

# Oregon Public Employees Retirement Fund Investment Benchmarking Results

For the 5 year period ending December 2010

OIC November 2, 2011

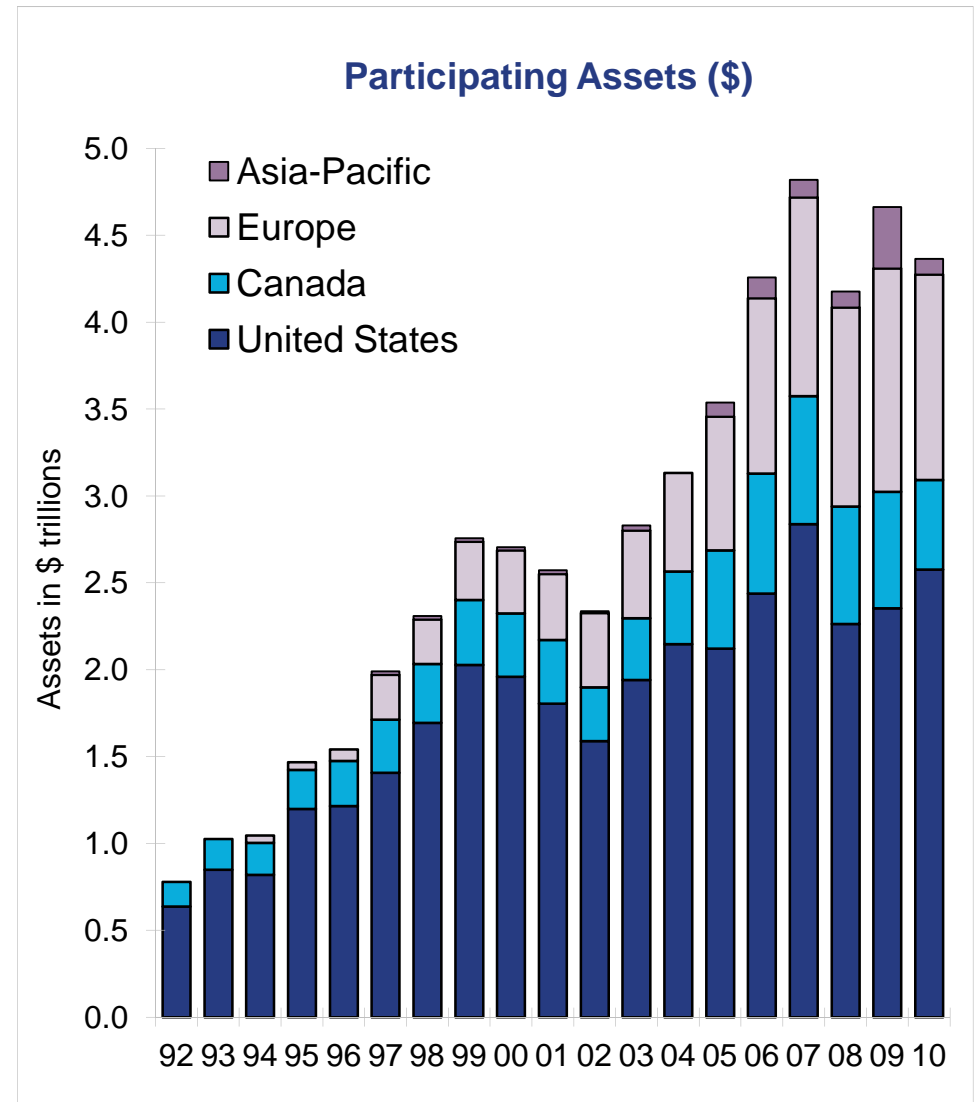
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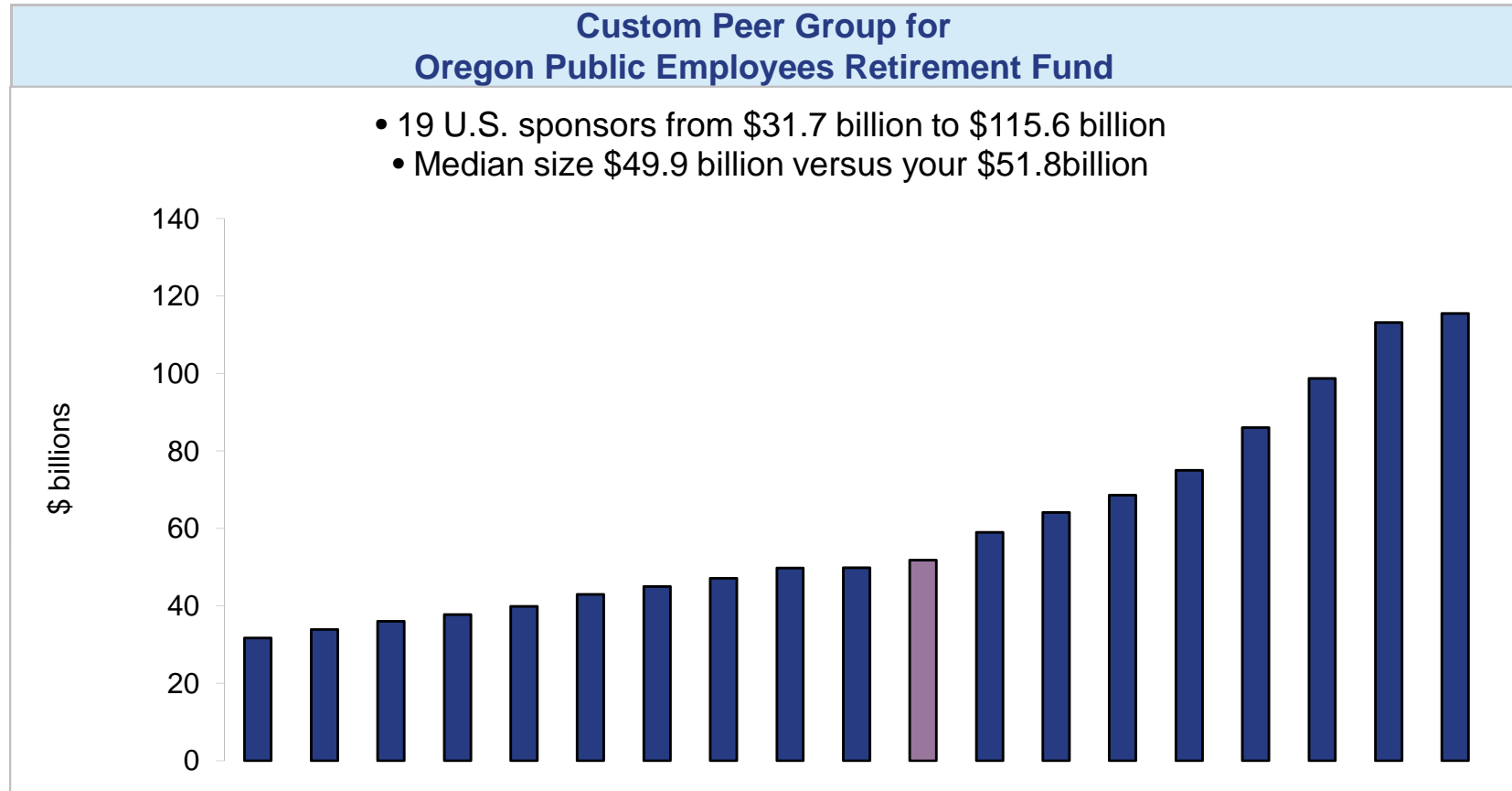
# This benchmarking report compares your cost and return performance to CEM's extensive pension database.

- 179 U.S. pension funds participate. Total participating U.S. assets were \$2.6 trillion.
- 85 Canadian funds participate with assets totaling \$516 billion.
- 34 European funds participate with assets totaling \$1,183 billion. Included are funds from the Netherlands, Norway, Sweden, Finland, Denmark and the U.K.
- 5 funds from Australia and New Zealand participate with total assets of \$90 billion.

The most meaningful comparisons for your returns and value added are to the U.S. universe.



## The most valuable comparisons for cost performance are to your custom peer group because size impacts costs.



To preserve client confidentiality, given potential access to documents as permitted by the Freedom of Information Act, we do not disclose your peers' names in this document.

# What gets measured gets managed, so it is critical that you measure and compare the right things:

## 1. Policy Return

How did the impact of your policy mix decision compare to other funds?

## 2. Value Added

Are your implementation decisions (i.e., the amount of active versus passive management) adding value?

## 3. Costs

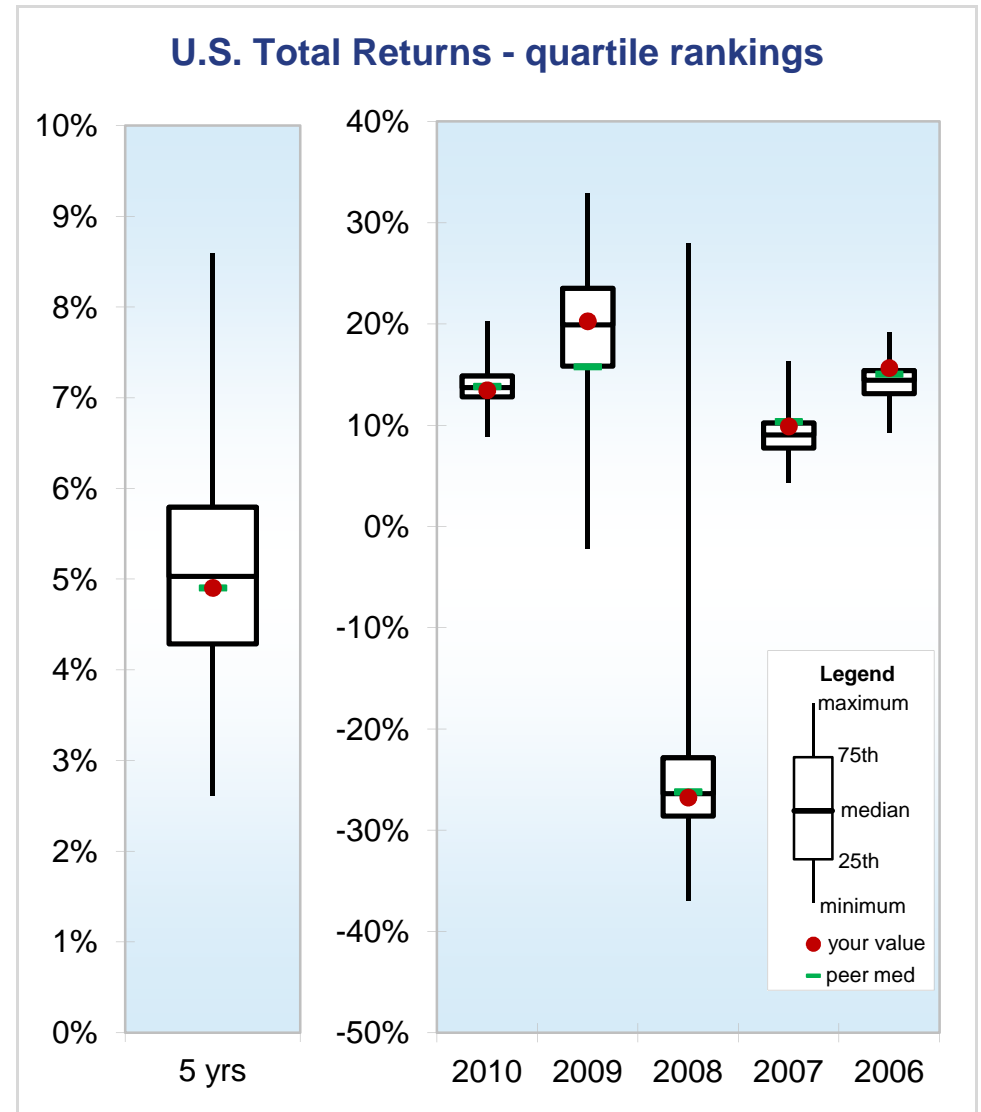
Are your costs reasonable? Costs matter and can be managed.

## Your 5-year total return of 4.9% was close to the U.S. median of 5.0% and the peer median of 4.9%.

Total returns, by themselves, provide little insight into the reasons behind relative performance. Therefore, we separate total return into its more meaningful components: policy return and value added.

	Your 5-yr.
Total Fund Return	4.9%
Policy Return	4.7%
Value Added	0.2%

This approach enables you to understand the contribution from both policy mix decisions (which tend to be the board's responsibility) and implementation decisions (which tend to be management's responsibility).



## 1. Policy Return

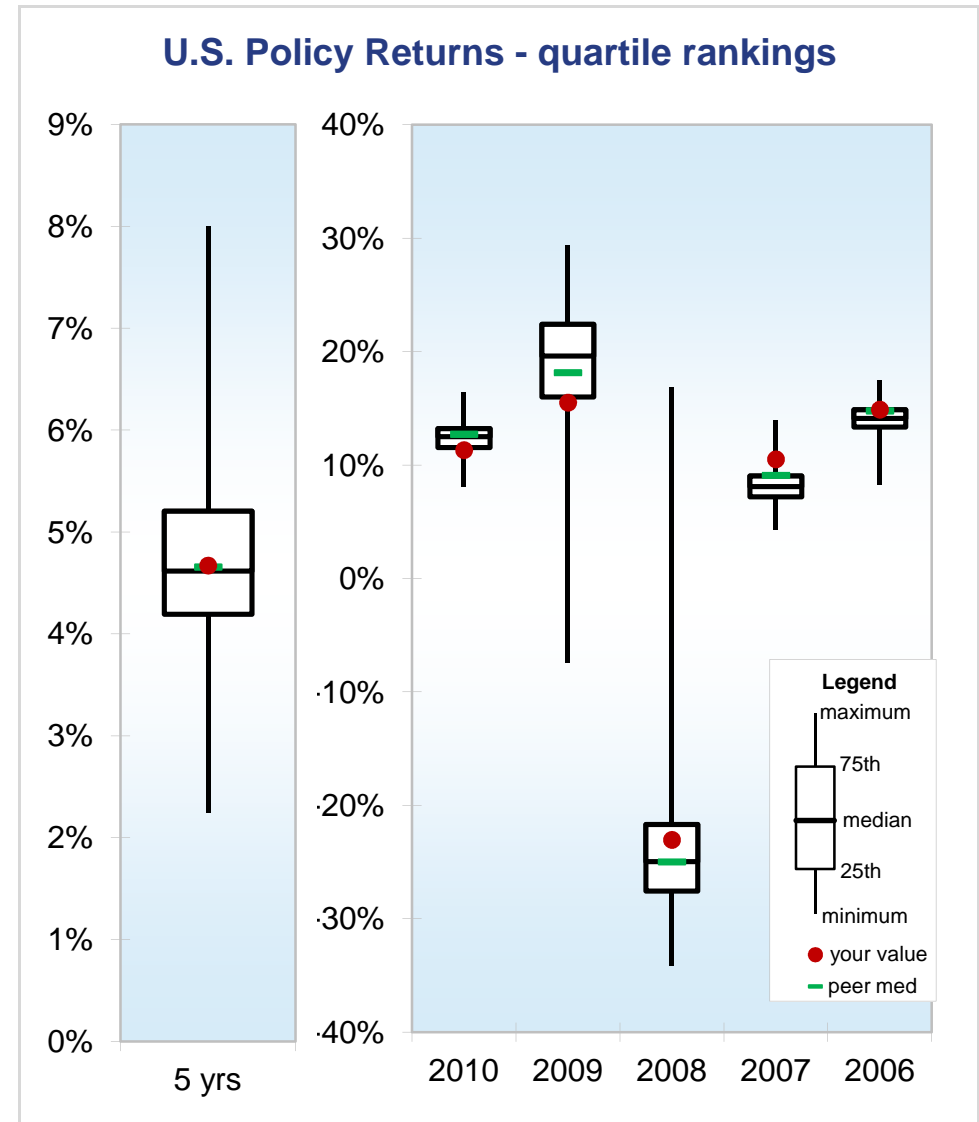
**Your 5-year policy return of 4.7% was close to the U.S. median of 4.6% and the peer median of 4.7%.**

Your policy return is the return you could have earned passively by indexing your investments according to your policy mix.

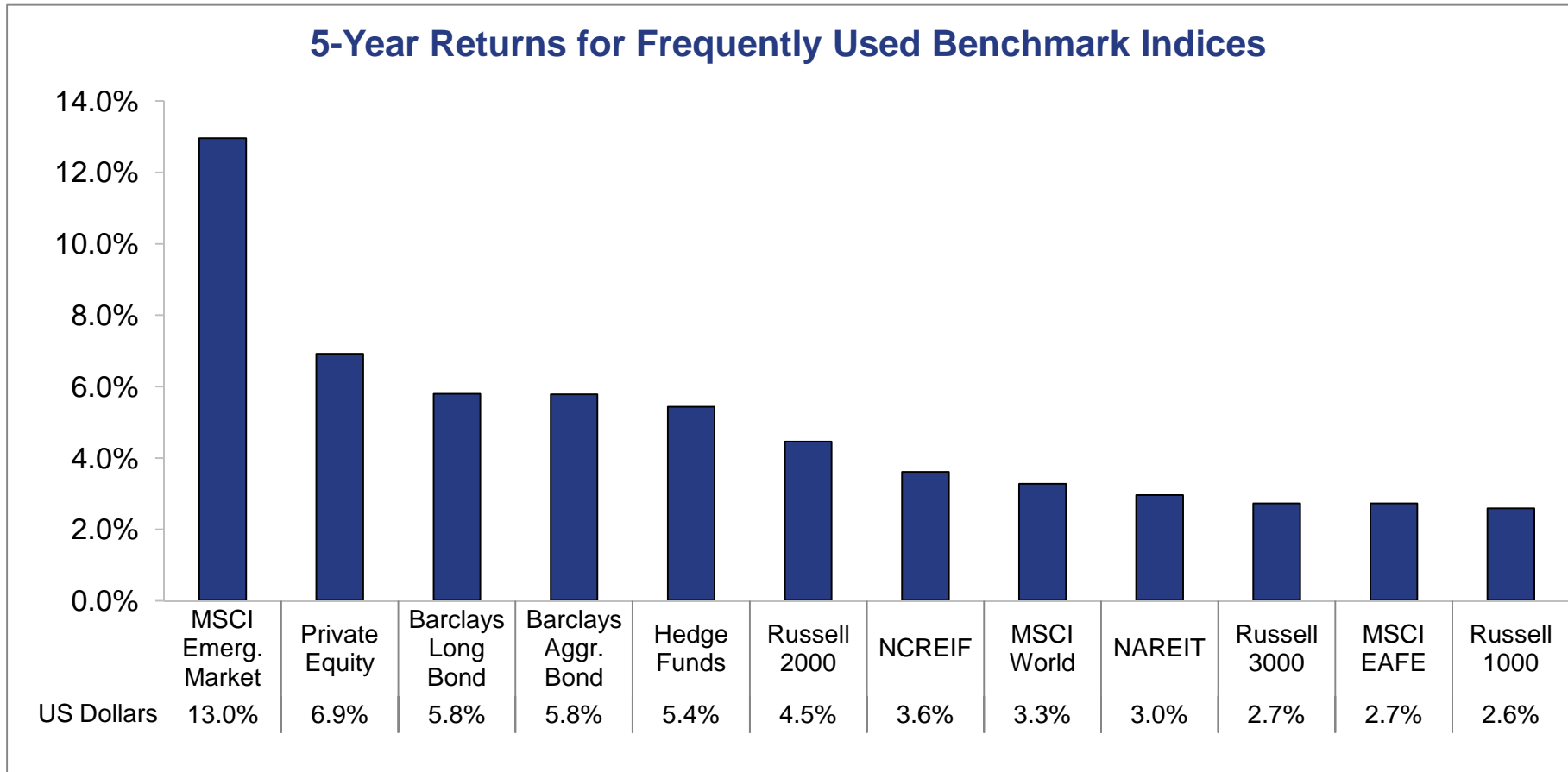
Having a higher or lower relative policy return is not necessarily good or bad. Your policy return reflects your investment policy, which should reflect your:

- Long term capital market expectations
- Liabilities
- Appetite for risk

Each of these three factors is different across funds. Therefore, it is not surprising that policy returns often vary widely between funds.



**Differences in policy returns are caused by differences in benchmarks and policy mix.**



The private equity and hedge fund benchmark returns shown reflect the average of all benchmarks given by CEM participants.

## Your 5-year policy return was close to the U.S. median primarily because of offsetting differences between your policy mix and the U.S. average.

Two examples were;

- The positive impact of your higher weight in private equity, which was one of the better performing asset classes of the past 5 years.
- The negative impact of your lower weight in fixed income which was one of the better performing asset classes of the past 5 years.

5-Year Average Policy Mix			
Asset class	Your fund	U.S. avg	Peer avg
U.S. Stock	15%	36%	27%
EAFE/Global Stock	34%	18%	21%
Emerging Mkt Stock	<u>0%</u>	<u>1%</u>	<u>2%</u>
Total Stock	49%	55%	50%
U.S. Bonds	27%	21%	20%
Fixed Income - Other	0%	10%	12%
Cash	<u>0%</u>	<u>1%</u>	<u>1%</u>
Total Fixed Income	27%	32%	32%
Real Assets*	10%	6%	8%
Infrastructure	0%	0%	0%
Hedge Funds	0%	3%	2%
Private Equity	14%	4%	8%
Total	100%	100%	100%

\* Includes Real Estate, REITs, Commodities and Natural Resources

**At the end of 2010, your policy mix compared to your peers and the U.S. universe as follows.**

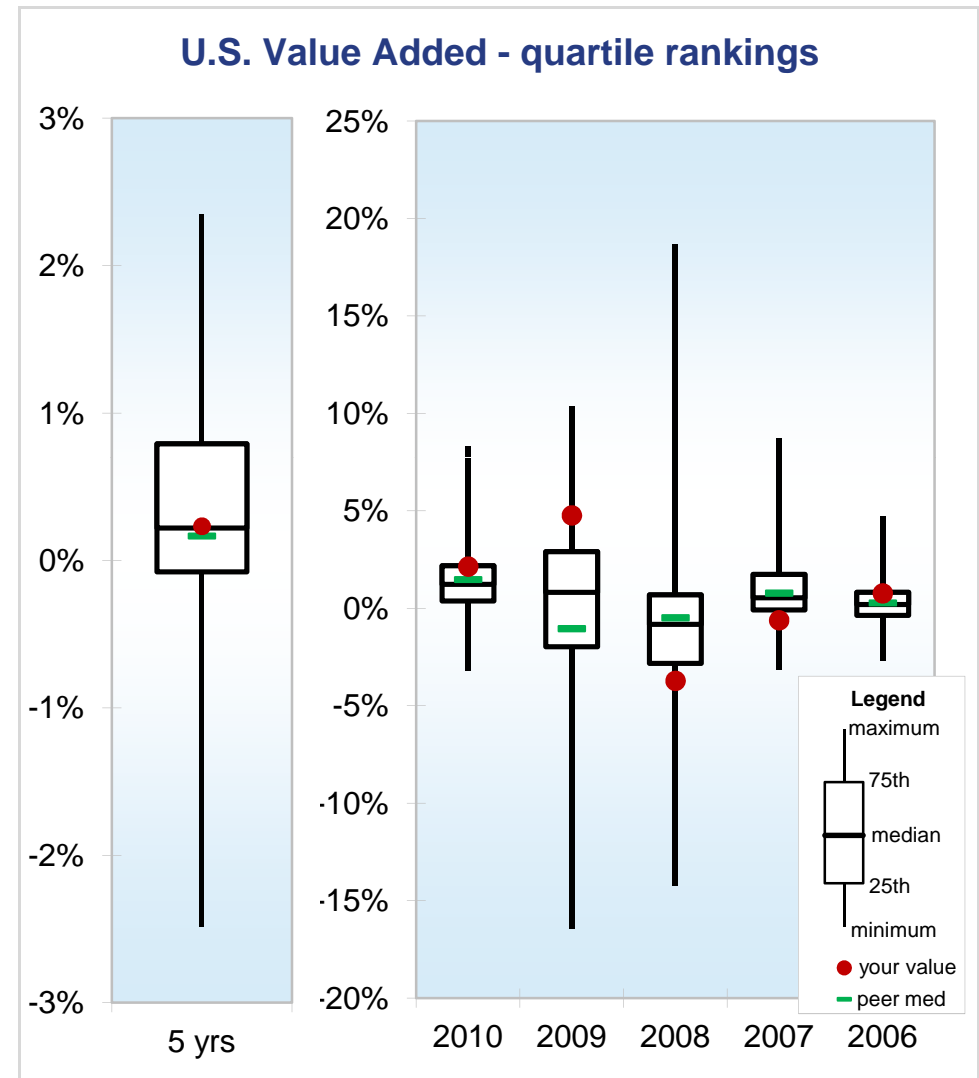
Policy Mix	2006	2010		
	Your Fund	Your Fund	U.S. Avg	Peer Avg
Asset Class				
U.S. Stock	35%	0%	31%	21%
EAFE/Global Stock	20%	46%	18%	23%
Emerging Mkt Stock	<u>0%</u>	<u>0%</u>	<u>2%</u>	<u>2%</u>
Total Stock	55%	46%	51%	46%
U.S. Bonds	27%	27%	19%	17%
Fixed Income - Other	0%	0%	14%	15%
Cash	<u>0%</u>	<u>0%</u>	<u>1%</u>	<u>1%</u>
Total Fixed Income	27%	27%	34%	33%
Real Assets	8%	11%	6%	9%
Hedge Funds	0%	0%	4%	3%
Private Equity	10%	16%	5%	9%
Total	100%	100%	100%	100%

## 2. Value Added

**Value added is the component of your total return from active management. Your 5-year value added of 0.2% was equal to the U.S. and peer medians of 0.2%.**

Value added equals your total return minus your policy return.

Oregon PERF			
Year	Total return	Policy return	Value Added
2010	13.5%	11.3%	2.1%
2009	20.3%	15.5%	4.8%
2008	(26.8)%	(23.0)%	(3.7)%
2007	9.9%	10.5%	(0.6)%
2006	15.7%	14.9%	0.8%
5-year	4.9%	4.7%	0.2%



### 3. Costs

**Your asset management costs in 2010 were \$445.7 million or 86.0 basis points.**

Your Investment Management Costs (\$000s)						
	Internal		External			Total
	Passive	Active	Passive	Active: Base fees	Active: Perform fees <sup>2</sup>	
U.S. Stock - Broad/All	175		142	25,827		26,144
Stock - Emerging		323				323
Stock - ACWIxU.S.			472	37,419		37,891
Stock - Global				3,697		3,697
Fixed Income - U.S.				20,287		20,287
Cash		217				217
REITs				4,487		4,487
Real Estate ex-REITs				29,061		29,061
Diversified Private Equity				298,025 <sup>1</sup>		298,025
Other Private Equity				16,183 <sup>1</sup>		16,183
Overlay Programs				725		725
Total investment management costs					84.3bp <sup>2</sup>	437,039

#### Notes

<sup>1</sup> Private equity costs were derived from the partnership level detail you provided. Costs are based on partnership contract terms.

<sup>2</sup> Total cost excludes carry/performance fees for real estate, private equity and overlays. Performance fees are included for the public market asset classes.

<sup>3</sup> Oversight and related costs excludes non-investment costs, such as PBGC premiums and preparing checks for retirees.

Your Oversight, Custodial and Other Asset Related Costs <sup>3</sup> (\$000s)		
Oversight of the fund		6,297
Trustee & custodial		100
Consulting and performance measurement		2,004
Audit		267
Total oversight, custodial & other costs		1.7bp
Total asset management costs		86.0bp
		445,707

## Benchmark cost analysis suggests that your fund was low cost by 7.6 basis points in 2010.

To assess your cost performance, we start by calculating your benchmark cost. Your benchmark cost is an estimate of what your cost would be given your actual asset mix and the median costs that your peers pay for similar services. It represents the cost your peers would incur if they had your actual asset mix.

Your total cost of 86.0 bp was lower than your benchmark cost of 93.6 bp. Thus, your cost savings was 7.6 bp.

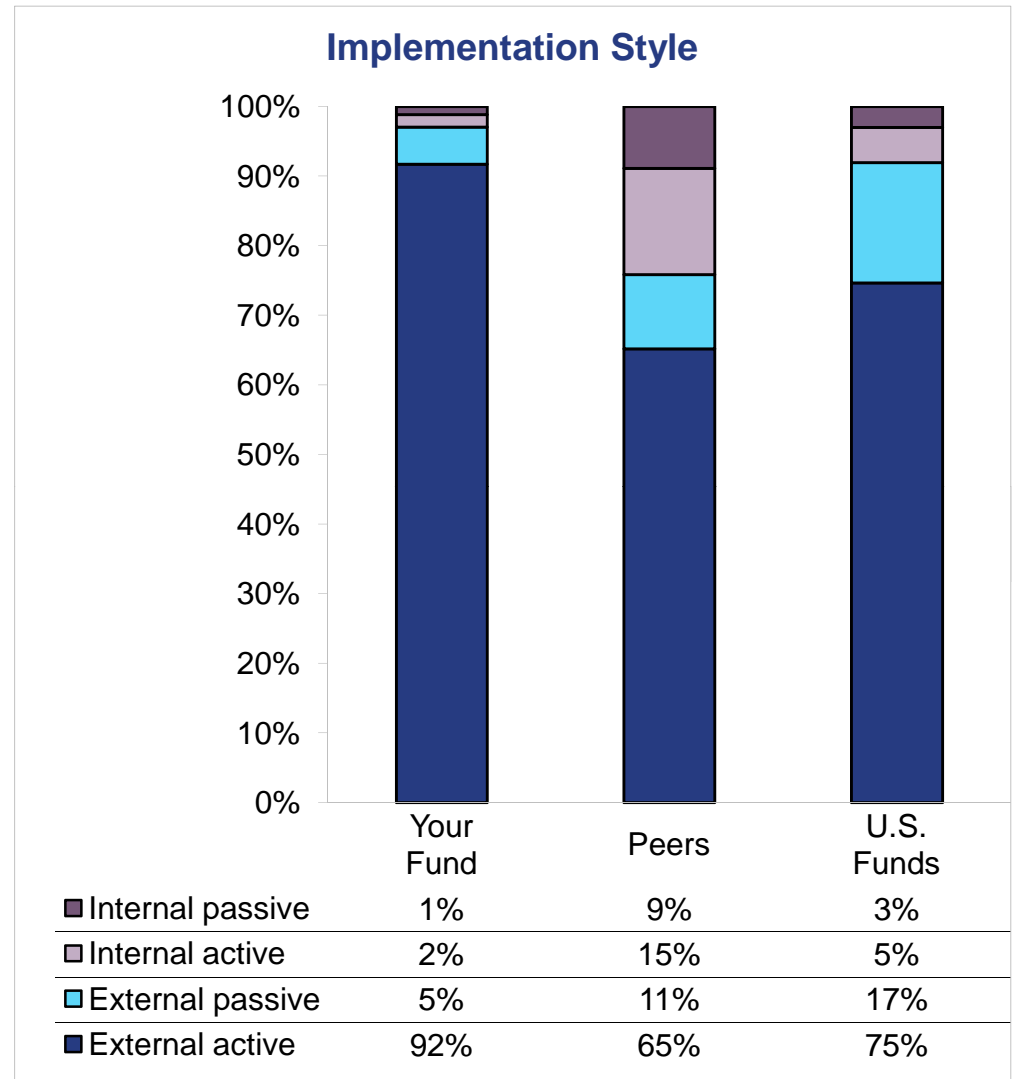
	<b>\$000s</b>	<b>basis points</b>
Your actual cost	445,707	86.0 bp
Your benchmark cost	<u>485,062</u>	<u>93.6 bp</u>
Your excess cost	(39,355)	(7.6) bp

## One key cause of differences in cost performance is often differences in implementation style.

Implementation style is defined as the way in which you implement your asset allocation. It includes internal, external, active and passive styles.

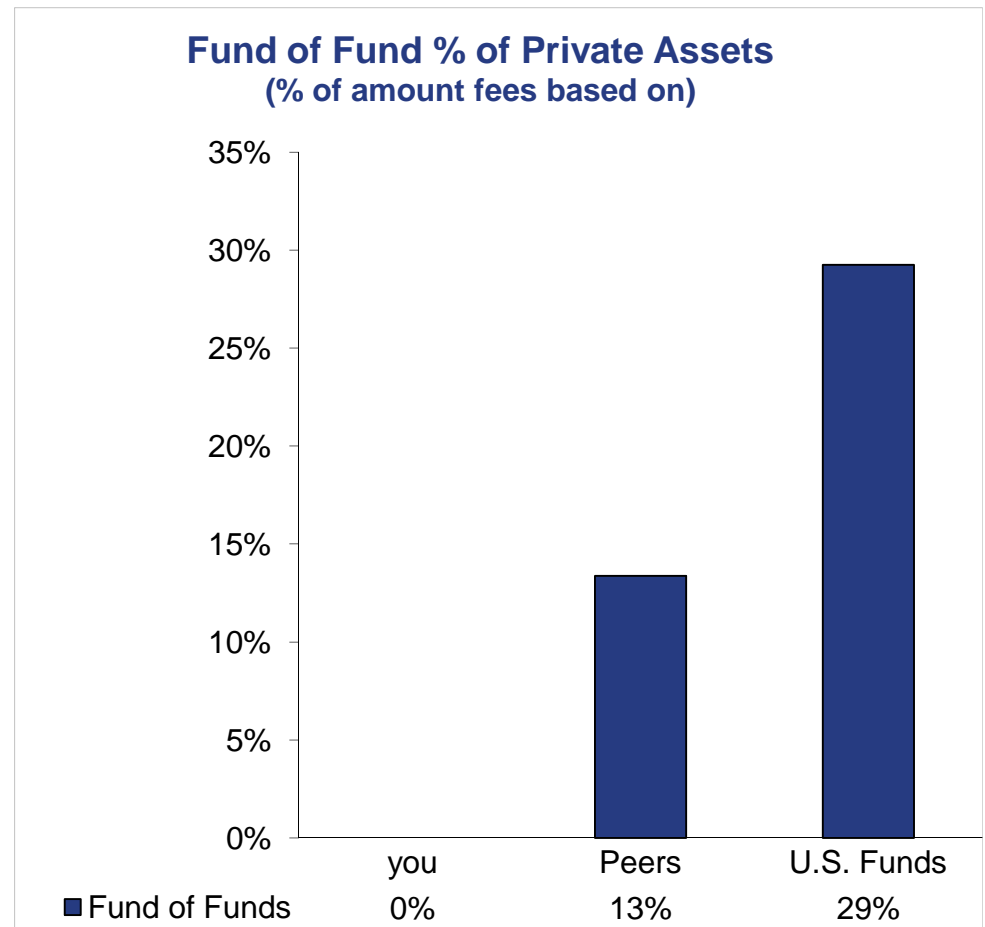
The greatest cost impact is usually caused by differences in the use of:

- External active management because it tends to be much more expensive than internal or passive management. You used more external active management than your peers.
- Within external active holdings, fund of funds usage because it is more expensive than direct fund investment. You had no fund of funds (see next page).



## Your private asset implementation style was lower cost. You used less fund of funds.

None of your private assets were in fund of funds, whereas 13% of your peers private assets were in fund of funds (as a % of the amount fees based upon).



## Differences in implementation style cost you 3.0 bp relative to your peers.

<b>Cost Impact of Differences in Implementation Style</b>						
<b>Asset class</b>	<b>Your avg holdings in (\$mils)</b>	<b>% External Active</b>			<b>Cost<sup>1,2</sup> premium</b>	<b>Cost/ (Savings) in \$000s</b>
		<b>You</b>	<b>Peer average</b>	<b>More/ (less)</b>		
U.S. Stock - Broad/All	8,538	68.9%	25.2%	43.7%	37.8 bp	14,080
Stock - Emerging	205	0.0%	76.8%	(76.8%)	48.8 bp	(768)
Stock - ACWIxU.S.	10,926	85.3%	62.6%	22.7%	34.2 bp	8,508
Stock - Global	1,187	100.0%	59.6%	40.4%	26.8 bp	1,282
Fixed Income - U.S.	13,330	100.0%	55.3%	44.7%	14.8 bp	8,830
REITs	1,141	100.0%	67.6%	32.4%	36.6 bp	1,351
Real Estate ex-REITs	3,928	100.0%	88.5%	11.5%	65.4 bp	2,949
of which Limited Partnerships represent:		0.0%	28.7%	(28.7%)	46.3 bp	(5,219)
Diversified Private Equity	21,156	100.0%	98.6%	1.4%	127.3 bp	3,883
of which Fund of Funds represent:		0.0%	12.8%	(12.8%)	65.2 bp	(17,654)
Other private equity	1,046	100.0%	95.8%	4.2%	N/A	0
<b>Total</b>		<b>91.7%</b>	<b>65.2%</b>	<b>26.5%</b>		<b>17,242</b>
Total external active style impact in bps						3.3 bp
Impact of differences in the use of lower cost styles <sup>3</sup>						(0.2) bp
Savings from your lower use of portfolio level overlays (your passive beta hedge)						(0.2) bp
<b>Total style impact</b>						<b>3.0 bp</b>

1. The cost premium is the additional cost of external active management relative to the average of other lower cost implementation styles - internal passive, internal active and external passive.

2. A cost premium of 'N/A' indicates that there was insufficient peer data to calculate the premium.

3. The 'Impact of differences in the use of lower cost styles' quantifies the net impact of your relative use of internal passive, internal active and external passive management.

## The net impact of differences in external investment management costs saved you 10.2 bps.

Impact of Paying More/(Less) for External Investment Management					
	Your avg holdings in \$mils	Cost in bps			Cost/ (Savings) in \$000s
		You	Peer median	More/ (Less)	
U.S. Stock - Broad/All - Passive	1,774	0.8	0.8	0.0	0
U.S. Stock - Broad/All - Active	5,879	43.9	41.6	2.3	1,350
Stock - ACWIxU.S. - Passive	1,604	2.9	3.0	(0.1)	(10)
Stock - ACWIxU.S. - Active	9,322	40.1	37.2	2.9	2,701
Stock - Global - Active	1,187	31.2	37.7	(6.5)	(772)
Fixed Income - U.S. - Active	13,330	15.2	17.0	(1.8)	(2,419)
REITs - Active	1,141	39.3	42.3	(3.0)	(341)
Real Estate ex-REITs - Active	3,928	74.0	79.5	(5.5)	(2,166)
Diversified Private Equity - Active	21,156	140.9	165.0	(24.1)	(51,049)
Other Private Equity - Active	1,046	154.8	154.8	0.0	0
	<i>Notional</i>				
Derivatives/Overlays - Passive Beta	2,000	3.6	4.2*	(0.5)	(105)
Total external investment management impact				(10.2) bp	(52,812)

\*Universe median used as peer data was insufficient.

**The net impact of differences in internal investment management costs was negligible.**

<b>Impact of Paying More/(Less) for Internal Investment Management</b>					
	<b>Your avg holdings in \$mils</b>	<b>Cost in bps</b>			<b>Cost/ (Savings) in \$000s</b>
		<b>You</b>	<b>Peer median</b>	<b>More/ (Less)</b>	
U.S. Stock - Broad/All - Passive	886	2.0	1.1	0.9	80
Stock - Emerging - Active	205	15.7	14.2	1.5	32
Total internal investment management impact				0.0 bp	112

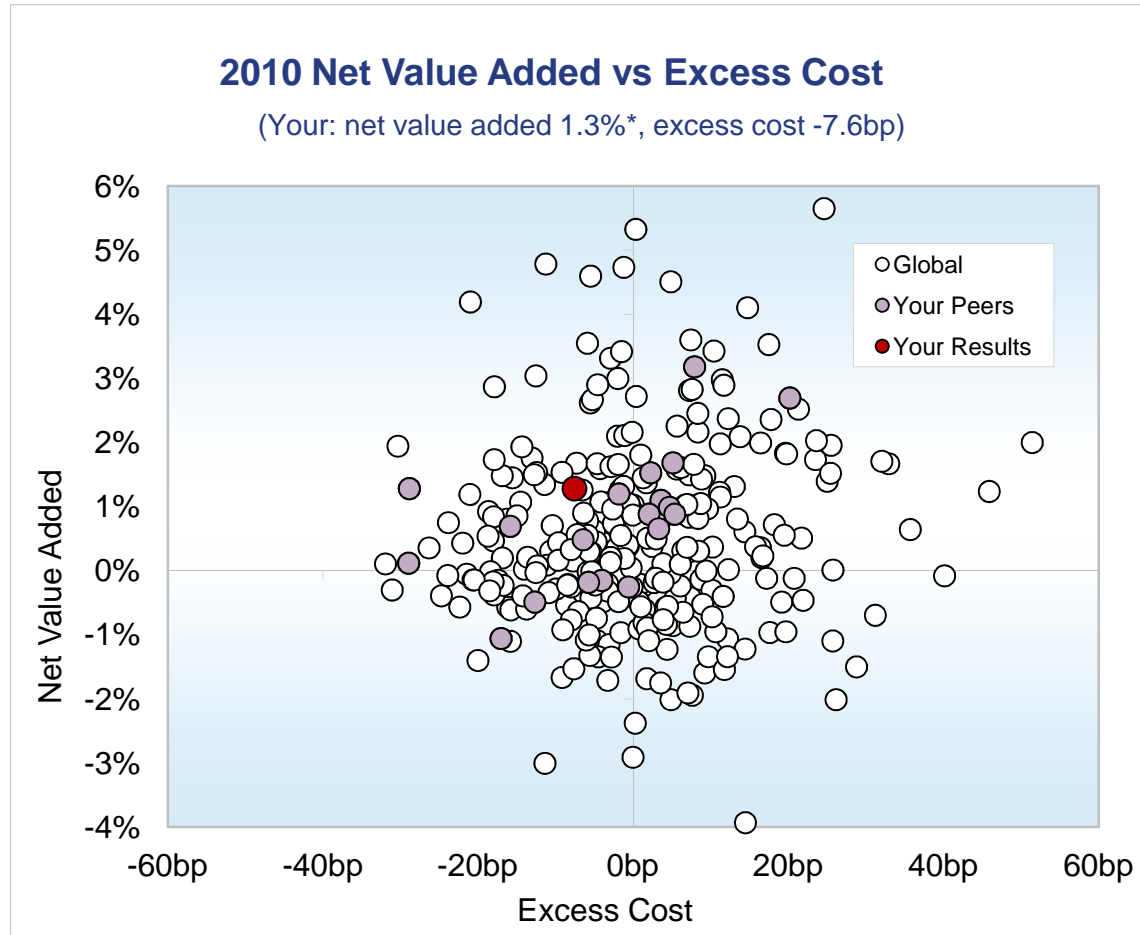
## The net impact of differences in your oversight, custodial & other costs saved you 0.4 bps.

Impact of Differences in Oversight, Custodial & Other Costs					
	Your avg holdings in \$mils	Cost in bps			Cost/ (Savings) in \$000s
		You	Peer median	More/ (Less)	
Oversight	51,816	1.2	1.1	0.1	750
Custodial / trustee	51,816	0.0	0.4	(0.4)	(2,084)
Consulting / performance measurement	51,816	0.4	0.4	(0.0)	(164)
Audit	51,816	0.1	0.0	0.0	34
Other	51,816	0.0	0.1	(0.1)	(573)
<b>Total impact</b>				<b>(0.4) bp</b>	<b>(2,038)</b>

In summary, you were low cost in 2010 primarily because you paid less for similar mandates.

Explanation of Your Cost Status		
	Excess Cost/ (Savings)	
	\$000s	bps
<b>1. Higher cost implementation style</b>		
• Lower use of fund of funds	(17,654)	(3.4)
• More external active management and less lower cost passive and internal management	34,896	6.7
• Lower use of overlays	(1,053)	(0.2)
• Other style differences	<u>(805)</u>	<u>(0.2)</u>
	15,384	3.0
<b>2. Paying less than your peers</b>		
• External investment management costs	(52,812)	(10.2)
• Internal investment management costs	112	0.0
• Oversight, custodial & other costs	<u>(2,038)</u>	<u>(0.4)</u>
	(54,739)	(10.6)
<b>Total Savings</b>	<b>(39,355)</b>	<b>(7.6)</b>

For 2010 you were in the positive net value added, low cost quadrant of the cost effectiveness chart.



<sup>1</sup> Your 2010 Net implementation value added of 1.3% equals your 2.1% gross impl. value added minus your 0.9% actual cost.

## In summary:

### 1. Policy Return

Your 5-year policy return was 4.7%. This was close to the U.S. median of 4.6% and close to the peer median of 4.7%.

### 2. Value Added

Your 5-year value added was 0.2%. This was close to the U.S. median of 0.2% and close to the peer median of 0.2%.

### 3. Costs

Your actual cost of 86.0 bps was below your benchmark cost of 93.6 bps. This suggests that your fund was low cost. You were low cost in 2010 primarily because you paid less for similar mandates.