

**BOARD OF TRUSTEES  
INVESTMENT SUBCOMMITTEE**

**Anita A. Hackstedde, Chair  
Molly S. Seals  
David C. Deibel  
Lexi E. Rager**

**Wednesday, March 14, 2018  
11:30 a.m. or immediately following  
previous meeting**

**Tod Hall  
Board Meeting Room**

**AGENDA**

- A. Disposition of Minutes for Meeting Held December 6, 2017**
- B. Old Business**
- C. Committee Items**

- 1. Discussion Item**

- Tab C.1.a. a. March 14, 2018 Quarterly Portfolio Asset Allocation and Investment Performance Review**  
Mike Shebak, Sarah Parker and John Colla will report.

- 2. Action Item**

- Tab C.2.a. a. Resolution to Approve Hartland's Recommendation to Rebalance the Non-Endowment Long-Term Investment Pool**  
Mike Shebak, Sarah Parker and John Colla will report.

- D. New Business**

- 1. Discussion on Strategic Sell-off of Certain Investment Assets**  
Neal McNally, Vice President for Finance and Business Operations, will report.

- E. Adjournment**

**HARTLAND**



independence  
expertise  
results

1100 Superior Avenue East Suite 700

Cleveland, Ohio 44114

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March 14, 2018

**YOUNGSTOWN STATE  
UNIVERSITY  
NON-ENDOWMENT & ENDOWMENT ASSETS**

## CONTENTS

- I. Hartland Update
- II. 2018 Initiatives
- III. Market Update
- IV. Non-Endowment Assets: 4Q17 Performance & Asset Allocation Review
  - Fixed Income Overview
  - Rebalance Recommendation (**Action**)
- V. Endowment Assets: 4Q17 Performance & Asset Allocation Review

# HARTLAND UPDATE

**\$20+ Billion**  
 Assets Under Advisement

**120+**  
 Number of Institutional  
 Clients: Not-for-Profits,  
 Hospitals, and Retirement  
 Funds

**500+**  
 Number of Private  
 Clients: Families,  
 Individuals, and  
 Related Accounts

**36**  
 Number of states in  
 which we have clients

**75**  
 Number of Employees

**28**  
 Number of  
 Shareholders

**28**  
 Number of Employees  
 with CFA, CPA, and CFP®  
 Designations

**29**  
 Number of Boards on which  
 we Volunteer

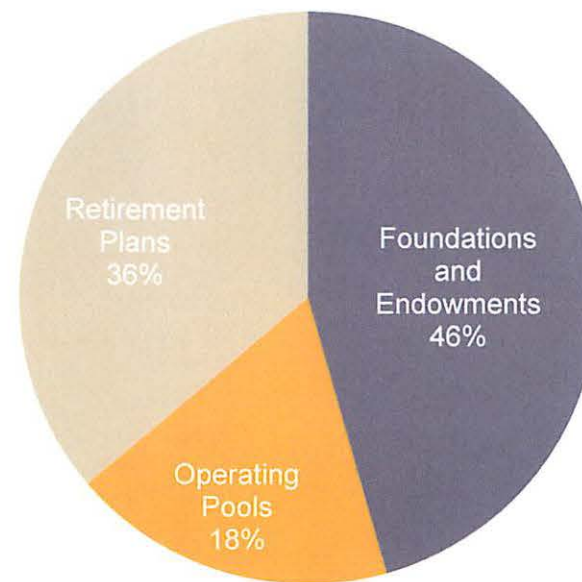
## 2017 Team Member Additions

- John Evans, Director, ICG
- John Colla, Director, ICG
- Brian Wunderle, Associate, ICG
- Anna Rathbun, CFA, Director, Research
- Noah Bill, Performance Analyst, ICG
- Karen Buckley, Administrative Assistant, ICG
- Monica Fletcher, Administrative Assistant, ICG

## 2017 New Clients

- +95% Client Retention
- 14 new Institutional clients
  - 10 Foundations & Endowments
  - 4 Retirement Plans/ Corporate
- More than 35 new Private clients

## Institutional Clients



\*By number of relationships

### 2017 Firm Highlights

**Recapitalization:** Effective March 31, 2017, 28 Hartland employees own a significant majority of the firm, and Rosemont Partners, a Philadelphia-based private equity firm, assumed a minority stake. Hartland remains an independent firm, with control over investment strategy, and decision making on behalf of our clients continuing to be made by employee owners.

**Giving back:** Hartland employees volunteered their time, resources, and talents to the Cleveland Foodbank, Providence House, and Rainbow Babies & Children's Hospital.

HEELS, **Hartland Empowers Exceptional Ladies**, continued making strides in developing the talent and leadership of our female colleagues, but also those within our community. The annual HEELS luncheon, featuring speaker Jackie Acho, Ph.D., had more than 200 attendees.

**Our President and CEO**, Dave Fulton, was recognized at the Smart Women Conference for his contribution to women in business, and received the Advocate for Advancement award.

For each year from 2014 through 2017, Hartland was recognized as one of **Case Western's Weatherhead 100**; given to the 100 fastest growing companies in the region.

**Fiduciary Excellence and Highest Professional Standards:** We retained our Centre for Fiduciary Excellence Certification for the 7th year, and also certified compliance with the CFA Asset Manager Code of Professional Conduct.

**Thought Leadership:** The Hartland Leadership Series hosted a speaker session that explored the trends in Healthcare Investments. Guest speakers included William F. Jarvis, Executive Director of the Commonfund Institute, and Stefan Strein, Chief Investment Officer of the Cleveland Clinic.

#### Institutional Services

- Institutional Discretionary Services (“OCIO”)
- Non-for-profit, Balance Sheet, and Healthcare Advisory Services
- Retirement Plan Services (defined benefit and defined contribution)
- Target Date Fund Match-up Tool
- Environmental, Social, and Governance
- Financial Modeling

#### Private Wealth Management

- Investment Management
- Financial Planning
- Tax Planning and Preparation
- Family Office Administration

## 2018 OVERSIGHT DASHBOARD

		1Q	2Q	3Q	4Q	Comments:
<b>Strategic/ Administrative</b>	Investment Policy Review			<input type="checkbox"/>		
	Strategic Asset Allocation Review				<input type="checkbox"/>	
	Peer Review				<input type="checkbox"/>	
	2019 Oversight Dashboard				<input type="checkbox"/>	
<b>Portfolio</b>	Alternative Investments Review			<input type="checkbox"/>		
	Fixed Income Review	✓				Review Lord Abbett Short Duration
	Domestic Equity Review		<input type="checkbox"/>			
	International Equity Review		<input type="checkbox"/>			
<b>Performance</b>	Capital Markets Review	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Quarterly Performance Review	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Other</b>	Fee Review			<input type="checkbox"/>		
	ORC Compliance Review			<input type="checkbox"/>		

### Last Reviewed

Investment Policy:	12/6/2017
Strategic Asset Allocation:	12/6/2017
Fee Review:	12/6/2017

### Meeting Schedule

- 1Q- March 14, 2018
- 2Q- June 6, 2018
- 3Q- September 5, 2018
- 4Q- December 5, 2018

### Follow-up Items

Share class conversions have been executed or are in process for the following strategies:

- 1) Jhancock Global Absolute Return
- 2) Diamond Hill Long-Short
- 3) JPMorgan Core Bond Fund



## MARKET UPDATE

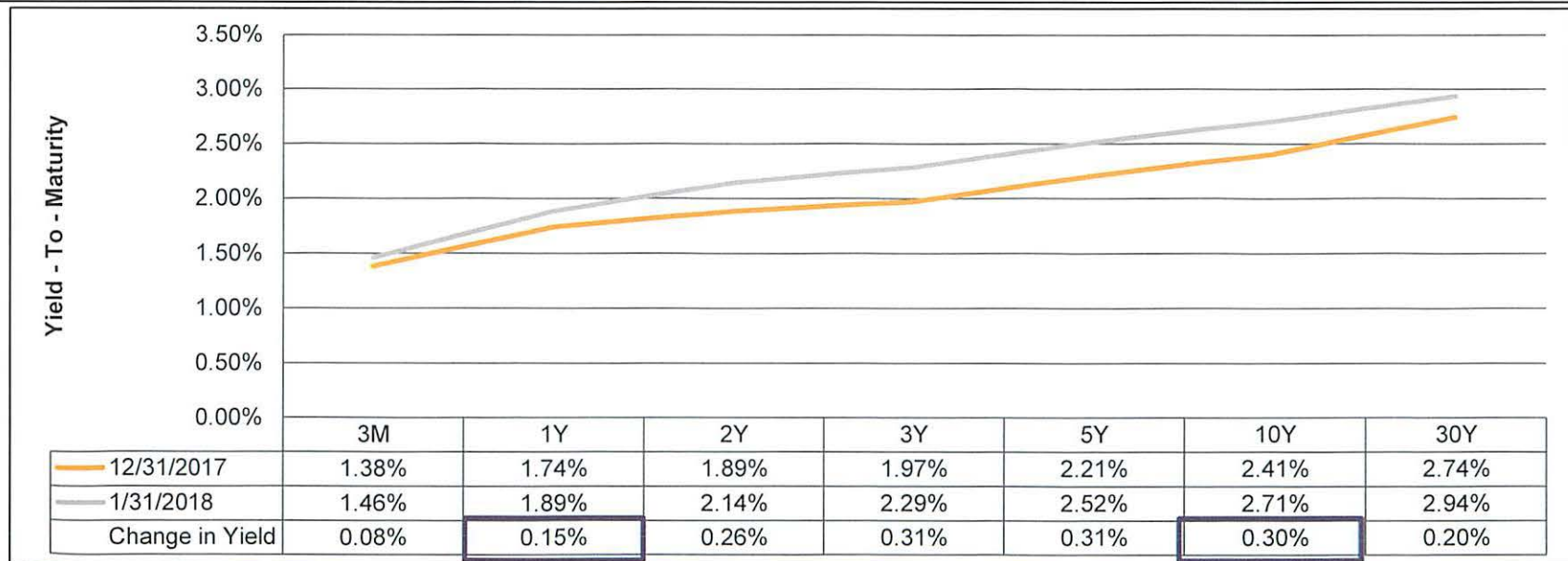
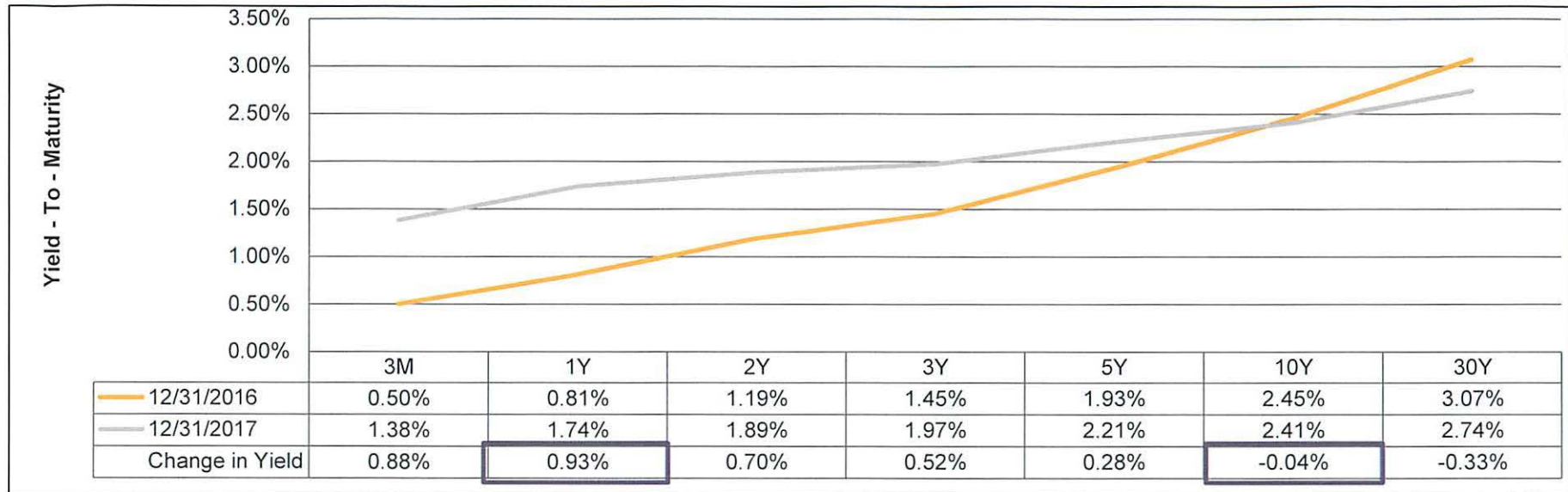
# PERIODIC CHART: ASSET CLASSES

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	01/08 - 12/17	
											Annual	Volatility
Em Mkt 39.4%	Glb Bond 9.4%	Em Mkt 78.5%	REITs 27.6%	US Bonds 7.8%	REITs 20.1%	Sm/Mid 36.8%	REITs 27.2%	REITs 2.3%	Sm/Mid 17.6%	Em Mkt 37.3%	Sm/Mid 9.2%	REITs 23.3%
Dev Intl 11.2%	US Bonds 5.2%	Hi Yld 57.5%	Sm/Mid 26.7%	REITs 7.3%	Em Mkt 18.2%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	Hi Yld 17.5%	Dev Intl 25.0%	Large Cap 8.5%	Em Mkt 22.8%
Glb Bond 10.9%	Cash 2.1%	Sm/Mid 34.4%	Em Mkt 18.9%	Glb Bond 5.2%	Dev Intl 17.3%	Dev Intl 22.8%	Balanced 10.6%	Balanced 1.0%	Large Cap 12.0%	Large Cap 21.8%	Hi Yld 7.9%	Sm/Mid 18.8%
Hdg Fnds 10.3%	Hdg Fnds -21.4%	Dev Intl 31.8%	Hi Yld 15.2%	Balanced 5.0%	Sm/Mid 17.9%	Balanced 17.5%	Sm/Mid 7.1%	US Bonds 0.6%	Em Mkt 11.2%	Sm/Mid 16.8%	REITs 7.7%	Dev Intl 18.5%
US Bonds 7.0%	Balanced -21.6%	REITs 27.5%	Large Cap 15.1%	Hi Yld 4.4%	Large Cap 16.0%	Hdg Fnds 9.0%	US Bonds 6.0%	Cash 0.1%	REITs 9.3%	Balanced 14.5%	Balanced 7.3%	Large Cap 15.1%
Balanced 6.2%	Hi Yld -26.4%	Large Cap 26.5%	Balanced 12.2%	Large Cap 2.1%	Hi Yld 15.6%	Hi Yld 7.4%	Hdg Fnds 3.4%	Hdg Fnds -0.3%	Balanced 8.4%	Glb Bond 9.3%	US Bonds 4.0%	Hi Yld 10.5%
Large Cap 5.5%	Sm/Mid -36.8%	Balanced 18.5%	Dev Intl 7.8%	Cash 0.1%	Balanced 11.4%	REITs 3.2%	Hi Yld 2.5%	Dev Intl -0.8%	US Bonds 2.7%	REITs 9.3%	Glb Bond 2.4%	Balanced 9.1%
Cash 5.0%	Large Cap -37.0%	Hdg Fnds 11.5%	US Bonds 6.6%	Sm/Mid -2.5%	Hdg Fnds 4.8%	Cash 0.1%	Cash 0.0%	Sm/Mid -2.9%	Glb Bond 1.9%	Hdg Fnds 7.8%	Dev Intl 1.9%	Glb Bond 8.2%
Hi Yld 2.2%	REITs -37.3%	US Bonds 5.9%	Glb Bond 6.1%	Hdg Fnds -5.7%	US Bonds 4.2%	US Bonds -2.0%	Em Mkt -2.2%	Hi Yld -4.6%	Dev Intl 1.0%	Hi Yld 7.5%	Em Mkt 1.7%	Hdg Fnds 5.1%
Sm/Mid 1.4%	Dev Intl -43.4%	Glb Bond 4.4%	Hdg Fnds 5.7%	Dev Intl -12.1%	Glb Bond 1.8%	Em Mkt -2.6%	Glb Bond -2.8%	Glb Bond -4.8%	Hdg Fnds 0.5%	US Bonds 3.5%	Hdg Fnds 1.1%	US Bonds 3.2%
REITs -17.8%	Em Mkt -53.3%	Cash 0.2%	Cash 0.1%	Em Mkt -18.4%	Cash 0.1%	Glb Bond -4.9%	Dev Intl -4.9%	Em Mkt -14.9%	Cash 0.3%	Cash 0.9%	Cash 0.4%	Cash 0.2%

Past performance is not a guarantee of future results. Asset classes represented by: Large Cap – S&P 500 Index; Sm/Mid – Russell 2500 Index; Dev Intl – MSCI EAFE Index; Em Mkt – MSCI Emerging Markets Index; Hi Yld – Bank of America Merrill Lynch U.S. High Yield Master II; US Bonds – Barclays Capital U.S. Aggregate; Glb Bond – Barclays Capital Global Treasury ex US; REITs – NAREIT ALL REITs; Balanced – 60% S&P 500/40% BarCap US Aggregate; Hdg Fnds – HFRI FOF: Diversified Index; Cash – Merrill Lynch 91-day Tbill (rebalanced quarterly). Data as of 12/31/2017. Source: Zephyr Associates.



## U.S. TREASURY YIELD CURVE: 2017 & JANUARY MOVEMENT



Past performance is no guarantee of future results. US Treasuries – BarCap US Gov't 10-Yr Treasury; Investment Grade Bonds – BarCap BAA Corp; High Yield Bonds - BarCap US High Yield.  
Source: Bloomberg. Data as of 1/31/2018.



## NON-ENDOWMENT ASSETS

## 4Q17 PERFORMANCE REVIEW

Non-Endowment Assets	Market Value	4Q2017	YTD	1 Yr	3 Yrs	5 Yrs	2016	2015	2014	Since Inception****
Operating & Short-Term Pool	\$7.742 Million	0.2%	0.7%	0.7%	0.4%	0.2%	0.3%	0.1%	0.1%	0.2%
	<i>Benchmark*</i>	0.3%	0.8%	0.8%	0.4%	0.3%	0.4%	0.1%	0.1%	0.2%
Long-Term Pool	\$60.625 Million	2.4%	10.5%	10.5%	4.9%	5.6%	4.9%	-0.3%	4.5%	5.4%
	<i>Benchmark**</i>	2.3%	9.3%	9.3%	4.7%	5.0%	4.7%	0.3%	4.0%	4.7%
Total Non-Endowment Assets	\$68.368 Million	1.9%	7.8%	7.8%	3.7%	3.9%	4.0%	-0.5%	2.9%	3.9%
	<i>Benchmark***</i>	1.4%	5.4%	5.4%	2.8%	2.8%	2.7%	0.2%	2.3%	3.1%

**1-Year Net Investment Change of \$5,734,330**

\*95% BofA Merrill Lynch 91-Day T-Bill / 5% Barclays 1-3 Yr. Govt

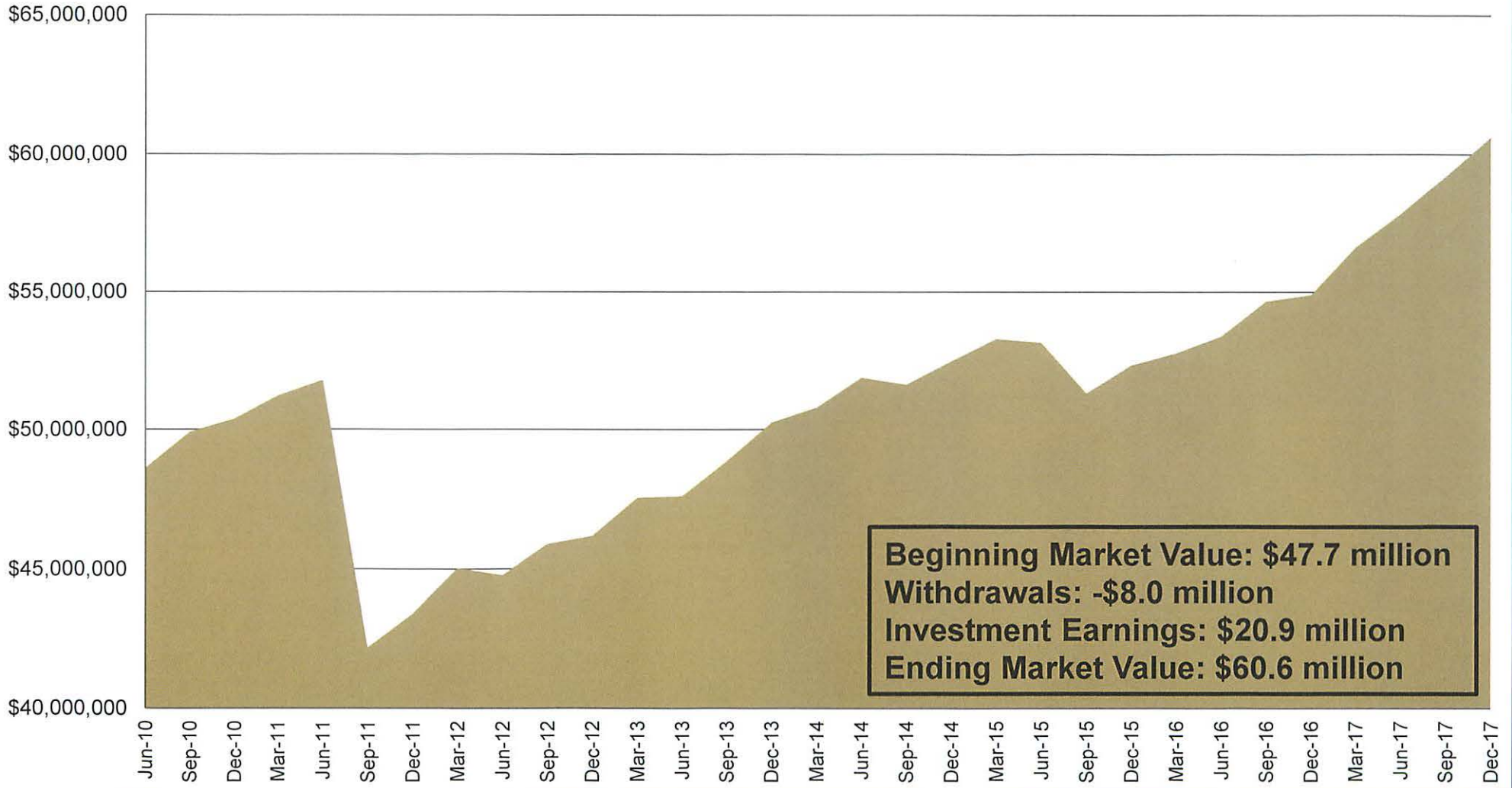
\*\*27% Russell 3000 / 8% MSCI EAFE Gross / 15% Total Alternatives Benchmark / 30% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 20% BbgBarc US Govt/Credit Int TR

\*\*\*45% BofA Merrill Lynch 91-Day T-Bill / 17% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 11% BbgBarc US Govt/Credit Int TR / 8% Total Alternatives Benchmark / 15% Russell 3000 / 4% MSCI EAFE Gross

\*\*\*\*Inception date for Long-Term and Short-Term Pools: June 2010, Inception Date for Total Non-Endowment Assets: March 2004

# 4Q17 PERFORMANCE REVIEW

## Long-Term Pool Market Value Change (6/30/2010-12/31/2017)



**Beginning Market Value: \$47.7 million**  
**Withdrawals: -\$8.0 million**  
**Investment Earnings: \$20.9 million**  
**Ending Market Value: \$60.6 million**

## 4Q17 PERFORMANCE & ASSET ALLOCATION REVIEW (MANAGER DETAILS CONTAINED IN APPENDIX)

Non-Endowment Asset Pool	Current Asset Allocation	Compliance with Policy?	Investment Manager Comments
<b>Short-Term Pool</b>	<ul style="list-style-type: none"> <li>86% Cash</li> <li>14% Short-Term Fixed Income</li> </ul>	<u>In Compliance</u>	Liquidity; modest return overtime (+0.7% 2017); investments include Star Plus money market.
<b>Long-Term Pool</b>	<ul style="list-style-type: none"> <li>Domestic Equities = 28%</li> <li>International Equities = 9%</li> <li>Alternatives = 15%</li> <li>Short-Term Fixed Income = 25%</li> <li>Intermediate Fixed Income = 23%</li> </ul>	<p><u>In Compliance</u></p> <p>Overweight Equities by 2%.</p> <p>Underweight Short-Term Fixed Income by 5%.</p> <p>Overweight Intermediate-Term Fixed Income by 3%.</p>	<p><i>Domestic Equity (+6.2% 4Q17, +21.6% 2017):</i> Active managers rebounded in the near-term; Small cap manager (Victory) Integrity outpaced its respective benchmark by +4.6% for the calendar year benefitting from stock selection across most sectors.</p> <p><i>International Equity (+2.9% 4Q17, +26.6% 2017):</i> International equity was the best performing asset class in the portfolio for 2017; William Blair International Growth outpaced the index by over 2% in 2017 due to stock selection across most sectors; Dodge &amp; Cox slightly lagged their benchmark as the strategy was impacted by its overweight to healthcare.</p> <p><i>Alternative Investments (+2.7% 4Q17, +7.9% 2017):</i> Wells Fargo Absolute Return (GMO) was the top performer due to their tactical exposure to emerging markets.</p> <p><i>Fixed Income (+0.0% 4Q17, +2.4% 2017):</i> All active managers outpaced benchmarks in 2017 as assuming credit risk was beneficial; High yield was the top performer (Prudential High Yield +7.8% 2017).</p>



## FIXED INCOME PORTFOLIO REVIEW

## FIXED INCOME PERFORMANCE REVIEW

	2017 Q4 (%)	Ending December 31, 2017								Calendar Years			Inception	
		YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Return (%)	Since	
<b>Total Fixed Income</b>	<b>0.0</b>	<b>2.4</b>	<b>2.4</b>	<b>2.0</b>	<b>1.6</b>	<b>1.4</b>	<b>2.0</b>	<b>--</b>	<b>2.4</b>	<b>1.6</b>	<b>0.8</b>	<b>2.0</b>	<b>Jun-10</b>	
<i>Total Fixed Income Benchmark</i>	-0.2	1.3	1.3	1.4	1.2	1.1	1.6	2.4	1.3	1.6	0.8	1.6	Jun-10	
JPMorgan Core Bond	0.5	3.8	3.8	3.0	2.3	2.0	3.2	4.3	3.8	2.3	0.7	-0.2	Aug-17	
<i>BBgBarc US Aggregate TR</i>	0.4	3.5	3.5	3.1	2.2	2.1	3.2	4.0	3.5	2.6	0.6	-0.1	Aug-17	
<i>Intermediate-Term Bond MStar MF Rank</i>	33	57	57	72	61	68	74	61	57	83	23	72	Aug-17	
YSU Intermediate Term Bond	-0.2	2.4	2.4	2.2	1.6	1.5	2.4	3.7	2.4	2.0	0.5	3.7	Mar-04	
<i>BBgBarc US Govt/Credit Int TR</i>	-0.2	2.1	2.1	2.1	1.8	1.5	2.4	3.3	2.1	2.1	1.1	3.4	Mar-04	
<i>Intermediate-Term Bond MStar MF Rank</i>	96	94	94	93	93	93	95	87	94	90	34	86	Mar-04	
Prudential High Yield Q	0.4	7.8	7.8	11.5	6.6	5.9	--	--	7.8	15.3	-2.6	7.8	Dec-16	
<i>BBgBarc US High Yield TR</i>	0.5	7.5	7.5	12.2	6.4	5.8	7.0	8.0	7.5	17.1	-4.5	7.5	Dec-16	
<i>High Yield Bond MStar MF Rank</i>	61	27	27	31	14	16	--	--	27	30	38	27	Dec-16	
YSU Short Term Bond	-0.1	1.1	1.1	1.1	1.0	0.8	1.1	2.0	1.1	1.1	0.6	2.5	Mar-04	
<i>BofA Merrill Lynch US Corp &amp; Gov 1-3 Yrs</i>	-0.2	0.9	0.9	1.1	0.9	0.9	1.0	1.9	0.9	1.3	0.7	2.3	Mar-04	
<i>Short-Term Bond MStar MF Rank</i>	77	89	89	92	91	90	96	84	89	90	46	77	Mar-04	
<b>X</b> Vanguard Short-Term Bond Instl	-0.3	1.2	1.2	1.4	1.2	1.0	--	--	1.2	1.5	1.0	1.2	Dec-11	
<i>BBgBarc US Govt/Credit 1-5 Yr. TR</i>	-0.3	1.3	1.3	1.4	1.3	1.1	1.6	2.5	1.3	1.6	1.0	1.3	Dec-11	
<i>Short-Term Bond MStar MF Rank</i>	99	87	87	86	79	77	--	--	87	84	15	88	Dec-11	
DFA Five-Yr Global Fxd-Inc I	-0.1	2.0	2.0	1.9	1.7	1.5	2.4	3.0	2.0	1.8	1.4	2.0	Jun-13	
<i>Citi WGBI 1-5 Yr Hdg USD</i>	0.1	1.1	1.1	1.3	1.2	1.2	1.5	2.1	1.1	1.5	1.0	1.4	Jun-13	
<i>World Bond MStar MF Rank</i>	91	93	93	99	71	45	59	69	93	80	3	63	Jun-13	

### Recommendation

- **Replace the Vanguard Short-Term Bond Fund with the Lord Abbett Short Duration Strategy**
  - Active strategy
  - Attractive, long-term risk-adjusted performance
  - Higher yield, shorter duration

-Total Fixed Income Benchmark = 64%  
BofA Merrill Lynch US Corp & Gov 1-3 Yrs  
/ 36% BBgBarc US Govt/Credit Int TR

# FIXED INCOME RECOMMENDATION

## Zephyr StyleADVISOR

Zephyr StyleADVISOR: Hartland and Company

### Manager vs Benchmark: Return

January 2003 - December 2017 (not annualized if less than 1 year)

	1 year	3 years	5 years	7 years	10 years	15 years
Vanguard Short-Term Bond Index Adm	1.18%	1.20%	1.00%	1.44%	2.39%	2.79%
Lord Abbett Short Duration Income I	2.73%	2.51%	2.21%	3.02%	4.36%	3.87%
<b>Proposed</b> Barclays 1-5 U.S. Gov/Credit	1.27%	1.27%	0.93%	1.43%	2.37%	2.78%

### January 2003 - December 2017: Summary Statistics

	Return	Standard Deviation	Sharpe Ratio	Maximum Drawdown	Excess Return vs. Market	Down Capture vs. Market	Alpha vs. Market	Beta vs. Market
Vanguard Short-Term Bond Index Adm	2.79%	1.92%	0.82	-1.83%	0.01%	97.90%	0.01%	1.00
Lord Abbett Short Duration Income I	3.87%	2.67%	1.00	-7.10%	1.09%	65.80%	1.59%	0.82
Barclays 1-5 U.S. Gov/Credit	2.78%	1.91%	0.83	-1.87%	0.00%	100.00%	0.00%	1.00



## FIXED INCOME PORTFOLIO LOOK-THROUGH

12/31/2017	JPMorgan Core Bond Fund	YSU Intermediate Term Bond	Prudential High Yield Q	YSU Short Term Bond	Vanguard Short-Term Bond Index	DFA Five-Yr Global Fixed Income I	Lord Abbett Short Duration	Current Portfolio	Proposed Portfolio	YSU LTP Fixed Income Blended Benchmark
	JCBUX	PNC-SMA	PHYQX	PNC-SMA	VBIRX	DFGBX	LLDYX			
Expense Ratio	0.35%	0.15%	0.41%	0.15%	0.07%	0.27%	0.40%	0.21%	0.23%	
Current Wgtd. Avg. Coupon	3.51%	2.45%	6.27%	2.08%	2.03%	1.86%	3.77%	2.76%	2.87%	2.24%
Yield to Maturity	2.38%	2.45%	6.12%	2.14%	2.17%	2.41%	2.97%	2.62%	2.67%	2.17%
Average Maturity	7.40	4.35	5.82	1.99	2.80	4.03	2.30	3.84	3.81	2.94
Effective Duration	5.66	3.91	3.82	1.88	2.70	3.86	1.99	3.21	3.17	2.75
Average Quality Issue								AA	AA	
AAA	61%	60%	12%	66%	70%	22%	40%	57%	55%	70%
AA	4%	4%	0%	3%	5%	53%	7%	6%	7%	4%
A	13%	15%	0%	15%	13%	24%	12%	14%	14%	13%
BBB	15%	21%	2%	16%	12%	0%	27%	14%	15%	13%
BB	0%	0%	31%	0%	0%	0%	6%	3%	3%	0%
B	0%	0%	42%	0%	0%	0%	6%	4%	4%	0%
CCC & Below & Not Rated	5%	0%	13%	0%	0%	0%	2%	2%	2%	0%
U.S. Treasury	25%	39%	0%	34%	60%	0%	2%	29%	26%	61%
U.S. Agency	3%	0%	0%	0%	4%	0%	1%	1%	1%	4%
Inv. Grade Corporates	26%	41%	2%	35%	28%	23%	27%	30%	30%	32%
High Yield Corporates	0%	0%	81%	0%	0%	0%	11%	8%	8%	0%
Non-Agency ABS/CMOs	22%	9%	7%	19%	0%	0%	26%	15%	16%	0%
Non-Agency MBS/CMBS	6%	6%	0%	11%	0%	0%	27%	7%	8%	0%
Mort.-Passthrough	15%	0%	0%	0%	0%	0%	2%	3%	3%	0%
Leveraged/Bank Loans	0%	0%	3%	0%	0%	0%	3%	0%	0%	0%
Municipals	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Non-U.S. Developed	0%	0%	0%	0%	8%	76%	0%	5%	5%	3%
Emerging Markets	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Non-Dollar	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	2%	3%	0%	0%	0%	0%	1%	1%	1%	0%
Cash	3%	1%	4%	1%	1%	1%	1%	1%	1%	0%

The proposed change to YSU's fixed income portfolio increases yield, lowers duration, and maintains compliance with the University's fixed income guidelines.

The current Fixed Income Guidelines for the Long-Term Pool are:

- 1) Average weighted portfolio credit quality of "AA".
- 2) Fixed income portfolio duration should be in the range of 80% to 120% of the applicable benchmark.
- 3) "Below investment grade fixed income investments are permissible up to 10% of the total fixed income allocation".

Proposed Fixed Income Portfolio	
Avg Maturity (yrs)	3.81
Avg Duration (yrs)	3.17
Credit Quality	AA
Yield	2.67%
High Yield	8.1%
Duration Lower Limit	2.20
Duration Upper Limit	3.30

# PROPOSED YSU LONG-TERM POOL: FIXED INCOME INTEREST RATE SENSITIVITY

## Portfolio Expected Returns

		Time					
		1 month	3 months	6 months	12 months	18 months	24 months
Interest Rate Change	-0.5%	1.8%	2.2%	2.9%	4.3%	5.6%	7.0%
	-0.25%	1.0%	1.4%	2.1%	3.5%	4.9%	6.2%
	0.0%	0.2%	0.7%	1.4%	2.7%	4.1%	5.5%
	0.25%	-0.5%	-0.1%	0.6%	2.0%	3.3%	4.7%
	0.5%	-1.3%	-0.8%	-0.2%	1.2%	2.6%	3.9%
	1.0%	-2.8%	-2.4%	-1.7%	-0.3%	1.0%	2.4%
	1.5%	-4.3%	-3.9%	-3.2%	0.2%	1.6%	2.9%
	2.0%	-5.9%	-5.4%	-4.8%	-3.4%	-2.0%	-0.7%

**How to read:**  
 A +0.5% increase in rates over a 1-year period with YSU fixed income portfolio characteristics would result in a return of approximately +1.2% for YSU's long-term pool fixed income.

## Index Expected Returns

		Time					
		1 month	3 months	6 months	12 months	18 months	24 months
Interest Rate Change	-0.5%	3.3%	3.8%	4.4%	5.7%	7.0%	8.3%
	-0.25%	1.8%	2.2%	2.9%	4.2%	5.5%	6.8%
	0.0%	0.2%	0.7%	1.3%	2.6%	3.9%	5.2%
	0.25%	-1.3%	-0.9%	-0.3%	1.1%	2.4%	3.7%
	0.5%	-2.9%	-2.5%	-1.8%	-0.5%	0.8%	2.1%
	1.0%	-6.0%	-5.6%	-4.9%	-3.6%	-2.3%	-1.0%
	1.5%	-9.1%	-8.7%	-8.0%	-6.7%	-5.4%	-4.1%
	2.0%	-12.2%	-11.8%	-11.1%	-9.8%	-8.5%	-7.2%

Index used for comparison: Barclays U.S. Aggregate.

## REBALANCE RECOMMENDATION (ACTION)

Youngstown State University

	Market Value as of 2/6/2018		Change	New Allocation		Policy Target	Policy Range	Difference
	\$	%		\$	%			
<b>Total Operating &amp; Short Term</b>	<b>\$28,740,591</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$28,740,591</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Operating Assets</b>	<b>\$27,669,924</b>	<b>96.3%</b>	<b>\$0</b>	<b>\$27,669,924</b>	<b>96.3%</b>		<b>60-100%</b>	
JPMorgan 100% U.S. Treas. MM Instl	\$22,602,280	78.6%		\$22,602,280	78.6%			
Star Plus Account*	\$5,067,644	17.6%		\$5,067,644	17.6%			
<b>Short-Term Assets</b>	<b>\$1,070,666</b>	<b>3.7%</b>	<b>\$0</b>	<b>\$1,070,666</b>	<b>3.7%</b>		<b>0-40%</b>	
Vanguard Short-Term Federal Adm	\$1,070,666	3.7%		\$1,070,666	3.7%			
<b>Total Long Term Reserves Pool</b>	<b>\$60,358,393</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$60,358,393</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Domestic Equity</b>	<b>\$17,109,608</b>	<b>28.3%</b>	<b>\$0</b>	<b>\$17,109,608</b>	<b>28.3%</b>	<b>27.0%</b>	<b>20-35%</b>	<b>1.3%</b>
<b>Large Cap</b>	<b>\$11,968,669</b>	<b>19.8%</b>	<b>\$0</b>	<b>\$11,968,669</b>	<b>19.8%</b>			
TRP Instl US Structured Research	\$5,073,275	8.4%		\$5,073,275	8.4%			
Vanguard 500 Index Adm	\$6,895,394	11.4%		\$6,895,394	11.4%			
<b>Small/Mid Cap</b>	<b>\$5,140,939</b>	<b>8.5%</b>	<b>\$0</b>	<b>\$5,140,939</b>	<b>8.5%</b>			
Vanguard Mid Cap Index Adm	\$2,390,142	4.0%		\$2,390,142	4.0%			
Loomis Sayles Small Growth Instl	\$1,472,300	2.4%		\$1,472,300	2.4%			
Victory Integrity Small Cap Value Y	\$1,278,497	2.1%		\$1,278,497	2.1%			
<b>International Equity</b>	<b>\$5,406,828</b>	<b>9.0%</b>	<b>\$0</b>	<b>\$5,406,828</b>	<b>9.0%</b>	<b>8.0%</b>	<b>0-15%</b>	<b>1.0%</b>
William Blair International Growth I	\$2,736,452	4.5%		\$2,736,452	4.5%			
Dodge & Cox International Stock	\$2,670,376	4.4%		\$2,670,376	4.4%			
<b>Total Equity</b>	<b>\$22,516,435</b>	<b>37.3%</b>	<b>\$0</b>	<b>\$22,516,435</b>	<b>37.3%</b>	<b>35.0%</b>	<b>25-45%</b>	<b>2.3%</b>
<b>Alternatives</b>	<b>\$9,112,445</b>	<b>15.1%</b>	<b>\$0</b>	<b>\$9,112,445</b>	<b>15.1%</b>	<b>15.0%</b>	<b>0-20%</b>	<b>0.1%</b>
Jhancock Global Absolute Return I	\$2,081,328	3.4%		\$2,081,328	3.4%			
Wells Fargo Adv Absolute Return I	\$2,686,236	4.5%		\$2,686,236	4.5%			
Diamond Hill Long-Short Y	\$2,693,520	4.5%		\$2,693,520	4.5%			
Brookfield Global Real Estate	\$1,651,361	2.7%		\$1,651,361	2.7%			
<b>Fixed Income</b>	<b>\$28,729,512</b>	<b>47.6%</b>	<b>\$0</b>	<b>\$28,729,512</b>	<b>47.6%</b>	<b>50.0%</b>		
<b>Short Term Fixed Income</b>	<b>\$16,657,033</b>	<b>27.6%</b>	<b>\$0</b>	<b>\$16,657,033</b>	<b>27.6%</b>	<b>30.0%</b>	<b>25-45%</b>	<b>-2.4%</b>
YSU Short Term Bond	\$13,073,099	21.7%		\$13,073,099	21.7%			
DFA Five-Year Global	\$1,818,795	3.0%		\$1,818,795	3.0%			
<b>Lord Abbett Short Duration</b>	\$0	0.0%	\$1,765,139	\$1,765,139	2.9%			
<b>Vanguard Short Term Bond Adm</b>	\$1,765,139	2.9%	-\$1,765,139	\$0	0.0%			
<b>Intermediate Fixed Income</b>	<b>\$12,072,480</b>	<b>20.0%</b>	<b>\$0</b>	<b>\$12,072,480</b>	<b>20.0%</b>	<b>20.0%</b>	<b>10-30%</b>	<b>0.0%</b>
JPMorgan Core Bond Fund I	\$5,024,741	8.3%		\$5,024,741	8.3%			
YSU Intermediate Term Fixed	\$4,350,675	7.2%		\$4,350,675	7.2%			
Prudential High Yield Q	\$2,697,064	4.5%		\$2,697,064	4.5%			
<b>Total University Assets</b>	<b>\$89,098,983</b>			<b>\$89,098,983</b>				

### Recommendation

Replace Vanguard Short-Term Bond Index in favor of Lord Abbett Short Duration

\*As of 12/31/2017



## ENDOWMENT ASSETS

## 4Q17 PERFORMANCE & ASSET ALLOCATION REVIEW

Endowment Assets	Market Value	Asset Allocation	Composition	4Q2017	YTD	1-Yr	3-Yr	2016	2015
YSU Endowment	\$10.7 million	76% Equities/ 24% Fixed Income & Cash	Stocks, Bonds, Mutual Funds	4.7%	14.2%	14.2%	7.3%	8.5%	-0.3%
<i>60% S&amp;P 500 Index/40% Barclays Index</i>				4.1%	14.2%	14.2%	7.8%	8.3%	1.3%
Kilcawley Center	\$108,740	60% Equities/ 40% Fixed Income	Mutual Fund	4.0%	13.8%	13.8%	4.2%	4.9%	-5.3%
<i>60% S&amp;P 500 Index/40% Barclays Index</i>				4.1%	14.2%	14.2%	7.8%	8.3%	1.3%
Alumni License Plate	\$544,728	60% Equities/ 40% Fixed Income	Mutual Fund	3.9%	10.3%	10.3%	7.8%	13.8%	-0.2%
<i>60% S&amp;P 500 Index/40% Barclays Index</i>				4.1%	14.2%	14.2%	7.8%	8.3%	1.3%

### Compliance

- Asset Allocation Guidelines: 70% Equities (60-80%)/30% Cash & Fixed Income (20-40%)
  - YSU Endowment (In-Line)
  - Kilcawley Center (In-Line)
  - Alumni (In-Line)
- Equity and Fixed Income Guidelines
  - YSU Endowment (In-Line)
  - Kilcawley Center (In-Line)
  - Alumni (In-Line)

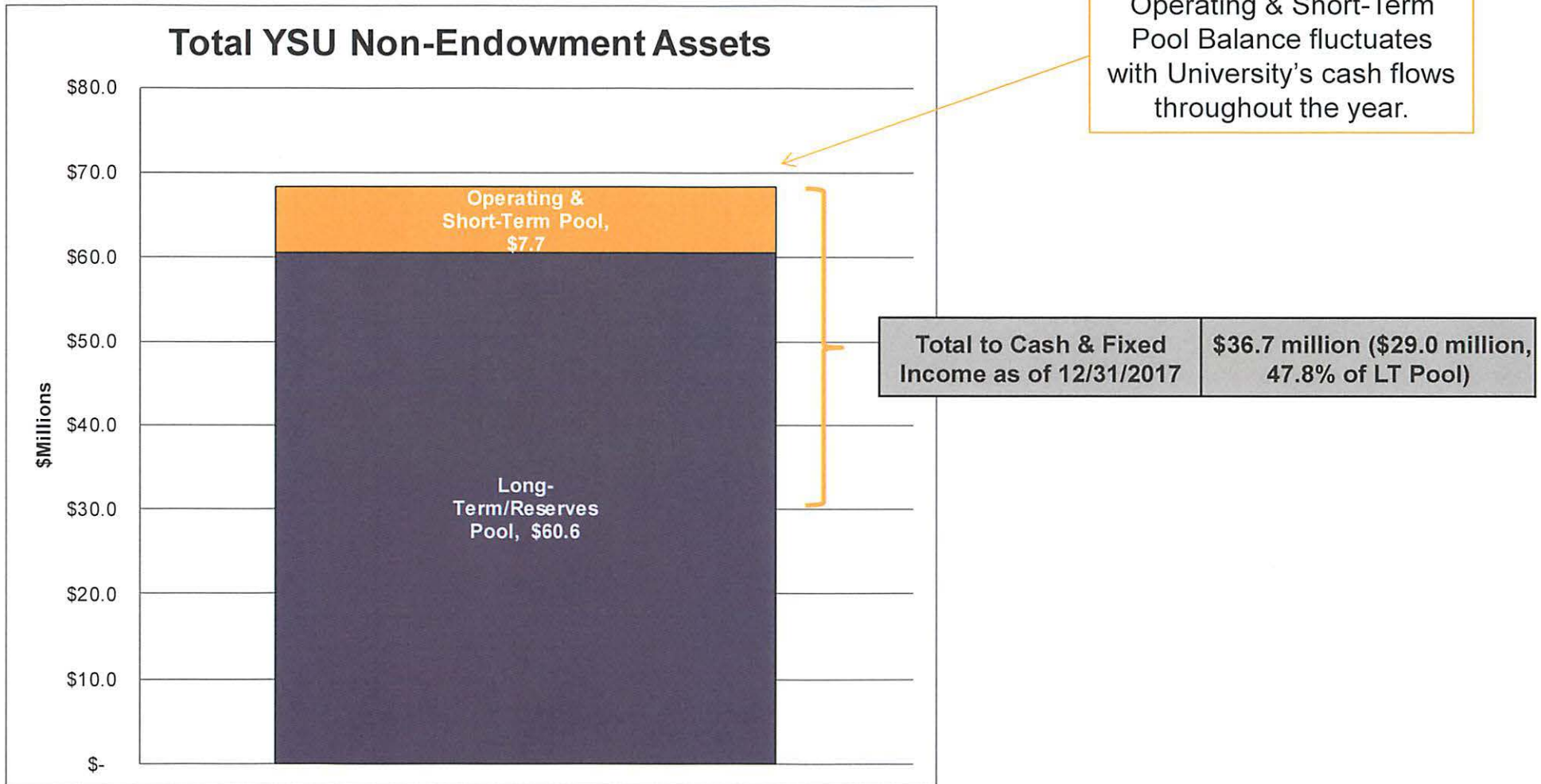
See page 31 in appendix for detail on holdings.

Kilcawley Center & Alumni License Plate accounts- Transition to PNC as custodian completed on 11/1/2017. Historical allocation to single stock and bond positions resulted in large differences relative to benchmark. Both accounts are now currently invested in one low cost, balanced Vanguard mutual fund.



## APPENDIX

# TOTAL YSU NON-ENDOWMENT ASSETS



Operating & Short-Term Pool Balance fluctuates with University's cash flows throughout the year.

**Total to Cash & Fixed Income as of 12/31/2017**     **\$36.7 million (\$29.0 million, 47.8% of LT Pool)**

**Total Dollars to High Yield**     **Approximately \$2.4 million (8.4% of LT Pool's Fixed Income & Cash)**

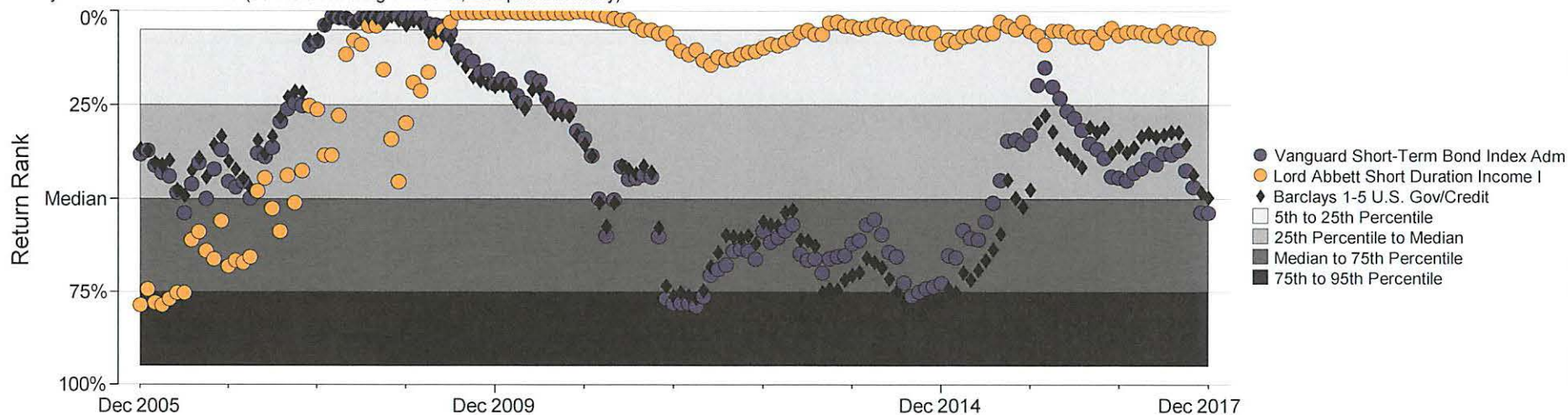
## SHORT-TERM BOND PERFORMANCE VS. PEERS

### Zephyr StyleADVISOR

Zephyr StyleADVISOR: Hartland and Company

#### Manager vs Morningstar Short-Term Bond: Return Rank

January 2003 - December 2017 (36-Month Moving Windows, Computed Monthly)



#### Manager vs Morningstar Short-Term Bond: Return Rank

January 2003 - December 2017 (36-Month Moving Windows, Computed Monthly)

	Median Rank	Dec 2006	Dec 2007	Dec 2008	Dec 2009	Dec 2010	Dec 2011	Dec 2012	Dec 2013	Dec 2014	Dec 2015	Dec 2016	Dec 2017
		318 mng	345 mng	353 mng	387 mng	393 mng	397 mng	400 mng	410 mng	418 mng	462 mng	479 mng	494 mng
Vanguard Short-Term Bond Index Adm	42.09%	45.43%	8.14%	1.70%	19.43%	33.93%	78.03%	58.65%	62.10%	72.66%	32.97%	44.35%	53.75%
Lord Abbett Short Duration Income I	6.28%	68.14%	26.16%	29.83%	0.52%	0.26%	8.59%	9.77%	4.16%	8.87%	5.42%	6.49%	7.10%
Barclays 1-5 U.S. Gov/Credit	39.88%	39.88%	7.55%	3.74%	19.99%	35.52%	76.18%	56.15%	70.50%	77.69%	47.53%	35.88%	49.59%

Source: Zephyr.



# LORD ABBETT SHORT DURATION

## Parent

Lord, Abnett & Co. LLC ("Lord Abnett"), founded in 1929, is an independent, privately-held, money management firm. Lord Abnett transitioned from a general partnership to a limited liability company in July 2002. As of 9/30/2017, Lord Abnett has 65 Partners, more than 150 investment professionals and more than 800 employees. AUM is in excess of \$154 billion and split 63% fixed income and 37% equity.

## People

The fund is managed in a team approach by the fixed income division within Lord Abnett, led by Robert A. Lee, CIO. The short-duration credit strategy is overseen by Andrew H. O'Brien, who is supported by two other PM's and a robust credit research team of 22 analysts led by Gregory S. Parker (26 years in the industry, 10 years in the company), a team of quantitative analysts, and dedicated traders. It is important to note that all five portfolio managers are partners of the firm, and four out of five have personal assets invested in the strategy.

## Process

The short-duration income fund's philosophy stems from an internal study that identified income as the most important driver of performance on the short end of the yield curve. Specifically, the thesis maintains that credit risk, as perceived by standard rating process, plays out differently for lower duration because default probabilities are significantly diminished on the shorter end of the curve. The greater clarity on credit risk and the resulting price inefficiencies on the short end provide opportunities for active management. The process, therefore, is built on finding income through robust credit research. The credit research includes the use of quantitative valuation models that help to identify attractive securities and complemented by qualitative approach and relative value analysis via Mr. Parker's team of 22 analysts. There is also top-down analysis, but for this team, "top-down" does not mean "macro;" instead, it means understanding and identifying themes in the fixed income sectors. Through weekly strategy meetings, information is shared formally with the overall team to understand the broader factors that ultimately influence sector rotation decisions. Finally, the collaboration of credit research and fixed income sector analysis helps to set boundaries for risk management through careful consideration of sector weightings and security selection.

	Lord Abnett Short Duration
	LLDYX
Expense Ratio	0.40%
Current Wgtd. Avg. Coupon	3.77%
Yield to Maturity	2.97%
Average Maturity	2.30
Effective Duration	1.99
Average Quality Issue	
AAA	40%
AA	7%
A	12%
BBB	27%
BB	6%
B	6%
CCC & Below & Not Rated	2%
U.S. Treasury	2%
U.S. Agency	1%
Invt. Grade Corporates	27%
High Yield Corporates	11%
Non-Agency ABS/CMOs	26%
Non-Agency MBS/CMBS	27%
Mort.-Passthrough	2%
Leveraged/Bank Loans	3%
Municipals	0%
Non-U.S. Developed	0%
Emerging Markets	0%
Non-Dollar	0%
Other	1%
Cash	1%

Source: Morningstar, eVestment.  
 As of 12/31/2017.

# IPS COMPLIANCE

As of December 31, 2017

Total Plan Asset Allocation Policy	Range	Current
Operating & Short-Term Pool	25% - 50%	11%
Long Term/ Reserves Pool	50% - 75%	89%

Operating & Short-Term Pool	Range	Current
Operating Assets	60% - 100%	86%
Short-Term Assets	0% - 40%	14%

Long Term/ Reserves Pool	Target	Range	Current
Domestic Equity	27%	20% - 35%	28%
International Equity	8%	0% - 15%	9%
Total Equity	35%	25% - 45%	37%
Alternatives	15%	0%-20%	15%
Short-Term Fixed Income	30%	25% - 45%	25%
Intermediate Fixed Income	20%	10% - 30%	23%
Cash & Cash Equivalents	0%	0% - 5%	0%

In Line
  Within Tolerance
  Review

## SCHEDULE OF ASSETS

Asset Class	Market Value 9/30/17 (\$)	Market Value 12/31/17 (\$)	% of Total Plan	% of Pool	
<b>Total University Assets</b>	<b>84,393,382</b>	<b>68,367,585</b>	<b>100.0</b>	<b>100.0</b>	
<b>Total Operating &amp; Short Term</b>	<b>25,205,739</b>	<b>7,742,239</b>	<b>11.3</b>	<b>100.0</b>	
JPMorgan 100% U.S. Tr Sec MM Inst	Cash	19,072,480	1,599,278	2.3	20.7
Star Plus	Cash	5,055,951	5,067,644	7.4	65.5
Vanguard Short-Term Federal Adm	US Fixed Income Short Term	1,077,308	1,075,317	1.6	13.9
<b>Total Long Term/ Reserves Pool</b>	<b>59,187,643</b>	<b>60,625,347</b>	<b>88.7</b>	<b>100.0</b>	
<b>Total Domestic Equity</b>	<b>16,783,589</b>	<b>17,020,995</b>	<b>24.9</b>	<b>28.1</b>	
TRP Instl US Structured Rsch	US Stock Large Cap Core	5,093,180	5,022,646	7.3	8.3
Vanguard 500 Index Adm	US Stock Large Cap Core	6,783,281	6,831,184	10.0	11.3
Vanguard Mid Cap Index Adm	US Stock Mid Cap Core	2,269,696	2,397,778	3.5	4.0
Loomis Sayles Sm Growth Instl	US Stock Small Cap Growth	1,390,664	1,452,853	2.1	2.4
Victory Integrity Small Value Y	US Stock Small Cap Value	1,246,769	1,316,535	1.9	2.2
<b>Total International Equity</b>	<b>5,270,750</b>	<b>5,422,034</b>	<b>7.9</b>	<b>8.9</b>	
William Blair International Growth I	International	2,585,410	2,704,309	4.0	4.5
Dodge & Cox Internat'l Stock	International	2,685,339	2,717,725	4.0	4.5
<b>Total Alternatives</b>	<b>8,939,217</b>	<b>9,183,816</b>	<b>13.4</b>	<b>15.1</b>	
John Hancock Global Absolute Return I	Absolute Return	2,049,554	2,085,233	3.1	3.4
Wells Fargo Adv Absolute Return Instl	All Assets	2,580,865	2,649,024	3.9	4.4
Diamond Hill Long-Short I	Long/Short Equity	2,624,708	2,701,290	4.0	4.5
Brookfield Global Listed Real Estate I	Global Real Estate	1,684,091	1,748,269	2.6	2.9
<b>Total Fixed Income</b>	<b>28,194,086</b>	<b>28,998,502</b>	<b>42.4</b>	<b>47.8</b>	
JPMorgan Core Bond	US Fixed Income Core	4,686,468	5,108,628	7.5	8.4
YSU Intermediate Term Bond	US Fixed Income Core	4,024,077	4,418,071	6.5	7.3
Prudential High Yield Q	US Fixed Income High Yield	0	2,701,843	4.0	4.5
YSU Short Term Bond	US Fixed Income Short Term	13,165,729	13,150,241	19.2	21.7
Vanguard Short-Term Bond Instl	US Fixed Income Short Term	1,795,047	1,789,136	2.6	3.0
DFA Five-Yr Global Fxd-Inc I	Global Fixed Income	1,833,195	1,830,583	2.7	3.0

## PERFORMANCE REPORT CARD

	Ending December 31, 2017								Calendar Years			Inception	
	2017 Q4 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Return (%)	Since
<b>Total University Assets</b>	<b>1.9</b>	<b>7.8</b>	<b>7.8</b>	<b>5.8</b>	<b>3.7</b>	<b>3.9</b>	<b>3.5</b>	<b>3.8</b>	<b>7.8</b>	<b>4.0</b>	<b>-0.5</b>	<b>3.9</b>	<b>Mar-04</b>
<i>Total Policy Benchmark</i>	1.4	5.4	5.4	4.0	2.8	2.8	2.6	2.7	5.4	2.7	0.2	3.1	Mar-04
<b>Total Operating &amp; Short Term</b>	<b>0.2</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.4</b>	<b>0.2</b>	<b>0.2</b>	<b>--</b>	<b>0.7</b>	<b>0.3</b>	<b>0.1</b>	<b>0.2</b>	<b>Jun-10</b>
<i>Total Operating &amp; Short Term Benchmark</i>	0.3	0.8	0.8	0.6	0.4	0.3	0.2	0.4	0.8	0.4	0.1	0.2	Jun-10
JPMorgan 100% U.S. Tr Sec MM Inst	0.2	0.7	0.7	0.4	0.3	0.2	0.1	0.2	0.7	0.2	0.0	0.1	Sep-11
<i>BofA Merrill Lynch 91-Day T-Bill</i>	0.3	0.9	0.9	0.6	0.4	0.3	0.2	0.4	0.9	0.3	0.0	0.2	Sep-11
<i>Money Market - Taxable MStar MF Rank</i>	52	55	55	55	57	57	62	68	55	60	93	61	Sep-11
Vanguard Short-Term Federal Adm	-0.2	0.8	0.8	1.0	1.0	0.8	1.2	2.1	0.8	1.2	0.8	1.1	Sep-10
<i>BBgBarc US Govt 1-5 Yr TR</i>	-0.4	0.7	0.7	0.9	0.9	0.7	1.1	2.1	0.7	1.0	0.9	1.0	Sep-10
<i>Short Government MStar MF Rank</i>	39	31	31	23	11	23	28	24	31	17	14	29	Sep-10
Star Plus	0.2	0.7	0.7	0.6	0.4	--	--	--	0.7	0.4	0.2	0.4	Jan-14
<i>BofA Merrill Lynch 91-Day T-Bill</i>	0.3	0.9	0.9	0.6	0.4	0.3	0.2	0.4	0.9	0.3	0.0	0.3	Jan-14
<b>Total Long Term/ Reserves Pool</b>	<b>2.4</b>	<b>10.5</b>	<b>10.5</b>	<b>7.7</b>	<b>4.9</b>	<b>5.6</b>	<b>5.2</b>	<b>--</b>	<b>10.5</b>	<b>4.9</b>	<b>-0.3</b>	<b>5.4</b>	<b>Jun-10</b>
<i>Total Long Term/ Reserves Fund Benchmark</i>	2.3	9.3	9.3	7.0	4.7	5.0	4.7	4.6	9.3	4.7	0.3	4.7	Jun-10
<b>Total Domestic Equity</b>	<b>6.2</b>	<b>21.6</b>	<b>21.6</b>	<b>16.6</b>	<b>11.0</b>	<b>15.6</b>	<b>13.3</b>	<b>--</b>	<b>21.6</b>	<b>11.7</b>	<b>0.7</b>	<b>15.8</b>	<b>Jun-10</b>
<i>Russell 3000</i>	6.3	21.1	21.1	16.9	11.1	15.6	13.5	8.6	21.1	12.7	0.5	15.9	Jun-10
TRP Instl US Structured Rsch	6.5	23.8	23.8	16.9	12.0	16.0	13.8	8.8	23.8	10.4	2.9	16.0	Jun-10
<i>S&amp;P 500</i>	6.6	21.8	21.8	16.8	11.4	15.8	13.8	8.5	21.8	12.0	1.4	16.0	Jun-10
<i>Large Blend MStar MF Rank</i>	53	17	17	22	7	11	13	16	17	56	11	16	Jun-10
Vanguard 500 Index Adm	6.6	21.8	21.8	16.8	11.4	15.7	13.7	8.5	21.8	11.9	1.4	15.9	Jun-10
<i>S&amp;P 500</i>	6.6	21.8	21.8	16.8	11.4	15.8	13.8	8.5	21.8	12.0	1.4	16.0	Jun-10
<i>Large Blend MStar MF Rank</i>	41	32	32	27	14	20	17	28	32	28	24	18	Jun-10

## PERFORMANCE REPORT CARD

	Ending December 31, 2017								Calendar Years			Inception	
	2017 Q4 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Return (%)	Since
Vanguard Mid Cap Index Adm	5.6	19.3	19.3	15.2	9.4	15.0	12.5	8.9	19.3	11.2	-1.3	14.1	Sep-10
<i>Vanguard Mid Cap Index Benchmark</i>	5.6	19.3	19.3	15.2	9.4	15.1	12.6	9.0	19.3	11.2	-1.3	14.1	Sep-10
<i>Mid-Cap Blend MStar MF Rank</i>	51	16	16	55	45	16	33	44	16	74	19	32	Sep-10
Loomis Sayles Sm Growth Instl	4.5	26.9	26.9	15.8	10.7	15.1	12.7	9.2	26.9	5.7	1.1	14.8	Sep-10
<i>Russell 2000 Growth</i>	4.6	22.2	22.2	16.6	10.3	15.2	12.3	9.2	22.2	11.3	-1.4	14.4	Sep-10
<i>Small Growth MStar MF Rank</i>	61	22	22	64	42	31	32	41	22	85	20	29	Sep-10
Victory Integrity Small Value Y	5.6	12.4	12.4	18.2	9.3	14.6	11.9	10.1	12.4	24.4	-6.7	13.9	Sep-10
<i>Russell 2000 Value</i>	2.0	7.8	7.8	19.2	9.5	13.0	10.8	8.2	7.8	31.7	-7.5	12.7	Sep-10
<i>Small Value MStar MF Rank</i>	4	19	19	22	41	16	18	11	19	61	62	15	Sep-10
<b>Total International Equity</b>	<b>2.9</b>	<b>26.6</b>	<b>26.6</b>	<b>14.1</b>	<b>7.0</b>	<b>8.3</b>	<b>5.5</b>	<b>--</b>	<b>26.6</b>	<b>2.7</b>	<b>-5.9</b>	<b>6.3</b>	<b>Sep-10</b>
<i>MSCI EAFE</i>	4.2	25.0	25.0	12.4	7.8	7.9	6.0	1.9	25.0	1.0	-0.8	6.8	Sep-10
<i>MSCI ACWI ex USA</i>	5.0	27.2	27.2	15.3	7.8	6.8	4.9	1.8	27.2	4.5	-5.7	5.8	Sep-10
William Blair International Growth I	4.6	29.5	29.5	12.3	8.1	7.8	6.5	2.4	29.5	-2.5	0.0	9.8	Jun-12
<i>MSCI ACWI ex USA</i>	5.0	27.2	27.2	15.3	7.8	6.8	4.9	1.8	27.2	4.5	-5.7	8.7	Jun-12
<i>Foreign Large Growth MStar MF Rank</i>	44	66	66	63	82	74	70	72	66	60	68	62	Jun-12
Dodge & Cox Internat'l Stock	1.2	23.9	23.9	15.8	6.0	8.5	6.3	3.2	23.9	8.3	-11.4	7.2	Sep-10
<i>MSCI EAFE</i>	4.2	25.0	25.0	12.4	7.8	7.9	6.0	1.9	25.0	1.0	-0.8	6.8	Sep-10
<i>Foreign Large Value MStar MF Rank</i>	95	43	43	22	81	17	25	15	43	18	95	26	Sep-10
<b>Total Alternatives</b>	<b>2.7</b>	<b>7.9</b>	<b>7.9</b>	<b>5.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>7.9</b>	<b>3.5</b>	<b>--</b>	<b>2.0</b>	<b>Mar-15</b>
<i>Total Alternatives Benchmark</i>	2.4	8.4	8.4	4.9	--	--	--	--	8.4	1.5	--	2.3	Mar-15
John Hancock Global Absolute Return I	1.7	3.7	3.7	0.6	1.0	2.3	--	--	3.7	-2.5	1.7	2.7	Mar-16
<i>HFRI Relative Value (Total) Index</i>	1.1	5.1	5.1	6.4	4.1	4.7	4.8	4.8	5.1	7.7	-0.3	7.5	Mar-16

## PERFORMANCE REPORT CARD

	Ending December 31, 2017								Calendar Years			Inception	
	2017 Q4 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Return (%)	Since
Cash + 5%	1.5	5.8	5.8	5.6	5.4	5.3	5.2	5.4	5.8	5.3	5.0	5.6	Mar-16
Wells Fargo Adv Absolute Return Instl	2.6	12.6	12.6	7.7	3.4	4.2	--	--	12.6	3.0	-4.6	2.2	Mar-15
HFRI Fund of Funds Composite Index	2.0	7.7	7.7	4.1	2.6	4.0	2.7	1.1	7.7	0.5	-0.3	2.1	Mar-15
Diamond Hill Long-Short I	2.9	6.0	6.0	8.2	4.9	8.9	8.1	4.6	6.0	10.5	-1.4	5.0	Mar-15
HFRI Equity Hedge (Total) Index	3.5	13.5	13.5	9.4	5.8	6.6	4.5	3.2	13.5	5.5	-1.0	5.6	Mar-15
Long-Short Equity MStar MF Rank	63	76	76	47	48	25	33	58	76	15	53	46	Mar-15
Brookfield Global Listed Real Estate I	3.8	10.1	10.1	8.2	4.9	7.7	--	--	10.1	6.3	-1.4	3.5	Jul-17
FTSE NAREIT Developed	3.6	10.4	10.4	7.2	4.4	6.3	7.2	3.3	10.4	4.1	-0.8	3.4	Jul-17
Global Real Estate MStar MF Rank	80	81	81	44	52	19	--	--	81	10	72	80	Jul-17
<b>Total Fixed Income</b>	<b>0.0</b>	<b>2.4</b>	<b>2.4</b>	<b>2.0</b>	<b>1.6</b>	<b>1.4</b>	<b>2.0</b>	<b>--</b>	<b>2.4</b>	<b>1.6</b>	<b>0.8</b>	<b>2.0</b>	<b>Jun-10</b>
Total Fixed Income Benchmark	-0.2	1.3	1.3	1.4	1.2	1.1	1.6	2.4	1.3	1.6	0.8	1.6	Jun-10
JPMorgan Core Bond	0.5	3.8	3.8	3.0	2.3	2.0	3.2	4.3	3.8	2.3	0.7	-0.2	Aug-17
BBgBarc US Aggregate TR	0.4	3.5	3.5	3.1	2.2	2.1	3.2	4.0	3.5	2.6	0.6	-0.1	Aug-17
Intermediate-Term Bond MStar MF Rank	33	57	57	72	61	68	74	61	57	83	23	72	Aug-17
YSU Intermediate Term Bond	-0.2	2.4	2.4	2.2	1.6	1.5	2.4	3.7	2.4	2.0	0.5	3.7	Mar-04
BBgBarc US Govt/Credit Int TR	-0.2	2.1	2.1	2.1	1.8	1.5	2.4	3.3	2.1	2.1	1.1	3.4	Mar-04
Intermediate-Term Bond MStar MF Rank	96	94	94	93	93	93	95	87	94	90	34	86	Mar-04
Prudential High Yield Q	0.4	7.8	7.8	11.5	6.6	5.9	--	--	7.8	15.3	-2.6	7.8	Dec-16
BBgBarc US High Yield TR	0.5	7.5	7.5	12.2	6.4	5.8	7.0	8.0	7.5	17.1	-4.5	7.5	Dec-16
High Yield Bond MStar MF Rank	61	27	27	31	14	16	--	--	27	30	38	27	Dec-16

## PERFORMANCE REPORT CARD

	Ending December 31, 2017								Calendar Years			Inception	
	2017 Q4 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Return (%)	Since
Prudential High Yield Z	0.4	7.8	7.8	11.5	6.6	5.9	7.0	7.8	7.8	15.3	-2.6	9.0	Dec-16
BBgBarc US High Yield TR	0.5	7.5	7.5	12.2	6.4	5.8	7.0	8.0	7.5	17.1	-4.5	8.7	Dec-16
High Yield Bond MStar MF Rank	63	27	27	32	15	16	19	18	27	30	38	32	Dec-16
YSU Short Term Bond	-0.1	1.1	1.1	1.1	1.0	0.8	1.1	2.0	1.1	1.1	0.6	2.5	Mar-04
BofA Merrill Lynch US Corp & Gov 1-3 Yrs	-0.2	0.9	0.9	1.1	0.9	0.9	1.0	1.9	0.9	1.3	0.7	2.3	Mar-04
Short-Term Bond MStar MF Rank	77	89	89	92	91	90	96	84	89	90	46	77	Mar-04
Vanguard Short-Term Bond Instl	-0.3	1.2	1.2	1.4	1.2	1.0	--	--	1.2	1.5	1.0	1.2	Dec-11
BBgBarc US Govt/Credit 1-5 Yr. TR	-0.3	1.3	1.3	1.4	1.3	1.1	1.6	2.5	1.3	1.6	1.0	1.3	Dec-11
Short-Term Bond MStar MF Rank	99	87	87	86	79	77	--	--	87	84	15	88	Dec-11
DFA Five-Yr Global Fxd-Inc I	-0.1	2.0	2.0	1.9	1.7	1.5	2.4	3.0	2.0	1.8	1.4	2.0	Jun-13
Citi WGBI 1-5 Yr Hdg USD	0.1	1.1	1.1	1.3	1.2	1.2	1.5	2.1	1.1	1.5	1.0	1.4	Jun-13
World Bond MStar MF Rank	91	93	93	99	71	45	59	69	93	80	3	63	Jun-13

- Total Policy Benchmark = 45% BofA Merrill Lynch 91-Day T-Bill / 17% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 11% BBgBarc US Govt/Credit Int TR / 8% Total Alternatives Benchmark / 15% Russell 3000 / 4% MSCI EAFE

- Total Operating & Short Term Benchmark = 95% BofA Merrill Lynch 91-Day T-Bill / 5% BBgBarc US Govt 1-3 Yr TR

- Total Long Term/ Reserves Fund Benchmark = 27% Russell 3000 / 8% MSCI EAFE / 15% Total Alternatives Benchmark / 30% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 20% BBgBarc US Govt/Credit Int TR

- Vanguard Mid Cap Index Benchmark = 100% CRSP US Mid Cap TR USD

- Total Alternatives Benchmark = 25% FTSE NAREIT Developed / 75% HFRI Fund of Funds Composite Index

- Cash + 5% = BofA Merrill Lynch 91-Day T-Bill Shifted

- Total Fixed Income Benchmark = 64% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 36% BBgBarc US Govt/Credit Int TR

# PERFORMANCE REPORT CARD- ENDOWMENT ASSETS

	Ending December 31, 2017								Calendar Years			Inception	
	2017 Q4 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2017 (%)	2016 (%)	2015 (%)	Return (%)	Since
YSU Endowment Fund	4.7	14.2	14.2	11.3	7.3	--	--	--	14.2	8.5	-0.3	9.0	Jun-13
<i>60/40 S&amp;P 500/BBgBarc US Aggregate</i>	4.1	14.2	14.2	11.2	7.8	10.3	9.6	7.0	14.2	8.3	1.3	9.8	Jun-13
Kilcawley Center	4.0	13.8	13.8	9.3	4.2	--	--	--	13.8	4.9	-5.3	7.3	Jun-13
<i>60/40 S&amp;P 500/BBgBarc US Aggregate</i>	4.1	14.2	14.2	11.2	7.8	10.3	9.6	7.0	14.2	8.3	1.3	9.8	Jun-13
The Alumni License Plate Account Endowment Fund	3.9	10.3	10.3	12.0	7.8	--	--	--	10.3	13.8	-0.2	7.9	Jun-13
<i>60/40 S&amp;P 500/BBgBarc US Aggregate</i>	4.1	14.2	14.2	11.2	7.8	10.3	9.6	7.0	14.2	8.3	1.3	9.8	Jun-13
Vanguard Balanced Index Adm	4.0	13.9	13.9	11.3	7.6	10.1	9.4	7.1	13.9	8.8	0.5	7.7	Jun-17
<i>Vanguard Balanced Benchmark</i>	3.9	13.8	13.8	11.3	7.6	10.1	9.5	6.9	13.8	8.8	0.7	7.7	Jun-17



## ENDOWMENT HOLDINGS

- YSU Endowment (Huntington)
  - Equity Mutual Funds – 10% (15 Mutual Funds & ETFs)
  - Stocks – 66% (50-60 Stocks, U.S. Large Cap)
  - Fixed Income Mutual Funds – 2% (Federated Total Return Bond)
  - Bonds – 10% (6 Bonds, U.S. Corporate Debt)
  - Cash – 12%
- Kilcawley (PNC)
  - Vanguard Balanced Index Fund (Adm) – 100%
- Alumni License Plate (PNC)
  - Vanguard Balanced Index Fund (Adm) – 100%

## THE YEAR IN REVIEW

**Capital Markets:** Strong growth, low inflation and rising prices in major markets made 2017 one of the most successful years in recent memory. Risk assets were up sharply, led by Emerging and Developed Market Equities (37.3% and 25.0%).

**U.S. Equities:** Extended their relentless march upward in 2017; one of the longest bull markets in history. U.S. Large Cap Equities returned 21.8%.

**“No Vol”:** Global equities experienced exceptionally low volatility with positive returns in every month. Only 3 days of >1% gain or loss.

**Economic Conditions:** Economic news in 2017 could hardly have been better. Global growth has synchronized and strengthened. Eurozone business surveys are at their highest levels. The U.S. economic expansion gathered momentum as reflected by 3.2% Q3 GDP growth. ISM surveys reflect strength, which along with consumer confidence, continue to support expansion. Inflation indicators point to weak price pressures in most economies.

**Monetary Policy:** The tide may be turning toward slightly less accommodative monetary policy. The Fed hiked their funds rate by 0.25% in December, matching market expectations. The Fed has begun to unwind its balance sheet and the pace of normalization should increase meaningfully in 2018.

**Valuations:** U.S. equity valuations are above long-term averages; 18.8x one year forward P/E on MSCI US Equity Index. Emerging Market and European equities carry more reasonable valuations.

**Earnings:** 2017 earnings estimates reflect a 9.5% year-over-year increase for the S&P 500. 2018 estimate stands at +13.1% but tax reform impact may not yet be fully incorporated.

**Tax Reform:** Reform supports U.S. economic growth and valuations. Estimated impact on GDP varies, +0.2-0.7%. Early estimates are for a 5-15% boost to U.S. earnings, though largely uncertain with large dispersion.

**Fixed Income:** The U.S. Treasury yield curve flattened and credit spreads tightened.

## LOOKING FORWARD

The economic and policy environment underpin a pro-risk tilt in portfolios, however, the maturing cycle and monetary policy reinforce the need for broad diversification of risk. Rewards for risk taking may be more muted. Remain disciplined and globally diversified with reasonable return assumptions.

**“Are we there yet?”:** The ride is not over, but we are getting closer. The road ahead in the next few years may be more challenging and offer lower rewards, though 2018 looks poised to be another good year for risk assets.

**Economic:** Synchronized, above trend global economic growth will likely persist in 2018. Challenges and risks could build later in the year and beyond, namely less supportive monetary policies.

**Monetary Policy:** A slow, steady approach is likely to continue under the Fed’s new leadership. Expectations are for three 0.25% rate increases in 2018. Accelerating GDP growth could quicken the pace of rate hikes. Markets have become addicted to easy monetary policies which poses a risk as the tide turns to less accommodative policies.

**Valuations:** Current valuations mean there is less of a cushion to absorb any shocks. Favor international equities where valuations are more reasonable, growth is improving and monetary policies are more supportive.

**Earnings:** Strong U.S. earnings growth support valuations; uncertain near-term impact of tax reform could boost earnings.

**Fixed Income:** Liquid credit assets are not priced to generate significant gains, yet an improving economic environment could keep defaults low and enable investors to “clip coupon”. Short duration asset yields are improving.

**Risks:** Waning Central Bank monetary policy, politics, above average valuations and low yields.

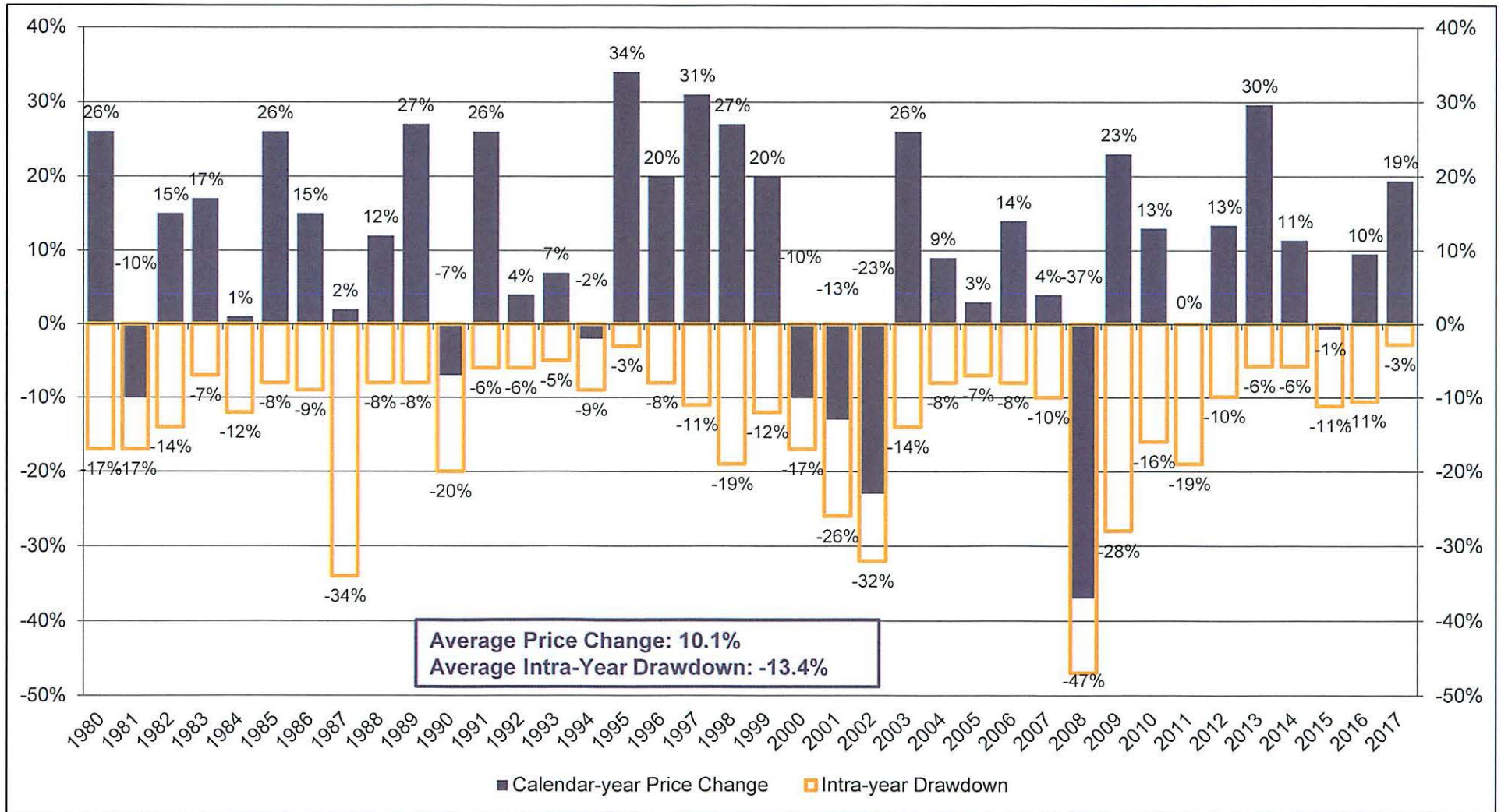
Past performance is not a guarantee of future results

## HISTORICAL ASSET CLASS RETURNS

2008	2009	2010	2011	2012	2013	2014	2015	2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	2017
Glb Bond 9.4%	Em Mkt 78.5%	REITs 27.6%	US Bonds 7.8%	REITs 20.1%	Sm/Mid 36.8%	REITs 27.2%	REITs 2.3%	Sm/Mid 17.6%	Em Mkt 11.5%	Em Mkt 6.3%	Em Mkt 7.9%	Em Mkt 7.4%	Em Mkt 37.3%
US Bonds 5.2%	Hi Yld 57.5%	Sm/Mid 26.7%	REITs 7.3%	Em Mkt 18.2%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	Hi Yld 17.5%	Dev Intl 7.3%	Dev Intl 6.1%	Dev Intl 5.4%	Large Cap 6.6%	Dev Intl 25.0%
Cash 2.1%	Sm/Mid 34.4%	Em Mkt 18.9%	Glb Bond 5.2%	Dev Intl 17.3%	Dev Intl 22.8%	Sm/Mid 7.1%	US Bonds 0.6%	Large Cap 12.0%	Large Cap 6.1%	Large Cap 3.1%	Sm/Mid 4.7%	Sm/Mid 5.2%	Large Cap 21.8%
Hdg Fnds -21.4%	Dev Intl 31.8%	Hi Yld 15.2%	Hi Yld 4.4%	Sm/Mid 17.9%	Hdg Fnds 9.0%	US Bonds 6.0%	Cash 0.1%	Em Mkt 11.2%	Sm/Mid 3.8%	Glb Bond 2.8%	Large Cap 4.5%	Dev Intl 4.2%	Sm/Mid 16.8%
Hi Yld -26.4%	REITs 27.5%	Large Cap 15.1%	Large Cap 2.1%	Large Cap 16.0%	Hi Yld 7.4%	Hdg Fnds 3.4%	Hdg Fnds -0.3%	REITs 9.3%	REITs 3.0%	REITs 2.4%	Hdg Fnds 2.3%	REITs 2.4%	Glb Bond 9.3%
Sm/Mid -36.8%	Large Cap 26.5%	Dev Intl 7.8%	Cash 0.1%	Hi Yld 15.6%	REITs 3.2%	Hi Yld 2.5%	Dev Intl -0.8%	US Bonds 2.7%	Hi Yld 2.7%	Hi Yld 2.1%	Glb Bond 2.1%	Hdg Fnds 2.0%	REITs 9.3%
Large Cap -37.0%	Hdg Fnds 11.5%	US Bonds 6.6%	Sm/Mid -2.5%	Hdg Fnds 4.8%	Cash 0.1%	Cash 0.0%	Sm/Mid -2.9%	Glb Bond 1.9%	Glb Bond 2.7%	Sm/Mid 2.1%	Hi Yld 2.0%	Glb Bond 1.5%	Hdg Fnds 7.8%
REITs -37.3%	US Bonds 5.9%	Glb Bond 6.1%	Hdg Fnds -5.7%	US Bonds 4.2%	US Bonds -2.0%	Em Mkt -2.2%	Hi Yld -4.6%	Dev Intl 1.0%	Hdg Fnds 2.4%	US Bonds 1.5%	REITs 1.2%	Hi Yld 0.4%	Hi Yld 7.5%
Dev Intl -43.4%	Glb Bond 4.4%	Hdg Fnds 5.7%	Dev Intl -12.1%	Glb Bond 1.8%	Em Mkt -2.6%	Glb Bond -2.8%	Glb Bond -4.8%	Hdg Fnds 0.5%	US Bonds 0.8%	Hdg Fnds 0.8%	US Bonds 0.9%	US Bonds 0.4%	US Bonds 3.5%
Em Mkt -53.3%	Cash 0.2%	Cash 0.1%	Em Mkt -18.4%	Cash 0.1%	Glb Bond -4.9%	Dev Intl -4.9%	Em Mkt -14.9%	Cash 0.3%	Cash 0.1%	Cash 0.2%	Cash 0.3%	Cash 0.3%	Cash 0.9%

Past performance is no guarantee of future results. Asset classes represented by: Large Cap – S&P 500 Index; Sm/Mid – Russell 2500 Index; Dev Intl – MSCI EAFE Index; Em Mkt – MSCI Emerging Markets Index; Hi Yld – Bank of America Merrill Lynch U.S. High Yield Master II; US Bonds – Barclays Capital U.S. Aggregate; Glb Bond – Barclays Capital Global Treasury ex US; REITs – NAREIT ALL REITs; Hdg Fnds – HFRI FOF: Diversified Index; Cash – Merrill Lynch 91-day Tbill. Data as of 12/31/2017. Source: Zephyr Associates.

## ANNUAL RETURNS AND DRAWDOWNS



## ECONOMIC PROJECTIONS

### Federal Reserve Board Members and Bank Presidents

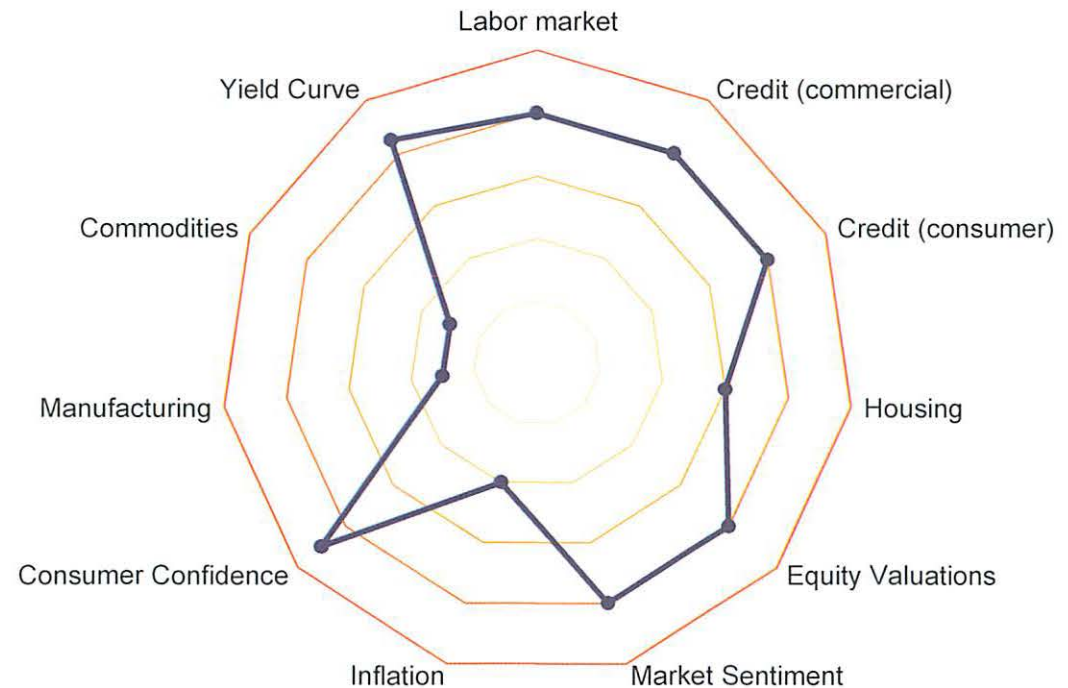
	2017	2018	2019	2020	Longer Run*
GDP	2.5%	2.5%	2.1%	2.0%	1.8%
Unemployment Rate	4.1%	3.9%	3.9%	4.0%	4.6%
Core PCE Inflation	1.5%	1.9%	2.0%	2.0%	
Federal Funds Rate	1.4%	2.1%	2.7%	3.1%	2.8%
# of Implied 25 bps Rate Hikes		3	2	2	

\*Longer-run projections: The rates to which a policymaker expects the economy to converge over time – maybe in five or six years – in the absence of further shocks and under appropriate monetary policy.

Source: Federal Reserve 12/13/2017

## U.S. ECONOMY: A SNAPSHOT

*The economic recovery and expansion since the Great Recession has been lumpy, with areas of the economy growing at different rates. As the chart shows, nearly 10 years after the recession ended, different segments of the economy are indicating varied signals. As we head into 2018, there is an expectation that tax reform will be stimulative, and that expectation may further extend the expansion.*



Source: Hartland. The inner sections of the concentric hendecagon imply earlier stages of the economic cycle, with outer parts indicating later stages.

## GLOBAL GROWTH GATHERING MOMENTUM

	Jan 16	Feb 16	Mar 16	April 16	May 16	June 16	July 16	Aug 16	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	May 17	June 17	July 17	Aug 17	Sep 17	Oct 17	Nov 17	Dec 17
World	52.3	50.7	51.4	51.3	50.9	51.1	51.7	51.5	51.7	53.1	53.2	53.6	53.9	53.5	53.8	53.7	53.8	53.7	53.6	54.0	54.0	54.0	54.1	54.4
U.S.	53.4	53.8	54.5	55.1	53.3	55.7	54.6	51.4	56.0	54.3	55.9	56.4	56.4	57.6	55.4	57.5	56.9	57.4	54.2	55.7	59.9	59.9	57.5	56.3
Canada	49.3	49.4	51.5	52.2	52.1	51.8	51.9	51.1	50.3	51.1	51.5	51.8	53.5	54.7	55.5	55.9	55.1	54.7	55.5	54.6	55.0	54.3	54.4	54.7
U.K.	55.8	52.7	53.7	52.0	53.2	52.6	47.4	53.5	53.7	54.8	55.3	56.7	55.2	53.8	54.9	56.2	54.3	53.8	54.1	54.0	54.1	55.8	54.8	54.9
Eurozone	53.6	53.0	53.1	53.0	53.1	53.1	53.2	52.9	52.6	53.3	53.9	54.4	54.4	56.0	56.4	56.8	56.8	56.3	55.7	55.7	56.7	56.0	57.5	58.1
Germany	54.5	54.1	54.0	53.6	54.5	54.4	55.3	53.3	52.8	55.1	55.0	55.2	54.8	56.1	57.1	56.7	57.4	56.4	54.7	55.8	57.7	56.6	57.3	58.9
France	50.2	49.3	50.0	50.2	50.9	49.6	50.1	51.9	52.7	51.6	51.4	53.1	54.1	55.9	56.8	56.6	56.9	56.6	55.6	55.2	57.1	57.4	60.3	59.6
Italy	53.8	53.7	52.4	53.1	50.8	52.6	52.2	51.9	51.1	51.1	53.4	52.9	52.8	54.8	54.2	56.8	55.2	54.5	56.2	55.8	54.3	53.9	56.0	56.5
Greece	50.0	48.4	49.0	49.7	48.4	50.4	48.7	50.4	49.2	48.6	48.3	49.3	46.6	47.7	46.7	48.2	49.6	50.5	50.5	52.2	52.8	52.1	52.2	53.1
Ireland	61.1	59.5	60.7	58.1	59.1	59.2	56.5	56.9	54.8	54.0	55.5	58.4	59.3	57.8	56.9	61.1	59.5	57.6	57.0	58.2	57.6	56.0	57.7	60.2
Japan	52.6	51.0	49.9	48.9	49.2	49.0	50.1	49.8	48.9	51.3	52.0	52.8	52.3	52.2	52.9	52.6	53.4	52.9	51.8	51.9	51.7	53.4	52.2	52.2
Australia	51.5	53.5	58.1	53.4	51.0	51.8	56.4	46.9	49.8	50.9	54.2	55.4	51.2	59.3	57.5	59.2	54.8	55.0	56.7	54.1	53.1	53.1	54.3	55.5
EM	50.1	49.0	50.5	49.9	49.5	49.9	51.5	51.3	51.1	51.8	51.4	51.9	51.9	52.1	52.5	51.9	52.2	51.5	51.5	52.1	51.8	51.5	51.9	53.0
China	50.1	49.4	51.3	50.8	50.5	50.3	51.9	51.8	51.4	52.9	52.9	53.5	52.2	52.6	52.1	51.2	51.5	51.1	51.9	52.4	51.4	51.0	51.6	53.0
India	53.3	51.2	54.3	52.8	50.9	51.1	52.4	54.6	52.4	55.4	49.1	47.6	49.4	50.7	52.3	51.3	52.5	52.7	46.0	49.0	51.1	51.3	50.3	53.0
Russia	48.4	50.6	50.8	51.3	51.2	53.5	53.5	52.9	53.1	53.7	55.8	56.6	58.3	55.4	56.3	55.3	56.0	54.8	53.4	54.2	54.8	53.2	56.3	56.0
Brazil	45.1	39.0	40.8	39.0	38.3	42.3	46.4	44.4	46.1	44.9	45.3	45.2	44.7	46.6	48.7	50.4	50.4	48.5	49.4	49.6	51.1	49.5	48.9	48.8
S. Africa	49.6	49.1	47.0	47.9	50.2	49.6	49.9	49.8	50.7	50.5	50.8	51.6	51.3	50.5	50.7	50.3	50.2	49.0	50.1	49.8	48.5	49.6	48.8	48.4

- The developed world, including the United States and the Eurozone are showing accelerated growth, while the Emerging Markets continue to report modest expansionary PMI data as of December 2017.
- Out of the 15 countries listed, 13 are reporting PMI figures above 50, which indicates expansion. Greece, having been a weak link in the eurozone, continues to expand beyond the “50” line. Despite the speculation of a slowdown during the latter half of 2017, China continued to exhibit growth.
- U.S. is showing the strongest expansion with a PMI of 56.3, and Ireland, France, and Germany are leading the group in the Eurozone. South Africa and Brazil continue to struggle with PMIs below 50.

Source: Bloomberg. The above numbers represent the composite Purchasing Managers Index (PMI), unless otherwise indicated. PMI indicates the health of the economy, where a number above “50” indicates expansion and below “50” implies contraction. World (JPMorgan); U.S. (ISM); Canada, Eurozone, Germany, France, Greece, EM, Russia, Brazil (Markit); U.K. (Markit/CIPS); Italy (Markit/ADACI); Ireland (Investec); Japan, India (Nikkei); Australia (Australian Industry Group); China (Caixin); South Africa (Standard Bank). All numbers are “composite,” both manufacturing and non-manufacturing, except for Canada, Greece, and Australia. The indexes for those countries are for the manufacturing sector, based on availability.



## INTERNATIONAL RETURNS & CURRENCY IMPACT

### Developed Markets (MSCI EAFE)

	USD Return	Local Return	Weighting
AUSTRALIA	6.8%	7.1%	6.9%
AUSTRIA	5.8%	4.2%	0.3%
BELGIUM	-1.5%	-3.1%	1.1%
DENMARK	2.2%	0.7%	1.8%
FINLAND	-2.6%	<b>-4.1%</b>	0.9%
FRANCE	1.5%	-0.1%	10.7%
GERMANY	2.8%	1.2%	9.8%
HONG KONG	6.6%	6.7%	3.6%
IRELAND	3.5%	1.9%	0.5%
ISRAEL	4.1%	3.1%	0.5%
ITALY	-2.3%	-3.8%	2.3%
JAPAN	8.5%	<b>8.6%</b>	<b>24.0%</b>
NETHERLANDS	0.8%	-0.6%	3.6%
NEW ZEALAND	1.5%	3.2%	0.2%
NORWAY	1.9%	4.7%	0.7%
PORTUGAL	-2.0%	-3.5%	<b>0.2%</b>
SINGAPORE	<b>10.1%</b>	8.4%	1.3%
SPAIN	-1.6%	-3.1%	3.2%
SWEDEN	<b>-3.8%</b>	-3.5%	2.7%
SWITZERLAND	1.8%	2.5%	8.0%
UNITED KINGDOM	5.7%	4.9%	17.8%

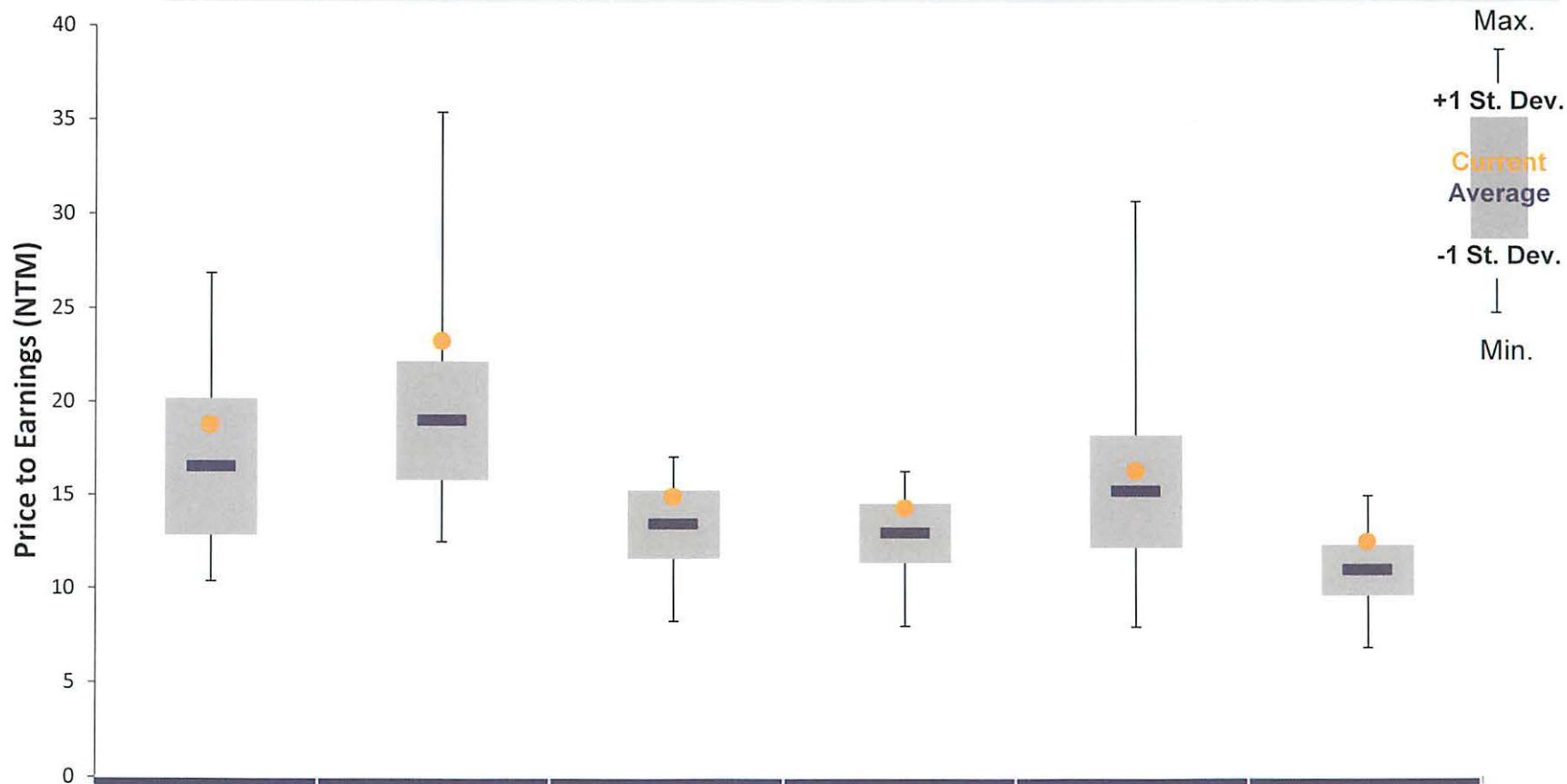
Quarter	<b>4.2%</b>	<b>3.7%</b>
YTD	<b>25.0%</b>	<b>15.2%</b>

### Emerging Markets (MSCI EM)

	USD Return	Local Return	Weighting
BRAZIL	-2.0%	2.8%	6.8%
CHILE	7.2%	3.2%	1.3%
CHINA	7.6%	7.7%	<b>29.7%</b>
COLOMBIA	0.8%	2.4%	0.4%
CZECH REPUBLIC	7.8%	4.2%	0.2%
EGYPT	-2.1%	<b>-1.4%</b>	<b>0.1%</b>
GREECE	13.3%	<b>11.6%</b>	0.3%
HUNGARY	7.1%	5.3%	0.3%
INDIA	11.8%	9.3%	8.8%
INDONESIA	8.2%	9.0%	2.2%
KOREA	11.4%	4.1%	15.4%
MALAYSIA	7.9%	3.4%	2.4%
MEXICO	<b>-8.1%</b>	-1.0%	2.9%
PERU	7.3%	7.3%	0.4%
PHILIPPINES	6.5%	4.6%	1.1%
POLAND	5.8%	0.9%	1.3%
RUSSIA	4.3%	4.3%	3.3%
SOUTH AFRICA	<b>21.4%</b>	11.3%	7.1%
TAIWAN	4.0%	2.1%	11.3%
THAILAND	9.5%	7.0%	2.3%
TURKEY	4.3%	11.2%	1.1%

Quarter	<b>7.4%</b>	<b>5.7%</b>
YTD	<b>37.3%</b>	<b>30.6%</b>

## GLOBAL EQUITY VALUATIONS



	MSCI USA	MSCI USA Small	MSCI EAFE	MSCI ACWI ex USA	MSCI ACWI ex USA Small	MSCI EM
Current P/E (NTM)	18.8	23.3	14.9	14.3	16.3	12.5
Average P/E (NTM)	16.5	19.0	13.4	13.0	15.2	11.0

Source: MSCI. Data as of 12/31/2017. Average taken over full index history.

## DEFINITIONS AND DISCLOSURES

Information provided is general in nature, is provided for informational purposes only, and should not be construed as investment advice. Any views expressed are based upon the data available at the time the information was produced and are subject to change at any time based on market or other conditions. Hartland disclaims any liability for any direct or incidental loss incurred by applying any of the information in this presentation. All investment decisions must be evaluated as to whether it is consistent with their investment objectives, risk tolerance, and financial situation.

Past performance is no guarantee of future results. Investing involves risk, including risk of loss. Diversification does not ensure a profit or guarantee against loss.

All indices are unmanaged and performance of the indices includes reinvestment of dividends and interest income and, unless otherwise noted, an investment cannot be made in any index.

Although bonds generally present less short-term risk and volatility than stocks, bonds do contain interest rate risk (as interest rates rise, bond prices usually fall and vice versa) and the risk of default, or the risk that an issuer will be unable to make income or principal payments. Additionally, bonds and short-term investments entail greater inflation risk, or the risk that the return of an investment will not keep up with increases in the prices of goods and services, than stocks.

Lower-quality debt securities generally offer higher yields, but also involve greater risk of default or price changes due to potential changes in the credit quality of the issuer. Any fixed income security sold or redeemed prior to maturity may be subject to loss.

The municipal market is volatile and can be significantly affected by adverse tax, legislative, or political changes and by the financial condition of the issuers of municipal securities. Interest rate increases can cause the price of a debt security to decrease. A portion of the dividends you receive may be subject to federal, state, or local income tax or may be subject to the federal alternative minimum tax. Generally, tax-exempt municipal securities are not appropriate holdings for tax advantaged accounts such as IRAs and 401(k)s.

Stock markets, especially foreign markets, are volatile and can decline significantly in response to adverse issuer, political, regulatory, market, or economic developments. Foreign securities are subject to interest-rate, currency-exchange-rate, economic, and political risks, all of which are magnified in emerging markets. The securities of smaller, less well-known companies can be more volatile than those of larger companies. Growth stocks can perform differently from the market as a whole and other types of stocks and can be more volatile than other types of stocks. Value stocks can perform differently than other types of stocks and can continue to be undervalued by the market for long periods of time.

The commodities industry can be significantly affected by commodity prices, world events, import controls, worldwide competition, government regulations, and economic conditions.

Changes in real estate values or economic conditions can have a positive or negative effect on issuers in the real estate industry, which may affect your investment.

### Index Definitions:

The **S&P 500 Index** is a broad-based market index, comprised of 500 large-cap companies, generally considered representative of the stock market as a whole. The **S&P 400 Index** is an unmanaged index considered representative of mid-sized U.S. companies. The **S&P 600 Index** is a market-value weighted index that consists of 600 small-cap U.S. stocks chosen for market size, liquidity and industry group representation.

The **Russell 1000 Value Index**, **Russell 1000 Index** and **Russell 1000 Growth Index** are indices that measure the performance of large-capitalization value stocks, large-capitalization stocks and large-capitalization growth stocks, respectively. The **Russell 2000 Value Index**, **Russell 2000 Index** and **Russell 2000 Growth Index** are indices that measure the performance of small-capitalization value stocks, small-capitalization stocks and small-capitalization growth stocks, respectively. The **Russell Midcap Value Index**, **Russell Midcap Index** and **Russell Midcap Growth Index** are indices that measure the performance of mid-capitalization value stocks, mid-capitalization stocks and mid-capitalization growth stocks, respectively. The **Russell 2500 Value Index**, **Russell 2500 Index** and **Russell 2500 Growth Index** measure the performance of small to mid-cap value stocks, small to mid-cap stocks and small to mid-cap growth stocks, respectively, commonly referred to as "smid" cap. The **Russell 3000 Value Index**, **Russell 3000 Index** and **Russell 3000 Growth Index** measure the performance of the 3,000 largest U.S. value stocks, 3,000 largest U.S. stocks and 3,000 largest U.S. growth stocks, respectively, based on total market capitalization.

The **Wilshire 5000 Index** represents the broadest index for the U.S. equity market, measuring the performance of all U.S. equity securities with readily available price data. The **Wilshire Micro Cap Index** is a market capitalization-weighted index comprised of all stocks in the Wilshire 5000 Index below the 2,501<sup>st</sup> rank.

The **MSCI EAFE (Europe, Australasia, Far East) Index** is designed to measure developed market equity performance, excluding the U.S. and Canada. The **MSCI Emerging Markets (EM) Index** is designed to measure global emerging market equity performance. The **MSCI World Index** is designed to measure global developed market equity performance. The **MSCI World Index Ex-U.S. Index** is designed to measure the equity market performance of developed markets and excludes the U.S. The **MSCI Europe Index** is an unmanaged index considered representative of developed European countries. The **MSCI Japan Index** is an unmanaged index considered representative of stocks of Japan. The **MSCI Pacific ex. Japan Index** is an unmanaged index considered representative of stocks of Asia Pacific countries excluding Japan.

The **U.S. 10-Year treasury Yield** is generally considered to be a barometer for long-term interest rates.

**Merrill Lynch 91-day T-bill index** includes U.S. Treasury bills with a remaining maturity from 1 up to 3 months.

The **Barclays Capital® (BC) U.S. Treasury Index** is designed to cover public obligations of the U.S. Treasury with a remaining maturity of one year or more. The **BC Aggregate Bond Index** is an unmanaged, market value-weighted performance benchmark for investment-grade fixed-rate debt issues, including government, corporate, asset-backed, and mortgage-backed securities with maturities of at least one year. The **BC U.S. Credit Bond Index** is designed to cover publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements; bonds must be SEC-registered to qualify. The **BC U.S. Agency Index** is designed to cover publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government. The **BC CMBS Index** is designed to mirror commercial mortgage-backed securities of investment-grade quality (Baa3/BBB-/BBB- or above) using Moody's, S&P, and Fitch respectively, with maturity of at least one year. The **BC MBS Index** covers agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARMs) issued by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The **BC U.S. Municipal Bond Index** covers the U.S. dollar-denominated, long-term tax-exempt bond market with four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds. The **BC TIPS Index** is an unmanaged market index made up of U.S. Treasury Inflation Linked Index securities. The **BC U.S. Government Bond Index** is a market value-weighted index of U.S. Government fixed-rate debt issues with maturities of one year or more. The **BC ABS Index** is a market value-weighted index that covers fixed-rate asset-backed securities with average lives greater than or equal to one year and that are part of a public deal; the index covers the following collateral types: credit cards, autos, home equity loans, stranded-cost utility (rate-reduction bonds), and manufactured housing. The **BC Global Aggregate Index** is composed of three sub-indices, the U.S. Aggregate Index, Pan-European Aggregate Index, and the Asian-Pacific Aggregate Index. In aggregate the index is created to be a broad-based measure of the performance of investment grade fixed rate debt on a global scale. The **BC US Corporate Long Aa Index** is an unmanaged index representing public obligations of U.S. corporate and specified foreign debentures and secured notes with a remaining maturity of 10 years or more. The **BC U.S. Corporate High-Yield Index** measures the market of USD-denominated, non-investment grade, fixed-rate, taxable corporate bonds. The **BC Intermediate Corporate Index** includes dollar-denominated debt from U.S. and non-U.S. industrial, utility, and financial institutions issuers with a duration of 1-10 years. The **BC U.S. Treasury Long Index** is an unmanaged index representing public obligations of the U.S. Treasury with a remaining maturity of one year or more. The **BC U.S. Government 10 Year Treasury Index** measures the performance of U.S. Treasury securities that have a remaining maturity of less than 10 years. The **BC BAA Corporate Index** measures the performance of the taxable Baa rated fixed-rate U.S. dollar-denominated corporate bond market. The **BC Global Treasury ex US Index** includes government bonds issued by investment-grade countries outside the United States, in local currencies, that have a remaining maturity of one year or more and are rated investment grade or higher. The **BC Emerging Market Bond Index** is an unmanaged index that total returns for external-currency-denominated debt instruments of the emerging markets. The **BC U.S. Securitized Bond Index** is a composite of asset-backed securities, collateralized mortgage-backed securities (ERISA-eligible) and fixed rate mortgage-backed securities. The **BC Quality Distribution AAA, B, and CC-D Indices** measure the respective credit qualities of U.S. corporate and specified foreign debentures and secured notes. The **BC Universal Index** represents the union of the U.S. Aggregate Index, the U.S. High Yield Corporate Index, the 144A Index, the Eurodollar Index, the Emerging Markets Index, and the non-ERISA portion of the CMBS Index. The **BC 1-3 Year Government Credit Index** is an unmanaged index considered representative of performance of short-term U.S. corporate bonds and U.S. government bonds with maturities from one to three years. The **BC Long-term Government Index** is an unmanaged index reflecting performance of the long-term government bond market. The **BC Intermediate Aggregate Index** measures the performance of intermediate-term investment grade bonds. The **BC Intermediate 1-3 Year Government/Credit Index** measures the performance of U.S. Dollar denominated U.S. Treasuries, government-related and investment grade U.S. corporate securities that have a remaining maturity of greater than one year and less than ten years.

The **Bank of America ML U.S. High Yield Index** tracks the performance of below investment grade US Dollar Denominated corporate bonds publicly issued in the US market. Qualifying bonds have at least one year remaining term to maturity, are fixed coupon schedule and minimum outstanding of \$100 million.

## DEFINITIONS AND DISCLOSURES

**Signal Identification Model (SIM)** - The balance between fixed income and equity securities is guided by a proprietary, quantitative modeling technique we call "SIM". SIM is a four factor model that measures short-term under or over-valuation of equity markets. When SIM is negative, for example, the Investment Review Committee (IRC) may recommend that Consultants reduce equity ratios within prescribed ranges in client portfolios; when positive, that Consultants increase equity ratios within prescribed ranges. Other judgments, such as short-term, relative weights between different asset classes often come from fundamental assessments of IRC members. Unemployment – Total labor force seasonally adjusted (U.S. Bureau of Labor Statistics) ; ISM - An index based on surveys of more than 300 manufacturing firms by the Institute of Supply Management; Spread – indicates the difference in yield between Moody's AAA corporate bonds and Moody's BAA corporate bonds; S&P Earnings Yield – earnings per share for the most recent 12-month period divided by the current market price per share of the stocks in the S&P 500.

**Hartland Research Portfolio (HPR)** - Our Optimal Long-Term Strategic Asset Allocation, called the Hartland Research Portfolio, sets forth our best thinking on the mix of different asset classes; it is the benchmark we use in considering appropriate asset allocation for all client portfolios. The Hartland Research Portfolio is developed with two major inputs. One is quantitative, based on the Black-Litterman model, and one is qualitative, based on the input of the professionals on our Investment Research Committee (IRC). The Hartland & Co. research team begins with the Black-Litterman model, a mathematical model that seeks asset allocations that are optimal; those that produce the best results with the lowest level of volatility or risk. Black-Litterman is more dynamic than other models and builds on traditional mean-variance techniques to create stable and consistent return forecasts for a set of asset classes. The IRC assess the quantitative output from Black-Litterman and integrate it with their own fundamental or qualitative judgments. The result is the Hartland Research Portfolio, which combines quantitative and qualitative inputs and our capital market projections.

The **HFRI Funds of Funds Index (HFRI FOF)** is an equal weighted index designed to measure the performance of hedge fund of fund managers. The more than 800 multi-strategy constituents are required to have at least \$50 million in assets under management and a trading track record spanning at least 12 months. The index includes both on and offshore funds and all returns are reported in USD

The **NCREIF Property Index (NPI)** represents quarterly time series composite total rate of return measure of a very large pool of individual commercial real estate properties acquired in the private market. The index represents apartments, hotels, industrial properties, office buildings and retail properties which are at least 60% occupied and owned or controlled, at least in part by tax-exempt institutional investors or its designated agent. In addition these properties that are included must be investment grade, non-agricultural and income producing and all development projects are excluded. Constituents included in the NPI be valued at least quarterly, either internally or externally, using standard commercial real estate appraisal methodology. Each property must be independently appraised a minimum of once every three years.

The **FTSE NAREIT All REITs Index** is a market capitalization-weighted index that is designed to measure the performance of all tax-qualified Real Estate Investment Trusts (REITs) that are listed on the New York Stock Exchange, the American Stock Exchange, or the NASDAQ National Market List.

The **Dow Jones U.S. Select Real Estate Securities Index** is a float-adjusted market capitalization-weighted index of publicly traded real estate securities such as real estate investment trusts (REITs) and real estate operating companies (REOCs).

The **Cambridge PE Index** is a representation of returns for over 70% of the total dollars raised by U.S. leveraged buyout, subordinated debt and special situation managers from 1986 to December 2007. Returns are calculated based on the pooled time weighted return and are net of all fees. These pooled means represent the end to end rate of return calculated on the aggregate of all cash flows and market values reported by the general partners of the underlying constituents in the quarterly and annual reports.

The **University of Michigan Consumer Sentiment Index** is a consumer confidence index published monthly by the University of Michigan and Thomson Reuters. The index is normalized to have a value of 100 in December 1964.

**VIX** - The CBOE Volatility Index (VIX) is based on the prices of eight S&P 500 index put and call options.

**Gold** – represented by the dollar spot price of one troy ounce

**WTI Crude** – West Texas Intermediate is a grade of crude oil used as a benchmark in oil pricing.

The **Affordability Index** measures of a population's ability to afford to purchase a particular item, such as a house, indexed to the population's income

The **Homeownership %** is computed by dividing the number of owner-occupied housing units by the number of occupied housing units or households.

**HFRI Emerging Markets: Asia ex-Japan, Global Index, Latin America Index, Russia/Eastern Europe Index:** The constituents of the HFRI Emerging Markets Indices are selected according to their Regional Investment Focus only. There is no Investment Strategy criteria for inclusion in these indices. Funds classified as Emerging Markets have a regional investment focus in one of the following geographic areas: Asia ex-Japan, Russia/Eastern Europe, Latin America, Africa or the Middle East. **HFRI EH: Energy/Basic Materials** strategies which employ investment processes designed to identify opportunities in securities in specific niche areas of the market in which the Manager maintains a level of expertise which exceeds that of a market generalist. **HFRI EH: Equity Market Neutral** strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. **HFRI EH: Quantitative Directional** strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. **HFRI EH: Short-Biased** strategies employ analytical techniques in which the investment thesis is predicated on assessment of the valuation characteristics on the underlying companies with the goal of identifying overvalued companies. **HFRI EH: Technology/Healthcare** strategies employ investment processes designed to identify opportunities in securities in specific niche areas of the market in which the Manager maintain a level of expertise which exceeds that of a market generalist in identifying opportunities in companies engaged in all development, production and application of technology, biotechnology and as related to production of pharmaceuticals and healthcare industry. **HFRI ED: Distressed Restructuring** strategies which employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings. **HFRI ED: Merger Arbitrage** strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction. **HFRI ED: Private Issue/Regulation D** strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are primarily private and illiquid in nature. **HFRI Macro: Systematic Diversified** strategies have investment processes typically as function of mathematical, algorithmic and technical models, with little or no influence of individuals over the portfolio positioning. **HFRI RV: Fixed Income - Asset Backed** includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a fixed income instrument backed physical collateral or other financial obligations (loans, credit cards) other than those of a specific corporation. **HFRI RV: Fixed Income - Convertible Arbitrage** includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a convertible fixed income instrument. **HFRI RV: Fixed Income - Corporate** includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a corporate fixed income instrument. **HFRI RV: Multi-Strategies** employ an investment thesis is predicated on realization of a spread between related yield instruments in which one or multiple components of the spread contains a fixed income, derivative, equity, real estate, MLP or combination of these or other instruments. **HFRI RV: Yield Alternatives Index** strategies employ an investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread contains a derivative, equity, real estate, MLP or combination of these or other instruments. Strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager.

The **Consumer Price Index (CPI)** is an inflationary indicator that measures the change in the cost of a fixed basket of products and services, including housing, electricity, food, and transportation. The CPI is published monthly. Unless otherwise noted, the CPI figure is as of the date this report is created.

The **Credit Suisse Leveraged Loan Index** is a market value-weighted index designed to represent the investable universe of the U.S. dollar-denominated leveraged loan market.

The **Dow Jones-UBS Commodity Index** measures the performance of the commodities market. It consists of exchange-traded futures contracts on physical commodities that are weighted to account for the economic significance and market liquidity of each commodity.

**RESOLUTION TO APPROVE  
HARTLAND'S RECOMMENDATION TO REBALANCE THE  
NON-ENDOWMENT LONG-TERM INVESTMENT POOL**

**WHEREAS**, the Investment Subcommittee of the Board of Trustees of Youngstown State University is responsible for identification of asset classes, strategic asset allocation, acceptable asset ranges above and below the strategic asset allocation, and selecting investment managers, pursuant to University policy 3356-03-10; and

**WHEREAS**, the Investment Subcommittee has consulted with the University's investment advisors and recommends rebalancing the Non-Endowment Long-Term Investment Pool.

**NOW, THEREFORE, BE IT RESOLVED**, that the Investment Subcommittee of the Board of Trustees of Youngstown State University does hereby approve the rebalance, as shown on page 18 of the March 14, 2018, Investment Subcommittee Agenda item C.1.a.



# REBALANCE RECOMMENDATION (ACTION)

Youngstown State University

	Market Value as of 2/6/2018		Change	New Allocation		Policy Target	Policy Range	Difference
	\$	%		\$	%			
<b>Total Operating &amp; Short Term</b>	<b>\$28,740,591</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$28,740,591</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Operating Assets</b>	<b>\$27,669,924</b>	<b>96.3%</b>	<b>\$0</b>	<b>\$27,669,924</b>	<b>96.3%</b>		60-100%	
JPMorgan 100% U.S. Treas. MM Instl	\$22,602,280	78.6%		\$22,602,280	78.6%			
Star Plus Account*	\$5,067,644	17.6%		\$5,067,644	17.6%			
<b>Short-Term Assets</b>	<b>\$1,070,666</b>	<b>3.7%</b>	<b>\$0</b>	<b>\$1,070,666</b>	<b>3.7%</b>		0-40%	
Vanguard Short-Term Federal Adm	\$1,070,666	3.7%		\$1,070,666	3.7%			
<b>Total Long Term Reserves Pool</b>	<b>\$60,358,393</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$60,358,393</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Domestic Equity</b>	<b>\$17,109,608</b>	<b>28.3%</b>	<b>\$0</b>	<b>\$17,109,608</b>	<b>28.3%</b>	<b>27.0%</b>	20-35%	1.3%
<b>Large Cap</b>	<b>\$11,968,669</b>	<b>19.8%</b>	<b>\$0</b>	<b>\$11,968,669</b>	<b>19.8%</b>			
TRP Instl US Structured Research	\$5,073,275	8.4%		\$5,073,275	8.4%			
Vanguard 500 Index Adm	\$6,895,394	11.4%		\$6,895,394	11.4%			
<b>Small/Mid Cap</b>	<b>\$5,140,939</b>	<b>8.5%</b>	<b>\$0</b>	<b>\$5,140,939</b>	<b>8.5%</b>			
Vanguard Mid Cap Index Adm	\$2,390,142	4.0%		\$2,390,142	4.0%			
Loomis Sayles Small Growth Instl	\$1,472,300	2.4%		\$1,472,300	2.4%			
Victory Integrity Small Cap Value Y	\$1,278,497	2.1%		\$1,278,497	2.1%			
<b>International Equity</b>	<b>\$5,406,828</b>	<b>9.0%</b>	<b>\$0</b>	<b>\$5,406,828</b>	<b>9.0%</b>	<b>8.0%</b>	0-15%	1.0%
William Blair International Growth I	\$2,736,452	4.5%		\$2,736,452	4.5%			
Dodge & Cox International Stock	\$2,670,376	4.4%		\$2,670,376	4.4%			
<b>Total Equity</b>	<b>\$22,516,435</b>	<b>37.3%</b>	<b>\$0</b>	<b>\$22,516,435</b>	<b>37.3%</b>	<b>35.0%</b>	<b>25-45%</b>	2.3%
<b>Alternatives</b>	<b>\$9,112,445</b>	<b>15.1%</b>	<b>\$0</b>	<b>\$9,112,445</b>	<b>15.1%</b>	<b>15.0%</b>	<b>0-20%</b>	0.1%
Jhancock Global Absolute Return I	\$2,081,328	3.4%		\$2,081,328	3.4%			
Wells Fargo Adv Absolute Return I	\$2,686,236	4.5%		\$2,686,236	4.5%			
Diamond Hill Long-Short Y	\$2,693,520	4.5%		\$2,693,520	4.5%			
Brookfield Global Real Estate	\$1,651,361	2.7%		\$1,651,361	2.7%			
<b>Fixed Income</b>	<b>\$28,729,512</b>	<b>47.6%</b>	<b>\$0</b>	<b>\$28,729,512</b>	<b>47.6%</b>	<b>50.0%</b>		
<b>Short Term Fixed Income</b>	<b>\$16,657,033</b>	<b>27.6%</b>	<b>\$0</b>	<b>\$16,657,033</b>	<b>27.6%</b>	<b>30.0%</b>	25-45%	-2.4%
YSU Short Term Bond	\$13,073,099	21.7%		\$13,073,099	21.7%			
DFA Five-Year Global	\$1,818,795	3.0%		\$1,818,795	3.0%			
<b>Lord Abbett Short Duration</b>	\$0	0.0%	\$1,765,139	\$1,765,139	2.9%			
<b>Vanguard Short Term Bond Adm</b>	\$1,765,139	2.9%	-\$1,765,139	\$0	0.0%			
<b>Intermediate Fixed Income</b>	<b>\$12,072,480</b>	<b>20.0%</b>	<b>\$0</b>	<b>\$12,072,480</b>	<b>20.0%</b>	<b>20.0%</b>	10-30%	0.0%
JPMorgan Core Bond Fund I	\$5,024,741	8.3%		\$5,024,741	8.3%			
YSU Intermediate Term Fixed	\$4,350,675	7.2%		\$4,350,675	7.2%			
Prudential High Yield Q	\$2,697,064	4.5%		\$2,697,064	4.5%			
<b>Total University Assets</b>	<b>\$89,098,983</b>			<b>\$89,098,983</b>				

## Recommendation

Replace Vanguard Short-Term Bond Index in favor of Lord Abbett Short Duration

\*As of 12/31/2017