



TEXAS TECH UNIVERSITY SYSTEM™

Board of Regents Report

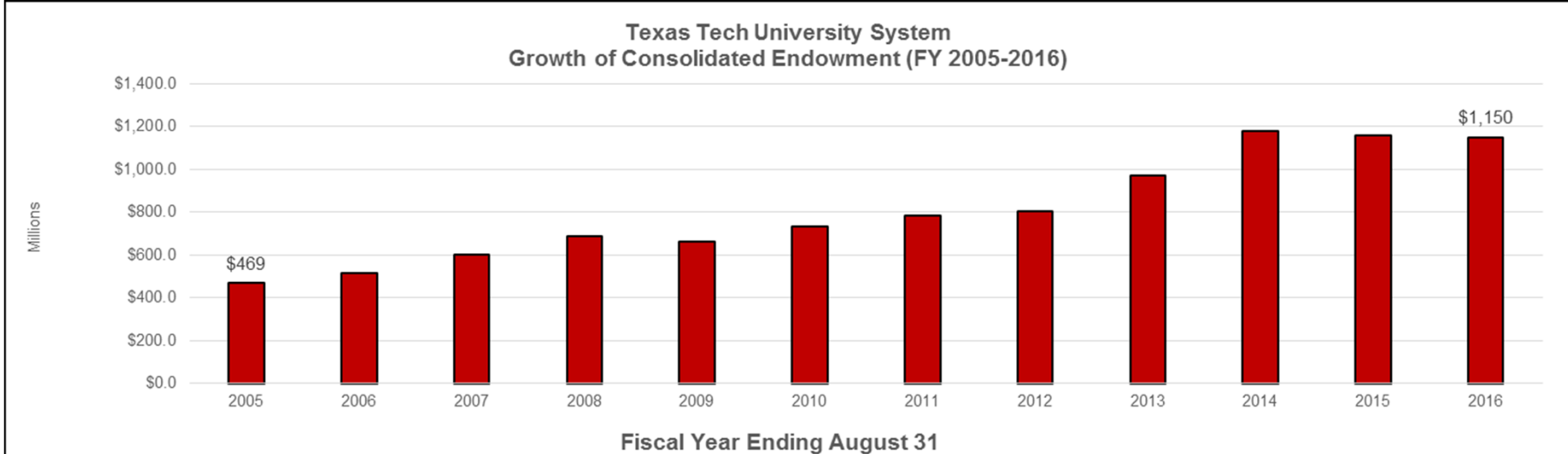
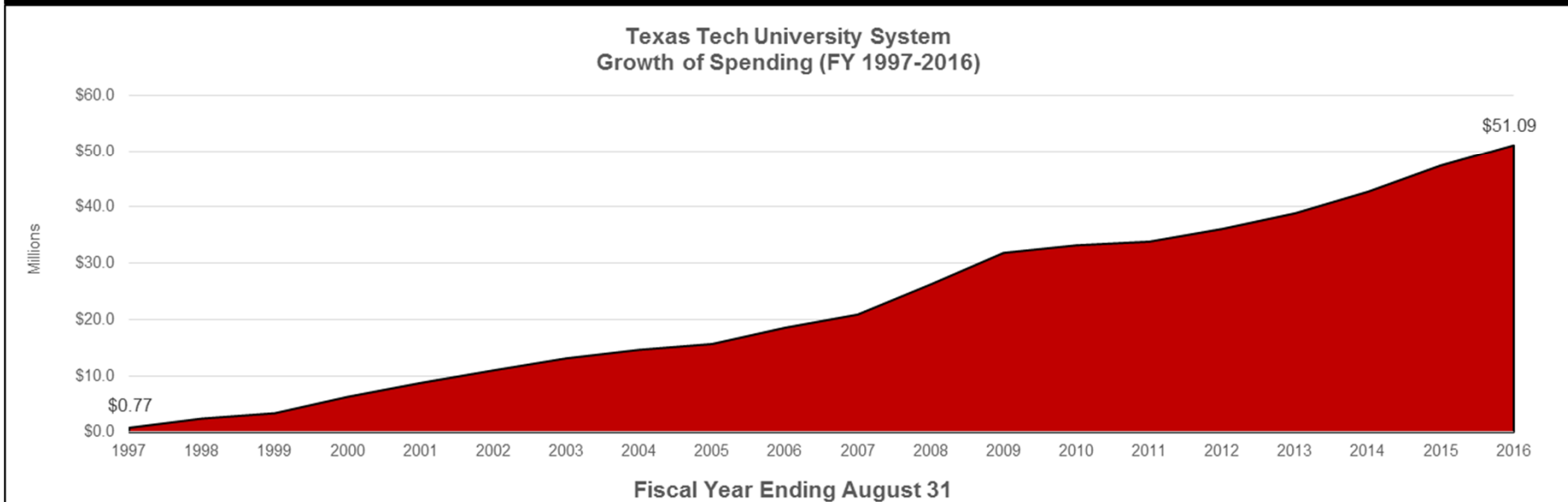
for July 2017

Texas Tech University System Endowment

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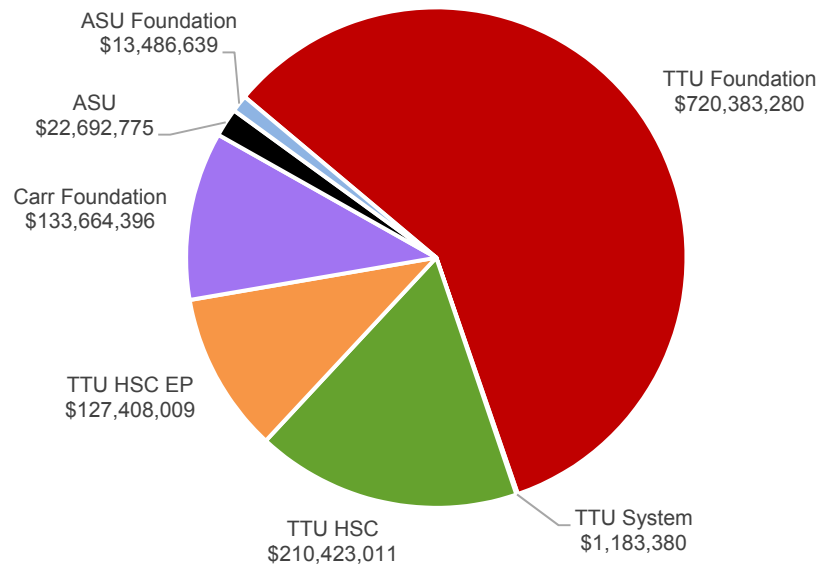
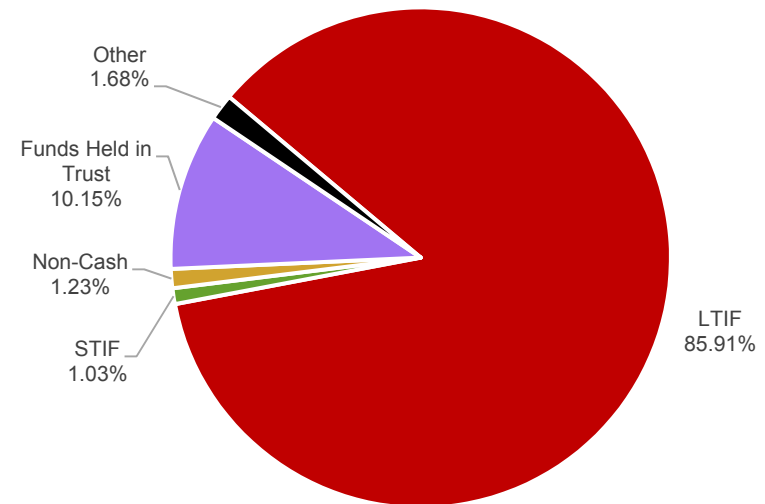
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Endowment Data**HISTORICAL MARKET VALUE (Fiscal Year)****HISTORICAL SPENDING (Fiscal Year)**

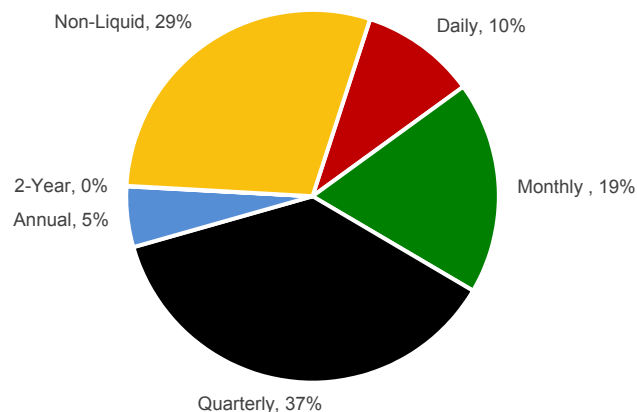
The 4.5% distribution rate has been realized every year since inception.

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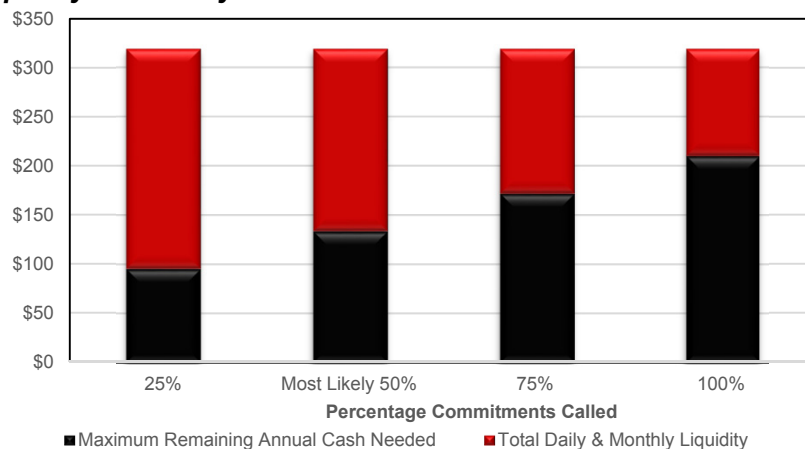
TEXAS TECH UNIVERSITY SYSTEM

Endowment Data (cont.)**TOTAL ENDOWMENT (Fiscal Year 2017 through Q2)****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	\$656,556,065	\$1,183,380	\$146,026,943	\$96,501,800	\$125,001,230	\$17,287,503	\$13,486,639	\$1,056,043,558
STIF	\$4,752,209	\$0	\$2,455,541	\$70	\$0	\$5,405,050	\$0	\$12,612,869
Non-Cash	\$5,028,772	\$0	\$1,465,795	\$0	\$8,663,166	\$0	\$0	\$15,157,733
Funds Held in Trust	\$33,351,752	\$0	\$60,474,733	\$30,906,139	\$0	\$0	\$0	\$124,732,625
Other	\$20,694,482	\$0	\$0	\$0	\$0	\$223	\$0	\$20,694,705
Total	\$720,383,280	\$1,183,380	\$210,423,011	\$127,408,009	\$133,664,396	\$22,692,775	\$13,486,639	\$1,229,241,490

31st July 2017**LTIF Liquidity****LTIF Liquidity**

LTIF	Liquidity	
Daily	\$113,469,945	10.0%
Monthly	\$209,514,180	18.5%
Quarterly	\$421,244,842	37.1%
Annual	\$59,634,615	5.3%
2-Year	\$553,471	0.0%
Non-Liquid	\$330,232,616	29.1%
Total LTIF	\$1,134,649,669	100%

Liquidity Sensitivity

	<u>Commitment</u>	<u>Capital Called</u>	<u>Distributions</u>	<u>Account Balance</u>	<u>Remaining Commitment</u>
Private Equity	\$232,500,000	\$130,482,871	\$66,202,751	\$84,994,172	\$102,017,129
Private Credit	\$150,702,805	\$104,657,848	\$28,008,169	\$100,056,484	\$46,044,957
Private Real Assets	\$241,163,450	\$236,467,463	\$178,215,290	\$125,244,619	\$4,695,987
Total Illiquid Assets	\$624,366,255	\$471,608,182	\$272,426,210	\$310,295,274	\$152,758,073

Annual Spending \$57,500,000

Total Committed Funds \$210,258,073

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>
\$95,689,518	\$133,879,037	\$172,068,555	\$210,258,073
30%	42%	54%	66%

31st July 2017**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			1.38%	1.38%	8.90%	10.53%	1.38%	10.59%	5.93%	8.47%
Equity	Global Index (MSCI ACWI)	35%	2.74%	2.74%	14.38%	16.67%	2.74%	17.06%	6.37%	11.09%
Debt	Global Bonds (Barclays Global Agg)	25%	1.68%	1.68%	6.16%	-0.80%	1.68%	-1.28%	0.51%	0.88%
Diversifying Assets	HFRX Global Hedge Fund	10%	0.93%	0.93%	3.51%	6.06%	0.93%	6.62%	5.24%	5.23%
Private Investments	VE All PE Qtr Lag	27%	0.00%	0.00%	9.01%	17.79%	0.00%	17.79%	10.32%	12.26%
Private Investments	NCREIF	3%	0.00%	0.00%	3.32%	6.97%	0.00%	6.97%	10.16%	10.48%
Other Benchmarks										
Equity	S&P 500 Total Return		2.06%	2.06%	11.59%	15.88%	2.06%	16.04%	10.87%	14.78%
Equity	Non US Developed Equity (MSCI EAFE)		2.88%	2.88%	17.09%	17.68%	2.88%	17.77%	2.79%	9.06%
Equity	EM Equities (MSCI EMF)		5.96%	5.96%	25.49%	21.81%	5.96%	24.84%	2.39%	4.76%
Debt	EM Bonds (JPM EM Bond Index)		0.66%	0.66%	6.90%	2.74%	0.66%	4.59%	4.83%	4.51%
Cash & Alpha Pool	90 Day T-Bills		0.09%	0.09%	0.47%	0.60%	0.09%	0.63%	0.28%	0.19%
Hedge Funds	HFRI FOF Composite		1.13%	1.13%	4.30%	5.56%	1.13%	6.02%	2.03%	3.93%
Private Investments	Private Market Index (90% VE, 10% NCREIF)		0.00%	0.00%	8.44%	16.70%	0.00%	16.70%	10.30%	12.09%

CIO NOTES:

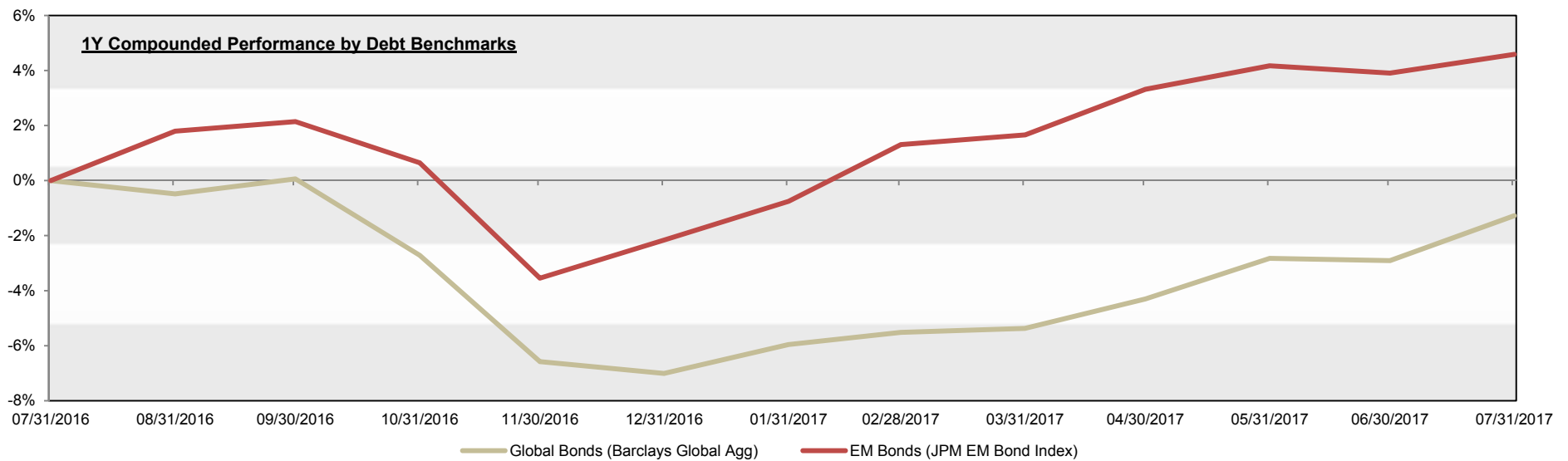
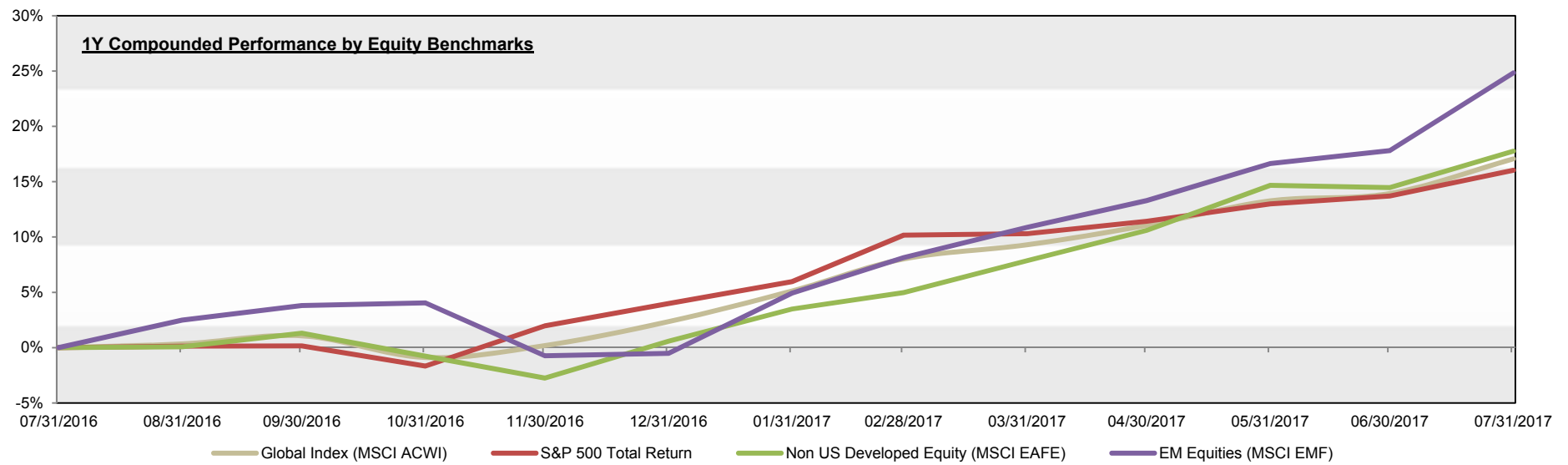
Equities booked another solid month in July, with emerging markets leading the way with an astounding 5.96% monthly print. Non US Developed equity markets followed with a 2.88% with the S&P 500 returning 2.06%. Global bonds have had a great calendar ytd but have been substantially challenged longer term.

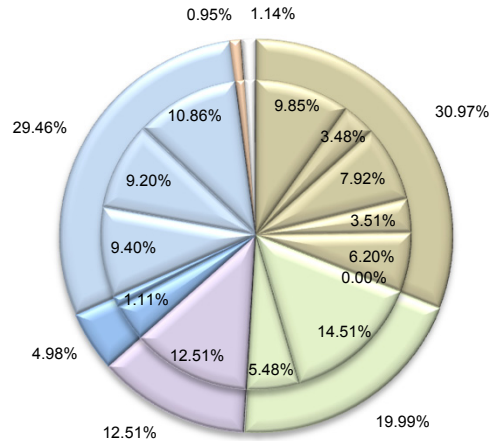
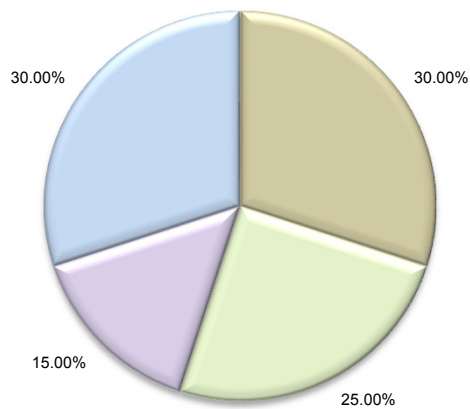
Market outlook remains positive as companies earnings and margins remain strong in a global reflation trade. Geopolitical risks remain high with Iran, Turkey and North Korea. US tax reform is a potential right tale event, meaning if it is substantive and passes, equity markets are expected to push higher.

The overall portfolio is performing well albeit slightly behind the Policy Benchmark for the calendar year. Over the trailing one year period, the portfolio is ahead of the Policy Benchmark.

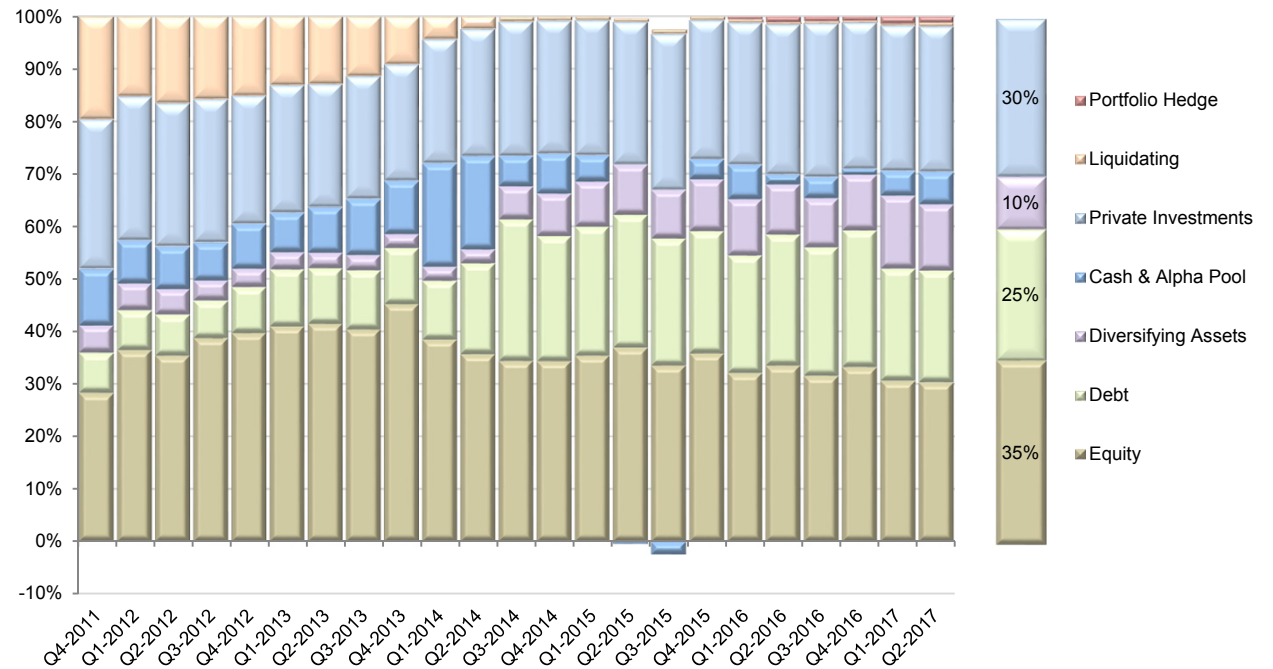
31st July 2017

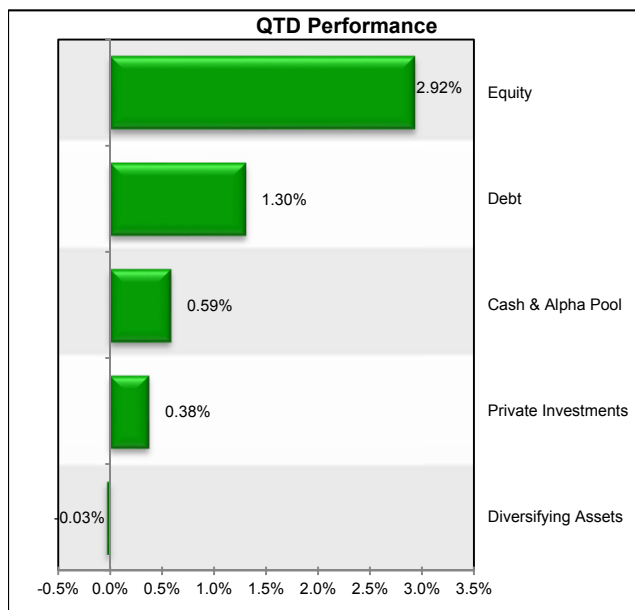
TEXAS TECH UNIVERSITY SYSTEM

Market Data (cont.)

31st July 2017**Asset Class Allocation: Actual vs. Target****Actual Allocation****Target Allocation**

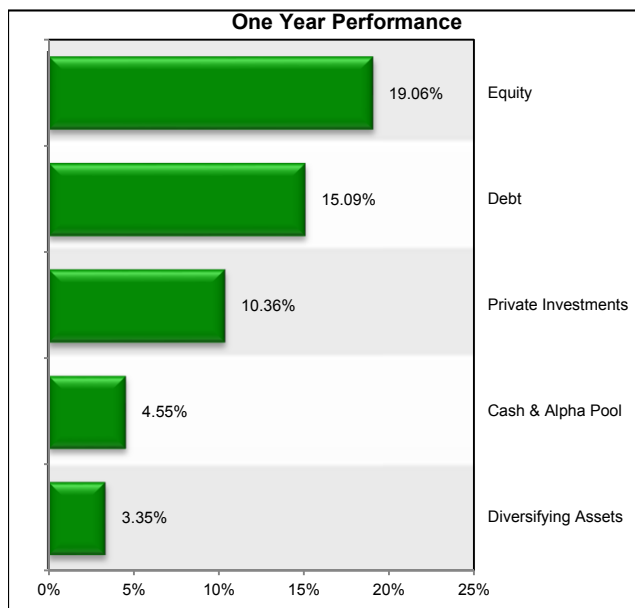
Asset Class	Actual \$ Allocation			Total % Allocation	Target % Allocation	Target Range
	Physical	Synthetic	Total			
Equity	126,286,698	225,082,250	351,368,948	30.97%	30%	30% - 40%
Debt	226,824,224	0	226,824,224	19.99%	25%	20% - 30%
Diversifying Assets	107,266,393	34,685,546	141,951,939	12.51%	15%	5% - 15%
Cash & Alpha Pool	322,292,921	-265,818,543	56,474,378	4.98%	0%	0% - 10%
Private Investments	334,254,901	0	334,254,901	29.46%	30%	10% - 55%
Liquidating	10,814,499	0	10,814,499	0.95%	0%	
Portfolio Hedge	6,910,032	6,050,747	12,960,779	1.14%	0%	
Total	1,134,649,669	0	1,134,649,669	100%	100%	



31st July 2017**Asset Class Performance: Actual vs. Policy**

Asset Class	Month				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	2.54%	2.46%	0.69%	2.92%	2.74%
Debt	1.30%			1.30%	1.68%
Diversifying Assets	0.03%	-0.90%	0.69%	-0.03%	0.93%
Cash & Alpha Pool	0.59%			0.59%	
Private Investments	0.38%			0.38%	0.00%
Portfolio Hedge Contr.				0.00%	
Total	0.93%	1.99%	0.69%	1.25%	1.38%

Asset Class	QTD				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	2.54%	2.46%	0.69%	2.92%	2.74%
Debt	1.30%			1.30%	1.68%
Diversifying Assets	0.03%	-0.90%	0.69%	-0.03%	0.93%
Cash & Alpha Pool	0.59%			0.59%	
Private Investments	0.38%			0.38%	0.00%
Portfolio Hedge Contr.				0.00%	
Total	0.93%	1.99%	0.69%	1.25%	1.38%

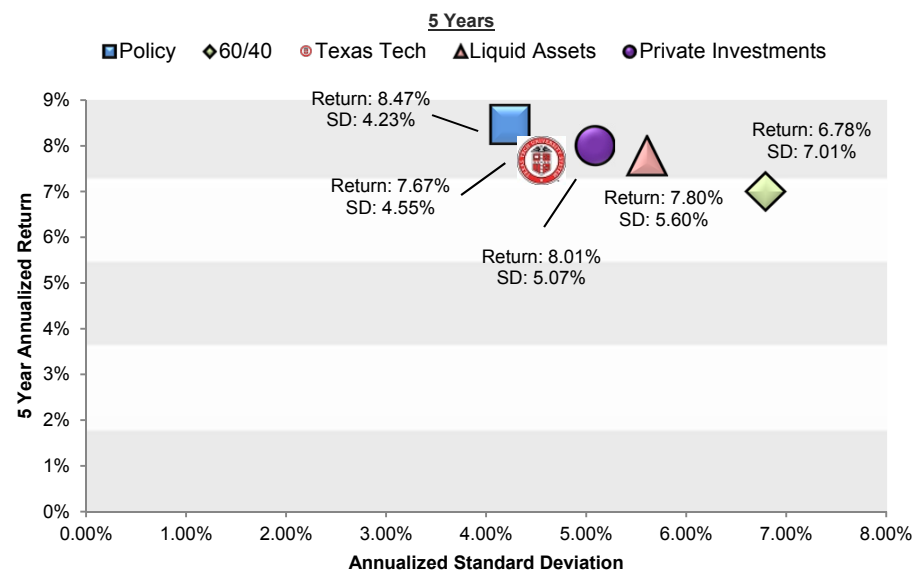
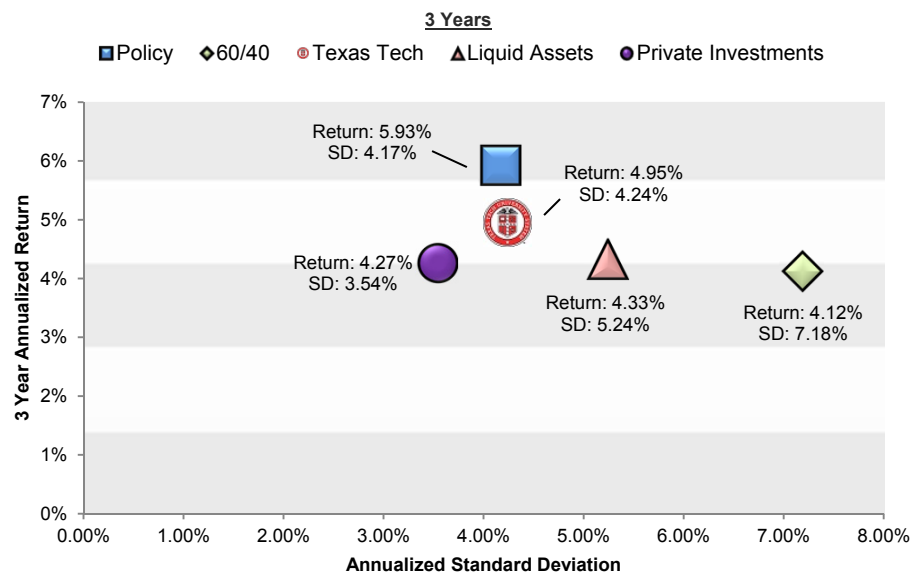
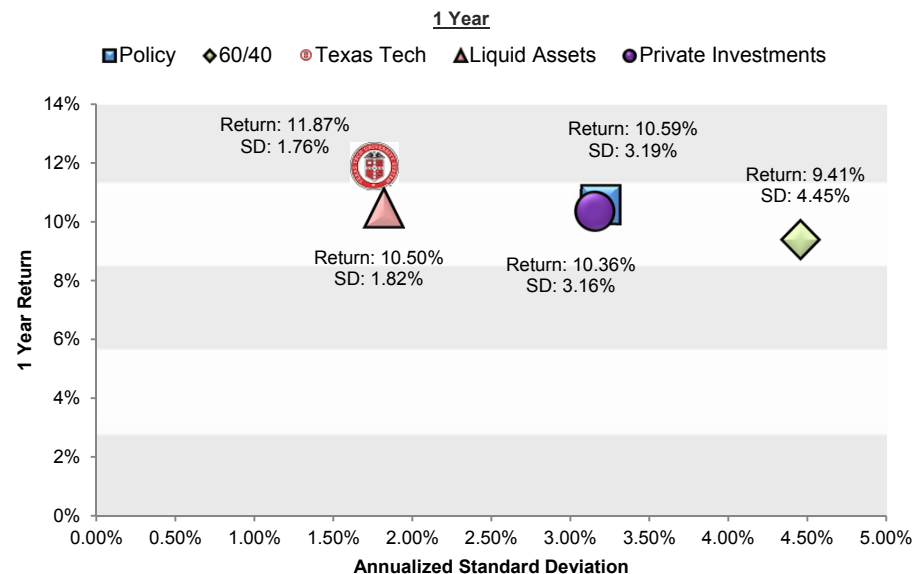


Asset Class	Calendar YTD				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	14.50%	13.56%	1.54%	15.08%	14.38%
Debt	6.68%	-0.07%	0.32%	6.21%	6.16%
Diversifying Assets	-0.75%	7.41%	1.54%	0.95%	3.51%
Cash & Alpha Pool	1.28%			1.28%	
Private Investments	2.67%			2.67%	8.44%
Portfolio Hedge Contr.				-0.18%	
Total	5.14%	11.53%	1.54%	6.34%	8.90%

Asset Class	1 Year				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	17.47%	14.93%	4.89%	19.06%	17.06%
Debt	17.03%	-0.82%	4.89%	15.09%	-1.28%
Diversifying Assets	1.71%	7.32%	4.89%	3.35%	6.62%
Cash & Alpha Pool	4.55%			4.55%	
Private Investments	10.36%			10.36%	16.70%
Portfolio Hedge Contr.				-0.37%	
Total	10.97%	12.46%	4.89%	11.87%	10.59%

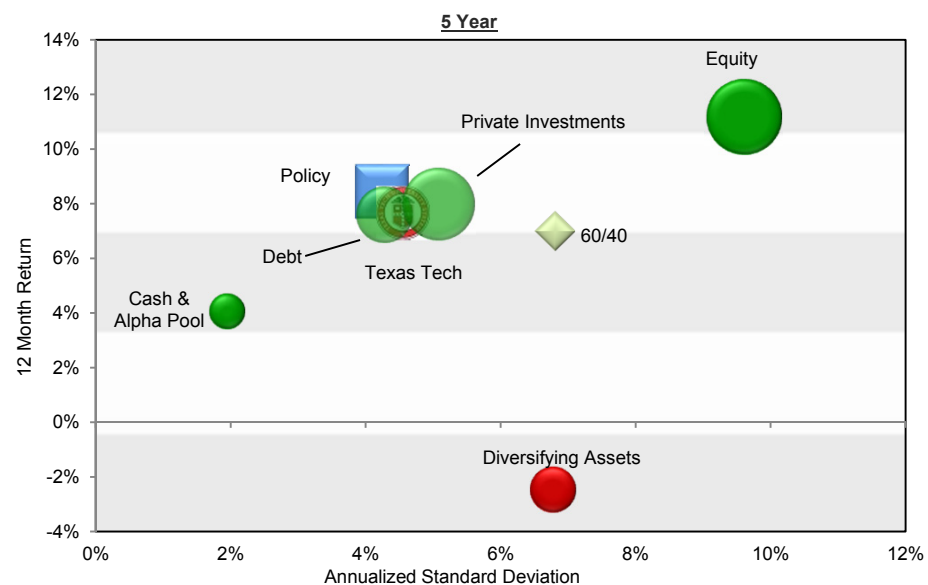
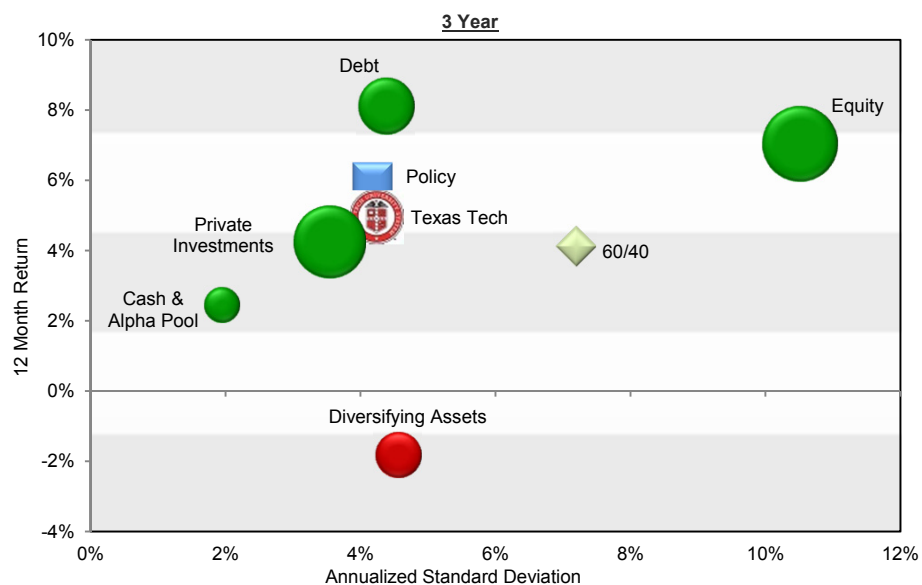
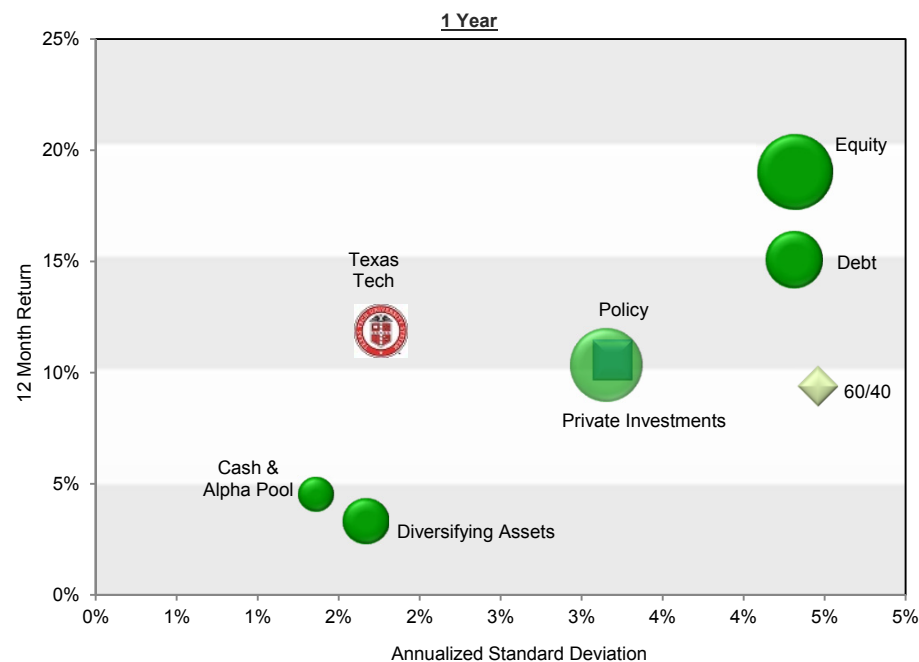
31st July 2017**Long Term Risk/Return of Endowment vs. 60/40 Portfolio & Policy Returns***Commentary*

- 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.



31st July 2017**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.

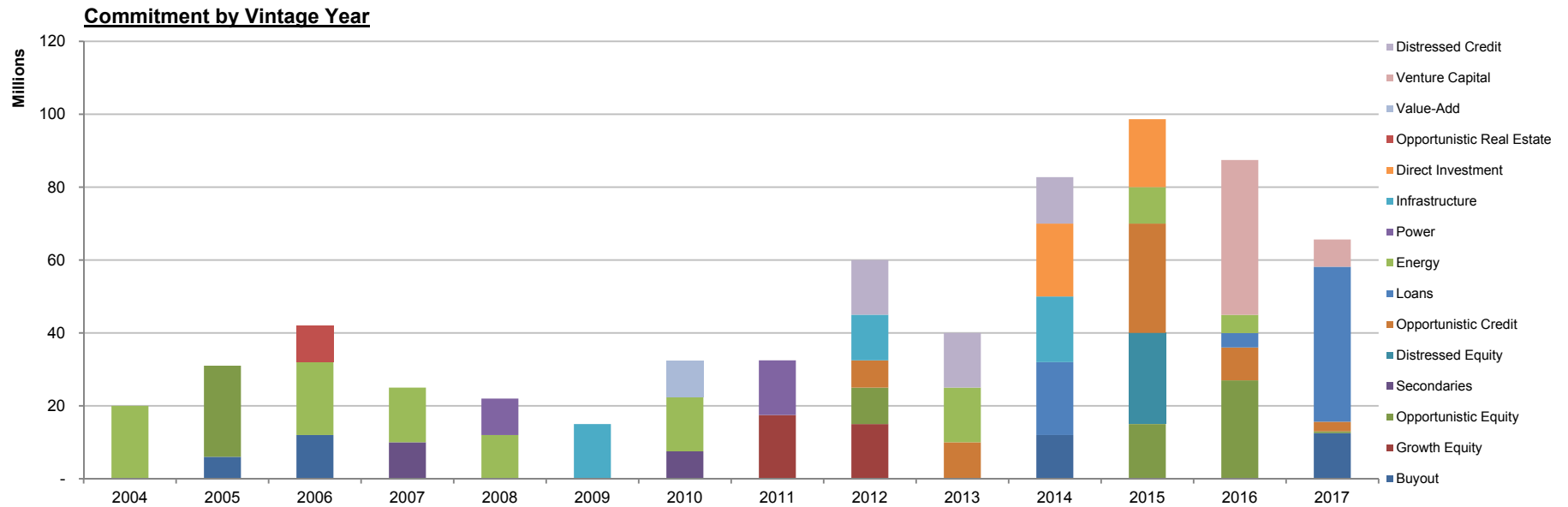
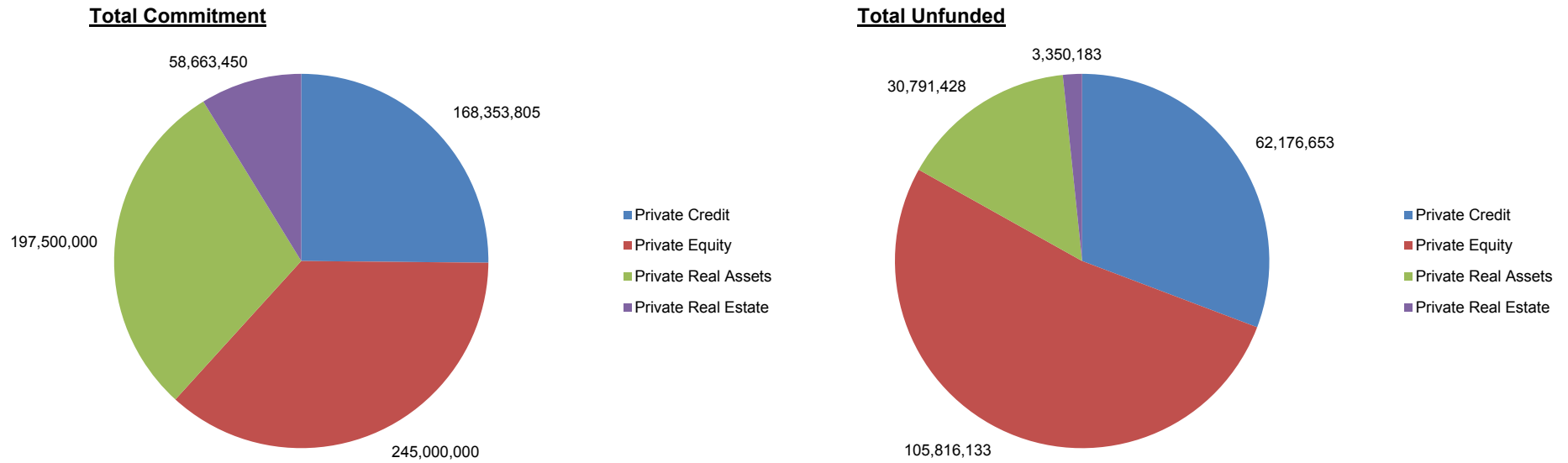


31st July 2017**Appendix I – Sub-Asset Detail**

Fund	Current Exposure	MTD Perf.	QTD Perf.	Calendar YTD	Fiscal YTD	Nacubo YTD	1 Year Perf.	3 Year Perf.	5 Year Perf.
TOTAL	1,134,649,669	1.25%	1.25%	6.34%	10.75%	1.25%	11.87%	4.95%	7.67%
Policy		1.38%	1.38%	8.90%	10.53%	1.38%	10.59%	5.93%	8.47%
Portfolio Hedge Contribution	12,960,779	0.00%	0.00%	-0.18%	-0.28%	0.00%	-0.37%	n/a	n/a
Equity	351,368,948	2.92%	2.92%	15.08%	17.82%	2.92%	19.06%	7.06%	11.21%
Equity Policy Benchmark (MSCI ACWI)		2.74%	2.74%	14.38%	16.67%	2.74%	17.06%	6.37%	11.09%
US Equity	111,800,400	2.63%	2.63%	12.65%	18.83%	2.63%	18.71%	11.46%	14.41%
Benchmark: S&P 500 Total Return		2.06%	2.06%	11.59%	15.88%	2.06%	16.04%	10.87%	14.78%
Global Equity	39,458,513	2.92%	2.92%	16.91%	14.78%	2.92%	16.73%	8.29%	14.27%
Benchmark: MSCI ACWI (Net)		2.74%	2.74%	14.38%	16.67%	2.74%	17.06%	6.37%	11.09%
Non US Developed Equity	89,837,982	2.95%	2.95%	14.43%	18.63%	2.95%	19.82%	2.92%	9.66%
Benchmark: MSCI EAFE (Net)		2.88%	2.88%	17.09%	17.68%	2.88%	17.77%	2.79%	9.06%
Non US Emerging Markets Equity	39,882,017	6.60%	6.60%	29.50%	29.24%	6.60%	32.47%	7.24%	8.04%
Benchmark: MSCI EMF (Net)		5.96%	5.96%	25.49%	21.81%	5.96%	24.84%	2.39%	4.76%
Alternative Equity	70,390,036	1.41%	1.41%	10.60%	15.28%	1.41%	16.16%	7.71%	9.69%
Benchmark: MSCI ACWI (Net)		2.74%	2.74%	14.38%	16.67%	2.74%	17.06%	6.37%	11.09%
Debt	226,824,224	1.30%	1.30%	6.21%	12.81%	1.30%	15.09%	8.13%	7.63%
Debt Policy Benchmark (Barclays Global Agg)		1.68%	1.68%	6.16%	-0.80%	1.68%	-1.28%	0.51%	0.88%
Sovereign/Investment Grade Bonds	-	0.00%	0.00%	0.25%	1.91%	0.00%	2.78%	2.78%	2.05%
Benchmark: Barclays Global Aggregate		1.68%	1.68%	6.16%	-0.80%	1.68%	-1.28%	0.51%	0.88%
Credit	164,662,803	1.28%	1.28%	6.97%	14.38%	1.28%	17.55%	8.42%	10.43%
Benchmark: Barclays Global Aggregate		1.68%	1.68%	6.16%	-0.80%	1.68%	-1.28%	0.51%	0.88%
Emerging Markets Debt	62,161,420	1.37%	1.37%	6.09%	15.02%	1.37%	15.89%	9.14%	8.22%
Benchmark: JP Morgan EM Bond Index		0.66%	0.66%	6.90%	2.74%	0.66%	4.59%	4.83%	4.51%
Diversifying Assets	141,951,939	-0.03%	-0.03%	0.95%	2.70%	-0.03%	3.35%	-1.82%	-2.46%
Benchmark: HFRXGL Index		0.93%	0.93%	3.51%	6.06%	0.93%	6.62%	5.24%	5.23%
Cash & Alpha Pool	56,474,378	0.59%	0.59%	1.28%	3.49%	0.59%	4.55%	2.46%	4.07%
Cash	26,892,073	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%
Cash Collateral	68,996,326	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	n/a
Collateral Held Elsewhere	5,940,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	n/a	n/a
Adjustments for Synthetic Exposure	(265,818,543)								
Alpha Pool	220,464,522	0.86%	0.86%	1.92%	4.72%	0.86%	6.13%	3.29%	5.69%
Benchmark: HFRI FOF Index		1.13%	1.13%	4.30%	5.56%	1.13%	6.02%	2.03%	3.93%
Liquidating	10,814,499	11.09%	11.09%	207.07%	199.71%	11.09%	203.79%	49.86%	28.71%
Private Investments	334,254,901	0.38%	0.38%	2.67%	9.84%	0.38%	10.36%	4.27%	8.01%
Benchmark: Private Market Index (90% VE, 10% NCREIF)		0.00%	0.00%	8.44%	16.70%	0.00%	16.70%	10.30%	12.09%
Private Equity	106,695,244	0.04%	0.04%	-0.96%	6.84%	0.04%	6.56%	4.24%	8.22%
Private Credit	104,391,073	0.28%	0.28%	2.94%	7.62%	0.28%	8.62%	4.08%	9.32%
Private Real Assets	123,168,584	0.73%	0.73%	4.97%	14.00%	0.73%	14.61%	3.76%	6.64%

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Appendix VII - Private Markets Report (as of July 2017) - Total Commitment



Data provided by Texas Tech University System

Reported valuations use latest available statements ranging from June 2016 to July 2017

Adjusted Valuations include all cashflows through July 2017

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Appendix VII - Private Markets Report (as of July 2017) - 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
Private Equity	19	\$245,000,000	\$146,225,334	\$152,180,282	\$66,867,701	62%	\$79,745,935	\$104,814,481	4.16%
Private Credit	14	\$168,353,805	\$106,177,152	\$110,324,568	\$29,991,927	66%	\$93,943,872	\$101,190,849	7.62%
Private Real Assets	14	\$197,500,000	\$167,540,125	\$182,620,009	\$171,433,368	92%	\$69,144,460	\$70,937,751	14.17%
Private Real Estate	4	\$58,663,450	\$57,264,491	\$58,712,804	\$15,458,381	100%	\$56,218,668	\$54,775,169	5.55%
Total	51	\$669,517,255	\$477,207,102	\$503,837,663	\$283,751,377	75%	\$299,052,935	\$331,718,250	8.26%

Performance by Strategy Type

Asset Class	Strategy	# of Funds	Commitment	Funded	Paid-In Capital	Distributions	% Drawn	Reported Valuation	Adjusted Valuation	IRR	MOC
Private Equity	Buyout	4	\$42,500,000	\$34,258,190	\$35,848,749	\$20,169,492	84%	\$8,341,622	\$20,837,365	5.42%	1.23
	Distressed Equity	1	\$25,000,000	\$4,524,992	\$4,524,992	\$1,004,850	18%	\$4,878,677	\$4,878,677	23.44%	1.30
	Growth Equity	2	\$32,500,000	\$22,788,620	\$25,914,452	\$4,482,966	80%	\$22,870,705	\$23,345,256	2.97%	1.07
	Opportunistic Equity	7	\$77,500,000	\$59,638,545	\$59,988,169	\$27,835,509	77%	\$34,209,725	\$41,705,014	4.23%	1.16
	Secondaries	2	\$17,500,000	\$16,410,863	\$17,057,921	\$13,374,884	97%	\$5,843,446	\$5,315,410	2.16%	1.10
	Venture Capital	3	\$50,000,000	\$8,604,124	\$8,845,999	\$0	18%	\$3,601,760	\$8,732,759	-2.77%	0.99
	Total	19	\$245,000,000	\$146,225,334	\$152,180,282	\$66,867,701	62%	\$79,745,935	\$104,814,481	4.16%	1.14
Private Credit	Distressed Credit	3	\$42,750,000	\$40,119,345	\$40,248,413	\$15,130,502	94%	\$32,926,257	\$32,926,257	6.11%	1.19
	Loans	5	\$66,452,805	\$31,627,468	\$32,246,794	\$6,799,921	49%	\$29,467,445	\$33,308,666	11.13%	1.24
	Opportunistic Credit	6	\$59,151,000	\$34,430,339	\$37,829,361	\$8,061,504	64%	\$31,550,170	\$34,955,926	6.97%	1.14
	Total	14	\$168,353,805	\$106,177,152	\$110,324,568	\$29,991,927	66%	\$93,943,872	\$101,190,849	7.62%	1.19
Private Real Assets	Energy	8	\$112,000,000	\$105,654,619	\$112,129,521	\$114,234,912	100%	\$32,002,957	\$33,796,248	13.94%	1.30
	Infrastructure	3	\$45,500,000	\$37,773,107	\$45,517,199	\$48,447,820	100%	\$24,455,476	\$24,455,476	31.10%	1.60
	Power	2	\$25,000,000	\$21,862,399	\$22,723,289	\$8,750,636	91%	\$10,438,306	\$10,438,306	-5.47%	0.84
	Opportunistic Real Assets	1	\$15,000,000	\$2,250,000	\$2,250,000	\$0	15%	\$2,247,721	\$2,247,721	0.00%	0.00
	Total	13	\$197,500,000	\$167,540,125	\$182,620,009	\$171,433,368	92%	\$69,144,460	\$70,937,751	14.17%	1.31
Private Real Estate	Direct Investment	2	\$38,663,450	\$39,709,817	\$41,101,630	\$9,342,109	106%	\$43,771,502	\$43,597,139	14.97%	1.29
	Opportunistic Real Estate	1	\$10,000,000	\$10,000,000	\$10,000,000	\$0	100%	\$3,922,477	\$3,922,477	-11.57%	0.39
	Value-Add	1	\$10,000,000	\$7,554,674	\$7,611,174	\$6,116,272	76%	\$8,524,689	\$7,255,553	12.56%	1.76
	Total	4	\$58,663,450	\$57,264,491	\$58,712,804	\$15,458,381	100%	\$56,218,668	\$54,775,169	5.55%	1.20



31st July 2017

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