



TEXAS TECH UNIVERSITY SYSTEM™

**Board of Regents Report for July 2015**

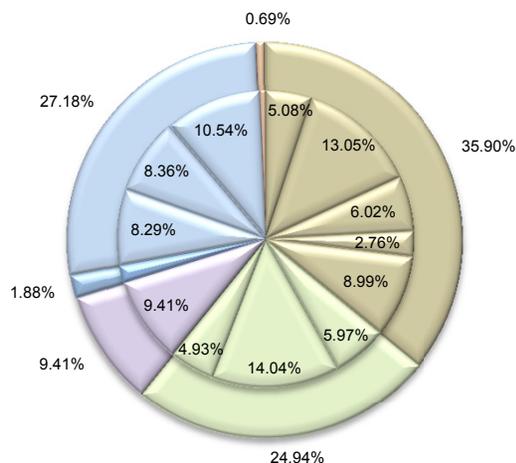
**Texas Tech University Endowment**

<u>Contents</u>	<u>Page</u>
Asset Class Allocation: Actual vs. Target	3
Asset Class Performance: Actual vs. Policy	4
Long Term Risk/Return of Endowment vs. 60/40 Portfolio and Policy Returns	5
Risk Profile	6
Overview	
- Equity	7
- Debt	8
- Liquid Real Assets	9
- Cash & Alpha Pool	10
- Private Equity	11
- Private Credit	12
- Private Real Assets	13
Appendix I – Sub-Asset Detail	14
Appendix II – Private Market Reports	16
Appendix III – Glossary	18

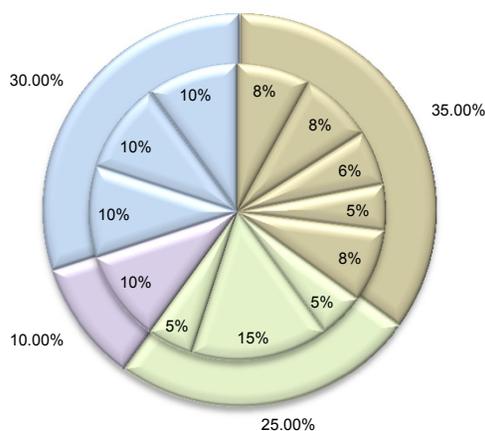


**Asset Class Allocation: Actual vs. Target**

**Actual Allocation**



**Target Allocation**



Asset Class	Sub-Asset Class	Actual \$ Allocation				Total % Allocation	Target % Allocation	Target Range	
		Physical	Synthetic	Aegis	Total				
Equity	US Equity	0	52,912,183	1,754,140	54,666,323	5.08%	8%		
	Global Equity	79,196,382	61,361,053		140,557,435	13.05%	8%		
	Non US Developed Equity	17,315,818	46,016,837	1,516,793	64,849,448	6.02%	6%		
	Non US Emerging Markets Equity	31,521,314	0	-1,822,655	29,698,659	2.76%	5%		
	Alternative Equity	96,755,457			96,755,457	8.99%	8%		
	<b>Sub-Total</b>		<b>224,788,970</b>	<b>160,290,073</b>	<b>1,448,278</b>	<b>386,527,321</b>	<b>35.90%</b>	<b>35%</b>	<b>30% - 40%</b>
Debt	Sovereign/Investment Grade Bonds	0	65,206,125	-970,450	64,235,675	5.97%	5%		
	Credit	151,195,663			151,195,663	14.04%	15%		
	Emerging Markets Debt	53,129,492			53,129,492	4.93%	5%		
	<b>Sub-Total</b>		<b>204,325,155</b>	<b>65,206,125</b>	<b>-970,450</b>	<b>268,560,830</b>	<b>24.94%</b>	<b>25%</b>	<b>20% - 30%</b>
<b>Liquid Real Assets</b>			<b>92,637,628</b>	<b>9,246,638</b>	<b>-575,850</b>	<b>101,308,416</b>	<b>9.41%</b>	<b>10%</b>	<b>5% - 15%</b>
Cash & Alpha Pool	Cash	46,355,516	-8,984,545		37,370,971	3.47%			
	Cash Collateral	37,964,022	-37,964,022		0	0.00%			
	Currency	0		3,077,212	3,077,212	0.29%			
	Alpha Pool	167,543,975	-187,794,269		-20,250,294	-1.88%			
	<b>Sub-Total</b>		<b>251,863,513</b>	<b>-234,742,836</b>	<b>3,077,212</b>	<b>20,197,889</b>	<b>1.88%</b>	<b>0%</b>	<b>0% - 10%</b>
Private Investments	Private Equity	89,212,827			89,212,827	8.29%	10%		
	Private Credit	89,995,606			89,995,606	8.36%	10%		
	Private Real Assets	113,465,520			113,465,520	10.54%	10%		
	<b>Sub-Total</b>		<b>292,673,953</b>	<b>0</b>	<b>0</b>	<b>292,673,953</b>	<b>27.18%</b>	<b>30%</b>	<b>10% - 55%</b>
<b>Liquidating</b>			<b>7,401,243</b>	<b>0</b>	<b>0</b>	<b>7,401,243</b>	<b>0.69%</b>	<b>0%</b>	
<b>Total</b>			<b>1,073,690,463</b>	<b>0</b>	<b>2,979,190</b>	<b>1,076,669,653</b>	<b>100%</b>	<b>100%</b>	

\*Please see Appendix I (page 23) for details on composition of Russell synthetic exposure.

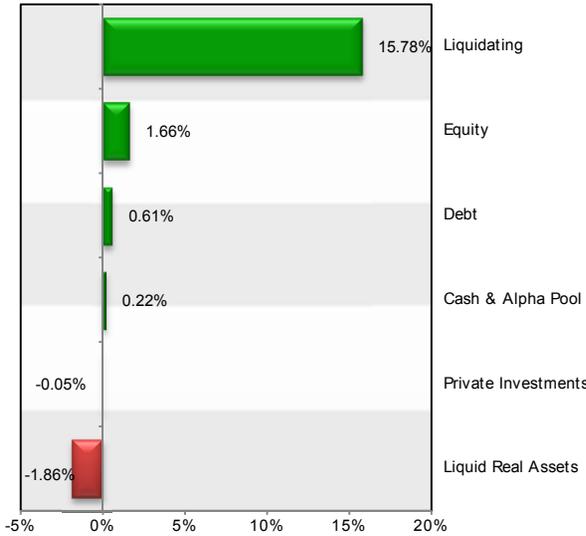
31<sup>st</sup> July 2015 (Preliminary)



TEXAS TECH UNIVERSITY SYSTEM

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

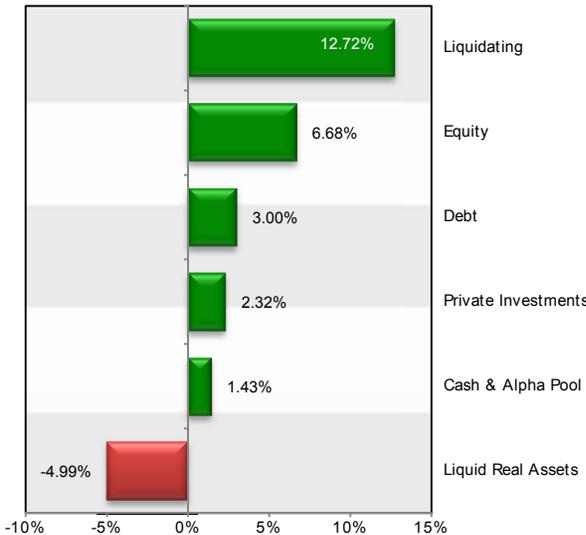
**QTD Performance**



Asset Class	Month					Policy
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Aegis Contr.	Total Return	
Equity	1.41%	1.94%	0.19%	-0.06%	1.66%	0.58%
Debt	0.74%	0.06%	0.19%	-0.02%	0.61%	0.22%
Liquid Real Assets	-2.18%	0.98%	0.19%	0.02%	-1.86%	0.46%
Cash & Alpha Pool	0.17%			0.06%	0.22%	
Private Investments	-0.05%				-0.05%	0.00%
Liquidating	15.78%				15.78%	
<b>Total</b>	<b>0.37%</b>	<b>1.40%</b>	<b>0.19%</b>	<b>-0.01%</b>	<b>0.58%</b>	<b>0.31%</b>

Asset Class	QTD					Policy
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Aegis Contr.	Total Return	
Equity	1.41%	1.94%	0.19%	-0.06%	1.66%	0.58%
Debt	0.74%	0.06%	0.19%	-0.02%	0.61%	0.22%
Liquid Real Assets	-2.18%	0.98%	0.19%	0.02%	-1.86%	0.46%
Cash & Alpha Pool	0.17%			0.06%	0.22%	
Private Investments	-0.05%				-0.05%	0.00%
Liquidating	15.78%				15.78%	
<b>Total</b>	<b>0.37%</b>	<b>1.40%</b>	<b>0.19%</b>	<b>-0.01%</b>	<b>0.58%</b>	<b>0.31%</b>

**One Year Performance**



Asset Class	Calendar YTD					Policy
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Aegis Contr.	Total Return	
Equity	7.57%	-0.06%	2.57%	0.07%	5.83%	3.73%
Debt	5.31%	0.82%	2.57%	-0.01%	4.85%	-2.86%
Liquid Real Assets	-5.70%	-6.98%	2.57%	0.11%	-4.64%	3.10%
Cash & Alpha Pool	2.63%			-1.19%	1.47%	
Private Investments	1.16%				1.16%	3.81%
Liquidating	17.91%				17.91%	
<b>Total</b>	<b>3.13%</b>	<b>0.38%</b>	<b>2.57%</b>	<b>-0.20%</b>	<b>2.80%</b>	<b>2.08%</b>

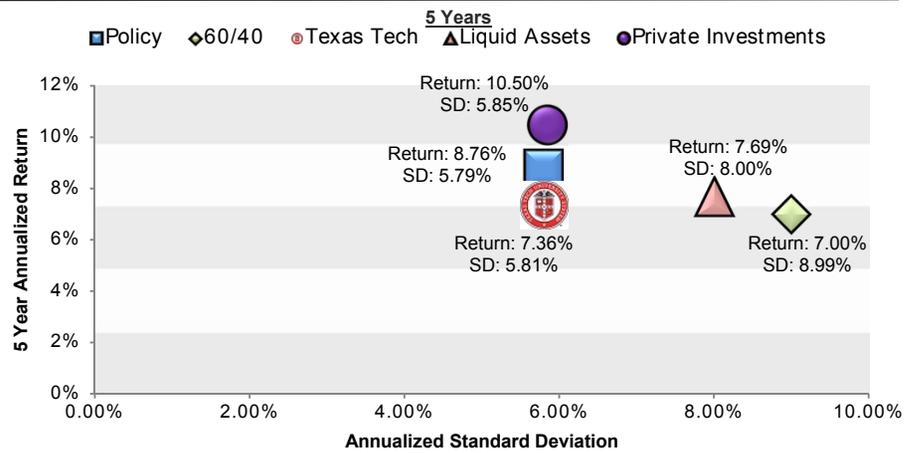
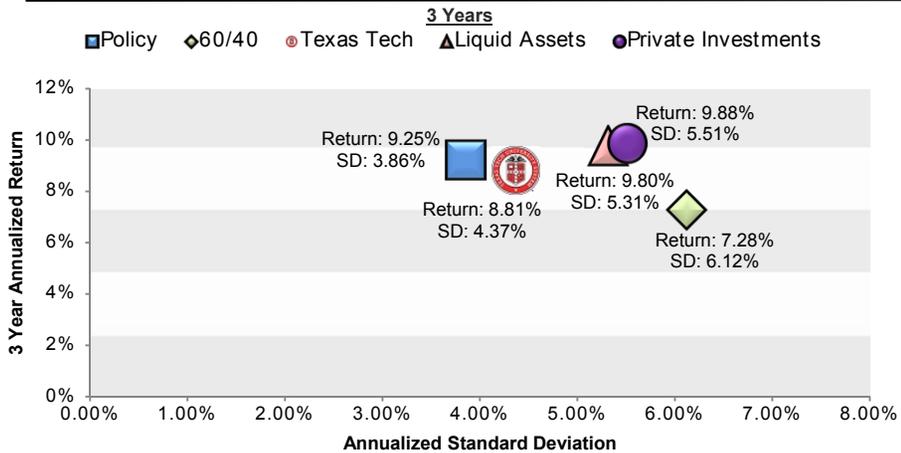
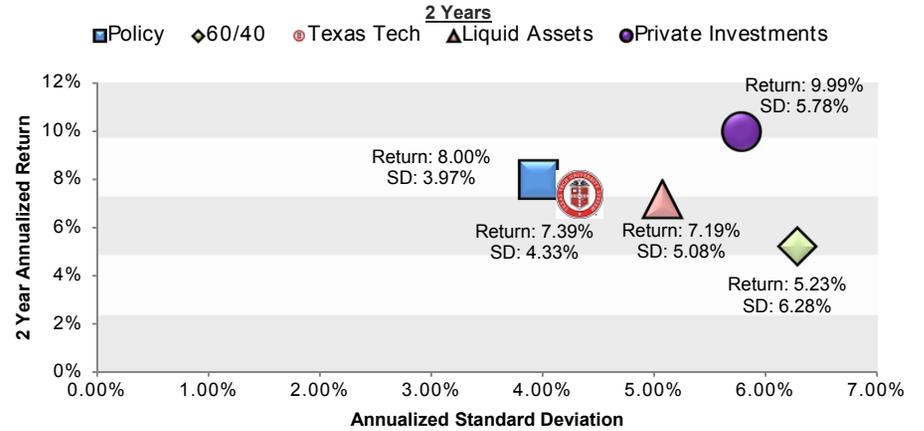
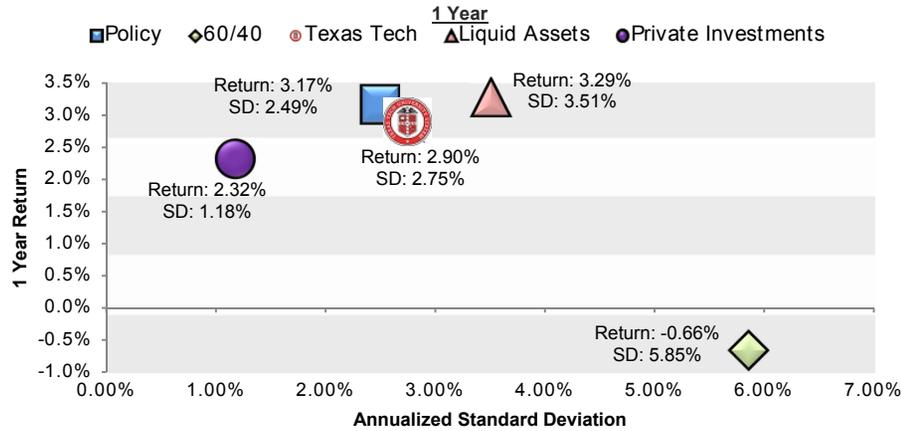
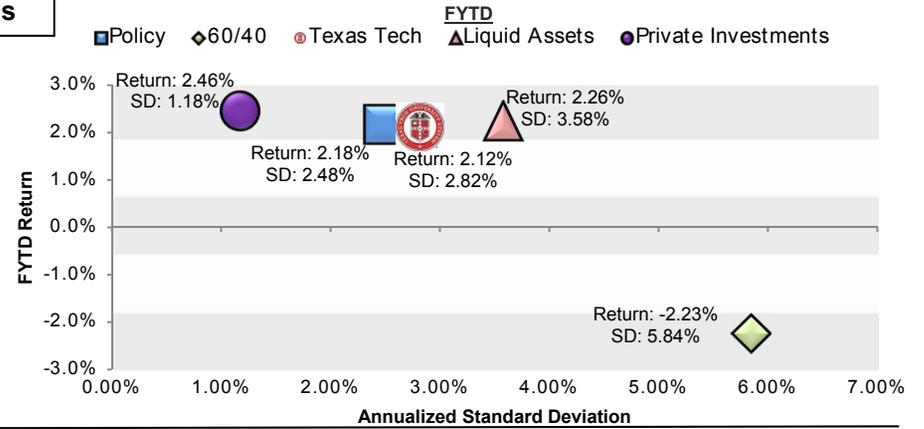
Asset Class	1 Year					Policy
	Physical Return	Synthetic Overlay	Alpha Pool + Cash	Aegis Contr.	Total Return	
Equity	7.39%	3.00%	2.52%	0.07%	6.68%	2.98%
Debt	1.85%	1.82%	2.52%	-0.01%	3.00%	-6.04%
Liquid Real Assets	-5.68%	-5.45%	2.31%	0.11%	-4.99%	4.22%
Cash & Alpha Pool	2.59%			-1.19%	1.43%	
Private Investments	2.32%				2.32%	10.79%
Liquidating	12.72%				12.72%	
<b>Total</b>	<b>2.82%</b>	<b>2.47%</b>	<b>2.52%</b>	<b>-0.20%</b>	<b>2.90%</b>	<b>3.17%</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 a FYTD, 1 year, 2 year and 3 year time horizon.
- Volatility (measured by standard deviation) on the Texas Tech portfolio has decreased over the past 12 months compared with the annualized 2 year, 3 year and 5 year volatility.



**Risk Profile (VaR)**

- The Texas Tech portfolio has a 5% chance of losing \$43 million (or more) in a month with a 1% chance of losing \$65 million (or more) in a month based on observed portfolio volatility.
- The Texas Tech portfolio has lower VaR than both the Policy portfolio, and the 60/40 portfolio.

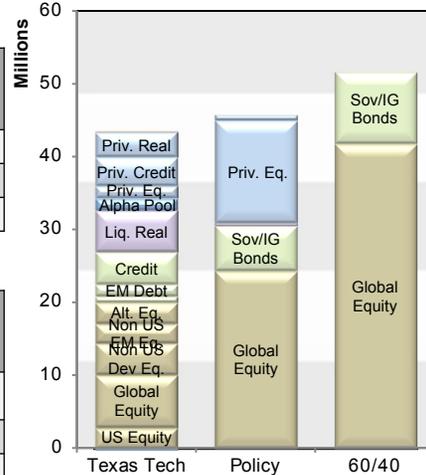
**Value at Risk – One Month – 95% Confidence**

**Sub Asset Classes with large Value at Risk:**

Sub-Asset Class	5 % chance of losing \$
Global Equity	7,218,650
Long Commodities	5,709,703
Credit	4,414,609

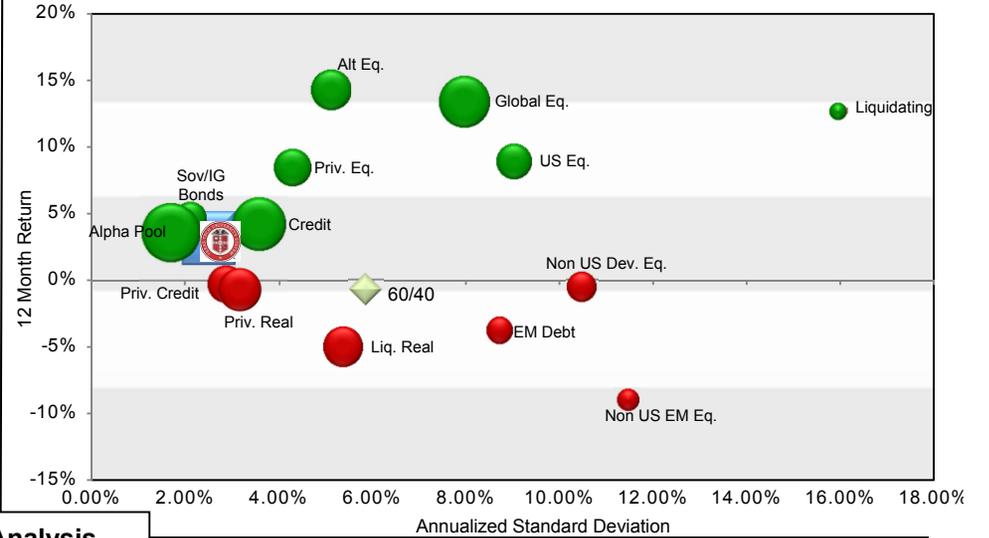
**Sub Asset Classes with small Value at Risk:**

Sub-Asset Class	5 % chance of losing \$
Sovereign/Investment Grade Bonds	817,630
Emerging Markets Debt	1,625,146
Private Equity	1,677,576



**Risk Profile**

- Alternative Equity, Sov/IG Bonds, and Alpha Pool have provided the highest risk adjusted returns.
- Liquid Real Assets, Liquidating, and Non US Emerging Markets Equity have generated the lowest risk adjusted returns.



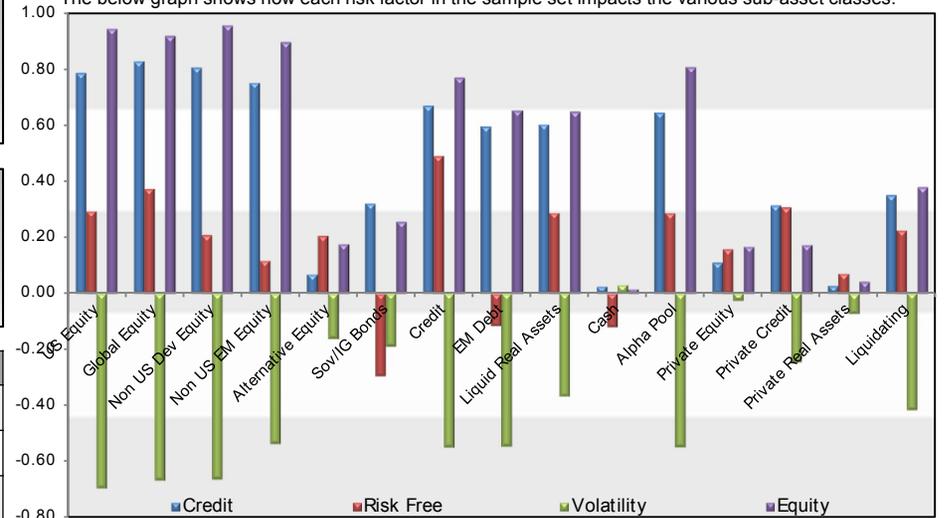
**Factor Analysis**

- The model analyses historical returns of the portfolio against the returns and volatility of key indicators:
  - Credit is benchmarked against the High Yield North American CDX Index.
  - Risk-Free is benchmarked against the US 10 Year Treasury Bond.
  - Volatility is benchmarked against the VIX Index.
  - Equity Markets is benchmarked against the MSCI AC World IMI (Net).

- The model shows that performance and volatility of both the Texas Tech portfolio and a 60/40 portfolio are well explained by the 4 factor model.
- The Texas Tech portfolio exhibits a lower correlation to the Equity markets than the 60/40 and Policy portfolios, but a higher correlation to the risk free index.

Portfolio	Credit	Risk Free	Volatility	Equity	R <sup>2</sup>
Texas Tech	0.80	0.29	-0.67	0.94	0.82
60/40	0.80	0.17	-0.66	0.99	0.82
Policy	0.51	0.28	-0.58	0.67	0.65

The below graph shows how each risk factor in the sample set impacts the various sub-asset classes.



Factor Analysis is calculated using the monthly return over the period January 2009 – current month.

31<sup>st</sup> July 2015 (Preliminary)

# Equity

(Total NAV: \$385,079,044)



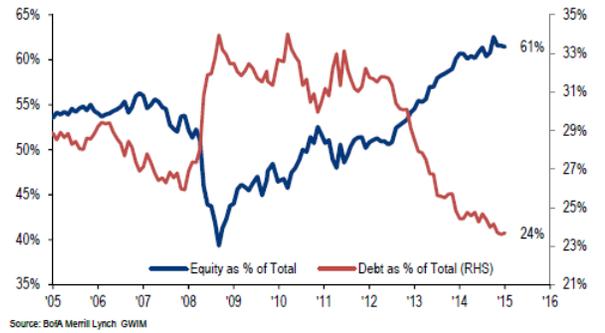
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## Overview and Risk Profile by Asset Class

### Commentary

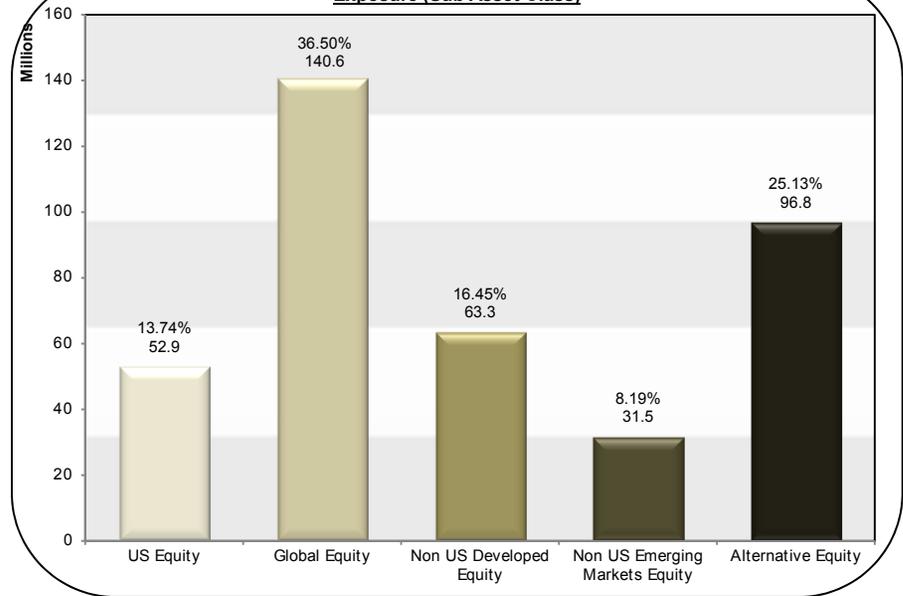
- Until the new investment backdrop is confirmed by a visible combination of Fed hikes and stronger global growth, we think the "Twilight Zone" of constrained price upside, pain trades and flash crashes is set to continue. And the contrarian in us cannot help but note that while investor conviction is low, very few investors are willing to "short risk assets" in an environment of financial repression and extremely low expected returns for both cash and government bonds. The equity allocation of BofAML GWIM clients for example is currently at multi-year highs.

Chart 3: BofAML GWIM client asset allocation



Source – BofAML

### Exposure (Sub Asset Class)

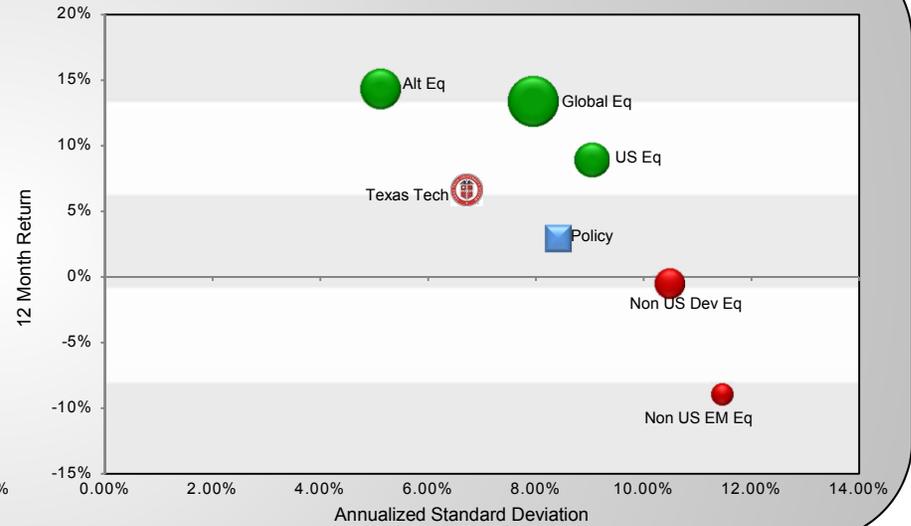


## Risk vs. Return (Sub Assets)

### Three Months



### One Year



\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns.



# Debt

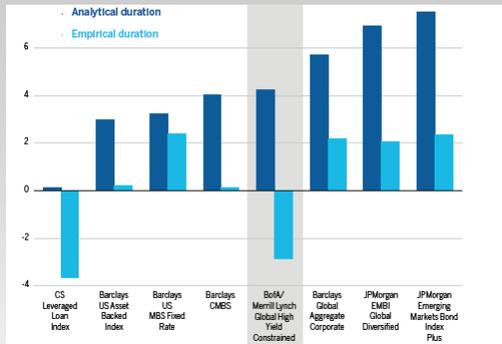
(Total NAV: \$269,531,280)

31<sup>st</sup> July 2015 (Preliminary)

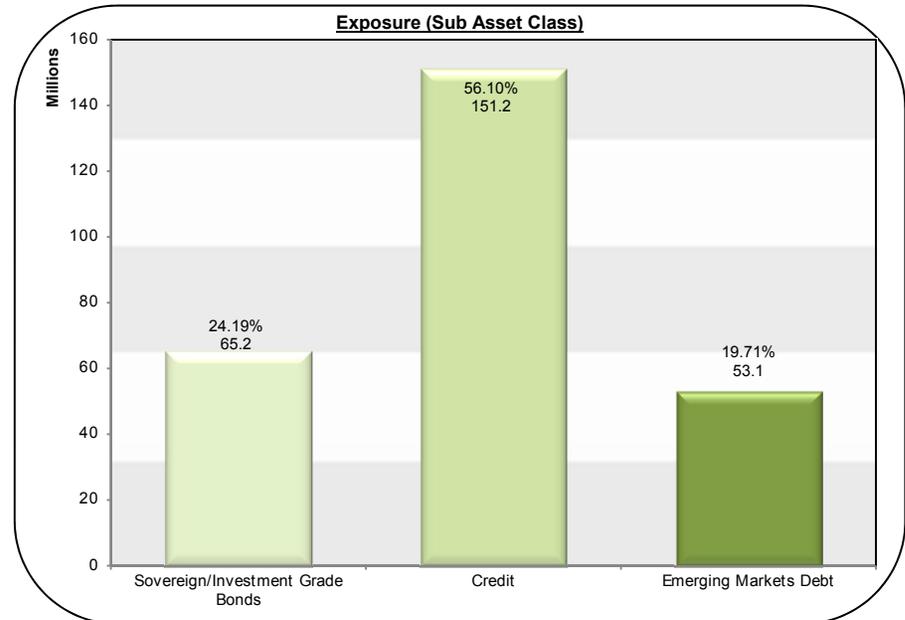
## Overview and Risk Profile by Asset Class

### Commentary

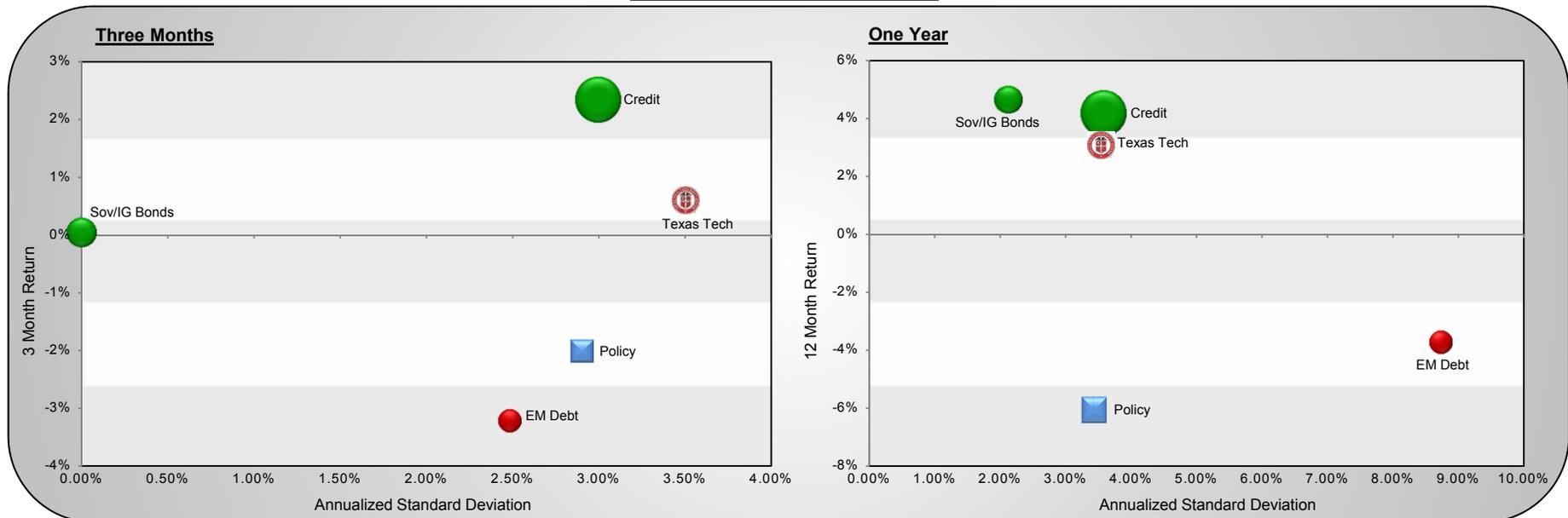
- Within an investor's fixed income allocation, global high yield may do a better job of cushioning against the risk of rising rates than lower-yielding, higher-quality bond sectors. In nominal terms, the average calculated (nominal) duration of the BofA/Merrill Lynch Global High Yield Constrained Index has historically exceeded four years; yet its actual, realized sensitivity to changes in interest rates has been substantially lower than that. In fact, the empirical duration of the index through the 10 years ended 30 June 2015 was negative. Compared to other bond sectors, global high-yield performance has historically been less sensitive to changes in interest rates and more sensitive to the health of the global economy, credit metrics, and expected future default and recovery rates.



Source – Wellington



## Risk vs. Return (Sub Assets)



\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns.

31<sup>st</sup> July 2015 (Preliminary)

# Liquid Real Assets

(Total NAV: \$101,884,266)



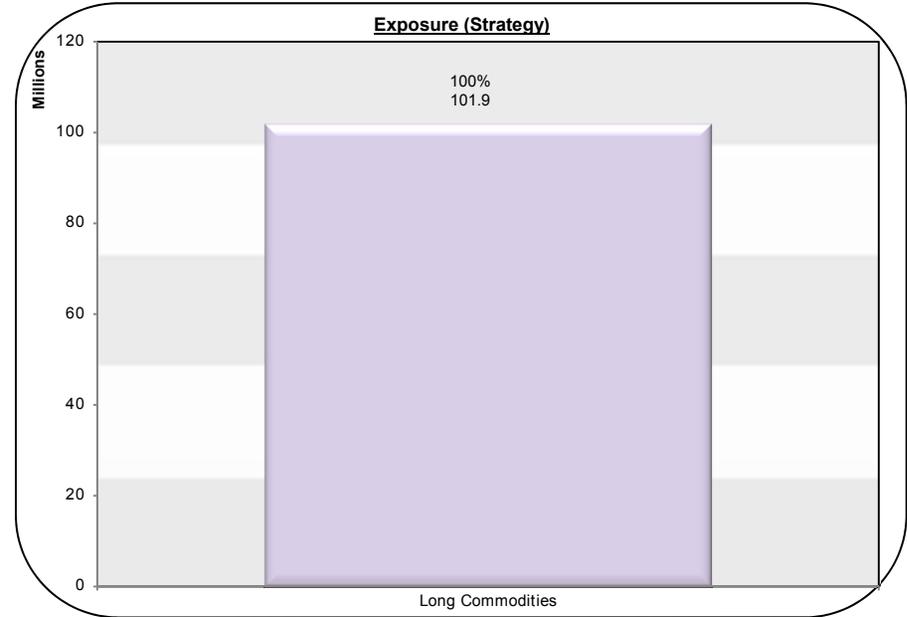
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## Overview and Risk Profile by Asset Class

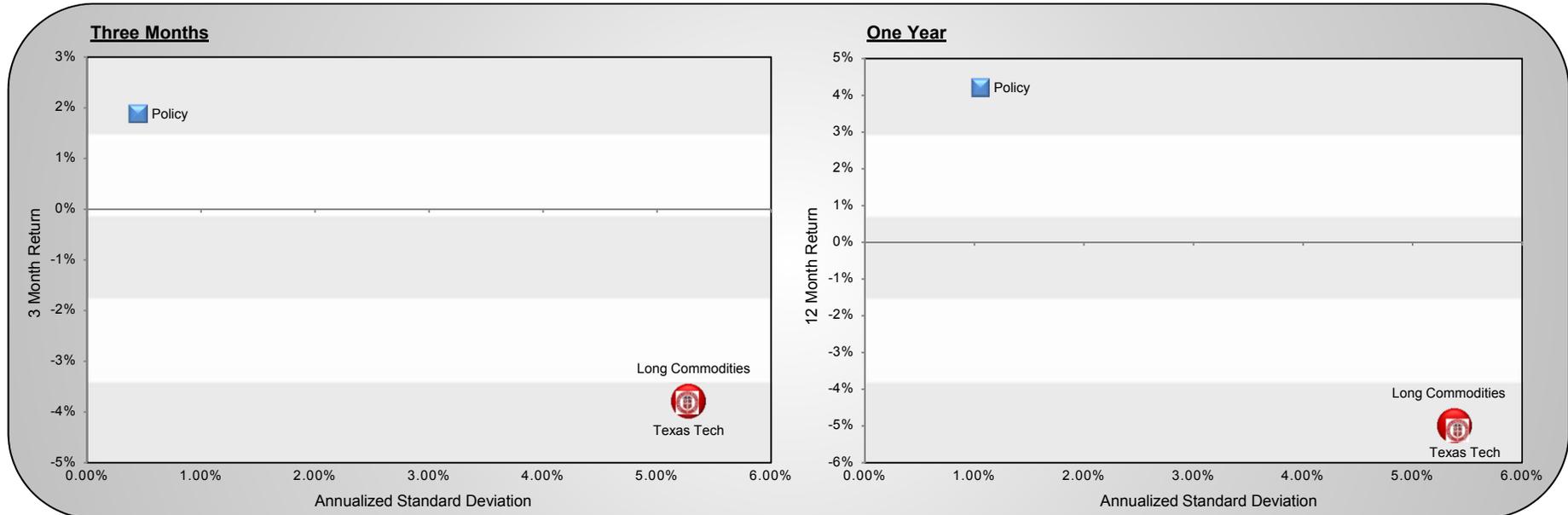
### Commentary

- Commodities prices fell sharply in July, largely due to a selloff in crude oil prices. The S&P 500 Index had a gain and fixed income indexes broadly advanced as the 10-year Treasury yield fell from 2.4% to 2.2%. The U.S. dollar strengthened amid macro uncertainty and speculation over a potential U.S. Federal Reserve rate hike later this year. Investors were increasingly concerned about the potential impact of Chinese equity market volatility on the country's overall growth, further pressuring commodities prices.
- Regarding subsector performance, the energy group had sharp declines. A confluence of headwinds, increased Organization of the Petroleum Exporting Countries (OPEC) production, a potential Iran deal, China stock market weakness, a higher U.S. oil rig count and elevated inventory levels all pushed West Texas Intermediate (WTI) prices (-21.2% total return in the index) lower. North Sea Brent crude oil prices (-17.9%) followed WTI down; the International Energy Agency's June oil market report showed a sequential increase in OPEC production, coming mostly from Iraq.
- Natural gas prices (-4.4%) fell. Natural gas ended the month lower amid larger than expected storage injections and cooler weather. However, storage injections toward the end of the period generally came in below expectations and power companies continued to switch from coal to natural gas fuel.

Source – Cohen & Steers



## Risk vs. Return (Strategy)



\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns.

31<sup>st</sup> July 2015 (Preliminary)

# Cash & Alpha Pool

(Total NAV: \$20,099,867)

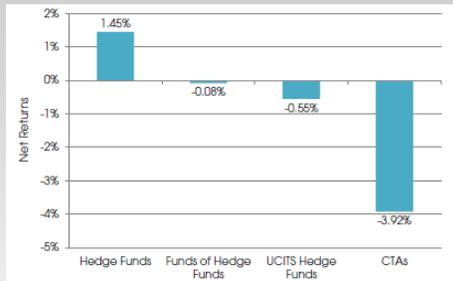


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## Overview and Risk Profile by Asset Class

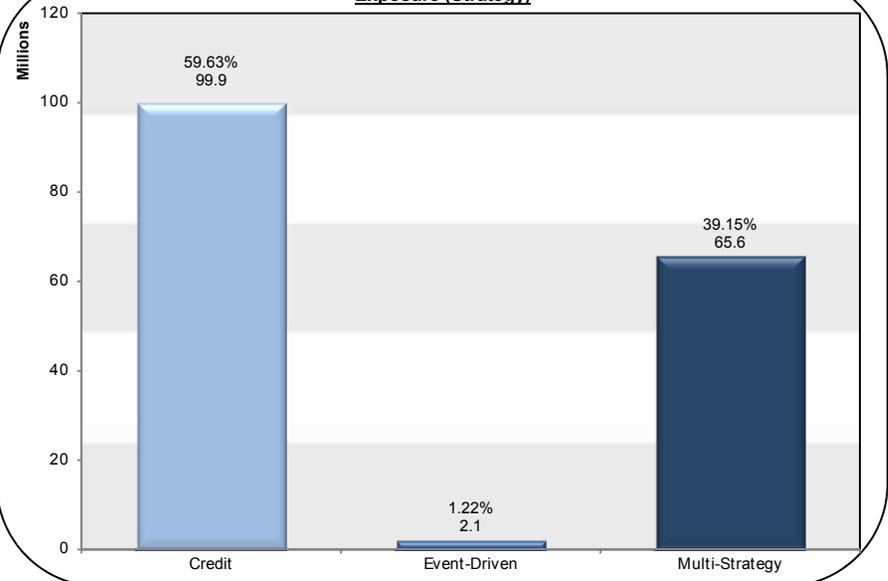
### Commentary

- Q2 2015 was a volatile quarter for hedge funds but still broadly positive with hedge funds (+1.45%) outperforming the S&P 500 (-0.03%) for the second consecutive quarter. CTAs, however, had a difficult quarter, returning -3.92% for Q2 2015 as many trends reversed during the quarter along with the ongoing negotiations regarding Greek debt and extraordinary volatility in the Chinese public markets, leading to many CTAs giving back much of their strong performance generated through Q1 2015.
- Equity strategies produced the highest returns of Q2 2015 (+2.27%) despite being in the red during June (-0.90%) with the quarterly returns being driven largely by returns generated during April (+2.10%) and May (+1.06%). Funds employing a relative value strategy were the only fund strategy generating positive average returns during June returning 0.17% for the month and 1.88% for the quarter.



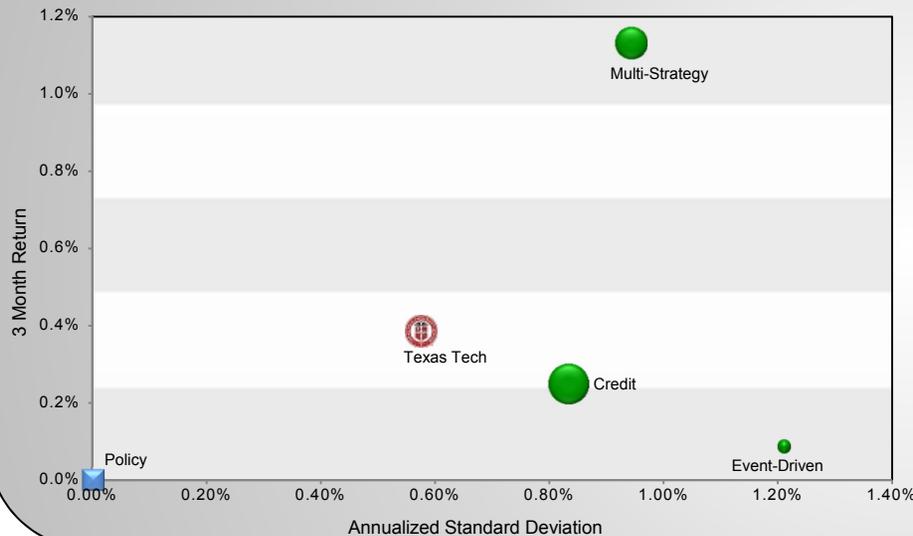
Source – Preqin

### Exposure (Strategy)

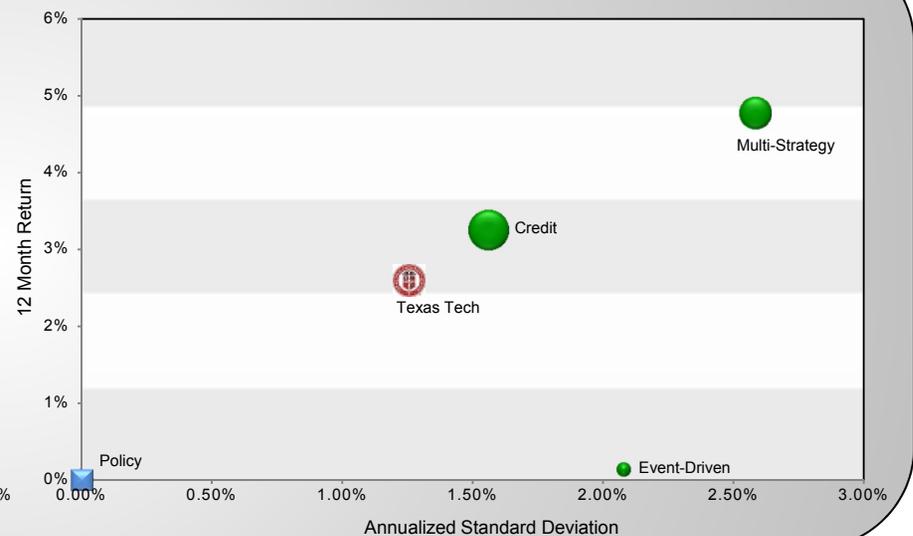


## Risk vs. Return (Strategy)

### Three Months



### One Year



\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns.



# Private Equity

(Total NAV: \$89,212,827)

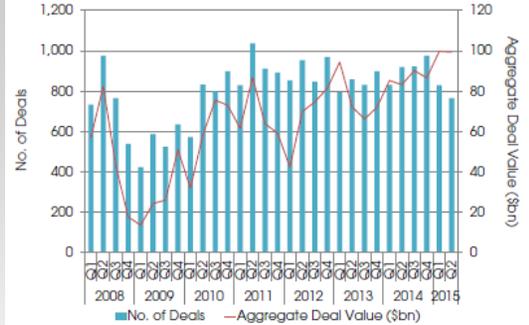
31<sup>st</sup> July 2015 (Preliminary)

## Overview and Risk Profile by Asset Class

### Commentary

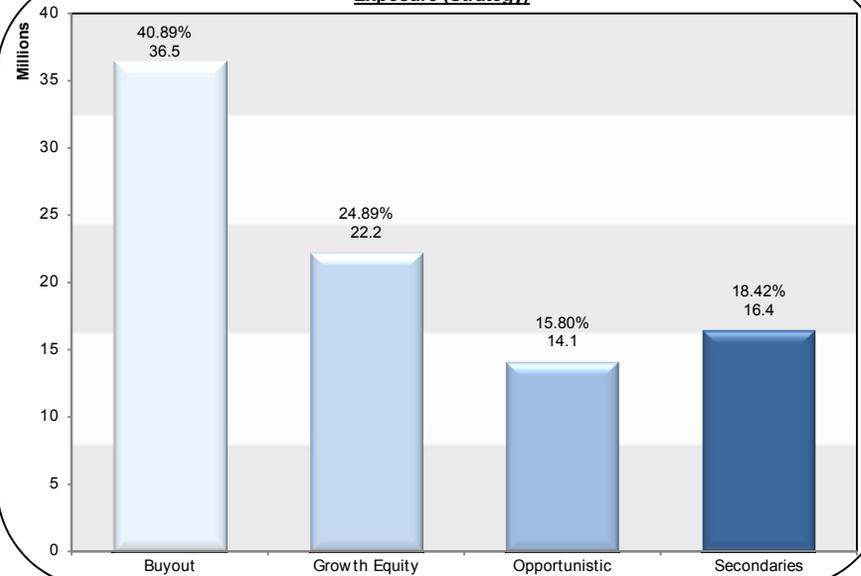
Source – Wall Street Journal

- The second quarter of 2015 witnessed another consecutive quarterly decrease in the number of private equity-backed buyout deals recorded, with just 765 deals announced. Despite this being the lowest number since Q1 2010, Q2 2015 has matched the high level of aggregate deal value seen in Q1 2015; the aggregate value of private equity-backed buyout deals stood at nearly \$100bn (Fig. 1), levels not seen since 2007.
- It must be noted that a significant factor behind the relatively high aggregate value of deals in North America in Q1 2015 was the \$40bn merger between H. J. Heinz Company and Kraft Foods Group.



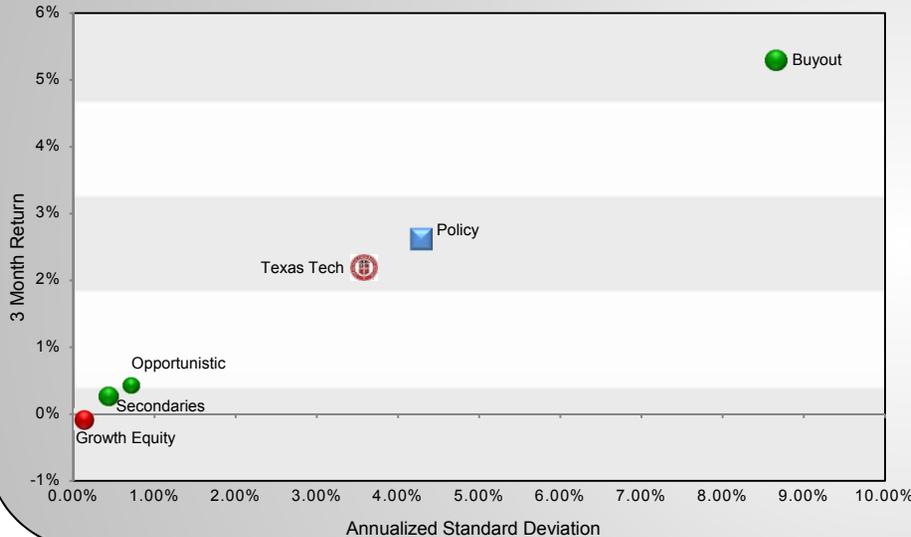
Source – Preqin

### Exposure (Strategy)



## Risk vs. Return (Strategy)

### Three Months



### One Year



\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns.



# Private Credit

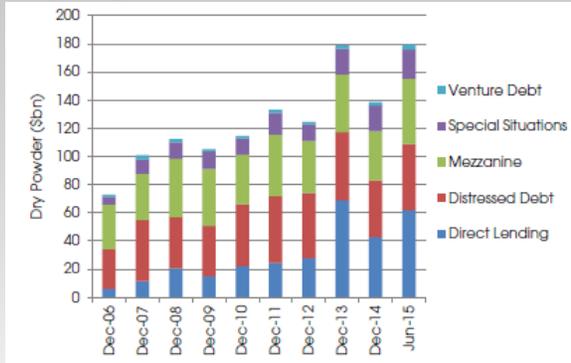
(Total NAV: \$89,995,606)

31<sup>st</sup> July 2015 (Preliminary)

## Overview and Risk Profile by Asset Class

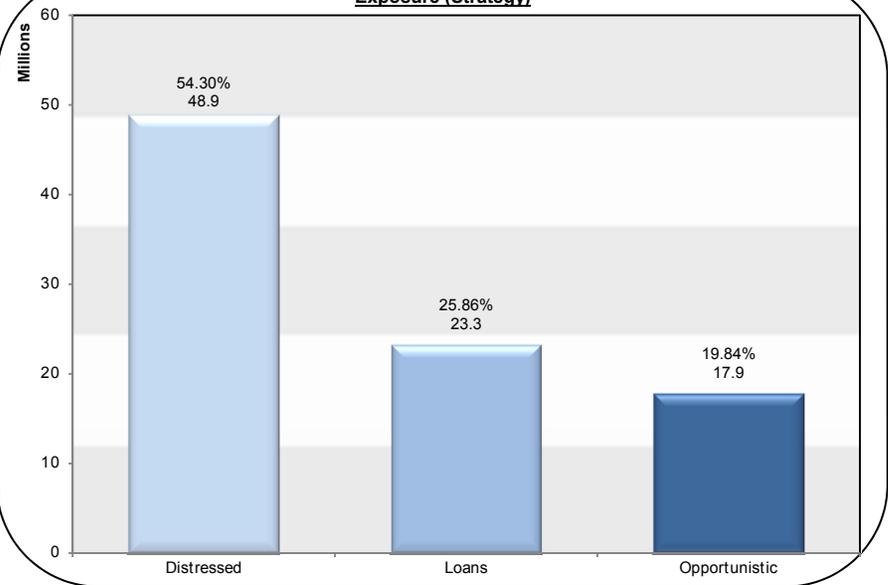
### Commentary

- The chart below shows that total dry powder available to private debt fund managers globally has increased by 29% in the period since December 2014. The total figure currently stands at \$179bn, the highest level witnessed to date. Direct lending funds currently hold the highest amount of dry powder at \$62bn, up 45% compared to December 2014. Distressed debt and mezzanine funds have also seen notable increases in the amount of dry powder they hold, with increases of 16% and 33% since December 2014 respectively.



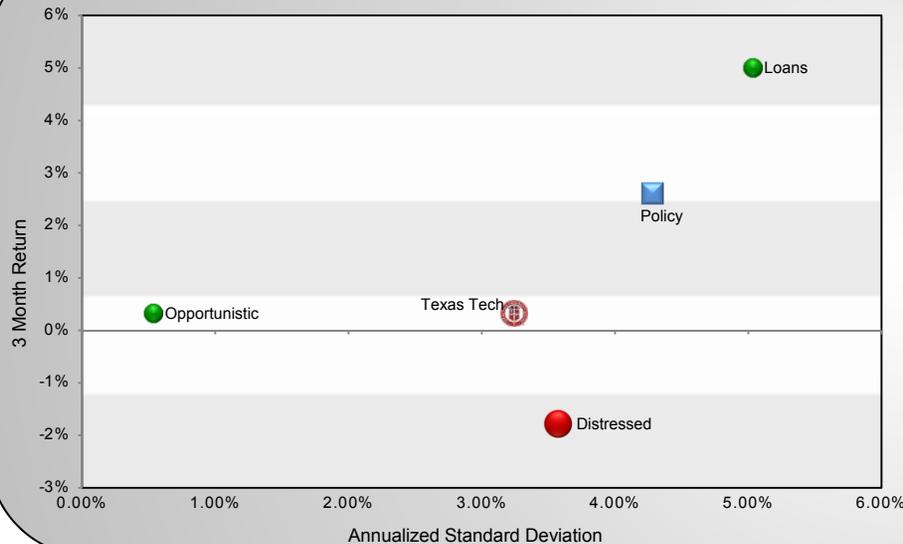
Source – Preqin

### Exposure (Strategy)

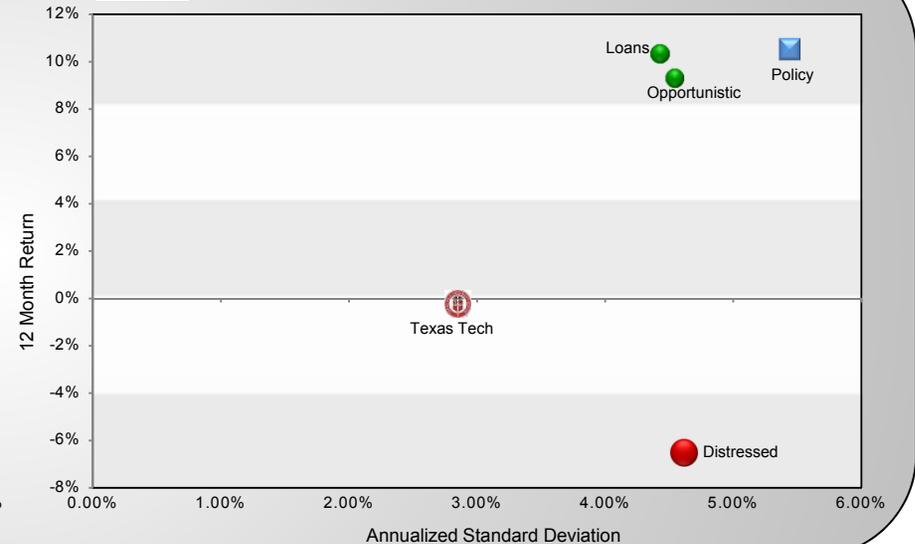


## Risk vs. Return (Strategy)

### Three Months



### One Year



\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns.

31<sup>st</sup> July 2015 (Preliminary)

# Private Real Assets

(Total NAV: \$113,465,520)

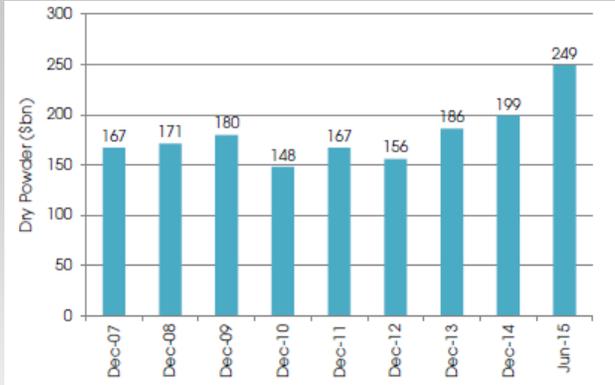


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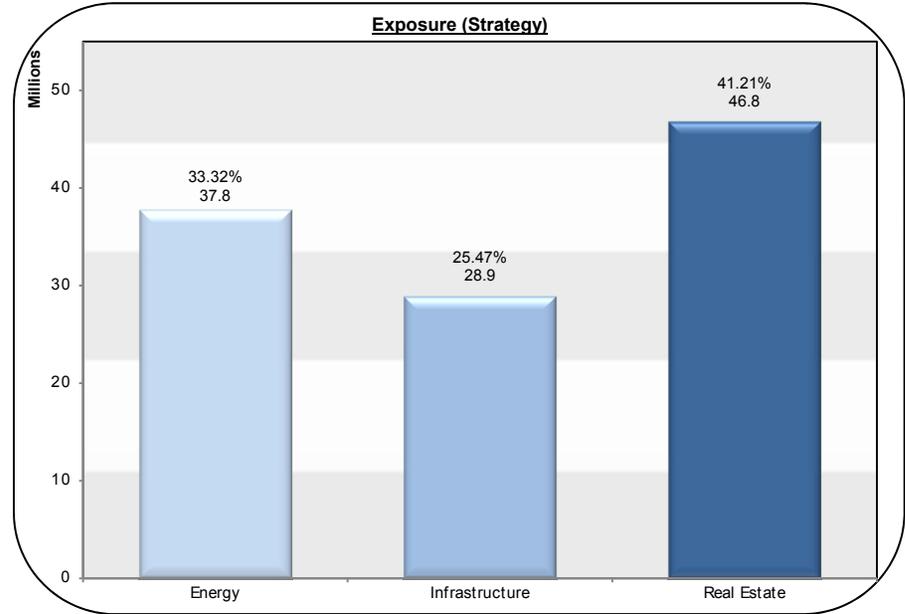
## Overview and Risk Profile by Asset Class

### Commentary

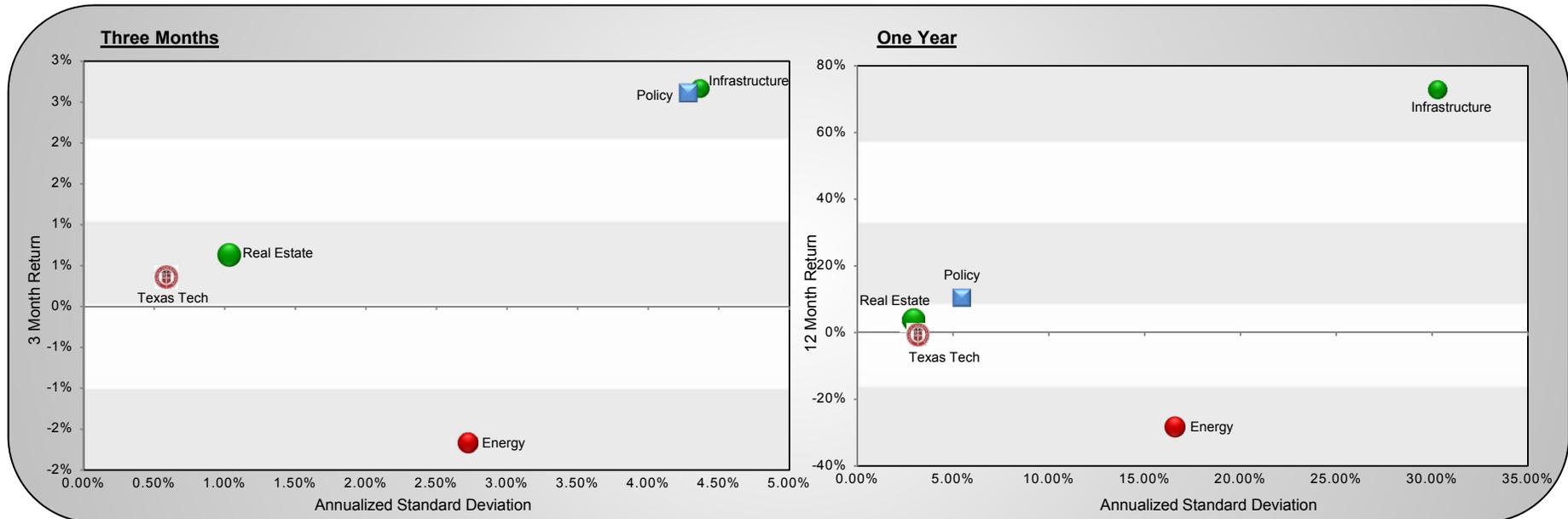
- A buoyant fundraising market has provided managers of closed-end private real estate funds with a record \$249bn in capital available to invest, up 25% from the \$199bn in December 2014. Contributing to this increase in dry powder has been the final closes of several large funds, including Blackstone Real Estate Partners VIII and Lone Star Real Estate Fund IV.



Source – Preqin



## Risk vs. Return (Strategy)



\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns.

31<sup>st</sup> July 2015 (Preliminary)

TEXAS TECH UNIVERSITY SYSTEM

<b>Appendix I – Sub-Asset Detail</b>
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Fund	Current Exposure	MTD Perf.	3 Mo. Perf.	Calendar YTD	Fiscal YTD	Nacubo YTD	1 Year Perf.	3 Year Perf.	5 Year Perf.
<b>TOTAL</b>	<b>1,076,669,653</b>	<b>0.58%</b>	<b>-0.04%</b>	<b>2.80%</b>	<b>2.12%</b>	<b>0.58%</b>	<b>2.90%</b>	<b>8.81%</b>	<b>7.36%</b>
Policy		0.31%	-0.06%	2.08%	2.18%	0.31%	3.17%	9.25%	8.76%
Aegis Tactical		-0.01%	-0.16%	n/a	n/a	n/a	n/a	n/a	n/a
<b>Equity</b>	<b>385,079,044</b>	<b>1.72%</b>	<b>0.64%</b>	<b>5.83%</b>	<b>4.13%</b>	<b>1.72%</b>	<b>6.68%</b>	<b>13.93%</b>	<b>11.08%</b>
US Equity	52,912,183	1.36%	1.59%	1.73%	4.81%	1.36%	9.01%	15.57%	13.40%
Benchmark: S&P 500 Total Return		2.10%	1.41%	3.35%	6.93%	2.10%	11.21%	17.58%	16.24%
Global Equity	140,557,435	3.49%	2.40%	9.26%	10.11%	3.49%	13.43%	20.29%	n/a
Benchmark: MSCI ACWI (Net)		0.58%	-1.58%	3.73%	0.64%	0.58%	2.98%	13.12%	10.56%
Non US Developed Equity	63,332,655	2.03%	-3.22%	6.51%	-1.59%	2.03%	-0.72%	13.03%	8.65%
Benchmark: MSCI EAFE (Net)		2.08%	-1.32%	7.72%	-0.12%	2.08%	-0.28%	12.32%	8.01%
Non US Emerging Markets Equity	31,521,314	-5.36%	-9.98%	-2.42%	-10.99%	-5.36%	-8.93%	2.82%	2.24%
Benchmark: MSCI EMF (Net)		-6.93%	-12.98%	-4.19%	-15.29%	-6.93%	-13.38%	0.61%	0.58%
Alternative Equity	96,755,457	3.05%	5.96%	8.10%	13.04%	3.05%	14.32%	13.25%	n/a
Benchmark: MSCI ACWI (Net)		0.58%	-1.58%	3.73%	0.64%	0.58%	2.98%	13.12%	10.56%
<b>Debt</b>	<b>269,531,280</b>	<b>0.63%</b>	<b>0.60%</b>	<b>4.94%</b>	<b>2.87%</b>	<b>0.63%</b>	<b>3.09%</b>	<b>5.60%</b>	<b>6.59%</b>
Sovereign/Investment Grade Bonds	65,206,125	0.25%	0.09%	3.61%	4.06%	0.25%	4.80%	2.23%	3.89%
Benchmark: Barclays Global Aggregate		0.22%	-2.00%	-2.86%	-6.55%	0.22%	-6.04%	-1.11%	1.44%
Credit	151,195,663	1.31%	2.35%	6.13%	3.86%	1.31%	4.21%	10.32%	10.50%
Benchmark: Barclays Global Aggregate		0.22%	-2.00%	-2.86%	-6.55%	0.22%	-6.04%	-1.11%	1.44%
Emerging Markets Debt	53,129,492	-0.70%	-3.21%	3.28%	-3.02%	-0.70%	-3.72%	3.21%	6.11%
Benchmark: JP Morgan EM Bond Index		0.41%	-1.82%	2.18%	-1.93%	0.41%	-1.28%	2.23%	5.75%
<b>Liquid Real Assets</b>	<b>101,884,266</b>	<b>-1.88%</b>	<b>-3.82%</b>	<b>-4.76%</b>	<b>-4.66%</b>	<b>-1.88%</b>	<b>-5.11%</b>	<b>-3.98%</b>	<b>-2.01%</b>
Benchmark: CPI + 4%		0.46%	1.89%	3.10%	3.96%	0.46%	4.22%	5.42%	5.88%
<b>Cash &amp; Alpha Pool</b>	<b>20,099,867</b>	<b>0.17%</b>	<b>0.39%</b>	<b>2.63%</b>	<b>2.44%</b>	<b>0.17%</b>	<b>2.59%</b>	<b>5.20%</b>	<b>4.24%</b>
Cash	46,355,516	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02%	0.22%
Cash Collateral	37,964,022	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	n/a	n/a
Adjustments for Synthetic and Aegis Exposure	(231,763,646)								
Alpha Pool	167,543,975	0.24%	0.54%	3.47%	3.30%	0.24%	3.57%	7.42%	6.65%
Benchmark: HFRI FOF Index		0.11%	0.05%	2.80%	3.57%	0.11%	4.43%	6.03%	3.96%
<b>Liquidating</b>	<b>7,401,243</b>	<b>15.78%</b>	<b>15.67%</b>	<b>17.91%</b>	<b>12.66%</b>	<b>15.78%</b>	<b>12.72%</b>	<b>5.76%</b>	<b>2.67%</b>

\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns.

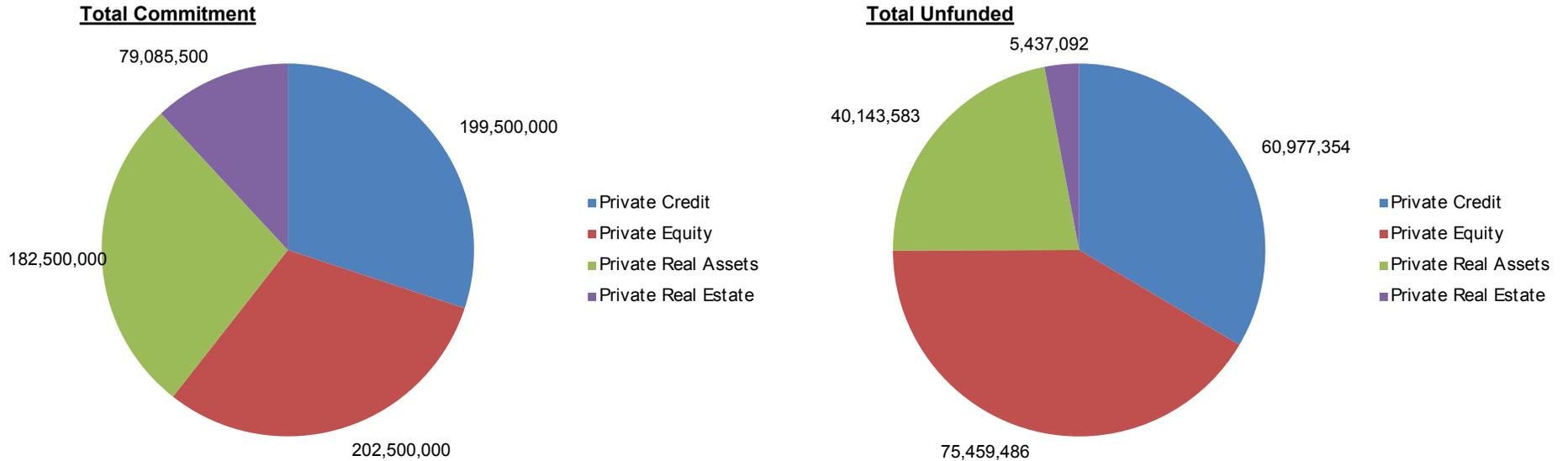
31<sup>st</sup> July 2015 (Preliminary)

<b>Appendix I – Sub-Asset Detail (cont.)</b>
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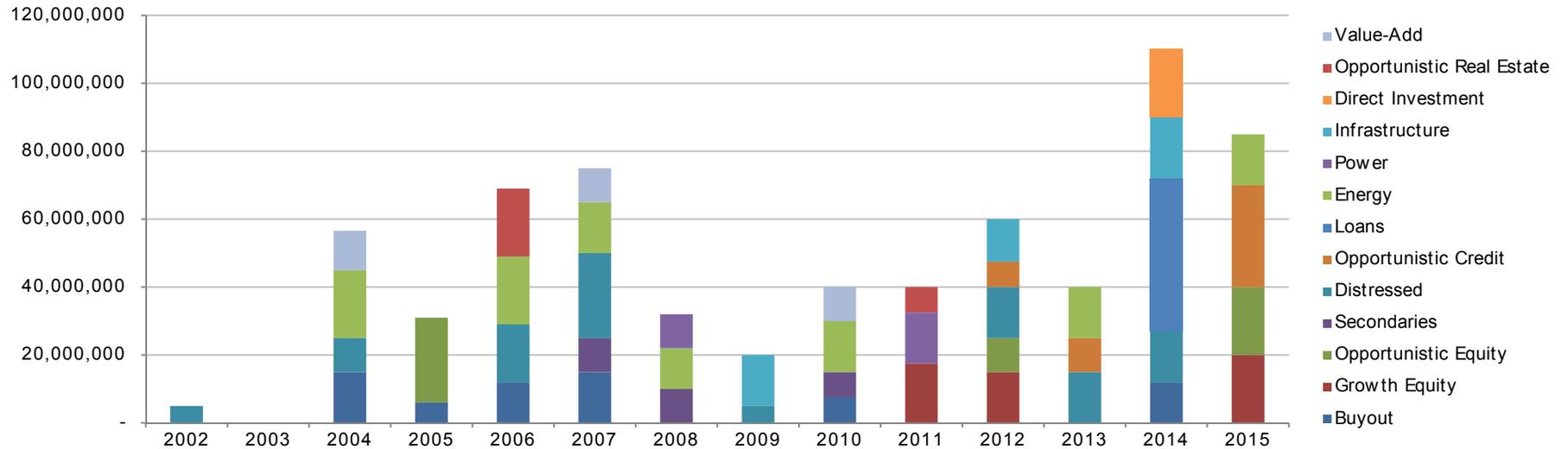
Fund	Current Exposure	1 Year Performance	3 Year Performance	5 Year Performance
<b>Private Investments</b>	<b>292,673,953</b>	<b>2.32%</b>	<b>9.88%</b>	<b>10.50%</b>
<i>Benchmark: Private Market Index (90% VE, 10% NCREIF)</i>		10.79%	13.53%	13.83%
<b>Private Equity</b>	89,212,827	8.51%	12.46%	10.82%
<b>Private Credit</b>	89,995,606	-0.22%	11.38%	9.94%
<b>Private Real Assets</b>	113,465,520	-0.62%	7.06%	10.73%

\*Performance is calculated using time weighted Cash on Cash returns. This is an industry standard and allows direct comparison between manager returns and policy returns. IRR returns can be seen in appendix II.

**Appendix VIII - Private Markets Report (as of July 2015) - Total Commitment**



**Commitment by Vintage Year**



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


**Appendix VIII - Private Markets Report (as of July 2015) - Performance Analysis by Strategy Type & Asset Class**
**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	6	\$67,500,000	\$55,381,583	\$59,301,435	\$63,137,652	88%	\$36,601,602	\$34,618,317	12.52%	1.65
	Growth Equity	3	\$52,500,000	\$14,478,952	\$16,110,895	\$2,966,859	31%	\$12,898,822	\$13,608,834	1.77%	1.03
	Opportunistic Equity	3	\$55,000,000	\$35,285,754	\$35,293,604	\$18,435,572	64%	\$22,293,761	\$23,363,323	4.08%	1.18
	Secondaries	3	\$27,500,000	\$21,894,225	\$22,850,377	\$16,135,638	83%	\$18,408,027	\$16,168,524	8.99%	1.41
	<b>Total</b>	<b>15</b>	<b>\$202,500,000</b>	<b>\$127,040,514</b>	<b>\$133,556,311</b>	<b>\$100,675,721</b>	<b>66%</b>	<b>\$90,202,212</b>	<b>\$87,758,998</b>	<b>9.29%</b>	<b>1.41</b>
Private Credit	Distressed	10	\$107,000,000	\$102,430,929	\$102,643,491	\$91,321,109	96%	\$51,360,775	\$51,360,775	12.11%	1.39
	Loans	2	\$45,000,000	\$21,440,283	\$21,988,293	\$1,693,000	49%	\$21,504,175	\$22,399,458	8.41%	1.10
	Opportunistic Credit	4	\$47,500,000	\$14,651,434	\$16,702,218	\$2,490,830	35%	\$14,503,177	\$16,552,997	9.59%	1.14
	<b>Total</b>	<b>16</b>	<b>\$199,500,000</b>	<b>\$138,522,646</b>	<b>\$141,334,002</b>	<b>\$95,504,939</b>	<b>71%</b>	<b>\$87,368,127</b>	<b>\$90,313,230</b>	<b>11.83%</b>	<b>1.31</b>
Private Real Assets	Energy	7	\$112,000,000	\$86,452,514	\$90,537,011	\$99,861,427	81%	\$26,404,577	\$26,696,717	15.60%	1.40
	Infrastructure	3	\$45,500,000	\$37,251,565	\$41,987,881	\$34,973,323	92%	\$24,393,765	\$28,253,029	39.09%	1.51
	Power	2	\$25,000,000	\$19,139,526	\$19,760,843	\$6,835,499	79%	\$11,397,753	\$11,397,753	-3.44%	0.92
	<b>Total</b>	<b>12</b>	<b>\$182,500,000</b>	<b>\$142,843,605</b>	<b>\$152,285,735</b>	<b>\$141,670,249</b>	<b>83%</b>	<b>\$62,196,095</b>	<b>\$66,347,499</b>	<b>16.43%</b>	<b>1.37</b>
Private Real Estate	Direct Investment	1	\$20,000,000	\$21,444,500	\$22,275,000	\$0	111%	\$19,275,000	\$22,125,000	-1.05%	0.99
	Opportunistic Real Estate	3	\$27,500,000	\$24,495,437	\$24,836,394	\$5,663,620	90%	\$12,241,780	\$10,903,197	-7.97%	0.67
	Value-Add	3	\$31,585,500	\$29,152,971	\$29,287,304	\$24,213,232	93%	\$13,038,780	\$13,014,121	5.24%	1.27
	<b>Total</b>	<b>7</b>	<b>\$79,085,500</b>	<b>\$75,092,908</b>	<b>\$76,398,698</b>	<b>\$29,876,852</b>	<b>97%</b>	<b>\$44,555,560</b>	<b>\$46,042,318</b>	<b>-0.18%</b>	<b>0.99</b>

**Performance by Asset Class**

Asset Class	# of Funds	Commitment	Funded	Paid-In Capital	Distributions	% Drawn	Reported Valuation	Adjusted Valuation	IRR	MOC
Private Equity	15	\$202,500,000	\$127,040,514	\$133,556,311	\$100,675,721	66%	\$90,202,212	\$87,758,998	9.29%	1.41
Private Credit	16	\$199,500,000	\$138,522,646	\$141,334,002	\$95,504,939	71%	\$87,368,127	\$90,313,230	11.83%	1.31
Private Real Assets	12	\$182,500,000	\$142,843,605	\$152,285,735	\$141,670,249	83%	\$62,196,095	\$66,347,499	16.43%	1.37
Private Real Estate	7	\$79,085,500	\$75,092,908	\$76,398,698	\$29,876,852	97%	\$44,555,560	\$46,042,318	-0.18%	0.99
<b>Total</b>	<b>50</b>	<b>\$663,585,500</b>	<b>\$483,499,673</b>	<b>\$503,574,746</b>	<b>\$367,727,761</b>	<b>76%</b>	<b>\$284,321,994</b>	<b>\$290,462,045</b>	<b>9.82%</b>	<b>1.31</b>



31<sup>st</sup> July 2015 (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



31<sup>st</sup> July 2015 (Preliminary)

**Appendix III – Glossary (cont.)**

***Investment Terms/Performance Statistics***

**Active Premium:** A measure of the investment's annualized return minus the benchmark's annualized return

**Alpha:** Return generated by the manager that is not explained by the returns of the benchmark. A measure of a fund's performance beyond what its benchmark would predict

**Annual Return:** The annual rate at which an investment would have grown, if it had grown at a steady rate. Also called "Compound Annual Growth Rate" (CAGR), or the "Compound Rate of Return Annualized" (Compound RoR)

**Annual Volatility:** A statistical measure of the dispersion of returns around the average (mean) return. Often used as a measure of investment risk with a higher value indicating higher risk

**Arbitrage:** The simultaneous purchase and sale of an asset in order to profit from a difference in the price

**Beta:** A measure of the risk of the fund relative to the benchmark. Beta describes the sensitivity of the investment to benchmark movements where the benchmark is always assigned a beta of 1.0

**Calmar Ratio:** A return/risk ratio calculated over the last three year period as [annual compounded return / (Maximum Drawdown)]

**Capital Commitment:** Every investor in a private equity fund commits to investing a specified sum of money in the fund partnership over a specified period of time.

**Capital Distribution:** The returns that an investor in a private equity fund receives; the income and capital realized from investments less expenses and liabilities

**Carried Interest:** The share of profits that the fund manager is due once it has returned the cost of investment to investors

**Catch up:** A clause that allows the general partner to take, for a limited period of time, a greater share of the carried interest than would normally be allowed. This continues until the time when the carried interest allocation, as agreed in the limited partnership, has been reached.

**Clawback:** Ensures that a general partner does not receive more than its agreed percentage of carried interest over the life of the fund

**Correlation:** A measure between +1 and -1 that explains the degree to which the returns of the fund and a benchmark are related

**Down Capture:** Measures how much of the benchmark's return the fund captures when the benchmark is negative

**Down Number:** The percentage of the time the fund was down when the benchmark was down

**Drawdown:** When a private equity firm has decided where it would like to invest, it will approach its own investors in order to draw down the money. The money will already have been pledged to the fund but this is the actual act of transferring the money so that it reaches the investment target

**Excess Kurtosis:** Measures the distribution of observed data around the mean with an emphasis on "outlier" data, both positive and negative

**Exit:** The means by which a fund is able to realize its investment in a company – by an initial public offering, a trade sale, selling to another private equity firm or a company buy-back

**Fundraising:** The process by which a private equity firm solicits financial commitments from limited partners for a fund

**General Partner:** This can refer to the top-ranking partner(s) at a private equity firm as well as the firm managing the private equity fund



31<sup>st</sup> July 2015 (Preliminary)

**Appendix III – Glossary (cont.)**

**Investment Terms/Performance Statistics (cont.)**

Gross Exposure: Aggregate of long and short investment positions in relation to the Net Asset Value (NAV)

Holding Period: The length of time that an investment is held

Information Ratio: The Active Premium divided by the Tracking Error. This measure explicitly relates the degree by which an investment has beaten the benchmark to the consistency by which the investment has beaten the benchmark

Internal Rate of Return: A time-weighted return expressed as a percentage that uses the present sum of cash drawdowns (money invested), the present value of distributions (money returned from investments) and the current value of unrealized investments and applies a discount

Leverage: Increasing exposure to markets (both long and short) by borrowing or the use of derivatives

Limited Partnership: The standard vehicle for investment in private equity funds

Long Position: Owning a security

Management Fee: The annual fee paid to the general partner

Max Drawdown: The largest percentage loss of Net Asset Value (NAV) as measured from peak-to-trough

Net Exposure: Difference between the long and short positions, representing the exposure to market fluctuations

Preferred Return: This is the minimum amount of return that is distributed to the limited partners until the time when the general partner is eligible to deduct carried interest

Omega Ratio: The weighted gain/loss ratio relative to the average monthly historical return; captures the effects of extreme returns and conveys the preference for positive volatility versus negative volatility

Sharpe Ratio: A return/risk ratio calculated as:  $[(\text{annual compounded return} - \text{risk-free rate}) / (\text{annual volatility of returns})]$

Skewness: A measure of the symmetry of return distribution, as compared with a normal (bell-shaped) distribution

Sortino Ratio: A return/risk ratio calculated as such:  $[(\text{annual compounded return} - \text{minimum acceptable return (MAR)}) / (\text{downside deviation of returns below MAR})]$ . This ratio was developed to differentiate between good (upside) and bad (downside) volatility

Standard Deviation: Measures the dispersal or uncertainty in a random variable (in this case, investment returns). It measures the degree of variation of returns around the mean (average) return

Short Position: Selling a security

Tracking Error: A measure of the unexplained portion of an investments performance relative to a benchmark

Up Capture: Measures the percentage of the benchmark's return the fund captures when the benchmark is positive

Up Number: The percentage of the time the fund was up when the benchmark was up

Value at Risk (VAR): The maximum loss that can be expected within a specified holding period with a specified confidence level