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# **Oregon Investment Council**

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**February 4, 2015**  
9:00 AM

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**PERS Headquarters**  
**11410 S.W. 68<sup>th</sup> Parkway**  
**Tigard, OR 97223**



**Dick Solomon**  
Chair

**John Skjervem**  
Chief Investment Officer

**Ted Wheeler**  
State Treasurer

# OREGON INVESTMENT COUNCIL

## 2015 Schedule

Meetings Begin at 9:00 am

PERS Headquarters Building  
11410 S.W. 68<sup>th</sup> Parkway  
Tigard, OR 97223

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Wednesday, February 4, 2015

Wednesday, March 4, 2015

Wednesday, April 29, 2015

Wednesday, June 3, 2015

Wednesday, July 29, 2015

Wednesday, September 16, 2015

Wednesday, October 28, 2015

Wednesday, December 9, 2015



# OREGON INVESTMENT COUNCIL

## Agenda

**February 4, 2015**  
**9:00 AM**

PERS Headquarters  
11410 S.W. 68<sup>th</sup> Parkway  
Tigard, OR 97223

<u>Time</u>	<u>A. Action Items</u>	<u>Presenter</u>	<u>Tab</u>
9:00-9:05	1. <b>Review &amp; Approval of Minutes</b> December 3, 2014 Regular Meeting	<b>Dick Solomon</b> <i>OIC Chair</i>	<b>1</b>
	<b>Committee Reports</b>	<b>John Skjervem</b> <i>Chief Investment Officer</i>	
9:05-9:50	2. <b>OPERF Private Equity Review</b>	<b>Sam Green</b> <i>Investment Officer</i> <b>Tom Martin</b> <i>TorreyCove Capital Partners</i>	<b>2</b>
9:50-10:05	----- <b>BREAK</b> -----		
10:05-10:50	3. <b>OPERF Fixed Income Review</b>	<b>Perrin Lim</b> <i>Director of Capital Markets</i> <b>Tom Lofton</b> <i>Investment Officer</i>	<b>3</b>
	<b>B. Information Items</b>		
10:50-11:00	4. <b>Annual Placement Agent Report</b>	<b>John Skjervem</b>	<b>4</b>
11:05-11:10	5. <b>Asset Allocations &amp; NAV Updates</b> a. Oregon Public Employees Retirement Fund b. SAIF Corporation c. Common School Fund d. HiEd Pooled Endowment Fund	<b>John Skjervem</b>	<b>5</b>

**6. Calendar — Future Agenda Items**

**6**

**7. Other Items**

**Council  
Staff  
Consultants**

**C. Public Comment Invited**  
15 Minutes

**TAB 1 – REVIEW & APPROVAL OF MINUTES**

December 3, 2014 Regular Meeting

OST Committee Reports – Verbal



**STATE OF OREGON**  
**OFFICE OF THE STATE TREASURER**  
350 WINTER STREET NE, SUITE 100  
SALEM, OREGON 97301-3896

OREGON INVESTMENT COUNCIL  
DECEMBER 3, 2014  
MEETING MINUTES

Members Present: Rukaiyah Adams, Katy Durant, Steve Rodeman, Dick Solomon

Member on Phone: Keith Larson

Member Absent: Treasurer Ted Wheeler

Staff Present: Darren Bond, Tony Breault, Karl Cheng, Michael Cox, Garrett Cudahey, Sam Green, John Hershey, Julie Jackson, Perrin Lim, Tom Lofton, Ben Mahon, Mike Mueller, Paola Nealon, Tom Rinehart, Priyanka Shukla, John Skjervem, Michael Viteri

Consultants Present: David Fann and Tom Martin (TorreyCove); Allan Emkin, Christy Fields, David Glickman, John Linder and Dillon Lorda (PCA); Jim Callahan, Jason Ellement, Gene Podkamina and Uvan Tseng (Callan)

Legal Counsel Present: Dee Carlson and Deena Bothello, Oregon Department of Justice

The December 3, 2014 OIC meeting was called to order at 9:00 am by Dick Solomon, Chair.

**I. 9:00 am Review and Approval of Minutes**

**MOTION:** Ms. Durant moved approval of the November 5, 2014 meeting minutes. Ms. Adams seconded the motion, which then passed by a 4/0 vote.

**COMMITTEE REPORTS**

John Skjervem, OST Chief Investment Officer gave an update on the following committee actions taken since the September 24, 2014 OIC meeting:

**Private Equity Committee – 2014:**

NONE

**Alternatives Portfolio Committee – 2014:**

NONE

**Opportunity Portfolio Committee – 2014:**

NONE

**Real Estate Committee – 2014:**

NONE

**II. 9:02 am OPERF Investment Beliefs and Statement of Investment Objectives and Policy Framework**

Mr. Skjervem presented proposed revisions to the OIC's Statement of Investment and Management Beliefs document. After some discussion, Council members agreed to adopt the revisions as proposed but added one modification thereto.

**MOTION:** Ms. Adams moved approval of the revised and modified Investment Beliefs document. Ms. Durant seconded the motion, which then passed on a 4/0 vote.

Mr. Skjervem also presented an updated and revised version of the Statement of Investment Objectives and Policy Framework document, and noted that the material changes thereto were concentrated in section five, Public Equity Strategy.

**MOTION:** Ms. Adams moved approval of the revised Investment Objectives document. Ms. Durant seconded the motion, which then passed on a 4/0 vote.

**III. 9:20 am CEM Benchmarking**

Bruce Hopkins, Vice President of CEM provided a comprehensive, annual review of OPERF costs in both absolute and peer-relative terms.

9:55 am: Keith Larson withdrew from the meeting.

**IV. 9:55 am Common School Fund Annual Review**

In accordance with OIC Policy 4.08.07, Mike Mueller, OST Deputy Chief Investment Officer and Mary Abrams, Director with the Department of State Lands provided an update on the Common School Fund (CSF) for the one-year period ended September 30, 2014 with specific emphasis on CSF's investment performance, portfolio structure and asset allocation.

**V. 10:20 am OPERF Alternatives Portfolio Annual Review**

Ben Mahon, Investment Officer presented the Alternatives portfolio annual review and provided an update on that portfolio's strategic focus and transaction pipeline.

**VI. 10:37 am OPERF Opportunity Portfolio Annual Review**

John Hershey, Director of Alternative Investments presented the Opportunity portfolio annual review and provided an update on that portfolio's strategic focus and transaction pipeline.

**VII. 10:50 am OPERF Q3 Performance Review**

Jim Callahan with Callan Associates gave an update on OPERF investment performance for the third quarter of 2014.

**VIII. 11:20 am Asset Allocation & NAV Updates**

Mr. Skjervem reviewed asset allocations and NAV's across OST-managed accounts for the period ended October 31, 2014.

**IX. 11:21 am Calendar and Future Agenda Items**

Mr. Skjervem presented a revised schedule of future OIC meetings and associated agenda topics.

X. 11:22 am Other Items  
None

11:22 am Public Comments

Bill Parish, an independent Registered Investment Advisor, addressed the Council regarding its private equity and hedge fund investments. Specifically, he again requested that the Council post annual audit reports and other partnership documents. He added that in his opinion, these documents should not be considered proprietary, and, if posted, would provide needed insight into what he described as tax inversion practices. He also suggested that some specific strategies such as drug royalty investments raise important public policy questions given that these strategies' revenue support originates from Medicare and Medicaid reimbursements.

Mr. Solomon adjourned the meeting at 11:24 am.

Respectfully submitted,



Julie Jackson  
Executive Support Specialist



## TAB 2 – PRIVATE EQUITY REVIEW



# Oregon Public Employees Retirement Fund

2014 Portfolio Review & 2015 Outlook

February 4, 2015

## 2014 Activity

- ❖ *Authorized* commitments increased from 2013 to 2014, totaling \$2.8 billion of closed or pending capital commitments for the year. Of that amount, over half was authorized for medium and large buyout managers.
- ❖ OPERF closed on \$2.9 billion of new commitments during the calendar year 2014, versus \$1.8 billion in 2013 (incl. \$0.5 billion in additional commitments to existing funds).
- ❖ Commitments authorized in 2014 were comprised of a diversified set of managers across multiple investment strategies that have each provided OPERF a proven history of superior returns, supplemented with a limited number of high quality new relationships.
- ❖ OPERF's private equity performance remains strong and the Program has outperformed the Cambridge Associates median IRR benchmark in 21 of the 28 vintage years.

### 2014 Calendar Year Authorized Commitments<sup>1</sup>

#### Buyouts

- Aquiline Financial Services III
- Blackstone Energy Partners II
- Endeavour Capital VII
- Francisco Partners IV
- Hellman & Friedman Capital Partners VIII
- Roark Capital Partners IV
- TDR Capital III
- TPG Capital Partners Strategic Account
- Veritas Capital Fund V
- Vista Equity Partners Fund V

#### Distressed /Secondaries

- BDCM IV
- Centerbridge Capital Partners III
- Montauk Triguard Fund VI

#### Venture Capital & Growth

- Advent Latin America IV
- Baring Asia Private Equity Fund VI
- GGV Capital V
- Orchid Asia VI

<sup>1</sup>) Three additional commitments were authorized during the calendar year 2014 but failed to mature and are therefore not included in this exhibit.

# PORTFOLIO OVERVIEW

AS OF SEPTEMBER 30, 2014

	<u>June 30, 2014</u>	<u>September 30, 2014</u>
<b>Total Pension Assets *</b>	<b>\$71,445</b>	<b>\$69,922</b>
<b>Allocation to Private Equity: (Target 20.0% +/- 4.0%)</b>	<b>21.5%</b>	<b>21.6%</b>
<b><u>ACTIVE</u></b>		
<b># of Partnerships</b>	<b>214</b>	<b>218</b>
<b>Capital Committed</b>	<b>\$28,865</b>	<b>\$29,291</b>
<b>Cash Contributed</b>	<b>\$24,422</b>	<b>\$25,057</b>
<b>Recallable Return of Capital</b>	<b>\$2,901</b>	<b>\$3,002</b>
<b>Cash Distributed (Other) <sup>1</sup></b>	<b>\$17,859</b>	<b>\$18,640</b>
<b>Estimated FMV</b>	<b>\$15,325</b>	<b>\$15,086</b>
<b>Total Value (Excl. Recallable ROC)</b>	<b>\$33,184</b>	<b>\$33,726</b>
<b>Total Value Multiple <sup>2</sup></b>	<b>1.54x</b>	<b>1.53x</b>
<b>IRR Since Inception</b>	<b>12.2%</b>	<b>11.9%</b>
<b><u>EXITED</u></b>		
<b># of Partnerships</b>	<b>62</b>	<b>62</b>
<b>Capital Committed</b>	<b>\$5,738</b>	<b>\$5,738</b>
<b>Cash Contributed</b>	<b>\$7,076</b>	<b>\$7,076</b>
<b>Recallable Return of Capital</b>	<b>\$1,295</b>	<b>\$1,295</b>
<b>Cash Distributed (Other) <sup>1</sup></b>	<b>\$11,447</b>	<b>\$11,447</b>
<b>Estimated FMV**</b>	<b>\$1</b>	<b>\$1</b>
<b>Total Value (Excl. Recallable ROC)</b>	<b>\$11,448</b>	<b>\$11,447</b>
<b>Total Value Multiple <sup>2</sup></b>	<b>1.98x</b>	<b>1.98x</b>
<b>IRR Since Inception</b>	<b>17.4%</b>	<b>17.4%</b>
<b><u>OVERALL</u></b>		
<b>Portfolio Multiple <sup>2</sup></b>	<b>1.63x</b>	<b>1.62x</b>
<b>IRR</b>	<b>15.9%</b>	<b>15.8%</b>

\* Total Pension Assets updated to incorporate actual Private Equity portfolio values at each quarter end.

\*\* Includes escrows of exited deals.

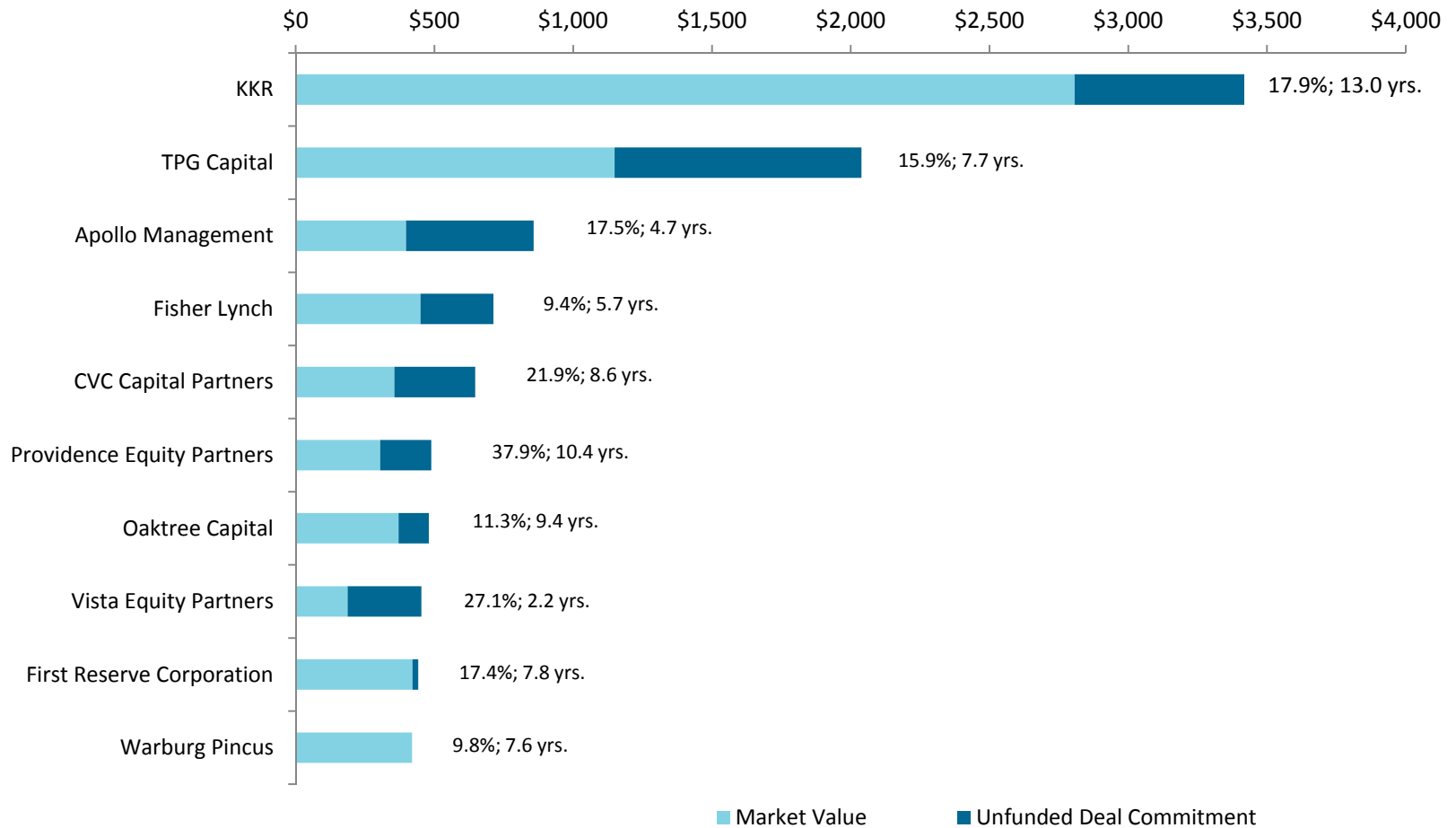
1) Includes all non-recallable distributions

2) Total Value Multiple is calculated net of recallable return of capital ("ROC"). In practice, both total distributions and contributions are reduced by the amount of recallable ROC in the numerator and denominator of the calculation, respectively.

# PORTFOLIO OVERVIEW

AS OF SEPTEMBER 30, 2014

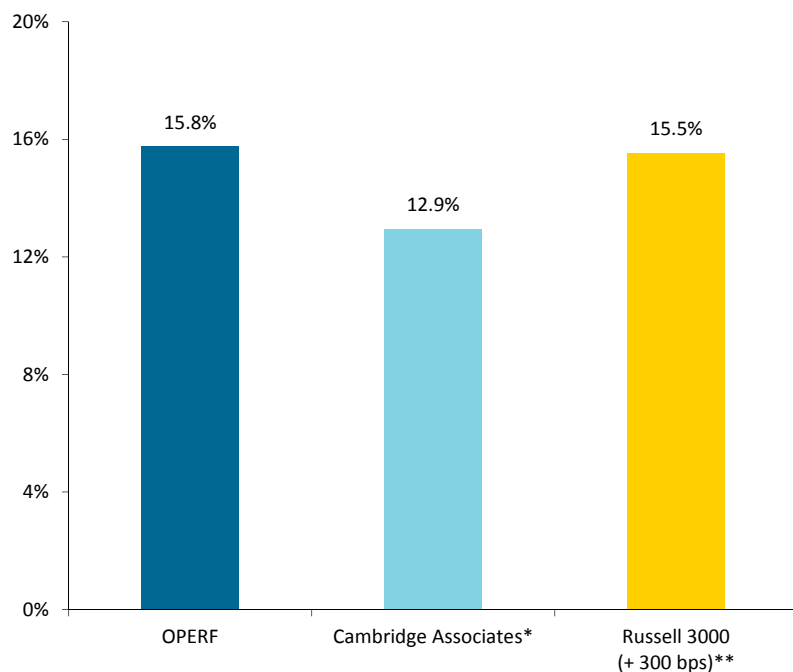
## TOP TEN RELATIONSHIPS BY EXPOSURE<sup>1</sup>



<sup>1</sup> In million \$ USD. Based on Fair Market Value, and unfunded deal commitment; excludes Fund of Fund relationships. Inception-to-date IRR and Weighted Average Age of Commitments are shown at the end of each bar

## PERFORMANCE OVERVIEW

### Inception To Date Performance



### Periodic Performance

	1 YEAR	3 YEAR	5 YEAR	10 YEAR	SINCE INCEPTION
Program IRR	15.7%	15.3%	14.7%	13.3%	15.8%
Cambridge Associates*	21.3%	11.9%	15.2%	12.0%	12.9%
<i>Value Added</i>	<i>-5.6%</i>	<i>3.4%</i>	<i>-0.6%</i>	<i>1.3%</i>	<i>2.8%</i>
Russell 3000 (+ 300 bps)**	21.8%	27.1%	19.1%	12.4%	15.5%
<i>Value Added</i>	<i>-6.1%</i>	<i>-11.8%</i>	<i>-4.4%</i>	<i>0.9%</i>	<i>0.2%</i>

\* Cambridge Associates Pooled IRR: All Private Equity Funds as of June 30, 2014.

\*\* Data is a dollar-weighted Long-Nickels calculation of quarterly changes in the Russell 3000 index plus 300 basis points. Russell Investment Group is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. Russell® is a trademark of Russell Investment Group.

Note: Figures may not foot due to rounding.

# PORTFOLIO OVERVIEW

AS OF SEPTEMBER 30, 2014

## VINTAGE YEAR PERFORMANCE

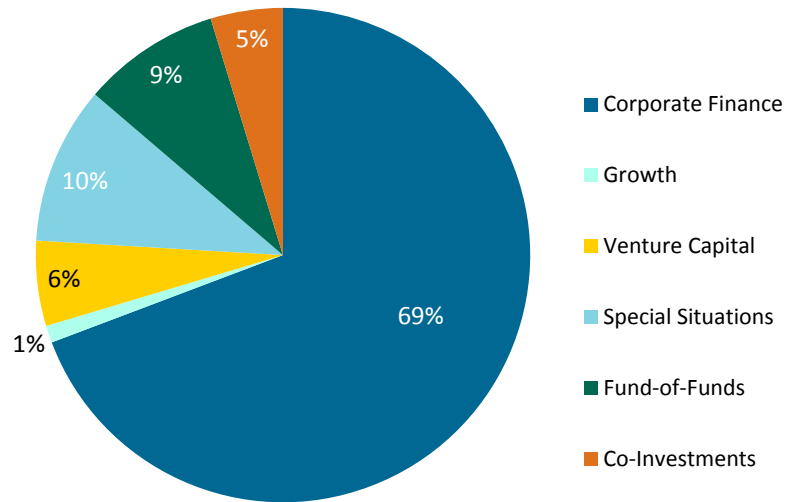
VINTAGE YEAR*	COMMITMENTS (Million)	PROGRAM TVM	PROGRAM IRR	CA TVM <sup>1</sup>	CA IRR <sup>1</sup>	TVM <sup>1</sup> QUARTILE	IRR <sup>1</sup> QUARTILE
2001	\$605	2.14x	26.1%	1.62x	11.0%	1st	1st
2002	\$1,392	1.96x	18.1%	1.62x	12.6%	1st	2nd
2003	\$544	2.05x	15.3%	1.56x	11.2%	1st	2nd
2004	\$1,008	1.91x	15.9%	1.43x	8.5%	1st	1st
2005	\$2,182	1.46x	7.2%	1.33x	6.3%	2nd	2nd
2006	\$4,424	1.41x	7.4%	1.34x	7.0%	2nd	2nd
2007	\$3,366	1.49x	10.5%	1.35x	8.7%	2nd	2nd
2008	\$3,892	1.50x	14.3%	1.34x	10.9%	2nd	2nd
2009	\$490	1.40x	12.9%	1.37x	14.2%	2nd	3rd
2010	\$1,113	1.41x	17.0%	1.29x	13.9%	2nd	2nd
2011	\$2,477	1.27x	15.8%	1.14x	11.1%	2nd	2nd
2012	\$2,262	1.11x	NM	1.06x	NM	NM	NM
2013	\$1,708	0.99x	NM	0.93x	NM	NM	NM
2014	\$1,608	0.73x	NM	0.78x	NM	NM	NM

1) Cambridge Associates Median Total Value Multiple ("TVM") & IRR: All Private Equity Funds as of June 30, 2014.  
\* Vintage year classification is generally based on the date that a fund starts accruing management fees.

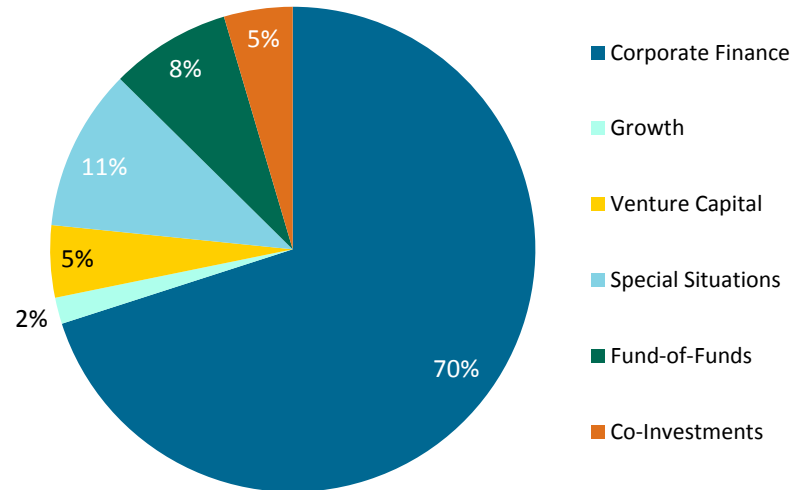


## PORTFOLIO EXPOSURE SNAPSHOT

Portfolio Composition | By Market Value



Portfolio Composition | By Total Exposure<sup>1</sup>



1) Total Exposure = Fair Market Value + Unfunded Commitments



# PORTFOLIO OVERVIEW

AS OF SEPTEMBER 30, 2014

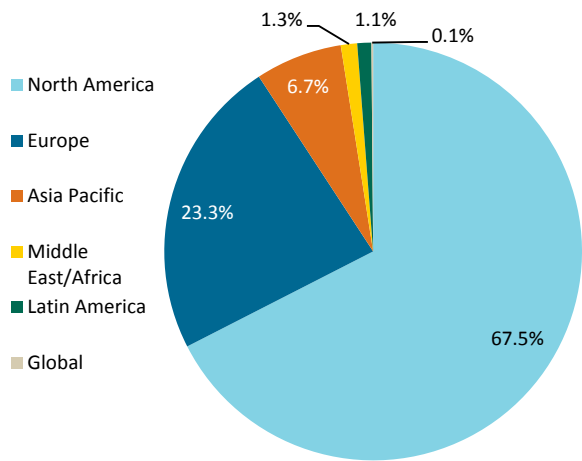
## PORTFOLIO DIVERSIFICATION<sup>1</sup>

INVESTMENT SECTOR	TARGET	MARKET VALUE	%	UNFUNDED	%	TOTAL POTENTIAL EXPOSURE	%
<b>Corporate Finance</b>	<b>65-85%</b>	<b>\$10,442.2</b>	<b>69.2%</b>	<b>\$5,374.6</b>	<b>71.6%</b>	<b>\$15,816.8</b>	<b>70.0%</b>
Large Corp Finance	45-65%	\$7,045.6	46.7%	\$3,136.3	41.8%	\$10,181.9	45.1%
Med Corp Finance	10-25%	\$3,018.2	20.0%	\$2,081.0	27.7%	\$5,099.1	22.6%
Small Corp Finance	0-10%	\$378.5	2.5%	\$157.3	2.1%	\$535.8	2.4%
<b>Growth</b>	<b>5-10%</b>	<b>\$170.0</b>	<b>1.1%</b>	<b>\$227.4</b>	<b>3.0%</b>	<b>\$397.5</b>	<b>1.8%</b>
<b>Venture Capital</b>	<b>0-5%</b>	<b>\$839.3</b>	<b>5.6%</b>	<b>\$246.3</b>	<b>3.3%</b>	<b>\$1,085.7</b>	<b>4.8%</b>
<b>Special Situations</b>	<b>5-15%</b>	<b>\$1,559.7</b>	<b>10.3%</b>	<b>\$881.2</b>	<b>11.7%</b>	<b>\$2,440.9</b>	<b>10.8%</b>
Distressed	0-10%	\$1,155.3	7.7%	\$415.8	5.5%	\$1,571.1	7.0%
Mezzanine	0-5%	\$206.5	1.4%	\$223.8	3.0%	\$430.3	1.9%
Secondaries	0-5%	\$197.9	1.3%	\$241.6	3.2%	\$439.5	1.9%
<b>Fund-of-Funds</b>	<b>0-5%</b>	<b>\$1,365.1</b>	<b>9.0%</b>	<b>\$453.9</b>	<b>6.0%</b>	<b>\$1,819.0</b>	<b>8.1%</b>
<b>Co-Investments</b>	<b>0-7.5%</b>	<b>\$710.0</b>	<b>4.7%</b>	<b>\$320.7</b>	<b>4.3%</b>	<b>\$1,030.8</b>	<b>4.6%</b>
<b>Investment Type Total:</b>		<b>\$15,086.5</b>	<b>100.0%</b>	<b>\$7,504.2</b>	<b>100.0%</b>	<b>\$22,590.7</b>	<b>100.0%</b>
<b>North America</b>	<b>60-80%</b>	<b>\$10,478.2</b>	<b>69.5%</b>	<b>\$5,358.5</b>	<b>71.4%</b>	<b>\$15,836.8</b>	<b>70.1%</b>
<b>International</b>	<b>20-40%</b>	<b>\$4,608.2</b>	<b>30.5%</b>	<b>\$2,145.7</b>	<b>28.6%</b>	<b>\$6,753.9</b>	<b>29.9%</b>
Global		\$2,078.5	13.8%	\$805.3	10.7%	\$2,883.8	12.8%
Asia		\$549.9	3.6%	\$547.9	7.3%	\$1,097.9	4.9%
Europe		\$1,947.9	12.9%	\$790.9	10.5%	\$2,738.8	12.1%
Rest of World		\$31.9	0.2%	\$1.5	0.0%	\$33.4	0.1%
<b>Geographic Focus Total:</b>		<b>\$15,086.5</b>	<b>100.0%</b>	<b>\$7,504.2</b>	<b>100.0%</b>	<b>\$22,590.7</b>	<b>100.0%</b>

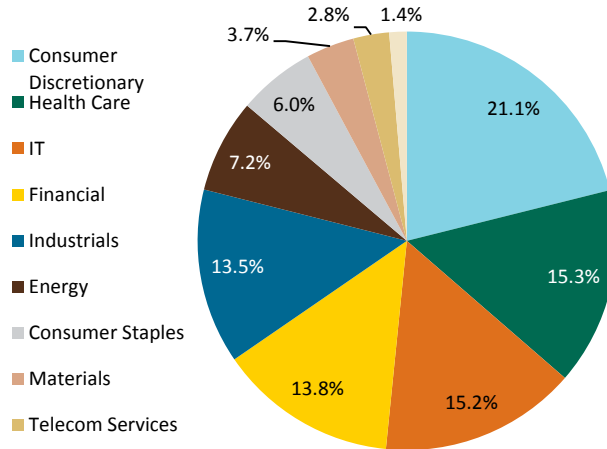
1) In million \$ USD

## PORTFOLIO COMPANY EXPOSURE<sup>1</sup>

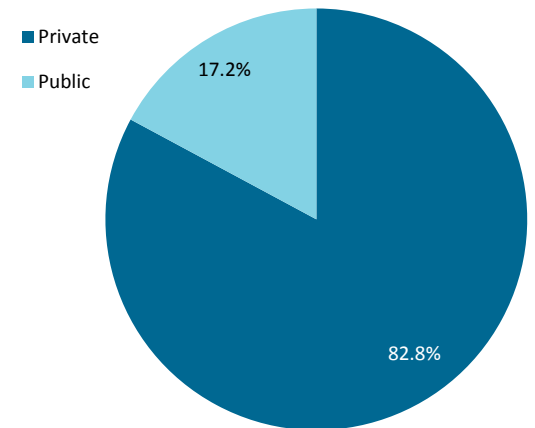
### Geographic Exposure



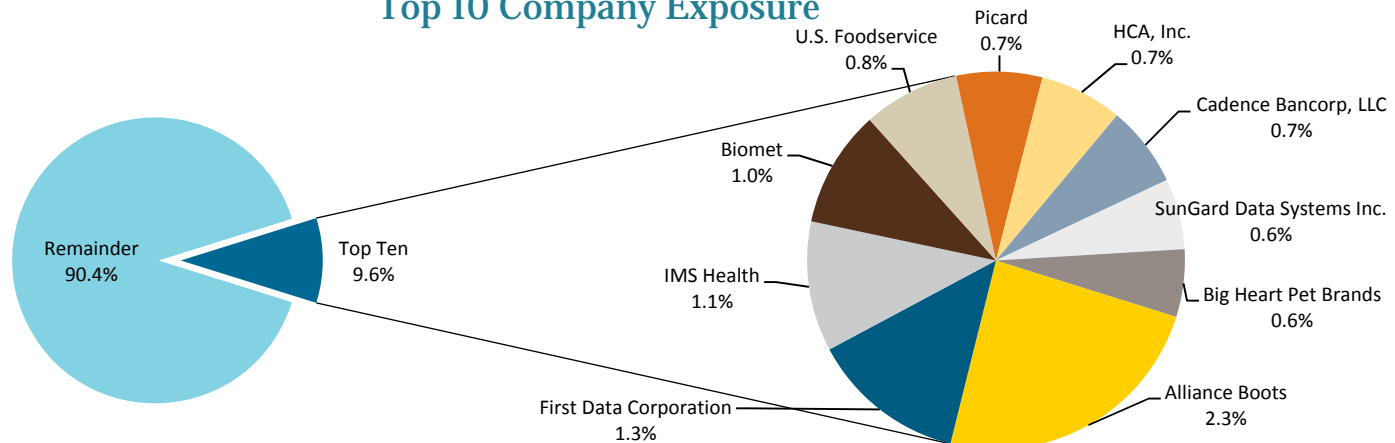
### Industry Exposure



### Public Market Exposure



## Top 10 Company Exposure

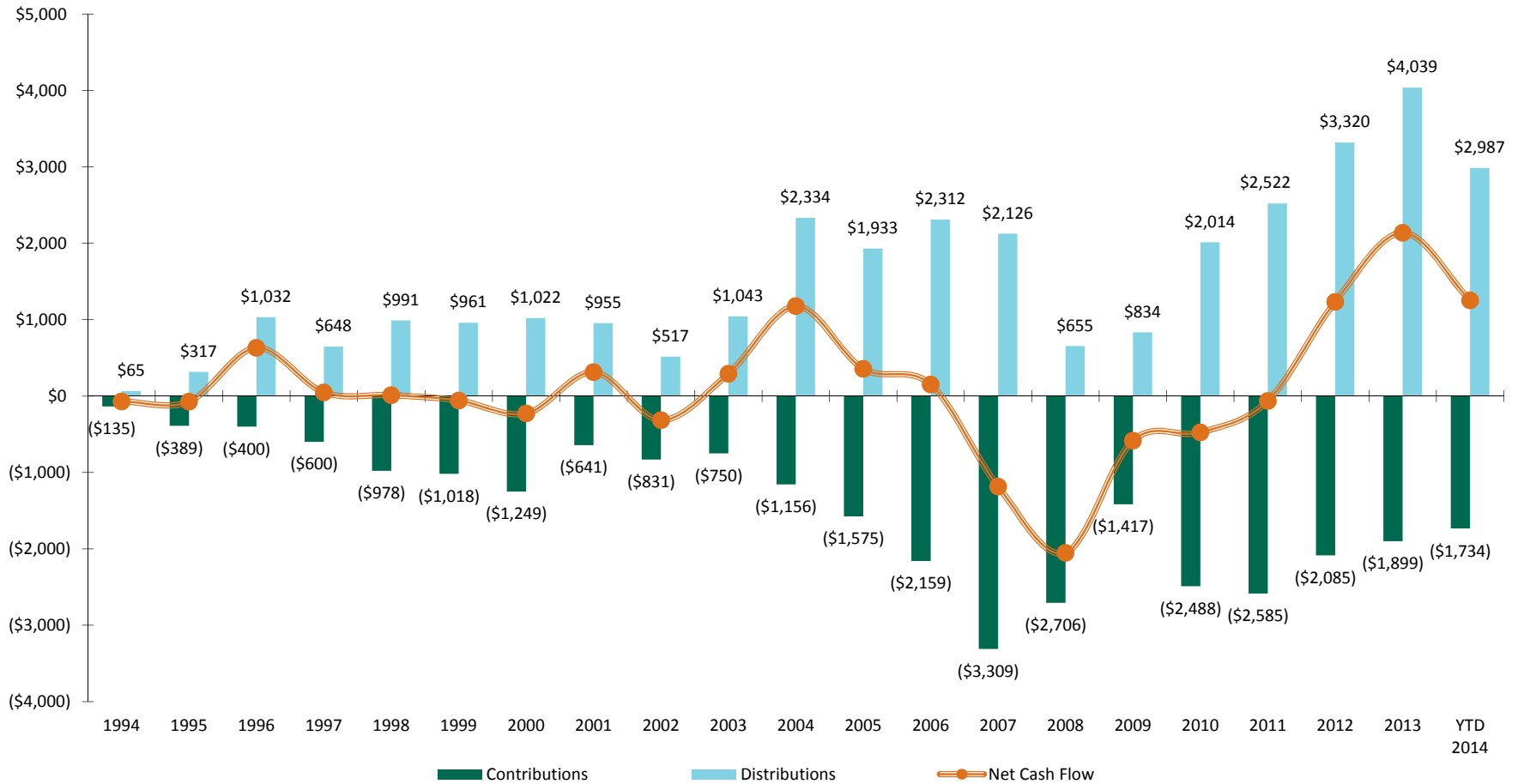


<sup>1</sup> Based on Fair Market Value. It should be noted that the above allocation break-downs do not include investments for which the general partner provides a fair market value but withholds information on other details regarding the underlying investments.

# PORTFOLIO OVERVIEW

AS OF SEPTEMBER 30, 2014

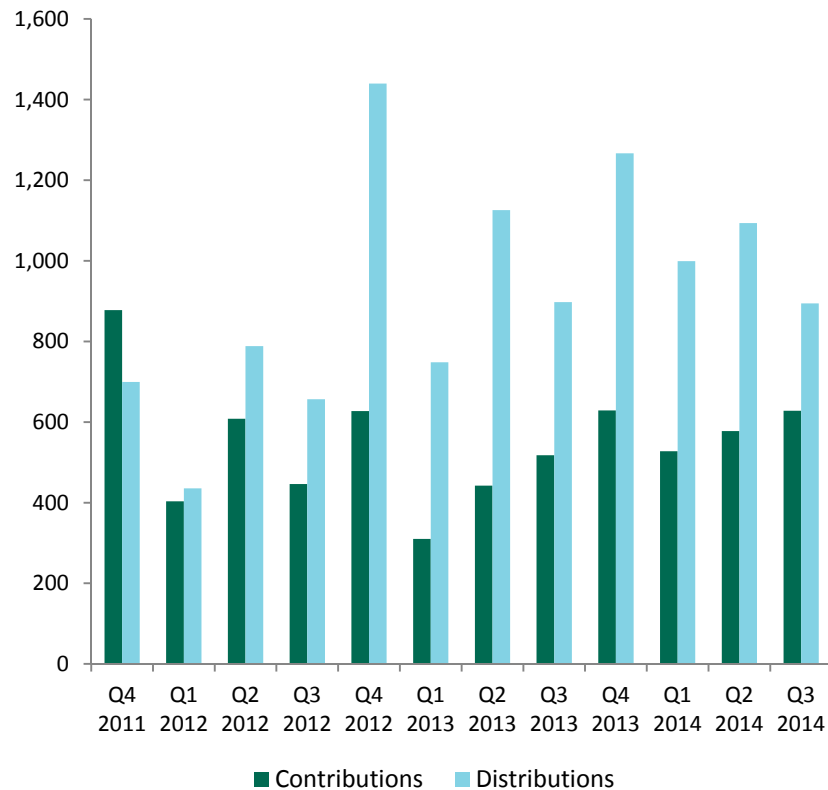
## CASH FLOW TRENDS<sup>1</sup>



1) In million \$ USD

## CASH FLOW TRENDS<sup>1</sup>

### Contributions & Distributions by Quarter



### Capital Called per Vintage Year

Vintage Year	Commitments	Capital Called	% Called
2009	\$490	\$415	85%
2010	\$1,113	\$841	76%
2011	\$2,477	\$1,633	66%
2012	\$2,262	\$966	43%
2013	\$1,708	\$435	25%
2014	\$1,933	\$42	2%

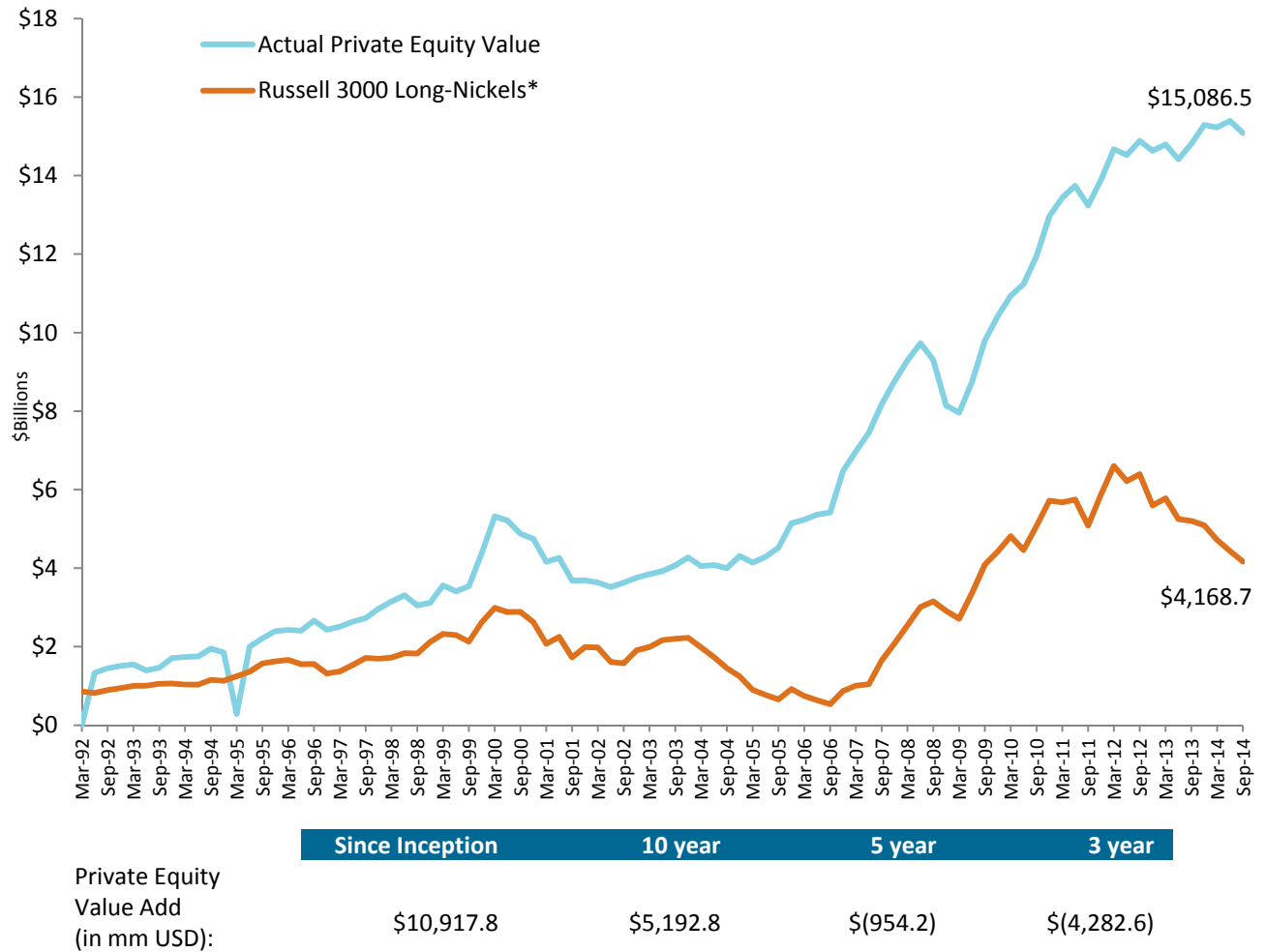
1) In million \$ USD

# PORTFOLIO OVERVIEW

AS OF SEPTEMBER 30, 2014

- Based on a sample Long-Nickels analysis, OPERF's private equity program has created an incremental \$10.9 billion of value relative to that which could have been generated if this capital were invested in a basket of equities similar to the Russell 3000.

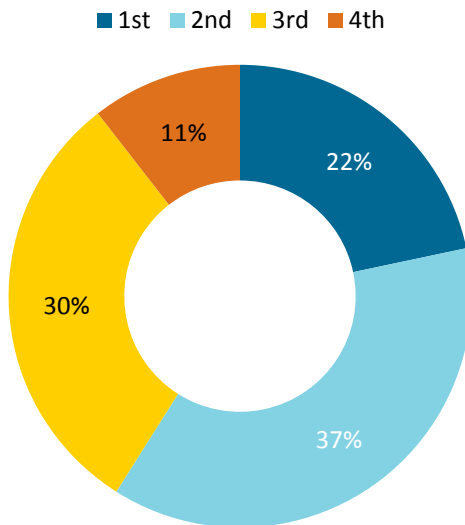
## PRIVATE EQUITY VALUE ADD (Inception To Date)



\*Data is a dollar-weighted Long-Nickels calculation of quarterly changes in the Russell 3000 Index Total Return (RU30INTR). Russell Investment Group is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. Russell® is a trademark of Russell Investment Group.

## FUND LEVEL QUARTILE RANKINGS<sup>1</sup>

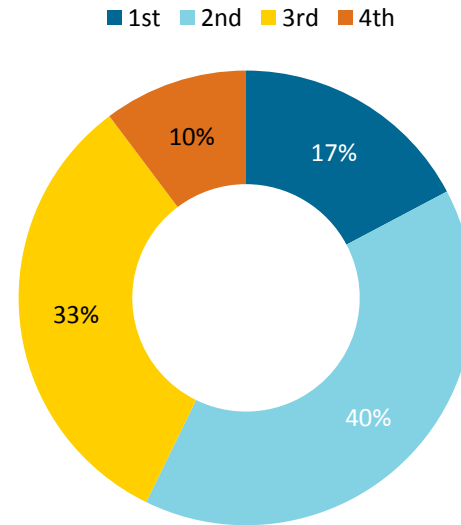
### Inception To Date



OPERF Pooled IRR by Quartile

Quartile	Net IRR
1st	29%
2nd	14%
3rd	8%
4th	-4%

### Vintage Years 2002 - 2012

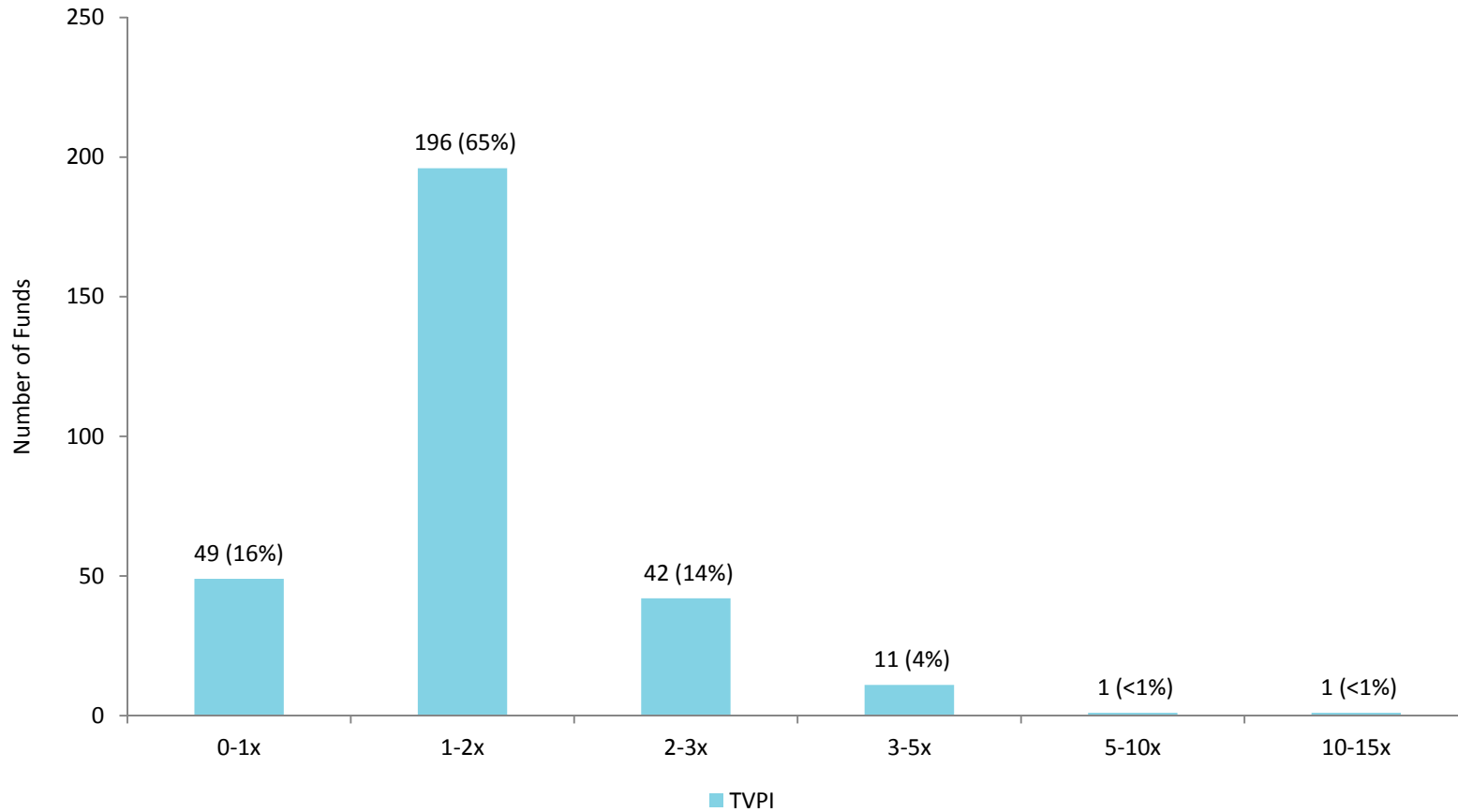


OPERF Pooled IRR by Quartile

Quartile	Net IRR
1st	25%
2nd	13%
3rd	7%
4th	-3%

1) Based on invested capital. The underlying funds are ranked by performance relative to all private equity funds of the same vintage year, without taking into account specific strategies or geographic focus, according to the Cambridge Associates All Private Equity Index as of June 30, 2014.

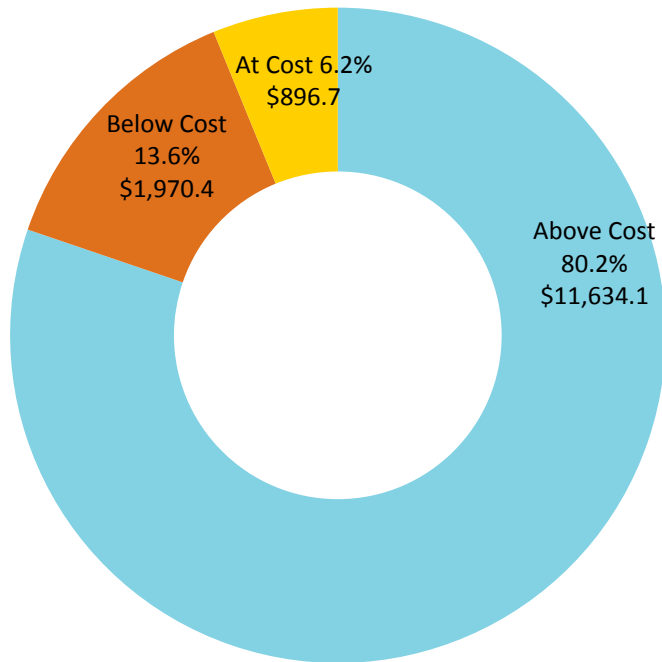
## FUND LEVEL TVPI MULTIPLE DISTRIBUTION<sup>1</sup>



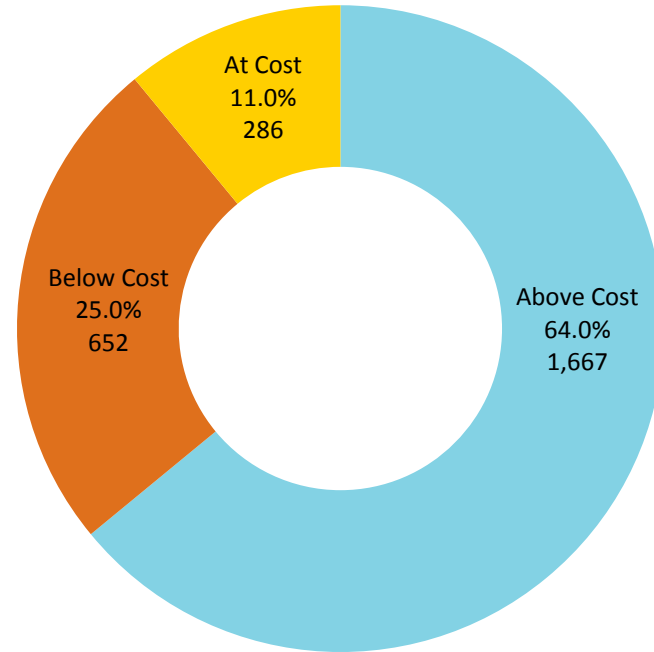
<sup>1</sup> Fund of Funds have been segregated into separate vehicles by the vintage year of their underlying fund commitments. Total fund count equals 300 in this exhibit. Figures in parenthesis is the percentage of the total.

## PORTFOLIO COMPANY LEVEL ANALYSIS

### Portfolio Company Fair Market Value<sup>1</sup>



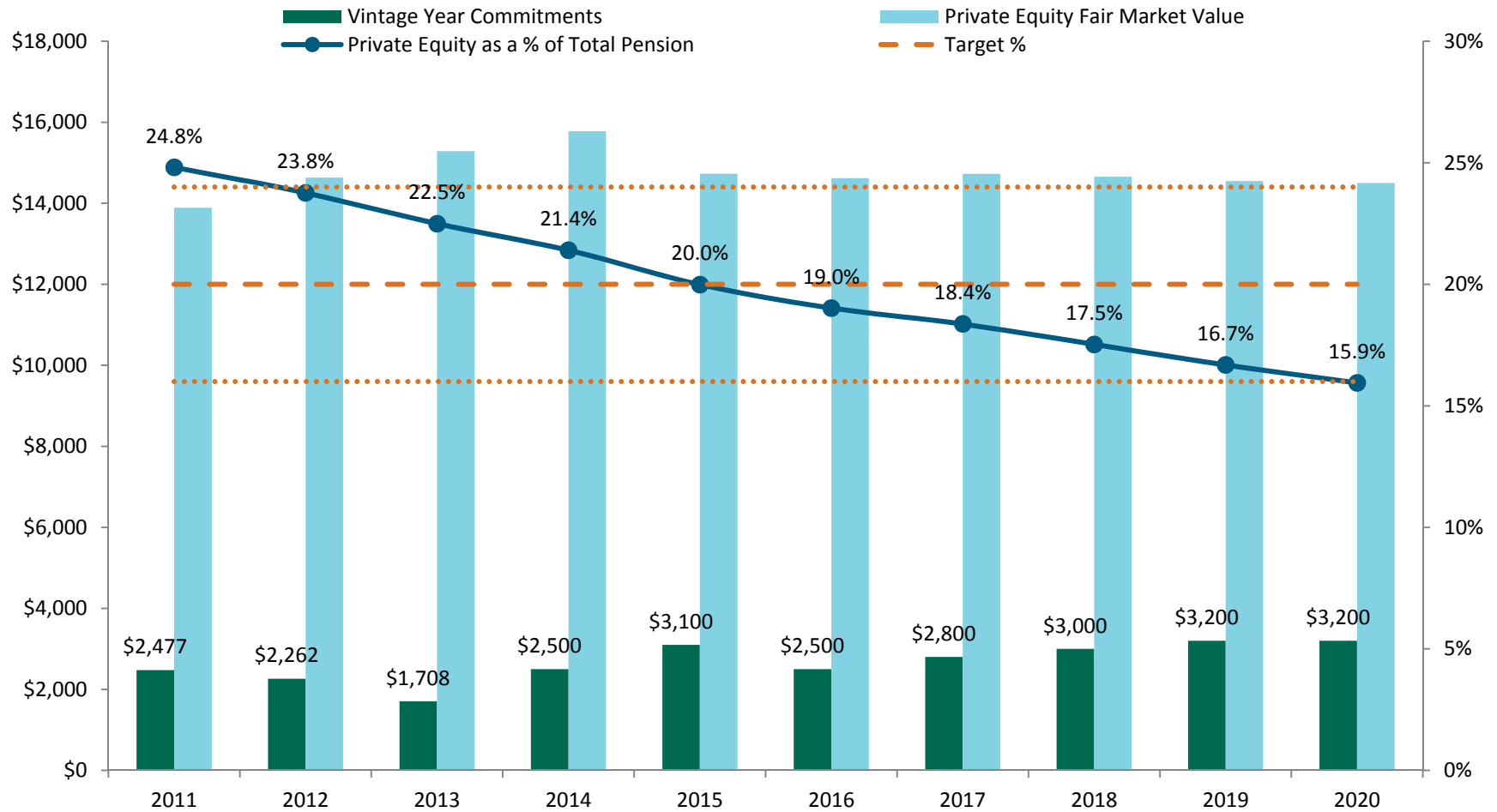
### Number of Portfolio Companies



<sup>1)</sup> In million \$ USD



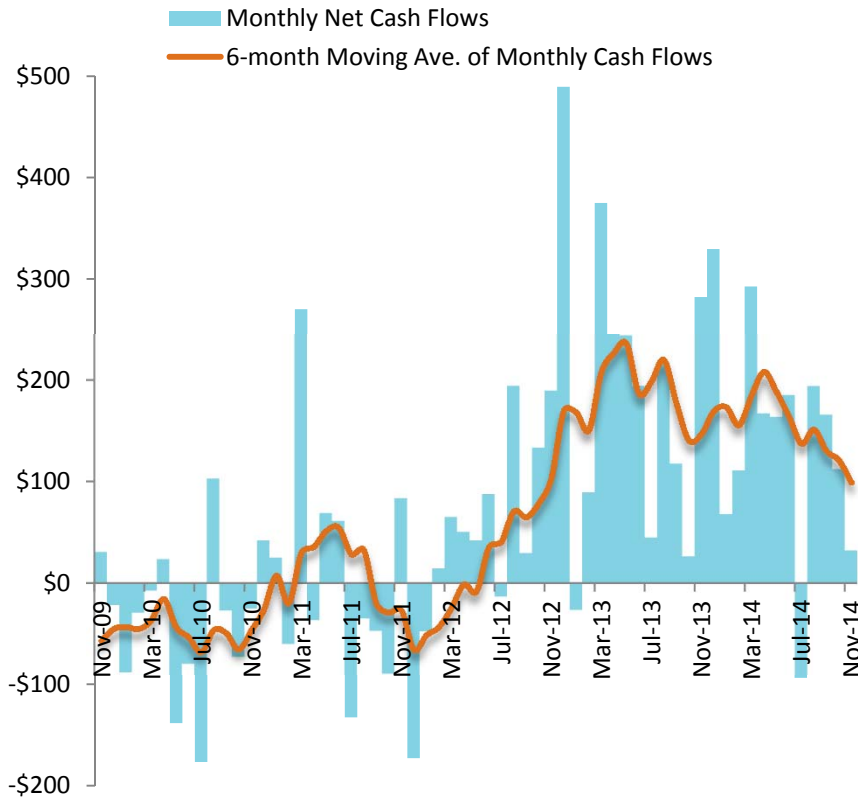
## PACING ANALYSIS<sup>1</sup>



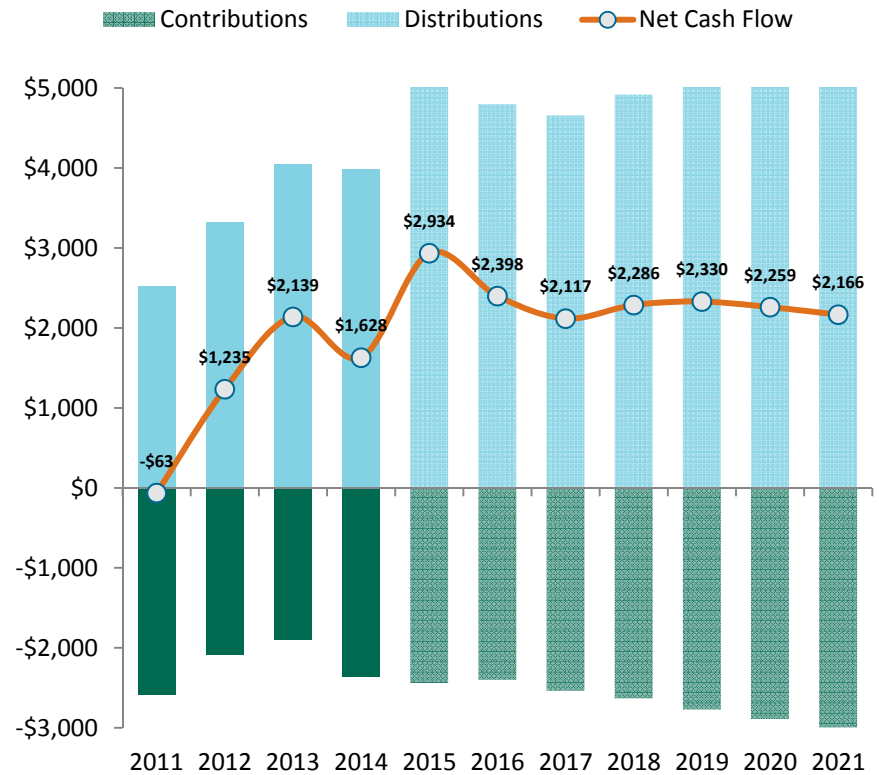
1) In million \$ USD

## CASH FLOW ANALYSIS<sup>1</sup>

### Monthly Cash Flows

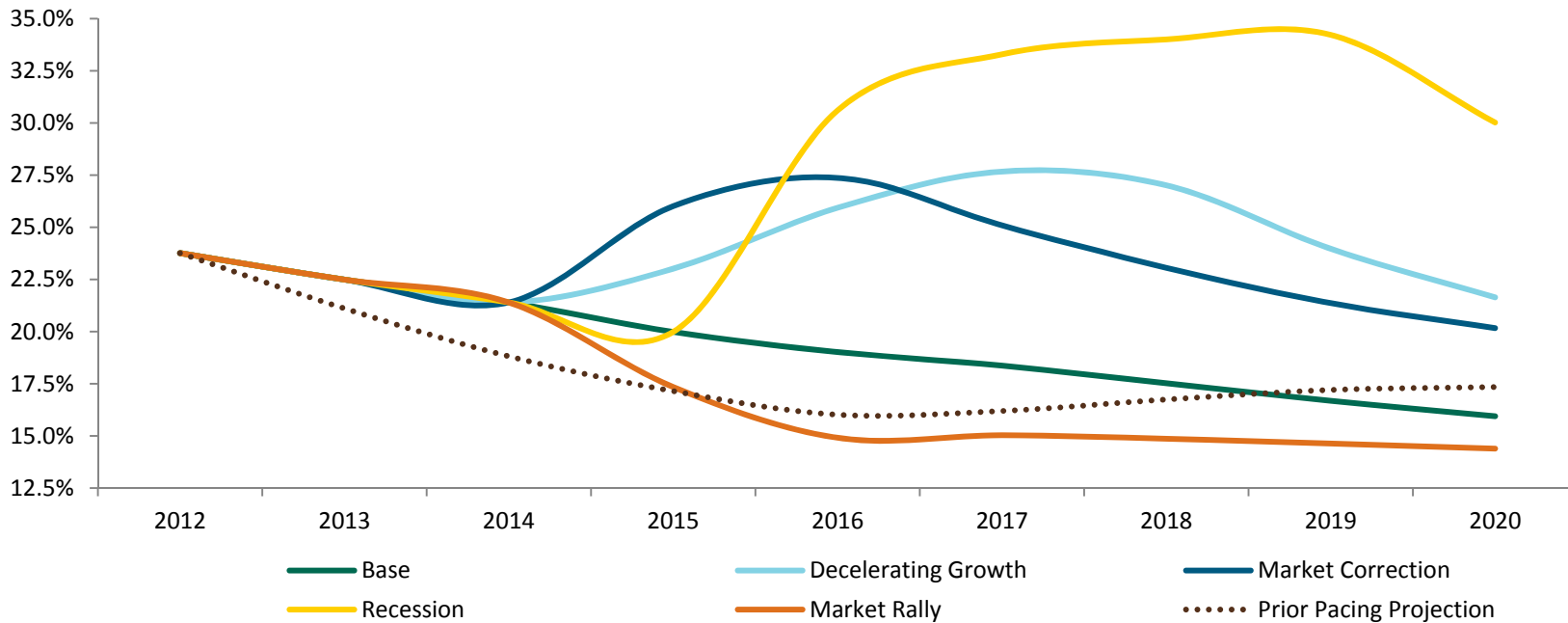


### Projected Cash Flows



1) In million \$ USD: 2011- 2013 are actual cash flows.

## PROJECTED ALLOCATION MACROECONOMIC SENSITIVITY TESTING



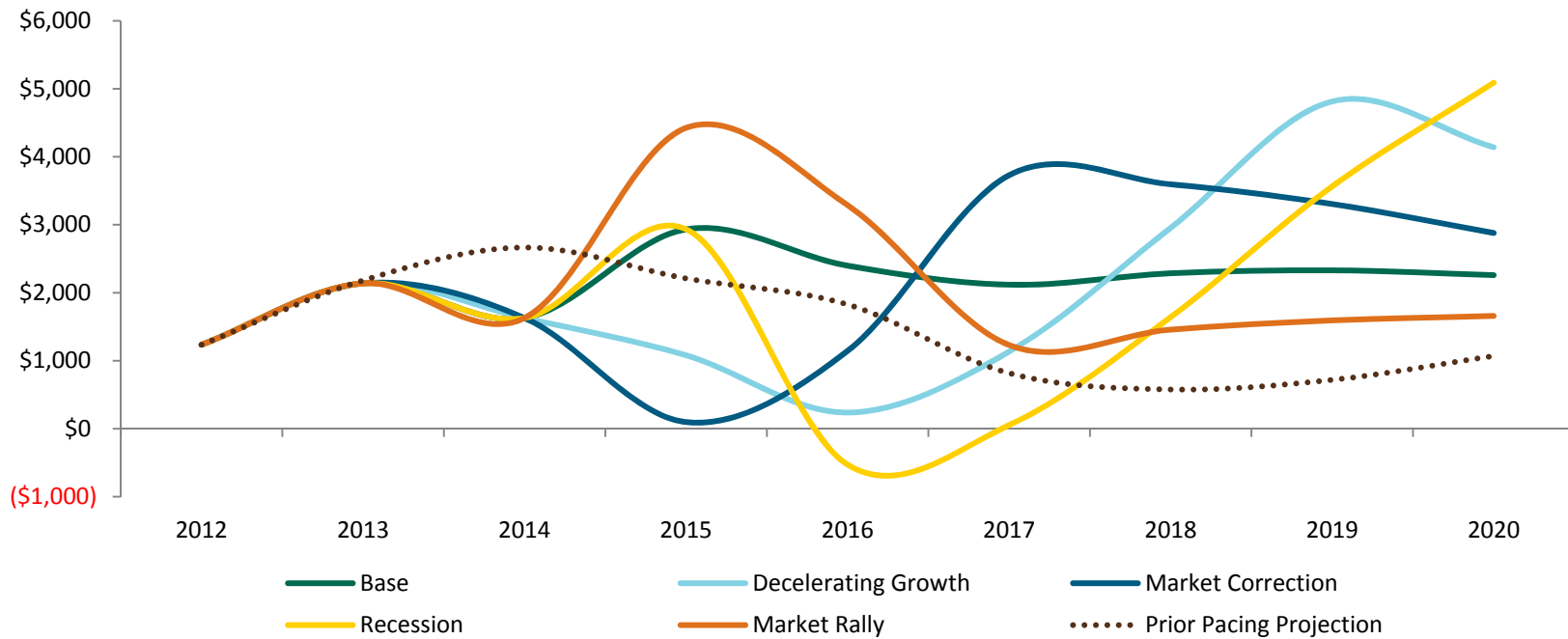
	2012	2013	2014	2015	2016	2017	2018	2019	2020
Base	23.8%	22.5%	21.4%	20.0%	19.0%	18.4%	17.5%	16.7%	15.9%
Decelerating Growth	23.8%	22.5%	21.4%	23.0%	25.9%	27.7%	27.0%	24.0%	21.6%
Market Correction	23.8%	22.5%	21.4%	26.0%	27.4%	25.1%	23.1%	21.4%	20.2%
Recession	23.8%	22.5%	21.4%	20.0%	30.6%	33.3%	34.0%	34.2%	30.0%
Market Rally	23.8%	22.5%	21.4%	17.3%	14.9%	15.0%	14.9%	14.6%	14.4%
Pacing Projection (Feb – 2014)	23.8%	21.1%	18.8%	17.1%	16.0%	16.2%	16.7%	17.2%	17.3%

\* TorreyCove's macroeconomic scenario analysis includes a combination of changes in the rate of return across asset classes as well as the rate of realizations from the private equity portfolio. Under all scenarios, these variables revert back to normal in 2020. More details on underlying assumptions are available upon request.

# PORTFOLIO OVERVIEW

AS OF SEPTEMBER 30, 2014

## PROJECTED NET CASH FLOW MACROECONOMIC SENSITIVITY TESTING<sup>1</sup>



	2012	2013	2014	2015	2016	2017	2018	2019	2020
Base	\$1,235	\$2,139	\$1,628	\$2,934	\$2,398	\$2,117	\$2,286	\$2,330	\$2,259
Decelerating Growth	\$1,235	\$2,139	\$1,628	\$1,080	\$237	\$1,135	\$2,955	\$4,815	\$4,140
Market Correction	\$1,235	\$2,139	\$1,628	\$97	\$1,145	\$3,729	\$3,595	\$3,306	\$2,879
Recession	\$1,235	\$2,139	\$1,628	\$2,934	(\$530)	\$53	\$1,641	\$3,565	\$5,090
Market Rally	\$1,235	\$2,139	\$1,628	\$4,427	\$3,287	\$1,230	\$1,458	\$1,593	\$1,659
Pacing Projection (Feb – 2014)	\$1,235	\$2,182	\$2,666	\$2,211	\$1,827	\$817	\$577	\$718	\$1,070

<sup>1</sup>: In million \$ USD. TorreyCove's macroeconomic scenario analysis includes a combination of changes in the rate of return across asset classes as well as the rate of realizations from the private equity portfolio. Under all scenarios, these variables revert back to normal in 2017. More details on underlying assumptions are available upon request.



# Private Equity Market Review

# PRIVATE EQUITY FUNDRAISING ACTIVITY

## BUYOUTS

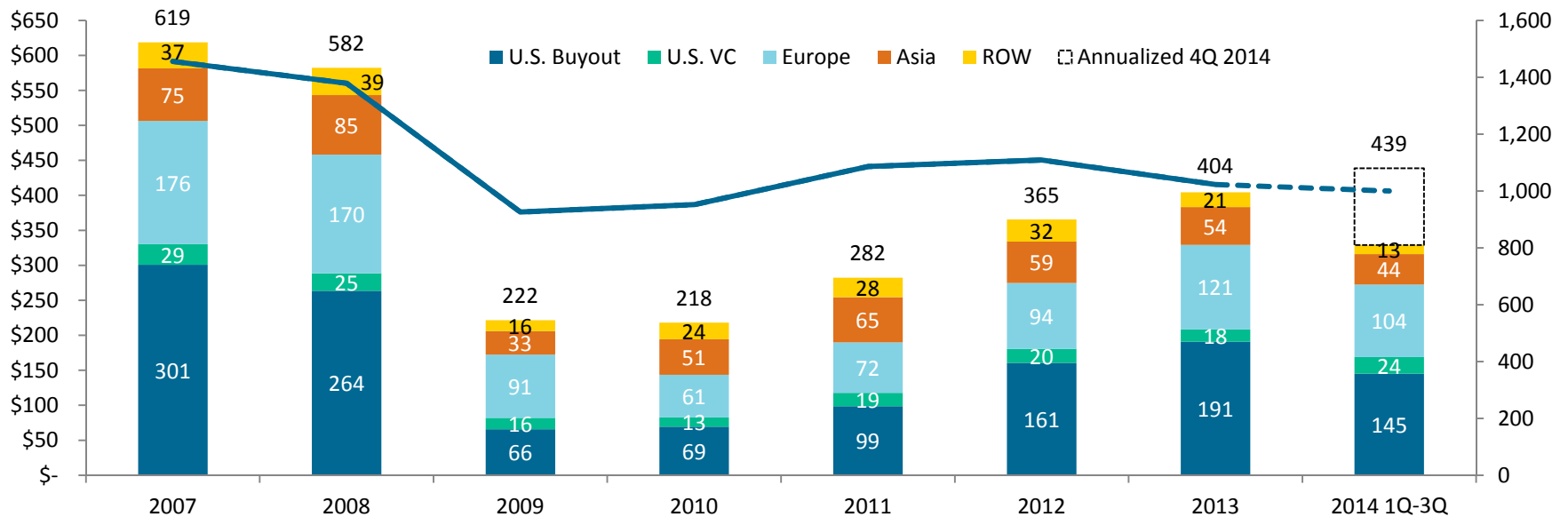
- **3Q commitments:** \$49.3 billion
  - An 11.5% increase from 3Q13 (\$44.2 billion).
  - A 13.2% decrease from 2Q14 (\$56.8 billion).
- According to *Buyouts Magazine*, the supply of funds is expected to continue to be strong in the following months with more than 60 sponsors identified globally to launch in 4Q 2014 or 2015 seeking more than \$60 billion.
- Funds targeting \$1.0 billion to \$4.99 billion received over 50% of all capital YTD.
- The firm raising the most capital during the year was Lone Star Funds with \$7.4 billion followed by Apollo Global Management with \$6.4 billion.
- 14% of North American buyout funds offer discounts for coming in early; 18% offer fee breaks for larger commitments.

## VENTURE CAPITAL

- **3Q commitments:** \$6.1 billion
  - A 39.5% increase from 3Q13 (\$4.3 billion).
  - A 21.1% decrease from 2Q14 (\$7.7 billion).
- The number of funds raising capital totaled 60 during the quarter compared to 63 and 81 during 3Q13 and 2Q14, respectively.
- Although fundraising activities experienced a slight decline on a quarter over quarter basis, total VC fundraising for 2014 has already exceeded all of 2013, and by the end of the year, it will most likely reach the highest total seen since 2008.
- The largest fund raised in 3Q14 was J.P. Morgan Digital Growth Fund II, which raised \$996.4 million, followed by SG Growth Partners III which raised \$500.0 million. The five largest venture capital funds raised during the quarter accounted for 48% of the total new commitments during the period.

## NON-U.S.

- **Europe:** \$29.6 billion was raised by 56 European-focused funds in 3Q14.
  - An 18.9% and 21.7% increase in dollars and fund count, respectively, from 3Q13, when 46 funds raised \$24.9 billion.
- The largest European-focused fund to close during the quarter was Altor Fund IV with €2.0 billion in commitments.
- **Asia & Rest of World:** \$15.4 billion was raised by 48 Asia- or ROW-focused funds in 3Q14.
  - A 24.2% increase in dollars and 26.2% decrease in fund count from 3Q13, when 65 funds raised \$12.4 billion.
- The largest ROW fund to close during the quarter was Pátria Brazilian Private Equity Fund V with \$1.8 billion of total commitments.



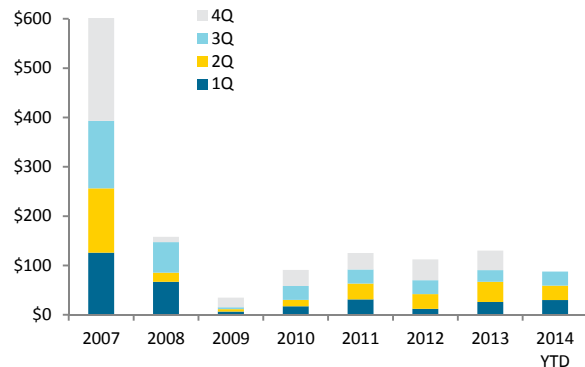
Source: Buyouts, NVCA, Preqin

## BUYOUTS

- Disclosed deal value totaled \$28.6 billion in 3Q14, up 20.7% compared to 3Q13 when disclosed deal value totaled approximately \$23.7 billion .
- 370 deals closed during the period July 1–September 29, down 12.1 % compared to 3Q 13 when 421 deals closed. Industrials and Technology led with 71 and 67 closed deals, respectively. There is 466 announced but not yet closed deals , which is a signal for a strong fourth quarter.
- The largest disclosed deal to close during 3Q14 was the \$5.4 billion LBO by Blackstone Group for Gates Global.
- LBO purchase price multiples rose to 11.2x EBITDA during the quarter compared to 9.6x EBITDA in 2Q14 and 8.5x EBITDA in 3Q13, bringing the YTD LBO purchase price multiples to 9.7x EBITDA.
- Add-on deals outpaced platform deals in 3Q14 representing 51% as compared to 49% platform deals.

### U.S. LBO Disclosed Deal Value

\$ Billion



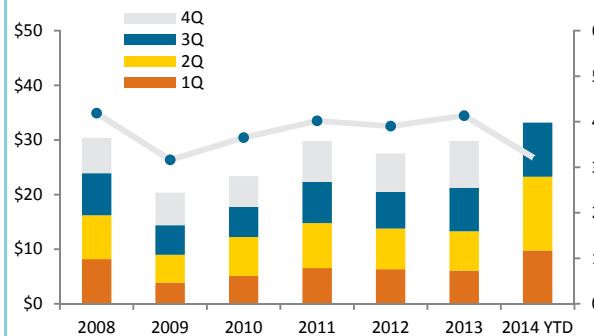
Source: S&P, Buyouts

## VENTURE CAPITAL

- Venture capitalists invested \$9.9 billion in 1,023 deals in 3Q14, down 3.9% in deal count and up 24.2% in dollars compared to 3Q13 when \$8.0 billion went into 1,065 deals.
- The Software industry led all sectors during the quarter and garnered \$3.7 billion going into 418 companies. Over three times more Software deals closed relative to Media and Entertainment and Biotechnology.
- Compared to 2Q14 , invested amounts decreased for all stages with exception of Later Stage. Overall, venture capital deals were down 9.4% in deal count and 26.5% in dollars compared 2Q14. Expansion Stage attracted the most capital during the third quarter, accounting for 34.6% of the total.
  - Seed & Early Stage: \$3.2 billion in 559 deals.
  - Expansion Stage: \$3.4 billion in 264 deals.
  - Later Stage: \$3.3 billion in 200 deals.

### U.S. VC Investment Activity

\$ Billion



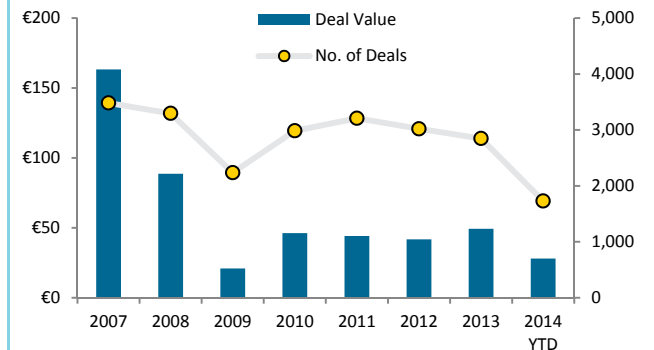
Source: Thomson Reuters & National Venture Capital Association

## NON-U.S.

- **Europe:** 3Q14 deal value decreased year-over-year and increased quarter-over-quarter while deal volume decreased year-over-year and quarter-over-quarter.
  - For 3Q14, €10.2 billion was invested in 441 deals:
  - Down 34.8% in value and 38.5% in volume from the €15.7 billion invested in 717 deals in 3Q13.
  - Up 16.2% in value and down 33.7% in volume from the €8.8 billion invested in 665 deals in 2Q14.
- The largest 3Q14 disclosed deal was the €2.3 billion acquisition of Denmark-based provider of payments, card and information services ,Nets Holding A/S, by Advent International Corporation and Bain Capital .

### European Investment Activity

€ Billion

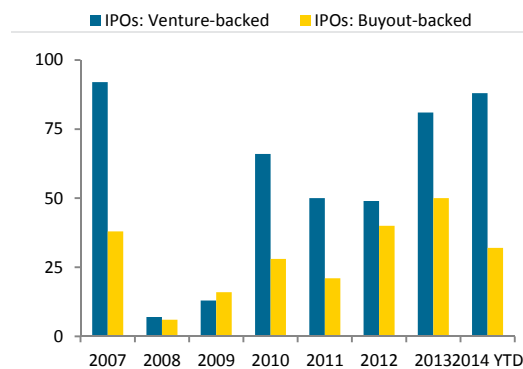


Source: Thomson Reuters

## EXITS

- 9 buyout-backed companies went public in 3Q14 with total value of \$23.8 billion, \$21.7 billion of which came from Alibaba Group Holding Ltd .
- With an IPO of over \$21.7 billion , Alibaba Group Holding Ltd was not only the largest buyout- backed IPO during the quarter but also the largest in the U.S. history. It was led by Silver Lake Partners.
- There were 23 venture-backed IPOs in 3Q14 valued at \$2.6 billion, marking the sixth consecutive quarter to see 20 or more venture-backed IPOs, but is slightly below year-over-year and quarter-over-quarter numbers.
- Life sciences comprised 78.3% of the IPO's for 3Q14, with Biotechnology accounting for 56.5%. However, the largest VC-backed IPO was from Mobileye NV, a developer of advanced driver assistance software based in Israel.

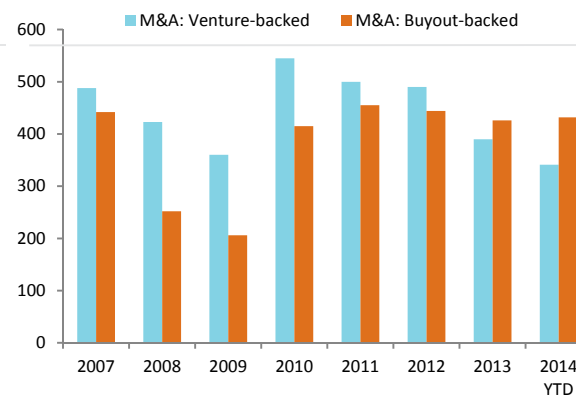
### Number of U.S.-based IPOs



Source: Buyouts, Thomson Reuters & National Venture Capital Association

- There were 154 buyout-backed M+A exits in 3Q14. The 50 with disclosed financial terms had a total valuation of approximately \$22.8 billion, up from 113 exits with total disclosed value of \$20.4 billion during 3Q13.
- The largest buyout-backed M+A during the quarter of \$2.5 billion, including net debt, was the acquisition of Alta Wind Energy Center of Terra-Gen Power LLC by NRG Yield Inc, led by ArLight Capital Partners.
- VC M+A exits totaled 119 during 3Q14. The 32 with disclosed values totaled \$7.9 billion, more than double the disclosed value during the prior quarter. It is the strongest quarter by disclosed deal value since the third quarter of 2012.
- The Information Technology sector led VC M+A deal count with 91 deals , or 76.5%, and total disclosed deal value of \$4.6 billion from 17 deals.

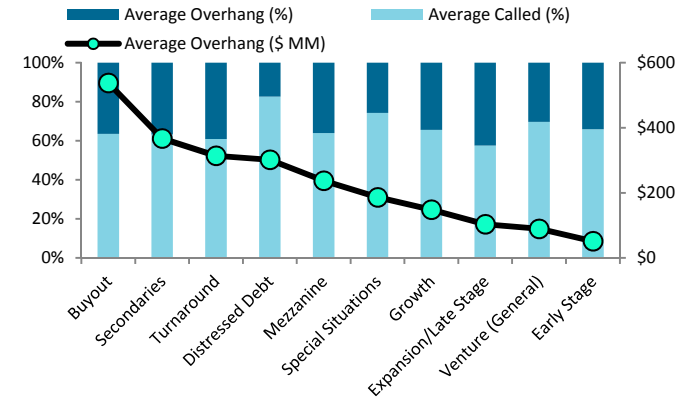
### Number of U.S.-based M+A



Source: Buyouts, Thomson Reuters & National Venture Capital Association

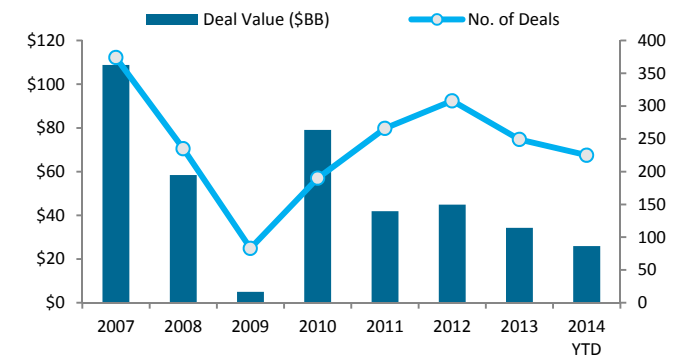
## OVERHANG

### 2007 to 2014 Vintage Years



- For 2007 to 2014 vintage years, buyout funds represented the largest strategy by capitalization and overhang in absolute terms; however, expansion/late stage funds had the greatest overhang relative to capitalization, based on the sample.

## SECONDARY BUYOUTS



- 225 Secondary Buyout transactions were completed in the first three quarters of 2014, with deal value of \$25.9 billion.

Source: Thomson Reuters, Preqin

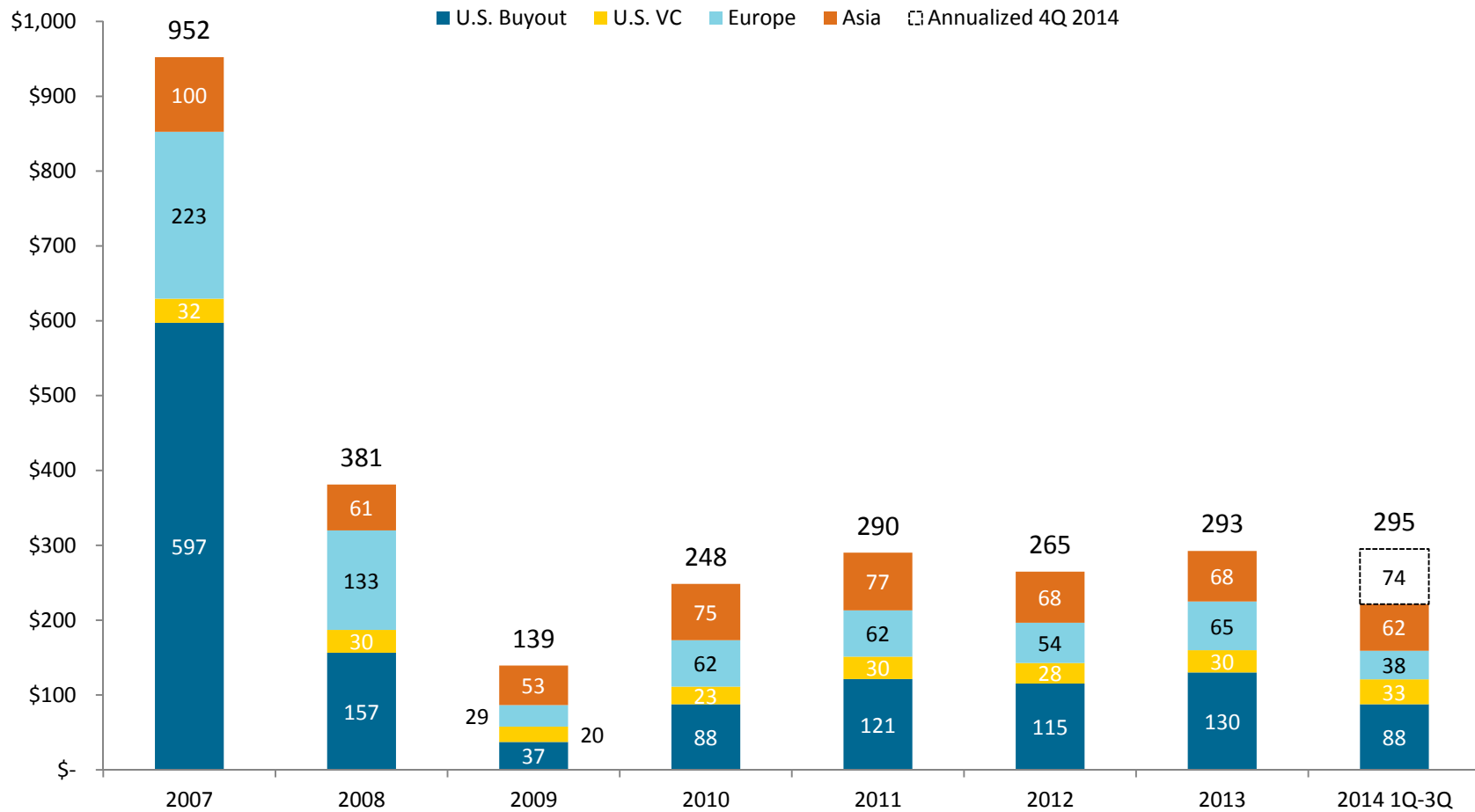


## BUYOUTS – OUTLOOK

SECTOR	MARKET OUTLOOK
Buyouts	<ul style="list-style-type: none"><li>• Fundraising environment is competitive in the US, strong in Europe, but relatively flat in Asia. Several “mega” funds will be raising capital in 2015, often at lower sizes than previous funds. Mid-market fundraising is robust. Still, fundraising timeline for many funds is over one year.</li><li>• Purchase price multiples remain at historically elevated levels (&gt;9x EBITDA) driven by low-cost debt capital and high market comparable values from the public equity market. Pricing is above that of 2007.</li><li>• Use of leverage has returned to pre-crisis levels (&gt;5x EBITDA). However, due to historically low interest rates, EBITDA interest coverage ratios are at reasonable levels.</li><li>• While cost of debt remains at historic lows, the U.S. Federal Reserve has ended its program to buy debt and is expected to begin to raise interest rates in the near future. This will likely result in a higher cost of debt for most companies and may decrease the availability of leverage and purchase prices.</li><li>• Deal volume is well below the peak of 2007 and has been relatively steady since 2010.</li><li>• Exit volume has been robust due to healthy M&amp;A activity and a supportive IPO market.</li></ul>

## LBO Disclosed Deal Value by Region and Strategy | \$ Billion

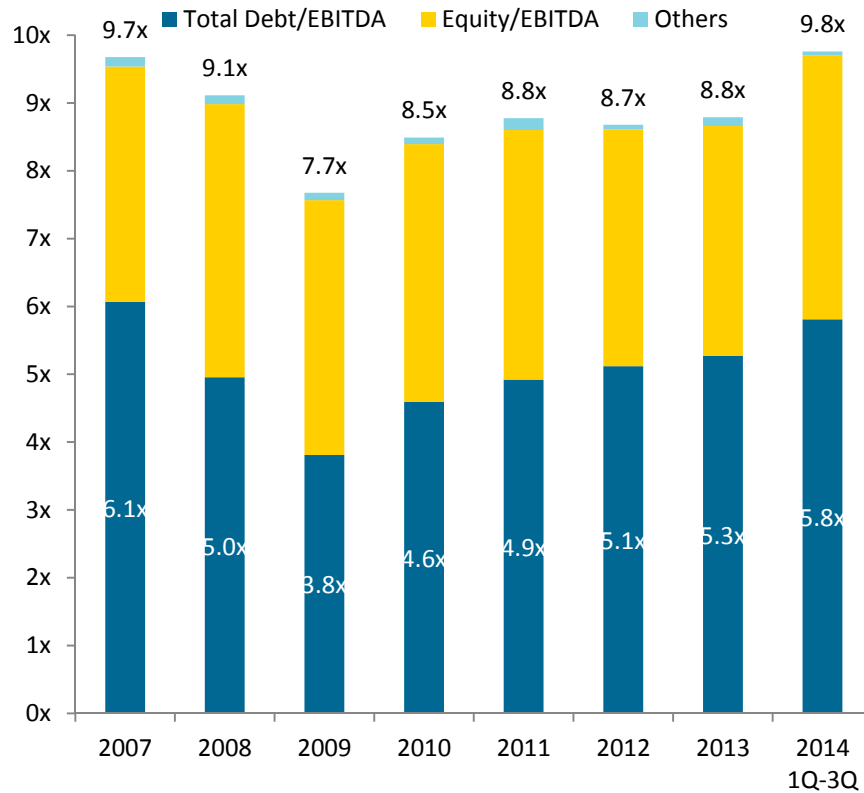
As of September 30, 2014



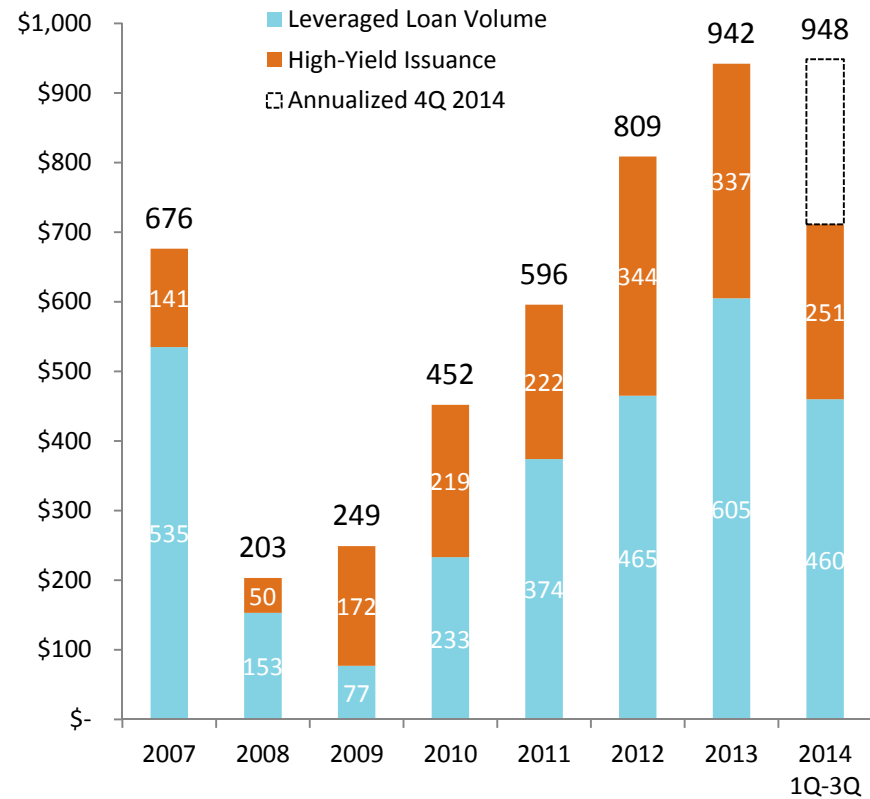
Source: Buyouts

# BUYOUTS – INVESTMENT ACTIVITY

**Average LBO Purchase Price Multiples and Leverage Multiples – U.S.**



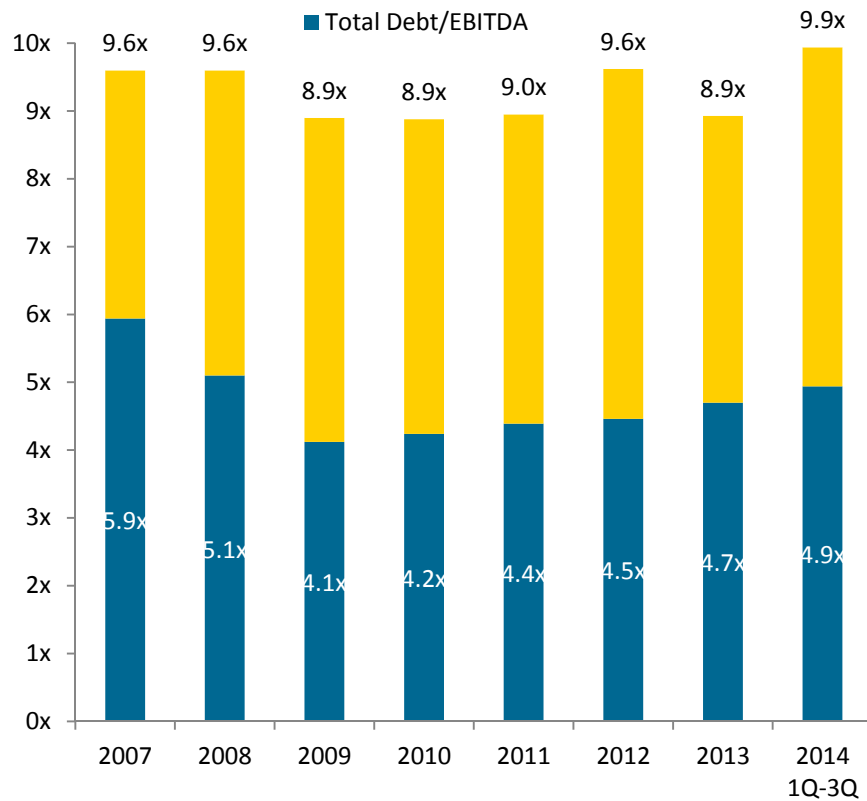
**U.S. High-Yield Issuance & Leveraged Loan Volume**  
\$ Billion | As of September 30, 2014



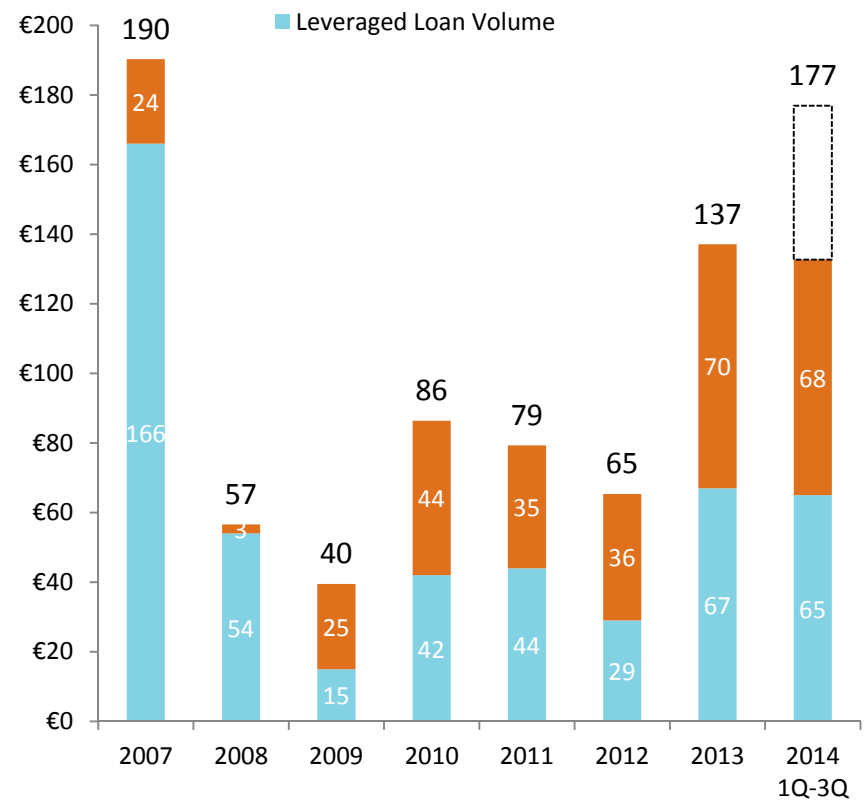
Source: S&P, Source: Professor Edward I. Altman (NYU Salomon Center)

# BUYOUTS – INVESTMENT ACTIVITY

Average LBO Purchase Price Multiples and Leverage Multiples – Europe



Europe High-Yield Issuance & Leveraged Loan Volume  
€ Billion | As of September 30, 2014

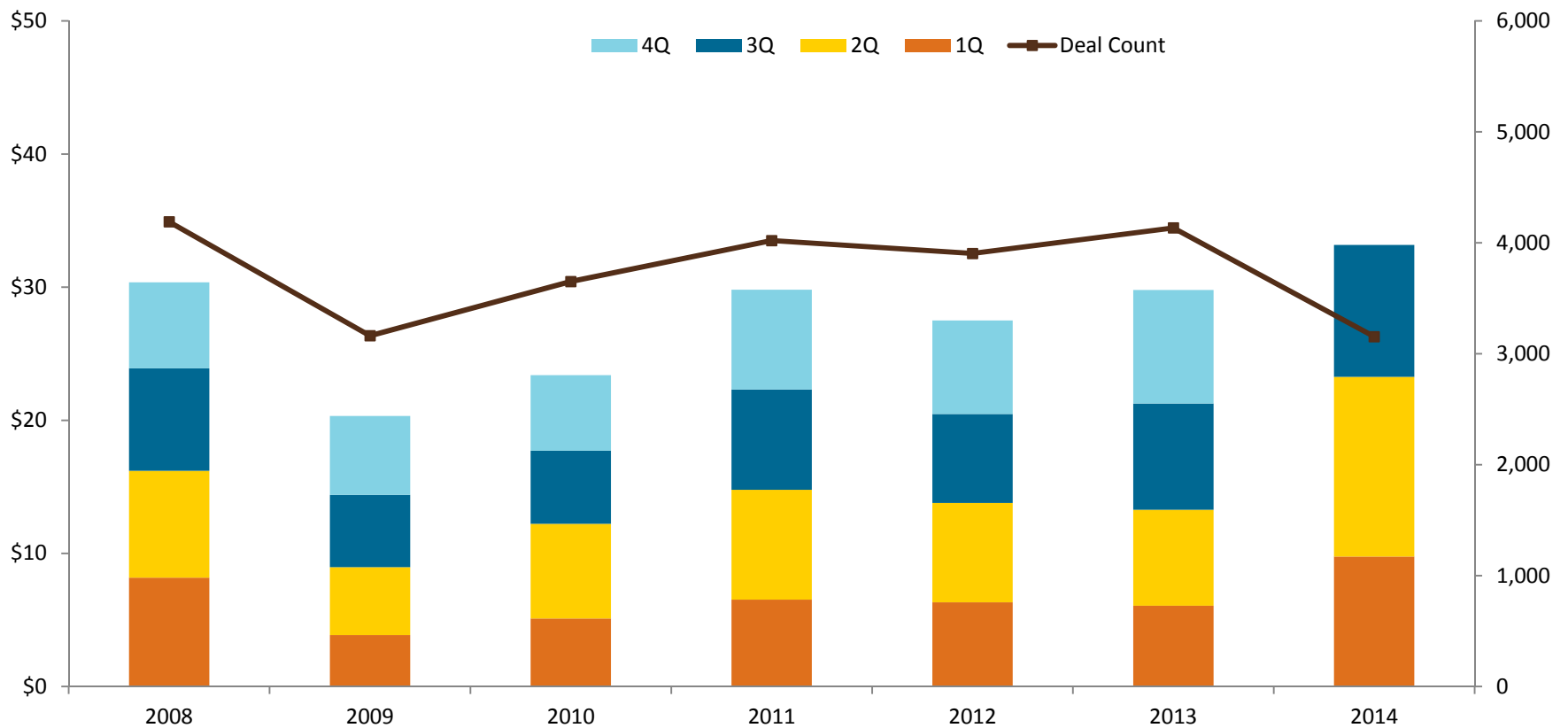


Source: S&P

SECTOR	MARKET OUTLOOK
<p><b>Venture Capital</b></p>	<ul style="list-style-type: none"> <li>• Driven by the strong exit market and improved distributions, the fundraising environment in 2014 was robust. Total venture capital fundraising in 2014 over the first three quarters amounted to \$23.8 billion, and the year was on track to reach a level seen only before the financial crisis.</li> <li>• With \$33.0 billion invested in three quarters, total venture investing in 2014 exceeded the amount in all of 2013, which totaled \$30.0 billion.</li> <li>• Despite a robust fundraising market, the amount raised is well below the amount invested. This funding gap has persisted for seven consecutive years, impacting future levels of innovation and growth.</li> <li>• Median pre-money valuations continue to increase, most pronounced in later stage deals; This has led to a continued shift to Series A and seed stage investments by some general partners.</li> <li>• Notable venture capital-backed IPOs include Alibaba Group, JD.com, and Weibo and several biotechnology companies.</li> <li>• Dominant themes: global internet penetration, cloud, mobile, security, big data.</li> <li>• Continued “barbelling” of the industry: concentration of capital with established platforms, new entrants tend to be micro funds while crowdfunding continues to grow.</li> </ul>

# VENTURE – INVESTMENT ACTIVITY

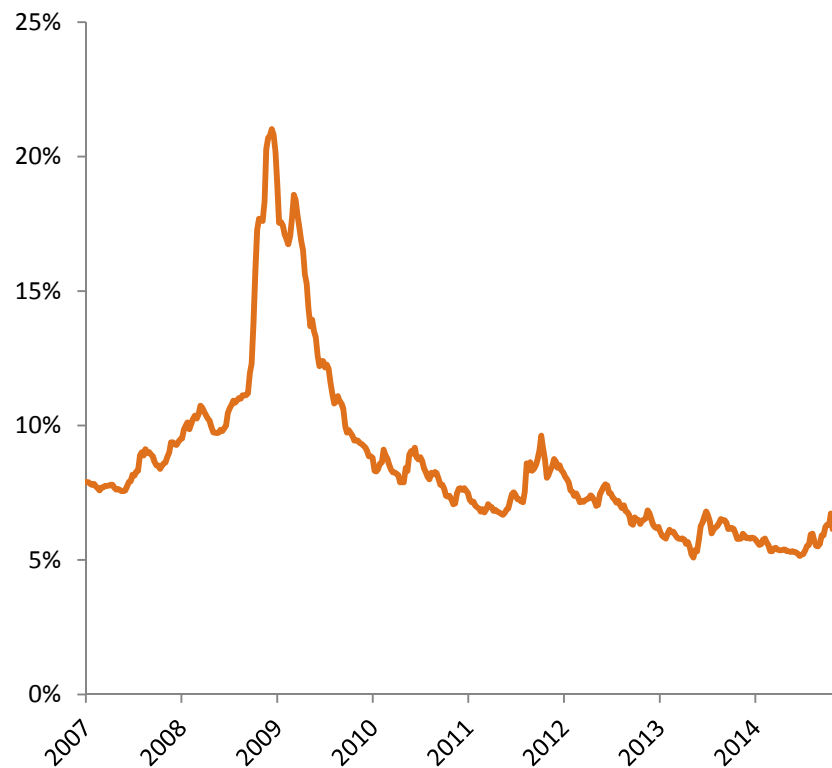
## U.S. Venture Capital Investment Activity (\$BN)



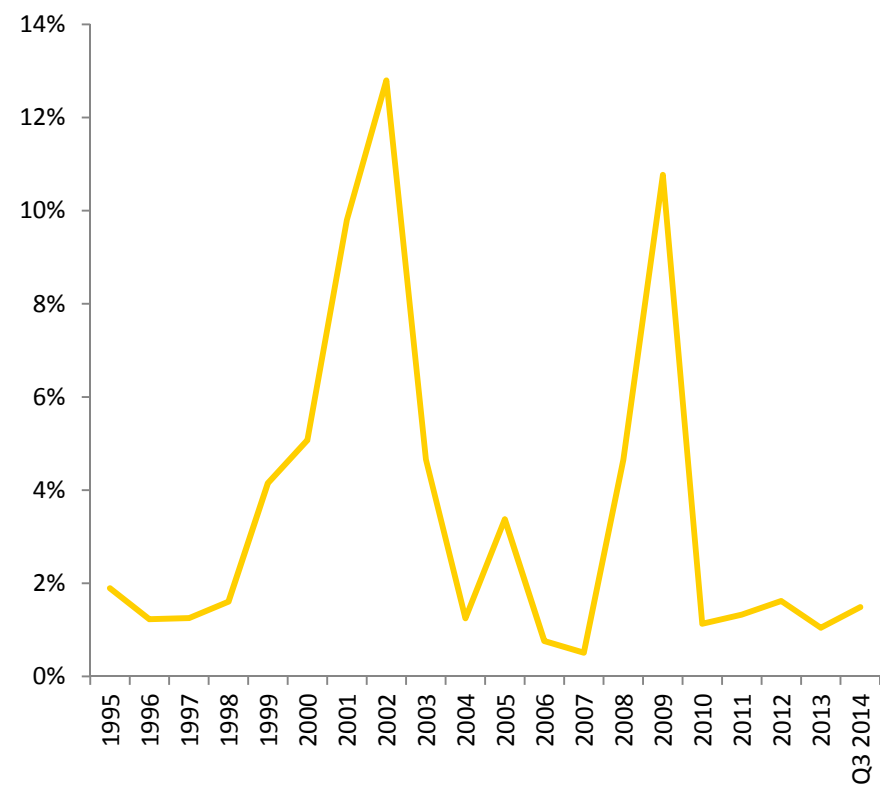
Source: National Venture Capital Association.

SECTOR	MARKET OUTLOOK
<p><b>Distressed and Mezzanine</b></p>	<ul style="list-style-type: none"> <li>• At some point in the next several years, the cost of debt capital is likely to increase even with healthy and active markets.</li> <li>• In October, debt markets had significant drops. While they have largely rebounded, the event was unsettling to many investors and has encouraged some to take a defensive posture.</li> <li>• Low default rates have persisted as debt market have allowed most borrowers to refinance. Leveraged loan and high yield debt raised in the U.S. in 2014 through September 30<sup>th</sup> totaled \$711 billion, or \$948 billion at an annualized rate. This is approximately equal to the amount raised in 2013 and greater than both 2011 and 2012. This serves as competition to mezzanine lenders, particularly at the larger end of the market.</li> <li>• Debt levels as a multiple of EBITDA are at their highest since 2007. However, the quality of debt issuance has been improving since 2011 with fewer debt issues rated B- or lower.</li> <li>• The distressed debt opportunity in Europe has developed more slowly than many expected, largely due to the need for banks to provision losses ahead of asset sales.</li> </ul>

## Cerdit Suisse High Yield Index (11/6/14)



## U.S. Bond Market Default Rates



Source: Bloomberg, Source: Professor Edward I. Altman (NYU Salomon Center)



## TAB 3 – OPERF FIXED INCOME REVIEW

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**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

**Recommendations:** None. This presentation is for review only.

**Background**

Current fixed income allocations are the result of staff and consultant recommended changes approved by the OIC in 2013. As is more fully covered in the section entitled “Evolution of OPERF Fixed Income”, the current fixed income construct reflects a philosophical change regarding the role of fixed income within OPERF. Specifically, staff’s implementation of the changes approved by the OIC in 2013 have repositioned the OPERF fixed income portfolio from a “returns-seeking, alpha-generating” role to one more biased in the direction of liquidity and capital preservation. Given OPERF’s large allocations to other risk asset classes (e.g., public equity, private equity, real estate and alternatives), this fixed income role change was implemented for the express purpose of improving liquidity and moderating volatility at the total OPERF portfolio level.

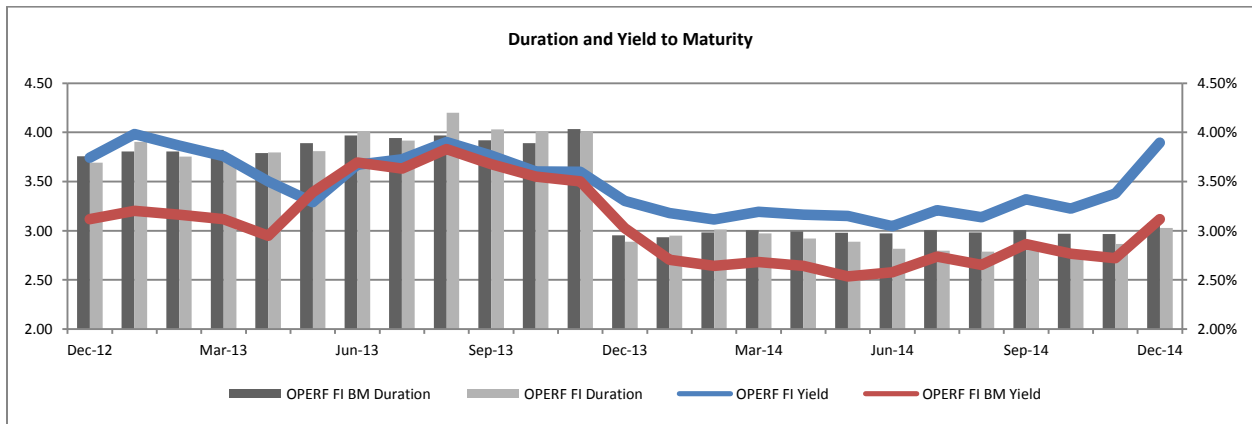
<b>Fixed Income Balances</b>	12/31/14	%		%	
	Market	Fixed	<b>Target</b>	<b>%</b>	<b>Target</b>
	Value	Income	<b>Allocation</b>	OPERF	<b>Allocation</b>
<b>Short Term High Quality</b>					
Alliance Bernstein	1,228,839	8.3%		1.8%	
Blackrock	1,220,796	8.2%		1.8%	
Wellington Management	1,248,351	8.4%		1.8%	
Western Asset Management	1,230,229	8.3%		1.8%	
	4,928,216	33.3%	<b>40.0%</b>	7.1%	<b>8.0%</b>
<b>Core</b>					
Alliance Bernstein	1,359,994	9.2%		2.0%	
Blackrock	1,360,986	9.2%		2.0%	
Wellington Management	1,349,647	9.1%		1.9%	
Western Asset Management	1,373,971	9.3%		2.0%	
	5,444,598	36.7%	<b>40.0%</b>	7.9%	<b>8.0%</b>
<b>Strategic Credit / Below Investment Grade</b>					
KKR Asset Management	2,728,610	18.4%		3.9%	
Oak Hill Advisors	1,686,876	11.4%		2.4%	
	4,415,486	29.8%	<b>20.0%</b>	6.4%	<b>4.0%</b>
Transition Account	28,229	0.2%	<b>0.0%</b>	0.0%	
<b>OPERF Fixed Income</b>	<b>14,816,529</b>	<b>100.0%</b>	<b>100.0%</b>	21.4%	<b>20.0%</b>

In December 2013 and January 2014, approximately 33% of fixed income (50% of the prior Core+ mandate) was re-allocated to a Short Term High Quality mandate (STHQ) and the remaining Core+ allocation was reconstituted as a “Core” strategy by eliminating exposure to emerging market debt. The primary effect of this repositioning was to reduce the fixed income portfolio’s duration (i.e., interest rate sensitivity) and credit risk exposure. In addition, approximately 2% of total OPERF assets were earmarked in late 2013 for re-allocation from fixed income to the Opportunity and Alternative portfolios, respectively. These re-allocated assets are temporarily invested in the Strategic Credit

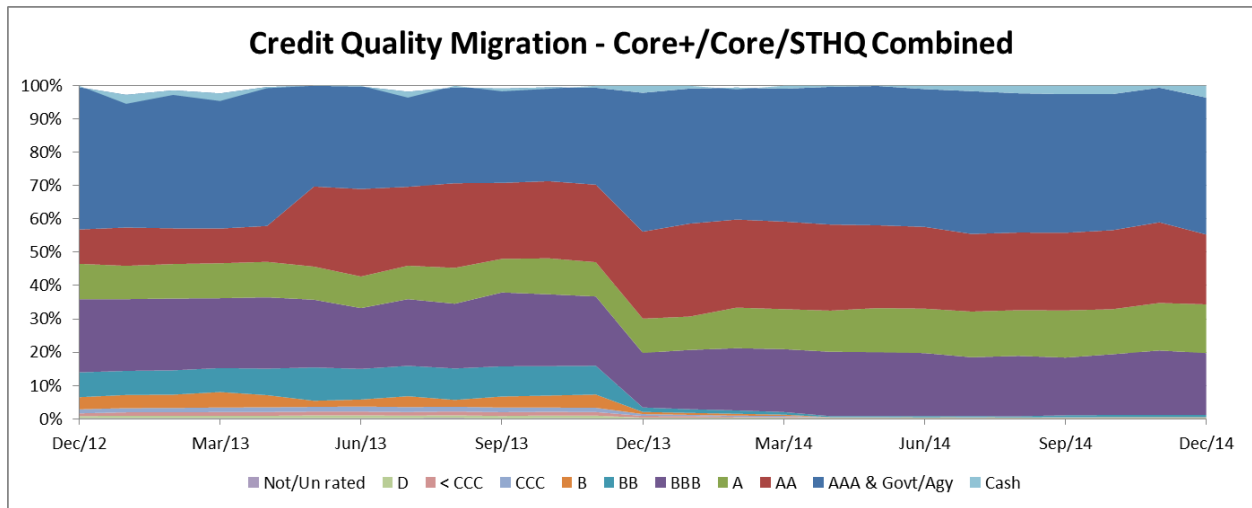
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**OPERF Fixed Income Portfolio Review**

strategy (described in more detail below) until required for either Opportunity and/or Alternative portfolio investments.

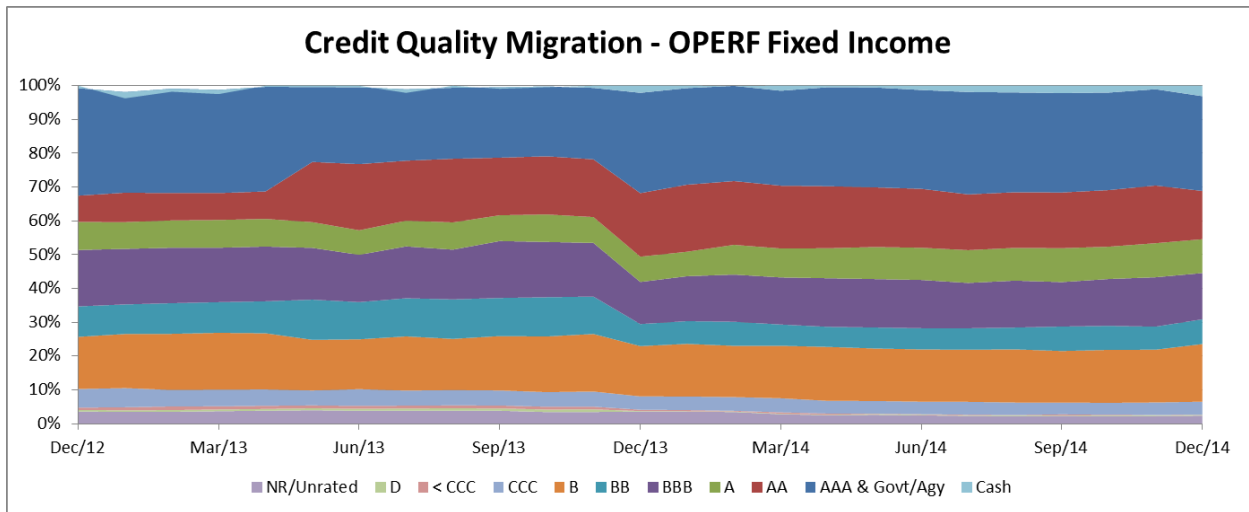
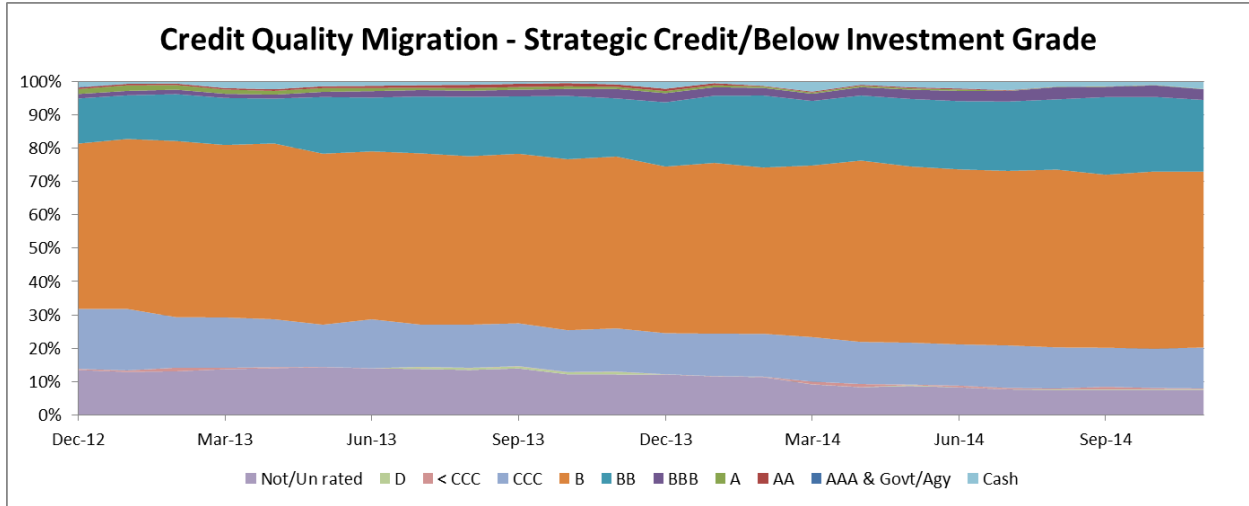
As depicted below, reconstituting the legacy Core+ strategy to a 50/50 mix of Short Term High Quality and Core reduced the overall fixed income portfolio's duration or sensitivity to changes in the level of interest rates:



By eliminating or severely reducing the “+” exposures (e.g., emerging market debt) from the legacy Core+ strategy, the overall fixed income portfolio's credit quality profile was raised:

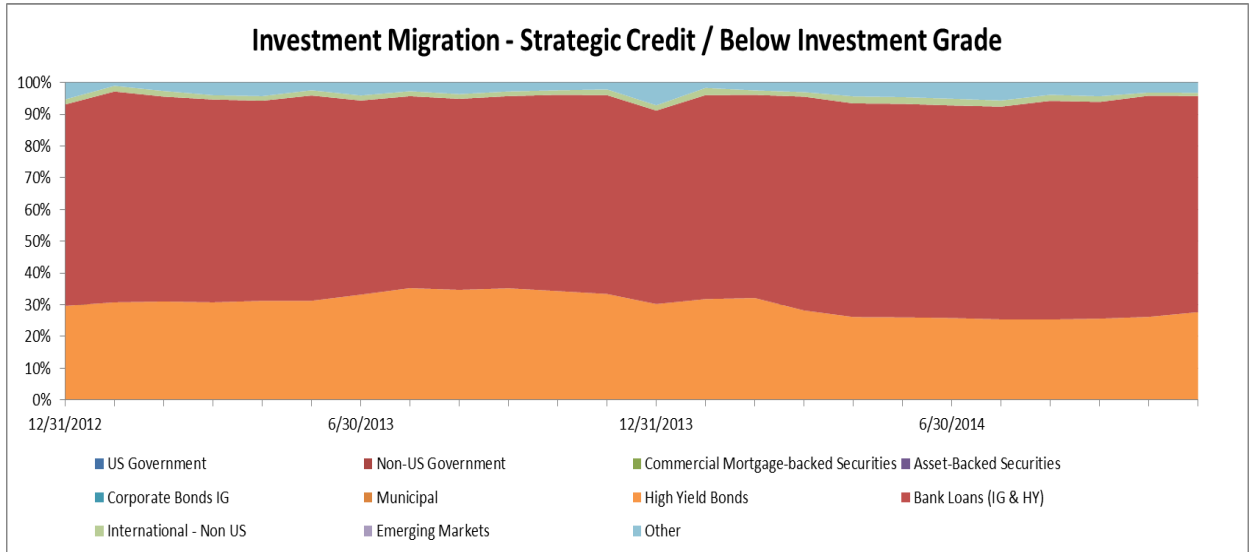
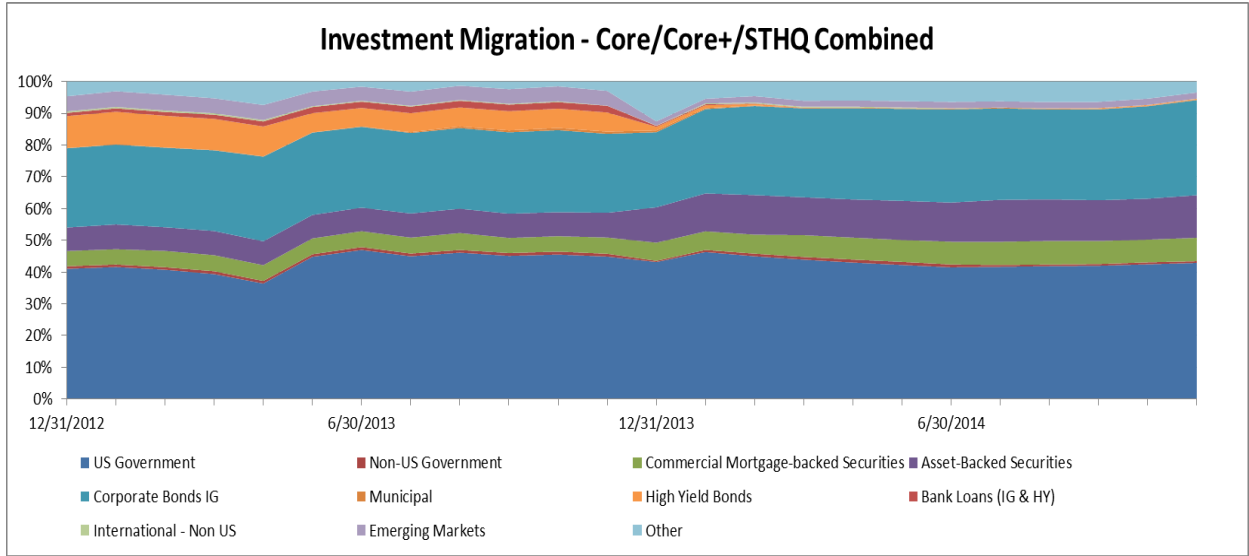


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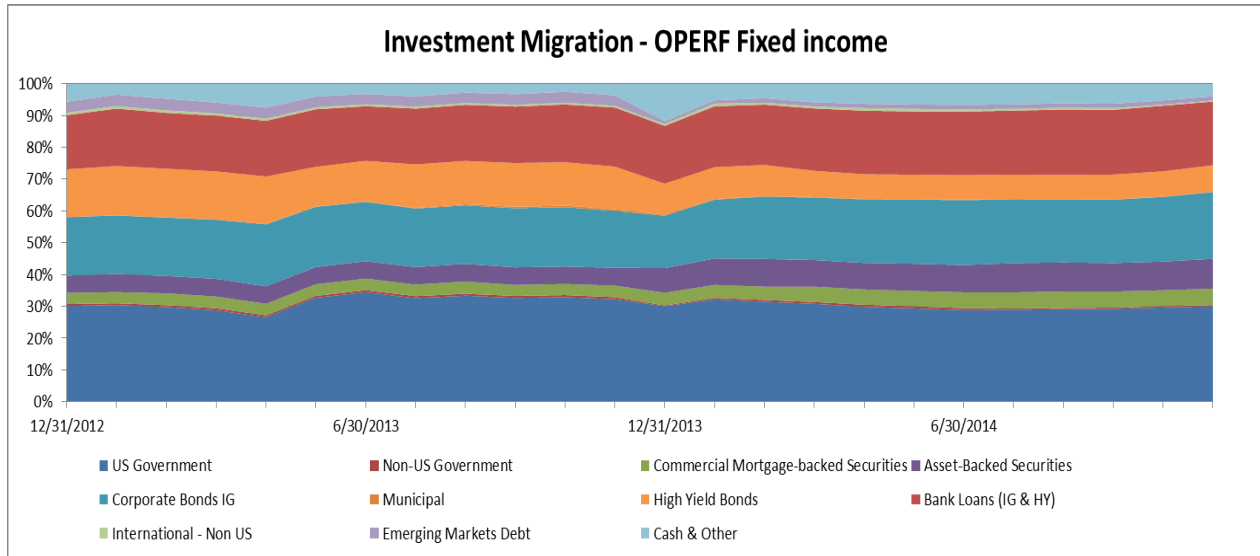


Fixed income portfolio exposures to bank loans and high yield bonds were also reduced as part of this transition in late 2013:

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**Performance**

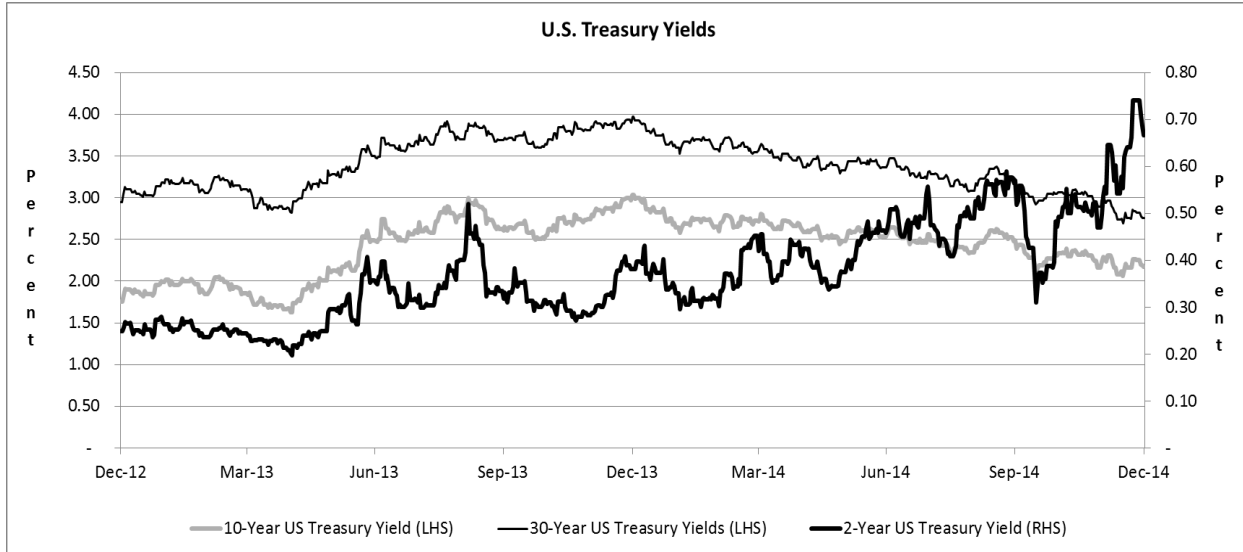
Over a market cycle of three to five years and on a net-of-fee basis, the OPERF fixed income performance objective is a portfolio return of at least 35 basis points above the custom policy benchmark.

<b>OPERF Fixed Income (as of 12/31/14)</b>					
<b>Cumulative Returns (%)</b>	<b>1 year</b>	<b>3 years</b>	<b>5 years</b>	<b>7 Years</b>	<b>10 Years</b>
OPERF Fixed Income	3.52	4.89	6.29	6.34	5.87
Custom Benchmark	3.04	3.92	4.75	4.94	4.87
Excess	0.48	0.97	1.54	1.40	1.00
<b>Period Returns (%)</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
OPERF Fixed Income	3.52	1.04	10.33	6.12	10.78
Custom Benchmark	3.04	0.29	8.60	5.33	6.69
Excess	0.48	0.75	1.73	0.79	4.09

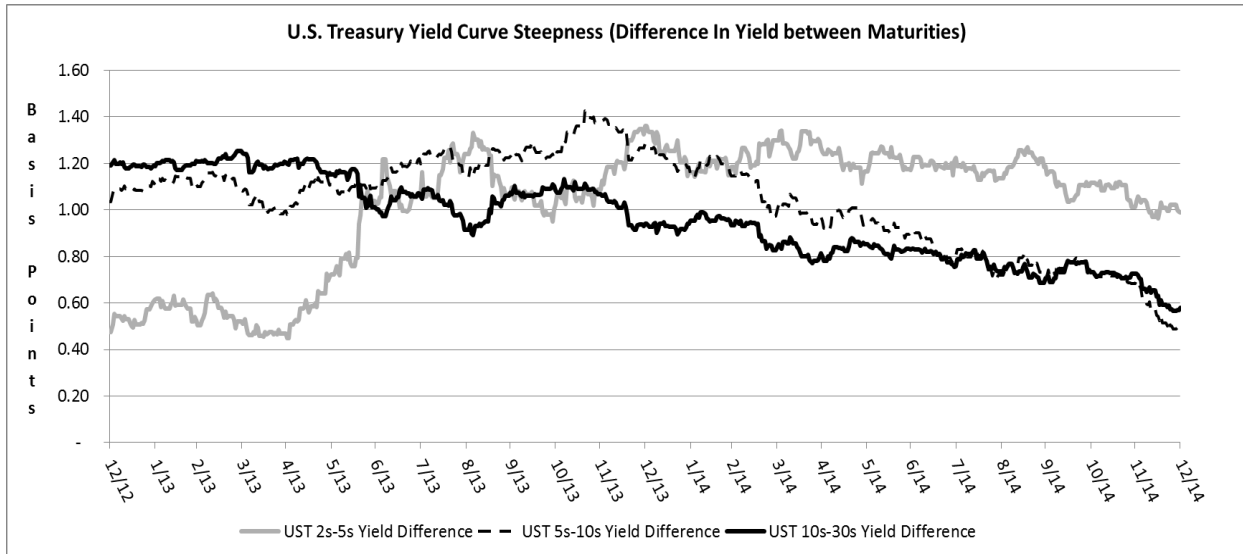
**Fixed Income Market Dynamics in 2014**

On the U.S. Treasury curve, short rates rose while longer maturity rates declined in 2014. In general, this yield curve change reduced shorter maturity bond returns relative to returns available from longer dated maturities.

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**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

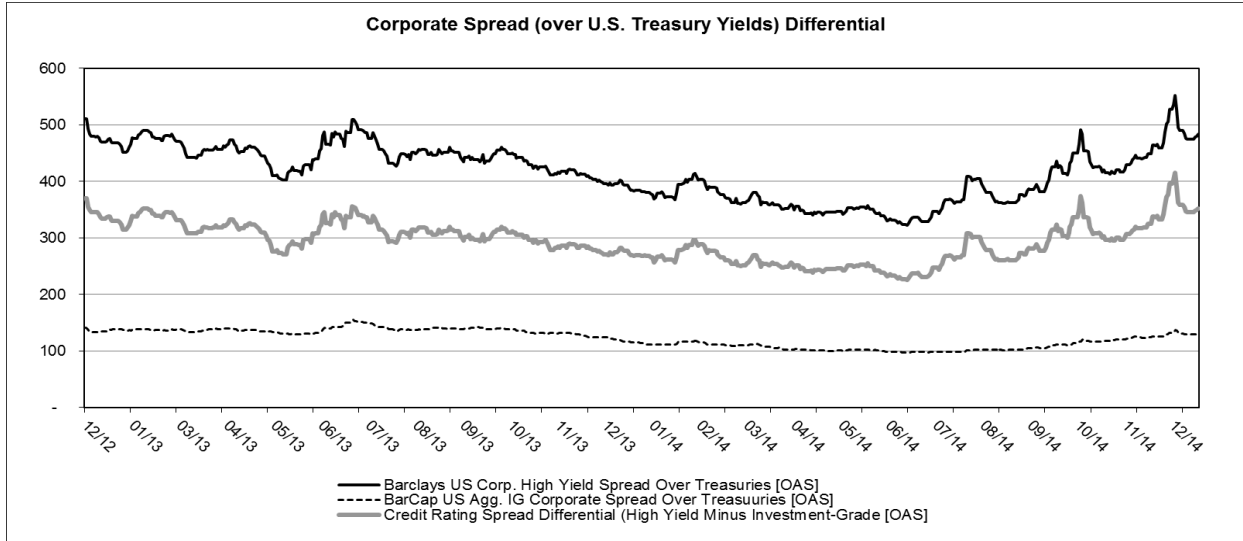


Because short rates increased relative to longer rates, the upward curvature of the U.S. Treasury yield curve lessened (a situation bond market participants refer to as a “Bull Flattener”). Going forward, the consequence of this curve flattening is that investors will receive less yield for extending maturity or duration on new investments, but in 2014, the bull flattener drove the outperformance of long-term investments relative to short term investments.



After tightening into mid-year 2014, credit spreads reversed course and began widening through year end. This widening occurred first in response to a slowdown in global GDP combined with continued high issuance levels, but then widened further still as the fourth quarter’s dramatic drop in oil prices stoked fears of a looming crisis in energy sector debt investments.

**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**



Loan performance also suffered in the second half of 2014, but to a lesser extent than high yield.

**Global High Yield Credit Markets (as of 12/31/2014):**

Market (Index)	Rate of Return					Default Rate
	4th Qtr.	3rd Qtr.	2nd Qtr.	1st Qtr.	2014	
US High Yield Bonds	-1.59%	-1.94%	2.41%	3.07%	1.86%	2.09%
US Bank Loans	-0.37%	-0.33%	1.45%	1.30%	2.06%	3.01%
European High Yield Bonds	-0.02%	-0.95%	2.45%	2.81%	4.31%	0.89%
European Bank Loans	-0.22%	0.25%	1.33%	0.59%	1.96%	3.45%

Market (Index)	Price (\$)		Spread (bps)		Yield (%)		Market Size (bn.)	
	12/31/2014	12/31/2013	12/31/2014	12/31/2013	12/31/2014	12/31/2013	12/31/2014	12/31/2013
US High Yield Bonds	97.15	100.85	564	436	7.10%	5.77%	1,437	1,326
US Bank Loans	96.28	98.54	558	488	6.21%	5.26%	906	751
European High Yield Bonds	101.96	105.13	478	395	5.19%	4.85%	418	370
European Bank Loans	95.99	92.54	541	520	NA	NA	144	144

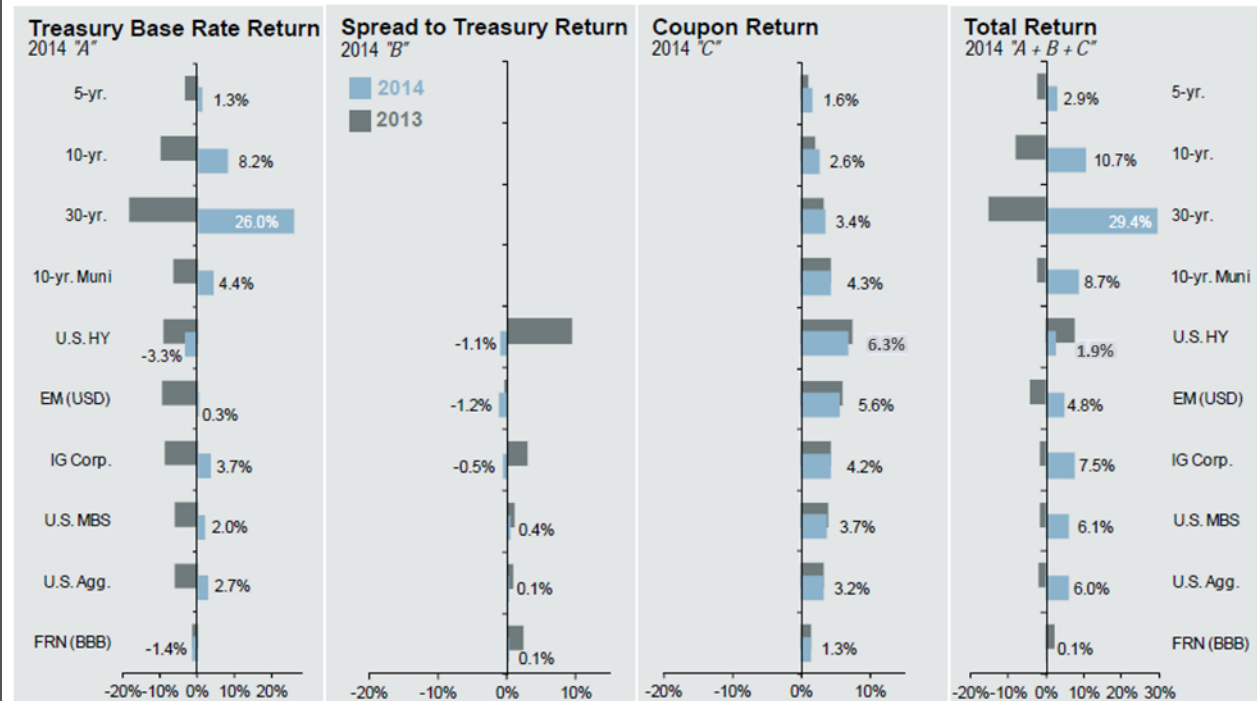
Source: Credit Suisse Indices  
 Note: Spread metrics represents spread-to-worst for US and European High Yield Bonds and 3-year discount margins for US and European Bank Loans. Yield metrics represent yield-to-worst for US and European High Yield Bonds and yield based on a 3-year life for US Bank Loans. Market size is based on Credit Suisse data and is measured in \$ for US markets and € for European markets. Default rate is based on LTM and par amount.

In contrast to 2013, fixed income performance last year was driven primarily by the decline in long-term U.S. Treasury yields. I.e., the “spread compression” that powered returns in 2013 turned negligible or in some cases negative last year:



**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

**2014 Fixed Income Returns by Sector**



Source: Federal Reserve, Barclays, J.P. Morgan Asset Management.

All returns reflect year to date returns. Treasury base, spread, and coupon returns based on Barclays and J.P. Morgan Asset Management estimates. The sum of charts A and B equate to price return for each sector. Indices used include Barclays US Treasury Bellwethers (10Y), Barclays US Aggregate, Barclays US Aggregate Credit – Corporate Investment Grade, Barclays US Aggregate Credit – Corporate High Yield, Barclays Muni 10-year Index, Barclays US MBS Index, Barclays Floating Rate Index, and Barclays Emerging Markets USD.

Guide to the Markets – U.S. Data are as of 12/31/14.



**Strategies:**

OPERF’s fixed income portfolio is invested in three actively managed strategies. By policy, two of these strategies (Short Term High Quality and Core) comprise approximately 80% of the total portfolio and focus on investment grade market sectors. The third strategy (Strategic Credit) invests in bank loans and below investment grade credit (i.e., high yield) sectors.

Each sector of the fixed income market has distinct performance attributes which are driven by economic, business cycle and supply/demand conditions. In general, active management strategies attempt to 1) anticipate sector performance trends and 2) identify relative value opportunities within and between among sectors.

In theory, active managers a) rotate among sectors and securities based on relative value considerations, b) make duration bets in the form of both rate level and yield curve forecasts, and c) balance portfolio yield and convexity attributes. This process involves both “top down” macro-economic analysis as well as “bottom up” sector and security analysis.

**Short Term High Quality:**

**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

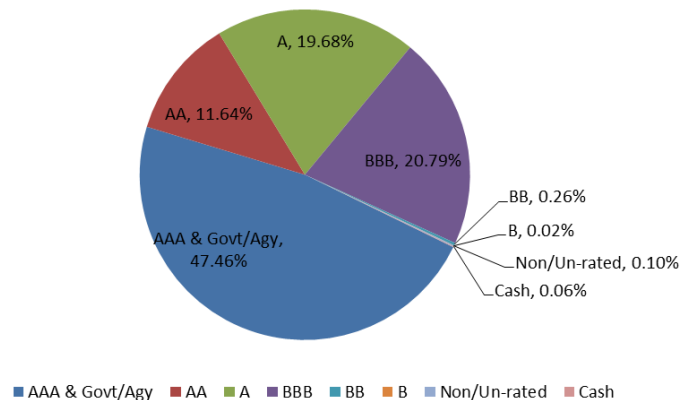
Approximately 50% of the OPERF “Core+” strategy allocation was “de-risked” and reconstituted as a Short Term High Quality (STHQ) mandate at year-end 2013. The switch from Core+ to STHQ entailed making material reductions to “+” debt market exposures such as emerging markets, non-investment grade debt, and esoteric structured credit securities (e.g., structured notes, hybrid securities, etc). Importantly, this change also reduced the overall portfolio’s interest rate sensitivity as STHQ strategy duration is limited to +/-25% of the corresponding 3-year maximum maturity benchmark. STHQ guidelines also allow for some non-benchmark exposures, specifically in residential, commercial and asset-backed securities. The four legacy Core+ managers were retained for the STHQ strategy. Each manager received an even pro rata allocation, and all four are benchmarked against the same custom benchmark.

Custom STHQ Benchmark: Barclays Capital 1-3 Year Government/Credit Index  
 Excess Return Policy Goal: 15 Basis Points

**Performance**

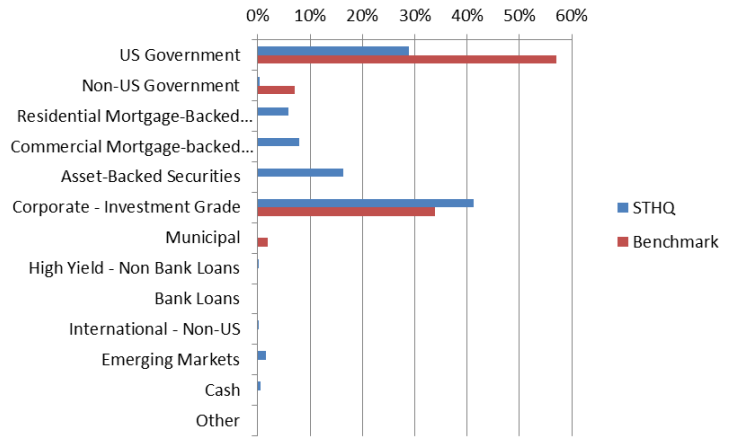
<b>Short Term High Quality</b>					
<b>Cumulative Returns (%)</b>	<b>1 year</b>	<b>3 years</b>	<b>5 years</b>	<b>7 Years</b>	<b>10 Years</b>
Alliance Bernstein	0.76				
Blackrock	0.96				
Wellington Management	1.28				
Western Asset	1.10				
<b>OPERF Fixed Income</b>	<b>1.02</b>				
<b>Custom Benchmark</b>	<b>0.77</b>	<b>0.89</b>	<b>1.41</b>	<b>2.26</b>	<b>2.85</b>
<b>Excess</b>	<b>0.25</b>				
<hr/>					
<b>Period Returns (%)</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
OPERF Fixed Income	1.02				
<b>Custom Benchmark</b>	<b>0.77</b>	<b>0.64</b>	<b>1.26</b>	<b>1.59</b>	<b>2.80</b>
Excess	0.25				

**STHQ Credit Rating Exposures (12/31/14)**



**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

**STHQ Investment Exposures (12/31/14)**



	<u>STHQ</u>	<u>BM</u>
Duration	1.65	1.93
Yield	1.45%	0.89%
Average Rating	Aa2/AA-	Aa1/AA

**Core**

The remaining portion (about 50%) of the OPERF “Core+” strategy (i.e., that which did not become the new STHQ strategy) was also de-risked. At year-end 2013, this portion was reconstituted from “Core+” to “Core”, a change that primarily entailed making material reductions to emerging market debt and non-investment grade securities. The four legacy Core+ managers were also retained for this new Core strategy, with assets again divided evenly and a common custom benchmark assigned to all four managers.

Custom Benchmark: Barclays Capital U.S. Aggregate Index  
 Excess Return Policy Goal: 30 Basis Points

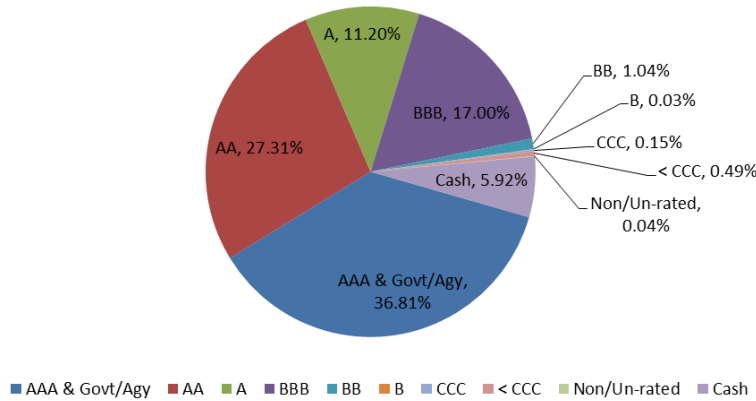
**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

**Performance**

Core / Core+					
Cumulative Returns (%)	1 year	3 years	5 years	7 Years	10 Years
Alliance Bernstein	7.30	4.26	5.83	6.14	5.79
Blackrock	6.67	4.22	5.75	5.6	5.29
Wellington Management	6.50	4.99	6.27	6.38	5.91
Western Asset	7.00	5.53	6.98	6.24	5.78
<b>Core/Core+</b>	<b>6.87</b>	<b>4.74</b>	<b>6.21</b>	<b>6.14</b>	<b>5.73</b>
Custom Benchmark	5.97	3.55	4.95	5.09	4.97
<b>Excess</b>	<b>0.90</b>	<b>1.19</b>	<b>1.26</b>	<b>1.05</b>	<b>0.76</b>
Period Returns (%)	2014	2013	2012	2011	2010
<b>Core</b>	<b>6.87</b>	<b>-1.42</b>	<b>9.08</b>	<b>6.79</b>	<b>10.12</b>
Custom Benchmark	5.97	-1.87	6.79	7.48	6.69
Excess	0.90	0.45	2.29	-0.69	3.43

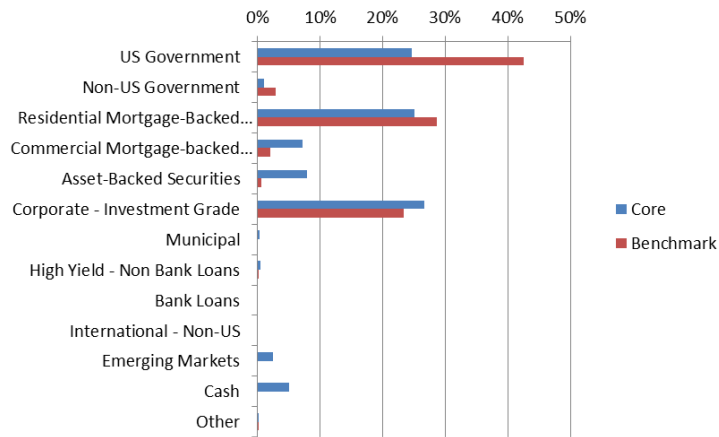
*Note: 1-year results reflect Core strategy performance; all other historical results reflect the legacy Core+ strategy.*

**Core Credit Rating Exposures (12/31/14)**



**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

**Core Investment Exposures (12/31/14)**



	<u>Core</u>	<u>BM</u>
Duration	5.25	5.55
Yield	2.53%	2.25%
Average Rating	Aa2/AA	Aa1/AA

Strategic Credit / Below Investment Grade

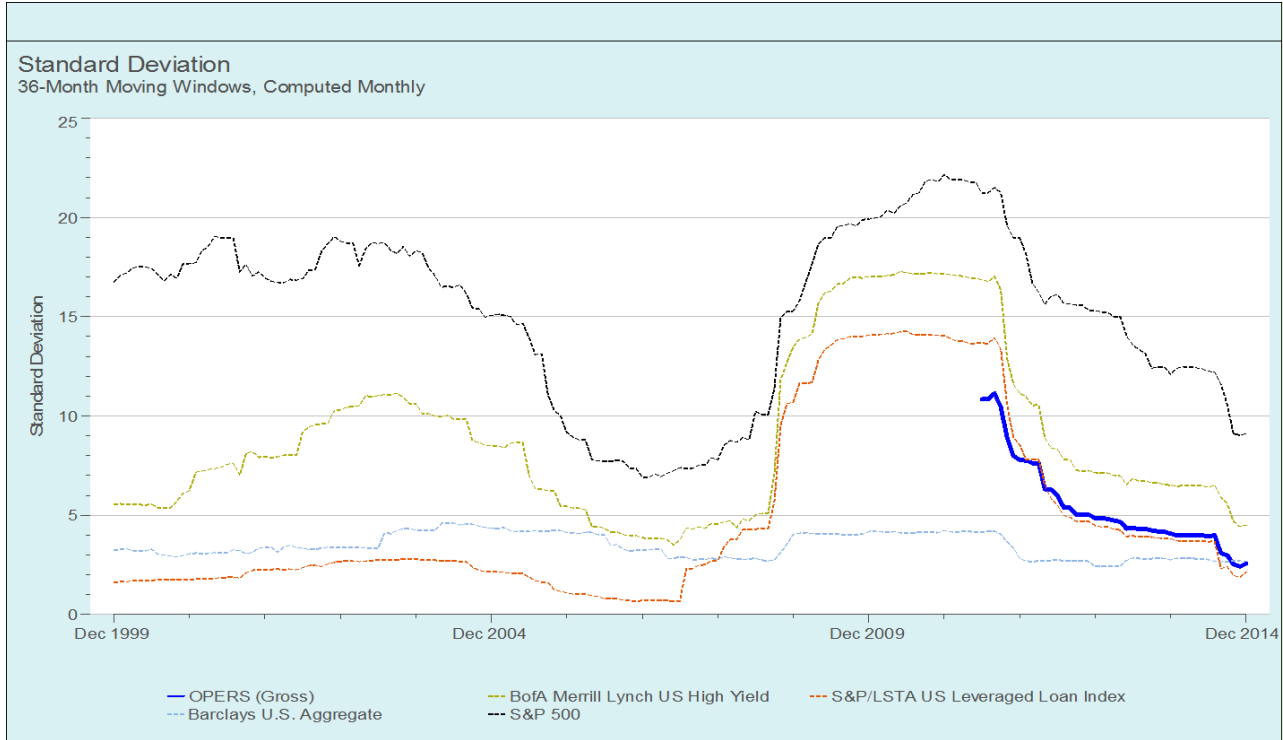
The Below Investment Grade (BIG) allocation, previously named “Strategic Credit”, is managed by two credit-specialist managers, each with a slightly different custom benchmark. This benchmark difference reflects staff’s perceived expertise differential.

KKR Asset Management custom benchmark: 65% S&P/LSTA Leveraged Loan Index  
35% of the Merrill Lynch High Yield Master II Index

Oak Hill Advisors custom benchmark: 85% S&P/LSTA Leveraged Loan Index  
15% of the Merrill Lynch High Yield Master II Index

By construction of these custom benchmarks, the BIG strategy is predominantly comprised of securitized senior secured, and to a lesser degree, senior unsecured bank loans. These “top of the capital structure” exposures have historically exhibited lower default rates, higher recovery values and lower price volatility than unsecured high yield bonds.

**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**



Because bank loans are predominately floating rate, staff believes the BIG allocation also provides the overall OPERF fixed income portfolio with an additional rising rate hedge.

**Performance when 5 Year U.S. Treasury Yield Increased 70bp (or more) in 3 Months**

3-months ending:	Increase in 5-year Treasury Yields	Increase in 10-year Treasury Yields	HY Bond Spreads Beg Month	HY Bond Return	HG Bond Returns	Leveraged Loan Return	S&P 500 Return	Average VIX	% change VIX	Spread Tightening / Widening	HY Bond Returns next 3 months
Jun-09	0.90%	0.87%	1531 bp	22.5%	9.7%	20.4%	15.9%	30.6	-9%	-512 bp	15.1%
Jan-02	0.90%	0.80%	991 bp	4.0%	-0.7%	2.6%	7.0%	22.9	-11%	-171 bp	3.0%
Mar-90	0.81%	0.69%	790 bp	-2.6%	-0.7%	NA	-3.0%	22.4	-10%	4 bp	5.7%
May-08	0.95%	0.55%	765 bp	4.0%	-1.3%	4.6%	5.8%	21.4	-14%	-115 bp	-3.4%
Aug-03	1.18%	1.09%	746 bp	3.3%	-3.6%	2.1%	5.1%	19.2	-4%	-152 bp	6.2%
Mar-92	1.00%	0.83%	729 bp	8.2%	-0.6%	NA	-2.6%	16.8	-3%	-239 bp	2.5%
Dec-10	0.74%	0.78%	659 bp	3.2%	-1.8%	3.2%	10.8%	20.8	-25%	-82 bp	4.2%
Feb-99	0.74%	0.57%	611 bp	0.2%	-1.0%	0.7%	6.8%	26.2	6%	-32 bp	2.2%
Jan-00	0.74%	0.64%	605 bp	2.3%	0.1%	2.3%	2.6%	24.6	1%	-65 bp	-1.4%
Jun-04	0.99%	0.75%	499 bp	-0.4%	-3.3%	1.2%	1.7%	15.7	-7%	-47 bp	4.4%
<b>July-13</b>	<b>0.70%</b>	<b>0.89%</b>	<b>469bp</b>	<b>-1.1%</b>	<b>-4.0%</b>	<b>0.6%</b>	<b>6.1%</b>	<b>14.8</b>	<b>-0.5%</b>	<b>+25bp</b>	<b>3.0%</b>
Apr-96	1.18%	1.09%	461 bp	0.9%	-3.9%	1.9%	3.5%	17.3	-16%	-80 bp	1.9%
May-88	1.05%	1.00%	458 bp	0.5%	-2.9%	NA	-1.2%	NA	NA	-41 bp	1.0%
May-87	1.44%	1.30%	425 bp	-2.8%	-4.2%	NA	2.9%	NA	NA	-107 bp	4.1%
Nov-94	0.98%	0.73%	405 bp	-0.8%	-1.9%	1.8%	-3.8%	14.9	10%	8 bp	5.5%
Apr-94	1.61%	1.40%	370 bp	-4.8%	-5.7%	2.3%	-5.7%	16.4	-33%	9 bp	1.1%
Average	1.01%	0.87%	670 bp	2.5%	-1.4%	3.9%	3.0%	20.7	-9%	-108 bp	3.4%
Median	0.98%	0.80%	611 bp	0.9%	-1.8%	2.3%	2.9%	20.8	-9%	-80 bp	2.7%

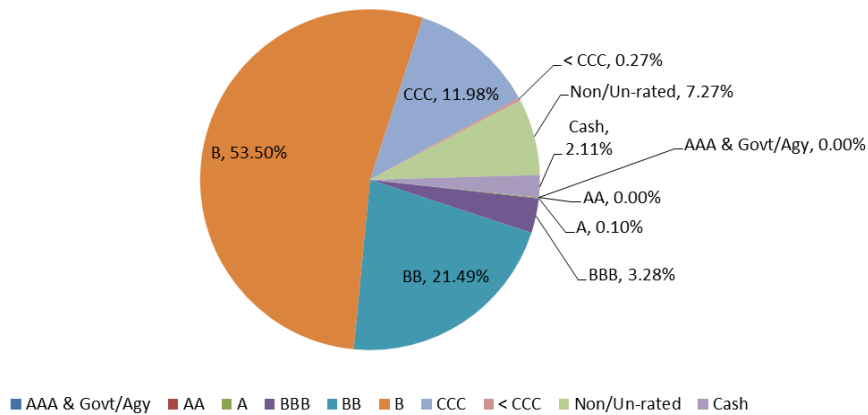
Sources: J.P. Morgan, S&P/LCD

**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

**Performance**

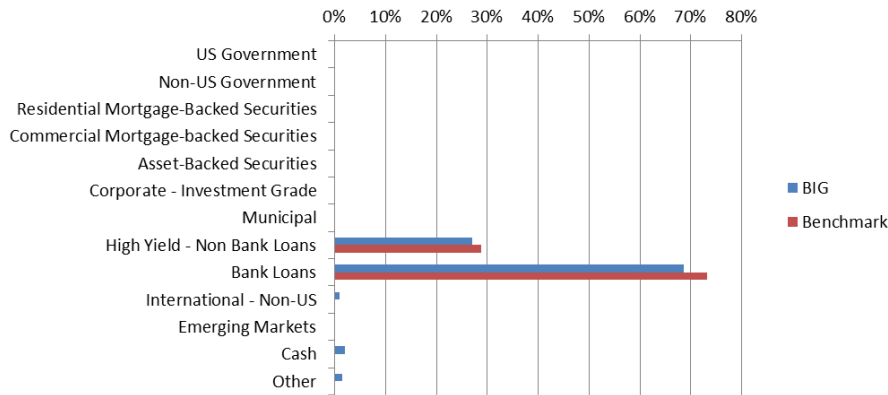
Strategic Credit / Below Investment Grade					
Cumulative Returns (%)	1 year	3 years	5 years	7 Years	10 Years
KKR Asset Management	2.46	8.35	8.81		
Custom Benchmark	1.93	6.48	6.74		
<b>Excess</b>	<b>0.53</b>	<b>1.87</b>	<b>2.07</b>		
<hr/>					
Oak Hill	2.21	6.83	6.69		
Custom Benchmark	1.74	5.90	6.08		
<b>Excess</b>	<b>0.47</b>	<b>0.93</b>	<b>0.61</b>		
<hr/>					
<b>Strategic Credit</b>	<b>2.36</b>	<b>7.78</b>	<b>8.02</b>		
<hr/>					
Period Returns (%)	2014	2013	2012	2011	2010
KKR Asset Management	2.46	9.04	13.85	4.79	14.44
Custom Benchmark	1.93	6.04	11.71	2.56	11.92
<b>Excess</b>	<b>0.53</b>	<b>3.00</b>	<b>2.14</b>	<b>2.23</b>	<b>2.52</b>
<hr/>					
Oak Hill	2.21	6.51	11.99	2.36	10.77
Custom Benchmark	1.74	5.61	10.53	1.97	10.92
<b>Excess</b>	<b>0.47</b>	<b>0.90</b>	<b>1.46</b>	<b>0.39</b>	<b>-0.15</b>
<hr/>					
<b>Strategic Credit</b>	<b>2.36</b>	<b>8.09</b>	<b>13.15</b>	<b>3.78</b>	<b>13.19</b>

**Strategic Credit/BIG Credit Rating Exposures (12/31/14)**



**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

**Strategic Credit/BIG Investment Exposures**  
**(12/31/14)**



	<u>BIG</u>	<u>BM</u>
Duration	1.45	1.32
Yield	7.65%	6.17%
Average Rating	Ba2/B	Ba1/B+

**OPERF Fixed Income Background and Evolution**

The OPERF Fixed Income (FI) portfolio was once primarily an internally-managed portfolio. Following the 1999 retirement of the assigned internal portfolio manager, the OIC delegated fixed income management responsibilities to five external generalist managers. The five managers were given a relatively broad “Core Plus” (Core+) mandate with flexibility to invest in “plus” (+) sectors of the fixed income markets (e.g., global developed, emerging markets, high yield, etc.). Investment in non-investment grade was capped at 30% versus an index exposure of about 5%. The portfolio was managed consistent with this make-up from 2000 to mid-2008.

In July 2008 and April 2009, driven by dislocations in the senior secured bank loan market, and with OIC approval based upon staff and consultant recommendations, a “Strategic Credit” allocation, comprised predominantly of senior secured floating rate bank loans and high yield bonds, was introduced and implemented. Two external “credit-specialist” managers were selected to manage this new fixed income portfolio allocation. To offset the additional risks associated with this new below investment grade (BIG) allocation, the existing Core+ managers’ maximum BIG allocations were reduced to 15% from 30% of their respective mandates. Moreover, the number of Core+ managers was cut from five to four. The policy objective for the remaining Core+ managers was set to achieve a portfolio return of at least 75 basis points above the custom policy benchmark.

**OPERF FI Benchmark from 2000-2010**

- 90% BC U.S. Universal Index
- 10% SSBI Non-U.S. World Government Bond Hedged Index



**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

In early 2011, staff received OIC approval to explicitly add emerging market debt to the OPERF Core+ allocation by revising the four managers' benchmark to include a 10% exposure to the JPMorgan EMBI Global Index. This change was made to recognize the increased role of emerging market debt in global fixed income markets and its potential diversifying contribution to the overall OPERF FI portfolio. Additionally, exposures to the S&P/LSTA Loan and BofA ML High Yield indexes were added to the OPERF Fixed Income composite benchmark to recognize the significant positive contribution of the Strategic Credit strategy allocation. Given the (even then) historically low rate environment and the (even then and still) unknown effects of quantitative easing and central banks' other, accommodative monetary policies, staff and the OIC's consultant advised that the Strategic Credit strategy's significant floating rate exposure would provide adequate inflation protection.

**OPERF FI Benchmark from 2011-2013**

- 60% BC U.S. Universal Index
- 20% S&P/LSTA Loan Index
- 10% BofA ML High Yield Master Index
- 10% JPM EMBI Global Index

In 2013, as a result of the OIC's Investment Beliefs Project and its consultant's updated ALM study, the OIC approved additional changes to the OPERF FI portfolio. These changes were principally designed to increase the OPERF FI portfolio's hedge against a sharp rise in interest rates and improve the liquidity position of the overall OPERF portfolio.

The specific changes to OPERF strategic asset allocation targets as approved by the OIC in 2013 are outlined below:

	Prior Target		New Target	
	% OPERF	% Fixed Income	% OPERF	% Fixed Income
U.S. Fixed Income (Core)	15.0%	60.0%	8.0%	40.0%
High Yield	2.5%	10.0%	1.0%	5.0%
Emerging Markets Debt	2.5%	10.0%	0.0%	0.0%
Bank Loans	5.0%	20.0%	3.0%	15.0%
Short Duration / High Quality	0.0%	0.0%	8.0%	40.0%
Total Fixed Income	25.0%	100.0%	20.0%	100.0%

Note that the explicit allocation to emerging markets debt enacted in 2011 was reversed in 2013. Additionally, and in recognition of the persistent low rate environment, the OPERF fixed income policy objective was lowered from 75 to 35 basis points above the following custom policy benchmark:

**Oregon Investment Council**  
**February 4, 2015**  
**OPERF Fixed Income Portfolio Review**

OPERF FI Benchmark (as of 01/01/2014)

- 40% BC U.S. Aggregate Bond Index
- 40% BC U.S. 1-3 Year Government/Credit Bond Index
- 15% S&P/LSTA Loan Index
- 5% BofA ML High Yield Master Index

TAB 4 – ANNUAL PLACEMENT AGENT

## Annual Disclosure of Placement Agents February 4, 2015

### **Purpose**

In accordance with OST Policy 5.03.01, Conflict of Interest and Code of Conduct, OST shall disclose, in all investment recommendations to the Oregon Investment Council, any Placement Agent used by an investment firm *that has had any contact with Treasury investment staff*. Staff shall present to the OIC an annual summary of the foregoing, which will also be made available to the public on the Treasury website.

### **Summary for Calendar Year 2014**

<u>Partnership</u>	<u>OPERF Commitment</u>	<u>Placement Agent</u>
Alterna Capital Management Fund II, L.P.	\$100 million	Atlantic-Pacific Capital
Baring Asia Private Equity Fund VI, L.P.	\$125 million	UBS Securities LLC
DivcoWest Fund IV REIT, L.P.	\$100 million	Greenhill & Co. LLC
Energy & Minerals Group Fund III, L.P.	\$205 million	Credit Suisse
Forest Company	\$100 million	Cue Capital
GGV Capital V, L.P.	\$50 million	UBS Securities LLC
Roark Capital Partners IV, L.P.	\$100 million	Lazard Ltd.
TDR Capital III, L.P.	\$100 million	Probitas Partners
Veritas Capital Fund V, L.P.	\$150 million	UBS Securities LLC
Waterton Residential Property Venture XII, L.P.	\$100 million	Park Madison Partners

Note that placement agents are retained by the general partner of the fund, and OPERF does not rely on such firms for access or analysis.

**TAB 5 – ASSET ALLOCATIONS & NAV UPDATES**

## Asset Allocations at December 31, 2014

Regular Account							Variable Fund	Total Fund	
OPERF	Policy	Target <sup>1</sup>	\$ Thousands	Pre-Overlay	Overlay	Net Position	Actual	\$ Thousands	\$ Thousands
Public Equity	32.5-42.5%	37.5%	28,000,531	40.4%	(285,470)	27,715,061	40.0%	758,034	28,473,095
Private Equity	16-24%	20.0%	14,709,784	21.2%		14,709,784	21.2%		14,709,784
<b>Total Equity</b>	<b>52.5-62.5%</b>	<b>57.5%</b>	<b>42,710,315</b>	<b>61.7%</b>	<b>(285,470)</b>	<b>42,424,845</b>	<b>61.3%</b>		<b>43,182,879</b>
Opportunity Portfolio			1,049,655	1.5%		1,049,655	1.5%		1,049,655
<b>Fixed Income</b>	<b>15-25%</b>	<b>20.0%</b>	<b>14,816,529</b>	<b>21.4%</b>	<b>1,609,939</b>	<b>16,426,468</b>	<b>23.7%</b>		<b>16,426,468</b>
<b>Real Estate</b>	<b>9.5-15.5%</b>	<b>12.5%</b>	<b>7,741,804</b>	<b>11.2%</b>	<b>(14,800)</b>	<b>7,727,004</b>	<b>11.2%</b>		<b>7,727,004</b>
<b>Alternative Investments</b>	<b>0-10%</b>	<b>10.0%</b>	<b>1,363,285</b>	<b>2.0%</b>		<b>1,363,285</b>	<b>2.0%</b>		<b>1,363,285</b>
<b>Cash*</b>	<b>0-3%</b>	<b>0.0%</b>	<b>1,575,111</b>	<b>2.3%</b>	<b>(1,309,669)</b>	<b>265,442</b>	<b>0.4%</b>	10,380	<b>275,822</b>
<b>TOTAL OPERF</b>		<b>100%</b>	<b>\$ 69,256,699</b>	<b>100.0%</b>	<b>\$ -</b>	<b>\$ 69,256,699</b>	<b>100.0%</b>	<b>\$ 768,414</b>	<b>\$ 70,025,113</b>

<sup>1</sup>Targets established in June 2013. Interim policy benchmark consists of: 41.5% MSCI ACWI Net, 23.5% Custom FI Benchmark, 20% Russell 3000+300bps (1 quarter lagged), 12.5% NCREIF (1 quarter lagged), & 2.5% CPI+400bps.

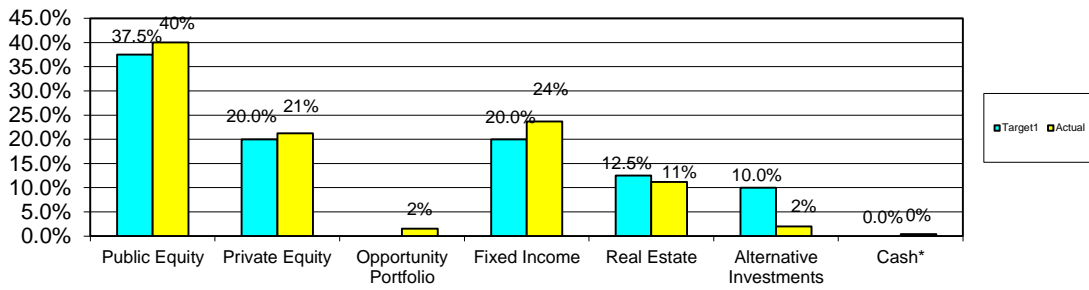
\*Includes cash held in the policy implementation overlay program.

SAIF	Policy	Target	\$ Thousands	Actual
<b>Total Equity</b>	<b>7-13%</b>	<b>10.0%</b>	<b>444,248</b>	<b>9.7%</b>
<b>Fixed Income</b>	<b>80-90%</b>	<b>85.0%</b>	<b>4,108,206</b>	<b>89.5%</b>
<b>Real Estate</b>	<b>0-7%</b>	<b>5.0%</b>	<b>0</b>	<b>0.0%</b>
<b>Cash</b>	<b>0-3%</b>	<b>0%</b>	<b>37,456</b>	<b>0.8%</b>
<b>TOTAL SAIF</b>			<b>\$4,589,910</b>	<b>100.0%</b>

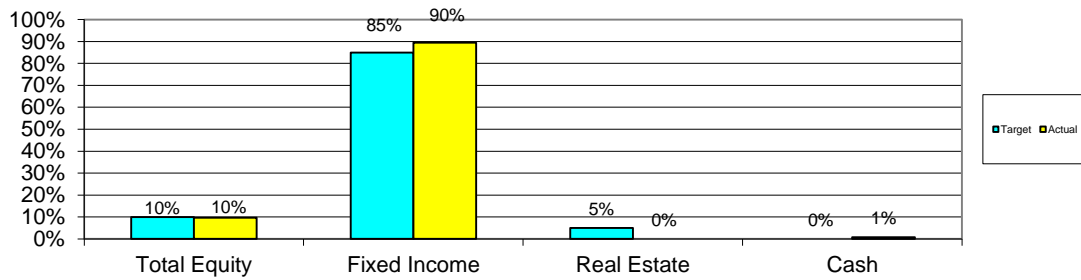
CSF	Policy	Target	\$ Thousands	Actual
Domestic Equities	25-35%	30%	\$458,461	32.0%
International Equities	25-35%	30%	389,148	27.1%
Private Equity	0-12%	10%	153,408	10.7%
<b>Total Equity</b>	<b>65-75%</b>	<b>70%</b>	<b>1,001,017</b>	<b>69.8%</b>
<b>Fixed Income</b>	<b>25-35%</b>	<b>30%</b>	<b>410,236</b>	<b>28.6%</b>
<b>Cash</b>	<b>0-3%</b>	<b>0%</b>	<b>22,424</b>	<b>1.6%</b>
<b>TOTAL CSF</b>			<b>\$1,433,677</b>	<b>100.0%</b>

HIED	Policy	Target	\$ Thousands	Actual
Domestic Equities	20-30%	25%	\$11,928	26.4%
International Equities	20-30%	25%	10,973	24.3%
Private Equity	0-15%	10%	4,228	9.4%
<b>Growth Assets</b>	<b>50-75%</b>	<b>60%</b>	<b>27,129</b>	<b>60.1%</b>
Real Estate	0-10%	7.5%	961	2.1%
TIPS	0-10%	7.5%	4,517	10.0%
<b>Inflation Hedging</b>	<b>7-20%</b>	<b>15%</b>	<b>5,478</b>	<b>12.1%</b>
Fixed Income	20-30%	25%	10,556	23.4%
Cash	0-3%	0%	1,950	4.3%
<b>Diversifying Assets</b>	<b>20-30%</b>	<b>25%</b>	<b>12,506</b>	<b>27.7%</b>
<b>TOTAL HIED</b>			<b>\$45,113</b>	<b>100.0%</b>

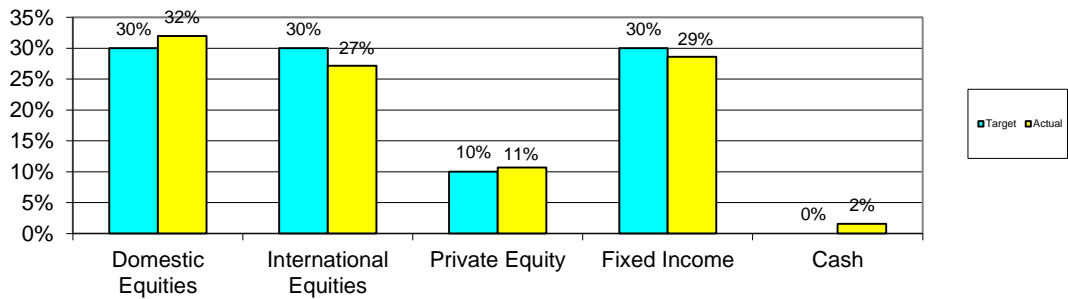
### OPERF Asset Allocation



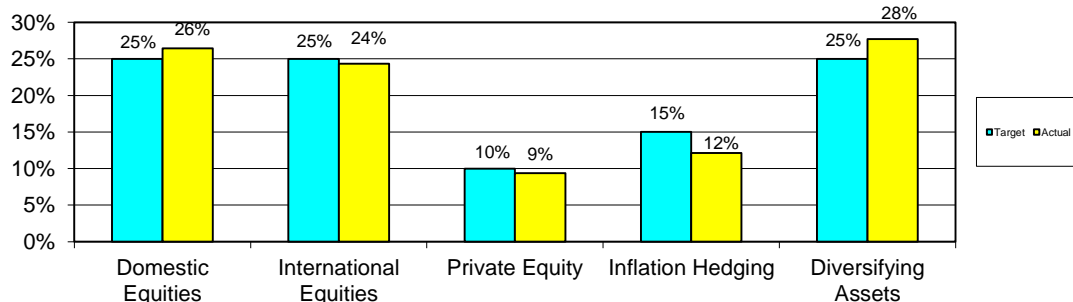
### SAIF Asset Allocation



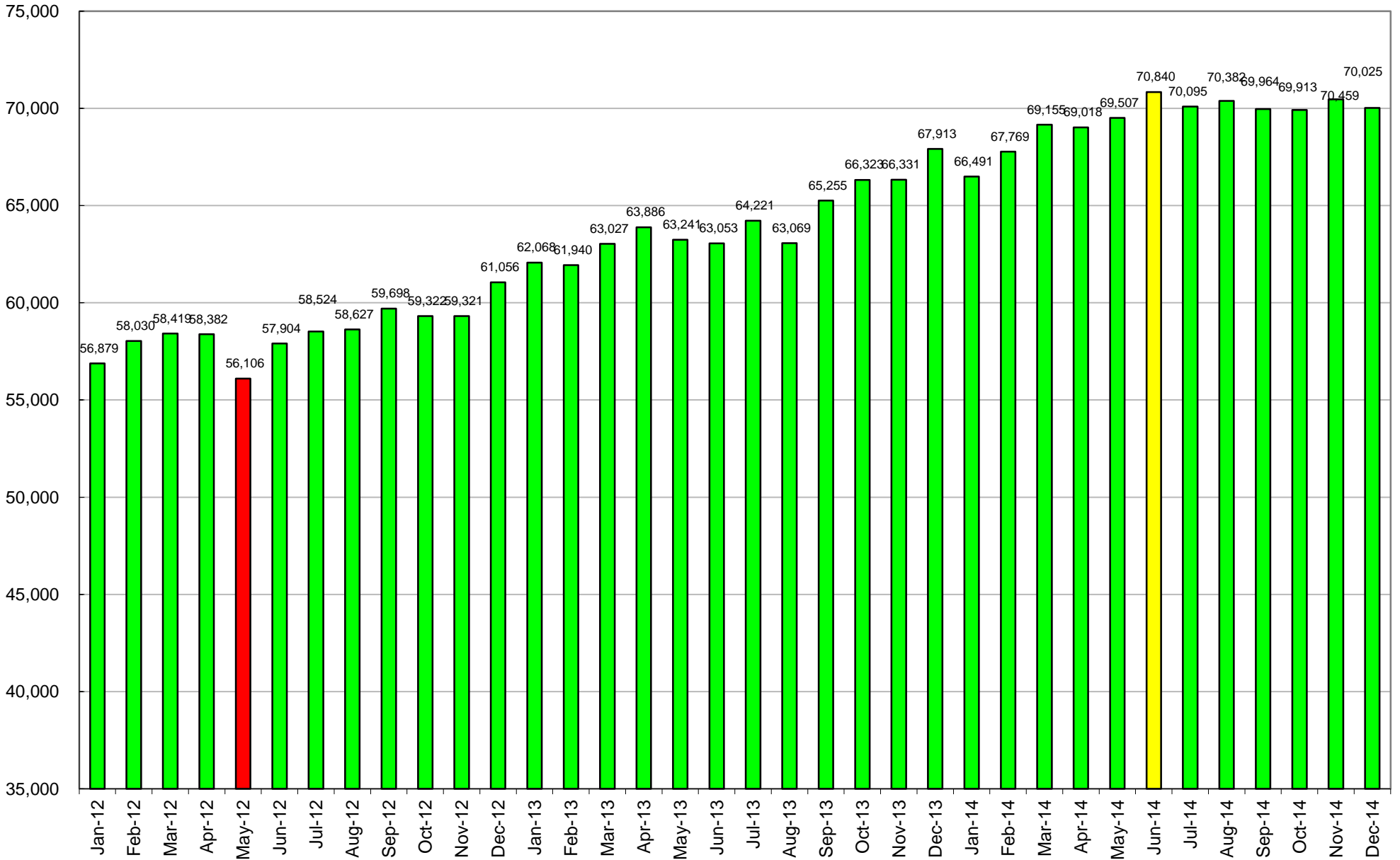
### CSF Asset Allocation



### HIED Asset Allocation

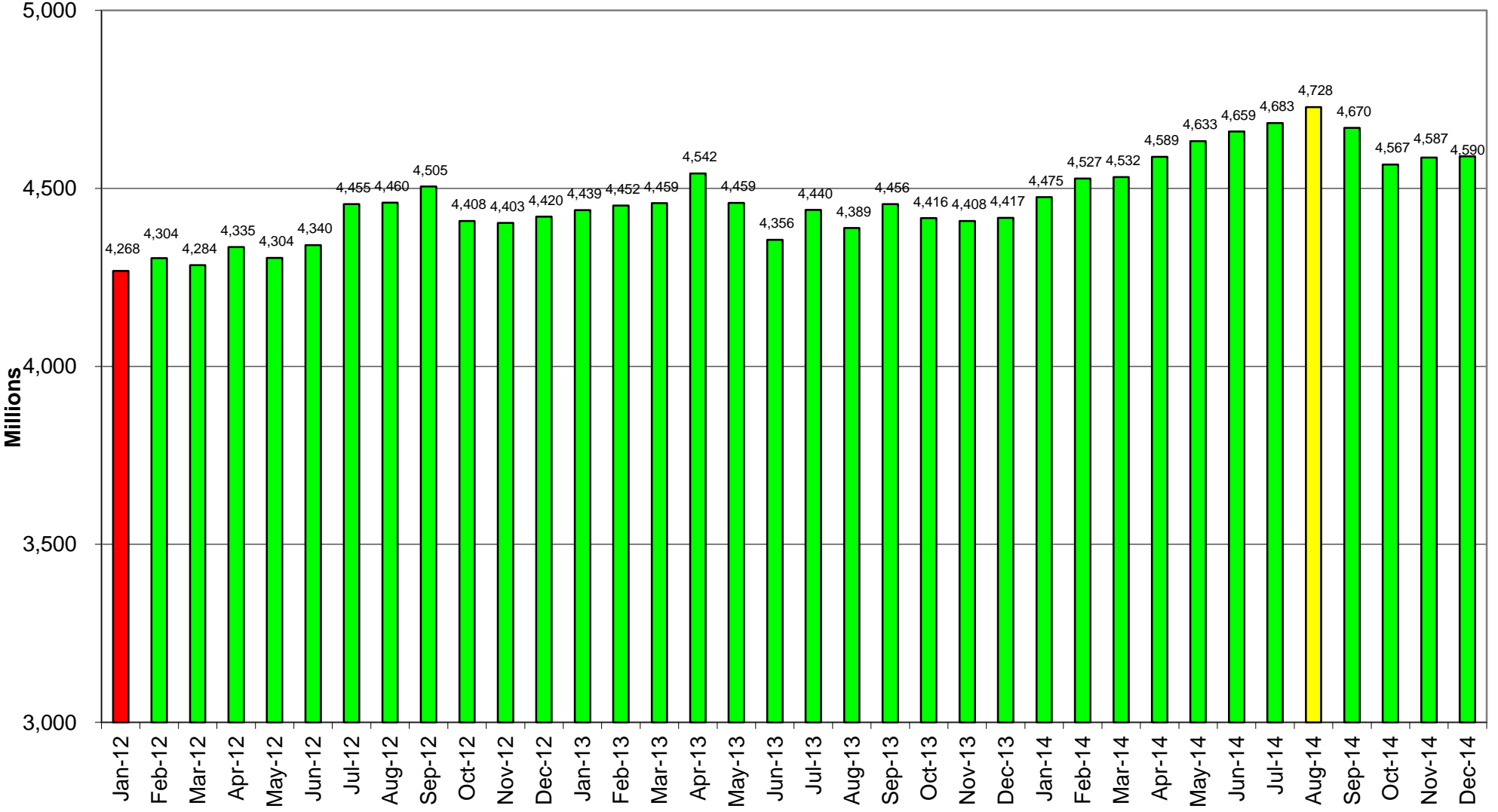


**OPERF NAV**  
**Three years ending December 2014**  
**(\$ in Millions)**

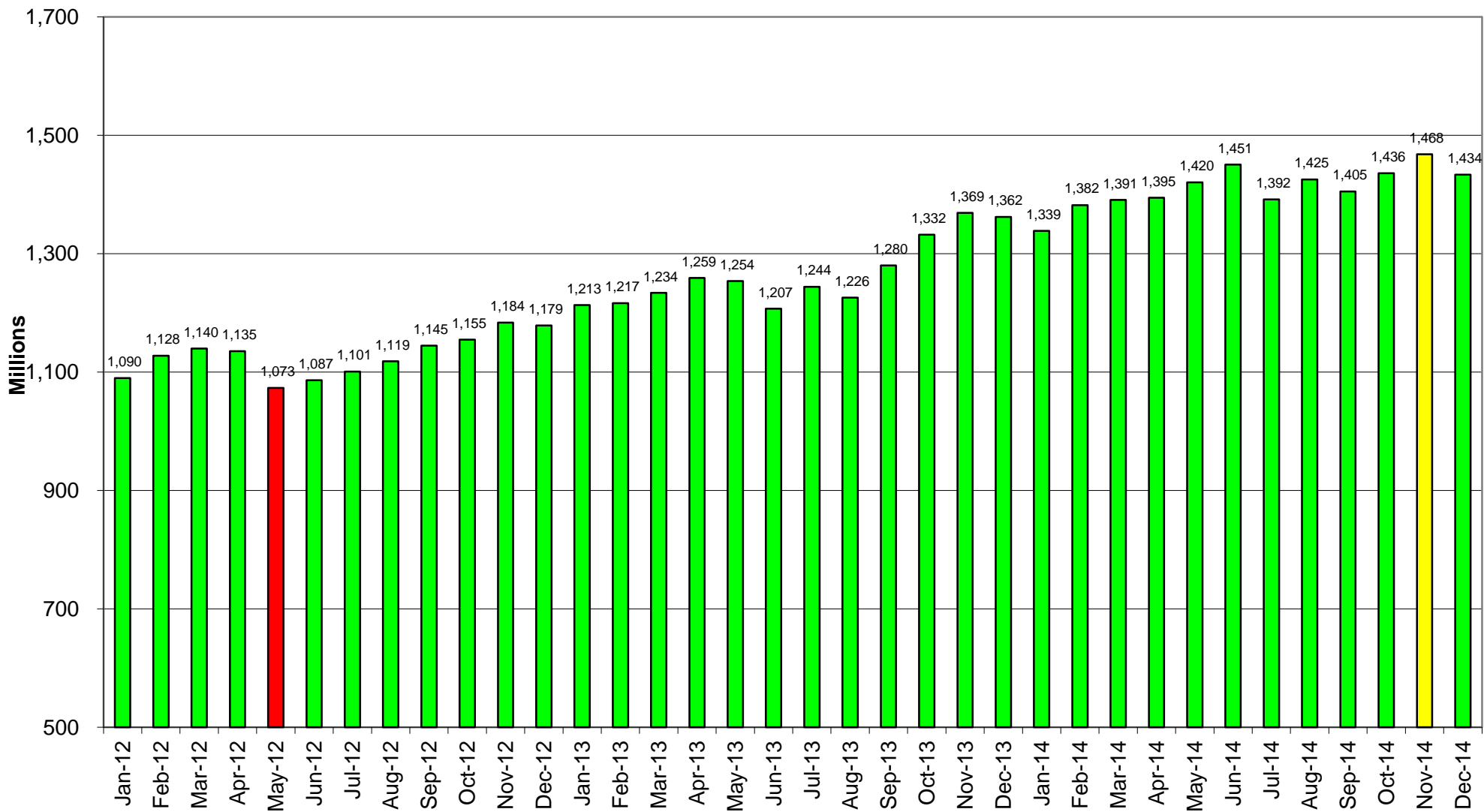




**SAIF NAV**  
**Three years ending December 2014**  
**(\$ in Millions)**



**CSF NAV**  
**Three years ending December 2014**  
**(\$ in Millions)**



## **2015 OIC Forward Agenda Topics**

- March 4:** Updated OPERF A/L Study & SAA Recommendation  
HIED Annual Review  
OPERF Q4 2014 Performance Report
- April 29:** Updated OPERF SAA Implementation Recommendation  
OPERF Private Equity Manager Recommendation (2)  
OPERF Policy Implementation Overlay Review  
OPERF Securities Lending Update
- June 3:** OITP Review  
OPERF Q1 2015 Performance Report  
Litigation Update
- July 29:** OSGP Annual Update  
Private Equity Update  
Fixed Income Update
- September 16:** OPERF Real Estate Review  
OIC Private Equity Consultant Recommendation  
OPERF Q2 2015 Performance
- October 28:** OSTF Annual Review  
OPERF Public Equity Review  
OPERF Alternative Portfolio Review  
CEM Benchmarking Report  
Approve 2016 OIC Calendar
- December 9:** OPERF Opportunity Portfolio Review  
SAIF Annual Review  
CSF Annual Review  
OIC Election of Chair/Vice-Chair  
OPERF Q3 2015 Performance Report