Youngstown
STATE UNIVERSITY

BOARD OF TRUSTEES
INVESTMENT SUBCOMMITTEE

Wednesday, November 30, 2016
11:30 a.m. or immediately following previous meeting

Tod Hall
Board Meeting Room

AGENDA

A. Disposition of Minutes for Meetings Held June 1, 2016; and September 6, 2016

B. Old Business

C. Committee Items

1. Discussion Item

Tab C.1.a. **a. November 30, 2016 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 Revisions to the Asset Allocation Guidelines**
Mike Shebak and Sarah Parker will report.

D. New Business

E. Adjournment

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November 30, 2016

YOUNGSTOWN STATE UNIVERSITY

NON-ENDOWMENT & ENDOWMENT ASSETS

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CONTENTS

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ACCOMPLISHMENTS & FUTURE INITIATIVES

	2015	1Q2016	2Q2016	3Q2016	4Q2016 (Today)
Strategic/Administrative	• Non-Endowment Asset Allocation Review • Peer Asset Allocation Comparisons	• Endowment Allocation/ Management Review • Non-Endowment Asset Allocation Review			
Investment Opportunities	• Additional Alternative Investments	• Alternative Investments/GARS		• High Yield Fixed Income Education	• High Yield Fixed Income Recommendation
Manager Reviews	• PNC Fixed Income • Money Market Reform (no action, invested in US Treasury/Gov't Money Markets)		• PNC Fixed Income Review		
Fiduciary Responsibilities	• Asset Allocation Guidelines Review • Fee Review	• Asset Allocation Guidelines Review			• Fee Review

<u>2017</u>: Active/Passive in Domestic Equity, Core Bond Portfolio Review, Peer Asset Allocation Comparisons, Asset Allocation Review, IPS Review, Fee Review.

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MARKET UPDATE

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MARKET RETURNS (AS OF 9/30/16)

Major Market Asset Class	YTD	1-Yr	3-Yr	5-Yr	7-Yr	10-Yr	2015 Return	2014 Return	2013 Return	2012 Return	2011 Return
US Large Caps	7.8%	15.4%	11.2%	16.4%	13.2%	7.2%	1.4%	13.7%	32.4%	16.0%	2.1%
US Mid Caps	8.9%	12.7%	10.0%	16.6%	14.2%	8.2%	-2.4%	13.2%	34.8%	17.3%	-1.6%
US Small Caps	11.5%	15.5%	6.7%	15.8%	12.5%	7.1%	-4.4%	4.9%	38.8%	16.4%	-4.2%
Developed International	2.2%	7.1%	0.9%	7.9%	4.7%	2.3%	-0.4%	-4.5%	23.3%	17.9%	-11.7%
Emerging Markets	16.4%	17.2%	-0.2%	3.4%	2.6%	4.3%	-14.6%	-1.8%	-2.3%	18.6%	-18.2%
Hedge Funds	-0.1%	0.6%	2.2%	3.2%	2.5%	1.8%	-0.2%	3.4%	9.0%	4.2%	-6.8%
REITs	12.6%	20.6%	13.7%	15.7%	15.2%	6.0%	2.3%	27.2%	3.2%	20.1%	7.3%
US Intermediate-Term	5.8%	5.2%	4.0%	3.1%	4.1%	4.8%	0.5%	6.0%	-2.0%	4.2%	7.8%
High Yield	15.1%	12.7%	5.3%	8.3%	8.8%	7.7%	-4.5%	2.5%	7.4%	15.8%	5.0%
Money Market	0.2%	0.3%	0.1%	0.1%	0.1%	1.1%	0.1%	0.0%	0.1%	0.1%	0.1%

Past performance is no guarantee of future results. Asset classes represented by: Large Cap – S&P 500 Index; Small – Russell 2000 Index; Mid – Russell Mid Cap Index; Dev Intl – MSCI EAFE Index; Em Mkt – MSCI Emerging Markets Index; US Intermediate-Term Bonds – Barclays Capital U.S. Aggregate; High Yield Bonds – Barclays Capital U.S. Corp High Yield; REITs – NAREIT ALL REITs; Money Market – Citigroup 3-month Treasury Bill. Hedge Funds – HFRI Fund of Funds. Source: Zephyr Associates.

THOUGHTS ON THE CURRENT ENVIRONMENT

Capital Markets: Strong quarter for risk assets. The S&P 500 returned 3.9%, Developed International 6.5%, Emerging Markets 9.2%.

Fixed Income: Low rates continued and credit spreads tightened for the quarter. Intermediate Fixed Income returned 0.5% this quarter and High Yield (+5.5%) was again a top performer.

Fed: The Fed remained on the sidelines but dissent amongst voting members grew which sets the stage for a rate hike before year-end.

Valuations: Continued easy monetary policies supported growth asset prices. U.S. equity valuations remain elevated vs. long-term averages; 17.2x one year forward P/E on MSCI US Equity Index

Earnings: 3Q earnings estimates reflect a 2.1% year-over-year decline. This would mark the 6th consecutive quarter of a decline. The Energy sector headwind from low commodity prices appears to be rolling off. With the earnings cycle facing headwinds and profit margins near historic highs, it is hard to build an overly bullish case for equities.

Economy: Low global growth persisted and the U.S. is no exception. Q2 GDP growth was 1.4% with expectations of continued modest expansion. ISM surveys (both service and manufacturing) reflect strength, which along with consumer confidence and wage growth, support expansion.

Risks to Continued Growth: Various political elections, increasing populism and changes to easy monetary policy.

Binary Volatility: Periods of heightened volatility in markets (i.e. politics, growth concerns, monetary action) with calm seas in between.

Looking Forward: We are living in a lower return world; low yields, subdued earnings expectations and valuations pose challenges. Risk assets should perform relatively well in a low growth, easy monetary policy environment. Defensive assets provide downside protection during bouts of volatility.

Past performance is not a guarantee of future results. Asset classes represented by: Large Cap – S&P 500 Index; Dev Intl – MSCI EAFE Index; Emerging Markets – MSCI EM Index; Intermediate Fixed Income – Barclay's Capital U.S. Aggregate Index, High Yield – Barclay's Capital High Yield Corporate Index. Data as of 9/30/2016. Source: Zephyr Associates, Factset as of 10/7/16.

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3Q16 PERFORMANCE & ASSET ALLOCATION REVIEW

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EXECUTIVE SUMMARY (AS OF 9/30/16)

Non-Endowment Assets	Market Value	3Q2016	YTD	1 Yr	3 Yrs	5 Yrs	2015	2014	2013	Since Inception****
Operating & Short-Term Pool	$26.3 Million	0.0%	0.3%	0.3%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%
	*Benchmark**	*0.1%*	*0.3%*	*0.3%*	*0.2%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*
Long-Term Pool	$54.7 Million	2.4%	4.4%	6.5%	3.8%	5.3%	-0.3%	4.5%	8.7%	4.7%
	*Benchmark***	*2.3%*	*4.7%*	*7.0%*	*3.8%*	*4.9%*	*0.6%*	*4.0%*	*7.1%*	*4.2%*
Total Non-Endowment Assets	$80.9 Million	2.1%	3.5%	4.7%	2.6%	3.4%	-0.5%	2.9%	5.6%	3.6%
	*Benchmark****	*1.3%*	*2.7%*	*3.9%*	*2.1%*	*2.6%*	*0.4%*	*2.3%*	*3.6%*	*3.0%*

*95% BofA Merrill Lynch 91-Day T-Bill / 5% Barclays 1-3 Yr. Govt
**27% Russell 3000 / 8% MSCI EAFE Gross / 10% YSU Alternative Benchmark / 35% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 20% Barclays Int Govt/Credit
***45% BofA Merrill Lynch 91-Day T-Bill / 19% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 11% Barclays Int Govt/Credit / 6% YSU Alternative 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

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ASSET ALLOCATION AND MANAGER EXECUTIVE SUMMARY (DETAILS CONTAINED IN APPENDIX)

Non-Endowment Asset Pool	Asset Allocation	Portfolio Comments	Investment Manager Comments
Short-Term Pool	In-Line	96% cash and 4% short-term fixed income	Liquidity; modest return overtime (+0.1%/year for 5-years); investments include Star Plus money market.
Long-Term Pool	In-Line	Underweight short-term fixed income by 4%. Overweight intermediate-term fixed income by 3% and domestic equities by 1%. At alternatives target.	*Domestic Equity (+7.5% YTD):* Large/mid cap passive funds continue to outpace the majority of actively managed strategies; Small cap managers (Loomis Sayles, Victory) lagged year-to-date, but continue to outpace over longer time periods. *International Equity (+3.2% YTD):* Dodge & Cox Int'l (value bias) and William Blair (growth bias) were impacted by stock selection and sector allocations year-to-date, but continue to outpace over longer time periods. *Alternative Investments (+3.3% YTD):* Diamond Hill and Wells Fargo returned over 4% year-to-date while Voya Global REIT led the way +7.5%. *Fixed Income (+3.1% YTD):* Managers performed mostly in-line with benchmarks. Credit risk was rewarded.

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ENDOWMENT ASSETS: EXECUTIVE SUMMARY (AS OF 9/30/16)

Endowment Assets	Market Value	Asset Allocation	Composition	3Q2016	YTD	1-Yr	3-Yr
YSU Endowment	$9.2 million	65% Equities/ 35% Fixed Income	Stocks, Bonds, Mutual Funds	1.4%	6.2%	8.5%	7.5%
60 S&P 500 Index/40% Barclays Index				*2.5%*	*7.1%*	*11.4%*	*8.4%*
Kilcawley Center	$94,539	60% Equities/ 40% Fixed Income	Mutual Funds	2.8%	3.7%	21.4%	4.4%
60 S&P 500 Index/40% Barclays Index				*2.5%*	*7.1%*	*11.4%*	*8.4%*
Alumni License Plate	$463,665	67% Equities/ 33% Fixed Income & Cash	Stocks, ETFs, Mutual Funds	3.3%	10.3%	13.9%	7.3%
60 S&P 500 Index/40% Barclays Index				*2.5%*	*7.1%*	*11.4%*	*8.4%*

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)

Allocation to single stock and bond positions can result in differences relative to benchmark. License Plate account weighted heavily in Telecom and Healthcare sectors and Mid/Small Cap stocks.

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FEE REVIEW

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FEE REVIEW: NON-ENDOWMENT ASSETS

Youngstown State University Investments

Non-Endowment Assets (as of 9/30/16)

Operating & Short-Term Pool	Market Value as of 9/30/2016	% of Portfolio	Estimated Annual Fee ($)	Expense Ratio	Morningstar Category Average Fee (%)	Morningstar Institutional Average Fee (%)
JPMorgan 100% U.S. Tr Sec MM Inst	$20,011,850	76.1%	$42,025	0.21%	n/a	n/a
JPMorgan Sweep Account	$183,981	0.7%	$0	0.00%	n/a	n/a
Vanguard Short-Term Federal Adm	$1,075,879	4.1%	$1,076	0.10%	0.79%	0.56%
Star Plus	$5,025,267	19.1%	$0	0.00%	n/a	n/a
Total Operating & ST Investment Management Fee	**$26,296,977**	**100.0%**	**$43,101**	**0.16%**		
Total Domestic Equity	**$15,154,781**	**27.7%**	**$58,304**			
TRP Instl US Structured Rsch	$4,884,873	8.9%	$26,378	0.54%	1.04%	0.73%
Vanguard 500 Index Adm	$4,901,355	9.0%	$2,451	0.05%	1.04%	0.73%
Vanguard Mid Cap Index Adm	$2,816,258	5.2%	$2,253	0.08%	1.16%	0.84%
Loomis Sayles Sm Growth Instl	$1,309,838	2.4%	$12,312	0.94%	1.32%	1.04%
Victory Integrity Sm-Cap Value Y	$1,242,458	2.3%	$14,909	1.20%	1.33%	1.05%
Total International Equity	**$4,301,274**	**7.9%**	**$38,428**			
William Blair International Growth I	$2,179,874	4.0%	$24,851	1.14%	1.31%	0.98%
Dodge & Cox Internat'l Stock	$2,121,399	3.9%	$13,577	0.64%	1.16%	0.86%
Total Alternatives	**$8,524,463**	**15.6%**	**$98,778**			
John Hancock Global Absolute Return I	$1,976,214	3.6%	$26,284	1.33%	n/a	n/a
Wells Fargo Adv Absolute Instl	$2,384,317	4.4%	$28,373	1.19%	n/a	n/a
Diamond Hill Long-Short I	$2,414,932	4.4%	$26,806	1.11%	1.92%	1.62%
Voya Global Real Estate I	$1,749,001	3.2%	$17,315	0.99%	1.39%	1.03%
Total Fixed Income	**$26,671,325**	**48.8%**	**$51,981**			
JPMorgan Core Bond Ultra	$5,471,345	10.0%	$19,150	0.35%	0.81%	0.54%
YSU Intermediate Term Bond	$5,283,115	9.7%	$7,925	0.15%	0.81%	0.54%
YSU Short Term Bond	$12,802,221	23.4%	$19,203	0.15%	0.80%	0.49%
Vanguard Short-Term Bond Instl	$1,288,812	2.4%	$773	0.06%	0.80%	0.49%
DFA Five-Yr Global Fxd-Inc I	$1,825,831	3.3%	$4,930	0.27%	1.03%	0.71%
Total LT/Reserves Pool Investment Management Fee	**$54,651,843**	**100.0%**	**$247,490**	**0.45%**		
Hartland Consulting Fees			$49,500	0.09%		
Trustee Fee (PNC)			$16,396	0.03%		
Total Non-Endowment Assets Fees			**$356,486**	**0.44%**		

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FEE REVIEW: ENDOWMENT ASSETS

	Market Value	% of Portfolio	Estimated Annual Fee ($)	Annual Manager Fee	Manager	Morningstar Institutional Average Fee (%)
Total YSU Endowment	**$9,217,640**	**94.3%**	**$46,088**	**0.50%**	**Huntington**	
YSU Endowment Fund	$9,217,640	94.3%	$46,088	0.50%	Huntington	n/a
Total Kilcawley Center*	**$94,539**	**1.0%**	**$955**	**1.01%**	**Farmers**	
Vanguard Balanced Index Fund I	$93,001	1.0%	$205	0.22%	Farmers	0.96%
FTC Conservative Fund	$1,538	0.0%	$0	0.00%	Farmers	n/a
Total Alumni License Plate	**$463,665**	**4.7%**	**$3,663**	**0.79%**	**Farmers**	
Alumni License Plate Funds	$463,665	4.7%	$3,663	0.79%	Farmers	n/a
Total Endowment Assets Investment Management Fee	**$9,775,844**	**100.0%**	**$50,706**			

*Annual Manager Fee total includes 0.79% fee for the total fund in addition to the expense ratio for the index fund.

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HIGH YIELD FIXED INCOME CONTINUED

SUMMARY

The YSU Non-Endowment fixed income assets are exclusively investment grade.

The assets are safe, and high quality, but yield generated from the portfolio is low.

In a low interest rate environment it is prudent to consider generating additional yield to help off-set the impact from rising interest rates.

Including high yield bonds in the portfolio would increase the portfolio yield, but would also increase the portfolio's credit risk.

YSU's current investment guidelines do not permit below investment grade, or high yield, investments.

Today's Recommendations

- Approve edits to Asset Allocation Guidelines to allow for Fixed Income (Action)
- Approve 5% position in Prudential High Yield Bond (Action) –reallocate from Intermediate-Term Fixed Income

	Average Maturity	Average Duration	Credit Quality	Yield	Fee
YSU Portfolio Today	3.7 years	3.2 years	AA	1.4%	0.50%
Proposed	3.6 years	3.1 years	AA	1.9%	0.51%

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HISTORICAL RISK/RETURN PROFILE
5% ALLOCATION

Zephyr StyleADVISOR

Zephyr StyleADVISOR: Hartland and Company

Drawdown Table

October 2006 - September 2016: Summary Statistics

	Return	Standard Deviation	Sharpe Ratio	Max Drawdown
YSU Fixed Income Portfolio - Current	3.22%	1.79%	1.33	-1.78%
YSU Fixed Income - Proposed 5% High Yield	3.64%	1.99%	1.41	-3.65%

Calendar Year Return

As of September 2016

	YTD	2015	2014	2013	2012	2011	2010	2009	2008	2007
YSU Fixed Income Portfolio - Current	2.70%	0.82%	1.71%	0.04%	2.31%	3.26%	4.04%	4.40%	5.02%	7.05%
YSU Fixed Income - Proposed 5% High Yield	3.74%	0.27%	1.65%	0.86%	3.44%	3.22%	4.93%	9.03%	1.66%	6.50%

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ASSET ALLOCATION GUIDELINE EDITS

- Page 3 – Asset Allocation Guidelines

  - Intermediate-term fixed income should normally represent 20% of the total market value of the pool. Although the actual percentage will fluctuate with market conditions, short-term fixed income levels in excess of 30% or below 10% will result in rebalancing the intermediate-term fixed income component of the pool to its fixed income target level. The Subcommittee will review the intermediate-term fixed income allocation on a quarterly basis. Up to 10% of the fixed income investments in the Long Term Pool may be made in below investment grade debt (high yield).

- Page 4 – Fixed Income Guidelines

  - **Addition:** Below investment grade fixed income investments are permissible up to 10% of the total fixed income allocation; however, the total portfolio will seek an average weighted credit quality of "AA" or better by Standard & Poor's

  - **Removal:** Fixed-income investments shall be rated "BAA" (investment grade) or better by Moody's and BBB (investment grade) or better by Standard & Poor's with emphasis toward "A" or better issues. Regarding below investment grade holdings, YSU will target the use of investment managers that, as a part of their investment process, strategy and risk controls, do not initially purchase bonds that are below investment grade. However, it is understood that, from time to time, individual bonds or holdings may fall below investment grade. It is expected that investment managers will handle these instances consistent with their stated investment process, strategy and risk controls. Therefore, it is accepted that from time to time, a nominal amount of the non-endowment assets may be held in a below investment grade bond.

PRUDENTIAL HIGH YIELD BOND

- **Parent** – Prudential Global Investment Management (PGIM) – a Prudential Financial business – has been in business for more than 135 years. Prudential Fixed Income has over $650 billion in Assets.

- **People** – Robert Cignarella, Michael Collins, Terence Wheat, Robert Spano, Ryan Kelly, Brian Clapp and Daniel Thorogood of Prudential Fixed Income are primarily responsible for management of the Prudential High Yield Fund. The team is supported by approximately 30 analysts, averaging 18 years' experience, covering U.S. and European issuers.

- **Process** – The defining feature of their Strategy is research-driven security selection. Strategy expects to generate 60% of excess return from security selection, 30% from industry rotation, and 10% from trading. Strategy de-emphasizes both duration and yield curve positioning.

- **Portfolio**
  - Expense ratio = 0.58%, $7.8 billion in assets, duration = 3.93 years, average credit quality of "B"

- **Performance** – Benchmark-like performance in "up" years; downside protection in volatile years

As of 9/30/16	10-Year Return	10-Year Risk	2008 Performance	Max Drawdown	10-Yr Median Rolling Peer Return Rank
Prudential High Yield	7.52%	8.92%	-22.14%	-22.88%	22nd
Barclays Corp High Yield Index	7.71%	10.74%	-26.16%	-27.11%	13th

Additional detail in Appendix

REBALANCE RECOMMENDATION

	Market Value as of 10/14/2016			New Allocation				
	$	%	Change	$	%	Policy Target	Policy Range	Difference
Total Operating & Short Term	**$26,293,999**	**100.0%**	**$0**	**$26,293,999**	**100.0%**	**100.0%**		
Operating Assets	**$25,221,098**	**95.9%**	**$0**	**$25,221,098**	**95.9%**		**60-100%**	
JPMorgan 100% U.S. Treas. MM Instl	$20,011,850	76.1%		$20,011,850	76.1%			
JPMorgan Sweep Account*	$183,981	0.7%		$183,981	0.7%			
Star Plus Account*	$5,025,267	19.1%		$5,025,267	19.1%			
Short-Term Assets	**$1,072,901**	**4.1%**	**$0**	**$1,072,901**	**4.1%**		**0-40%**	
Vanguard Short-Term Federal Adm	$1,072,901	4.1%		$1,072,901	4.1%			
Total Long Term Reserves Pool	**$54,001,656**	**100.0%**	**$0**	**$54,001,656**	**100.0%**	**100.0%**		
Domestic Equity	**$14,855,801**	**27.5%**	**$0**	**$14,855,801**	**27.5%**	**27.0%**	**20-35%**	**0.5%**
Large Cap	**$9,633,120**	**17.8%**	**$0**	**$9,633,120**	**17.8%**			
TRP Instl US Structured Research	$4,807,656	8.9%		$4,807,656	8.9%			
Vanguard 500 Index Adm	$4,825,464	8.9%		$4,825,464	8.9%			
Small/Mid Cap	**$5,222,681**	**9.7%**	**$0**	**$5,222,681**	**9.7%**			
Vanguard Mid Cap Index Adm	$2,737,901	5.1%		$2,737,901	5.1%			
Loomis Sayles Small Growth Instl	$1,268,812	2.3%		$1,268,812	2.3%			
Victory Integrity Small Cap Value Y	$1,215,968	2.3%		$1,215,968	2.3%			
International Equity	**$4,223,682**	**7.8%**	**$0**	**$4,223,682**	**7.8%**	**8.0%**	**0-15%**	**-0.2%**
William Blair International Growth I	$2,131,153	3.9%		$2,131,153	3.9%			
Dodge & Cox International Stock	$2,092,529	3.9%		$2,092,529	3.9%			
Total Equity	**$19,079,483**	**35.3%**	**$0**	**$19,079,483**	**35.3%**	**35.0%**	**25-45%**	**0.3%**
Alternatives	**$8,404,524**	**15.6%**	**$0**	**$8,404,524**	**15.6%**	**15.0%**	**0-20%**	**0.6%**
Jhancock Global Absolute Return I	$1,976,214	3.7%		$1,976,214	3.7%			
Wells Fargo Adv Absolute Return I	$2,361,823	4.4%		$2,361,823	4.4%			
Diamond Hill Long-Short I	$2,408,143	4.5%		$2,408,143	4.5%			
Voya Global Real Estate I	$1,658,344	3.1%		$1,658,344	3.1%			
Fixed Income	**$26,517,649**	**49.1%**	**$0**	**$26,517,649**	**49.1%**	**50.0%**		
Short Term Fixed Income	**$15,852,513**	**29.4%**	**$0**	**$15,852,513**	**29.4%**	**30.0%**	**25-45%**	**-0.6%**
YSU Short Term Bond	$12,749,203	23.6%		$12,749,203	23.6%			
DFA Five-Year Global	$1,819,310	3.4%		$1,819,310	3.4%			
Vanguard Short Term Bond Index	$1,284,000	2.4%		$1,284,000	2.4%			
Intermediate Fixed Income	**$10,665,136**	**19.7%**	**$0**	**$10,665,136**	**19.7%**	**20.0%**	**10-30%**	**-0.3%**
JPMorgan Core Bond Ultra R6	$5,430,285	10.1%	-$1,250,000	$4,180,285	7.7%			
YSU Intermediate Term Bond	$5,234,851	9.7%	-$1,250,000	$3,984,851	7.4%			
Prudential High Yield	$0	0.0%	$2,500,000	$2,500,000	4.6%			
Total University Assets	**$80,295,655**			**$80,295,655**				

*As of 9/30/2016

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APPENDIX

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HISTORICAL ASSET CLASS RETURNS

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Q1 2016	Q2 2016	Q3 2016	YTD
Em Mkt 34.5%	REITs 34.3%	Em Mkt 39.8%	Glb Bond 9.4%	Em Mkt 79.0%	REITs 27.6%	US Bonds 7.8%	REITs 20.1%	Sm/Mid 36.8%	REITs 27.2%	REITs 2.3%	Glb Bond 8.9%	REITs 7.4%	Em Mkt 9.2%	Em Mkt 16.4%
Dev Intl 14.0%	Em Mkt 32.6%	Dev Intl 11.6%	US Bonds 5.2%	Hi Yld 57.5%	Sm/Mid 26.7%	REITs 7.3%	Em Mkt 18.6%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	REITs 5.9%	Hi Yld 5.9%	Sm/Mid 6.6%	Hi Yld 15.3%
REITs 8.3%	Dev Intl 26.9%	Glb Bond 10.9%	Cash 2.1%	Sm/Mid 34.4%	Em Mkt 19.2%	Glb Bond 5.2%	Dev Intl 17.9%	Dev Intl 23.3%	Sm/Mid 7.1%	US Bonds 0.6%	Em Mkt 5.8%	Glb Bond 4.8%	Dev Intl 6.5%	Glb Bond 14.8%
Sm/Mid 8.1%	Sm/Mid 16.2%	Hdg Fnds 9.7%	Hdg Fnds -20.8%	Dev Intl 32.5%	Hi Yld 15.2%	Hi Yld 4.4%	Sm/Mid 17.9%	Hdg Fnds 9.0%	US Bonds 6.0%	Cash 0.1%	Hi Yld 3.3%	Sm/Mid 3.6%	Hi Yld 5.5%	REITs 12.6%
Hdg Fnds 7.5%	Large Cap 15.8%	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%	Dev Intl -0.4%	US Bonds 3.0%	Large Cap 2.5%	Large Cap 3.9%	Sm/Mid 10.8%
Large Cap 4.9%	Hi Yld 11.8%	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%	Hdg Fnds -0.4%	Large Cap 1.3%	US Bonds 2.2%	Hdg Fnds 2.1%	Large Cap 7.8%
Cash 3.1%	Hdg Fnds 10.2%	Cash 5.0%	Large Cap -37.0%	Hdg Fnds 11.5%	Dev Intl 8.2%	Sm/Mid -2.5%	Hdg Fnds 5.4%	Cash 0.1%	Cash 0.0%	Sm/Mid -2.9%	Sm/Mid 0.4%	Em Mkt 0.8%	Glb Bond 0.6%	US Bonds 5.8%
Hi Yld 2.7%	Glb Bond 7.3%	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 -1.8%	Hi Yld -4.6%	Cash 0.1%	Hdg Fnds 0.5%	US Bonds 0.5%	Dev Intl 2.2%
US Bonds 2.4%	Cash 4.9%	Sm/Mid 1.4%	Dev Intl -43.1%	Glb Bond 4.4%	Glb Bond 6.1%	Dev Intl -11.7%	Glb Bond 1.8%	Em Mkt -2.3%	Glb Bond -2.8%	Glb Bond -4.8%	Hdg Fnds -2.9%	Cash 0.1%	Cash 0.1%	Cash 0.2%
Glb Bond -8.8%	US Bonds 4.3%	REITs -17.8%	Em Mkt -53.2%	Cash 0.2%	Cash 0.1%	Em Mkt -18.2%	Cash 0.1%	Glb Bond -4.9%	Dev Intl -4.5%	Em Mkt -14.6%	Dev Intl -2.9%	Dev Intl -1.2%	REITs -1.0%	Hdg Fnds -0.4%

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 9/30/2016 Source: Zephyr Associates.

HARTLAND

ECONOMIC PROJECTIONS

Federal Reserve Board Members and Bank Presidents

	2016	2017	2018	2019	Longer Run*
GDP	1.8%	2.0%	2.0%	1.8%	1.8%
Unemployment Rate	4.8%	4.6%	4.5%	4.6%	4.8%
Core PCE Inflation	1.7%	1.8%	2.0%	2.0%	

*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.

This implies:

- Slow Growth
- Accommodative Fed
- Low Interest Rates

Source: Federal Reserve 9/21/2016

HARTLAND

INTERNATIONAL MARKETS: CURRENCY IMPACT

Developed Markets (MSCI EAFE)

	USD Return	Local Return	Weighting
AUSTRALIA	8.0%	5.0%	7.3%
AUSTRIA	16.9%	15.5%	0.2%
BELGIUM	5.0%	3.8%	1.4%
DENMARK	-6.2%	-7.2%	1.8%
FINLAND	7.4%	6.2%	1.0%
FRANCE	6.4%	5.2%	9.7%
GERMANY	10.0%	8.8%	9.0%
HONG KONG	11.9%	11.9%	3.5%
IRELAND	7.5%	6.3%	0.5%
ISRAEL	-1.8%	-3.8%	0.7%
ITALY	2.3%	1.2%	1.9%
JAPAN	8.8%	7.4%	23.8%
NETHERLANDS	9.2%	8.1%	3.4%
NEW ZEALAND	12.9%	10.6%	0.2%
NORWAY	6.4%	1.6%	0.6%
PORTUGAL	6.5%	5.3%	0.2%
SINGAPORE	-0.1%	1.2%	1.3%
SPAIN	9.5%	8.2%	3.0%
SWEDEN	7.5%	8.7%	2.8%
SWITZERLAND	2.7%	2.2%	9.0%
UNITED KINGDOM	4.0%	7.0%	18.9%

Quarter	**6.5%**	**6.1%**	
1 Year	**7.1%**	**5.2%**	

Emerging Markets (MSCI EM)

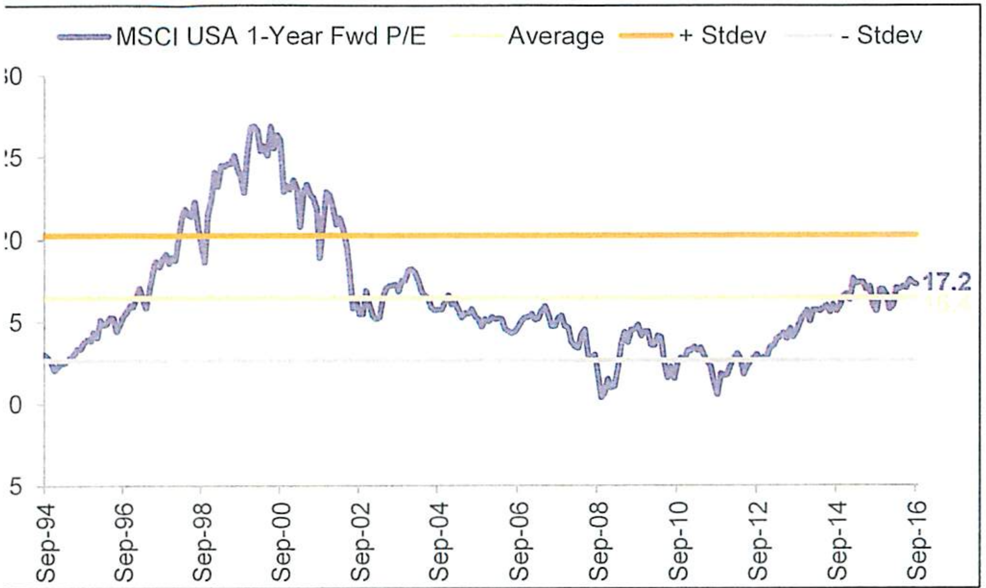
	USD Return	Local Return	Weighting
BRAZIL	11.4%	12.9%	7.4%
CHILE	-1.7%	-2.2%	1.1%
CHINA	14.0%	13.9%	27.0%
COLOMBIA	2.8%	1.7%	0.5%
CZECH REPUBLIC	-0.4%	-1.7%	0.2%
EGYPT	21.6%	21.6%	0.2%
GREECE	1.0%	-0.2%	0.3%
HUNGARY	10.8%	7.3%	0.3%
INDIA	5.9%	4.5%	8.5%
INDONESIA	9.5%	8.2%	2.7%
KOREA	11.0%	6.1%	14.8%
MALAYSIA	-1.5%	1.0%	2.7%
MEXICO	-2.2%	2.6%	3.7%
PERU	1.1%	1.1%	0.4%
PHILIPPINES	-5.2%	-2.3%	1.3%
POLAND	3.4%	-0.1%	1.1%
RUSSIA	8.9%	7.7%	3.7%
SOUTH AFRICA	6.4%	-0.1%	7.1%
TAIWAN	12.4%	9.2%	12.1%
THAILAND	7.3%	5.8%	2.2%
TURKEY	-5.3%	-1.1%	1.2%

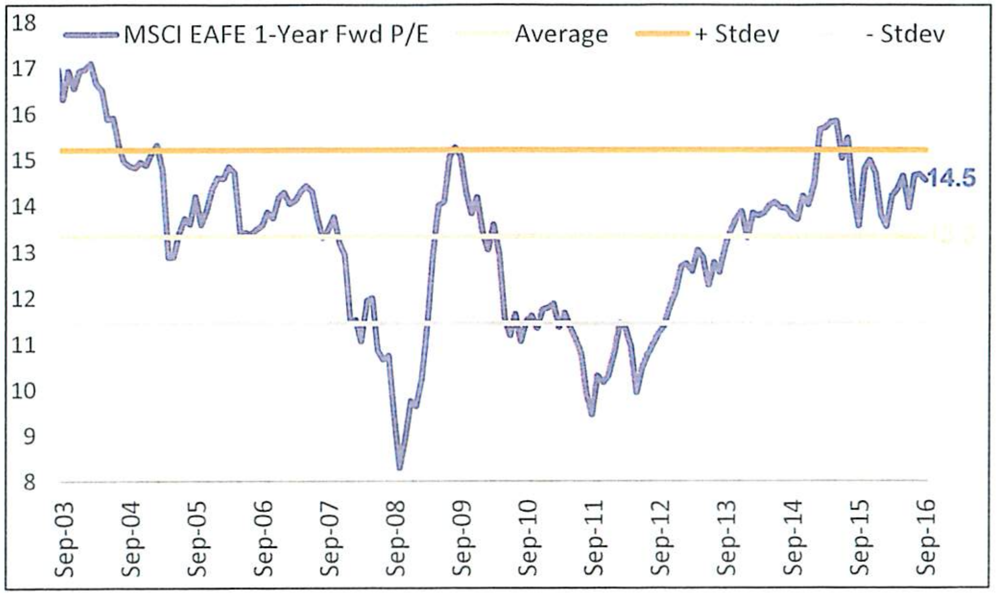
Quarter	**9.2%**	**7.7%**	
1 Year	**17.2%**	**13.4%**	

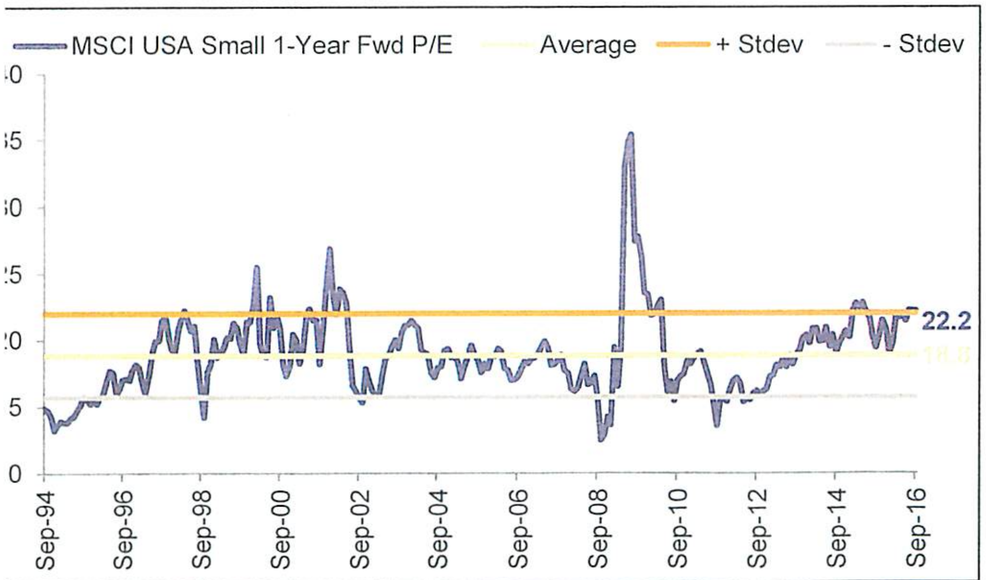
Past performance is not a guarantee of future results. Data as of 09/30/2016 Source: MSCI Barra

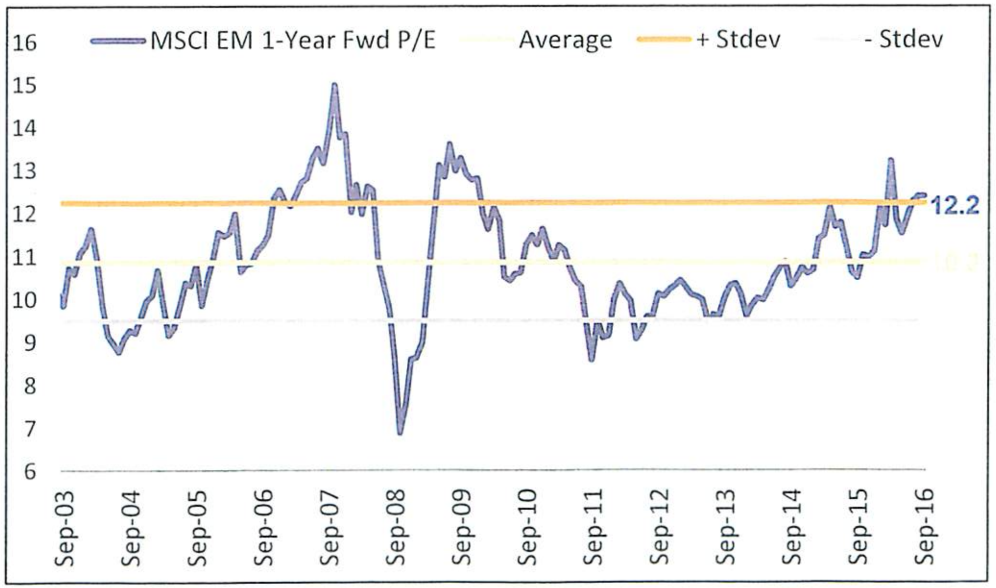
HARTLAND

GLOBAL EQUITY VALUATIONS









Source: MSCI
As of 9/30/2016

HARTLAND

RISING INTEREST RATES & PRICE SENSITIVITY

One Year Change in Nominal Interest Rates

	Down 25 bps	No Change	Up 25 bps	Up 50 bps	Up 100 bps
High Yield Corp.	7.18%	6.17%	5.16%	4.15%	2.12%
U.S. Aggregate	3.34%	1.96%	0.58%	-0.80%	-3.55%
Global Aggregate	2.86%	1.13%	-0.60%	-2.33%	-5.78%
Emerging Markets	5.97%	4.50%	3.03%	1.56%	-1.38%
3-Yr Treasury	1.61%	0.88%	0.15%	-0.58%	-2.03%
10-Yr Treasury	3.91%	1.60%	-0.71%	-3.02%	-7.64%

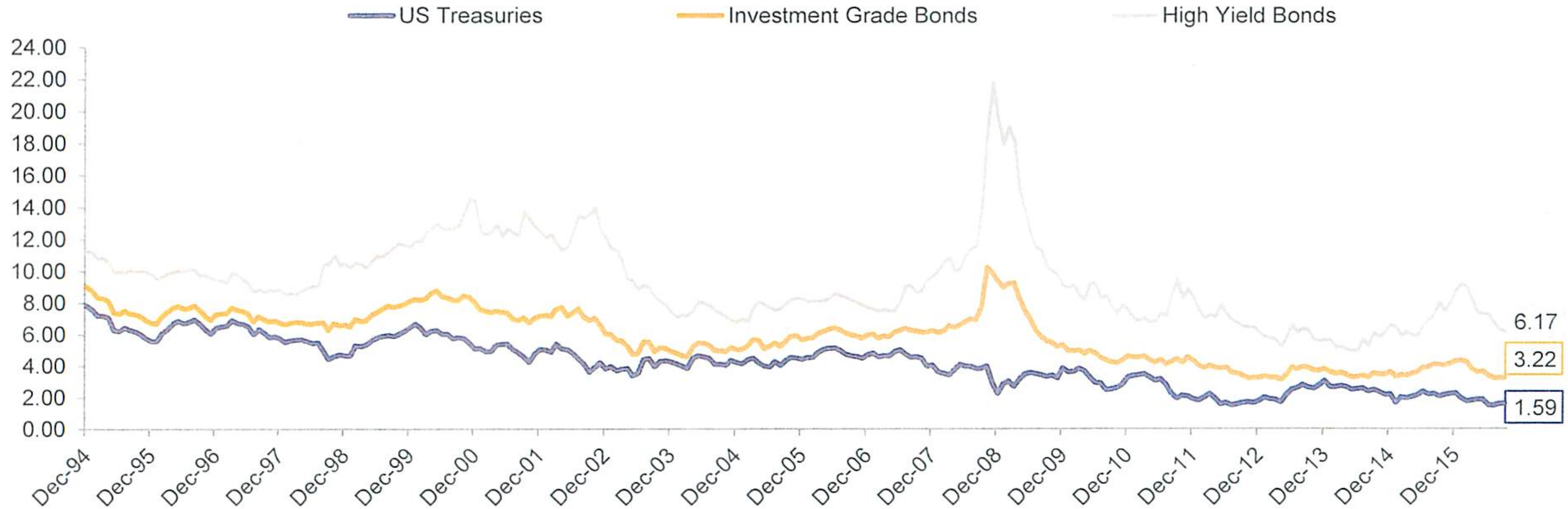
If interest rates rise 50bps, the Barclays Aggregate Index could experience a decline of -0.80%.

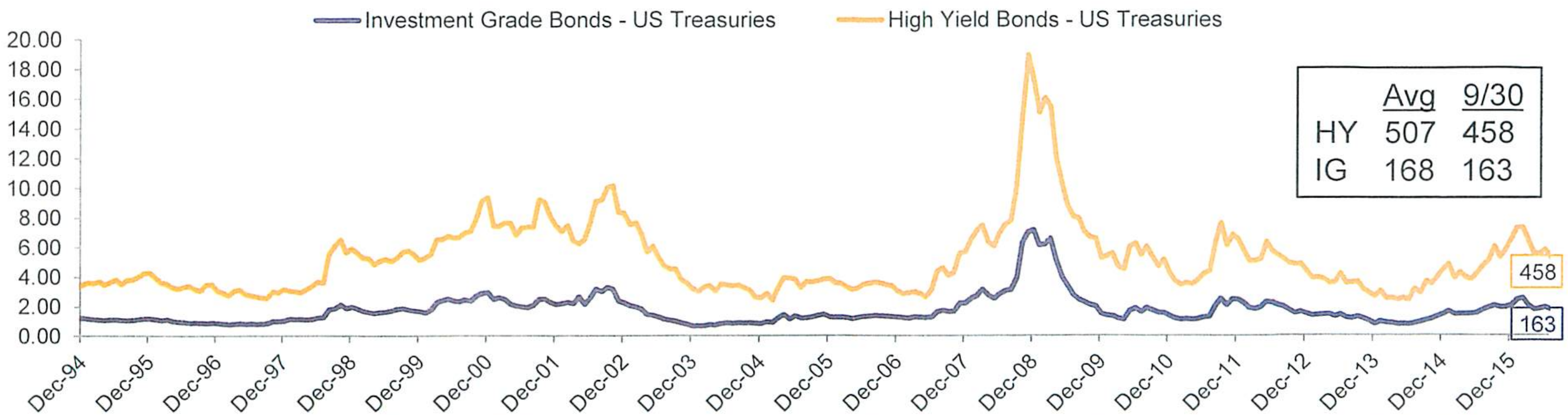
If interest rate rise 100bps, the Barclays Aggregate Index could decline -3.55%.

HARTLAND

CORPORATE SPREADS: INVESTMENT GRADE AND HIGH YIELD TO 10-YEAR TREASURIES

Historical Bond Yields





	Avg	9/30
HY	507	458
IG	168	163

Past performance is not a 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 9/30/2016

HARTLAND

independence
expertise
results

NON-ENDOWMENT ASSETS: POLICY COMPLIANCE

As of September 30, 2016

Total Plan Asset Allocation Policy	Range	Current
Operating & Short-Term Pool	25% - 50%	28%
Long Term/ Reserves Pool	50% - 75%	72%

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%	8%
Total Equity	35%	25% - 45%	36%
Alternatives	15%	0%-20%	16%
Short-Term Fixed Income	30%	25% - 45%	26%
Intermediate Fixed Income	20%	10% - 30%	23%
Cash & Cash Equivalents	0%	0% - 5%	0%

In Line   Within Tolerance   Review

HARTLAND

NON-ENDOWMENT PERFORMANCE REPORT CARD

	Ending September 30, 2016								Calendar Years			Inception	
	2016 Q3 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2015 (%)	2014 (%)	2013 (%)	Return (%)	Since
Total University Assets	**2.1**	**3.5**	**4.7**	**2.0**	**2.6**	**3.4**	**3.2**	**3.8**	**-0.5**	**2.9**	**5.6**	**3.6**	**Mar-04**
Total Policy Benchmark	*1.3*	*2.7*	*3.9*	*1.9*	*2.1*	*2.6*	*2.3*	*3.0*	*0.2*	*2.3*	*3.6*	*3.0*	*Mar-04*
Total Operating & Short Term	**0.0**	**0.3**	**0.3**	**0.2**	**0.1**	**0.1**	**--**	**--**	**0.1**	**0.1**	**0.0**	**0.1**	**Jun-10**
Total Operating & Short Term Benchmark	*0.1*	*0.3*	*0.3*	*0.2*	*0.2*	*0.1*	*0.1*	*0.9*	*0.1*	*0.1*	*0.1*	*0.1*	*Jun-10*
JPMorgan 100% U.S. Tr Sec MM Inst	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	Sep-11
BofA Merrill Lynch 91-Day T-Bill	*0.1*	*0.2*	*0.3*	*0.1*	*0.1*	*0.1*	*0.1*	*0.9*	*0.1*	*0.0*	*0.1*	*0.1*	*Sep-11*
JPMorgan Sweep Account													
Vanguard Short-Term Federal Adm	0.1	2.1	1.7	1.7	1.4	1.2	1.7	3.0	0.8	1.3	-0.2	1.3	Sep-10
Barclays 1-5 Yr. Govt.	*-0.2*	*2.2*	*1.5*	*1.8*	*1.4*	*1.1*	*1.7*	*3.0*	*0.9*	*1.2*	*-0.1*	*1.3*	*Sep-10*
Star Plus	0.1	0.3	0.3	0.3	--	--	--	--	0.2	--	--	0.3	Jan-14
BofA Merrill Lynch 91-Day T-Bill	*0.1*	*0.2*	*0.3*	*0.1*	*0.1*	*0.1*	*0.1*	*0.9*	*0.1*	*0.0*	*0.1*	*0.1*	*Jan-14*
Total Long Term/ Reserves Pool	**2.4**	**4.4**	**6.5**	**2.9**	**3.8**	**5.3**	**--**	**--**	**-0.3**	**4.5**	**8.7**	**4.7**	**Jun-10**
Total Long Term/ Reserves Fund Benchmark	*2.3*	*4.7*	*7.0*	*3.2*	*3.8*	*4.9*	*4.2*	*4.5*	*0.3*	*4.0*	*7.1*	*4.2*	*Jun-10*
Total Domestic Equity	**4.7**	**7.5**	**13.8**	**7.0**	**9.8**	**16.2**	**--**	**--**	**0.7**	**11.6**	**35.2**	**14.8**	**Jun-10**
Russell 3000	*4.4*	*8.2*	*15.0*	*7.0*	*10.4*	*16.4*	*13.2*	*7.4*	*0.5*	*12.6*	*33.6*	*15.0*	*Jun-10*
TRP Instl US Structured Rsch	4.4	7.1	15.5	7.5	11.1	16.4	12.9	--	2.9	12.4	32.9	14.9	Jun-10
S&P 500	*3.9*	*7.8*	*15.4*	*7.1*	*11.2*	*16.4*	*13.2*	*7.2*	*1.4*	*13.7*	*32.4*	*15.1*	*Jun-10*
Vanguard 500 Index Adm	3.8	7.8	15.4	7.1	11.1	16.3	13.1	7.2	1.4	13.6	32.3	15.0	Jun-10
S&P 500	*3.9*	*7.8*	*15.4*	*7.1*	*11.2*	*16.4*	*13.2*	*7.2*	*1.4*	*13.7*	*32.4*	*15.1*	*Jun-10*
Vanguard Mid Cap Index Adm	5.2	8.9	12.6	7.0	9.9	16.5	14.1	8.2	-1.3	13.8	35.1	13.5	Sep-10
Vanguard Mid Cap Index Benchmark	*5.2*	*8.9*	*12.7*	*7.1*	*10.0*	*16.6*	*14.2*	*8.2*	*-1.3*	*13.8*	*35.3*	*13.5*	*Sep-10*
Loomis Sayles Sm Growth Instl	5.6	3.3	6.9	6.4	3.7	14.3	14.2	9.4	1.1	1.1	47.7	13.1	Sep-10
Russell 2000 Growth	*9.2*	*7.5*	*12.1*	*8.0*	*6.6*	*16.1*	*13.3*	*8.3*	*-1.4*	*5.6*	*43.3*	*13.1*	*Sep-10*

NON-ENDOWMENT ASSETS: REPORT CARD

	Ending September 30, 2016								Calendar Years			Inception	
	2016 Q3 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2015 (%)	2014 (%)	2013 (%)	Return (%)	Since
Victory Integrity Sm-Cap Value Y	7.4	9.0	10.7	5.1	5.9	15.9	12.7	7.4	-6.7	7.3	41.0	12.3	Sep-10
Russell 2000 Value	*8.9*	*15.5*	*18.8*	*8.1*	*6.8*	*15.4*	*11.6*	*5.8*	*-7.5*	*4.2*	*34.5*	*11.6*	*Sep-10*
Total International Equity	**7.8**	**3.2**	**6.1**	**-3.0**	**1.0**	**7.9**	**--**	**--**	**-5.9**	**-1.4**	**23.4**	**3.6**	**Sep-10**
MSCI EAFE Gross	*6.5*	*2.2*	*7.1*	*-0.9*	*0.9*	*7.9*	*4.7*	*2.3*	*-0.4*	*-4.5*	*23.3*	*4.9*	*Sep-10*
MSCI ACWI ex USA Gross	*7.0*	*6.3*	*9.8*	*-1.6*	*0.6*	*6.5*	*4.1*	*2.6*	*-5.3*	*-3.4*	*15.8*	*3.5*	*Sep-10*
William Blair International Growth I	5.6	1.7	6.5	0.0	2.0	8.8	6.7	3.1	0.0	-2.9	19.0	7.3	Jun-12
MSCI ACWI ex USA Gross	*7.0*	*6.3*	*9.8*	*-1.6*	*0.6*	*6.5*	*4.1*	*2.6*	*-5.3*	*-3.4*	*15.8*	*6.0*	*Jun-12*
Dodge & Cox Internat'l Stock	10.1	4.7	5.6	-5.9	0.1	8.2	4.8	2.9	-11.4	0.1	26.3	4.3	Sep-10
MSCI EAFE Gross	*6.5*	*2.2*	*7.1*	*-0.9*	*0.9*	*7.9*	*4.7*	*2.3*	*-0.4*	*-4.5*	*23.3*	*4.9*	*Sep-10*
Total Alternatives	**2.8**	**3.3**	**6.3**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**-1.4**	**Mar-15**
Total Alternatives Benchmark	*3.8*	*5.8*	*8.3*	--	--	--	--	--	--	--	--	--	*Mar-15*
John Hancock Global Absolute Return I	0.2	-4.1	-3.4	-1.0	1.6	--	--	--	1.7	4.0	4.8	-0.7	Mar-16
HFRI Relative Value (Total) Index	*3.1*	*5.8*	*5.6*	*2.3*	*4.0*	*5.6*	*6.0*	*5.4*	*-0.3*	*4.0*	*7.1*	*6.2*	*Mar-16*
Wells Fargo Adv Absolute Instl	3.4	4.3	5.8	-0.7	1.3	--	--	--	-4.6	0.9	10.2	-2.7	Mar-15
CPI +3%	*1.0*	*3.8*	*4.1*	*3.6*	*4.0*	*4.3*	*4.6*	*4.7*	*3.5*	*4.4*	*4.3*	*5.0*	*Mar-15*
GMO Benchmark-Free Alloc III	*3.5*	*4.6*	*6.2*	*-0.3*	*1.6*	*5.0*	*5.0*	*5.5*	*-4.3*	*1.2*	*10.7*	*-2.3*	*Mar-15*
Diamond Hill Long-Short I	6.0	4.8	9.0	3.1	5.7	10.4	7.3	4.6	-1.4	7.5	23.2	1.7	Mar-15
HFRI Equity Hedge (Total) Index	*4.7*	*4.2*	*6.0*	*1.6*	*3.2*	*5.6*	*4.3*	*3.3*	*-1.0*	*1.8*	*14.3*	*0.9*	*Mar-15*
Voya Global Real Estate I	0.9	7.5	11.3	6.5	6.6	11.0	8.7	3.7	-1.7	14.0	3.9	1.0	Mar-15
FTSE NAREIT Developed	*1.3*	*10.2*	*14.8*	*8.6*	*7.7*	*12.3*	*10.0*	*3.4*	*-0.8*	*15.0*	*3.7*	*3.1*	*Mar-15*
Total Fixed Income	**0.2**	**3.1**	**2.6**	**2.2**	**2.0**	**1.9**	**--**	**--**	**0.8**	**2.1**	**-0.1**	**2.3**	**Jun-10**
Total Fixed Income Benchmark	*0.1*	*2.6*	*2.1*	*1.9*	*1.8*	*1.6*	*2.2*	*3.2*	*0.8*	*1.7*	*0.1*	*1.9*	*Jun-10*