Youngstown
STATE UNIVERSITY

BOARD OF TRUSTEES
INVESTMENT SUBCOMMITTEE

Thursday, September 3, 2015	**Tod Hall**
12:30 p.m.	**Board Meeting Room**

AGENDA

A. Disposition of Minutes for Meetings Held December 9, 2014; and June 2, 2015

B. Old Business

C. Subcommittee Item

1. Discussion Item

a. June 30, 2015 Quarterly Investment Performance Review **Tab 1**
Mike Shebak and Sarah Parker will report.

D. New Business

E. Adjournment

AGENDA ITEM: C.1.a.

AGENDA TOPIC: June 30, 2015 Quarterly Investment Performance Review

CONTACT(S): Mike Shebak and Sarah Parker from Hartland

BACKGROUND: Investment review of the YSU Non-Endowment Assets.

SUMMARY AND ANALYSIS:

I. Market Update
   - International markets led the way up +0.8% in the quarter (MSCI EAFE Index); S&P 500 +0.3%, Barclays Aggregate -1.7%

II. Non-Endowment 2Q15 Performance and Asset Allocation Review
   - Performance
     - Long-Term Pool Market Value = $53.153 million, Short-Term Pool = $11.145 million
       I. Total Non-Endowment Market Value = $64.297 million
     - Long-Term Pool returned -0.3% in the quarter, Short-Term Pool returned +0.0%
       I. Total Non-Endowment assets return = -0.3%
   - Asset Allocation
     - Long-Term Pool: 38% stocks/10% alternatives/52% bonds
     - Short-Term Pool: 91% cash/9% bonds
     - In-compliance with Investment Policy

III. Peer Asset Allocation Comparisons
     - State University asset allocations range from 25% in fixed income and cash to 100% fixed income and cash
     - Alternative investments range from 0% to 60%
     - Hartland recommends the Committee consider additional trimming of fixed income in favor of additional alternative investments
     - Hartland will provide considerations for new strategic asset allocations and alternative investments at the December BOT meeting

RESOLUTION: N/A – DISCUSSION ITEM ONLY

REVIEWED AS TO FORM AND CONTENT:

James P. Tressel

James P. Tressel, President

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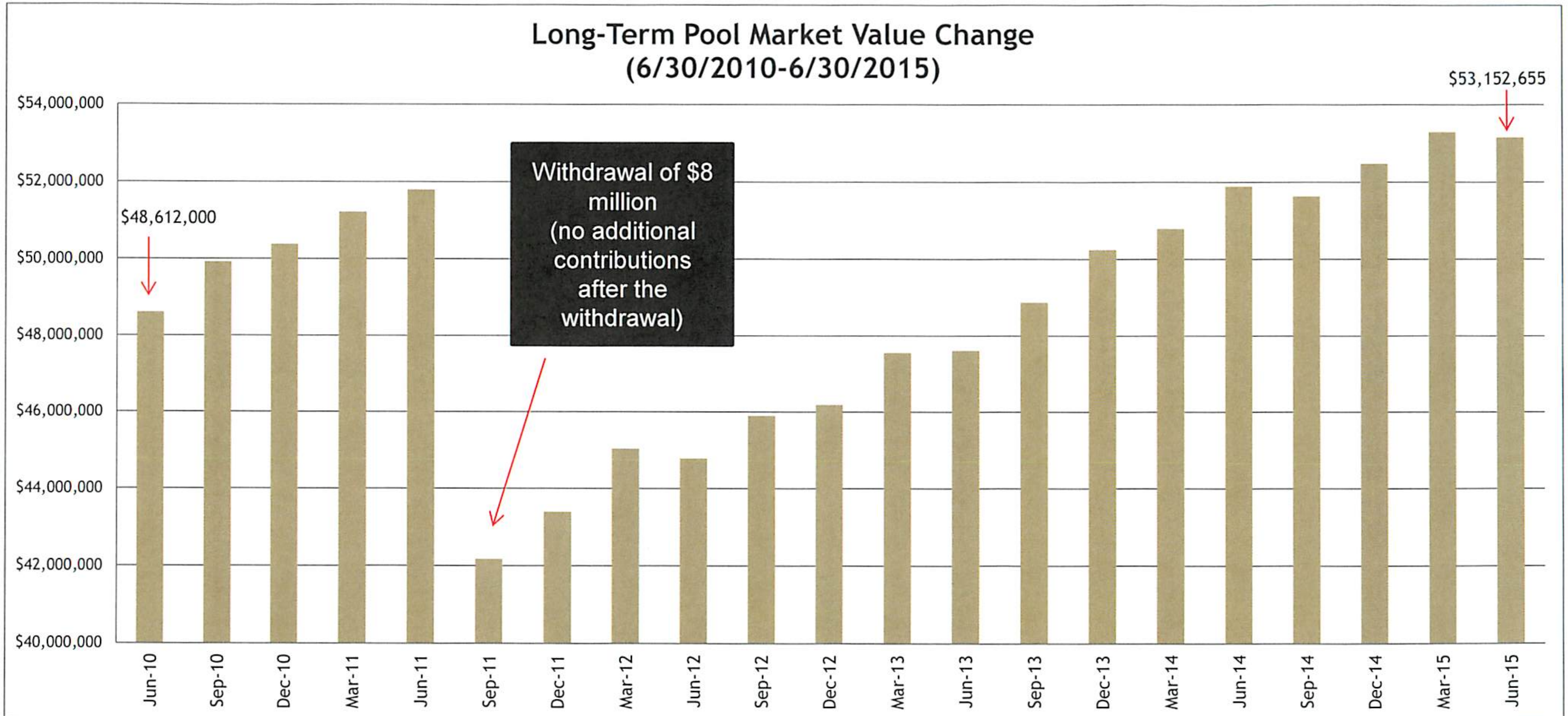
LONG-TERM POOL GROWTH OF ASSETS



6/30/10-6/30/2015 Investment Earnings: $13.4 million

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September 3, 2015

YOUNGSTOWN STATE UNIVERSITY

NON-ENDOWMENT & ENDOWMENT ASSETS

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Cleveland, Ohio 44114
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PERIODIC CHART: ASSET CLASSES

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Q1 2015	Q2 2015
REITs 30.4%	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%	Sm/Mid 5.2%	Dev Intl 0.8%
Em Mkt 26.0%	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%	Dev Intl 5.0%	Em Mkt 0.8%
Dev Intl 20.7%	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%	REITs 4.1%	Large Cap 0.3%
Sm/Mid 18.3%	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%	Hdg Fnds 2.6%	Cash 0.0%
Glb Bond 12.1%	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%	Hi Yld 2.6%	Hi Yld -0.1%
Large Cap 10.9%	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%	Em Mkt 2.3%	Sm/Mid -0.3%
Hi Yld 10.9%	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%	US Bonds 1.6%	Glb Bond -1.5%
Hdg Fnds 7.2%	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%	Large Cap 1.0%	US Bonds -1.7%
US Bonds 4.3%	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%	Cash 0.0%	REITs -8.9%
Cash 1.3%	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%	Glb Bond -3.7%	Hdg Fnds N/A

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 6/30/2015 Source: Zephyr Associates.

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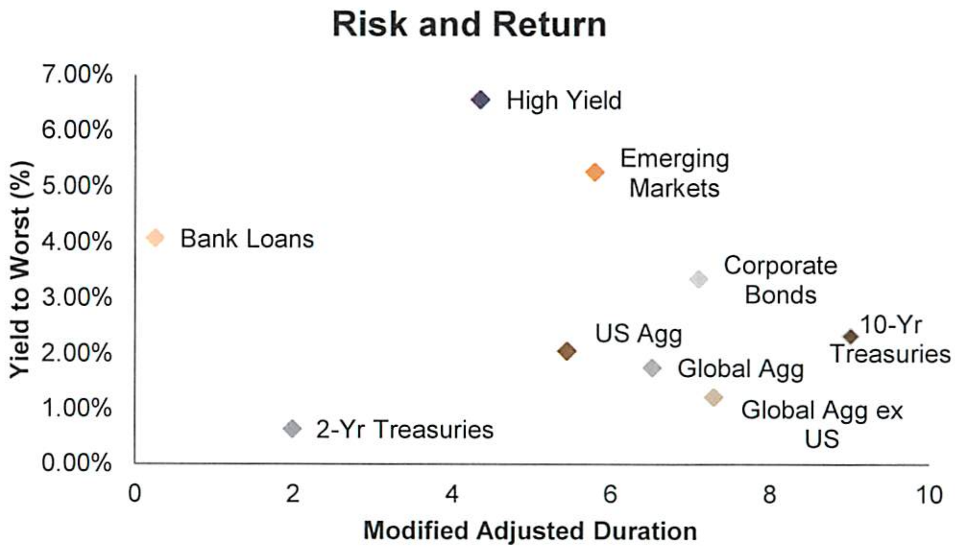
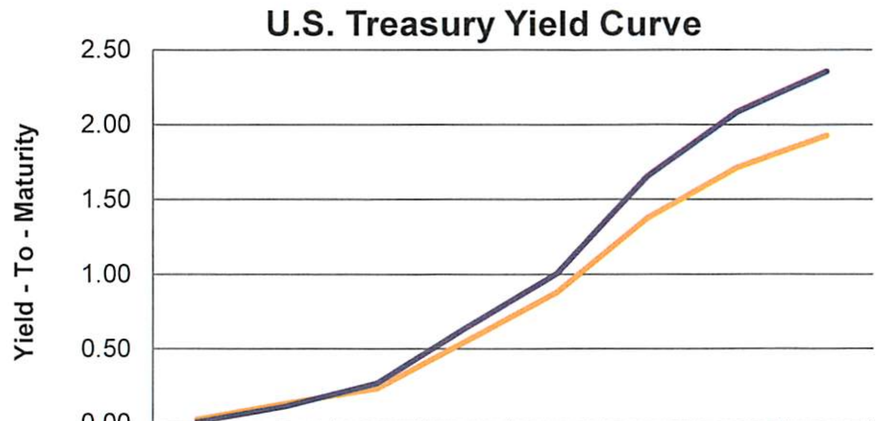
FIXED INCOME OVERVIEW





	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y
3/31/2015	0.02	0.14	0.23	0.56	0.88	1.37	1.71	1.92
6/30/2015	0.01	0.11	0.27	0.65	1.01	1.65	2.08	2.35

One Year Change in Nominal Interest Rates

	Down 25 bps	No Change	Up 25 bps	Up 50 bps	Up 100 bps
High Yield Corp.	7.68%	6.59%	5.50%	4.41%	2.23%
Aggregate	3.80%	2.40%	0.99%	-0.42%	-3.23%
Global Aggregate	3.40%	1.76%	0.13%	-1.50%	-4.77%
EM Aggregate	6.73%	5.28%	3.83%	2.38%	-0.52%
3-YR TSY	1.72%	0.99%	0.27%	-0.46%	-1.92%
10-Yr TSY	4.59%	2.34%	0.08%	-2.17%	-6.68%

Past performance is no guarantee of future results. High Yield – Barclay's High Yield Corporate Index; Bank Loans – Credit Suisse; Corporate Bonds - Barclay's Investment Grade Index; Global Agg – Barclay's Global Aggregate Bond Index; Global Agg ex US – Barclay's Global Aggregate Bond ex US Index Emerging Market – Barclay's Emerging Market Aggregate Index; U.S. Aggregate – Barclay's U.S. Aggregate Index; 3-Ye & 10-Yr TSY represent constant maturity treasuries. Source: Barclays Live and Bloomberg (Treasuries). Data as of 6/30/2015.

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NON-ENDOWMENT 2Q15 PERFORMANCE & ASSET ALLOCATION REVIEW

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EXECUTIVE SUMMARY (AS OF 6/30/15)

Non-Endowment Assets	Market Value	%	2Q2015	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	Since Inception****
Operating &Short-Term Pool	$11.145 Million	91% Cash/ 9% Short-Term Fixed Income	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%
		*Benchmark**	*0.0%*	*0.0%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*
Long-Term Pool	$53.153 Million	38% Equities/ 10% Alternatives/ 52% Fixed Income	-0.3%	1.3%	2.5%	5.7%	5.8%	5.4%	5.4%
		*Benchmark***	*0.0%*	*1.5%*	*2.5%*	*5.0%*	*5.1%*	*4.6%*	*4.6%*
Total Non-Endowment Assets	**$64.297 Million**	**32% Equities/ 8% Alternatives/ 16% Cash/ 44% Fixed Income**	-0.3%	0.7%	1.4%	3.6%	3.7%	3.5%	3.8%
		Benchmark**	*0.0%*	*0.8%*	*1.4%*	*2.7%*	*2.7%*	*2.4%*	*3.1%*

*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 nt 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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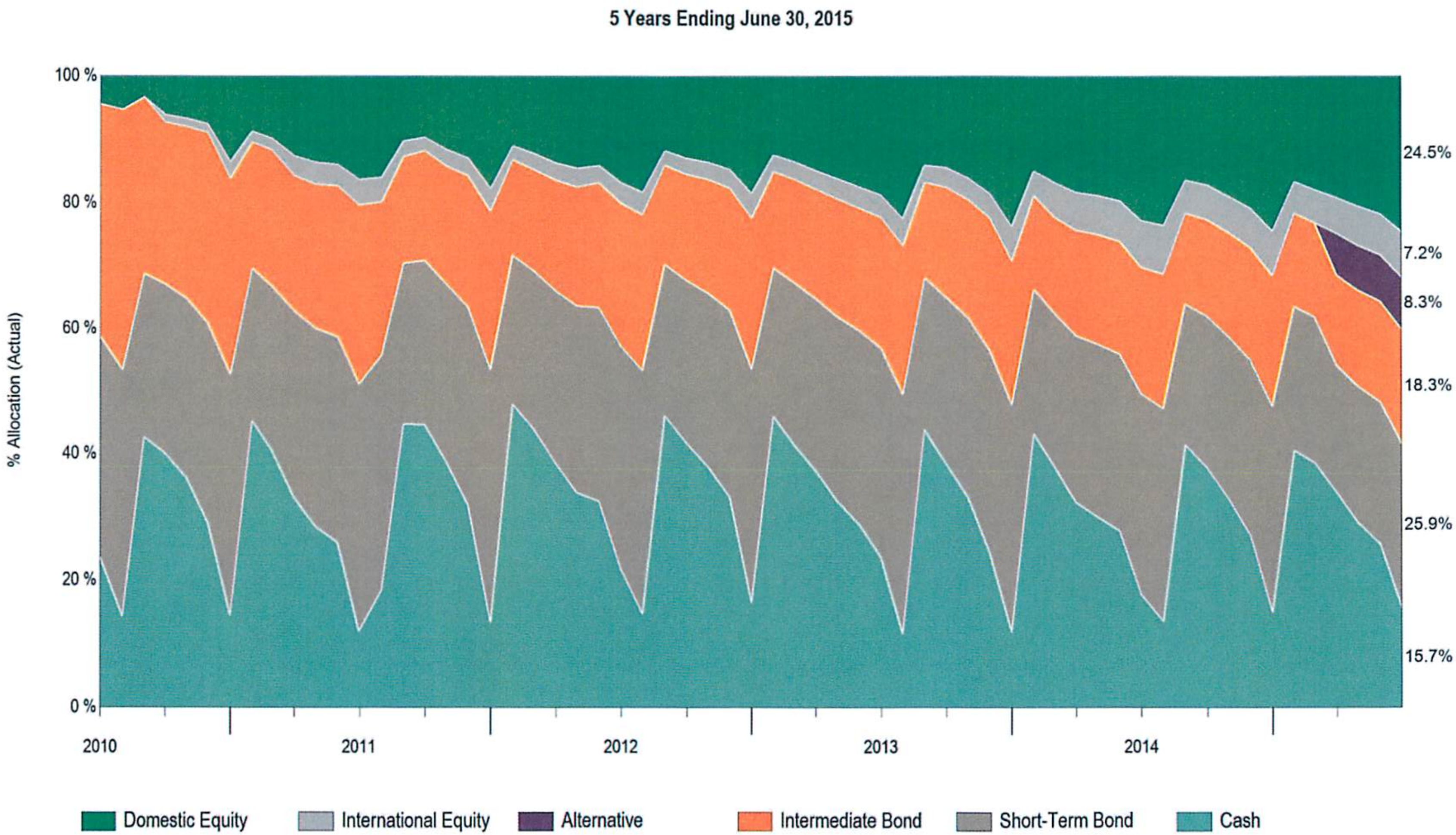
HISTORICAL ASSET ALLOCATION



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NON-ENDOWMENT ASSETS: POLICY COMPLIANCE

Total Plan Asset Allocation Policy	Range	Current
Operating & Short-Term Pool	25% - 50%	17%
Long Term/ Reserves Pool	50% - 75%	83%

Operating & Short-Term Pool	Range	Current
Operating Assets	60% - 100%	91%
Short-Term Assets	0% - 40%	9%

Long-Term Pool is overweight equities by 3% (no rebalance recommendation).

Long Term/ Reserves Pool	Target	Range	Current
Domestic Equity	27%	20% - 35%	30%
International Equity	8%	0% - 15%	9%
Total Equity	35%	25% - 45%	38%
Alternatives	10%	0%-20%	10%
Short-Term Fixed Income	35%	25% - 45%	29%
Intermediate Fixed Income	20%	10% - 30%	22%
Cash & Cash Equivalents	0%	0% - 5%	0%

In Line Within Tolerance Review

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NON-ENDOWMENT ASSETS: REPORT CARD

	%	2015 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2014 (%)	2013 (%)	2012 (%)	Return (%)	Since
		Ending June 30, 2015								**Calendar Years**			**Inception**	
Total University Assets		**-0.3**	**0.7**	**1.4**	**3.6**	**3.7**	**3.5**	**3.8**	**4.0**	**2.9**	**5.6**	**4.1**	**3.8**	**Mar-04**
YSU Policy Benchmark		*0.0*	*0.8*	*1.4*	*2.7*	*2.7*	*2.4*	*2.7*	*3.2*	*2.3*	*3.6*	*2.8*	*3.1*	*Mar-04*
Total Operating & Short Term		**0.0**	**0.0**	**0.1**	**0.1**	**0.0**	**0.1**	**--**	**--**	**0.1**	**0.0**	**0.0**	**0.1**	**Jun-10**
YSU Total Operating & Short Term Benchmark		*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*1.4*	*0.1*	*0.1*	*0.1*	*0.1*	*Jun-10*
JPMorgan 100% U.S. Tr Sec MM Inst	4.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.2	0.0	0.0	0.0	0.0	Sep-11
BofA Merrill Lynch 91-Day T-Bill		*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.2*	*1.4*	*0.0*	*0.1*	*0.1*	*0.1*	*Sep-11*
JPMorgan Sweep Account	3.2%													
Vanguard Short-Term Federal Adm	1.6%	0.0	0.6	1.0	1.2	0.8	1.3	2.5	3.2	1.3	-0.2	1.5	1.1	Sep-10
Barclays 1-5 Yr. Govt.		*0.0*	*0.9*	*1.3*	*1.2*	*0.8*	*1.4*	*2.4*	*3.1*	*1.2*	*-0.1*	*1.0*	*1.2*	*Sep-10*
Star Plus	7.8%	0.1	0.1	0.2	--	--	--	--	--	--	--	--	0.2	Jan-14
Total Long Term/ Reserves Pool		**-0.3**	**1.3**	**2.5**	**5.7**	**5.8**	**5.4**	**--**	**--**	**4.5**	**8.7**	**6.4**	**5.4**	**Jun-10**
YSU Total Long Term/ Reserves Fund Benchmark		*0.0*	*1.5*	*2.5*	*5.0*	*5.1*	*4.6*	*4.6*	*4.6*	*4.0*	*7.1*	*5.5*	*4.6*	*Jun-10*
Total Domestic Equity		**0.3**	**2.6**	**7.8**	**15.9**	**18.1**	**17.6**	**--**	**--**	**11.6**	**35.2**	**15.3**	**17.6**	**Jun-10**
Russell 3000		*0.1*	*1.9*	*7.3*	*15.9*	*17.7*	*17.5*	*9.7*	*8.2*	*12.6*	*33.6*	*16.4*	*17.5*	*Jun-10*
TRP Instl US Structured Rsch	8.1%	0.7	2.1	7.5	15.9	17.3	17.1	9.4	--	12.4	32.9	16.2	17.1	Jun-10
S&P 500		*0.3*	*1.2*	*7.4*	*15.7*	*17.3*	*17.3*	*9.4*	*7.9*	*13.7*	*32.4*	*16.0*	*17.3*	*Jun-10*
Vanguard 500 Index Adm	8.1%	0.3	1.2	7.4	15.7	17.3	17.3	9.4	7.9	13.6	32.3	16.0	17.3	Jun-10
S&P 500		*0.3*	*1.2*	*7.4*	*15.7*	*17.3*	*17.3*	*9.4*	*7.9*	*13.7*	*32.4*	*16.0*	*17.3*	*Jun-10*
Vanguard Mid Cap Index Adm	4.2%	-1.2	3.1	8.6	17.1	19.7	18.2	10.5	9.4	13.8	35.1	16.0	16.3	Sep-10
Vanguard Mid Cap Index Benchmark		*-1.2*	*3.1*	*8.7*	*17.2*	*19.8*	*18.3*	*10.5*	*9.4*	*13.8*	*35.3*	*16.0*	*16.3*	*Sep-10*
Loomis Sayles Sm Growth Instl	2.2%	4.2	10.7	13.4	16.0	19.6	20.2	12.2	11.6	1.1	47.7	10.3	18.3	Sep-10
Russell 2000 Growth		*2.0*	*8.7*	*12.3*	*18.4*	*20.1*	*19.3*	*11.5*	*9.9*	*5.6*	*43.3*	*14.6*	*17.4*	*Sep-10*

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NON-ENDOWMENT ASSETS: REPORT CARD

	%	2015 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2014 (%)	2013 (%)	2012 (%)	Return (%)	Since
			Ending June 30, 2015							**Calendar Years**			**Inception**	
Victory Integrity Sm-Cap Value Y	1.9%	-2.5	1.4	2.5	13.9	18.7	17.1	13.3	--	7.3	41.0	14.0	15.7	Sep-10
Russell 2000 Value		*-1.2*	*0.8*	*0.8*	*11.1*	*15.5*	*14.8*	*9.3*	*6.9*	*4.2*	*34.5*	*18.1*	*13.4*	*Sep-10*
Total International Equity		**0.1**	**5.0**	**-1.9**	**10.8**	**14.1**	**--**	**--**	**--**	**-1.4**	**23.4**	**20.1**	**6.3**	**Sep-10**
MSCI EAFE Gross		*0.8*	*5.9*	*-3.8*	*9.3*	*12.5*	*10.0*	*2.4*	*5.6*	*-4.5*	*23.3*	*17.9*	*7.1*	*Sep-10*
MSCI ACWI ex USA Gross		*0.7*	*4.3*	*-4.8*	*7.9*	*9.9*	*8.2*	*1.9*	*6.0*	*-3.4*	*15.8*	*17.4*	*5.2*	*Sep-10*
William Blair Int'l Gr I	3.5%	0.5	6.2	0.0	9.6	12.1	10.4	2.8	6.5	-2.9	19.0	24.0	12.1	Jun-12
MSCI EAFE Gross		*0.8*	*5.9*	*-3.8*	*9.3*	*12.5*	*10.0*	*2.4*	*5.6*	*-4.5*	*23.3*	*17.9*	*12.5*	*Jun-12*
MSCI ACWI ex USA Gross		*0.7*	*4.3*	*-4.8*	*7.9*	*9.9*	*8.2*	*1.9*	*6.0*	*-3.4*	*15.8*	*17.4*	*9.9*	*Jun-12*
Dodge & Cox Internat'l Stock	3.7%	-0.3	3.9	-3.6	11.6	15.4	11.2	4.4	7.0	0.1	26.3	21.0	8.0	Sep-10
MSCI EAFE Gross		*0.8*	*5.9*	*-3.8*	*9.3*	*12.5*	*10.0*	*2.4*	*5.6*	*-4.5*	*23.3*	*17.9*	*7.1*	*Sep-10*
Total Alternatives		**-1.7**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**-3.0**	**Mar-15**
YSU Alternative Benchmark		*-0.7*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*-0.2*	*Mar-15*
Wells Fargo Adv Aboslute Return	3.0%	-0.4	0.9	-2.4	4.0	5.5	--	--	--	0.9	10.2	--	-2.8	Mar-15
CPI +3%		*2.1*	*2.2*	*3.0*	*4.1*	*4.2*	*4.8*	*4.4*	*5.1*	*4.4*	*4.3*	*4.8*	*2.8*	*Mar-15*
Diamond Hill Long-Short I	3.1%	1.1	0.9	2.6	9.0	12.2	10.6	4.9	6.5	7.5	23.2	8.8	0.3	Mar-15
HFRI Equity Hedge (Total) Index		*1.9*	*3.9*	*2.4*	*7.3*	*8.4*	*6.0*	*3.2*	*4.9*	*1.8*	*14.3*	*7.4*	*2.2*	*Mar-15*
Voya Global Real Estate I	2.2%	-7.2	-3.6	-1.7	6.4	8.2	11.1	4.8	--	14.0	3.9	25.6	-7.4	Mar-15
FTSE NAREIT Developed		*-6.9*	*-3.2*	*-0.4*	*6.4*	*8.7*	*11.6*	*4.5*	*5.5*	*15.0*	*3.7*	*27.7*	*-7.2*	*Mar-15*
Total Fixed Income		**-0.3**	**0.6**	**1.1**	**1.7**	**1.3**	**2.2**	**--**	**--**	**2.1**	**-0.1**	**3.2**	**2.2**	**Jun-10**
YSU Fixed Income Benchmark		*-0.1*	*0.8*	*1.2*	*1.6*	*1.3*	*1.9*	*2.8*	*3.3*	*1.7*	*0.1*	*2.4*	*1.9*	*Jun-10*

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NON-ENDOWMENT ASSETS: REPORT CARD

	%	Ending June 30, 2015								Calendar Years			Inception	
		2015 Q2 (%)	YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	2014 (%)	2013 (%)	2012 (%)	Return (%)	Since
JPMorgan Core Bond Ultra	8.0%	-1.3	0.3	2.1	3.0	2.1	3.7	5.2	4.9	5.4	-1.6	5.2	3.5	Apr-11
Barclays Aggregate		*-1.7*	*-0.1*	*1.9*	*3.1*	*1.8*	*3.3*	*4.6*	*4.4*	*6.0*	*-2.0*	*4.2*	*3.3*	*Apr-11*
YSU Intermediate Term Bond	7.9%	-0.6	0.6	1.2	2.2	1.8	2.9	4.4	4.4	3.0	-0.5	5.2	4.2	Mar-04
Barclays Int Govt/Credit		*-0.6*	*0.8*	*1.7*	*2.3*	*1.6*	*2.8*	*3.9*	*4.0*	*3.1*	*-0.9*	*3.9*	*3.8*	*Mar-04*
YSU Short Term Bond	19.3%	0.1	0.6	0.7	0.9	0.9	1.2	2.3	3.0	0.7	0.6	1.8	2.8	Mar-04
BofA Merrill Lynch US Corp & Gov 1-3 Yrs		*0.1*	*0.7*	*0.9*	*1.1*	*1.0*	*1.2*	*2.1*	*2.8*	*0.8*	*0.7*	*1.5*	*2.6*	*Mar-04*
Vanguard Short-Term Bond Instl	5.0%	-0.1	1.0	1.2	1.5	1.2	--	--	--	1.3	0.2	2.1	1.3	Dec-11
Barclays 1-5 Yr. Govt/Credit		*0.0*	*0.9*	*1.3*	*1.6*	*1.2*	*1.8*	*2.9*	*3.4*	*1.4*	*0.3*	*2.2*	*1.4*	*Dec-11*
DFA Five-Yr Global Fxd-Inc I	2.4%	-0.4	1.0	1.9	2.3	1.9	2.8	3.7	3.5	2.9	-0.4	4.8	2.3	Jun-13
Citi WGBI 1-5 Yr Hdg USD		*-0.1*	*0.5*	*1.3*	*1.6*	*1.4*	*1.5*	*2.5*	*2.9*	*1.9*	*0.6*	*2.1*	*1.6*	*Jun-13*

- YSU Policy Benchmark = 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
- YSU Total Operating & Short Term Benchmark = 95% BofA Merrill Lynch 91-Day T-Bill / 5% Barclays 1-3 Yr. Govt.
- YSU Total Long Term/ Reserves Fund Benchmark = 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
- Vanguard Mid Cap Index Benchmark = 100% CRSP US Mid Cap TR USD
- YSU Alternative Benchmark = 25% FTSE NAREIT Developed / 37.5% HFRI Equity Hedge (Total) Index / 37.5% CPI +3%
- CPI +3% = Consumer Price Index Shifted
- YSU Fixed Income Benchmark = 64% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 36% Barclays Int Govt/Credit

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CURRENT INVESTMENT MANAGERS: ADDITIONAL CHARACTERISTICS (AS OF 6/30/15)

Name	Manager Tenure Yrs (Longest)	Fund Size	Net Expense Ratio	Total Ret % Rank Category 3 Yr (Qtr-End)	Total Ret % Rank Category 5 Yr (Qtr-End)	Sharpe Ratio 3 Yr % Rank (Qtr-End)	Sharpe Ratio 5 Yr % Rank (Qtr-End)
Vanguard Short-Term Federal	1	$5,013,265,660	0.10%	34	32	12	16
TRP Instl US Structured Res	1	$858,186,969	0.54%	45	36	29	20
Vanguard 500 Index Adm	24	$215,388,965,342	0.05%	45	31	30	13
Vanguard Mid Cap Adm	17	$67,029,333,603	0.09%	24	28	11	8
Loomis Sayles Small Cap Gr I	11	$1,273,343,437	0.94%	33	22	20	8
Victory Small Cap Value Y	11	$1,440,850,533	1.25%	16	20	17	12
William Blair Int'l Growth I	2	$3,909,000,000	1.13%	47	56	24	15
Dodge & Cox Int'l	14	$68,597,293,891	0.64%	2	13	7	24
Wells Fargo Absolute Ret	3	$11,617,867,120	0.29%	-	-	-	-
Diamond Hill Long/Short I	15	$4,463,284,094	1.15%	15	27	12	14
Voya Global Real Estate I	14	$4,585,542,651	0.98%	85	64	58	39
JPMorgan Core Bond R6	24	$30,066,814,338	0.35%	67	66	53	49
PNC Intermediate-Term	< 1 Yr	Separate Acct	0.15%	78	92	29	49
PNC Short-Term Bond	< 1 Yr	Separate Acct	0.15%	86	93	23	13
Vanguard ST Bond Index I	3	$40,468,191,085	0.07%	77	-	46	-
DFA Five Year Global I	24	$10,944,076,117	0.27%	42	58	35	43

Peer return ranks: 1= Best, 100= Worst

Source: Morningstar
Sharpe Ratio – Average return earned in excess of the risk-free rate per unit of volatility or total risk.

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INVESTMENT POLICY COMPLIANCE: INVESTMENT MANAGER GUIDELINES

Investment Manager	Market Cap	Position Size	Portfolio Diversification	Foreign Securities	Portfolio Duration	Maturity	Portfolio Quality	Cash Position
Vanguard Short-Term Federal Adm	...	In Line	...	...	In Line	In Line	In Line	In Line
TRP Instl US Structured Rsch	In Line	In Line	In Line	In Line	...	...	...	In Line
Vanguard 500 Index Adm	In Line	In Line	In Line	In Line	...	...	...	In Line
Vanguard Mid Cap Index Adm	In Line	In Line	In Line	In Line	...	...	...	In Line
Loomis Sayles Small Cap Growth Instl	In Line	In Line	In Line	In Line	...	...	...	In Line
Victory Integrity Sm-Cap Value Y	In Line	In Line	In Line	In Line	...	...	...	In Line
William Blair Int'l Gr I	In Line	In Line	In Line	...	...	...	...	In Line
Dodge & Cox Internat'l Stock	In Line	In Line	In Line	...	...	...	...	In Line
Wells Fargo Adv Absolute Return	In Line	In Line	In Line	In Line	...	...	...	In Line
Diamond Hill Long-Short I	In Line	In Line	In Line	In Line	...	...	...	In Line
Voya Global Real Estate I	In Line	In Line	In Line	In Line	...	...	...	In Line
JP Morgan Core Bond Ultra	...	In Line	...	...	In Line	In Line	In Line	In Line
YSU Intermediate-Term	...	In Line	...	...	In Line	In Line	In Line	In Line
YSU Short-Term	...	In Line	...	...	In Line	In Line	In Line	In Line
Vanguard Short Term Bond	...	In Line	...	...	In Line	In Line	In Line	In Line
DFA Five-Yr Global Fxd-Inc I	...	In Line	...	...	In Line	In Line	In Line	In Line

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MONEY MARKET REFORM OVERVIEW: NON-ENDOWMENT YSU ACCOUNTS NOT AFFECTED

- In mid-2014, the SEC adopted a money market fund reform to take effect in October 2016
- The reform aims to protect money market investors from "investor runs" by providing structural and operational guidelines
- The reform requires investment managers to establish a floating net asset value (NAV) for "institutional" prime money market funds and allows non-government money market funds to use liquidity fees and redemption gates to better control outflows in times of stress
  - **Floating NAV** - Applicable funds will price and transact at a net asset value per share that can change, or "float," based on pricing of the underlying fund holdings out to four decimal places ($1.0000)
  - **Liquidity fees and redemption gates** - If weekly liquidity falls below 30%, a fund's Board may impose redemption gates for up to 10 business days in any 90 day period and impose a liquidity fee of up to 2%

Fund Type	NAV	Liquidity Fee/ Redemption Gate
U.S. Treasury	Stable	No
Government	Stable	No
Retail Municipal/Tax-Exempt	Stable	**Yes**
Retail Prime	Stable	**Yes**
Institutional Municipal/Tax-Exempt	**Floating**	**Yes**
Institutional Prime	**Floating**	**Yes**

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PEER ASSET ALLOCATION COMPARISONS

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ASSET ALLOCATION COMPARISONS VS. STATE UNIVERSITIES

	Current YSU Allocation	Small State University	Small State University	Mid-Sized State University	Mid-Sized State University	Mid-Sized State University	Mid-Sized State University	Large State University	Large State University	Large State University
Equity	32%	0%	49%	19%	21%	46%	58%	37%	30%	15%
Alternatives	8%	0%	0%	0%	2%	11%	17%	12%	35%	60%
Fixed Income & Cash	60%	100%	51%	81%	77%	42%	31%	51%	36%	25%

Source: State of Ohio Auditor; FY 2014; Asset size range: $20MM-$4.8B

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SUMMARY

- Hartland recommends the Committee consider additional trimming of fixed income in favor of additional alternative investments
    - Historically low yields with potential rising interest rates in the bond market
    - Volatile and uncertain public equity markets
- Potential alternative investments are as follows:
    - Long/Short Equities – Exposure Today
    - Real Assets – Exposure Today
    - Tactical Asset Allocation – Exposure Today
    - Long/Short Credit
    - Risk Parity
    - Unconstrained Bond
    - Absolute Return
- Hartland will provide considerations for new strategic asset allocations and alternative investments at the December BOT meeting

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ENDOWMENT 2Q15 PERFORMANCE & ASSET ALLOCATION REVIEW

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EXECUTIVE SUMMARY (AS OF 6/30/15)

Endowment Assets	Market Value	Asset Allocation	Composition	2Q2015	YTD	1-Yr
YSU Endowment	$8.993 million	75% Equities/ 25% Fixed Income	Stocks, Bonds, Mutual Funds	-0.9%	-1.3%	3.2%
60 S&P 500 Index/40% Barclays Index				*-0.5%*	*0.8%*	*5.3%*
Kilcawley Center	$88,088	86% Equities/ 14% Cash	Stocks	-5.5%	-8.5%	-7.5%
60 S&P 500 Index/40% Barclays Index				*-0.5%*	*0.8%*	*5.3%*
Alumni License Plate	$427,119	68% Equities/ 12% Fixed Income/20% Cash	Stocks, Mutual Funds	-0.2%	2.1%	2.5%
60 S&P 500 Index/40% Barclays Index				*-0.5%*	*0.8%*	*5.3%*

Compliance

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

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APPENDIX

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INTERNATIONAL RETURNS

Developed Markets

	USD Return	Local Return	Weighting
AUSTRALIA	-14.1%	5.6%	6.9%
AUSTRIA	-22.4%	-4.6%	0.2%
BELGIUM	4.4%	28.3%	1.3%
DENMARK	6.0%	30.3%	1.7%
FINLAND	-5.3%	16.4%	0.8%
FRANCE	-8.7%	12.2%	9.7%
GERMANY	-9.0%	11.9%	8.9%
HONG KONG	**12.4%**	12.4%	3.3%
IRELAND	11.2%	**36.6%**	0.4%
ISRAEL	9.5%	20.5%	0.6%
ITALY	-12.8%	7.1%	2.4%
JAPAN	8.6%	31.2%	**22.9%**
NETHERLANDS	2.9%	26.4%	2.8%
NEW ZEALAND	-19.6%	4.0%	**0.1%**
NORWAY	-26.0%	-5.2%	0.6%
PORTUGAL	**-36.3%**	**-21.7%**	0.2%
SINGAPORE	-3.5%	4.0%	1.4%
SPAIN	-17.1%	1.9%	3.5%
SWEDEN	-6.2%	16.4%	2.9%
SWITZERLAND	-0.4%	5.0%	9.2%
UNITED KINGDOM	-8.2%	-0.2%	20.3%
EAFE	**-3.8%**	**12.3%**	**100.0%**

Emerging Markets

	USD Return	Local Return	Weighting
BRAZIL	-28.8%	0.4%	7.5%
CHILE	-15.1%	-1.9%	1.2%
CHINA	**25.0%**	**25.0%**	**24.8%**
COLOMBIA	-40.8%	-18.2%	0.6%
CZECH REPUBLIC	-10.3%	9.5%	**0.2%**
EGYPT	11.7%	19.2%	0.2%
GREECE	**-57.6%**	**-47.9%**	0.3%
HUNGARY	-3.8%	20.4%	0.2%
INDIA	3.3%	9.3%	7.7%
INDONESIA	-8.0%	3.4%	2.3%
KOREA	-14.0%	-5.1%	14.3%
MALAYSIA	-21.5%	-7.7%	3.2%
MEXICO	-11.8%	6.7%	4.5%
PERU	-7.5%	-7.5%	0.4%
PHILIPPINES	10.0%	13.6%	1.4%
POLAND	-18.9%	0.5%	1.5%
RUSSIA	-27.1%	8.5%	3.8%
SOUTH AFRICA	-1.1%	12.9%	7.9%
TAIWAN	3.8%	7.3%	12.6%
THAILAND	-0.1%	4.0%	2.3%
TURKEY	-16.1%	6.0%	1.5%
EM (EMERGING MARKETS)	**-4.8%**	**6.6%**	**100.0%**

Past performance is no guarantee of future results. Data as of 06/30/2015 Source: MSCI Barra

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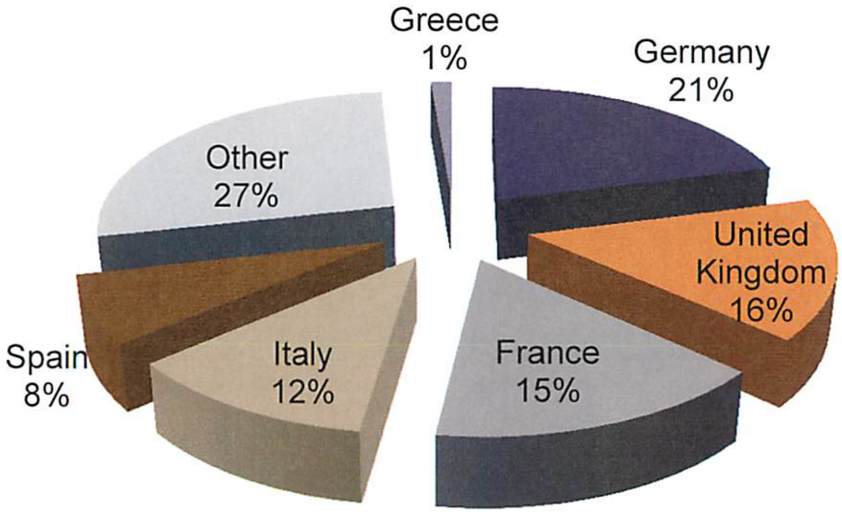
GREECE

Greece's direct impact on the global economy and markets is modest. Greece represents 0.26% of global GDP. Greek equities account for 0.035% of the MSCI All World Equity Index.

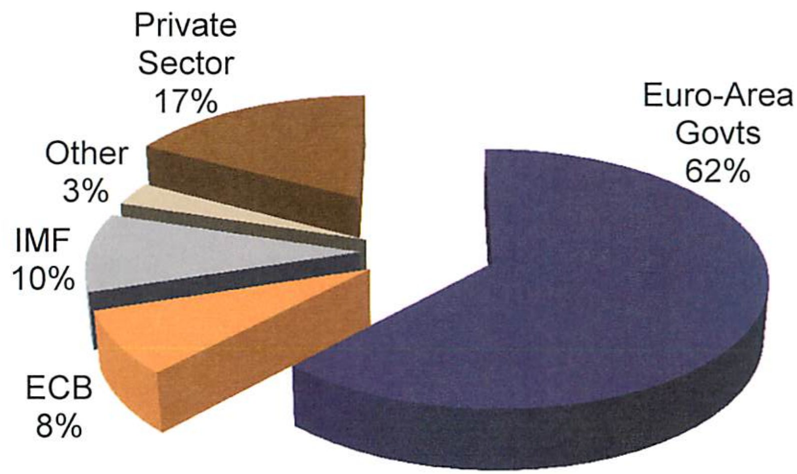
European banks' lending exposure to Greece has fallen significantly. At the cusp of the 2008 financial crisis exposure was as high as ~$275 billion; it currently stands at ~$50 billion.

Share of 2014 European GDP



Source: Eurostat

Owners of Greek Debt



Source: BloombergBriefs.com

The Deal: An additional €86 billion over the next three years in exchange for new reforms on taxes, pensions and labor rules. A €50 billion fund must be created by selling off state-owned assets to help pay down the debt and recapitalize banks. The deal leaves open the possibility of discussing debt restructuring down the road.

What to Expect: Assuming the new bailout is approved by all necessary parties, the biggest contention going forward will be the possibility of Greek debt relief. Christine Lagarde of the International Monetary Fund and more recently Mario Draghi of the European Central Bank have insisted that restructuring Greece's debt to a more sustainable level is essential. Opposition believes that as long as Greece remains within the Eurozone, then a write-down on the face value of Greek government bonds is not legally possible. The risk of Greece exiting the Eurozone has diminished for the near term, but the underlying issue is in no way resolved.

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DEFINITIONS AND DISCLOSURES

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

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

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

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

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

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

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

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

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

Index Definitions:

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

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

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

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

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

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

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

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

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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.