

ERSRI MANAGER PRIMER

APRIL BOARD MATERIALS

April, 2018

Doug Moseley, Partner

Will Forde, CAIA, Consultant

Kevin Leonard, Partner



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

Q1 MARKET UPDATE

NEPC, LLC

PERFORMANCE OVERVIEW

Q1 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
											
-2.3%	8.9	33 bps	-0.8%	-1.5%	1.4%	-1.5%	-0.9%	-1.8%	7.5%	1.7%	-6.5%

- **After a strong year for equity markets in 2017, the first quarter of the year saw a spike in volatility – in part due to concerns over a potential trade war between the US and China**
- **After ending the year down over 10%, the dollar continued to decline as the US deficit is likely to increase with higher spending and lower tax**
 - As a result, emerging market equities fared well throughout the quarter and are still supported by strong earnings and GDP growth
- **Long-term US Treasury yields increased, but an additional Fed rate hike pushed up short-term yields even more, causing the curve to flatten**

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



EQUITY PERFORMANCE OVERVIEW

Q1 Equity Market Summary

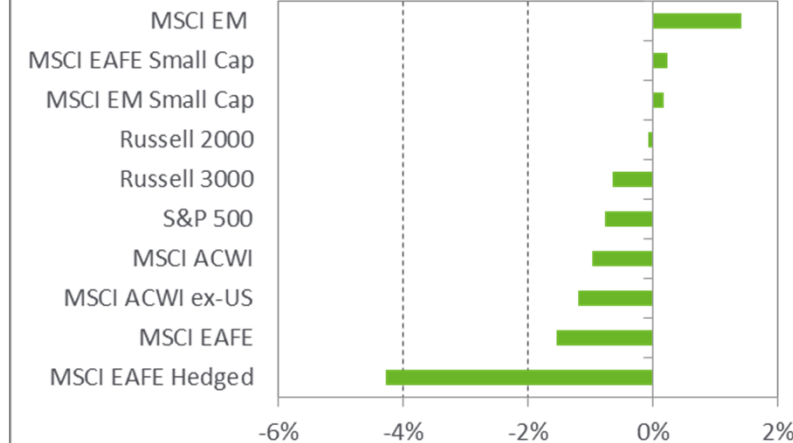
- **Despite volatility weighing on global equity returns, strong fundamentals and growth prospects remain supportive**
- **US equity markets declined 0.8% on the quarter in part due to trade concerns – its first negative quarter in over two years**

Russell 3000 QTD Sector Return Contribution

Information Technology	0.80%
Consumer Discretionary	-0.68%
Financials	-0.15%
Industrials	-0.07%
Consumer Staples	-0.45%
Energy	0.07%
Materials	-0.19%
Health Care	-0.77%
Real Estate	0.15%
Telecommunication	0.20%
Utilities	-0.23%

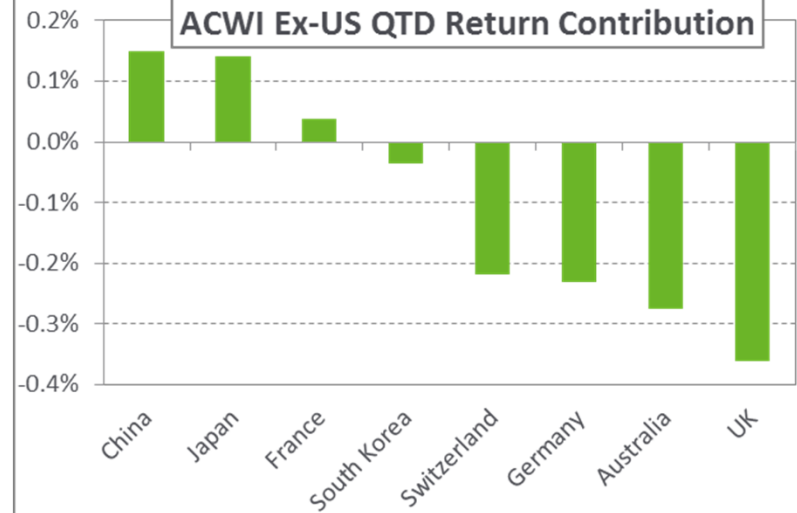
Source: Russell, Bloomberg

QTD Equity Index Returns



Source: MSCI, Russell, S&P, Bloomberg

ACWI Ex-US QTD Return Contribution



Source: MSCI, Bloomberg. QTD top country contributors to index return



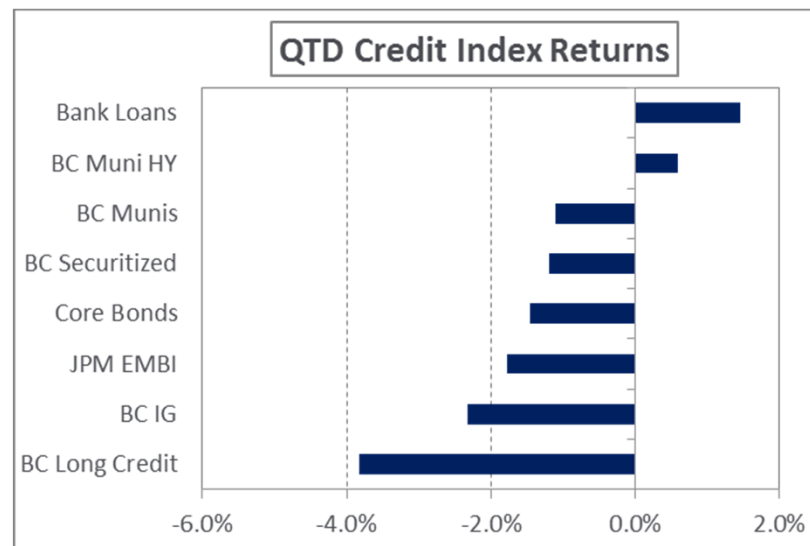
CREDIT PERFORMANCE OVERVIEW

Q1 Credit Market Summary

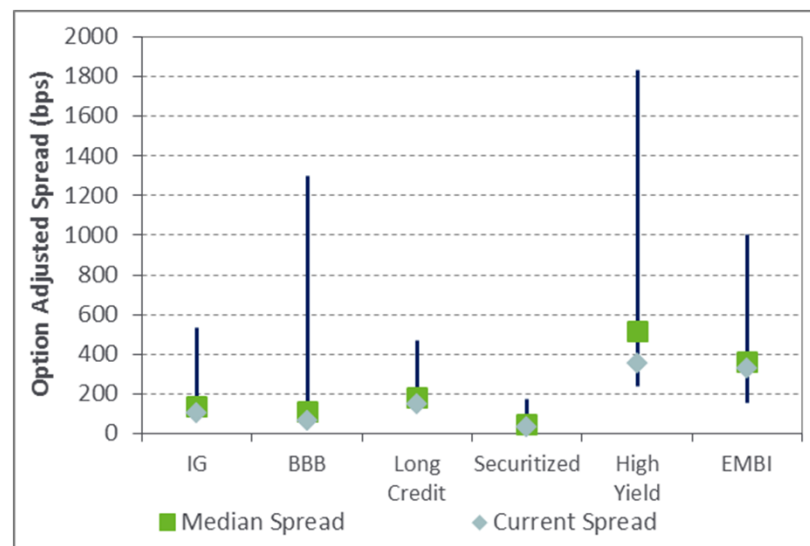
- Credit spreads increased slightly, but remain below medians in most areas of the credit market
- In particular, current high yield spreads continue to support a broad reduction in exposure
- Long credit declined 3.3% for the quarter with the 30-year Treasury yield increasing 23 basis points

Credit Spread (Basis Points)	12/29/17	03/31/18	Δ
BC IG Credit	93	109	16
BC Long Credit	139	148	9
BC Securitized	27	32	5
BC High Yield	343	354	11
Muni HY	275	253	-22
JPM EMBI	311	326	15
Bank Loans - Libor	336	257	-79

Source: Barclays, Merrill Lynch, JPM, Bloomberg, NEPC



Source: Barclays, JPM, S&P, Bloomberg



Source: Barclays, JPM, S&P, Bloomberg. As of 01/31/2000



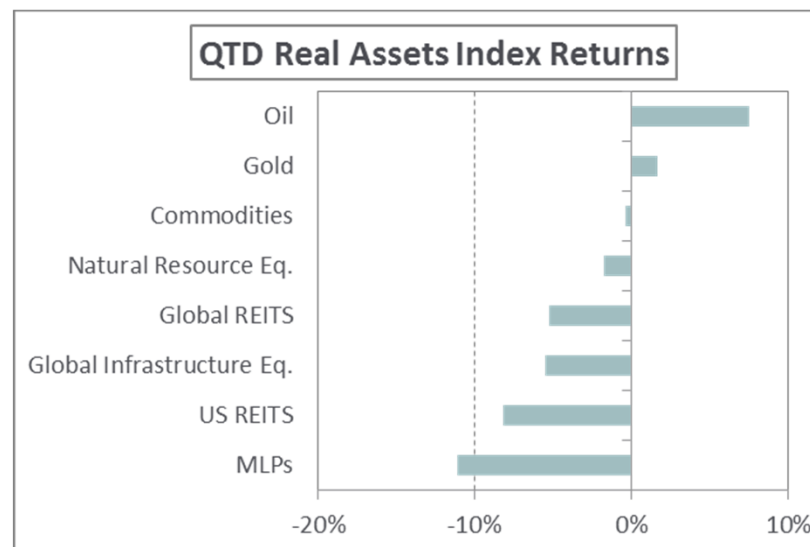
REAL ASSETS PERFORMANCE OVERVIEW

Q1 Real Assets Market Summary

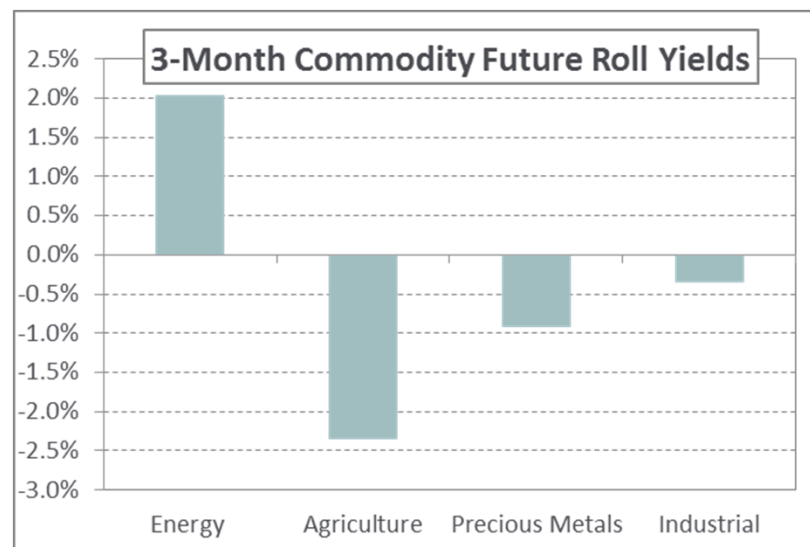
- **MLPs experienced a significant decline for the quarter as a result of flow weakness, the FERC ruling, and higher Treasury yields**
 - Despite the negative performance, fundamentals remain supportive with strong earnings and growth prospects
- **Commodity index roll yield is more negative than the previous quarter, despite the energy sector having a positive contribution**

Real Asset Yields	12/29/17	03/31/18
MLPs	7.8%	8.9%
Core Real Estate	4.4%	N/A
US REITs	4.1%	4.6%
Global REITs	3.6%	4.0%
Global Infrastructure Equities	3.9%	3.9%
Natural Resource Equities	3.1%	3.6%
US 10-Yr Breakeven Inflation	2.0%	2.1%
Commodity Index Roll Yield	-0.4%	-1.6%

Source: NCREIF, Alerian, NAREIT, S&P, Bloomberg



Source: S&P, NAREIT, Alerian, Bloomberg



Source: Bloomberg, NEPC Calculated as of 04/09/2018



EXECUTIVE SUMMARY

NEPC, LLC

EXECUTIVE SUMMARY

At the April meeting, NEPC will provide an introductory opinion on certain ERSRI managers with a more comprehensive review in May and June

The May and June meetings will serve as a venue to further discuss specific managers and potentially have manager(s) present to the Board

Today's presentation will highlight the below ERSRI managers, many of which are Preferred products at NEPC

BBH US TIPS, **Fidelity** Core Constrained, and **Mackay Shields** Core Investment Grade Fixed Income

NEPC has continued to vet the remaining ERSRI managers but would like to conduct further analysis to be presented at the May and June meeting

In May, NEPC and Staff will focus on **SSGA's** QVM strategy and have SSGA present to the Board

In June, NEPC and Staff will focus on the liquid credit managers: **PIMCO** and **WAMCO** and the broader structure of the liquid credit portfolio as a whole

Active Manager Roster	Rating
Total Equity	
SSGA QVM Tilt	Positive
Income	
PIMCO Custom Credit	Neutral
WAMCO Custom Credit	Neutral
Harvest MLP Alpha	Neutral
Inflation Protection	
BBH US TIPS	Preferred
Vol. Protection	
Fidelity Core Constrained Fixed	Preferred
Mackay Shields Core Inv. Grade	Neutral



MANAGER PRIMER

NEPC, LLC

MANAGER PRIMER: ERSRI MANAGERS

BBH US TIPS (Inception Date: Nov. 2012)

Over the trailing 3,5, and 7 year period, BBH has ranked in or slightly below the top quartile versus peers

In addition, BBH has outperformed its benchmark over each trailing period

	Q4'17	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank	7 Year	Rank
BBH US TIPS	1.28%	45	3.01%	63	2.31%	24	0.35%	29	3.24%	20
eVestment Universe Median (>45)	1.27%		3.11%		2.09%		0.24%		2.93%	
BC US TIPS	1.26%	51	3.01%	63	2.05%	57	0.13%	70	2.92%	51

Fidelity Core Constrained (Inception Date: Nov. 2012)

While Fidelity's peer rankings have been below median over longer periods, it has consistently outperformed the Barclays Aggregate

MacKay Shields Core Bonds (Inception Date: Nov. 2012)

Similar to Fidelity, MacKay Shields has had strong relative performance but has shown less favorable rankings relative to peers

	Q4'17	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank	7 Year	Rank
Fidelity - Core Constrained	0.47%	60	3.95%	56	2.52%	63	2.32%	68	3.56%	65
MacKay Shield Core Bonds	0.55%	40	4.06%	48	2.28%	85	2.31%	69	3.86%	40
eVestment Universe Median (>245)	0.52%		4.04%		2.66%		2.52%		3.77%	
BC Agg.	0.39%	75	3.54%	60	2.24%	89	2.10%	85	3.20%	88

*Above returns are based on each manager's eVestment composite and are gross of fee



FIRM AND PRODUCT SUMMARY

Firm/Product	Firm/Team Comments	Investment Style/Strategy	Performance Expectations	Portfolio Positioning	Other Comments
BBH - TIPS	Led by James Evans, BBH manages one of the first institutional TIPS products	Active strategies will include duration, yield curve and bottom-up security selection (based on breakeven rate analysis, liquidity patterns, auction calendar, etc.)	Expect a moderate level of tracking error. Periods of dislocation in TIPS are helpful to the strategy.	TIPS, nominal government bonds, and smaller allocation to non-US inflation linked bonds (hedged)	
Fidelity - Core Constrained	Fidelity Institutional Asset Management is a newly re-organized combination of Pyramis and Fidelity. All resources are pooled and available to the investment team.	FIAM's approach focuses mainly on high quality issues, and will occasionally invest in out-of-benchmark sectors such as TIPS and BABS. Credit is a large part of value add.	Strategy should perform well in most markets, but will likely be correlated to spreads as credit is usually an overweight allocation.	Conservative core fixed income manager	High separate account minimum
MacKay Shields - Core	MacKay Shields is an autonomously managed subsidiary of New York Life Investment Management LLC (NYLIM)	The team employs both a top-down and bottom-up approach in which they seek to maximize risk adjusted returns.	Should perform well when credit rallies and their top down calls are accurate.	Underweight Treasuries while overweight Credit	

Firm/Product	Investment Thesis
BBH - TIPS	Through the portfolio management skills of James Evans and the inflation-indexed bond team, BBH adds value to client portfolios by structuring the portfolio based on their macro-economic views and bottom-up security selection. The portfolio will also use nominal government bonds and global inflation-linked bonds on a tactical basis.
Fidelity - Core Constrained	A deep team of investment grade credit analysts including nine covering financials and ten covering industrials/utilities coupled with FIAM's bottom-up process are key to the value-add of the core constrained strategy. The utilization of several out-of-benchmark sectors such as Build America Bonds, TIPS and foreign sovereign bonds provide additional sources of return.
MacKay Shields - Core	N/A



APPENDIX

NEPC, LLC

TRAILING ANNUAL INDEX PERFORMANCE

Equity						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI	-2.1%	-1.0%	14.8%	8.1%	9.2%	5.6%
S&P 500	-2.5%	-0.8%	14.0%	10.8%	13.3%	9.5%
Russell 1000	-2.3%	-0.7%	14.0%	10.4%	13.2%	9.6%
Russell 2000	1.3%	-0.1%	11.8%	8.4%	11.5%	9.8%
Russell 2500	1.0%	-0.2%	12.3%	8.1%	11.6%	10.3%
MSCI EAFE	-1.8%	-1.5%	14.8%	5.6%	6.5%	2.7%
MSCI Emerging Markets	-1.9%	1.4%	24.9%	8.8%	5.0%	3.0%

Rates/Credit						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
BC Global Aggregate	1.1%	1.4%	7.0%	3.1%	1.5%	2.6%
BC US Aggregate	0.6%	-1.5%	1.2%	1.2%	1.8%	3.6%
BC Credit	0.3%	-2.1%	2.6%	2.2%	2.8%	5.1%
BC US High Yield	-0.6%	-0.9%	3.8%	5.2%	5.0%	8.3%
BC Municipal Bond	0.4%	-1.1%	2.7%	2.3%	2.7%	4.4%
BC Municipal High Yield	1.5%	0.6%	6.0%	4.6%	4.1%	5.6%
BC TIPS	1.1%	-0.8%	0.9%	1.3%	0.0%	2.9%
BC 20+ STRIPS	4.4%	-4.6%	6.6%	0.1%	5.3%	8.2%
BC Long Treasuries	3.0%	-3.3%	3.5%	0.4%	3.3%	5.8%
BC Long Credit	0.7%	-3.8%	6.2%	3.3%	4.7%	7.5%
BC Gov/Credit 1-3 Yr	0.2%	-0.2%	0.2%	0.7%	0.8%	1.6%
CS Lev Loan	0.3%	1.6%	4.6%	4.3%	4.2%	5.4%
JPM EMBI Glob Div	0.3%	-1.7%	4.3%	5.8%	4.7%	7.0%
JPM GBI-EM Glob Div	1.0%	4.4%	13.0%	5.4%	-0.7%	3.8%

Real Assets						
	Mar-18	YTD	1 YR	3 YR	5 YR	10 YR
BBG Commodity	-0.6%	-0.4%	3.7%	-3.2%	-8.3%	-7.7%
Alerian MLP	-6.9%	-11.1%	-20.1%	-11.2%	-5.8%	5.5%
FTSE NAREIT Equity REITs	3.7%	-6.7%	-1.1%	2.9%	6.7%	6.9%

Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse, Alerian, NAREIT



UPDATED WORK PLAN: **MONTHLY SIC MEETINGS**

	SIC Meetings	NEPC Items
Phase 1	March	Present Draft Work Plan Discuss Asset Allocation Implementation
Phase 2	April	ERSRI Manager Primer
	May	ERSRI Manager Review
		SSGA QVM Manager Presentation & Review
	June	ERSRI Manager Review (cont.)
		Initiate Manager Search(s) - if necessary
Phase 3	July	ERSRI Risk Analysis

NEPC RATING DESCRIPTORS & DEFINITIONS

Rating	Rating Descriptor	Definition
1	Preferred	A high conviction investment strategy. A 1 (Preferred) rated strategy has a compelling and sound investment thesis, and the manager is well-resourced and incented to execute on the thesis.
2	Positive	NEPC has a positive view of the strategy. Strategy has a compelling and sound investment thesis. The manager is sufficiently resourced and incented to execute on the thesis. Strengths outweigh the weaknesses.
3	Neutral	NEPC has a neutral view of the strategy. Strategy lacks a compelling investment thesis. There are no significant concerns with the manager.
4	Negative	Strategy lacks or has an unclear investment thesis. The strategy's weaknesses clearly outweigh its strengths.
5	Not Recommended	A strategy that lacks an investment thesis or NEPC has no confidence in the strategy's ability to execute on the thesis. Serious issues have been identified with the investment manager or strategy.
NR	Not Rated	NEPC has not performed sufficient due diligence on the product or manager.



EXISTING MANAGER REVIEW: USING NEPC'S MANAGER RATINGS

Active Manager Roster		Rating
Total Equity		
SSGA QVM Tilt	2	POSITIVE
Income		
PIMCO Custom Credit*	3	NEUTRAL
WAMCO Custom Credit*	3	NEUTRAL
Harvest MLP Alpha	3	NEUTRAL
Inflation Protection		
BBH US TIPS	1	PREFERRED
Vol. Protection		
Fidelity Core Constrained Fixed	1	PREFERRED
Mackay Shields Core Inv. Grade	3	NEUTRAL

Notes
NEUTRAL Rating until a more detailed review can be conducted NEUTRAL Rating until a more detailed review can be conducted NEUTRAL Rating until a more detailed review can be conducted
BBH is a Preferred manager on NEPC's US TIPS FPL
Fidelity is a Preferred manager on NEPC's Core Fixed FPL NEUTRAL Rating until a more detailed review can be conducted



*PIMCO & WAMCO are Preferred strategies on NEPC's Multi Sector Fixed Income Focused Placement Lists

ASSET ALLOCATION (3.31.18)

	Target	Actual (3.31.18)	Difference	Target Ranges*
US Equities	20.8%	22.8%	2.0%	
Int'l Equities	14.4%	18.4%	4.0%	
Emerging Int'l Equities	4.8%	4.5%	-0.3%	
Total Equity	40.0%	45.7%	5.7%	+/- 2%
Private Equity	11.3%	6.1%	-5.2%	
Non-Core Real Estate	2.3%	2.1%	-0.2%	
Opp. Private Credit	1.5%	0.4%	-1.1%	
Private Growth	15.1%	8.6%	-6.5%	+/- 4%
HY Infrastructure	1.0%	1.6%	0.6%	
REITs	1.0%	0.0%	-1.0%	
Liquid Credit	2.8%	4.4%	1.6%	
Private Credit	3.2%	1.1%	-2.1%	
Income	8.0%	7.1%	-0.9%	+/- 2%
Treasury Duration	4.0%	4.2%	0.2%	
Systematic Trend	4.0%	3.6%	-0.4%	
CPC	8.0%	7.6%	-0.4%	+/- 2%
Core Real Estate	3.6%	5.2%	1.6%	
Private Infrastructure	2.4%	1.6%	-0.8%	
TIPS	1.0%	2.4%	1.4%	
Natural Resources	1.0%	0.0%	-1.0%	
Inflation Protection	8.0%	9.2%	1.2%	+/- 3%
Investment Grade Fixed	11.5%	11.3%	-0.2%	+/- 2%
Abs. Return	6.5%	6.5%	0.0%	+/- 2%
Cash	3.0%	3.2%	0.2%	+/- 2%
Vol. Protection	21.0%	21.4%	0.4%	
Short-Term Tactical	0.0%	0.5%	0.5%	



2018 5-7 YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	2018	2017	2018-2017
Cash	2.00%	1.75%	+0.25%
Treasuries	2.25%	2.00%	+0.25%
IG Corp Credit	3.50%	3.75%	-0.25%
MBS	2.50%	2.25%	+0.25%
Core Bonds*	2.75%	2.65%	+0.10%
TIPS	3.25%	3.00%	+0.25%
High-Yield Bonds	3.75%	4.75%	-1.00%
Bank Loans	4.50%	5.25%	-0.75%
Non-US Bonds (Unhedged)	0.50%	1.00%	-0.50%
Non-US Bonds (Hedged)	0.73%	1.09%	-0.36%
EMD External	4.25%	4.75%	-0.50%
EMD Local Currency	6.00%	6.75%	-0.75%
Large Cap Equities	5.25%	5.75%	-0.50%
Small/Mid Cap Equities	5.75%	6.00%	-0.25%
Int'l Equities (Unhedged)	7.50%	7.25%	+0.25%
Int'l Equities (Hedged)	7.82%	7.57%	+0.25%
Emerging Int'l Equities	9.00%	9.50%	-0.50%
Private Equity	8.00%	8.25%	-0.25%
Private Debt	6.50%	7.25%	-0.75%
Core Real Estate	5.75%	6.00%	-0.25%
Commodities	4.75%	4.75%	-
Hedge Funds**	5.83%	5.95%	-0.12%

* Core Bonds assumption based on market weighted blend of components of Aggregate Index (Treasuries, IG Corp Credit, and MBS).

** Hedge Funds is a calculated blend of 40% Equity, 40% Credit, 20% Macro-related strategies.



2018 5-7 YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	2018	2017	2018-2017
Short Treasuries	2.25%	2.00%	+0.25%
US 10 Yr. Treasury	2.25%	2.00%	+0.25%
Long Treasuries	2.00%	1.75%	+0.25%
20+ Year STRIPS	1.75%	1.50%	+0.25%
Short Credit	2.75%	2.75%	-
Long Credit	4.00%	4.25%	-0.25%
Long Government/Credit*	3.26%	3.33%	-0.07%
Non-US Cash**	0.50%	0.25%	+0.25%
Non-US Inflation-Linked Bonds	1.75%	1.00%	+0.75%
Short High Yield	4.25%	5.00%	-0.75%
Municipal Bonds (1-10 Year)	2.50%	-	-
High Yield Municipal Bonds	3.75%	4.25%	-0.50%
Global Equity*	6.88%	7.21%	-0.33%
MLPs	7.25%	7.00%	+0.25%
REITs	6.50%	6.50%	-
Real Assets (Liquid)**	5.87%	5.92%	-0.05%
Non-Core Real Estate	7.00%	N/A	N/A
Private Real: Energy/Metals	8.00%	8.25%	-0.25%
Private Real: Infrastructure/Land	6.00%	6.00%	-
Hedge Funds - Long/Short	6.25%	6.25%	-
Hedge Funds – Credit	5.00%	5.25%	-0.25%
Hedge Funds – Macro	6.25%	6.25%	-

* Assumption based on market weighted blend of index components

** Custom weighted blend of underlying asset classes



2018 VOLATILITY FORECASTS

Volatility			
Asset Class	2018	2017	2018-2017
Cash	1.00%	1.00%	-
Treasuries	5.50%	5.50%	-
IG Corp Credit	7.50%	7.50%	-
MBS	7.00%	7.00%	-
Core Bonds*	5.99%	6.03%	-0.04%
TIPS	6.50%	6.50%	-
High-Yield Bonds	13.00%	13.00%	-
Bank Loans	9.00%	9.00%	-
Non-US Bonds (Unhedged)	10.00%	8.50%	+1.50%
Non-US Bonds (Hedged)	4.50%	5.00%	-0.50%
EMD External	13.00%	13.00%	-
EMD Local Currency	13.00%	15.00%	-2.00%
Large Cap Equities	17.50%	17.50%	-
Small/Mid Cap Equities	21.00%	21.00%	-
Int'l Equities (Unhedged)	21.00%	21.00%	-
Int'l Equities (Hedged)	18.00%	18.00%	-
Emerging Int'l Equities	28.00%	28.00%	-
Private Equity	23.00%	23.00%	-
Private Debt	13.00%	14.00%	-1.00%
Core Real Estate	13.00%	15.00%	-2.00%
Commodities	19.00%	19.00%	-
Hedge Funds**	9.07%	8.74%	-0.33%

* Core Bonds assumption based on market weighted blend of components of Aggregate Index (Treasuries, IG Corp Credit, and MBS).

** Hedge Funds is a calculated blend of 40% Equity, 40% Credit, 20% Macro-related strategies.



2018 VOLATILITY FORECASTS

Volatility			
Asset Class	2018	2017	2018-2017
Short Treasuries	2.50%	2.50%	-
US 10 Yr. Treasury	7.50%	7.50%	-
Long Treasuries	12.00%	12.00%	-
20+ Yr. STRIPS	19.00%	19.00%	-
Short Credit	3.50%	3.50%	-
Long Credit	12.00%	13.00%	-1.00%
Long Government/Credit*	11.26%	12.01%	-0.75%
Non-US Cash**	1.00%	1.00%	-
Non-US 10 Yr. Sovereigns**	6.50%	6.50%	-
Non-US Inflation-Linked Bonds (H)	5.50%	6.00%	-0.50%
Short High Yield	8.50%	9.00%	-0.50%
Municipal Bonds (1-10 Year)	5.50%	-	-
Global Equity***	18.22%	18.26%	-0.04%
MLPs	19.00%	20.00%	-1.00%
REITs	21.00%	21.00%	-
Real Assets (Liquid)****	13.06%	12.83%	+0.23%
Non-Core Real Estate	17.00%	N/A	N/A
Private Real: Energy/Metals	21.00%	21.00%	-
Private Real: Infrastructure/Land	12.00%	14.00%	-2.00%
Hedge Funds - Long/Short	11.00%	11.00%	-
Hedge Funds - Credit	9.50%	9.50%	-
Hedge Funds - Macro	9.50%	9.50%	-

* Assumption based on market weighted blend of index components

** Custom weighted blend of underlying asset classes



2018 30 YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	2018	2017	2018-2017
Cash	2.75%	3.00%	-0.25%
Treasuries	3.25%	3.50%	-0.25%
IG Corp Credit	4.75%	5.00%	-0.25%
MBS	3.25%	3.50%	-0.25%
Core Bonds*	3.75%	4.00%	-0.25%
TIPS	3.75%	3.75%	-
High-Yield Bonds	5.50%	5.75%	-0.25%
Bank Loans	5.50%	6.00%	-0.50%
Non-US Bonds (Unhedged)	2.50%	2.75%	-0.25%
Non-US Bonds (Hedged)	2.77%	2.87%	-0.10%
EMD External	5.00%	5.75%	-0.75%
EMD Local Currency	6.50%	6.50%	-
Large Cap Equities	7.50%	7.50%	-
Small/Mid Cap Equities	7.75%	7.75%	-
Int'l Equities (Unhedged)	7.75%	7.75%	-
Int'l Equities (Hedged)	8.14%	8.14%	-
Emerging Int'l Equities	9.25%	9.50%	-0.25%
Private Equity	9.50%	9.50%	-
Private Debt	7.50%	8.00%	-0.50%
Core Real Estate	6.50%	6.50%	-
Commodities	5.50%	5.50%	-
Hedge Funds**	6.34%	6.47%	-0.13%

* Core Bonds assumption based on market weighted blend of components of Aggregate Index (Treasuries, IG Corp Credit, and MBS).

** Hedge Funds is a calculated blend of 40% Equity, 40% Credit, 20% Macro-related strategies.



2018 30 YEAR RETURN FORECASTS

Geometric Expected Return			
Asset Class	2018	2017	2018-2017
Short Treasuries	3.00%	3.00%	-
US 10 Yr. Treasury	3.50%	3.50%	-
Long Treasuries	3.50%	3.75%	-0.25%
20+ Yr. STRIPS	3.50%	3.75%	-0.25%
Short Credit	3.75%	3.75%	-
Long Credit	5.25%	5.75%	-0.50%
Long Government/Credit*	4.62%	5.04%	-0.42%
Non-US Cash**	2.00%	2.00%	-
Non-US 10 Yr. Sovereigns**	2.50%	2.50%	-
Non-US Inflation-Linked Bonds	3.00%	2.75%	+0.25%
Short High Yield	5.25%	5.75%	-0.50%
Municipal Bonds (1-10 Year)	3.25%	-	-
Global Equity***	8.24%	8.35%	-0.11%
MLPs	7.50%	7.50%	-
REITs	6.75%	6.75%	-
Real Assets (Liquid)****	6.75%	6.79%	-0.04%
Non-Core Real Estate	7.50%	N/A	N/A
Private Real: Energy/Metals	7.75%	7.75%	-
Private Real: Infrastructure/Land	6.25%	6.00%	+0.25%
Hedge Funds - Long/Short	7.25%	7.25%	-
Hedge Funds - Credit	5.25%	5.50%	-0.25%
Hedge Funds - Macro	6.25%	6.25%	-

* Assumption based on market weighted blend of index components

** Custom weighted blend of underlying asset classes



INVESTMENT FIRM/PRODUCT PROFILE

Brown Brothers Harriman & Co. BBH U.S. TIPS

Firm Description

Brown Brothers Harriman & Co. (BBH) originated as Brown Brothers & Co. in 1818. In 1931 Brown Brothers & Co., Harriman Brothers & Co., and W.A. Harriman & Co., Inc. combined under the current name. BBH is a partnership bank owned by 34 general partners. The firm operates three lines of business: Investment Management, Private Banking, and Global Custody Services.

NEPC Investment Thesis

Through the portfolio management skills of James Evans and the inflation-indexed bond team, BBH adds value to client portfolios by structuring the portfolio based on their macro-economic views and bottom-up security selection. The portfolio will also use nominal government bonds and global inflation-linked bonds on a tactical basis.

People

Brown Brothers Harriman's inflation linked bond capabilities are led by James Evans, who founded the Firm's TIPS capabilities in 1996. The team is supported by BBH's greater macro fixed income resources.

Philosophy

BBH believes that active management can add value in a TIPS portfolio through a disciplined and risk-controlled investment process. Research efforts are directed towards identifying pricing inefficiencies, quantifying risks, and optimizing portfolio structures within the inflation-indexed securities market.



INVESTMENT FIRM/PRODUCT PROFILE

Brown Brothers Harriman & Co. BBH U.S. TIPS

Investment Strategy

The inflation-indexed securities philosophy began as a "pure play strategy" taking advantage of market directional opportunities presented by a new and inefficient market. Over time, the team has broadened their approach and enhanced modeling capabilities to capture some of fundamental opportunities present in the inflation-indexed securities market. Respectful of market maturation, they have expanded the scope of this product's opportunity set to include nominal government securities, and global inflation-linked bonds. The portfolio will use a combination of top-down and bottom-up investment strategies. Forecasting inflation and interest rates is not an integral part of the investment process, although, analysis of the real yield curve vs. the nominal yield curve, and monetary policy expectations do inform portfolio positioning. Global inflation-linked bond positions are dollar-hedged.

Portfolio

Portfolio strategies will include auction cycle trading by adjusting the term structure and real yield duration of the portfolio to take advantage of supply/demand imbalances that typically occur around auction periods. Other strategies include yield curve management and duration adjustments within one year of the benchmark.

Performance Expectations

BBH's inflation linked fixed income investment approach will focus primarily on generating active returns from yield curve exposures, relative value trades such as break-even trades, and out-of-benchmark allocations to dollar hedged global inflation-linked bonds. The product actively manages the real yield curve exposures within the inflation-linked bond market while maintaining a duration profile in line with the benchmark.



BIOGRAPHIES OF KEY PROFESSIONALS

Brown Brothers Harriman & Co. BBH U.S. TIPS

James Evans, Senior Vice President and Portfolio Manager

Mr. Evans is the lead portfolio manager for the BBH U.S. TIPS strategy. Prior to joining BBH Investment Management in 1996, he worked at Fleet investment Advisors and Lazard Freres Asset Management. Mr. Evans holds an undergraduate degree in Accounting from the University of Delaware and an MBA from New York University. He is a CFA charterholder.

Gregory Steier, Managing Director, Head of Tax-Exempt Portfolio Management and Inflation-Protected Securities

Mr. Steier is the Head of Tax-Exempt Fixed Income Portfolio Management and Inflation-Protected Securities. He joined BBH in 1992 and, prior to his existing responsibilities, managed taxable portfolios and traded corporate, mortgage, and asset-backed securities. He also served as a senior member of the fixed income quantitative research team with a focus on valuation work and performance attribution. In addition to his fixed income responsibilities, Mr. Steier serves on the Asset-Liability and Asset Allocation Committees. Mr. Steier holds an undergraduate degree in Accounting and an MBA in Finance from New York University Stern School of Business.

Jorge Aseff, PhD, Senior Vice President and Head of Fixed Income Quantitative Research

Mr. Aseff is the Head of Fixed Income Quantitative Research and oversees fixed income valuation framework, risk architecture, and performance attribution. Prior to joining BBH Investment Management in 2005, he was an Economics Professor at DePaul University Kellstadt Graduate School of Business in Chicago. Mr. Aseff holds an undergraduate degree in Economics from the Universidad Catolica Boliviana in La Paz, and a master's degree and PhD in Economics from Arizona State University W. P. Carey School of Business.



BIOGRAPHIES OF KEY PROFESSIONALS

Brown Brothers Harriman & Co. BBH U.S. TIPS

Douglas Mark, CFA, Vice President, Portfolio Construction and Trading

Mr. Mark is involved in the portfolio construction and trading of TIPS, Treasury, and Taxable mandates. Prior to joining BBH Investment Management in 2004, he was employed by State Street Corporation. Mr. Mark holds an undergraduate degree in Business Administration with a dual concentration in Finance and Management Information Systems from Boston University. He is a CFA charterholder.



INVESTMENT FIRM/PRODUCT PROFILE

Fidelity Institutional Asset Management Core Constrained

Firm Description

Fidelity Institutional Asset Management (FIAM) was previously known as Pyramis Global Advisors, and was established in 2005 by Fidelity to service institutional clients. Pyramis combined with Fidelity Financial Advisor Solutions to form FIAM in October 2015. FIAM is wholly owned by Fidelity, and the investment teams at FIAM leverage Fidelity's broad resources. Fidelity is a privately-held investment firm that is 51% owned by active employees and 49% owned by the Johnson family (the founders of Fidelity).

NEPC Investment Thesis

A deep team of investment grade credit analysts including nine covering financials and ten covering industrials/utilities coupled with FIAM's bottom-up process are key to the value-add of the core constrained strategy. The utilization of several out-of-benchmark sectors such as Build America Bonds, TIPS and foreign sovereign bonds provide additional sources of return.

People

FIAM's fixed income team is large and covers all segments of world bond markets. The Core Bond Team consists of three portfolio managers, Ford O'Neil, Jeff Moore, and Michael Plage, as well as a quantitative analyst. This group of professionals is responsible for formulating strategy and implementing portfolio ideas. FIAM's corporate credit research team consists of forty-three fundamental analysts covering areas such as investment grade credit, high yield, and international. A team of eighteen quantitative analysts covers securitized sectors and risk management. There are thirty traders covering all of FMR's fixed income. In particular, FIAM's corporate credit research team is strong with analysts covering very narrow segments of the market due to the size and depth of the team. Each analyst covers about 30-40 issuers.

Philosophy

FIAM believes that inefficiencies do exist in fixed income markets, and that credit research and quantitative research can identify and take advantage of mispriced securities and market segments. Strategy will utilize both bottom-up and top-down elements. The goal is to build a diversified portfolio of small active positions, and to de-emphasize interest rate anticipation as a source of excess return.



INVESTMENT FIRM/PRODUCT PROFILE

Fidelity Institutional Asset Management Core Constrained

Investment Strategy

The investment process integrates fundamental research, quantitative research, and risk management. Both macro-economic and top-down perspectives play a role in fundamental research. From a quantitative standpoint, financial and quantitative credit modeling techniques are utilized to aid analysts in performing bottom up company/sector analysis and relative valuation determinations within sectors. Examples include a tracking error volatility model, which quantifies expected tracking error resulting from multiple correlated and idiosyncratic risk factors, as well as a relative value model, which is used to identify relative value of individual corporate bonds using multi-factor regression analysis. Analysts leverage the broader Fidelity research platform, including high yield, equity and international analysts located worldwide. In addition to performing in-depth industry assessment, analysts assign ordinal relative value ranking for each industry based, in part, on each industry's fundamental strength and assessed relative value. Analysts rank issuers as high, medium, and low, forming a basis for broader discussions with portfolio managers and traders. In meetings with the portfolio manager and traders, analysts propose their security recommendations, discuss industry trends, and provide updates on company-specific situations.

In securitized bonds, FIAM employs a qualitative and quantitative investment process. Qualitative assessments include housing market fundamentals, technicals, government programs and product innovation. Quantitative inputs to the process are emphasized in portfolio management and include TBA roll analysis, prepayment analysis and pool specific data. Mortgage derivatives including IOs and POs are utilized. Portfolios have also invested in non-agency mortgages, however, positions have historically been in jumbo mortgages.

Portfolio

FIAM's core constrained bond strategy will utilize a primarily bottom-up investment approach, with active positions in portfolios reflecting research analysts' security selection recommendations and sector over/under weight recommendations. Portfolios will generally be duration neutral with a range of +/- .3 years on portfolio duration allowed. Active yield curve positions are generally driven by relative value views and not macro-economic positioning and will account for some value-add. Tracking error is expected to be around 50-100 bps.



INVESTMENT FIRM/PRODUCT PROFILE

Fidelity Institutional Asset Management Core Constrained

Performance Expectations

FIAM's style will generally overweight spread sectors of the market and underweight Treasury securities. Therefore, relative performance to the benchmark is likely to be driven by spread movement in the market. The strategy will sometimes build a lower quality bias in BBB rated securities, which may contribute to sensitivity to spread movement.



BIOGRAPHIES OF KEY PROFESSIONALS

Fidelity Institutional Asset Management Core Constrained

Ford O'Neil, Vice President, Portfolio Manager

Mr. O'Neil is a portfolio manager in the Fixed Income division at Fidelity Institutional Asset Management (FIAM), a Fidelity Investments company. In this role, he manages retail and institutional assets, including Fidelity Total Bond Fund and several institutional accounts for FIAM. Mr. O'Neil joined the firm in 1990 as a fixed income analyst covering the electric, gas, and water utilities industries, as well as Canadian securities. He began managing portfolios for Fidelity Investments Canada Limited in 1992. Before joining the firm, he worked for Advest, Inc. as an associate in investment banking from 1985 to 1988. He has been in the industry since 1985. Mr. O'Neil earned his bachelor of arts degree in government from Harvard College and his master of business administration degree in finance and accounting from the Wharton School of the University of Pennsylvania.

Jeffrey Moore, CFA, Portfolio Manager

Mr. Moore is a portfolio manager in the Fixed Income division at Fidelity Institutional Asset Management (FIAM), a Fidelity Investments company. In this role, he manages investment-grade portfolios across retail and institutional assets, including the Fidelity Investment Grade Bond Fund. Mr. Moore joined the firm as an analyst in 1995 and began managing portfolios in 2000. He also was a fixed income analyst assigned to several sectors including sovereign debt, energy, REITs, Yankee banks, and Canada. Prior to joining the firm, he was a credit analyst following Canadian provincial, municipal, and government debt for Dominion Bond Rating Service. From 1990 to 1994, he served as a financial analyst in the financial markets analysis and economic development groups for the Department of Finance of the Canadian government. He has been in the industry since 1990. Mr. Moore earned his bachelor of arts degree in economics from the University of Western Ontario and his master's degree in economics from the University of Waterloo. He is a Chartered Financial Analyst charterholder.



BIOGRAPHIES OF KEY PROFESSIONALS

Fidelity Institutional Asset Management Core Constrained

Michael Plage, CFA, Portfolio Manager

Michael Plage is a portfolio manager in the Fixed Income division at Fidelity Management & Research Company (FMRCo), the investment advisor for Fidelity's family of mutual funds. In this role, Mr. Plage manages institutional and retail Fixed Income portfolios within Core, Core Plus, and Tactical Bond strategies. Prior to assuming his current responsibilities, Mr. Plage managed institutional and retail Fixed Income portfolios within credit strategies, including high yield. Previously, he worked as a Fixed Income trader at FMRCo from 2005 to 2009. Before joining Fidelity in 2005, he was a trader at Travelers Insurance (Citigroup) from 1997 to 2005. He has been in the investments industry since 1997. Mr. Plage earned his bachelor of science degree in management from the University of South Carolina and his master of business administration degree in finance from the University of Connecticut. He is also a Chartered Financial Analyst (CFA) charterholder.

