

**BOARD OF TRUSTEES  
INVESTMENT SUBCOMMITTEE**

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

**Wednesday, December 6, 2017**  
**11:30 a.m. or immediately following**  
**previous meeting**

**Tod Hall**  
**Board Meeting Room**

**AGENDA**

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

- 1. Discussion Item**

- Tab C.1.a. a. December 6, 2017 Quarterly Portfolio Asset Allocation and Investment Performance Review**  
Mike Shebak and Sarah Parker 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 and Sarah Parker will report.

- D. New Business**
- E. Adjournment**

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December 6, 2017

# YOUNGSTOWN STATE UNIVERSITY NON-ENDOWMENT & ENDOWMENT ASSETS

## CONTENTS

- I. Accomplishments and Future Initiatives
- II. Market Update
- III. Non-Endowment Assets: 3Q17 Performance & Asset Allocation Review
  - Strategic Asset Allocation Review / Asset Allocation Guidelines Review
  - Rebalance Recommendation (**Action**)
  - Fee Review
- IV. Endowment Assets: 3Q17 Performance & Asset Allocation Review



## ACCOMPLISHMENTS & FUTURE INITIATIVES

	2016	1Q2017	2Q2017	3Q2017	4Q2017
<b>Strategic/Administrative</b>	<ul style="list-style-type: none"> <li>• Endowment Allocation/ Management Review</li> <li>• Non-Endowment Asset Allocation Review</li> </ul>		<ul style="list-style-type: none"> <li>• US Equity Framework (Active vs. Passive – see Appendix)</li> </ul>	<ul style="list-style-type: none"> <li>• Peer Comparisons</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic Asset Allocation Review</li> </ul>
<b>Investment Opportunities</b>	<ul style="list-style-type: none"> <li>• Alternative Investments/GARS</li> <li>• High Yield Fixed Income Education and Recommendation</li> </ul>	<ul style="list-style-type: none"> <li>• Fixed Income Portfolio Review</li> </ul>			
<b>Manager Reviews</b>	<ul style="list-style-type: none"> <li>• PNC Fixed Income Review</li> </ul>		<ul style="list-style-type: none"> <li>• Voya Global Real Estate/ Brookfield Global Real Estate</li> </ul>	<ul style="list-style-type: none"> <li>• Fixed Income Portfolio Review</li> </ul>	
<b>Fiduciary Responsibilities</b>	<ul style="list-style-type: none"> <li>• Asset Allocation Guidelines Review</li> <li>• Fee Review</li> </ul>			<ul style="list-style-type: none"> <li>• ORC Compliance Review</li> </ul>	<ul style="list-style-type: none"> <li>• Fee Review</li> <li>• Asset Allocation Guidelines Review</li> </ul>



# 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	<input type="checkbox"/>				Add Lord Abbett; Review DFA Global
	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"/>	<input type="checkbox"/>	
	Quarterly Performance Review	<input type="checkbox"/>	<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



## MARKET UPDATE



## SUMMARY

**Capital Markets:** “Good, better, best”-- U.S. Equities, Developed International, Emerging Markets. Risk assets were once again up sharply, led by Emerging and Developed Market Equities (7.9% and 5.4%). U.S. Large Cap Equities returned 4.5%.

**Economic Conditions:** “Swimming along”. The constructive growth environment is broadening beyond the U.S., with Eurozone business surveys at their highest levels in >6 years. The U.S. economic expansion gathered momentum as reflected by 3.1% Q2 GDP growth. ISM surveys reflect strength, which along with consumer confidence and wage growth, 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 initiated their plan to decrease its \$4.5 trillion balance sheet. Markets are expecting one more 0.25% Fed rate hike in 2017.

**Valuations:** Valuations are full, but no near-term recession signs. U.S. equity valuations are above long-term averages; 18.2x one year forward P/E on MSCI US Equity Index. Emerging and European equities carry more reasonable valuations.

**Earnings:** 2017 earnings estimates reflect a 9.2% year-over-year increase for the S&P 500. 2Q growth was 10.3% for the S&P 500, and 3Q estimate stands at 2.8%.

**Tax Reform:** Markets are anticipating corporate tax reform which should boost earnings and further support valuations.

**Risks:** An aging U.S. expansion coupled with above average valuations, low yields, low market volatility and possibly waning Central Bank monetary policy should not be overlooked.

**Fixed Income:** Little change for the quarter. The treasury yield curve flattened and credit spreads tightened modestly.

**Looking Forward:** Lower return expectations and maintain appropriate portfolio risk. Risk assets should perform relatively well in a modest growth environment while defensive assets provide downside protection during bouts of volatility or unexpected events. Focus on relative value and less on passive broad market exposure.



# HISTORICAL ASSET CLASS RETURNS

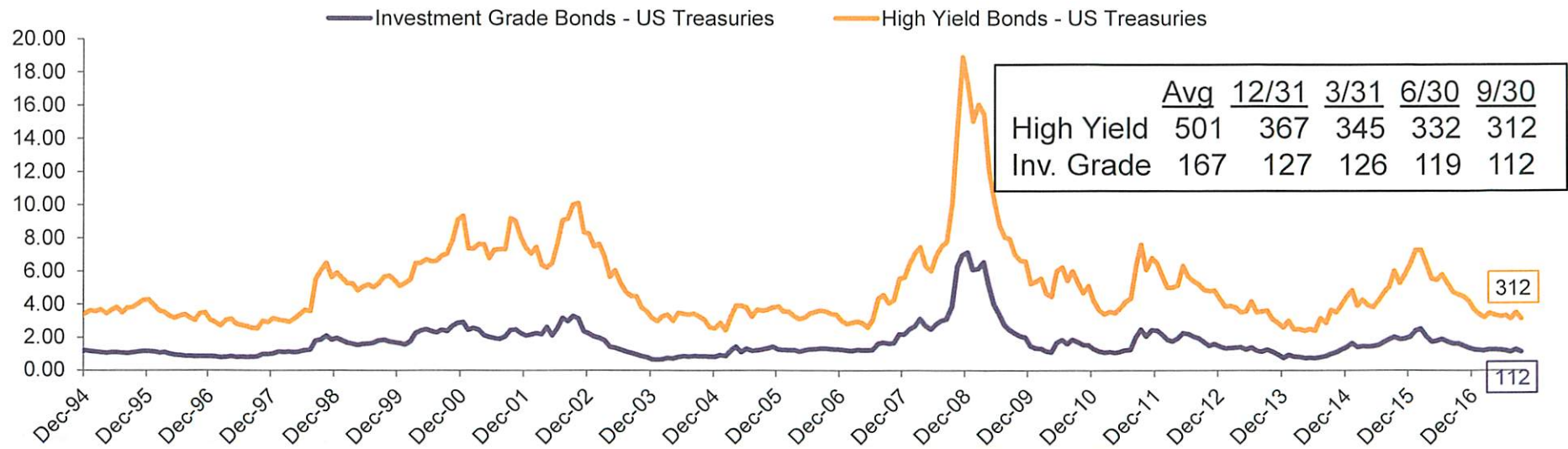
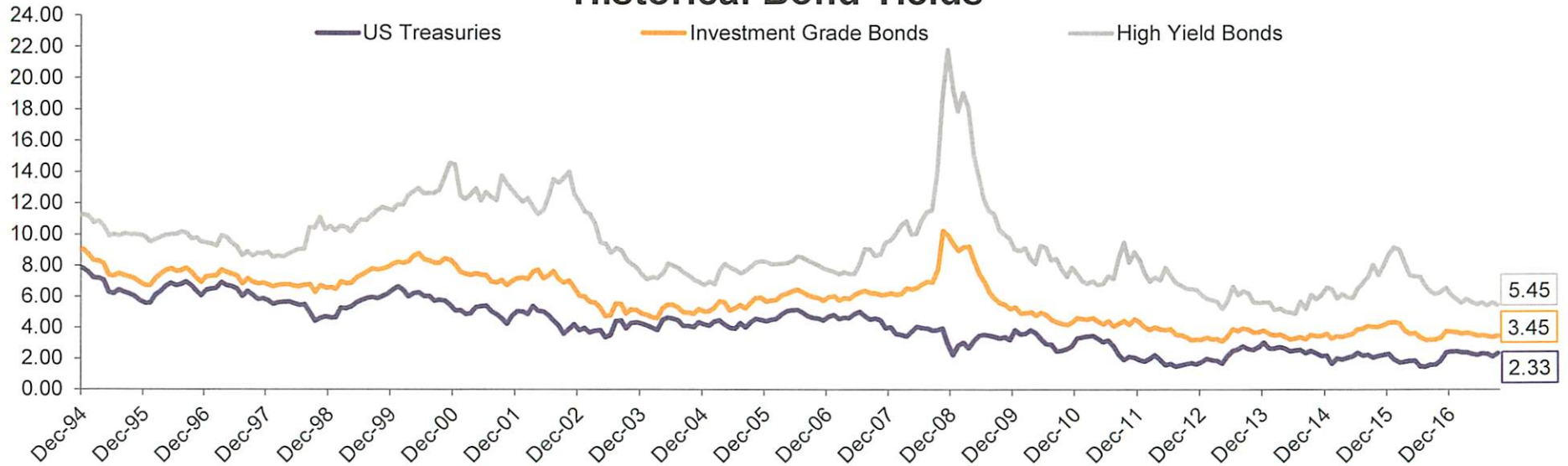
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Q1 2017	Q2 2017	Q3 2017	2017
Em Mkt 39.4%	Glb Bond 9.4%	Em Mkt 78.5%	REITs 27.6%	US Bonds 7.8%	REITs 20.1%	Sm/Mid 36.8%	REITs 27.2%	REITs 2.3%	Sm/Mid 17.6%	Em Mkt 11.5%	Em Mkt 6.3%	Em Mkt 7.9%	Em Mkt 27.8%
Dev Intl 11.2%	US Bonds 5.2%	Hi Yld 57.5%	Sm/Mid 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 7.3%	Dev Intl 6.1%	Dev Intl 5.4%	Dev Intl 20.0%
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%	Sm/Mid 7.1%	US Bonds 0.6%	Large Cap 12.0%	Large Cap 6.1%	Large Cap 3.1%	Sm/Mid 4.7%	Large Cap 14.2%
Hdg Fnds 9.7%	Hdg Fnds -20.8%	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%	Sm/Mid 11.0%
US Bonds 7.0%	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 -0.4%	REITs 9.3%	REITs 3.0%	REITs 2.4%	Hdg Fnds 2.3%	Glb Bond 7.7%
Large Cap 5.5%	Sm/Mid -36.8%	Large Cap 26.5%	Hdg Fnds 10.6%	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%	Hi Yld 7.1%
Cash 5.0%	Large Cap -37.0%	Hdg Fnds 11.5%	Dev Intl 7.8%	Sm/Mid -2.5%	Hdg Fnds 5.4%	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%	REITs 6.7%
Hi Yld 2.2%	REITs -37.3%	US Bonds 5.9%	US Bonds 6.6%	Hdg Fnds -4.9%	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%	Hdg Fnds 5.6%
Sm/Mid 1.4%	Dev Intl -43.4%	Glb Bond 4.4%	Glb Bond 6.1%	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 0.2%	US Bonds 0.9%	US Bonds 3.1%
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 0.1%	Cash 0.2%	Cash 0.3%	Cash 0.6%

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 9/30/2017. Source: Zephyr Associates.



# FIXED INCOME: LOW YIELDS, TIGHT SPREADS

## Historical Bond Yields



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 9/30/2017



## NON-ENDOWMENT ASSETS



## 3Q17 PERFORMANCE & ASSET ALLOCATION REVIEW

Non-Endowment Assets	Market Value	3Q2017	YTD	1 Yr	3 Yrs	5 Yrs	2016	2015	2014	Since Inception****
Operating & Short-Term Pool	\$25.206 Million	0.2%	0.5%	0.5%	0.3%	0.2%	0.3%	0.1%	0.1%	0.2%
	<i>Benchmark*</i>	0.3%	0.6%	0.6%	0.3%	0.2%	0.4%	0.1%	0.1%	0.2%
Long-Term Pool	\$59.188 Million	2.4%	7.9%	8.4%	4.7%	5.2%	4.9%	-0.3%	4.5%	5.2%
	<i>Benchmark**</i>	22%	6.9%	7.4%	4.4%	4.7%	4.7%	0.3%	4.0%	4.6%
Total Non-Endowment Assets	\$84.393 Million	1.9%	5.8%	6.3%	3.4%	3.6%	4.0%	-0.5%	2.9%	3.8%
	<i>Benchmark***</i>	1.3%	3.9%	4.3%	2.6%	2.6%	2.7%	0.2%	2.3%	3.0%

**1-Year Net Investment Change of \$4,543,926**

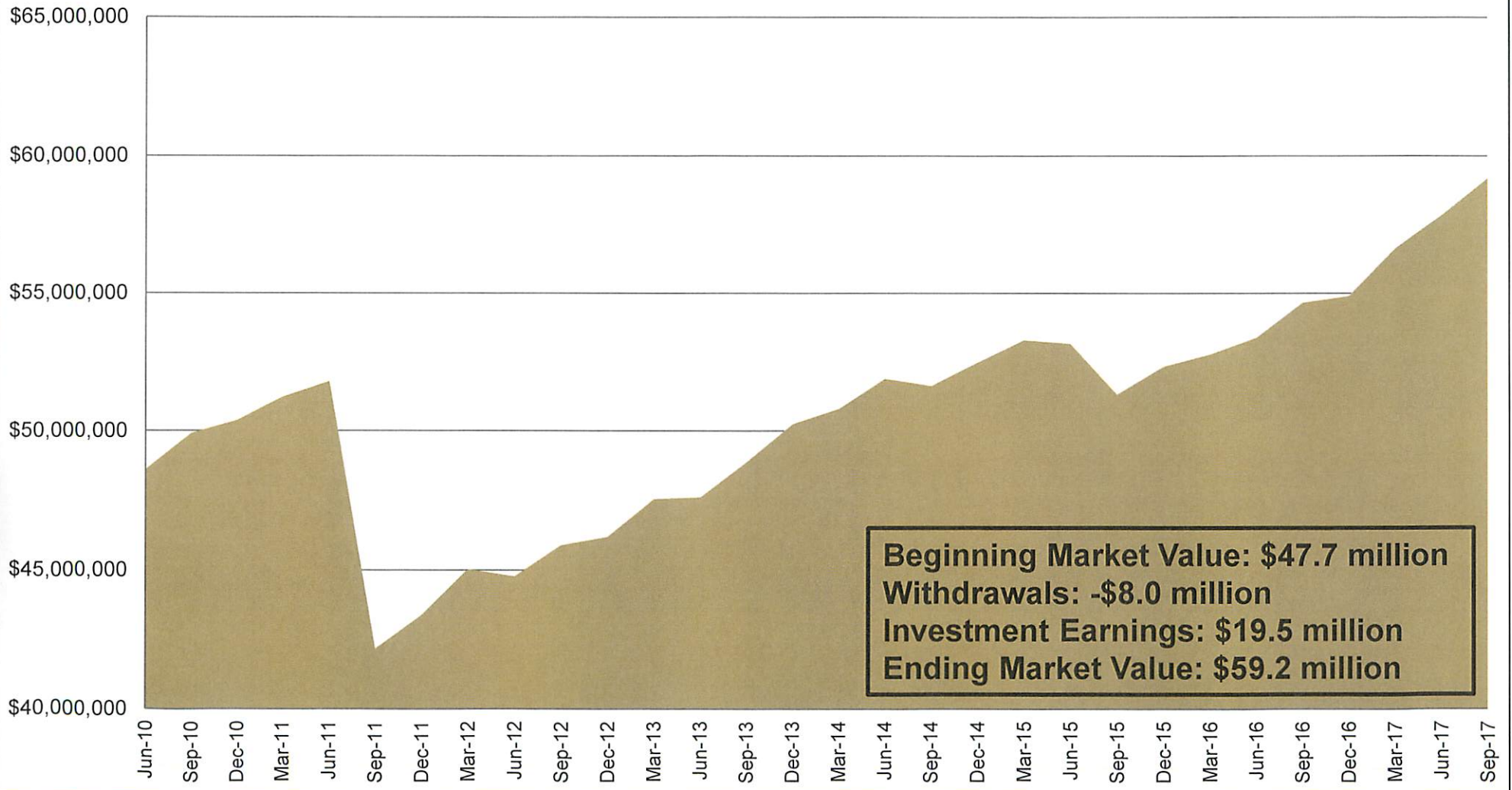
\*95% BofA Merrill Lynch 91-Day T-Bill / 5% Barclays 1-3 Yr. Govt

\*\*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

**Long-Term Pool Market Value Change  
(6/30/2010-9/30/2017)**





## 3Q17 PERFORMANCE & ASSET ALLOCATION REVIEW

(MANAGER DETAILS CONTAINED IN APPENDIX)

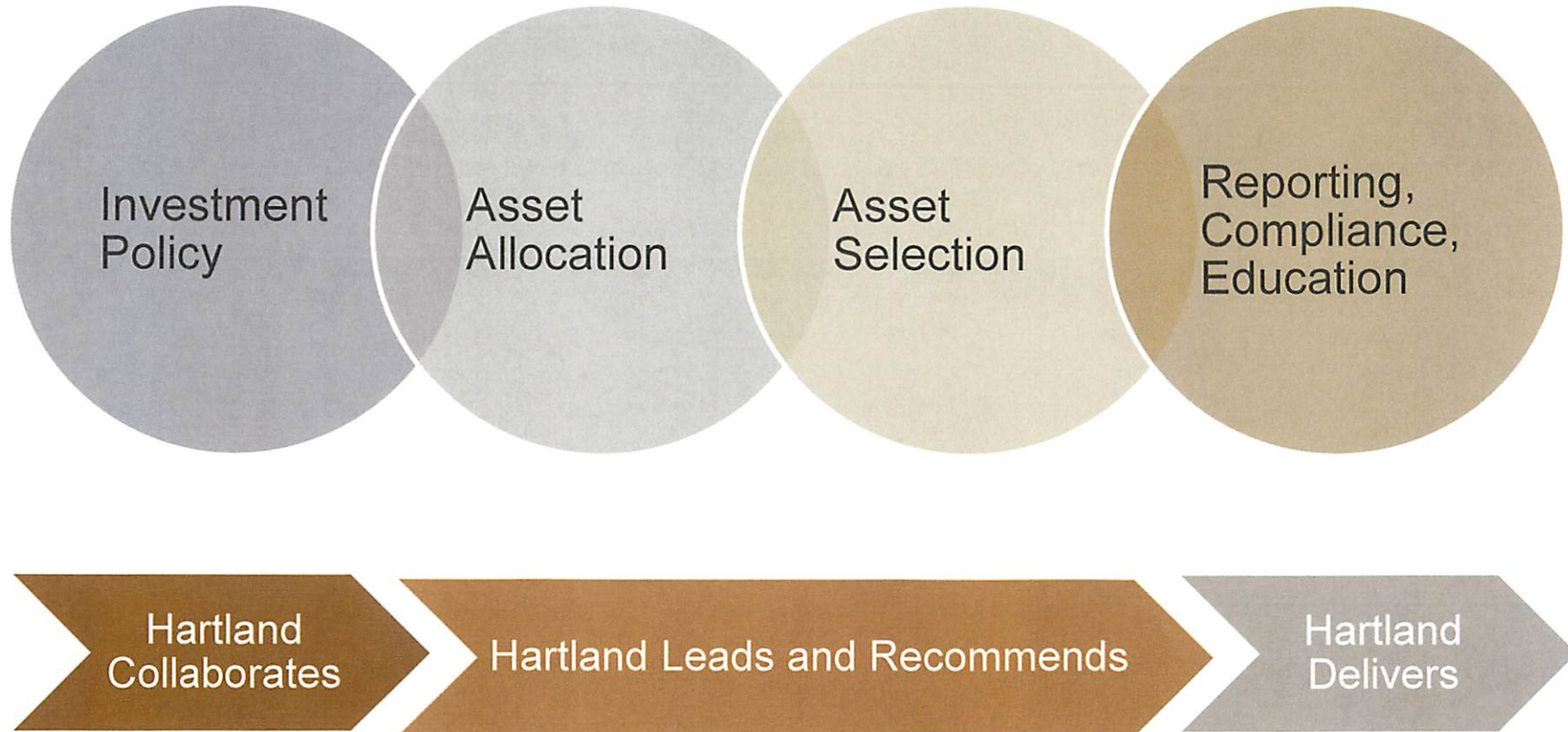
Non-Endowment Asset Pool	Current Asset Allocation	Compliance with Policy?	Investment Manager Comments
Short-Term Pool	<ul style="list-style-type: none"> <li>• 96% Cash</li> <li>• 4% Short-Term Fixed Income</li> </ul>	In-Line	Liquidity; modest return overtime (+0.5% YTD); investments include Star Plus money market.
Long-Term Pool	<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-Term Fixed Income = 22%</li> </ul>	<p>In-Line</p> <p>Overweight Domestic Equities by 1%.</p> <p>Underweight Short-Term Fixed Income by 5%.</p> <p>Overweight Intermediate-Term Fixed Income by 2%.</p>	<p><i>Domestic Equity (+4.6% 3Q17, +14.5% YTD):</i> All domestic equity strategies were in-line or outpaced benchmarks; Small Cap manager Loomis Sayles led the way up +6.3% in the 3<sup>rd</sup> quarter benefitting from stock selection.</p> <p><i>International Equity (+7.5% 3Q17, +23.1% YTD):</i> International equity markets were the best performing asset class for the quarter (MSCI EAFE +5.4%), William Blair International Growth benefited from positive stock selection across most sectors returning +8.2% 3Q17; Both international strategies are outpacing respective benchmarks year-to-date; Hartland will monitor and update YSU on William Blair management changes.</p> <p><i>Alternative Investments (+0.7% 3Q17, +5.1% YTD):</i> Diamond Hill was impacted by stock selection, but continues to deliver strong results over longer term time periods; GARS was impacted by relative bank strategies.</p> <p><i>Fixed Income (+0.7% 3Q17, +2.4% YTD):</i> Fixed income yielded modest returns; High yield continues to be one of the top performers in fixed income (Prudential +1.9% 3Q17, +7.3% YTD).</p>





## ASSET ALLOCATION REVIEW

## DISCIPLINED INVESTMENT PROCESS



# STRATEGIC ASSET ALLOCATION: OBJECTIVES & RISK CONSIDERATIONS

## Portfolio Objectives

The YSU non-endowment assets have performed well over a full market cycle.

Asset allocation is the most important determinant of portfolio risk and return - looking forward, it is important to align the asset allocation, structure and risk/return objectives of the non-endowment assets with those of the strategic focus of YSU.

- Compliance with Ohio Revised Code 3345.05 (25% average rule\*)
- Support YSU cash-flow and financial needs both currently and in the future
- Target a prudent level of investment return once risks have been mitigated

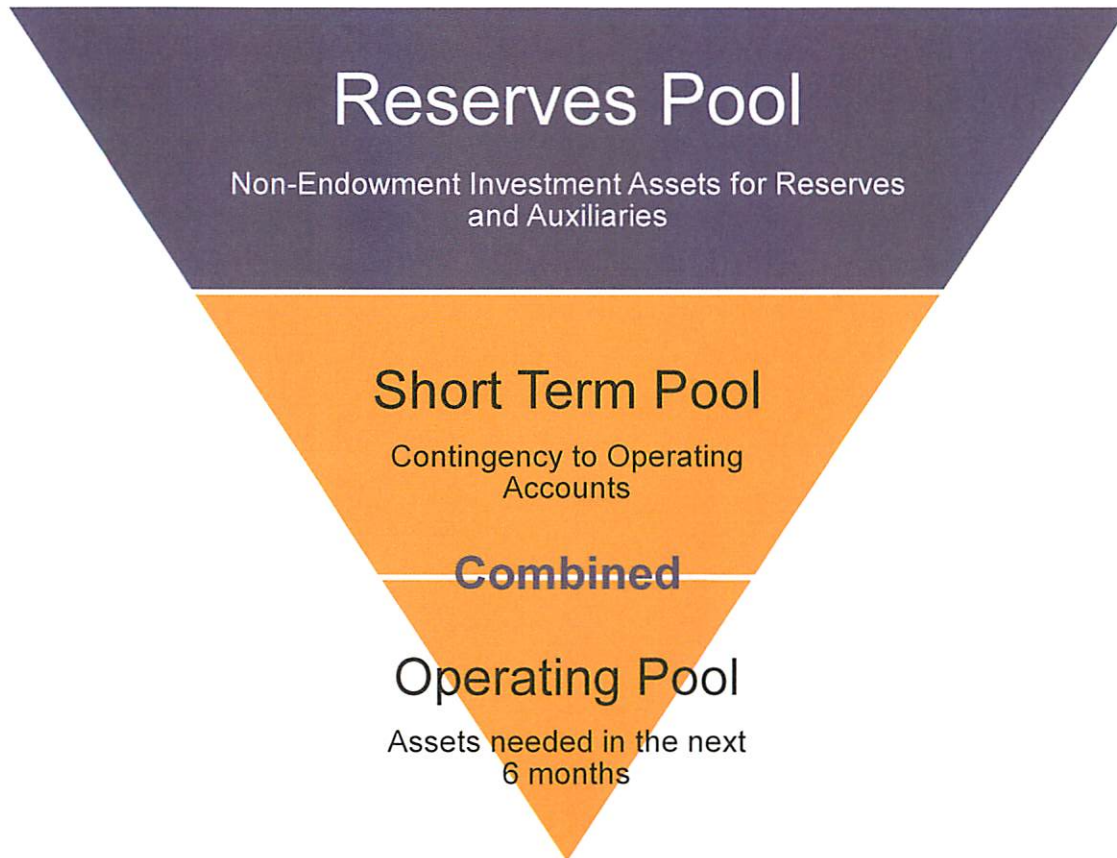
## Risk Considerations

- Ohio Revised Code 3345.05
  - Short-Term pool provides compliance; additionally, approximately 10-15% of the Long-Term Pool assets provide additional support
- Liquidity
  - 100% of the Non-Endowment assets have daily liquidity
- Cash flow forecast
  - YSU does not anticipate needing to withdrawal funds from the Long-Term Pool in the near-term
- Market value volatility
  - YSU staff and trustees have expressed a willingness to except modest increase in investment risk in pursuit of a higher investment return
- Cash flow cyclicalilty
  - The University's cash flows fluctuate over the year due to operations

\*A minimum of 25% of the average amount of the University's investment portfolio over the course of the previous fiscal year must be invested according to ORC guidelines (i.e. US government bonds, cash equivalents)



## LIQUIDITY MANAGEMENT: INVESTMENT POOL STRUCTURE



### Investment Pool Structure

- Separate guidelines and asset allocation targets
- The University can allocate assets between investment pools with respect to cash needs
- Allowable asset ranges established between investment pools

## LONG-TERM POOL: ATTRIBUTION AND ALLOCATION

Year	Inv. Assets Cash Outflow	Inv. Assets Cash Inflow	Year End (12/31) Equity %	Year End (12/31) Alternatives %	Year End (12/31) Fixed Income %	Calendar Yr Return	Market Value (as of 12/31)
2010	\$0	+\$46,871,000 (Creation of LT Pool)	19.2%	0%	80.8%	+5.5%	\$50,383,000
2011	-\$8,000,000	\$0	24.9%	0%	75.1%	+1.9%	\$43,392,000
2012	\$0	\$0	27.1%	0%	72.9%	+6.4%	\$46,190,324
2013	\$0	\$0	33.8%	0%	66.2%	+8.7%	\$50,249,454
2014	\$0	\$0	37.7%	0%	62.3%	+4.5%	\$52,491,768
2015	\$0	\$0	35.0%	11.9%	53.2%	-0.5%	\$52,324,443
2016	\$0	\$0	36.5%	15.6%	47.9%	+4.0%	\$54,892,466
YTD 2017	\$0	\$0	37.3%	15.1%	47.6%	+7.9%	\$59,187,643



## ASSET ALLOCATION GUIDELINES

Operating & Short Term Pool	Allocation		
	Pool Target	Pool Range	Total Range
<b>Asset Class/Investment Strategy</b>			
Total Cash/Operating Assets	n/a	60-100%	
Total Short-Term Fixed Income	n/a	0-40%	
			25-50%
<b>Long Term/Reserves Pool</b>			
Total Domestic Equity	27%	20-35%	
Total International Equity	8%	0-15%	
Total Equity	35%	25-45%	
Total Alternatives	15%	0-20%	
Total Short-Term Fixed Income	30%	25-45%	
Total Intermediate-Term Fixed Income	20%	10-30%	
Cash	0%	0-5%	
	100%		50-75%

Hartland has reviewed YSU's Asset Allocation Guidelines and recommends no changes to the current guidelines at this time.

The current asset allocation strategy conservatively factors:

- Adherence with State of Ohio guidelines
- Contingency for cash flow fluctuations in operating funds
- Adequate liquidity and principal protection for Reserve Funds
- Growth opportunity through equity allocation
- Diversification with the incorporation of alternative investments



# REBALANCE RECOMMENDATION (ACTION)

	Market Value as of 10/27/2017			New Allocation			Policy Target	Policy Range	Difference
	\$	%	Change	\$	%				
<b>Total Operating &amp; Short Term</b>	<b>\$25,203,815</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$25,203,815</b>	<b>100.0%</b>	<b>100.0%</b>			
<b>Operating Assets</b>	<b>\$24,127,516</b>	<b>95.7%</b>	<b>\$0</b>	<b>\$24,127,516</b>	<b>95.7%</b>			60-100%	
JPMorgan 100% U.S. Treas. MM Instl	\$19,071,565	75.7%		\$19,071,565	75.7%				
Star Plus Account*	\$5,055,951	20.1%		\$5,055,951	20.1%				
<b>Short-Term Assets</b>	<b>\$1,076,299</b>	<b>4.3%</b>	<b>\$0</b>	<b>\$1,076,299</b>	<b>4.3%</b>			0-40%	
Vanguard Short-Term Federal Adm	\$1,076,299	4.3%		\$1,076,299	4.3%				
<b>Total Long Term Reserves Pool</b>	<b>\$59,548,950</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$59,548,950</b>	<b>100.0%</b>	<b>100.0%</b>			
<b>Domestic Equity</b>	<b>\$17,182,326</b>	<b>28.9%</b>	<b>-\$800,000</b>	<b>\$16,382,326</b>	<b>27.5%</b>	<b>27.0%</b>		20-35%	0.5%
<b>Large Cap</b>	<b>\$12,182,027</b>	<b>20.5%</b>	<b>-\$800,000</b>	<b>\$11,382,027</b>	<b>19.1%</b>				
TRP Instl US Structured Research	\$5,225,788	8.8%	-\$400,000	\$4,825,788	8.1%				
Vanguard 500 Index Instl	\$6,956,239	11.7%	-\$400,000	\$6,556,239	11.0%				
<b>Small/Mid Cap</b>	<b>\$5,000,299</b>	<b>8.4%</b>	<b>\$0</b>	<b>\$5,000,299</b>	<b>8.4%</b>				
Vanguard Mid Cap Index Adm	\$2,304,848	3.9%		\$2,304,848	3.9%				
Loomis Sayles Small Growth Instl	\$1,426,739	2.4%		\$1,426,739	2.4%				
Victory Integrity Small Cap Value Y	\$1,268,712	2.1%		\$1,268,712	2.1%				
<b>International Equity</b>	<b>\$5,292,562</b>	<b>8.9%</b>	<b>\$0</b>	<b>\$5,292,562</b>	<b>8.9%</b>	<b>8.0%</b>		0-15%	0.9%
William Blair International Growth I	\$2,622,186	4.4%		\$2,622,186	4.4%				
Dodge & Cox International Stock	\$2,670,376	4.5%		\$2,670,376	4.5%				
<b>Total Equity</b>	<b>\$22,474,888</b>	<b>37.7%</b>	<b>-\$800,000</b>	<b>\$21,674,888</b>	<b>36.4%</b>	<b>35.0%</b>		25-45%	1.4%
<b>Alternatives</b>	<b>\$8,993,013</b>	<b>15.1%</b>	<b>\$0</b>	<b>\$8,993,013</b>	<b>15.1%</b>	<b>15.0%</b>		0-20%	0.1%
Jhancock Global Absolute Return I	\$2,063,429	3.5%		\$2,063,429	3.5%				
Wells Fargo Adv Absolute Return I	\$2,615,003	4.4%		\$2,615,003	4.4%				
Diamond Hill Long-Short I	\$2,644,751	4.4%		\$2,644,751	4.4%				
Brookfield Global Real Estate	\$1,669,830	2.8%		\$1,669,830	2.8%				
<b>Fixed Income</b>	<b>\$28,081,049</b>	<b>47.2%</b>	<b>\$800,000</b>	<b>\$28,881,049</b>	<b>48.5%</b>	<b>50.0%</b>			
<b>Short Term Fixed Income</b>	<b>\$16,723,189</b>	<b>28.1%</b>	<b>\$0</b>	<b>\$16,723,189</b>	<b>28.1%</b>	<b>30.0%</b>		25-45%	-1.9%
YSU Short Term Bond	\$13,111,406	22.0%		\$13,111,406	22.0%				
DFA Five-Year Global	\$1,836,525	3.1%		\$1,836,525	3.1%				
Vanguard Short Term Bond Adm	\$1,775,257	3.0%		\$1,775,257	3.0%				
<b>Intermediate Fixed Income</b>	<b>\$11,357,860</b>	<b>19.1%</b>	<b>\$800,000</b>	<b>\$12,157,860</b>	<b>20.4%</b>	<b>20.0%</b>		10-30%	0.4%
JPMorgan Core Bond Fund I	\$4,674,379	7.8%	\$400,000	\$5,074,379	8.5%				
YSU Intermediate Term Bond	\$3,997,793	6.7%	\$400,000	\$4,397,793	7.4%				
Prudential High Yield Q	\$2,685,687	4.5%		\$2,685,687	4.5%				
<b>Total University Assets</b>	<b>\$84,752,765</b>			<b>\$84,752,765</b>					

**Share Class Review**

Hartland will work with PNC to exchange current share classes for lower expense share classes for the following:

- 1) Vanguard 500 Index
- 2) Jhancock Global Absolute Return
- 3) Diamond Hill Long-Short

	Avg Maturity	Avg Duration	Credit Quality	Yield
YSU Portfolio	3.8	3.2	AA	2.2%

\*As of 9/30/2017



## FEE REVIEW- NON-ENDOWMENT ASSETS

Non-Endowment Assets as of 9/30/17							
	Market Value as of 9/30/2017	% of Portfolio	Estimated Annual Fee (\$)	Expense Ratio	Morningstar Category Average Fee (%)	Morningstar Institutional Average Fee (%)	
<b>Operating &amp; Short-Term Pool</b>							
JPMorgan 100% U.S. Tr Sec MM Inst	\$19,072,480	22.6%	\$40,052	0.21%	n/a	n/a	
Vanguard Short-Term Federal Adm	\$1,077,308	1.3%	\$1,077	0.10%	0.74%	0.56%	
Star Plus	\$5,055,951	6.0%	\$0	0.00%	n/a	n/a	
<b>Total Operating &amp; ST Investment Management Fee</b>	<b>\$25,205,739</b>	<b>29.9%</b>	<b>\$41,130</b>	<b>0.05%</b>			
<b>Total Domestic Equity</b>							
TRP Inst US Structured Rsch	\$5,093,180	6.0%	\$28,012	0.55%	1.01%	0.73%	
Vanguard 500 Index Adm	\$6,783,281	8.0%	\$2,713	0.04%	1.01%	0.73%	
Vanguard Mid Cap Index Adm	\$2,269,696	2.7%	\$1,362	0.06%	1.13%	0.84%	
Loomis Sayles Sm Growth Instl	\$1,390,664	1.6%	\$13,211	0.95%	1.29%	1.04%	
Victory Integrity Small Value Y	\$1,246,769	1.5%	\$14,338	1.15%	1.30%	1.05%	
<b>Total International Equity</b>	<b>\$5,270,750</b>	<b>6.2%</b>	<b>\$46,401</b>				
William Blair International Growth I	\$2,585,410	3.1%	\$29,215	1.13%	1.23%	0.98%	
Dodge & Cox Internatl Stock	\$2,685,339	3.2%	\$17,186	0.64%	1.09%	0.86%	
<b>Total Alternatives</b>	<b>\$8,939,217</b>	<b>10.6%</b>	<b>\$102,895</b>				
John Hancock Global Absolute Return I	\$2,049,554	2.4%	\$27,054	1.32%	n/a	n/a	
Wells Fargo Adv Absolute Return Instl	\$2,580,865	3.1%	\$30,970	1.20%	n/a	n/a	
Diamond Hill Long-Short I	\$2,624,708	3.1%	\$28,872	1.10%	1.90%	1.62%	
Brookfield Global Listed Real Estate I	\$1,684,091	2.0%	\$15,999	0.95%	1.35%	1.03%	
<b>Total Fixed Income</b>	<b>\$28,194,086</b>	<b>33.4%</b>	<b>\$62,558</b>				
JPMorgan Core Bond Ultra	\$4,686,468	5.6%	\$16,403	0.35%	0.78%	0.54%	
YSU Intermediate Term Bond	\$4,024,077	4.8%	\$6,036	0.15%	0.78%	0.54%	
Prudential High Yield Z	\$2,689,570	3.2%	\$14,524	0.54%	1.06%	0.79%	
YSU Short Term Bond	\$13,165,729	15.6%	\$19,749	0.15%	0.78%	0.49%	
Vanguard Short-Term Bond Instl	\$1,795,047	2.1%	\$898	0.05%	0.78%	0.49%	
DFA Five-Yr Global Fxd-Inc I	\$1,833,195	2.2%	\$4,950	0.27%	0.97%	0.71%	
<b>Total LT/Reserves Pool Investment Management Fee</b>	<b>\$59,187,643</b>	<b>100.0%</b>	<b>\$271,491</b>	<b>0.32%</b>			
Hartland Consulting Fees			\$49,500	0.06%			
Trustee Fee (PNC)			\$17,756	0.03%			
<b>Total Non-Endowment Assets Fees</b>			<b>\$379,877</b>	<b>0.45%</b>			



## ENDOWMENT ASSETS



## 3Q17 PERFORMANCE & ASSET ALLOCATION REVIEW

Endowment Assets	Market Value	Asset Allocation	Composition	3Q2017	YTD	1-Yr	3-Yr	2016	2015
YSU Endowment	\$10.3 million	76% Equities/ 24% Fixed Income & Cash	Stocks, Bonds, Mutual Funds	3.3%	9.1%	11.6%	7.1%	8.5%	-0.3%
<i>60% S&amp;P 500 Index/40% Barclays Index</i>				3.0%	9.7%	10.9%	7.6%	8.3%	1.3%
Kilcawley Center	\$104,620	60% Equities/ 40% Fixed Income	Mutual Fund	3.0%	9.5%	10.7%	2.7%	4.9%	-5.3%
<i>60% S&amp;P 500 Index/40% Barclays Index</i>				3.0%	9.7%	10.9%	7.6%	8.3%	1.3%
Alumni License Plate	\$520,821	60% Equities/ 40% Fixed Income	Mutual Fund	3.0%	6.2%	9.5%	7.8%	13.8%	-0.2%
<i>60% S&amp;P 500 Index/40% Barclays Index</i>				3.0%	9.7%	10.9%	7.6%	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)

#### Kilcawley Center & Alumni License Plate accounts

- Move to PNC completed on 11/1
- 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

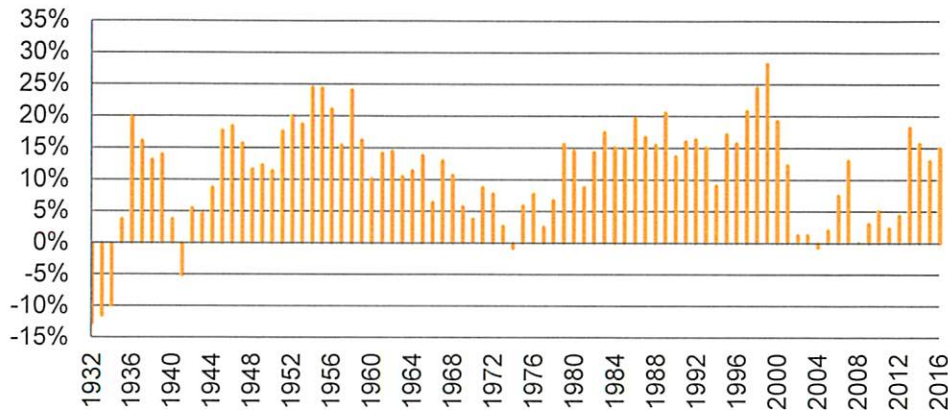


## APPENDIX



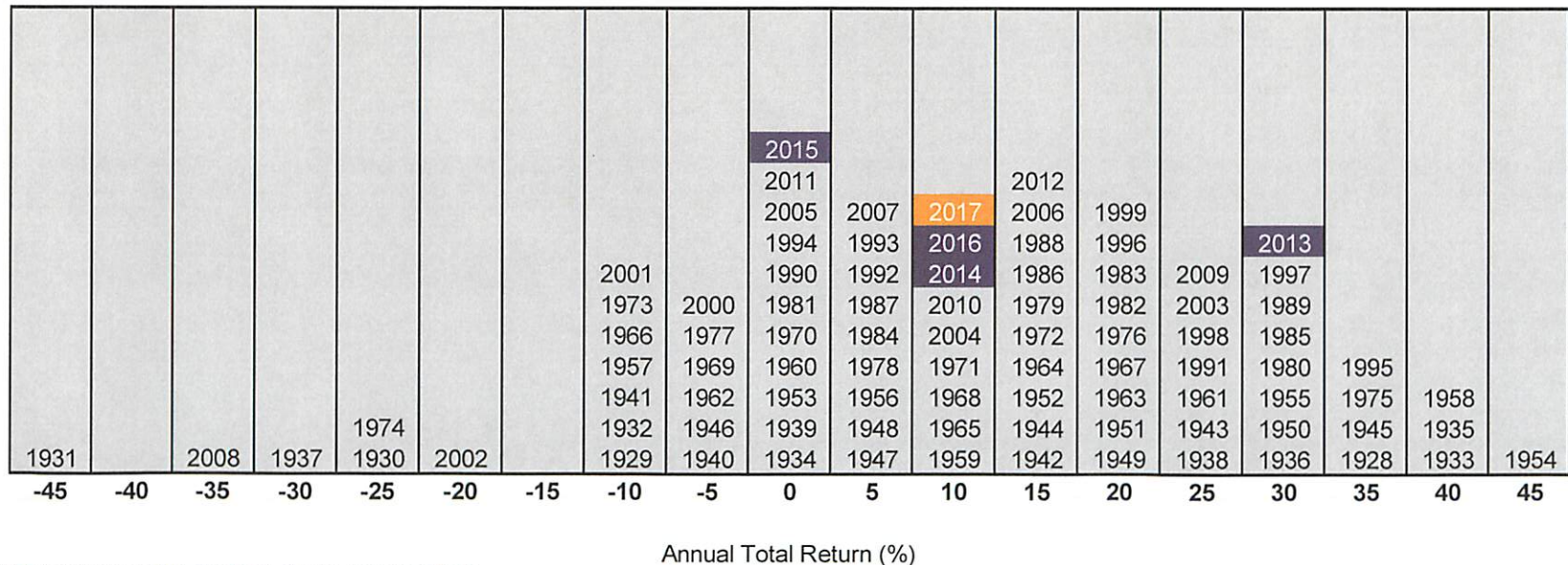
## S&P 500 RETURNS

### S&P 500 Index - 5 Year Rolling Returns



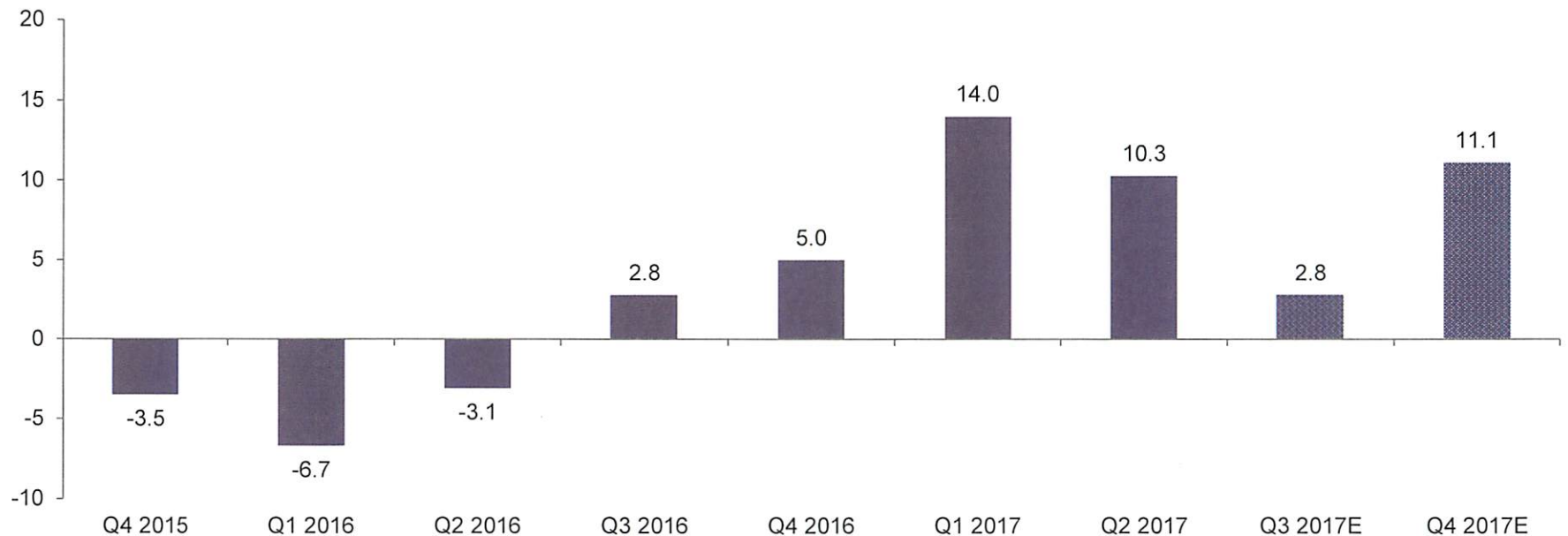
- Equity investors are rewarded for staying invested over longer time horizons
- There are few negative observations over rolling 5-year periods
- Substantial volatility in year to year returns as depicted below
- Returns are skewed to the right hand side

### S&P 500 Index - 1928 to 2016



Source: Bloomberg, top chart returns as of end of each calendar year  
Past performance is no guarantee of future results

## S&P 500 EARNINGS GROWTH



- Historically, on average ~2.9% can be added to EPS estimates due to upside earnings surprises which would increase Q3 EPS growth to ~5.7%.
- During September the Q3 EPS estimate fell from 5.0% to 2.8%. About 77% of the decline was related to the Insurance industry.
- Ex-Insurance Q3 EPS growth would be 4.9%.



### Bank of America Merrill Lynch Study Estimates

- Could increase 2018 S&P 500 EPS initially by as much as \$15-16
- The \$12-13 estimated increase from a 20% US corporate tax rate would likely have the greatest impact on the Consumer Discretionary and Financials sectors
- The \$3 increase of repatriation-funded share buybacks would likely have the greatest impact on the Technology and Health Care sectors
- Possible Corporate Tax Reform makes valuations appear more reasonable
  - Current S&P 500 trading price \$2,550
  - S&P 500 2018 Consensus EPS of \$145 + \$16 increase from tax proposal = \$161
  - Implied 2018 Forward P/E of 15.8x ( $\$2,550/\$161$ ) is near the long-term average 16.0x

# FED ECONOMIC PROJECTIONS & NORMALIZATION

## Federal Reserve Board Members and Bank Presidents

	2017	2018	2019	Longer Run*
GDP	2.2%	2.1%	1.9%	1.8%
Unemployment Rate	4.3%	4.2%	4.2%	4.6%
Core PCE Inflation	1.7%	2.0%	2.0%	
Federal Funds Rate	1.4%	2.1%	2.9%	3.0%
# of Implied 25 bps Rate Hikes	3	3	3	

Effective Fed Funds Rate at 7/12/17: 1.16%

## Fed Balance Sheet

Security Type	Market Value as of 7/12/2017
US Treasury Notes/Bills	\$2.3 trillion
Agency Mortgage-Backed Securities	\$1.8 trillion
US Treasury TIPS	\$108.7 billion
US Treasury Floating Rate (FRN)	\$13.2 billion
Federal Agency Securities	\$8.1 billion
Total	\$4.2 trillion

## Fed Balance Sheet Normalization Program

Start of Reduction	Treasuries <u>NOT</u> Reinvested	Agency & MBS <u>NOT</u> Reinvested
0 – 3 Months	\$6b/month	\$4b/month
3 – 6 Months	\$12b/month	\$8b/month
6 – 9 Months	\$18b/month	\$12b/month
9 – 12 Months	\$24b/month	\$16b/month
12+ Months	\$30b/month	\$20b/month

\*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 6/14/2017



# IPS COMPLIANCE

As of September 30, 2017

Total Plan Asset Allocation Policy	Range	Current
Operating & Short-Term Pool	25% - 50%	30%
Long Term/ Reserves Pool	50% - 75%	70%

Operating & Short-Term Pool	Range	Current
Operating Assets	60% - 100%	96%
Short-Term Assets	0% - 40%	4%

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%	22%
Cash & Cash Equivalents	0%	0% - 5%	0%

In Line
  Within Tolerance
  Review

## SCHEDULE OF ASSETS

Asset Class	Market Value 6/30/17 (\$)	Market Value 9/30/17 (\$)	% of Total Plan	% of Pool	
<b>Total University Assets</b>	<b>71,015,332</b>	<b>84,393,382</b>	<b>100.0</b>	<b>100.0</b>	
<b>Total Operating &amp; Short Term</b>	<b>13,173,651</b>	<b>25,205,739</b>	<b>29.9</b>	<b>100.0</b>	
JPMorgan 100% U.S. Tr Sec MM Inst	Cash	7,055,171	19,072,480	22.6	75.7
Star Plus	Cash	5,044,841	5,055,951	6.0	20.1
Vanguard Short-Term Federal Adm	US Fixed Income Short Term	1,073,638	1,077,308	1.3	4.3
<b>Total Long Term/ Reserves Pool</b>	<b>57,841,682</b>	<b>59,187,643</b>	<b>70.1</b>	<b>100.0</b>	
<b>Total Domestic Equity</b>	<b>17,255,958</b>	<b>16,783,589</b>	<b>19.9</b>	<b>28.4</b>	
TRP Instl US Structured Rsch	US Stock Large Cap Core	5,596,254	5,093,180	6.0	8.6
Vanguard 500 Index Adm	US Stock Large Cap Core	5,819,145	6,783,281	8.0	11.5
Vanguard Mid Cap Index Adm	US Stock Mid Cap Core	2,934,494	2,269,696	2.7	3.8
Loomis Sayles Sm Growth Instl	US Stock Small Cap Growth	1,530,423	1,390,664	1.7	2.3
Victory Integrity Small Value Y	US Stock Small Cap Value	1,375,641	1,246,769	1.5	2.1
<b>Total International Equity</b>	<b>4,901,373</b>	<b>5,270,750</b>	<b>6.3</b>	<b>8.9</b>	
William Blair International Growth I	International	2,390,414	2,585,410	3.1	4.4
Dodge & Cox Internat'l Stock	International	2,510,959	2,685,339	3.2	4.5
<b>Total Alternatives</b>	<b>8,913,647</b>	<b>8,939,217</b>	<b>10.6</b>	<b>15.1</b>	
John Hancock Global Absolute Return I	Absolute Return	2,043,608	2,049,554	2.4	3.5
Wells Fargo Adv Absolute Return Instl	All Assets	2,528,519	2,580,865	3.1	4.4
Diamond Hill Long-Short I	Long/Short Equity	2,639,740	2,624,708	3.1	4.4
Brookfield Global Listed Real Estate I	Global Real Estate	0	1,684,091	2.0	2.8
<b>Total Fixed Income</b>	<b>26,770,704</b>	<b>28,194,086</b>	<b>33.4</b>	<b>47.6</b>	
JPMorgan Core Bond Ultra	US Fixed Income Core	4,156,052	4,686,468	5.6	7.9
YSU Intermediate Term Bond	US Fixed Income Core	3,996,115	4,024,077	4.8	6.8
Prudential High Yield Z	US Fixed Income High Yield	2,641,300	2,689,570	3.2	4.5
YSU Short Term Bond	US Fixed Income Short Term	12,865,655	13,165,729	15.6	22.2
Vanguard Short-Term Bond Instl	US Fixed Income Short Term	1,288,369	1,795,047	2.1	3.0
DFA Five-Yr Global Fxd-Inc I	Global Fixed Income	1,823,213	1,833,195	2.2	3.1



## PERFORMANCE REPORT CARD

	Ending September 30, 2017								Calendar Years			Inception	
	2017 Q3 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2016 (%)	2015 (%)	2014 (%)	Return (%)	Since
<b>Total University Assets</b>	<b>1.9</b>	<b>5.8</b>	<b>6.3</b>	<b>5.5</b>	<b>3.4</b>	<b>3.6</b>	<b>3.4</b>	<b>3.8</b>	<b>4.0</b>	<b>-0.5</b>	<b>2.9</b>	<b>3.8</b>	<b>Mar-04</b>
<i>Total Policy Benchmark</i>	1.3	3.9	4.3	4.0	2.6	2.6	2.4	2.8	2.7	0.2	2.3	3.0	Mar-04
<b>Total Operating &amp; Short Term</b>	<b>0.2</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.3</b>	<b>0.2</b>	<b>0.2</b>	<b>--</b>	<b>0.3</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>Jun-10</b>
<i>Total Operating &amp; Short Term Benchmark</i>	0.3	0.6	0.6	0.5	0.3	0.2	0.2	0.5	0.4	0.1	0.1	0.2	Jun-10
JPMorgan 100% U.S. Tr Sec MM Inst	0.2	0.5	0.5	0.3	0.2	0.1	0.1	0.3	0.2	0.0	0.0	0.1	Sep-11
<i>BofA Merrill Lynch 91-Day T-Bill</i>	0.3	0.6	0.7	0.5	0.3	0.2	0.2	0.5	0.3	0.1	0.0	0.2	Sep-11
<i>Money Market - Taxable MStar MF Rank</i>	46	56	55	60	61	59	62	71	60	93	85	62	Sep-11
Vanguard Short-Term Federal Adm	0.3	1.0	0.1	0.9	1.1	0.8	1.1	2.4	1.2	0.8	1.3	1.1	Sep-10
<i>BBgBarc US Govt 1-5 Yr TR</i>	0.3	1.1	-0.1	0.7	1.2	0.8	1.1	2.4	1.0	0.9	1.2	1.1	Sep-10
<i>Short Government MStar MF Rank</i>	8	36	48	4	15	22	31	25	17	14	33	31	Sep-10
Star Plus	0.2	0.5	0.6	0.5	0.4	--	--	--	0.4	0.2	--	0.4	Jan-14
<i>BofA Merrill Lynch 91-Day T-Bill</i>	0.3	0.6	0.7	0.5	0.3	0.2	0.2	0.5	0.3	0.1	0.0	0.3	Jan-14
<b>Total Long Term/ Reserves Pool</b>	<b>2.4</b>	<b>7.9</b>	<b>8.4</b>	<b>7.4</b>	<b>4.7</b>	<b>5.2</b>	<b>5.0</b>	<b>--</b>	<b>4.9</b>	<b>-0.3</b>	<b>4.5</b>	<b>5.2</b>	<b>Jun-10</b>
<i>Total Long Term/ Reserves Fund Benchmark</i>	2.2	6.9	7.4	6.9	4.4	4.7	4.4	4.6	4.7	0.3	4.0	4.6	Jun-10
<b>Total Domestic Equity</b>	<b>4.6</b>	<b>14.5</b>	<b>19.1</b>	<b>16.4</b>	<b>10.9</b>	<b>14.3</b>	<b>14.3</b>	<b>--</b>	<b>11.7</b>	<b>0.7</b>	<b>11.6</b>	<b>15.4</b>	<b>Jun-10</b>
<i>Russell 3000</i>	4.6	13.9	18.7	16.8	10.7	14.2	14.3	7.6	12.7	0.5	12.6	15.5	Jun-10
TRP Instl US Structured Rsch	4.6	16.2	19.8	17.6	11.5	14.4	14.5	--	10.4	2.9	12.4	15.6	Jun-10
<i>S&amp;P 500</i>	4.5	14.2	18.6	17.0	10.8	14.2	14.4	7.4	12.0	1.4	13.7	15.5	Jun-10
<i>Large Blend MStar MF Rank</i>	36	9	21	6	5	16	14	--	56	11	45	14	Jun-10
Vanguard 500 Index Adm	4.5	14.2	18.6	17.0	10.8	14.2	14.3	7.4	11.9	1.4	13.6	15.5	Jun-10
<i>S&amp;P 500</i>	4.5	14.2	18.6	17.0	10.8	14.2	14.4	7.4	12.0	1.4	13.7	15.5	Jun-10
<i>Large Blend MStar MF Rank</i>	43	34	43	16	14	27	19	29	28	24	21	21	Jun-10



# PERFORMANCE REPORT CARD

	Ending September 30, 2017								Calendar Years			Inception	
	2017 Q3 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2016 (%)	2015 (%)	2014 (%)	Return (%)	Since
Vanguard Mid Cap Index Adm	3.4	12.9	15.3	14.0	9.7	14.4	13.7	7.9	11.2	-1.3	13.8	13.7	Sep-10
<i>Vanguard Mid Cap Index Benchmark</i>	3.4	12.9	15.3	14.0	9.8	14.4	13.8	8.0	11.2	-1.3	13.8	13.8	Sep-10
<i>Mid-Cap Blend MStar MF Rank</i>	49	13	60	50	32	10	28	41	74	19	7	28	Sep-10
Loomis Sayles Sm Growth Instl	6.3	21.4	24.2	15.3	12.0	13.8	14.6	8.7	5.7	1.1	1.1	14.6	Sep-10
<i>Russell 2000 Growth</i>	6.2	16.8	21.0	16.5	12.2	14.3	14.2	8.5	11.3	-1.4	5.6	14.2	Sep-10
<i>Small Growth MStar MF Rank</i>	28	16	21	54	44	40	30	35	85	20	67	30	Sep-10
Victory Integrity Small Value Y	5.9	6.4	21.4	15.9	10.3	14.3	13.5	8.8	24.4	-6.7	7.3	13.5	Sep-10
<i>Russell 2000 Value</i>	5.1	5.7	20.5	19.7	12.1	13.3	12.8	7.1	31.7	-7.5	4.2	12.8	Sep-10
<i>Small Value MStar MF Rank</i>	24	44	15	61	48	23	19	17	61	62	18	19	Sep-10
<b>Total International Equity</b>	<b>7.5</b>	<b>23.1</b>	<b>22.5</b>	<b>14.0</b>	<b>4.8</b>	<b>9.4</b>	<b>6.1</b>	<b>--</b>	<b>2.7</b>	<b>-5.9</b>	<b>-1.4</b>	<b>6.1</b>	<b>Sep-10</b>
<i>MSCI EAFE</i>	5.4	20.0	19.1	12.6	5.0	8.4	6.4	1.3	1.0	-0.8	-4.9	6.4	Sep-10
<i>MSCI ACWI ex USA</i>	6.2	21.1	19.6	14.3	4.7	7.0	5.2	1.3	4.5	-5.7	-3.9	5.2	Sep-10
William Blair International Growth I	8.2	23.8	18.6	12.4	5.9	8.3	6.9	1.9	-2.5	0.0	-2.9	9.4	Jun-12
<i>MSCI ACWI ex USA</i>	6.2	21.1	19.6	14.3	4.7	7.0	5.2	1.3	4.5	-5.7	-3.9	8.1	Jun-12
<i>Foreign Large Growth MStar MF Rank</i>	22	66	46	65	77	69	75	72	60	68	38	66	Jun-12
Dodge & Cox Internat'l Stock	6.9	22.5	26.6	15.6	3.9	10.1	7.2	3.0	8.3	-11.4	0.1	7.2	Sep-10
<i>MSCI EAFE</i>	5.4	20.0	19.1	12.6	5.0	8.4	6.4	1.3	1.0	-0.8	-4.9	6.4	Sep-10
<i>Foreign Large Value MStar MF Rank</i>	21	9	4	12	67	9	22	12	18	95	2	22	Sep-10
<b>Total Alternatives</b>	<b>0.7</b>	<b>5.1</b>	<b>5.3</b>	<b>5.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>3.5</b>	<b>--</b>	<b>--</b>	<b>1.2</b>	<b>Mar-15</b>
<i>Total Alternatives Benchmark</i>	2.2	5.9	5.1	4.9	--	--	--	--	1.5	--	--	--	Mar-15
John Hancock Global Absolute Return I	0.3	2.0	3.7	0.1	0.5	2.2	--	--	-2.5	1.7	4.0	2.0	Mar-16
<i>HFRI Relative Value (Total) Index</i>	1.3	4.0	5.9	5.7	3.4	5.0	5.1	4.9	7.7	-0.3	4.0	8.1	Mar-16



## PERFORMANCE REPORT CARD

	Ending September 30, 2017								Calendar Years			Inception	
	2017 Q3 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2016 (%)	2015 (%)	2014 (%)	Return (%)	Since
Wells Fargo Adv Absolute Return Instl	2.1	9.7	8.2	7.0	2.2	4.1	--	--	3.0	-4.6	0.9	1.4	Mar-15
<i>HFRI Fund of Funds Composite Index</i>	2.3	5.6	6.5	3.4	2.2	3.9	2.9	1.1	0.5	-0.3	3.4	1.5	Mar-15
Diamond Hill Long-Short I	-0.6	3.0	8.7	8.8	5.0	8.4	8.3	4.3	10.5	-1.4	7.5	4.3	Mar-15
<i>HFRI Equity Hedge (Total) Index</i>	3.6	9.8	11.1	8.5	4.6	6.3	4.9	2.9	5.5	-1.0	1.8	4.8	Mar-15
<i>Long-Short Equity MStar MF Rank</i>	92	80	65	26	44	32	44	48	15	53	18	39	Mar-15
Brookfield Global Listed Real Estate I	1.0	6.1	0.6	7.8	6.3	8.7	--	--	6.3	-1.4	19.6	-0.3	Jul-17
<i>FTSE NAREIT Developed</i>	1.6	6.5	0.6	7.5	5.9	6.7	7.5	1.8	4.1	-0.8	15.0	-0.2	Jul-17
<i>Global Real Estate MStar MF Rank</i>	91	77	71	38	36	7	--	--	10	72	8	68	Jul-17
<b>Total Fixed Income</b>	<b>0.7</b>	<b>2.4</b>	<b>1.0</b>	<b>1.8</b>	<b>1.8</b>	<b>1.4</b>	<b>1.9</b>	<b>--</b>	<b>1.6</b>	<b>0.8</b>	<b>2.1</b>	<b>2.1</b>	<b>Jun-10</b>
<i>Total Fixed Income Benchmark</i>	0.4	1.5	0.5	1.3	1.5	1.2	1.5	2.7	1.6	0.8	1.7	1.7	Jun-10
JPMorgan Core Bond Ultra	0.9	3.4	0.3	2.6	2.8	2.2	3.2	4.7	2.5	1.0	5.4	3.3	Apr-11
<i>BBgBarc US Aggregate TR</i>	0.8	3.1	0.1	2.6	2.7	2.1	3.0	4.3	2.6	0.6	6.0	3.2	Apr-11
<i>Intermediate-Term Bond MStar MF Rank</i>	54	56	73	72	45	60	62	44	76	14	63	59	Apr-11
YSU Intermediate Term Bond	0.7	2.6	0.4	1.9	1.9	1.6	2.3	4.0	2.0	0.5	3.0	3.8	Mar-04
<i>BBgBarc US Govt/Credit Int TR</i>	0.6	2.3	0.2	1.9	2.1	1.6	2.3	3.6	2.1	1.1	3.1	3.5	Mar-04
<i>Intermediate-Term Bond MStar MF Rank</i>	86	92	67	92	92	94	95	83	90	34	91	85	Mar-04
Prudential High Yield Z	1.9	7.3	8.8	10.2	6.2	6.5	7.4	7.7	15.3	-2.6	2.8	9.3	Dec-16
<i>BBgBarc US High Yield TR</i>	2.0	7.0	8.9	10.8	5.8	6.4	7.5	7.8	17.1	-4.5	2.5	9.0	Dec-16
<i>High Yield Bond MStar MF Rank</i>	46	20	34	21	7	16	17	16	30	38	22	22	Dec-16
YSU Short Term Bond	0.4	1.2	0.9	1.1	1.0	0.9	1.1	2.3	1.1	0.6	0.7	2.5	Mar-04
<i>BofA Merrill Lynch US Corp &amp; Gov 1-3 Yrs</i>	0.3	1.0	0.7	1.0	1.0	0.9	1.1	2.1	1.3	0.7	0.8	2.3	Mar-04
<i>Short-Term Bond MStar MF Rank</i>	89	90	84	92	90	90	94	80	90	46	88	76	Mar-04

## PERFORMANCE REPORT CARD

	Ending September 30, 2017								Calendar Years			Inception	
	2017 Q3 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2016 (%)	2015 (%)	2014 (%)	Return (%)	Since
Vanguard Short-Term Bond Instl	0.4	1.5	0.4	1.2	1.4	1.1	--	--	1.5	1.0	1.3	1.3	Dec-11
BBgBarc US Govt/Credit 1-5 Yr. TR	0.4	1.6	0.5	1.3	1.5	1.2	1.5	2.7	1.6	1.0	1.4	1.4	Dec-11
Short-Term Bond MStar MF Rank	80	79	98	89	61	75	--	--	84	15	48	83	Dec-11
DFA Five-Yr Global Fxd-Inc I	0.5	2.1	0.4	1.6	2.1	1.6	2.2	3.2	1.8	1.4	2.9	2.1	Jun-13
Citi WGBI 1-5 Yr Hdg USD	0.4	1.1	0.6	1.2	1.3	1.3	1.4	2.3	1.5	1.0	1.9	1.5	Jun-13
World Bond MStar MF Rank	89	87	70	94	44	52	63	73	80	3	42	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
- CPI +3% = Consumer Price Index 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 September 30, 2017								Calendar Years			Inception	
	2017 Q3 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2016 (%)	2015 (%)	2014 (%)	Return (%)	Since
YSU Endowment Fund	3.3	9.1	11.6	10.0	7.1	--	--	--	8.5	-0.3	10.5	8.4	Jun-13
60/40 S&P 500/BBgBarc US Aggregate	3.0	9.7	10.9	11.2	7.6	9.3	9.8	6.5	8.3	1.3	10.6	9.3	Jun-13
Kilcawley Center	3.0	9.5	10.7	15.9	2.7	--	--	--	4.9	-5.3	8.6	6.8	Jun-13
60/40 S&P 500/BBgBarc US Aggregate	3.0	9.7	10.9	11.2	7.6	9.3	9.8	6.5	8.3	1.3	10.6	9.3	Jun-13
The Alumni License Plate Account Endowment Fund	3.0	6.2	9.5	11.7	7.8	--	--	--	13.8	-0.2	7.1	7.4	Jun-13
60/40 S&P 500/BBgBarc US Aggregate	3.0	9.7	10.9	11.2	7.6	9.3	9.8	6.5	8.3	1.3	10.6	9.3	Jun-13
Vanguard Balanced Index Adm	3.0	9.6	10.8	11.0	7.6	9.3	9.8	6.6	8.8	0.5	10.0	3.6	Jun-17
Vanguard Balanced Benchmark	3.1	9.5	10.9	11.1	7.6	9.3	9.8	6.4	8.8	0.7	10.0	3.6	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 – 13% (7 Bonds, U.S. Corporate Debt)
  - Cash – 9%
- Kilcawley (PNC)
  - Vanguard Balanced Index Fund (Adm) – 100%
- Alumni License Plate (PNC)
  - Vanguard Balanced Index Fund (Adm) – 100%



## FEE REVIEW- ENDOWED ASSETS

Endowment Assets as of 10/31/17						
	Market Value	% of Portfolio	Estimated Annual Fee (\$)	Annual Manager Fee	Manager	Morningstar Institutional Average Fee (%)
<b>Total YSU Endowment</b>	\$10,270,258	94.2%	\$51,351	0.50%	Huntington	
YSU Endowment Fund	\$10,270,258	94.2%	\$51,351	0.50%	Huntington	n/a
<b>Total Kilcawley Center*</b>	\$105,832	1.0%	\$106	0.07%	-	
Vanguard Balanced Index Fund Adm	\$105,832	1.0%	\$74	0.07%	-	0.89%
<b>Total Alumni License Plate*</b>	\$524,581	4.8%	\$525	0.07%	-	
Vanguard Balanced Index Fund Adm	\$524,581	4.8%	\$367	0.07%	-	0.89%
<b>Total Endowment Assets Investment Management Fee</b>	<b>\$10,900,670</b>	<b>100.0%</b>	<b>\$51,982</b>			

Kilcawley Center & Alumni License Plate accounts were moved to PNC which charges a 3 bps custody fee.



# 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 mid-capitalization value stocks, mid-capitalization stocks and mid-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. Securitizd 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 19 of the December 6, 2017, Investment Subcommittee Agenda item C.1.a.



## REBALANCE RECOMMENDATION (ACTION)

	Market Value as of 10/27/2017		Change	New Allocation		Policy Target	Policy Range	Difference
	\$	%		\$	%			
<b>Total Operating &amp; Short Term</b>	<b>\$25,203,815</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$25,203,815</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Operating Assets</b>	<b>\$24,127,516</b>	<b>95.7%</b>	<b>\$0</b>	<b>\$24,127,516</b>	<b>95.7%</b>		60-100%	
JPMorgan 100% U.S. Treas. MM Instl	\$19,071,565	75.7%		\$19,071,565	75.7%			
Star Plus Account*	\$5,055,951	20.1%		\$5,055,951	20.1%			
<b>Short-Term Assets</b>	<b>\$1,076,299</b>	<b>4.3%</b>	<b>\$0</b>	<b>\$1,076,299</b>	<b>4.3%</b>		0-40%	
Vanguard Short-Term Federal Adm	\$1,076,299	4.3%		\$1,076,299	4.3%			
<b>Total Long Term Reserves Pool</b>	<b>\$59,548,950</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$59,548,950</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Domestic Equity</b>	<b>\$17,182,326</b>	<b>28.9%</b>	<b>-\$800,000</b>	<b>\$16,382,326</b>	<b>27.5%</b>	<b>27.0%</b>	20-35%	0.5%
<b>Large Cap</b>	<b>\$12,182,027</b>	<b>20.5%</b>	<b>-\$800,000</b>	<b>\$11,382,027</b>	<b>19.1%</b>			
TRP Instl US Structured Research	\$5,225,788	8.8%	-\$400,000	\$4,825,788	8.1%			
Vanguard 500 Index Instl	\$6,956,239	11.7%	-\$400,000	\$6,556,239	11.0%			
<b>Small/Mid Cap</b>	<b>\$5,000,299</b>	<b>8.4%</b>	<b>\$0</b>	<b>\$5,000,299</b>	<b>8.4%</b>			
Vanguard Mid Cap Index Adm	\$2,304,848	3.9%		\$2,304,848	3.9%			
Loomis Sayles Small Growth Instl	\$1,426,739	2.4%		\$1,426,739	2.4%			
Victory Integrity Small Cap Value Y	\$1,268,712	2.1%		\$1,268,712	2.1%			
<b>International Equity</b>	<b>\$5,292,562</b>	<b>8.9%</b>	<b>\$0</b>	<b>\$5,292,562</b>	<b>8.9%</b>	<b>8.0%</b>	0-15%	0.9%
William Blair International Growth I	\$2,622,186	4.4%		\$2,622,186	4.4%			
Dodge & Cox International Stock	\$2,670,376	4.5%		\$2,670,376	4.5%			
<b>Total Equity</b>	<b>\$22,474,888</b>	<b>37.7%</b>	<b>-\$800,000</b>	<b>\$21,674,888</b>	<b>36.4%</b>	<b>35.0%</b>	25-45%	1.4%
<b>Alternatives</b>	<b>\$8,993,013</b>	<b>15.1%</b>	<b>\$0</b>	<b>\$8,993,013</b>	<b>15.1%</b>	<b>15.0%</b>	0-20%	0.1%
Jhancock Global Absolute Return I	\$2,063,429	3.5%		\$2,063,429	3.5%			
Wells Fargo Adv Absolute Return I	\$2,615,003	4.4%		\$2,615,003	4.4%			
Diamond Hill Long-Short I	\$2,644,751	4.4%		\$2,644,751	4.4%			
Brookfield Global Real Estate	\$1,669,830	2.8%		\$1,669,830	2.8%			
<b>Fixed Income</b>	<b>\$28,081,049</b>	<b>47.2%</b>	<b>\$800,000</b>	<b>\$28,881,049</b>	<b>48.5%</b>	<b>50.0%</b>		
<b>Short Term Fixed Income</b>	<b>\$16,723,189</b>	<b>28.1%</b>	<b>\$0</b>	<b>\$16,723,189</b>	<b>28.1%</b>	<b>30.0%</b>	25-45%	-1.9%
YSU Short Term Bond	\$13,111,406	22.0%		\$13,111,406	22.0%			
DFA Five-Year Global	\$1,836,525	3.1%		\$1,836,525	3.1%			
Vanguard Short Term Bond Adm	\$1,775,257	3.0%		\$1,775,257	3.0%			
<b>Intermediate Fixed Income</b>	<b>\$11,357,860</b>	<b>19.1%</b>	<b>\$800,000</b>	<b>\$12,157,860</b>	<b>20.4%</b>	<b>20.0%</b>	10-30%	0.4%
JPMorgan Core Bond Fund I	\$4,674,379	7.8%	\$400,000	\$5,074,379	8.5%			
YSU Intermediate Term Bond	\$3,997,793	6.7%	\$400,000	\$4,397,793	7.4%			
Prudential High Yield Q	\$2,685,687	4.5%		\$2,685,687	4.5%			
<b>Total University Assets</b>	<b>\$84,752,765</b>			<b>\$84,752,765</b>				

**Share Class Review**

Hartland will work with PNC to exchange current share classes for lower expense share classes for the following:

- 1) Vanguard 500 Index
- 2) Jhancock Global Absolute Return
- 3) Diamond Hill Long-Short

YSU Fixed Income Dashboard				
	Avg Maturity	Avg Duration	Credit Quality	Yield
YSU Portfolio	3.8	3.2	AA	2.2%

\*As of 9/30/2017