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## Oklahoma State Pension Commission

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### Public Fund Analysis

August 24, 2011

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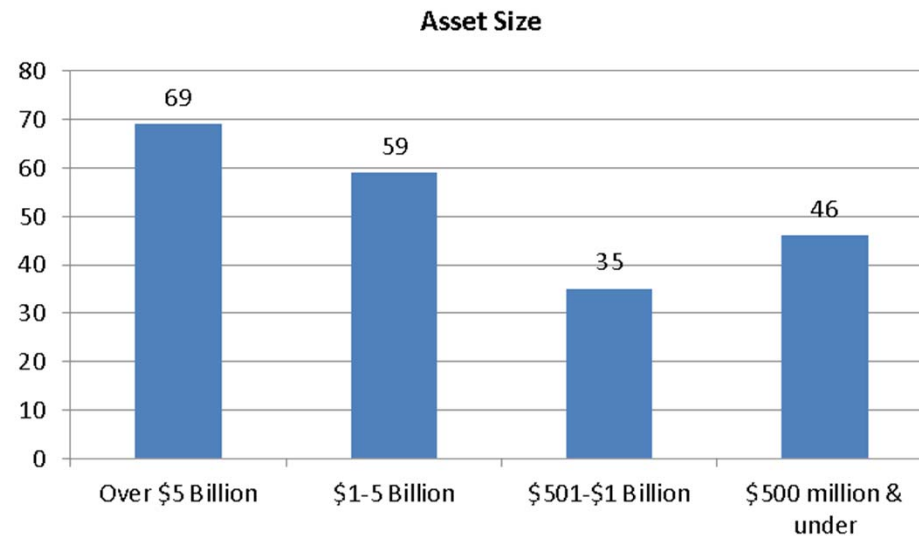
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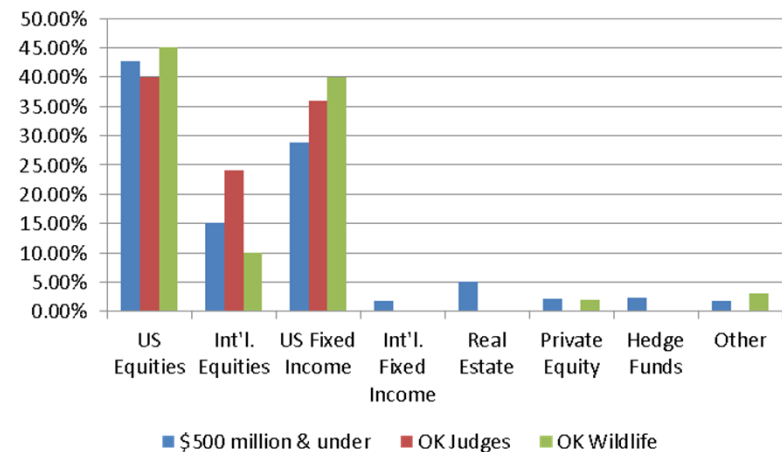
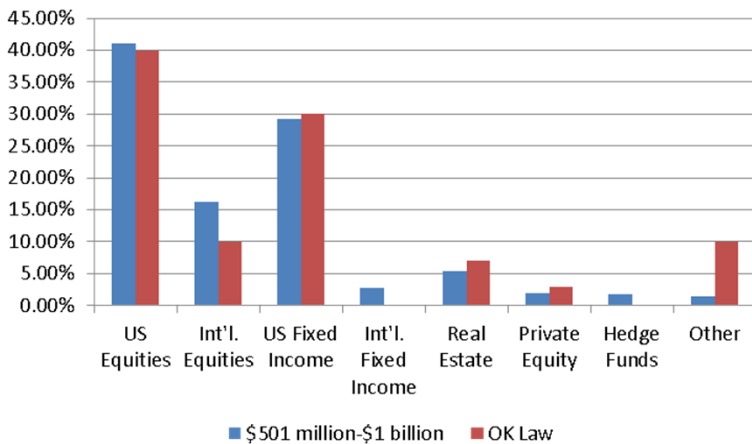
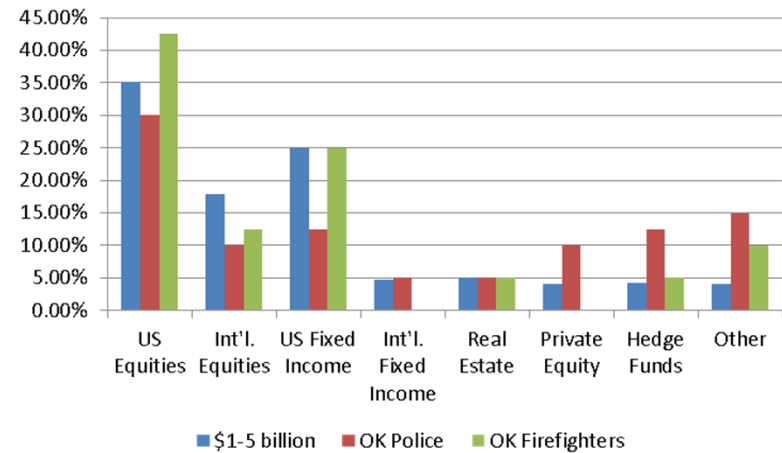
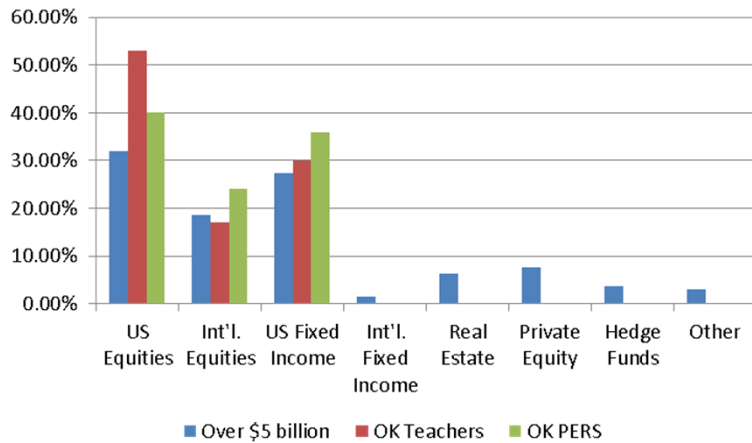
25  
Years  
1986-2011

# Greenwich Associates Universe

- A survey of 209 public funds over \$250 million was done as of December 31, 2010 to compare asset allocations of various public funds.
- The breakdown of the participants by asset size are below:



# Asset Allocation vs. Greenwich Associates Universe

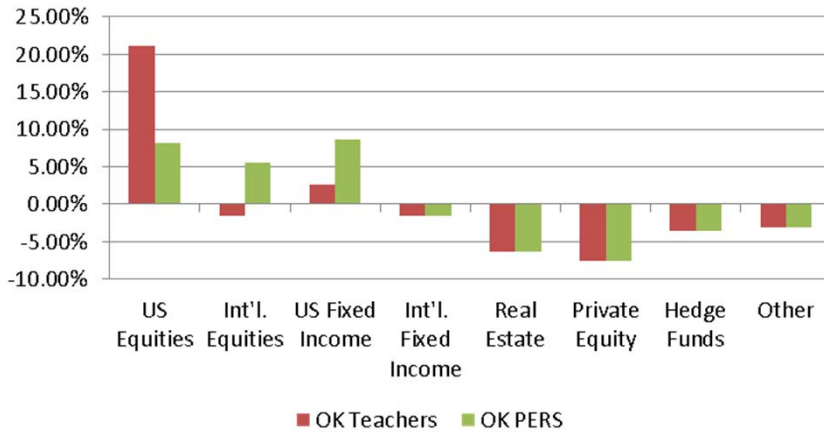


- Asset allocations are compared with the 209 Public Fund defined benefit plans surveyed in the 2010 Greenwich Associates universe (weighted averages in US dollars).
- The OK Teachers, PERS, Judges, and Wildlife plans have less exposure to alternatives in comparison to like size Public Funds surveyed.

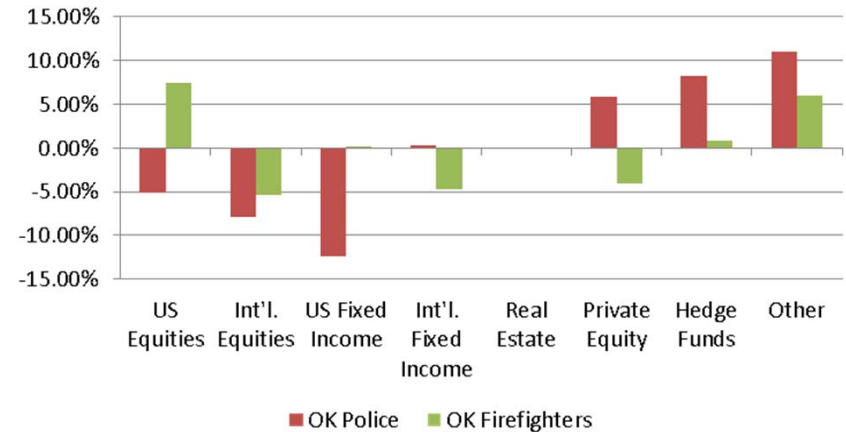


# Asset Allocation Differences vs. Greenwich Associates Universe

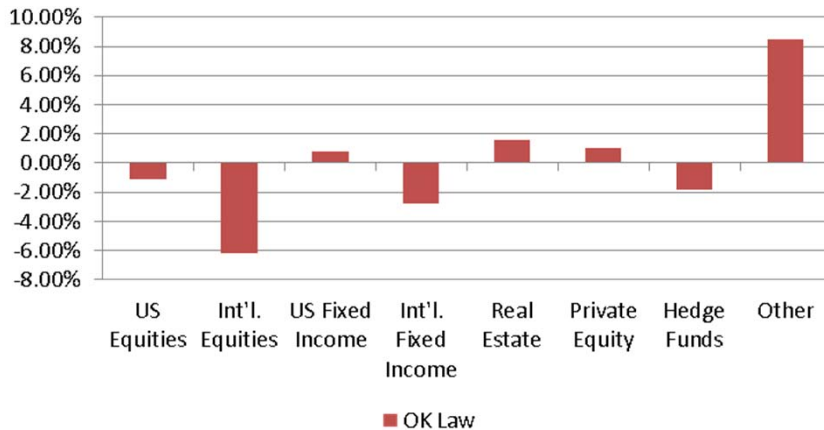
Allocation vs. Public Funds Over \$5 Billion



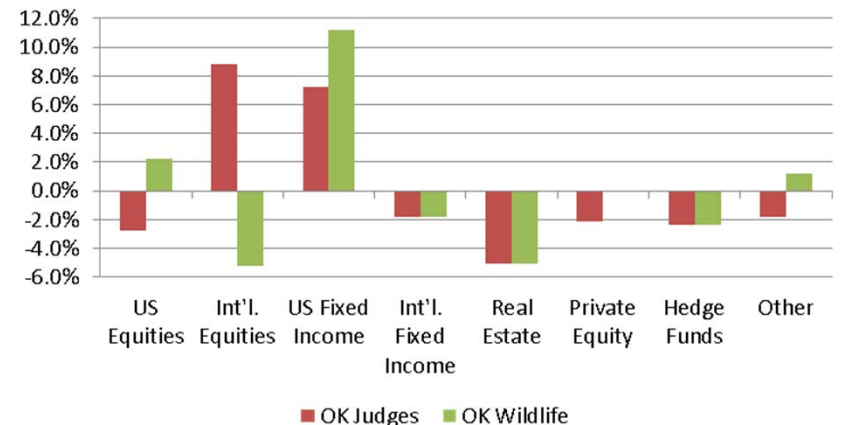
Allocation vs. Public Funds \$1-\$5 Billion



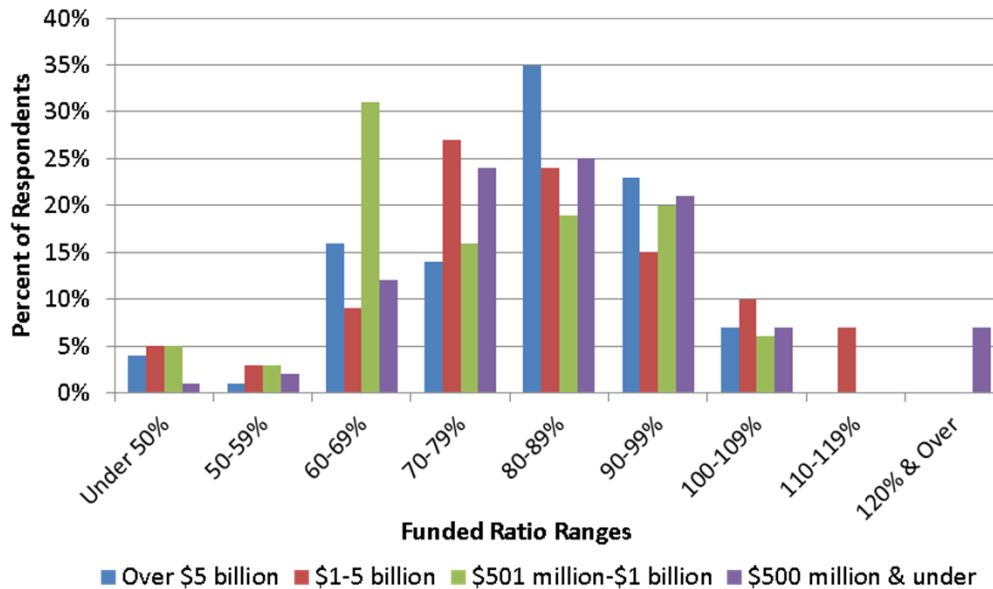
Allocation vs. Public Funds \$501 Million- \$1 Billion



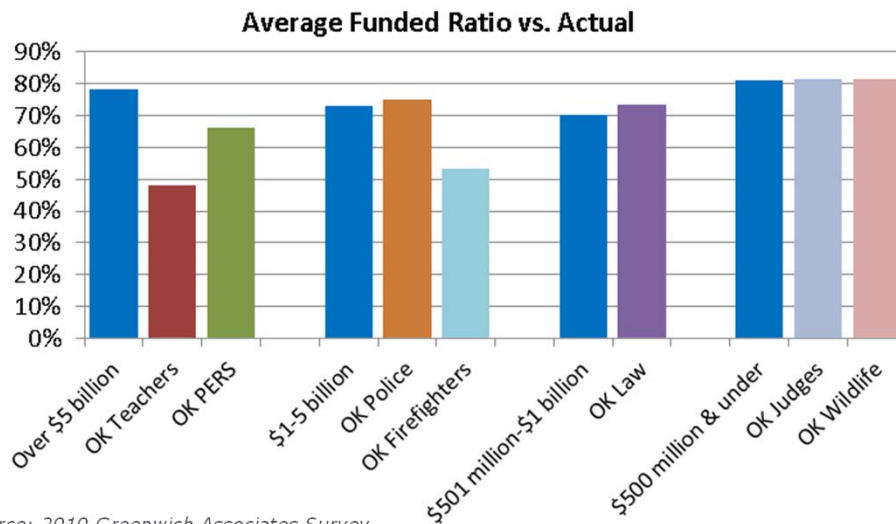
Allocation vs. Public Funds \$500 Million & Under



# Funded Ratios



- All Plans rank well in terms of funded ratio, except for OK Teachers and Firefighters which are in the lower quartile of their respective ranges.

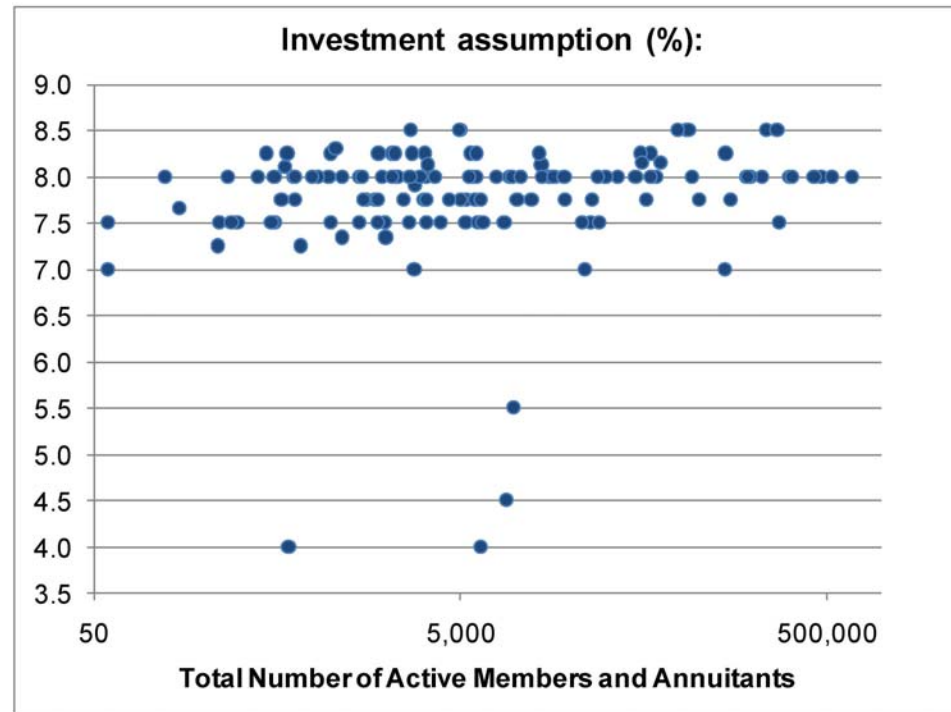


- Investment returns have improved but we have yet to see an effect on funded ratios as actuarial losses from 2008 and early 2009 are still being smoothed out.



Source: 2010 Greenwich Associates Survey

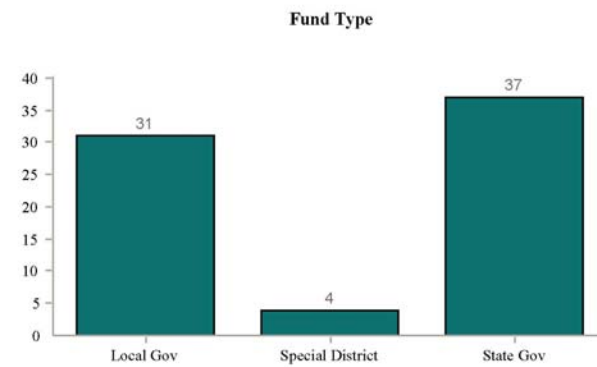
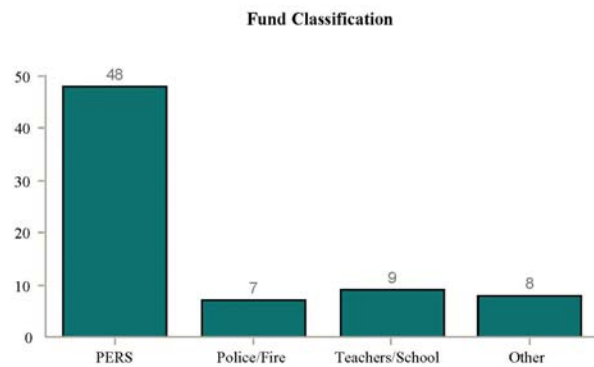
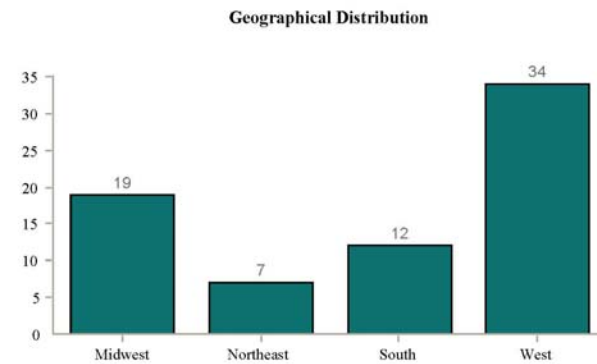
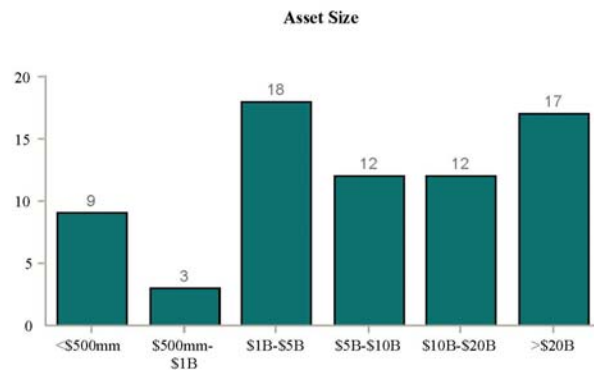
# Investment Assumption



- The average investment assumption for responding funds is 7.7 percent. Approximately 23 percent of responding funds have reduced this assumption in the past two years, and an additional 15 percent plan to do so in two years.
- Investment return assumptions:
  - 8.0% for OK Teachers plan, 7.5% for all other plans.

# RV Kuhns Public Fund Survey (SACRS)

- A survey of 72 public funds was done as of December 31, 2010 asking about various topical issues facing public funds.
- The demographics of the participants are below:



# Survey Results

1) Securities Lending	
What, if any, changes has the Plan made to its securities lending program in the last 2 years?	
	<b># of Funds</b>
	<b>3</b> Increase the program
	<b>19</b> Decrease the program
	<b>1</b> Terminate the program
	<b>37</b> No changes
<b>Total</b>	<b>60</b>

2) Board Delegation			
a) Does the Board delegate any investment decisions to Staff?			
	<b>Yes</b>	<b>No</b>	<b>Total</b>
<b># of Funds</b>	<b>37</b>	<b>20</b>	<b>57</b>
<b>% of Funds</b>	<b>65%</b>	<b>35%</b>	<b>100%</b>

b) If so, which of the following decisions have been delegated?	
	<b># of Responses</b>
	<b>4</b> Strategic Asset Allocation
	<b>19</b> Tactical Movements
	<b>37</b> Rebalancing
	<b>11</b> Manager Selection
	<b>9</b> Manager Termination
	<b>10</b> Security Selection in a Passive Internal Portfolio
	<b>10</b> Security Selection in an Active Internal Portfolio

3) Asset Liability	
How often does your defined benefit plan conduct Asset Liability Studies?	
	<b># of Funds</b>
	<b>6</b> Every year
	<b>18</b> Every 1-3 years
	<b>27</b> Every 3-5 years
	<b>3</b> Every 5+ years
<b>Total</b>	<b>54</b>



Source: Public Fund Universe Analysis - SACRS.



# Survey Results

4) Current Management			
a) Does the Plan (or its managers) actively manage currency (including within international stock or bond mandates, standalone currency managers, or otherwise)?			
	<b>Yes</b>	<b>No</b>	<b>Total</b>
# of Funds	23	35	58
% of Funds	40%	60%	100%
b) If yes, which of the following parties are engaged in the active management of currency?			
<b># of Responses</b>			
3	Internal Staff		
17	External Asset Manager (stocks, bonds or otherwise)		
5	External Standalone Currency Manager		
<i>Some funds marked more than one box.</i>			
c) If applicable, what percentage of the Plan's international <i>equity</i> allocation would you consider the currency positions to be actively managed?			
<b># of Responses</b>			
12	0-25%		
4	26-50%		
3	51-75%		
3	76-100%		
d) If applicable, what percentage of the Plan's international <i>bond</i> allocation would you consider the currency positions to be actively managed?			
<b># of Responses</b>			
11	0-25%		
1	26-50%		
1	51-75%		
2	76-100%		
5) Emerging Markets			
a) Has the Plan increased its allocation of assets to emerging markets in the <i>last 2 years</i> ?			
	<b>Yes</b>	<b>No</b>	<b>Total</b>
# of Funds	29	28	57
% of Funds	51%	49%	100%
b) Does the Plan intend to increase its allocation of assets to emerging markets in the <i>next 2 years</i> ?			
	<b>Yes</b>	<b>No</b>	<b>Total</b>
# of Funds	23	28	51
% of Funds	45%	55%	100%



Source: Public Fund Universe Analysis - SACRS.

## Legislative Updates

- The proposals from each state range from drastic overhauls, such as switching from defined benefit to defined contribution plans, to more incremental changes such as increasing employee contribution rates, raising the retirement age and changing benefit calculations.
- In addition, many of the states that fell short on contributions to their retirement systems will need to show discipline in paying their annual bill as their budgets continue to recover.
- Some recent legislative changes to benefits that have been made by the State of Oklahoma in 2011:
  - The normal retirement criteria for teachers and state employees was raised. Also, requires provision of a funding source to fund future COLAs. The required COLA funding provision is estimated to reduce OK PERS and Teachers unfunded by liabilities by 30%.
- Legislation that has been introduced in Oklahoma includes a proposal to replace the Oklahoma Teachers Retirement System defined benefit plan with a defined contribution plan and to replace it with a system that offers new employees a choice between a defined contribution plan and a combined plan with defined benefit and defined contribution components, known as “The New Education Employees' Hybrid Retirement System.”

Source: House Media Office, [“Lawmakers to Consider Major Pension Reforms,”](#) February 16, 2011

# Market Update: As of August 5, 2011

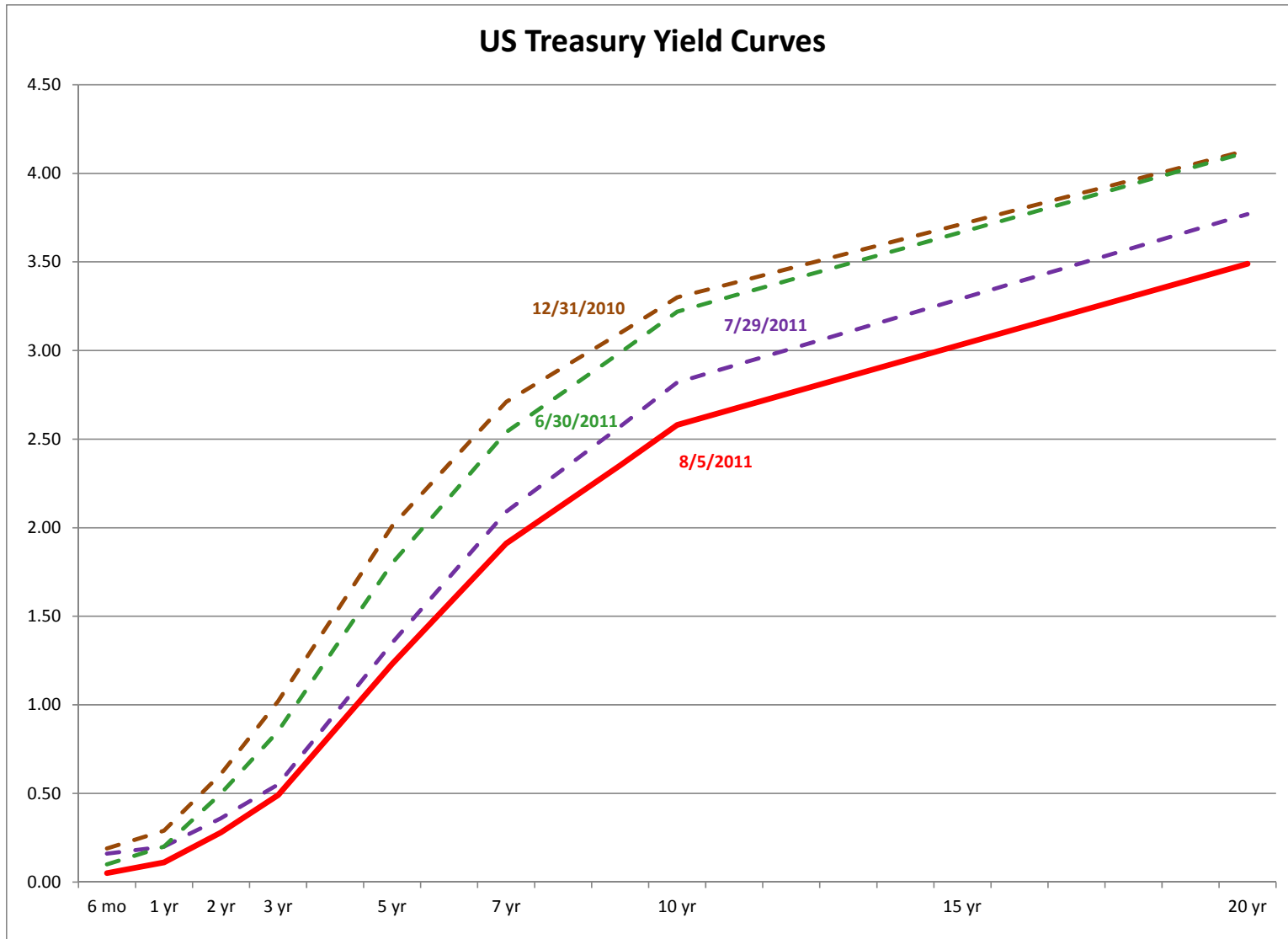
## PERFORMANCE THROUGH 8/5/2011

Sector	Index	2008	2009	2010	Jan	Feb	Mar	QTR 1	Apr	May	Jun	QTR 2	July	August	2011
Emerging FI	BC Emerging (\$US)	-14.8%	34.2%	12.8%	-0.3%	0.5%	1.4%	1.6%	1.4%	1.3%	0.7%	3.4%	2.0%	0.4%	7.4%
Muni Bonds	BC Muni (unadj)	-2.5%	12.9%	2.4%	-0.7%	1.6%	-0.3%	0.5%	1.8%	1.7%	0.4%	3.9%	1.0%	1.5%	7.0%
Global FI	Citigroup WGBI	10.9%	2.6%	5.2%	-0.0%	0.4%	0.3%	0.7%	3.2%	-0.1%	0.2%	3.3%	2.3%	-0.3%	6.1%
Core FI	BC Aggregate	5.2%	5.9%	6.5%	0.1%	0.3%	0.1%	0.4%	1.3%	1.3%	-0.3%	2.3%	1.6%	0.7%	5.1%
High Yield	BC HY	-26.2%	58.2%	15.1%	2.2%	1.3%	0.3%	3.9%	1.6%	0.5%	-1.0%	1.1%	1.2%	-1.9%	4.2%
REITS	Wilshire REIT	-39.2%	28.6%	28.6%	3.5%	4.6%	-1.4%	6.7%	5.8%	1.6%	-3.4%	3.9%	1.8%	-12.4%	1.2%
Balanced	Diversified*	-26.9%	24.8%	14.4%	1.3%	2.5%	0.2%	3.9%	2.9%	-0.6%	-1.3%	1.0%	-0.6%	-5.5%	-1.4%
LC Growth	R1000 Growth	-38.4%	37.2%	16.7%	2.5%	3.3%	0.1%	6.0%	3.4%	-1.1%	-1.4%	0.8%	-1.0%	-7.4%	-2.1%
S&P 500	S&P 500	-37.0%	26.5%	15.1%	2.4%	3.4%	0.0%	5.9%	3.0%	-1.1%	-1.7%	0.1%	-2.0%	-7.2%	-3.6%
Commodities	DJ UBS Commodity	-35.7%	18.9%	16.8%	1.0%	1.3%	2.1%	4.4%	3.5%	-5.1%	-5.0%	-6.7%	3.0%	-4.1%	-3.8%
Large Cap	Russell 1000	-37.6%	28.4%	16.1%	2.4%	3.5%	0.3%	6.2%	3.0%	-1.1%	-1.8%	0.1%	-2.2%	-7.6%	-3.9%
LC Value	R1000 Value	-36.8%	19.7%	15.5%	2.3%	3.7%	0.4%	6.5%	2.7%	-1.1%	-2.1%	-0.5%	-3.3%	-7.7%	-5.6%
Intl. Dev.	EAFE (net)	-43.4%	31.8%	7.8%	2.4%	3.3%	-2.2%	3.4%	6.0%	-3.0%	-1.3%	1.6%	-1.6%	-9.8%	-6.8%
SMid Cap	R2500	-36.8%	34.4%	26.7%	1.3%	4.9%	2.3%	8.7%	2.9%	-1.2%	-2.2%	-0.6%	-3.8%	-10.4%	-6.9%
SC Growth	R2000 Growth	-38.5%	34.5%	29.1%	-0.6%	5.9%	3.8%	9.2%	3.6%	-2.0%	-2.1%	-0.6%	-3.9%	-10.9%	-7.0%
Intl. Emerging	EM (net)	-53.3%	78.5%	18.9%	-2.7%	-0.9%	5.9%	2.1%	3.1%	-2.6%	-1.5%	-1.1%	-0.4%	-8.4%	-8.1%
Small Cap	Russell 2000	-33.8%	27.2%	26.9%	-0.3%	5.5%	2.6%	7.9%	2.6%	-1.9%	-2.3%	-1.6%	-3.6%	-10.3%	-8.2%
SC Value	R2000 Value	-28.9%	20.6%	24.5%	0.1%	5.1%	1.4%	6.6%	1.6%	-1.8%	-2.5%	-2.7%	-3.3%	-9.8%	-9.5%

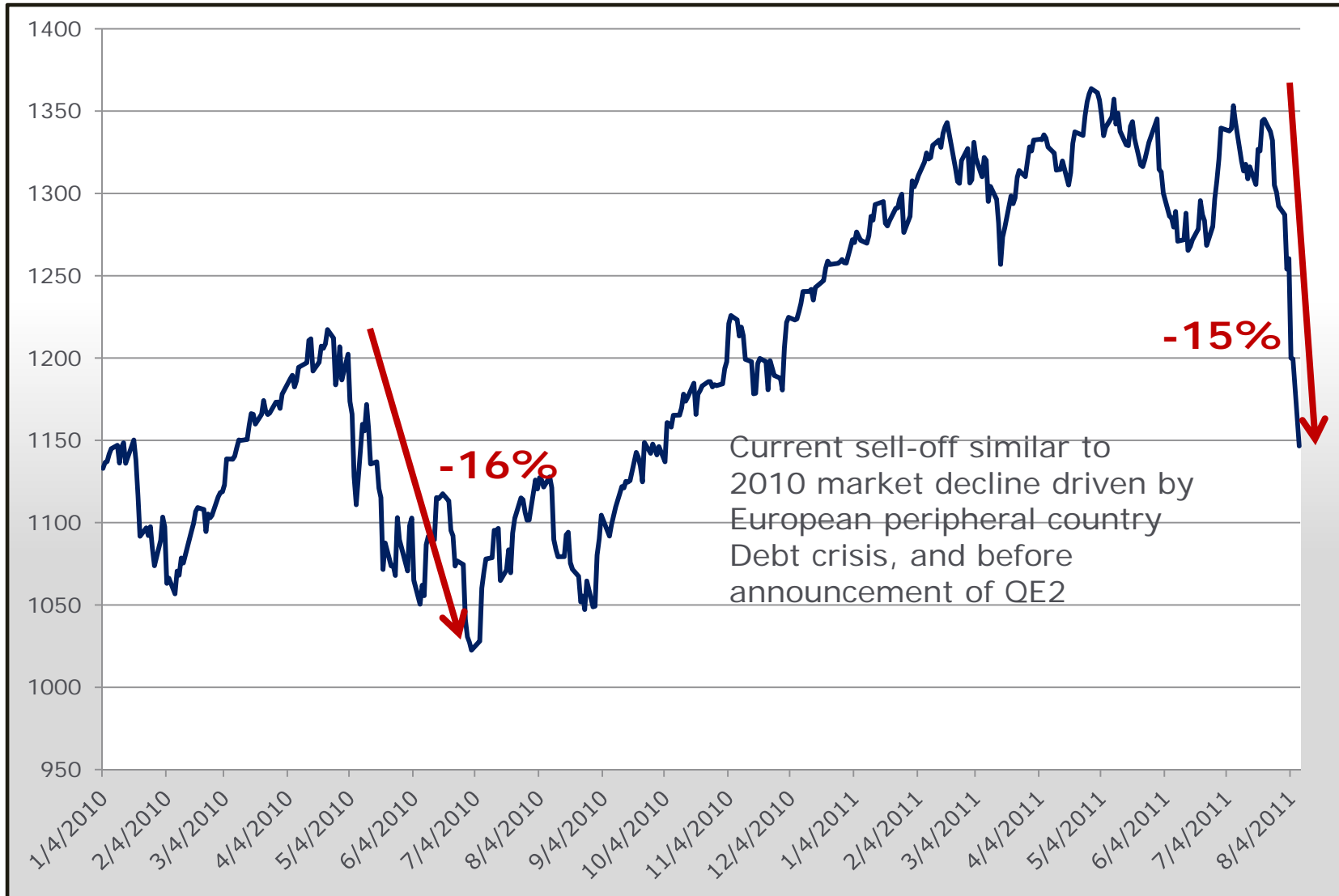
\* 35% LC, 10% SC, 12% Intl, 3% Emerging, 25% FI, 5% HY, 5% Global FI, 5% REITS

Sources: Lehman Live, Bloomberg, Wilshire

# Market Environment – Yield Curve



# S&P 500 – 2010-Current (midday, August 8<sup>th</sup>)



## Evolving Crises: 2008 vs. Current Landscape

### 2008

- **Securitized/sub-prime credit crisis**
- **Major bank failure (Lehman) served as catalyst**
- **Major liquidity squeeze**
  - Over-leveraged financials/hedge funds
  - Short-term lending frozen (TED spread peaked at 467 bps)
  - Flight to quality = Treasuries
- **S&P 500 P-E (trailing) = 17.2**
  - VIX peaked at 80
- **Optimism priced in across markets leading into crisis**
- **Response to crisis – QE1 followed by QE2**

### 2011

- **Developed sovereign credit concerns**
- **Sovereign debt concerns (incl. US downgrade) and economic growth declines catalyze sell-off**
- **Less leverage across system today**
  - Flight to quality = Treasuries and gold
  - Reasonable liquidity and tighter money market standards
  - TED spread stable at 26 bps
- **S&P 500 P-E (trailing) = 14.7**
  - VIX at 40 and climbing
- **Optimism priced into corporate earnings**
  - But growth and inflation expectations are tepid
- **Response to deteriorating economic fundamentals/sell-off - QE3 – QEn?**