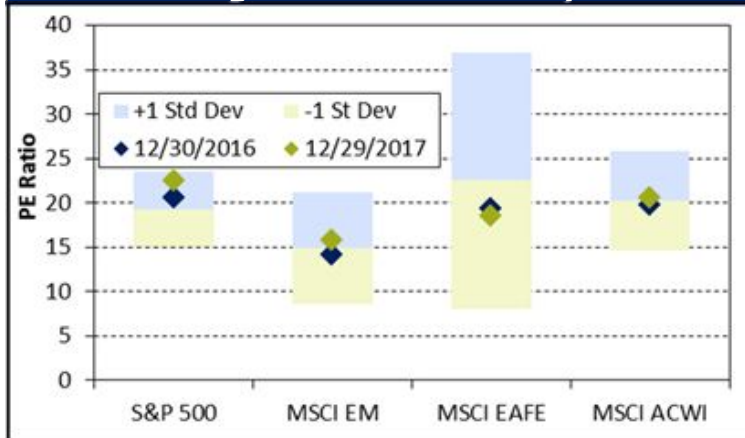


Source: Bloomberg



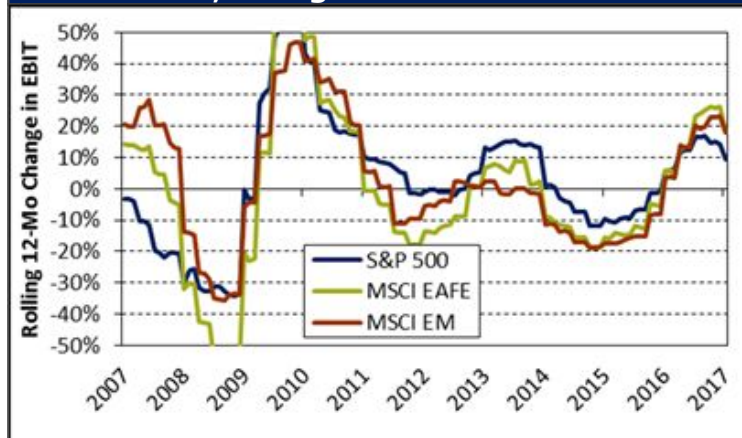
GLOBAL EQUITY

Ex-EAFE, global equity valuations are higher relative to last year



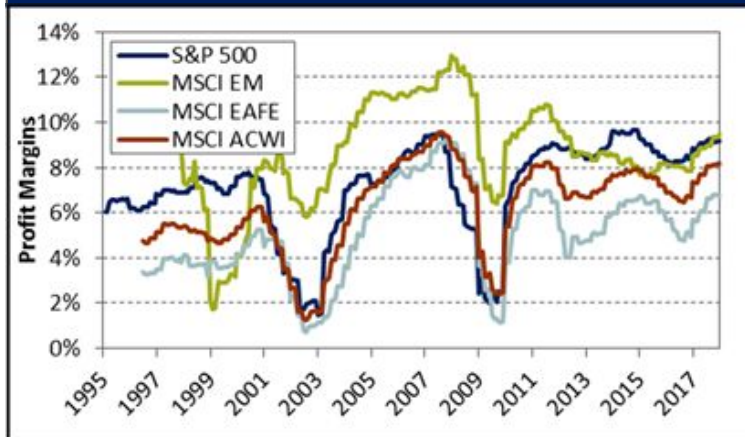
Source: Bloomberg, Standard and Poors, MSCI *MSCI EAFE is ex UK Telecom
*Standard deviation calculations on 20 years of data except S&P 500 (30 years)

Rolling annual earnings growth is trending lower, though still remains elevated



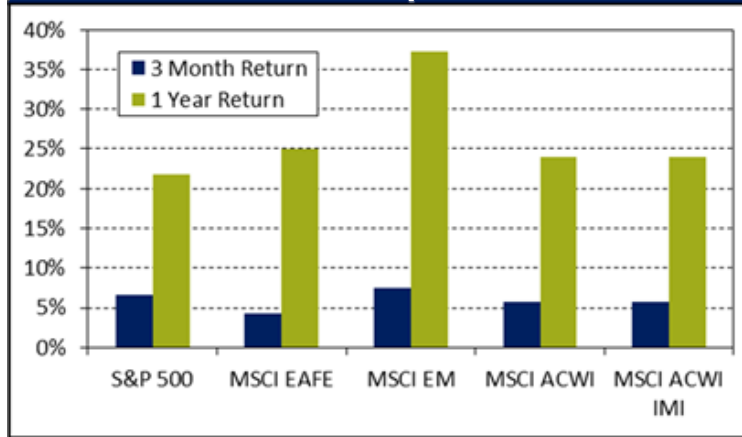
Source: Bloomberg, Standard and Poors, MSCI

Profit margins continue to increase



Source: Bloomberg, MSCI

Equities continue to experience strong short-term performance

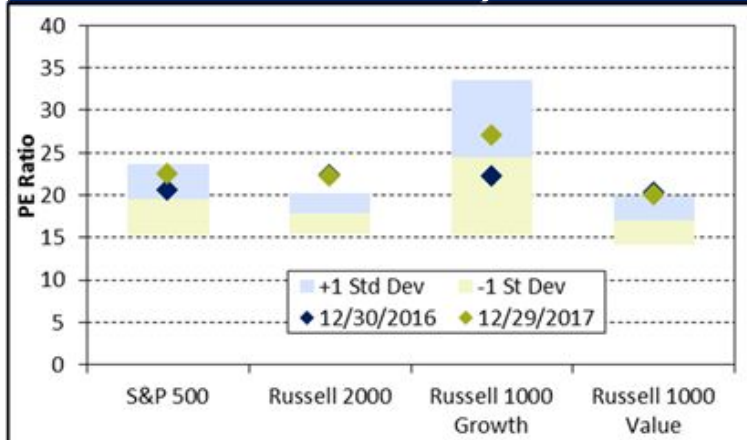


Source: Bloomberg, MSCI



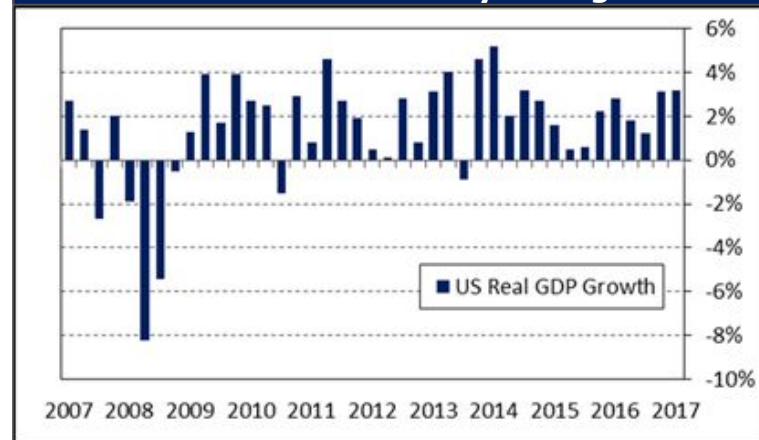
US EQUITY

The S&P 500 PE remains elevated relative to history



Source: Bloomberg, Standard and Poors, Russell *Russell 2000 PE is index adjusted positive*
Standard deviation calculations based on 20 years of data

The Q3 real GDP growth revision to 3.3% marked a three-year high



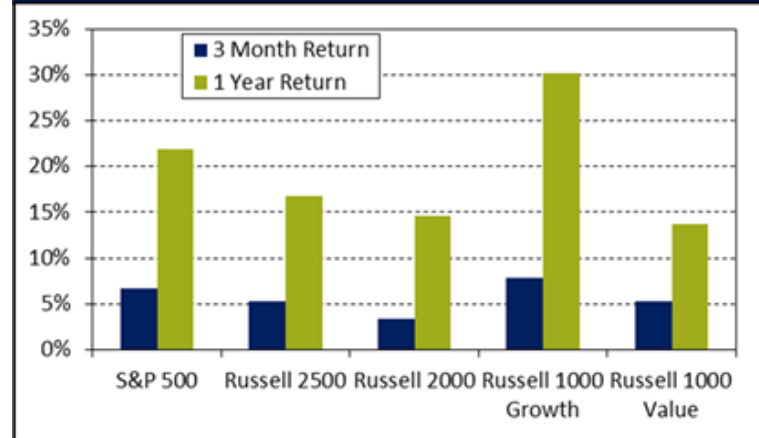
Source: Bloomberg, Bureau of Economic Analysis

Russell 2000 margins have begun trending lower



Source: Bloomberg, Standard and Poors, Russell

US equities continue to post positive returns

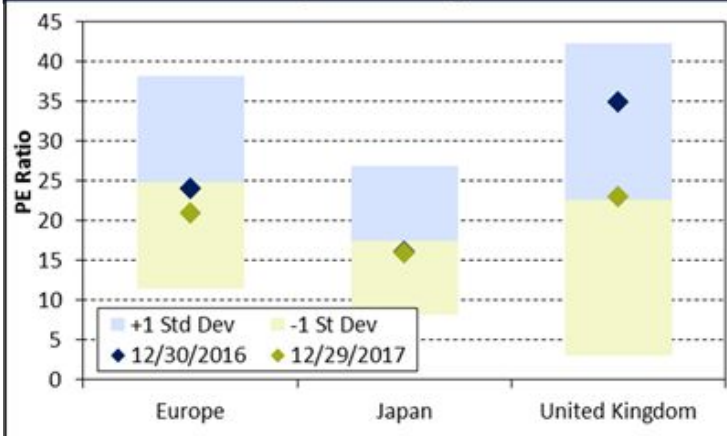


Source: Bloomberg, Standard and Poors, Russell



INTERNATIONAL EQUITY

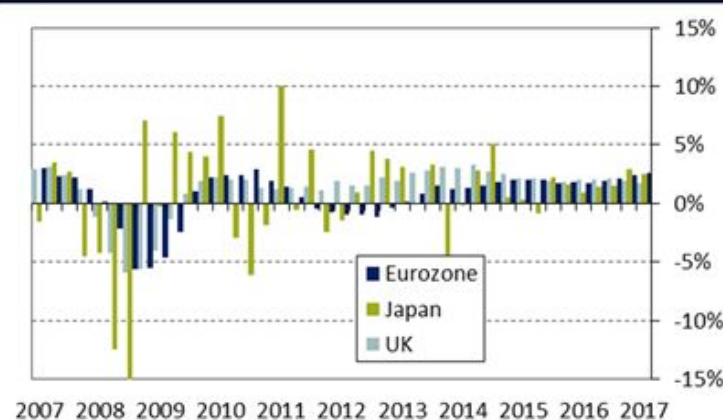
International equity PEs remain below the previous year



Source: Bloomberg, MSCI, FTSE *UK represented by FTSE 100 Index

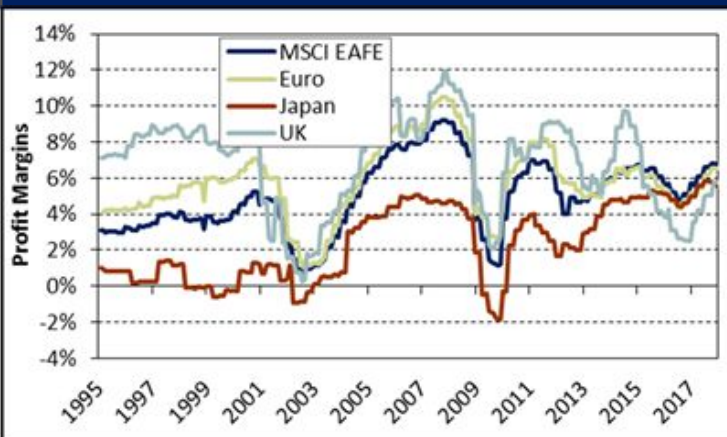
*Standard deviation calculations based on 20 years of data, with Europe since 12/1998

UK GDP growth continues to decline



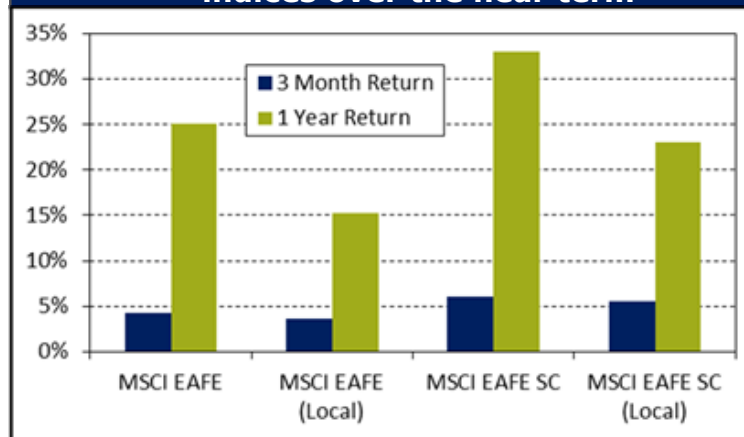
Source: Bloomberg

Profit margins continue trending higher



Source: Bloomberg, MSCI

Small cap slightly outperformed broad indices over the near term

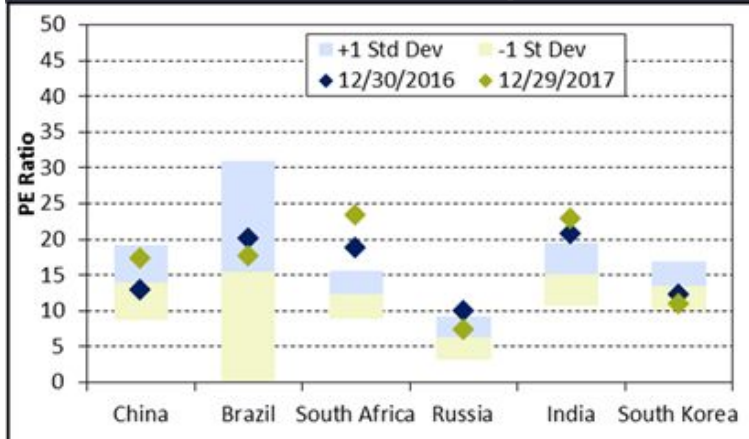


Source: Bloomberg, MSCI



EMERGING MARKETS EQUITY

EM country valuations vary significantly relative to last year



Source: Bloomberg, MSCI

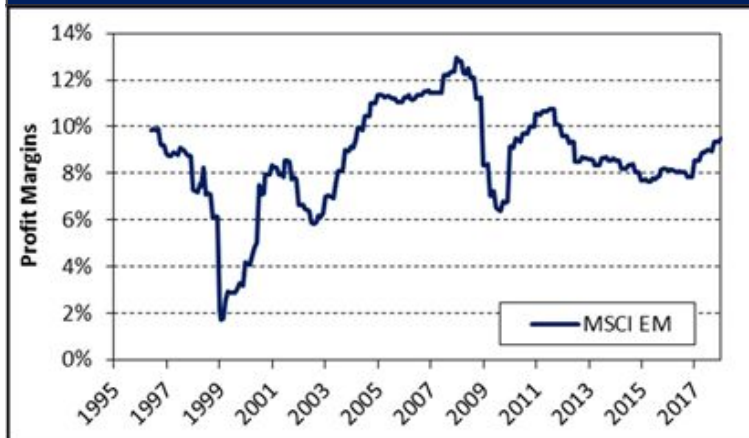
*Standard deviation calculations based on 20 years of data, with Russia since 01/1998

Ex-China, EM profit margins continue to rebound off earnings contractions



Source: Bloomberg

Profit margins remain elevated



Source: Bloomberg, MSCI

EM returns show continued strength

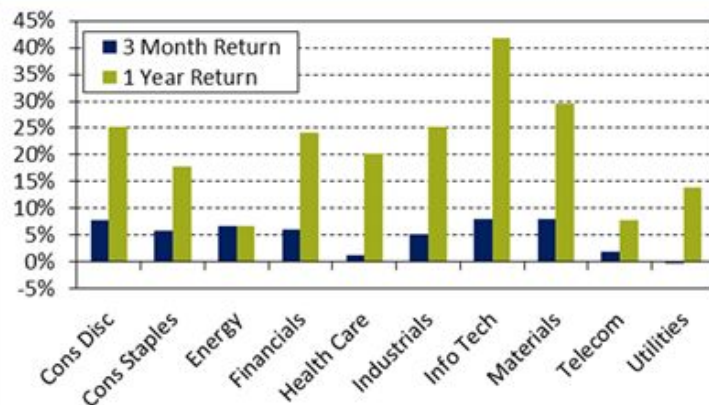


Source: Bloomberg, MSCI



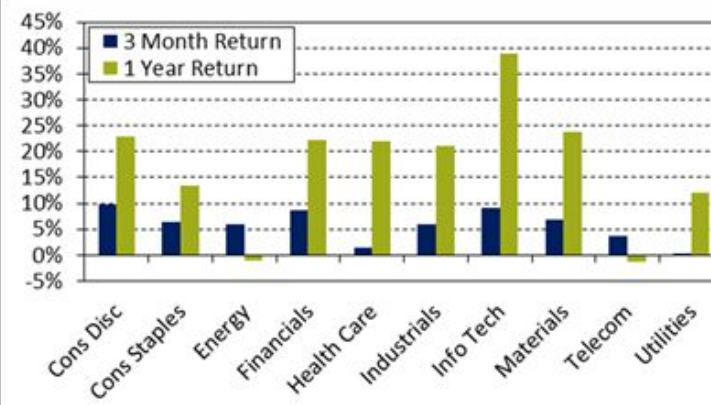
GLOBAL EQUITY BY SECTOR

Info Tech and Consumer Discretionary lead MSCI ACWI short-term returns



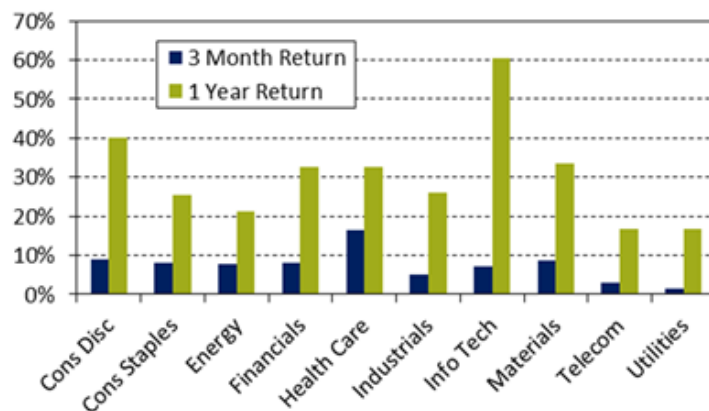
Source: Bloomberg, MSCI

The S&P 500 experienced positive performance across all sectors



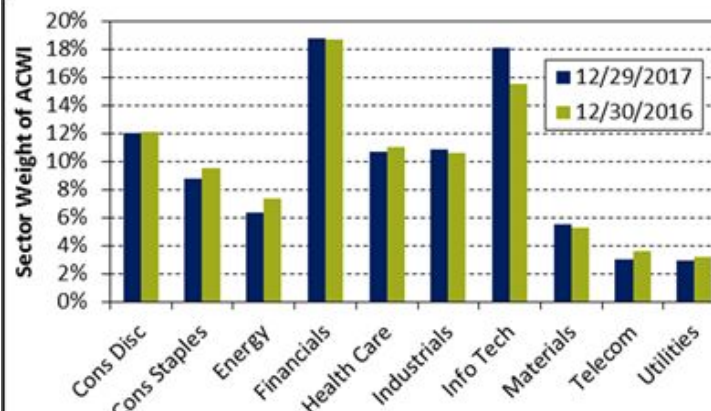
Source: Bloomberg, Standard and Poors

EM short-term returns continue to be driven by Health Care



Source: Bloomberg, MSCI

Info Tech sector weight has increased at the expense of Energy and Telecom

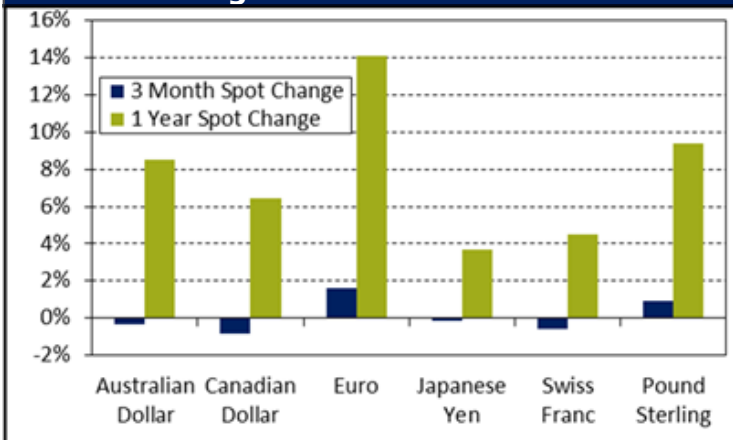


Source: Bloomberg, MSCI



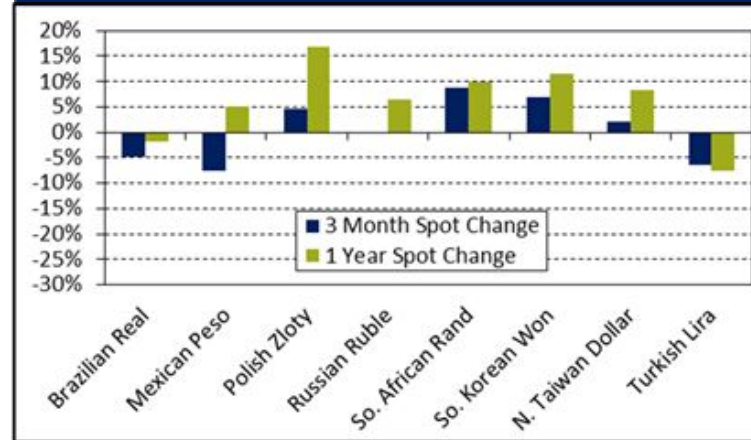
CURRENCIES

In the near-term, the Euro and the Pound strengthened relative to the USD



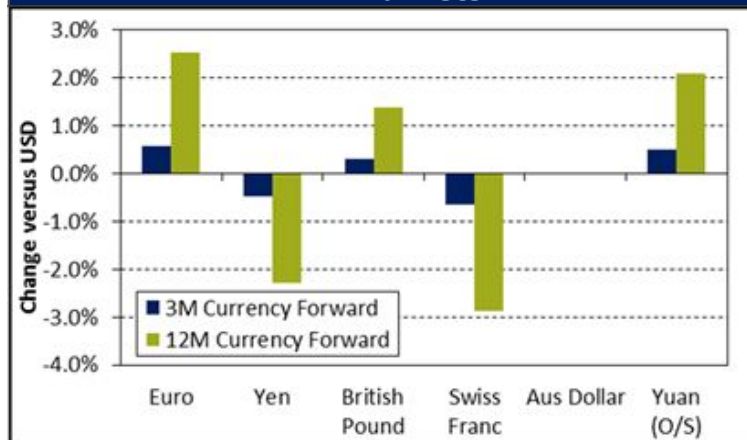
Source: Bloomberg

EM currencies remain mixed relative to the dollar



Source: Bloomberg

USD expectations vary across developed markets



Source: Bloomberg

The dollar continues to decline

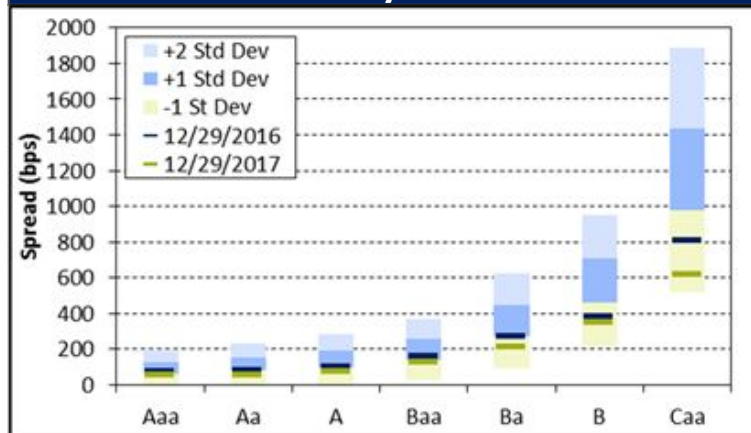


Source: Bloomberg, Federal Reserve



US FIXED INCOME

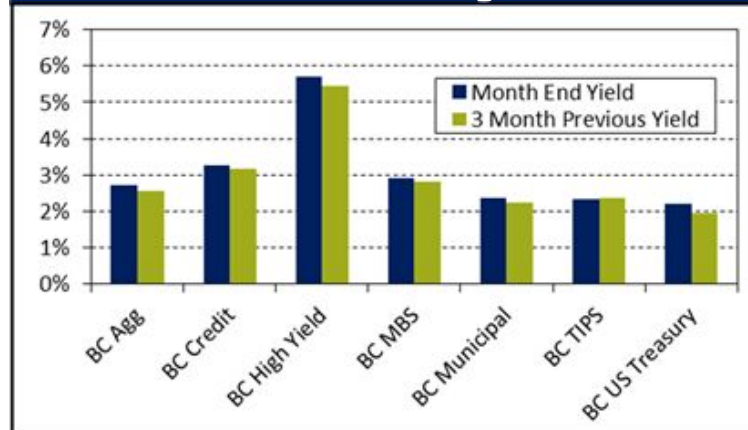
Spreads remain lower than the previous year



Source: Bloomberg, Barclays

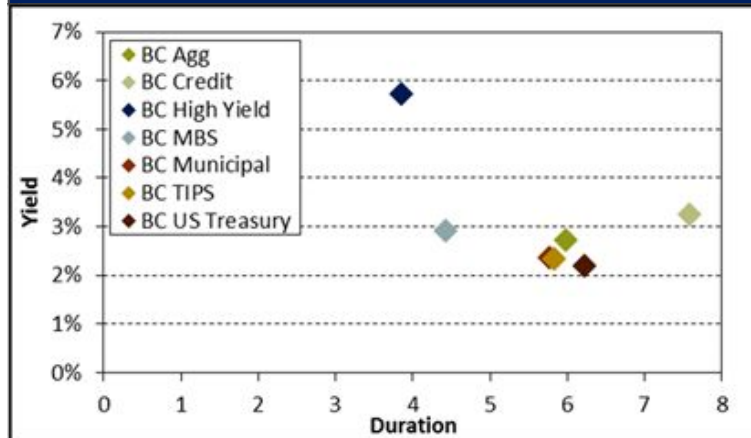
*Standard deviation calculations based on 20 years of data

Yields are modestly higher relative to three months ago



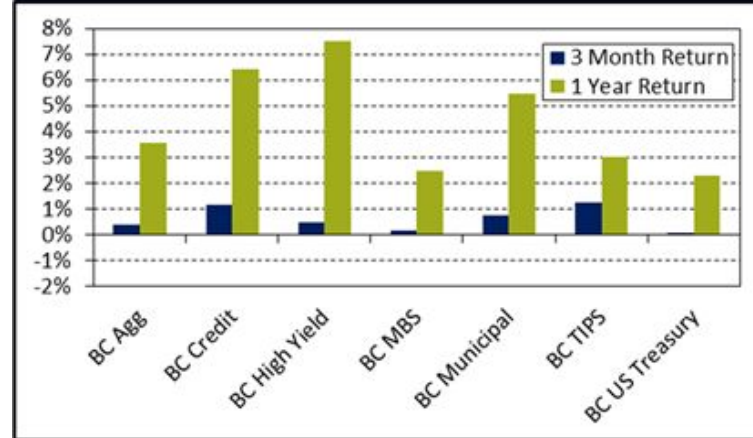
Source: Bloomberg, Barclays

Similar duration/yield profiles among core indices



Source: Bloomberg, Barclays

Fixed income indices were slightly positive over the short-term

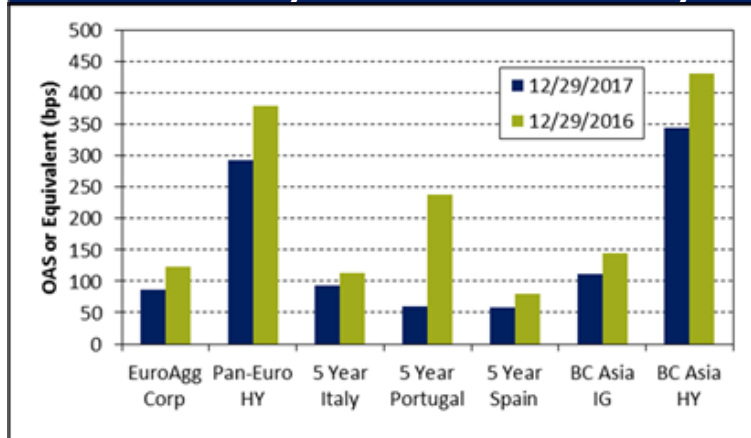


Source: Bloomberg, Barclays



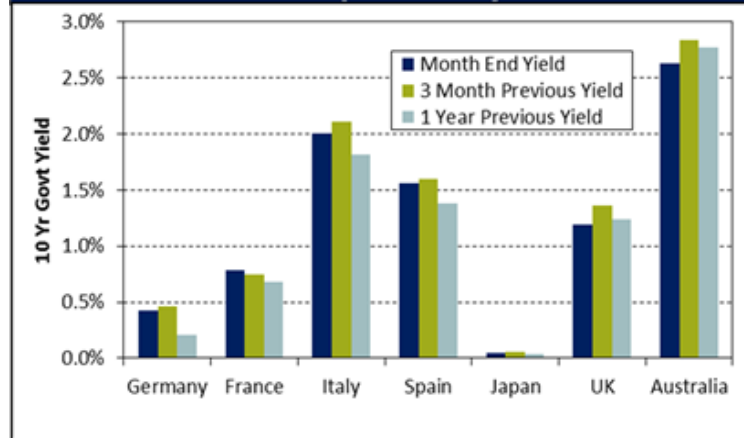
INTERNATIONAL DEVELOPED FIXED INCOME

Periphery yields have broadly declined over the year relative to Germany



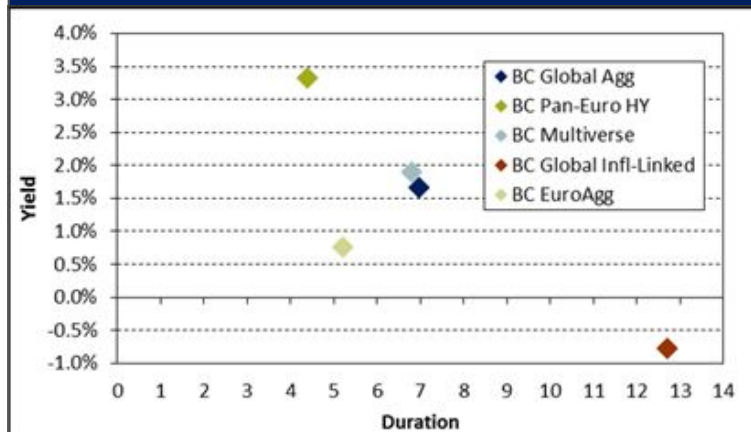
Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund

Ex-UK and Australia, yields are higher than the previous year



Source: Bloomberg

Low yields persist in global bond universe



Source: Bloomberg, Citigroup, Barclays

In the near-term, unhedged global bond indices outperformed hedged

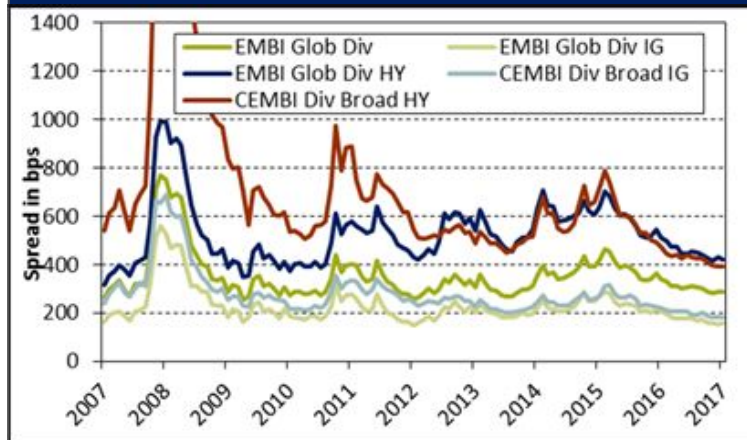


Source: Bloomberg, Citigroup, Barclays



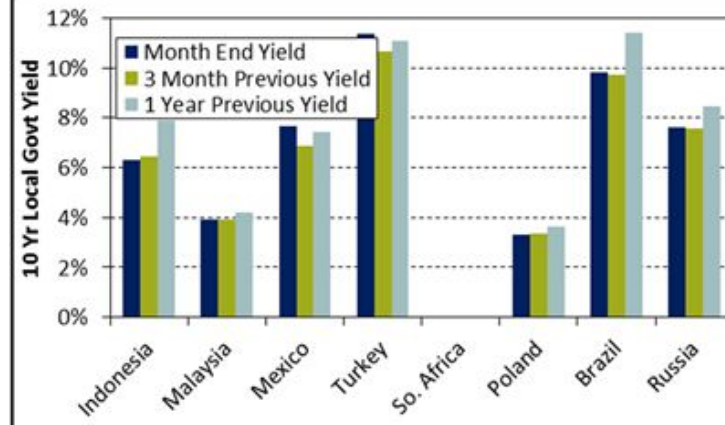
EMERGING MARKETS FIXED INCOME

EM spreads continue to compress



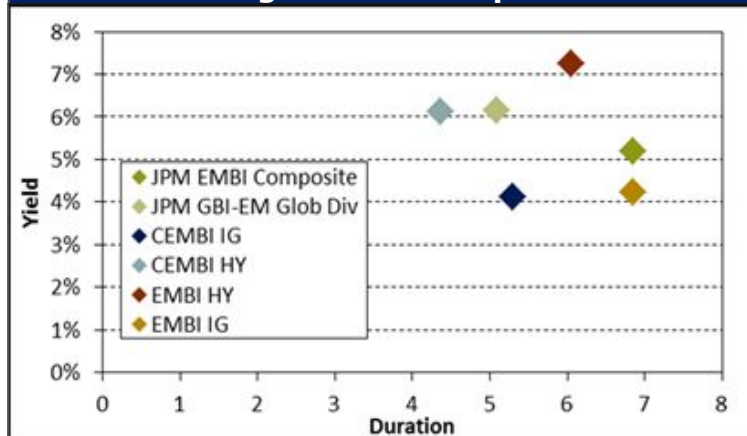
Source: Bloomberg, JP Morgan

Yields have broadly increased relative to three months prior



Source: Bloomberg

EM yields appear attractive relative to global counterparts



Source: Bloomberg, JP Morgan

EM fixed income returns were slightly positive to flat over the short-term

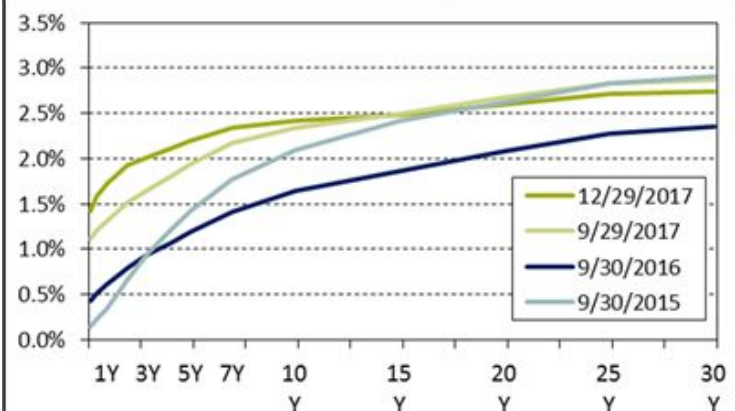


Source: Bloomberg, JP Morgan



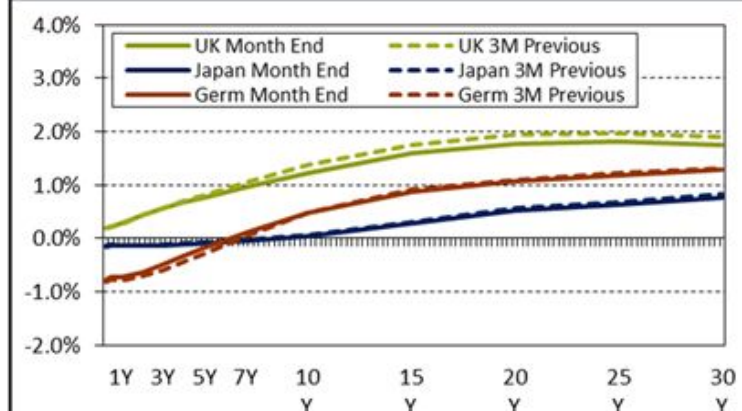
RATES

The curve has flattened relative to three months prior



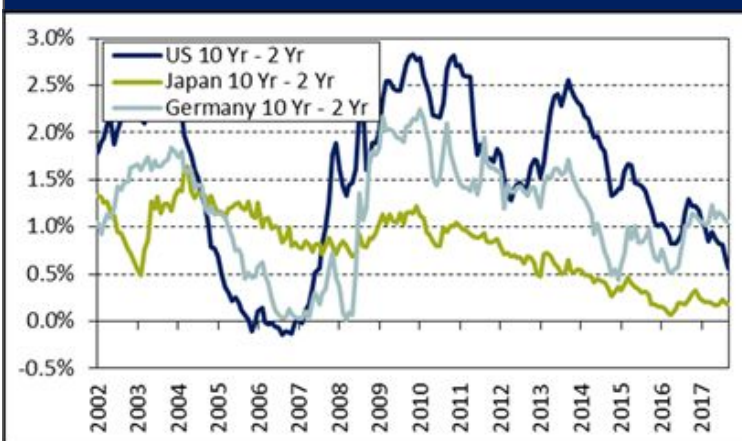
Source: Bloomberg

Longer term rate expectations have declined relative to previous months



Source: Bloomberg

10-2 spreads continue to decline



Source: Bloomberg

Sovereign bond yields remain relatively flat

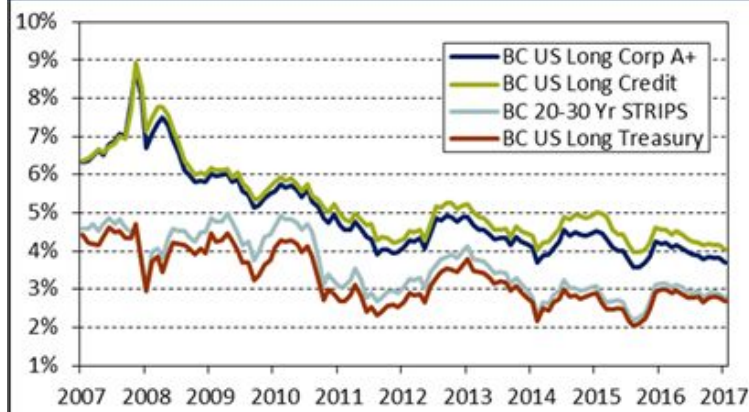


Source: Bloomberg



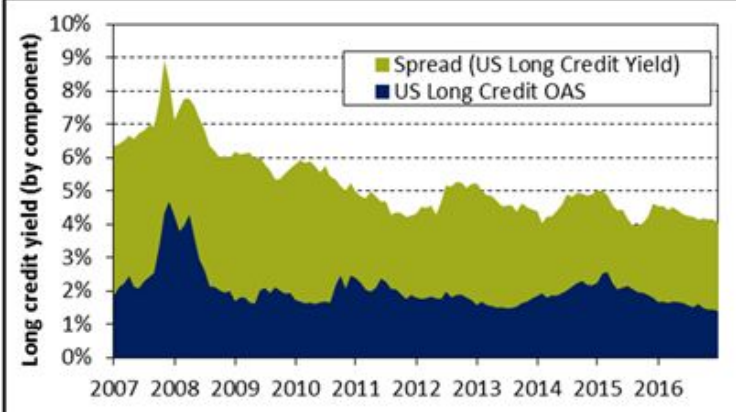
LONG RATES AND LIABILITY

Long duration yields continue to grind lower



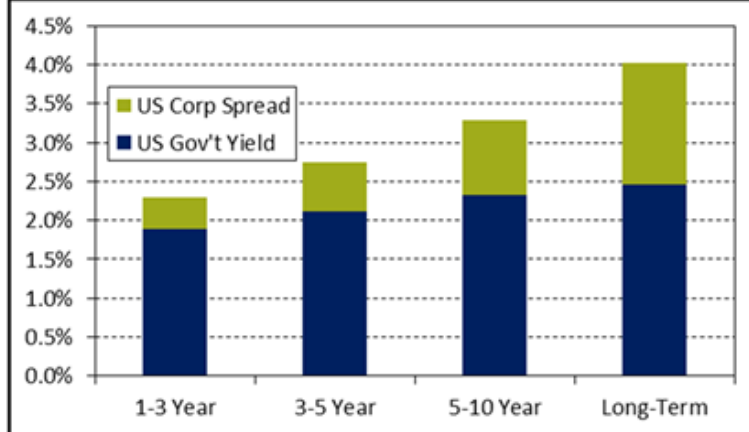
Source: Bloomberg, Citigroup, Barclays

Long credit yield is in line with the long-term historical average



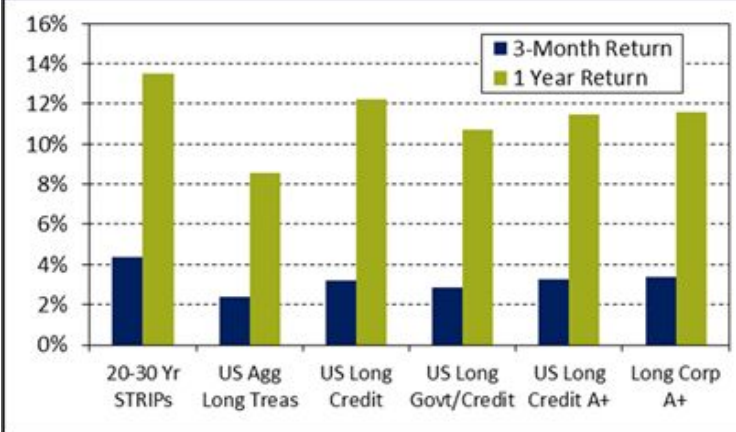
Source: Bloomberg, US Treasury, Barclays, NEPC

Yield and spread components continue to offer modest returns



Source: Bloomberg, Barclays

Long duration fixed income indices continue to experience positive returns

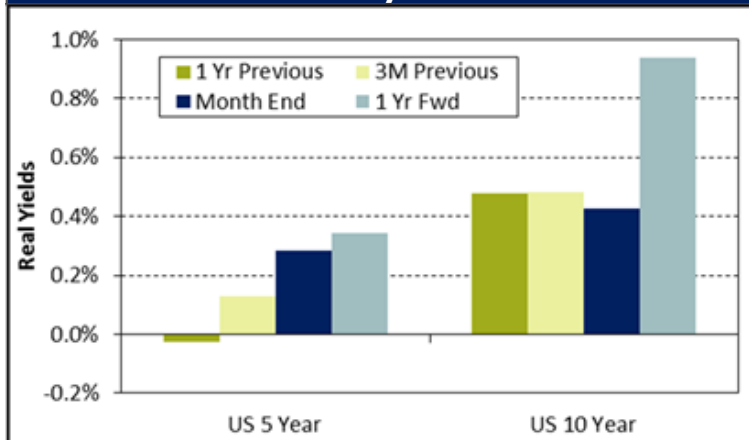


Source: Bloomberg, Barclays



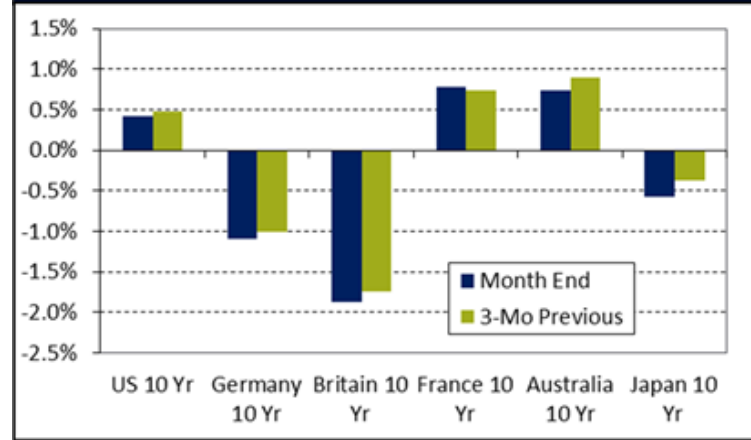
INFLATION AND REAL RATES

Changes in 5 and 10 year real yields echo a flatter yield curve



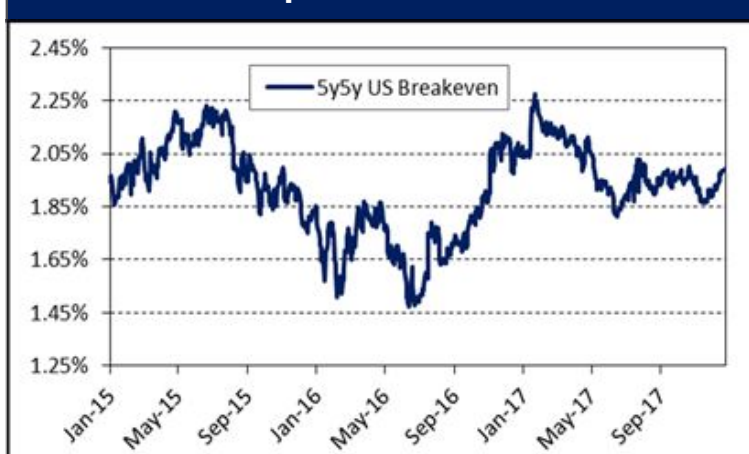
Source: Bloomberg

Ex-France, developed market real yields have declined in recent months



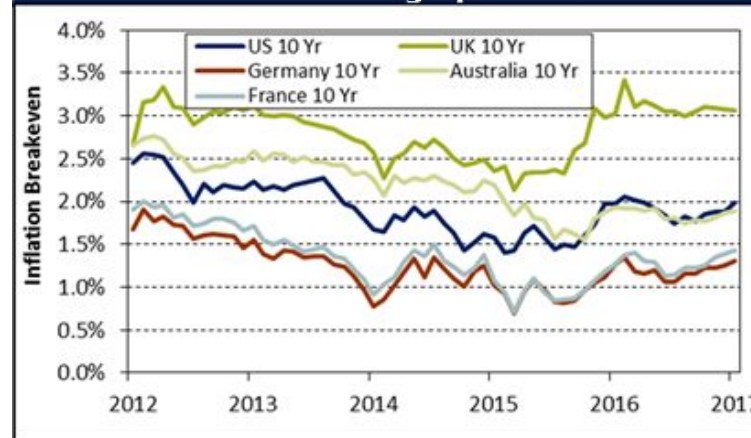
Source: Bloomberg

US inflation expectations continue to rise



Source: Bloomberg

Ex-UK, inflation expectations have begun trending upward

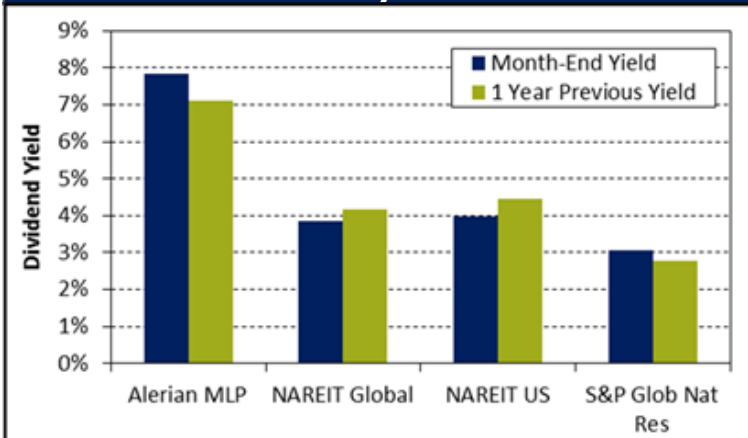


Source: Bloomberg



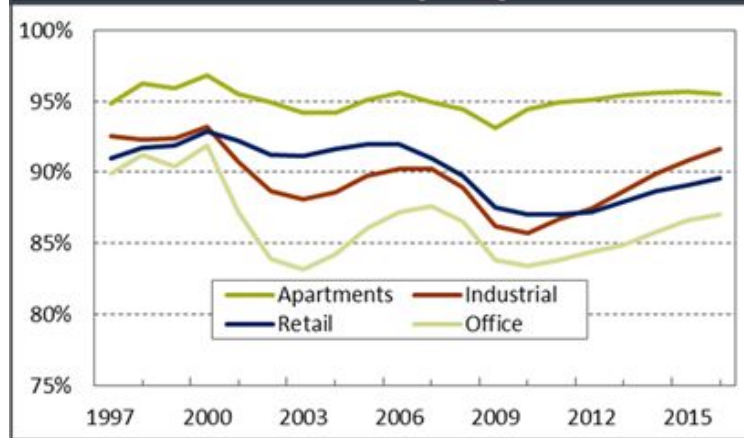
INFLATION-SENSITIVE GROWTH ASSETS

MLP yields have increased relative to last year



Source: Bloomberg, Alerian, NAREIT, Standard and Poors

Sustained recovery in commercial real estate occupancy rates



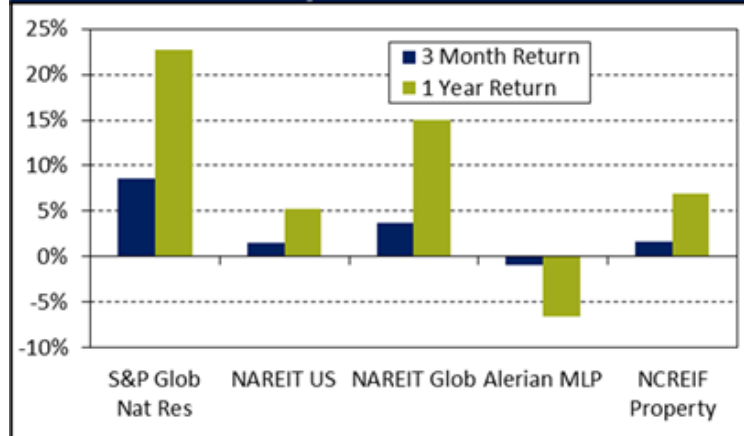
Source: CBRE

US REIT valuations have steadied



Source: Bloomberg, US Census Bureau

Ex-MLPs, inflation-sensitive growth assets have been positive in the near term

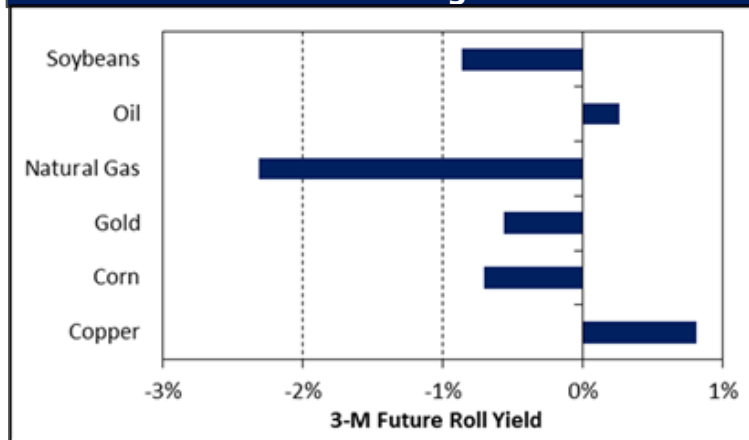


Source: Bloomberg, Alerian, NAREIT, Standard and Poors



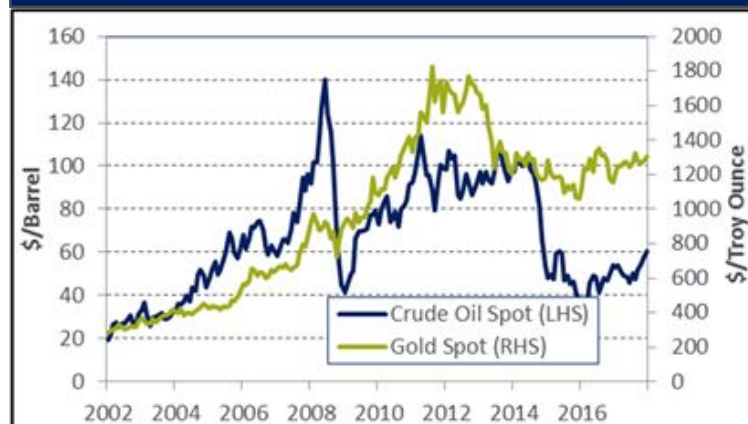
COMMODITIES

Ex-oil and copper, 3-month roll yields remain negative



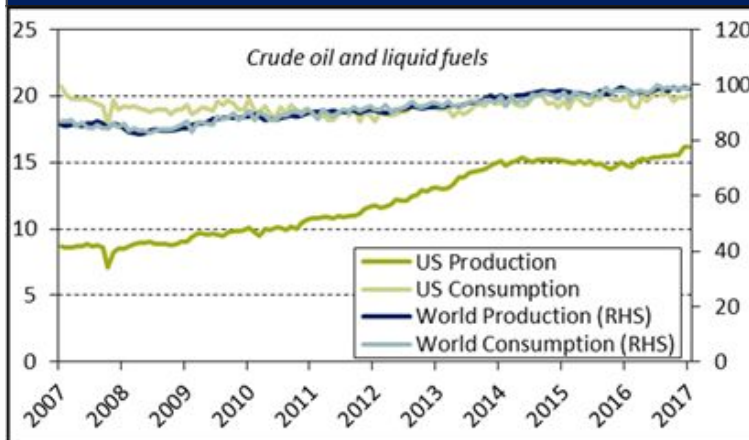
Source: Bloomberg

Spot oil has continued to increase



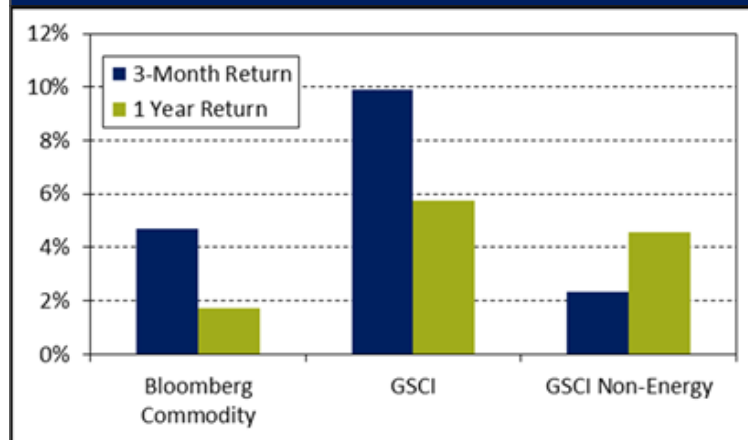
Source: Bloomberg

US production experienced a slight uptick in volume



Source: Bloomberg, US Department of Energy *Crude oil and liquid fuels

GSCI Non-Energy underperformed in the near term



Source: Bloomberg, Standard and Poors



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



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.





AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Performance Review – Defined Benefit Pension Fund
2. **INITIATED BY:** Kelly Martin, Chair
3. **BOARD INFORMATION:** X **BOARD ACTION:**
4. **OUTCOME:** **BOARD POLICY:**
Primary Outcomes: Section 709 - Investments
Enhance fiscal positioning
5. **BACKGROUND:**

Enclosed for your information is the executive summary performance report for the Pension Fund portfolio for the quarter ended December 31, 2017.

Kelly Regan and Jay Roney of NEPC will provide a brief review at the March 8, 2018 Investment Committee meeting.

2/26/2018

FOURTH QUARTER 2017 INVESTMENT REVIEW

UNIVERSITY OF MAINE SYSTEM PENSION PLAN

March 8, 2018

Jay E. Roney, Partner

Kelly Regan, Senior Consultant



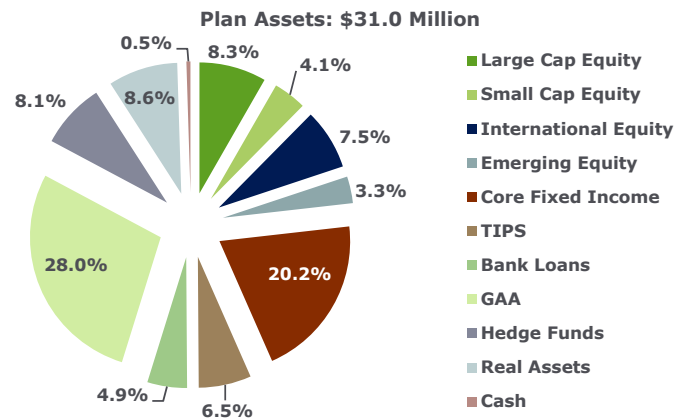
BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

EXECUTIVE SUMMARY

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION



PLAN COMMENTS

Asset Allocation

The Plan's assets were \$31 million as of December 31, 2017, a \$0.4 million increase during the fourth quarter. Investment gains were \$0.8 million and benefit payments amounted to \$0.4 million. All asset classes are within policy ranges.

Performance (Net of Fees)

The Plan returned 2.4% in the 4th quarter and 10.0% over the one year period, ranking in the 79th and 80th percentiles, respectively.

The Pension Fund ranks below median over all time periods due to the Fund's conservative asset allocation and manager underperformance.

The rate of return assumption for the portfolio in 2017 is 6.25% and the Pension Fund exceeded this calendar year-to-date. It is important to note that there will be volatility around these expected returns each year.

PLAN PERFORMANCE: NET OF FEES

	QTR (%)	FYTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	7 YR (%)	10 YR (%)
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COMPOSITE	2.4	4.2	10.0	4.5	5.7	5.5	3.8
ALLOC. INDEX	3.0	6.1	12.6	5.8	6.9	6.5	4.4
POLICY INDEX	2.8	5.9	12.4	6.0	7.1	6.7	5.2
RANK (TRUST FUNDS)	79	83	80	84	81	81	88

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

The System implemented a portfolio rebalance during the quarter to bring asset allocation in-line with policy targets and meet monthly benefit payments and expenses.

Recommendations

NEPC has provided information surrounding asset allocation under separate cover.

Investment Manager Updates

Newton, Guggenheim and Vanguard had announcements during the 4th quarter; no action is recommended.



INVESTMENT MANAGER UPDATES

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
EntrustPermal Ltd. <i>Fixed Income Holdings Inst.</i>	No	Maintain Hold
Vanguard <i>Vanguard Institutional Index Fund</i>	Yes	No Action
Newton Investment Management <i>Newton Global Real Return USD</i>	Yes	No Action
Guggenheim Investments <i>US Bank Loans</i>	Yes	Maintain Hold



TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Pension Composite	30,986,608	100.0	100.0	2.4	4.2	10.0	10.0	7.5	4.5	5.7	5.5	3.8
Allocation Index				3.0	6.1	12.6	12.6	8.8	5.8	6.9	6.5	4.4
Policy Index				2.8	5.9	12.4	12.4	9.2	6.0	7.1	6.7	5.2
Total Domestic Large Cap	2,557,117	8.3	8.0	6.6	11.4	21.8	21.8	16.8	11.4	15.5	12.8	7.0
S&P 500				6.6	11.4	21.8	21.8	16.8	11.4	15.8	13.8	8.5
Vanguard S&P 500 Index	2,557,117	8.3	8.0	6.6	11.4	21.8	21.8	16.8	11.4	--	--	--
S&P 500				6.6	11.4	21.8	21.8	16.8	11.4	15.8	13.8	8.5
Total Small Cap Composite	1,280,095	4.1	4.0	3.3	9.2	14.6	14.6	18.0	9.9	13.9	11.4	--
Russell 2000				3.3	9.2	14.6	14.6	17.9	10.0	14.1	11.6	8.7
SSgA R2000 Index Fund Non Lending	1,280,095	4.1	4.0	3.3	9.2	14.6	14.6	18.0	9.9	13.9	11.4	--
Russell 2000				3.3	9.2	14.6	14.6	17.9	10.0	14.1	11.6	8.7
Total International Equity (including emerging markets)	3,347,565	10.8	10.0	6.0	7.3	23.4	23.4	9.9	5.5	4.7	4.9	1.9
MSCI EAFE				4.2	9.9	25.0	25.0	12.4	7.8	7.9	6.0	1.9
Morgan Stanley Int'l	2,315,686	7.5	7.0	3.8	7.3	25.2	25.2	11.0	7.3	6.9	6.4	2.9
MSCI EAFE				4.2	9.9	25.0	25.0	12.4	7.8	7.9	6.0	1.9
Emerging Markets Equity	1,031,879	3.3	3.0	11.2	7.5	19.9	19.9	7.5	1.4	-0.2	--	--
MSCI Emerging Markets				7.4	15.9	37.3	37.3	23.5	9.1	4.3	2.6	1.7
Mondrian EM Small Cap	1,031,879	3.3	3.0	11.2	7.5	19.9	19.9	7.5	1.4	--	--	--
MSCI Emerging Markets Small Cap				9.2	15.4	33.8	33.8	17.0	8.4	5.4	2.1	2.8
Total Fixed Income	9,798,963	31.6	32.0	0.7	1.5	4.1	4.1	3.9	2.5	2.3	3.7	5.1
BBgBarc US Aggregate TR				0.4	1.2	3.5	3.5	3.1	2.2	2.1	3.2	4.0
Vanguard Total Bond Market Index	6,264,444	20.2	20.0	0.4	1.1	3.6	3.6	3.1	2.2	--	--	--
BBgBarc US Aggregate TR				0.4	1.2	3.5	3.5	3.1	2.2	2.1	3.2	4.0
Vanguard Inflation-Protected Securities	2,021,769	6.5	7.0	1.2	2.0	--	--	--	--	--	--	--
BBgBarc US TIPS TR				1.3	2.1	3.0	3.0	3.8	2.0	0.1	2.9	3.5
Guggenheim US Bank Loans	1,512,750	4.9	5.0	1.1	2.1	--	--	--	--	--	--	--
Credit Suisse Leveraged Loans				1.2	2.2	4.2	4.2	7.0	4.5	4.3	4.7	4.6
Total GAA	8,667,712	28.0	27.5	1.8	3.6	10.8	10.8	7.8	3.6	3.4	3.3	--
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				4.1	8.2	17.9	17.9	11.8	6.8	7.3	6.5	4.4
Wellington	4,509,836	14.6	13.8	2.7	6.5	17.4	17.4	11.5	7.6	6.8	4.3	--
65% MSCI ACWI (Net) / 35% BBgBarc Global Agg				4.1	8.2	17.9	17.9	11.8	6.8	7.3	6.5	4.4
Newton Global Real Return	4,157,876	13.4	13.8	0.7	0.6	4.3	4.3	--	--	--	--	--
60% MSCI ACWI (Net) / 40% CITI WGBI				3.8	7.8	17.1	17.1	11.2	6.4	6.5	5.8	4.2



TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Total Alternative Investments	2,495,354	8.1	7.5	2.1	4.1	5.7	5.7	3.9	2.2	3.3	2.1	--
HFRI Fund of Funds Composite Index				2.0	4.3	7.7	7.7	4.0	2.6	4.0	2.7	1.1
EntrustPermal	776,348	2.5	2.5	0.5	2.3	3.2	3.2	3.8	1.1	3.2	3.0	--
HFRI Fund of Funds Composite Index				2.0	4.3	7.7	7.7	4.0	2.6	4.0	2.7	1.1
Lighthouse	1,719,006	5.5	5.0	2.9	4.9	7.4	7.4	3.7	--	--	--	--
Credit Suisse Long Shrt Eqt USD				3.3	6.4	13.4	13.4	4.7	4.3	7.1	5.1	4.0
Total Real Assets	2,661,149	8.6	8.0									
Principal	2,661,149	8.6	8.0	1.8	3.9	7.9	7.9	8.5	10.1	11.2	11.9	4.2
NCREIF ODCE				2.1	4.0	7.6	7.6	8.2	10.4	11.5	12.1	5.0
Total Cash	178,653	0.6	3.0									
Distribution Account	178,653	0.6	3.0	0.2	0.4	0.6	0.6	0.3	0.2	0.1	0.1	0.4
91 Day T-Bills				0.3	0.6	0.9	0.9	0.6	0.4	0.3	0.2	0.3

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+

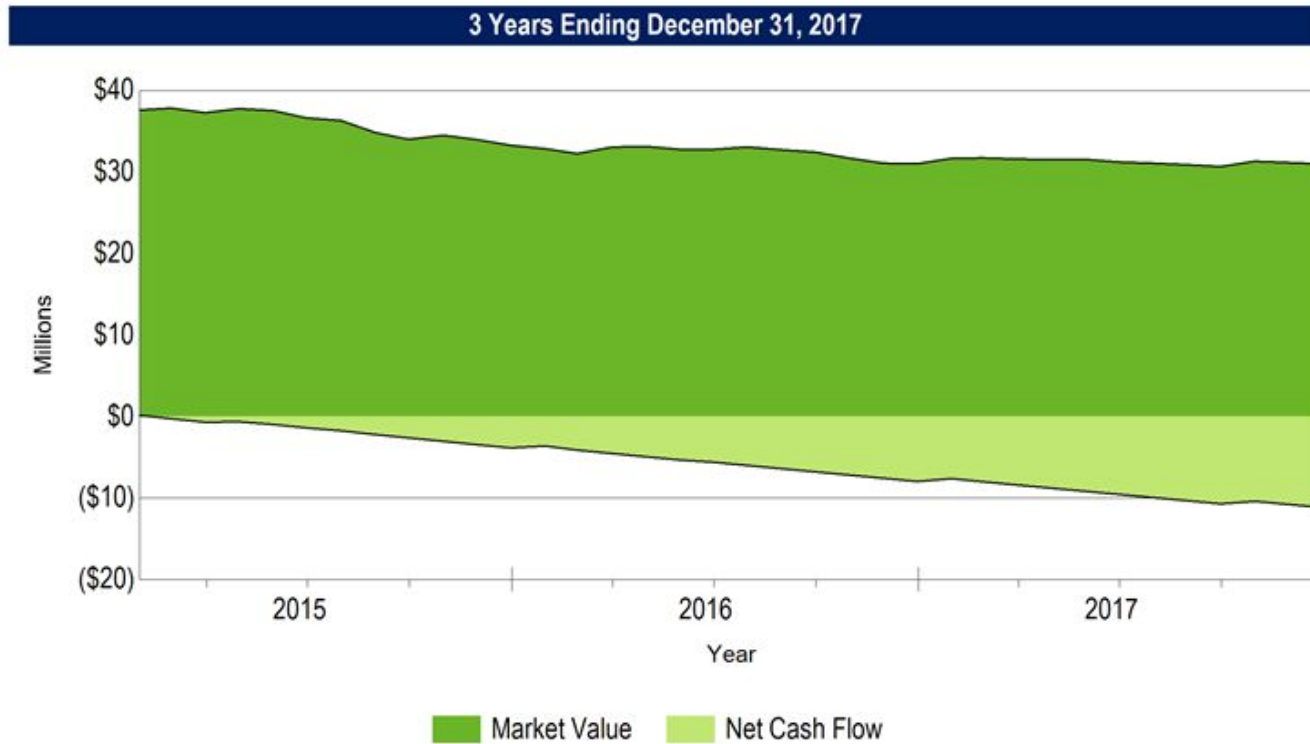
Returns are net of manager fees



PLAN SUMMARY AND STATISTICS

NEPC, LLC

ASSET GROWTH SUMMARY



	Last Three Months	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	\$30,662,812	\$31,216,135	\$31,010,184	\$37,201,648
Net Cash Flow	-\$447,975	-\$1,607,391	-\$3,192,949	-\$11,170,025
Net Investment Change	\$771,770	\$1,377,865	\$3,169,373	\$4,954,985
Ending Market Value	\$30,986,608	\$30,986,608	\$30,986,608	\$30,986,608



CASH FLOW SUMMARY

	Beginning Market Value	Quarter Ending December 31, 2017				Ending Market Value
		Contributions	Withdrawals	Net Cash Flow	Net Investment Change	
Distribution Account	\$230,908	\$1,231,097	-\$1,284,280	-\$53,183	\$928	\$178,653
EntrustPermal	\$772,830	\$0	\$0	\$0	\$3,518	\$776,348
Guggenheim US Bank Loans	\$1,496,000	\$0	-\$1,886	-\$1,886	\$18,636	\$1,512,750
Lighthouse	\$1,670,507	\$0	\$0	\$0	\$48,499	\$1,719,006
Mondrian EM Small Cap	\$927,210	\$0	-\$6,865	-\$6,865	\$111,534	\$1,031,879
Morgan Stanley Int'l	\$2,231,096	\$0	-\$5,434	-\$5,434	\$90,025	\$2,315,686
Newton Global Real Return	\$4,127,969	\$0	-\$8,314	-\$8,314	\$38,221	\$4,157,876
Principal	\$2,614,365	\$0	\$0	\$0	\$46,784	\$2,661,149
SSgA R2000 Index Fund Non Lending	\$1,335,529	\$0	-\$100,767	-\$100,767	\$45,333	\$1,280,095
Vanguard Inflation-Protected Securities	\$1,997,325	\$0	-\$352	-\$352	\$24,796	\$2,021,769
Vanguard S&P 500 Index	\$2,635,083	\$0	-\$250,259	-\$250,259	\$172,293	\$2,557,117
Vanguard Total Bond Market Index	\$6,239,166	\$0	-\$1,094	-\$1,094	\$26,372	\$6,264,444
Wellington	\$4,384,824	\$0	-\$19,821	-\$19,821	\$144,832	\$4,509,836
Total	\$30,662,812	\$1,231,097	-\$1,679,072	-\$447,975	\$771,770	\$30,986,608



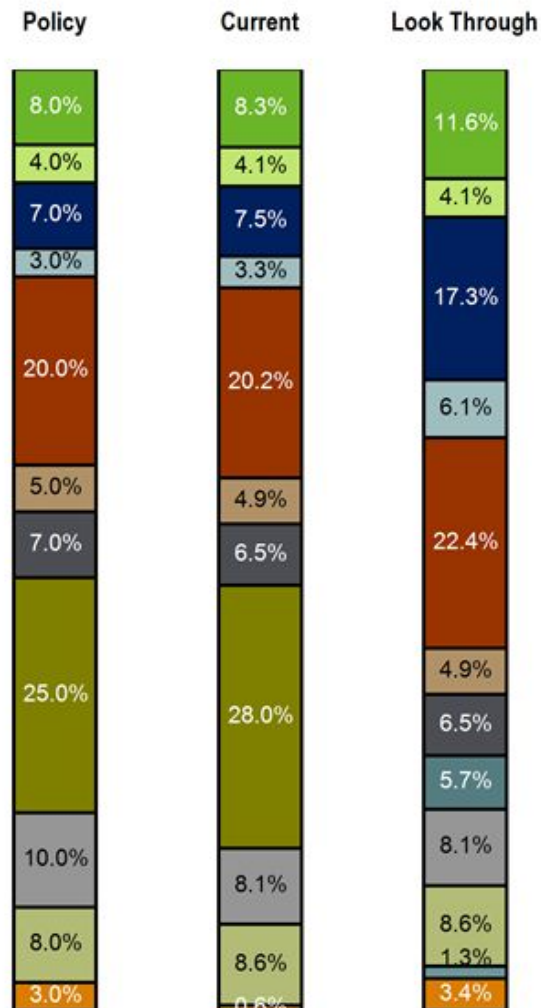
ASSET ALLOCATION



Asset Allocation vs. Target							
	Current	Policy	Current	Difference	Policy Range	Within Range	
Large Cap Equity	\$2,557,117	8.0%	8.3%	0.3%	3.0% - 13.0%	Yes	
Small Cap Equity	\$1,280,095	4.0%	4.1%	0.1%	0.0% - 6.0%	Yes	
International Equity	\$2,315,686	7.0%	7.5%	0.5%	2.0% - 12.0%	Yes	
Emerging Markets Equity	\$1,031,879	3.0%	3.3%	0.3%	0.0% - 5.0%	Yes	
Core Bonds	\$6,264,444	20.0%	20.2%	0.2%	15.0% - 25.0%	Yes	
Bank Loans	\$1,512,750	5.0%	4.9%	-0.1%	0.0% - 10.0%	Yes	
TIPS	\$2,021,769	7.0%	6.5%	-0.5%	2.0% - 12.0%	Yes	
Global Asset Allocation	\$8,667,712	25.0%	28.0%	3.0%	20.0% - 30.0%	Yes	
Hedge Funds	\$2,495,354	10.0%	8.1%	-1.9%	7.0% - 13.0%	Yes	
Real Estate	\$2,661,149	8.0%	8.6%	0.6%	0.0% - 10.0%	Yes	
Cash	\$178,653	3.0%	0.6%	-2.4%	0.0% - 10.0%	Yes	
Total	\$30,986,608	100.0%	100.0%				



ASSET ALLOCATION



Asset Allocation			
	Policy	Current	Look Through
Large Cap Equity	8.0%	8.3%	11.6%
Small Cap Equity	4.0%	4.1%	4.1%
International Equity	7.0%	7.5%	17.3%
Emerging Markets Equity	3.0%	3.3%	6.1%
Core Bonds	20.0%	20.2%	22.4%
Bank Loans	5.0%	4.9%	4.9%
TIPS	7.0%	6.5%	6.5%
Diversified Fixed Income	--	--	5.7%
Global Asset Allocation	25.0%	28.0%	--
Hedge Funds	10.0%	8.1%	8.1%
Real Estate	8.0%	8.6%	8.6%
Real Assets	--	--	1.3%
Cash	3.0%	0.6%	3.4%
Total	100.0%	100.0%	100.0%

Net Asset Allocation breaks out the exposure of GAA managers.

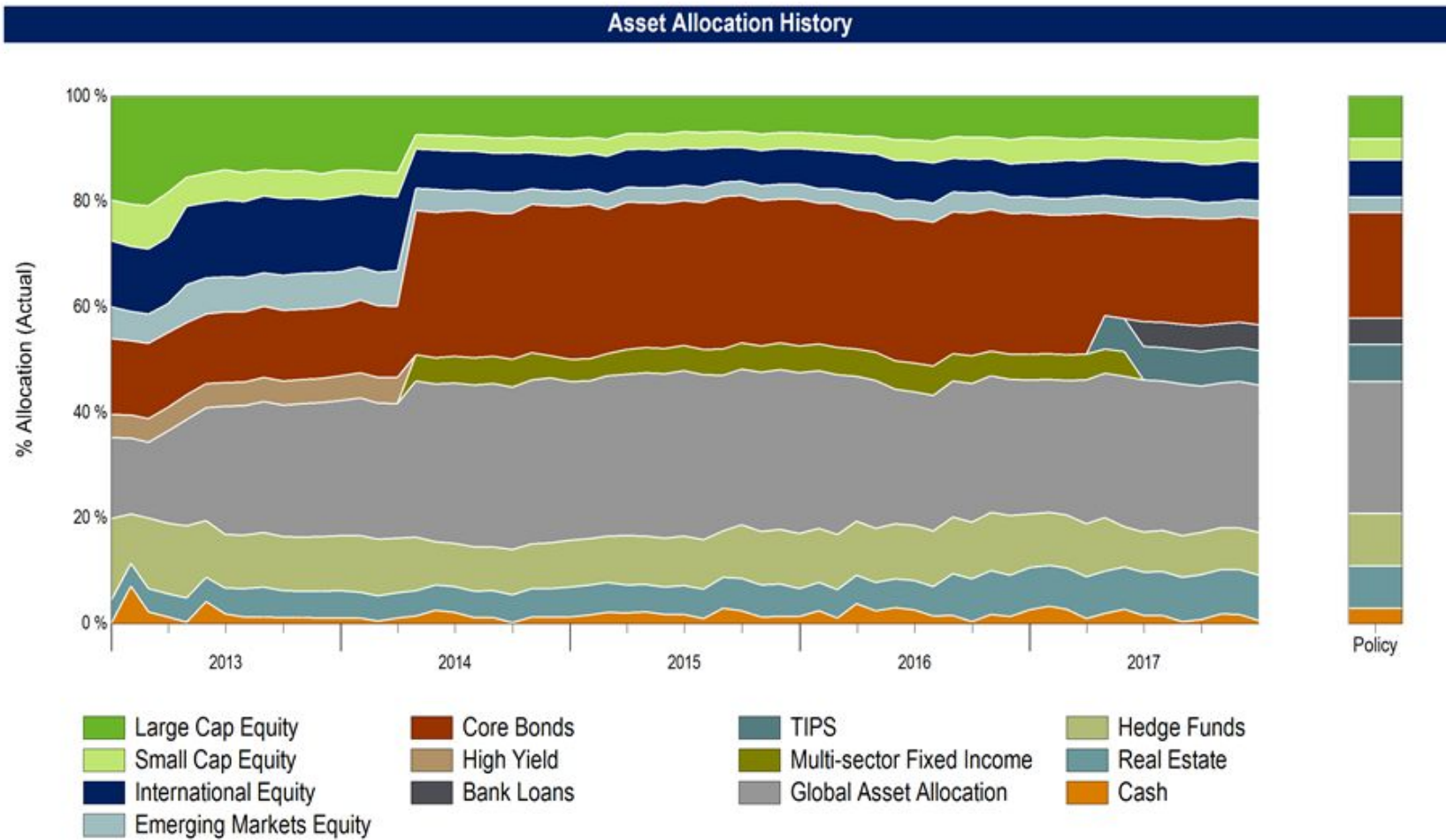
Asset class weights may not add up to 100% due to rounding.

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.

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

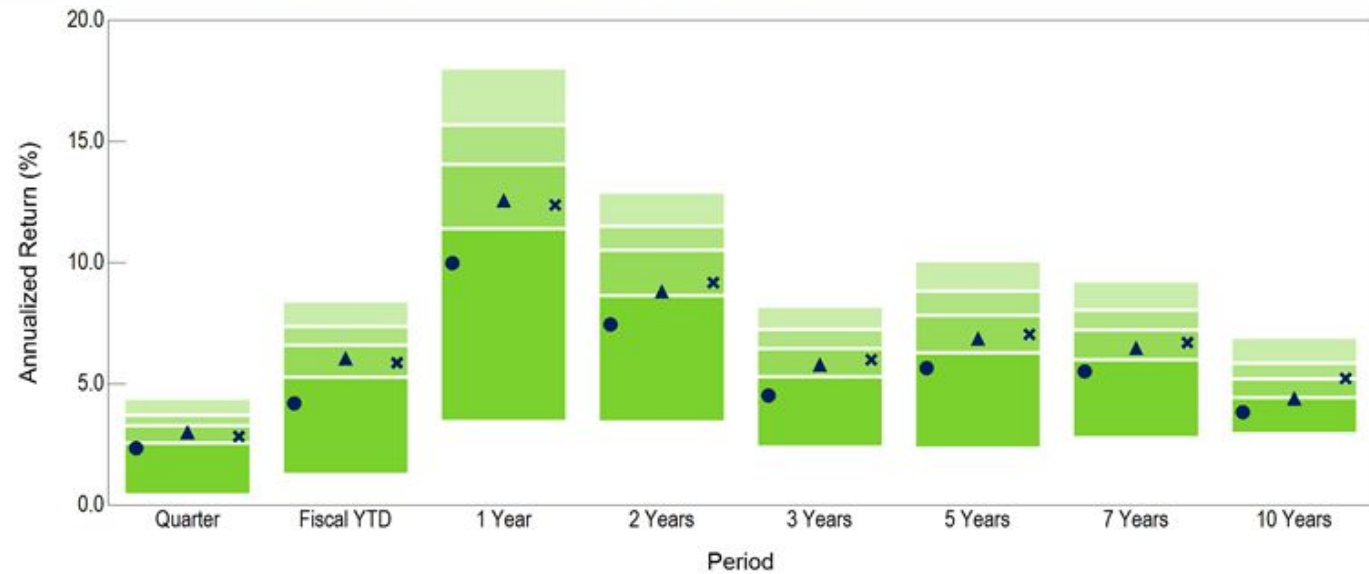


ASSET ALLOCATION HISTORY



RETURNS VS. PEER UNIVERSE

Pension Composite vs. InvestorForce Trust Funds Net



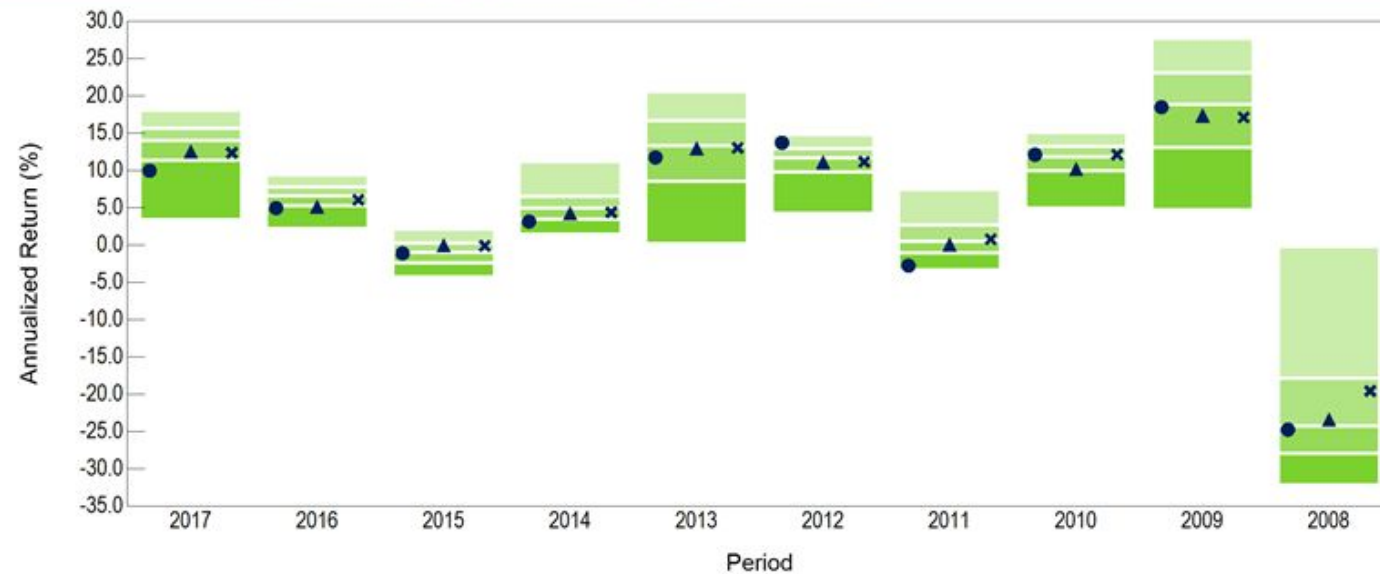
	Return (Rank)							
5th Percentile	4.4	8.4	18.0	12.9	8.2	10.1	9.2	6.9
25th Percentile	3.7	7.4	15.7	11.5	7.3	8.8	8.1	5.9
Median	3.3	6.6	14.1	10.5	6.5	7.8	7.3	5.2
75th Percentile	2.6	5.3	11.4	8.7	5.3	6.3	6.0	4.4
95th Percentile	0.4	1.3	3.5	3.4	2.4	2.4	2.8	3.0
# of Portfolios	2,582	2,561	2,518	2,403	2,312	2,083	1,889	1,595
● Pension Composite	2.4 (79)	4.2 (83)	10.0 (80)	7.5 (82)	4.5 (84)	5.7 (81)	5.5 (81)	3.8 (88)
▲ Allocation Index	3.0 (63)	6.1 (65)	12.6 (67)	8.8 (75)	5.8 (68)	6.9 (69)	6.5 (69)	4.4 (76)
× Policy Index	2.8 (69)	5.9 (68)	12.4 (69)	9.2 (72)	6.0 (63)	7.1 (66)	6.7 (64)	5.2 (50)



RETURNS VS. PEER UNIVERSE

4.1

Pension Composite vs. InvestorForce Trust Funds Net

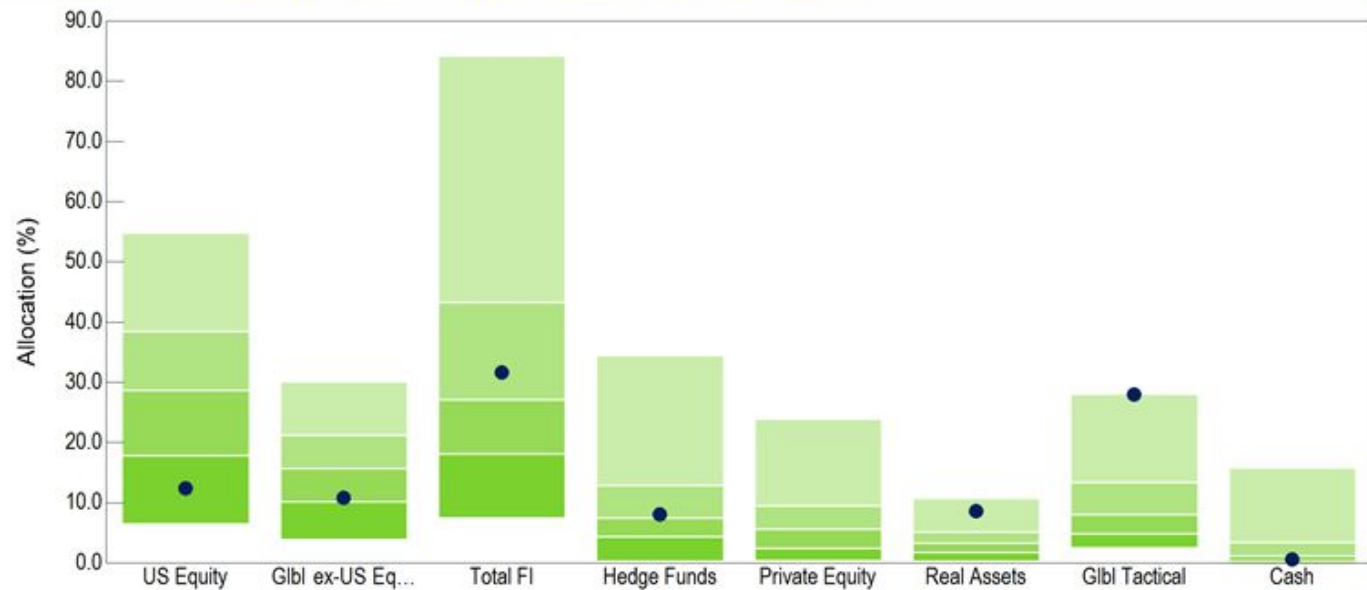


	Return (Rank)									
5th Percentile	18.0	9.4	2.1	11.2	20.6	14.8	7.4	15.1	27.7	-0.2
25th Percentile	15.7	7.9	0.3	6.6	16.7	13.0	2.8	13.3	23.1	-17.8
Median	14.1	6.7	-0.9	5.0	13.4	11.7	0.6	11.9	18.9	-24.2
75th Percentile	11.4	5.3	-2.3	3.6	8.7	9.8	-1.0	10.0	13.2	-27.9
95th Percentile	3.5	2.3	-4.2	1.5	0.3	4.3	-3.2	5.0	4.8	-32.1
# of Portfolios	2,518	2,446	2,339	2,007	1,709	1,539	1,403	1,326	1,233	1,161
• Pension Composite	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)	-24.7 (54)
▲ Allocation Index	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)	-23.3 (46)
× Policy Index	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)	-19.5 (29)



ALLOCATIONS VS. PEER UNIVERSE

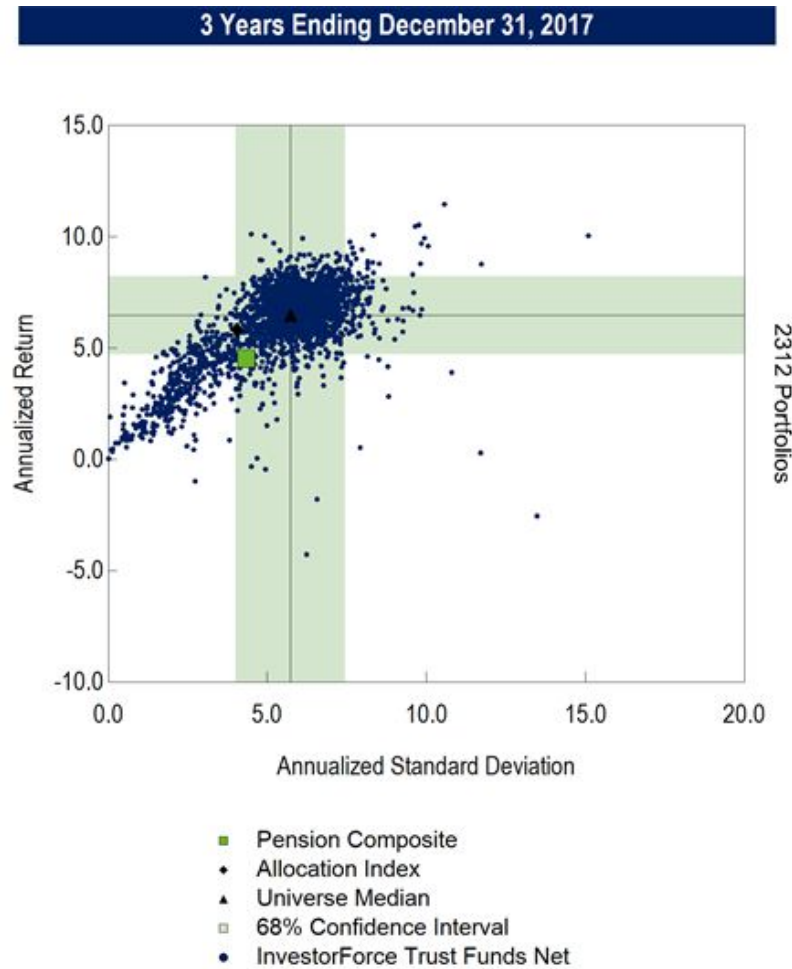
Total Plan Allocation vs. InvestorForce Trust Funds Net



	Allocation (Rank)															
5th Percentile	54.8	30.1	84.3	34.4	23.9	10.7	28.1	15.7								
25th Percentile	38.5	21.2	43.3	12.9	9.6	5.2	13.4	3.5								
Median	28.7	15.8	27.2	7.6	5.7	3.4	8.1	1.2								
75th Percentile	17.9	10.3	18.2	4.4	2.5	1.8	4.9	0.4								
95th Percentile	6.6	3.9	7.5	0.4	0.4	0.4	2.6	0.0								
# of Portfolios	1,809	1,788	2,374	948	784	523	401	2,019								
• Pension Composite	12.4	(87)	10.8	(72)	31.6	(41)	8.1	(48)	--	--	8.6	(12)	28.0	(6)	0.6	(67)



TOTAL PLAN RISK/RETURN - 3 YEAR



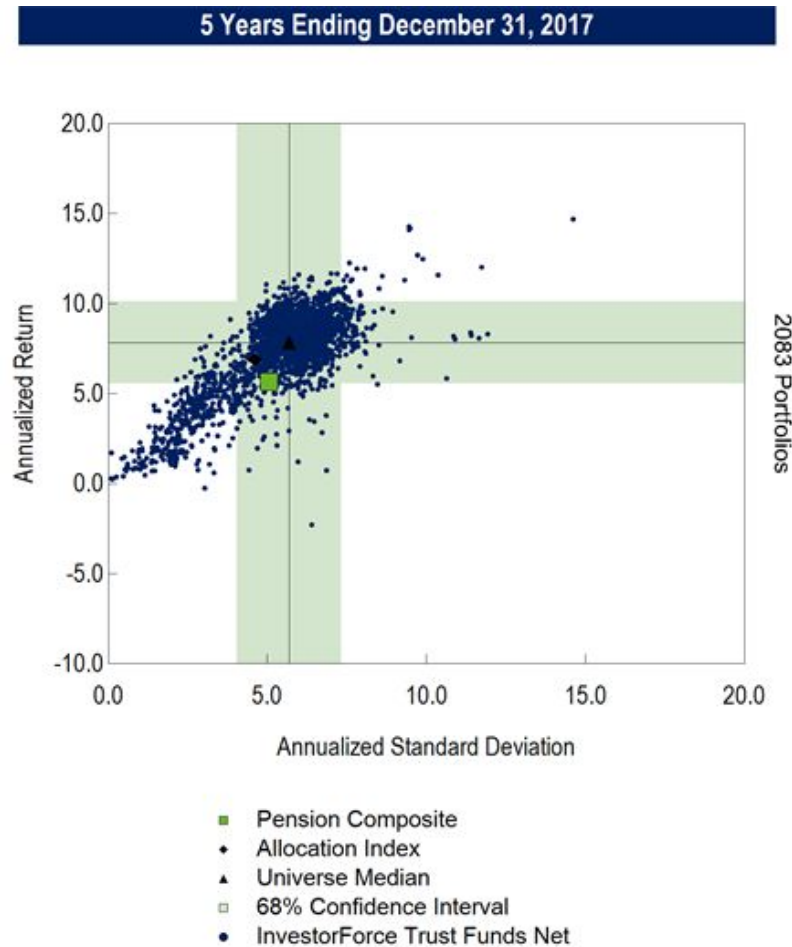
3 Years Ending December 31, 2017				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	4.5%	84	4.3%	21
Allocation Index	5.8%	68	4.0%	19
Policy Index	6.0%	63	4.1%	20
InvestorForce Trust Funds Net Median	6.5%	--	5.7%	--

3 Years Ending December 31, 2017				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.9	70	1.5	42
Allocation Index	1.3	17	2.0	11
Policy Index	1.4	16	2.2	8
InvestorForce Trust Funds Net Median	1.1	--	1.5	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 5 YEAR



5 Years Ending December 31, 2017				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	5.7%	81	5.0%	31
Allocation Index	6.9%	69	4.6%	23
Policy Index	7.1%	66	4.6%	24
InvestorForce Trust Funds Net Median	7.8%	--	5.7%	--

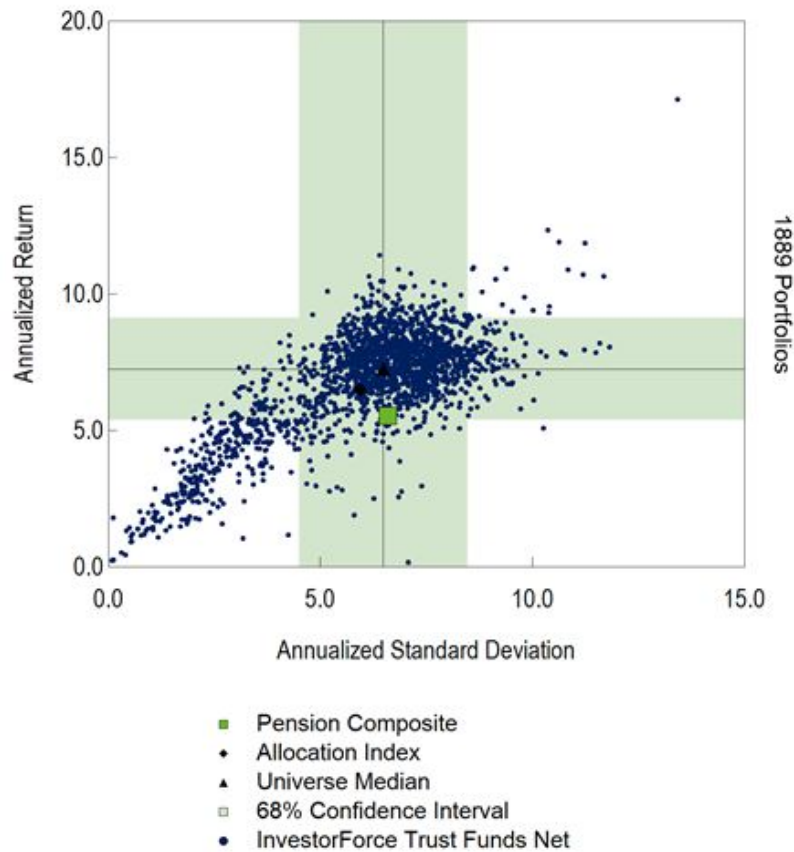
5 Years Ending December 31, 2017				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	1.1	83	2.0	56
Allocation Index	1.4	35	2.7	16
Policy Index	1.5	30	2.8	11
InvestorForce Trust Funds Net Median	1.3	--	2.1	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 7 YEAR

7 Years Ending December 31, 2017



7 Years Ending December 31, 2017				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	5.5%	81	6.6%	54
Allocation Index	6.5%	69	5.9%	35
Policy Index	6.7%	64	5.8%	33
InvestorForce Trust Funds Net Median	7.3%	--	6.5%	--

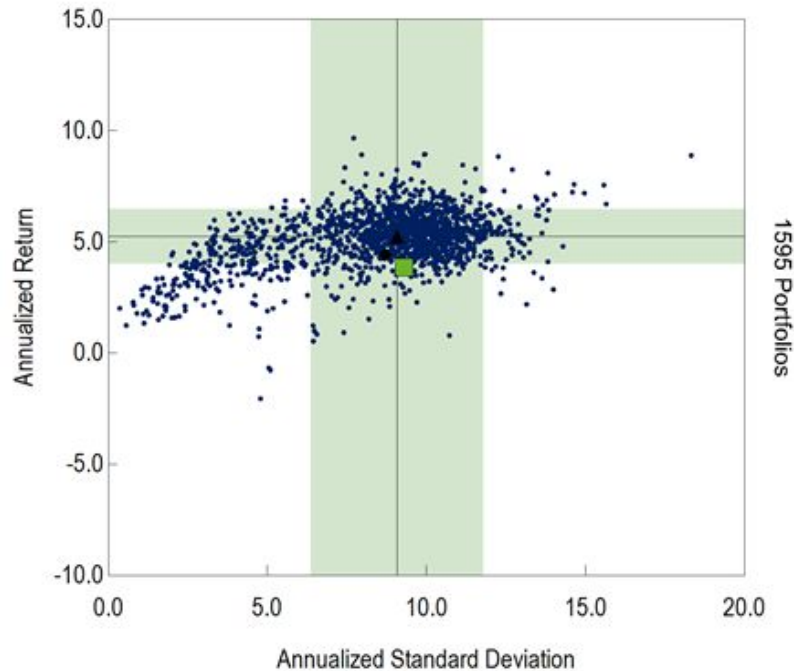
7 Years Ending December 31, 2017				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.8	92	1.1	93
Allocation Index	1.1	58	1.4	60
Policy Index	1.1	50	1.6	46
InvestorForce Trust Funds Net Median	1.1	--	1.5	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 10 YEAR

10 Years Ending December 31, 2017



- Pension Composite
- ◆ Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Trust Funds Net

10 Years Ending December 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	3.8%	88	9.3%	55
Allocation Index	4.4%	76	8.7%	43
Policy Index	5.2%	50	8.2%	35
InvestorForce Trust Funds Net Median	5.2%	--	9.1%	--

10 Years Ending December 31, 2017

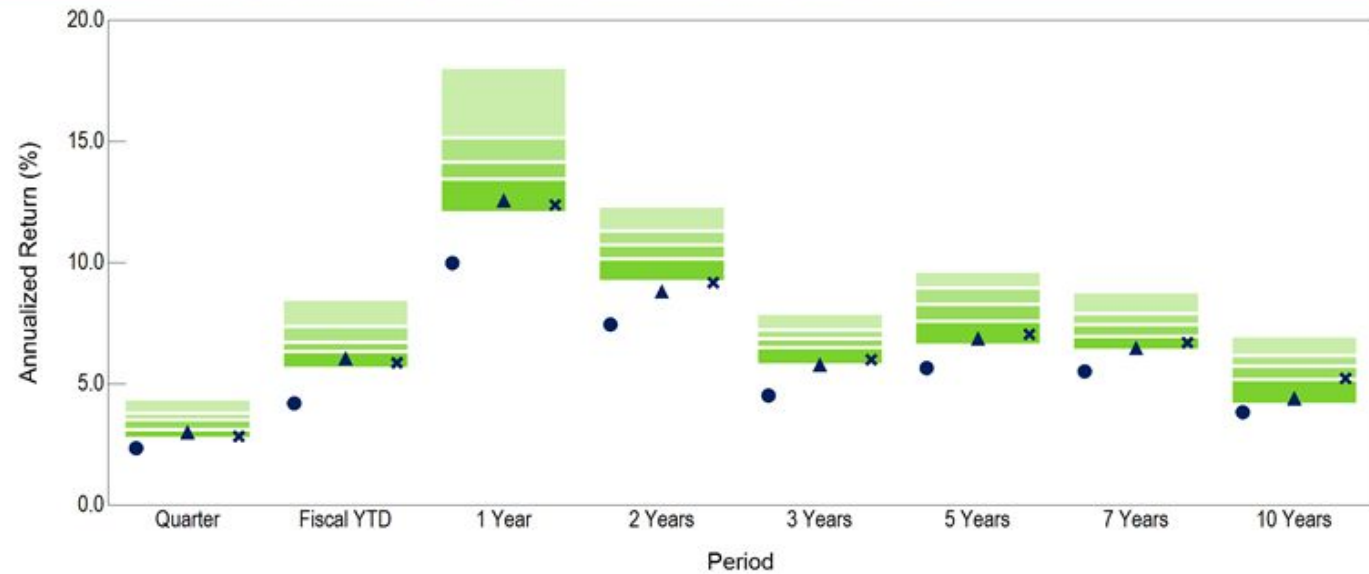
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.4	92	0.4	91
Allocation Index	0.5	74	0.6	72
Policy Index	0.6	42	0.7	38
InvestorForce Trust Funds Net Median	0.6	--	0.7	--

*Returns are net of fees.



RETURNS VS. PEER UNIVERSE

Pension Composite vs. InvestorForce Public DB \$50mm-\$250mm Net



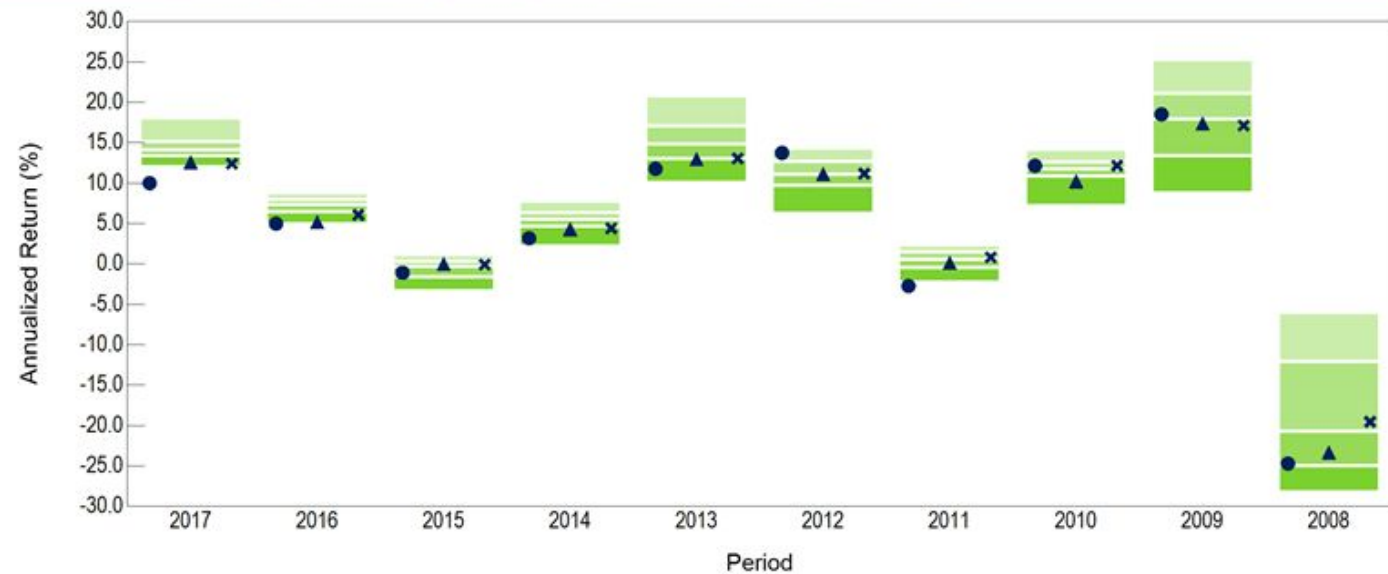
	Return (Rank)							
5th Percentile	4.4	8.5	18.1	12.3	7.9	9.6	8.8	7.0
25th Percentile	3.8	7.4	15.2	11.3	7.2	9.0	7.9	6.2
Median	3.5	6.7	14.2	10.8	6.9	8.3	7.5	5.8
75th Percentile	3.1	6.3	13.5	10.2	6.5	7.6	7.0	5.2
95th Percentile	2.8	5.7	12.1	9.2	5.8	6.6	6.4	4.2
# of Portfolios	74	74	74	73	73	68	60	55
● Pension Composite	2.4 (99)	4.2 (99)	10.0 (99)	7.5 (99)	4.5 (99)	5.7 (99)	5.5 (99)	3.8 (99)
▲ Allocation Index	3.0 (84)	6.1 (85)	12.6 (87)	8.8 (98)	5.8 (96)	6.9 (94)	6.5 (90)	4.4 (92)
× Policy Index	2.8 (93)	5.9 (91)	12.4 (91)	9.2 (96)	6.0 (89)	7.1 (93)	6.7 (85)	5.2 (75)



RETURNS VS. PEER UNIVERSE

4.1

Pension Composite vs. InvestorForce Public DB \$50mm-\$250mm Net

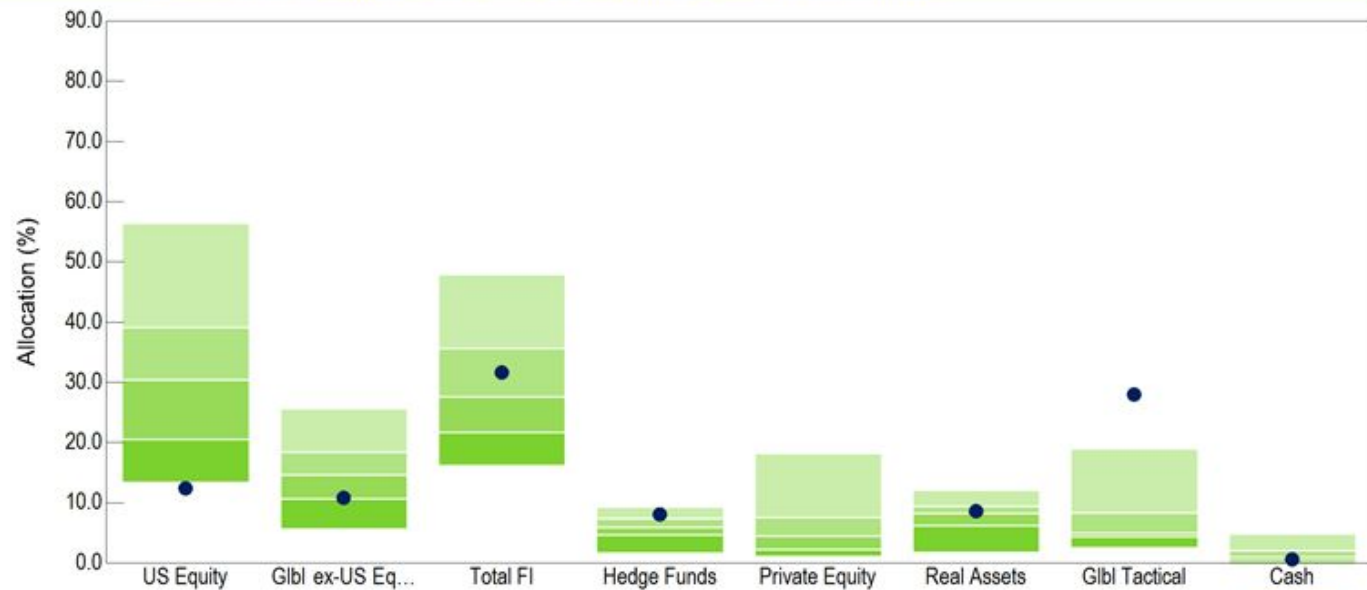


	Return (Rank)									
5th Percentile	18.1	8.7	1.1	7.7	20.8	14.3	2.3	14.2	25.3	-6.0
25th Percentile	15.2	8.0	0.4	6.3	17.1	12.7	1.5	12.6	21.1	-12.0
Median	14.2	7.4	-0.3	5.6	14.9	11.1	0.6	11.7	18.0	-20.7
75th Percentile	13.5	6.5	-1.6	4.7	13.1	9.7	-0.4	10.9	13.4	-25.0
95th Percentile	12.1	5.0	-3.3	2.3	10.1	6.3	-2.2	7.2	8.9	-28.2
# of Portfolios	74	74	75	66	58	54	46	44	43	42
● Pension Composite	10.0 (99)	5.0 (96)	-1.1 (70)	3.2 (92)	11.8 (87)	13.7 (10)	-2.7 (98)	12.1 (38)	18.5 (48)	-24.7 (73)
▲ Allocation Index	12.6 (87)	5.2 (95)	0.0 (39)	4.3 (84)	13.0 (76)	11.2 (50)	0.1 (64)	10.2 (83)	17.4 (52)	-23.3 (64)
× Policy Index	12.4 (91)	6.1 (86)	-0.1 (43)	4.4 (82)	13.1 (76)	11.2 (50)	0.8 (44)	12.2 (38)	17.1 (52)	-19.5 (47)



ALLOCATIONS VS. PEER UNIVERSE

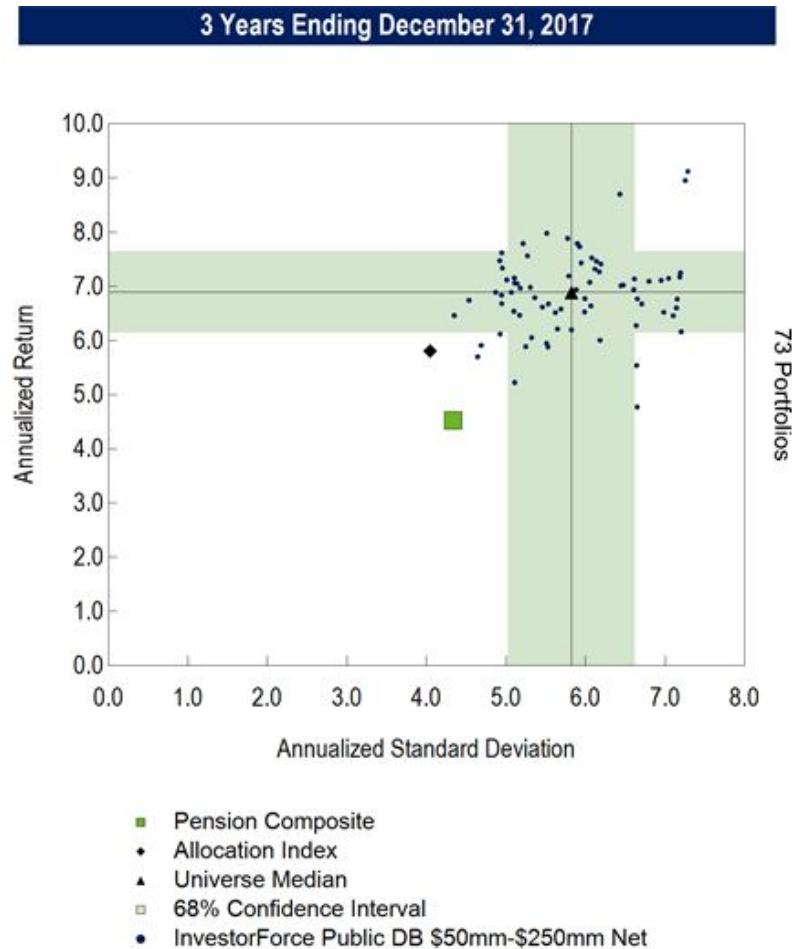
Total Plan Allocation vs. InvestorForce Public DB \$50mm-\$250mm Net



	Allocation (Rank)							
5th Percentile	56.4	25.7	47.9	9.3	18.2	12.1	19.0	4.8
25th Percentile	39.2	18.4	35.7	7.4	7.6	9.5	8.5	2.1
Median	30.5	14.7	27.7	6.0	4.5	8.3	5.0	1.1
75th Percentile	20.6	10.7	21.8	4.8	2.3	6.3	4.4	0.5
95th Percentile	13.4	5.7	16.2	1.8	1.1	1.8	2.6	0.0
# of Portfolios	55	66	73	16	30	13	19	70
• Pension Composite	12.4 (97)	10.8 (75)	31.6 (43)	8.1 (12)	--	8.6 (39)	28.0 (1)	0.6 (70)



TOTAL PLAN RISK/RETURN - 3 YEAR



3 Years Ending December 31, 2017				
	Annzd Ret	Rank	Annzd Std Dev	Rank
Pension Composite	4.5%	99	4.3%	1
Allocation Index	5.8%	96	4.0%	1
Policy Index	6.0%	89	4.1%	1
InvestorForce Public DB \$50mm-\$250mm Net Median	6.9%	--	5.8%	--

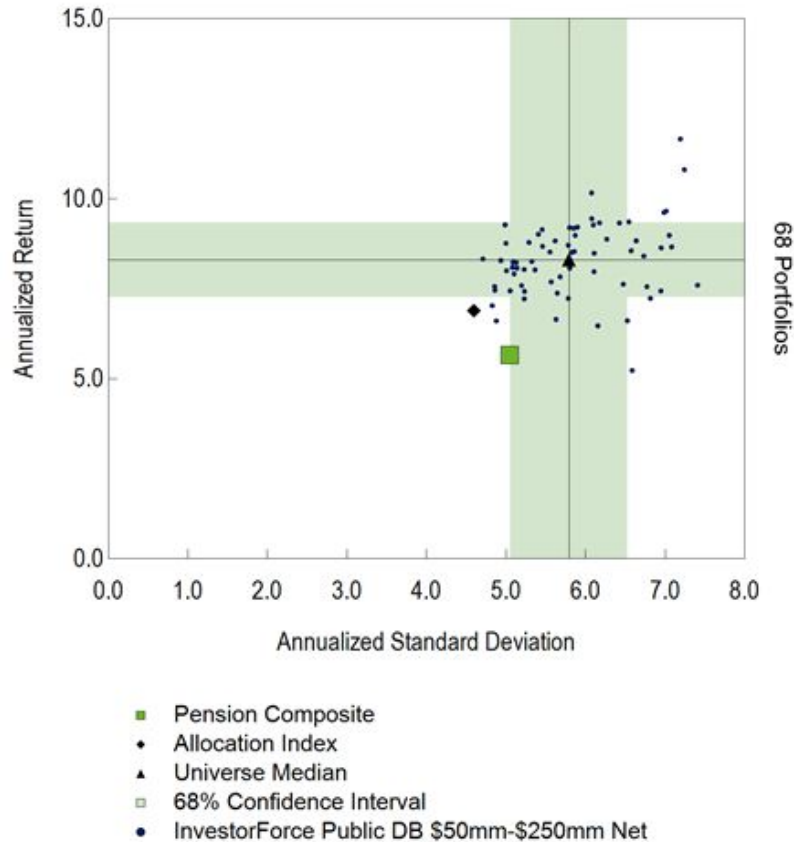
3 Years Ending December 31, 2017				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.9	84	1.5	46
Allocation Index	1.3	13	2.0	2
Policy Index	1.4	11	2.2	1
InvestorForce Public DB \$50mm-\$250mm Net Median	1.1	--	1.5	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 5 YEAR

5 Years Ending December 31, 2017



5 Years Ending December 31, 2017				
	Annzd Ret	Rank	Annzd Std Dev	Rank
Pension Composite	5.7%	99	5.0%	14
Allocation Index	6.9%	94	4.6%	1
Policy Index	7.1%	93	4.6%	1
InvestorForce Public DB \$50mm-\$250mm Net Median	8.3%	--	5.8%	--

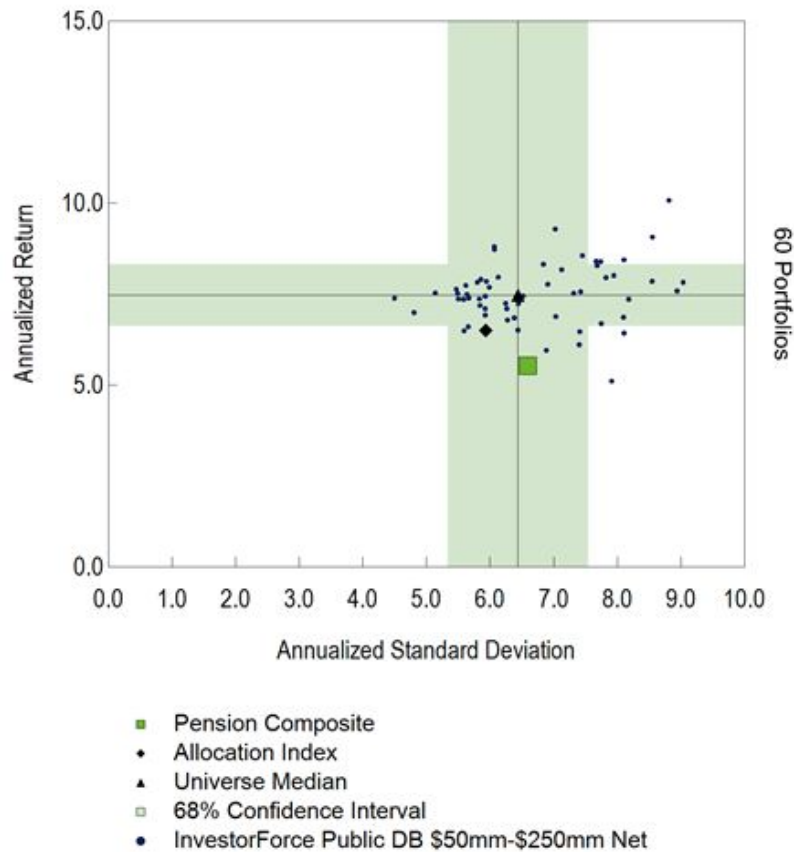
5 Years Ending December 31, 2017				
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	1.1	92	2.0	78
Allocation Index	1.4	48	2.7	20
Policy Index	1.5	43	2.8	9
InvestorForce Public DB \$50mm-\$250mm Net Median	1.4	--	2.3	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 7 YEAR

7 Years Ending December 31, 2017



7 Years Ending December 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	5.5%	99	6.6%	55
Allocation Index	6.5%	90	5.9%	33
Policy Index	6.7%	85	5.8%	22
InvestorForce Public DB \$50mm-\$250mm Net Median	7.5%	--	6.4%	--

7 Years Ending December 31, 2017

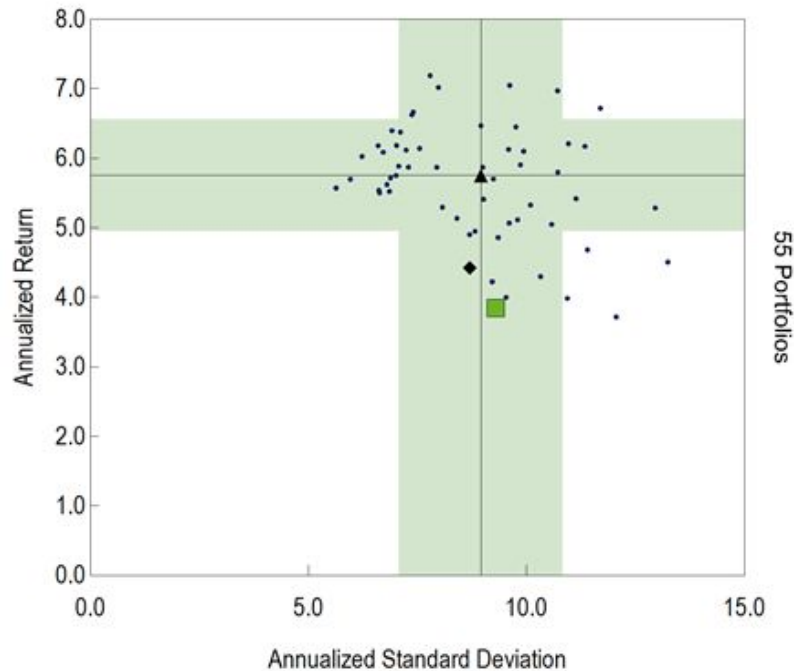
	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.8	97	1.1	98
Allocation Index	1.1	61	1.4	62
Policy Index	1.1	49	1.6	40
InvestorForce Public DB \$50mm-\$250mm Net Median	1.1	--	1.5	--

*Returns are net of fees.



TOTAL PLAN RISK/RETURN - 10 YEAR

10 Years Ending December 31, 2017



- Pension Composite
- ◆ Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvestorForce Public DB \$50mm-\$250mm Net

10 Years Ending December 31, 2017

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Pension Composite	3.8%	99	9.3%	59
Allocation Index	4.4%	92	8.7%	47
Policy Index	5.2%	75	8.2%	44
InvestorForce Public DB \$50mm-\$250mm Net Median	5.8%	--	9.0%	--

10 Years Ending December 31, 2017

	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Pension Composite	0.4	95	0.4	95
Allocation Index	0.5	83	0.6	79
Policy Index	0.6	55	0.7	53
InvestorForce Public DB \$50mm-\$250mm Net Median	0.6	--	0.7	--

*Returns are net of fees.



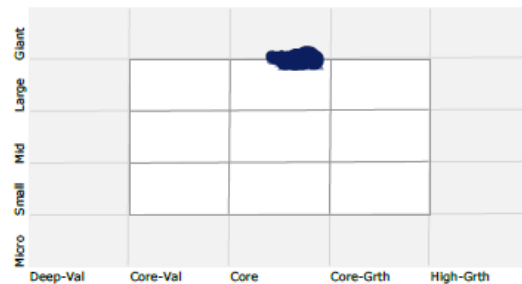
MANAGER ANALYSIS

NEPC, LLC

VANGUARD INSTITUTIONAL INDEX I

Holdings Based Style Trail (5 Years)

Time Period: 1/31/2013 to 12/31/2017



Portfolio Statistics

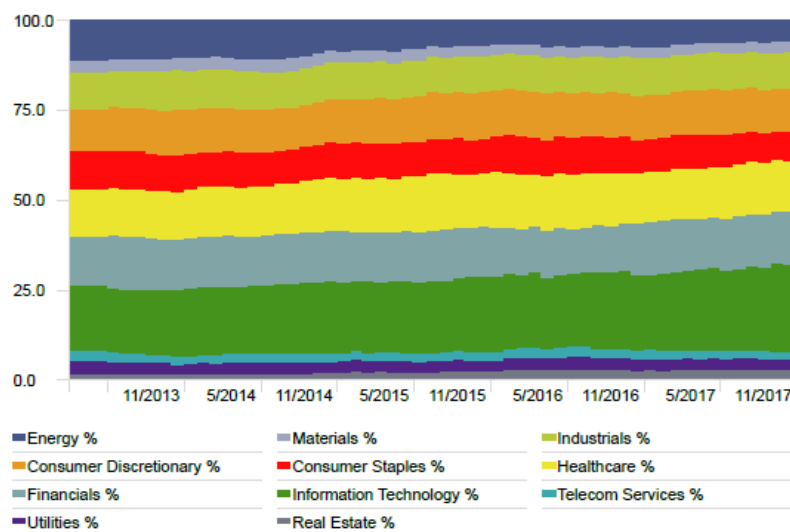
	Fund	Index
# of Holdings	508	505
% Asset in Top 10 Holdings	19.8	19.8
Turnover Ratio %	5.0	
P/E Ratio	22.7	22.9
P/B Ratio	3.1	3.2
LT Earn Growth	9.9	9.9
Hist Earn Growth	4.6	4.7
12 Mo Yield	1.8	

Market Capitalization Breakdown

Portfolio Date: 11/30/2017

	Fund	Index
Market Cap Giant %	50.4	50.3
Market Cap Large %	36.1	36.2
Market Cap Mid %	13.4	13.4
Market Cap Small %	0.1	0.1
Market Cap Micro %	0.0	0.0
Average Market Cap (mil)	95,524.9	95,375.7

Historical Sector Allocations (5 Years)



Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Consumer Discretionary	11.89	11.95	9.85	9.85	0.00	0.00	0.00
Consumer Staples	8.07	8.09	6.49	6.49	0.00	0.00	0.00
Energy	5.94	5.95	6.06	6.06	0.00	0.00	0.00
Financials	14.64	14.68	8.63	8.63	0.00	0.00	0.00
Health Care	14.13	14.21	1.45	1.47	0.00	0.00	0.00
Industrials	10.16	10.17	6.10	6.09	0.00	0.00	0.00
Information Technology	23.75	23.83	9.01	9.01	0.00	0.00	0.00
Materials	2.98	2.99	6.94	6.94	0.00	0.00	0.00
Real Estate	2.95	2.95	3.22	3.22	0.00	0.00	0.00
Telecommunication Services	2.02	2.01	4.18	3.89	0.00	0.01	0.01
Utilities	3.13	3.14	0.20	0.20	0.00	0.00	0.00
Attribution Total	99.66	99.98	6.65	6.65	0.00	0.01	0.01
Cash	0.26	0.00					
Bond	0.02	0.00					
Missing Performance	0.06	0.02					
Total	100.00	100.00					
Reported Total			6.63	6.64			
Expense Ratio			0.01	0.00			
Residual(Reported - Attribution + Expense)			-0.01	0.00			



Source: Morningstar

VANGUARD INSTITUTIONAL INDEX I

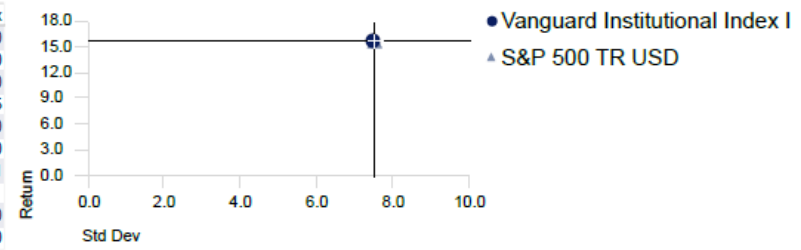
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	100.0	100.0
Alpha	0.0	0.0
Beta	1.0	1.0
Std Dev	7.5	7.5
Up Capture Ratio	99.8	100.0
Down Capture Ratio	100.1	100.0
Sharpe Ratio (geo)	2.1	2.1
Information Ratio (geo)	-3.0	
Tracking Error	0.0	0.0
Correlation	1.0	1.0

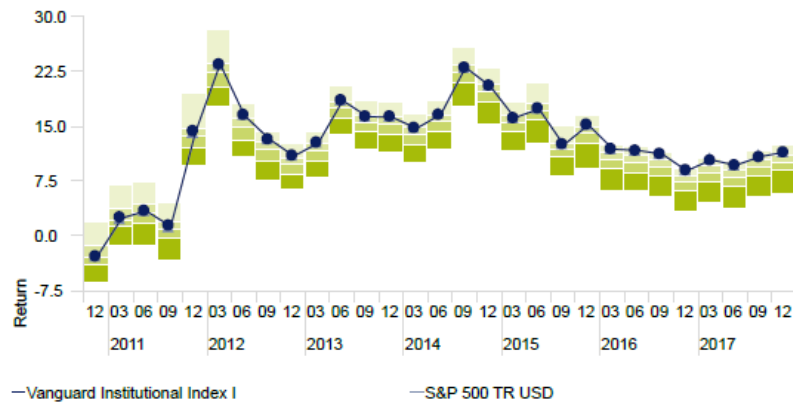
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



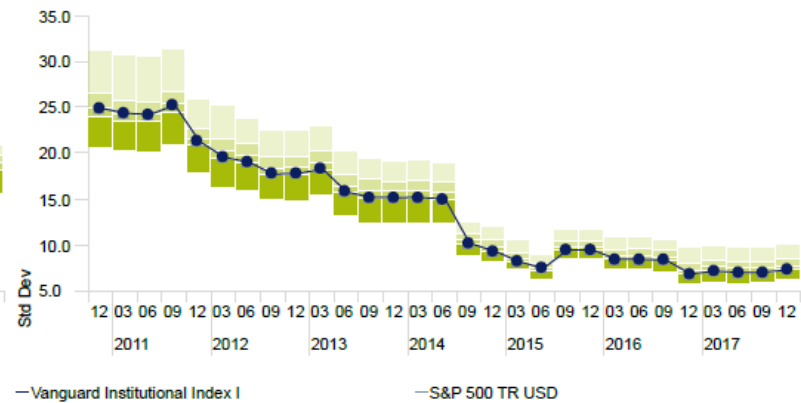
Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



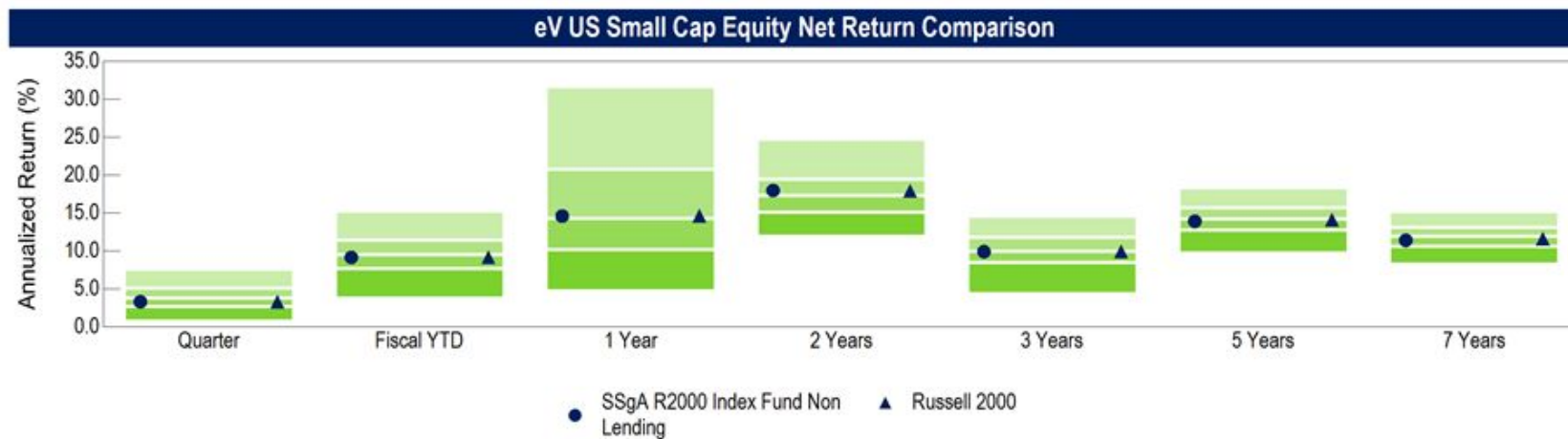
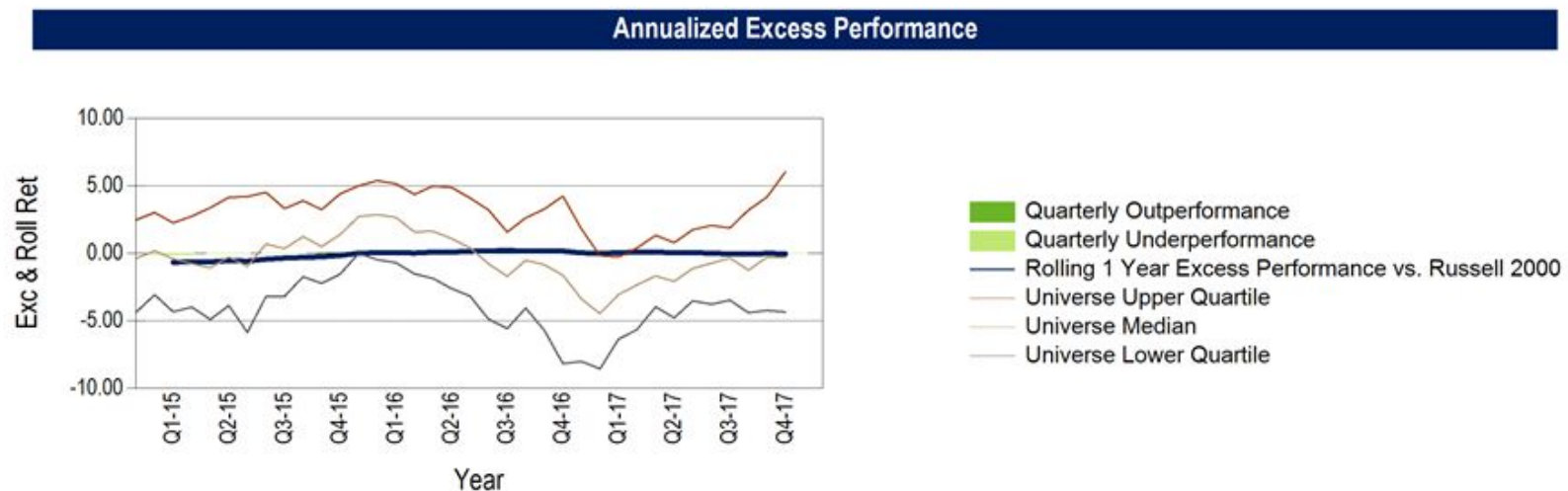
Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Vanguard Institutional Index I	-37.0	37	26.6	52	15.0	29	2.1	17	16.0	35	32.3	42	13.7	18	1.4	20	11.9	27	21.8	29
S&P 500 TR USD	-37.0		26.5		15.1		2.1		16.0		32.4		13.7		1.4		12.0		21.8	

Source: Morningstar



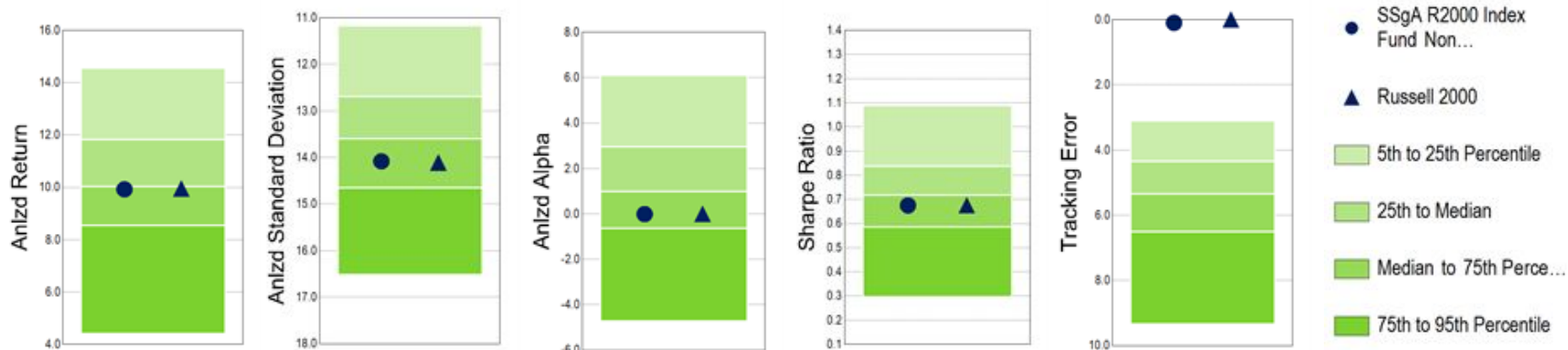
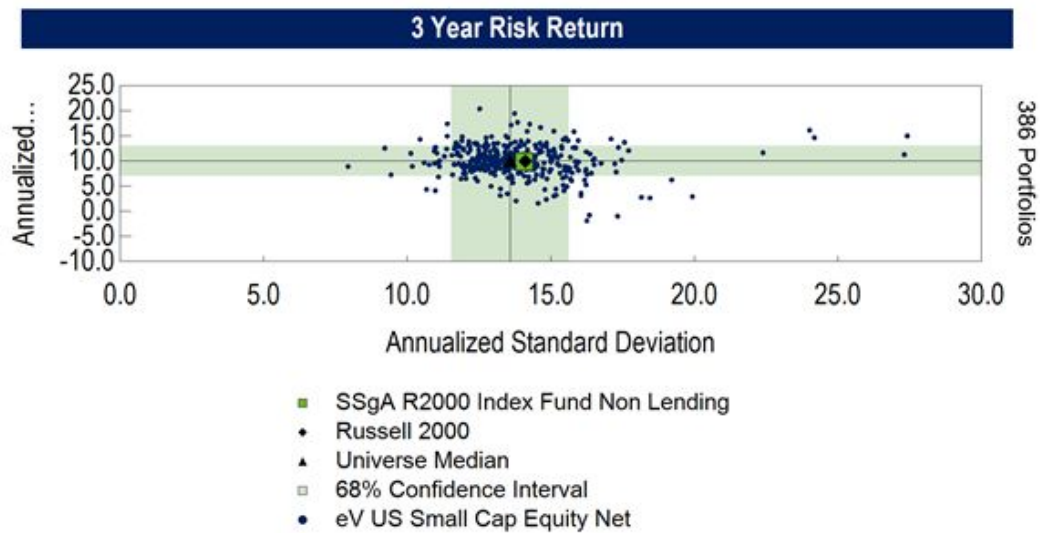
SSgA R2000 NON LENDING



*Returns are net of fees.



SSgA R2000 NON LENDING



*Returns are net of fees.



SSgA R2000 NON LENDING

Characteristics		
	Portfolio	Russell 2000
Number of Holdings	1,966	1,983
Weighted Avg. Market Cap. (\$B)	2.3	2.4
Median Market Cap. (\$B)	0.8	0.8
Price To Earnings	21.0	18.4
Price To Book	3.9	3.3
Price To Sales	3.3	3.1
Return on Equity (%)	4.1	7.8
Yield (%)	1.3	1.0
Beta		1.0
R-Squared		1.0

Top Positive Contributors		
	Relative Contribution %	Return %
OVERSTOCK COM	0.0%	115.2%
VALHI	0.0%	154.6%
CALIFORNIA RESOURCES	0.0%	85.9%
NANOSTRING TECHNOLOGIES	0.0%	-53.8%
VERSO 'A'	0.0%	245.2%
SABRA HEALTHCARE REIT.	0.0%	-12.1%
BUFFALO WILD WINGS	0.0%	47.9%
ECHO GLOBAL LOGISTICS	0.0%	48.5%
BOOT BARN HOLDINGS	0.0%	86.6%
CONSOLIDATED COMMS.HDG.	0.0%	-34.9%

Top Negative Contributors		
	Relative Contribution %	Return %
KNIGHT-SWIFT TRSP.HDG. 'A'	0.0%	5.4%
BEACON ROOFING SUPPLY	0.0%	24.4%
ANAPTYSBIO	0.0%	188.2%
WARRIOR MET COAL	0.0%	129.4%
TAILORED BRANDS	0.0%	52.5%
CONCERT PHARMACEUTICALS	0.0%	75.4%
GENERAL CABLE	0.0%	58.0%
GTT COMMUNICATIONS	0.0%	48.3%
EROS INTERNATIONAL CL.A	0.0%	-32.5%
RAYONIER ADV.D.MATERIALS	0.0%	49.8%

Equity Sector Attribution								
	Attribution Effects				Returns		Ending Sector Weights	
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.0%	0.0%	0.0%	0.0%	6.6%	6.8%	4.0%	3.8%
Materials	0.0%	0.0%	0.0%	0.0%	4.3%	4.2%	4.5%	4.6%
Industrials	0.0%	0.0%	0.0%	0.0%	6.4%	6.4%	15.4%	15.4%
Consumer Discretionary	0.0%	0.0%	0.0%	0.0%	8.0%	7.9%	12.5%	12.6%
Consumer Staples	0.0%	0.0%	0.0%	0.0%	6.9%	7.1%	2.8%	2.8%
Health Care	0.0%	0.0%	0.0%	0.0%	2.5%	2.4%	15.2%	15.4%
Financials	0.0%	0.0%	0.0%	0.0%	1.7%	1.7%	17.9%	17.8%
Information Technology	0.0%	0.0%	0.0%	0.0%	0.9%	1.0%	16.6%	16.7%
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	-3.7%	-4.0%	0.8%	0.8%
Utilities	0.0%	0.0%	0.0%	0.0%	1.0%	1.0%	3.5%	3.5%
Real Estate	0.0%	0.0%	0.0%	0.0%	-0.4%	-0.4%	6.6%	6.7%
Cash	0.0%	--	--	--	--	--	0.0%	0.0%
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%
Portfolio	0.0%	=	0.0%	+	3.4%	3.3%	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.

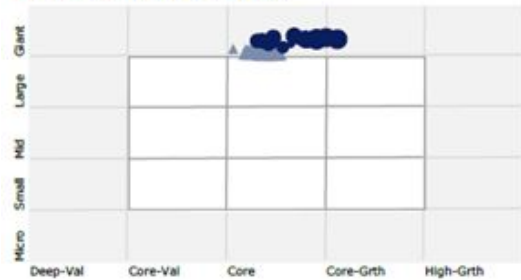


MORGAN STANLEY INTERNATIONAL EQUITY I

4.1

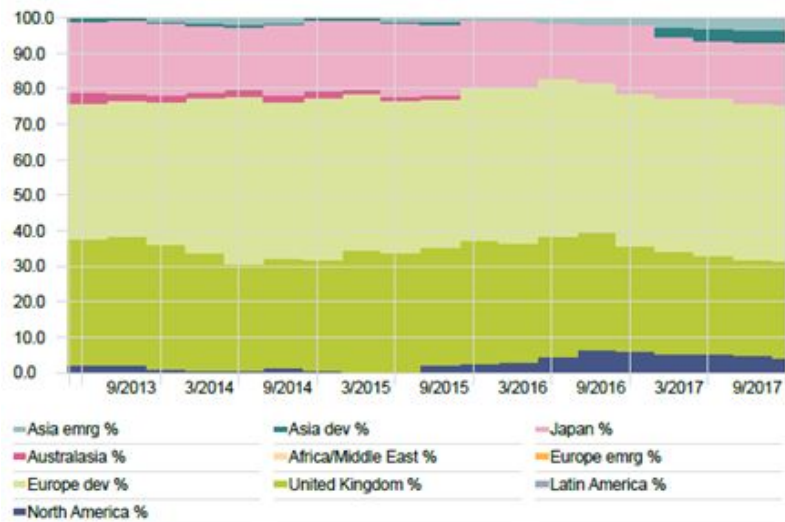
Holdings Based Style Trail (5 Years)

Time Period: 1/31/2013 to 12/31/2017



● Morgan Stanley Int'l International Eq I
 ▲ MSCI EAFE NR USD

Historical Country Allocations (5 Years)



Portfolio Statistics

	Fund	Index
# of Holdings	67	928
% Asset in Top 10 Holdings	37.3	11.4
Turnover Ratio %	33.0	
P/E Ratio	21.0	17.6
P/B Ratio	2.7	1.7
LT Earn Growth	10.8	9.3
Hist Earn Growth	-2.9	0.2
12 Mo Yield	1.9	

Market Capitalization Breakdown

	Fund	Index
Portfolio Date: 9/30/2017		
Market Cap Giant %	69.9	58.5
Market Cap Large %	23.4	34.7
Market Cap Mid %	6.7	6.7
Market Cap Small %	0.0	0.0
Market Cap Micro %	0.0	0.0
Average Market Cap	54,136.1	35,976.9
Equity Region Developed %	96.7	99.4
Equity Region Emerging %	3.3	0.6

Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Consumer Discretionary	4.85	12.21	6.50	5.58	-0.10	0.05	-0.05
Consumer Staples	29.81	11.22	7.58	4.98	0.15	0.78	0.93
Energy	2.30	5.16	2.46	10.16	-0.16	-0.18	-0.34
Financials	13.54	21.26	6.34	3.19	0.08	0.43	0.51
Health Care	15.05	10.31	-6.51	-0.09	-0.24	-1.05	-1.29
Industrials	14.99	14.52	6.84	4.81	0.00	0.31	0.31
Information Technology	9.42	6.42	9.09	5.06	0.02	0.38	0.41
Materials	5.05	7.93	-1.24	7.47	-0.09	-0.46	-0.55
Real Estate	0.48	3.37	0.10	5.15	-0.03	-0.02	-0.05
Telecommunication Services	2.15	4.06	-0.15	0.78	0.06	-0.03	0.04
Utilities	0.00	3.34		-0.95	0.17	0.00	0.17
Attribution Total	97.65	99.80	4.29	4.21	-0.14	0.22	0.08
Cash	2.35	0.00					
Other	0.00	0.03					
Missing Performance	0.00	0.17					
Total	100.00	100.00					
Reported Total			3.79	4.23			
Expense Ratio			0.25	0.00			
Residual(Reported - Attribution + Expense)			-0.25	0.02			



Source: Morningstar

MORGAN STANLEY INTERNATIONAL EQUITY I

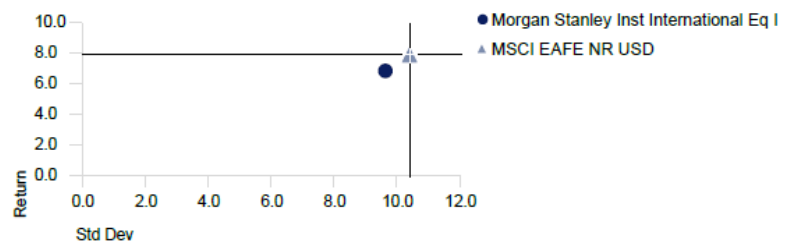
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	90.4	100.0
Alpha	-0.1	0.0
Beta	0.9	1.0
Std Dev	9.6	10.4
Up Capture Ratio	89.8	100.0
Down Capture Ratio	94.5	100.0
Sharpe Ratio (geo)	0.7	0.7
Information Ratio (geo)	-0.3	
Tracking Error	3.2	0.0
Correlation	1.0	1.0

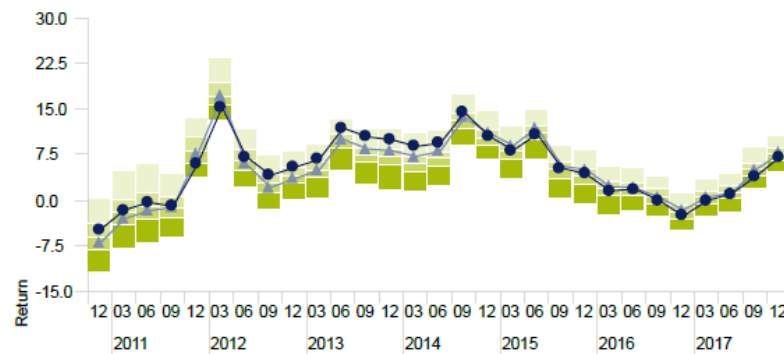
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

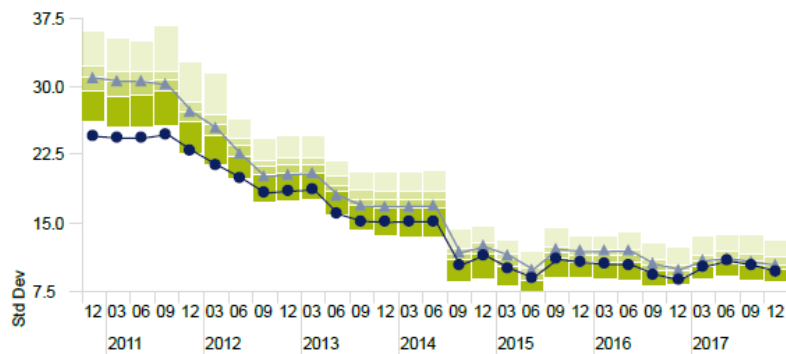


—Morgan Stanley Inst International Eq I

—MSCI EAFE NR USD

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Morgan Stanley Inst International Eq I

—MSCI EAFE NR USD

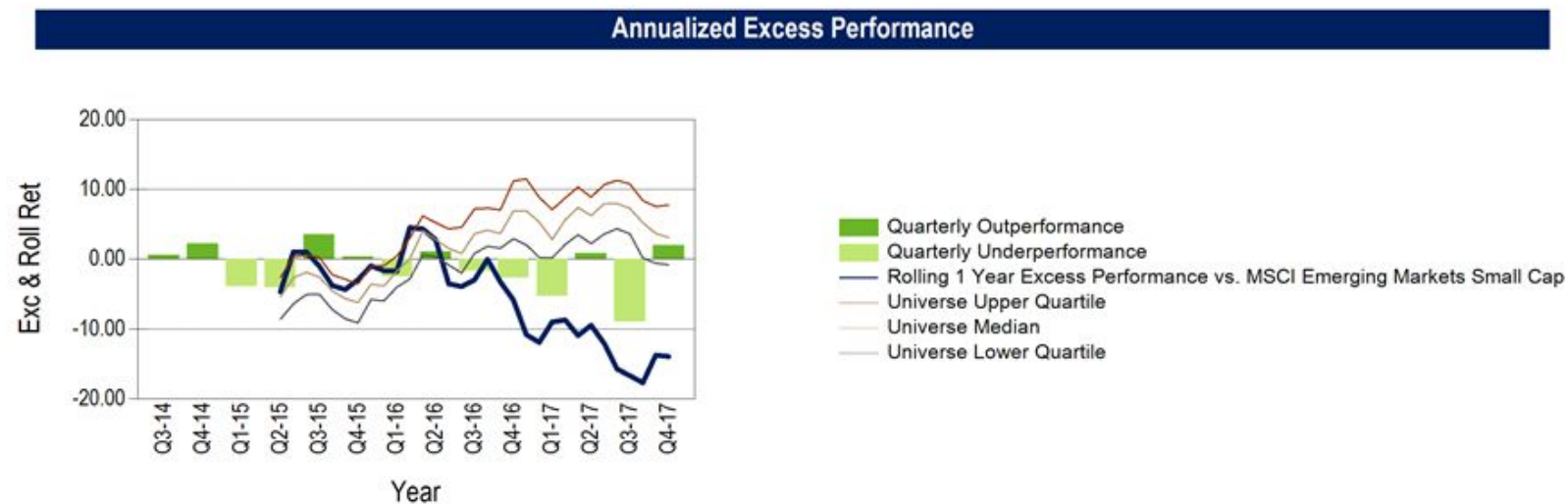
Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Morgan Stanley Inst International Eq I	-33.1	8	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
MSCI EAFE NR USD	-43.4		31.8		7.8		-12.1		17.3		22.8		-4.9		-0.8		1.0		25.0	



Source: Morningstar

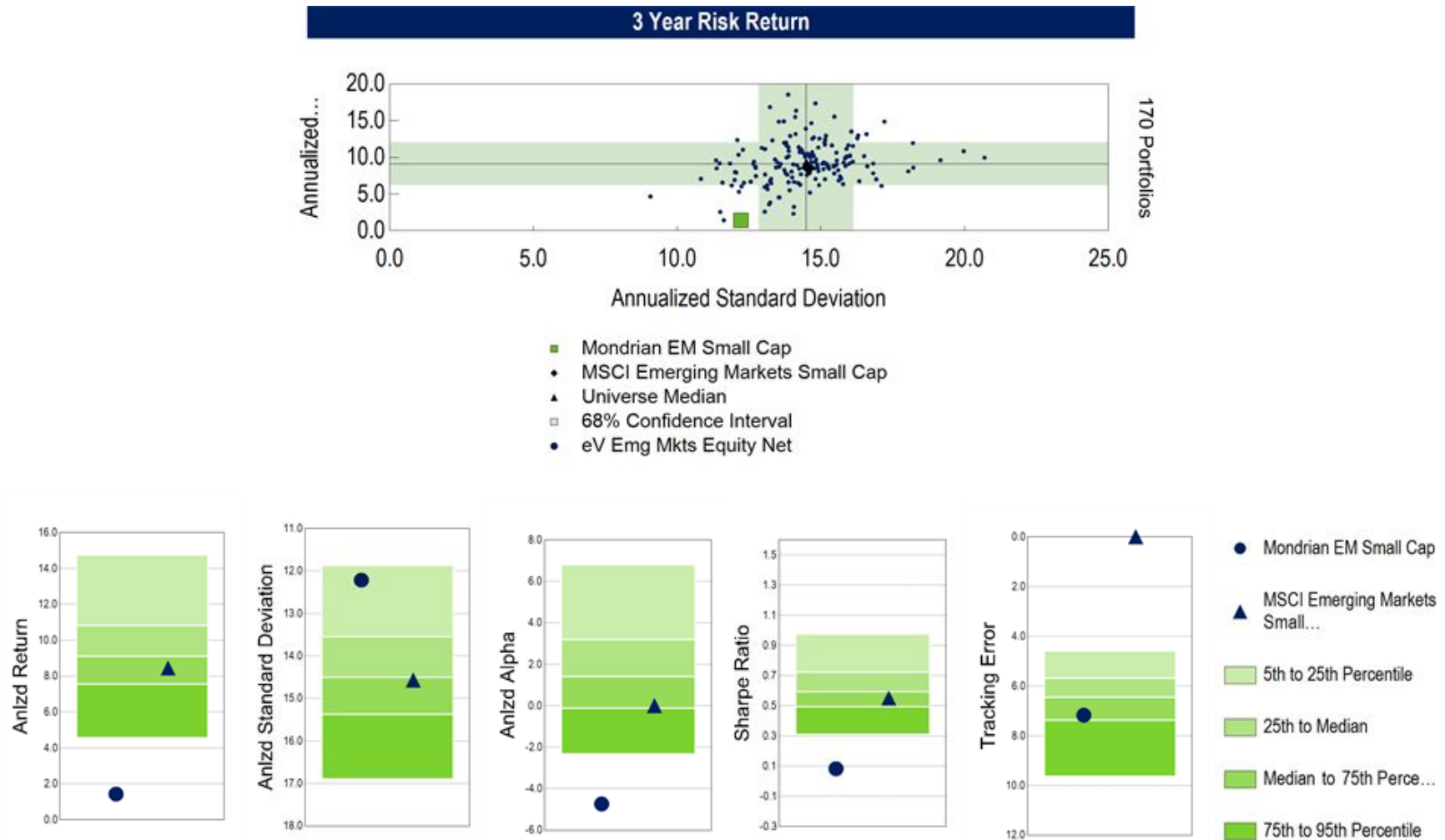
MONDRIAN EM SMALL CAP



*Returns are net of fees.



MONDRIAN EM SMALL CAP



MONDRIAN EM SMALL CAP

Characteristics		
	Portfolio	MSCI Emerging Markets Small Cap
Number of Holdings	109	1,822
Weighted Avg. Market Cap. (\$B)	1.7	1.4
Median Market Cap. (\$B)	1.0	0.8
Price To Earnings	35.1	19.6
Price To Book	5.7	2.8
Price To Sales	3.9	2.1
Return on Equity (%)	20.6	12.9
Yield (%)	1.8	2.0
Beta		1.0
R-Squared		1.0

Top Positive Contributors		
	Relative Contribution %	Return %
HARTELEGA HOLDINGS	0.8%	60.7%
PAGE INDUSTRIES	0.6%	42.0%
DIALOG GROUP	0.5%	31.7%
VARUN BEVERAG	0.5%	31.1%
CPMC HOLDINGS	0.5%	34.5%
NEXTEER AUTOMOTIVE GROUP	0.4%	39.0%
PI INDUSTRIES	0.4%	33.3%
AIRTAC INTERNATIONAL GP.	0.4%	30.4%
EMAMI	0.3%	24.4%
FU SHOU YUAN INTL.GP.	0.3%	29.7%

Top Negative Contributors		
	Relative Contribution %	Return %
ARWANA CITRAMULIA	-0.2%	-19.2%
FIBRA HOTEL REIT	-0.2%	-22.1%
CORPORACION INMOBILIARIA VESTA	-0.2%	-13.1%
BIOTOSCANA INVESTMENTS BDR	-0.2%	-18.8%
BOER POWER HOLDINGS	-0.1%	-27.4%
AKR CORPORINDO	-0.1%	-11.2%
FIBRA INN REIT	-0.1%	-11.9%
WILSON SONS BDR (BSP)	-0.1%	-9.5%
EOH	-0.1%	-21.5%
MQR.MEX.RLST.MAN.DE CV REIT	-0.1%	-18.8%

Equity Sector Attribution									
	Attribution Effects				Returns		Ending Sector Weights		
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	0.4%	0.5%	0.0%	-0.1%	31.7%	4.6%	1.7%	2.3%	
Materials	0.9%	1.3%	-0.1%	-0.4%	23.7%	12.3%	10.1%	12.0%	
Industrials	0.2%	0.4%	0.0%	-0.1%	7.6%	6.3%	15.4%	14.4%	
Consumer Discretionary	1.3%	1.7%	0.0%	-0.4%	18.9%	8.8%	14.8%	16.5%	
Consumer Staples	0.6%	0.1%	0.1%	0.3%	15.0%	12.8%	13.4%	6.8%	
Health Care	-0.1%	-0.7%	1.7%	-1.1%	13.0%	24.7%	22.4%	8.8%	
Financials	0.1%	0.3%	0.3%	-0.4%	3.3%	4.8%	2.1%	9.0%	
Information Technology	-0.5%	-0.2%	0.0%	-0.2%	7.9%	9.7%	4.4%	16.4%	
Telecommunication Services	0.0%	--	0.0%	--	--	4.2%	0.0%	0.9%	
Utilities	0.1%	0.0%	0.0%	0.1%	6.2%	4.7%	4.1%	4.0%	
Real Estate	-0.2%	0.0%	0.0%	-0.3%	-1.2%	1.4%	7.8%	8.5%	
Cash	-0.4%	0.0%	-0.4%	0.0%	0.3%	--	1.2%	0.0%	
Unclassified	0.3%	0.0%	0.0%	0.3%	18.1%	9.1%	2.7%	0.4%	
Portfolio	2.7%	=	3.3%	+	11.8%	9.1%	100.0%	100.0%	



MONDRIAN EM SMALL CAP

Sector Allocation

	Fund	MSCI EM SC
Consumer Discretionary	14.6	16.6
Consumer Staples	15.8	6.9
Energy	1.6	2.2
Financials	2.1	8.7
Health Care	23.5	8.8
Industrials	15.2	14.4
Information Technology	4.3	16.6
Materials	10.0	12.1
Real Estate	7.7	8.8
Telecommunication Services	-	0.9
Utilities	4.0	4.0
Cash	1.1	-
TOTAL	100.0	100.0

Country Allocation

	Fund	MSCI EM SC
LATIN AMERICA	10.5	9.7
Brazil	3.6	5.4
Mexico	4.8	2.5
Peru	2.1	0.2
EUROPE, MIDDLE EAST & AFRICA	6.1	10.8
Poland	2.6	1.0
Saudi Arabia	1.4	-
South Africa	2.1	5.5
PACIFIC-ASIA	82.3	79.5
North Asia	31.6	53.4
China/Hong Kong	17.7	19.6
South Korea	6.6	16.5
Taiwan	7.3	17.3
South Asia	50.7	25.3
India	28.7	15.2
Indonesia	7.9	2.2
Malaysia	6.6	3.3
Philippines	4.0	0.9
Thailand	3.5	3.7
Cash	1.1	-
TOTAL	100.0	100.0

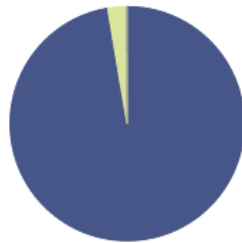


Source: Mondrian

VANGUARD TOTAL BOND MARKET I

Asset Allocation

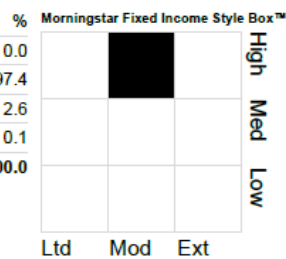
Portfolio Date: 11/30/2017



• Stock	0.0
• Bond	97.4
• Cash	2.6
• Other	0.1
Total	100.0

Fixed Income Statistics

Portfolio Date: 11/30/2017



Fixed-Income Stats

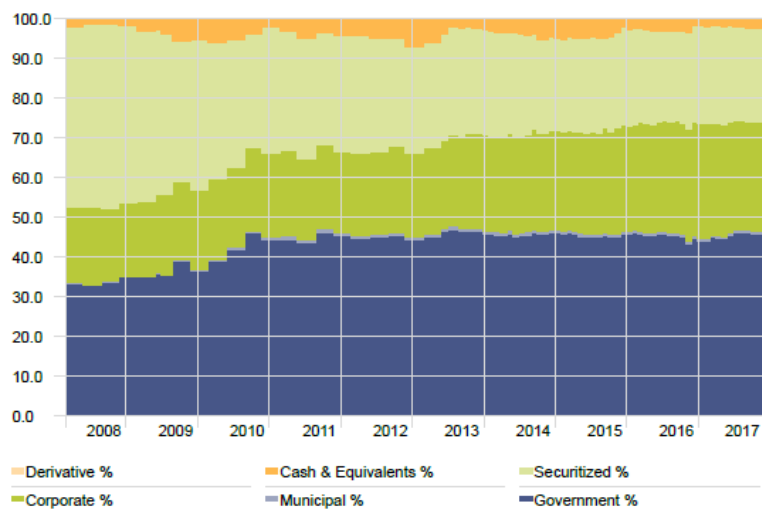
Average Eff Duration	6.1
Average Eff Maturity	8.4
Average Coupon	3.1
Average Price	103.3
Average Credit Quality	AA

Credit Quality Breakdown

Portfolio Date: 11/30/2017

	Fund	Index
AAA %	69.1	
AA %	3.92	
A %	11.76	
BBB %	15.23	
BB %	0.00	
B %	0.00	
Below B %	0.01	
Not Rated %	0.00	
Yield to Maturity	2.77	

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
US Treasury Note 2.125%	BOND - GOV'T/TREASURY	0.49
US Treasury Note 2%	BOND - GOV'T/TREASURY	0.46
US Treasury Note 2.625%	BOND - GOV'T/TREASURY	0.44
Ginnie Mae Jumbos TBA 3.5%	BOND - GOV'T AGENCY PASS-THRU	0.44
US Treasury Note 1.375%	BOND - GOV'T/TREASURY	0.43
US Treasury Note 1.75%	BOND - GOV'T/TREASURY	0.42
US Treasury Note 1.625%	BOND - GOV'T/TREASURY	0.40
US Treasury Note 3.625%	BOND - GOV'T/TREASURY	0.40
US Treasury Note 1.75%	BOND - GOV'T/TREASURY	0.39
US Treasury Note 1%	BOND - GOV'T/TREASURY	0.38



Source: Morningstar

VANGUARD TOTAL BOND MARKET I

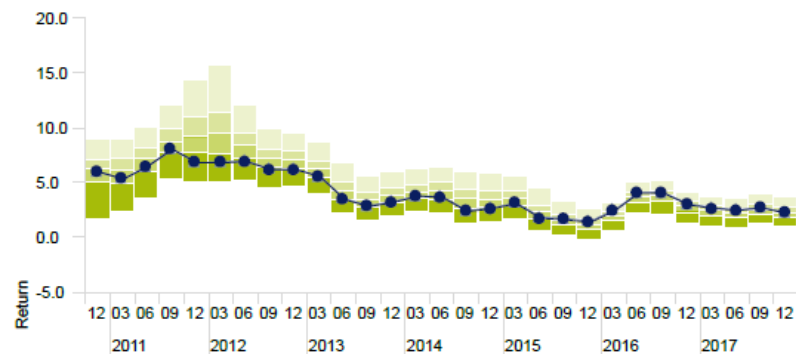
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	99.8	100.0
Alpha	-0.1	0.0
Beta	1.0	1.0
Std Dev	3.2	3.1
Up Capture Ratio	100.6	100.0
Down Capture Ratio	105.3	100.0
Sharpe Ratio (geo)	0.5	0.6
Information Ratio (geo)	-0.4	
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

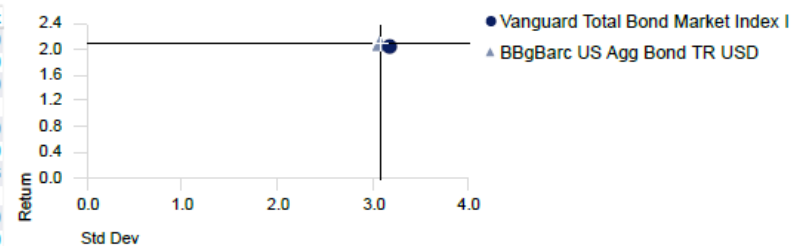
— BBgBarc US Agg Bond TR USD

Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Vanguard Total Bond Market Index I	5.2	9	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
BBgBarc US Agg Bond TR USD	5.2		5.9		6.5		7.8		4.2		-2.0		6.0		0.5		2.6		3.5	

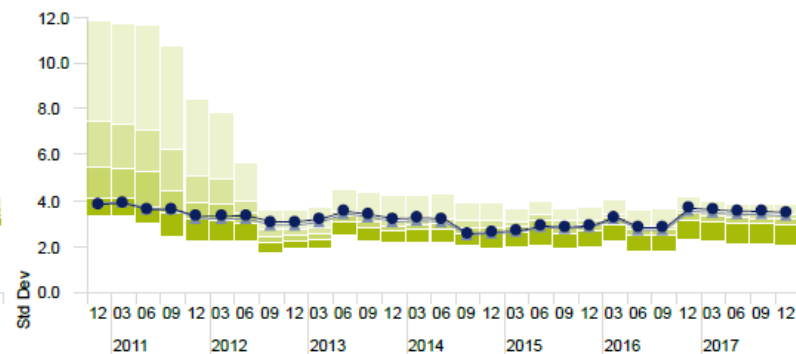
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



— Vanguard Total Bond Market Index I

— BBgBarc US Agg Bond TR USD

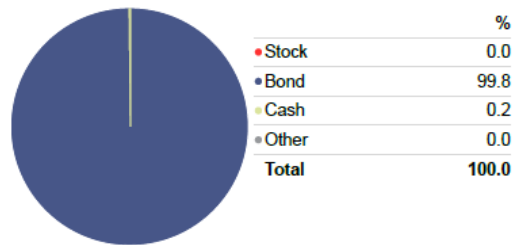


Source: Morningstar

VANGUARD INFLATION PROTECTED SECURITIES

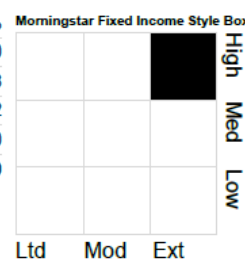
Asset Allocation

Portfolio Date: 9/30/2017



Fixed Income Statistics

Portfolio Date: 9/30/2017



Fixed-Income Stats

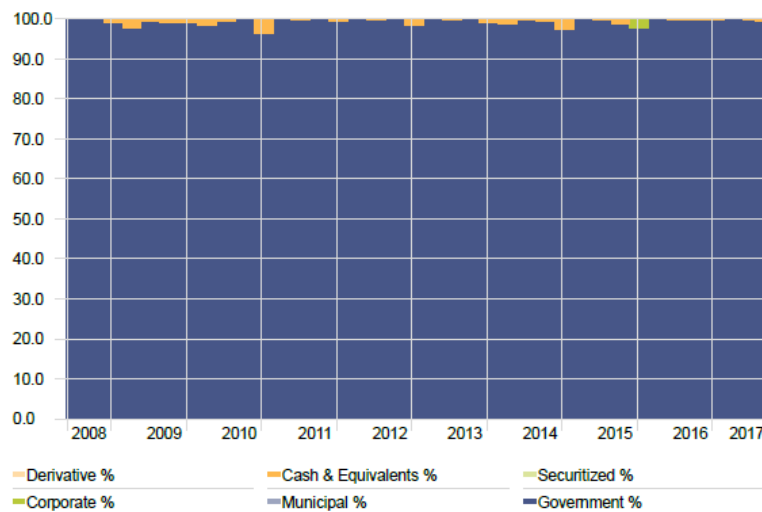
Average Eff Duration	8.0	AAA %
Average Eff Maturity	8.5	AA %
Average Coupon	0.8	A %
Average Price	114.1	BBB %
Average Credit Quality	AAA	BB %
		B %
		Below B %
		Not Rated %
		Yield to Maturity

Credit Quality Breakdown

Portfolio Date: 9/30/2017

	Fund	Index
	100.0	
	0.00	
	0.00	
	0.00	
	0.00	
	0.00	
	0.00	
	0.00	
	0.00	
	0.00	

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.59
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.29
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.26
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.03
US Treasury TIP	BOND - GOV'T INFLATION PROTECTED	3.90
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.89
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.87
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.81
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.79
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.75



Source: Morningstar

VANGUARD INFLATION PROTECTED SECURITIES

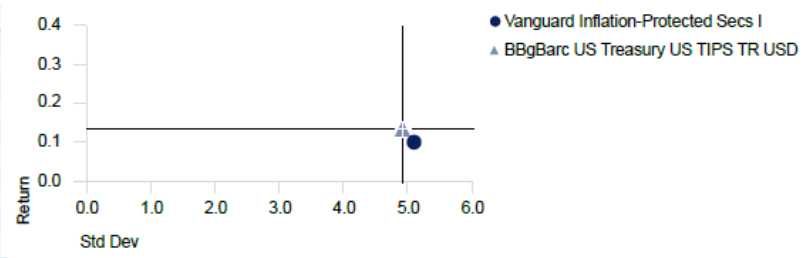
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	99.6	100.0
Alpha	0.0	0.0
Beta	1.0	1.0
Std Dev	5.1	4.9
Up Capture Ratio	101.9	100.0
Down Capture Ratio	102.9	100.0
Sharpe Ratio (geo)	0.0	0.0
Information Ratio (geo)	-0.1	0.0
Tracking Error	0.4	0.0
Correlation	1.0	1.0

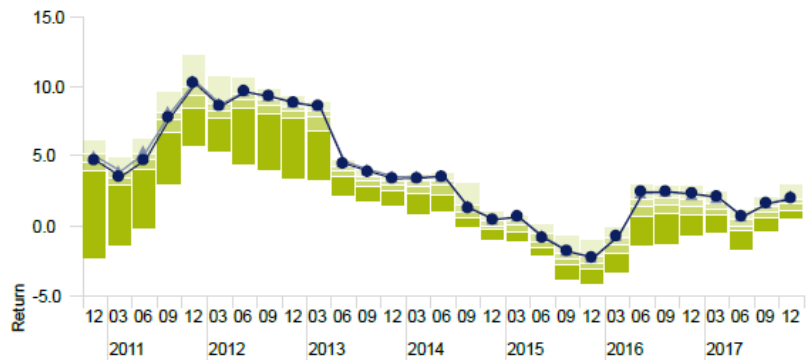
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

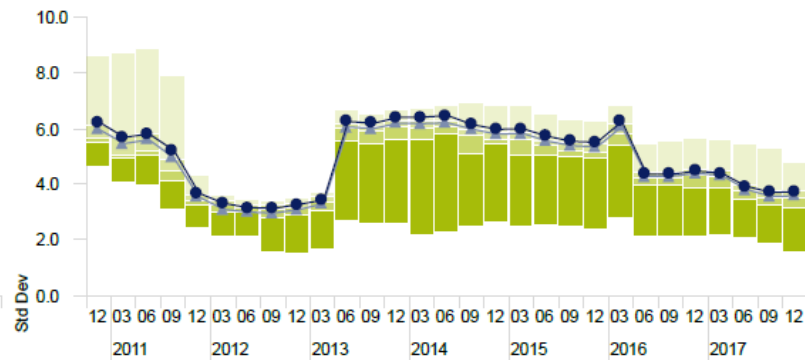


—Vanguard Inflation-Protected Secs I

—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

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Vanguard Inflation-Protected Secs I	-2.8	56	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
BBgBarc US Treasury US TIPS TR USD	-2.4		11.4		6.3		13.6		7.0		-8.6		3.6		-1.4		4.7		3.0	



Source: Morningstar

GUGGENHEIM US BANK LOANS

Characteristics

	US Bank Loans Composite	Credit Suisse Leveraged Loan Index
Effective Duration	0.14 years	0.13 years
Average Coupon	4.72%	5.10%
Average Market Price	\$99.13	\$98.75
Average YTM	5.22%	5.96%
Average YTW	2.86%	3.02%
Average OAS	278	339
Average Credit Quality ²	B+	B
WAL to Worst	1.20 years	1.20 years
No. of Issuers	222	1212

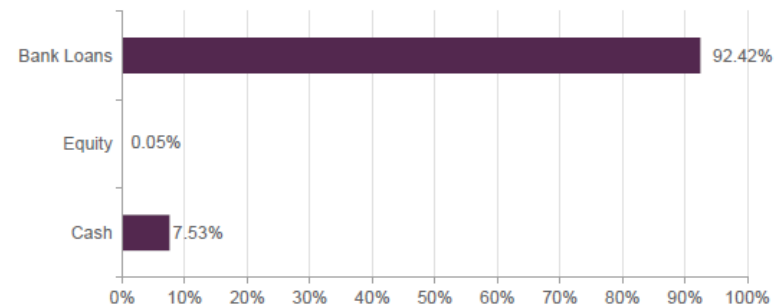
Performance & Risk Analysis (Since Inception)

	US Bank Loans Composite (Gross)	Credit Suisse Leveraged Loan Index
Annualized Return	6.95%	5.13%
Excess Return	1.82%	–
Standard Deviation	4.98%	6.27%
Correlation	0.97	1
Information Ratio	0.96	–
Sharpe Ratio	1.17	0.64

Industry Allocation

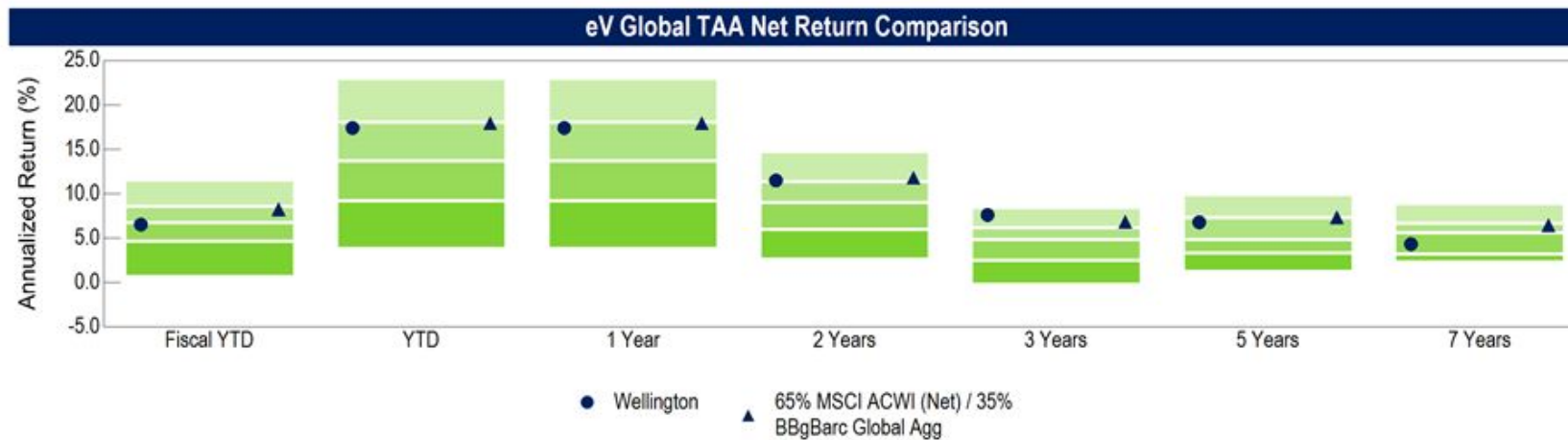
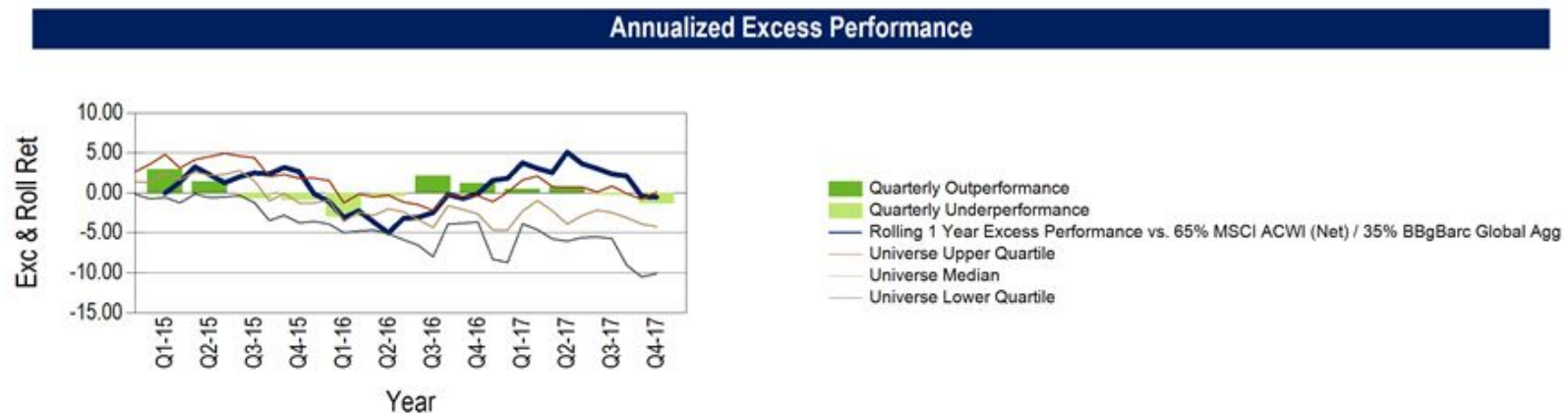
	Guggenheim	Index
Banking	0.00%	0.33%
Basic Industry	2.45%	5.20%
Brokerage	1.16%	0.55%
Capital Goods	11.20%	9.06%
Communications	7.95%	14.04%
Consumer Cyclical	19.33%	19.01%
Consumer Non Cyclical	21.31%	17.68%
Electric	2.88%	2.55%
Energy	1.30%	3.59%
Finance Companies	2.91%	2.29%
Insurance	1.83%	1.63%
Other Financials	0.63%	1.13%
Other Industry	2.67%	6.36%
Technology	15.77%	13.55%
Transportation	1.03%	2.04%
Cash	7.53%	0.00%
Other ³	0.04%	0.97%

Asset Class Allocation



Source: Guggenheim

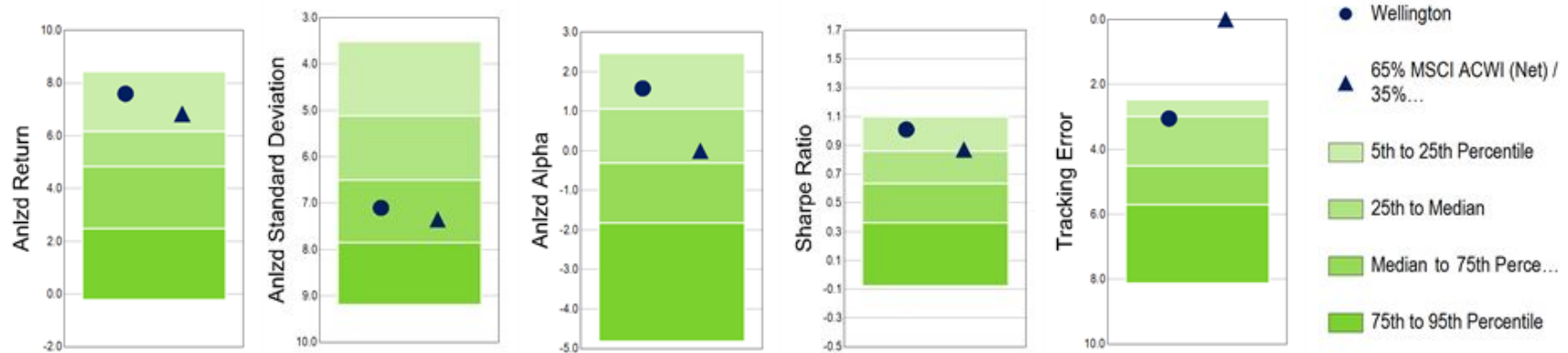
WELLINGTON OPPORTUNISTIC



*Returns are net of fees.



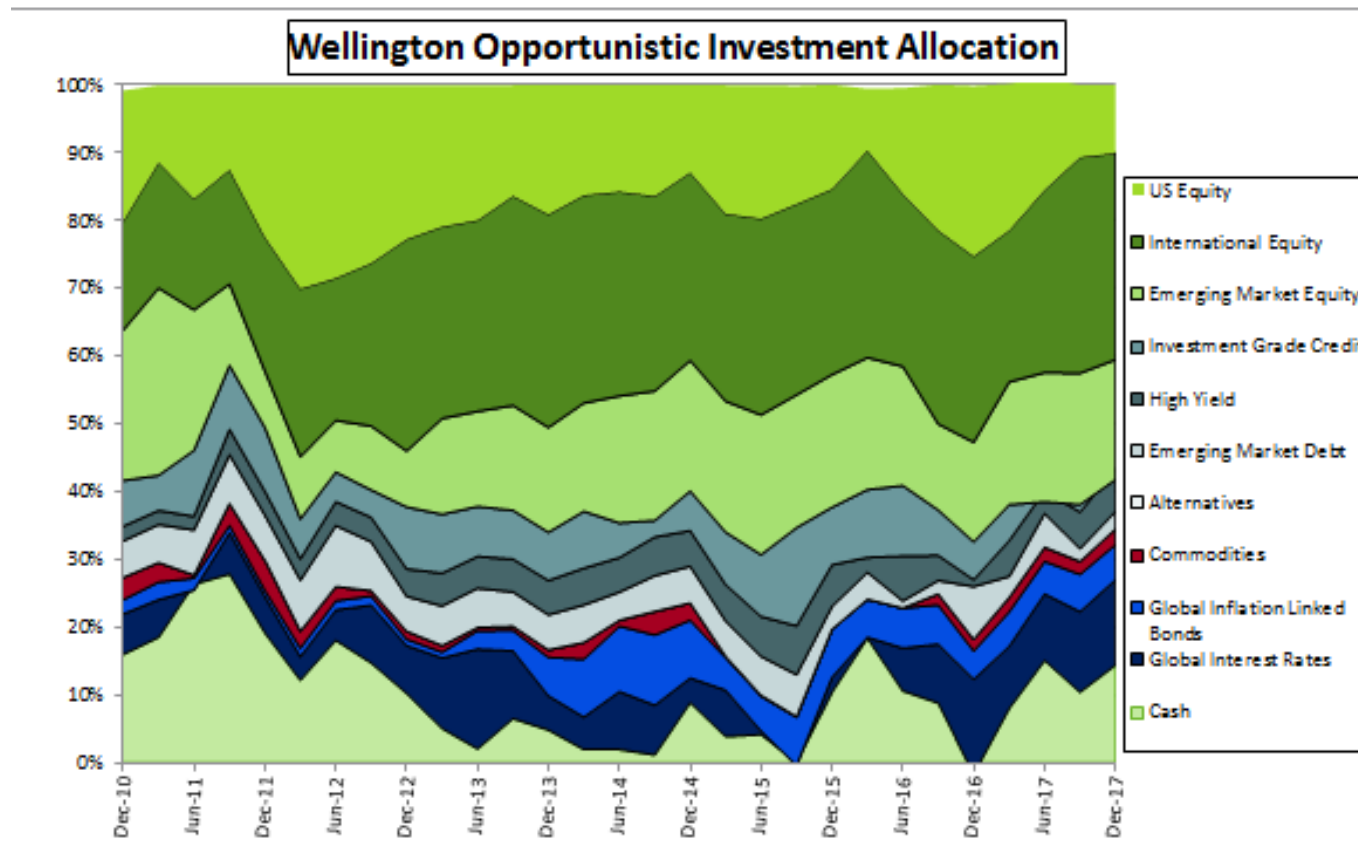
WELLINGTON OPPORTUNISTIC



*Returns are net of fees.



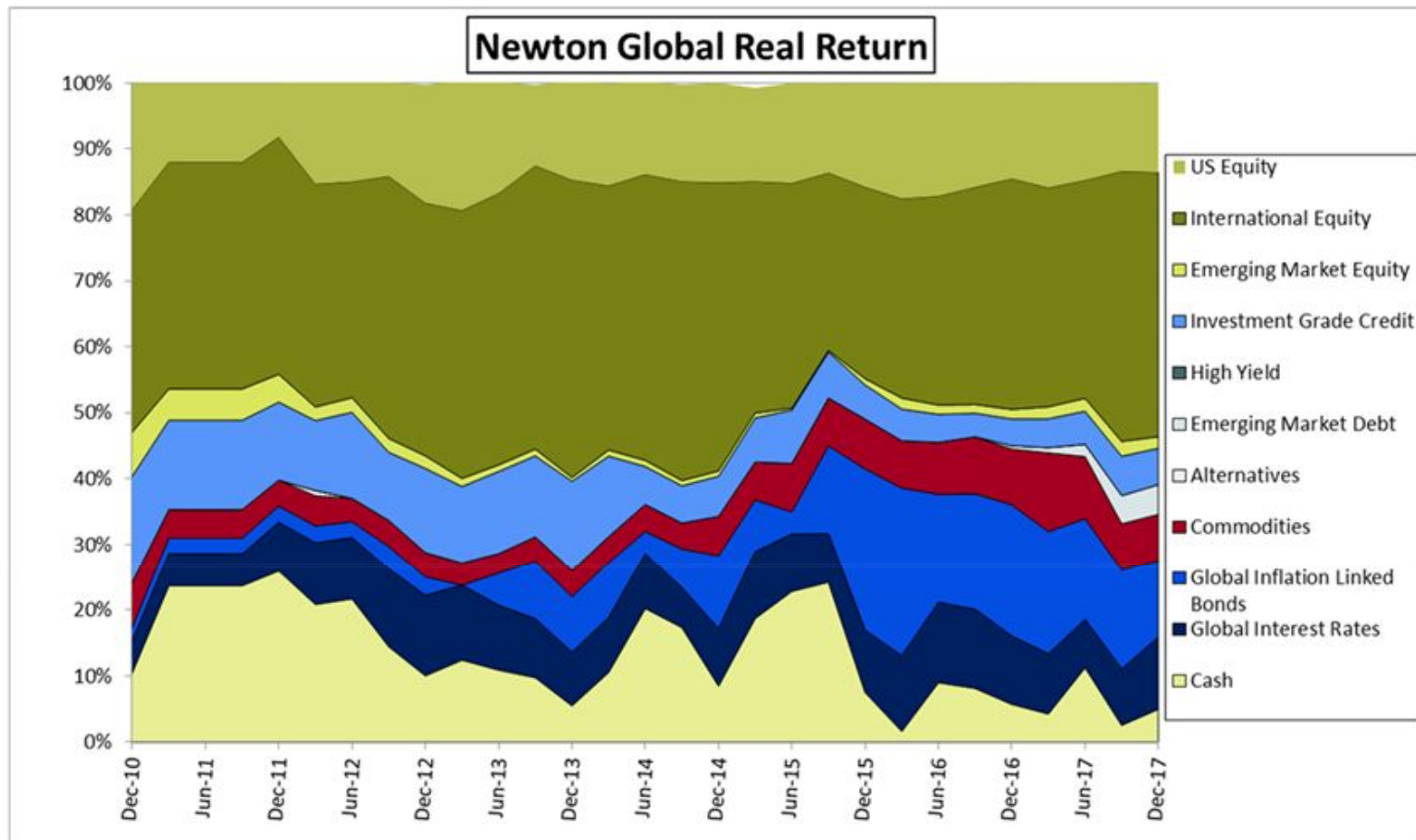
WELLINGTON OPPORTUNISTIC



Source: Wellington

NEWTON GLOBAL REAL RETURN

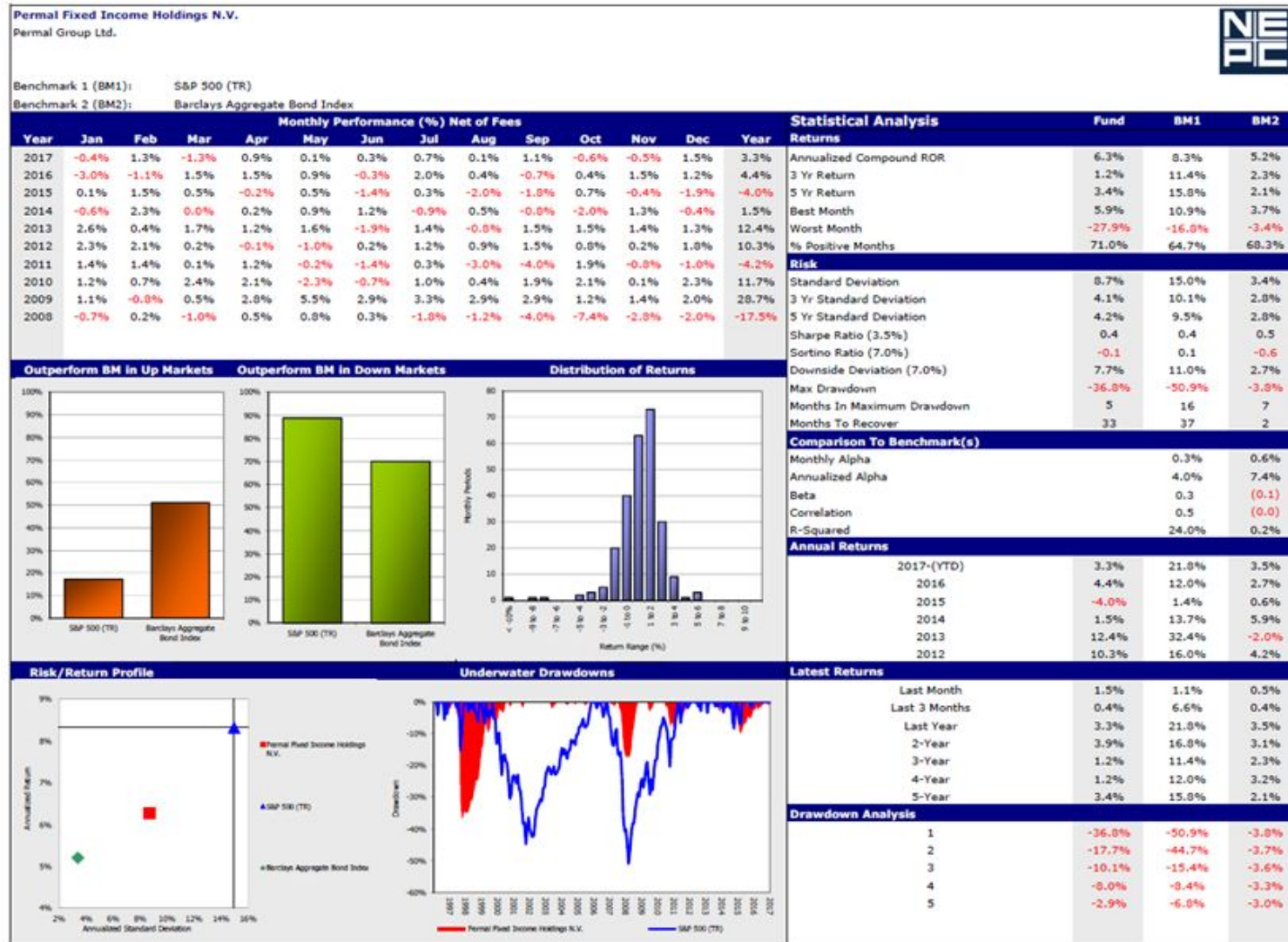
4.1



Source: Newton

ENTRUSTPERMAL FIXED INCOME HOLDINGS

4.1



ENTRUSTPERMAL FIXED INCOME HOLDINGS

General Fund Information			
Fund Name	EnTrustPermal Fixed Income Holdings		
Management Company	EnTrustPermal		
Location	New York, NY		
Firm AUM	\$20.9 Billion	Strategy	Fund of Fund
Strategy AUM	\$779.9 Million	Sub-Strategy	Multi-Strategy
Portfolio Managers	Robert Kaplan, Clark Fenton, Javier Dyer	Direct or FOF	FOF
Terms			
Share Class	-		
Minimum Investment	\$1 million		
Management Fee	0.95%		
Incentive Fee	None		
Hurdle Rate	None		
High Water Mark	None		
Subscription	Monthly		
Redemption	Monthly with 20 days		
Lock-Up	None		

Investment Strategy	
<p>Permal Fixed Income Holdings features a performance-oriented investment philosophy that employs a unique combination of fixed-income spread strategies, opportunistic bets on events, and nimble, liquid macro strategies. It is positioned as both a performance enhancer and a good diversifier to a core hedge fund allocation</p>	

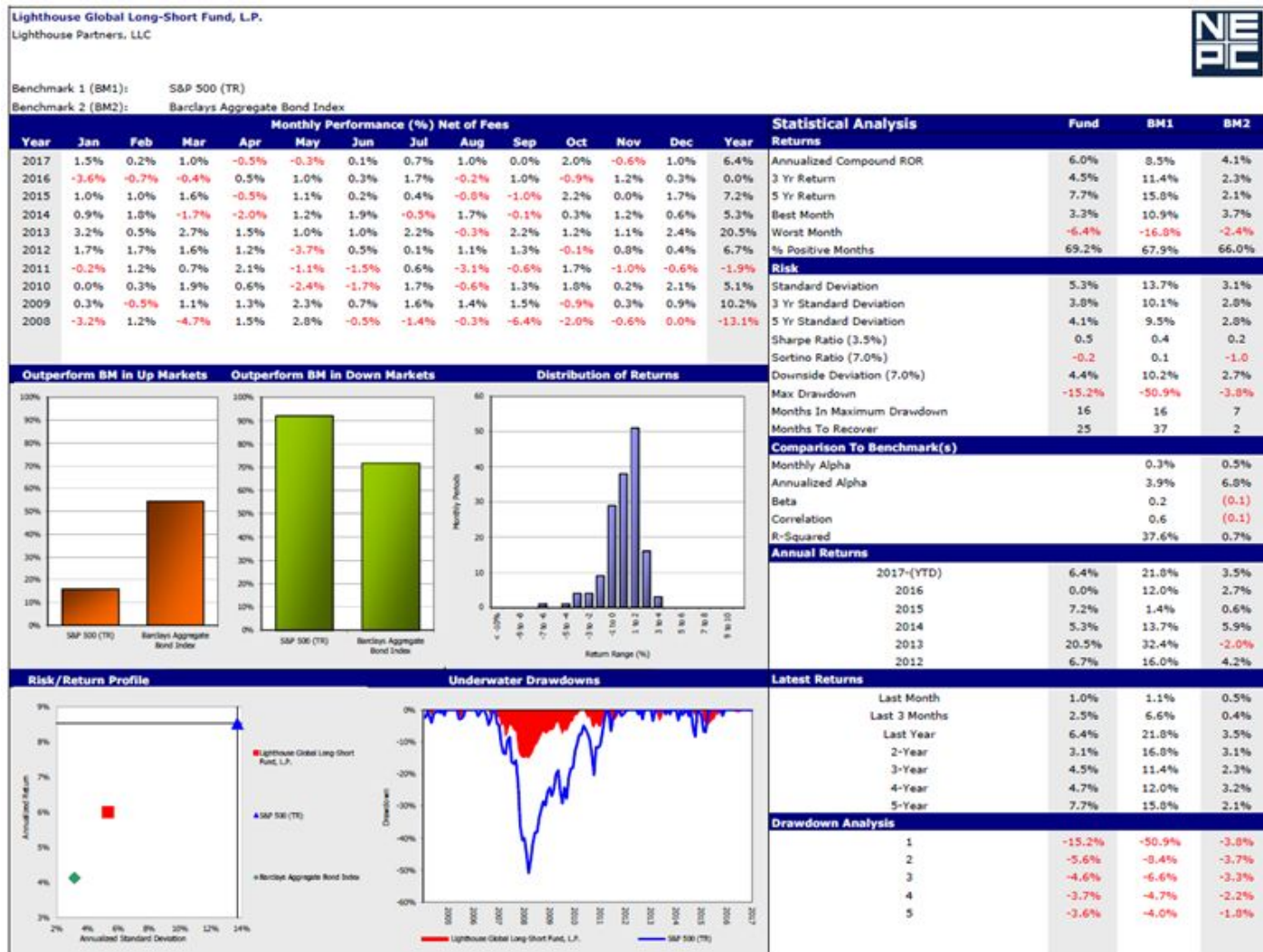
Strategy Information																			
Current Allocation																			
Event Driven	39%																		
Fixed Income – Hedge	31%																		
Fixed Income - Developed Markets	19%																		
Global Macro	1%																		
Fixed Income - Emerging Markets	1%																		
Cash and Other	9%																		
Attribution																			
<p>The chart displays the attribution of performance to various strategies. The Y-axis lists the strategies: Macro Managers, Fixed Income Hedge, Fixed Income Emerging Markets, Fixed Income Developed Markets, and Event Driven. The X-axis shows the percentage contribution. For each strategy, there are two bars: a light orange bar for 'Year to Date' and a dark orange bar for 'Month to Date'.</p> <table><thead><tr><th>Strategy</th><th>Year to Date</th><th>Month to Date</th></tr></thead><tbody><tr><td>Macro Managers</td><td>0.01%</td><td>0.02%</td></tr><tr><td>Fixed Income Hedge</td><td>1.92%</td><td>0.63%</td></tr><tr><td>Fixed Income Emerging Markets</td><td>-0.61%</td><td>0.00%</td></tr><tr><td>Fixed Income Developed Markets</td><td>-0.36%</td><td>0.11%</td></tr><tr><td>Event Driven</td><td>4.13%</td><td>0.88%</td></tr></tbody></table>		Strategy	Year to Date	Month to Date	Macro Managers	0.01%	0.02%	Fixed Income Hedge	1.92%	0.63%	Fixed Income Emerging Markets	-0.61%	0.00%	Fixed Income Developed Markets	-0.36%	0.11%	Event Driven	4.13%	0.88%
Strategy	Year to Date	Month to Date																	
Macro Managers	0.01%	0.02%																	
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Fixed Income Emerging Markets	-0.61%	0.00%																	
Fixed Income Developed Markets	-0.36%	0.11%																	
Event Driven	4.13%	0.88%																	

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



LIGHTHOUSE GLOBAL LONG/SHORT

4.1



LIGHTHOUSE GLOBAL LONG/SHORT

4.1

General Fund Information			
Fund Name	Lighthouse Global Long/Short Fund		
Management Company	Lighthouse Investment Partners, LLC		
Location	Palm Beach, FL		
Firm AUM	\$10.4 billion	Strategy	Fund of Fund
Strategy AUM	\$1.8 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
<p>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).</p> <p>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.</p>

Strategy Information

Current Allocation

Region exposures and contribution 2014/15

	Developed North America	Developed Europe	Developed Asia	Emerging Markets	Hedges / Other
Net	17.6%	10.0%	-2.5%	8.9%	0.1%
Gross	174.3%	47.8%	35.6%	25.8%	2.4%

	Developed North America	Developed Europe	Developed Asia	Emerging Markets	Hedges / Other
Val [®]	0.23%	0.05%	-0.02%	0.03%	0.02%
QTD [®]	0.96%	0.53%	0.38%	0.72%	-0.18%

Attribution

Sector exposure and contribution 2014/15

	Consumer Discretionary	Consumer Staples	Energy	Financials	Healthcare	Industrials	Technology	Materials	Real Estate	Telecom	Utilities	Hedges / Other
Net	1.4%	0.8%	0.9%	9.5%	4.0%	4.9%	4.1%	7.8%	0.1%	-0.5%	3.1%	0.2%
Gross	53.6%	18.2%	15.1%	44.1%	31.2%	32.5%	39.9%	17.2%	23.7%	0.2%	2.6%	4.7%

	Consumer Discretionary	Consumer Staples	Energy	Financials	Healthcare	Industrials	Technology	Materials	Real Estate	Telecom	Utilities	Hedges / Other
Val [®]	0.03%	0.03%	0.01%	0.03%	0.06%	0.04%	0.06%	0.03%	0.02%	0.01%	0.00%	0.01%
QTD [®]	0.81%	0.00%	0.27%	0.93%	0.24%	0.54%	0.01%	0.41%	0.25%	0.12%	0.02%	-1.22%

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

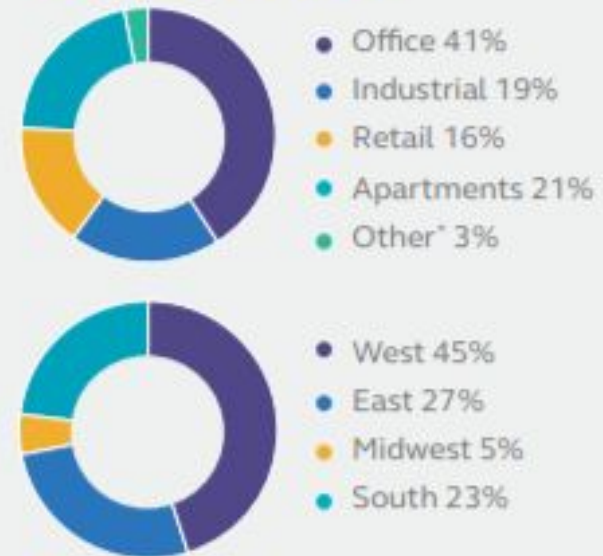


PRINCIPAL U.S. PROPERTY

4Q2017 key statistics

Inception date	January, 1982
Gross asset value	\$9.63 billion
Net asset value	\$7.18 billion
Number of investments	142
Number of markets	44
Core portfolio occupancy*	93%
Cash to gross assets	2.3%
Leverage ratio**	22.4%

Diversification



*Consists of hotel (2%) and land (1%) exposure.

Photo above: 601 New Jersey, Washington, D.C.



Source: Principal

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:

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

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.





AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Performance Review – Operating Fund

2. **INITIATED BY:** Kelly Martin, Chair

3. **BOARD INFORMATION:** X

BOARD ACTION:

4. **OUTCOME:**

Primary Outcomes:

Enhance fiscal positioning

BOARD POLICY:

Section 709 - Investments

5. **BACKGROUND:**

Enclosed for your information is the executive summary performance report for the Operating Fund portfolio for the quarter ended December 31, 2017.

Kelly Regan and Jay Roney of NEPC will provide a brief review at the March 8, 2018 Investment Committee meeting.

2/26/2018

FOURTH QUARTER 2017 INVESTMENT REVIEW

UNIVERSITY OF MAINE SYSTEM OPERATING FUND

March 8, 2018

Jay E. Roney, Partner

Kelly Regan, Senior Consultant



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

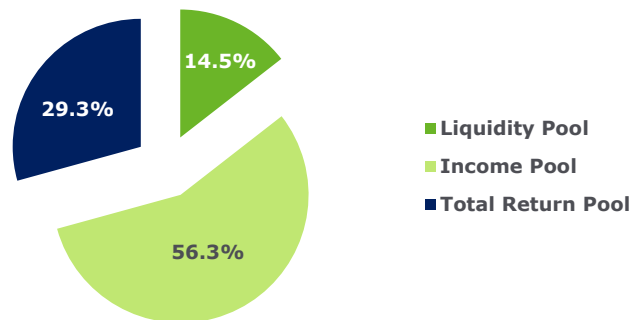
EXECUTIVE SUMMARY

NEPC, LLC

EXECUTIVE SUMMARY

ASSET ALLOCATION

Plan Assets: \$271.3 Million



FUND PERFORMANCE: NET OF FEES

	QTR (%)	FYTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	7 YR (%)	10 YR (%)
COMPOSITE	1.0	2.0	4.4	2.3	2.1	2.4	2.4
ALLOC. INDEX	1.1	2.3	4.7	2.6	2.5	2.5	--

PLAN COMMENTS

Asset Allocation

The Fund's assets as of December 31, 2017 were \$271.3 million. This represents a \$25.3 million increase from the previous quarter.

The Liquidity Pool (14.5% v 25.0%), Income Pool (56.3% v 50.0%) and Total Return Pool (29.3% v 25.0%) are all within allowable 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 1.0% during the 4th quarter and 4.4% for the one year period.

The rate of return assumption for the portfolio in 2017 was 4.0% and the Operating Fund exceeded this calendar year-to-date. It is important to note that there will be volatility around these expected returns each year.

RECENT ACTIONS/RECOMMENDATIONS

Recent Actions

The System implemented a portfolio rebalance in September to bring asset allocation in-line with policy targets.

Recommendations

NEPC has provided information surrounding asset allocation under separate cover.

Investment Manager Updates

Newton and Vanguard had announcements during the 4th quarter; no action is recommended.



INVESTMENT MANAGER UPDATES

5.1

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
Vanguard <i>Vanguard Total World Stock Index</i>	Yes	No Action
Newton Investment Management <i>Newton Global Real Return USD</i>	Yes	No Action



TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Operating Funds Composite	271,320,272	100.0	100.0	1.0	2.0	4.4	4.0	2.3	2.1	2.4	2.4
<i>Allocation Index</i>				1.1	2.3	4.7	3.8	2.6	2.5	2.5	--
Liquidity Pool Composite	39,289,864	14.5	25.0	0.2	0.5	0.9	0.6	0.5	0.4	0.3	0.6
State Pool	19,094,610	7.0		0.3	0.6	1.0	0.8	0.6	0.5	0.4	0.7
BOA General Fund	4,157,744	1.5		0.0	0.0	0.0	0.0	0.0	0.0	--	--
Federated Gov't Obligations	585,841	0.2		0.2	0.5	0.7	--	--	--	--	--
JP Morgan US Gov't Money Market Fund	15,451,669	5.7		0.1	0.4	0.7	--	--	--	--	--
<i>Citi 3mth Treasury Bill</i>				0.3	0.5	0.8	0.6	0.4	0.2	0.2	0.3
Income Pool Composite	152,660,085	56.3	50.0	0.3	0.9	2.2	2.8	2.1	1.8	2.3	2.9
Income Research + Management	81,183,721	29.9	26.7	-0.2	0.1	0.9	1.2	1.1	0.9	--	--
<i>BBgBarc US Govt/Credit 1-3 Yr. TR</i>				-0.2	0.1	0.8	1.1	0.9	0.8	1.0	1.9
BlackRock Strategic Income Opportunities	20,427,669	7.5	6.7	0.9	2.4	4.9	4.2	--	--	--	--
<i>3-Month Libor Total Return USD</i>				0.4	0.7	1.3	1.0	0.8	0.6	0.5	0.8
Loomis Sayles Bank Loans	20,396,760	7.5	6.7	0.9	1.8	3.1	5.3	3.8	3.3	3.9	3.8
<i>Loomis Bank Loans Custom Index</i>				1.1	2.1	3.4	5.4	4.3	4.1	4.5	4.9
Vanguard Total Bond Market Instl' Fund	14,958,229	5.5	5.0	0.4	1.1	3.6	3.1	2.2	2.0	3.1	--
<i>BBgBarc US Aggregate TR</i>				0.4	1.2	3.5	3.1	2.2	2.1	3.2	4.0
Vanguard Inflation-Protected Securities	15,693,706	5.8	5.0	1.2	2.0	--	--	--	--	--	--
<i>BBgBarc US TIPS TR</i>				1.3	2.1	3.0	3.8	2.0	0.1	2.9	3.5
Total Return Pool Composite	79,370,323	29.3	25.0	3.2	5.9	12.9	10.1	5.3	5.1	5.2	4.6
Lighthouse	14,100,668	5.2	5.0	2.9	4.9	7.3	3.7	--	--	--	--
<i>Credit Suisse Long Shrt Eqt USD</i>				3.3	6.4	13.4	4.7	4.3	7.1	5.1	4.0
Newton Global Real Return	20,029,513	7.4	6.3	0.7	0.6	4.3	--	--	--	--	--
<i>60% MSCI ACWI (Net)/ 40% BBgBarc Global Agg</i>				3.9	7.8	17.1	11.2	6.5	6.8	6.1	4.3
PIMCO All Asset	20,546,994	7.6	6.3	3.1	6.5	14.0	13.7	5.6	3.7	5.1	5.3
<i>Blended Index</i>				1.0	2.4	5.6	5.9	3.9	3.3	4.6	4.9
Vanguard Total World Stock Index	24,693,148	9.1	7.5	5.6	11.2	24.2	16.2	9.9	--	--	--
<i>FTSE Global All Cap Index</i>				5.9	11.5	24.2	16.3	9.9	11.4	8.8	4.3

5.1



TOTAL PLAN PERFORMANCE DETAIL

Notes:

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.

5.1



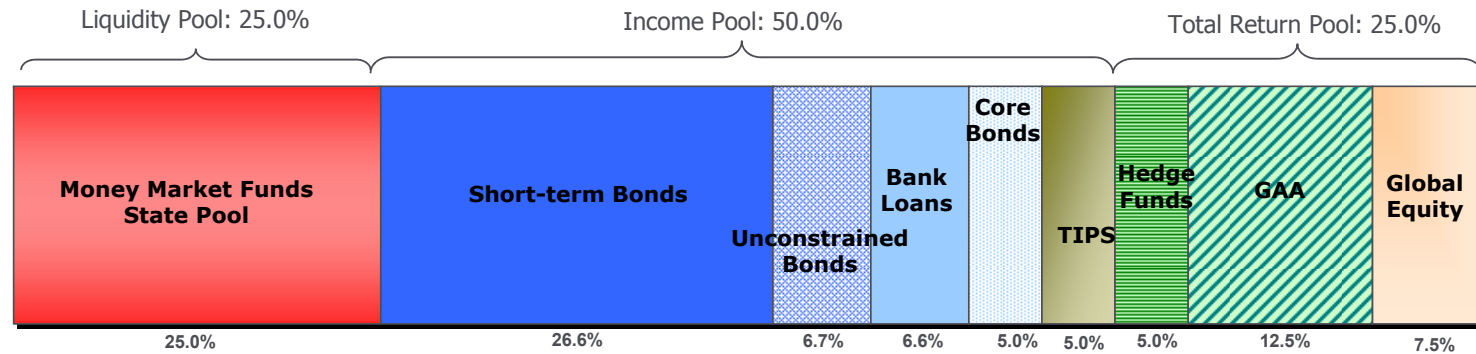
PLAN SUMMARY AND STATISTICS

NEPC, LLC

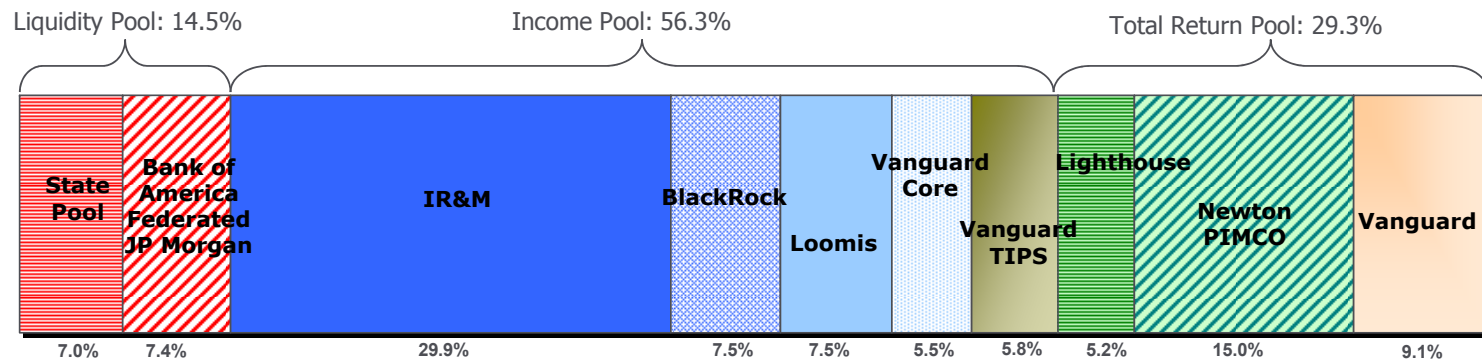
TOTAL FUND ASSET ALLOCATION

5.1

Target Asset Allocation



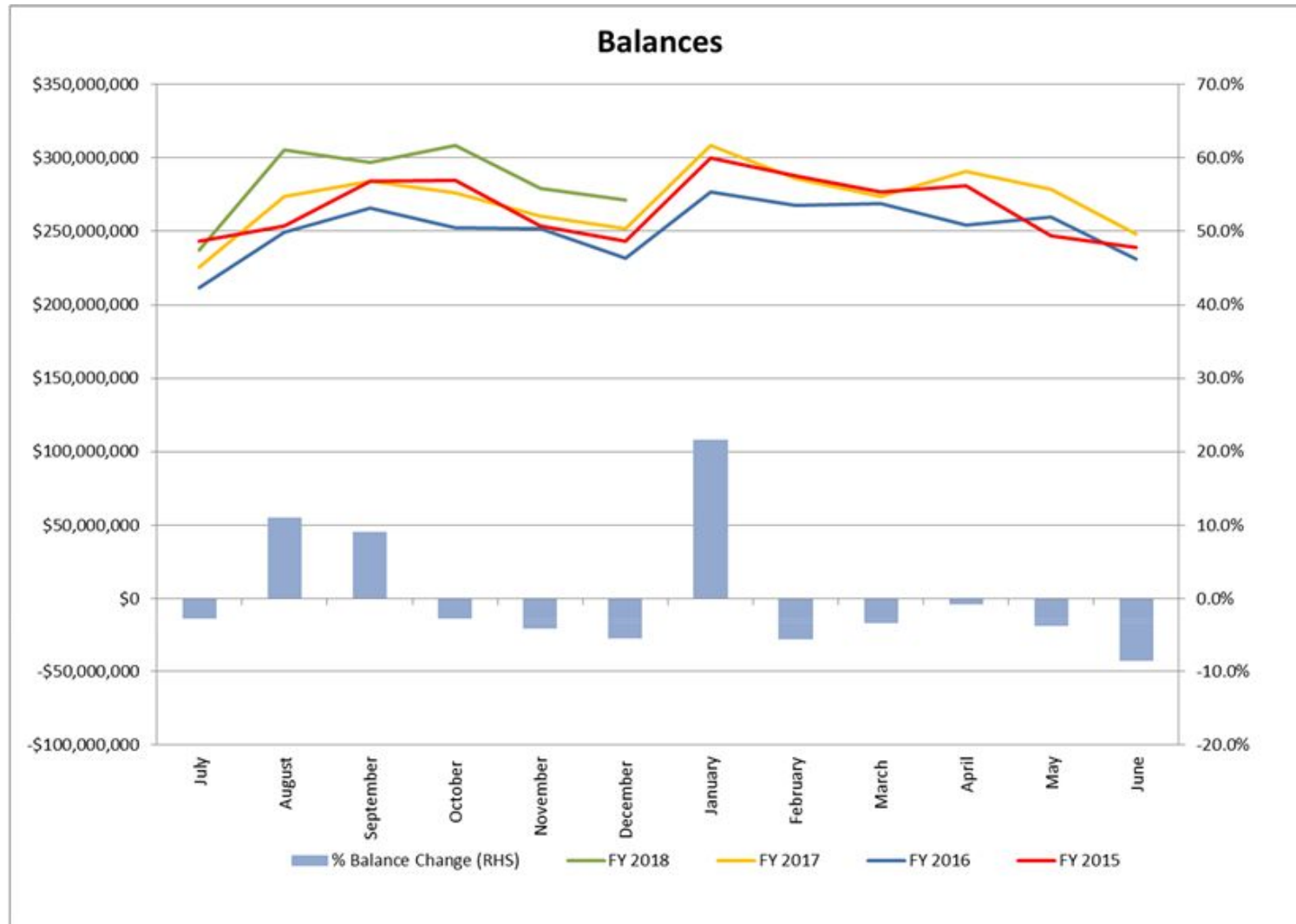
Actual Asset Allocation



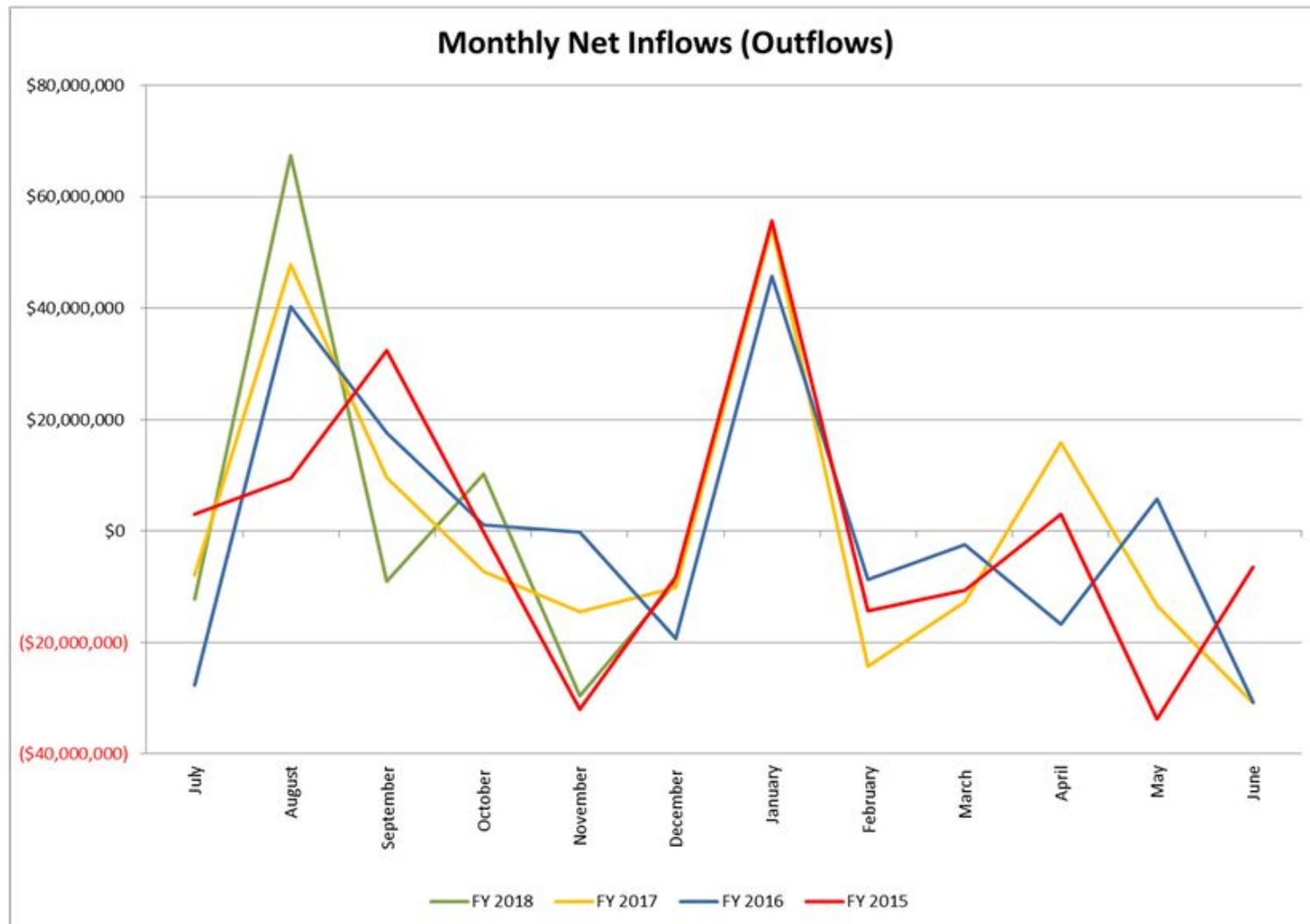
*May not add up to 100% due to rounding



BALANCES AND MONTHLY CHANGES



MONTHLY NET INFLOWS (OUTFLOWS)



5.1

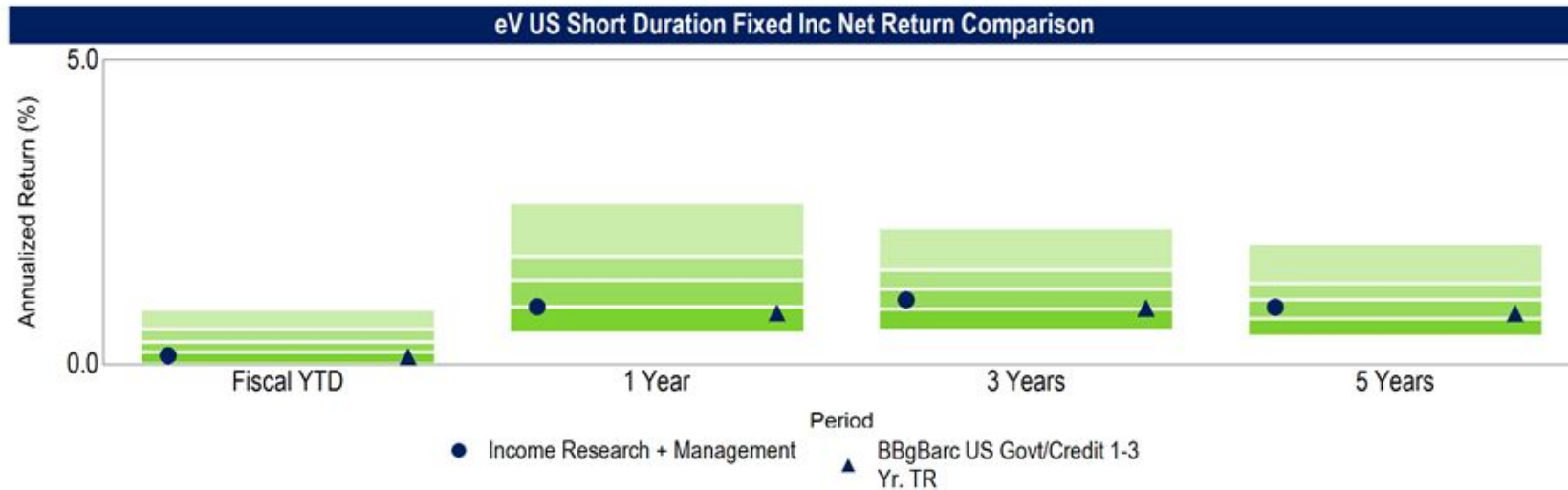
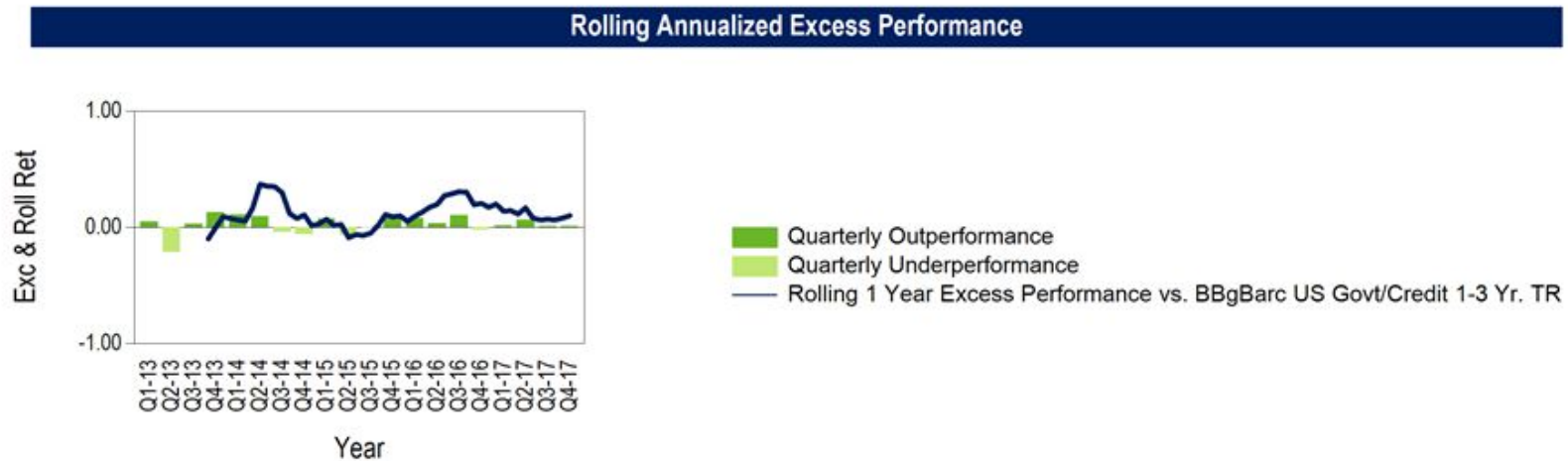


MANAGER ANALYSIS

NEPC, LLC

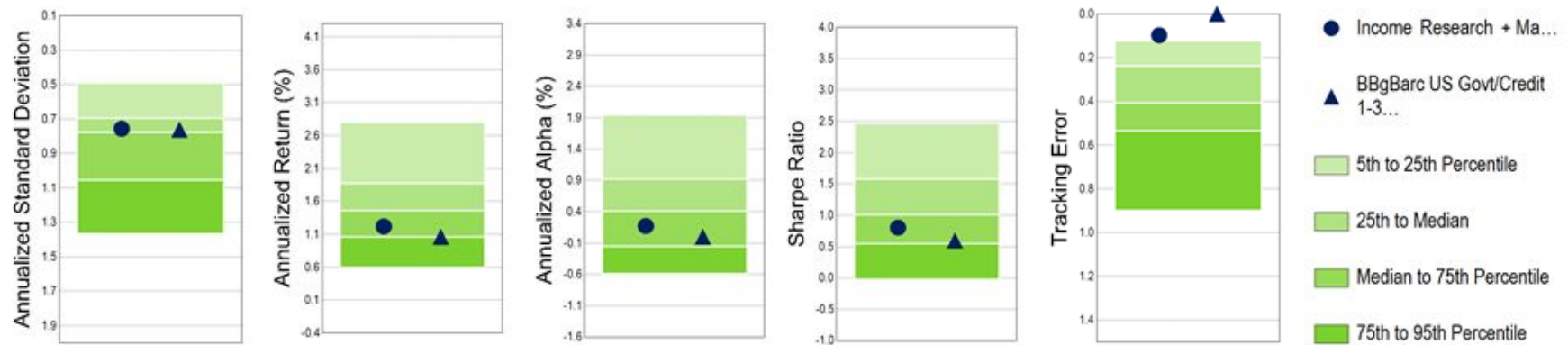
INCOME RESEARCH + MANAGEMENT

5.1

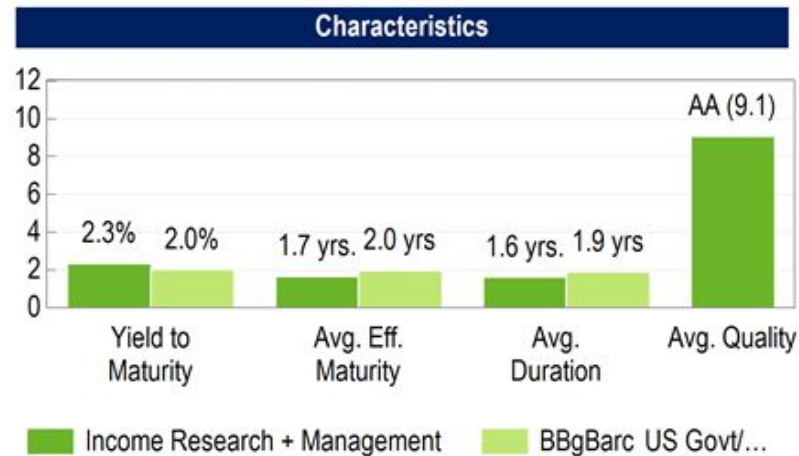


INCOME RESEARCH + MANAGEMENT

5.1



INCOME RESEARCH + MANAGEMENT

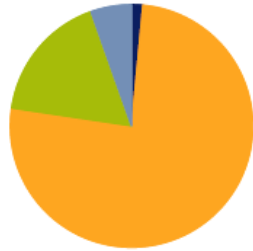


BLACKROCK STRATEGIC INCOME

5.1

Asset Allocation

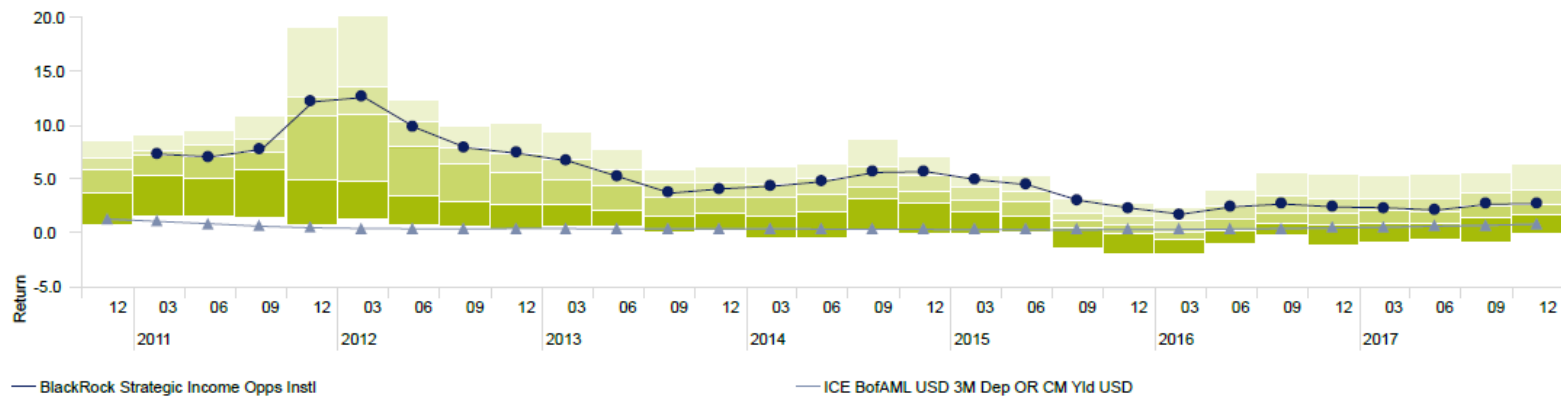
Portfolio Date: 11/30/2017



	%
Stock	1.5
Bond	75.9
Cash	17.2
Other	5.4
Total	100.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



Calendar Year Returns

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
BlackRock Strategic Income Opps Instl		25.2	13.4	-0.7	9.9	3.3	3.9	-0.3	3.6	4.9
ICE BofAML USD 3M Dep OR CM Yld USD	2.8	0.7	0.3	0.3	0.4	0.3	0.2	0.3	0.8	1.3



Source: Morningstar

LOOMIS SAYLES BANK LOANS

5.1

HOLDINGS BY INDUSTRY (%)

Healthcare	10.3
Technology	10.0
Consumer Cyclical Services	7.0
Retailers	5.0
Building Materials	4.9
Media Entertainment	4.3
Pharmaceuticals	3.5
Financial Other	3.5
Industrials - Other	3.4
P&C	3.4
Cable Satellite	3.2
Chemicals	3.1
Electric	2.7
Automotive	2.6
Food & Beverage	2.6
Restaurants	2.4

Environmental	2.0
Gaming	1.9
Packaging	1.8
Consumer Products	1.5
Wireless	1.4
Leisure	1.3
Wirelines	1.2
Transportation Services	1.1
Metals and mining	0.9
Midstream	0.8
Internet & Data	0.8
Lodging	0.8
Diversified Manufacturing	0.7
Health Insurance	0.7
Supermarkets	0.6
Oil Field Services	0.6

Aerospace/Defense	0.6
Other Utility	0.5
Home Construction	0.5
Airlines	0.5
Construction Machinery	0.3
Brokerage	0.3
Entertainment	0.3
Conglomerates	0.2
Independent	0.2
Banking	0.2
Cash & Equivalents	6.2

CREDIT QUALITY (%)

	Portfolio	S&P/LSTA Leveraged Loan Index
AA	0.0	0.0
A	0.0	0.0
BBB	5.0	10.6
BB	44.8	31.5
B	42.4	48.3
CCC & Lower	1.2	6.2
Not Rated	0.3	3.4
Cash & Equivalents	6.2	0.0
Second Lien	0.0	3.7
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	82.5
Financial	8.1
Utility	3.3
Cash & Equivalents	6.2

COUNTRY DISTRIBUTION (%)

	Portfolio
United States	92.4
Canada	4.2
Other	3.4

TOP FIVE HOLDINGS (%)

	Portfolio
Burger King Corporation	1.1
Energy Transfer Equity, L.P.	0.8
Change Healthcare Holdings, Inc.	0.8
Hub International Limited	0.7
Sedgwick Claims Management Services, Inc.	0.7



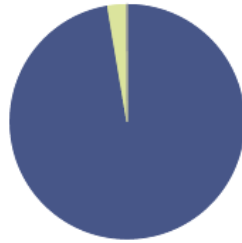
Source: Loomis Sayles

VANGUARD TOTAL BOND MARKET I

5.1

Asset Allocation

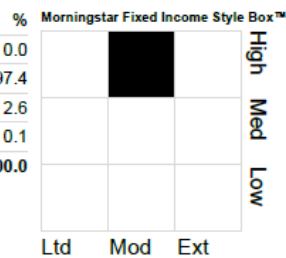
Portfolio Date: 11/30/2017



• Stock	0.0
• Bond	97.4
• Cash	2.6
• Other	0.1
Total	100.0

Fixed Income Statistics

Portfolio Date: 11/30/2017



Fixed-Income Stats

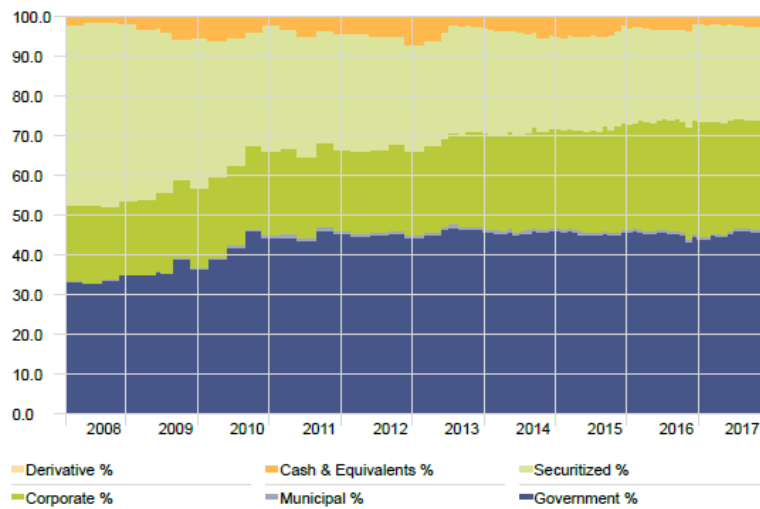
Average Eff Duration	6.1
Average Eff Maturity	8.4
Average Coupon	3.1
Average Price	103.3
Average Credit Quality	AA

Credit Quality Breakdown

Portfolio Date: 11/30/2017

	Fund	Index
AAA %	69.1	
AA %	3.92	
A %	11.76	
BBB %	15.23	
BB %	0.00	
B %	0.00	
Below B %	0.01	
Not Rated %	0.00	
Yield to Maturity	2.77	

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
US Treasury Note 2.125%	BOND - GOV'T/TREASURY	0.49
US Treasury Note 2%	BOND - GOV'T/TREASURY	0.46
US Treasury Note 2.625%	BOND - GOV'T/TREASURY	0.44
Ginnie Mae Jumbos TBA 3.5%	BOND - GOV'T AGENCY PASS-THRU	0.44
US Treasury Note 1.375%	BOND - GOV'T/TREASURY	0.43
US Treasury Note 1.75%	BOND - GOV'T/TREASURY	0.42
US Treasury Note 1.625%	BOND - GOV'T/TREASURY	0.40
US Treasury Note 3.625%	BOND - GOV'T/TREASURY	0.40
US Treasury Note 1.75%	BOND - GOV'T/TREASURY	0.39
US Treasury Note 1%	BOND - GOV'T/TREASURY	0.38



Source: Morningstar

VANGUARD TOTAL BOND MARKET I

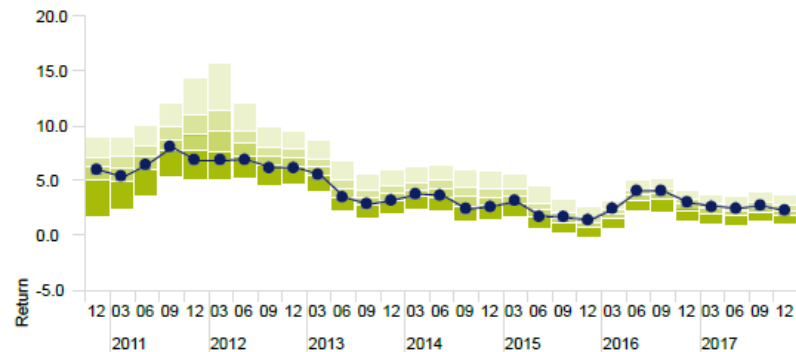
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	99.8	100.0
Alpha	-0.1	0.0
Beta	1.0	1.0
Std Dev	3.2	3.1
Up Capture Ratio	100.6	100.0
Down Capture Ratio	105.3	100.0
Sharpe Ratio (geo)	0.5	0.6
Information Ratio (geo)	-0.4	
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

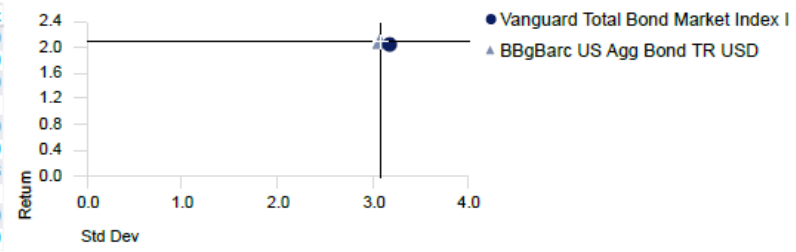
— BBgBarc US Agg Bond TR USD

Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Vanguard Total Bond Market Index I	5.2	9	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
BBgBarc US Agg Bond TR USD	5.2		5.9		6.5		7.8		4.2		-2.0		6.0		0.5		2.6		3.5	

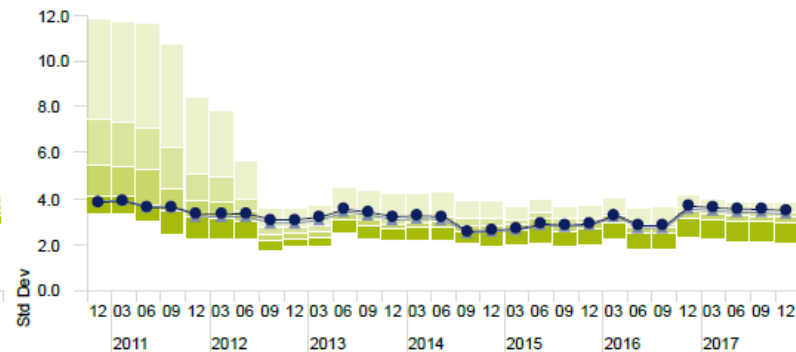
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



— Vanguard Total Bond Market Index I

— BBgBarc US Agg Bond TR USD

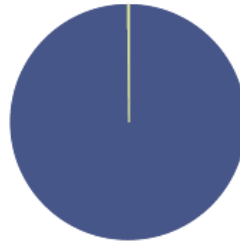


Source: Morningstar

VANGUARD INFLATION PROTECTED SECURITIES

Asset Allocation

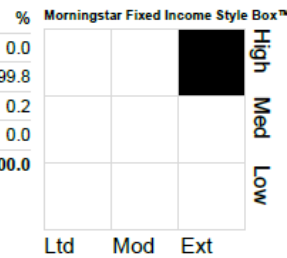
Portfolio Date: 9/30/2017



• Stock	0.0
• Bond	99.8
• Cash	0.2
• Other	0.0
Total	100.0

Fixed Income Statistics

Portfolio Date: 9/30/2017



Fixed-Income Stats

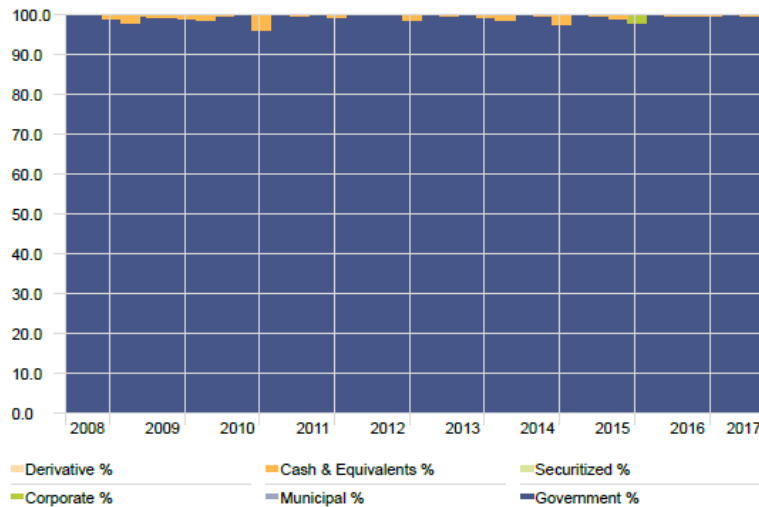
Average Eff Duration	8.0	AAA %
Average Eff Maturity	8.5	AA %
Average Coupon	0.8	A %
Average Price	114.1	BBB %
Average Credit Quality	AAA	BB %
		B %
		Below B %
		Not Rated %
		Yield to Maturity

Credit Quality Breakdown

Portfolio Date: 9/30/2017

	Fund	Index
100.0	100.0	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	

Historical Sector Allocations (10 Years)



Top Holdings

	Detail Holding Type	Portfolio Weighting %
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.59
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.29
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.26
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	4.03
US Treasury TIP	BOND - GOV'T INFLATION PROTECTED	3.90
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.89
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.87
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.81
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.79
US Treasury Note	BOND - GOV'T INFLATION PROTECTED	3.75



Source: Morningstar

VANGUARD INFLATION PROTECTED SECURITIES

5.1

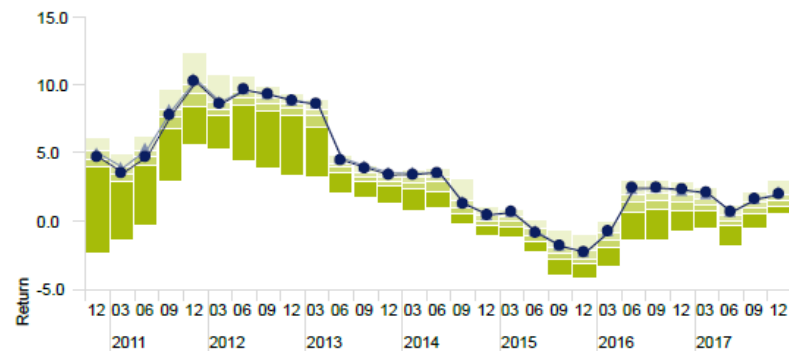
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	99.6	100.0
Alpha	0.0	0.0
Beta	1.0	1.0
Std Dev	5.1	4.9
Up Capture Ratio	101.9	100.0
Down Capture Ratio	102.9	100.0
Sharpe Ratio (geo)	0.0	0.0
Information Ratio (geo)	-0.1	0.0
Tracking Error	0.4	0.0
Correlation	1.0	1.0

Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—Vanguard Inflation-Protected Secs I

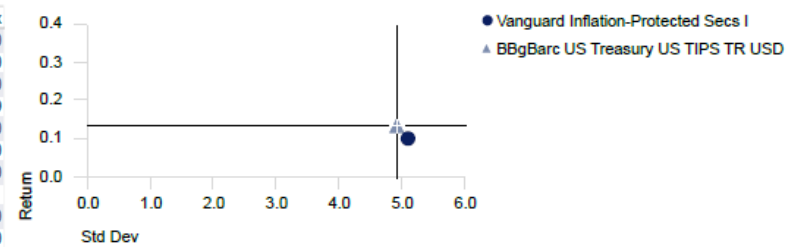
—BBgBarc US Treasury US TIPS TR USD

Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
Vanguard Inflation-Protected Secs I	-2.8	56	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
BBgBarc US Treasury US TIPS TR USD	-2.4		11.4		6.3		13.6		7.0		-8.6		3.6		-1.4		4.7		3.0	

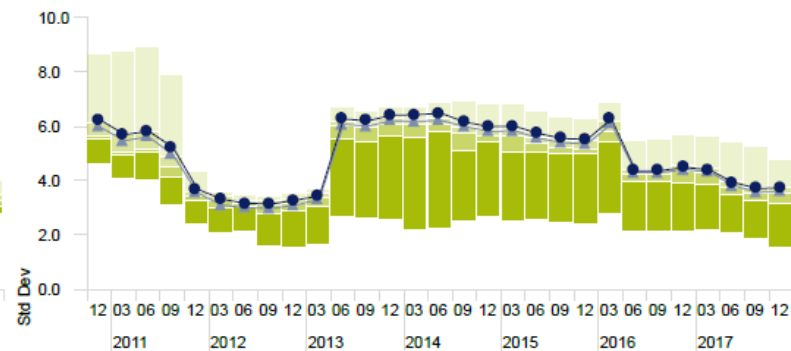
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



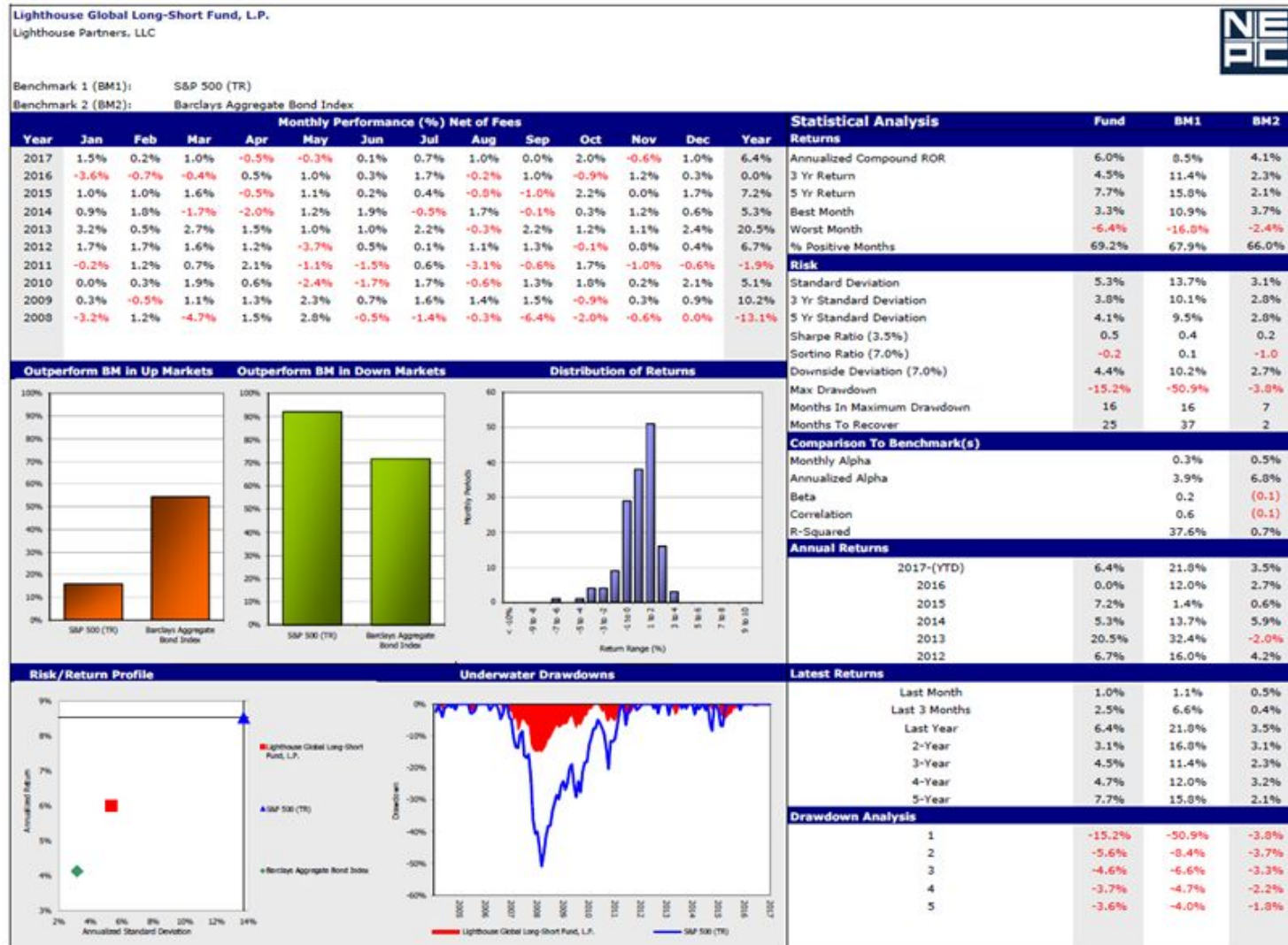
—Vanguard Inflation-Protected Secs I

—BBgBarc US Treasury US TIPS TR USD



Source: Morningstar

LIGHTHOUSE GLOBAL LONG/SHORT



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	\$10.4 billion	Strategy	Fund of Fund
Strategy AUM	\$1.8 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
<p>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).</p> <p>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.</p>

Strategy Information

Current Allocation

Region exposures and contribution 地区贡献

Region	Net	Gross
Developed North America	17.6%	174.3%
Developed Europe	10.0%	47.8%
Developed Asia	-2.5%	35.6%
Emerging Markets	8.9%	25.8%
Hedges / Other	0.1%	2.4%

	Developed North America	Developed Europe	Developed Asia	Emerging Markets	Hedges / Other
Val [®]	0.23%	0.06%	-0.02%	0.03%	0.02%
QTD [®]	0.96%	0.53%	0.38%	0.72%	-0.18%

Attribution

Sector exposure and contribution 行业贡献

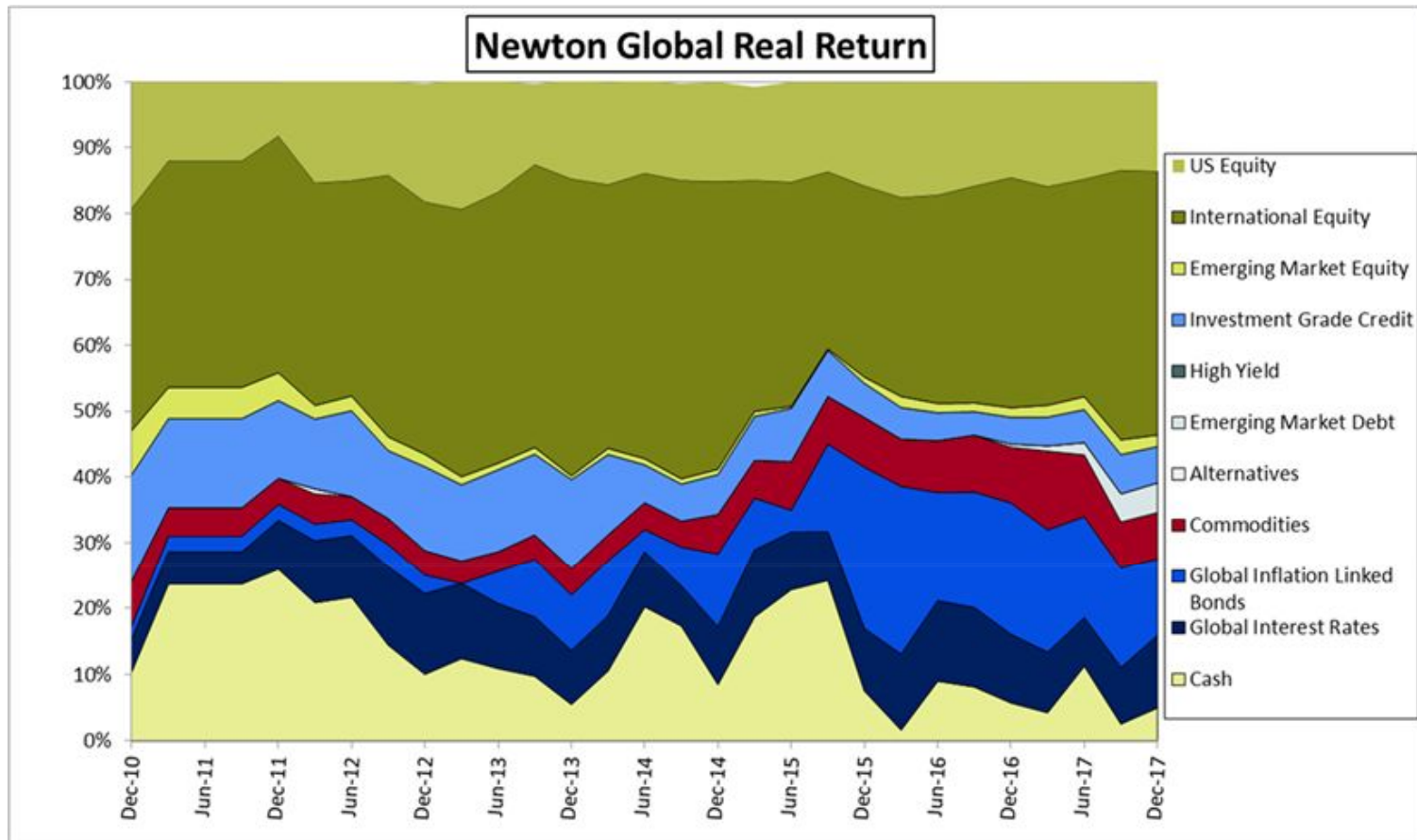
Sector	Net	Gross
Consumer Discretionary	1.4%	53.6%
Consumer Staples	0.8%	18.2%
Energy	0.9%	15.1%
Financials	9.5%	44.1%
Healthcare	4.0%	31.2%
Industrials	4.9%	32.5%
Technology	4.1%	39.9%
Materials	7.8%	17.2%
Real Estate	0.1%	23.7%
Telecom	-0.5%	3.1%
Utilities	0.2%	2.6%
Hedges / Other	0.9%	4.7%

	Consumer Discretionary	Consumer Staples	Energy	Financials	Healthcare	Industrials	Technology	Materials	Real Estate	Telecom	Utilities	Hedges / Other
Val [®]	0.03%	0.03%	0.01%	0.03%	0.06%	0.04%	0.06%	0.03%	0.02%	0.01%	0.00%	0.01%
QTD [®]	0.81%	0.00%	0.27%	0.93%	0.24%	0.54%	0.01%	0.41%	0.25%	0.12%	0.02%	-1.22%

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



NEWTON GLOBAL REAL RETURN



5.1

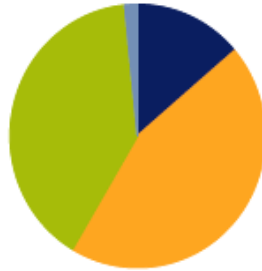


Source: Newton

PIMCO ALL ASSET

Asset Allocation

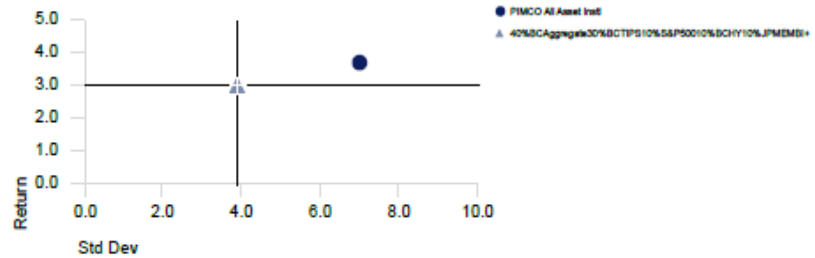
Portfolio Date: 9/30/2017



Stock	13.8
Bond	44.7
Cash	39.9
Other	1.6
Total	100.0

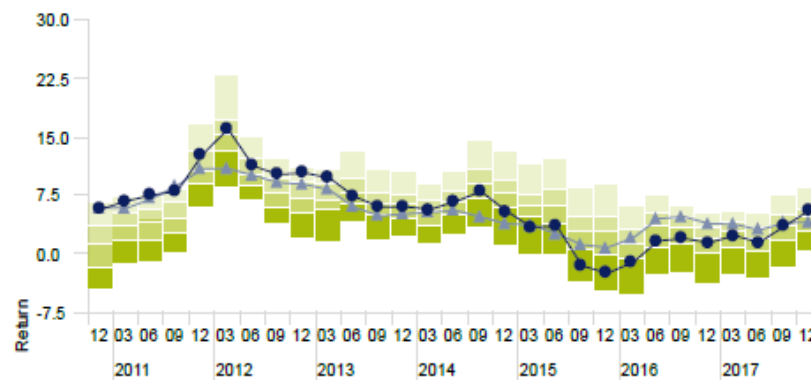
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

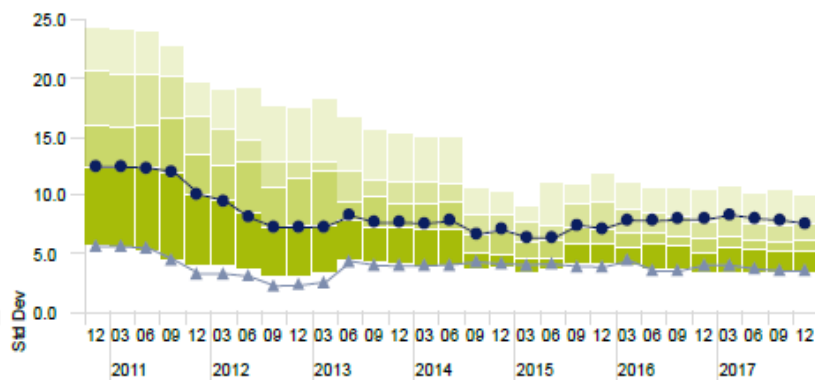


—PIMCO All Asset Inst

—40%BCAggregate30%BCTIPS10%SP50010%BCHY10%JPMEBI+

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



—PIMCO All Asset Inst

—40%BCAggregate30%BCTIPS10%SP50010%BCHY10%JPMEBI+

Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	Rank
PIMCO All Asset Inst	-15.5	3	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
40%BCAggregate30%BCTIPS10%SP50010%BCHY10%JPMEBI+	-5.0		15.1		8.5		9.3		8.9		-2.5		5.4		-0.4		6.6		6.1	



Source: Morningstar

PIMCO ALL ASSET

5.1

Fund Number	736															
Fund Name	All Asset Fund															
Total Fund Net Assets (\$US MM)	19,771.4															
	6/30/2014	9/30/2014	12/31/2014	3/31/2015	6/30/2015	9/30/2015	12/31/2015	3/31/2016	6/30/2016	9/30/2016	12/31/2016	3/31/2017	6/30/2017	9/30/2017	11/30/2017	12/31/2017
Third Pillar	78.71%	71.02%	74.17%	85.29%	85.76%	85.46%	81.91%	85.26%	81.04%	78.31%	74.27%	72.48%	70.05%	69.73%	70.02%	70.82%
Emerging Markets Equities	12.81%	13.05%	11.83%	13.66%	13.67%	13.09%	14.11%	20.24%	22.17%	20.70%	18.77%	18.42%	17.50%	17.09%	17.35%	17.76%
RAE Fundamental Emerging Markets Fund	-	-	-	-	-	-	-	2.98%	4.22%	4.71%	4.63%	3.99%	4.47%	5.11%	-	-
RAE Fundamental PLUS EMG Fund	5.99%	4.69%	4.12%	4.75%	4.73%	4.41%	4.65%	5.96%	6.11%	5.07%	3.39%	3.19%	3.70%	4.73%	-	-
RAE Low Volatility PLUS EMG Fund	6.80%	8.34%	7.70%	8.92%	8.94%	8.68%	9.46%	11.29%	11.83%	10.91%	10.74%	11.24%	9.33%	7.25%	-	-
EqS Emerging Markets Fund	0.02%	0.02%	0.02%	-	-	-	-	-	-	-	-	-	-	-	-	-
Commodities and REITs	8.76%	8.19%	9.89%	9.08%	6.36%	6.10%	5.52%	7.21%	5.53%	5.49%	5.29%	5.51%	5.29%	10.02%	10.29%	10.66%
CommoditiesPLUS™ Strategy Fund	3.03%	3.58%	3.06%	2.88%	2.19%	1.93%	1.68%	4.14%	3.12%	3.33%	3.47%	3.22%	4.05%	4.99%	-	-
CommodityRealReturn Strategy Fund®	1.66%	3.00%	3.97%	3.90%	2.18%	1.88%	1.62%	1.52%	0.89%	0.77%	0.53%	0.56%	1.05%	1.04%	-	-
RealEstateRealReturn Strategy Fund	4.06%	1.60%	2.86%	2.31%	1.99%	2.29%	2.23%	1.54%	1.53%	1.39%	1.26%	1.73%	3.19%	3.99%	-	-
Emerging Markets Bonds	19.86%	20.32%	18.83%	20.82%	22.45%	22.18%	20.83%	22.27%	17.67%	18.30%	19.97%	20.92%	20.85%	20.20%	20.02%	20.11%
Emerging Local Bond Fund	7.42%	9.50%	9.10%	9.00%	9.79%	9.42%	8.48%	9.50%	6.94%	7.33%	6.98%	7.09%	6.76%	6.55%	-	-
Emerging Markets Currency Fund	7.10%	8.33%	9.05%	11.50%	12.29%	12.33%	11.94%	12.77%	10.73%	10.97%	12.99%	13.83%	13.80%	13.65%	-	-
Emerging Markets Bond Fund	3.90%	1.92%	0.47%	0.24%	0.29%	0.32%	0.32%	-	-	-	-	-	-	-	-	-
Emerging Markets Corporate Bond Fund	1.43%	0.57%	0.20%	0.07%	0.07%	0.08%	0.09%	-	-	-	-	-	-	-	-	-
Credit	21.84%	11.58%	14.21%	14.96%	15.23%	15.08%	15.32%	16.65%	17.72%	18.22%	17.46%	15.40%	14.08%	12.74%	12.68%	12.40%
High Yield Fund	1.11%	0.43%	2.64%	2.85%	2.88%	3.11%	2.53%	3.72%	2.90%	2.56%	2.35%	1.87%	1.01%	0.60%	-	-
High Yield Spectrum Fund	3.69%	2.66%	2.90%	3.07%	3.20%	3.60%	3.84%	4.25%	4.67%	4.68%	4.64%	4.06%	2.50%	1.57%	-	-
Income Fund	10.28%	6.51%	6.21%	5.90%	6.01%	6.47%	6.34%	6.93%	7.51%	8.19%	7.63%	6.44%	6.62%	6.55%	-	-
Diversified Income Fund	3.21%	0.09%	0.10%	0.03%	0.21%	0.24%	0.24%	0.25%	0.57%	0.51%	0.49%	0.54%	0.15%	0.00%	-	-
Low Duration Income Fund	1.75%	0.28%	0.06%	0.29%	0.33%	0.37%	0.29%	-	-	-	-	-	-	-	-	-
Senior Floating Rate Fund	1.79%	1.60%	2.30%	2.82%	2.61%	2.28%	2.07%	1.50%	2.06%	2.28%	2.34%	2.49%	3.81%	4.02%	-	-
Convertible Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
European Convertible Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Bonds	1.21%	0.34%	0.35%	0.53%	1.07%	1.24%	1.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Foreign Bond Fund (Unhedged)	0.26%	0.29%	0.30%	0.30%	0.30%	0.31%	0.29%	-	-	-	-	-	-	-	-	-
Global Advantage Strategy Fund	0.95%	0.04%	0.05%	0.23%	0.76%	0.93%	0.88%	-	-	-	-	-	-	-	-	-
Global Bond Fund (Unhedged)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inflation Linked Bonds	0.90%	2.67%	2.73%	7.87%	7.88%	7.68%	7.90%	5.73%	3.21%	3.48%	3.85%	3.80%	3.97%	3.86%	3.74%	3.75%
Real Return Fund	0.29%	1.24%	1.38%	1.31%	1.29%	1.19%	0.81%	0.00%	0.18%	2.77%	3.19%	3.25%	3.53%	3.44%	-	-
Real Return Asset Fund	0.53%	1.34%	1.27%	6.49%	6.50%	6.40%	6.99%	5.61%	2.91%	0.59%	0.54%	0.43%	0.44%	0.42%	-	-
Global Advantage® Inflation-Linked Bond ETF	0.08%	0.08%	0.08%	0.08%	0.08%	0.09%	0.10%	0.12%	0.12%	0.12%	0.12%	0.12%	-	-	-	-
Alternative Strategies	13.34%	14.87%	16.33%	18.36%	19.09%	19.12%	17.05%	13.18%	14.74%	12.12%	8.98%	8.43%	5.65%	5.82%	5.95%	6.15%
Unconstrained Bond Fund	2.53%	2.18%	1.79%	2.75%	2.44%	2.32%	2.08%	1.80%	1.96%	-	-	-	-	-	-	-
Credit Absolute Return Fund	2.78%	1.10%	0.76%	0.52%	0.44%	0.39%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-	-
Mortgage Opportunities Fund	0.55%	0.57%	0.61%	0.65%	0.66%	0.75%	0.74%	0.79%	0.78%	0.73%	0.74%	0.72%	0.72%	0.71%	-	-
TRENDS Managed Futures Strategy Fund	0.16%	0.18%	0.19%	0.20%	0.20%	0.24%	0.26%	0.30%	0.29%	0.29%	0.30%	0.29%	0.28%	0.28%	-	-
EqS Long/Short Fund	0.47%	0.47%	0.49%	0.36%	0.25%	0.18%	-	-	-	-	-	-	-	-	-	-
RAE Worldwide Long/Short PLUS Fund	-	-	3.08%	6.53%	7.49%	7.93%	7.96%	6.42%	7.28%	6.90%	5.73%	5.03%	3.06%	2.96%	-	-
RAE Fundamental Advantage PLUS Fund	2.62%	4.90%	4.84%	3.93%	3.75%	3.25%	2.62%	1.69%	2.20%	2.02%	1.06%	1.29%	1.59%	1.87%	-	-
RAE Worldwide Fundamental Adv PLUS Fund	4.24%	5.47%	4.57%	3.42%	3.86%	4.07%	3.16%	2.16%	2.23%	2.18%	1.15%	1.10%	-	-	-	-



Source: PIMCO

PIMCO ALL ASSET

5.1

	6/30/2014	9/30/2014	12/31/2014	3/31/2015	6/30/2015	9/30/2015	12/31/2015	3/31/2016	6/30/2016	9/30/2016	12/31/2016	3/31/2017	6/30/2017	9/30/2017	11/30/2017	12/31/2017
Second Pillar	9.05%	15.65%	13.80%	4.95%	6.15%	6.81%	10.76%	4.87%	10.63%	12.82%	14.67%	16.12%	20.07%	21.03%	20.53%	19.88%
US Core Bonds	3.10%	4.39%	4.58%	2.91%	3.17%	3.78%	3.46%	3.88%	5.28%	7.31%	4.68%	5.80%	7.71%	8.58%	8.23%	7.21%
Total Return Fund	3.07%	2.37%	2.25%	1.04%	1.39%	1.65%	1.65%	1.22%	3.41%	4.47%	1.92%	2.56%	4.44%	5.70%		
Investment Grade Corporate Bond Fund	0.02%	2.02%	2.34%	1.87%	1.78%	2.12%	2.01%	2.66%	2.87%	2.85%	2.76%	3.24%	3.26%	2.66%		
Mortgage-Backed Securities Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
GNMA Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
US Long Maturity Bonds	4.62%	10.94%	7.70%	1.28%	1.52%	1.94%	2.31%	0.28%	2.55%	2.10%	5.30%	7.68%	8.63%	8.62%	8.61%	8.70%
Extended Duration Fund	-	-	-	-	-	-	-	-	0.42%	0.25%	1.51%	2.25%	2.91%	3.05%		
Long-Term US Government Fund	0.27%	5.79%	3.91%	0.00%	0.00%	0.00%	0.00%	0.00%	1.18%	1.06%	2.41%	4.18%	4.42%	4.28%		
Long Term Credit Fund	4.20%	3.35%	1.93%	0.50%	0.57%	0.77%	0.88%	0.27%	0.27%	0.17%	0.17%	0.12%	-	-		
Long Duration Total Return Fund	0.35%	1.80%	1.86%	0.77%	0.95%	1.16%	1.42%	0.00%	0.68%	0.62%	1.20%	1.14%	1.30%	1.29%		
Short-Term Bonds	1.13%	0.32%	1.52%	0.77%	1.46%	1.09%	4.81%	0.71%	1.80%	3.40%	4.69%	2.63%	3.73%	4.06%	3.69%	3.97%
Low Duration Fund	0.94%	0.26%	0.53%	0.24%	0.87%	0.41%	1.54%	0.19%	1.26%	2.38%	2.44%	2.26%	3.37%	3.72%		
Low Duration Exchange Traded Fund	0.20%	0.21%	0.22%	0.23%	0.24%	0.29%	0.19%	-	-	-	-	-	-	-		
Short Term Fund	0.00%	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-	-		
Government Money Market Fund	-	-	0.80%	0.33%	0.35%	0.42%	-	0.54%	0.54%	1.02%	2.26%	0.38%	0.37%	0.33%		
Money Market Fund	-	-	-	-	-	-	3.13%	-	-	-	-	-	-	-		
Net Short Duration Instruments	-0.01%	-0.16%	-0.02%	-0.03%	-0.01%	-0.02%	-0.04%	-0.01%	0.00%	0.00%	-0.01%	0.00%	-0.01%	0.00%		
First Pillar	12.24%	13.34%	12.03%	9.76%	8.10%	7.73%	7.32%	8.87%	8.33%	8.87%	11.06%	11.40%	9.88%	9.24%	9.44%	9.30%
US Equities	1.12%	2.41%	4.03%	2.78%	2.38%	2.17%	1.63%	0.61%	0.65%	0.23%	0.25%	0.25%	0.26%	0.26%	0.27%	0.27%
RAE Fundamental PLUS Fund	0.03%	0.03%	0.55%	0.20%	0.21%	0.22%	-	-	-	-	-	-	-	-	-	-
RAE Low Volatility PLUS Fund	0.41%	1.72%	2.70%	1.93%	1.74%	1.65%	1.21%	0.51%	0.55%	0.23%	0.25%	0.25%	0.25%	0.26%		
RAE Fundamental PLUS Small Fund	0.65%	0.63%	0.74%	0.64%	0.43%	0.30%	0.32%	-	-	-	-	-	-	-		
StocksPLUS® Small Fund	0.02%	0.02%	0.02%	-	-	-	-	-	-	-	-	-	-	-		
Fundamental IndexPLUS™	-	-	0.00%	-	-	-	-	-	-	-	-	-	-	-		
StocksPLUS® Fund	0.00%	0.00%	0.00%	-	-	-	-	-	-	-	-	-	-	-		
StocksPLUS® Absolute Return Fund	0.01%	0.01%	0.01%	-	-	-	-	-	-	-	-	-	-	-		
Developed ex-US Equities	11.12%	10.93%	8.00%	6.97%	5.73%	5.66%	5.79%	9.36%	7.78%	8.65%	10.81%	11.16%	9.62%	8.98%	9.17%	9.03%
RAE Fundamental PLUS Intl Fund	3.16%	3.07%	3.01%	1.71%	1.60%	1.47%	1.51%	1.61%	1.56%	1.89%	2.51%	2.88%	3.45%	3.52%		
RAE Low Volatility PLUS Intl Fund	5.73%	5.65%	3.79%	4.22%	4.13%	4.08%	4.24%	4.72%	3.35%	3.97%	5.31%	4.95%	2.50%	1.73%		
StocksPLUS® International Fund (USD-Hedged)	0.01%	0.01%	0.01%	-	-	-	0.05%	2.76%	2.58%	2.64%	2.83%	2.93%	2.94%	2.98%		
StocksPLUS® International Fund (Unhedged)	0.02%	0.02%	0.02%	-	-	-	-	0.27%	0.29%	0.16%	0.16%	0.40%	0.73%	0.76%		
EqS Global Dividend Fund	0.01%	0.01%	0.01%	-	-	-	-	-	-	-	-	-	-	-		
EqS Pathfinder Fund	2.19%	2.18%	1.16%	1.04%	-	-	-	-	-	-	-	-	-	-		

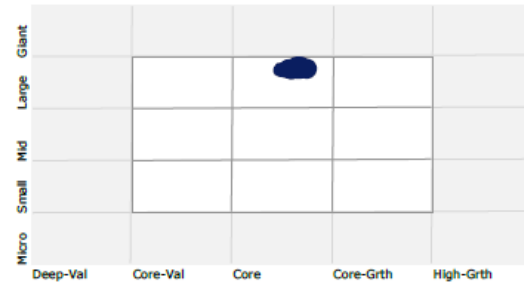


Source: PIMCO

VANGUARD TOTAL WORLD STOCK INDEX I

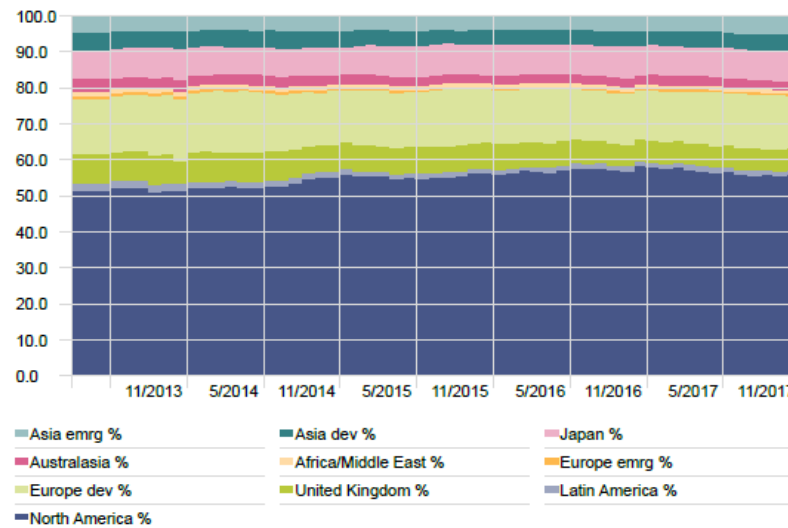
Holdings Based Style Trail (5 Years)

Time Period: 3/31/2013 to 11/30/2017



● Vanguard Total World Stock Index I
 ■ FTSE Global All Cap TR USD

Historical Country Allocations (5 Years)



Portfolio Statistics

	Fund	Index
# of Holdings	7,889	7,788
% Asset in Top 10 Holdings	8.5	8.5
Turnover Ratio %	10.0	
P/E Ratio	19.4	19.3
P/B Ratio	2.2	2.2
LT Earn Growth	10.4	10.3
Hist Earn Growth	2.1	1.8
12 Mo Yield	2.1	

Market Capitalization Breakdown

Portfolio Date: 11/30/2017

	Fund	Index
Market Cap Giant %	45.5	
Market Cap Large %	30.7	
Market Cap Mid %	18.1	
Market Cap Small %	5.0	
Market Cap Micro %	0.7	
Average Market Cap	37,927.8	
Equity Region Developed %	92.3	
Equity Region Emerging %	7.7	

Attribution (Quarter)

	Portfolio Weights	Benchmark Weights	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Active Return
Consumer Discretionary	11.79	0.00	7.91		0.25	0.00	0.25
Consumer Staples	8.01	0.00	6.11		0.02	0.00	0.02
Energy	5.82	0.00	6.91		0.06	0.00	0.06
Financials	17.03	0.00	5.97		0.01	0.00	0.01
Health Care	10.53	0.00	2.15		-0.42	0.00	-0.42
Industrials	11.48	0.00	5.42		-0.06	0.00	-0.06
Information Technology	16.73	0.00	8.18		0.39	0.00	0.39
Materials	5.60	0.00	7.42		0.09	0.00	0.09
Real Estate	3.75	0.00	4.00		-0.07	0.00	-0.07
Telecommunication Services	2.71	0.00	2.49		-0.10	0.00	-0.10
Utilities	3.04	0.00	0.47		-0.17	0.00	-0.17
Unclassified	0.05	0.00	8.23		0.00	0.00	0.00
Attribution Total	96.54	0.00	5.89		0.00	0.00	0.00
Cash	1.33	0.00					
Bond	0.06	0.00					
Other	0.36	0.00					
Missing Performance	1.72	0.00					
Total	100.00	0.00					
Reported Total			5.63	5.91			
Expense Ratio			0.02	0.00			
Residual(Reported - Attribution + Expense)			-0.24				



Source: Morningstar

VANGUARD TOTAL WORLD STOCK INDEX I

5.1

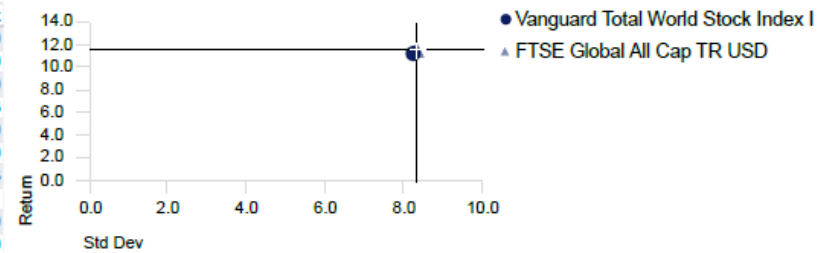
Risk & Return Characteristics (5 Years)

Time Period: 1/1/2013 to 12/31/2017

	Fund	Index
R2	99.8	100.0
Alpha	-0.2	0.0
Beta	1.0	1.0
Std Dev	8.2	8.3
Up Capture Ratio	97.6	100.0
Down Capture Ratio	101.0	100.0
Sharpe Ratio (geo)	1.3	1.3
Information Ratio (geo)	-0.9	
Tracking Error	0.4	0.0
Correlation	1.0	1.0

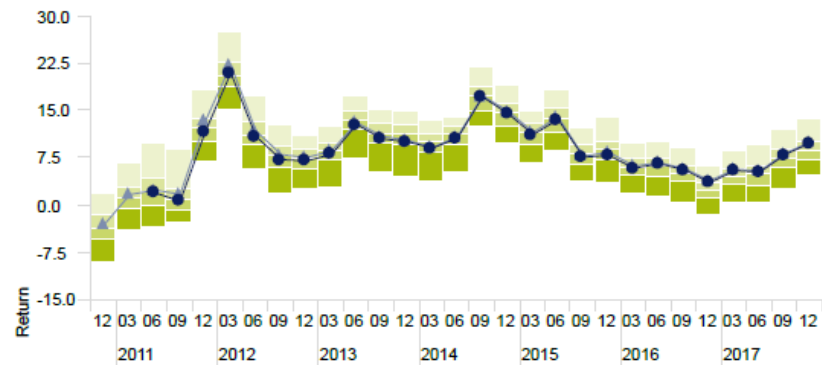
Risk & Return Illustration (5 Years)

Time Period: 1/1/2013 to 12/31/2017



Rolling Returns (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

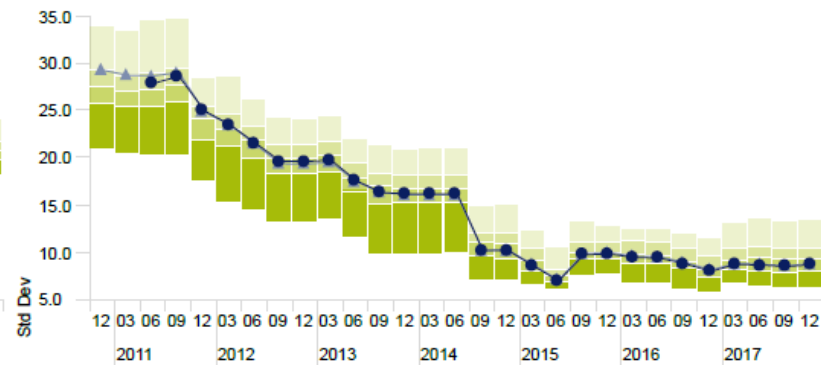


— Vanguard Total World Stock Index I

— FTSE Global All Cap TR USD

Rolling Risk (3 Years)

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile



— Vanguard Total World Stock Index I

— FTSE Global All Cap TR USD

Calendar Year Returns

	2008	Rank	2009	Rank	2010	Rank	2011	Rank	2012	Rank	2013	Rank	2014	Rank	2015	Rank	2016	Rank	2017	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
FTSE Global All Cap TR USD	-42.2		37.5		14.8		-7.6		17.2		23.9		4.5		-1.7		9.0		24.4	



Source: Morningstar

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:

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

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.





AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Asset Allocation Review

2. **INITIATED BY:** Kelly Martin, Chair

3. **BOARD INFORMATION:**

BOARD ACTION: X

4. **OUTCOME:**

Primary Outcome:

Enhance fiscal positioning

BOARD POLICY:

Section 709 - Investments

5. **BACKGROUND:**

Kelly Regan and Jay Roney, with NEPC, will review their total enterprise management approach and discuss asset allocation options. There is one recommendation for the Defined Benefit Pension Fund as outlined below in the proposed resolution.

6. **TEXT OF PROPOSED RESOLUTION:**

That the Board of Trustees, acting through the Investment Committee, approves the following asset allocation recommendations for Pension Fund:

- Reduce the hedge fund allocation by 2.5% (\$750,000) to improve the Fund's liquidity profile and
- Allocate the fund's 2.5% (\$750,000) to an absolute return fixed income manager - the Blackrock Strategic Income Opportunities Fund.

ASSET ALLOCATION

UNIVERSITY OF MAINE SYSTEM



March 7, 2018

Kelly Regan, Senior Consultant

Jay Roney, CTP, Partner



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TOTAL ENTERPRISE MANAGEMENT (TEM)

6.1

- **Organizations require some level of growth on assets to ensure their mission into perpetuity. Growth of assets generally comes from two sources:**
 - Investment Returns (internal)
 - Fundraising (external)
- **From an investment perspective, volatility and illiquidity themselves are not risks. Misunderstanding the organization's tolerance for risk, however, can have implication for meeting goals and objectives**
 - Taking too little risk can result in falling short of goals and objectives
 - Taking too much risk can impair the assets of an organization and impact the organization's operations
- **TEM focuses on the investment management decisions of an organization by defining the investment needs of an organization as a function of sources of growth and tolerance for risk**
 - To arrive at total return targets, we must first understand the balance between the sources of growth (investment returns, fundraising, other organization-specific growth)
 - To assess tolerance for risk (low to high tolerance), we review the operational needs plus assess the collective risk appetite of the decision makers. Together, we can determine a risk tolerance band for the organization



ASSESSING THE ASSETS' INFLUENCE ON THE OPERATING BUDGET

- **The purpose of endowment assets are to support the mission of the organization**
 - Spending policies are imposed to provide structure and to help ensure that the assets exist in perpetuity
 - In most cases, spending growth is a function of asset growth and therefore we focus on investment as a main source of growth for the organization
- **NEPC assessment tools are twofold:**
 - 1) Determine requisite total return to meet your objectives (base case)
 - Depending on the mix between internal and external growth expectations, a higher total return target may be required to mitigate shortfall risk
 - 2) Conduct two surveys to understand the organization's return and risk profile
 - Operational profile to be conducted by Staff
 - Collective return and risk profile of the decision makers' attitude toward the organization's return and risk

6.1



KEY QUESTIONS TO ASSESS YOUR INVESTMENT PHILOSOPHY

6.1

- **Is there alignment between your investment program and resources?**
 - What level of complexity do you desire or can you manage effectively?
- **How do you define diversification?**
 - By asset class, factors, or risk? Number of managers, size of mandates? Certain strategies or managers?
- **How important are your results relative to peers?**
 - Ability / desire / level of comfort with being different
 - Ask yourself if relative peer performance is a talking point among decision makers
- **What are your views on active vs. passive?**
 - How did you reach your conclusions?
 - How static or dynamic are you?
- **What are your views on derivatives and leverage?**
 - Can you determine an optimal portfolio structure without answering this question?
 - Are derivatives and leverage acceptable within strategies (private equity, real assets, hedge funds, etc.)?
 - Where on the continuum do you stand regarding manager active risk?
 - Broad range from enhanced strategies to benchmark agnostic
- **Are you a long term investor?**
 - How long are you willing to tolerate underperformance relative to targets?
 - What are the liquidity needs of the organization and asset base?



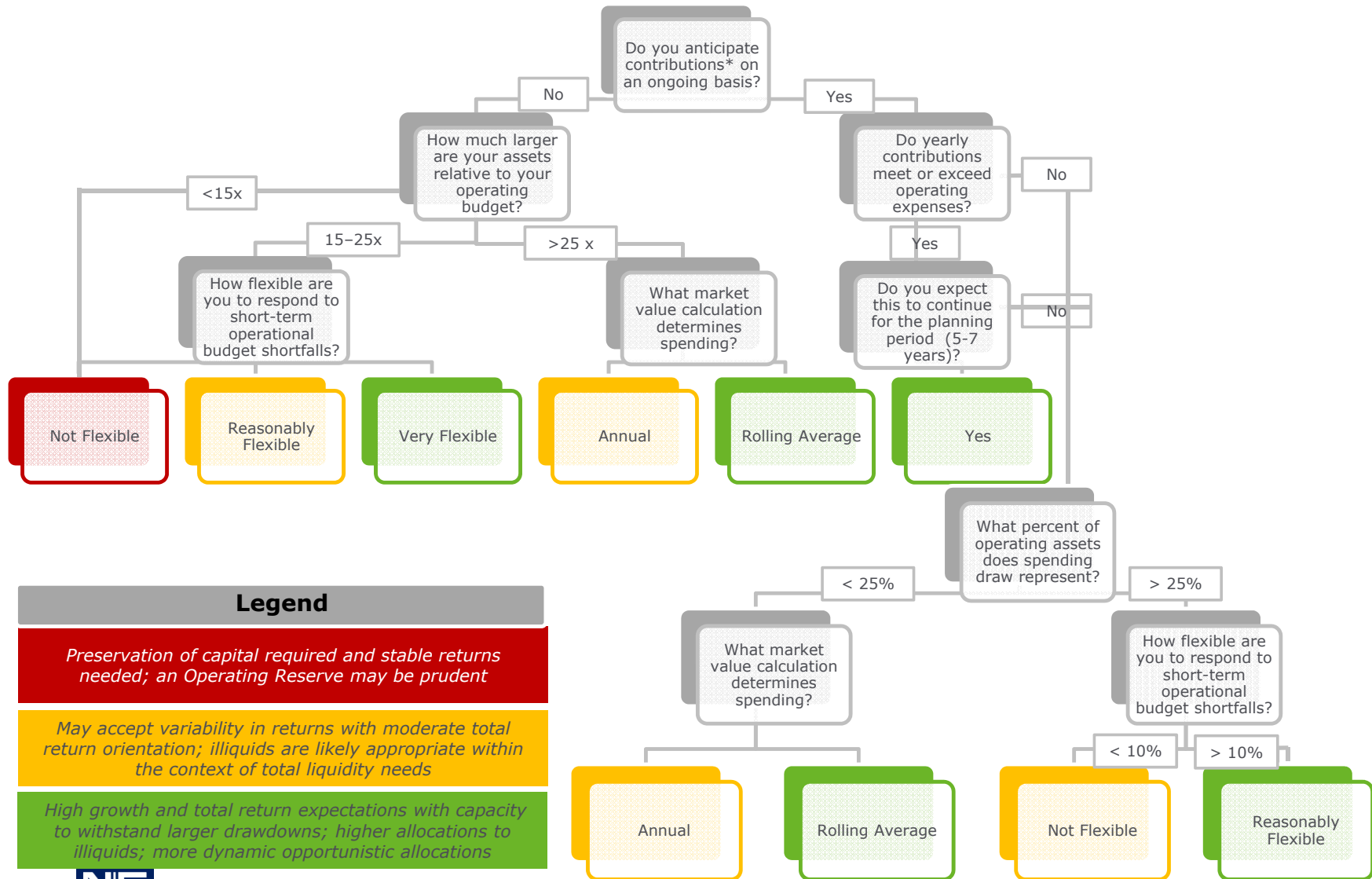
LONG-TERM STRATEGIC GOALS ARE A SERIES OF SHORT-TERM INITIATIVES

6.1

- **Do you have limitations on the ability to meet operational budget needs?**
 - Have you identified the downside revenue?
 - Have you identified increasing expenses?
 - What does spending volatility do to your operations?
- **Do you have a spending policy, or is it set every year by the Board?**
 - To what extent has the effective spending rate exceeded 5%
- **Are revenues/contributions ongoing?**
 - Are donors sensitive to spending ratio, asset performance, etc?
 - Have you received a one-time donation/gift and no additional contributions are expected?
- **Can expenses be identified in advance and do they typically rise with inflation?**
 - To what extent? This can dramatically change need for inflation sensitive assets
- **What percent of your operating budget does your spending draw represent?**
 - What is your asset coverage ratio (Assets/Expenses)?
- **Do you have contributions that exceed your expenses every year? To what extent can you rely on these contributions?**
 - You may have organic growth that inherently changes the risk profile of your assets



OPERATIONAL RISK ASSESSMENT



*Contributions can include ongoing revenues and/or new donations

ORGANIZATIONAL RISK SURVEY

Choose 1

Our short-term reliance on our assets for our spending draw is significant enough that we need to consider drawdowns and liquidity as the top priorities.

We should take only the amount of risk necessary to ensure that the portfolio meets the return target.

We have a low short-term reliance on our assets and they are intended to last into perpetuity. Therefore can tolerate a higher level of risk (illiquidity, volatility, etc.) than other types of investors.

Choose 1

Over a 1 year period, we could reasonably withstand no more than a 5% drawdown on assets.

Over a 1 year period, we could reasonably withstand a 10% drawdown on assets.

Over a 1 year period, we could reasonably withstand a 20% or more drawdown on assets.

Choose 1

If we experienced another 2008/2009 market environment, we would need to make structural changes to the portfolio, or we could not otherwise navigate through volatile markets and meet our operating needs.

If we experienced another 2008/2009 market environment, we could navigate it by making some defensive changes to the portfolio.

If we experienced another 2008/2009 market environment, we could be opportunistic in nature in order to navigate it well.



6.1

INVESTMENT RETURN & RISK SURVEY

Choose 1

Our expected return should meet our long-term requirements net of inflation. We are acutely sensitive to volatility.

Our expected return should meet our long-term requirements net of inflation. We would seek to balance pursuit of growth with sensitivity to volatility.

Volatility does not concern us much, as long as we are being compensated for risk.

Choose 1

Peer rankings are a good way to gauge our overall performance. Our Board/Investment Committee is sensitive to overall peer rankings.

Peer rankings are a good way to gauge our overall performance, but they are not the only way in which we measure ourselves.

We are willing to look significantly different from our peers in terms of asset allocation and performance, as long as we are meeting our long-term objectives.

Choose 1

We'd like our managers to be benchmark focused but protect on the downside. We have a low tolerance for underperformance, even if a manager is not keeping up in positive markets. We'd prefer to be in a low cost index fund rather than wait a full market cycle for a manager to prove their value add.

We'd like our managers to be benchmark aware and provide reasonable protection. We like allowing managers the flexibility to make decisions, within general guidelines. We can tolerate short-term manager underperformance because we are more sensitive to a manager's total contribution to the portfolio.

We'd like our managers to be benchmark agnostic and/or concentrated. We are less concerned with manager underperformance relative to benchmark if we have high conviction in a manager. We'd rather see managers take large bets that express their conviction in markets.



6.1

MIP EXPECTED RISK/RETURN

	Current Allocation (12.31.17)	Policy Targets	Alternative Mix	Endowment Peers
Cash	0%	0%	0%	0%
Large Cap Equities	19%	16%	16%	16%
Small/Mid Cap Equities	6%	6%	6%	6%
Int'l Equities (Unhedged)	12%	13%	13%	16%
Int'l Sm Cap Equities (Unhedged)	4%	4%	4%	0%
Emerging Int'l Equities	3%	4%	4%	4%
Emerging Int'l Sm Cap Equities	4%	4%	4%	4%
Private Equity	1%	2%	2%	11%
Total Equity	49%	47%	47%	57%
Core Bonds	5%	5%	5%	6%
TIPS	8%	8%	8%	5%
Bank Loans	5%	5%	5%	0%
Absolute Return Fixed Income	0%	0%	3%	5%
Total Fixed Income	18%	18%	21%	16%
Private Real Assets	2%	3%	3%	4%
Total Real Assets	2%	3%	3%	4%
Global Asset Allocation	23%	23%	23%	10%
Hedge Funds - Long/Short	6%	6%	6%	7%
Hedge Funds - Credit	3%	3%	0%	7%
Total Multi Asset	32%	32%	29%	23%
Expected Return 5-7 yrs	6.2%	6.3%	6.2%	6.5%
Expected Return 30 yrs	7.3%	7.3%	7.3%	7.6%
Standard Dev	12.5%	12.3%	12.2%	13.1%
Sharpe Ratio (5-7 years)	0.34	0.35	0.35	0.35
Probability of 1-Year Return Under 0%	31.0%	30.6%	30.5%	30.9%
Probability of 1-Year Return Under -5%	16.3%	16.0%	15.7%	16.7%
Probability of 1-Year Return Under -10%	9.8%	9.4%	9.2%	10.3%

Note: Endowment Peer allocation sourced from Greenwich Associates Asset Allocation Trends 2018 report, some assumptions made by NEPC in terms of US, International and Fixed Income allocations

Discussion

Return goals

- Long-term goal is 7.5%, the 30 year expected return is 7.3% (beta only)
- Spending rate is 4.5%, NEPC inflation assumption is 2.5%

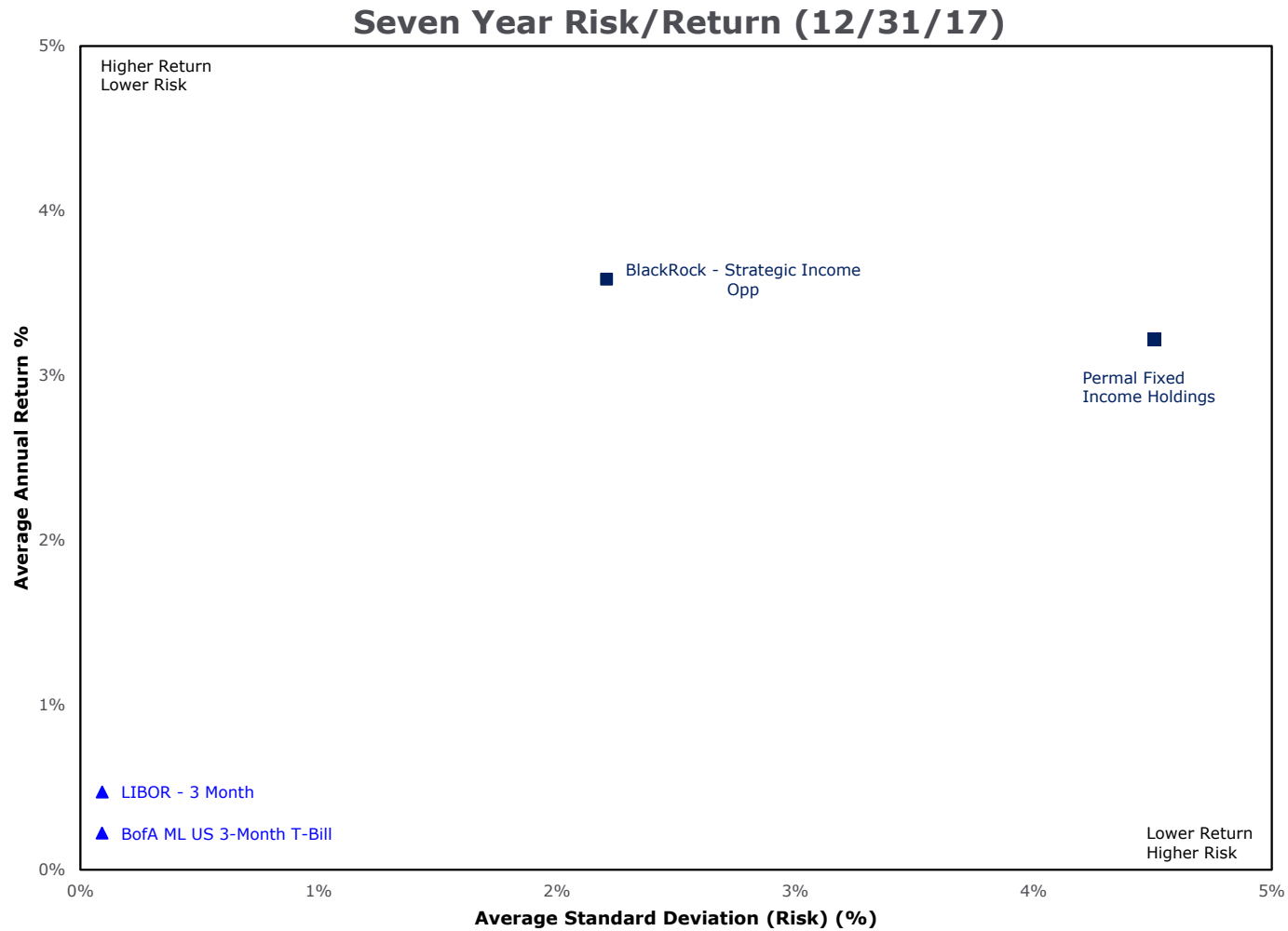
Continue private market allocation?

- No manager commitments since 2014
- Timber Fund is winding down
- Below targets in both asset classes (3% vs. 5% target)
- May be helpful to achieve the long-term return goal

Review hedge fund allocation

- Performance has been lackluster specifically for EntrustPermal
- Potential to re-allocate to Blackrock (in the Operating Fund)

PRODUCT COMPARISON



6.1



ABSOLUTE RETURN FIXED INCOME

- **Unconstrained nature allows for broad implementation of best ideas across global fixed income markets**
 - Portfolio includes allocations to global interest rates, global credit sectors, securitized assets, emerging markets debt, foreign currencies and derivative markets
 - Ability to underweight risky asset classes when risk premia are unattractive
- **Conservative approach that maintains a strict focus on mitigating downside risks**
 - Maintains low correlations to global interest rates and turbulent equity markets
 - Ability to deliver an equal or lower volatility compared to traditional fixed income strategies
- **May have duration exposure significantly less than the Barclays Aggregate Index**
 - This is achieved through the use of futures
- **Products generally have a cash or LIBOR benchmark**
 - Achieving an absolute/real return target (e.g. LIBOR + 3%) irrespective of the market environment
- **Manager skill can add value through asset class rotation and security selection**
 - Better, more timely exploitation of market opportunities
 - Provides efficient way to diversify the portfolio without having to hire a large number of niche managers

6.1



PENSION FUND

	Policy Targets	Alternative Mix	Median Peer Allocation
Cash	3%	3%	1%
Large Cap Equities	8%	8%	23%
Small/Mid Cap Equities	4%	4%	4%
Int'l Equities (Unhedged)	7%	7%	16%
Emerging Int'l Sm Cap Equities	3%	3%	2%
Global Equity	0%	0%	6%
Private Equity	0%	0%	4%
Total Equity	22%	22%	55%
Core Bonds	20%	20%	14%
TIPS	7%	7%	0%
High-Yield Bonds	0%	0%	3%
Non-US Bonds (Unhedged)	0%	0%	3%
Bank Loans	5%	5%	0%
US 10 yr Treasuries	0%	0%	0%
Non-US 10 yr Sovereigns (Hedged)	0%	0%	0%
Diversified Fixed Income	0%	0%	0%
Global Multi-Sector Fixed Income	0%	0%	0%
Absolute Return Fixed Income	0%	3%	8%
Private Debt	0%	0%	1%
Total Fixed Income	32%	35%	30%
Real Assets	8%	8%	4%
Commodities	0%	0%	1%
Total Real Assets	8%	8%	6%
Global Asset Allocation	28%	28%	4%
Hedge Funds - Long/Short	5%	5%	4%
Hedge Funds - Credit	3%	0%	0%
Total Multi Asset	35%	33%	8%
Expected Return 5-7 yrs	5.3%	5.2%	5.7%
Expected Return 30 yrs	6.2%	6.2%	7.0%
Standard Dev	8.5%	8.4%	11.8%
Sharpe Ratio (5-7 years)	0.39	0.39	0.32
Probability of 1-Year Return Under 0%	26.7%	26.6%	31.3%
Probability of 1-Year Return Under -5%	9.3%	9.1%	15.3%
Probability of 1-Year Return Under -10%	3.6%	3.5%	9.0%
Probability of 1-Year Return Under -20%	0.1%	0.1%	1.4%



- **Regardless of the survey results, NEPC recommends UMS consider reducing hedge funds due to liquidity needs**

- Daily valued products preferred given size of portfolio and monthly benefit payments needs

- **Consider adding an allocation to absolute return fixed income**

- Daily liquid vehicle available and currently utilized in the Operating Fund (Blackrock)

- **Result:**

- Maintain return and standard deviation
- Improved liquidity
- Improved fee profile

Note: Median Peer allocation based on data from InvestorForce, some assumptions made by NEPC in terms of US, International and Fixed Income allocations

COMMENTS ON OPERATING FUND

	Policy Targets
Total Cash Pool	25%
Total Equity	8%
Core Bonds	5%
TIPS	5%
Short Treasuries (1-3 yr)	13%
Short Credit (1-3 yr)	13%
Bank Loans	7%
Absolute Return Fixed Income	7%
Total Income Pool	50%
Global Asset Allocation	13%
Hedge Funds - Long/Short	5%
Global Equity	8%
Total Return Pool	25%
Expected Return 5-7 yrs	3.6%
Expected Return 30 yrs	4.5%
Standard Dev	3.9%
Sharpe Ratio (5-7 years)	0.42
Probability of 1-Year Return Under 1.6%	30.1%
Probability of 1-Year Return Under 0%	17.6%
Probability of 1-Year Return Under -5%	1.3%
Probability of 1-Year Return Under -10%	0.0%

- Question:**

- Is the Committee comfortable with the risk return profile today?

6.1



INFORMATION DISCLAIMER

- **Past performance is no guarantee of future results.**
- **The goal of this report is to provide a basis for substantiating asset allocation recommendations. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.**
- **Information on 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.**
- **All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.**
- **This report is provided as a management aid for the client's internal use only. This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.**

6.1





AGENDA ITEM SUMMARY

7

1. **NAME OF ITEM:** Environmental, Social and Governance (ESG) Update

2. **INITIATED BY:** Kelly Martin, Chair

3. **BOARD INFORMATION:** X

BOARD ACTION:

4. **OUTCOME:**

Primary Outcomes:

Enhance fiscal positioning

BOARD POLICY:

Section 709 - Investments

5. **BACKGROUND:**

Enclosed for your information is an update regarding ESG and an overview of the MSCI ESG report.

Kelly Regan and Jay Roney of NEPC will provide a brief review at the March 8, 2018 Investment Committee meeting.

ESG REPORT



UNIVERSITY OF MAINE SYSTEM

March 8, 2018

Jay E. Roney, Partner

Kelly Regan, Senior Consultant



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7.1

SUMMARY

NEPC, LLC

INTRODUCTION

- **Goals for today's meeting**
 - Update the Investment Committee on the MIP's Environmental, Social and Governance (ESG) progress
 - Provide a summary of MSCI's ESG report
- **The University of Maine System has completed a number of items with regards to impact investing**
 - Divested from coal securities in all separate account mandates in 2015
 - Incorporated ESG language into the Managed Investment Pool (MIP) investment policy statement in September 2016
 - Continually monitors fossil fuel exposure in the MIP
 - Contracted with MSCI to complete an annual report to evaluate the MIP's equity and fixed income holdings with regards to ESG factors
 - Evaluated managers who incorporate ESG considerations into their investment process during manager search review process
 - Bank loan and international small cap equity searches both included managers that incorporate ESG into their investment process
- **Additional information about the MIP portfolio is below:**
 - The estimated exposure to fossil fuels is roughly 3% as of 9/30/17
 - Fourteen out of 17 investment managers are PRI signatories
- **The following slides provide a summary of the MSCI ESG Report**
 - Overall the MIP's ESG scores have improved versus last year
 - This is a result of the Committee's work, changes to managers' holdings and improvements to MSCI's ESG score assessments



MIP PORTFOLIO SUMMARY

- The MIP Overall ESG Score improved by 7% or 0.39 points over the one year time frame
- The overall score of the MIP Portfolio is 5.53 which is in-line with the broad benchmark but falls below the ESG benchmark

	Client Benchmark		Client ESG Benchmark		UMS MIP 2018		UMS MIP 2017	
Summary	Score	Weight	Score	Weight	Score	Weight	Score	Weight
ESG Quality Score	5.59	100%	6.42	100%	5.53	100%	5.14	100%
Absolute Pillar Scores								
Environment	5.37	26%	5.76	26%	5.37	26%	5.29	28%
Social	4.81	41%	5.27	41%	4.73	41%	4.33	42%
Governance	5.39	33%	5.70	33%	5.41	33%	5.28	30%

- **The majority of the MIP's holdings are covered by MSCI Research (~86%)**
- **The analysis excludes Kabouter (funded in November 2017), EntrustPermal (Hedge Fund), Landmark and John Hancock (Private Investments)**
- **Scores are based on a scale from 0-10 with 10 being the best**
- **Client Benchmark is 70% MSCI ACWI/30% Barclays Aggregate**
- **Client ESG Benchmark is 70% MSCI ACWI ESG/30% Barclays Aggregate ESG**



ENVIRONMENTAL SCORES

	Client Benchmark		Client ESG Benchmark		UMS MIP 2018		UMS MIP 2017	
Key Issues - Environment	Score	Weight	Score	Weight	Score	Weight	Score	Weight
Climate Change								
Carbon Emissions	6.96	3.7%	7.19	3.8%	6.52	3.9%	6.23	3.8%
Energy Efficiency	n/a	0.0%	n/a	0.0%	n/a	0.0%	7.26	0.9%
Insuring Climate Change	5.09	0.4%	6.22	0.5%	4.64	0.5%	4.60	0.6%
Product Carbon Footprint	5.74	1.4%	7.07	1.4%	6.01	1.5%	5.48	1.9%
Environmental Opportunities								
Clean Tech	5.10	4.0%	5.39	4.4%	4.83	4.8%	4.85	5.2%
Green Building	5.51	1.0%	6.19	0.8%	5.11	1.0%	5.62	1.1%
Renewable Energy	5.41	0.5%	5.42	0.5%	5.30	0.4%	5.34	0.5%
Natural Resource Use								
Biodiversity and Land Use	3.56	1.8%	4.46	1.5%	3.90	1.7%	3.31	2.0%
Financing Environmental Impact	6.44	1.5%	6.42	1.4%	5.21	0.6%	5.47	0.6%
Raw Material Sourcing	5.30	0.9%	5.82	1.1%	5.48	1.2%	5.35	1.7%
Water Stress	5.65	2.0%	5.96	1.9%	5.47	2.3%	5.61	2.4%
Waste Management								
Electronic Waste	5.00	0.3%	3.82	0.2%	4.84	0.3%	6.57	0.3%
Packaging Material & Waste	6.18	0.3%	7.73	0.3%	5.73	0.4%	6.39	0.5%
Toxic Emissions & Waste	4.86	3.3%	5.40	3.4%	4.76	3.6%	4.60	4.1%
Overall Environmental Score	5.49	21.2%	5.97	21.3%	5.27	22.1%	5.23	25.5%

- Climate change factors make up 6% of the MIP portfolio and have improved YOY
- Highlighted in green are factors where the MIP portfolio outperforms the broad benchmark
- Highlighted in blue are factors where the MIP portfolio outperforms the ESG broad benchmark

7.1

- The overall Environmental score improved YOY



SOCIAL SCORES

	Client Benchmark		Client ESG Benchmark		UMS MIP 2018		UMS MIP 2017	
Key Issues - Social	Score	Weight	Score	Weight	Score	Weight	Score	Weight
Human Capital								
Controversial Sourcing	7.16	0.7%	7.18	0.7%	7.12	0.8%	6.24	0.9%
Health & Safety	5.44	3.0%	5.94	3.0%	5.39	3.2%	5.17	3.6%
Human Capital Development	4.41	8.0%	4.88	8.1%	4.19	8.1%	4.08	7.6%
Labor Management	3.82	4.2%	4.33	3.9%	4.18	4.6%	3.97	5.4%
Supply Chain Labor Standards	4.42	1.1%	5.33	0.9%	4.09	1.1%	4.04	1.7%
Product Safety								
Chemical Safety	3.60	1.5%	4.17	1.7%	3.31	1.9%	3.04	2.6%
Financial Product Safety	4.81	2.3%	5.11	2.2%	4.93	1.5%	4.56	1.5%
Insuring Health & Demographic Risk	4.71	0.4%	5.50	0.4%	4.29	0.4%	4.46	0.4%
Privacy & Data Security	4.14	5.9%	4.75	5.5%	4.29	5.8%	3.68	5.1%
Product Safety & Quality	3.63	3.9%	3.98	3.6%	3.98	4.9%	3.47	5.4%
Responsible Investment	5.96	0.9%	6.38	0.9%	5.38	0.9%	5.59	1.0%
Social Opportunities								
Access to Communications	6.07	0.5%	6.24	0.5%	5.84	0.5%	5.48	0.5%
Access to Finance	4.79	2.4%	4.91	2.4%	4.42	1.5%	4.41	1.6%
Access to Healthcare	4.92	0.9%	5.52	0.9%	4.76	1.1%	4.82	1.2%
Opportunities in Nutrition & Health	5.19	0.8%	5.34	1.2%	4.87	1.1%	4.94	1.2%
Overall Social Score	4.47	36.4%	4.93	35.9%	4.43	37.3%	4.15	39.7%

- Social factors combined have the highest weighting in the MIP portfolio and scores generally increased across the board
- Highlighted in green are factors where the MIP portfolio outperforms the broad benchmark
- Highlighted in blue are factors where the MIP portfolio outperforms the ESG broad benchmark

7.1

- The overall Social score improved YOY



GOVERNANCE SCORES

	Client Benchmark		Client ESG Benchmark		UMS MIP 2018		UMS MIP 2017	
Key Issues - Governance	Score	Weight	Score	Weight	Score	Weight	Score	Weight
Business Ethics								
Anticompetitive Practices	3.58	0.5%	3.51	0.4%	3.49	0.5%	3.66	0.5%
Business Ethics & Fraud	3.37	0.7%	3.46	0.5%	3.42	0.6%	3.23	0.5%
Corruption & Instability	4.84	5.8%	5.45	5.3%	4.61	6.0%	4.70	5.8%
Corporate Governance								
Corporate Governance	5.12	15.3%	5.27	15.2%	5.30	16.3%	5.22	17.0%
Government & Public Policy								
Financial System Instability	3.45	2.5%	4.40	2.4%	4.37	1.5%	3.98	1.5%
Overall Governance Score	4.81	24.7%	5.15	23.7%	5.00	24.9%	4.96	25.2%

- The overall Governance score improved YOY

- Corporate Governance factor has a very large weighting in the MIP portfolio and the score increased YOY and is higher than both the broad benchmark and the ESG benchmark
- Highlighted in green are factors where the MIP portfolio outperforms the broad benchmark
- Highlighted in blue are factors where the MIP portfolio outperforms the ESG broad benchmark

7.1



CONTROVERSY AND BUSINESS INVOLVEMENT EXPOSURE

CORPORATE POSITIONS IN PORTFOLIO WITH THE MOST CONTROVERSY EXPOSURE								
RANK*	ISSUER NAME	PORTFOLIO WEIGHT	SECTOR (GICS)	ENVIRONMENT	CUSTOMERS	HUMAN RIGHTS & COMMUNITY	LABOR RIGHTS & SUPPLY CHAIN	GOVERNANCE
1	BHP BILLITON PLC	0.11%	Materials	●	●	●	●	●
2	BHP BILLITON PLC	0.02%	Materials	●	●	●	●	●
3	BHP BILLITON LIMITED	0.003%	Materials	●	●	●	●	●
4	BHP BILLITON FINANCE (USA) LIMITED	0.002%	Materials	●	●	●	●	●
5	TOKYO ELECTRIC POWER COMPANY HOLDINGS, INCORPORATED	0.001%	Utility	●	●	●	●	●
6	BHP BILLITON PLC	0.001%	Materials	●	●	●	●	●
7	BHP BILLITON FINANCE (USA) LIMITED	0.0001%	Materials	●	●	●	●	●
8	ROYAL DUTCH SHELL PLC	0.09%	Energy	●	●	●	●	●
9	ROYAL DUTCH SHELL PLC	0.06%	Energy	●	●	●	●	●
10	VOLKSWAGEN AG	0.004%	Consumer Discretionary	●	●	●	●	●

- Very low weights in the MIP Portfolio to controversial companies

LARGEST CORPORATE POSITIONS WITH BUSINESS INVOLVEMENT EXPOSURE				
RANK	COMPANY NAME	PORTFOLIO WEIGHT	SECTOR (GICS)	BUSINESS INVOLVEMENT
1	NOVARTIS AG	0.57%	Health Care	Sudan
2	UNILEVER N.V.	0.54%	Consumer Staples	Animal Welfare
3	BRITISH AMERICAN TOBACCO P.L.C.	0.53%	Consumer Staples	Tobacco; Animal Welfare; Genetic Engineering; Iran; Sudan
4	GLAXOSMITHKLINE PLC	0.50%	Health Care	Animal Welfare
5	JOHNSON & JOHNSON	0.43%	Health Care	Animal Welfare
6	RECKITT BENCKISER GROUP PLC	0.43%	Consumer Staples	Animal Welfare
7	BERKSHIRE HATHAWAY INC.	0.40%	Financial	Animal Welfare; Nuclear Power
8	BAYER AKTIENGESELLSCHAFT	0.40%	Health Care	Animal Welfare; Genetic Engineering; Sudan
9	L'OREAL S.A.	0.39%	Consumer Staples	Animal Welfare
10	EXXON MOBIL CORPORATION	0.35%	Energy	Animal Welfare

- Animal Welfare most common business involvement and makes up 8% of the MIP portfolio
- Defined as: Companies that conduct animal testing for non-pharmaceutical products including cosmetic, personal care, and household cleaning products, as well as industrial and chemical products.



FULL REPORT

NEPC, LLC

ESG Portfolio Analytics

7.1

Prepared for:	University of Maine System
Portfolio Name:	UMS Managed Investment Pool
Benchmarked ESG Index:	Client ESG Benchmark
Benchmarked Market Index:	Client Benchmark

September 30, 2017

** The funds analyzed in this report may be based on or linked to MSCI Indexes, for which MSCI Inc., or its subsidiaries, may be compensated based on the fund's assets under management or other measures. MSCI Inc. has established an information barrier between equity index research and ESG Portfolio Analytics. Additionally, ESG Portfolio Analytics are based on a variety of aggregation methodologies of the underlying covered holdings, and are not subject to intervention by any analyst.*

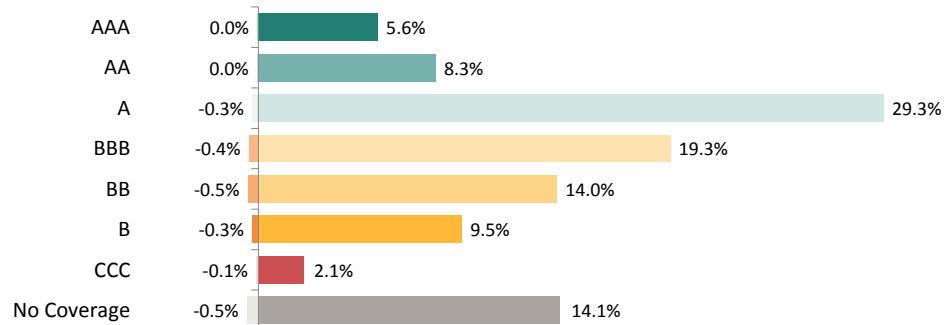
Portfolio Summary - MSCI ESG Ratings

 MSCI ESG Portfolio Analytics
 University of Maine System - UMS Managed Investment Pool

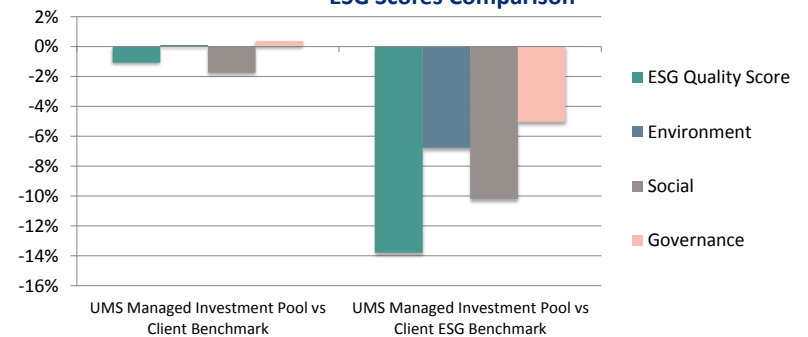
							UMS Managed Investment Pool vs Client Benchmark	UMS Managed Investment Pool vs Client ESG Benchmark		
Client Benchmark			Client ESG Benchmark		UMS Managed Investment Pool					
SUMMARY	SCORE*	WEIGHT**	SCORE	WEIGHT	SCORE	WEIGHT	SCORE COMPARISON			
% Covered by ESG Research (Gross)		95.91%		97.03%		85.62%				
ESG Quality Score	5.59	100.00%	6.42	100.00%	5.53	100.00%	↔	-1.06%	↓	-13.78%
ABSOLUTE PILLAR SCORES										
Environment	5.37	25.52%	5.76	25.95%	5.37	25.97%	↔	0.12%	↓	-6.76%
Social	4.81	40.74%	5.27	40.54%	4.73	41.19%	↔	-1.74%	↓	-10.18%
Governance	5.39	33.74%	5.70	33.51%	5.41	32.84%	↔	0.38%	↓	-5.02%

ESG RATINGS

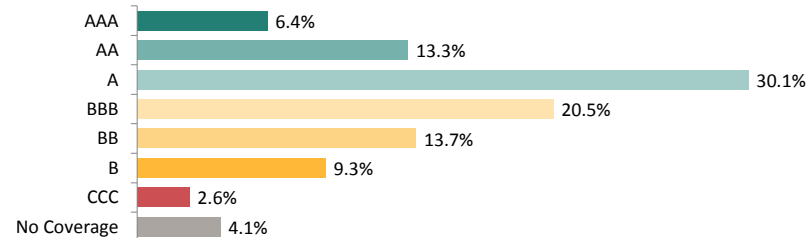
Portfolio Rating Distribution (Gross Wt)



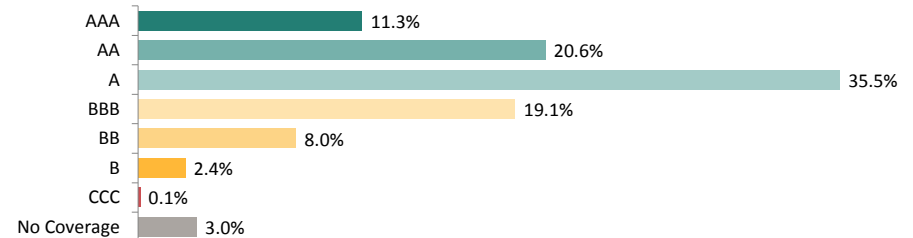
ESG Scores Comparison



Client Benchmark



Client ESG Benchmark



Sector Breakdown - Corporates

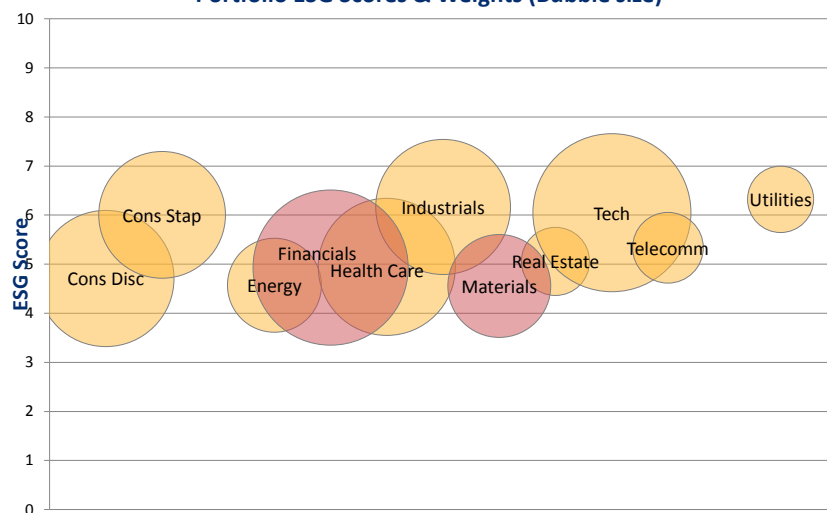
MSCI ESG Portfolio Analytics

University of Maine System - UMS Managed Investment Pool

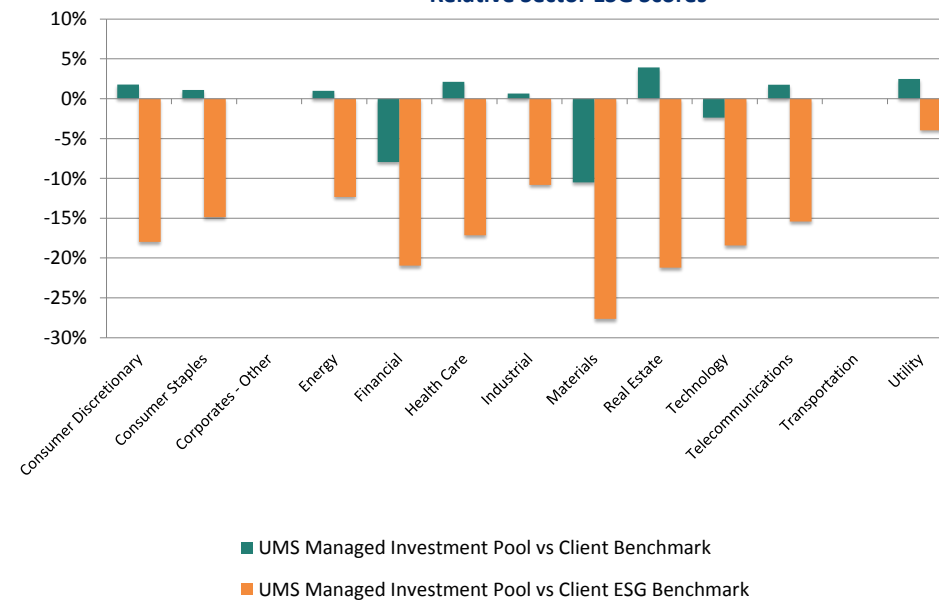
SECTOR ESG SCORES	Client Benchmark		Client ESG Benchmark		UMS Managed Investment Pool*		UMS Managed Investment Pool vs Client Benchmark	UMS Managed Investment Pool vs Client ESG Benchmark		
	SCORE	WEIGHT	SCORE	WEIGHT	SCORE	WEIGHT	SCORE COMPARISON			
Consumer Discretionary	4.63	8.82%	5.74	8.74%	4.71	10.08%	↔	1.78%	↓	-17.97%
Consumer Staples	5.94	6.65%	7.06	6.41%	6.01	8.70%	↔	1.09%	↓	-14.88%
Corporates - Other ¹	5.35	0.12%	5.49	0.12%	N/A	0.00%		NA		NA
Energy	4.53	5.13%	5.21	4.70%	4.57	4.77%	↔	0.98%	↓	-12.34%
Financial	5.36	19.74%	6.24	19.76%	4.93	13.06%	↓	-7.95%	↓	-20.95%
Health Care	4.84	7.94%	5.97	8.14%	4.95	10.17%	↔	2.11%	↓	-17.14%
Industrial	6.13	8.32%	6.91	8.18%	6.17	9.86%	↔	0.65%	↓	-10.82%
Materials	5.09	4.15%	6.29	4.04%	4.55	5.73%	↓	-10.50%	↓	-27.64%
Real Estate	4.87	2.58%	6.42	2.42%	5.06	2.51%	↔	3.91%	↓	-21.21%
Technology	6.20	11.76%	7.42	11.29%	6.05	13.53%	↔	-2.37%	↓	-18.44%
Telecommunications	5.24	2.67%	6.31	2.76%	5.33	2.70%	↔	1.76%	↓	-15.42%
Transportation	6.45	0.04%	6.84	0.04%	N/A	0.00%		NA		NA
Utility	6.17	3.38%	6.58	3.31%	6.32	2.37%	↔	2.48%	↔	-3.97%
Overall	5.42	81.29%	6.42	79.90%	5.35	83.48%		-1.28%		-16.61%

*Shading indicates low or high score in portfolio

Portfolio ESG Scores & Weights (Bubble size)

¹ Aggregate category comprised of Corporation and Special Company Barra sectors.

Relative Sector ESG Scores

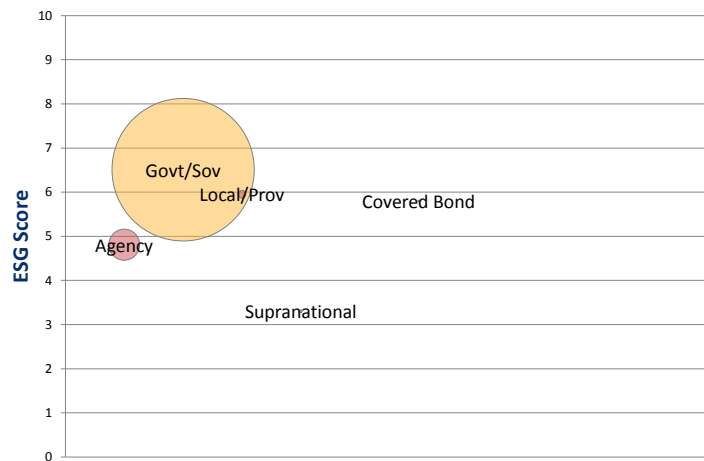


Sector Breakdown - Government Related & Securitized

MSCI ESG Portfolio Analytics
University of Maine System - UMS Managed Investment Pool

SECTOR ESG SCORES	Client Benchmark		Client ESG Benchmark		UMS Managed Investment Pool		UMS Managed Investment Pool vs Client Benchmark		UMS Managed Investment Pool vs Client ESG Benchmark		
	SCORE	WEIGHT	SCORE	WEIGHT	SCORE	WEIGHT	SCORE COMPARISON				
Government Related											
Agency	6.29	0.72%	6.37	0.75%		4.81	0.74%	↓	-23.55%	↓	-24.52%
Government/Sovereign ¹	6.26	15.50%	6.33	16.77%		6.51	15.72%	↔	4.00%	↔	2.75%
Local/Provincial	6.84	0.99%	6.85	1.06%		5.95	0.05%	↓	-13.01%	↓	-13.12%
Supranational	7.66	0.50%	7.69	0.53%		3.30	0.01%	↓	-56.90%	↓	-57.10%
Government Related - Other ²	4.78	0.24%	4.88	0.22%		N/A	0.00%		NA		NA
Securitized											
Covered Bond	6.51	0.76%	6.69	0.76%		5.80	0.00%	↓	-10.93%	↓	-13.31%
Securitized - Other ³	ESG coverage of securitized assets is limited to covered bonds. Other securitized assets do not have recourse to the issuer and thus do not map to the issuer's ESG rating.										
Overall	6.32	18.71%	6.40	20.10%		6.43	16.51%		1.75%		0.52%

Portfolio ESG Scores & Weights (Bubble size)

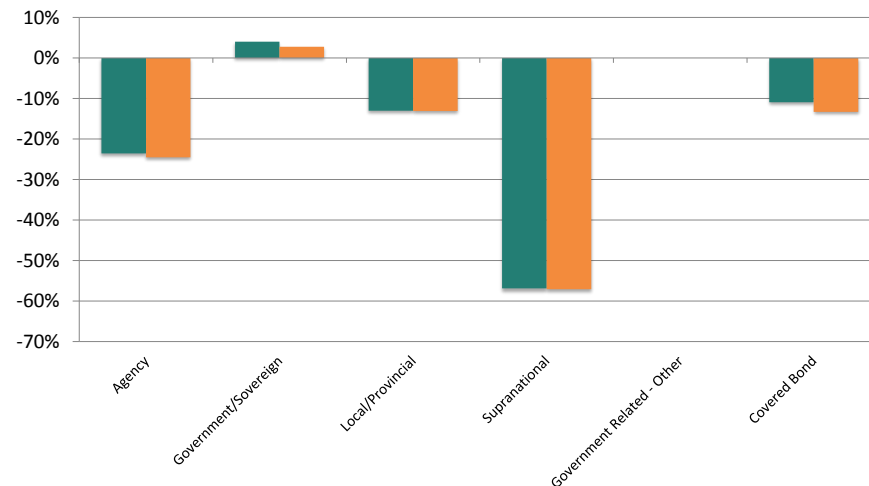


¹ Aggregate category comprised of Government, Sovereign, Japan 40Yr, Jpn Govt 5Yr, Jpn Govt T-bill, Jpn Govt 6Yr, Jpn Govt Long, Jpn Govt Mid, Jpn Govt Short, Jpn Govt SuperLong, and Jpn Govt Other Barra sectors.

² Fiscal Investment & Loan Agency and Government Guaranteed.

³ Asset Backed Security and Mortgage Backed Security.

Relative Sector ESG Scores

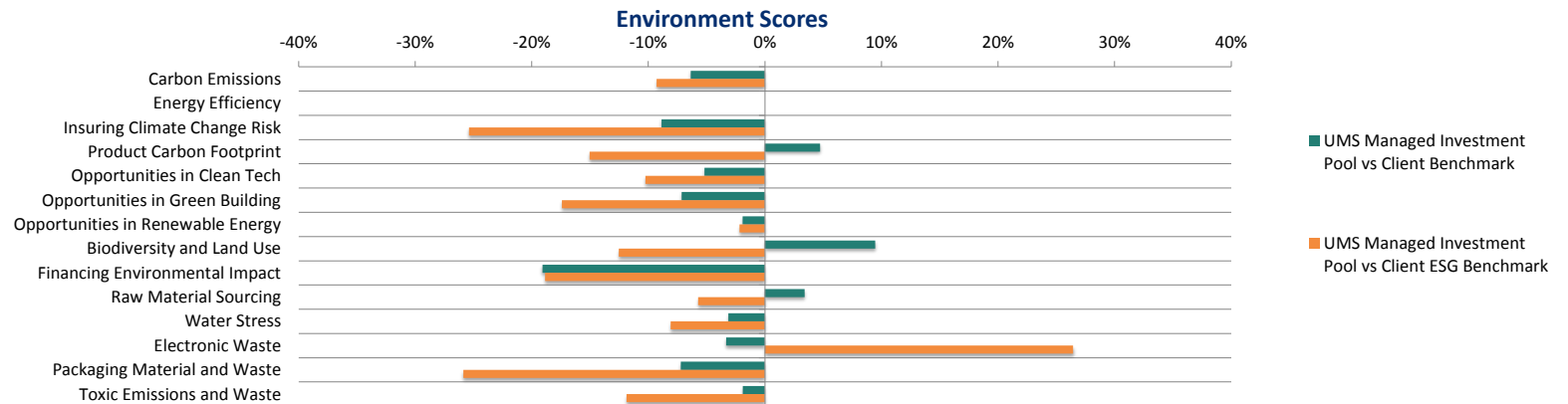


■ UMS Managed Investment Pool vs Client Benchmark
■ UMS Managed Investment Pool vs Client ESG Benchmark

ESG Ratings Key Issue Breakdown - Environment

MSCI ESG Portfolio Analytics
University of Maine System - UMS Managed Investment Pool

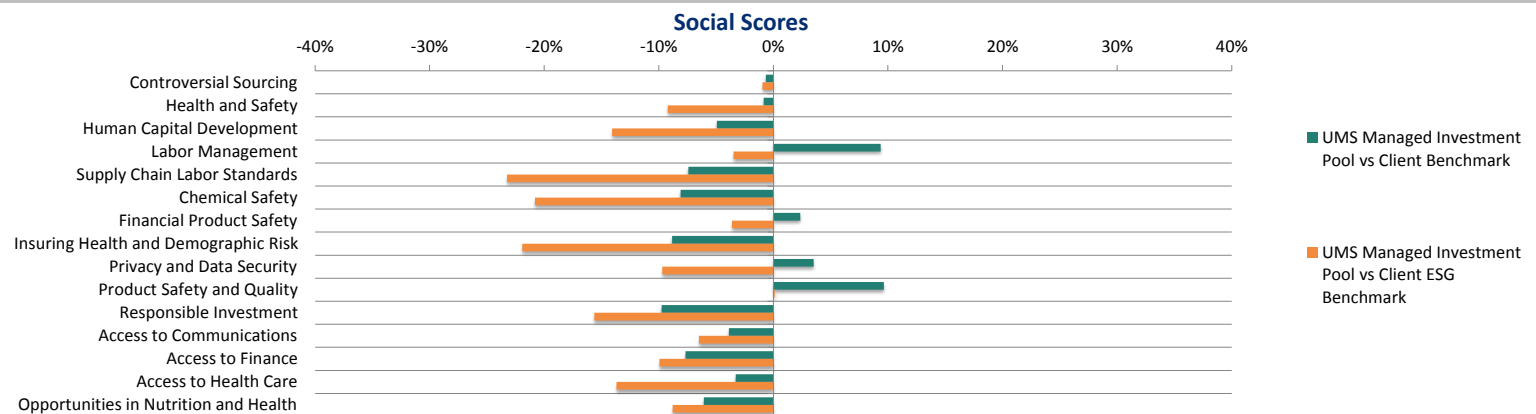
KEY ISSUE SCORES - ENVIRONMENT	Client Benchmark		Client ESG Benchmark		UMS Managed Investment Pool*		UMS Managed Investment Pool vs Client Benchmark	UMS Managed Investment Pool vs Client ESG Benchmark		
	SCORE	WEIGHT	SCORE	WEIGHT	SCORE	WEIGHT	SCORE COMPARISON			
Climate Change										
Carbon Emissions	6.96	3.67%	7.19	3.79%	6.52	3.92%	↓	-6.36%	↓	-9.28%
Energy Efficiency	0.00	0.00%	0.00	0.00%	0.00	0.00%		NA		NA
Insuring Climate Change Risk	5.09	0.43%	6.22	0.47%	4.64	0.51%	↓	-8.87%	↓	-25.38%
Product Carbon Footprint	5.74	1.44%	7.07	1.44%	6.01	1.49%	↔	4.73%	↓	-15.04%
Environmental Opportunities										
Opportunities in Clean Tech	5.10	4.01%	5.39	4.40%	4.83	4.75%	↓	-5.17%	↓	-10.25%
Opportunities in Green Building	5.51	0.96%	6.19	0.84%	5.11	0.96%	↓	-7.14%	↓	-17.40%
Opportunities in Renewable Energy	5.41	0.51%	5.42	0.49%	5.30	0.37%	↔	-1.91%	↔	-2.18%
Natural Resource Use										
Biodiversity and Land Use	3.56	1.80%	4.46	1.47%	3.90	1.72%	↑	9.47%	↓	-12.53%
Financing Environmental Impact	6.44	1.51%	6.42	1.44%	5.21	0.57%	↓	-19.08%	↓	-18.85%
Raw Material Sourcing	5.30	0.89%	5.82	1.10%	5.48	1.15%	↔	3.41%	↓	-5.72%
Water Stress	5.65	1.98%	5.96	1.92%	5.47	2.34%	↔	-3.13%	↓	-8.08%
Waste Management										
Electronic Waste	5.00	0.32%	3.82	0.22%	4.84	0.28%	↔	-3.33%	↑	26.44%
Packaging Material and Waste	6.18	0.33%	7.73	0.33%	5.73	0.41%	↓	-7.21%	↓	-25.86%
Toxic Emissions and Waste	4.86	3.28%	5.40	3.38%	4.76	3.58%	↔	-1.90%	↓	-11.86%
Overall IVA Environment Pillar	5.49	21.15%	5.97	21.28%	5.27	22.06%		-4.04%		-11.74%



ESG Ratings Key Issue Breakdown - Social

MSCI ESG Portfolio Analytics
University of Maine System - UMS Managed

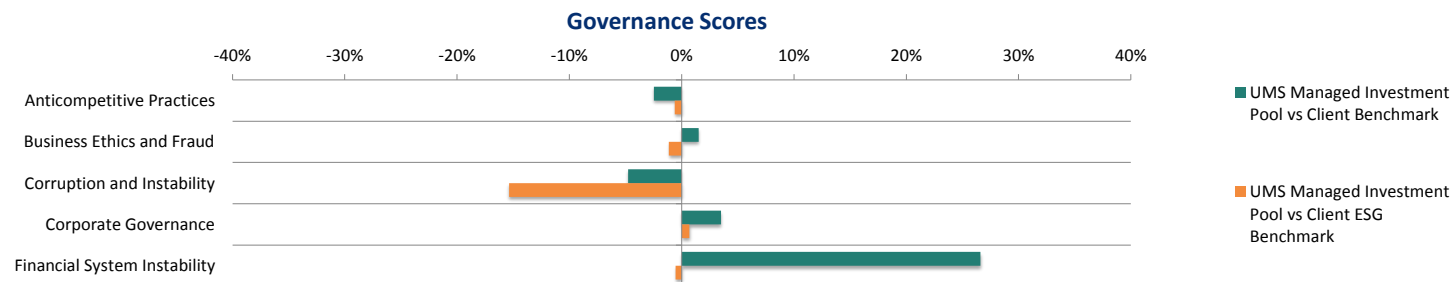
KEY ISSUE SCORES - SOCIAL	Client Benchmark		Client ESG Benchmark		UMS Managed Investment Pool*		UMS Managed Investment Pool vs Client Benchmark	UMS Managed Investment Pool vs Client ESG Benchmark		
	SCORE	WEIGHT	SCORE	WEIGHT	SCORE	WEIGHT	SCORE COMPARISON			
Human Capital										
Controversial Sourcing	7.16	0.72%	7.18	0.73%	7.12	0.84%	↔	-0.66%	↔	-0.95%
Health and Safety	5.44	2.99%	5.94	2.96%	5.39	3.17%	↔	-0.85%	↓	-9.21%
Human Capital Development	4.41	8.04%	4.88	8.13%	4.19	8.11%	↔	-4.93%	↓	-14.07%
Labor Management	3.82	4.17%	4.33	3.93%	4.18	4.58%	↑	9.37%	↔	-3.48%
Supply Chain Labor Standards	4.42	1.11%	5.33	0.94%	4.09	1.09%	↓	-7.42%	↓	-23.24%
Product Safety										
Chemical Safety	3.60	1.45%	4.17	1.66%	3.31	1.87%	↓	-8.09%	↓	-20.81%
Financial Product Safety	4.81	2.25%	5.11	2.18%	4.93	1.49%	↔	2.35%	↔	-3.61%
Insuring Health and Demographic Risk	4.71	0.37%	5.50	0.39%	4.29	0.36%	↓	-8.83%	↓	-21.91%
Privacy and Data Security	4.14	5.86%	4.75	5.53%	4.29	5.77%	↔	3.53%	↓	-9.70%
Product Safety and Quality	3.63	3.91%	3.98	3.58%	3.98	4.90%	↑	9.64%	↔	0.12%
Responsible Investment	5.96	0.92%	6.38	0.90%	5.38	0.94%	↓	-9.75%	↓	-15.63%
Social Opportunities										
Access to Communications	6.07	0.48%	6.24	0.51%	5.84	0.49%	↔	-3.88%	↓	-6.49%
Access to Finance	4.79	2.41%	4.91	2.37%	4.42	1.49%	↓	-7.66%	↓	-9.94%
Access to Health Care	4.92	0.87%	5.52	0.92%	4.76	1.09%	↔	-3.29%	↓	-13.68%
Opportunities in Nutrition and Health	5.19	0.84%	5.34	1.16%	4.87	1.08%	↓	-6.07%	↓	-8.79%
Overall IVA Social Pillar	4.47	36.39%	4.93	35.90%	4.43	37.29%		-0.93%		-10.29%



ESG Ratings Key Issue Breakdown - Governance

MSCI ESG Portfolio Analytics
University of Maine System - UMS Managed Investment Pool

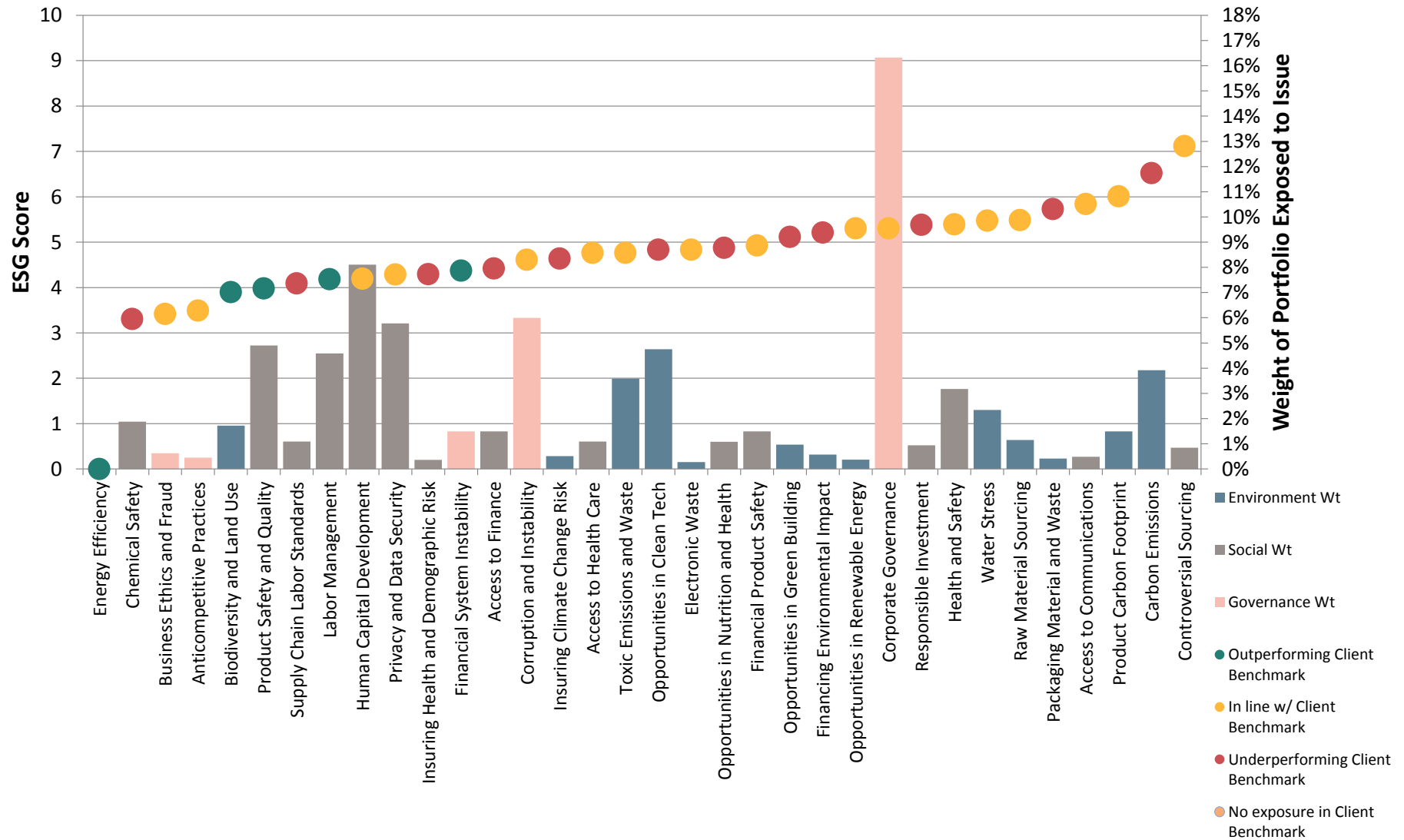
KEY ISSUE SCORES - GOVERNANCE	Client Benchmark		Client ESG Benchmark		UMS Managed Investment Pool*		UMS Managed Investment Pool vs Client Benchmark	UMS Managed Investment Pool vs Client ESG Benchmark
	SCORE	WEIGHT	SCORE	WEIGHT	SCORE	WEIGHT	SCORE COMPARISON	
Business Ethics								
Anticompetitive Practices	3.58	0.48%	3.51	0.38%	3.49	0.45%	↔ -2.47%	↔ -0.62%
Business Ethics and Fraud	3.37	0.66%	3.46	0.51%	3.42	0.62%	↔ 1.52%	↔ -1.14%
Corruption and Instability	4.84	5.83%	5.45	5.27%	4.61	5.99%	↔ -4.76%	↓ -15.36%
Corporate Governance								
Corporate Governance	5.12	15.26%	5.27	15.15%	5.30	16.33%	↔ 3.51%	↔ 0.68%
Government and Public Policy								
Financial System Instability	3.45	2.50%	4.40	2.44%	4.37	1.49%	↑ 26.60%	↔ -0.55%
Overall IVA Governance Pillar	4.81	24.72%	5.15	23.74%	5.00	24.88%	3.93%	-2.92%



ESG Ratings Key Issue Summary (Portfolio)

MSCI ESG Portfolio Analytics

University of Maine System - UMS Managed Investment Pool



7.1

Holdings Breakdown - Long Positions

 MSCI ESG Portfolio Analytics
 University of Maine System - UMS Managed Investment Pool

LOWEST ESG RATED POSITIONS IN PORTFOLIO				
RANK	ISSUER NAME	PORTFOLIO WEIGHT	SECTOR	RATING
1	WELLS FARGO & COMPANY	0.31%	Financial	CCC
2	PFIZER INC.	0.24%	Health Care	CCC
3	HUNTSMAN CORPORATION	0.15%	Materials	CCC
4	SUZUKI MOTOR CORPORATION	0.09%	Consumer Discretionary	CCC
5	EVRAZ PLC	0.08%	Materials	CCC
6	CHINA PETROLEUM & CHEMICAL CORPORATION	0.07%	Energy	CCC
7	GENERAL MOTORS COMPANY	0.06%	Consumer Discretionary	CCC
8	BOSTON SCIENTIFIC CORPORATION	0.05%	Health Care	CCC
9	PT INDOCEMENT TUNGGAL PRAKARSA TBK	0.05%	Materials	CCC
10	INTUITIVE SURGICAL, INC.	0.05%	Health Care	CCC
HIGHEST ESG RATED POSITIONS IN PORTFOLIO				
RANK	ISSUER NAME	PORTFOLIO WEIGHT	SECTOR	RATING
1	MICROSOFT CORPORATION	0.86%	Technology	AAA
2	L'OREAL S.A.	0.39%	Consumer Staples	AAA
3	SAP SE	0.34%	Technology	AAA
4	FERGUSON PLC	0.32%	Industrial	AAA
5	RELX N.V.	0.29%	Industrial	AAA
6	ACCENTURE PUBLIC LIMITED COMPANY	0.26%	Technology	AAA
7	OMV AKTIENGESELLSCHAFT	0.22%	Energy	AAA
8	COCA-COLA HBC AG	0.19%	Consumer Staples	AAA
9	RELX PLC	0.17%	Industrial	AAA
10	3M COMPANY	0.17%	Industrial	AAA
LARGEST POSITIONS IN PORTFOLIO				
RANK	ISSUER NAME	PORTFOLIO WEIGHT	SECTOR	RATING
1	APPLE INC.	0.90%	Technology	A
2	MICROSOFT CORPORATION	0.86%	Technology	AAA
3	NOVARTIS AG	0.57%	Health Care	A
4	UNITED STATES OF AMERICA	0.55%	Government/Sovereign	A
5	UNILEVER N.V.	0.54%	Consumer Staples	A
6	BRITISH AMERICAN TOBACCO P.L.C.	0.53%	Consumer Staples	BBB
7	GLAXOSMITHKLINE PLC	0.50%	Health Care	BBB
8	TENCENT HOLDINGS LIMITED	0.45%	Technology	BBB
9	ROCHE HOLDING AG	0.43%	Health Care	A
10	JOHNSON & JOHNSON	0.43%	Health Care	BBB

7.1

Holdings Breakdown - Short Positions

MSCI ESG Portfolio Analytics
University of Maine System - UMS Managed Investment Pool

LOWEST ESG RATED POSITIONS IN PORTFOLIO				
RANK	ISSUER NAME	PORTFOLIO WEIGHT	SECTOR	RATING
1	NAVIENT CORPORATION	-0.02%	Financial	CCC
2	NAVIENT CORPORATION	-0.02%	Financial	CCC
3	GENERAL MOTORS FINANCIAL COMPANY, INC.	-0.02%	Financial	CCC
4	CF INDUSTRIES, INC.	-0.01%	Materials	CCC
5	CNOOC NEXEN FINANCE (2014) ULC	-0.01%	Energy	CCC
6	CHINA RAILWAY RESOURCES HUITUNG LIMITED	-0.003%	Industrial	CCC
7	GRUPO TELEvisa, S.A.B.	-0.003%	Consumer Discretionary	CCC
8	MYLAN N.V.	-0.002%	Health Care	CCC
9	EXPRESS SCRIPTS HOLDING COMPANY	-0.05%	Health Care	B
10	WILLIAMS PARTNERS L.P.	-0.05%	Energy	B
HIGHEST ESG RATED POSITIONS IN PORTFOLIO				
RANK	ISSUER NAME	PORTFOLIO WEIGHT	SECTOR	RATING
1	BANCO BILBAO VIZCAYA ARGENTARIA, S.A.	-0.02%	Financial	AAA
2	VODAFONE GROUP PUBLIC LIMITED COMPANY	-0.02%	Telecommunications	AAA
3	INTEL CORPORATION	-0.02%	Technology	AA
4	ACHMEA B.V.	-0.02%	Financial	AA
5	COCA-COLA FEMSA, S.A.B. DE C.V.	-0.01%	Consumer Staples	AA
6	AVIS BUDGET CAR RENTAL, LLC	-0.07%	Industrial	A
7	COMMERZBANK AKTIENGESELLSCHAFT	-0.05%	Financial	A
8	ORACLE CORPORATION	-0.03%	Technology	A
9	BANCO SANTANDER, S.A.	-0.03%	Financial	A
10	SANTANDER UK GROUP HOLDINGS PLC	-0.02%	Financial	A
LARGEST POSITIONS IN PORTFOLIO				
RANK	ISSUER NAME	PORTFOLIO WEIGHT	SECTOR	RATING
1	GILEAD SCIENCES, INC.	-0.10%	Health Care	BBB
2	AVIS BUDGET CAR RENTAL, LLC	-0.07%	Industrial	A
3	THE ROYAL BANK OF SCOTLAND GROUP PUBLIC LIMITED COMPAN	-0.06%	Financial	BB
4	BANK OF AMERICA CORPORATION	-0.06%	Financial	BB
5	EXPRESS SCRIPTS HOLDING COMPANY	-0.05%	Health Care	B
6	WILLIAMS PARTNERS L.P.	-0.05%	Energy	B
7	COMMERZBANK AKTIENGESELLSCHAFT	-0.05%	Financial	A
8	TELECOM ITALIA SPA	-0.05%	Telecommunications	BBB
9	THE GOLDMAN SACHS GROUP, INC.	-0.04%	Financial	BBB
10	CREDIT SUISSE GROUP FUNDING (GUERNSEY) LIMITED	-0.04%	Financial	BB

7.1

ESG Controversies Exposure

MSCI ESG Portfolio Analytics
University of Maine System - UMS Managed Investment Pool

CORPORATE POSITIONS IN PORTFOLIO WITH THE MOST CONTROVERSY EXPOSURE

RANK*	ISSUER NAME	PORTFOLIO WEIGHT	SECTOR (GICS)	ENVIRONMENT	CUSTOMERS	HUMAN RIGHTS & COMMUNITY	LABOR RIGHTS & SUPPLY CHAIN	GOVERNANCE
1	BHP BILLITON PLC	0.11%	Materials	●	●	●	●	●
2	BHP BILLITON PLC	0.02%	Materials	●	●	●	●	●
3	BHP BILLITON LIMITED	0.003%	Materials	●	●	●	●	●
4	BHP BILLITON FINANCE (USA) LIMITED	0.002%	Materials	●	●	●	●	●
5	TOKYO ELECTRIC POWER COMPANY HOLDINGS, INCORPORATED	0.001%	Utility	●	●	●	●	●
6	BHP BILLITON PLC	0.001%	Materials	●	●	●	●	●
7	BHP BILLITON FINANCE (USA) LIMITED	0.0001%	Materials	●	●	●	●	●
8	ROYAL DUTCH SHELL PLC	0.09%	Energy	●	●	●	●	●
9	ROYAL DUTCH SHELL PLC	0.06%	Energy	●	●	●	●	●
10	VOLKSWAGEN AG	0.004%	Consumer Discretionary	●	●	●	●	●

7.1

ESG CONTROVERSIES COVERAGE

GROSS PORTFOLIO WEIGHT			
Percentage of portfolio covered			74.19%
EXPOSURE OF ESG CONTROVERSIES COVERAGE			
			NET PORTFOLIO WEIGHT
	Red	Orange	Yellow
Environment	0.92%	1.38%	4.94%
Customers	0.11%	8.68%	14.67%
Human Rights & Community	0.88%	1.48%	3.77%
Labor Rights & Supply Chain	0.16%	4.60%	9.56%
Governance	0.63%	5.17%	16.39%

ESG Controversies Exposure



Business Involvement Screening Research

MSCI ESG Portfolio Analytics

University of Maine System - UMS Managed Investment Pool

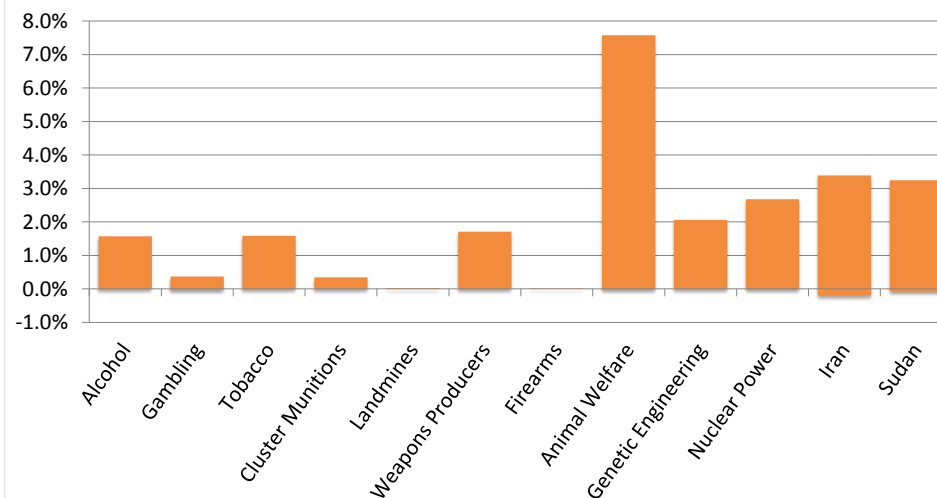
LARGEST CORPORATE POSITIONS WITH BUSINESS INVOLVEMENT EXPOSURE

RANK	COMPANY NAME	PORTFOLIO WEIGHT	SECTOR (GICS)	BUSINESS INVOLVEMENT
1	NOVARTIS AG	0.57%	Health Care	Sudan
2	UNILEVER N.V.	0.54%	Consumer Staples	Animal Welfare
3	BRITISH AMERICAN TOBACCO P.L.C.	0.53%	Consumer Staples	Tobacco; Animal Welfare; Genetic Engineering; Iran; Sudan
4	GLAXOSMITHKLINE PLC	0.50%	Health Care	Animal Welfare
5	JOHNSON & JOHNSON	0.43%	Health Care	Animal Welfare
6	RECKITT BENCKISER GROUP PLC	0.43%	Consumer Staples	Animal Welfare
7	BERKSHIRE HATHAWAY INC.	0.40%	Financial	Animal Welfare; Nuclear Power
8	BAYER AKTIENGESELLSCHAFT	0.40%	Health Care	Animal Welfare; Genetic Engineering; Sudan
9	L'OREAL S.A.	0.39%	Consumer Staples	Animal Welfare
10	EXXON MOBIL CORPORATION	0.35%	Energy	Animal Welfare

BUSINESS INVOLVEMENT EXPOSURE ANALYSIS

	NET PORTFOLIO WEIGHT
Alcohol	1.57%
Gambling	0.34%
Tobacco	1.59%
Cluster Munitions	0.35%
Landmines	0.02%
Weapons Producers	1.71%
Firearms	0.02%
Animal Welfare	7.57%
Genetic Engineering	2.06%
Nuclear Power	2.67%
Iran	3.19%
Sudan	3.17%

Business Involvement Exposure*



* This is a subset of a wider range of business activities for which research is available.

Screen Definition

MSCI ESG Portfolio Analytics

University of Maine System - UMS Managed Investment Pool

Category	Description
Alcohol	· Companies that derive 5% or more of revenues from manufacturing, distributing, retailing, licensing, or supplying alcoholic products.
Gambling	· Companies that derive 5% or more of revenues from gambling-related business activities.
Tobacco	· Companies that manufacture tobacco products, such as cigars, blunts, cigarettes, electronic cigarettes, beedis, kreteks, smokeless tobacco, snuff, snus, and chewing tobacco; or · Companies that derive 5% or more of revenues from tobacco distribution, retail, licensing, or the supply of key products necessary for the manufacture of tobacco products.
Cluster Munitions	· Companies that manufacture cluster munitions whole systems or components. This category also includes manufacturers of specific delivery systems of cluster munitions. · Companies that own 20 to 49.99 percent of a company that manufactures cluster munitions and/or components/delivery systems. When a company owns 50 percent or more of a company with involvement, MSCI ESG Research treats it as a consolidated subsidiary, unless the parent company in question is a financial institution. · Companies that are 50 percent or more owned by a company with cluster munitions involvement.
Landmines	· Companies that manufacture landmines whole systems or components. · Companies that own 20 to 49.99 percent of a company that manufactures landmines and/or components. When a company owns 50 percent or more of a company with involvement, MSCI ESG Research treats it as a consolidated subsidiary, unless the parent company in question is a financial institution. · Companies that are 50 percent or more owned by a company with landmine involvement.
Weapons Producers	· Companies that derive revenue from the production of biological or chemical weapons and related systems and components. · Companies that derive 5% or more of revenues from the manufacture of conventional weapons and related systems and components. · Companies that derive 2% or more of revenue from the production of nuclear weapons and related systems and components.
Firearms	· Companies that derive 5% or more of revenues from the manufacture and retail of civilian firearms and ammunition.
Animal Welfare	· Companies that conduct animal testing for non-pharmaceutical products including cosmetic, personal care, and household cleaning products, as well as industrial and chemical products.
Genetic Engineering	· Companies that genetically modify plants, such as seeds and crops, and other organisms intended for agricultural use or human consumption.
Nuclear Power	· Companies that own or operate nuclear power plants. · Companies that supply key nuclear-specific products or services to the nuclear power industry.
Iran	· Global Sanctions - California Department of Insurance Iran · Global Sanctions - State of California Iran · Global Sanctions - State of Florida Iran · Global Sanctions - State of Georgia Iran · Global Sanctions - State of Illinois Iran
Sudan	· Global Sanctions - State of Florida Sudan · Global Sanctions - Sudan Focus · Global Sanctions - State of Illinois Sudan · Global Sanctions - State of New Jersey Sudan · Global Sanctions - State of Oregon Sudan

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Securities in this report are rated using either MSCI's ESG Ratings model or Government model. At a security level, both models include a Rating, ESG Quality Score, Environment Score, Social Score, and Governance Score. Drilling further down, the models utilize different data fields. Due to these differences, some pages of the report are based on a comingled universe of Government and ESG Ratings analyzed securities, while the results of other pages are based only on securities reviewed using a single rating model. In addition to the ESG Ratings and Government rating models, some sections of the report assess securities using MSCI's ESG Controversies and Business Involvement Screening Research (BISR) products. Following is an explanation of the models used in each section of the report:

	ESG Ratings	Government	Controversies	BISR
Portfolio Summary (p.2)	Y	Y		
Sector Breakdown - Corporates (p.3)	Y			
Sector Breakdown - Governments (p.4)		Y		
ESG Ratings Key Issue Breakdown - Environment (p.5)	Y			
ESG Ratings Key Issue Breakdown - Social - (p.6)	Y			
ESG Ratings Key Issue Breakdown - Governance (p.7)	Y			
ESG Ratings Key Issue Summary (p.8)	Y			
Holdings Breakdown (p.9 & 10)	Y	Y		
ESG Controversies Exposure (p.11)			Y	
Business Involvement Screening Research (p.12)				Y

Coverage of the portfolio is based on our existing research universe for each ESG product line, as outlined in the chart below.

Product	Research Universe
MSCI ESG Ratings	~6,500 companies (plus bond-issuing subsidiaries), primarily publicly-traded, but also including government-owned entities that operate as companies, and supra-national financial institutions.
Government Ratings	218 government entities (plus bond-issuing subsidiaries) including Sovereigns, Local Authorities and Agencies.
ESG Controversies	ACWI IMI+
BISR	All publicly-traded equities.

Please refer to ESG Manager for complete methodology documents.

CONTACT USesgclientservice@msci.com**Americas**

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For more than 40 years, MSCI's research-based indexes and analytics have helped the world's leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset class coverage and innovative research.

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- **Past performance is no guarantee of future results.**
- **The opinions presented herein represent the good faith views of NEPC as of the date of this analysis and are subject to change at any time.**
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AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Defined Contribution Plan – Quarterly Review

2. **INITIATED BY:** Kelly Martin, Chair

3. **BOARD INFORMATION:** X

BOARD ACTION:

4. **OUTCOME:**

Primary Outcome:

Enhance fiscal positioning

BOARD POLICY:

Section 709 - Investments

5. **BACKGROUND:**

Michael Pratico, Senior Vice Presidents with CAPTRUST Financial Advisors, will provide a quarterly update regarding the Defined Contribution Plan at the March 8, 2018 Investment Committee meeting.

UNIVERSITY OF MAINE SYSTEM
4TH QUARTER, 2017

8.1

**DEFINED CONTRIBUTION
QUARTERLY REVIEW**

CAPTRUST
4208 Six Forks Road, Suite 1700
Raleigh, NC 27609

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 12.31.17 | **Q4 17**

University of Maine System Defined Contribution Plan

University of Maine System Defined Contribution Plan

4th Quarter, 2017 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

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SECTION 1: RETIREMENT INDUSTRY UPDATES

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

SECTION 1: RETIREMENT INDUSTRY UPDATES	
Industry Updates.....	

RETIREMENT PLAN MARKETPLACE—INDUSTRY UPDATE

Period Ending 12.31.17 | Q4 17

WHAT DOES THE NEW YEAR HOLD?

Each year, our retirement plan practice leaders sit down to discuss their expectations for the upcoming year. This year, we identified three major themes—each of which has a number of implications for retirement plan sponsors.

INCREASING COMPLEXITY FOR RETIREMENT PLAN SPONSORS

- Defined contribution plan litigation continues, and it comes down market
- The focus on fees continues, including:
 - Choice of investment vehicles
 - Active vs. passive management
 - Asset-based vs. per-head fees
 - Zero revenue sharing vs. fee leveling with technology
- Continued proliferation of new products, including:
 - Managed accounts and hybrid QDIAs
 - ESG solutions
- The fiduciary rule's delay complicates plan sponsors' approach to monitoring service providers and their evolving roles

BENEFITS MATTER MORE

- Despite the tight labor market and competition for talent, wages haven't increased much
- Employers' focus on perks, including financial wellness programs, may be taking pressure off wages
- All three generations in the workforce today have complex financial issues to deal with:
 - Millennials are stressed about borrowing and haven't started saving for retirement
 - Baby Boomers are retiring in record numbers—about 10,000 each day
 - Gen Xers are facing the competing demands of college planning, retirement saving, and aging parents

THE RETURN OF MARKET VOLATILITY

- All major asset classes were in positive territory for 2017
- After nearly two years since a 10% correction, U.S. stocks are due for a pullback
- We are entering a new market environment as central banks move to more restrictive monetary policy; we will experience rising interest rates and higher inflation
- This new market environment may call into question the effectiveness of capital preservation options and target date funds
- Defined benefit plan sponsors will continue to explore options for pension risk transfer in light of rising interest rates and increasing plan costs

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To read the full article, "What Does the New Year Hold?," visit www.captrustadvisors.com/resources.

RETIREMENT PLAN MARKETPLACE—INDUSTRY UPDATE

Period Ending 12.31.17 | Q4 17

WHAT DOES THE NEW YEAR MEAN TO ME?

As we contemplate our key themes and predictions, here are a few specific actions plan sponsors may wish to consider for the new year.

Plan Sponsor Considerations	Increasing Complexity	Benefits Matter	Market Volatility
Related to defined contribution investment options:			
• Capital preservation option - Know what you own and understand your alternatives			✓
• Target date funds - Know what you own and understand market positioning	✓		✓
• QDIA - Understand new TDF alternatives (e.g., managed accounts and hybrids)	✓	✓	✓
Update processes for monitoring and supervising providers delivering fiduciary advice	✓		
Ensure commitment to fiduciary processes and adherence to best practices:			
• Consistency of meetings and documentation of decisions (e.g., meeting minutes)	✓		
• Adherence to your Investment Policy Statement	✓		✓
• Routine benchmarking to determine fee reasonableness	✓	✓	
• Confirmation and documentation of rationale for approach to paying plan costs	✓	✓	
Evaluate attractiveness of retirement benefits for all employee demographics:			
• Relative competitiveness of plan design		✓	
• Availability of retirement income solutions, as appropriate	✓	✓	
• Participant access to tools, education, wellness solutions, and advice offering	✓	✓	
• Executive/key employee benefits (e.g., nonqualified plans and advice offering)		✓	
Consider outsourcing plan-related tasks and decisions that are not core functions	✓	✓	✓
Review costs and benefits of defined benefit plan termination or de-risking			✓

To read the full article, “What Does the New Year Hold?,” visit www.captrustadvisors.com/resources.

RETIREMENT PLAN MARKETPLACE—INDUSTRY UPDATE

Period Ending 12.31.17 | Q4 17

FIDUCIARY UPDATE

Each quarter, CAPTRUST's Drew McCorkle highlights court cases with ERISA retirement plan implications and provides an overview of regulatory and legislative updates impacting the retirement industry—most particularly plan sponsors and their participants. Below, we highlight a few of the notable items covered in this quarter's Fiduciary Update.

FIDUCIARY RULE UPDATE

On November 29, 2017, the DOL again delayed the applicability and enforcement of certain provisions of the Fiduciary Rule, moving the date from 1.1.18 to 7.1.19. The delay is specific to three Prohibited Transaction Exemptions—the most notable being the Best Interest Contract (BIC) Exemption (PTE 2016-01).

A few key reminders:

- The updated definitions of who is a fiduciary and what acts are fiduciary have been applicable since June 2017.
- Most service providers are adhering to the new standards that went into effect in June.
- Those providers providing fiduciary advice—and in need of the BIC—can avoid enforcement by complying with the Impartial Conduct Standards.
- Plan sponsors have a duty to monitor and supervise their providers and should contemplate their providers' approaches to compliance.

To read the full article, visit www.captrustadvisors.com/resources.

LOST PARTICIPANTS GETTING LOTS OF ATTENTION

The DOL's last official guidance was FAB 2014-1, which provided standards for locating lost participants in terminating DC plans. However, recent audits suggest the following views:

- Failure to locate a lost participant is a fiduciary breach, and "reasonable" search steps include trying new methods annually.
- Using forfeited accounts for any other purpose is a prohibited transaction.

An IRS internal memo dated 10.19.17 directed auditors to not challenge a qualified plan for failing to make RMDs (to those 70½ and older) if they have:

- Searched plan, sponsor, and public records and attempted contact based on what they found;
- Used a commercial locator service, credit reporting agency, or internet search tool for locating individuals; and
- Attempted contact with U.S. Postal Service certified mail.

On 12.22.17, the PBGC published a final rule expanding its missing participant program to DC plans terminating after 1.1.18. This voluntary program allows plan sponsors to transfer missing participant benefits to the PBGC, instead of establishing an IRA.

- No ongoing maintenance or distribution fees are assessed.
- The PBGC will pay benefits and interest when participants are found.

COMPANY UPDATE

Period Ending 12.31.17 | Q4 17

YEAR IN REVIEW

COMPANY RESULTS

- CAPTRUST finished its 20th year of providing independent advice with 443 employees, including 232 shareholders.
- As of 12.31, 2017, CAPTRUST advised on almost \$250 billion of institutional and wealth management client assets and managed nearly \$15 billion in discretionary relationships.
- 2017 was an exceptional year for client satisfaction as measured by a 99% client retention rate.
- We ended 2017 with 151 financial advisors in 35 locations.
- We invested in new technologies and enhanced our participant advice and foundation and endowment services.

EMPLOYEE ADVICE AND WELLNESS

- In late 2017, we further invested on our participant advice offering to include more financial wellness content and new ways to engage employees, including:
 - A mobile-responsive website with more articles and tools;
 - Quarterly market update videos featuring CAPTRUST CIO Kevin Barry; and
 - More robust monthly employee newsletters with links to articles and resources.
- We continue to offer quarterly webinars, Retirement Blueprint® tablet sessions, and access to our Advice Desk.

IN OUR COMMUNITIES

- 2017 was a record year for giving to charities that enrich the lives of children in communities we serve, with more than \$600,000 going to worthy causes.
- Among the grants made by our employee-run foundation were:
 - A \$100,000 donation to Read and Feed, our 2017 Charity of Choice, in Raleigh;
 - \$25,000 grants to Sawyerville Day Camp in Birmingham and The Sheridan Story in Minneapolis; and
 - Eight crisis grants to assist those affected by Hurricanes Harvey, Irma, and Maria and the California wildfires.

KEY EMPLOYEE ADVICE

- We launched Blueprint PRO, an advice service designed to help key employees optimize corporate benefits, maximize their retirement savings, and manage financial risks, including:
 - On-demand access to an experienced financial advisor;
 - A subscription to WealthView, CAPTRUST's wealth management client portal; and
 - Development of a balance sheet, wealth projection, retirement income analysis, and asset allocation review; and
 - *VESTED* magazine and other content from CAPTRUST's wealth planning experts.

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CAPTRUST COMMUNITY FOUNDATION

Period Ending 12.31.17 | Q4 17

We have a profound responsibility to share our success. We contribute time, money, and energy to our communities and assist those in need, particularly underprivileged children.

Aspiring to our firm's mission to enrich the lives of our communities, the CAPTRUST Community Foundation, a registered 501(c)(3) charity, was organized in 2007 to provide CAPTRUST employees with more opportunities to participate as a group in community outreach efforts.



The foundation's goal is to support our communities by encouraging our teammates to contribute time and resources to local and national charities serving the needs of children.

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ENDOWMENT AND FOUNDATION PRACTICE

Period Ending 12.31.17 | Q4 17

**Assets Under Advisement:
\$5.2 billion**

Number of Clients: 133

Number of Accounts: 201

Average Account Size: \$26.7 million

Median Account Size: \$10 million

Clients Include:

Corporate Foundations

Community Foundations

Higher Education Endowments

Religious Institutions

Healthcare Organizations

Museums

Zoological Societies

Other Nonprofits

Services for Nonprofits

- Fiduciary advisory and risk management
- Investment advisory and management
- Spending policy evaluation
- Investment policy statements
- Asset allocation modeling
- Manager search and selection
- Environmental, social, and governance

Our Unique Value Proposition**Aligned Interests**

- Independent and objective
- Employee owned
- Mission alignment

Unique Perspective

- Specialized and experienced
- Depth of resources

Proven Results

- 98% client retention (average since 2007)

CAPTRUST Endowment and Foundation Clients

Association of American Medical Colleges

Boys & Girls Clubs of Metro Atlanta

Central Florida Foundation, Inc.

Community Foundation of Marquette County

GiveWell Community Foundation, Inc.

Hillsborough Education Foundation, Inc.

Land Conservancy of New Jersey

Malta Human Services Foundation

Martin County Community Foundation

Palm Healthcare Foundation, Inc.

Polk Museum of Art

Polk Education Foundation

Superior Health Foundation

Tampa General Hospital Foundation, Inc.

The Florida United Methodist Foundation, Inc.

Wythe-Bland Foundation

As of 12.31.2017. Representative clients were selected to illustrate the broad diversity of the firm's client base by size, type, and industry. This list should not be construed as an endorsement, reference, or comment from representative clients regarding the quality of investment advice CAPTRUST provides.

8.1

SECTION 2: MARKET COMMENTARY AND REVIEW

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

SECTION 2: MARKET COMMENTARY AND REVIEW	
Market Commentary.....	
Market Review.....	
Asset Class Returns.....	
Index Performance.....	

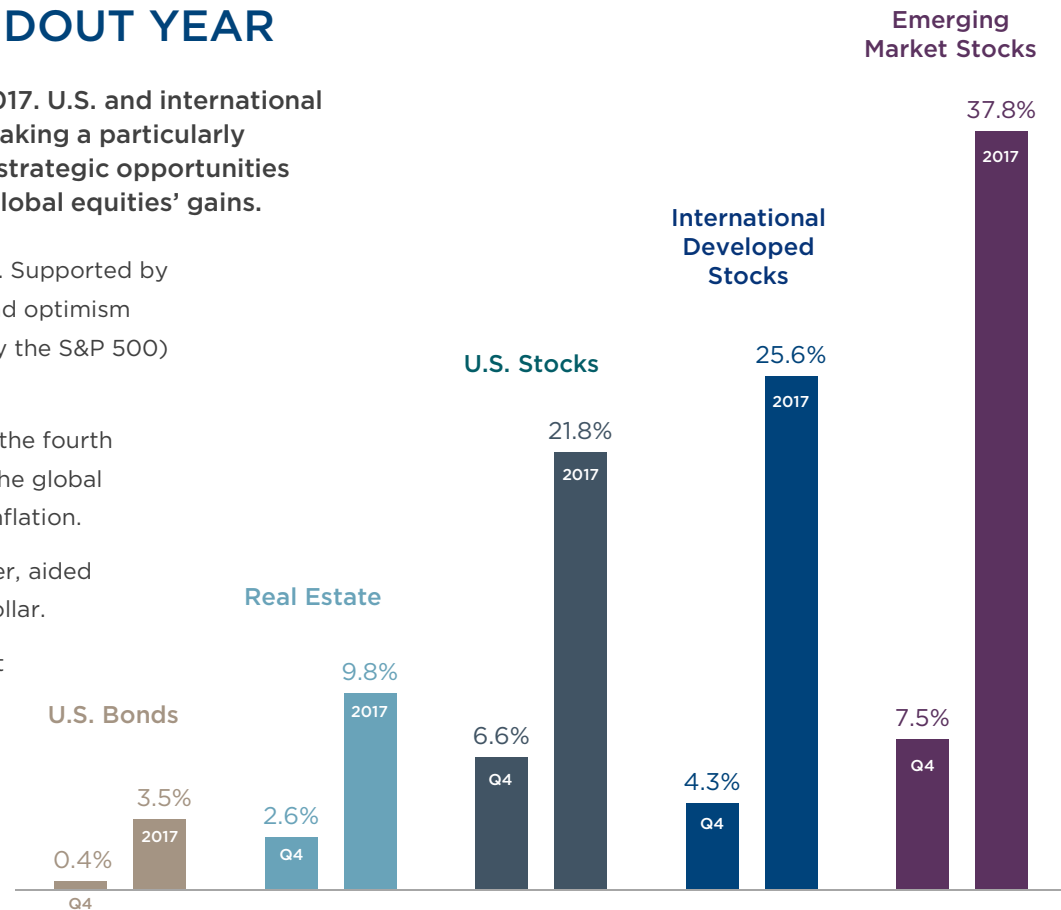
MARKET COMMENTARY

Period Ending 12.31.17 | Q4 17

A STRONG CLOSE TO A STANDOUT YEAR

All major asset classes posted positive returns in 2017. U.S. and international stocks led the way, with emerging market stocks making a particularly impressive showing. Bonds, public real estate, and strategic opportunities notched gains as well but were overshadowed by global equities' gains.

- U.S. stocks closed out a strong year on a positive note. Supported by accelerating economic growth, consumer spending, and optimism about tax reform's impact, U.S. stocks (as measured by the S&P 500) posted positive returns each month of 2017.
- International developed stocks posted strong gains in the fourth quarter, adding to their stellar returns for the year as the global economy experienced synchronized growth and low inflation.
- Emerging market stocks were the year's best performer, aided by a stabilizing Chinese economy and a weaker U.S. dollar.
- Bonds posted another year of modest gains as interest rates remained steady.
- While public real estate lagged stocks this year, the asset class enjoyed strong returns, thanks to stable interest rates and favorable market dynamics.



Asset class returns are represented by the following indexes: S&P 500 Index (U.S. large-cap stocks), MSCI EAFE Index (international 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 12.31.17 | Q4 17

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

The Tax Cuts and Jobs Act

- This is the largest tax reform in 30 years. It affects individuals and corporations and is very pro-growth.
- For many American workers, the increase to their take-home pay resulting from lower tax rates will be larger than their annual salary increases.

Benefits for Individuals

- Consumers will have \$100 billion more to spend this year. That will drive personal consumption and corporate profits.
- Consumer confidence should remain very strong.
- GDP for 2018 could grow more than 3.5 to 4%, which could astound forecasters and put upward pressure on wages in 2019.

Benefits for Corporations

- The corporate tax rate drops from 35% to 21%, making U.S. corporations much more competitive against foreign firms.
- The tax deal incents companies to invest in themselves, thereby increasing productivity, profits, and their ability to grant wage increases.
- Business confidence continues to be very strong and should lead to increased business investment.



HEADWINDS

Blue State Blues

- Although 95% of Americans will pay less in taxes, high-income earners in states with high property taxes will pay more.
- Higher-priced homes should lag lower-priced homes as the mortgage interest deduction is capped at the first \$750,000 of debt principal on new mortgages.

Over-Stimulus Could Lead to Higher Interest Rates

- If extra consumption leads to too much demand for labor and other goods, the result could be a pop in inflation that spooks investors and the Fed. This is not our base case, but it remains a focus.
- If this occurs, investors could see earnings growth but not much growth in stock prices as higher interest rates constrain prices.
- Stock market volatility was exceptionally low last year; we predict it will increase.

Geopolitical Risks Increase

- North Korea continues its nuclear testing, and issues in the Middle East are heating up.
- Recent unrest in Iran (and the suspension of the internet there) highlights a potential flashpoint.



8.1

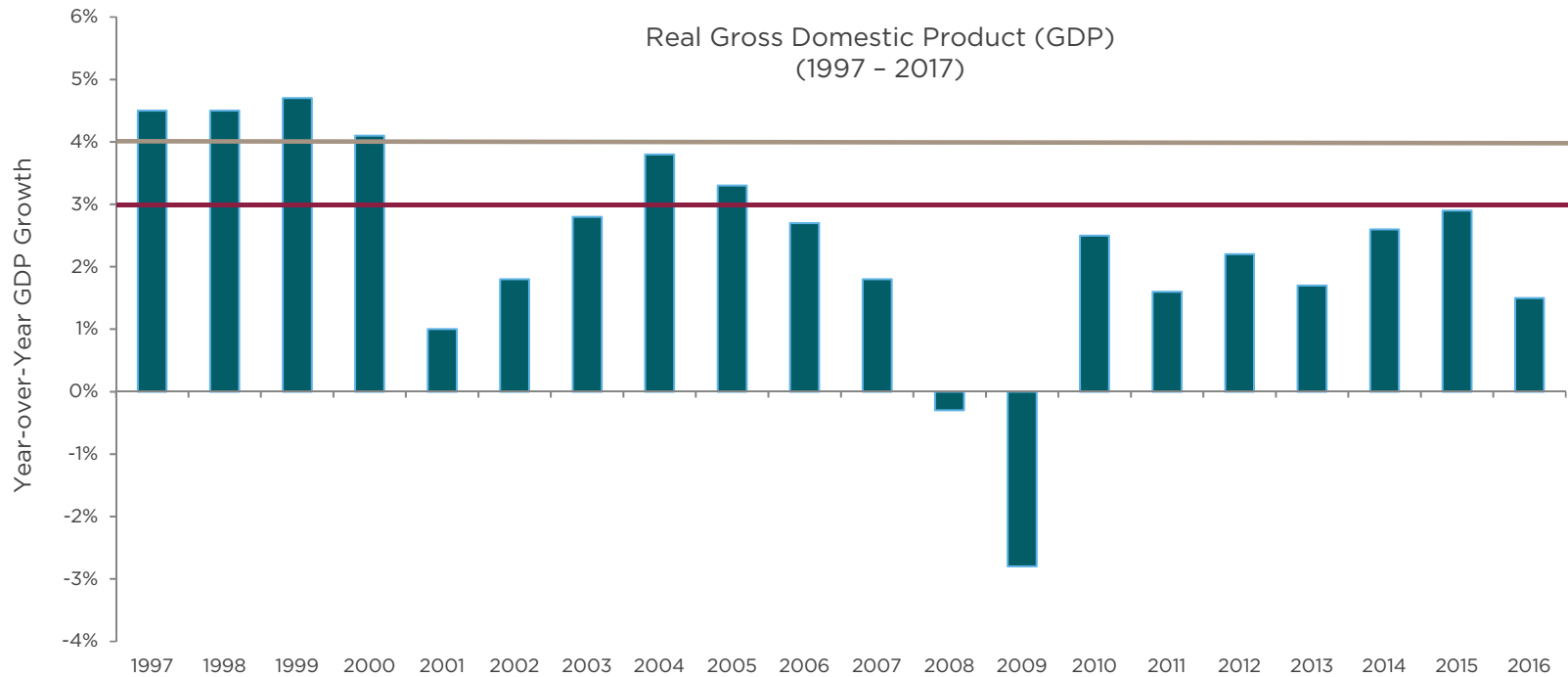
Overall, the global economic backdrop continues to strengthen. Given current valuations, international stocks are more attractively priced than U.S. stocks.

MARKET COMMENTARY

Period Ending 12.31.17 | Q4 17

GDP GROWTH WILL SURPRISE TO THE UPSIDE

The last calendar year of gross domestic product growth in excess of 3% was 2005. And 4% was last seen in 2000. You have to be almost 35 years old to have experienced a strong economy during your working life. The Tax Cuts and Jobs Act has the potential to boost our economy to a level of growth not seen in more than a decade. The consensus estimate for GDP growth in 2018 is 2.5%, but we believe that growth will exceed 3%—and could accelerate to near 4%. This will surprise investors.



Source: U.S. Bureau of Economic Analysis

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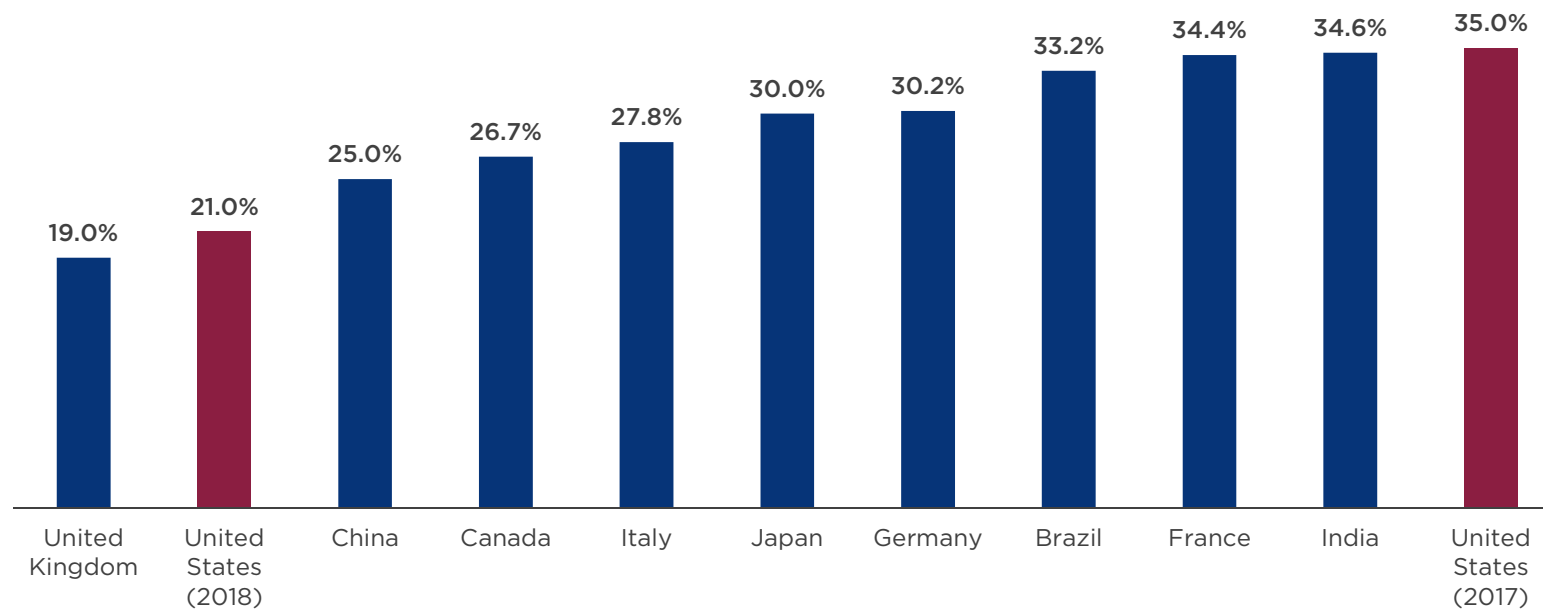
MARKET COMMENTARY

Period Ending 12.31.17 | Q4 17

U.S. MOVES TO THE HEAD OF THE CLASS

The Tax Cuts and Jobs Act reduces the corporate tax rate in the U.S. from 35% to 21%, bringing the U.S. from the highest corporate tax rate among the world's 10 largest economies to second place behind the United Kingdom. Given the magnitude of this tax-rate reduction, U.S. corporations should be much more competitive against foreign corporations.

Corporate Tax Rates in the World's Top 10 Economies

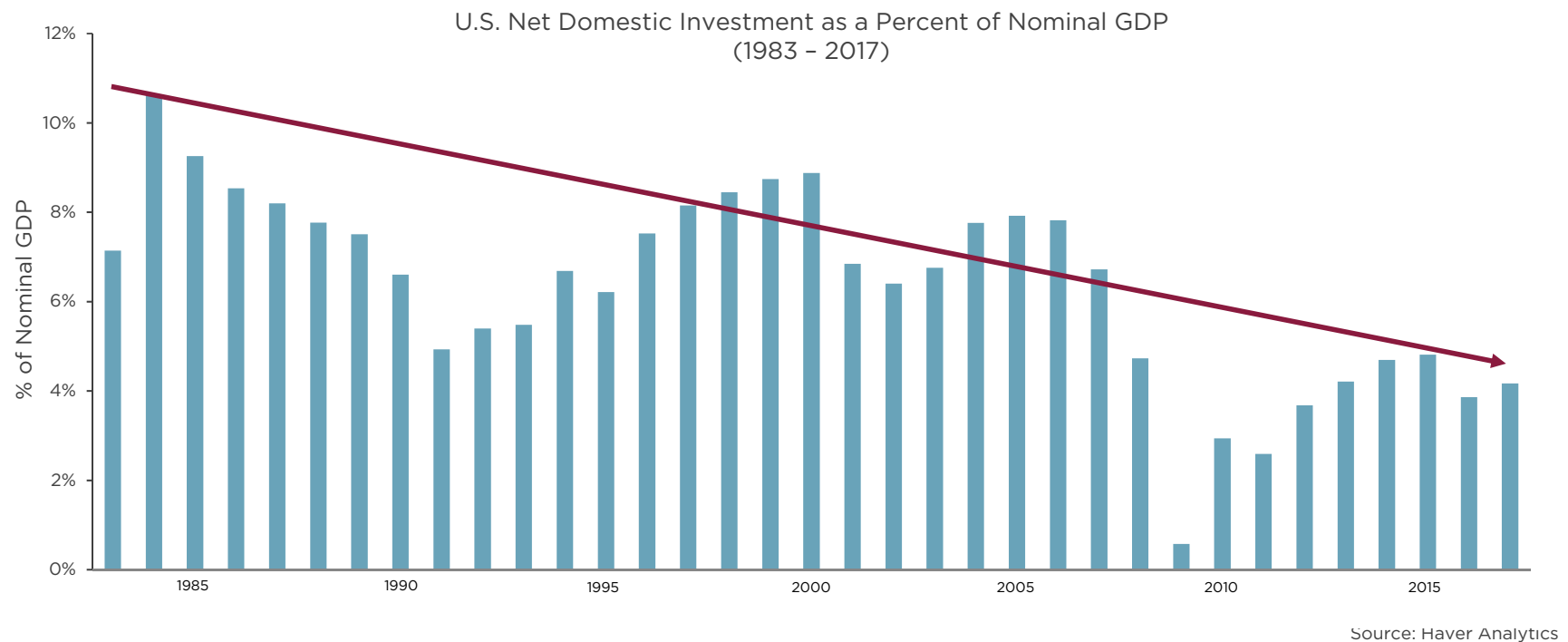


Source: Laffer Associates, OECD, World Economic Forum

8.1

THE RETURN OF CORPORATE REINVESTMENT

The last 20 years has seen a decline in corporate reinvestment as companies have underinvested in themselves. More specifically, public companies in the U.S. have bought back their publicly traded shares at the expense of investment in research, plant, and productive technologies. At present, the average age of corporate plant and equipment is nearly 13 years—the oldest since World War II—and the average age has increased every year since 2000. The Tax Cuts and Jobs Act should encourage corporate reinvestment, paving the way for future growth.



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MARKET COMMENTARY

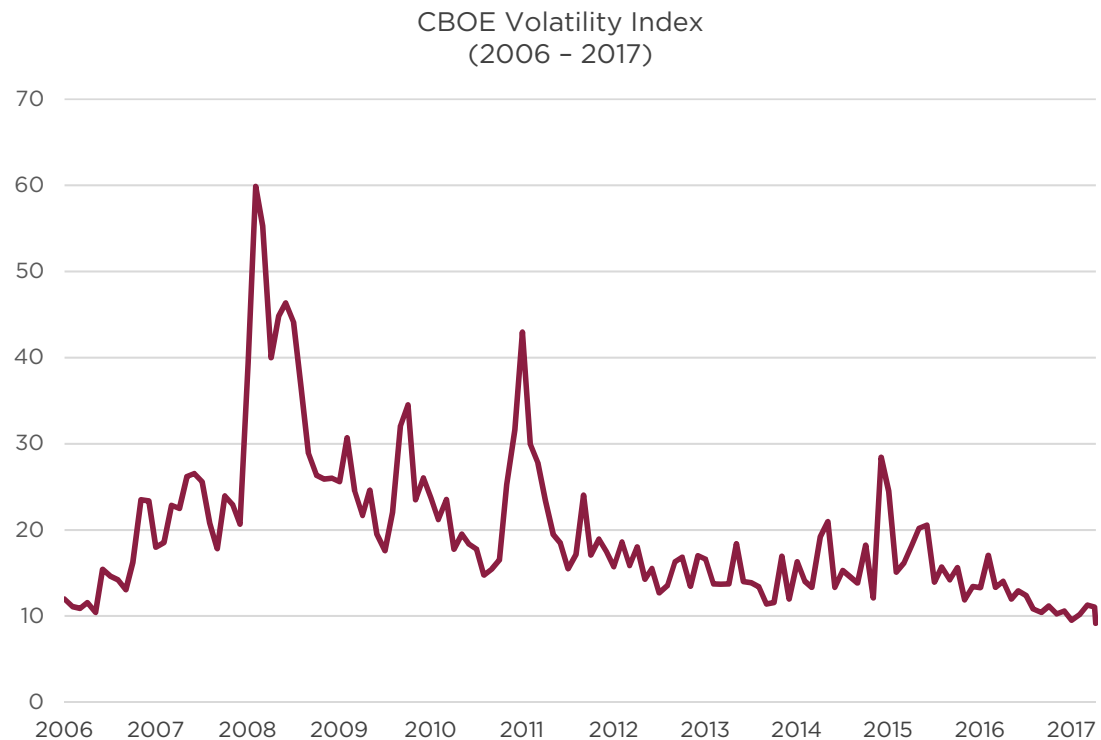
Period Ending 12.31.17 | Q4 17

THE RETURN OF STOCK MARKET VOLATILITY

At some point each year, the stock market typically experiences a 10 to 15% decline. For example, the S&P 500 Index sold off 10% in early 2016—even though the index finished the year up 12%. Meanwhile, the largest decline in 2017 was less than 3%—the lowest level in almost 50 years. We believe that the stock market will return to a more normal pattern of ups and downs. This does not mean that we are predicting a negative return for stocks in 2018—just a bumpier ride.

TRENDS AND DRIVERS

- The Chicago Board of Options Exchange (CBOE) Volatility Index, also known as “the VIX” or “fear index,” is a popular measure of the stock market’s expectation of volatility implied by S&P 500 Index options.
- As you can see from the chart to the right, the VIX spiked in 2008 during the Financial Crisis and 2011 during the European Sovereign Debt Crisis.
- With the exception of a more recent spike in 2015, driven by a market sell-off in China, the VIX has fallen steadily to unsustainably low levels.
- Only twice in the last 50 years has intra-year volatility finished below 5%.



Source: Chicago Board of Options Exchange

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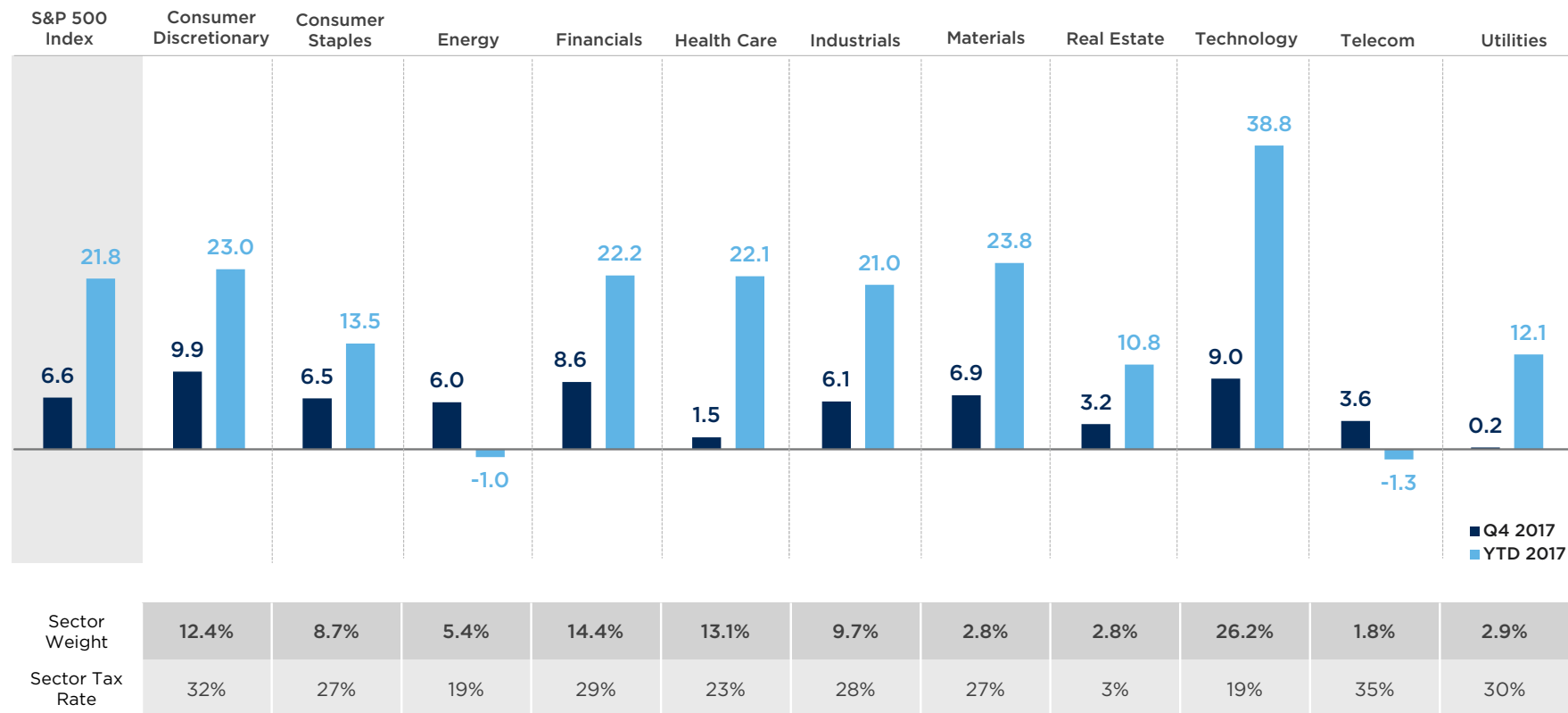
MARKET COMMENTARY

Period Ending 12.31.17 | Q4 17

DIGGING DEEPER: U.S. EQUITY MARKETS

The S&P 500 Index is a market-capitalization-weighted index of U.S. large-cap stocks across a diversity of industry sectors. The stocks represented in those 11 sectors generated a range of returns in 2017.

Returns by S&P 500 Sector (%)



Source: Standard & Poor's, J.P. Morgan Asset Management, Cornerstone Macro. Data as of 12.31.2017. All calculations are cumulative total return, not annualized, including dividends for the stated period. Past performance is not indicative of future returns.

8.1

ASSET CLASS RETURNS

Period Ending 12.31.17 | Q4 17

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Mid-Cap Value 23.70%	International Equities 14.02%	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%
Small-Cap Value 22.25%	Mid-Cap Value 12.65%	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%
International Equities 20.70%	Mid-Cap Growth 12.10%	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 Value 16.49%	Large-Cap Value 7.05%	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 15.48%	Large-Cap Growth 5.26%	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%
Small-Cap Growth 14.31%	Small-Cap Value 4.71%	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%
Large-Cap Growth 6.30%	Small-Cap Growth 4.15%	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%
Fixed Income 3.04%	Cash 3.35%	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%
Cash 1.44%	Fixed Income 1.58%	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%

Small-Cap Value Stocks (Russell 2000 Value)
 Small-Cap Growth Stocks (Russell 2000 Growth)
 Large-Cap Growth Stocks (Russell 1000 Growth)

Large-Cap Value Stocks (Russell 1000 Value)
 Mid-Cap Growth Stocks (Russell Mid-Cap Growth Index)
 Mid-Cap Value Stocks (Russell Mid-Cap Value Index)

International Equities (MSCI EAFE)
 Fixed Income (Bloomberg Barclays U.S. Aggregate Bond Index)
 Cash (Merrill Lynch 3-Month Treasury Bill)

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.

8.1

Source: Markov Processes, Inc., Bloomberg, Mobius

INDEX PERFORMANCE

Period Ending 12.31.17 | Q4 17

INDEXES	Q4 2017	2017	2016	2015	2014	2013	2012	1 YEAR	3 YEAR	5 YEAR	10 YEAR
90-Day US Treasury	0.28%	0.86%	0.33%	0.05%	0.03%	0.07%	0.11%	0.86%	0.41%	0.27%	0.39%
Bloomberg Barclays Government 1-3 Year	-0.27%	0.45%	0.87%	0.57%	0.64%	0.37%	0.51%	0.45%	0.63%	0.58%	1.53%
Bloomberg Barclays Intermediate Govt	-0.40%	1.14%	1.05%	1.18%	2.52%	-1.25%	1.73%	1.14%	1.12%	0.92%	2.70%
Bloomberg Barclays Muni Bond	0.75%	5.45%	0.25%	3.30%	9.05%	-2.55%	6.78%	5.45%	2.98%	3.02%	4.46%
Bloomberg Barclays Intermediate Govt/Credit	-0.20%	2.14%	2.08%	1.07%	3.13%	-0.86%	3.89%	2.14%	1.76%	1.50%	3.32%
Bloomberg Barclays Intermediate Credit	0.11%	3.67%	3.68%	0.90%	4.16%	-0.17%	8.10%	3.67%	2.74%	2.43%	4.55%
Bloomberg Barclays Aggregate Bond	0.39%	3.54%	2.65%	0.55%	5.97%	-2.02%	4.22%	3.54%	2.24%	2.10%	4.01%
Bloomberg Barclays Corporate IG Bond	1.17%	6.42%	6.11%	-0.68%	7.46%	-1.53%	9.82%	6.42%	3.90%	3.48%	5.65%
Bloomberg Barclays High Yield	0.47%	7.50%	17.13%	-4.47%	2.45%	7.44%	15.81%	7.50%	6.35%	5.78%	8.03%
Bloomberg Barclays US Long Corporate	3.34%	12.09%	10.97%	-4.61%	15.73%	-5.68%	12.41%	12.09%	5.87%	5.31%	7.83%
S&P 500	6.64%	21.83%	11.96%	1.38%	13.69%	32.39%	16.00%	21.83%	11.41%	15.79%	8.50%
Dow Jones Industrial Average	10.96%	28.11%	16.50%	0.21%	10.04%	29.65%	10.24%	28.11%	14.36%	16.37%	9.28%
NASDAQ Composite	6.27%	28.24%	7.50%	5.73%	13.40%	38.32%	15.91%	28.24%	13.38%	17.98%	10.04%
Russell 1000 Value	5.33%	13.66%	17.34%	-3.83%	13.45%	32.53%	17.51%	13.66%	8.65%	14.04%	7.10%
Russell 1000	6.59%	21.69%	12.05%	0.92%	13.24%	33.11%	16.42%	21.69%	11.23%	15.71%	8.59%
Russell 1000 Growth	7.86%	30.21%	7.08%	5.67%	13.05%	33.48%	15.26%	30.21%	13.79%	17.33%	10.00%
Russell Mid-Cap Value Index	5.50%	13.34%	20.00%	-4.78%	14.75%	33.46%	18.51%	13.34%	9.00%	14.68%	9.10%
Russell Mid-Cap Index	6.07%	18.52%	13.80%	-2.44%	13.22%	34.76%	17.28%	18.52%	9.58%	14.96%	9.11%
Russell Mid-Cap Growth Index	6.81%	25.27%	7.33%	-0.20%	11.90%	35.74%	15.81%	25.27%	10.30%	15.30%	9.10%
MSCI EAFE	4.27%	25.62%	1.51%	-0.39%	-4.48%	23.29%	17.90%	25.62%	8.30%	8.39%	2.42%
MSCI ACWI ex US	5.06%	27.77%	5.01%	-5.25%	-3.44%	15.78%	17.39%	27.77%	8.33%	7.28%	2.31%
Russell 2000 Value	2.05%	7.84%	31.74%	-7.47%	4.22%	34.52%	18.05%	7.84%	9.55%	13.01%	8.17%
Russell 2000	3.34%	14.65%	21.31%	-4.41%	4.89%	38.82%	16.35%	14.65%	9.96%	14.12%	8.71%
Russell 2000 Growth	4.59%	22.17%	11.32%	-1.38%	5.60%	43.30%	14.59%	22.17%	10.28%	15.21%	9.19%
MSCI Emerging Markets	7.50%	37.75%	11.60%	-14.60%	-1.82%	-2.27%	18.63%	37.75%	9.50%	4.73%	2.02%
Dow Jones US Real Estate Index	2.57%	9.84%	7.56%	2.14%	27.24%	1.77%	18.93%	9.84%	6.46%	9.34%	6.97%
HFRX Absolute Return Index	0.13%	3.40%	0.31%	2.86%	0.79%	3.58%	0.88%	3.40%	2.18%	2.18%	-0.99%
Consumer Price Index (Inflation)	-0.06%	2.18%	2.07%	0.73%	0.76%	1.50%	1.74%	2.18%	1.66%	1.45%	1.62%
BLENDED BENCHMARKS	Q4 2017	2017	2016	2015	2014	2013	2012	1 YEAR	3 YEAR	5 YEAR	10 YEAR
25% S&P 500/5% MSCI EAFE/70% Barclays Agg	2.13%	8.93%	0.92%	7.37%	7.01%	7.89%	5.64%	8.93%	4.90%	5.81%	5.32%
30% S&P 500/10% MSCI EAFE/60% Barclays Agg	2.63%	10.90%	0.95%	7.21%	9.92%	9.19%	4.37%	10.90%	5.68%	6.82%	5.52%
35% S&P 500/15% MSCI EAFE/50% Barclays Agg	3.14%	12.90%	0.97%	7.04%	12.89%	10.49%	3.08%	12.90%	6.46%	7.83%	5.69%
40% S&P 500/20% MSCI EAFE/40% Barclays Agg	3.65%	14.93%	0.96%	6.87%	15.93%	11.78%	1.77%	14.93%	7.23%	8.84%	5.83%
45% S&P 500/25% MSCI EAFE/30% Barclays Agg	4.16%	16.99%	0.93%	6.69%	19.04%	13.06%	0.45%	16.99%	7.99%	9.85%	5.95%
60% S&P 500/40% Barclays Agg	4.12%	14.21%	1.28%	10.62%	17.56%	11.31%	4.69%	14.21%	7.80%	10.25%	6.98%

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SECTION 3: PLAN INVESTMENT REVIEW

Period Ending 12.31.17 | Q4 17

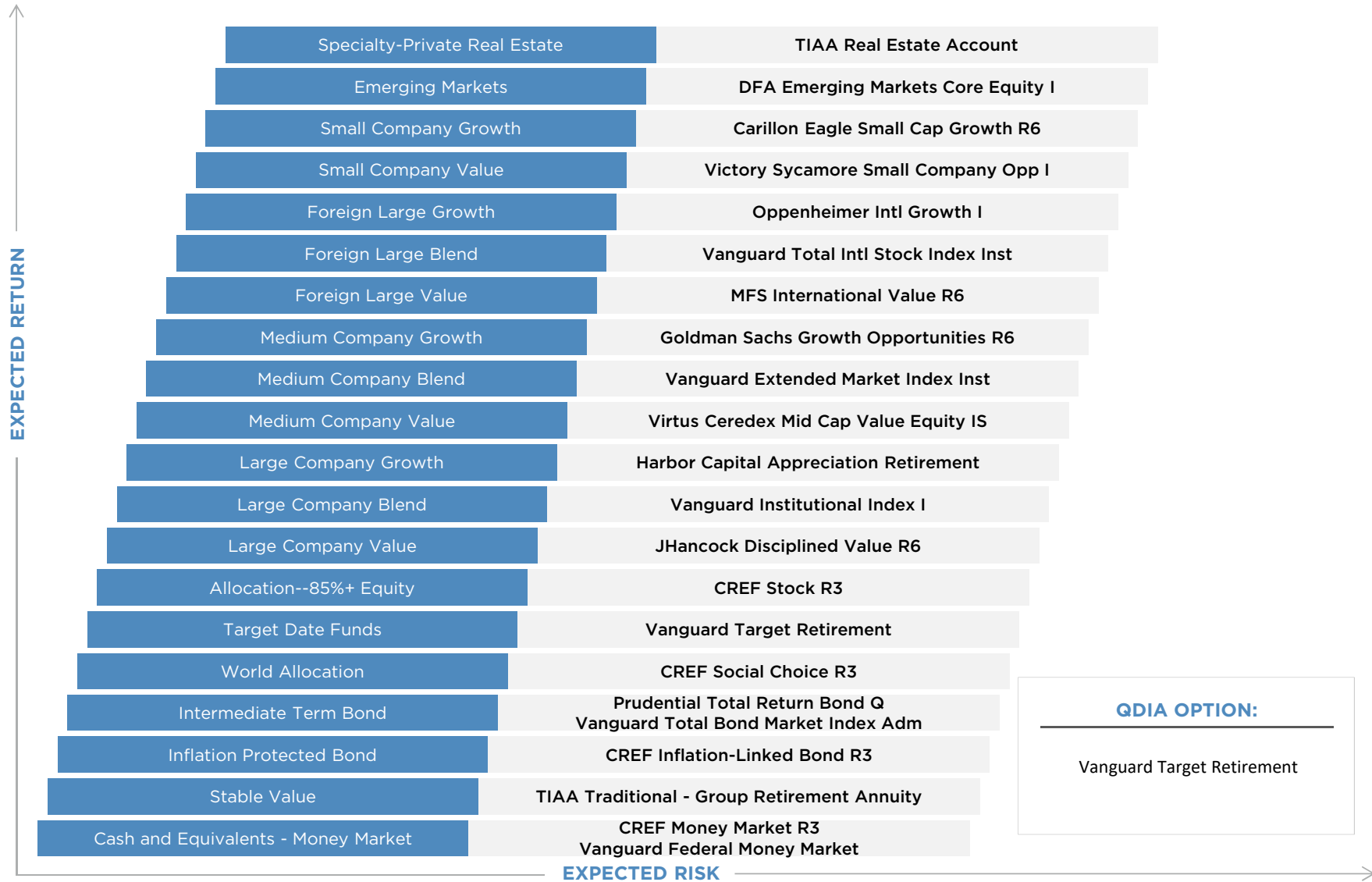
University of Maine System Defined Contribution Plan

SECTION 3: PLAN INVESTMENT REVIEW	
Plan Investment Menu Review.....	
Plan Assets.....	
Investment Policy Monitor.....	
Investment Review Select Commentary.....	
Investment Performance Summary.....	
Plan Performance Measurement.....	

PLAN INVESTMENT REVIEW | PLAN MENU

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan




8.1

PLAN INVESTMENT REVIEW | EXECUTIVE ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

Plan Name	Plan/Contract Number	Plan Assets
University of Maine System Retirement Plan for Faculty and Professionals 403(b) DC	102965	\$1,243,476,821
University of Maine System Retirement Tax Deferred Annuity Plan 403(b) TDA	102966	\$161,738,129
University of Maine System Optional Retirement Savings 403(b)	102967	\$1,470,030
University of Maine System Optional Retirement Savings 401(a)	102968	\$1,218,640
University of Maine System Basic Retirement Plan for Classified Employees 403(b)	102969	\$36,649,444
University of Maine System Basic Retirement Plan for Classified Employees 401(a)	102970	\$69,239,464
University of Maine System Deferred Compensation Plan 457(b)	102971	\$29,778,011
TOTALS		\$1,543,570,539

 <p>University of Maine System * Alternate Carrier Transfers In Date Range October 1, 2017 - December 31, 2017</p>	
Alternate Carrier	Amount
VALIC	\$ 0.16
VOYA	\$ 454,766.21
TIAA	\$ 71,024.81
MID ATLANTIC TRUST COMPANY	\$ 6,595.16
FIDELITY INVESTMENTS	\$ 325,811.99
MID ATLANTIC TRUST	\$ 2,164.70
FRANKLIN TEMPLETON INVESTMENTS	\$ 40,974.78
JACKSON NATIONAL LIFE INSURANCE	\$ 2,088.73
Total	\$ 903,426.54

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

These numbers include non-approved assets held at TIAA-CREF that are no longer available for additional investments.

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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.

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$14,999,372	1.34%	\$8,746,690	0.70%
Cash and Equivalents - Money Market	Vanguard Federal Money Market	\$267,386	0.02%	\$990,060	0.08%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$432,193,984	38.61%	\$434,258,268	34.92%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$13,858,063	1.24%	\$13,593,255	1.09%
Intermediate Term Bond	Prudential Total Return Bond Q	\$14,149,830	1.26%	\$16,352,164	1.32%
Intermediate Term Bond	Vanguard Total Bond Market Index Adm	\$2,605,204	0.23%	\$7,174,322	0.58%
World Allocation	CREF Social Choice R3	\$33,960,321	3.03%	\$35,791,845	2.88%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$3,233,146	0.29%	\$7,058,640	0.57%
Target Date 2000-2010 Conservative	Vanguard Target Retirement 2010 Inv	\$3,431,930	0.31%	-	-
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$3,060,581	0.27%	\$4,705,291	0.38%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$7,725,120	0.69%	\$11,281,830	0.91%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$6,639,122	0.59%	\$10,262,935	0.83%
Target Date 2030 Conservative	Vanguard Target Retirement 2030 Inv	\$7,033,469	0.63%	\$9,821,585	0.79%
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$6,800,551	0.61%	\$9,633,940	0.77%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$6,019,280	0.54%	\$9,440,954	0.76%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$4,515,289	0.40%	\$7,820,688	0.63%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$2,424,692	0.22%	\$4,582,436	0.37%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$835,696	0.07%	\$1,668,316	0.13%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$67,116	0.01%	\$72,722	0.01%
Allocation--85%+ Equity	CREF Stock R3	\$185,975,795	16.62%	\$214,743,505	17.27%
Large Company Value	JHancock Disciplined Value R5	\$14,181,918	1.27%	-	-
Large Company Value	JHancock Disciplined Value R6	\$3,588,201	0.32%	\$22,058,927	1.77%
Large Company Blend	Vanguard Institutional Index I	\$22,199,733	1.98%	\$34,031,139	2.74%
Large Company Growth	Harbor Capital App Instl	\$8,118,755	0.73%	-	-
Large Company Growth	Harbor Capital Appreciation Retirement	\$651,546	0.06%	\$12,028,018	0.97%
Medium Company Value	Virtus Ceredex Mid Cap Value Equity I	\$8,616,407	0.77%	-	-
Medium Company Value	Virtus Ceredex Mid Cap Value Equity IS	\$3,180,903	0.28%	\$15,548,636	1.25%
Medium Company Blend	Vanguard Extended Market Index Inst	\$10,689,096	0.95%	\$15,548,329	1.25%
Medium Company Growth	Goldman Sachs Growth Opp I	\$4,228,630	0.38%	-	-
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$135,252	0.01%	\$4,930,354	0.40%
Foreign Large Value	MFS International Value R6	\$13,142,498	1.17%	\$21,124,769	1.70%
Foreign Large Blend	Vanguard Total Intl Stock Index Inst	\$7,724,284	0.69%	\$11,073,927	0.89%
Foreign Large Growth	Oppenheimer Intl Growth I	\$269,188	0.02%	\$4,866,072	0.39%
Foreign Large Growth	Oppenheimer Intl Growth Y	\$3,897,730	0.35%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$9,044,450	0.81%	\$11,471,306	0.92%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$2,178,964	0.19%	\$3,712,424	0.30%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Emerging Markets	DFA Emerging Markets Core Equity I	\$13,477,365	1.20%	\$19,843,594	1.60%
Specialty-Private Real Estate	TIAA Real Estate Account	\$49,860,728	4.45%	\$51,256,299	4.12%
Other Assets	Non Approved Funds	\$145,269,885	12.98%	\$157,443,150	12.66%
Self-Directed Brokerage	Self Directed Accounts	\$49,046,914	4.38%	\$50,540,429	4.06%
TOTALS		\$1,119,298,394	100%	\$1,243,476,821	100%

8.1

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$1,452,371	1.01%	\$826,248	0.51%
Cash and Equivalents - Money Market	Vanguard Federal Money Market	\$0	0.00%	\$32,998	0.02%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$52,780,394	36.87%	\$54,259,359	33.55%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$2,479,783	1.73%	\$2,436,960	1.51%
Intermediate Term Bond	Prudential Total Return Bond Q	\$3,422,343	2.39%	\$3,904,319	2.41%
Intermediate Term Bond	Vanguard Total Bond Market Index Adm	\$603,906	0.42%	\$1,628,320	1.01%
World Allocation	CREF Social Choice R3	\$5,200,416	3.63%	\$5,850,210	3.62%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$1,020,550	0.71%	\$1,815,210	1.12%
Target Date 2000-2010 Conservative	Vanguard Target Retirement 2010 Inv	\$429,313	0.30%	-	-
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$761,117	0.53%	\$957,555	0.59%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$2,149,700	1.50%	\$2,655,509	1.64%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$1,964,333	1.37%	\$2,449,593	1.51%
Target Date 2030 Conservative	Vanguard Target Retirement 2030 Inv	\$1,297,923	0.91%	\$1,668,874	1.03%
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$897,317	0.63%	\$1,050,291	0.65%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$487,981	0.34%	\$807,796	0.50%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$192,167	0.13%	\$266,425	0.16%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$72,627	0.05%	\$179,787	0.11%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$60,979	0.04%	\$74,520	0.05%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$2,819	0.00%	\$4,082	0.00%
Allocation--85%+ Equity	CREF Stock R3	\$17,793,531	12.43%	\$19,887,105	12.30%
Large Company Value	JHancock Disciplined Value R5	\$1,620,296	1.13%	-	-
Large Company Value	JHancock Disciplined Value R6	\$323,047	0.23%	\$2,253,669	1.39%
Large Company Blend	Vanguard Institutional Index I	\$5,625,224	3.93%	\$9,515,741	5.88%
Large Company Growth	Harbor Capital App Instl	\$1,141,107	0.80%	-	-
Large Company Growth	Harbor Capital Appreciation Retirement	\$26,628	0.02%	\$1,952,121	1.21%
Medium Company Value	Virtus Ceredex Mid Cap Value Equity I	\$890,804	0.62%	-	-
Medium Company Value	Virtus Ceredex Mid Cap Value Equity IS	\$243,490	0.17%	\$1,414,278	0.87%
Medium Company Blend	Vanguard Extended Market Index Inst	\$1,497,045	1.05%	\$2,580,396	1.60%
Medium Company Growth	Goldman Sachs Growth Opp I	\$368,615	0.26%	-	-
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$820	0.00%	\$392,521	0.24%
Foreign Large Value	MFS International Value R6	\$1,745,873	1.22%	\$3,471,616	2.15%
Foreign Large Blend	Vanguard Total Intl Stock Index Inst	\$1,275,052	0.89%	\$1,501,184	0.93%
Foreign Large Growth	Oppenheimer Intl Growth I	\$24,765	0.02%	\$544,502	0.34%
Foreign Large Growth	Oppenheimer Intl Growth Y	\$502,139	0.35%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$1,395,946	0.98%	\$1,518,633	0.94%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$109,887	0.08%	\$239,191	0.15%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Emerging Markets	DFA Emerging Markets Core Equity I	\$1,274,912	0.89%	\$2,072,874	1.28%
Specialty-Private Real Estate	TIAA Real Estate Account	\$10,406,780	7.27%	\$11,065,712	6.84%
Other Assets	Non Approved Funds	\$19,373,845	13.53%	\$20,305,370	12.55%
Self-Directed Brokerage	Self Directed Accounts	\$2,254,929	1.57%	\$2,155,163	1.33%
TOTALS		\$143,170,772	100%	\$161,738,129	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$9,271	0.66%	\$12,370	0.84%
Cash and Equivalents - Money Market	Vanguard Federal Money Market	\$0	0.00%	\$0	0.00%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$619,822	44.12%	\$615,697	41.88%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$32,113	2.29%	\$17,389	1.18%
Intermediate Term Bond	Prudential Total Return Bond Q	\$2,934	0.21%	\$10,084	0.69%
Intermediate Term Bond	Vanguard Total Bond Market Index Adm	\$251	0.02%	\$339	0.02%
World Allocation	CREF Social Choice R3	\$37,727	2.69%	\$37,626	2.56%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$1,011	0.07%	\$1,373	0.09%
Target Date 2000-2010 Conservative	Vanguard Target Retirement 2010 Inv	\$254	0.02%	-	-
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$143	0.01%	\$160	0.01%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$46,905	3.34%	\$53,140	3.61%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$2,017	0.14%	\$2,339	0.16%
Target Date 2030 Conservative	Vanguard Target Retirement 2030 Inv	\$0	0.00%	\$0	0.00%
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$0	0.00%	\$0	0.00%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$0	0.00%	\$0	0.00%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$0	0.00%	\$0	0.00%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$0	0.00%	\$0	0.00%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$0	0.00%	\$0	0.00%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$0	0.00%	\$0	0.00%
Allocation--85%+ Equity	CREF Stock R3	\$212,794	15.15%	\$241,018	16.40%
Large Company Value	JHancock Disciplined Value R5	\$1,605	0.11%	-	-
Large Company Value	JHancock Disciplined Value R6	\$0	0.00%	\$1,618	0.11%
Large Company Blend	Vanguard Institutional Index I	\$4,677	0.33%	\$14,114	0.96%
Large Company Growth	Harbor Capital App Instl	\$741	0.05%	-	-
Large Company Growth	Harbor Capital Appreciation Retirement	\$0	0.00%	\$1,179	0.08%
Medium Company Value	Virtus Ceredex Mid Cap Value Equity I	\$1,436	0.10%	-	-
Medium Company Value	Virtus Ceredex Mid Cap Value Equity IS	\$50	0.00%	\$1,631	0.11%
Medium Company Blend	Vanguard Extended Market Index Inst	\$1,724	0.12%	\$2,439	0.17%
Medium Company Growth	Goldman Sachs Growth Opp I	\$39	0.00%	-	-
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$0	0.00%	\$48	0.00%
Foreign Large Value	MFS International Value R6	\$2,304	0.16%	\$3,328	0.23%
Foreign Large Blend	Vanguard Total Intl Stock Index Inst	\$1,197	0.09%	\$1,952	0.13%
Foreign Large Growth	Oppenheimer Intl Growth I	\$51	0.00%	\$865	0.06%
Foreign Large Growth	Oppenheimer Intl Growth Y	\$509	0.04%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$1,162	0.08%	\$1,405	0.10%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$221	0.02%	\$261	0.02%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Emerging Markets	DFA Emerging Markets Core Equity I	\$1,202	0.09%	\$1,782	0.12%
Specialty-Private Real Estate	TIAA Real Estate Account	\$45,550	3.24%	\$45,204	3.08%
Other Assets	Non Approved Funds	\$377,155	26.85%	\$402,667	27.39%
Self-Directed Brokerage	Self Directed Accounts	\$0	0.00%	\$0	0.00%
TOTALS		\$1,404,865	100%	\$1,470,030	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$3,634	0.32%	\$8,054	0.66%
Cash and Equivalents - Money Market	Vanguard Federal Money Market	\$0	0.00%	\$0	0.00%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$393,666	34.47%	\$379,021	31.10%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$20,367	1.78%	\$17,721	1.45%
Intermediate Term Bond	Prudential Total Return Bond Q	\$760	0.07%	\$17,554	1.44%
Intermediate Term Bond	Vanguard Total Bond Market Index Adm	\$63	0.01%	\$11,383	0.93%
World Allocation	CREF Social Choice R3	\$24,637	2.16%	\$26,384	2.17%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$253	0.02%	\$911	0.07%
Target Date 2000-2010 Conservative	Vanguard Target Retirement 2010 Inv	\$839	0.07%	-	-
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$0	0.00%	\$0	0.00%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$38,617	3.38%	\$43,013	3.53%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$420	0.04%	\$487	0.04%
Target Date 2030 Conservative	Vanguard Target Retirement 2030 Inv	\$806	0.07%	\$947	0.08%
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$0	0.00%	\$0	0.00%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$0	0.00%	\$0	0.00%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$0	0.00%	\$0	0.00%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$0	0.00%	\$0	0.00%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$0	0.00%	\$0	0.00%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$0	0.00%	\$0	0.00%
Allocation--85%+ Equity	CREF Stock R3	\$133,881	11.72%	\$149,370	12.26%
Large Company Value	JHancock Disciplined Value R5	\$9,343	0.82%	-	-
Large Company Value	JHancock Disciplined Value R6	\$0	0.00%	\$10,951	0.90%
Large Company Blend	Vanguard Institutional Index I	\$1,878	0.16%	\$6,948	0.57%
Large Company Growth	Harbor Capital App Instl	\$17,742	1.55%	-	-
Large Company Growth	Harbor Capital Appreciation Retirement	\$0	0.00%	\$1,118	0.09%
Medium Company Value	Virtus Ceredex Mid Cap Value Equity I	\$642	0.06%	-	-
Medium Company Value	Virtus Ceredex Mid Cap Value Equity IS	\$12	0.00%	\$722	0.06%
Medium Company Blend	Vanguard Extended Market Index Inst	\$416	0.04%	\$607	0.05%
Medium Company Growth	Goldman Sachs Growth Opp I	\$17,421	1.53%	-	-
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$0	0.00%	\$21,918	1.80%
Foreign Large Value	MFS International Value R6	\$15,358	1.34%	\$19,488	1.60%
Foreign Large Blend	Vanguard Total Intl Stock Index Inst	\$338	0.03%	\$584	0.05%
Foreign Large Growth	Oppenheimer Intl Growth I	\$13	0.00%	\$323	0.03%
Foreign Large Growth	Oppenheimer Intl Growth Y	\$210	0.02%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$271	0.02%	\$333	0.03%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$397	0.03%	\$473	0.04%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Emerging Markets	DFA Emerging Markets Core Equity I	\$15,844	1.39%	\$21,241	1.74%
Specialty-Private Real Estate	TIAA Real Estate Account	\$58,998	5.17%	\$56,858	4.67%
Other Assets	Non Approved Funds	\$261,715	22.92%	\$283,149	23.23%
Self-Directed Brokerage	Self Directed Accounts	\$123,396	10.81%	\$139,084	11.41%
TOTALS		\$1,141,935	100%	\$1,218,640	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$618,547	1.95%	\$431,803	1.18%
Cash and Equivalents - Money Market	Vanguard Federal Money Market	\$2	0.00%	\$47,383	0.13%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$6,132,272	19.30%	\$6,314,386	17.23%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$552,746	1.74%	\$484,117	1.32%
Intermediate Term Bond	Prudential Total Return Bond Q	\$636,759	2.00%	\$619,270	1.69%
Intermediate Term Bond	Vanguard Total Bond Market Index Adm	\$74,975	0.24%	\$127,295	0.35%
World Allocation	CREF Social Choice R3	\$1,068,820	3.36%	\$1,064,178	2.90%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$272,110	0.86%	\$522,092	1.42%
Target Date 2000-2010 Conservative	Vanguard Target Retirement 2010 Inv	\$137,528	0.43%	-	-
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$345,261	1.09%	\$553,650	1.51%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$811,756	2.56%	\$1,202,160	3.28%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$936,012	2.95%	\$1,460,601	3.99%
Target Date 2030 Conservative	Vanguard Target Retirement 2030 Inv	\$443,884	1.40%	\$599,958	1.64%
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$297,787	0.94%	\$533,790	1.46%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$297,390	0.94%	\$492,684	1.34%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$233,350	0.73%	\$344,417	0.94%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$93,358	0.29%	\$146,145	0.40%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$73,838	0.23%	\$156,473	0.43%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$9,780	0.03%	\$29,069	0.08%
Allocation--85%+ Equity	CREF Stock R3	\$3,212,845	10.11%	\$3,607,550	9.84%
Large Company Value	JHancock Disciplined Value R5	\$419,105	1.32%	-	-
Large Company Value	JHancock Disciplined Value R6	\$122,491	0.39%	\$830,159	2.27%
Large Company Blend	Vanguard Institutional Index I	\$748,525	2.36%	\$986,139	2.69%
Large Company Growth	Harbor Capital App Instl	\$527,971	1.66%	-	-
Large Company Growth	Harbor Capital Appreciation Retirement	\$3,049	0.01%	\$643,998	1.76%
Medium Company Value	Virtus Ceredex Mid Cap Value Equity I	\$163,112	0.51%	-	-
Medium Company Value	Virtus Ceredex Mid Cap Value Equity IS	\$127,105	0.40%	\$514,046	1.40%
Medium Company Blend	Vanguard Extended Market Index Inst	\$220,415	0.69%	\$473,869	1.29%
Medium Company Growth	Goldman Sachs Growth Opp I	\$404,887	1.27%	-	-
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$0	0.00%	\$306,344	0.84%
Foreign Large Value	MFS International Value R6	\$685,481	2.16%	\$962,912	2.63%
Foreign Large Blend	Vanguard Total Intl Stock Index Inst	\$188,081	0.59%	\$430,086	1.17%
Foreign Large Growth	Oppenheimer Intl Growth I	\$21,850	0.07%	\$105,558	0.29%
Foreign Large Growth	Oppenheimer Intl Growth Y	\$69,750	0.22%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$470,488	1.48%	\$406,457	1.11%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$32,674	0.10%	\$189,283	0.52%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Emerging Markets	DFA Emerging Markets Core Equity I	\$687,139	2.16%	\$902,556	2.46%
Specialty-Private Real Estate	TIAA Real Estate Account	\$2,029,933	6.39%	\$2,020,549	5.51%
Other Assets	Non Approved Funds	\$6,035,842	19.00%	\$6,413,795	17.50%
Self-Directed Brokerage	Self Directed Accounts	\$2,563,149	8.07%	\$2,726,671	7.44%
TOTALS		\$31,770,064	100%	\$36,649,444	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$1,419,189	2.35%	\$1,131,460	1.63%
Cash and Equivalents - Money Market	Vanguard Federal Money Market	\$13	0.00%	\$95,429	0.14%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$14,028,827	23.24%	\$14,288,311	20.64%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$1,045,099	1.73%	\$968,323	1.40%
Intermediate Term Bond	Prudential Total Return Bond Q	\$1,037,070	1.72%	\$1,078,551	1.56%
Intermediate Term Bond	Vanguard Total Bond Market Index Adm	\$94,748	0.16%	\$238,818	0.34%
World Allocation	CREF Social Choice R3	\$2,715,282	4.50%	\$2,850,961	4.12%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$492,158	0.82%	\$894,108	1.29%
Target Date 2000-2010 Conservative	Vanguard Target Retirement 2010 Inv	\$263,210	0.44%	-	-
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$583,552	0.97%	\$946,725	1.37%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$1,177,594	1.95%	\$1,915,567	2.77%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$1,340,971	2.22%	\$1,961,821	2.83%
Target Date 2030 Conservative	Vanguard Target Retirement 2030 Inv	\$781,116	1.29%	\$1,045,411	1.51%
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$601,057	1.00%	\$879,719	1.27%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$418,897	0.69%	\$745,198	1.08%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$340,464	0.56%	\$524,036	0.76%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$160,641	0.27%	\$259,364	0.37%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$75,237	0.12%	\$143,155	0.21%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$9,779	0.02%	\$28,998	0.04%
Allocation--85%+ Equity	CREF Stock R3	\$8,071,198	13.37%	\$9,179,601	13.26%
Large Company Value	JHancock Disciplined Value R5	\$700,406	1.16%	-	-
Large Company Value	JHancock Disciplined Value R6	\$159,468	0.26%	\$1,198,822	1.73%
Large Company Blend	Vanguard Institutional Index I	\$1,141,971	1.89%	\$1,624,846	2.35%
Large Company Growth	Harbor Capital App Instl	\$802,234	1.33%	-	-
Large Company Growth	Harbor Capital Appreciation Retirement	\$4,604	0.01%	\$1,093,668	1.58%
Medium Company Value	Virtus Ceredex Mid Cap Value Equity I	\$277,595	0.46%	-	-
Medium Company Value	Virtus Ceredex Mid Cap Value Equity IS	\$161,465	0.27%	\$683,696	0.99%
Medium Company Blend	Vanguard Extended Market Index Inst	\$396,264	0.66%	\$724,862	1.05%
Medium Company Growth	Goldman Sachs Growth Opp I	\$479,334	0.79%	-	-
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$0	0.00%	\$428,766	0.62%
Foreign Large Value	MFS International Value R6	\$1,027,422	1.70%	\$1,555,197	2.25%
Foreign Large Blend	Vanguard Total Intl Stock Index Inst	\$291,281	0.48%	\$542,316	0.78%
Foreign Large Growth	Oppenheimer Intl Growth I	\$7,483	0.01%	\$160,570	0.23%
Foreign Large Growth	Oppenheimer Intl Growth Y	\$129,418	0.21%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$577,144	0.96%	\$546,281	0.79%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$54,590	0.09%	\$194,206	0.28%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Emerging Markets	DFA Emerging Markets Core Equity I	\$805,114	1.33%	\$1,169,774	1.69%
Specialty-Private Real Estate	TIAA Real Estate Account	\$3,543,381	5.87%	\$3,553,456	5.13%
Other Assets	Non Approved Funds	\$13,101,869	21.70%	\$14,368,429	20.75%
Self-Directed Brokerage	Self Directed Accounts	\$2,046,461	3.39%	\$2,219,020	3.20%
TOTALS		\$60,363,607	100%	\$69,239,464	100%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Cash and Equivalents - Money Market	CREF Money Market R3	\$529,498	2.12%	\$568,491	1.91%
Cash and Equivalents - Money Market	Vanguard Federal Money Market	\$35,492	0.14%	\$35,912	0.12%
Stable Value	TIAA Traditional - Group Retirement Annuity	\$6,219,922	24.94%	\$7,133,436	23.96%
Inflation Protected Bond	CREF Inflation-Linked Bond R3	\$586,270	2.35%	\$528,055	1.77%
Intermediate Term Bond	Prudential Total Return Bond Q	\$895,107	3.59%	\$919,646	3.09%
Intermediate Term Bond	Vanguard Total Bond Market Index Adm	\$48,594	0.19%	\$183,568	0.62%
World Allocation	CREF Social Choice R3	\$1,215,718	4.87%	\$1,389,989	4.67%
Target Date Ret Income Moderate	Vanguard Target Retirement Income Inv	\$128,688	0.52%	\$483,934	1.63%
Target Date 2000-2010 Conservative	Vanguard Target Retirement 2010 Inv	\$306,473	1.23%	-	-
Target Date 2015 Moderate	Vanguard Target Retirement 2015 Inv	\$375,654	1.51%	\$511,514	1.72%
Target Date 2020 Moderate	Vanguard Target Retirement 2020 Inv	\$601,347	2.41%	\$866,151	2.91%
Target Date 2025 Moderate	Vanguard Target Retirement 2025 Inv	\$654,453	2.62%	\$968,607	3.25%
Target Date 2030 Conservative	Vanguard Target Retirement 2030 Inv	\$583,136	2.34%	\$588,562	1.98%
Target Date 2035 Moderate	Vanguard Target Retirement 2035 Inv	\$144,777	0.58%	\$242,119	0.81%
Target Date 2040 Moderate	Vanguard Target Retirement 2040 Inv	\$154,953	0.62%	\$256,932	0.86%
Target Date 2045 Moderate	Vanguard Target Retirement 2045 Inv	\$86,149	0.35%	\$137,767	0.46%
Target Date 2050 Moderate	Vanguard Target Retirement 2050 Inv	\$30,118	0.12%	\$36,617	0.12%
Target Date 2055 Moderate	Vanguard Target Retirement 2055 Inv	\$0	0.00%	\$0	0.00%

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Target Date 2060+ Moderate	Vanguard Target Retirement 2060 Inv	\$0	0.00%	\$0	0.00%
Allocation--85%+ Equity	CREF Stock R3	\$1,698,898	6.81%	\$1,975,792	6.64%
Large Company Value	JHancock Disciplined Value R5	\$444,904	1.78%	-	-
Large Company Value	JHancock Disciplined Value R6	\$90,121	0.36%	\$737,600	2.48%
Large Company Blend	Vanguard Institutional Index I	\$884,453	3.55%	\$1,322,232	4.44%
Large Company Growth	Harbor Capital App Instl	\$377,020	1.51%	-	-
Large Company Growth	Harbor Capital Appreciation Retirement	\$18,217	0.07%	\$619,078	2.08%
Medium Company Value	Virtus Ceredex Mid Cap Value Equity I	\$158,476	0.64%	-	-
Medium Company Value	Virtus Ceredex Mid Cap Value Equity IS	\$75,372	0.30%	\$389,160	1.31%
Medium Company Blend	Vanguard Extended Market Index Inst	\$453,350	1.82%	\$715,468	2.40%
Medium Company Growth	Goldman Sachs Growth Opp I	\$189,485	0.76%	-	-
Medium Company Growth	Goldman Sachs Growth Opportunities R6	\$974	0.00%	\$158,848	0.53%
Foreign Large Value	MFS International Value R6	\$426,873	1.71%	\$704,999	2.37%
Foreign Large Blend	Vanguard Total Intl Stock Index Inst	\$227,904	0.91%	\$448,106	1.50%
Foreign Large Growth	Oppenheimer Intl Growth I	\$8,113	0.03%	\$145,454	0.49%
Foreign Large Growth	Oppenheimer Intl Growth Y	\$109,479	0.44%	-	-
Small Company Value	Victory Sycamore Small Company Opp I	\$338,886	1.36%	\$348,544	1.17%
Small Company Growth	Carillon Eagle Small Cap Growth R6	\$60,262	0.24%	\$154,110	0.52%

CONTINUED...

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8.1

PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 12.31.17 | Q4 17

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

		— MARKET VALUE —			
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2016	(%)	CURRENT	(%)
Emerging Markets	DFA Emerging Markets Core Equity I	\$487,321	1.95%	\$720,796	2.42%
Specialty-Private Real Estate	TIAA Real Estate Account	\$1,940,406	7.78%	\$1,940,793	6.52%
Other Assets	Non Approved Funds	\$3,433,240	13.77%	\$3,557,299	11.95%
Self-Directed Brokerage	Self Directed Accounts	\$917,770	3.68%	\$988,434	3.32%
TOTALS		\$24,937,871	100%	\$29,778,011	100%

8.1

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INVESTMENT REVIEW | INVESTMENT POLICY MONITOR

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

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	●	●	●	●	●	●	▼	▼	●	●	●	88
Intermediate Term Bond Prudential Total Return Bond Q	●	●	●	●	●	●	●	●	●	●	●	100
World Allocation CREF Social Choice R3	●	●	●	●	●	●	●	●	●	●	●	100
Large Company Value JHancock Disciplined Value R6	▼	●	●	●	●	●	●	●	●	●	●	93
Large Company Growth Harbor Capital Appreciation Retirement	●	●	●	●	●	●	●	●	●	●	●	98
Medium Company Value Virtus Ceredex Mid Cap Value Equity IS	▼	▼	▼	▼	●	●	●	▼	●	●	▼	79
Medium Company Growth Goldman Sachs Growth Opportunities R6	▼	▼	▼	▼	●	●	▼	▼	●	●	●	63
Foreign Large Value MFS International Value R6	●	●	●	●	▼	▼	●	●	●	▼	●	96

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 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

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 Growth Oppenheimer Intl Growth I	▼	●	▼	●	●	●	●	●	●	▼	●	86
Small Company Value Victory Sycamore Small Company Opp I	●	●	●	●	●	●	●	●	●	●	●	100
Small Company Growth Carillon Eagle Small Cap Growth R6	●	▼	●	●	●	●	●	▼	●	●	●	86
Emerging Markets DFA Emerging Markets Core Equity I	●	●	●	●	●	●	●	●	●	▼	●	90

8.1

LEGEND

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

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

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 Target Retirement	●	●	●	●	●	●	●	●	●	●	●	95

CAPITAL PRESERVATION INVESTMENTS

INVESTMENT	Overall	Commentary
CREF Money Market R3	●	According to CAPTRUST Financial Advisors, this Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.
Vanguard Federal Money Market	●	According to CAPTRUST Financial Advisors, this Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.
TIAA Traditional - Group Retirement Annuity	●	According to CAPTRUST Financial Advisors, this Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.

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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.

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INVESTMENT REVIEW | INVESTMENT POLICY MONITOR

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

PASSIVE INVESTMENTS

INVESTMENT	Overall	Commentary
Vanguard Total Bond Market Index Adm	●	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 Inst	●	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 Inst	●	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 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

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.

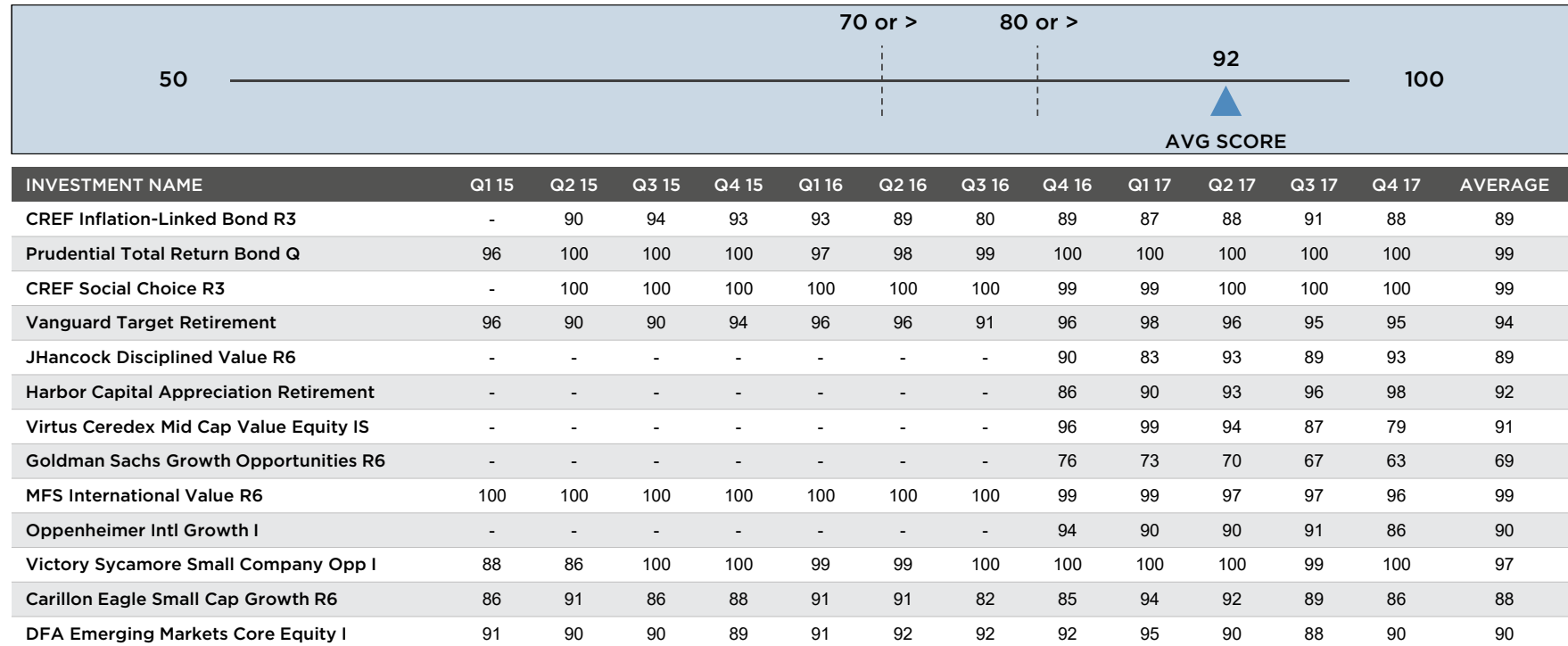
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PLAN INVESTMENT REVIEW | PLAN PERFORMANCE MEASUREMENT

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

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

8.1

SUMMARY: Over the previous quarters the plan investment options have averaged a score of 92.

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 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

FUND MANAGEMENT ITEMS	COMMENTARY
Eagle Small Cap Growth	Effective June 1, 2017, Eagle Asset Management will, as part of an internal corporate reorganization, terminate the investment advisory and administration agreements that it has entered into with the Funds. Eagle's affiliate, Carillon Tower Advisers, will enter into new investment advisory and administration agreements with the Funds pursuant to which Carillon will serve as the investment adviser and administrator for each Fund. Eagle will also terminate the subadvisory agreements that it has entered into with ClariVest Asset Management, with respect to the Eagle Capital Appreciation Fund and Eagle International Stock Fund, and Cougar Global Investments, with respect to the Eagle Tactical Allocation Fund. Carillon will enter into new subadvisory agreements with ClariVest and Cougar.
Goldman Sachs Growth Opp	Following a disappointing performance in 2015, the strategy again lagged its peers and the benchmark in 2016 due to a rally in lower quality stocks. The team also had some missteps in individual positions where their thesis did not work as expected. The strategy has recently face stylistic headwinds and has not navigated the backdrop as well as some of its peers. Execution in the consumer sectors has also been a cause for concern. Although 2017 results showed improvement, longer-term results remain a concern. Thus, we have less confidence in the team's ability to outperform its peers and benchmark going forward and believe that this strategy merits further consideration.
MFS International Value	Effective October 16, 2017, the MFS International Value strategy will be closed to new investors.
Virtus Ceredex Mid-Cap Value Eq	On July 14, 2017, the RidgeWorth funds were reorganized into the Virtus Asset Trust, resulting in several name changes.
FUND FIRM ITEMS	COMMENTARY
OppenheimerFunds	On September 29th, 2017, Chief Risk Officer Geoff Craddock left the firm to join the parent company MassMutual Financial Group as CRO. Bob Agan and Jerry Cubbin will serve as interim co-heads of Risk management while the firm searches for a replacement.

8.1

INVESTMENT REVIEW | SELECT COMMENTARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

FUND FIRM ITEMS	COMMENTARY
MFS Family of Funds	<p>In Q3 2017, MFS announced that its Chief Risk Officer is leaving the firm in December 2017. Transition efforts are in process to ensure continuity of operations.</p> <p>On August 10th, 2017, MFS CEO, President and CIO Mike Roberge announced that Carol Geremia will become President of MFS Investment Management and Head of Global Distribution following the retirement of Jim Jesse, co-head of Global Distribution effective January 1, 2018.</p> <p>On July 7th, 2017, MFS, MFS Service Center, and certain MFS employees were named as defendants in a purported class action complaint relating to MFS' in-house employee retirement plans. The complaint alleges, among other things, that the MFS defendants breached their fiduciary duties under ERISA by selecting proprietary mutual funds for the plans rather than lower cost alternatives, by failing to minimize expenses, and by failing to adequately monitor plan investment options.</p>
Virtus	<p>Following the Virtus acquisition, the name of RidgeWorth was changed to Virtus Fund Advisors (VFA). As a result of this Ashi Parikh, John Stebbins, and William Turner left their respective roles of CEO, CFO, and CAO of VFA and Ceredex and now serve as consultants to the firm. Jim Love, CCO, left the firm on 8/1/17 and was replaced by Josie Rosen. Virtus CEO George Aylward is now CEO of Ceredex and VFA. Virtus CFO, Michael Angerthal is now CFO of Ceredex and VFA. Mark Flynn is now General Counsel and Secretary of Ceredex and VFA.</p> <p>On June 1, 2017, Virtus completed the acquisition of RidgeWorth, changing the name of RidgeWorth to Virtus Fund Advisors, a wholly owned subsidiary of Virtus. All RidgeWorth Funds (with the exception of the RidgeWorth Capital Innovations Global Resources and Infrastructure Fund), are expected to reorganize into a newly created corresponding series of the Virtus Asset Trust. The fund reorganizations into Virtus Asset Trust are anticipated to occur on or about the close of business on June 28, 2017. Each Fund will have a new CUSIP and Virtus will replace RidgeWorth in its name.</p>

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INVESTMENT REVIEW | SELECT COMMENTARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

FUND FIRM ITEMS	COMMENTARY
Dimensional Fund Advisors	<p>On August 15, 2017, Dimensional Fund Advisors announced that Gerald O'Reilly will become co-CEO alongside Dave Butler, Co-CEO and head of Global Financial Advisor Services. Gerald is replacing Eduardo Reppetto as co-CEO and will continue as CIO following Eduardo's departure from the firm in September.</p> <p>Claire Wormald, head of Global Risk Management, left Dimensional in June 2017. Chris Crossan, Dimensional's global chief compliance officer, assumed Claire's responsibilities.</p> <p>In April 2017, Dave Butler was appointed co-CEO of Dimensional Fund Advisors alongside Eduardo Repetto, who has been in the role since 2010. David Booth, who has been serving as co-CEO, is continuing on as executive chairman of Dimensional and focusing his efforts on strategic initiatives. Dave Butler will continue in his current role as head of Global Financial Advisor Services in addition to assuming the role of co-CEO.</p> <p>Henry Gray, head of Global Equity Trading, decided to leave the firm at the end of April 2017 to pursue an interest in education and teaching. Ryan Wiley, previously head of Americas Trading, and John Romiza, previously head of International Trading, were appointed co-heads of Global Equity Trading.</p> <p>Effective February 28, 2017, Henry Gray's seat on the Investment Committee was filled by Mary Phillips, a senior portfolio manager.</p>
Goldman Sachs Asset Management	<p>Gavin O'Connor, chief operating officer of the Investment Management Division, retired from the firm in April 2017. Deborah Leone was named as his successor in August 2017.</p>
Harbor Funds	<p>Effective September 30, 2017, David Van Hooser will retire as CEO of Harbor Capital and resign as chair and trustee of Harbor Funds. He will continue to serve as chair of Harbor Capital. He will be replaced as CEO by Charlie McCain who was named president and chief operating officer of Harbor Capital on June 1, 2017. In addition, Erik Ojala was named general counsel and chief compliance officer of Harbor Funds, replacing Mr. McCain.</p> <p>Effective February 9, 2017, Wayne Hofmann, executive VP and chief investment strategist, departed the firm to pursue other interests. Mr. Hofmann was an officer of Harbor Capital Advisors and a member of the Investment Review Committee.</p>

8.1

INVESTMENT REVIEW | SELECT COMMENTARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

FUND FIRM ITEMS	COMMENTARY
Victory Capital Management, Inc.	
	Terence Sullivan joined Victory on June 30, 2017 as chief financial officer.
Prudential Investments	
	Effective June 30, 2017, Leslie Richardson, Jennison's chief administrative officer left the firm to return to her prior role as president of LSR Associates, a leadership consulting firm.
Vanguard Group, Inc.	
	<p>Vanguard opened the Emerging Markets Bond Fund to all investors on 12/6/17. Vanguard launched the fund in March 2016 with Vanguard as its sole investor. The fund is an actively managed strategy and is run by the Vanguard Fixed Income Group.</p> <p>Vanguard is launching six new factor-based ETFs and a multi-factor actively managed mutual fund. The funds will be managed by Vanguard Quantitative Equity Group and are expected to be available in mid-February 2018.</p> <p>On October 18, 2017, Vanguard launched two actively managed global balanced funds, Vanguard Global Wellington and Vanguard Global Wellesley Income.</p> <p>Vanguard announced on July 13, 2017 that CIO Tim Buckley would succeed Bill McNabb as CEO on January 1, 2018. Mr. McNabb will remain as chairman of the board and Greg Davis, head of Vanguard's Fixed Income Group will become CIO. Replacing Mr. Davis as head of Global Fixed Income is John Hollyer, head of Investment Risk Management.</p>

8.1

PLAN INVESTMENT REVIEW | TARGET DATE REVIEW

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

VANGUARD TARGET RETIREMENT

MEETING DATE: JANUARY 22, 2018

FOCUS AREA

Organizational

COMMENTARY

There were no material changes to the target date team during the quarter. However, as a reminder, the following items occurred during the third quarter of 2017.

On July 13, 2017, Vanguard announced that Chief Investment Officer Tim Buckley had been named president of Vanguard and will succeed Bill McNabb as chief executive officer on January 1, 2018. Mr. McNabb, who has been CEO since 2008, will remain as chairman of the board. Greg Davis, head of Vanguard's Fixed Income Group, will succeed Mr. Buckley as CIO. Replacing Mr. Davis as head of the Fixed Income Group is John Hollyer, head of investment risk management.

Investments

COMMENTARY

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

Performance and Positioning

COMMENTARY

Vanguard Target Retirement outperformed peers in the fourth quarter, completing a solid year for the series.

- Target Retirement benefitted from its higher allocation to international equities and international fixed income relative to peers as international markets outperformed the U.S. for the year
- However, the series was slightly held back, especially in the equity-heavy later-dated vintages, compared to active peers as active management outperformed passive in 2017

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

8.1

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

INVESTMENT NAME	Q4 '17	YTD '17	2016	2015	2014	2013	2012	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
CASH AND EQUIVALENTS - MONEY MARKET											
CREF Money Market R3	0.17%	0.50%	0.13%	0.00%	0.00%	0.00%	0.00%	0.50%	0.21%	0.13%	0.32%
Vanguard Federal Money Market	0.27%	0.81%	0.30%	0.04%	0.01%	0.02%	0.01%	0.81%	0.38%	0.24%	0.41%
ICE BofA ML US Treasury Bill 3 Mon USD	0.28%	0.86%	0.33%	0.05%	0.03%	0.07%	0.11%	0.86%	0.41%	0.27%	0.39%
STABLE VALUE											
TIAA Traditional - Group Retirement Annuity			Current rate is 4.00%								
ICE BofA ML US Treasury Bill 3 Mon USD	0.28%	0.86%	0.33%	0.05%	0.03%	0.07%	0.11%	0.86%	0.41%	0.27%	0.39%
Hueler Stable Value Index (gross)	0.51%	1.95%	1.79%	1.77%	1.69%	1.83%	2.25%	1.95%	1.84%	1.81%	2.47%
INFLATION PROTECTED BOND											
CREF Inflation-Linked Bond R3	0.59%	1.85%	4.23%	-1.68%	3.34%	-9.01%	6.41%	1.85%	1.44%	-0.37%	3.03%
BBgBarc US Treasury US TIPS TR USD	1.26%	3.01%	4.68%	-1.44%	3.64%	-8.61%	6.98%	3.01%	2.05%	0.13%	3.53%
Inflation Protected Bond Universe	1.03%	2.53%	4.57%	-2.21%	1.94%	-7.56%	6.35%	2.53%	1.59%	-0.25%	2.75%
INTERMEDIATE TERM BOND											
Prudential Total Return Bond Q	1.11%	6.71%	4.83%	0.09%	7.25%	-0.91%	9.96%	6.71%	3.84%	3.54%	5.99%
Vanguard Total Bond Market Index Adm	0.41%	3.57%	2.60%	0.40%	5.89%	-2.15%	4.15%	3.57%	2.18%	2.02%	3.95%
BBgBarc Aggregate Bond Index	0.39%	3.54%	2.65%	0.55%	5.97%	-2.02%	4.21%	3.54%	2.24%	2.10%	4.01%
Intermediate Term Bond Universe	0.30%	3.79%	3.25%	-0.29%	5.18%	-1.42%	6.73%	3.79%	2.24%	2.11%	4.08%
WORLD ALLOCATION											
CREF Social Choice R3	3.44%	14.27%	7.40%	-0.87%	6.83%	16.68%	10.99%	14.27%	6.75%	8.68%	6.04%
60% MSCI World 40% BBgBarc Agg Index	3.51%	14.90%	6.09%	0.26%	5.77%	14.83%	11.70%	14.90%	6.92%	8.22%	5.33%
World Allocation Universe	3.19%	14.56%	5.73%	-4.00%	1.93%	11.60%	11.52%	14.56%	5.20%	6.04%	4.09%

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8.1

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

INVESTMENT NAME	Q4 '17	YTD '17	2016	2015	2014	2013	2012	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
TARGET DATE RET INCOME MODERATE											
Vanguard Target Retirement Income Inv	2.03%	8.47%	5.25%	-0.17%	5.54%	5.87%	8.23%	8.47%	4.46%	4.95%	4.91%
Morningstar Lifetime Moderate Income Index	2.34%	8.55%	5.98%	-1.30%	4.09%	6.45%	8.78%	8.55%	4.33%	4.70%	-
Retirement Income Moderate	2.30%	9.74%	5.04%	-1.38%	4.58%	6.61%	8.98%	9.74%	4.34%	4.94%	4.40%
TARGET DATE 2015 MODERATE											
Vanguard Target Retirement 2015 Inv	2.73%	11.50%	6.16%	-0.46%	6.56%	13.00%	11.37%	11.50%	5.62%	7.25%	5.23%
Morningstar Lifetime Moderate 2015 Index	3.15%	11.39%	7.10%	-1.73%	5.55%	10.50%	11.49%	11.39%	5.45%	6.46%	-
2015 Moderate	2.44%	11.31%	6.29%	-1.40%	4.69%	11.76%	11.14%	11.31%	5.25%	6.58%	4.41%
TARGET DATE 2020 MODERATE											
Vanguard Target Retirement 2020 Inv	3.36%	14.08%	6.95%	-0.68%	7.11%	15.85%	12.35%	14.08%	6.61%	8.50%	5.61%
Morningstar Lifetime Moderate 2020 Index	3.53%	12.79%	7.66%	-1.88%	5.87%	12.98%	12.53%	12.79%	6.01%	7.34%	-
2020 Moderate	2.95%	13.46%	6.14%	-1.41%	5.02%	15.43%	12.81%	13.46%	5.88%	7.73%	4.77%
TARGET DATE 2025 MODERATE											
Vanguard Target Retirement 2025 Inv	3.87%	15.94%	7.48%	-0.85%	7.17%	18.14%	13.29%	15.94%	7.31%	9.36%	5.79%
Morningstar Lifetime Moderate 2025 Index	3.98%	14.54%	8.39%	-2.06%	6.04%	16.28%	13.67%	14.54%	6.73%	8.44%	-
2025 Moderate	3.43%	15.26%	6.84%	-1.42%	5.11%	17.80%	13.86%	15.26%	6.68%	8.43%	5.17%
TARGET DATE 2030 CONSERVATIVE											
Vanguard Target Retirement 2030 Inv	4.21%	17.52%	7.85%	-1.03%	7.17%	20.49%	14.24%	17.52%	7.85%	10.13%	5.92%
Morningstar Lifetime Conservative 2030 Index	3.48%	13.16%	7.73%	-2.06%	6.09%	12.23%	12.89%	13.16%	6.09%	7.29%	-
2030 Conservative	3.97%	15.86%	7.25%	-2.00%	5.10%	15.31%	13.05%	15.86%	6.82%	8.18%	4.79%

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PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

INVESTMENT NAME	Q4 '17	YTD '17	2016	2015	2014	2013	2012	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
TARGET DATE 2035 MODERATE											
Vanguard Target Retirement 2035 Inv	4.62%	19.12%	8.26%	-1.26%	7.24%	22.82%	15.16%	19.12%	8.39%	10.90%	6.18%
Morningstar Lifetime Moderate 2035 Index	5.00%	18.52%	10.07%	-2.58%	5.80%	22.04%	15.36%	18.52%	8.32%	10.41%	-
2035 Moderate	4.42%	19.40%	8.01%	-1.34%	5.34%	22.01%	15.48%	19.40%	8.38%	10.34%	5.98%
TARGET DATE 2040 MODERATE											
Vanguard Target Retirement 2040 Inv	5.00%	20.71%	8.73%	-1.59%	7.15%	24.37%	15.56%	20.71%	8.91%	11.47%	6.49%
Morningstar Lifetime Moderate 2040 Index	5.35%	19.87%	10.61%	-2.83%	5.51%	23.05%	15.71%	19.87%	8.81%	10.84%	-
2040 Moderate	4.67%	20.12%	7.48%	-1.42%	5.53%	23.38%	15.53%	20.12%	8.36%	10.70%	5.69%
TARGET DATE 2045 MODERATE											
Vanguard Target Retirement 2045 Inv	5.22%	21.42%	8.87%	-1.57%	7.16%	24.37%	15.58%	21.42%	9.17%	11.64%	6.56%
Morningstar Lifetime Moderate 2045 Index	5.51%	20.53%	10.84%	-3.03%	5.25%	23.07%	15.84%	20.53%	9.01%	10.91%	-
2045 Moderate	4.83%	20.49%	7.99%	-1.99%	5.03%	22.00%	15.16%	20.49%	8.50%	10.34%	5.67%
TARGET DATE 2050 MODERATE											
Vanguard Target Retirement 2050 Inv	5.19%	21.39%	8.85%	-1.58%	7.18%	24.34%	15.58%	21.39%	9.16%	11.63%	6.56%
Morningstar Lifetime Moderate 2050 Index	5.55%	20.78%	10.89%	-3.19%	5.00%	22.83%	15.94%	20.78%	9.04%	10.83%	-
2050 Moderate	4.90%	20.59%	7.99%	-1.79%	5.23%	23.68%	15.58%	20.59%	8.54%	10.68%	5.86%
TARGET DATE 2055 MODERATE											
Vanguard Target Retirement 2055 Inv	5.18%	21.38%	8.88%	-1.72%	7.19%	24.33%	15.58%	21.38%	9.11%	11.60%	-
Morningstar Lifetime Moderate 2055 Index	5.57%	20.95%	10.90%	-3.34%	4.74%	22.49%	16.00%	20.95%	9.04%	10.71%	-
2055 Moderate	5.03%	20.87%	8.38%	-1.55%	5.95%	23.75%	15.50%	20.87%	8.90%	11.11%	6.82%

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PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY

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University of Maine System Defined Contribution Plan

INVESTMENT NAME	Q4 '17	YTD '17	2016	2015	2014	2013	2012	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
TARGET DATE 2060+ MODERATE											
Vanguard Target Retirement 2060 Inv	5.17%	21.36%	8.84%	-1.68%	7.16%	24.35%	-	21.36%	9.10%	11.59%	-
Morningstar Lifetime Moderate 2060 Index	5.57%	21.06%	10.88%	-3.48%	4.53%	-	-	21.06%	9.01%	-	-
2060+ Moderate	4.88%	20.99%	8.72%	-0.89%	7.24%	24.34%	-	20.99%	9.36%	11.66%	-
ALLOCATION--85%+ EQUITY											
CREF Stock R3	5.72%	23.45%	9.17%	-0.84%	6.41%	27.83%	17.29%	23.45%	10.15%	12.69%	6.45%
85% S&P 500, 15% BBgBarc Agg	5.69%	18.92%	10.60%	1.38%	12.54%	26.65%	14.25%	18.92%	10.07%	13.71%	7.98%
Allocation--85%+ Equity Universe	4.75%	19.06%	8.74%	-2.45%	5.58%	27.38%	15.25%	19.06%	8.06%	11.33%	5.69%
LARGE COMPANY VALUE											
JHancock Disciplined Value R6	6.97%	19.33%	14.07%	-4.81%	11.04%	35.97%	20.08%	19.33%	9.02%	14.36%	8.46%
Russell 1000 Value	5.33%	13.66%	17.34%	-3.83%	13.45%	32.53%	17.51%	13.66%	8.65%	14.04%	7.10%
Large Value Universe	5.78%	15.84%	14.62%	-3.96%	10.50%	31.59%	14.68%	15.84%	8.49%	13.23%	6.84%
LARGE COMPANY BLEND											
Vanguard Institutional Index I	6.63%	21.79%	11.93%	1.37%	13.65%	32.35%	15.98%	21.79%	11.38%	15.76%	8.50%
S&P 500 Index	6.64%	21.83%	11.96%	1.38%	13.69%	32.39%	16.00%	21.83%	11.41%	15.79%	8.50%
Large Blend Universe	6.29%	20.45%	10.32%	-0.77%	11.33%	31.89%	15.16%	20.45%	9.71%	14.25%	7.55%
LARGE COMPANY GROWTH											
Harbor Capital Appreciation Retirement	7.24%	36.68%	-1.04%	10.99%	9.93%	37.66%	15.69%	36.68%	14.50%	17.84%	10.16%
Russell 1000 Growth	7.86%	30.21%	7.08%	5.67%	13.05%	33.48%	15.26%	30.21%	13.79%	17.33%	10.00%
Large Growth Universe	6.43%	28.30%	3.08%	3.84%	10.04%	34.40%	15.27%	28.30%	11.20%	15.37%	8.33%

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PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

INVESTMENT NAME	Q4 '17	YTD '17	2016	2015	2014	2013	2012	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
MEDIUM COMPANY VALUE											
Virtus Ceredex Mid Cap Value Equity IS	4.94%	11.98%	20.53%	-5.63%	11.05%	31.21%	21.79%	11.98%	8.40%	13.16%	9.87%
Russell Mid Cap Value	5.50%	13.34%	20.00%	-4.78%	14.75%	33.46%	18.51%	13.34%	9.00%	14.68%	9.10%
Mid Value Universe	5.07%	12.97%	18.06%	-5.44%	9.66%	34.92%	16.00%	12.97%	8.09%	13.27%	8.02%
MEDIUM COMPANY BLEND											
Vanguard Extended Market Index Inst	4.82%	18.12%	16.15%	-3.24%	7.56%	38.42%	18.50%	18.12%	9.90%	14.60%	9.32%
Russell Mid Cap	6.07%	18.52%	13.80%	-2.44%	13.22%	34.76%	17.28%	18.52%	9.58%	14.96%	9.11%
Mid Blend Universe	5.20%	15.61%	14.32%	-4.43%	8.53%	34.46%	16.53%	15.61%	8.03%	13.09%	7.82%
MEDIUM COMPANY GROWTH											
Goldman Sachs Growth Opportunities R6	5.73%	27.24%	1.49%	-5.24%	11.44%	32.38%	19.58%	27.24%	6.96%	12.54%	8.93%
Russell Mid Cap Growth	6.81%	25.27%	7.33%	-0.20%	11.90%	35.74%	15.81%	25.27%	10.30%	15.30%	9.10%
Mid Growth Universe	5.97%	24.63%	5.94%	-0.70%	7.21%	35.00%	14.53%	24.63%	9.51%	13.82%	7.79%
FOREIGN LARGE VALUE											
MFS International Value R6	5.94%	27.25%	4.31%	6.85%	1.61%	27.80%	16.13%	27.25%	12.35%	12.99%	6.94%
MSCI EAFE	4.27%	25.62%	1.51%	-0.39%	-4.48%	23.29%	17.90%	25.62%	8.30%	8.39%	2.42%
Foreign Large Value Universe	3.36%	22.73%	3.10%	-3.25%	-6.27%	20.76%	16.76%	22.73%	6.80%	6.52%	1.27%
FOREIGN LARGE BLEND											
Vanguard Total Intl Stock Index Inst	4.87%	27.55%	4.70%	-4.24%	-4.15%	15.15%	18.28%	27.55%	8.54%	7.14%	1.94%
MSCI EAFE	4.27%	25.62%	1.51%	-0.39%	-4.48%	23.29%	17.90%	25.62%	8.30%	8.39%	2.42%
Foreign Large Blend Universe	3.86%	25.40%	1.00%	-1.58%	-4.98%	19.51%	17.95%	25.40%	7.61%	7.25%	1.86%

*ANNUALIZED

CONTINUED...

This summary is intended for "Institutional (Plan Sponsor) Use Only" and only includes historical performance of the funds currently in the plan's fund lineup as compared to the peer group (universe) maintained/developed by CAPTRUST (using Morningstar open-end mutual fund data), which may include other investment types such as collective investment trusts. Fund and peer group returns are shown net of investment management fees, unless otherwise indicated, but gross of CAPTRUST advisory fees. The plan's overall performance will be reduced by CAPTRUST's advisory fees and other plan level fees not contemplated in this summary. Therefore, each participant's account performance will differ substantially. Past performance is not indicative of future results. Information from sources believed to be reliable, but not warranted by CAPTRUST to be accurate or complete.

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

INVESTMENT NAME	Q4 '17	YTD '17	2016	2015	2014	2013	2012	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
FOREIGN LARGE GROWTH											
Oppenheimer Intl Growth I	3.73%	27.15%	-1.88%	3.63%	-6.80%	25.71%	22.12%	27.15%	8.94%	8.66%	4.67%
MSCI EAFE	4.27%	25.62%	1.51%	-0.39%	-4.48%	23.29%	17.90%	25.62%	8.30%	8.39%	2.42%
Foreign Large Growth Universe	4.47%	31.78%	-2.20%	0.94%	-3.89%	19.90%	18.91%	31.78%	9.17%	8.48%	2.74%
SMALL COMPANY VALUE											
Victory Sycamore Small Company Opp I	3.19%	11.88%	30.04%	-0.39%	6.80%	33.39%	12.55%	11.88%	13.16%	15.60%	10.86%
Russell 2000 Value	2.05%	7.84%	31.74%	-7.47%	4.22%	34.52%	18.06%	7.84%	9.55%	13.01%	8.17%
Small Value Universe	3.53%	9.12%	25.81%	-6.81%	3.36%	35.68%	16.06%	9.12%	8.60%	12.48%	8.35%
SMALL COMPANY GROWTH											
Carillon Eagle Small Cap Growth R6	6.06%	23.40%	10.45%	-0.39%	5.59%	34.70%	14.71%	23.40%	10.73%	14.07%	9.65%
Russell 2000 Growth	4.59%	22.17%	11.32%	-1.38%	5.60%	43.30%	14.59%	22.17%	10.28%	15.21%	9.19%
Small Growth Universe	5.05%	22.30%	11.22%	-2.28%	2.67%	41.24%	13.55%	22.30%	9.92%	14.01%	8.49%
EMERGING MARKETS											
DFA Emerging Markets Core Equity I	7.71%	36.55%	12.35%	-14.86%	-0.91%	-2.64%	20.49%	36.55%	9.32%	4.73%	3.04%
MSCI Emerging Markets	7.50%	37.75%	11.60%	-14.60%	-1.82%	-2.27%	18.63%	37.75%	9.50%	4.73%	2.02%
Emerging Markets Universe	6.22%	35.39%	8.25%	-13.63%	-2.76%	0.30%	18.85%	35.39%	8.26%	4.50%	1.74%
SPECIALTY-PRIVATE REAL ESTATE											
TIAA Real Estate Account	1.29%	4.37%	5.20%	8.16%	12.22%	9.65%	10.06%	4.37%	5.90%	7.88%	2.49%
NCREIF Property Index	1.80%	6.98%	7.97%	13.33%	11.81%	10.99%	10.54%	6.98%	9.39%	10.19%	6.08%
Specialty-Real Estate Universe	2.36%	5.73%	6.63%	2.46%	28.39%	1.69%	17.56%	5.73%	4.89%	8.55%	6.82%

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SECTION 4: FUND FACT SHEETS

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

SECTION 4: FUND FACT SHEETS

Fund Fact Sheets.....

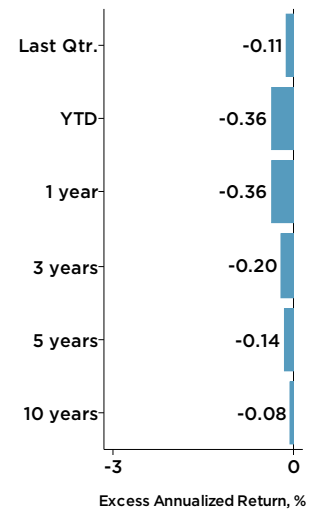
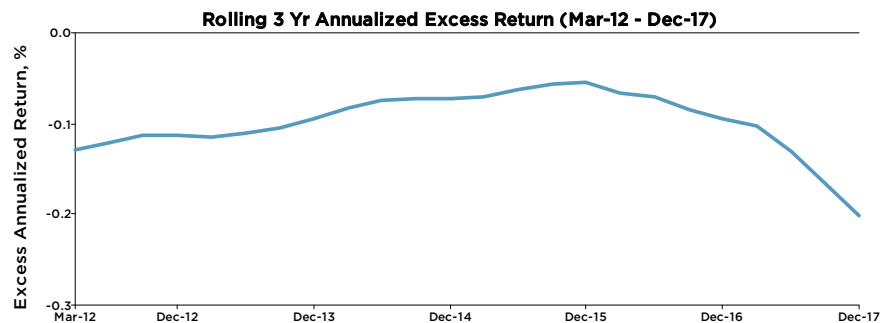
CREF MONEY MARKET R3

Period Ending 12.31.17 | Q4 17

INDUSTRY ANALYSIS

Money market reform passed in 2010 imposed new mandates on 2a-7 managers including shorter average maturities, tighter restrictions on allowable securities, increased liquidity mandates and mandatory stress testing by fund managers. In July 2014, the SEC passed further 2a-7 regulations that mandated a floating rate NAV for some products and allowed managers, under certain circumstances, to limit redemptions or charge a fee for withdrawals. The July regulations will have a multi-year phase-in period,

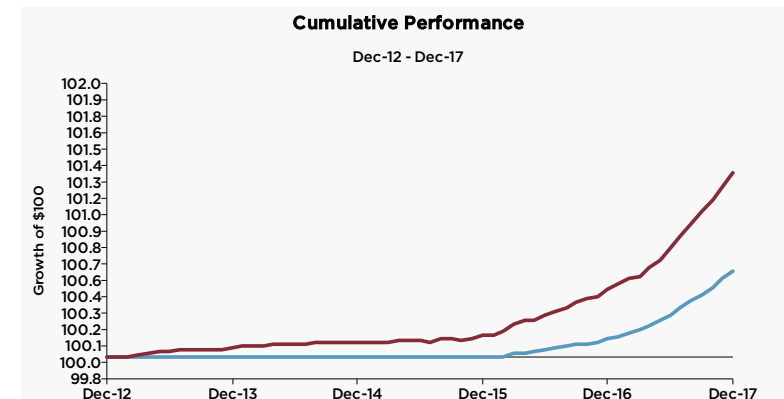
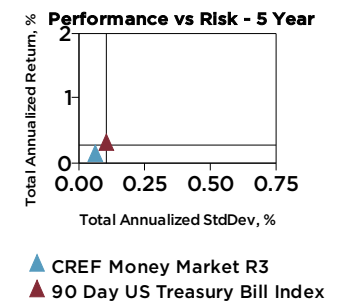
	CREF Money Market R3	90 Day US Treasury Bill Index
TRAILING RETURNS		
Last Qtr.	0.17	0.28
YTD	0.50	0.86
1 Year	0.50	0.86
3 Years	0.21	0.41
5 Years	0.13	0.27
10 Years	0.32	0.39
CALENDAR RETURNS		
2016	0.13	0.33
2015	0.00	0.05
2014	0.00	0.03
2013	0.00	0.07
2012	0.00	0.11
KEY MEASURES / 5 YEAR		
5 Year	0.06	0.10



CREF Money Market R3
■ Excess

INVESTMENT PROFILE

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



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8.1

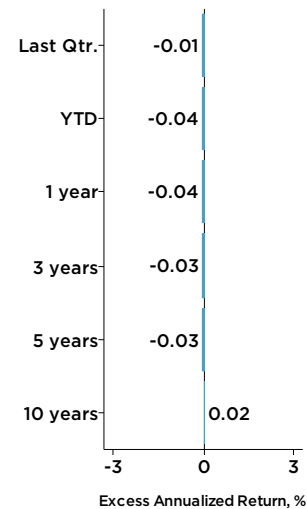
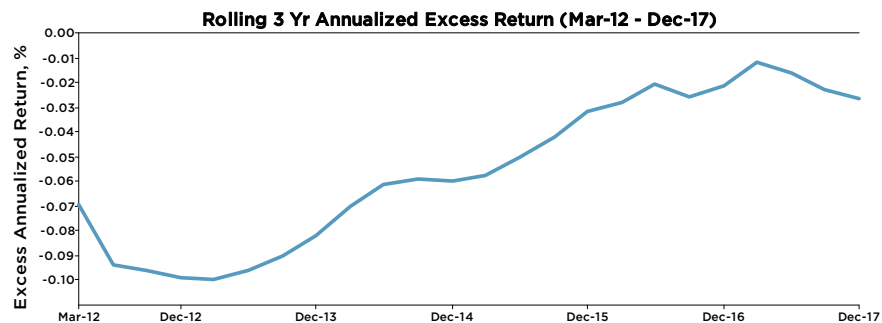
VANGUARD FEDERAL MONEY MARKET

Period Ending 12.31.17 | Q4 17

INDUSTRY ANALYSIS

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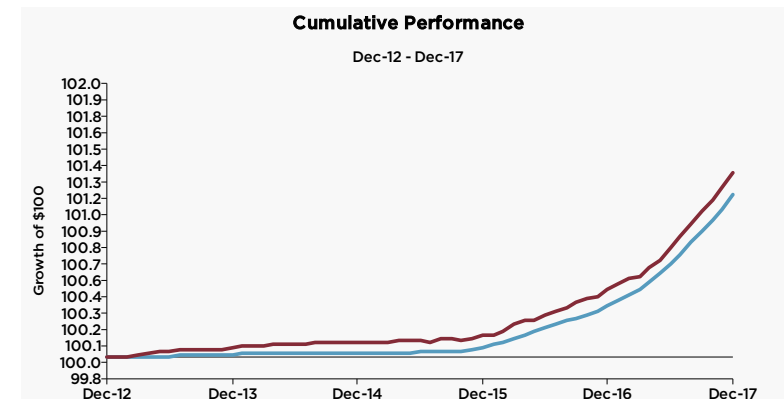
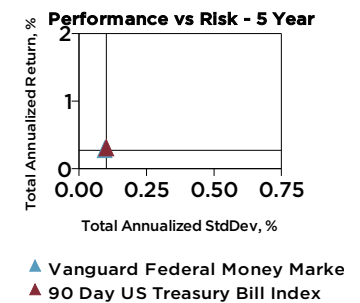
	Vanguard Federal Money Market	90 Day US Treasury Bill Index
TRAILING RETURNS		
Last Qtr.	0.27	0.28
YTD	0.81	0.86
1 Year	0.81	0.86
3 Years	0.38	0.41
5 Years	0.24	0.27
10 Years	0.41	0.39
CALENDAR RETURNS		
2016	0.30	0.33
2015	0.04	0.05
2014	0.01	0.03
2013	0.02	0.07
2012	0.01	0.11
KEY MEASURES / 5 YEAR		
5 Year	0.09	0.10



Vanguard Federal Money Market
■ Excess

INVESTMENT PROFILE

Ticker	VMFXX
Strategy Incept Date	07/13/1981
Prospectus Exp Ratio	0.11%
12 Mo Yield	0.81%



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8.1

TIAA TRADITIONAL – GROUP RETIREMENT ANNUITY (GRA)

Period Ending 12.31.17 | Q4 17

8.1

INDUSTRY ANALYSIS

The insurance providers and industry as a whole have historically exhibited a high degree of sensitivity to broad financial markets. The economic and market downturn of 2008 and 2009 proved to be no exception as many of these providers watched as the assets on their balance sheets – public and private – were marked meaningfully lower. The shrinking assets resulted in deterioration of capital ratios and reserve amounts across the industry, leading to system-wide downgrades from the ratings agencies. However, the drive in equity markets since the nadir in March of 2009 have presented a formidable rally across every major fixed income sector. As this rally strengthened the balance sheets of insurers, attention shifted away from the industry, which has now been able to breathe a collective sigh of relief. While the insurance industry has staged an impressive recovery, investors should use this episode as a reminder of the risks inherent with single-insurer backed products.

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:

12/1/16 - 12/31/16	1/1/17 - 3/31/17	4/1/17 - 6/30/17	7/1/17 - 9/30/17	10/1/17 - 12/31/17
4.00%	4.00%	4.00%	4.00%	4.00%

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

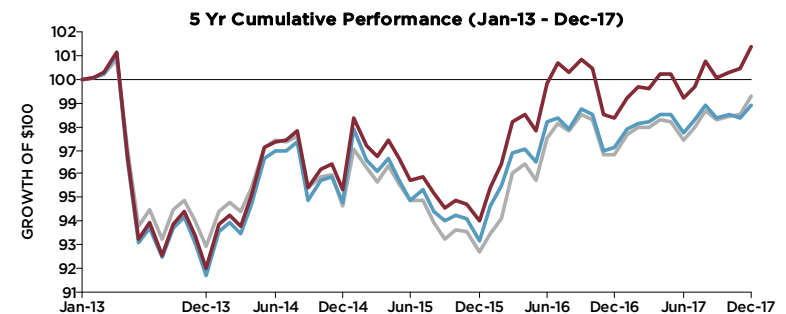
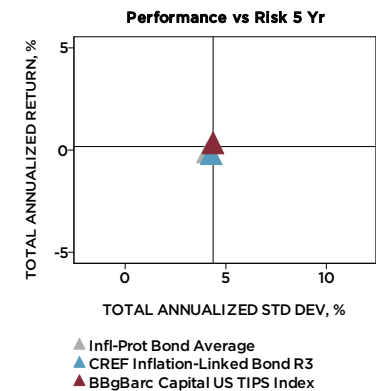
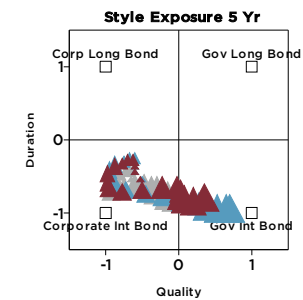
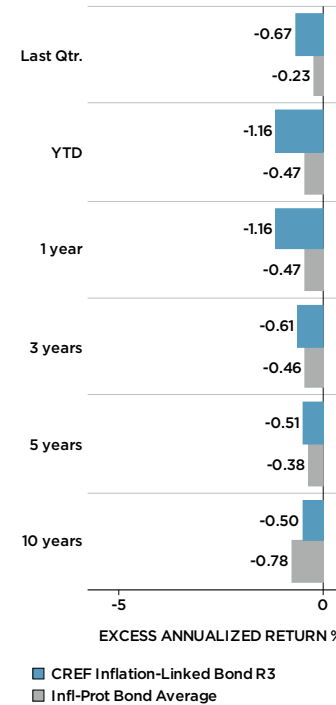
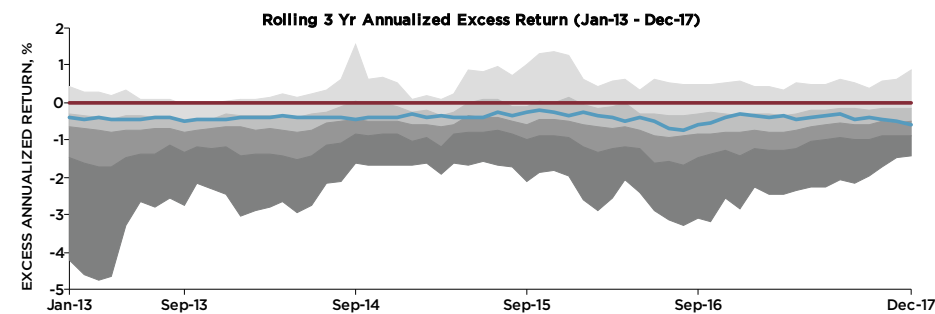
Plan Sponsor	Participant
Not applicable. Contracts are individually owned by the participant.	Lump Sum withdrawals are available within 120 days of termination of employment with a 2.5% surrender charge. Transfers and withdrawals can be made in 10 annual installments (paid over 9 years and 1 day).

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CREF INFLATION-LINKED BOND R3

Period Ending 12.31.17 | Q4 17

	CREF Inflation-Linked Bond R3	Peer Group Rank	BBgBarc Capital US TIPS Index	Infl-Prot Bond	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	4.35	55%	4.45	4.11	215
Sharpe Ratio	-0.15	58%	-0.03	-0.12	215
Alpha	-0.51	59%	0.00	-0.40	215
Beta	0.97	49%	1.00	0.85	215
R-Squared	97.99	41%	100.00	85.29	215
Up Mkt Capture	88.69	53%	100.00	82.71	215
Down Mkt Capture	97.85	38%	100.00	89.14	215
Information Ratio	-0.80	67%	NA	-0.70	215
TRAILING RETURNS					
Last Qtr.	0.59	80%	1.26	1.03	238
YTD	1.85	73%	3.01	2.53	237
1 Year	1.85	73%	3.01	2.53	237
3 Years	1.44	58%	2.05	1.59	229
5 Years	-0.37	60%	0.13	-0.25	215
10 Years	3.03	45%	3.53	2.75	154
CALENDAR RETURNS					
2016	4.23	52%	4.68	4.57	244
2015	-1.68	36%	-1.44	-2.21	253
2014	3.34	22%	3.64	1.94	252
2013	-9.01	67%	-8.60	-7.56	252
2012	6.41	52%	6.98	6.35	226

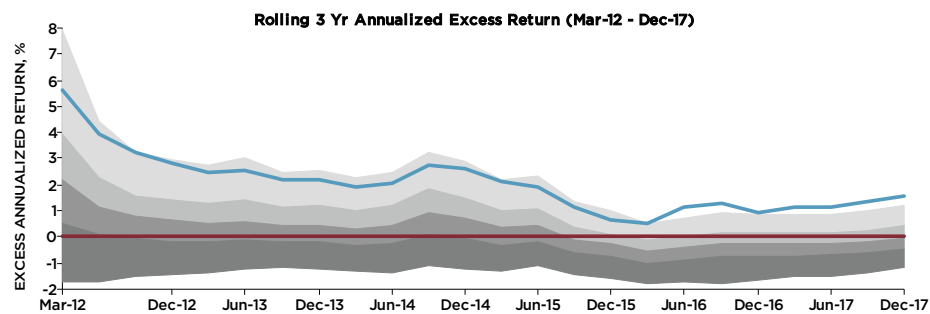


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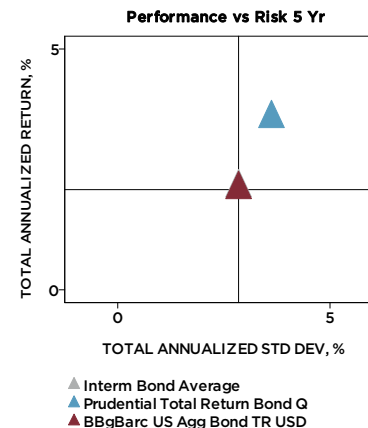
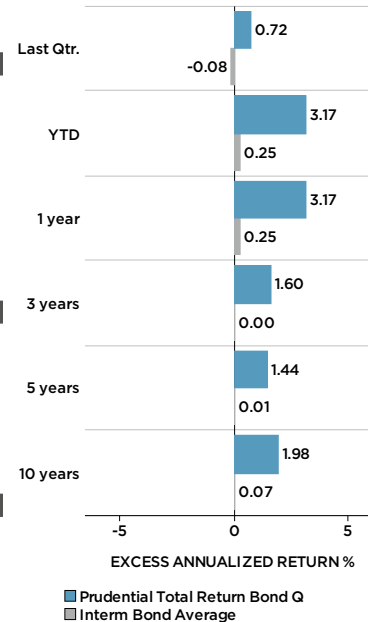
PRUDENTIAL TOTAL RETURN BOND Q

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Prudential Total Return Bond Q	Peer Group Rank	BBgBarc US Agg Bond TR USD	Interm Bond	# of Funds
Standard Deviation	3.64	96%	2.85	2.86	916
Sharpe Ratio	0.90	15%	0.64	0.65	916
Alpha	1.05	11%	0.00	0.16	916
Beta	1.21	1%	1.00	0.92	916
R-Squared	89.81	53%	100.00	85.59	916
Up Mkt Capture	137.21	1%	100.00	95.60	916
Down Mkt Capture	112.76	89%	100.00	92.24	916
Information Ratio	1.08	5%	NA	-0.17	916
TRAILING RETURNS					
Last Qtr.	1.11	2%	0.39	0.30	1017
YTD	6.71	2%	3.54	3.79	1005
1 Year	6.71	2%	3.54	3.79	1005
3 Years	3.84	3%	2.24	2.24	943
5 Years	3.54	4%	2.10	2.11	916
10 Years	5.99	2%	4.01	4.08	804
CALENDAR RETURNS					
2016	4.83	12%	2.65	3.25	1027
2015	0.09	44%	0.55	-0.29	1030
2014	7.25	5%	5.97	5.18	1073
2013	-0.91	28%	-2.02	-1.42	1092
2012	9.96	8%	4.21	6.73	1128



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INVESTMENT PROFILE

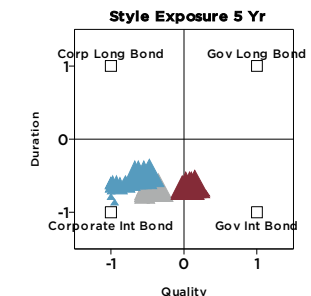
Ticker	PTRQX
CUSIP	74440B884
Net Assets \$MM	\$30,184.00
Manager Names	Team Managed
Manager Tenure	15.2 Years
Prospectus Exp Ratio	0.41%
Cat Median Exp Ratio	0.79%
Current 12b-1	N/A
Annld Ret Since Incept	5.13%
Inception Date	12/27/2010
Phone Number	800-225-1852
Sub Advisor	PGIM Fixed Income

HOLDINGS OVERVIEW

Total Number of Holdings	2730
% Assets in Top 10 Holdings	63.05%
Avg Mkt Cap \$MM	\$1,436.17
Turnover Ratio	95.00%

TOP HOLDINGS

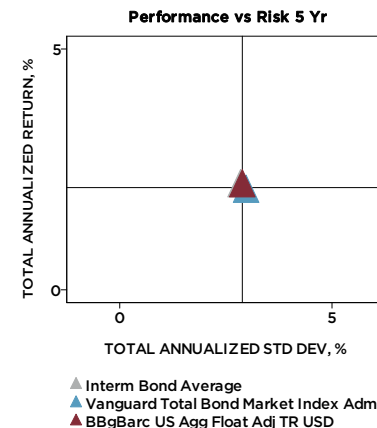
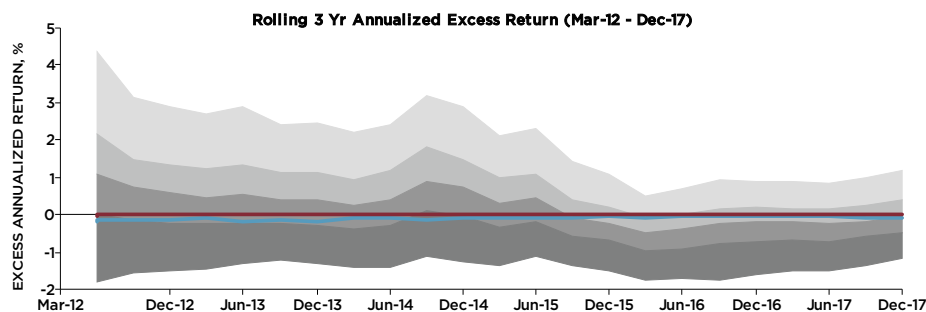
US 5 Year Note (CBT) Mar	23.56%
2 Year US Treasury Note F	15.20%
US ULTRA BOND CBT MA	8.52%
US 10 Year Note (CBT) Ma	6.56%
Ultra 10-Year U.S. Treasury	2.17%



VANGUARD TOTAL BOND MARKET INDEX ADM

Period Ending 12.31.17 | Q4 17

	Vanguard Total Bond Market Index Adm	Peer Group Rank	BBgBarc US Agg Float Adj TR USD	Interm Bond	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	2.98	71%	2.90	2.86	916
Sharpe Ratio	0.59	58%	0.63	0.65	916
Alpha	-0.13	66%	0.00	0.18	916
Beta	1.03	13%	1.00	0.90	916
R-Squared	99.34	3%	100.00	85.57	916
Up Mkt Capture	101.43	32%	100.00	94.43	916
Down Mkt Capture	105.05	79%	100.00	90.50	916
Information Ratio	-0.31	66%	NA	-0.16	916
TRAILING RETURNS					
Last Qtr.	0.41	33%	0.41	0.30	1017
YTD	3.57	57%	3.63	3.79	1005
1 Year	3.57	57%	3.63	3.79	1005
3 Years	2.18	53%	2.27	2.24	943
5 Years	2.02	53%	2.10	2.11	916
10 Years	3.95	62%	NA	4.08	804
CALENDAR RETURNS					
2016	2.60	64%	2.75	3.25	1027
2015	0.40	28%	0.44	-0.29	1030
2014	5.89	31%	5.85	5.18	1073
2013	-2.15	67%	-1.97	-1.42	1092
2012	4.15	85%	4.32	6.73	1128



INVESTMENT PROFILE

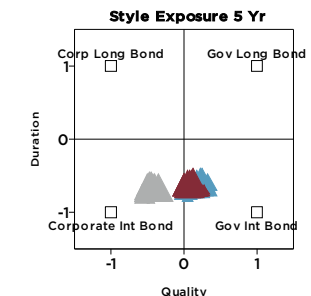
Ticker	VBTLX
CUSIP	921937603
Net Assets \$MM	\$195,872.00
Manager Names	Team Managed
Manager Tenure	4.9 Years
Prospectus Exp Ratio	0.05%
Cat Median Exp Ratio	0.79%
Current 12b-1	N/A
Annlzd Ret Since Incept	4.20%
Inception Date	11/12/2001
Phone Number	800-662-7447
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	17501
% Assets in Top 10 Holdings	4.25%
Avg Mkt Cap \$MM	N/A
Turnover Ratio	0.00%

TOP HOLDINGS

US Treasury Note 2.125%	0.49%
US Treasury Note 2%	0.46%
US Treasury Note 2.625%	0.44%
Ginnie Mae Jumbos TBA 3	0.44%
US Treasury Note 1.375%	0.43%

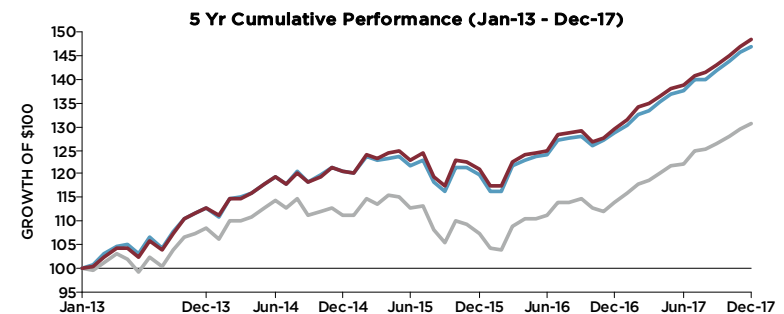
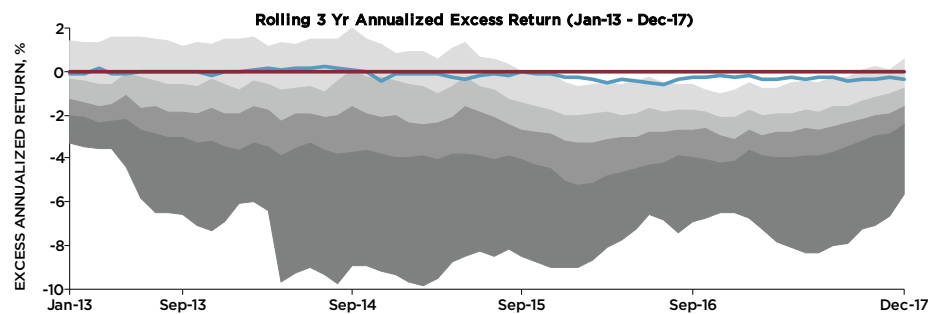
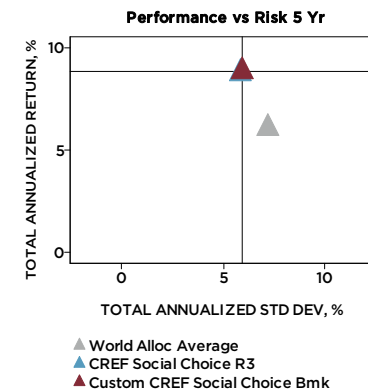
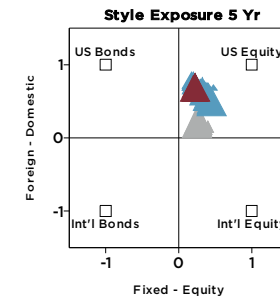
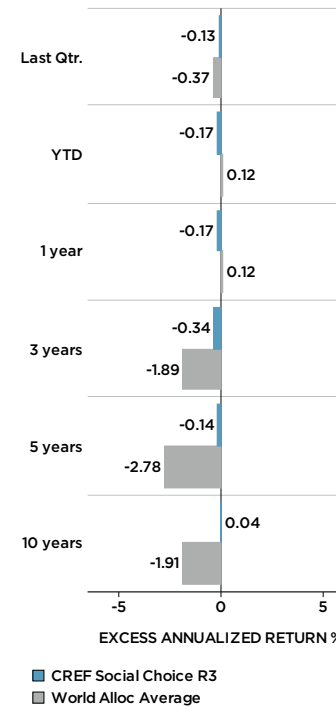


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CREF SOCIAL CHOICE R3

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	CREF Social Choice R3	Peer Group Rank	Custom CREF Social Choice Bmk	World Alloc	# of Funds
Standard Deviation	5.88	14%	5.95	7.24	391
Sharpe Ratio	1.43	1%	1.44	0.82	391
Alpha	0.01	2%	0.00	-3.56	391
Beta	0.98	76%	1.00	1.09	391
R-Squared	98.75	1%	100.00	81.70	391
Up Mkt Capture	98.72	39%	100.00	92.15	391
Down Mkt Capture	99.45	11%	100.00	133.35	391
Information Ratio	-0.20	13%	NA	-0.84	391
TRAILING RETURNS					
Last Qtr.	3.44	37%	3.57	3.19	459
YTD	14.27	54%	14.44	14.56	452
1 Year	14.27	54%	14.44	14.56	452
3 Years	6.75	20%	7.10	5.20	415
5 Years	8.68	7%	8.83	6.04	391
10 Years	6.04	3%	6.00	4.09	247
CALENDAR RETURNS					
2016	7.40	23%	7.12	5.73	474
2015	-0.87	19%	0.20	-4.00	486
2014	6.83	5%	6.91	1.93	491
2013	16.68	26%	16.23	11.60	489
2012	10.99	61%	11.75	11.52	459



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VANGUARD TARGET RETIREMENT

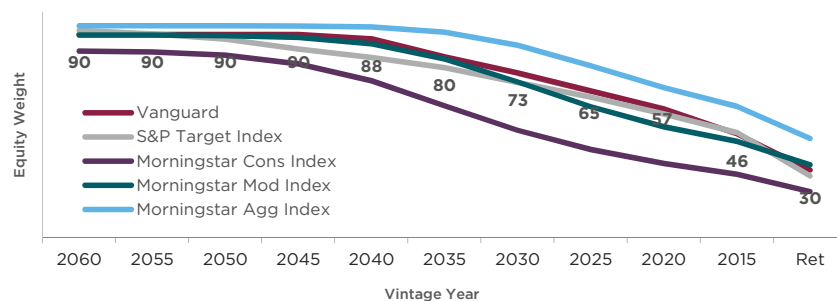
Period Ending 12.31.17 | Q4 17

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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Investment Profile

% Open Architecture:	0%	Active/Passive:	Passive
Inception Date:	10-27-2003	% Active:	0%
Net Assets \$MM:	\$240,015	Manager Tenure:	4.92 years (longest)
Manager Name:	Team	Expense Range:	0.13% - 0.16%
Avg # of Holdings:	5	Investment Structure:	Mutual Fund

Dedicated Asset Class Granularity/Diversification

Emerging Market Equities	No
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.

8.1

VANGUARD TARGET RETIREMENT

Period Ending 12.31.17 | Q4 17

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%

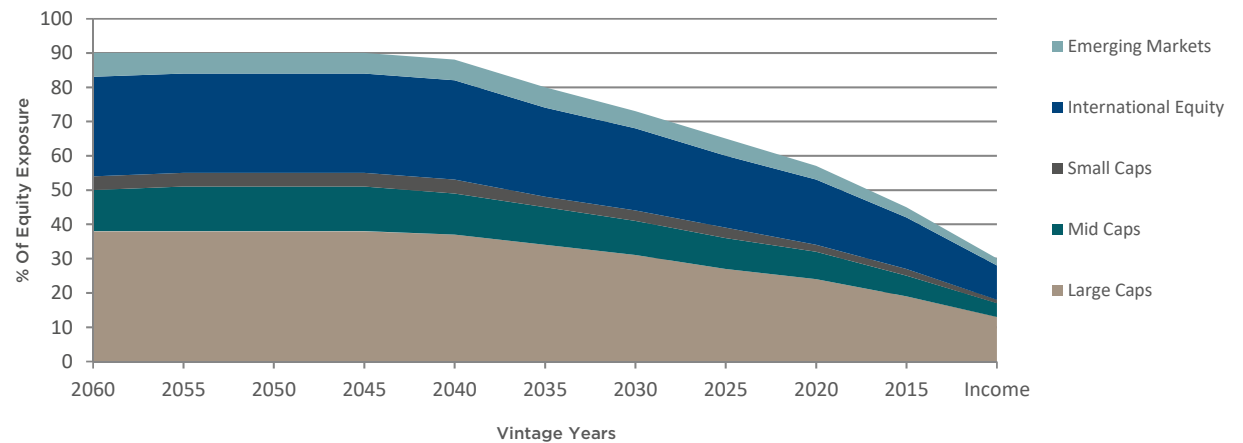
Rationale:

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

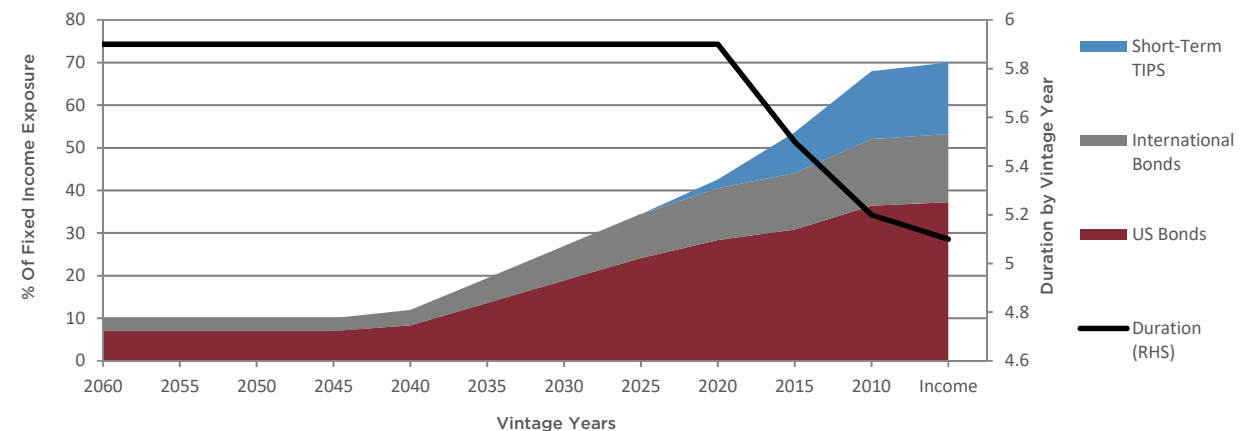
*All information provided by the asset manager, as of 12/31/16. Asset allocations shown are static in nature and do not incorporate any tactical views implemented by the manager.

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Equity Exposure



Fixed Income Exposure



8.1

TARGET DATE ANALYSIS

Period Ending 12.31.17 | Q4 17

	3 Year				5 Year			
	Beta	Sharpe	Up Capture	Down Capture	Beta	Sharpe	Up Capture	Down Capture
Vanguard Target Retirement 2015 Inv	0.98	1.07	97.41	98.87	1.00	1.39	101.14	97.13
Morningstar Target Date 2015	0.96	1.00	94.16	101.20	0.96	1.16	91.51	102.94
S&P Target Date 2015 TR	1.00	1.10	100.00	100.00	1.00	1.34	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	1.03	1.04	103.43	105.49	1.02	1.38	104.52	100.51
Morningstar Target Date 2025	0.99	0.93	95.72	105.20	0.99	1.18	95.13	104.32
S&P Target Date 2025 TR	1.00	1.06	100.00	100.00	1.00	1.32	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	1.06	0.97	103.78	108.40	1.04	1.31	104.22	103.24
Morningstar Target Date 2045	1.05	0.90	99.61	108.72	1.03	1.18	98.31	105.46
S&P Target Date 2045 TR	1.00	1.04	100.00	100.00	1.00	1.31	100.00	100.00

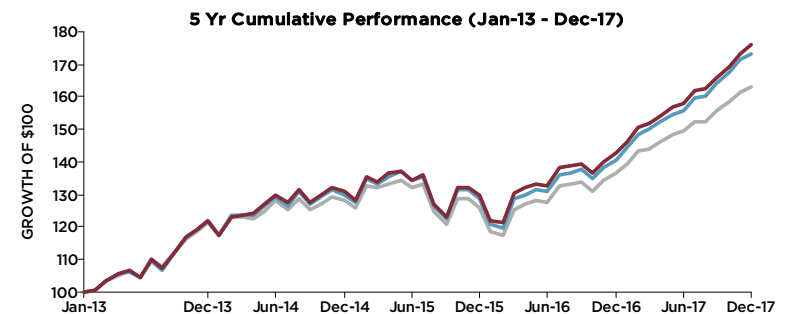
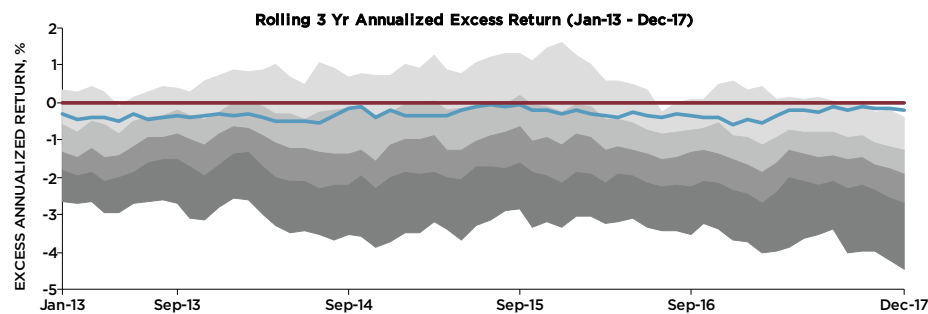
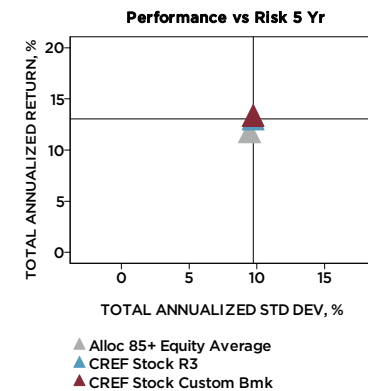
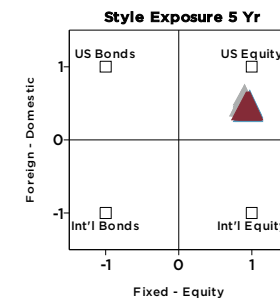
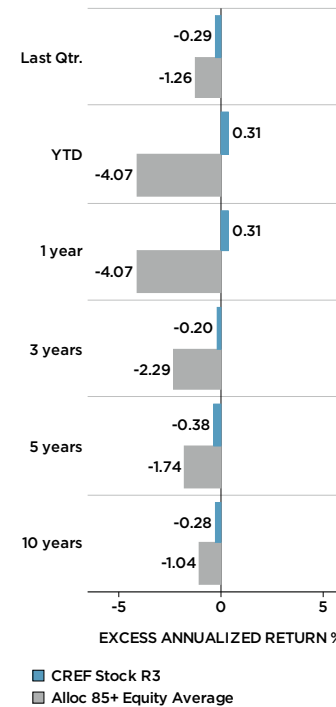
*Lowest cost share class shown

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CREF STOCK R3

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	CREF Stock R3	Peer Group Rank	CREF Stock Custom Bmk	Alloc 85+ Equity	# of Funds
Standard Deviation	9.72	71%	9.71	9.40	169
Sharpe Ratio	1.28	15%	1.32	1.18	169
Alpha	-0.37	25%	0.00	-0.98	169
Beta	1.00	12%	1.00	0.94	169
R-Squared	99.54	1%	100.00	94.46	169
Up Mkt Capture	99.33	6%	100.00	90.55	169
Down Mkt Capture	102.53	82%	100.00	97.58	169
Information Ratio	-0.52	32%	NA	-0.84	169
TRAILING RETURNS					
Last Qtr.	5.72	7%	6.01	4.75	197
YTD	23.45	5%	23.13	19.06	196
1 Year	23.45	5%	23.13	19.06	196
3 Years	10.15	4%	10.35	8.06	193
5 Years	12.69	8%	13.07	11.33	169
10 Years	6.45	14%	6.73	5.69	145
CALENDAR RETURNS					
2016	9.17	24%	10.25	8.74	206
2015	-0.84	25%	-1.02	-2.45	208
2014	6.41	31%	7.41	5.58	201
2013	27.83	34%	28.07	27.38	181
2012	17.29	8%	16.69	15.25	178

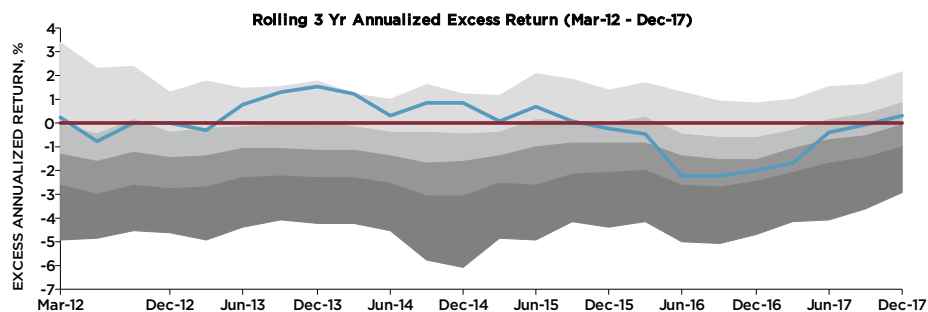


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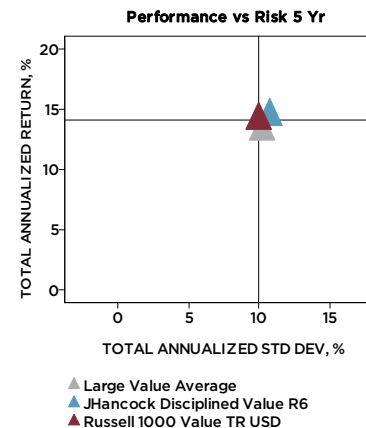
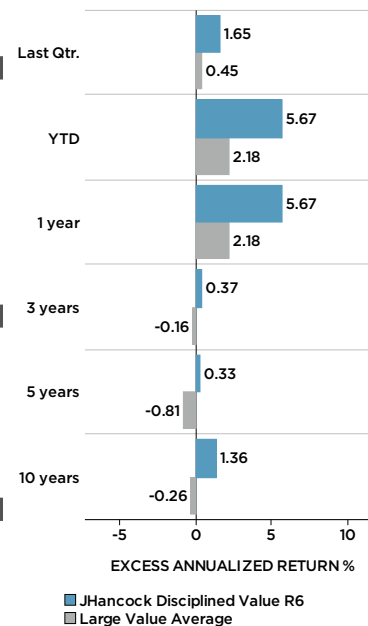
JHancock Disciplined Value R6

Period Ending 12.31.17 | Q4 17

	JHancock Disciplined Value R6	Peer Group Rank	Russell 1000 Value TR USD	Large Value	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	10.69	72%	9.92	10.19	1106
Sharpe Ratio	1.32	43%	1.39	1.29	1106
Alpha	-0.18	44%	0.00	-0.46	1106
Beta	1.04	33%	1.00	0.97	1106
R-Squared	92.60	51%	100.00	90.30	1106
Up Mkt Capture	101.12	24%	100.00	95.14	1106
Down Mkt Capture	99.18	54%	100.00	97.13	1106
Information Ratio	0.10	24%	NA	-0.25	1106
TRAILING RETURNS					
Last Qtr.	6.97	19%	5.33	5.78	1280
YTD	19.33	14%	13.66	15.84	1256
1 Year	19.33	14%	13.66	15.84	1256
3 Years	9.02	39%	8.65	8.49	1175
5 Years	14.36	24%	14.04	13.23	1106
10 Years	8.46	10%	7.10	6.84	964
CALENDAR RETURNS					
2016	14.07	54%	17.34	14.62	1314
2015	-4.81	68%	-3.83	-3.96	1324
2014	11.04	47%	13.45	10.50	1324
2013	35.97	13%	32.53	31.59	1302
2012	20.08	5%	17.51	14.68	1327



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INVESTMENT PROFILE

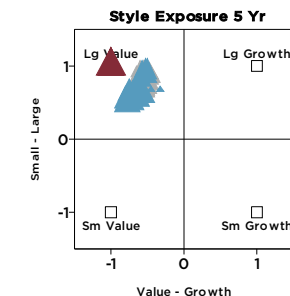
Ticker	JDVWX
CUSIP	47803U418
Net Assets \$MM	\$15,316.00
Manager Names	Team Managed
Manager Tenure	21.0 Years
Prospectus Exp Ratio	0.72%
Cat Median Exp Ratio	1.09%
Current 12b-1	0.00%
Annld Ret Since Incept	15.46%
Inception Date	09/01/2011
Phone Number	888-972-8696
Sub Advisor	Robeco Investment Management, Inc

HOLDINGS OVERVIEW

Total Number of Holdings	82
% Assets in Top 10 Holdings	32.54%
Avg Mkt Cap \$MM	\$84,628.85
Turnover Ratio	65.00%

TOP HOLDINGS

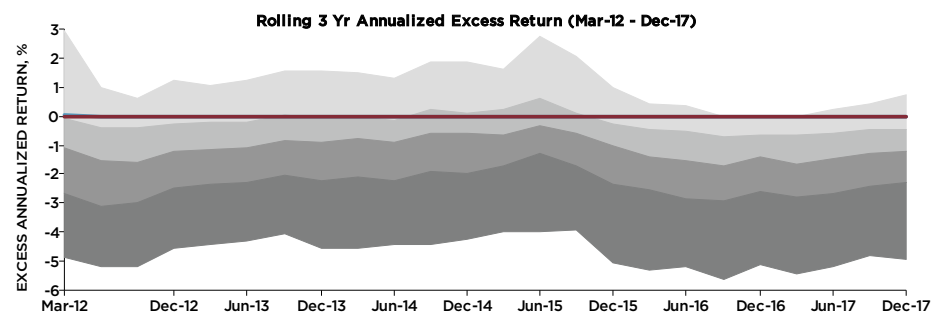
JPMorgan Chase & Co	4.82%
Bank of America Corporat	4.75%
Citigroup Inc	3.78%
Berkshire Hathaway Inc B	3.75%
Johnson & Johnson	3.07%



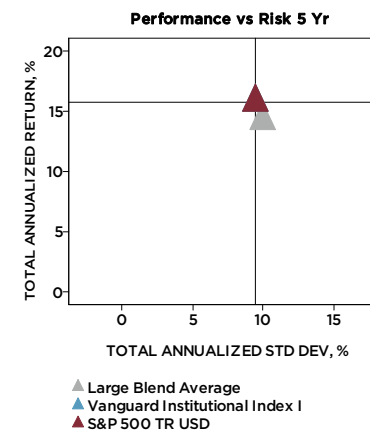
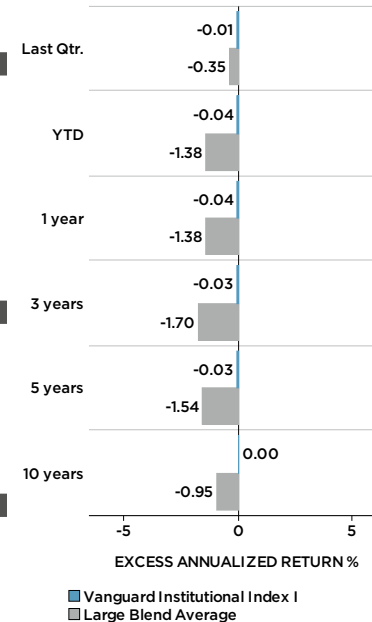
VANGUARD INSTITUTIONAL INDEX I

Period Ending 12.31.17 | Q4 17

	Vanguard Institutional Index I	Peer Group Rank	S&P 500 TR USD	Large Blend	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	9.49	26%	9.49	9.93	1199
Sharpe Ratio	1.63	5%	1.63	1.42	1199
Alpha	-0.03	12%	0.00	-1.59	1199
Beta	1.00	57%	1.00	1.00	1199
R-Squared	100.00	1%	100.00	92.43	1199
Up Mkt Capture	99.89	26%	100.00	95.50	1199
Down Mkt Capture	100.08	22%	100.00	106.21	1199
Information Ratio	-2.17	91%	NA	-1.25	1199
TRAILING RETURNS					
Last Qtr.	6.63	37%	6.64	6.29	1381
YTD	21.79	30%	21.83	20.45	1338
1 Year	21.79	30%	21.83	20.45	1338
3 Years	11.38	12%	11.41	9.71	1274
5 Years	15.76	13%	15.79	14.25	1199
10 Years	8.50	18%	8.50	7.55	1063
CALENDAR RETURNS					
2016	11.93	26%	11.96	10.32	1407
2015	1.37	21%	1.38	-0.77	1466
2014	13.65	18%	13.69	11.33	1499
2013	32.35	43%	32.39	31.89	1505
2012	15.98	37%	16.00	15.16	1578



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**INVESTMENT PROFILE**

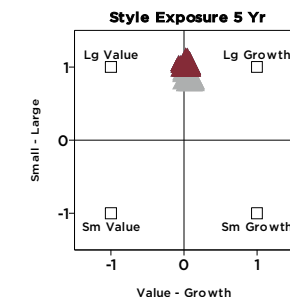
Ticker	VINIX
CUSIP	922040100
Net Assets \$MM	\$232,158.00
Manager Names	Team Managed
Manager Tenure	17.0 Years
Prospectus Exp Ratio	0.04%
Cat Median Exp Ratio	1.10%
Current 12b-1	N/A
Annld Ret Since Incept	9.93%
Inception Date	07/31/1990
Phone Number	888-809-8102
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	508
% Assets in Top 10 Holdings	19.75%
Avg Mkt Cap \$MM	\$95,524.95
Turnover Ratio	5.00%

TOP HOLDINGS

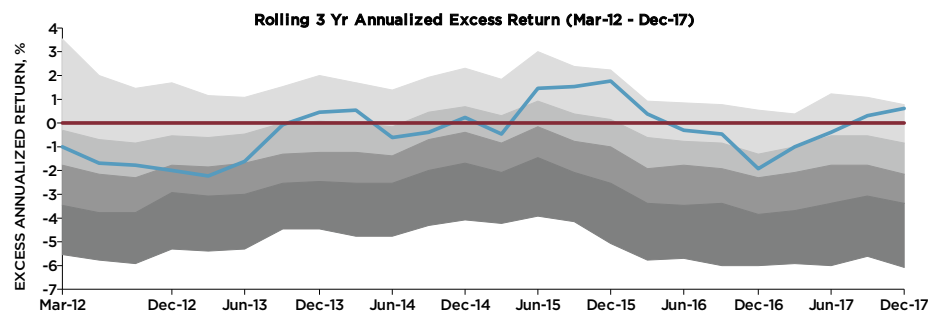
Apple Inc	3.91%
Microsoft Corp	2.85%
Amazon.com Inc	2.07%
Facebook Inc A	1.85%
Johnson & Johnson	1.65%



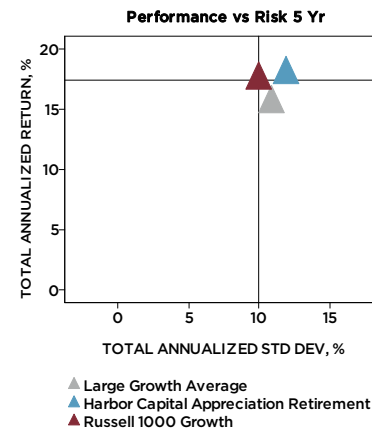
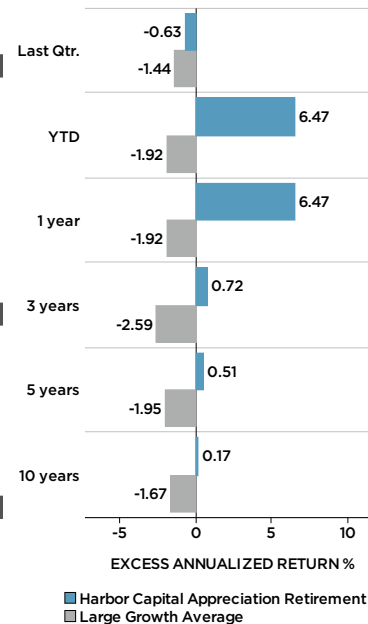
HARBOR CAPITAL APPRECIATION RETIREMENT

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Harbor Capital Appreciation Retirement	Peer Group Rank	Russell 1000 Growth	Large Growth	# of Funds
Standard Deviation	11.87	86%	9.98	10.87	1319
Sharpe Ratio	1.48	39%	1.71	1.40	1319
Alpha	-1.30	35%	0.00	-2.21	1319
Beta	1.11	12%	1.00	1.01	1319
R-Squared	86.41	65%	100.00	87.52	1319
Up Mkt Capture	109.64	5%	100.00	95.46	1319
Down Mkt Capture	120.27	80%	100.00	109.51	1319
Information Ratio	0.10	11%	NA	-0.50	1319
TRAILING RETURNS					
Last Qtr.	7.24	26%	7.86	6.43	1407
YTD	36.68	5%	30.21	28.30	1394
1 Year	36.68	5%	30.21	28.30	1394
3 Years	14.50	7%	13.79	11.20	1340
5 Years	17.84	10%	17.33	15.37	1319
10 Years	10.16	11%	10.00	8.33	1126
CALENDAR RETURNS					
2016	-1.04	84%	7.08	3.08	1511
2015	10.99	4%	5.67	3.84	1604
2014	9.93	54%	13.05	10.04	1658
2013	37.66	20%	33.48	34.40	1722
2012	15.69	44%	15.26	15.27	1753



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INVESTMENT PROFILE

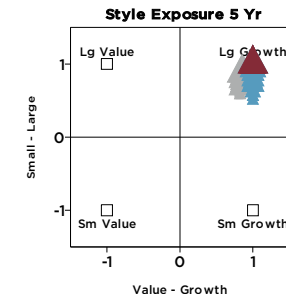
Ticker	HNACX
CUSIP	411512528
Net Assets \$MM	\$28,929.00
Manager	Michael J. Gagliardi, Kathleen A. McCarragher
Manager Tenure	27.7 Years
Prospectus Exp Ratio	0.57%
Cat Median Exp Ratio	1.17%
Current 12b-1	N/A
Annlzd Ret Since Incept	23.57%
Inception Date	03/01/2016
Phone Number	800-422-1050
Sub Advisor	Jennison Associates LLC

HOLDINGS OVERVIEW

Total Number of Holdings	56
% Assets in Top 10 Holdings	38.07%
Avg Mkt Cap \$MM	\$128,350.11
Turnover Ratio	52.00%

TOP HOLDINGS

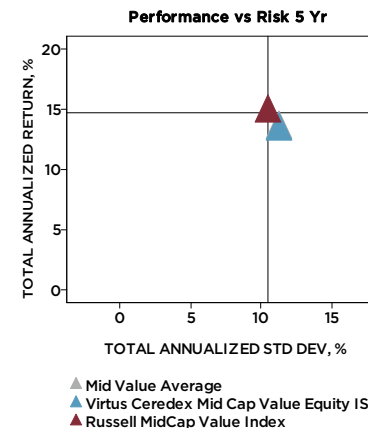
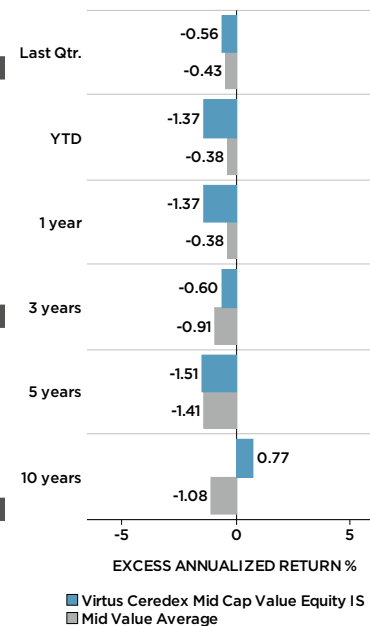
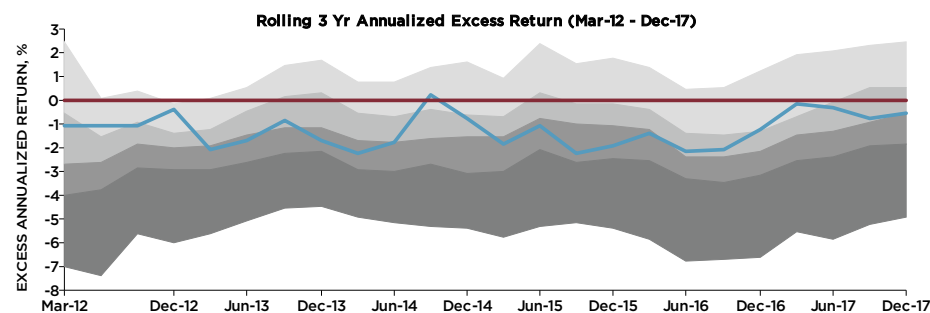
Apple Inc	5.92%
Facebook Inc A	4.71%
Alibaba Group Holding Lt	4.01%
Amazon.com Inc	4.00%
Microsoft Corp	3.74%



VIRTUS CEREDEX MID CAP VALUE EQUITY IS

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Virtus Ceredex Mid Cap Value Equity IS	Peer Group Rank	Russell MidCap Value Index	Mid Value	# of Funds
Standard Deviation	11.28	59%	10.41	11.26	356
Sharpe Ratio	1.14	63%	1.38	1.17	356
Alpha	-2.03	61%	0.00	-1.70	356
Beta	1.04	39%	1.00	1.02	356
R-Squared	91.30	53%	100.00	89.46	356
Up Mkt Capture	97.15	48%	100.00	96.79	356
Down Mkt Capture	108.80	60%	100.00	106.82	356
Information Ratio	-0.40	58%	NA	-0.34	356
TRAILING RETURNS					
Last Qtr.	4.94	55%	5.50	5.07	410
YTD	11.98	61%	13.34	12.97	400
1 Year	11.98	61%	13.34	12.97	400
3 Years	8.40	51%	9.00	8.09	389
5 Years	13.16	60%	14.68	13.27	356
10 Years	9.87	12%	9.10	8.02	306
CALENDAR RETURNS					
2016	20.53	33%	20.00	18.06	412
2015	-5.63	58%	-4.78	-5.44	423
2014	11.05	38%	14.75	9.66	408
2013	31.21	81%	33.46	34.92	407
2012	21.79	3%	18.51	16.00	417



INVESTMENT PROFILE

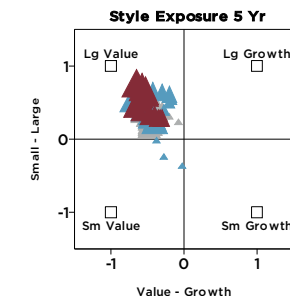
Ticker	SMVZX
CUSIP	92837F441
Net Assets \$MM	\$2,955.00
Manager Names	Don Wordell
Manager Tenure	16.1 Years
Prospectus Exp Ratio	0.80%
Cat Median Exp Ratio	1.18%
Current 12b-1	N/A
Annlzd Ret Since Incept	9.17%
Inception Date	08/01/2014
Phone Number	888-784-3863
Sub Advisor	Ceredex Value Advisors LLC

HOLDINGS OVERVIEW

Total Number of Holdings	61
% Assets in Top 10 Holdings	27.16%
Avg Mkt Cap \$MM	\$10,512.71
Turnover Ratio	108.00%

TOP HOLDINGS

Zimmer Biomet Holdings I	3.22%
Martin Marietta Materials I	3.11%
Humana Inc	2.85%
AmerisourceBergen Corp	2.70%
Dr Pepper Snapple Group	2.66%

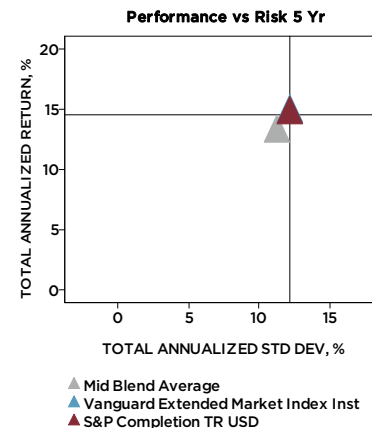
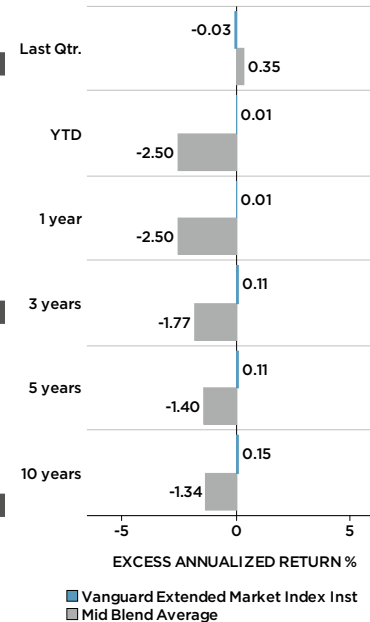
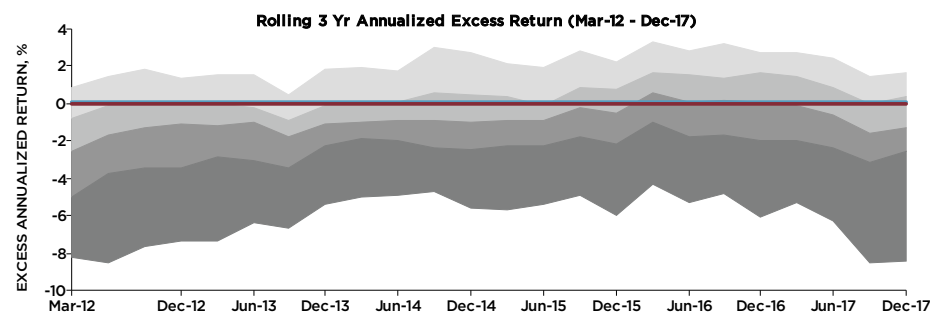


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VANGUARD EXTENDED MARKET INDEX INST

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Vanguard Extended Market Index Inst	Peer Group Rank	S&P Completion TR USD	Mid Blend	# of Funds
Standard Deviation	12.14	85%	12.12	11.29	368
Sharpe Ratio	1.18	53%	1.17	1.15	368
Alpha	0.09	64%	0.00	0.58	368
Beta	1.00	5%	1.00	0.86	368
R-Squared	100.00	1%	100.00	86.08	368
Up Mkt Capture	100.40	5%	100.00	87.35	368
Down Mkt Capture	99.91	85%	100.00	86.06	368
Information Ratio	1.23	1%	NA	-0.22	368
TRAILING RETURNS					
Last Qtr.	4.82	67%	4.84	5.20	435
YTD	18.12	25%	18.11	15.61	432
1 Year	18.12	25%	18.11	15.61	432
3 Years	9.90	29%	9.80	8.03	386
5 Years	14.60	27%	14.49	13.09	368
10 Years	9.32	22%	9.17	7.82	304
CALENDAR RETURNS					
2016	16.15	40%	15.95	14.32	417
2015	-3.24	52%	-3.35	-4.43	436
2014	7.56	65%	7.50	8.53	434
2013	38.42	20%	38.24	34.46	436
2012	18.50	27%	18.45	16.53	426



INVESTMENT PROFILE

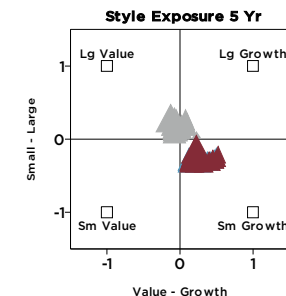
Ticker	VIEIX
CUSIP	922908884
Net Assets \$MM	\$63,146.00
Manager Names	Team Managed
Manager Tenure	20.0 Years
Prospectus Exp Ratio	0.06%
Cat Median Exp Ratio	1.18%
Current 12b-1	N/A
Annlzd Ret Since Incept	8.91%
Inception Date	07/07/1997
Phone Number	888-809-8102
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	3146
% Assets in Top 10 Holdings	4.05%
Avg Mkt Cap \$MM	\$4,054.80
Turnover Ratio	14.38%

TOP HOLDINGS

Tesla Inc	0.82%
Las Vegas Sands Corp	0.50%
ServiceNow Inc	0.42%
Liberty Global PLC C	0.41%
T-Mobile US Inc	0.35%

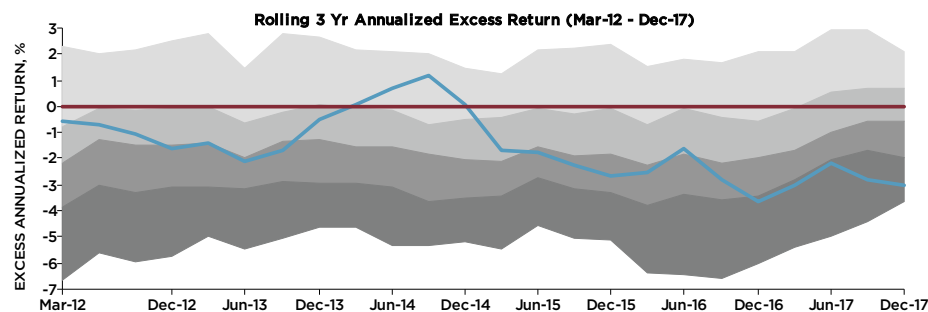


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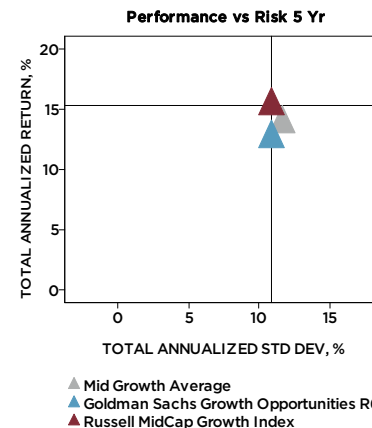
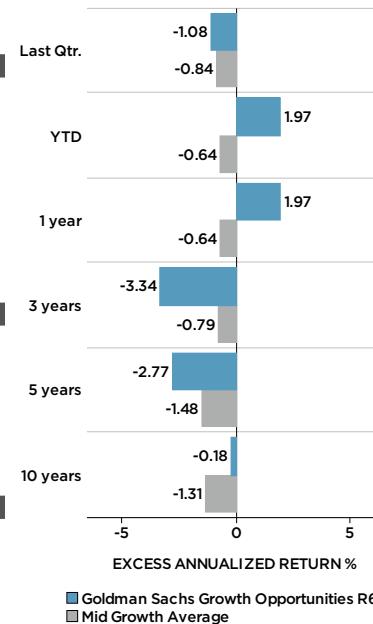
GOLDMAN SACHS GROWTH OPPORTUNITIES R6

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Goldman Sachs Growth Opportunities R6	Peer Group Rank	Russell MidCap Growth Index	Mid Growth	# of Funds
Standard Deviation	10.90	32%	10.82	11.59	575
Sharpe Ratio	1.13	60%	1.39	1.18	575
Alpha	-2.30	64%	0.00	-1.46	575
Beta	0.97	65%	1.00	1.00	575
R-Squared	92.70	29%	100.00	87.49	575
Up Mkt Capture	89.01	83%	100.00	96.08	575
Down Mkt Capture	101.59	40%	100.00	105.23	575
Information Ratio	-0.82	87%	NA	-0.38	575
TRAILING RETURNS					
Last Qtr.	5.73	52%	6.81	5.97	616
YTD	27.24	27%	25.27	24.63	613
1 Year	27.24	27%	25.27	24.63	613
3 Years	6.96	90%	10.30	9.51	599
5 Years	12.54	77%	15.30	13.82	575
10 Years	8.93	25%	9.10	7.79	520
CALENDAR RETURNS					
2016	1.49	82%	7.33	5.94	656
2015	-5.24	87%	-0.20	-0.70	677
2014	11.44	14%	11.90	7.21	698
2013	32.38	68%	35.74	35.00	689
2012	19.58	8%	15.81	14.53	735



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INVESTMENT PROFILE

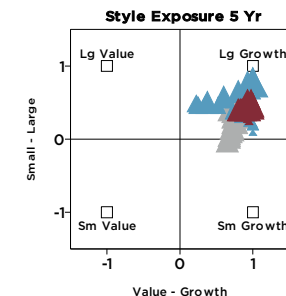
Ticker	GGOUX
CUSIP	38148U601
Net Assets \$MM	\$2,480.00
Manager Names	Team Managed
Manager Tenure	11.0 Years
Prospectus Exp Ratio	0.96%
Cat Median Exp Ratio	1.26%
Current 12b-1	0.00%
Annlzd Ret Since Incept	7.52%
Inception Date	07/31/2015
Phone Number	800-526-7384
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	79
% Assets in Top 10 Holdings	23.48%
Avg Mkt Cap \$MM	\$14,360.03
Turnover Ratio	61.00%

TOP HOLDINGS

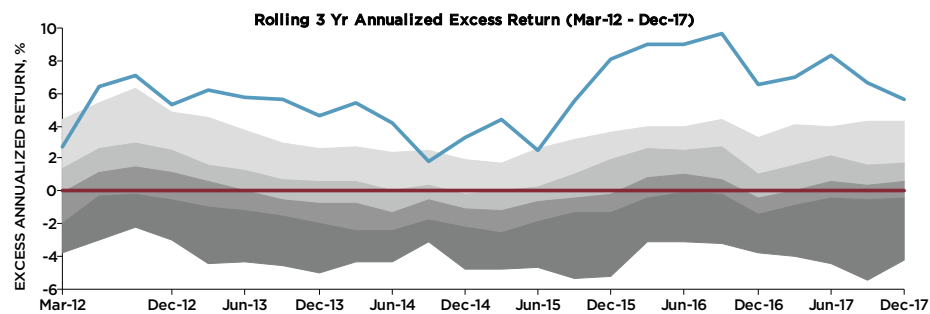
Amphenol Corp Class A	3.30%
Roper Technologies Inc	2.90%
The Middleby Corp	2.58%
Xylem Inc	2.24%
Zoetis Inc	2.21%



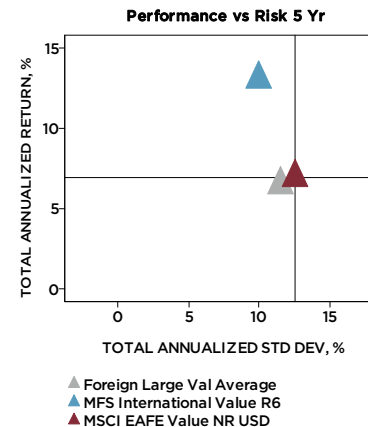
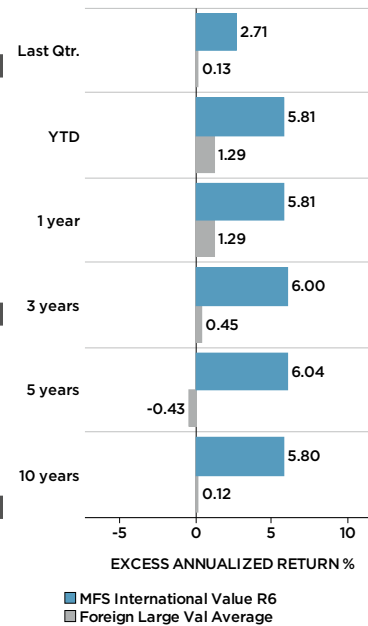
MFS INTERNATIONAL VALUE R6

Period Ending 12.31.17 | Q4 17

	MFS International Value R6	Peer Group Rank	MSCI EAFE Value NR USD	Foreign Large Val	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	9.92	6%	12.58	11.56	254
Sharpe Ratio	1.28	1%	0.53	0.55	254
Alpha	8.44	1%	0.00	0.49	254
Beta	0.64	100%	1.00	0.86	254
R-Squared	66.07	98%	100.00	88.35	254
Up Mkt Capture	85.52	65%	100.00	86.99	254
Down Mkt Capture	42.97	1%	100.00	86.12	254
Information Ratio	0.76	4%	NA	-0.05	254
TRAILING RETURNS					
Last Qtr.	5.94	1%	3.24	3.36	304
YTD	27.25	12%	21.44	22.73	304
1 Year	27.25	12%	21.44	22.73	304
3 Years	12.35	3%	6.35	6.80	288
5 Years	12.99	1%	6.95	6.52	254
10 Years	6.94	1%	1.15	1.27	190
CALENDAR RETURNS					
2016	4.31	29%	5.02	3.10	331
2015	6.85	1%	-5.68	-3.25	354
2014	1.61	1%	-5.39	-6.27	348
2013	27.80	2%	22.95	20.76	341
2012	16.13	63%	17.69	16.76	367



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INVESTMENT PROFILE

Ticker	MINJX
CUSIP	552746349
Net Assets \$MM	\$29,802.00
Manager Names	Team Managed
Manager Tenure	9.1 Years
Prospectus Exp Ratio	0.66%
Cat Median Exp Ratio	1.23%
Current 12b-1	N/A
Annld Ret Since Incept	7.39%
Inception Date	05/01/2006
Phone Number	800-225-2606
Sub Advisor	N/A

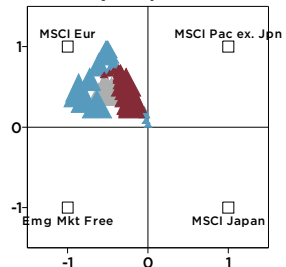
HOLDINGS OVERVIEW

Total Number of Holdings	111
% Assets in Top 10 Holdings	24.89%
Avg Mkt Cap \$MM	\$24,039.64
Turnover Ratio	7.00%

TOP HOLDINGS

Nestle SA	4.16%
Danone SA	2.71%
Reckitt Benckiser Group PL	2.41%
Taiwan Semiconductor Mar	2.37%
Givaudan SA	2.28%

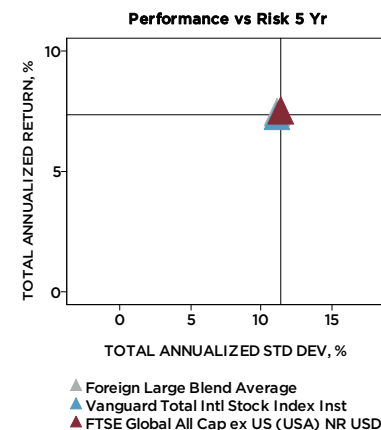
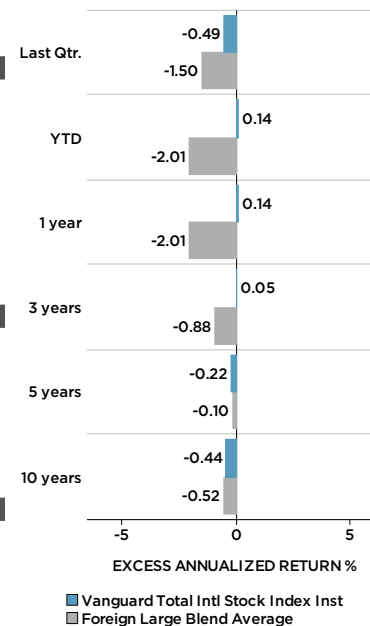
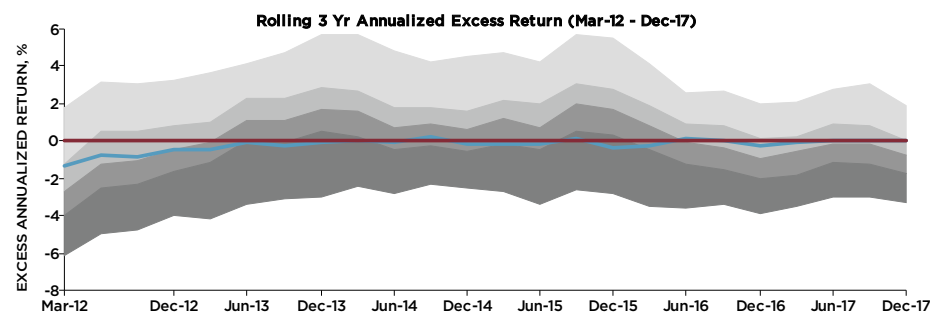
Style Exposure 5 Yr



VANGUARD TOTAL INTL STOCK INDEX INST

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Vanguard Total Intl Stock Index Inst	Peer Group Rank	FTSE Global All Cap ex US (USA) NR USD	Foreign Large Blend	# of Funds
Standard Deviation	11.11	54%	11.38	11.14	628
Sharpe Ratio	0.62	53%	0.62	0.64	628
Alpha	0.01	62%	0.00	0.46	628
Beta	0.97	22%	1.00	0.92	628
R-Squared	98.08	1%	100.00	88.42	628
Up Mkt Capture	97.96	21%	100.00	94.07	628
Down Mkt Capture	98.82	78%	100.00	92.53	628
Information Ratio	-0.13	62%	NA	-0.04	628
TRAILING RETURNS					
Last Qtr.	4.87	15%	5.36	3.86	762
YTD	27.55	24%	27.41	25.40	746
1 Year	27.55	24%	27.41	25.40	746
3 Years	8.54	26%	8.49	7.61	655
5 Years	7.14	55%	7.36	7.25	628
10 Years	1.94	43%	2.38	1.86	486
CALENDAR RETURNS					
2016	4.70	12%	4.72	1.00	762
2015	-4.24	80%	-4.29	-1.58	739
2014	-4.15	31%	-3.39	-4.98	750
2013	15.15	83%	15.59	19.51	772
2012	18.28	44%	17.60	17.95	785



INVESTMENT PROFILE

Ticker	VTSNX
CUSIP	921909784
Net Assets \$MM	\$331,182.00
Manager Names	Team Managed
Manager Tenure	9.4 Years
Prospectus Exp Ratio	0.09%
Cat Median Exp Ratio	1.16%
Current 12b-1	N/A
Annld Ret Since Incept	6.17%
Inception Date	11/29/2010
Phone Number	888-809-8102
Sub Advisor	N/A

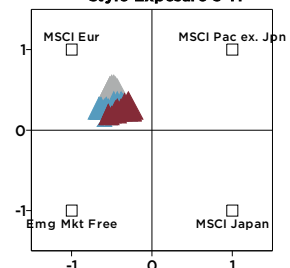
HOLDINGS OVERVIEW

Total Number of Holdings	6204
% Assets in Top 10 Holdings	7.83%
Avg Mkt Cap \$MM	\$23,097.40
Turnover Ratio	3.00%

TOP HOLDINGS

Tencent Holdings Ltd	1.09%
Nestle SA	1.06%
Samsung Electronics Co L	0.89%
Novartis AG	0.80%
HSBC Holdings PLC	0.80%

Style Exposure 5 Yr

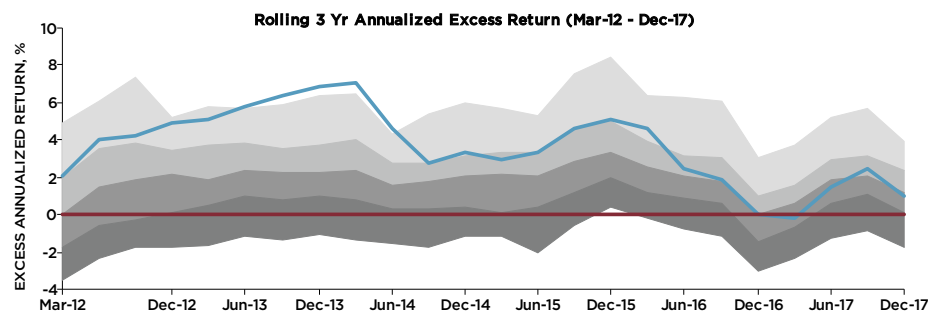


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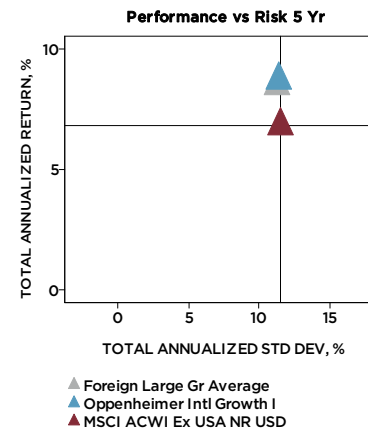
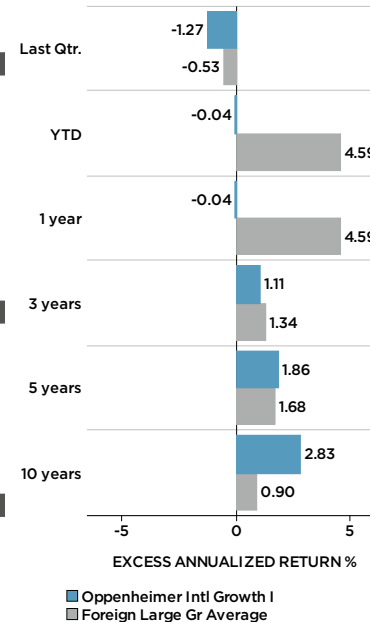
OPPENHEIMER INTL GROWTH I

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Oppenheimer Intl Growth I	Peer Group Rank	MSCI ACWI Ex USA NR USD	Foreign Large Gr	# of Funds
Standard Deviation	11.42	67%	11.50	11.25	354
Sharpe Ratio	0.74	42%	0.57	0.73	354
Alpha	2.48	41%	0.00	2.40	354
Beta	0.90	33%	1.00	0.89	354
R-Squared	82.84	57%	100.00	82.76	354
Up Mkt Capture	97.23	37%	100.00	96.07	354
Down Mkt Capture	83.33	48%	100.00	83.01	354
Information Ratio	0.36	39%	NA	0.32	354
TRAILING RETURNS					
Last Qtr.	3.73	74%	5.00	4.47	413
YTD	27.15	83%	27.19	31.78	411
1 Year	27.15	83%	27.19	31.78	411
3 Years	8.94	53%	7.83	9.17	368
5 Years	8.66	39%	6.80	8.48	354
10 Years	4.67	8%	1.84	2.74	290
CALENDAR RETURNS					
2016	-1.88	49%	4.50	-2.20	415
2015	3.63	18%	-5.66	0.94	415
2014	-6.80	82%	-3.87	-3.89	410
2013	25.71	13%	15.29	19.90	411
2012	22.12	15%	16.83	18.91	402



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INVESTMENT PROFILE

Ticker	OIGIX
CUSIP	68380L605
Net Assets \$MM	\$27,603.00
Manager Names	Team Managed
Manager Tenure	21.8 Years
Prospectus Exp Ratio	0.70%
Cat Median Exp Ratio	1.25%
Current 12b-1	N/A
Annld Ret Since Incept	9.04%
Inception Date	03/29/2012
Phone Number	800-225-5677
Sub Advisor	OppenheimerFunds Inc

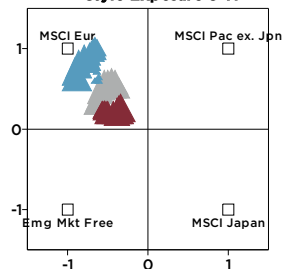
HOLDINGS OVERVIEW

Total Number of Holdings	91
% Assets in Top 10 Holdings	18.99%
Avg Mkt Cap \$MM	\$21,613.02
Turnover Ratio	9.00%

TOP HOLDINGS

Infineon Technologies AG	2.60%
SAP SE	2.11%
Nippon Telegraph & Telep	2.01%
Temenos Group AG	1.93%
Keyence Corp	1.89%

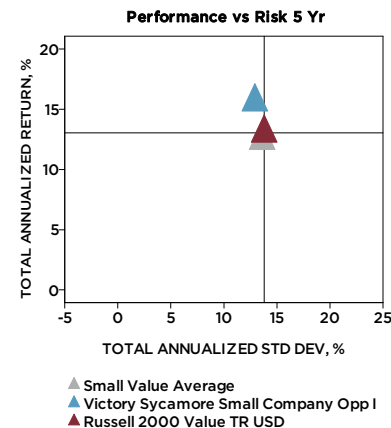
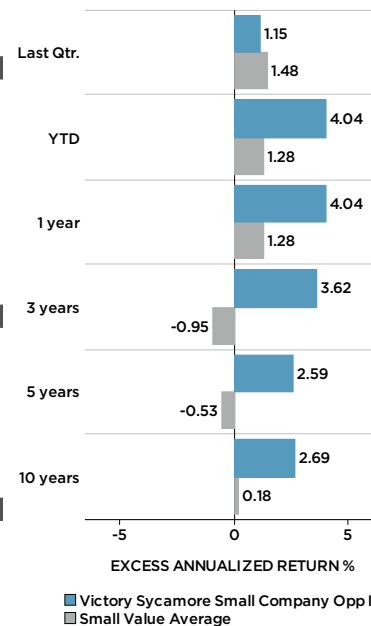
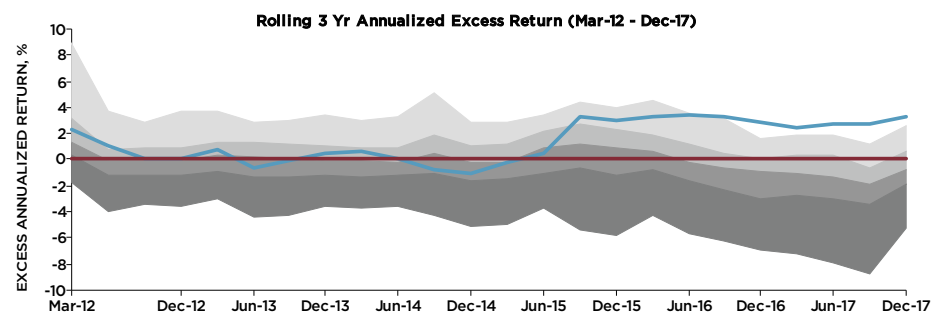
Style Exposure 5 Yr



VICTORY SYCAMORE SMALL COMPANY OPP I

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Victory Sycamore Small Company Opp I	Peer Group Rank	Russell 2000 Value TR USD	Small Value	# of Funds
Standard Deviation	12.98	32%	13.88	13.67	346
Sharpe Ratio	1.18	10%	0.92	0.91	346
Alpha	3.71	9%	0.00	0.34	346
Beta	0.91	61%	1.00	0.93	346
R-Squared	95.21	28%	100.00	90.27	346
Up Mkt Capture	100.82	18%	100.00	92.97	346
Down Mkt Capture	85.28	27%	100.00	91.81	346
Information Ratio	0.74	2%	NA	-0.05	346
TRAILING RETURNS					
Last Qtr.	3.19	56%	2.05	3.53	400
YTD	11.88	25%	7.84	9.12	391
1 Year	11.88	25%	7.84	9.12	391
3 Years	13.16	2%	9.55	8.60	367
5 Years	15.60	3%	13.01	12.48	346
10 Years	10.86	3%	8.17	8.35	293
CALENDAR RETURNS					
2016	30.04	18%	31.74	25.81	399
2015	-0.39	4%	-7.47	-6.81	407
2014	6.80	13%	4.22	3.36	406
2013	33.39	71%	34.52	35.68	411
2012	12.55	79%	18.05	16.06	412



INVESTMENT PROFILE

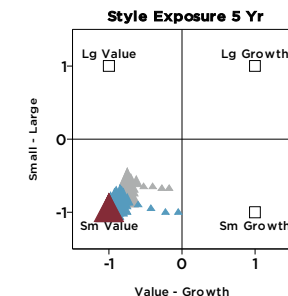
Ticker	VSOIX
CUSIP	92646A815
Net Assets \$MM	\$5,116.00
Manager Names	Team Managed
Manager Tenure	19.6 Years
Prospectus Exp Ratio	0.96%
Cat Median Exp Ratio	1.30%
Current 12b-1	0.00%
Annld Ret Since Incept	9.85%
Inception Date	08/31/2007
Phone Number	800-539-3863
Sub Advisor	N/A

HOLDINGS OVERVIEW

Total Number of Holdings	104
% Assets in Top 10 Holdings	15.29%
Avg Mkt Cap \$MM	\$2,325.03
Turnover Ratio	59.00%

TOP HOLDINGS

iShares Russell 2000 Valu	2.29%
Eagle Bancorp Inc	1.56%
UniFirst Corp	1.49%
EMCOR Group Inc	1.47%
Columbia Banking System	1.43%

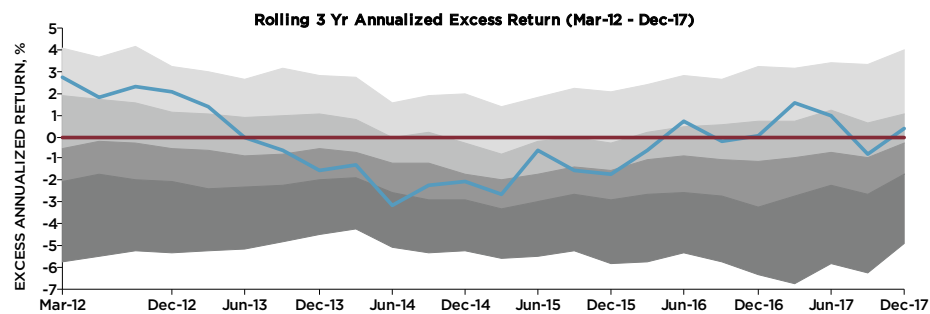


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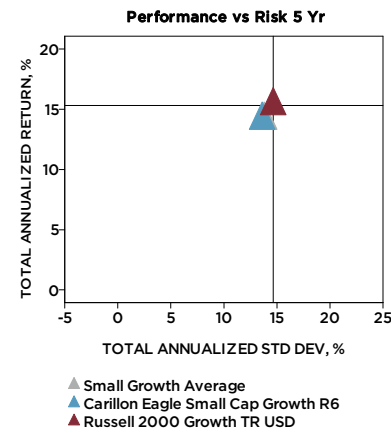
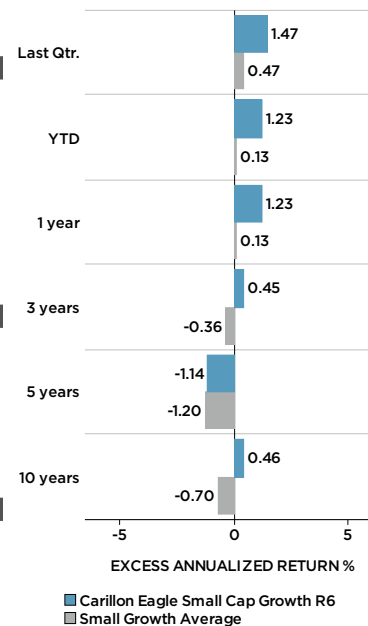
CARILLON EAGLE SMALL CAP GROWTH R6

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	Carillon Eagle Small Cap Growth R6	Peer Group Rank	Russell 2000 Growth TR USD	Small Growth	# of Funds
Standard Deviation	13.63	47%	14.58	13.78	655
Sharpe Ratio	1.01	52%	1.02	1.01	655
Alpha	0.33	53%	0.00	0.44	655
Beta	0.90	49%	1.00	0.89	655
R-Squared	92.92	33%	100.00	88.95	655
Up Mkt Capture	91.74	38%	100.00	89.03	655
Down Mkt Capture	92.94	59%	100.00	88.48	655
Information Ratio	-0.26	54%	NA	-0.22	655
TRAILING RETURNS					
Last Qtr.	6.06	29%	4.59	5.05	721
YTD	23.40	43%	22.17	22.30	715
1 Year	23.40	43%	22.17	22.30	715
3 Years	10.73	37%	10.28	9.92	698
5 Years	14.07	50%	15.21	14.01	655
10 Years	9.65	21%	9.19	8.49	578
CALENDAR RETURNS					
2016	10.45	52%	11.32	11.22	741
2015	-0.39	28%	-1.38	-2.28	761
2014	5.59	26%	5.60	2.67	771
2013	34.70	85%	43.30	41.24	771
2012	14.71	39%	14.59	13.55	809



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INVESTMENT PROFILE

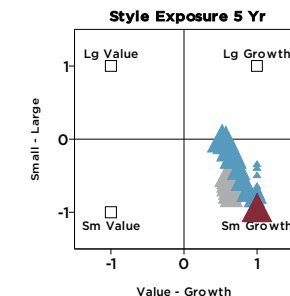
Ticker	HSRUX
CUSIP	14214L452
Net Assets \$MM	\$5,211.00
Manager Names	Team Managed
Manager Tenure	22.0 Years
Prospectus Exp Ratio	0.67%
Cat Median Exp Ratio	1.33%
Current 12b-1	0.00%
Annld Ret Since Incept	13.50%
Inception Date	08/15/2011
Phone Number	800-421-4184
Sub Advisor	Eagle Asset Management, Inc.

HOLDINGS OVERVIEW

Total Number of Holdings	114
% Assets in Top 10 Holdings	20.20%
Avg Mkt Cap \$MM	\$3,510.41
Turnover Ratio	40.00%

TOP HOLDINGS

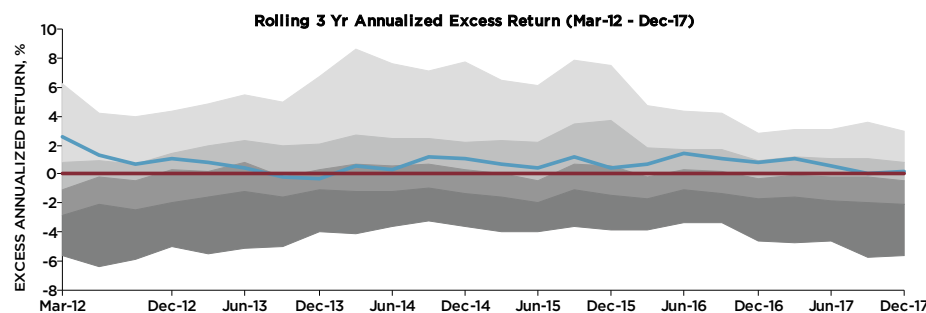
Coherent Inc	3.17%
Waste Connections Inc	2.58%
Cognex Corp	2.14%
Nutrisystem Inc	1.95%
Quaker Chemical Corp	1.94%



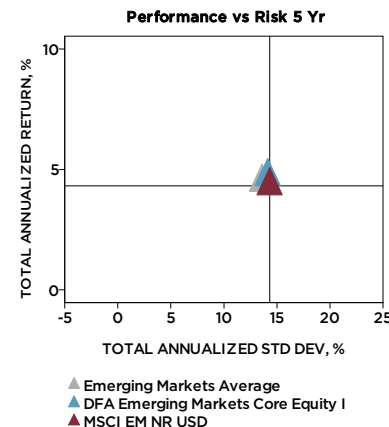
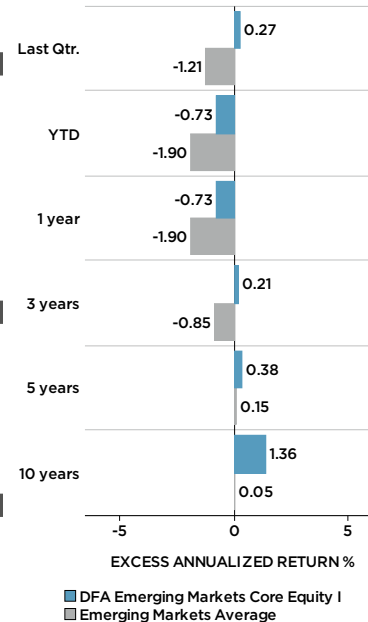
DFA EMERGING MARKETS CORE EQUITY I

Period Ending 12.31.17 | Q4 17

KEY MEASURES / 5 YEAR	DFA Emerging Markets Core Equity I	Peer Group Rank	MSCI EM NR USD	Emerging Markets	# of Funds
Standard Deviation	14.11	61%	14.39	13.56	552
Sharpe Ratio	0.32	45%	0.28	0.32	552
Alpha	0.51	48%	0.00	0.65	552
Beta	0.97	25%	1.00	0.88	552
R-Squared	97.49	7%	100.00	86.48	552
Up Mkt Capture	99.15	24%	100.00	89.88	552
Down Mkt Capture	97.19	66%	100.00	88.26	552
Information Ratio	0.16	36%	NA	-0.01	552
TRAILING RETURNS					
Last Qtr.	7.71	16%	7.44	6.22	790
YTD	36.55	48%	37.28	35.39	785
1 Year	36.55	48%	37.28	35.39	785
3 Years	9.32	37%	9.10	8.26	686
5 Years	4.73	44%	4.35	4.50	552
10 Years	3.04	16%	1.68	1.74	285
CALENDAR RETURNS					
2016	12.35	20%	11.19	8.25	826
2015	-14.86	59%	-14.92	-13.63	815
2014	-0.91	31%	-2.19	-2.76	763
2013	-2.64	60%	-2.60	0.30	679
2012	20.49	30%	18.22	18.85	644



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INVESTMENT PROFILE

Ticker	DFCEX
CUSIP	233203421
Net Assets \$MM	\$28,728.00
Manager Names	Team Managed
Manager Tenure	7.8 Years
Prospectus Exp Ratio	0.53%
Cat Median Exp Ratio	1.45%
Current 12b-1	N/A
Annld Ret Since Incept	8.97%
Inception Date	04/05/2005
Phone Number	888-576-1167
Sub Advisor	DFA Australia Limited/ Dimensional Fund Advisors Ltd

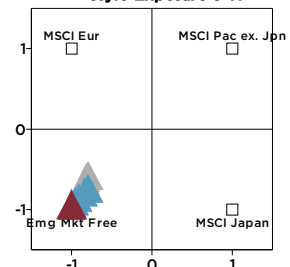
HOLDINGS OVERVIEW

Total Number of Holdings	4827
% Assets in Top 10 Holdings	12.53%
Avg Mkt Cap \$MM	\$8,877.69
Turnover Ratio	20.60%

TOP HOLDINGS

Samsung Electronics Co Ltd	4.05%
Tencent Holdings Ltd	1.94%
Taiwan Semiconductor Mar	1.22%
Taiwan Semiconductor Mar	1.13%
SK Hynix Inc	0.81%

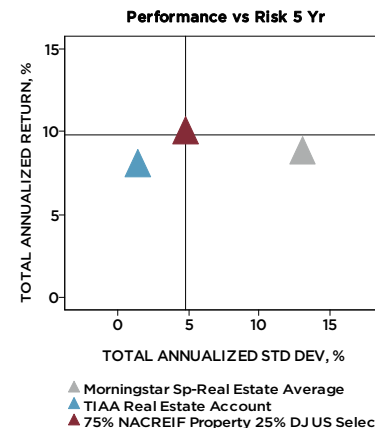
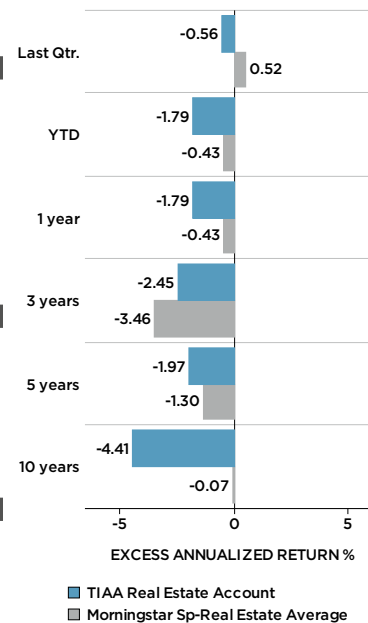
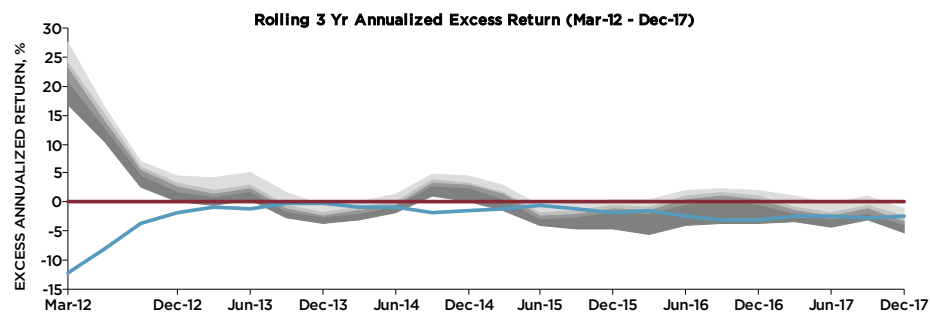
Style Exposure 5 Yr



TIAA REAL ESTATE ACCOUNT

Period Ending 12.31.17 | Q4 17

	TIAA Real Estate Account	Peer Group Rank	5% NACREIF Property 25% DJ US Select REIT.fnd	Morningstar Sp-Real Estate	# of Funds
KEY MEASURES / 5 YEAR					
Standard Deviation	1.39	1%	4.81	13.00	223
Sharpe Ratio	5.47	1%	1.99	0.65	223
Alpha	6.36	1%	0.00	-10.26	223
Beta	0.13	100%	1.00	1.93	223
R-Squared	19.24	99%	100.00	51.11	223
Up Mkt Capture	49.10	100%	100.00	154.02	223
Down Mkt Capture	-49.72	1%	100.00	339.96	223
Information Ratio	-0.41	97%	NA	-0.13	223
TRAILING RETURNS					
Last Qtr.	1.29	84%	1.84	2.36	251
YTD	4.37	64%	6.17	5.73	247
1 Year	4.37	64%	6.17	5.73	247
3 Years	5.90	22%	8.35	4.89	239
5 Years	7.88	76%	9.85	8.55	223
10 Years	2.49	100%	6.90	6.82	199
CALENDAR RETURNS					
2016	5.20	72%	7.69	6.63	268
2015	8.16	1%	11.26	2.46	272
2014	12.22	99%	16.79	28.39	271
2013	9.65	2%	7.67	1.69	265
2012	10.06	100%	12.22	17.56	270



INVESTMENT PROFILE

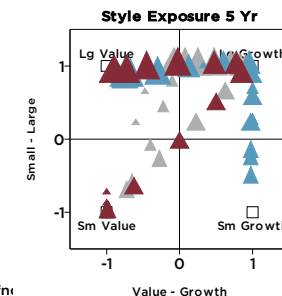
ID VAUSA059TL
 Cusip 878094200
 Net Assets \$ \$24,928,024,663.00
 Manager Name Team Managed
 Manager Start Date 2016-05-01
 Expense Ratio 0.86%
 Cat Median Exp Ratio 1.27%
 Annlzd Ret Since Incept 6.35%
 Inception Date 10-02-1995
 Share Class Incep Date 10/02/1995
 Phone Number 877-518-9161
 Sub Advisor

HOLDINGS OVERVIEW

% Assets in Top 10 Holdings 21.00%
 Avg Mkt Cap \$MM \$12,218.80
 Turnover Ratio 3.50%

TOP HOLDINGS

Fashion Show 3.08%
 1001 Pennsylvania Avenue 2.98%
 The Florida Mall 2.78%
 Ddr Joint Venture 2.27%
 Fourth And Madison 1.94%



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APPENDIX

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

APPENDIX	
Plan Administration Review.....	
Your CAPTRUST Service Team.....	
Glossary of Terms.....	
Evaluation Methodology.....	

PLAN ADMINISTRATION REVIEW

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

Feedback on level of satisfaction with Provider:

AREA OF EVALUATION	FAIR	GOOD	EXCELLENT
Quality & timeliness of Participant materials			
Quality & timeliness of Plan Sponsor materials			
Accuracy of plan data			
Phone/email responsiveness			
Website usability			
Call center representative accessibility			
Ease of participant transactions			
Overall administration service evaluation			

PROVIDER NAME:

TIAA-CREF

RELATIONSHIP MANAGER

Mark Woods

COMMENTS:

8.1

YOUR CAPTRUST SERVICE TEAM MEMBERS

Period Ending 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

TEAM MEMBERS	RESPONSIBILITIES
Michael S. Pratico Senior Vice President Financial Advisor Michael.Pratico@CAPTRUSTAdvisors.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.
Barron V. Schmitt Senior Vice President Financial Advisor barry.schmitt@CapTrustAdvisors.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.
Scott T. Matheson, CFA, CPA Senior Director Defined Contribution Practice Leader Scott.Matheson@CAPTRUSTAdvisors.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.
Che-Che S. McCrimmon Senior Client Management Consultant Che-Che.McCrimmon@captrustadvisors.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.

8.1

GLOSSARY

Period Ending 12.31.17 | Q4 17

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 12.31.17 | Q4 17

University of Maine System Defined Contribution Plan

	QUANTITATIVE EVALUATION ITEMS	QUALITATIVE EVALUATION ITEMS
 MARKED FOR REVIEW The following categories of the Investment Policy Monitor appear “Marked For Review” when:	3/5 Year Risk- adjusted Performance The investment option's 3 or 5 Year Annualized Risk Adjusted Performance falls below the 50th percentile of the peer group.	Fund Management A significant disruption to the investment option's management team has been discovered.
	3/5 Year Performance vs. Peers The investment option's 3 or 5 Year Annualized Peer Relative Performance falls below the 50th percentile of the peer group.	Fund Family A significant disruption to the investment option's parent company has been discovered.
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: captrustadvisors.com/investmentmonitoring	3/5 Year Style The investment option's 3 or 5 Year R-Squared measure falls below the absolute threshold set per asset class.	Portfolio Construction The investment option's combined Portfolio Construction score is 6 or below out of a possible 15 points.
	3/5 Year Confidence The investment option's 3 or 5 Year Confidence Rating falls below the 50 th percentile of the peer group.	Underlying Investment Vehicles The investment option's combined Underlying Investment Vehicles score is 6 or below out of a possible 15 points.
	Glidepath Assessment % 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. 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.	



AGENDA ITEM SUMMARY

1. **NAME OF ITEM:** Removing Small Balances from the Defined Contribution Plans

2. **INITIATED BY:** Kelly Martin, Chair

3. **BOARD INFORMATION:** **BOARD ACTION:** X

4. **OUTCOME:** **BOARD POLICY:**
 Primary Outcome: Section 709 - Investments
 Enhance fiscal positioning

5. **BACKGROUND:**

At its December meeting, the Investment Committee briefly discussed some attributes of the University of Maine System (UMS) defined contribution plans which make them less efficient and therefore more expensive to administer compared to plans of similar size. One such area is the size of participant account balances. Often, when individuals terminate employment, after having worked just a short time, their accumulated plan balances are small. Standard practice for most organizations is to pay out such balances to improve the financial health of the program. While not applicable to some individual contracts, this opportunity exists for certain contracts and for those participants who have mutual fund assets where the balance is below \$5,000.

Since the December meeting, CAPTRUST has worked with TIAA and determined that there are nearly 1,900 UMS terminated employees who have plan balances of \$5,000 or less where the contracts are eligible for pay out and TIAA offers a service to close out these balances. TIAA's process includes:

- Notification to participants so that they are aware of the rollover process and their options.
- Where permitted, all accumulations up to \$5,000 are rolled into an IRA at Bancorp Bank.
- TIAA electronically sends the rollover funds to the bank.
- The bank opens a Safe Harbor/Automatic Rollover IRA by default enrollment for each participant.

Michael Pratico, Senior Vice President with CAPTRUST, will further describe the details at the March 8, 2018 Investment Committee meeting.

6. **TEXT OF PROPOSED RESOLUTION:**

That the Board of Trustees, acting through the Investment Committee, approves the pay out of small balances from the UMS Defined Contribution Plans for those terminated participants whose contracts and funds are eligible for this process.

2/26/2018