



TEXAS TECH UNIVERSITY SYSTEM™

Board of Regents Report for July 2016

Texas Tech University Endowment

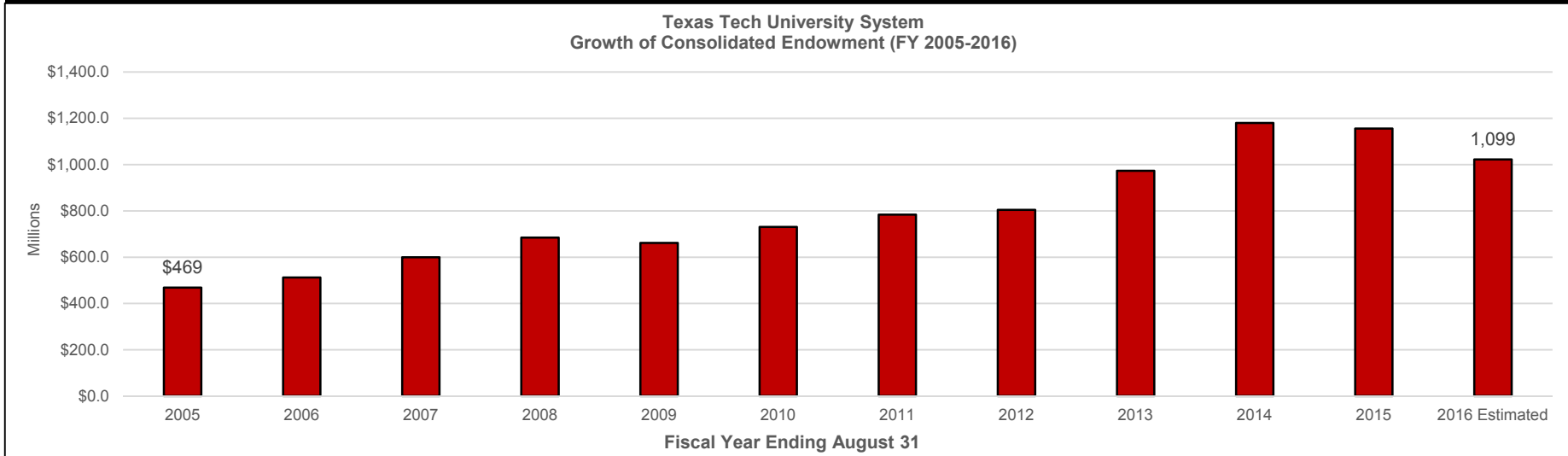
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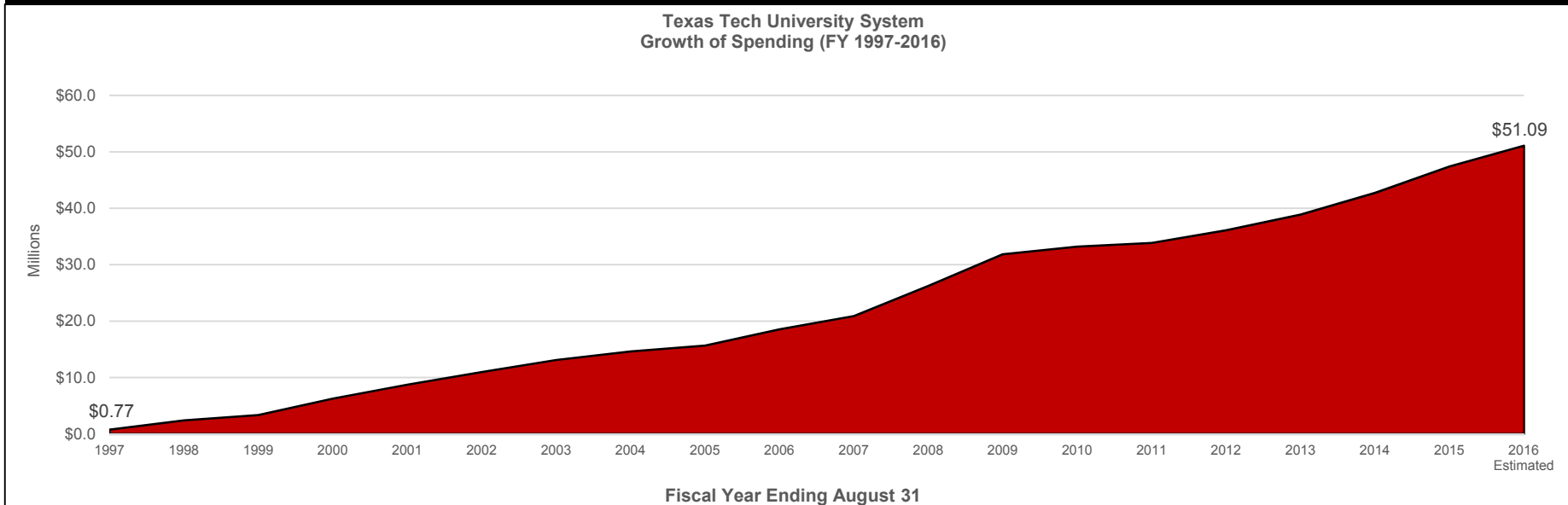
31st July 2016 (Preliminary)

Endowment Data

HISTORICAL MARKET VALUE (Fiscal Year)



HISTORICAL SPENDING (Fiscal Year)



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

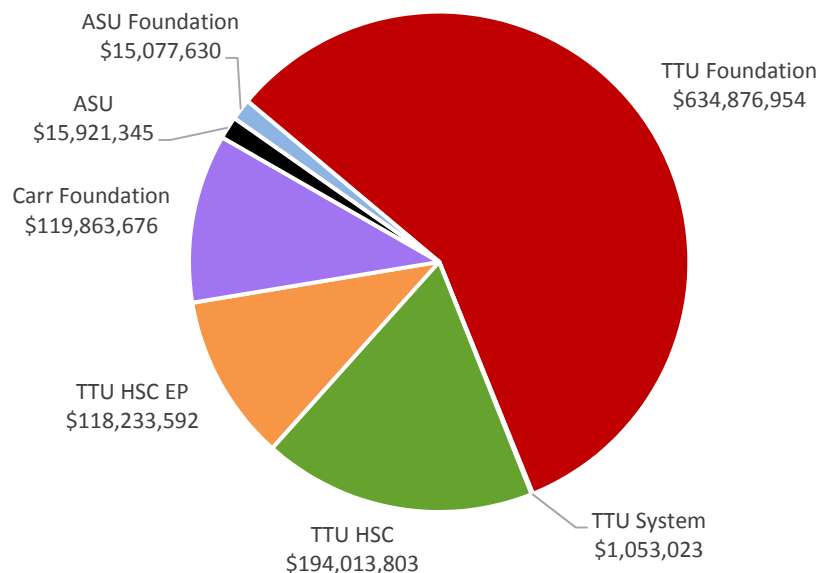


31st July 2016 (Preliminary)

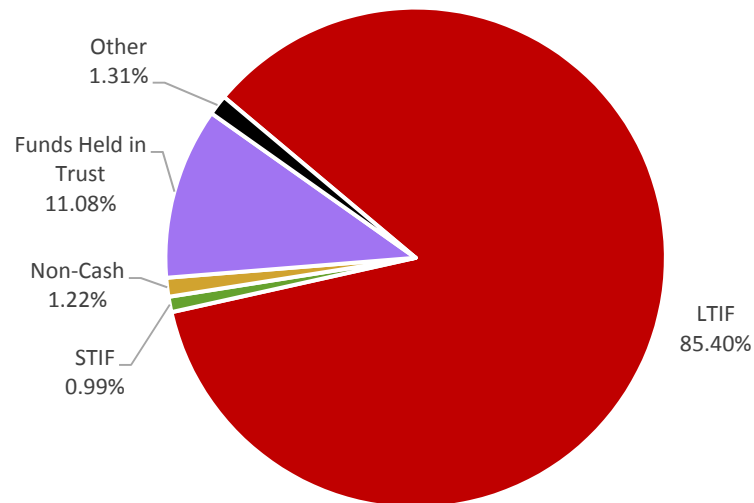
Endowment Data (cont.)

TOTAL ENDOWMENT (Fiscal Year 2016, thru 2/28)

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



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



Summary of Endowment

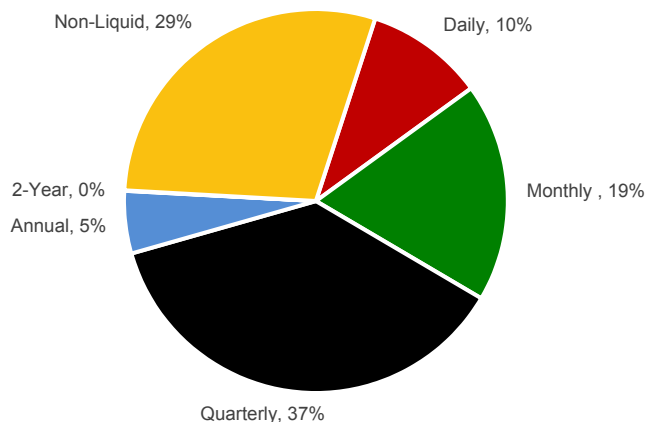
	TTU Foundation	TTU System	TTU HSC	TTU HSC EP	Carr Foundation	ASU	ASU Foundation	Total
LTIF	\$577,187,640	\$1,051,078	\$130,011,920	\$86,752,612	\$113,025,842	\$15,527,261	\$15,077,630	\$938,633,983
STIF	\$7,816,505	\$1,943	\$2,507,906	\$199,046	\$0	\$393,697	\$0	\$10,919,097
Non-Cash	\$4,795,751	\$0	\$1,769,025	\$0	\$6,837,834	\$387	\$0	\$13,402,997
Funds Held in Trust	\$30,730,160	\$0	\$59,724,952	\$31,281,934	\$0	\$0	\$0	\$121,737,046
Other	\$14,346,898	\$2	\$0	\$0	\$0	\$0	\$0	\$14,346,900
Total	\$634,876,954	\$1,053,023	\$194,013,803	\$118,233,592	\$119,863,676	\$15,921,345	\$15,077,630	\$1,099,040,023



31st July 2016 (Preliminary)

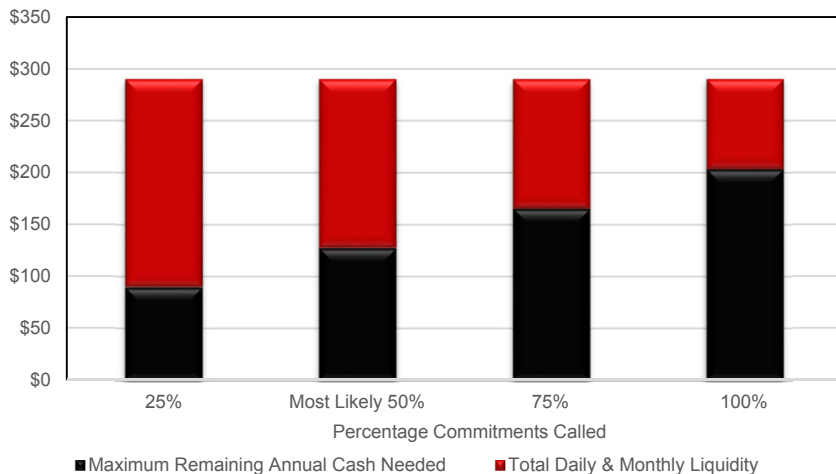
Endowment Liquidity

Endowment Liquidity



Endowment		Liquidity
Daily	\$101,599,686	10.0%
Monthly	\$187,596,591	18.5%
Quarterly	\$377,177,795	37.1%
Annual	\$53,396,150	5.3%
2-Year	\$495,572	0.0%
Non-Liquid	\$295,686,492	29.1%
Total Endowment	\$1,015,952,285	100%

Liquidity Sensitivity



	<u>Commitment</u>	<u>Capital Called</u>	<u>Distributions</u>	<u>Account Balance</u>	<u>Remaining Commitment</u>
Private Equity	\$204,000,000	\$107,073,429	\$53,697,125	\$74,336,045	\$93,446,064
Private Credit	\$156,103,248	\$119,029,992	\$28,061,216	\$98,251,694	\$34,279,108
Private Real Assets	\$252,500,000	\$220,493,527	\$186,006,851	\$115,734,695	\$23,607,585
Total Illiquid Assets	\$612,603,248	\$446,596,948	\$267,765,192	\$288,322,434	\$151,332,757

Annual Spending \$52,500,000
Total Committed Funds \$203,832,757

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	\$90,333,189	\$128,166,379	\$165,999,568	\$203,832,757
Percentage of Daily & Monthly Liquidity	31%	44%	57%	70%

31st July 2016 (Preliminary)**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			1.78%	1.78%	5.24%	6.64%	1.78%	4.19%	6.71%	6.59%
Equity	MSCI AC World IMI (Net)	35%	4.45%	4.45%	5.87%	7.01%	4.45%	-0.17%	5.97%	6.71%
Debt	Barclays Global Aggregate	25%	0.75%	0.75%	9.78%	9.32%	0.75%	9.44%	2.63%	1.50%
Liquid Real Assets	CPI + 4%	10%	0.29%	0.29%	3.08%	4.58%	0.29%	4.91%	4.51%	5.00%
Private Investments	VE All PE Qtr Lag	27%	0.00%	0.00%	0.80%	3.18%	0.00%	3.18%	10.70%	10.77%
Private Investments	NCREIF	3%	0.00%	0.00%	4.28%	10.64%	0.00%	10.64%	11.60%	11.51%
Other Benchmarks										
Equity	S&P 500 Total Return		3.69%	3.69%	7.66%	12.40%	3.69%	5.61%	11.16%	13.38%
Equity	MSCI EAFE (Net)		5.07%	5.07%	0.42%	-0.19%	5.07%	-7.53%	2.00%	3.02%
Equity	MSCI EMF (Net)		5.03%	5.03%	11.77%	9.12%	5.03%	-0.75%	-0.29%	-2.75%
Debt	JP Morgan EM Bond Index		1.56%	1.56%	12.62%	12.79%	1.56%	11.58%	6.65%	6.17%
Cash & Alpha Pool	90 Day T-Bills		0.03%	0.03%	0.16%	0.20%	0.03%	0.20%	0.09%	0.08%
Hedge Funds	HFRI FOF Composite		1.56%	1.56%	-1.06%	-2.16%	1.56%	-4.11%	2.10%	1.87%
Private Investments	Private Market Index (90% VE, 10% NCREIF)		0.00%	0.00%	1.15%	3.92%	0.00%	3.92%	10.79%	10.84%

CIO NOTES:

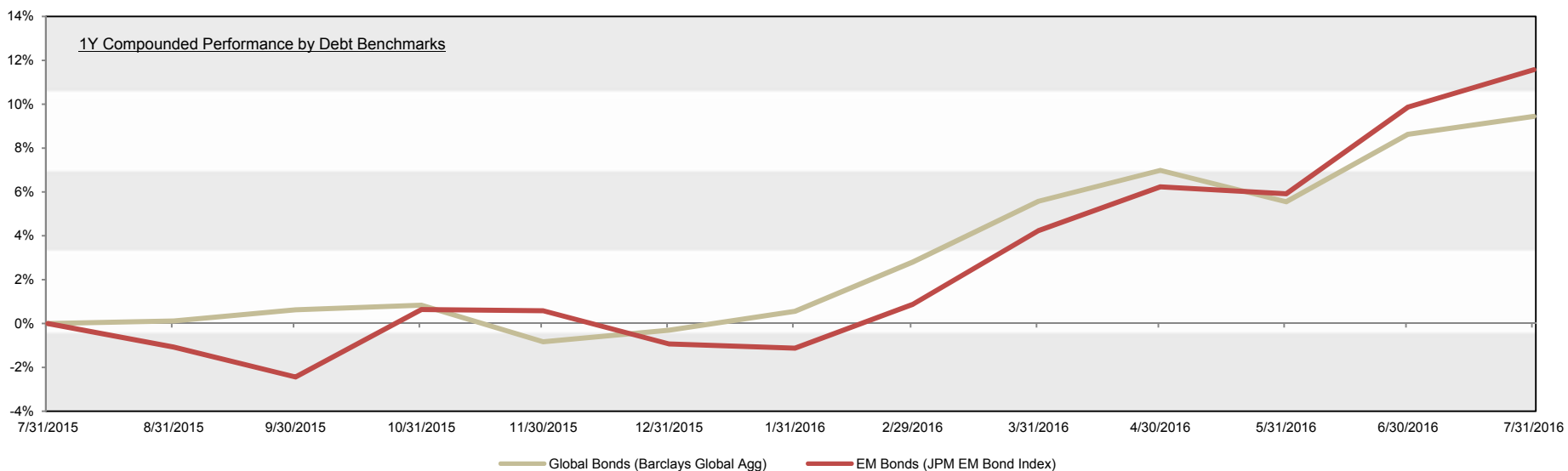
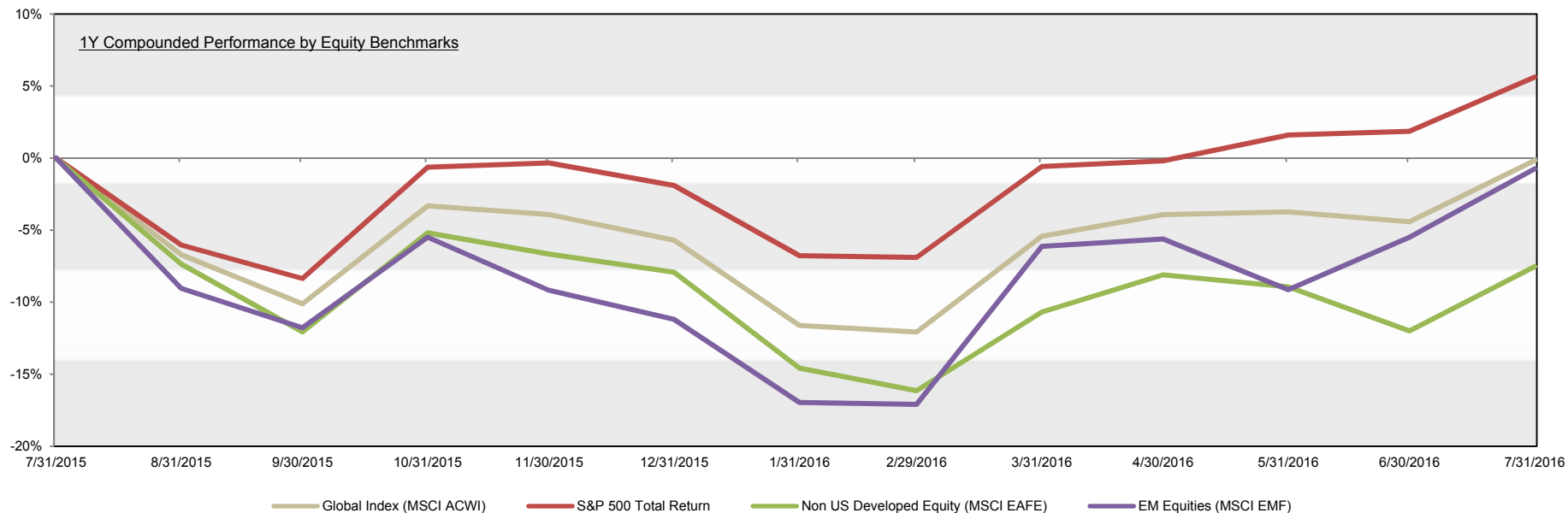
The past year has had many trials and tribulations. The fallout from one of the largest energy recessions still weighed heavily as commodity prices were (and are) still uncertain, thus preventing a full recovery of those liquid assets. Moreover, the private energy assets continue to trickle in write downs. The beginning of the year was also tough time for market neutral hedge funds which is typically a strategy that helps at times when equity markets are not trending heavily. Finally, Brexit further stalled risk assets as investors, and the public in general, seek to understand how the central banks will unwind from their various liquidity schemes and how the emerging populist movements may further add uncertainty.

All of these factors were significant head winds to the LTIF at a time when the fund was still in transition. Performance, overall, is on par with what we have seen from our peer group. We also have the benefit of equity hedges which have not been fully realized. In general, the LTIF is in a good position for the upcoming year and the larger changes to the portfolio are beginning to materialize.



31st July 2016 (Preliminary)

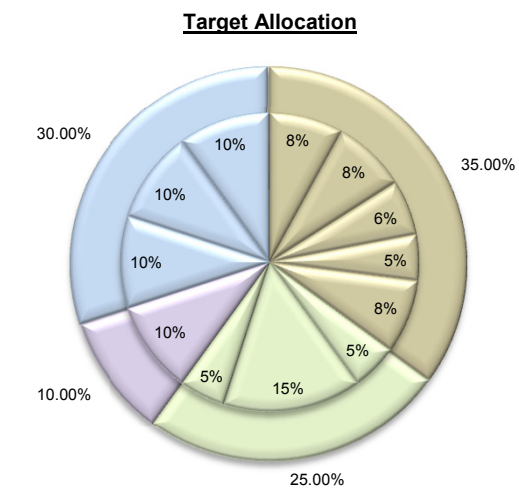
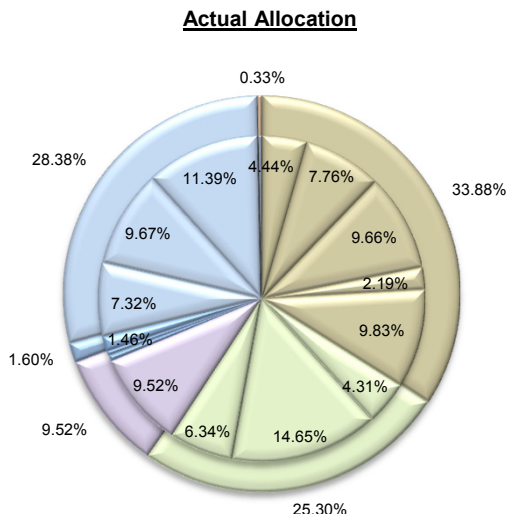
Market Data (cont.)



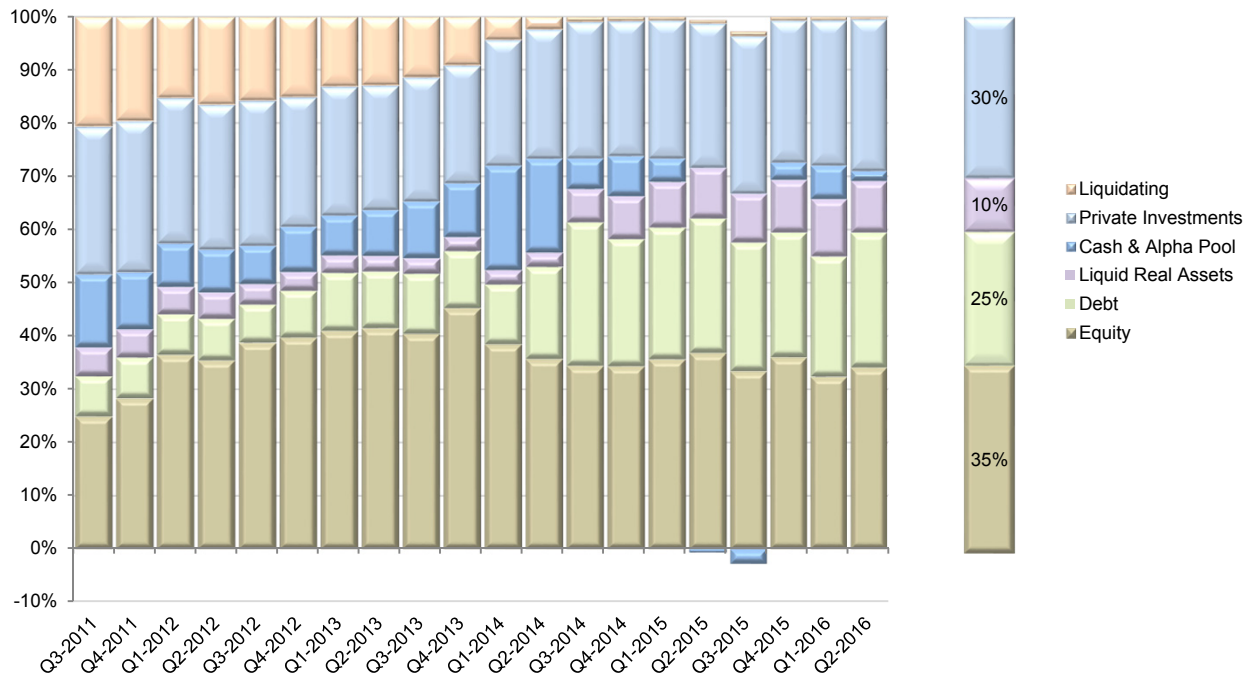


31st July 2016 (Preliminary)

Asset Class Allocation: Actual vs. Target



Asset Class	Actual \$ Allocation			Total % Allocation	Target % Allocation	Target Range
	Physical	Synthetic	Total			
Equity	217,558,677	126,690,236	344,248,913	33.88%	35%	30% - 40%
Debt	213,220,463	43,800,000	257,020,463	25.30%	25%	20% - 30%
Liquid Real Assets	85,833,936	10,847,090	96,681,026	9.52%	10%	5% - 15%
Cash & Alpha Pool	207,647,147	-191,384,737	16,262,410	1.60%	0%	0% - 10%
Private Investments	288,322,434	0	288,322,434	28.38%	30%	10% - 55%
Liquidating	3,369,628	0	3,369,628	0.33%	0%	
Portfolio Hedge	0	10,047,411	10,047,411	0.99%	0%	
Total	1,015,952,285	0	1,015,952,285	100%	100%	

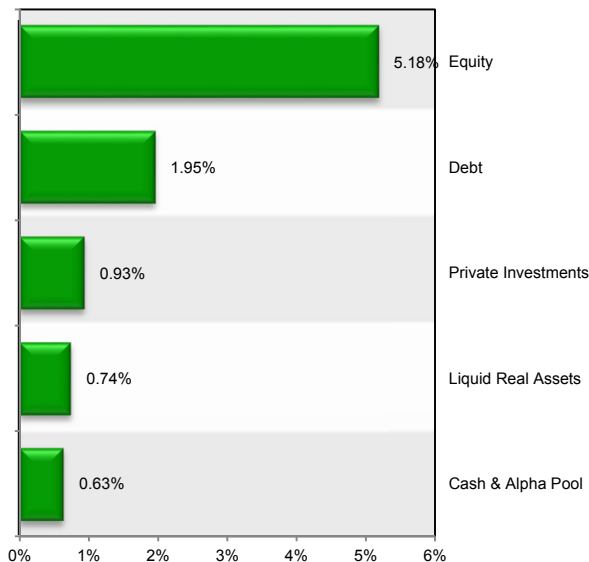




31st July 2016 (Preliminary)

Asset Class Performance: Actual vs. Policy

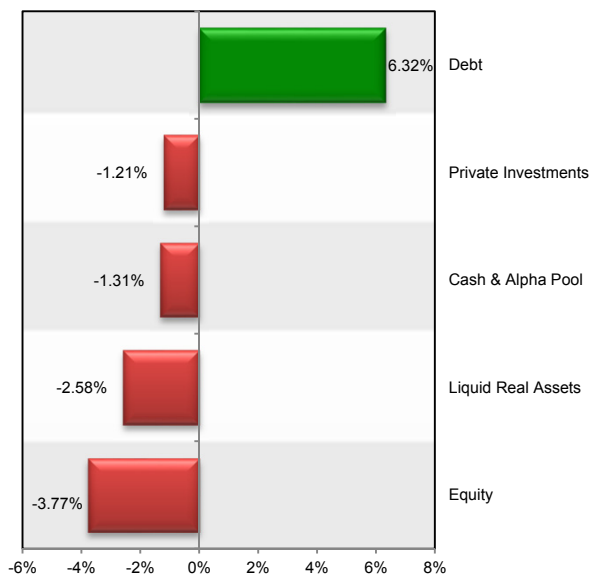
QTD Performance



Asset Class	Month				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	5.01%	4.78%	0.65%	5.18%	4.45%
Debt	2.25%	-0.15%	0.65%	1.95%	0.75%
Liquid Real Assets	-0.23%	8.46%	0.65%	0.74%	0.29%
Cash & Alpha Pool	0.63%			0.63%	
Private Investments	0.93%			0.93%	0.00%
Portfolio Hedge Contri.	-0.09%			-0.09%	
Total	1.88%	3.84%	0.65%	2.30%	1.77%

Asset Class	QTD				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	5.01%	4.78%	0.65%	5.18%	4.45%
Debt	2.25%	-0.15%	0.65%	1.95%	0.75%
Liquid Real Assets	-0.23%	8.46%	0.65%	0.74%	0.29%
Cash & Alpha Pool	0.63%			0.63%	
Private Investments	0.93%			0.93%	0.00%
Portfolio Hedge Contri.	-0.09%			-0.09%	
Total	1.88%	3.84%	0.65%	2.30%	1.77%

One Year Performance



Asset Class	Calendar YTD				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	2.09%	2.04%	2.26%	3.48%	5.87%
Debt	7.82%	0.92%	2.26%	7.33%	9.78%
Liquid Real Assets	-5.55%	19.32%	2.26%	-3.42%	3.08%
Cash & Alpha Pool	2.42%			0.98%	
Private Investments	2.90%			2.90%	1.15%
Portfolio Hedge Contri.	n/a			n/a	
Total	2.85%	2.55%	2.26%	2.74%	5.24%

Asset Class	1 Year				
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Total Return	Policy
Equity	-4.61%	-3.50%	-0.09%	-3.77%	-0.17%
Debt	7.31%	0.50%	-0.09%	6.32%	9.44%
Liquid Real Assets	-6.60%	41.19%	-0.09%	-2.58%	4.91%
Cash & Alpha Pool	0.27%			-1.31%	
Private Investments	-1.21%			-1.21%	3.92%
Portfolio Hedge Contri.	n/a			n/a	
Total	-0.42%	-0.10%	-0.09%	-0.19%	4.22%

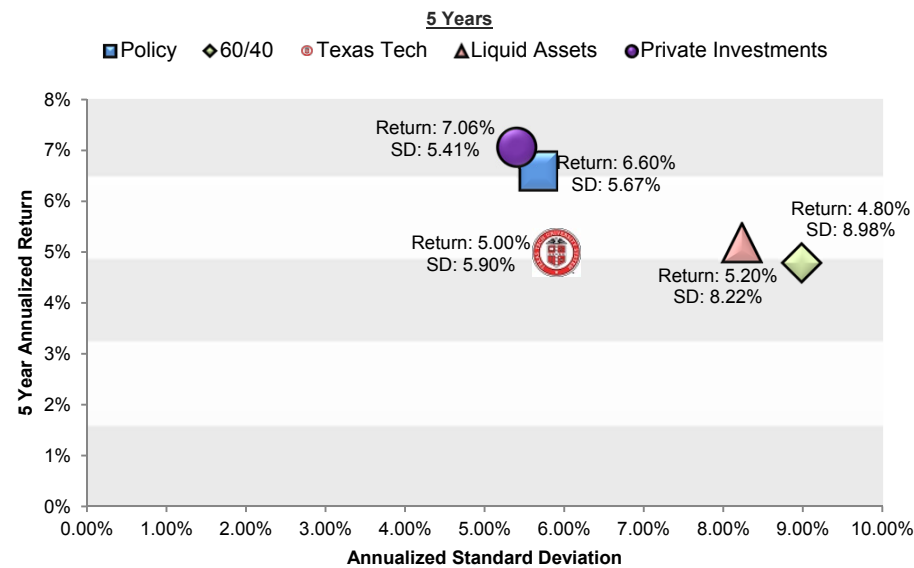
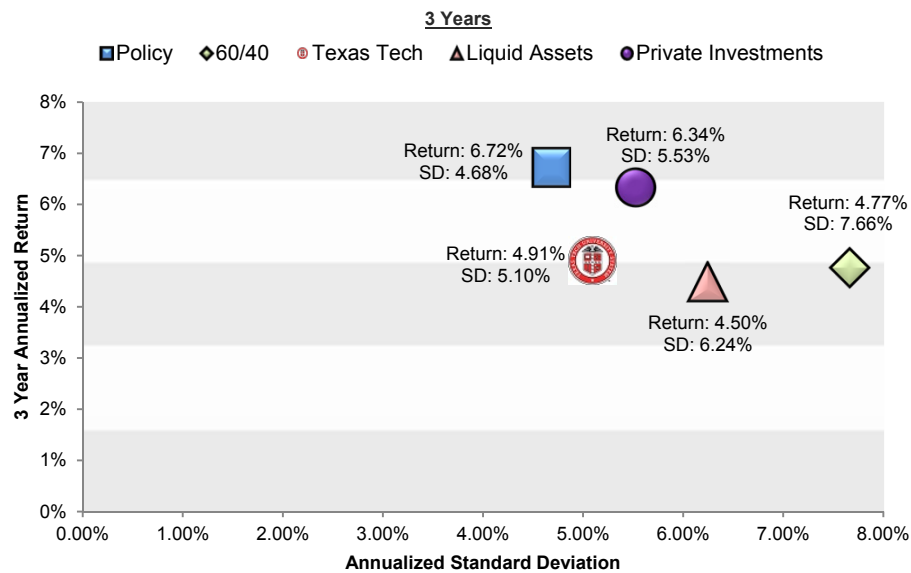
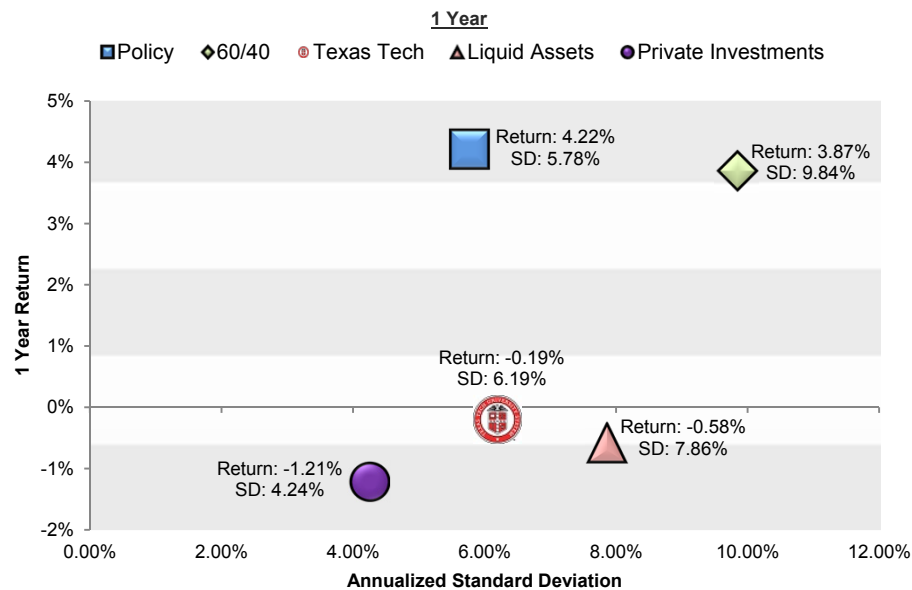


31st July 2016 (Preliminary)

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 a 2 year, and 5 year time horizon.
- Volatility (measured by standard deviation) on the Texas Tech portfolio has decreased over the past 12 months compared with the annualized 5 year volatility.



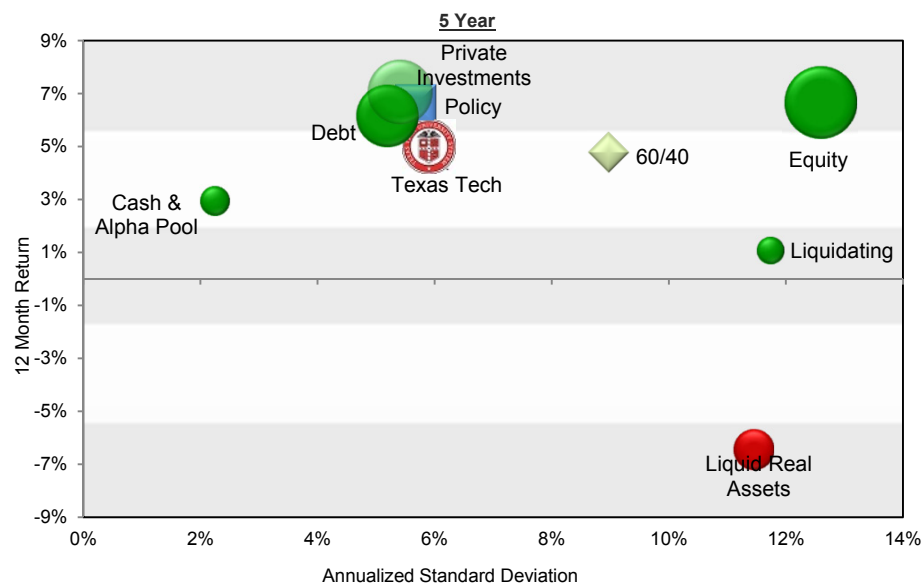
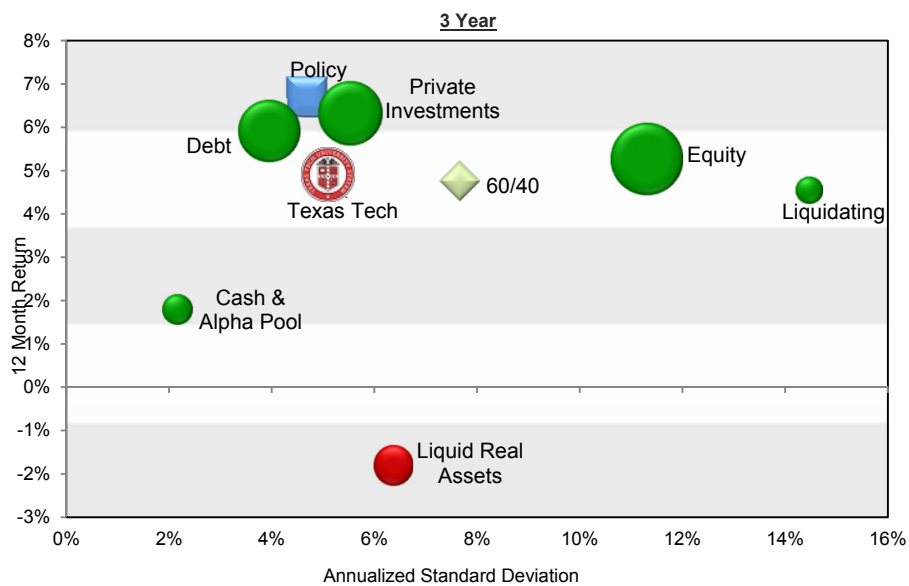
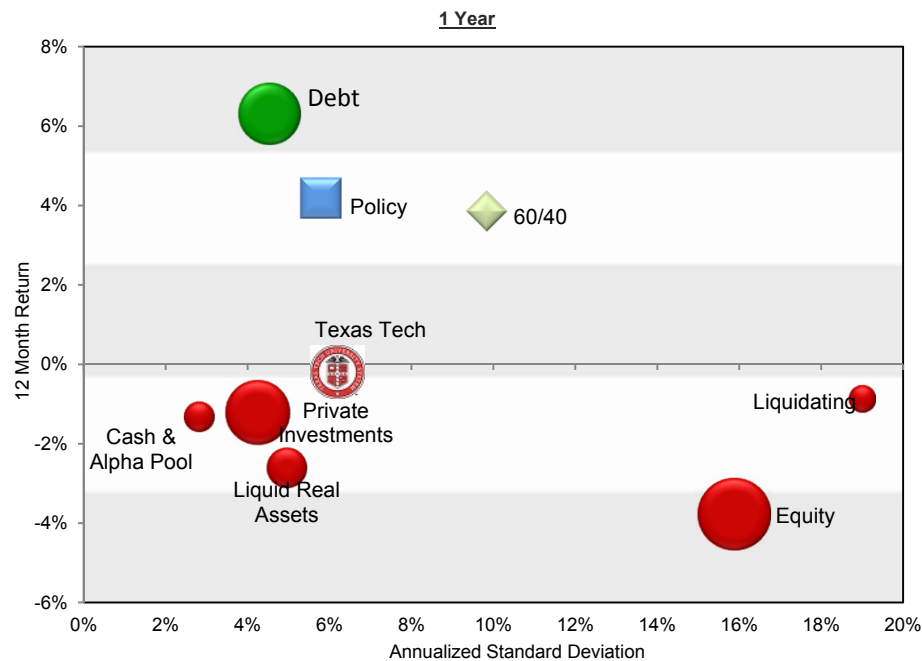


31st July 2016 (Preliminary)

Risk Profile

Commentary

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





31st July 2016 (Preliminary)

Appendix I – Sub-Asset Detail

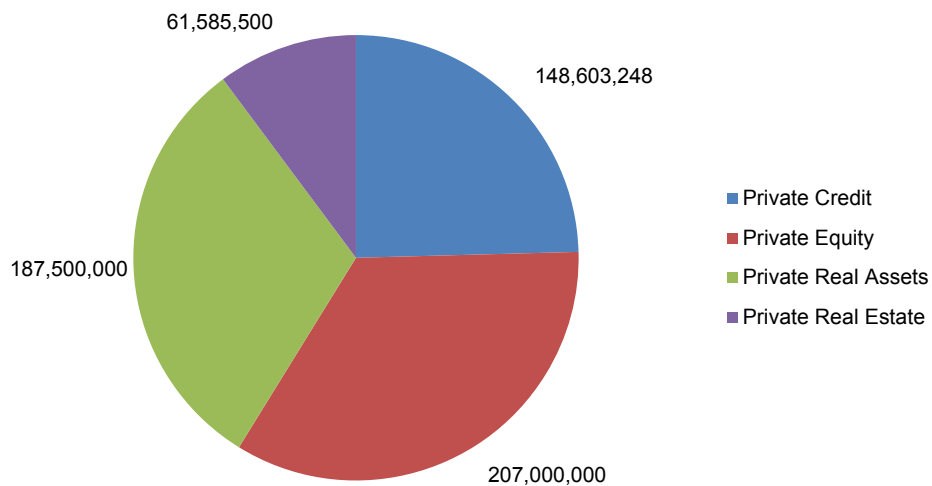
Fund	Current Exposure	MTD Perf.	QTD Perf.	Calendar YTD	Fiscal YTD	Nacubo YTD	1 Year Perf.	3 Year Perf.	5 Year Perf.
TOTAL	1,015,952,285	2.30%	2.30%	2.74%	2.42%	2.30%	-0.19%	4.91%	5.00%
Policy		1.77%	1.77%	5.24%	6.66%	1.77%	4.22%	6.72%	6.60%
Portfolio Hedge	10,047,411	-0.09%	-0.09%	n/a	n/a	n/a	n/a	n/a	n/a
Equity	344,248,913	5.18%	5.18%	3.61%	3.74%	5.18%	-3.57%	5.34%	6.74%
Equity Policy Benchmark (MSCI ACWI)		4.45%	4.45%	5.87%	7.01%	4.45%	-0.17%	5.97%	6.71%
US Equity	45,097,095	5.40%	5.40%	12.77%	15.04%	5.40%	6.77%	9.63%	11.04%
<i>Benchmark: S&P 500 Total Return</i>		3.69%	3.69%	7.66%	12.40%	3.69%	5.61%	11.16%	13.38%
Global Equity	78,879,272	5.34%	5.34%	2.81%	2.55%	5.34%	-4.17%	9.08%	12.74%
<i>Benchmark: MSCI ACWI (Net)</i>		4.45%	4.45%	5.87%	7.01%	4.45%	-0.17%	5.97%	6.71%
Non US Developed Equity	98,157,067	5.48%	5.48%	-1.30%	-1.65%	5.48%	-10.39%	1.06%	2.80%
<i>Benchmark: MSCI EAFE (Net)</i>		5.07%	5.07%	0.42%	-0.19%	5.07%	-7.53%	2.00%	3.02%
Non US Emerging Markets Equity	22,249,849	5.87%	5.87%	9.03%	11.50%	5.87%	2.22%	2.34%	0.07%
<i>Benchmark: MSCI EMF (Net)</i>		5.03%	5.03%	11.77%	9.12%	5.03%	-0.75%	-0.29%	-2.75%
Alternative Equity	99,865,631	4.47%	4.47%	0.05%	-1.17%	4.47%	-5.90%	2.99%	7.31%
<i>Benchmark: MSCI ACWI (Net)</i>		4.45%	4.45%	5.87%	7.01%	4.45%	-0.17%	5.97%	6.71%
Debt	257,020,463	1.95%	1.95%	7.37%	6.76%	1.95%	6.34%	5.97%	6.20%
Debt Policy Benchmark (Barclays Global Agg)		0.75%	0.75%	9.78%	9.32%	0.75%	9.44%	2.63%	1.50%
Sovereign/Investment Grade Bonds	43,800,000	0.50%	0.50%	3.21%	1.34%	0.50%	0.58%	3.19%	2.92%
<i>Benchmark: Barclays Global Aggregate</i>		0.75%	0.75%	9.78%	9.32%	0.75%	9.44%	2.63%	1.50%
Credit	148,820,330	2.24%	2.24%	5.40%	4.45%	2.24%	3.81%	4.98%	7.90%
<i>Benchmark: Barclays Global Aggregate</i>		0.75%	0.75%	9.78%	9.32%	0.75%	9.44%	2.63%	1.50%
Emerging Markets Debt	64,400,133	2.27%	2.27%	13.90%	16.95%	2.27%	16.50%	8.05%	7.32%
<i>Benchmark: JP Morgan EM Bond Index</i>		1.56%	1.56%	12.62%	12.79%	1.56%	11.58%	6.65%	6.17%
Liquid Real Assets	96,681,026	0.74%	0.74%	-3.18%	-1.37%	0.74%	-2.50%	-1.82%	-6.46%
<i>Benchmark: CPI + 4%</i>		0.29%	0.29%	3.08%	4.58%	0.29%	4.91%	5.05%	5.32%
Cash & Alpha Pool	16,262,410	0.63%	0.63%	2.42%	0.97%	0.63%	0.27%	2.73%	3.51%
Cash	25,159,689	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%
Cash Collateral	16,968,718	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	n/a	n/a
Collateral Held Elsewhere	5,570,000	0.00%	0.00%	0.00%	n/a	0.00%	n/a	n/a	n/a
Adjustments for Synthetic Exposure	(191,384,737)								
Alpha Pool	159,948,740	0.82%	0.82%	3.08%	1.11%	0.82%	0.25%	3.81%	5.09%
<i>Benchmark: HFRI FOF Index</i>		1.56%	1.56%	-1.06%	-2.16%	1.56%	-4.11%	2.10%	1.87%
Liquidating	3,369,628	0.61%	0.61%	-1.07%	-8.09%	0.61%	-0.85%	4.55%	1.07%
Private Investments	288,322,434	0.93%	0.93%	2.90%	-0.83%	0.93%	-1.21%	6.34%	7.06%
<i>Benchmark: Private Market Index (90% VE, 10% NCREIF)</i>		0.00%	0.00%	1.15%	3.92%	0.00%	3.92%	10.79%	10.84%
Private Equity	74,336,045	-0.54%	-0.54%	2.64%	-1.44%	-0.54%	-2.10%	7.77%	7.52%
Private Credit	98,251,694	0.61%	0.61%	5.72%	2.65%	0.61%	2.06%	6.71%	7.28%
Private Real Assets	115,734,695	2.18%	2.18%	0.33%	-4.05%	2.18%	-4.05%	4.57%	6.33%



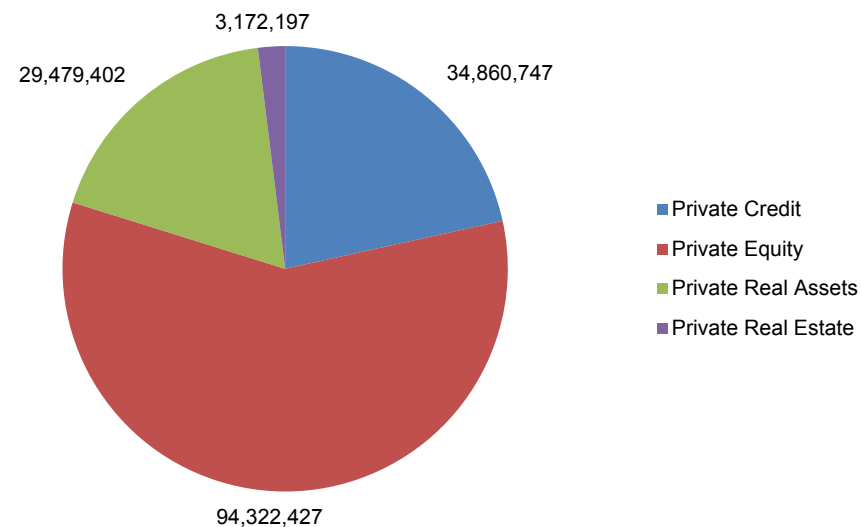
31st July 2016 (Preliminary)

Appendix II - Private Markets Report (as of July 2016) - Total Commitment

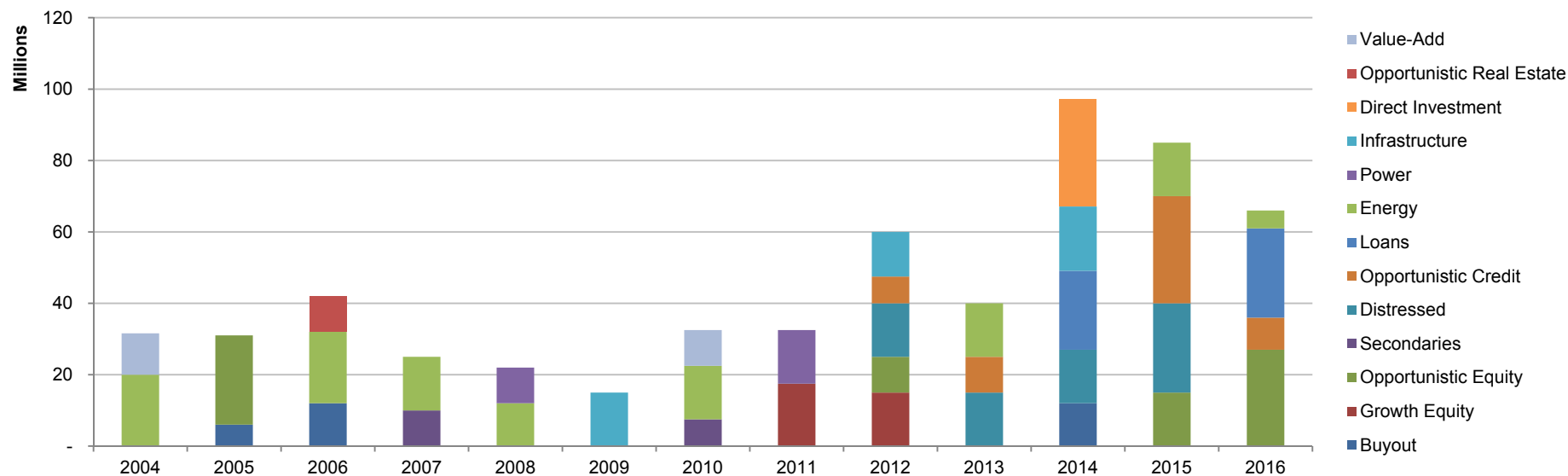
Total Commitment



Total Unfunded



Commitment by Vintage Year



Data provided by Texas Tech University System
 Reported valuations use latest available statements ranging from December 31st, 2015 to July 31st, 2016.
 Adjusted Valuations include all cashflows through July 2016

31st July 2016 (Preliminary)

Appendix II - Private Markets Report (as of July 2016) - Performance Analysis by Strategy Type & Asset Class

Performance by Asset Class

Asset Class	# of Funds	Commitment	Funded	Paid-In Capital	Distributions	% Drawn	Reported Valuation	Adjusted Valuation	IRR	MOC
Private Equity	15	\$207,000,000	\$112,677,573	\$116,683,873	\$55,086,958	56%	\$73,401,027	\$77,673,881	9.79%	1.36
Private Credit	11	\$148,603,248	\$113,742,501	\$117,477,929	\$22,512,330	79%	\$103,807,294	\$108,861,332	10.15%	1.28
Private Real Assets	13	\$187,500,000	\$158,665,724	\$169,386,947	\$153,083,347	90%	\$57,622,530	\$58,458,671	20.58%	1.30
Private Real Estate	4	\$61,585,500	\$58,413,303	\$60,711,660	\$17,766,363	99%	\$47,080,537	\$51,433,523	5.01%	1.22
Total	43	\$604,688,748	\$443,499,101	\$464,260,409	\$248,448,998	77%	\$281,911,388	\$296,427,407	10.60%	1.29

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	3	\$30,000,000	\$21,161,270	\$22,064,316	\$20,052,821	74%	\$6,522,531	\$6,498,022	15.02%	1.68
	Distressed	1	\$25,000,000	\$5,625,000	\$5,625,000	\$473,170	23%	\$5,267,957	\$5,267,957	5.04%	1.02
	Growth Equity	2	\$32,500,000	\$19,939,290	\$22,258,693	\$3,231,843	68%	\$18,420,184	\$20,507,471	3.39%	1.07
	Opportunistic Equity	6	\$77,000,000	\$48,541,487	\$48,735,271	\$19,872,476	63%	\$35,198,948	\$36,646,443	4.09%	1.16
	Secondaries	2	\$17,500,000	\$16,415,526	\$17,000,593	\$11,456,648	97%	\$7,991,407	\$7,758,988	5.68%	1.26
	Venture Capital	1	\$25,000,000	\$995,000	\$1,000,000	\$0	4%	\$0	\$995,000	-0.50%	0.99
	Total	15	\$207,000,000	\$112,677,573	\$116,683,873	\$55,086,958	56%	\$73,401,027	\$77,673,881	9.79%	1.36
Private Credit	Distressed	3	\$45,000,000	\$41,281,472	\$41,410,540	\$13,573,956	92%	\$33,477,575	\$33,477,575	10.73%	1.35
	Loans	3	\$47,103,248	\$47,024,589	\$47,582,673	\$4,126,000	101%	\$48,975,521	\$48,555,521	6.62%	1.12
	Opportunistic Credit	5	\$56,500,000	\$25,436,440	\$28,484,716	\$4,812,374	50%	\$21,354,198	\$26,828,236	7.15%	1.11
	Total	11	\$148,603,248	\$113,742,501	\$117,477,929	\$22,512,330	79%	\$103,807,294	\$108,861,332	10.15%	1.28
Private Real Assets	Energy	8	\$117,000,000	\$99,274,679	\$103,859,456	\$105,368,844	89%	\$29,803,036	\$31,084,983	24.13%	1.39
	Infrastructure	3	\$45,500,000	\$37,783,785	\$43,103,485	\$38,963,867	95%	\$19,620,766	\$19,174,960	26.65%	1.35
	Power	2	\$25,000,000	\$21,607,260	\$22,424,006	\$8,750,636	90%	\$8,198,728	\$8,198,728	-11.57%	0.76
	Total	13	\$187,500,000	\$158,665,724	\$169,386,947	\$153,083,347	90%	\$57,622,530	\$58,458,671	20.58%	1.30
Private Real Estate	Direct Investment	1	\$30,000,000	\$29,603,899	\$31,767,923	\$984,445	106%	\$34,654,392	\$39,167,378	20.25%	1.26
	Opportunistic Real Estate	1	\$10,000,000	\$9,745,230	\$9,745,230	\$0	97%	\$3,924,722	\$3,924,722	-2.36%	0.88
	Value-Add	2	\$21,585,500	\$19,064,174	\$19,198,507	\$16,781,918	89%	\$8,501,423	\$8,341,423	7.33%	1.46
	Total	4	\$61,585,500	\$58,413,303	\$60,711,660	\$17,766,363	99%	\$47,080,537	\$51,433,523	5.01%	1.22



31st July 2016 (Preliminary)

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