



TEXAS TECH UNIVERSITY SYSTEM™

Board of Regents Report

for May 2018

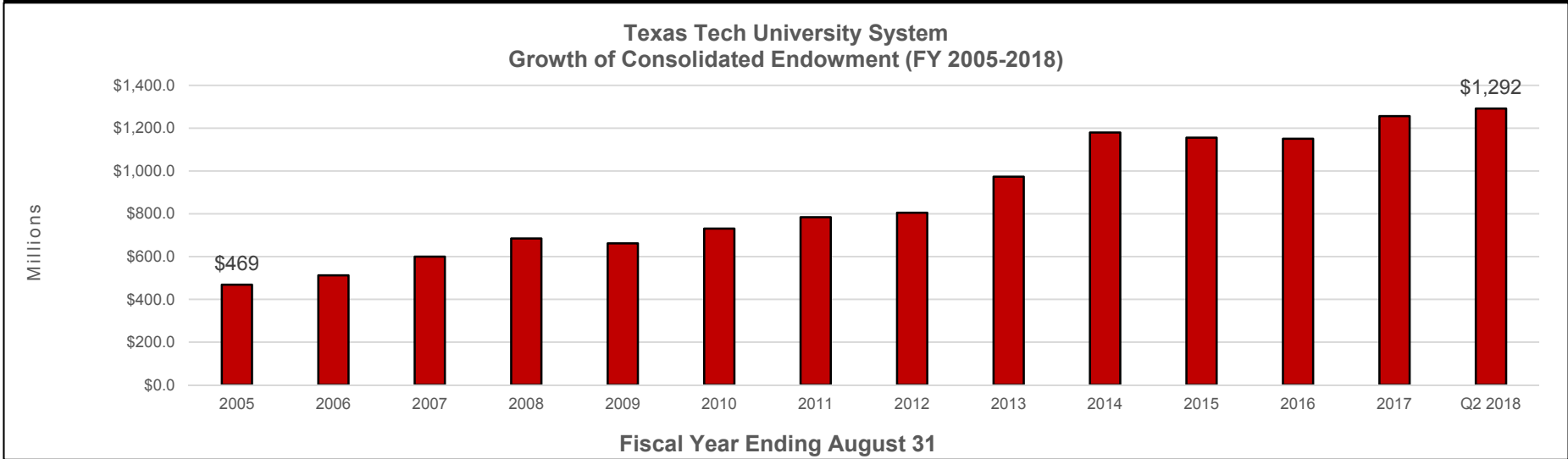
Texas Tech University System Endowment

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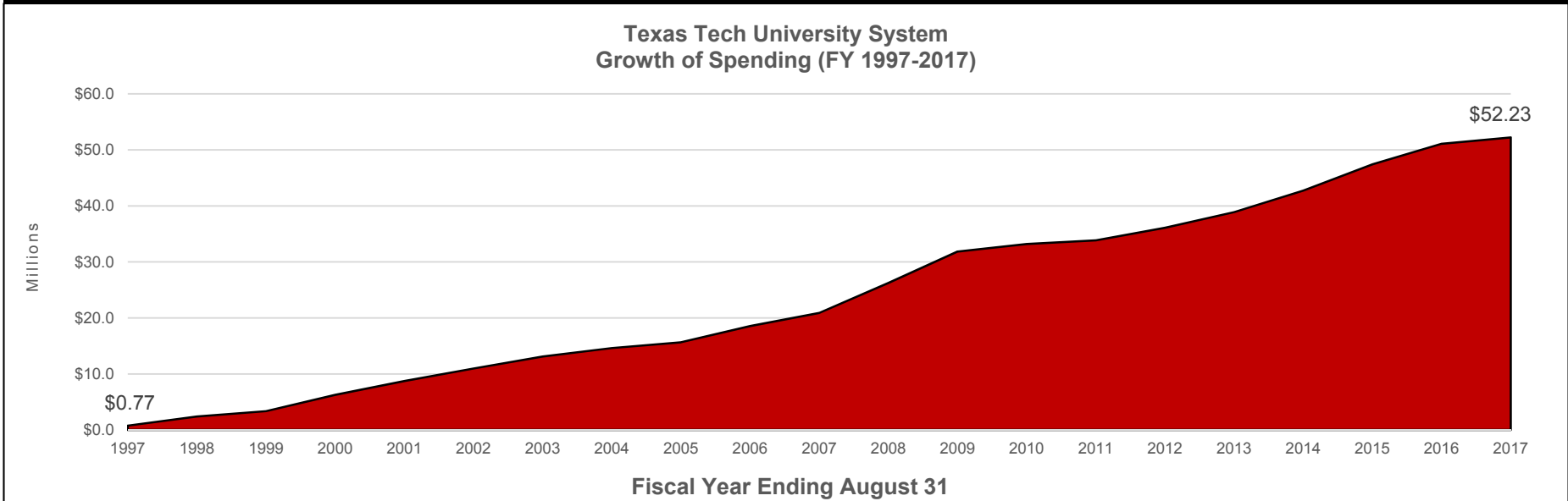


Endowment Data

HISTORICAL MARKET VALUE (Fiscal Year Q2 2018)



HISTORICAL SPENDING (Fiscal Year)



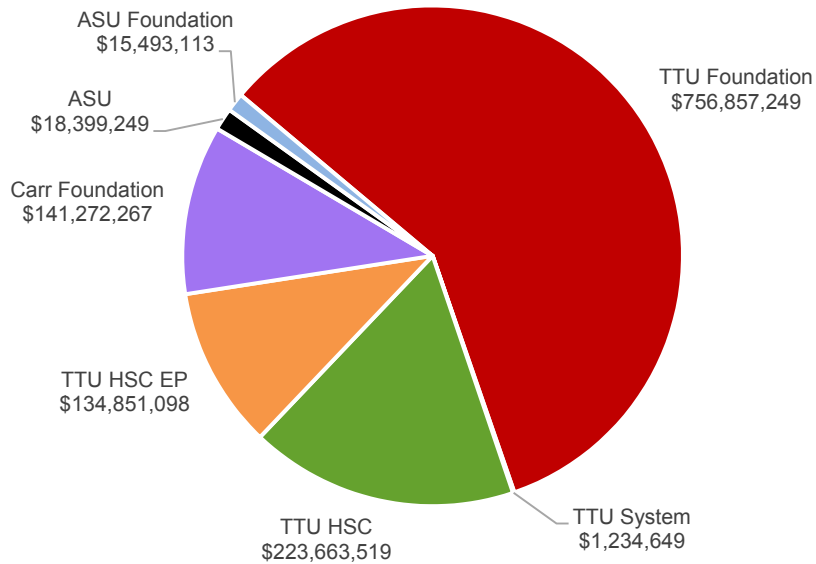
The 4.5% distribution rate has been realized every year since inception.



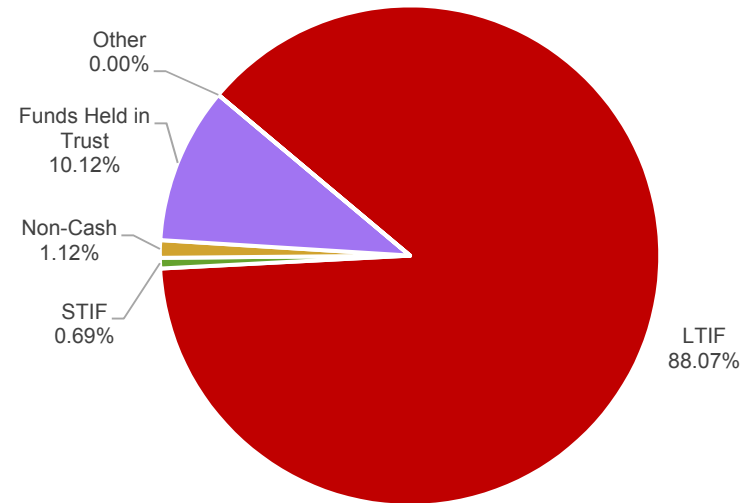
Endowment Data (cont.)

TOTAL ENDOWMENT (Fiscal Year Q2 2018)

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



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



Summary of Endowment

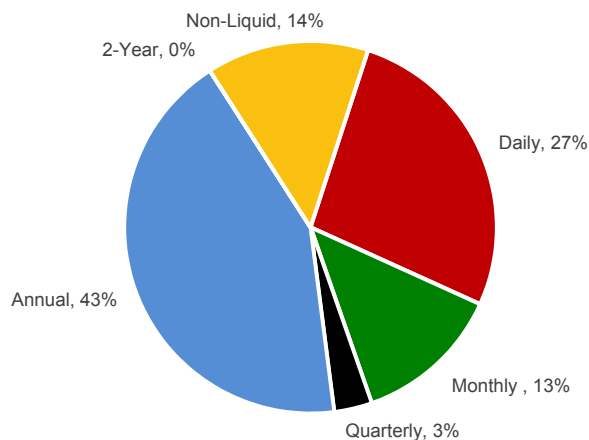
	TTU Foundation	TTU System	TTU HSC	TTU HSC EP	Carr Foundation	ASU	ASU Foundation	Total
LTIF	\$714,439,891	\$1,234,625	\$154,661,302	\$101,184,880	\$132,609,101	\$18,005,642	\$15,493,113	\$1,137,628,555
STIF	\$5,674,943	\$24	\$2,668,516	\$115,002	\$0	\$393,469	\$0	\$8,851,954
Non-Cash	\$4,319,603	\$0	\$1,532,553	\$0	\$8,663,166	\$0	\$0	\$14,515,322
Funds Held in Trust	\$32,422,812	\$0	\$64,801,148	\$33,551,216	\$0	\$0	\$0	\$130,775,177
Other	\$0	\$0	\$0	\$0	\$0	\$138	\$0	\$138
Total	\$756,857,249	\$1,234,649	\$223,663,519	\$134,851,098	\$141,272,267	\$18,399,249	\$15,493,113	\$1,291,771,146



31st May 2018

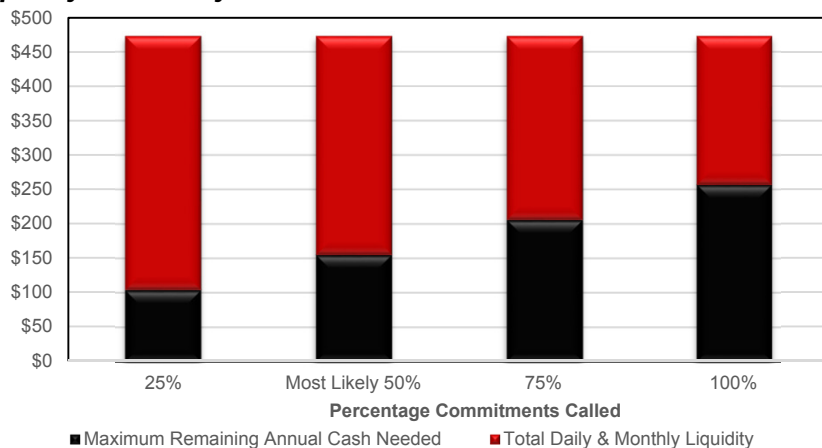
LTIF Liquidity

LTIF Liquidity



LTIF		Liquidity
Daily	\$321,708,627	26.8%
Monthly	\$154,852,287	12.9%
Quarterly	\$39,613,376	3.3%
Annual	\$516,174,289	43.0%
2-Year	\$0	0.0%
Non-Liquid	\$169,257,151	14.1%
Total LTIF	\$1,200,405,323	100%

Liquidity Sensitivity



	<u>Commitment</u>	<u>Capital Called</u>	<u>Distributions</u>	<u>Account Balance</u>	<u>Remaining Commitment</u>
Private Equity	\$251,500,000	\$152,443,337	\$66,683,905	\$116,498,536	\$99,056,663
Private Credit	\$195,277,805	\$132,974,471	\$48,727,478	\$123,720,666	\$62,303,334
Private Real Assets	\$262,663,450	\$234,883,012	\$205,800,508	\$125,479,633	\$27,780,438
Total Illiquid Assets	\$709,441,255	\$520,300,820	\$321,211,891	\$365,698,835	\$189,140,435
			Annual Spending		\$53,600,000
			Total Committed Funds		\$242,740,435

Unfunded Commitments - Sensitivity Analysis

	<u>25% Called</u>	<u>Most Likely 50% Called</u>	<u>75% Called</u>	<u>100% Called</u>
Maximum Remaining Annual Cash Needed	\$100,885,109	\$148,170,218	\$195,455,326	\$242,740,435
Percentage of Daily & Monthly Liquidity	21%	31%	41%	51%



Market Data

Benchmarks	Underlying	Weight	MTD Perf.	QTD Perf.	Calendar YTD	Fiscal YTD	Nacubo YTD	1 Year Perf.	3 Year Perf.	5 Year Perf.
Policy Benchmarks			-0.03%	-0.14%	1.29%	6.24%	8.13%	9.53%	7.17%	7.79%
Equity	Global Index (MSCI ACWI)	35%	0.39%	1.33%	0.43%	8.45%	11.82%	12.47%	7.75%	9.06%
Debt	Global Bonds (Barclays Global Agg)	25%	-0.76%	-2.35%	-1.02%	-0.85%	1.81%	1.72%	2.58%	1.34%
Diversifying Assets	HFRX Global Hedge Fund	10%	0.26%	0.36%	-0.66%	1.42%	2.66%	2.88%	4.75%	4.59%
Private Investments	VE All PE Qtr Lag	27%	0.00%	0.00%	5.25%	13.22%	13.22%	17.62%	12.01%	13.48%
Private Investments	NCREIF	3%	0.00%	0.00%	1.70%	5.28%	5.28%	7.12%	8.72%	10.00%
Other Benchmarks										
Equity	S&P 500 Total Return		2.41%	2.80%	2.02%	11.04%	13.67%	14.38%	10.97%	12.98%
Equity	Non US Developed Equity (MSCI EAFE)		-2.25%	-0.02%	-1.55%	5.17%	8.16%	7.97%	4.33%	5.93%
Equity	EM Equities (MSCI EMF)		-3.54%	-3.97%	-2.61%	4.22%	12.89%	14.03%	6.17%	4.52%
Debt	EM Bonds (JPM EM Bond Index)		-1.08%	-2.53%	-4.27%	-3.76%	-1.46%	-1.71%	4.09%	3.56%
Cash & Alpha Pool	90 Day T-Bills		0.16%	0.31%	0.71%	1.10%	1.28%	1.37%	0.67%	0.42%
Hedge Funds	HFRI FOF Composite		0.68%	0.92%	1.18%	3.73%	5.65%	5.63%	1.74%	3.27%
Private Investments	Private Market Index (90% VE, 10% NCREIF)		0.00%	0.00%	4.90%	12.41%	12.41%	16.54%	11.69%	13.13%

CIO NOTES:

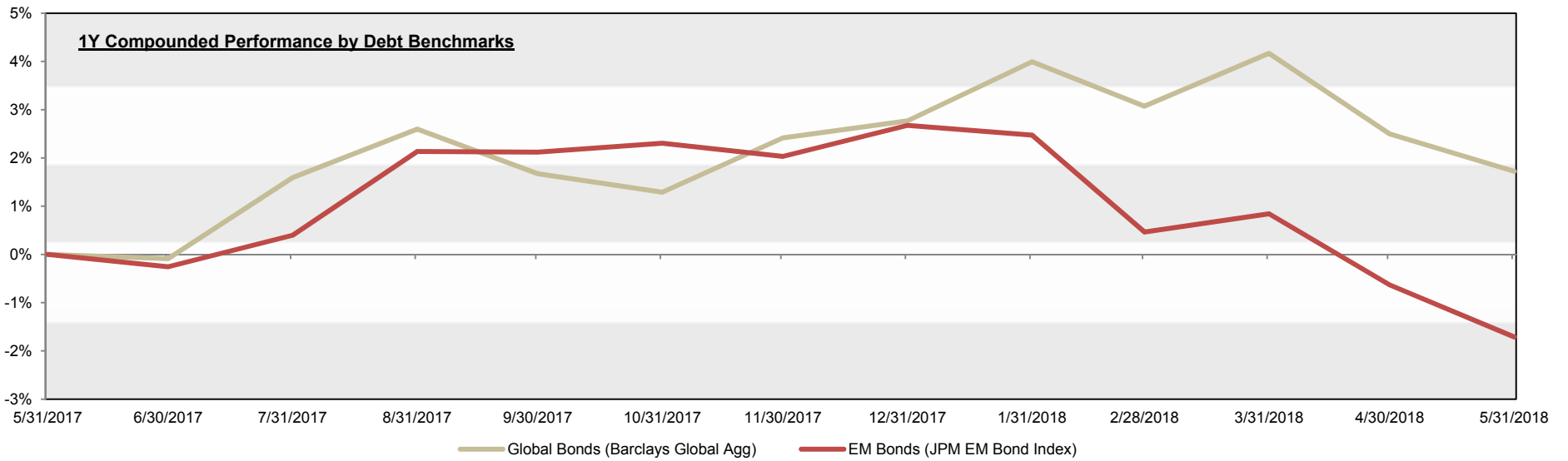
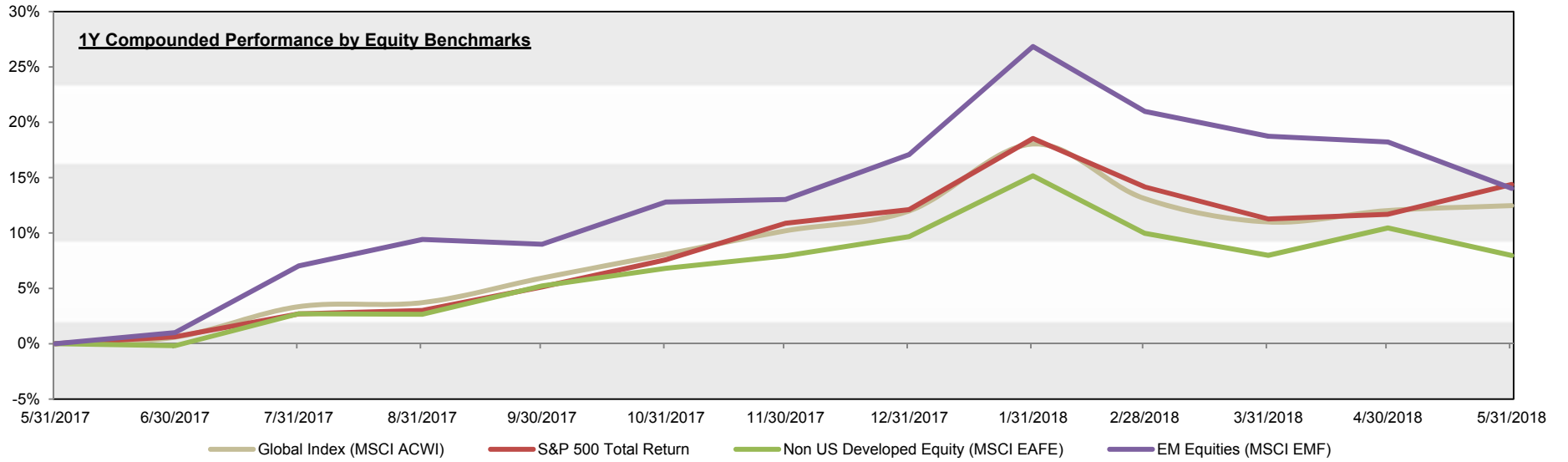
Volatility remained a mainstay in May amid festering trade tensions between the US and China and Italy's struggle to form a new government. The US dollar strengthened 2% relative to a basket of major currencies, fueling declines of 2.2% and 3.5% in the MSCI EAFE and MSCI Emerging Markets indexes, respectively. In Contrast, the S&P 500 gained 2.4% last month

Within fixed income, safe-haven asset classes edged up modestly. The yield curve shifted downward slightly with the 10-year declining nine basis points to 2.86%, despite hitting 3.1% during the month, and the 30-year falling 10 basis points to 3.03%. Outside the US, European government bond yields broadly declined amid political turmoil in Italy In emerging markets, weakening local currencies fueled declines of 5% in the JPM GBI-EM Index.

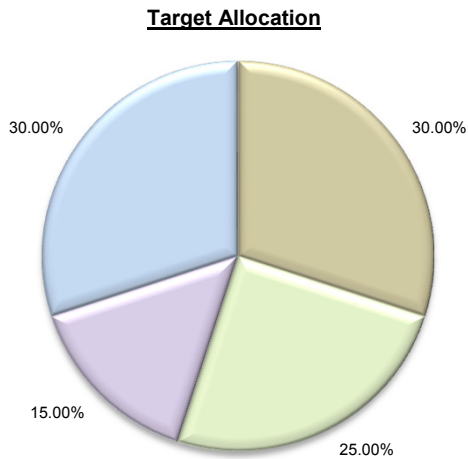
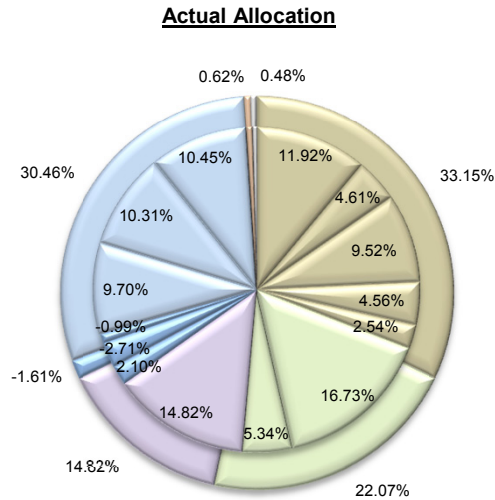
Liquid real assets maintained their winning streak as oil prices, bolstered by OPEC production cuts, geopolitical instability and strong global demand, touched \$80 per barrel. - a first since 2014. Additionally, the Alerian MLP Index continued to rebound – increasing 5.0% for the month.



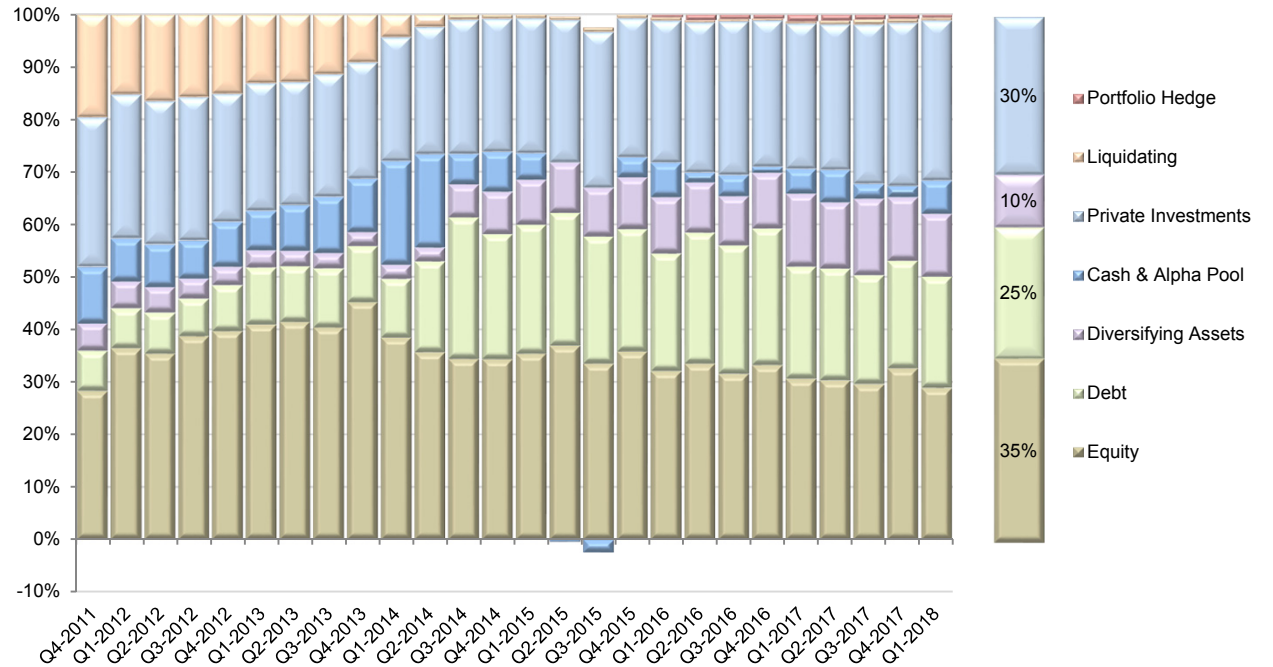
Market Data (cont.)



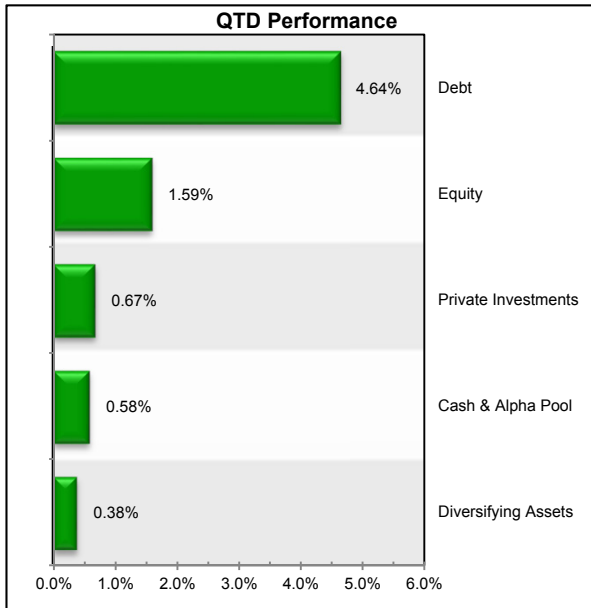
Asset Class Allocation: Actual vs. Target



Asset Class	Actual \$ Allocation			Total % Allocation	Target % Allocation	Target Range
	Physical	Synthetic	Total			
Equity	104,130,286	293,757,741	397,888,027	33.15%	30%	30% - 40%
Debt	264,906,477	0	264,906,477	22.07%	25%	20% - 30%
Diversifying Assets	129,117,283	48,821,922	177,939,205	14.82%	15%	5% - 15%
Cash & Alpha Pool	329,036,287	-348,304,087	-19,267,799	-1.61%	0%	0% - 10%
Private Investments	365,698,835	0	365,698,835	30.46%	30%	10% - 55%
Liquidating	7,435,393	0	7,435,393	0.62%	0%	
Portfolio Hedge	80,762	5,724,423	5,805,185	0.48%	0%	
Total	1,200,405,323	0	1,200,405,323	100%	100%	

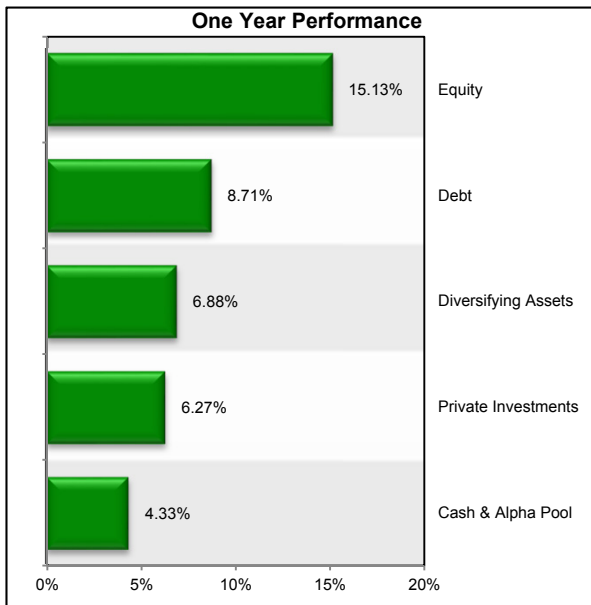


Asset Class Performance: Actual vs. Policy



Asset Class	Month				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	0.91%	-0.24%	0.29%	0.30%	0.39%
Debt	0.74%			0.74%	-0.76%
Diversifying Assets	-0.35%	1.00%	0.29%	0.10%	0.26%
Cash & Alpha Pool	0.26%			0.26%	
Private Investments	0.19%			0.19%	0.00%
Portfolio Hedge Contr.				-0.01%	
Total	0.34%	-0.04%	0.29%	0.32%	-0.03%

Asset Class	QTD				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	1.75%	0.93%	0.67%	1.59%	1.33%
Debt	4.64%			4.64%	-2.35%
Diversifying Assets	0.08%	0.61%	0.67%	0.38%	0.36%
Cash & Alpha Pool	0.58%			0.58%	
Private Investments	0.67%			0.67%	0.00%
Portfolio Hedge Contr.				-0.08%	
Total	1.65%	0.85%	0.67%	1.56%	-0.14%



Asset Class	Calendar YTD				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	1.96%	-1.09%	1.90%	1.03%	0.43%
Debt	6.31%			6.31%	-1.02%
Diversifying Assets	2.70%	2.26%	1.90%	3.10%	-0.66%
Cash & Alpha Pool	1.64%			1.64%	
Private Investments	1.17%			1.17%	4.90%
Portfolio Hedge Contr.				0.22%	
Total	2.50%	-0.75%	1.90%	2.31%	1.29%

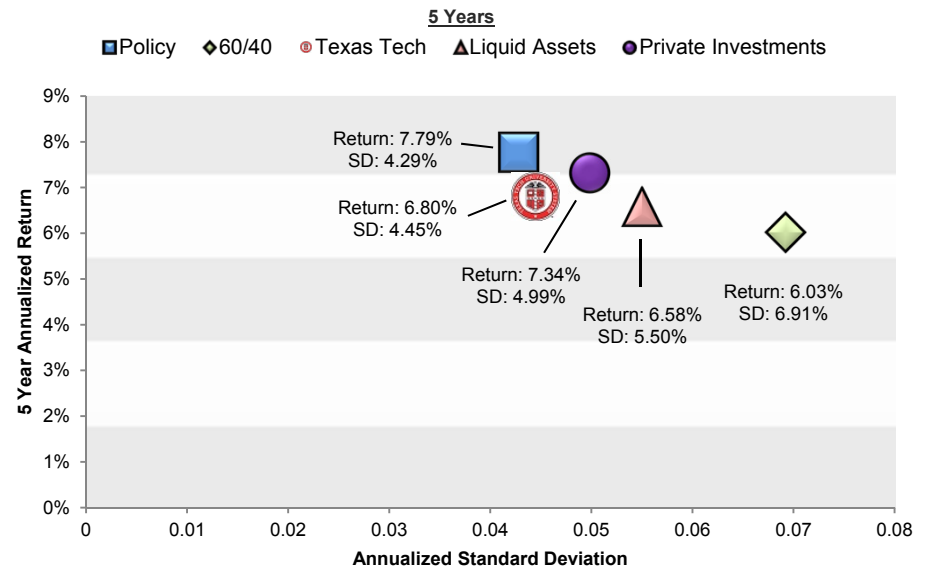
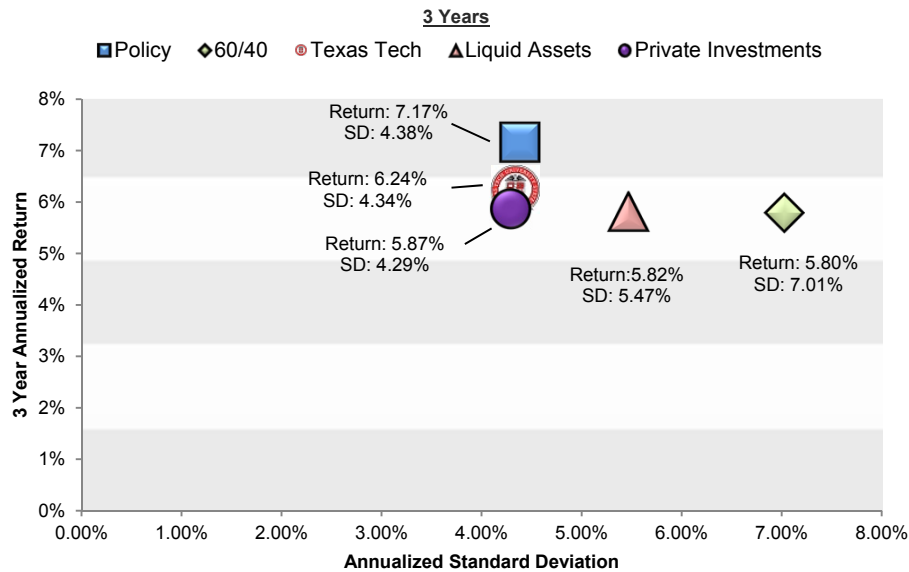
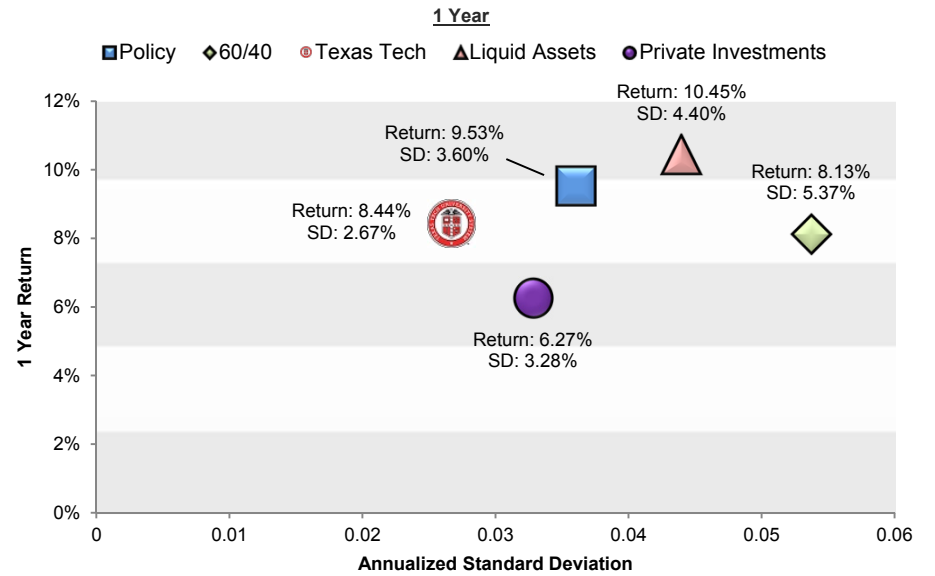
Asset Class	1 Year				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	16.47%	9.30%	5.02%	15.13%	12.47%
Debt	8.71%			8.71%	1.72%
Diversifying Assets	6.46%	2.68%	5.02%	6.88%	2.88%
Cash & Alpha Pool	4.33%			4.33%	
Private Investments	6.27%			6.27%	16.54%
Portfolio Hedge Contr.				-0.15%	
Total	7.61%	7.81%	5.02%	8.44%	9.53%



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

Commentary

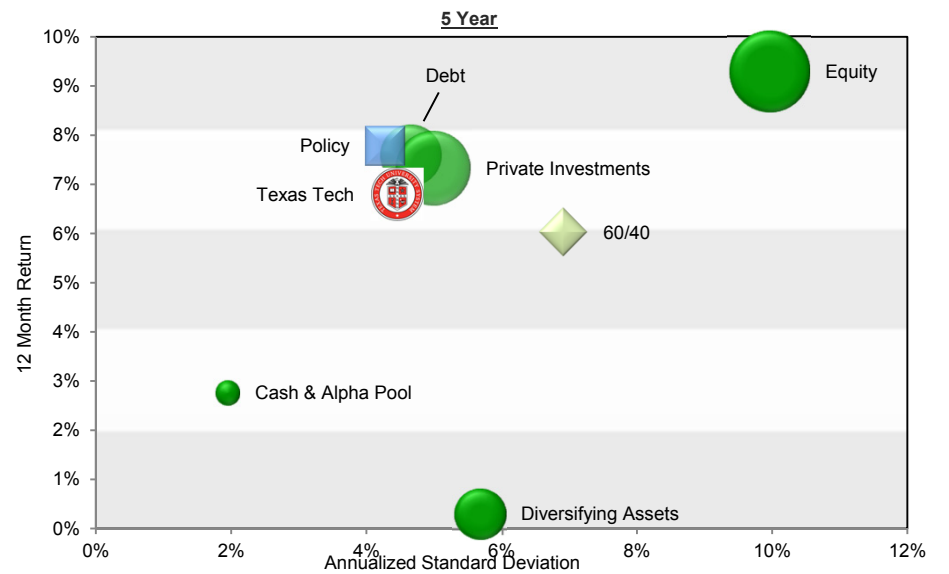
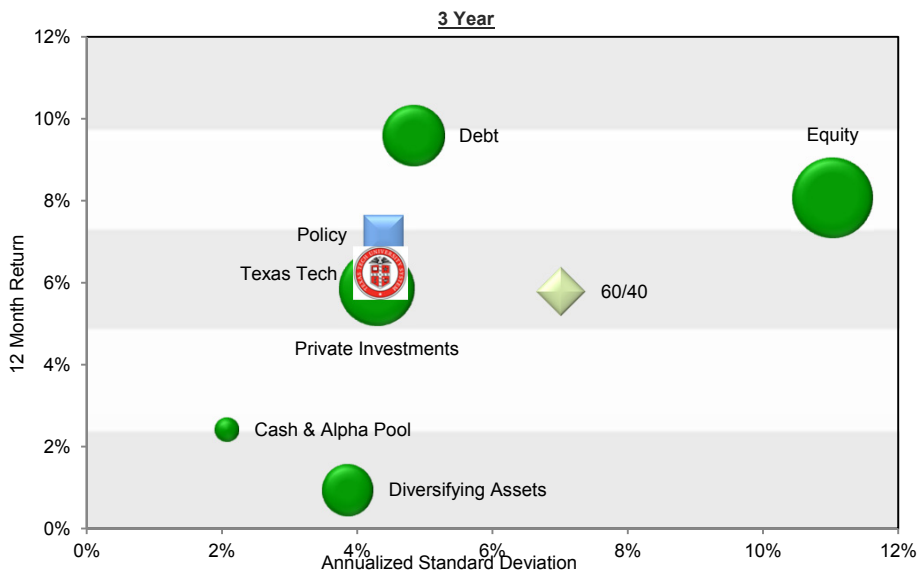
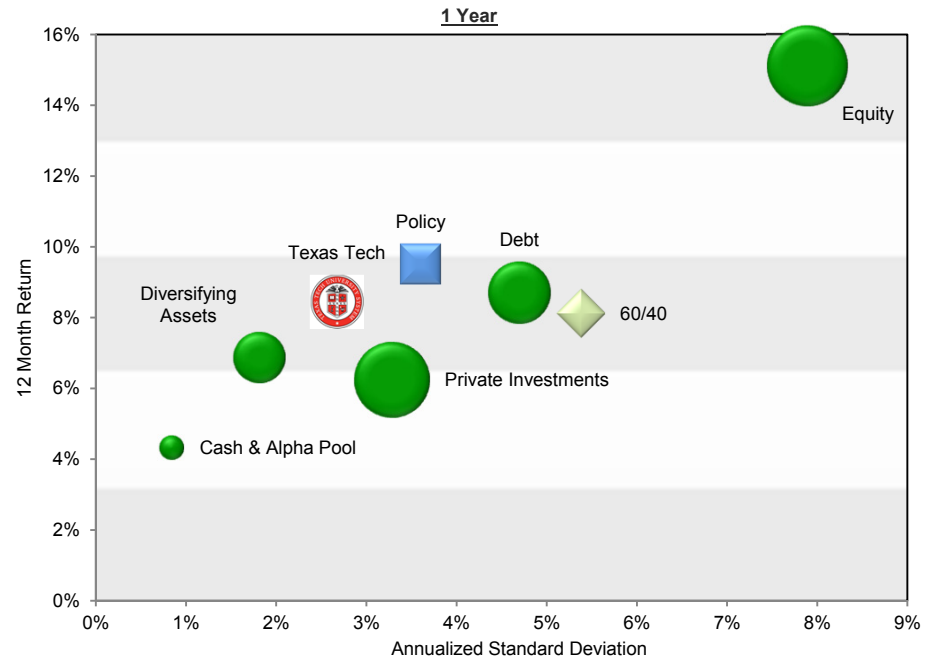
- The Texas Tech portfolio is less volatile than the 60/40 portfolio over all time horizons.
- The Texas Tech portfolio outperforms the 60/40 portfolio over all time horizons.
- Volatility (measured by standard deviation) on the Texas Tech portfolio has decreased over the past 12 months compared with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



Risk Profile*

Commentary

- Private Credit, Non-US EM Equity, and Private Real Assets have provided the highest risk adjusted returns over the last 12 months
- Diversifying Assets, Private Equity and Alternative Equity have generated the lowest risk adjusted returns over the last 12 months.



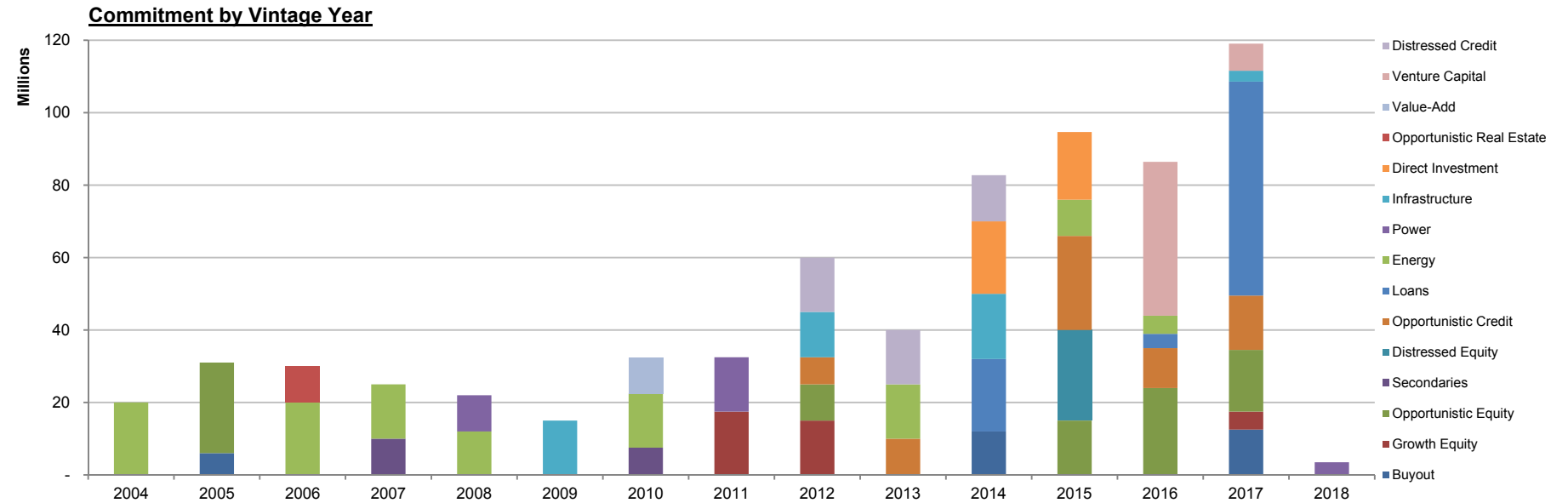
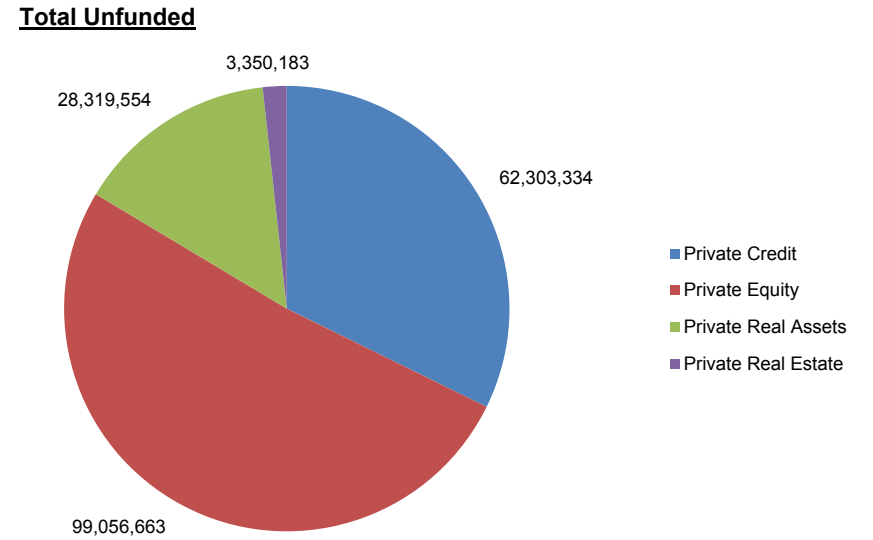
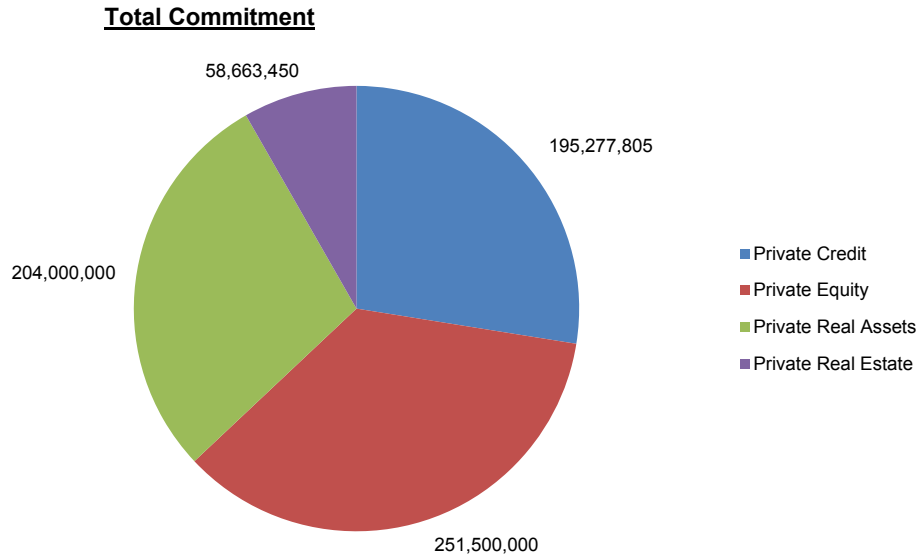
*Excluding Liquidating investments.



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.
TOTAL	1,200,405,323	0.32%	1.56%	2.31%	6.32%	8.24%	8.44%	6.24%	6.80%
Policy		-0.03%	-0.14%	1.29%	6.24%	8.13%	9.53%	7.17%	7.79%
Portfolio Hedge Contribution	5,805,185	-0.01%	-0.08%	0.22%	-0.03%	-0.04%	-0.15%	n/a	n/a
Equity	397,888,027	0.30%	1.59%	1.03%	10.13%	14.49%	15.13%	8.08%	9.30%
Equity Policy Benchmark (MSCI ACWI)		0.39%	1.33%	0.43%	8.45%	11.82%	12.47%	7.75%	9.06%
US Equity	143,036,887	2.27%	2.41%	1.28%	12.20%	15.68%	16.18%	12.51%	12.88%
<i>Benchmark: S&P 500 Total Return</i>		2.41%	2.80%	2.02%	11.04%	13.67%	14.38%	10.97%	12.98%
Global Equity	55,331,859	1.47%	2.89%	4.27%	8.49%	12.78%	13.43%	7.60%	11.23%
<i>Benchmark: MSCI ACWI (Net)</i>		0.39%	1.33%	0.43%	8.45%	11.82%	12.47%	7.75%	9.06%
Non US Developed Equity	114,230,637	-1.13%	2.71%	0.26%	7.98%	11.44%	10.33%	4.26%	6.44%
<i>Benchmark: MSCI EAFE (Net)</i>		-2.25%	-0.02%	-1.55%	5.17%	8.16%	7.97%	4.33%	5.93%
Non US Emerging Markets Equity	54,748,413	-3.29%	-3.37%	-1.42%	8.83%	19.58%	21.70%	12.33%	8.96%
<i>Benchmark: MSCI EMF (Net)</i>		-3.54%	-3.97%	-2.61%	4.22%	12.89%	14.03%	6.17%	4.52%
Alternative Equity	30,540,230	1.05%	1.81%	1.24%	11.23%	14.84%	17.17%	8.49%	7.69%
<i>Benchmark: MSCI ACWI (Net)</i>		0.39%	1.33%	0.43%	8.45%	11.82%	12.47%	7.75%	9.06%
Debt	264,906,477	0.74%	4.64%	6.31%	6.92%	9.21%	8.71%	9.60%	7.60%
Debt Policy Benchmark (Barclays Global Agg)		-0.76%	-2.35%	-1.02%	-0.85%	1.81%	1.72%	2.58%	1.34%
Sovereign/Investment Grade Bonds	-	n/a	n/a	n/a	n/a	n/a	n/a	1.87%	2.67%
<i>Benchmark: Barclays Global Aggregate</i>		-0.76%	-2.35%	-1.02%	-0.85%	1.81%	1.72%	2.58%	1.34%
Credit	200,864,345	2.00%	6.48%	9.39%	10.72%	12.41%	11.84%	11.06%	8.72%
<i>Benchmark: Barclays Global Aggregate</i>		-0.76%	-2.35%	-1.02%	-0.85%	1.81%	1.72%	2.58%	1.34%
Emerging Markets Debt	64,042,132	-3.05%	-0.84%	-2.57%	-3.67%	-0.04%	-0.33%	8.99%	6.71%
<i>Benchmark: JP Morgan EM Bond Index</i>		-1.08%	-2.53%	-4.27%	-3.76%	-1.46%	-1.71%	4.09%	3.56%
Diversifying Assets	177,939,205	0.10%	0.38%	3.10%	6.07%	6.24%	6.88%	0.95%	0.30%
<i>Benchmark: HFRXGL Index</i>		0.26%	0.36%	-0.66%	1.42%	2.66%	2.88%	4.75%	4.59%
Alpha Pool & Collateral	(44,043,236)	0.29%	0.63%	1.79%	3.65%	4.68%	4.61%	2.42%	2.76%
Cash Collateral	61,038,063	0.14%	0.15%	0.41%	0.65%	0.76%	0.80%	0.36%	n/a
Collateral Held Elsewhere	12,480,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	n/a	n/a
Adjustments for Synthetic Exposure	(348,304,087)								
Alpha Pool	230,742,788	0.33%	0.75%	2.23%	4.68%	6.01%	5.91%	3.87%	4.46%
<i>Benchmark: HFRI FOF Index</i>		0.68%	0.92%	1.18%	3.73%	5.65%	5.63%	1.74%	3.27%
Cash	24,775,436	0.15%	0.36%	0.56%	1.24%	1.52%	1.55%	0.68%	0.41%
Liquidating	7,435,393	1.55%	20.30%	-8.66%	-16.74%	-6.90%	71.05%	41.84%	22.85%
Private Investments	365,698,835	0.19%	0.67%	1.17%	6.08%	6.72%	6.27%	5.87%	7.34%
<i>Benchmark: Private Market Index (90% VE, 10% NCREIF)</i>		0.00%	0.00%	4.90%	12.41%	12.41%	16.54%	11.69%	13.13%
Private Equity	116,498,536	-0.18%	0.05%	0.25%	3.30%	3.63%	4.72%	3.51%	6.89%
Private Credit	123,720,666	-0.07%	0.64%	3.31%	6.81%	7.13%	7.75%	6.13%	7.99%
Private Diversifying Assets	125,479,633	0.79%	1.28%	0.20%	7.98%	9.21%	6.78%	7.02%	6.90%

Appendix VII - Private Markets Report (as of May 2018) - Total Commitment



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



Appendix VII - Private Markets Report (as of May 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	19	\$251,500,000	\$152,443,337	\$158,762,759	\$66,683,905	63%	\$115,244,717	\$117,234,345	4.83%	1.16
Private Credit	16	\$195,277,805	\$132,974,471	\$137,606,171	\$48,727,478	70%	\$105,366,439	\$116,204,016	7.54%	1.20
Private Real Assets	16	\$204,000,000	\$177,618,521	\$193,835,297	\$185,791,821	95%	\$72,245,996	\$74,481,035	14.13%	1.35
Private Real Estate	4	\$58,663,450	\$57,264,491	\$59,123,871	\$20,008,687	101%	\$48,192,446	\$47,422,945	3.51%	1.14
Total	55	\$709,441,255	\$520,300,820	\$549,328,098	\$321,211,891	77%	\$341,049,598	\$355,342,341	8.26%	1.24

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	\$22,917,185	\$23,987,834	\$9,304,163	79%	\$16,619,671	\$17,734,809	5.93%	1.13
	Distressed Equity	1	\$25,000,000	\$5,649,992	\$5,774,992	\$1,162,372	23%	\$5,969,706	\$5,969,706	14.10%	1.23
	Growth Equity	3	\$37,500,000	\$25,239,149	\$28,628,264	\$6,974,482	76%	\$27,569,649	\$28,092,002	7.12%	1.22
	Opportunistic Equity	7	\$91,000,000	\$66,638,029	\$67,286,452	\$35,196,135	74%	\$44,785,293	\$42,761,150	4.10%	1.16
	Secondaries	2	\$17,500,000	\$16,406,432	\$17,102,042	\$13,944,445	98%	\$5,363,145	\$5,286,929	2.61%	1.12
	Venture Capital	3	\$50,000,000	\$15,592,550	\$15,983,175	\$102,308	32%	\$14,937,253	\$17,389,749	10.10%	1.09
	Total	19	\$251,500,000	\$152,443,337	\$158,762,759	\$66,683,905	63%	\$115,244,717	\$117,234,345	4.83%	1.16
Private Credit	Distressed Credit	3	\$42,750,000	\$40,119,345	\$40,248,413	\$21,757,552	94%	\$27,271,979	\$27,271,979	5.81%	1.22
	Loans	7	\$83,027,805	\$53,481,044	\$54,064,699	\$14,331,472	65%	\$38,155,630	\$50,226,389	10.03%	1.19
	Opportunistic Credit	6	\$69,500,000	\$39,374,082	\$43,293,059	\$12,638,454	62%	\$39,938,830	\$38,705,648	7.72%	1.19
	Total	16	\$195,277,805	\$132,974,471	\$137,606,171	\$48,727,478	70%	\$105,366,439	\$116,204,016	7.54%	1.20
Private Real Assets	Energy	8	\$112,000,000	\$108,178,737	\$114,492,286	\$118,020,200	102%	\$34,446,413	\$33,809,017	13.77%	1.35
	Infrastructure	4	\$48,500,000	\$41,144,621	\$50,163,794	\$57,191,638	103%	\$20,730,354	\$22,704,485	29.66%	1.59
	Power	3	\$28,500,000	\$25,362,399	\$26,223,289	\$10,455,723	92%	\$11,946,567	\$15,219,131	-0.65%	0.98
	Opportunistic Real Assets	1	\$15,000,000	\$2,932,764	\$2,955,928	\$124,260	20%	\$5,122,662	\$2,748,402	0.00%	0.00
	Total	16	\$204,000,000	\$177,618,521	\$193,835,297	\$185,791,821	95%	\$72,245,996	\$74,481,035	14.13%	1.35
Private Real Estate	Direct Investment	2	\$38,663,450	\$39,709,817	\$41,512,697	\$12,717,415	107%	\$37,330,777	\$37,011,276	7.82%	1.20
	Opportunistic Real Estate	1	\$10,000,000	\$10,000,000	\$10,000,000	\$0	100%	\$3,572,089	\$3,572,089	-11.48%	0.36
	Value-Add	1	\$10,000,000	\$7,554,674	\$7,611,174	\$7,291,272	76%	\$7,289,580	\$6,839,580	12.66%	1.86
	Total	4	\$58,663,450	\$57,264,491	\$59,123,871	\$20,008,687	101%	\$48,192,446	\$47,422,945	3.51%	1.14



Appendix III – 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