



TEXAS TECH UNIVERSITY SYSTEM™

**Board of Regents Report**

**for October 2018**

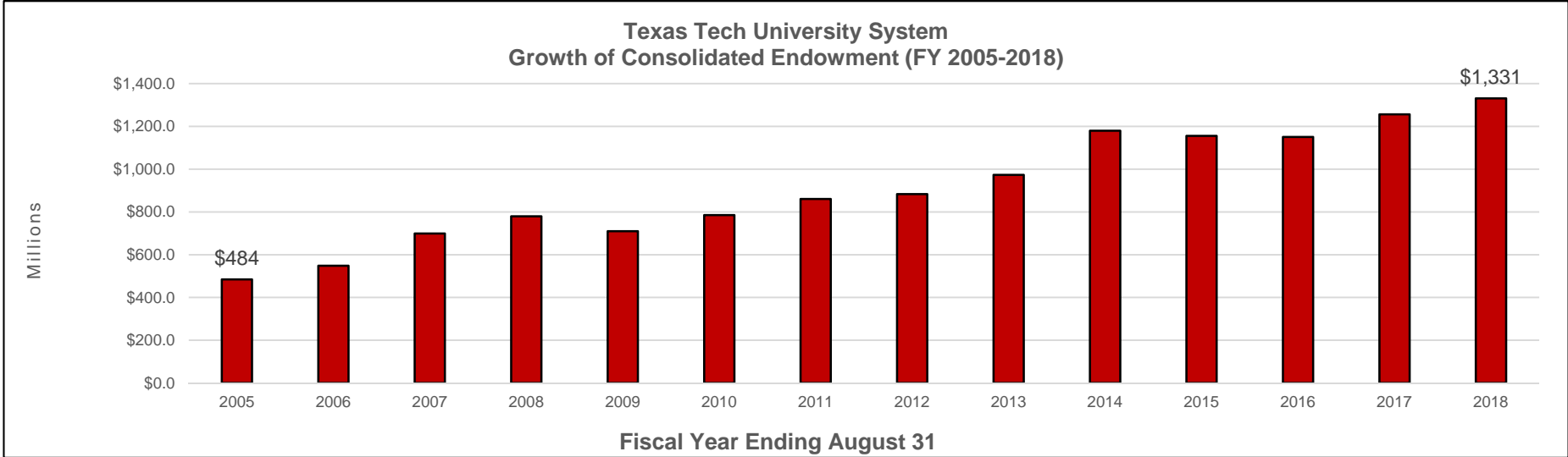
**Texas Tech University System**

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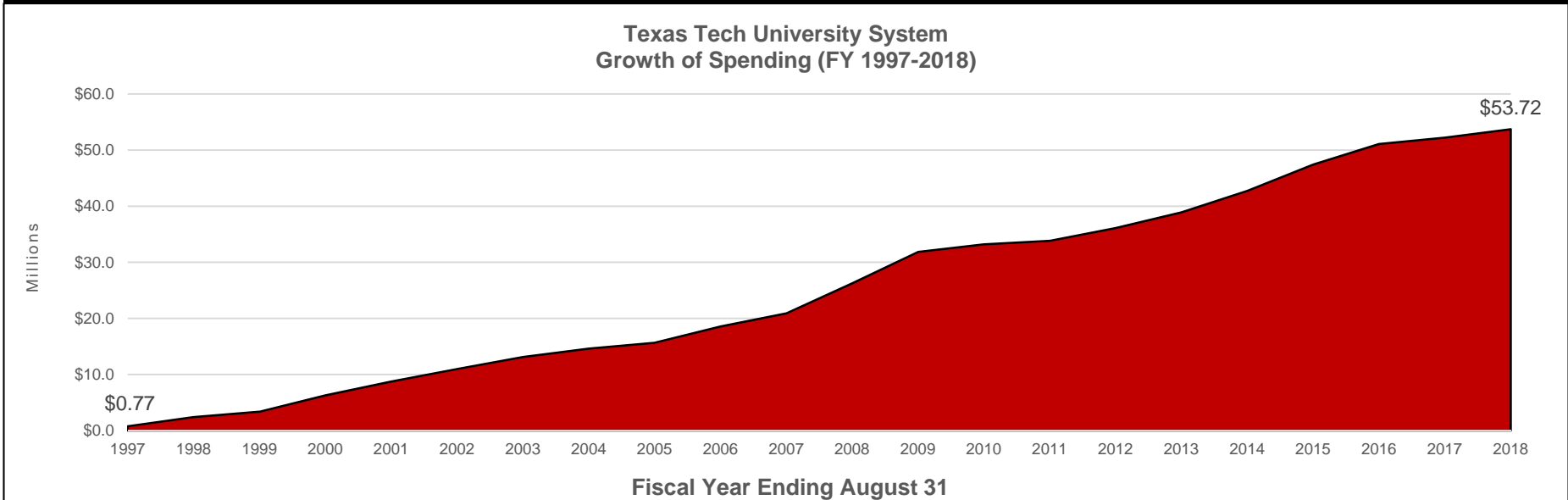


**Endowment Data**

**HISTORICAL MARKET VALUE (Fiscal Year)**



**HISTORICAL SPENDING (Fiscal Year)**

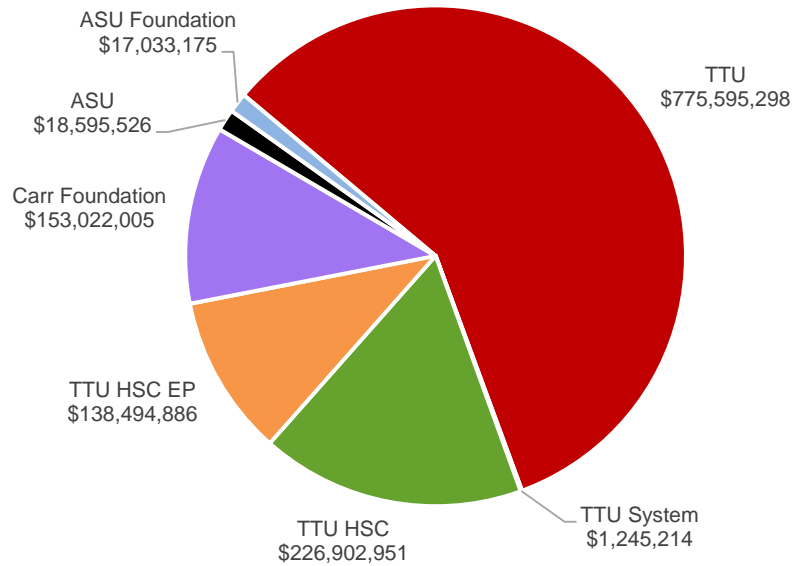


The 4.5% distribution rate has been realized every year since inception.

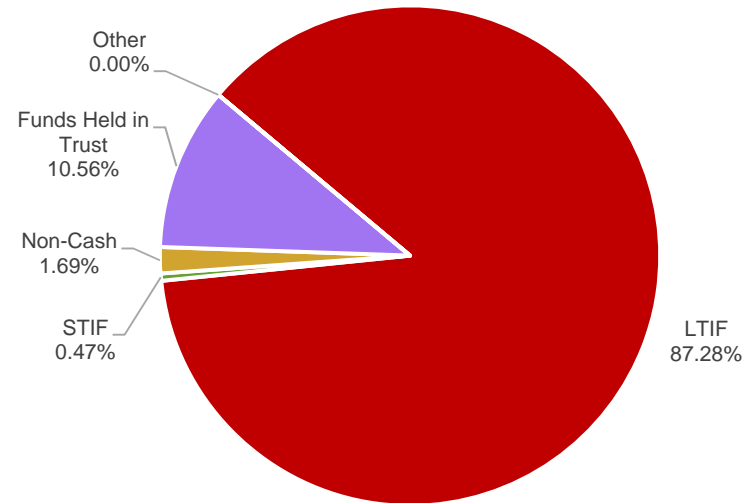
**Endowment Data (cont.)**

**TOTAL ENDOWMENT (Fiscal Year)**

**Texas Tech University System  
Endowment Breakout  
by Institution**



**Texas Tech University System  
Endowment Breakout  
by Pool**

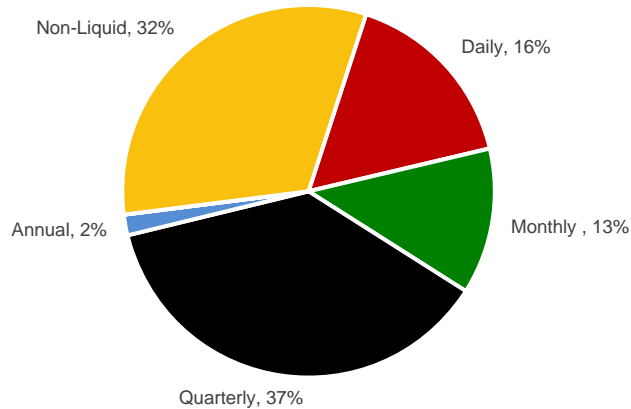


**Summary of Endowment**

	TTU	TTU System	TTU HSC	TTU HSC EP	Carr Foundation	ASU	ASU Foundation	Total
LTIF	\$726,330,437	\$1,245,191	\$158,230,891	\$104,786,819	\$135,787,378	\$18,201,919	\$17,033,175	\$1,161,615,810
STIF	\$2,961,778	\$24	\$2,876,127	\$55	\$0	\$393,469	\$0	\$6,231,453
Non-Cash	\$4,562,548	\$0	\$712,695	\$0	\$17,234,627	\$0	\$0	\$22,509,870
Funds Held in Trust	\$41,740,534	\$0	\$65,083,238	\$33,708,012	\$0	\$0	\$0	\$140,531,784
Other	\$0	\$0	\$0	\$0	\$0	\$138	\$0	\$138
<b>Total</b>	<b>\$775,595,298</b>	<b>\$1,245,214</b>	<b>\$226,902,951</b>	<b>\$138,494,886</b>	<b>\$153,022,005</b>	<b>\$18,595,526</b>	<b>\$17,033,175</b>	<b>\$1,330,889,055</b>

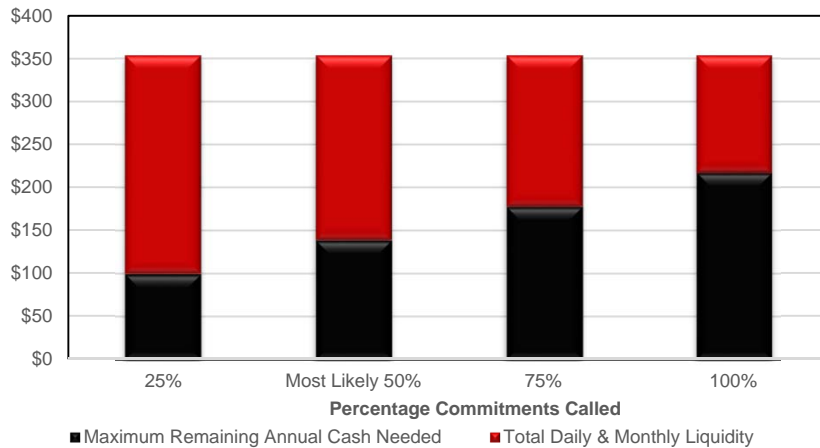
**LTIF Liquidity**

**LTIF Liquidity**



LTIF		Liquidity
Daily	\$199,054,444	16.3%
Monthly	\$155,091,499	12.7%
Quarterly	\$454,283,762	37.2%
Annual	\$21,981,472	1.8%
2-Year	\$0	0.0%
Non-Liquid	\$390,781,730	32.0%
<b>Total LTIF</b>	<b>\$1,221,192,908</b>	<b>100%</b>

**Liquidity Sensitivity**



	<u>Commitment</u>	<u>Capital Called</u>	<u>Distributions</u>	<u>Account Balance</u>	<u>Remaining Commitment</u>
Private Equity	\$251,010,000	\$162,949,857	\$68,313,559	\$132,854,176	\$88,060,143
Private Credit	\$190,593,047	\$151,718,712	\$55,397,361	\$140,389,856	\$38,874,335
Private Real Assets	\$264,663,450	\$235,207,271	\$217,302,322	\$111,423,578	\$29,456,179
<b>Total Illiquid Assets</b>	<b>\$706,266,497</b>	<b>\$549,875,840</b>	<b>\$341,013,242</b>	<b>\$384,667,610</b>	<b>\$156,390,657</b>
			<b>Annual Spending</b>		<b>\$61,000,000</b>
			<b>Total Committed Funds</b>		<b>\$217,390,657</b>

**Unfunded Commitments - Sensitivity Analysis**

Maximum Remaining Annual Cash Needed  
 Percentage of Daily & Monthly Liquidity

	<u>25% Called</u>	<u>Most Likely 50% Called</u>	<u>75% Called</u>	<u>100% Called</u>
Maximum Remaining Annual Cash Needed	\$100,097,664	\$139,195,329	\$178,292,993	\$217,390,657
Percentage of Daily & Monthly Liquidity	28%	39%	50%	61%



<b>Market Data</b>
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Benchmarks	Underlying	Weight	MTD Perf.	QTD Perf.	Calendar YTD	Fiscal YTD	Nacubo YTD	1 Year Perf.	3 Year Perf.	5 Year Perf.
<b>Policy Benchmarks</b>			<b>-2.99%</b>	<b>-2.99%</b>	<b>0.40%</b>	<b>-2.57%</b>	<b>-1.41%</b>	<b>3.09%</b>	<b>6.62%</b>	<b>6.41%</b>
Equity	Global Index (MSCI ACWI with USA Gross)	30%	-7.47%	-7.47%	-3.57%	-7.03%	-3.40%	-0.08%	8.10%	6.31%
Debt	Global Bonds (Barclays Global Agg)	25%	-1.12%	-1.12%	-3.46%	-1.97%	-2.03%	-2.05%	1.52%	0.33%
Diversifying Assets	HFRX Global Hedge Fund	15%	-3.11%	-3.11%	-4.30%	-3.77%	-3.48%	-3.53%	2.74%	3.30%
Private Investments	Private Market Composite	30%	0.00%	0.00%	10.05%	2.01%	2.01%	14.08%	11.14%	12.58%
<b>Other Benchmarks</b>										
Equity	S&P 500 Total Return		-6.84%	-6.84%	3.01%	-6.30%	0.35%	7.35%	11.52%	11.34%
Equity	Non US Developed Equity (MSCI EAFE)		-7.96%	-7.96%	-9.28%	-7.16%	-6.71%	-6.85%	3.62%	2.02%
Equity	EM Equities (MSCI EMF)		-8.71%	-8.71%	-15.72%	-9.19%	-9.71%	-12.52%	6.52%	0.78%
Debt	EM Bonds (JPM EM Bond Index)		-2.23%	-2.23%	-5.61%	-0.50%	-0.40%	-5.27%	3.83%	3.61%
Cash & Alpha Pool	90 Day T-Bills		0.19%	0.19%	1.59%	0.37%	0.71%	1.81%	0.96%	0.59%
Hedge Funds	HFRF FOF Composite		-3.04%	-3.04%	-2.13%	-3.27%	-2.84%	-1.25%	1.92%	2.27%
Private Investments	Private Market Composite		0.00%	0.00%	10.05%	2.01%	2.01%	14.08%	11.14%	12.58%

**CIO NOTES:**

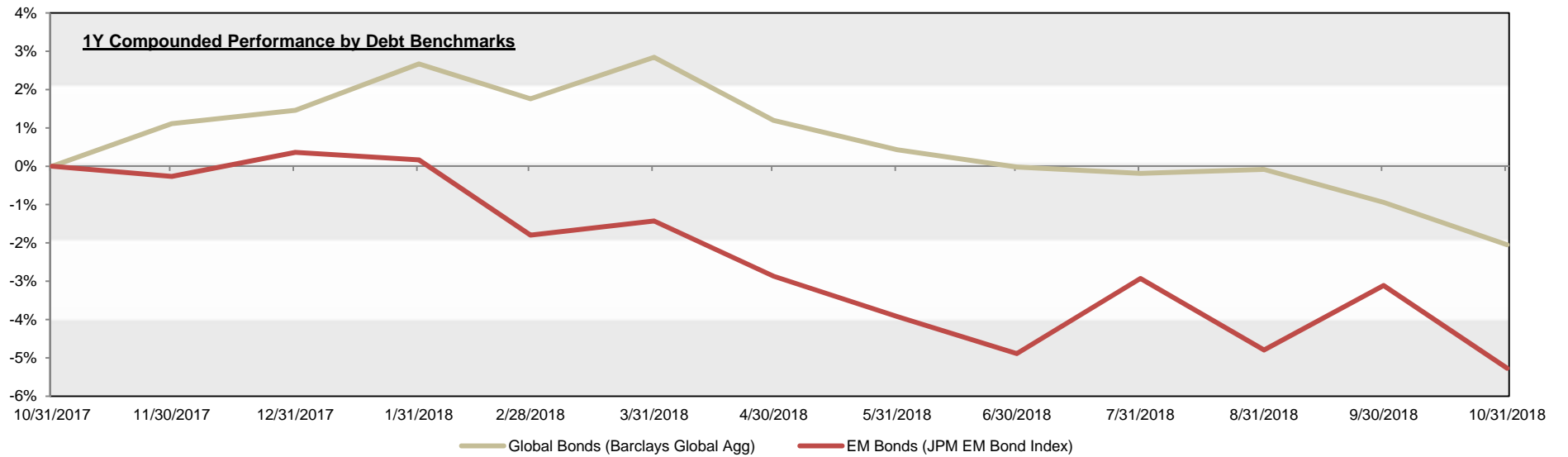
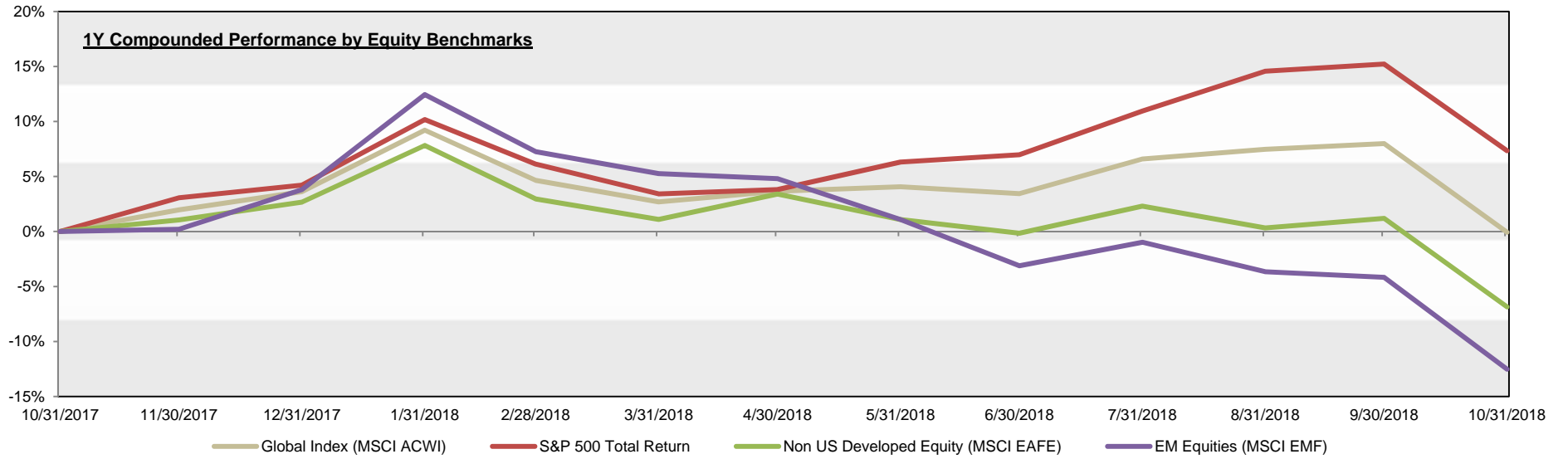
Volatility made a comeback in October as a wave of risk aversion washed over markets amid rising rates in the United States, growing concerns over slowing economic growth in China, and ongoing geopolitical tensions. Equities declined with international and emerging economies faring worse than US markets. The S&P 500 Index fell 6.8% even as the US unemployment rate declined to 3.7%, the lowest it has been in nearly 50 years. The MSCI EAFE Index lost 8%, while the MSCI Emerging Markets Index declined 8.7% last month.

Despite the risk-off sentiment, fixed income moved lower as well with US yields moving higher. The 10-year Treasury increased eight basis points to 3.14% and the 30-year Treasury increased 19 basis points – causing long-duration US assets to decline. The Barclays Long Treasury Index and Barclays Long Credit Index fell 3.0% and 3.6%, respectively. Local- and dollar-denominated emerging market bonds declined during the month. The JPM EMBI Global Diversified Index fell 2% as spreads increased 31 basis points in October.

In real assets, crude oil gave up some of its third-quarter gains, falling 10.8% last month. Despite this decline, spot WTI crude oil remains up 8.1% year-to-date. The Alerian MLP Index declined 8% in October as higher yields in the US render riskier assets relatively less attractive.



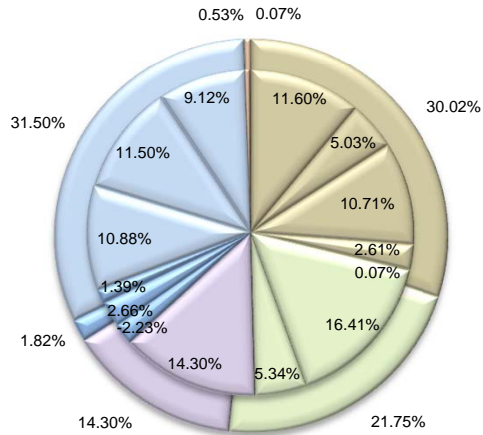
**Market Data (cont.)**



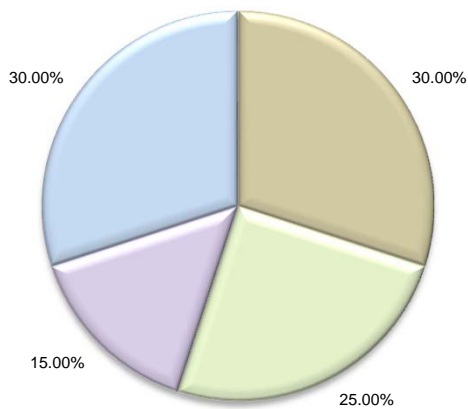


**LTIF Asset Class Allocation: Actual vs. Target**

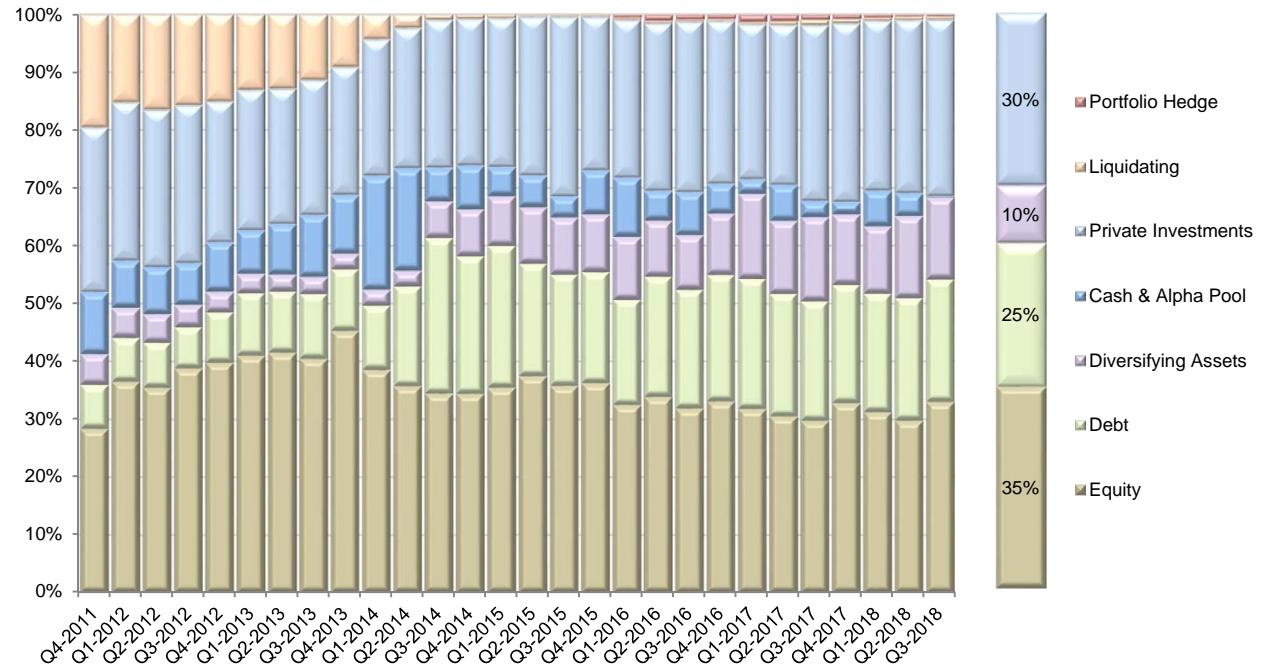
**Actual Allocation**



**Target Allocation**



Asset Class	Actual \$ Allocation			Total % Allocation	Target % Allocation	Target Range
	Physical	Synthetic	Total			
Equity	62,320,804	304,290,822	366,611,626	30.02%	30%	30% - 40%
Debt	265,633,206	0	265,633,206	21.75%	25%	20% - 30%
Diversifying Assets	128,356,652	46,235,169	174,591,820	14.30%	15%	5% - 15%
Cash & Alpha Pool	335,884,796	-313,623,309	22,261,487	1.82%	0%	0% - 10%
Private Investments	384,667,610	0	384,667,610	31.50%	30%	10% - 55%
Liquidating	6,533,055	0	6,533,055	0.53%	0%	
Portfolio Hedge	0	894,104	894,104	0.07%	0%	
<b>Total</b>	<b>1,183,396,122</b>	<b>37,796,786</b>	<b>1,221,192,908</b>	<b>100%</b>	<b>100%</b>	

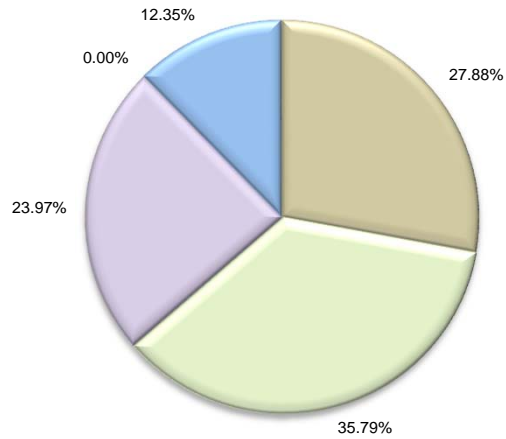




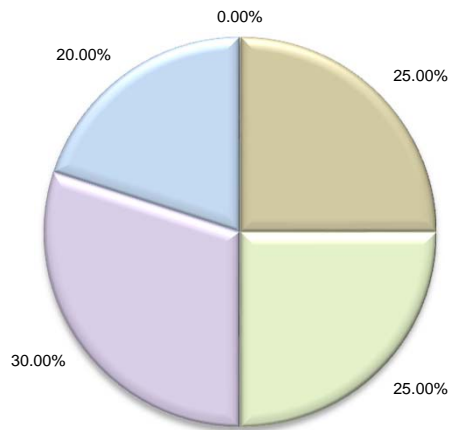


**ITIF Asset Class Allocation: Actual vs. Target**

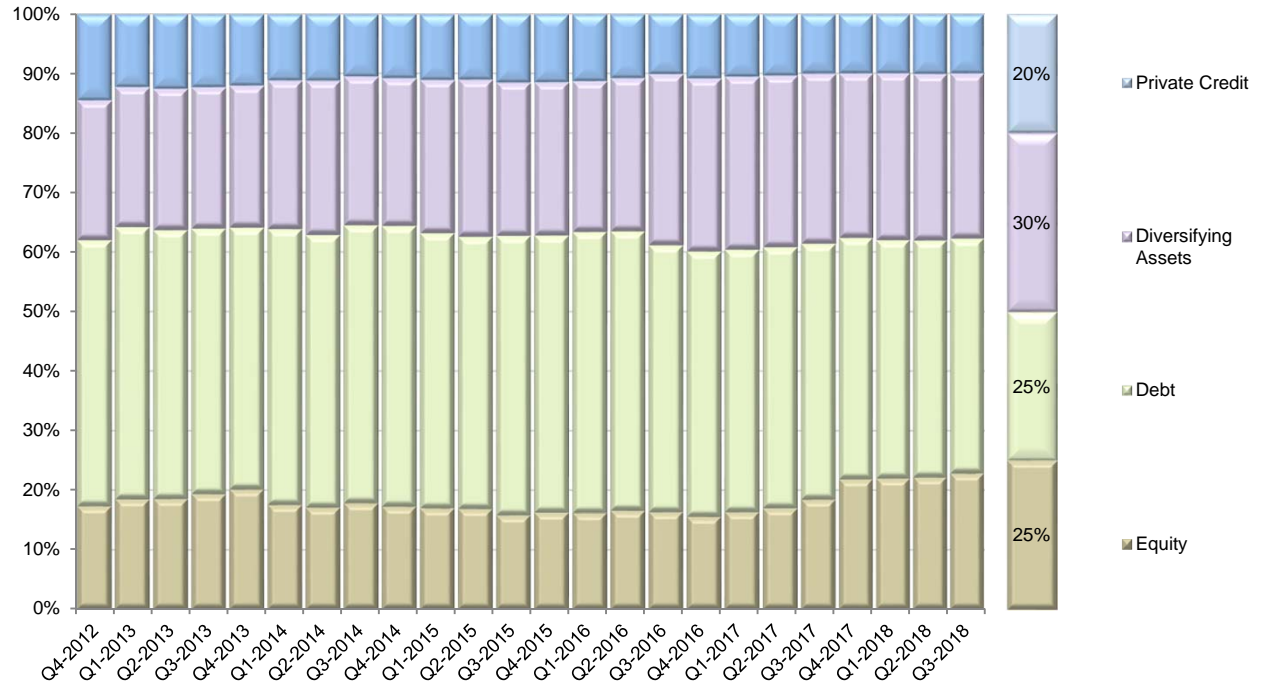
**Actual Allocation**



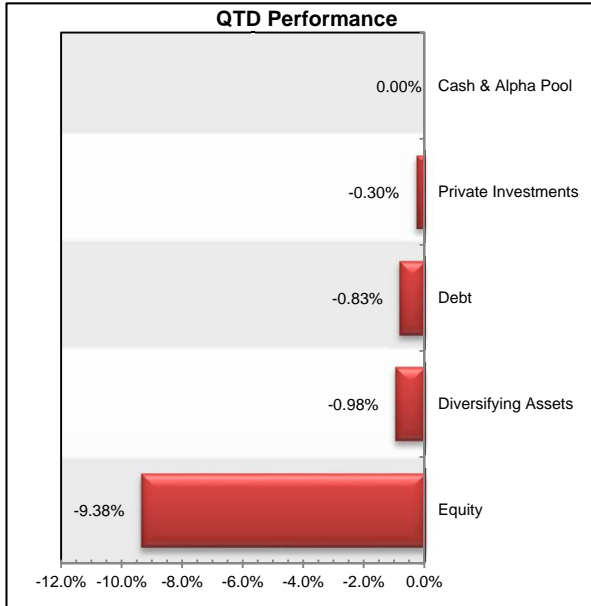
**Target Allocation**



Asset Class	Actual \$ Allocation	Total % Allocation	Target % Allocation	Target Range
Equity	194,172,003	27.88%	25%	20% - 30%
Debt	249,253,163	35.79%	25%	20% - 30%
Diversifying Assets	166,942,711	23.97%	30%	25% - 35%
Private Credit	0	0.00%	20%	15%-25%
Cash	86,019,249	12.35%	0%	0%-15%
<b>Total</b>	<b>696,387,125</b>	<b>100%</b>	<b>100%</b>	

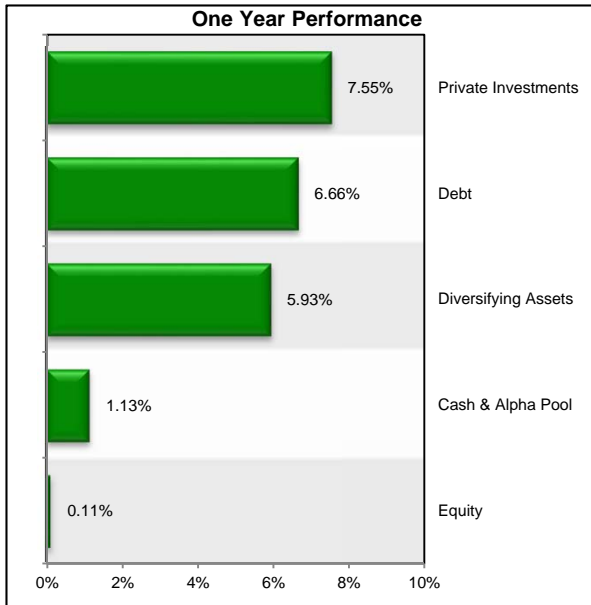


**LTIF Asset Class Performance: Actual vs. Policy**



Asset Class	Month				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	-9.63%	-8.92%	-0.11%	-9.38%	-7.47%
Debt	-0.83%			-0.83%	-1.12%
Diversifying Assets	-0.07%	-3.33%	-0.11%	-0.98%	-3.11%
Cash & Alpha Pool	0.00%			0.00%	
Private Investments	-0.30%			-0.30%	0.00%
Portfolio Hedge Contr.				-0.24%	
<b>Total</b>	<b>-1.21%</b>	<b>-8.13%</b>	<b>-0.11%</b>	<b>-3.51%</b>	<b>-2.99%</b>

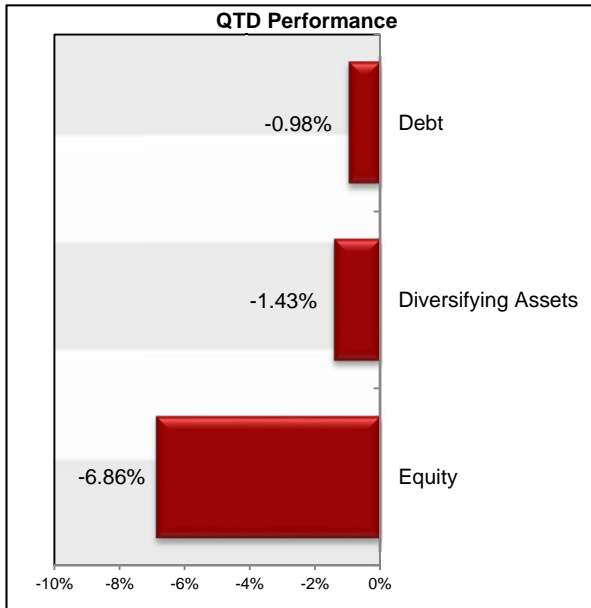
Asset Class	QTD				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	-9.63%	-8.92%	-0.11%	-9.38%	-7.47%
Debt	-0.83%			-0.83%	-1.12%
Diversifying Assets	-0.07%	-3.33%	-0.11%	-0.98%	-3.11%
Cash & Alpha Pool	0.00%			0.00%	
Private Investments	-0.30%			-0.30%	0.00%
Portfolio Hedge Contr.				-0.24%	
<b>Total</b>	<b>-1.21%</b>	<b>-8.13%</b>	<b>-0.11%</b>	<b>-3.51%</b>	<b>-2.99%</b>



Asset Class	Calendar YTD				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	-5.35%	-5.58%	3.86%	-3.57%	-3.57%
Debt	6.23%			6.23%	-3.46%
Diversifying Assets	5.59%	-6.04%	3.86%	3.32%	-4.30%
Cash & Alpha Pool	1.02%			1.02%	
Private Investments	4.56%			4.56%	10.05%
Portfolio Hedge Contr.				-0.18%	
<b>Total</b>	<b>3.76%</b>	<b>-5.87%</b>	<b>3.86%</b>	<b>1.62%</b>	<b>0.40%</b>

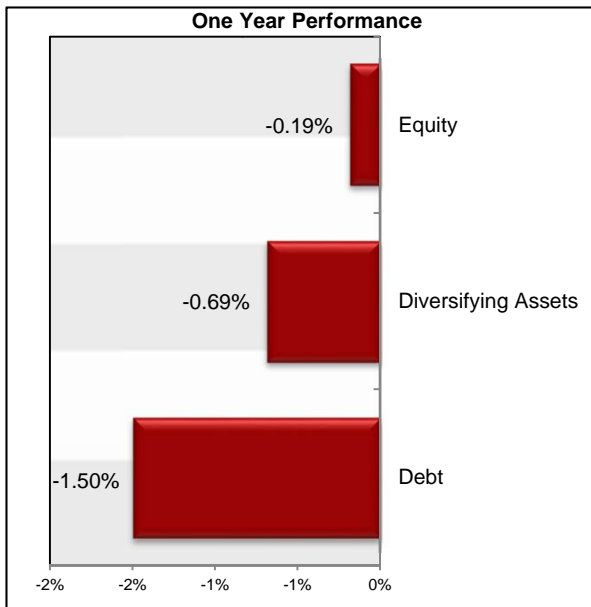
Asset Class	1 Year				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	-1.90%	-2.81%	4.86%	0.11%	-0.08%
Debt	6.66%			6.66%	-2.05%
Diversifying Assets	8.36%	-4.66%	4.86%	5.93%	-3.53%
Cash & Alpha Pool	1.13%			1.13%	
Private Investments	7.55%			7.55%	14.08%
Portfolio Hedge Contr.				-0.26%	
<b>Total</b>	<b>5.82%</b>	<b>-3.40%</b>	<b>4.86%</b>	<b>3.95%</b>	<b>3.09%</b>

**ITIF Asset Class Performance: Actual vs. Policy**



Asset Class	Month	
	Total Return	Policy
Equity	-6.86%	-7.49%
Debt	-0.98%	-1.24%
Diversifying Assets	-1.43%	-4.84%
<b>Total</b>	<b>-2.20%</b>	<b>-3.12%</b>

Asset Class	QTD	
	Total Return	Policy
Equity	-6.86%	-7.49%
Debt	-0.98%	-1.24%
Diversifying Assets	-1.43%	-4.84%
<b>Total</b>	<b>-2.20%</b>	<b>-3.12%</b>



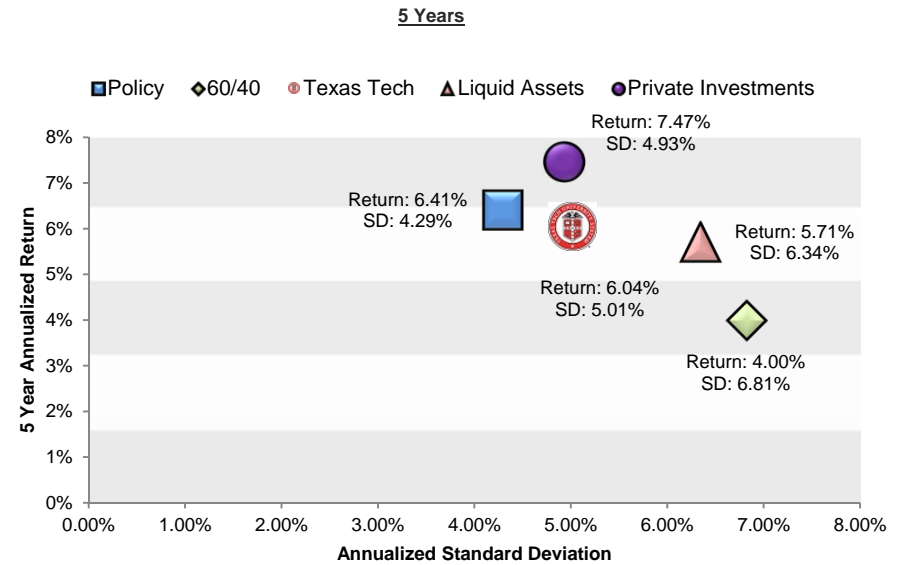
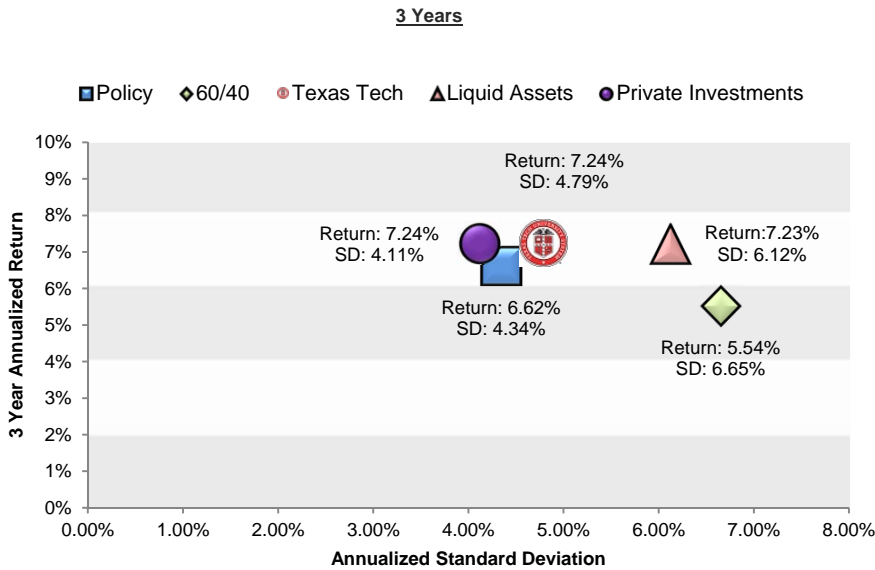
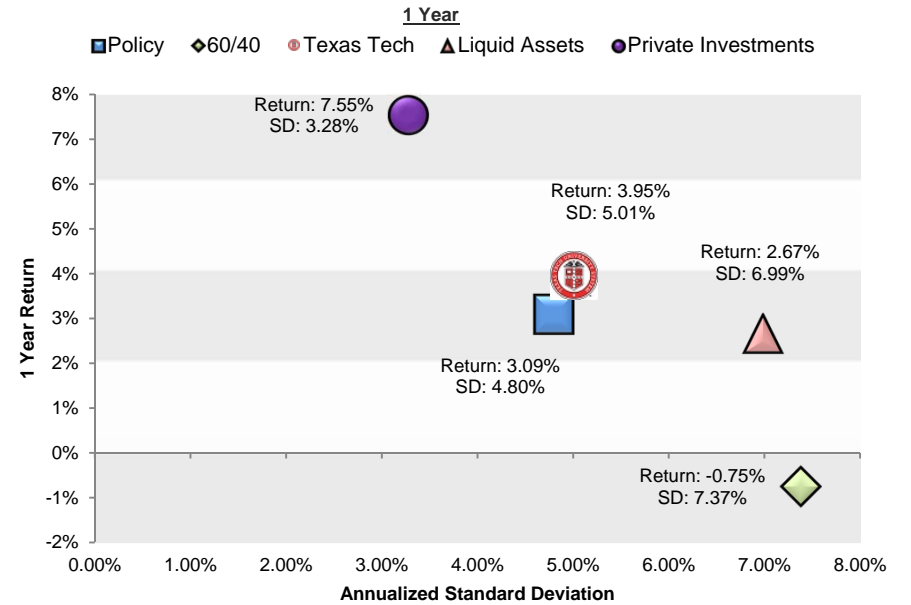
Asset Class	Calendar YTD	
	Total Return	Policy
Equity	-2.63%	-3.96%
Debt	-2.06%	-2.85%
Diversifying Assets	-2.40%	-2.70%
<b>Total</b>	<b>-1.79%</b>	<b>-2.48%</b>

Asset Class	1 Year	
	Total Return	Policy
Equity	-0.19%	-0.52%
Debt	-1.50%	-1.95%
Diversifying Assets	-0.69%	-0.02%
<b>Total</b>	<b>-0.57%</b>	<b>-0.83%</b>

**Long Term Risk/Return of Endowment vs. 60/40 Portfolio & Policy Returns**

*Commentary*

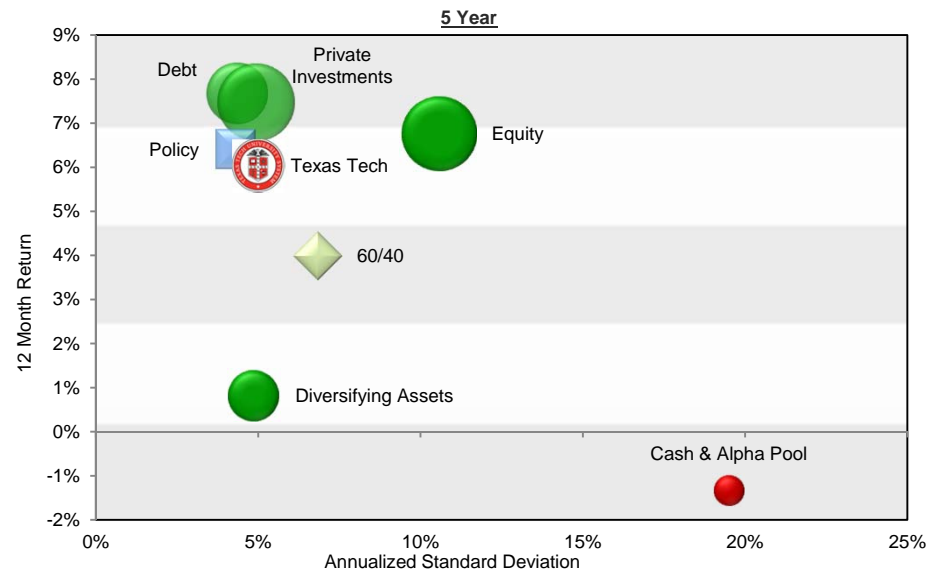
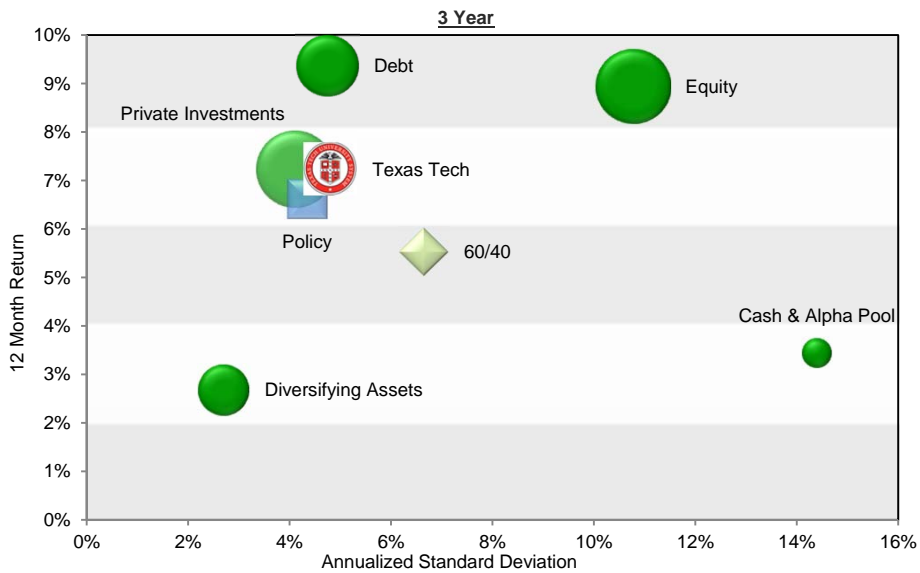
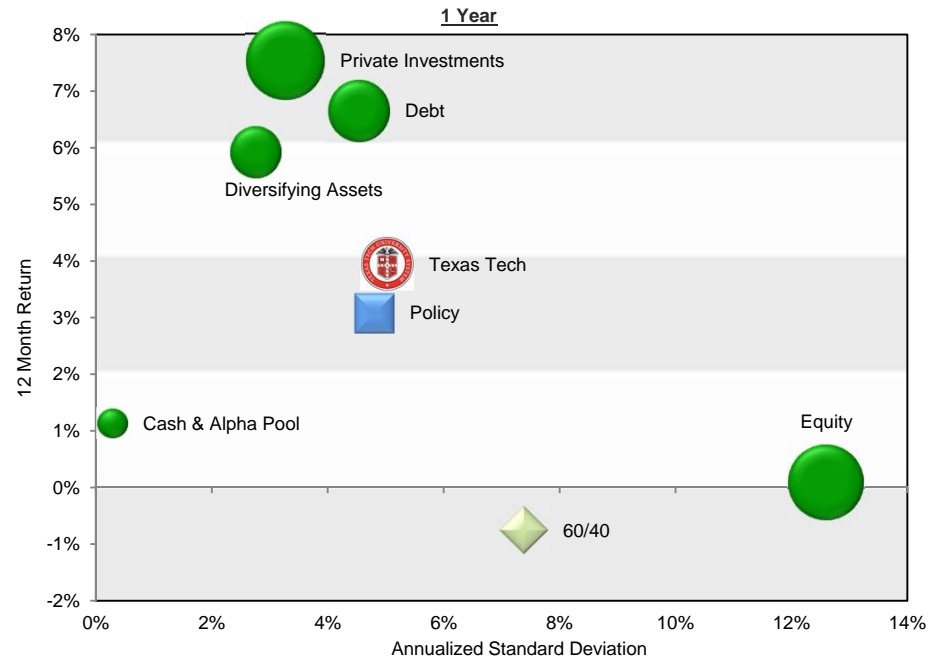
- The Texas Tech portfolio is less volatile than the 60/40 portfolio over all time horizons.
- The Texas Tech portfolio outperforms the 60/40 portfolio over all time horizons.
- Volatility (measured by standard deviation) on the Texas Tech portfolio has decreased over the past 12 months compared with the annualized 5 year volatility.



**Risk Profile\***

*Commentary*

- Diversifying Assets and Private Investments have provided the highest risk adjusted returns over the last 12 months
- Equity and Debt have generated the lowest risk adjusted returns over the last 12 months.

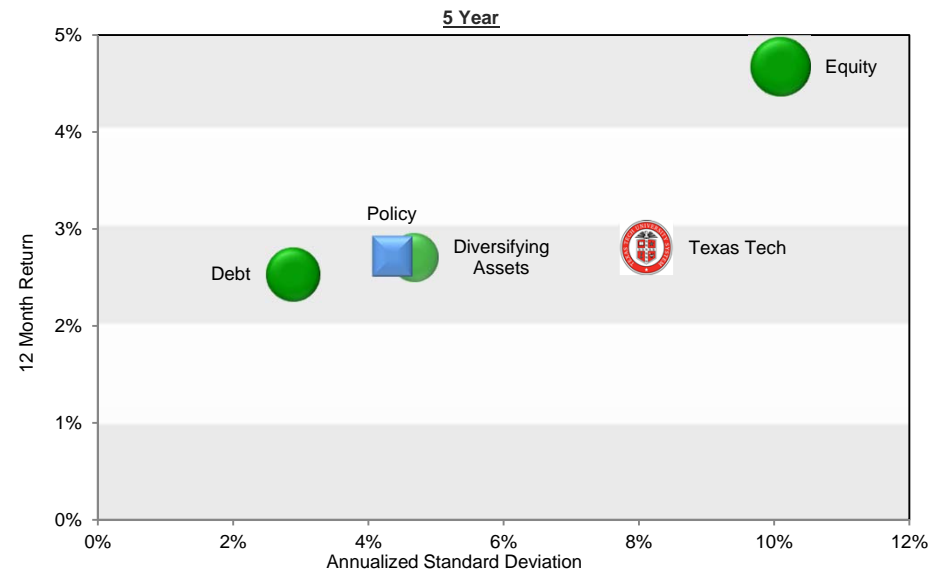
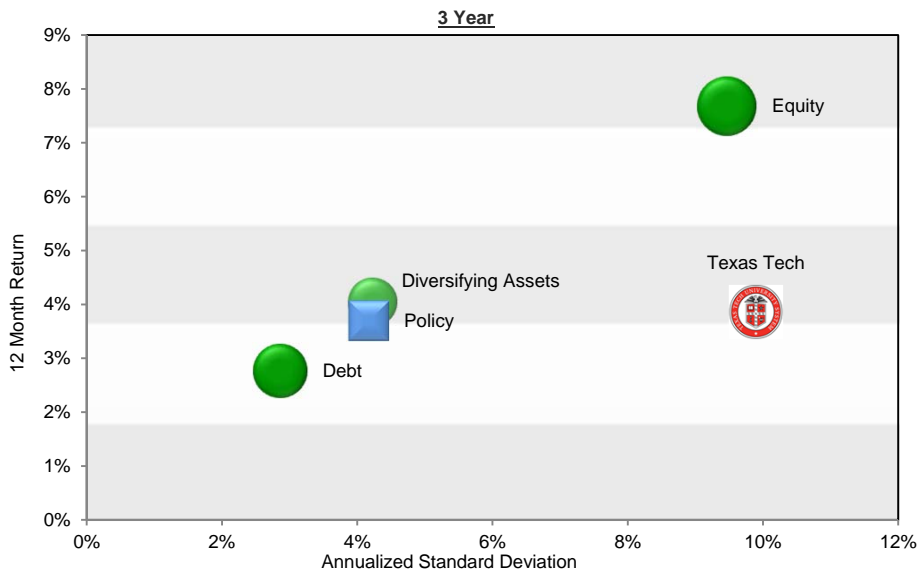
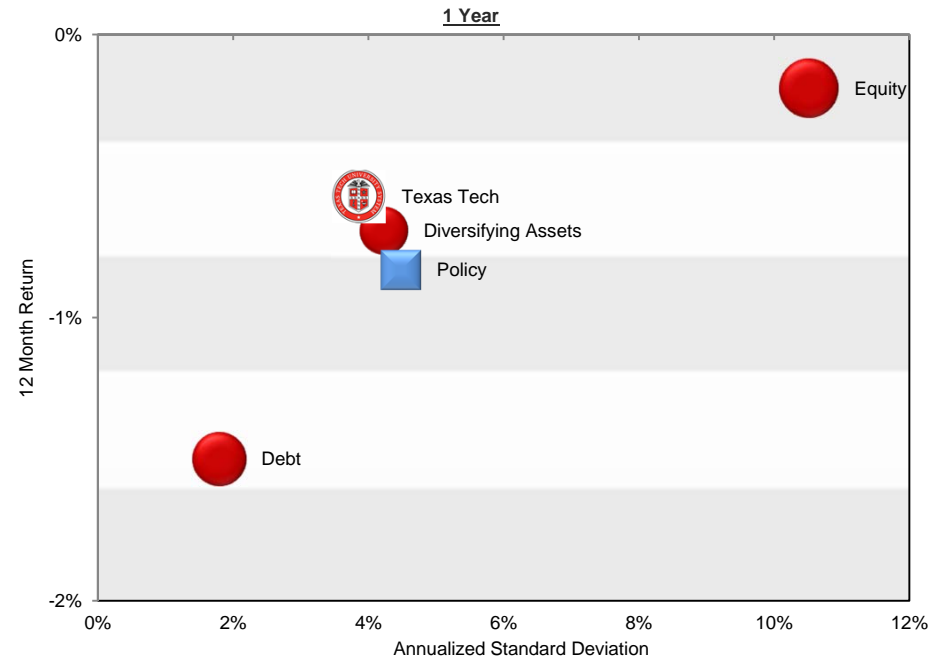


\*Excluding Liquidating investments.

**ITIF: Risk Profile**

*Commentary*

- Equity has provided the highest risk adjusted returns, and debt has provided the lowest risk adjusted returns.





### Appendix I – Sub-Asset Detail

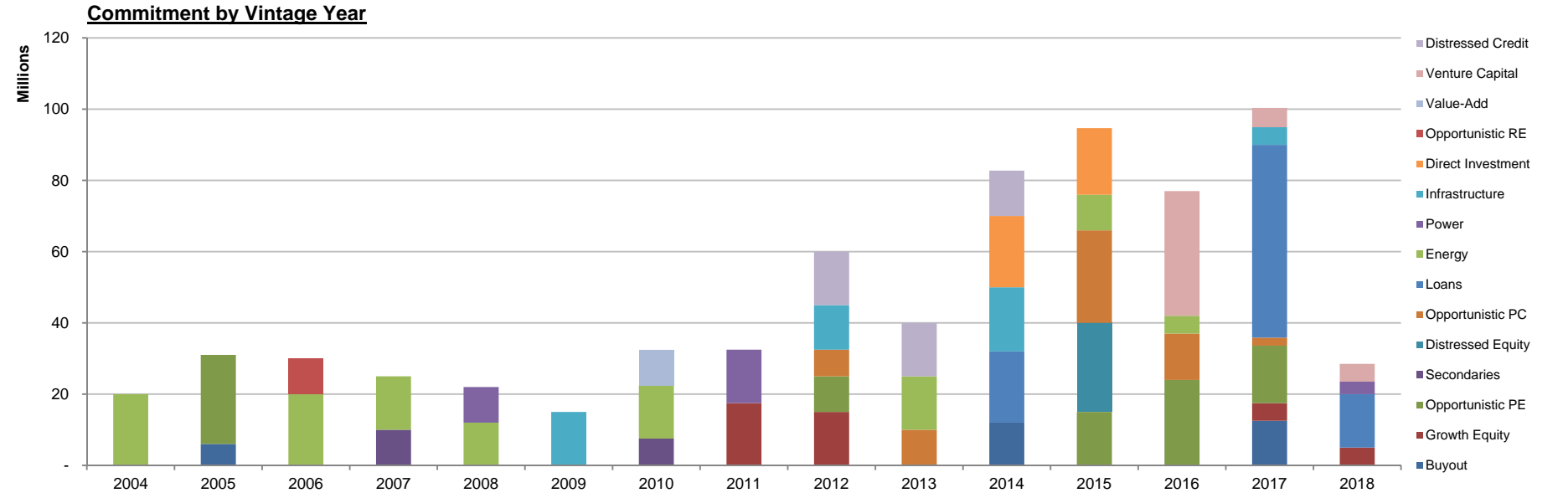
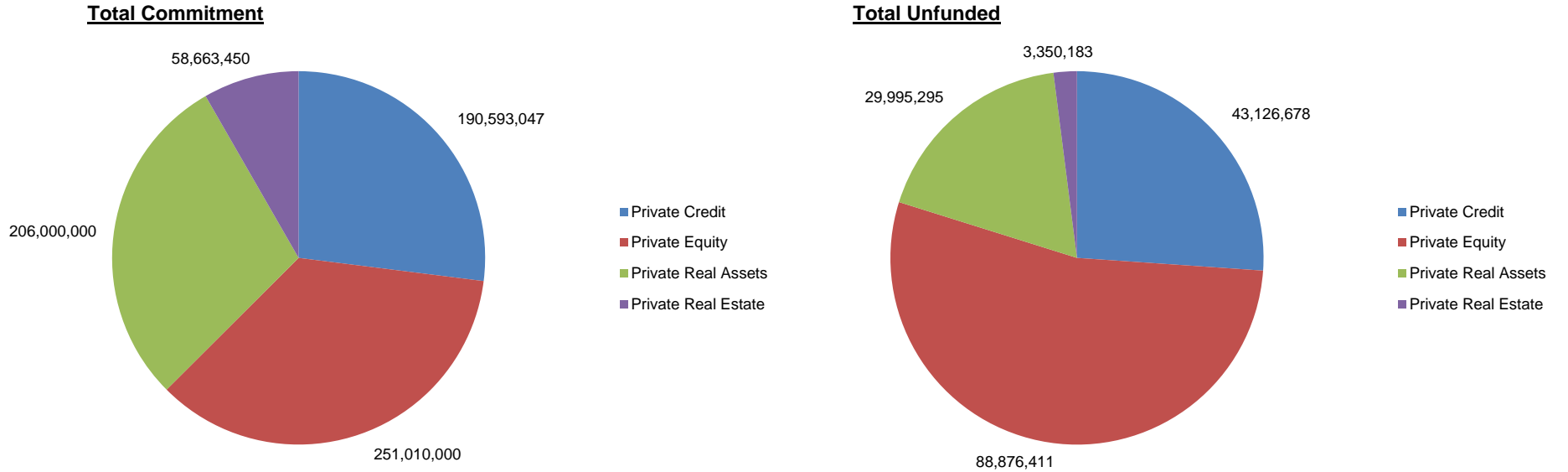
Fund	Current Exposure	MTD Perf.	QTD Perf.	Calendar YTD	Fiscal YTD	Nacubo YTD	1 Year Perf.	3 Year Perf.	5 Year Perf.
<b>TOTAL</b>	<b>1,221,192,908</b>	<b>-3.51%</b>	<b>-3.51%</b>	<b>1.62%</b>	<b>-2.85%</b>	<b>-1.25%</b>	<b>3.95%</b>	<b>7.24%</b>	<b>6.04%</b>
<b>Policy</b>		<b>-2.99%</b>	<b>-2.99%</b>	<b>0.40%</b>	<b>-2.57%</b>	<b>-1.41%</b>	<b>3.09%</b>	<b>6.62%</b>	<b>6.41%</b>
<b>Portfolio Hedge Contribution</b>	<b>894,104</b>	<b>-0.24%</b>	<b>-0.24%</b>	<b>-0.18%</b>	<b>-0.27%</b>	<b>-0.29%</b>	<b>-0.26%</b>	<b>n/a</b>	<b>n/a</b>
<b>Equity</b>	<b>366,611,626</b>	<b>-9.38%</b>	<b>-9.38%</b>	<b>-3.57%</b>	<b>-7.97%</b>	<b>-3.80%</b>	<b>0.11%</b>	<b>8.95%</b>	<b>6.77%</b>
<b>Equity Policy Benchmark (MSCI ACWI with USA Gross)</b>		<b>-7.47%</b>	<b>-7.47%</b>	<b>-3.57%</b>	<b>-7.03%</b>	<b>-3.40%</b>	<b>-0.08%</b>	<b>8.10%</b>	<b>6.31%</b>
<b>US Equity</b>	<b>141,704,947</b>	<b>-9.13%</b>	<b>-9.13%</b>	<b>1.47%</b>	<b>-7.67%</b>	<b>-0.07%</b>	<b>6.73%</b>	<b>14.33%</b>	<b>11.25%</b>
<i>Benchmark: S&amp;P 500 Total Return</i>		<b>-6.84%</b>	<b>-6.84%</b>	<b>3.01%</b>	<b>-6.30%</b>	<b>0.35%</b>	<b>7.35%</b>	<b>11.52%</b>	<b>11.34%</b>
<b>Global Equity</b>	<b>61,405,092</b>	<b>-10.05%</b>	<b>-10.05%</b>	<b>-1.35%</b>	<b>-9.30%</b>	<b>-4.70%</b>	<b>-1.28%</b>	<b>7.44%</b>	<b>7.92%</b>
<i>Benchmark: MSCI ACWI with USA Gross</i>		<b>-7.47%</b>	<b>-7.47%</b>	<b>-3.57%</b>	<b>-7.03%</b>	<b>-3.40%</b>	<b>-0.08%</b>	<b>8.10%</b>	<b>6.31%</b>
<b>Non US Developed Equity</b>	<b>130,738,971</b>	<b>-9.70%</b>	<b>-9.70%</b>	<b>-7.83%</b>	<b>-7.69%</b>	<b>-6.83%</b>	<b>-6.62%</b>	<b>5.10%</b>	<b>2.85%</b>
<i>Benchmark: MSCI EAFE (Net)</i>		<b>-7.96%</b>	<b>-7.96%</b>	<b>-9.28%</b>	<b>-7.16%</b>	<b>-6.71%</b>	<b>-6.85%</b>	<b>3.62%</b>	<b>2.02%</b>
<b>Non US Emerging Markets Equity</b>	<b>31,906,071</b>	<b>-8.99%</b>	<b>-8.99%</b>	<b>-11.84%</b>	<b>-8.32%</b>	<b>-6.55%</b>	<b>-6.65%</b>	<b>12.72%</b>	<b>6.01%</b>
<i>Benchmark: MSCI EMF (Net)</i>		<b>-8.71%</b>	<b>-8.71%</b>	<b>-15.72%</b>	<b>-9.19%</b>	<b>-9.71%</b>	<b>-12.52%</b>	<b>6.52%</b>	<b>0.78%</b>
<b>Alternative Equity</b>	<b>856,545</b>	<b>0.00%</b>	<b>0.00%</b>	<b>5.81%</b>	<b>1.88%</b>	<b>4.41%</b>	<b>12.00%</b>	<b>11.64%</b>	<b>8.09%</b>
<i>Benchmark: MSCI ACWI with USA Gross</i>		<b>-7.47%</b>	<b>-7.47%</b>	<b>-3.57%</b>	<b>-7.03%</b>	<b>-3.40%</b>	<b>-0.08%</b>	<b>8.10%</b>	<b>6.31%</b>
<b>Debt</b>	<b>265,633,206</b>	<b>-0.83%</b>	<b>-0.83%</b>	<b>6.23%</b>	<b>-0.35%</b>	<b>-0.60%</b>	<b>6.66%</b>	<b>9.37%</b>	<b>7.67%</b>
<b>Debt Policy Benchmark (Barclays Global Agg)</b>		<b>-1.12%</b>	<b>-1.12%</b>	<b>-3.46%</b>	<b>-1.97%</b>	<b>-2.03%</b>	<b>-2.05%</b>	<b>1.52%</b>	<b>0.33%</b>
<b>Sovereign/Investment Grade Bonds</b>	<b>-</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>4.31%</b>	<b>3.80%</b>
<i>Benchmark: Barclays Global Aggregate</i>		<b>-1.12%</b>	<b>-1.12%</b>	<b>-3.46%</b>	<b>-1.97%</b>	<b>-2.03%</b>	<b>-2.05%</b>	<b>1.52%</b>	<b>0.33%</b>
<b>Credit</b>	<b>200,446,661</b>	<b>-0.51%</b>	<b>-0.51%</b>	<b>11.70%</b>	<b>-0.28%</b>	<b>0.94%</b>	<b>12.99%</b>	<b>11.30%</b>	<b>8.50%</b>
<i>Benchmark: Barclays Global Aggregate</i>		<b>-1.12%</b>	<b>-1.12%</b>	<b>-3.46%</b>	<b>-1.97%</b>	<b>-2.03%</b>	<b>-2.05%</b>	<b>1.52%</b>	<b>0.33%</b>
<b>Emerging Markets Debt</b>	<b>65,186,545</b>	<b>-1.81%</b>	<b>-1.81%</b>	<b>-9.01%</b>	<b>-0.56%</b>	<b>-5.25%</b>	<b>-10.41%</b>	<b>6.26%</b>	<b>5.55%</b>
<i>Benchmark: JP Morgan EM Bond Index</i>		<b>-2.23%</b>	<b>-2.23%</b>	<b>-5.61%</b>	<b>-0.50%</b>	<b>-0.40%</b>	<b>-5.27%</b>	<b>3.83%</b>	<b>3.61%</b>
<b>Diversifying Assets</b>	<b>174,591,820</b>	<b>-0.98%</b>	<b>-0.98%</b>	<b>3.32%</b>	<b>-1.58%</b>	<b>0.37%</b>	<b>5.93%</b>	<b>2.69%</b>	<b>0.82%</b>
<i>Benchmark: HFRXGL Index</i>		<b>-3.11%</b>	<b>-3.11%</b>	<b>-4.30%</b>	<b>-3.77%</b>	<b>-3.48%</b>	<b>-3.53%</b>	<b>2.74%</b>	<b>3.30%</b>
<b>Alpha Pool &amp; Collateral</b>	<b>8,091,303</b>	<b>-0.12%</b>	<b>-0.12%</b>	<b>4.03%</b>	<b>0.90%</b>	<b>1.88%</b>	<b>5.06%</b>	<b>3.46%</b>	<b>-1.33%</b>
<b>Cash Collateral</b>	<b>41,981,225</b>	<b>0.00%</b>	<b>0.00%</b>	<b>1.01%</b>	<b>0.13%</b>	<b>0.43%</b>	<b>1.13%</b>	<b>0.55%</b>	<b>n/a</b>
<b>Collateral Held Elsewhere</b>	<b>33,360,969</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>n/a</b>	<b>n/a</b>
<b>Adjustments for Synthetic Exposure</b>	<b>(313,623,309)</b>								
<b>Alpha Pool</b>	<b>246,372,417</b>	<b>-0.15%</b>	<b>-0.15%</b>	<b>4.69%</b>	<b>1.12%</b>	<b>2.28%</b>	<b>5.94%</b>	<b>5.17%</b>	<b>4.56%</b>
<i>Benchmark: HFRI FOF Index</i>		<b>-3.04%</b>	<b>-3.04%</b>	<b>-2.13%</b>	<b>-3.27%</b>	<b>-2.84%</b>	<b>-1.25%</b>	<b>1.92%</b>	<b>2.27%</b>
<b>Cash</b>	<b>14,170,184</b>	<b>0.00%</b>	<b>0.00%</b>	<b>1.61%</b>	<b>0.61%</b>	<b>0.95%</b>	<b>1.75%</b>	<b>1.02%</b>	<b>0.62%</b>
<b>Liquidating</b>	<b>6,533,055</b>	<b>-1.18%</b>	<b>-1.18%</b>	<b>-17.80%</b>	<b>-11.47%</b>	<b>-11.59%</b>	<b>-28.70%</b>	<b>27.93%</b>	<b>20.33%</b>
<b>Private Investments</b>	<b>384,667,610</b>	<b>-0.30%</b>	<b>-0.30%</b>	<b>4.56%</b>	<b>0.68%</b>	<b>0.80%</b>	<b>7.55%</b>	<b>7.24%</b>	<b>7.47%</b>
<i>Benchmark: Private Market Composite</i>		<b>0.00%</b>	<b>2.85%</b>	<b>10.05%</b>	<b>2.01%</b>	<b>2.01%</b>	<b>14.08%</b>	<b>11.14%</b>	<b>12.58%</b>
<b>Private Equity</b>	<b>132,854,176</b>	<b>-0.19%</b>	<b>-0.19%</b>	<b>3.15%</b>	<b>-0.72%</b>	<b>-0.86%</b>	<b>5.74%</b>	<b>3.57%</b>	<b>6.43%</b>
<b>Private Credit</b>	<b>140,389,856</b>	<b>0.17%</b>	<b>0.17%</b>	<b>7.59%</b>	<b>1.35%</b>	<b>1.58%</b>	<b>9.94%</b>	<b>7.07%</b>	<b>7.11%</b>
<b>Private Diversifying Assets</b>	<b>111,423,578</b>	<b>-1.00%</b>	<b>-1.00%</b>	<b>3.22%</b>	<b>1.38%</b>	<b>1.67%</b>	<b>7.06%</b>	<b>9.98%</b>	<b>8.27%</b>

Private Benchmark, as of 7/1/2018, is defined as the trailing 5 year return of 70% MIMUAWON Index, 15% LF98TRUU Index, 15% LG30TRUU Index, rolled quarterly, + 250bps p/a





**Appendix III - Private Markets Report (as of October 2018) - Total Commitment**



Data provided by Texas Tech University System  
 Reported valuations use latest available statements ranging from June 2018 to October 2018  
 Adjusted Valuations include all cashflows through October 2018



### Appendix III - Private Markets Report (as of October 2018) - Performance Analysis by Asset Class & Strategy Type

#### Performance by Asset Class

Asset Class	# of Funds	Commitment	Funded	Paid-In Capital	Distributions	% Drawn	Reported Valuation	Adjusted Valuation	IRR	TVPI
Private Equity	21	\$251,010,000	\$162,949,857	\$169,496,261	\$68,313,559	68%	\$130,166,934	\$131,635,802	5.23%	1.18
Private Credit	16	\$190,593,047	\$151,718,712	\$156,779,175	\$55,397,361	82%	\$125,968,751	\$129,666,498	6.98%	1.18
Private Real Assets	16	\$206,000,000	\$177,942,780	\$194,030,915	\$194,000,254	94%	\$74,251,613	\$73,907,539	14.45%	1.39
Private Real Estate	4	\$58,663,450	\$57,264,491	\$59,248,622	\$23,302,068	101%	\$46,098,361	\$42,804,980	2.74%	1.12
<b>Total</b>	<b>57</b>	<b>\$706,266,497</b>	<b>\$549,875,840</b>	<b>\$579,554,973</b>	<b>\$341,013,242</b>	<b>82%</b>	<b>\$376,485,659</b>	<b>\$378,014,819</b>	<b>8.27%</b>	<b>1.24</b>

#### Performance by Strategy Type

Asset Class	Strategy	# of Funds	Commitment	Funded	Paid-In Capital	Distributions	% Drawn	Reported Valuation	Adjusted Valuation	IRR	TVPI
Private Equity	Buyout	3	\$30,500,000	\$24,792,185	\$25,795,189	\$9,311,417	85%	\$21,099,262	\$21,099,262	7.32%	1.18
	Distressed Equity	1	\$25,000,000	\$5,649,992	\$5,774,992	\$1,162,372	23%	\$7,329,325	\$7,329,325	21.38%	1.47
	Growth Equity	4	\$42,500,000	\$27,920,421	\$31,564,290	\$8,640,822	74%	\$29,391,240	\$28,800,074	5.86%	1.19
	Opportunistic PE	7	\$90,110,000	\$69,254,416	\$69,919,177	\$34,929,362	78%	\$48,336,532	\$48,127,697	4.60%	1.19
	Secondaries	2	\$17,500,000	\$16,406,432	\$17,125,577	\$14,167,278	98%	\$5,509,296	\$5,286,463	2.76%	1.14
	Venture Capital	4	\$45,400,000	\$18,926,411	\$19,317,036	\$102,308	43%	\$18,501,279	\$20,992,981	7.84%	1.09
	<b>Total</b>	<b>21</b>	<b>\$251,010,000</b>	<b>\$162,949,857</b>	<b>\$169,496,261</b>	<b>\$68,313,559</b>	<b>68%</b>	<b>\$130,166,934</b>	<b>\$131,635,802</b>	<b>5.23%</b>	<b>1.18</b>
Private Credit	Distressed Credit	3	\$42,750,000	\$40,119,345	\$40,248,413	\$26,805,780	94%	\$22,866,633	\$22,866,633	5.85%	1.23
	Loans	7	\$89,075,000	\$59,034,176	\$59,740,204	\$12,997,077	67%	\$61,357,601	\$60,687,368	11.09%	1.23
	Opportunistic PC	6	\$58,768,047	\$52,565,191	\$56,790,558	\$15,594,504	97%	\$41,744,517	\$46,112,497	4.26%	1.09
	<b>Total</b>	<b>16</b>	<b>\$190,593,047</b>	<b>\$151,718,712</b>	<b>\$156,779,175</b>	<b>\$55,397,361</b>	<b>82%</b>	<b>\$125,968,751</b>	<b>\$129,666,498</b>	<b>6.98%</b>	<b>1.18</b>
Private Real Assets	Energy	8	\$112,000,000	\$108,353,188	\$114,574,209	\$124,143,824	102%	\$31,728,992	\$31,409,918	14.03%	1.38
	Infrastructure	4	\$50,500,000	\$41,248,820	\$50,177,642	\$58,009,959	99%	\$23,066,855	\$23,041,855	29.12%	1.62
	Power	3	\$28,500,000	\$25,408,008	\$26,323,136	\$11,722,211	92%	\$16,480,779	\$16,480,779	1.90%	1.07
	Opportunistic RA	1	\$15,000,000	\$2,932,764	\$2,955,928	\$124,260	20%	\$2,974,987	\$2,974,987	0.00%	0.00
	<b>Total</b>	<b>16</b>	<b>\$206,000,000</b>	<b>\$177,942,780</b>	<b>\$194,030,915</b>	<b>\$194,000,254</b>	<b>94%</b>	<b>\$74,251,613</b>	<b>\$73,907,539</b>	<b>14.45%</b>	<b>1.39</b>
Private Real Estate	Direct Investment	2	\$38,663,450	\$39,709,817	\$41,637,448	\$15,175,796	108%	\$35,623,508	\$33,165,127	5.75%	1.16
	Opportunistic RE	1	\$10,000,000	\$10,000,000	\$10,000,000	\$0	100%	\$3,577,061	\$3,577,061	-10.94%	0.36
	Value-Add	1	\$10,000,000	\$7,554,674	\$7,611,174	\$8,126,272	76%	\$6,897,792	\$6,062,792	12.33%	1.86
	<b>Total</b>	<b>4</b>	<b>\$58,663,450</b>	<b>\$57,264,491</b>	<b>\$59,248,622</b>	<b>\$23,302,068</b>	<b>101%</b>	<b>\$46,098,361</b>	<b>\$42,804,980</b>	<b>2.74%</b>	<b>1.12</b>



## **Appendix IV – Glossary**

### **Major Asset Classes**

Alpha Pool: Investments that tend to be uncorrelated with “traditional” stock and bond investments. Not technically an asset class, but rather an investment construct within a \*portable alpha framework

Cash & Equivalents: Cash and short term investments held in lieu of cash and readily converted into cash within a short time span (i.e., CDs, commercial paper, Treasury bills, etc.)

Global Debt: Investments in debt instruments located in developed markets, may include various credit, mortgage-backed and emerging markets debt securities

Global Equity: Investments in companies domiciled in developed market countries and may include opportunistic investments in emerging market countries

Liquidating: The residual investment in terminated managers

Liquid Real Assets: Liquid investments in strategies whose values are sensitive to inflation

Private Equity: Investments in equity securities and debt in operating companies that are not publicly traded on a stock exchange

Private Real Assets: Investments in equity securities and debt in operating companies that are not publicly traded on a stock exchange and whose strategies are sensitive to inflation

### **Sub-Asset Classes**

Alternative Equity: Investments in companies globally through both long and short positions and may include non-equity instruments such as fixed income, commodities, CDS, options, etc.

Credit: Investments in companies, often stressed or distressed, principally through the debt portion of capital structure

Emerging Market Debt: Investments in debt securities in emerging market countries, primarily in three categories - external sovereign, local sovereign, and corporate debt

Emerging Market Equity: Investments in companies located in emerging market countries

Investment Grade Bonds: Investments in investment grade rated debt securities

Non-US Developed Equity: Investments in companies domiciled in developed market countries

US Equity: Investments in companies domiciled in the US