The City of Grand Rapids – Police and Fire Retirement System
Executive Summary of Investment Performance

December 31, 2015

Contents

Wilshire

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Capital Market Review	Tab 2
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Total Fund

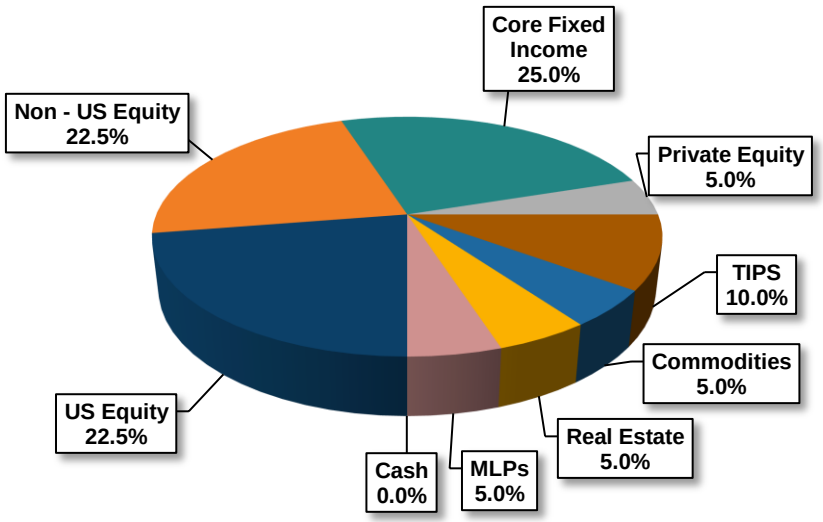
Policy Allocation vs Actual Allocation

Wilshire

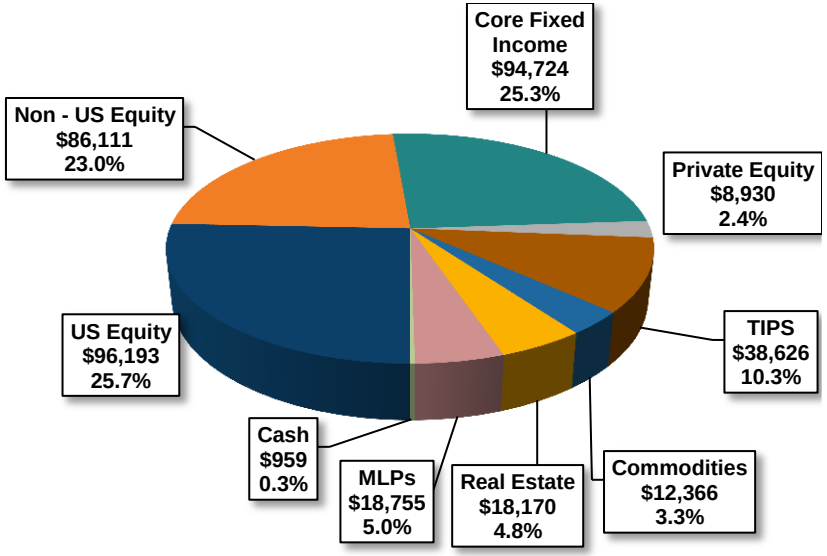
Total Fund Composite

As of December 31, 2015

Policy Allocation[1]



Actual Allocation (in $'000s)



Total Assets: $374,835,000

[1] Effective date: April 1, 2015

Policy Allocation vs Actual Allocation

Wilshire

Total Fund Composite

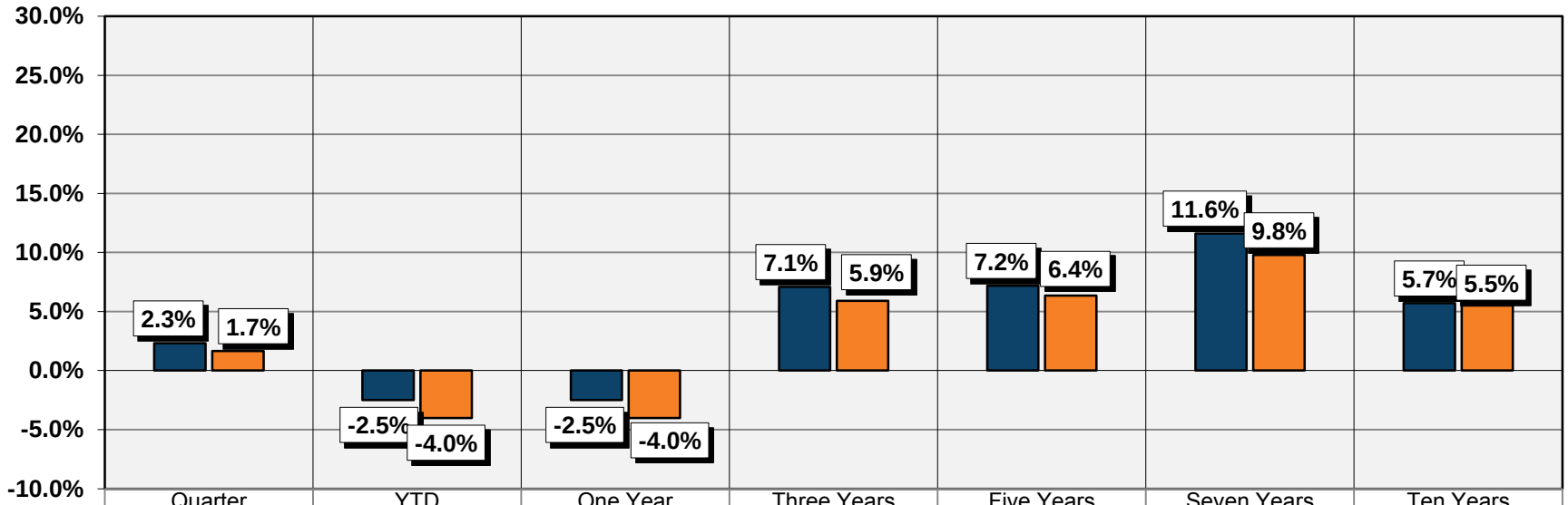
As of December 31, 2015

	Market Value (in $'000)	Asset Allocation	
		Actual	Policy
US Equity	**$96,193**	**25.66%**	**22.50%**
Non - US Equity	**$86,111**	**22.97%**	**22.50%**
Core Fixed Income	**$94,724**	**25.27%**	**25.00%**
Private Equity	**$8,930**	**2.38%**	**5.00%**
TIPS	**$38,626**	**10.30%**	**10.00%**
Commodities	**$12,366**	**3.30%**	**5.00%**
Real Estate	**$18,170**	**4.85%**	**5.00%**
MLPs	**$18,755**	**5.00%**	**5.00%**
Cash	**$959**	**0.26%**	**0.00%**
Total Fund Composite	**$374,835**	**100.00%**	**100.00%**

Wilshire

Total Fund Composite*

Periods Ended December 31, 2015



	Quarter	YTD	One Year	Three Years	Five Years	Seven Years	Ten Years
Total Fund Composite	2.3%	-2.5%	-2.5%	7.1%	7.2%	11.6%	5.7%
Total Fund Policy**	1.7%	-4.0%	-4.0%	5.9%	6.4%	9.8%	5.5%

*Returns are net of fees

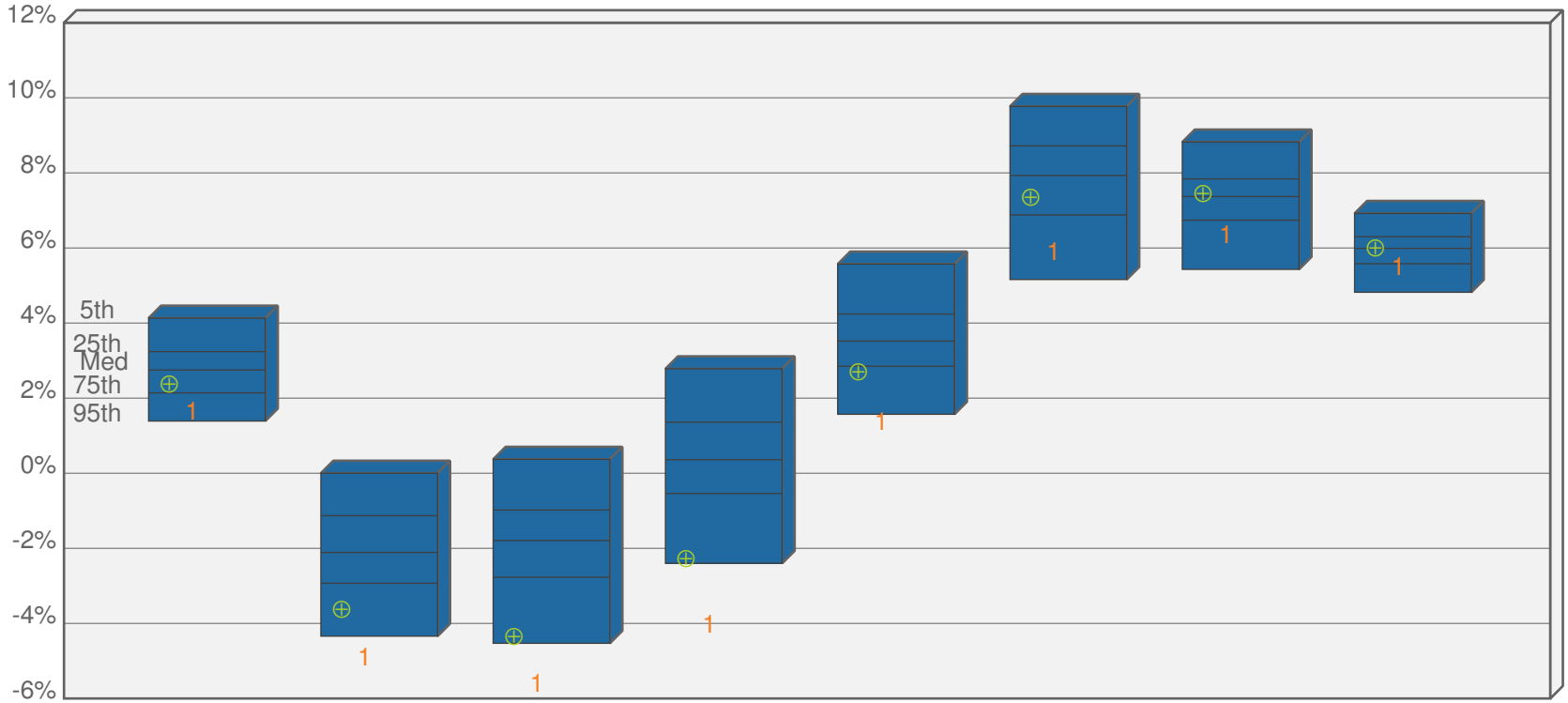
** Policy index = Wilshire 5000 (22.50%), MSCI ACWI ex U.S. (22.50%), Barclays Aggregate (25.00%), Barclays U.S. TIPS (10.00%), FTSE EPRA NAREIT Dev RE (5.00%), Wilshire 5000 +2.5% (5.00%), DJ UBS Commodity Index (5.00%), S&P MLP Index (5.00%)

Performance Comparison

Wilshire

Total Fund Composite

Periods Ended December 31, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊕ Total Fund	2.39 (65)	-3.62 (90)	-4.33 (93)	-2.26 (94)	2.71 (77)	7.36 (64)	7.47 (45)	6.01 (49)
1 Policy Index	1.66 (91)	-4.88 (96)	-5.58 (96)	-4.01 (98)	1.38 (96)	5.91 (89)	6.36 (86)	5.52 (77)
5th %tile	4.13	0.00	0.37	2.78	5.57	9.77	8.82	6.92
25th %tile	3.24	-1.13	-0.98	1.36	4.24	8.72	7.84	6.30
Median	2.75	-2.11	-1.79	0.36	3.52	7.93	7.37	5.99
75th %tile	2.14	-2.93	-2.77	-0.54	2.85	6.88	6.74	5.58
95th %tile	1.39	-4.34	-4.53	-2.40	1.57	5.16	5.43	4.82
Number of Funds	150	149	149	145	143	143	140	120

*TUCS Total Ret of Master Trusts - Public Universe - Gross of Fees

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2015

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
U.S. Equity Composite									
Net of Fee Return	**6.42**	**0.38**	**0.38**	**15.03**	**12.43**	**16.35**	**7.65**	**9/30/87**	**9.18**
Wilshire 5000	6.36	0.67	0.67	14.72	12.09	15.00	7.40	9/30/87	9.18
Value Added	0.06	-0.28	-0.28	0.31	0.34	1.36	0.26	9/30/87	0.00
Core Fixed Composite									
Net of Fee Return	**-0.38**	**0.45**	**0.45**	**2.11**	**4.39**	**7.57**	**5.12**	**9/30/87**	**7.07**
Barclays Aggregate	-0.57	0.55	0.55	1.44	3.25	4.09	4.52	9/30/87	6.75
Value Added	0.19	-0.10	-0.10	0.67	1.14	3.47	0.61	9/30/87	0.32
Non-U.S. Equity Composite									
Net of Fee Return	**5.70**	**0.64**	**0.64**	**5.23**	**3.97**	**9.93**	**2.97**	**12/31/89**	**8.07**
Policy Benchmark	3.24	-5.66	-5.66	1.50	1.06	7.48	2.97	12/31/89	4.08
Value Added	2.45	6.30	6.30	3.73	2.91	2.45	-0.00	12/31/89	3.99
Real Estate Composite									
Net of Fee Return	**3.95**	**-1.37**	**-1.37**	**5.21**	**6.64**			**6/30/09**	**11.98**
FTSE EPRA/NAREIT Dev (N)	4.19	-0.79	-0.79	5.76	7.17			6/30/09	12.91
Value Added	-0.24	-0.58	-0.58	-0.55	-0.53			6/30/09	-0.93
Commodities Composite									
Net of Fee Return	**-11.85**	**-26.53**	**-26.53**					**3/31/13**	**-18.74**
Bloomberg Commodity Index	-10.52	-24.66	-24.66					3/31/13	-18.37
Value Added	-1.34	-1.87	-1.87					3/31/13	-0.37
MLP Composite									
Net of Fee Return	**-5.04**							**3/31/15**	**-29.91**
S&P MLP Index	-6.70							3/31/15	-32.96
Value Added	1.66							3/31/15	3.06

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2015

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
TIPS Composite									
Net of Fee Return	**-0.52**							**6/30/15**	**-1.79**
Barclays U.S. TIPS	-0.64							6/30/15	-1.78
Value Added	0.12							6/30/15	-0.01
Total Real Assets Composite									
Net of Fee Return	**-2.31**							**3/31/15**	**-12.46**
Policy Index	-2.86							3/31/15	-12.84
Value Added	0.55							3/31/15	0.38
Alternative Investments Composite									
Net of Fee Return	**3.79**	**11.26**	**11.26**	**10.23**	**7.33**			**6/30/10**	**6.69**
Wilshire 5000 +2.5%	6.98	3.17	3.17	17.22	14.59			6/30/10	17.93
Value Added	-3.19	8.10	8.10	-6.99	-7.26			6/30/10	-11.23
Total Fund									
Net of Fee Return	**2.32**	**-2.50**	**-2.50**	**7.09**	**7.19**	**11.62**	**5.70**	**9/30/87**	**8.19**
Policy Index	1.66	-4.01	-4.01	5.91	6.36	9.78	5.52	9/30/87	8.21
Value Added	0.66	1.51	1.51	1.18	0.84	1.85	0.18	9/30/87	-0.02

Custom Benchmark Specification

Wilshire

Total Fund

December 31, 2015

	Quarter Start	Quarter End	Percent	Description
Policy Index	12/79	6/98	55.00	Wilshire 5000
			40.00	Barclays Aggregate
			5.00	MSCI EAFE Index (N)
	9/98	9/02	50.00	Wilshire 5000
			40.00	Barclays Aggregate
			10.00	MSCI EAFE Index (N)
	12/02	3/06	50.00	Wilshire 5000
			35.00	Barclays Aggregate
			15.00	MSCI EAFE Index (N)
	6/06	6/06	55.00	Wilshire 5000
			30.00	Barclays Aggregate
			15.00	MSCI EAFE Index (N)
	9/06	6/09	55.00	Wilshire 5000
			30.00	Barclays Aggregate
			15.00	MSCI ACWI X US (N)
	9/09	3/10	5.00	FTSE EPRA/NAREIT Dev (N)
			15.00	MSCI ACWI X US (N)
			30.00	Barclays Aggregate
			50.00	Wilshire 5000
	6/10	12/12	5.00	FTSE EPRA/NAREIT Dev (N)
			5.00	Wilshire 5000 + 2.5%
			30.00	Barclays Aggregate
			15.00	MSCI ACWI X US (N)
			45.00	Wilshire 5000
	3/13	3/15	5.00	FTSE EPRA/NAREIT Dev (N)
			40.00	Wilshire 5000
			15.00	MSCI ACWI X US (N)
			30.00	Barclays Aggregate
			5.00	Wilshire 5000 + 2.5%

Custom Benchmark Specification

Wilshire

Total Fund

December 31, 2015

	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)			5.00	Bloomberg Commodity Index
	6/15	12/15	22.50	Wilshire 5000
			5.00	Wilshire 5000 + 2.5%
			22.50	MSCI ACWI X US (N)
			25.00	Barclays Aggregate
			5.00	FTSE EPRA/NAREIT Dev (N)
			5.00	Bloomberg Commodity Index
			10.00	Barclays U.S. TIPS
			5.00	S&P MLP Index

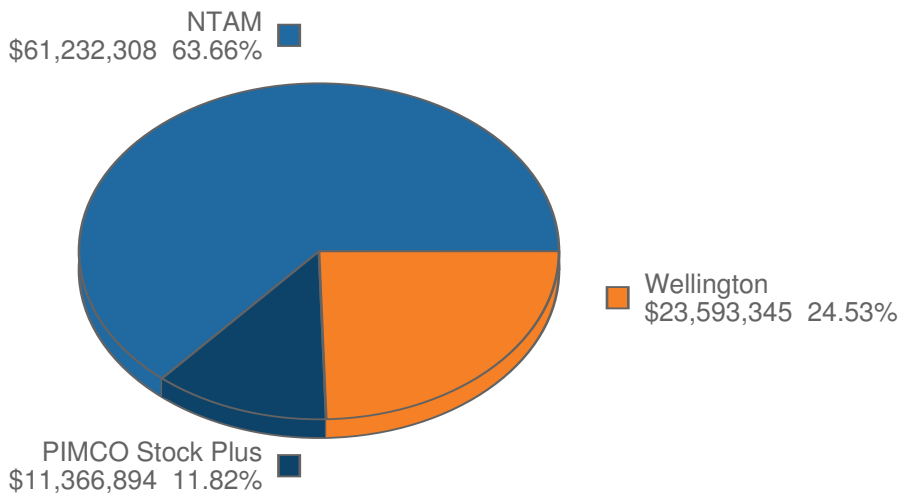
U.S. Equity

Manager Allocation

Wilshire

U.S. Equity Composite

As of December 31, 2015

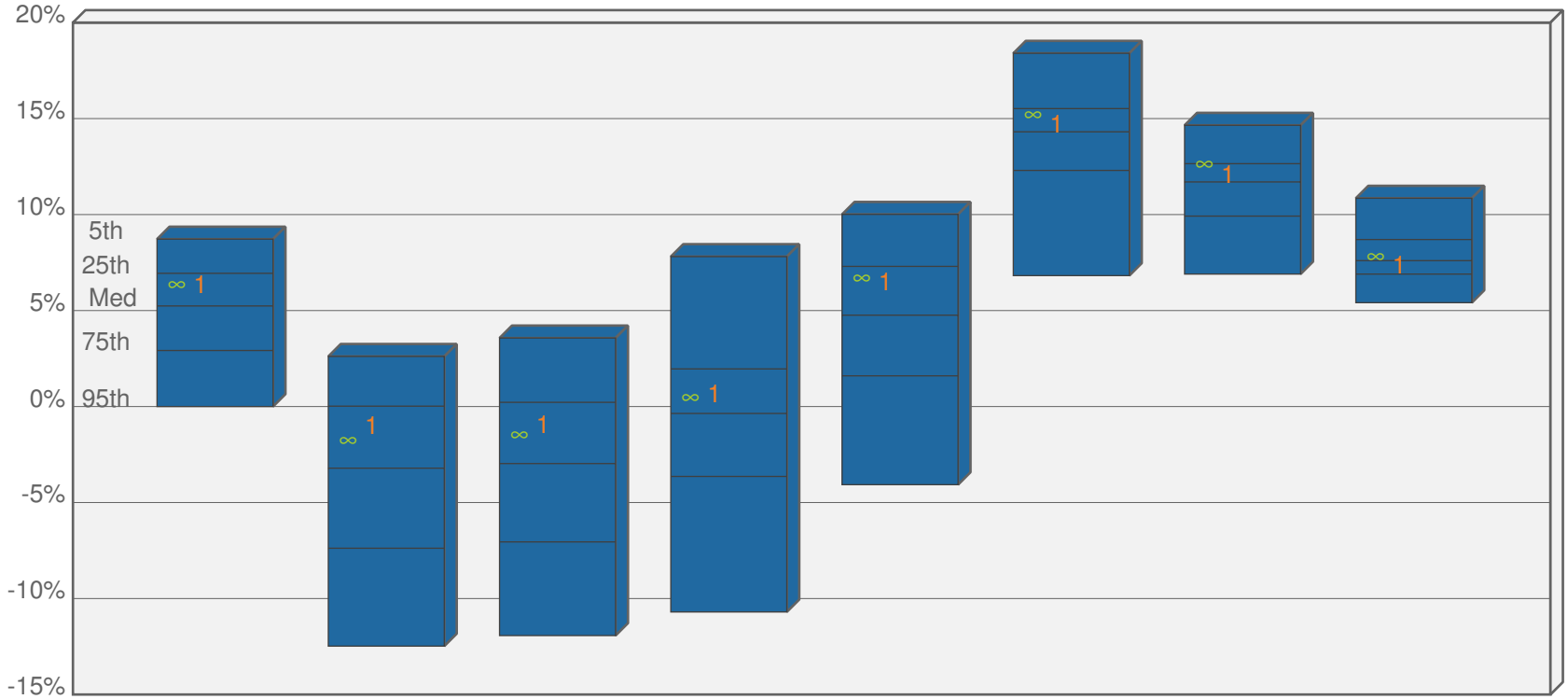


Performance Comparison

Wilshire

U.S. Equity Composite

Periods Ended December 31, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
∞ U.S. Equity Composite	6.48 (31)	-1.66 (39)	-1.38 (40)	0.60 (41)	6.79 (31)	15.31 (27)	12.72 (23)	7.94 (41)
1 Wilshire 5000	6.36 (33)	-0.99 (34)	-0.93 (34)	0.67 (40)	6.52 (33)	14.72 (43)	12.09 (43)	7.40 (57)
5th %tile	8.72	2.61	3.57	7.81	10.01	18.40	14.65	10.85
25th %tile	6.94	0.02	0.22	1.96	7.30	15.52	12.65	8.70
Median	5.24	-3.21	-2.97	-0.36	4.76	14.31	11.70	7.60
75th %tile	2.92	-7.38	-7.05	-3.64	1.60	12.30	9.92	6.90
95th %tile	0.00	-12.48	-11.93	-10.70	-4.07	6.82	6.90	5.41
Number of Funds	1654	1627	1616	1602	1540	1352	1030	488

*TUCS Total Ret of Equity Portfolios Universe - Gross of Fees

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2015

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
NTAM									
Net of Fee Return	**7.06**	**1.47**	**1.47**	**15.18**	**12.61**	**14.89**	**7.26**	**9/30/98**	**6.37**
Policy Benchmark	7.04	1.38	1.38	15.13	12.57	14.81	7.30	9/30/98	6.36
Value Added	0.02	0.09	0.09	0.04	0.04	0.08	-0.04	9/30/98	0.01
PIMCO Stock Plus									
Net of Fee Return	**7.00**	**-0.29**	**-0.29**	**14.92**	**13.55**	**17.50**	**8.04**	**9/30/00**	**4.92**
Standard & Poor's 500	7.04	1.38	1.38	15.13	12.57	14.81	7.31	9/30/00	4.36
Value Added	-0.04	-1.67	-1.67	-0.22	0.98	2.69	0.73	9/30/00	0.57
Wellington									
Net of Fee Return	**4.48**	**-2.39**	**-2.39**	**15.36**	**12.24**	**19.42**	**9.41**	**9/30/99**	**10.91**
Russell 2000	3.59	-4.41	-4.41	11.65	9.19	14.01	6.80	9/30/99	7.61
Value Added	0.88	2.03	2.03	3.71	3.05	5.41	2.61	9/30/99	3.30
U.S. Equity Composite									
Net of Fee Return	**6.42**	**0.38**	**0.38**	**15.03**	**12.43**	**16.35**	**7.65**	**9/30/87**	**9.18**
Wilshire 5000	6.36	0.67	0.67	14.72	12.09	15.00	7.40	9/30/87	9.18
Value Added	0.06	-0.28	-0.28	0.31	0.34	1.36	0.26	9/30/87	0.00

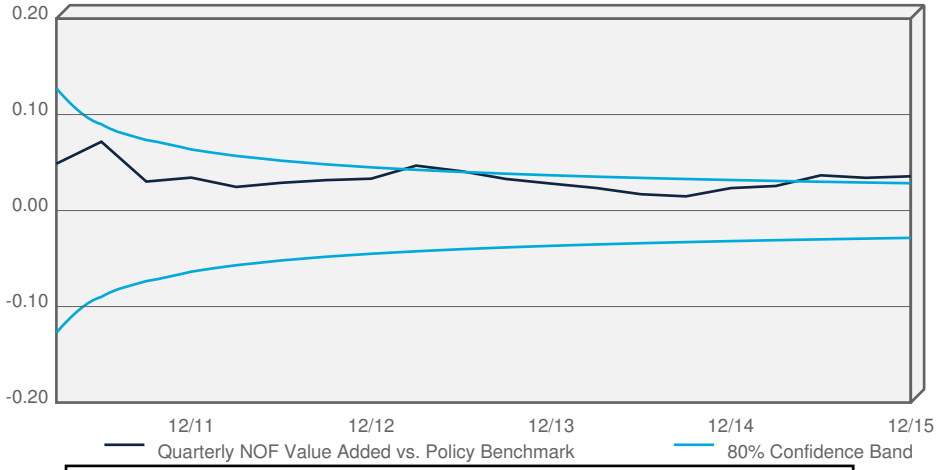
Investment Manager Analysis

Wilshire

NTAM

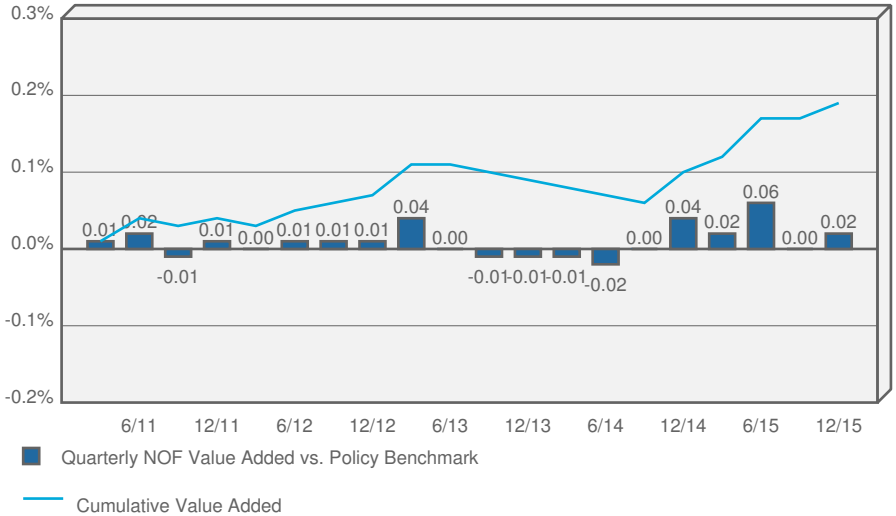
December 31, 2015

Cumulative Skill Analysis vs Benchmark

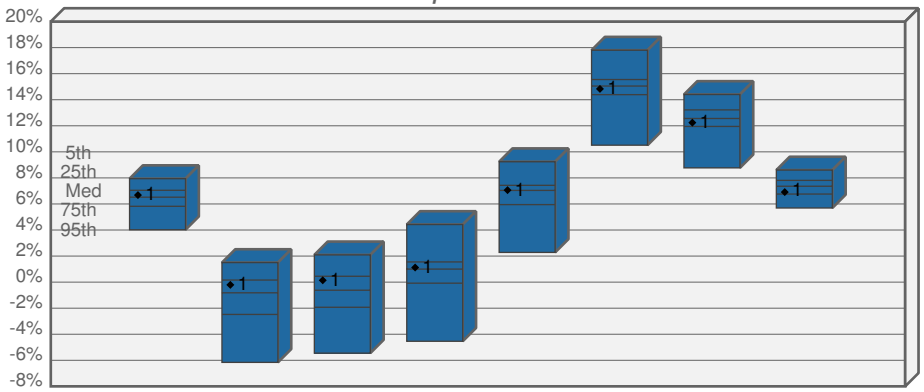


Excess Return:	**0.04**	**Information Ratio:**	**0.92**
Excess Risk:	**0.04**	**T-Stat:**	**2.07**

Value-Added Analysis vs Benchmark

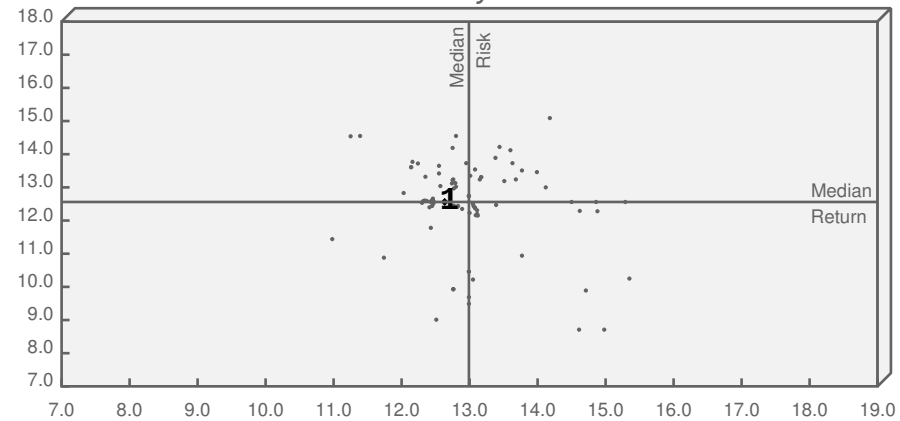


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
◆ NTAM	7.09 (17)	0.20 (19)	0.55 (14)	1.53 (27)	7.47 (23)	15.24 (33)	12.65 (35)	7.32 (57)
1 Policy Benchma	7.04 (31)	0.15 (29)	0.43 (27)	1.38 (37)	7.36 (36)	15.13 (40)	12.57 (48)	7.30 (58)
Median	6.52	-0.82	-0.62	1.00	7.04	15.05	12.56	7.36
Number of Funds	232	232	232	231	229	216	184	96

Five Year Risk/Return Analysis vs Peer Universe*



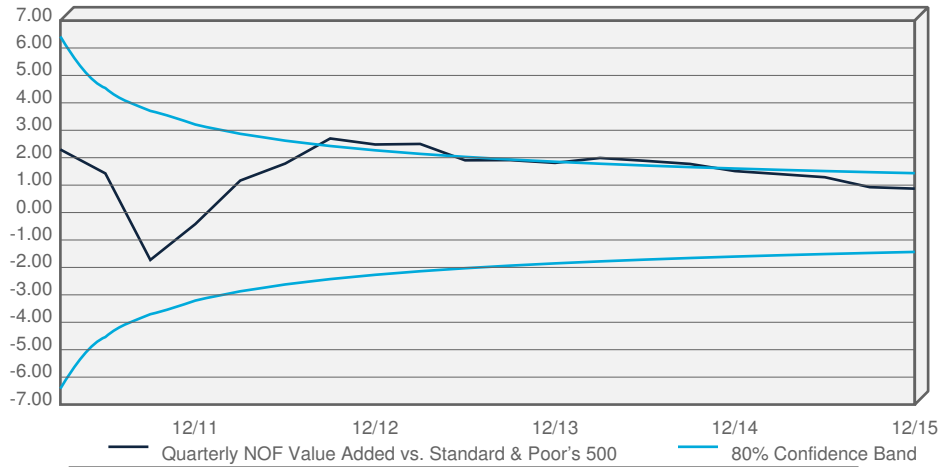
Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
NTAM	◆	12.65	35	12.79	57
Policy Benchmark	1	12.57	48	12.78	57
Median		12.56		12.99	

*TUCS Total Returns of Large Neutral Equity Portfolios Universe - Gross of Fees

PIMCO Stock Plus

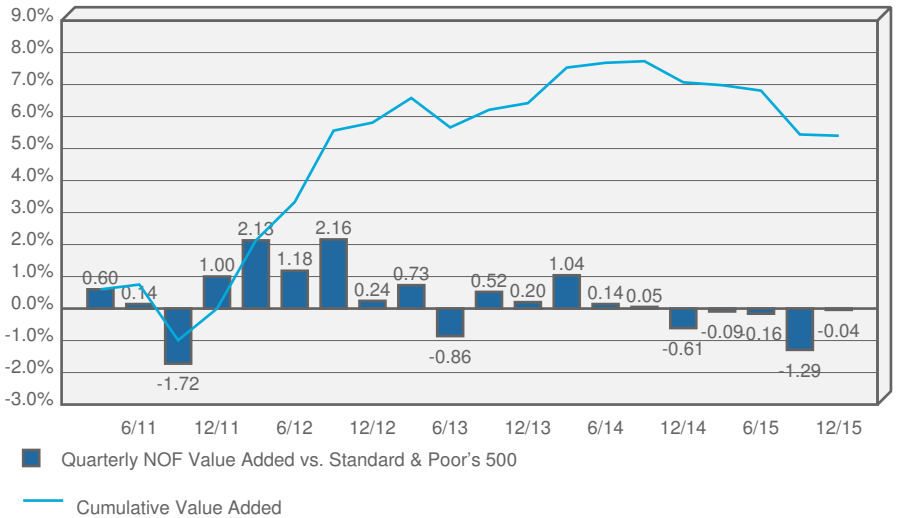
December 31, 2015

Cumulative Skill Analysis vs Benchmark

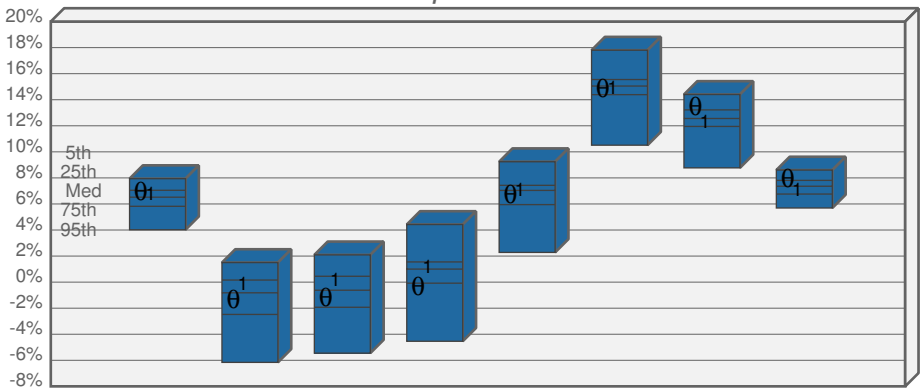


Excess Return:	**0.87**	**Information Ratio:**	**0.45**
Excess Risk:	**1.95**	**T-Stat:**	**1.00**

Value-Added Analysis vs Benchmark

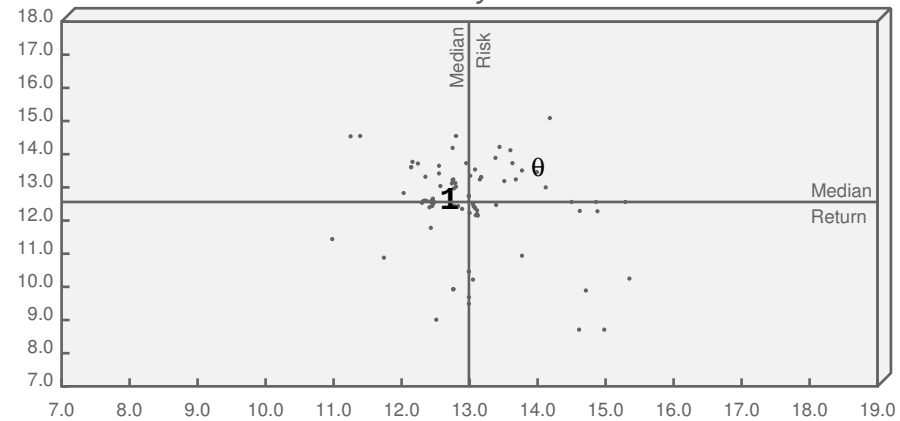


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
θ PIMCO Stock Pl	7.00 (38)	-1.26 (57)	-1.14 (62)	-0.29 (79)	6.80 (59)	14.92 (59)	13.55 (16)	8.04 (14)
1 Standard & Poo	7.04 (31)	0.15 (29)	0.43 (27)	1.38 (37)	7.36 (36)	15.13 (40)	12.57 (48)	7.31 (58)
Median	6.52	-0.82	-0.62	1.00	7.04	15.05	12.56	7.36
Number of Funds	232	232	232	231	229	216	184	96

Five Year Risk/Return Analysis vs Peer Universe*



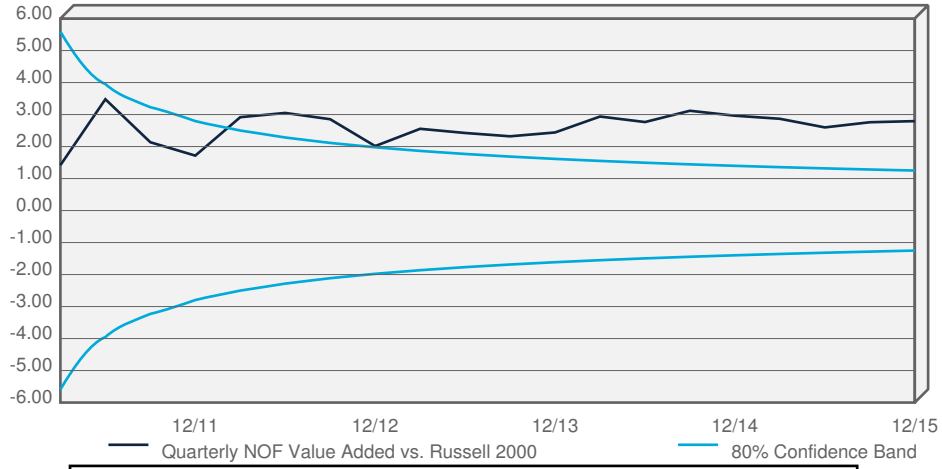
Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
PIMCO Stock Plus	θ	13.55	16	14.12	18
Standard & Poor's 500	1	12.57	48	12.78	57
Median		12.56		12.99	

*TUCS Total Returns of Large Neutral Equity Portfolios Universe - Gross of Fees

Wellington

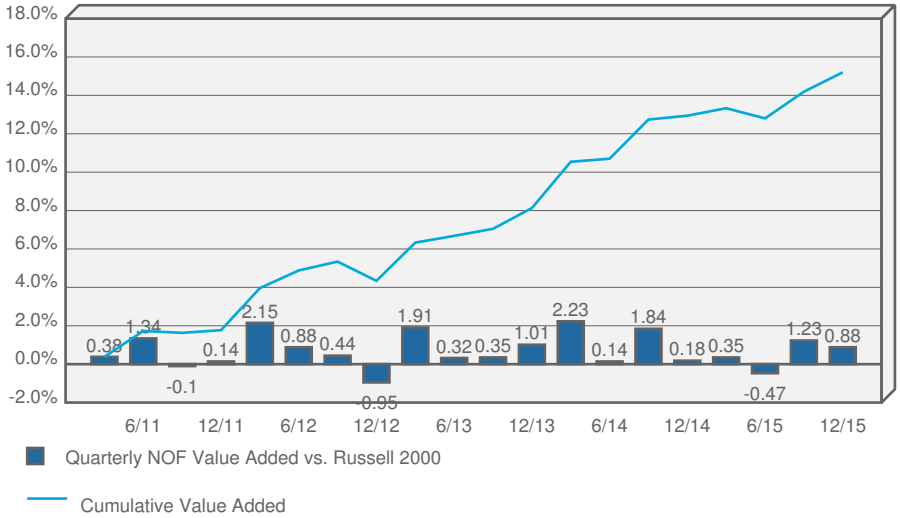
December 31, 2015

Cumulative Skill Analysis vs Benchmark

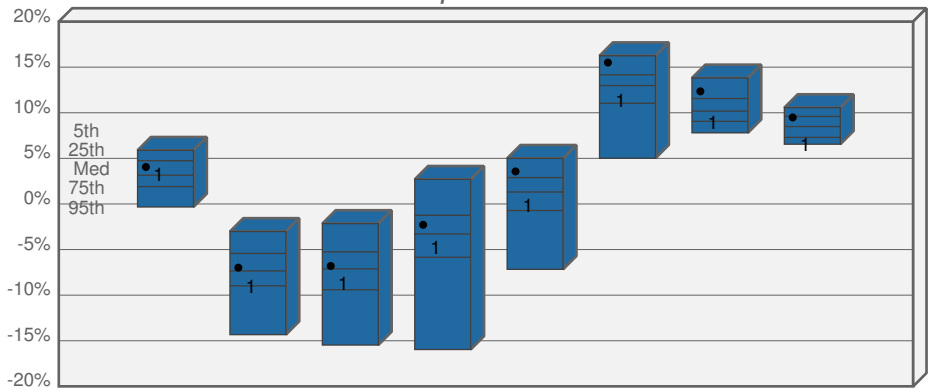


Excess Return:	**2.79**	**Information Ratio:**	**1.64**
Excess Risk:	**1.70**	**T-Stat:**	**3.68**

Value-Added Analysis vs Benchmark

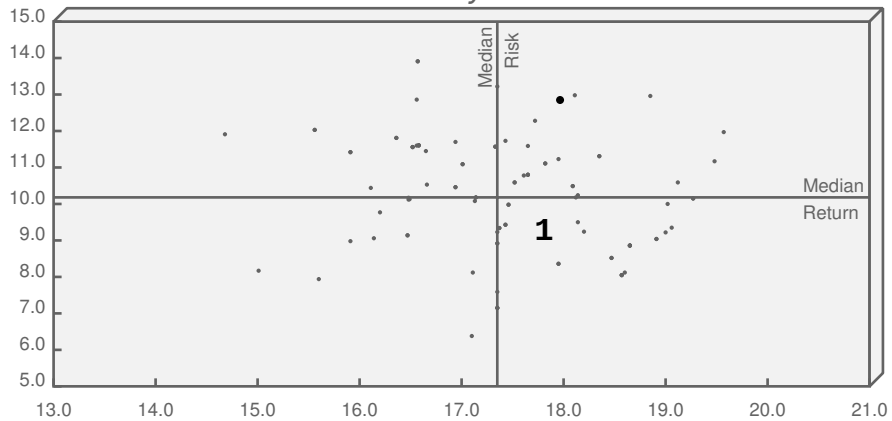


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
● Wellington	4.64 (28)	-6.40 (37)	-6.22 (34)	-1.70 (27)	4.15 (18)	16.09 (6)	12.93 (10)	10.07 (6)
1 Russell 2000	3.59 (40)	-8.75 (69)	-8.37 (64)	-4.41 (64)	0.13 (70)	11.65 (69)	9.19 (71)	6.80 (85)
Median	3.15	-7.34	-7.12	-3.29	1.31	12.98	10.18	8.49
Number of Funds	131	131	131	131	129	114	100	53

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
Wellington	●	12.93	10	18.07	34
Russell 2000	1	9.19	71	17.86	36
Median		10.18		17.35	

*TUCS Total Returns of Small Neutral Equity Portfolios Universe - Gross of Fees

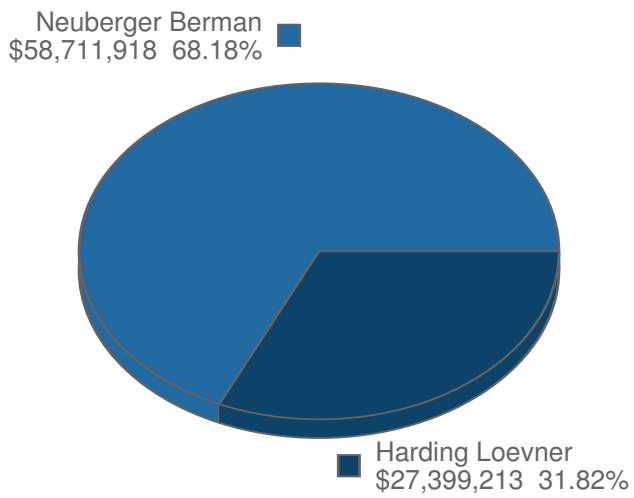
Non - U.S. Equity

Manager Allocation

Wilshire

Non-U.S. Equity Composite

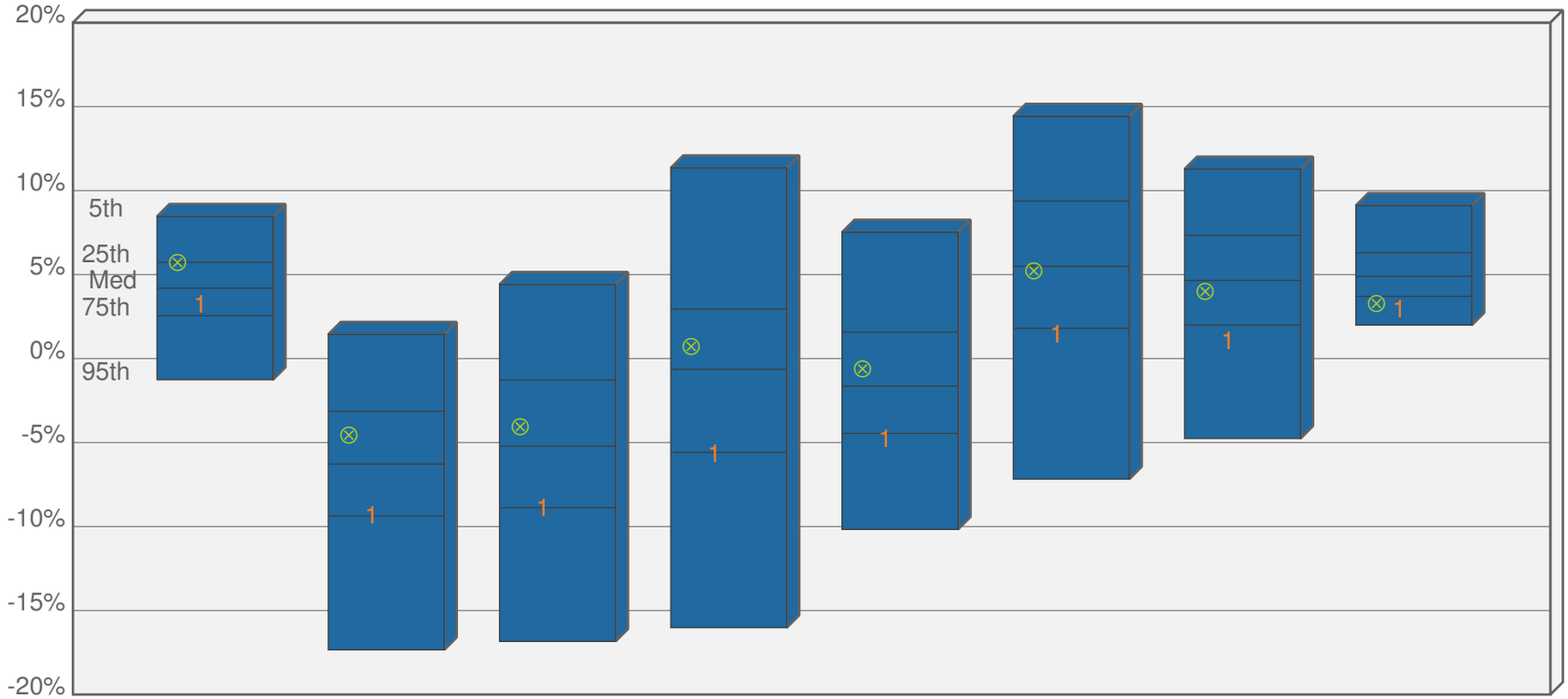
As of December 31, 2015



Wilshire

Non-U.S. Equity Composite

Periods Ended December 31, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗ Non-U.S. Equity Composit	5.74 (24)	-4.54 (34)	-4.04 (40)	0.74 (36)	-0.59 (39)	5.26 (55)	4.05 (56)	3.32 (81)
1 Policy Benchmark	3.24 (64)	-9.32 (74)	-8.84 (74)	-5.66 (75)	-4.77 (77)	1.50 (77)	1.06 (80)	2.97 (87)
5th %tile	8.46	1.44	4.41	11.35	7.52	14.42	11.28	9.11
25th %tile	5.73	-3.14	-1.28	2.95	1.57	9.37	7.33	6.30
Median	4.19	-6.28	-5.22	-0.64	-1.64	5.49	4.65	4.90
75th %tile	2.55	-9.37	-8.88	-5.58	-4.46	1.80	1.99	3.70
95th %tile	-1.26	-17.34	-16.84	-16.02	-10.17	-7.18	-4.76	1.99
Number of Funds	1657	1644	1625	1606	1532	1413	1235	579

*TUCS Total Ret of International Equity Portfolios Universe - Gross of Fees

Wilshire

Trailing Returns

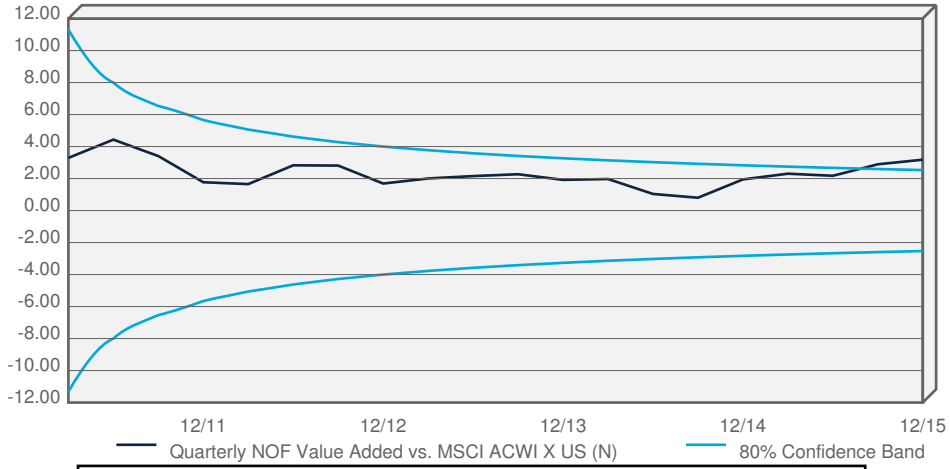
Periods Ended December 31, 2015

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Neuberger Berman									
Net of Fee Return	**5.44**	**2.13**	**2.13**	**5.74**	**4.27**	**10.16**		**6/30/06**	**2.45**
MSCI ACWI X US (N)	3.24	-5.66	-5.66	1.50	1.06	7.48		6/30/06	2.08
Value Added	2.19	7.79	7.79	4.25	3.21	2.68		6/30/06	0.36
Harding Loevner									
Net of Fee Return	**6.25**							**3/31/15**	**-6.01**
MSCI ACWI X US (N)	3.24							3/31/15	-8.84
Value Added	3.00							3/31/15	2.84
Non-U.S. Equity Composite									
Net of Fee Return	**5.70**	**0.64**	**0.64**	**5.23**	**3.97**	**9.93**	**2.97**	**12/31/89**	**8.07**
Policy Benchmark	3.24	-5.66	-5.66	1.50	1.06	7.48	2.97	12/31/89	4.08
Value Added	2.45	6.30	6.30	3.73	2.91	2.45	-0.00	12/31/89	3.99

Neuberger Berman

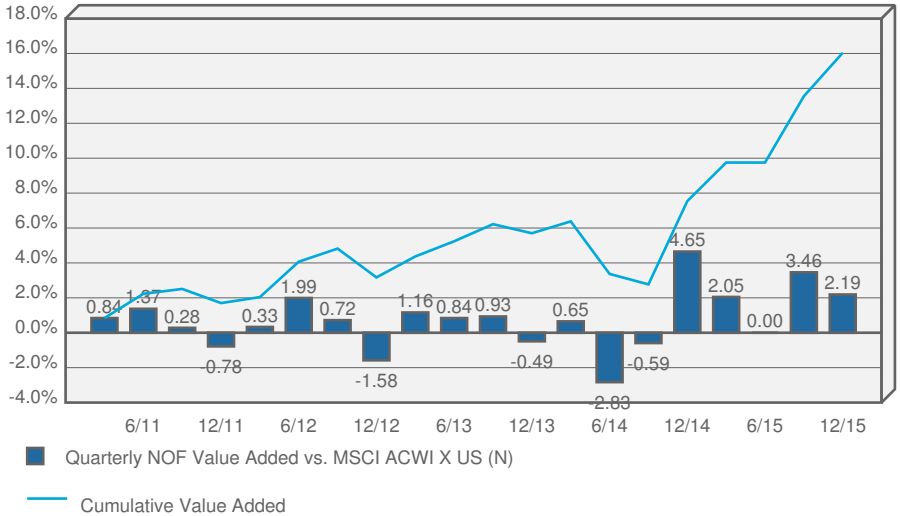
December 31, 2015

Cumulative Skill Analysis vs Benchmark

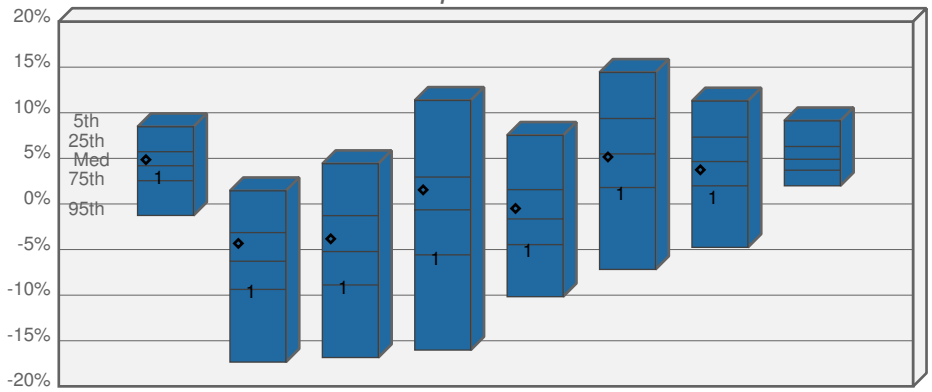


Excess Return:	**3.18**	**Information Ratio:**	**0.92**
Excess Risk:	**3.44**	**T-Stat:**	**2.07**

Value-Added Analysis vs Benchmark

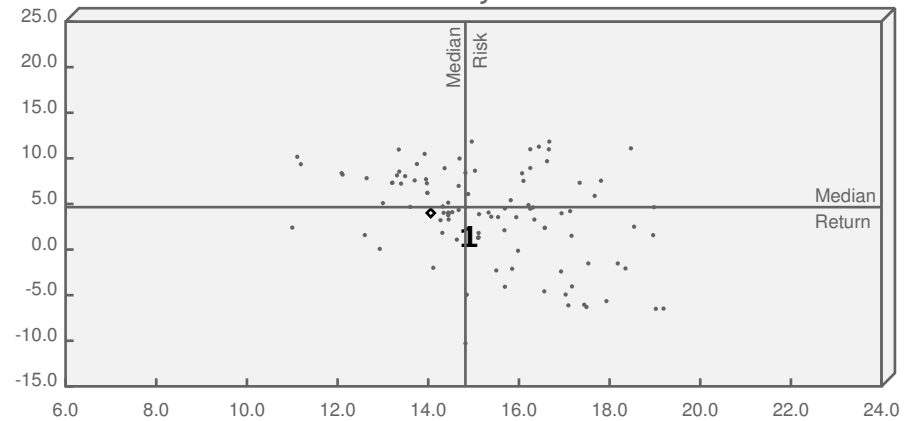


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
◇ Neuberger Berm	5.44 (27)	-3.74 (29)	-3.24 (36)	2.13 (29)	0.09 (34)	5.74 (47)	4.33 (52)	
1 MSCI ACWI X US	3.24 (64)	-9.32 (74)	-8.84 (74)	-5.66 (75)	-4.77 (77)	1.50 (77)	1.06 (80)	
Median	4.19	-6.28	-5.22	-0.64	-1.64	5.49	4.65	4.90
Number of Funds	1657	1644	1625	1606	1532	1413	1235	579

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Neuberger Berman	◇	4.33	52	14.29	67
MSCI ACWI X US (N)	1	1.06	80	15.01	46
Median		4.65		14.82	

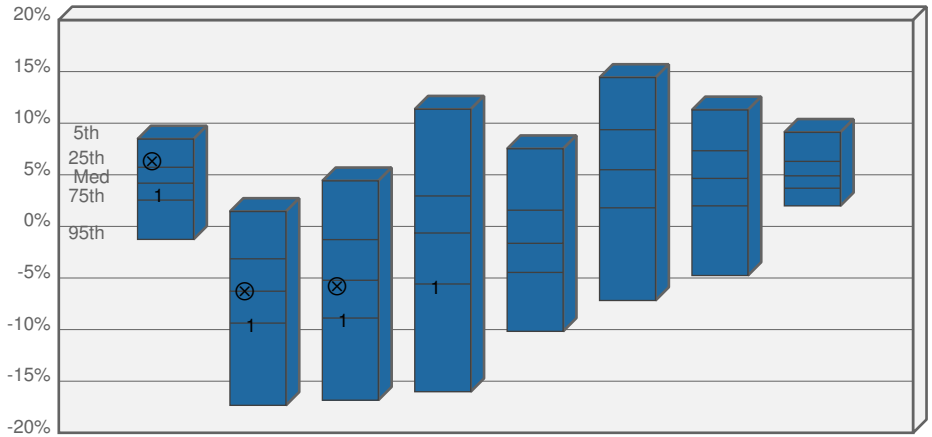
*TUCS Total Returns of International Equity Portfolios Universe - Gross of Fees

Wilshire

Harding Loevner

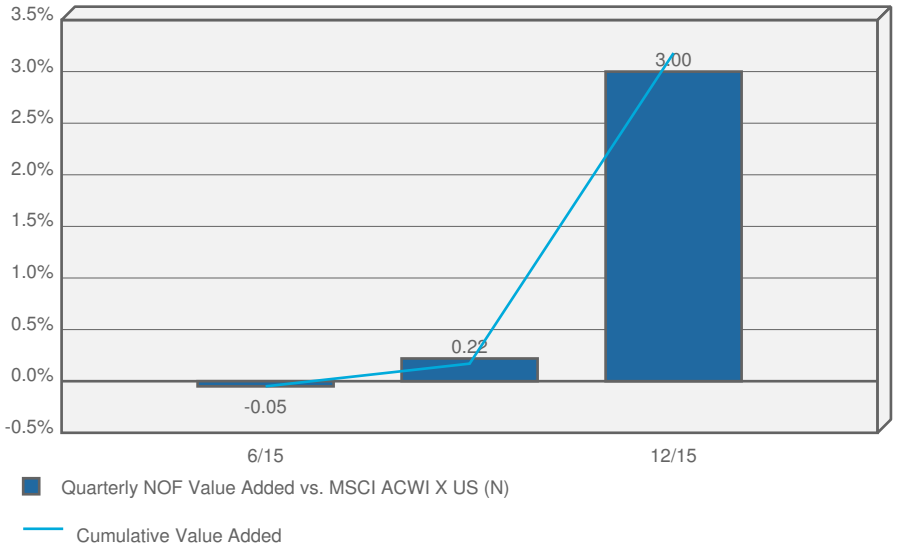
December 31, 2015

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗Harding Loevne	6.39 (16)	-6.19 (49)	-5.71 (55)					
1 MSCI ACWI X US	3.24 (64)	-9.32 (74)	-8.84 (74)	-5.66 (75)				
Median	4.19	-6.28	-5.22	-0.64	-1.64	5.49	4.65	4.90
Number of Funds	1657	1644	1625	1606	1532	1413	1235	579

Value-Added Analysis vs Benchmark



*TUCS Total Returns of International Equity Portfolios Universe - Gross of Fees

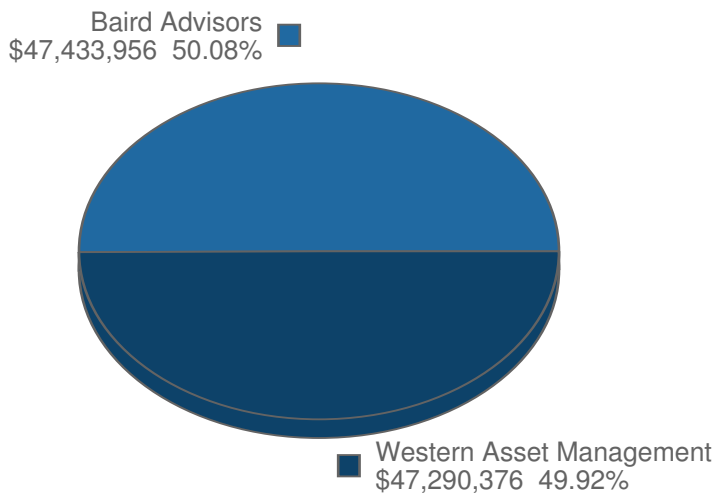
Core Fixed Income

Manager Allocation

Wilshire

Core Fixed Composite

As of December 31, 2015

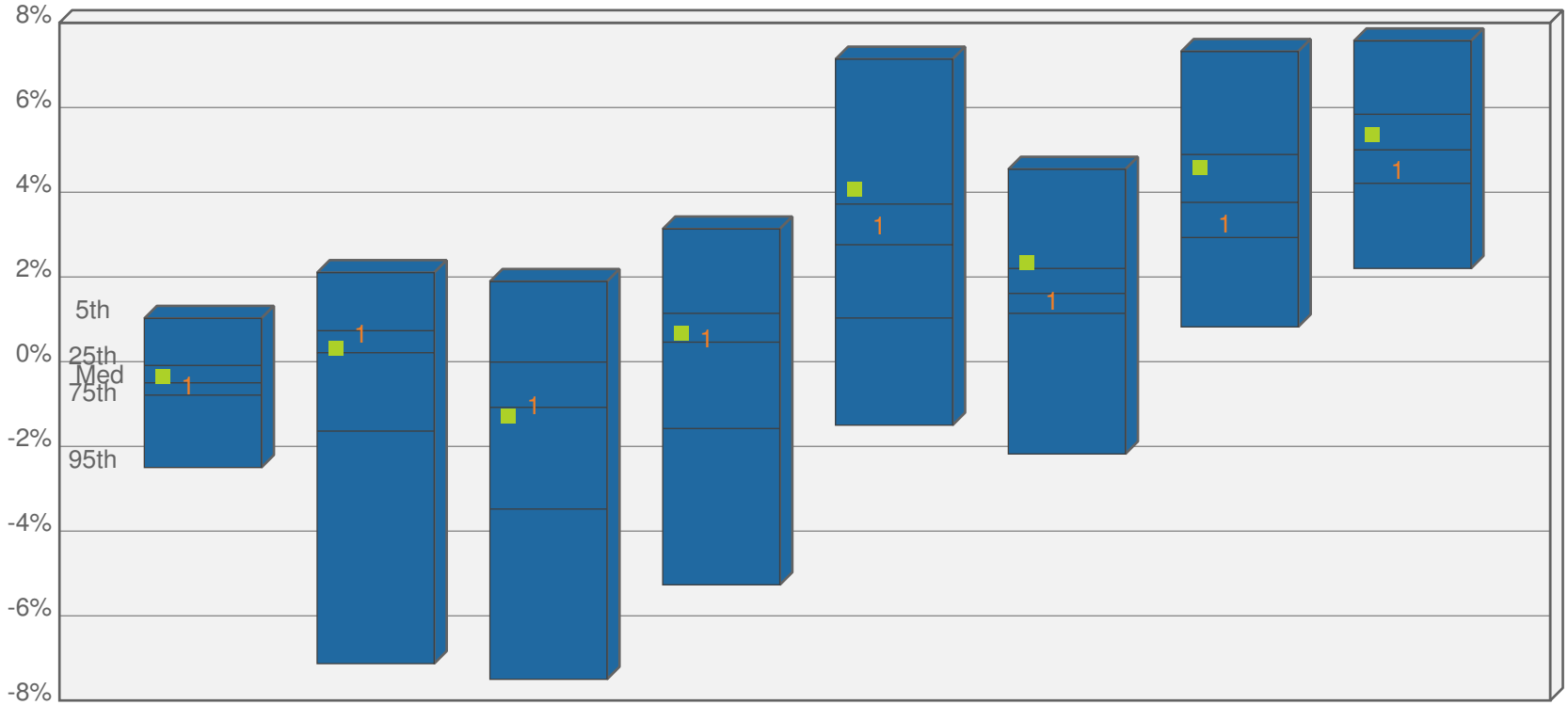


Performance Comparison

Wilshire

Core Fixed Composite

Periods Ended December 31, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Core Fixed Composite	-0.32 (37)	0.34 (44)	-1.25 (55)	0.71 (41)	4.10 (17)	2.37 (19)	4.62 (29)	5.38 (37)
1 Barclays Aggrega	-0.57 (58)	0.65 (31)	-1.04 (48)	0.55 (47)	3.22 (39)	1.44 (61)	3.25 (66)	4.52 (67)
5th %tile	1.02	2.10	1.89	3.13	7.14	4.54	7.32	7.57
25th %tile	-0.09	0.73	-0.01	1.14	3.72	2.20	4.89	5.84
Median	-0.50	0.21	-1.08	0.46	2.76	1.61	3.76	5.00
75th %tile	-0.79	-1.64	-3.48	-1.58	1.03	1.14	2.93	4.21
95th %tile	-2.50	-7.13	-7.50	-5.27	-1.50	-2.18	0.82	2.20
Number of Funds	1248	1222	1205	1190	1116	992	795	388

*TUCS Total Ret of Fixed Income Portfolios Universe - Gross of Fees

Performance Comparison

Wilshire

Trailing Returns

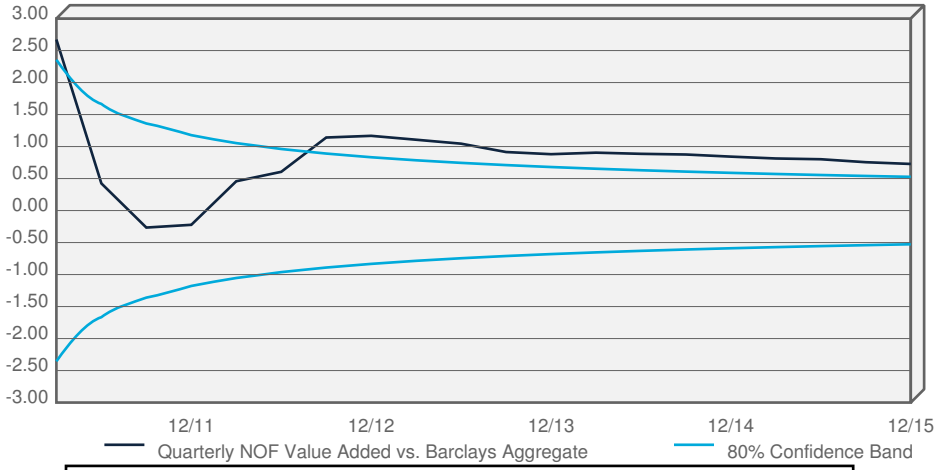
Periods Ended December 31, 2015

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Baird Advisors									
Net of Fee Return	**-0.52**	**0.82**	**0.82**	**1.89**	**4.00**	**5.62**	**4.77**	**3/31/03**	**4.59**
Barclays Aggregate	-0.57	0.55	0.55	1.44	3.25	4.09	4.52	3/31/03	4.28
Value Added	0.05	0.27	0.27	0.44	0.75	1.53	0.26	3/31/03	0.30
Western Asset Management									
Net of Fee Return	**-0.24**	**0.08**	**0.08**	**2.33**	**4.70**	**9.44**	**5.35**	**3/31/04**	**5.07**
Barclays Aggregate	-0.57	0.55	0.55	1.44	3.25	4.09	4.52	3/31/04	4.19
Value Added	0.33	-0.47	-0.47	0.88	1.45	5.35	0.84	3/31/04	0.88
Core Fixed Composite									
Net of Fee Return	**-0.38**	**0.45**	**0.45**	**2.11**	**4.39**	**7.57**	**5.12**	**9/30/87**	**7.07**
Barclays Aggregate	-0.57	0.55	0.55	1.44	3.25	4.09	4.52	9/30/87	6.75
Value Added	0.19	-0.10	-0.10	0.67	1.14	3.47	0.61	9/30/87	0.32

Baird Advisors

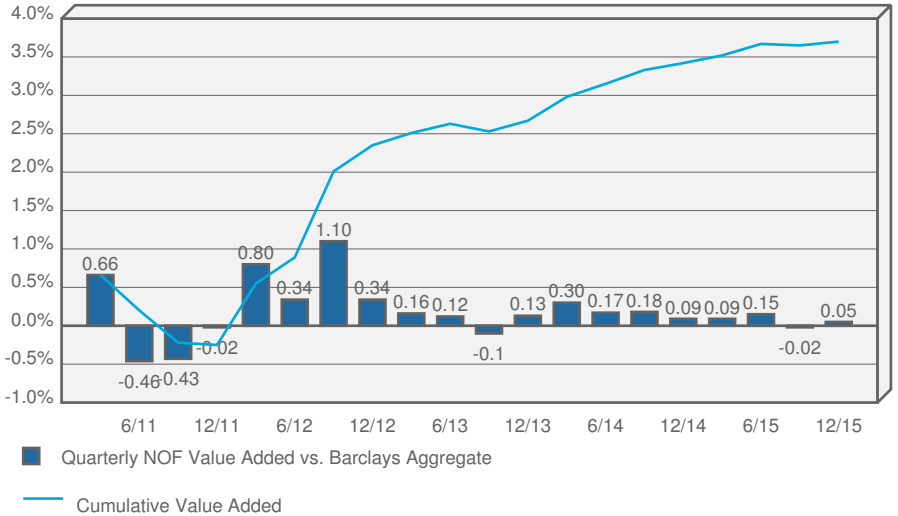
December 31, 2015

Cumulative Skill Analysis vs Benchmark

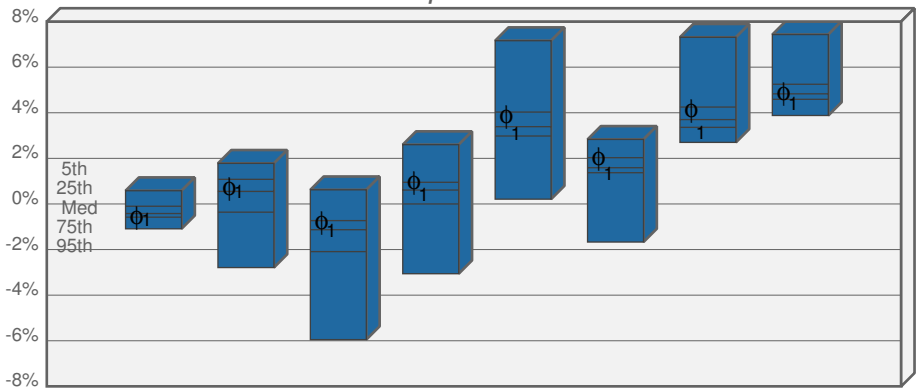


Excess Return:	**0.73**	**Information Ratio:**	**1.02**
Excess Risk:	**0.72**	**T-Stat:**	**2.27**

Value-Added Analysis vs Benchmark

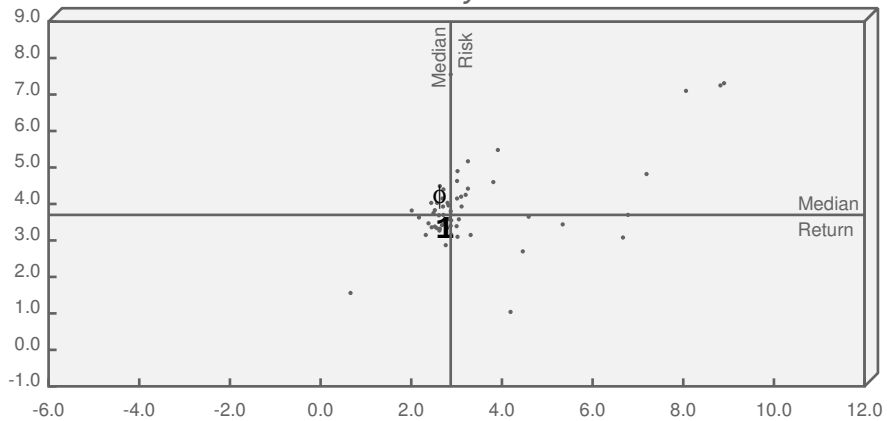


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
ϕ Baird Advisors	-0.46 (53)	0.80 (32)	-0.69 (22)	1.05 (19)	3.96 (25)	2.10 (21)	4.22 (25)	4.99 (39)
1 Barclays Aggre	-0.57 (72)	0.65 (39)	-1.04 (39)	0.55 (52)	3.22 (60)	1.44 (68)	3.25 (82)	4.52 (83)
Median	-0.42	0.55	-1.13	0.61	3.39	1.59	3.70	4.83
Number of Funds	77	75	75	75	70	63	57	29

Five Year Risk/Return Analysis vs Peer Universe*



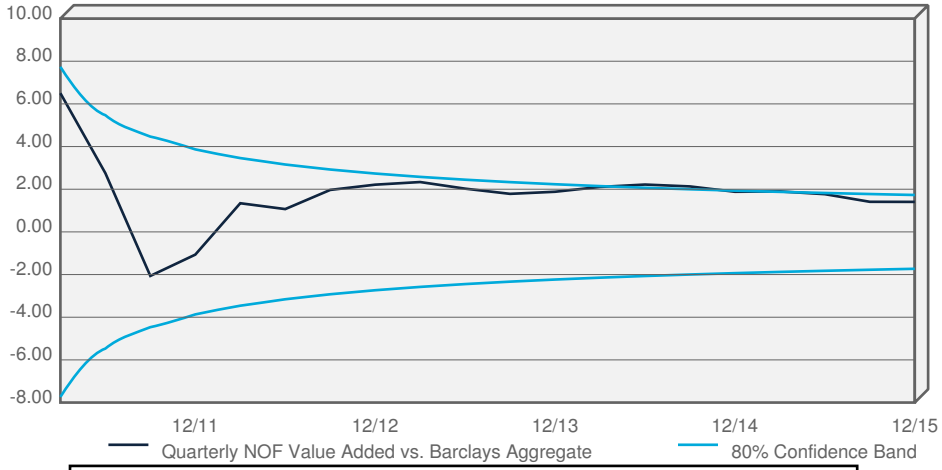
Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Baird Advisors	ϕ	4.22	25	2.80	57
Barclays Aggregate	1	3.25	82	2.86	51
Median		3.70		2.87	

*TUCS Total Returns of Fixed Income Portfolios - Core Universe - Gross of Fees

Western Asset Management

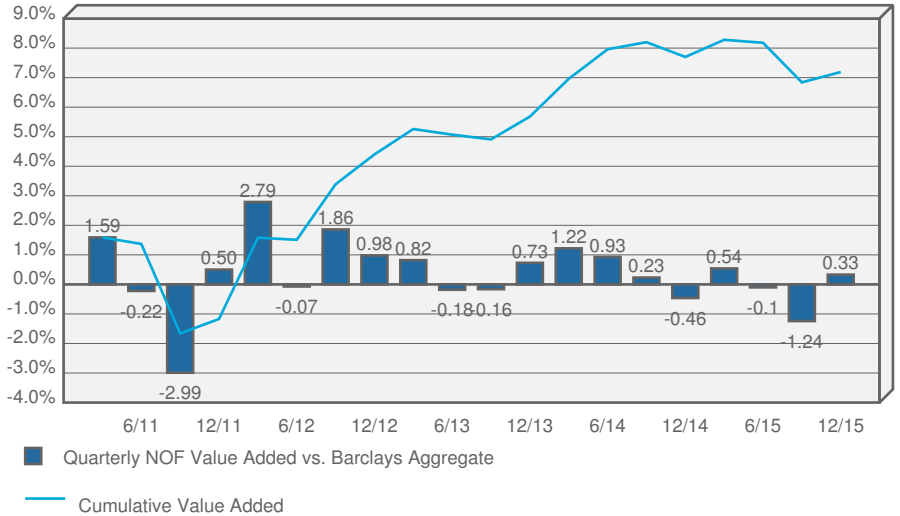
December 31, 2015

Cumulative Skill Analysis vs Benchmark

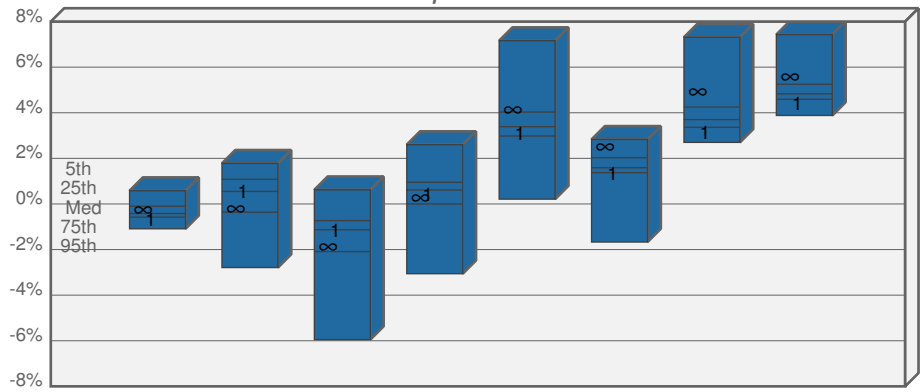


Excess Return:	**1.41**	**Information Ratio:**	**0.60**
Excess Risk:	**2.35**	**T-Stat:**	**1.34**

Value-Added Analysis vs Benchmark

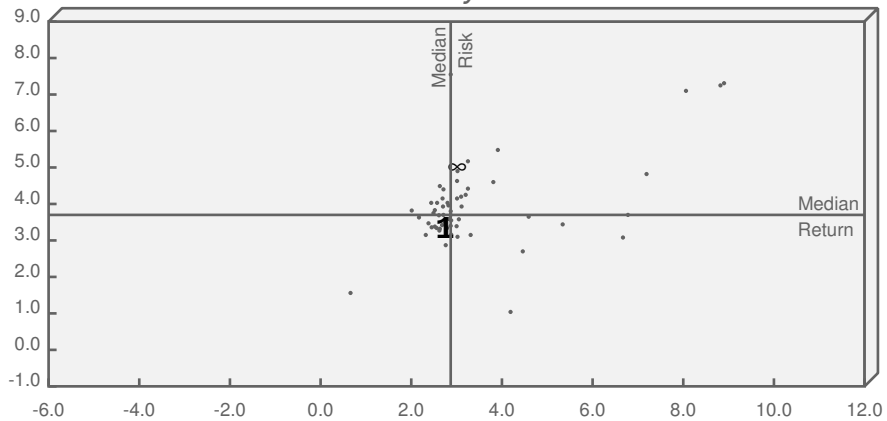


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
∞ Western Asset	-0.17 (28)	-0.10 (72)	-1.80 (73)	0.38 (62)	4.24 (20)	2.62 (9)	5.00 (11)	5.66 (21)
1 Barclays Aggre	-0.57 (72)	0.65 (39)	-1.04 (39)	0.55 (52)	3.22 (60)	1.44 (68)	3.25 (82)	4.52 (83)
Median	-0.42	0.55	-1.13	0.61	3.39	1.59	3.70	4.83
Number of Funds	77	75	75	75	70	63	57	29

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
Western Asset Management	∞	5.00	11	3.13	30
Barclays Aggregate	1	3.25	82	2.86	51
Median		3.70		2.87	

*TUCS Total Returns of Fixed Income Portfolios - Core Universe - Gross of Fees

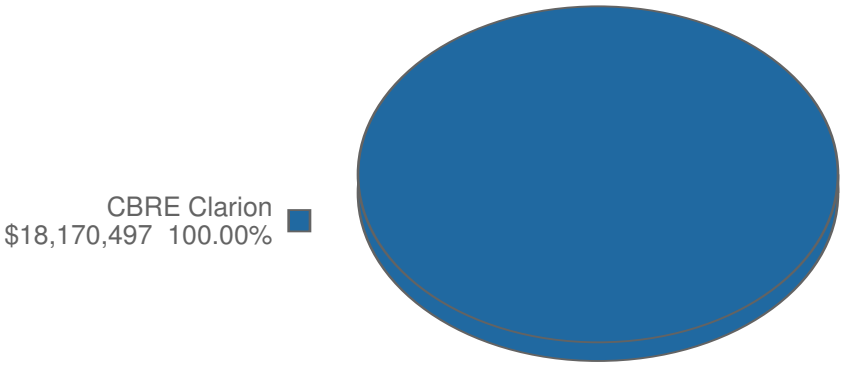
Real Estate

Manager Allocation

Wilshire

Real Estate Composite

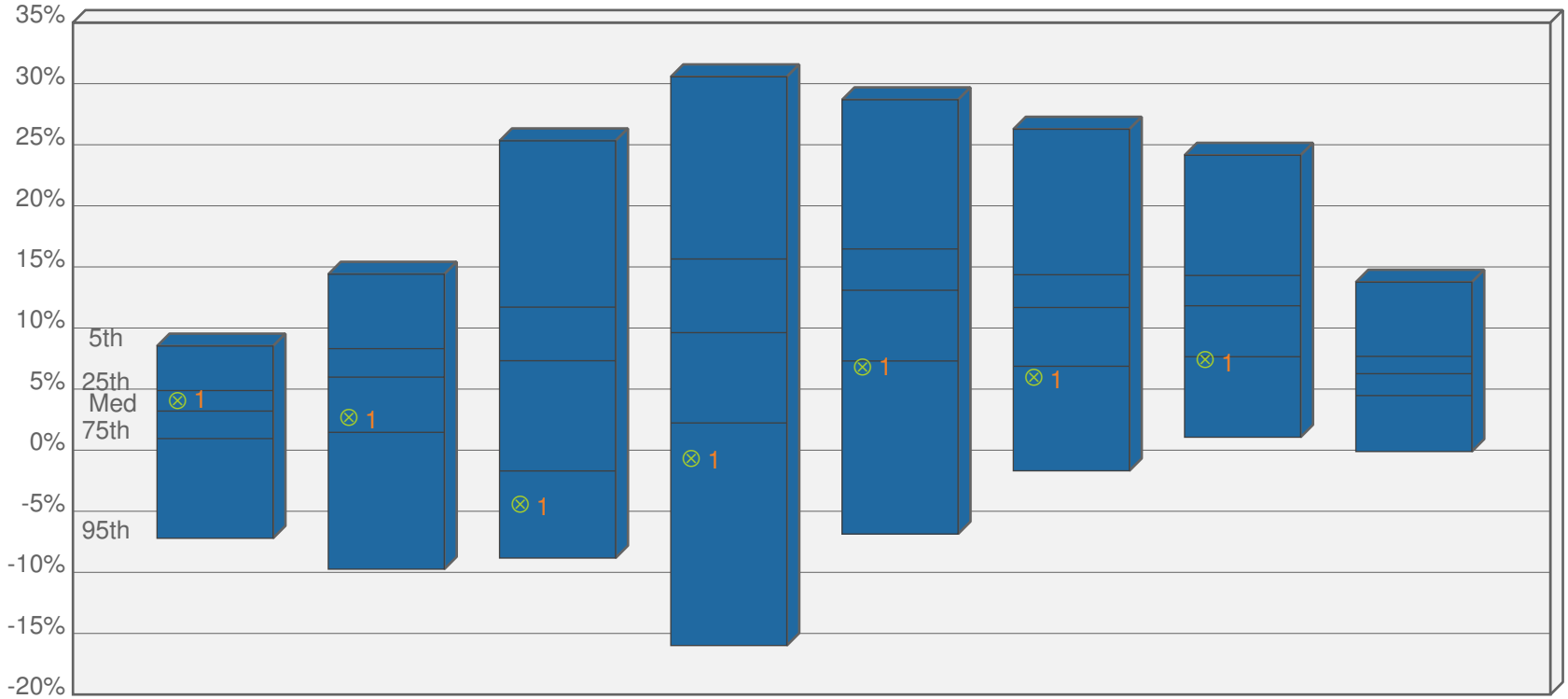
As of December 31, 2015



Wilshire

Real Estate Composite

Periods Ended December 31, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗ Real Estate Composite	4.14 (31)	2.72 (67)	-4.38 (87)	-0.60 (84)	6.85 (76)	5.99 (80)	7.43 (76)	
1 FTSE EPRA/NAREIT	4.19 (30)	2.49 (69)	-4.58 (88)	-0.79 (84)	6.82 (76)	5.76 (80)	7.17 (76)	
5th %tile	8.52	14.40	25.32	30.56	28.68	26.27	24.14	13.75
25th %tile	4.88	8.31	11.71	15.65	16.47	14.36	14.30	7.68
Median	3.20	5.98	7.32	9.62	13.09	11.68	11.82	6.26
75th %tile	0.95	1.46	-1.70	2.23	7.30	6.87	7.65	4.47
95th %tile	-7.21	-9.74	-8.83	-15.99	-6.86	-1.69	1.06	-0.11
Number of Funds	446	461	450	448	430	319	263	104

*TUCS Total Ret of Real Estate Portfolios Universe - Gross of Fees

Wilshire

Trailing Returns

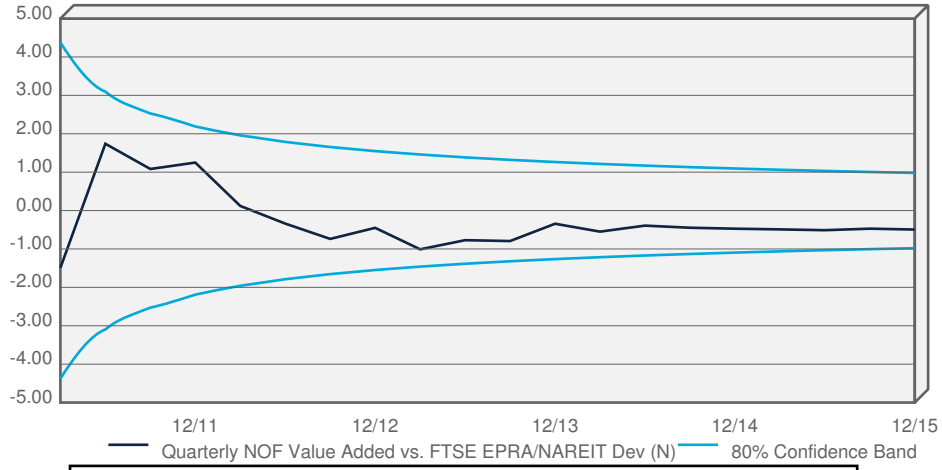
Periods Ended December 31, 2015

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
CBRE Clarion									
Net of Fee Return	**3.95**	**-1.37**	**-1.37**	**5.21**	**6.64**			**6/30/09**	**11.98**
FTSE EPRA/NAREIT Dev (N)	4.19	-0.79	-0.79	5.76	7.17			6/30/09	12.91
Value Added	-0.24	-0.58	-0.58	-0.55	-0.53			6/30/09	-0.93
Real Estate Composite									
Net of Fee Return	**3.95**	**-1.37**	**-1.37**	**5.21**	**6.64**			**6/30/09**	**11.98**
FTSE EPRA/NAREIT Dev (N)	4.19	-0.79	-0.79	5.76	7.17			6/30/09	12.91
Value Added	-0.24	-0.58	-0.58	-0.55	-0.53			6/30/09	-0.93

CBRE Clarion

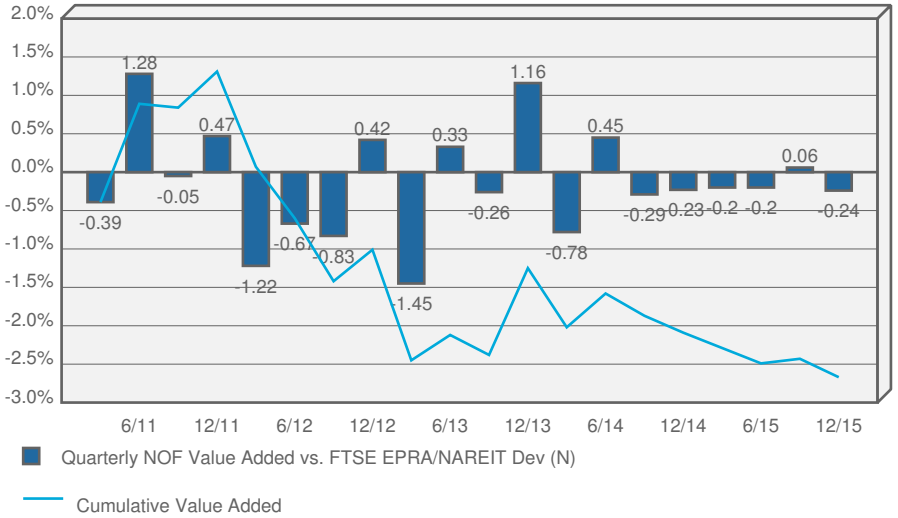
December 31, 2015

Cumulative Skill Analysis vs Benchmark

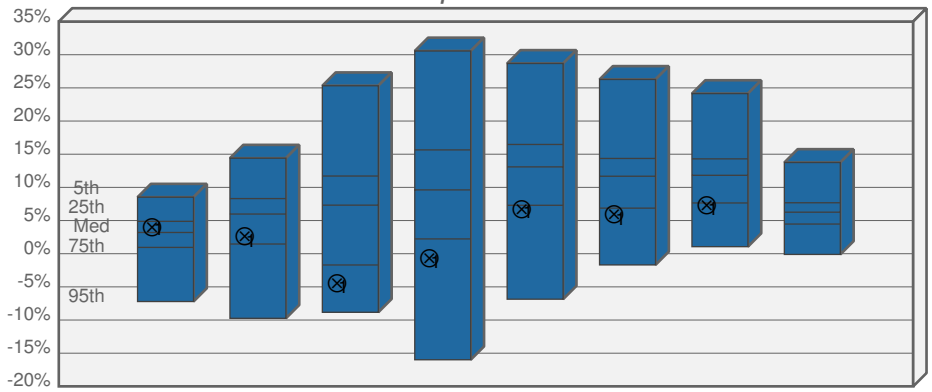


Excess Return:	**-0.49**	**Information Ratio:**	**-0.37**
Excess Risk:	**1.33**	**T-Stat:**	**-0.83**

Value-Added Analysis vs Benchmark

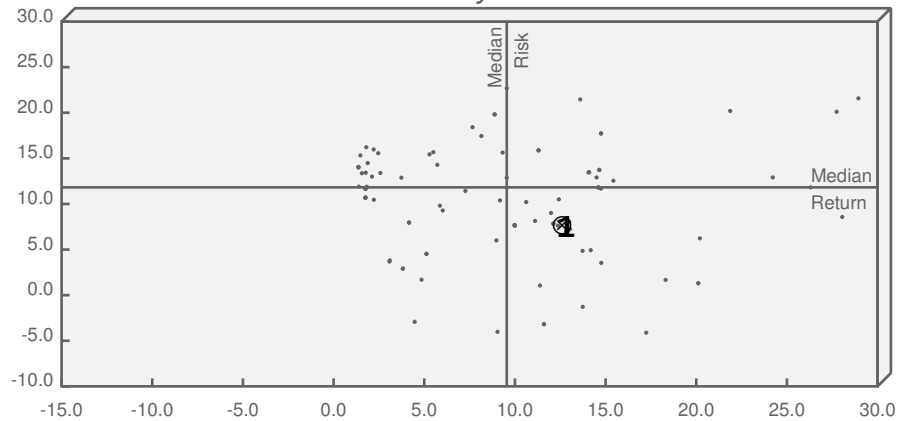


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗ CBRE Clarion	4.14 (31)	2.72 (67)	-4.38 (87)	-0.60 (84)	6.85 (76)	5.99 (80)	7.43 (76)	
1 FTSE EPRA/NARE	4.19 (30)	2.49 (69)	-4.58 (88)	-0.79 (84)	6.82 (76)	5.76 (80)	7.17 (76)	
Median	3.20	5.98	7.32	9.62	13.09	11.68	11.82	6.26
Number of Funds	446	461	450	448	430	319	263	104

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
CBRE Clarion	⊗	7.43	76	12.85	34
FTSE EPRA/NAREIT Dev (N)	1	7.17	76	13.11	31
Median		11.82		9.55	

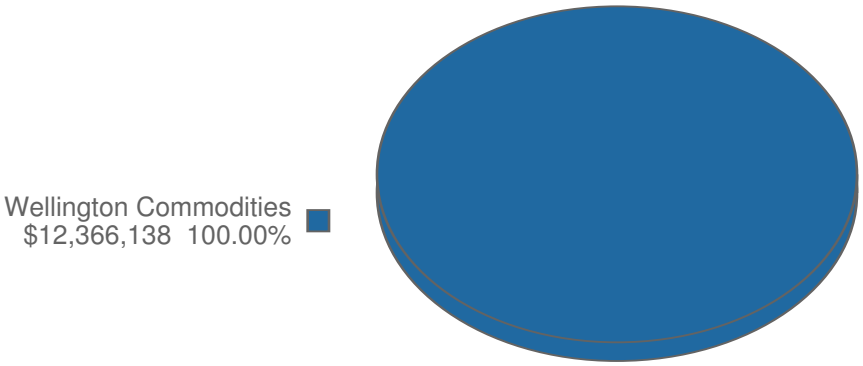
*TUCS Total Returns of Real Estate Portfolios Universe - Gross of Fees

Commodities

Manager Allocation

Commodities Composite

As of December 31, 2015



Wilshire

Trailing Returns

Periods Ended December 31, 2015

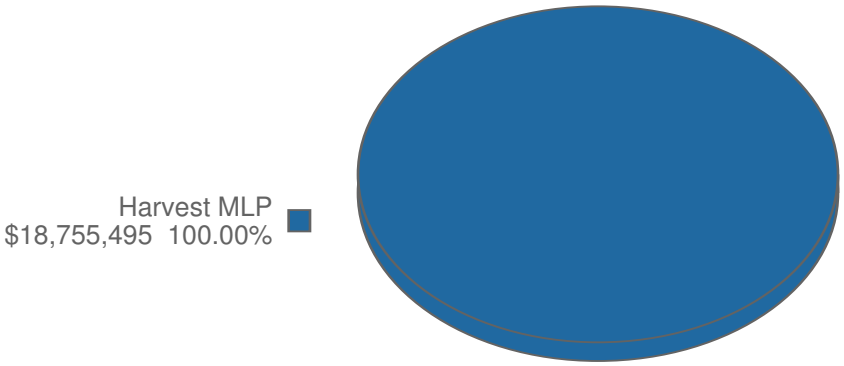
	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Wellington Commodities									
Net of Fee Return	**-11.85**	**-26.53**	**-26.53**					**3/31/13**	**-18.74**
Bloomberg Commodity Index	-10.52	-24.66	-24.66					3/31/13	-18.37
Value Added	-1.34	-1.87	-1.87					3/31/13	-0.37
Commodities Composite									
Net of Fee Return	**-11.85**	**-26.53**	**-26.53**					**3/31/13**	**-18.74**
Bloomberg Commodity Index	-10.52	-24.66	-24.66					3/31/13	-18.37
Value Added	-1.34	-1.87	-1.87					3/31/13	-0.37

MLP

Manager Allocation

MLP Composite

As of December 31, 2015



Wilshire

Trailing Returns

Periods Ended December 31, 2015

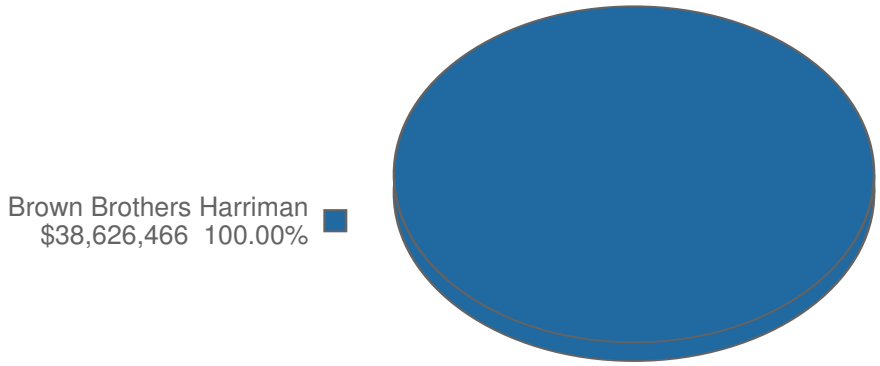
	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Harvest MLP									
Net of Fee Return	**-5.04**							**3/31/15**	**-29.91**
S&P MLP Index	-6.70							3/31/15	-32.96
Value Added	1.66							3/31/15	3.06
MLP Composite									
Net of Fee Return	**-5.04**							**3/31/15**	**-29.91**
S&P MLP Index	-6.70							3/31/15	-32.96
Value Added	1.66							3/31/15	3.06

TIPS

Manager Allocation

TIPS Composite

As of December 31, 2015



Wilshire

Trailing Returns

Periods Ended December 31, 2015

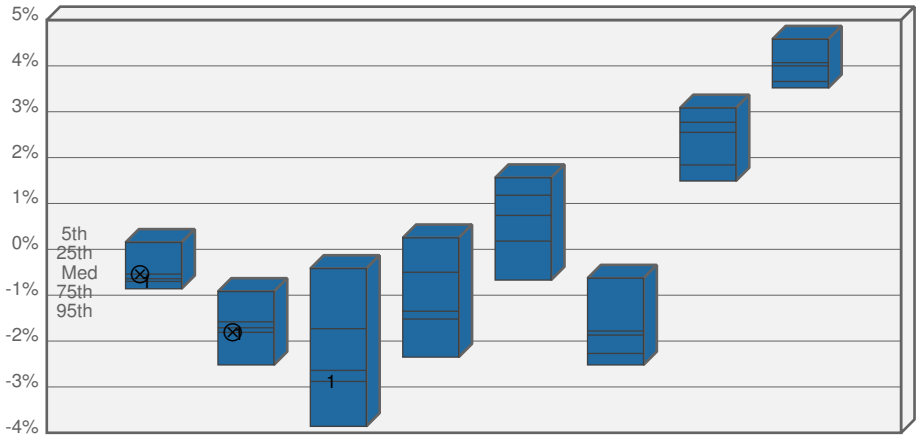
	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Brown Brothers Harriman									
Net of Fee Return	**-0.52**							**6/30/15**	**-1.79**
Barclays U.S. TIPS	-0.64							6/30/15	-1.78
Value Added	0.12							6/30/15	-0.01
TIPS Composite									
Net of Fee Return	**-0.52**							**6/30/15**	**-1.79**
Barclays U.S. TIPS	-0.64							6/30/15	-1.78
Value Added	0.12							6/30/15	-0.01

Wilshire

Brown Brothers Harriman

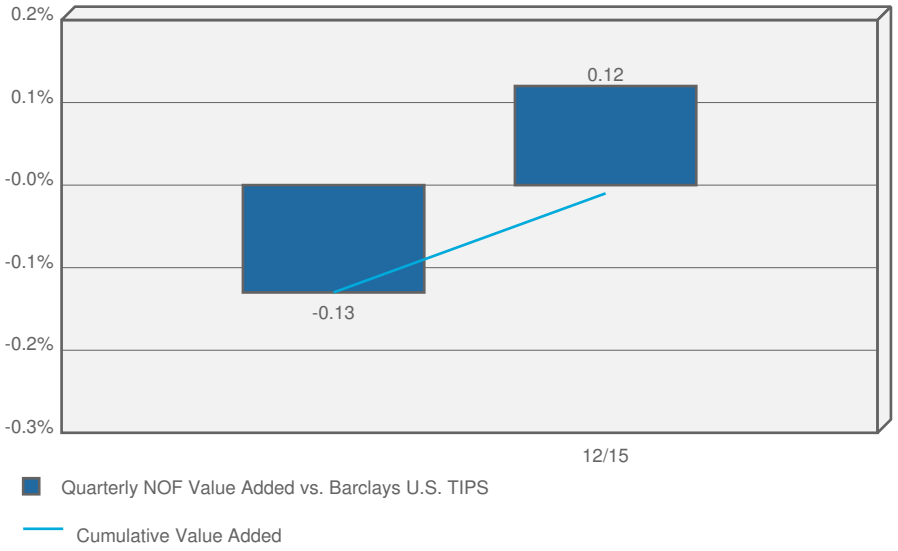
December 31, 2015

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗ Brown Brothers	-0.52 (23)	-1.79 (73)						
1 Barclays U.S.	-0.64 (52)	-1.78 (73)	-2.82 (65)					
Median	-0.64	-1.71	-2.64	-1.35	0.74	-1.87	2.55	4.00
Number of Funds	38	38	38	38	38	37	34	21

Value-Added Analysis vs Benchmark



*Compass Total Returns of Active TIPS Portfolios Universe - Gross of Fees

Private Equity

Wilshire

Private Partnerships

As of December 31, 2015

Partnership	Commitment Value	Inception Date	Capital Called		Capital Distributed		Fair Value	Total Value / Paid-In Capital [1]	Annualized IRR
			Amount	%	Amount	%			
Adams Street Direct 2010 Fund	$500,000	April 27, 2010	$458,736	92%	$228,857	46%	$478,528	1.54	14.41%
Adams Street Non-US Dev. 2010 Fund	$1,500,000	April 27, 2010	$805,879	54%	$88,573	6%	$853,199	1.17	5.85%
Adams Street Non-US EM 2010 Fund	$500,000	January 3, 2011	$341,170	68%	$0	0%	$416,549	1.22	9.32%
Adams Street US 2010 Fund	$2,500,000	April 27, 2010	$1,222,912	49%	$104,933	4%	$1,838,192	1.59	14.89%
Adams Street 2013 Global Fund	$5,000,000	July 3, 2013	$1,992,557	40%	$0	0%	$2,077,750	1.04	3.54%
Aberdeen Global Partners	$5,000,000	January 17, 2012	$3,100,000	62%	$347,915	7%	$3,096,249	1.11	6.06%
Adams Street 2015 Global	$6,500,000	December 31, 2015	$175,500	3%	$0	0%	$169,356	0.96	--
Alternative Investments Composite	**$21,500,000**	**April 27, 2010**	**$8,096,754**	**38%**	**$770,278**	**4%**	**$8,929,823**	**1.20**	**8.37%**

[1] TVPI = Fair Value + Capital Distributed / Capital Called

Capital Market Review

U.S. Equity

The U.S. stock market was up for the fourth quarter of 2015 by 6.36%. Although the annual return of 0.67% marked the index's seventh consecutive annual gain, it was the lowest annual return since 2008. The U.S. market was held back by a rough third quarter return of -6.91%, which ended a remarkable winning streak of twelve consecutive quarterly gains. The market rebounded during the last quarter of the year as leading economic indicators in the U.S. rose in October and November, suggesting continued economic growth.

Large capitalization stocks outperformed smaller shares during the quarter while growth stocks trailed value. Sector performance was mostly positive except for Energy, which was down less than a half-percent. The three best performing sectors were Materials, Technology and Health Care, up 9.0%, 8.7% and 8.6%, respectively.

After seven years with a Fed funds rate set at zero, the Federal Reserve took the first step towards raising short-term interest rates with a 25 basis point increase. They maintained their expected trajectory for rates for 2016 but lowered them for 2017 and 2018. There have been large fluctuations in the rate and a general downward trend during the past 25 years, suggesting a challenging period ahead for the Federal Reserve.

Non-U.S. Equity

Global developed economy stock markets ended 2015 with moderate gains for the year. Investors were cheered by Europe's nascent economic recovery, the European Central Bank's accommodative monetary policy and overall resilience in the Asia-Pacific region outside of China. Emerging markets continue to suffer from China's weakness and the worldwide collapse in commodities. The strong U.S. dollar has also impacted emerging market companies, since much of their debt financing is transacted in dollars and therefore has become much more expensive.

Fixed Income

The Federal Reserve's decision on December 16 to raise the key federal-funds rate to a 0.25-0.50% target range had little real impact on Treasury markets. The pressure of rising yields on bond prices was tempered by the special status Treasuries enjoy as a global safe-haven asset, resulting in relatively little movement in this market sector. Credit spreads widened during 2015, especially at year-end. This is in response to the prospect of higher financing costs in the future. High yield bonds hit strong headwinds in 2015, as oil and gas-related issuers dealt with the ongoing slump in commodities prices.

Wilshire's Return and Risk Assumptions

Wilshire

	Total Return			Risk		
	Dec. 2014	**Dec. 2015**	Change	Dec. 2014	**Dec. 2015**	Change
Investment Categories:						
U.S. Stocks	6.25 %	**6.50 %**	0.25 %	17.00 %	**17.00 %**	0.00 %
Dev ex-U.S. Stocks	6.25	**6.50**	0.25	18.00	**18.00**	0.00
Emerging Mkt Stocks	6.25	**6.50**	0.25	26.00	**26.00**	0.00
Global Stocks	6.45	**6.70**	0.25	17.15	**17.10**	-0.05
Private Markets *	8.85	**9.50**	0.65	27.50	**27.50**	0.00
Cash Equivalents	1.45	**1.25**	-0.20	1.25	**1.25**	0.00
Core Bonds	3.35	**3.50**	0.15	5.00	**5.00**	0.00
LT Core Bonds	3.45	**4.30**	0.85	10.00	**10.00**	0.00
TIPS	2.90	**3.25**	0.35	6.00	**6.00**	0.00
High Yield Bonds	5.15	**6.35**	1.20	10.00	**10.00**	0.00
Non-U.S. Bonds (Hdg)	1.65	**1.65**	0.00	3.50	**3.50**	0.00
U.S. RE Securities	4.85	**5.00**	0.15	17.00	**17.00**	0.00
Private Real Estate *	6.45	**5.80**	-0.65	14.00	**14.00**	0.00
Commodities	3.70	**3.55**	-0.15	15.00	**15.00**	0.00
Real Asset Basket *	6.25	**6.40**	0.15	8.35	**8.40**	0.05
Inflation:	1.70	**1.55**	-0.15	1.75	**1.75**	0.00
Total Returns minus Inflation:						
U.S. Stocks	4.55	**4.95**	0.40			
U.S. Bonds	1.65	**1.95**	0.30			
Cash Equivalents	-0.25	**-0.30**	-0.05			
Stocks minus Bonds:	2.90	**3.00**	0.10			
Bonds minus Cash:	1.90	**2.25**	0.35			

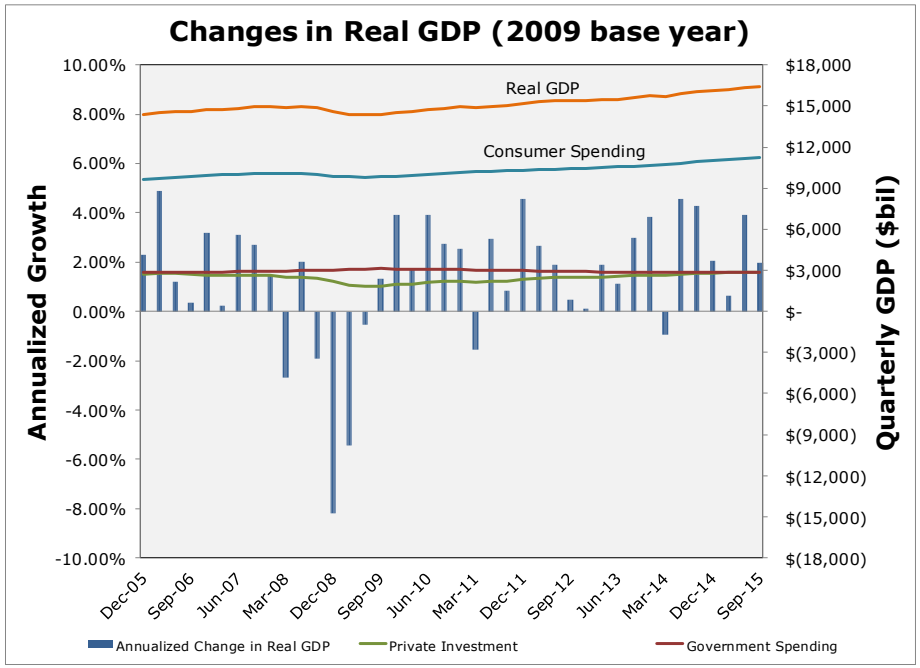
* December 2014 returns are based on a revised model but using inputs consistent with that time period.

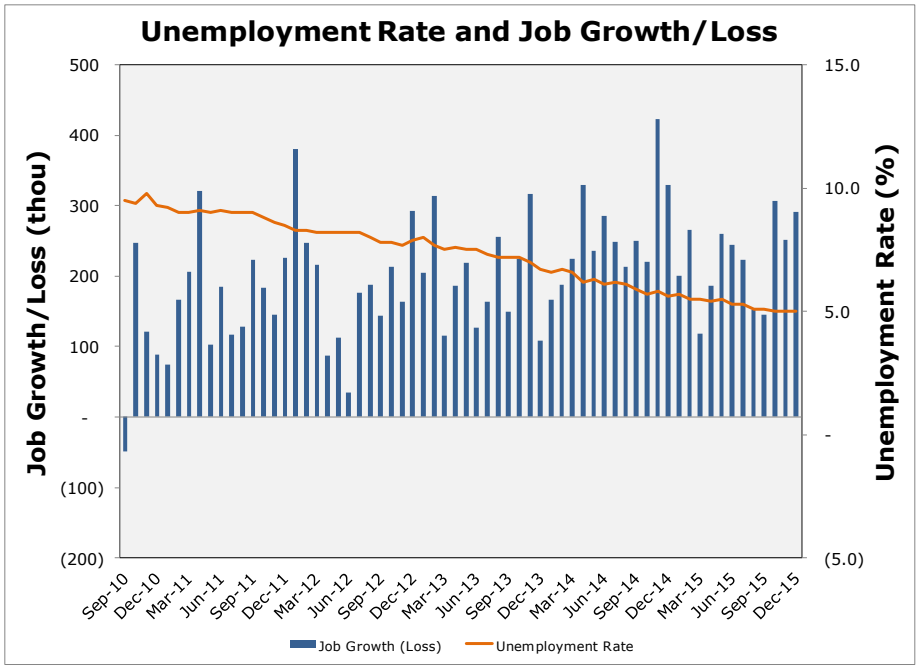
Economic Review

Wilshire

December 31, 2015	Key Economic Indicators			
CPI (all items)	Monthly Change		Cumulative Change	
Seasonally adjusted	Dec-15	-0.1	3-Month	0.1
	Nov-15	0.0	12-Month	0.7
	Oct-15	0.2	10-Yr Annual	1.8
Breakeven Inflation	10-Year	1.6		
Consumer Sentiment	Dec-15	92.6		
Unv. of Michigan Survey	Nov-15	91.3		
	1-Yr Ago	93.6	10-Yr Avg	77.5
Manufacturing	Dec-15	48.2	Change in Manufacturing Sector	
Inst. for Supply Mgmt	Nov-15	48.6	>50	Expansion
Purchasing Mngrs' Idx	1-Yr Avg	51.4	<50	Contraction

Note: Seasonally adjusted CPI data is utilized to better reflect short-term pricing activity.



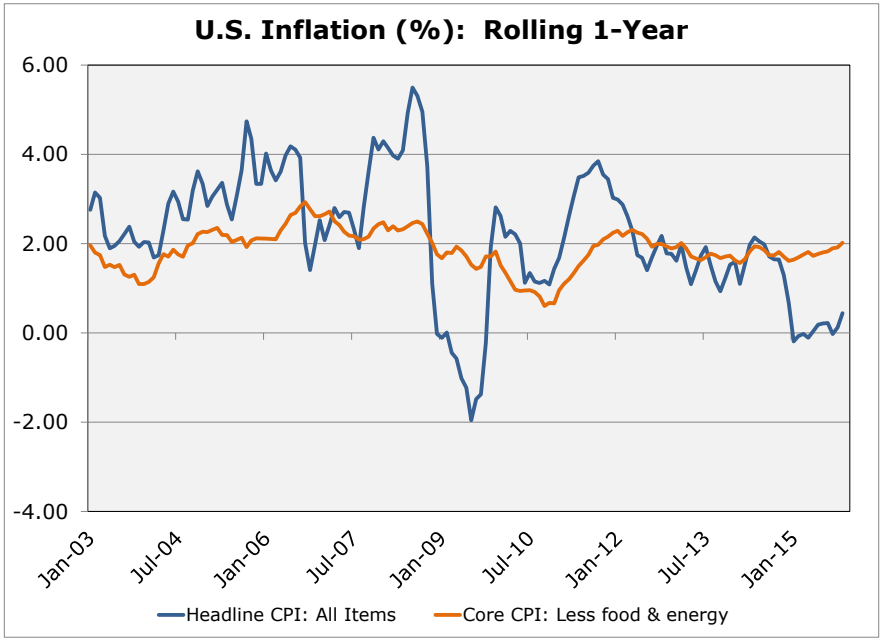


Data sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve Bank of St. Louis, Barclays Capital

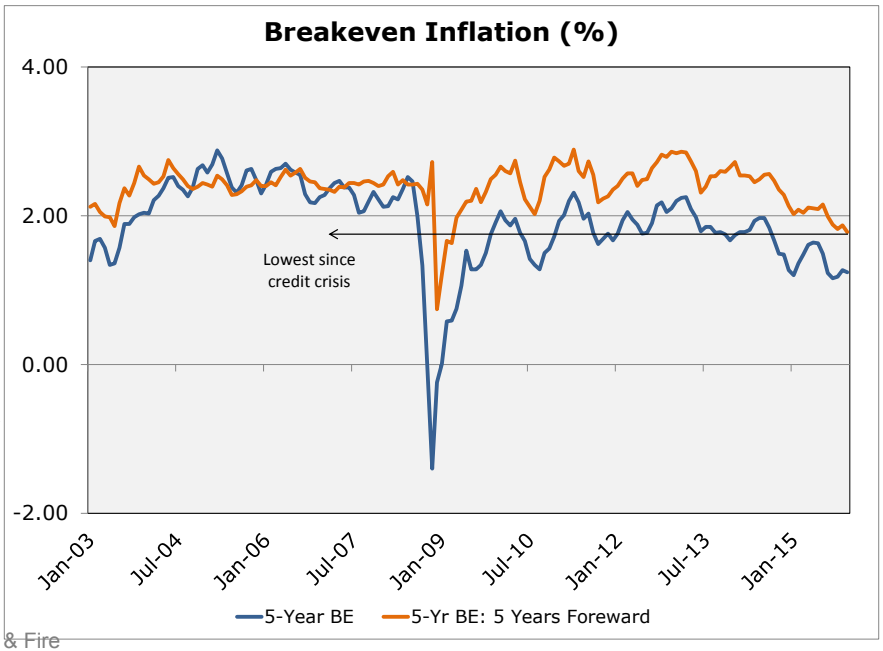
Inflation Environment

Wilshire

- As the price of oil has fallen, total/headline CPI has been barely positive
- Core CPI (less food and energy) has struggled to maintain the Fed's target inflation of 2%



- Market participants are signaling their belief that mild inflation will continue
- 5-year breakeven, 5-years forward (implied by the 5 and 10 year breakeven) suggests sub-2% inflation in years 6-10 of the next decade
- There are certain trends that are having a mixed effect on inflation, reviewed in the coming slides

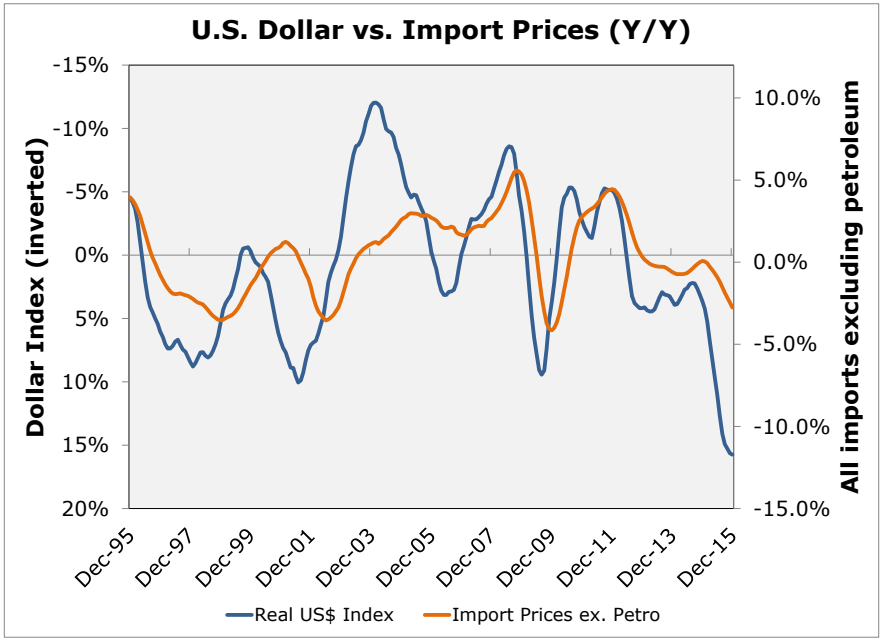


Source: Bureau of Labor Statistics, Federal Reserve

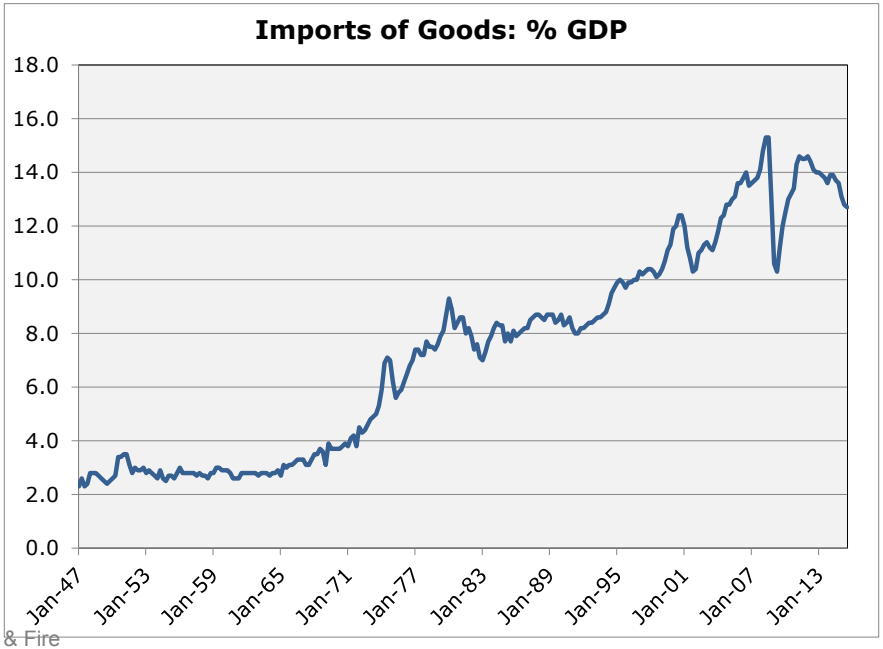
Inflation: Weak Import Prices

Wilshire

- Falling import prices are reflecting weak global market conditions
- Strong U.S. dollar is weighing on import prices, as are weak inflationary pressures within trading partner home countries



- U.S. consumers increasingly meet their demand with imported goods
- This causes the strong dollar and weak import prices to exert downward pressure on overall U.S. inflation

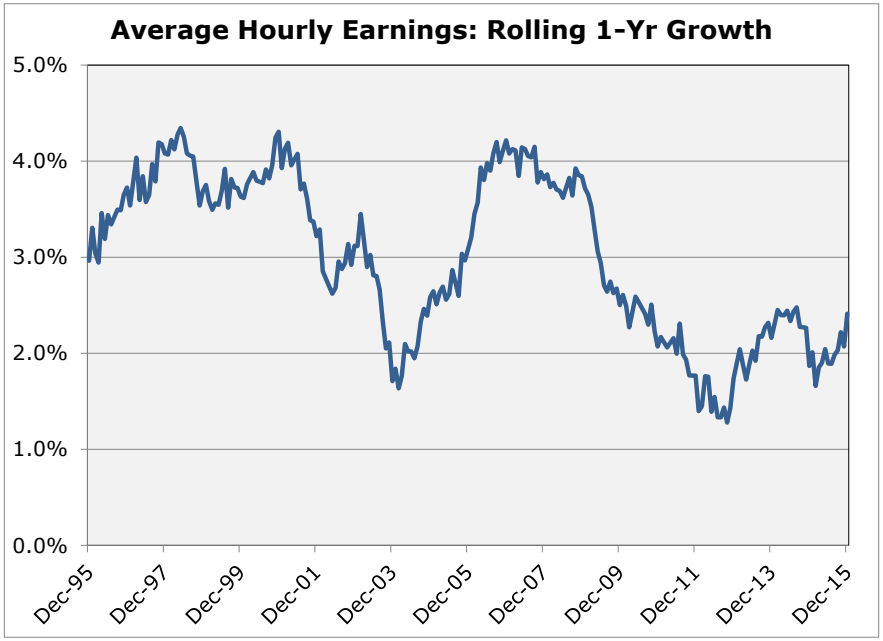


Source: Bureau of Labor Statistics, Federal Reserve, Bureau of Economic Analysis

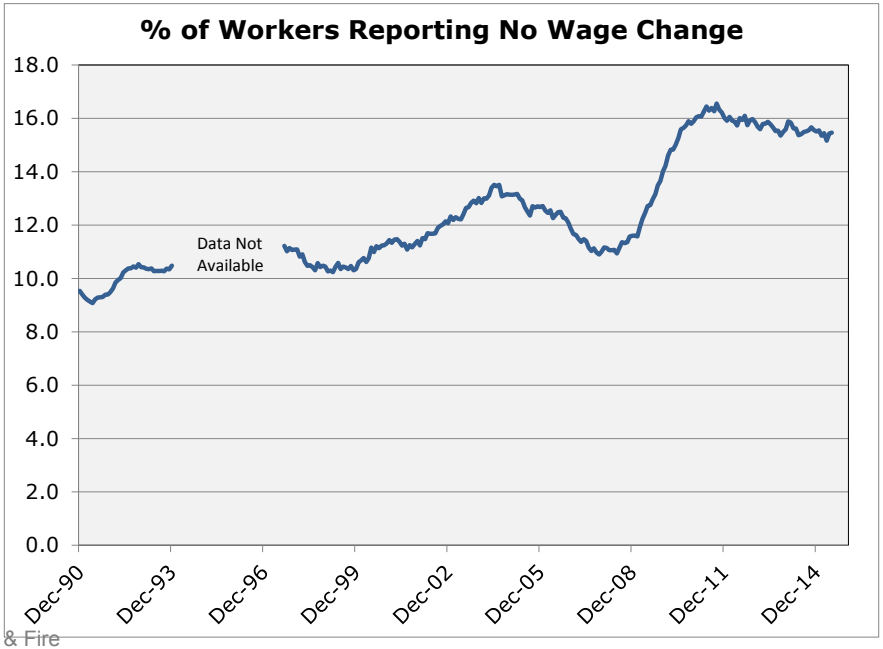
Inflation: Wage Growth Modest

Wilshire

- Growth in average hourly earnings still modest but trending higher
- Wages are the primary driver of services prices, which could exert upward pressure on CPI *should* the trend continue



- On the downside, the percentage of workers who report no change in their wages remains stubbornly high
- Reasons for this could be the lack of nominal wage cuts during the recession or a side effect of low actual and expected inflation

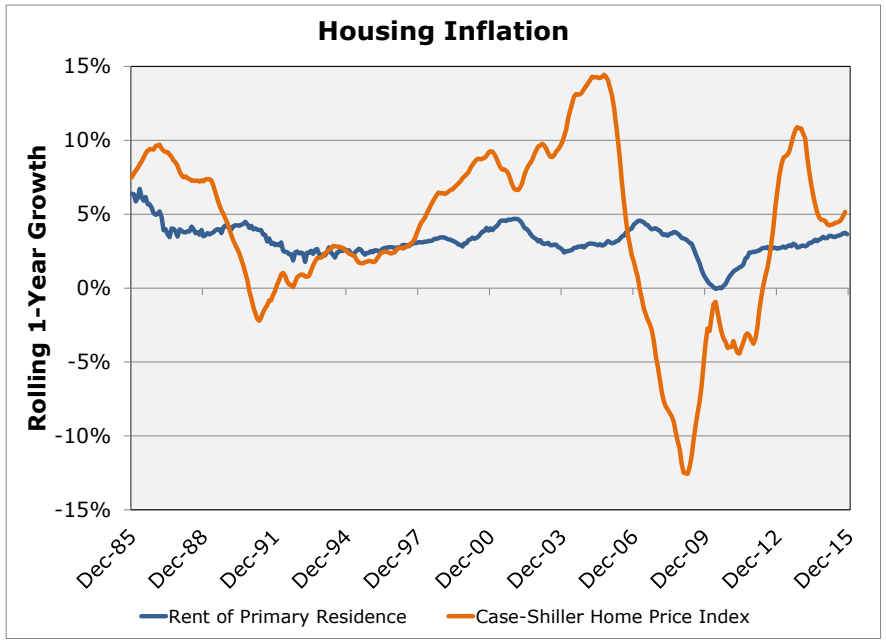


Source: Bureau of Labor Statistics, Federal Reserve of San Francisco

Inflation: Housing Prices Improving

Wilshire

- One area supporting inflation, but not problematic, is housing; a major component of U.S. CPI
- Rent increases, which directly effect CPI, are currently just above the 30-year average
- Growth in home prices also are above the long-term average but still moderate



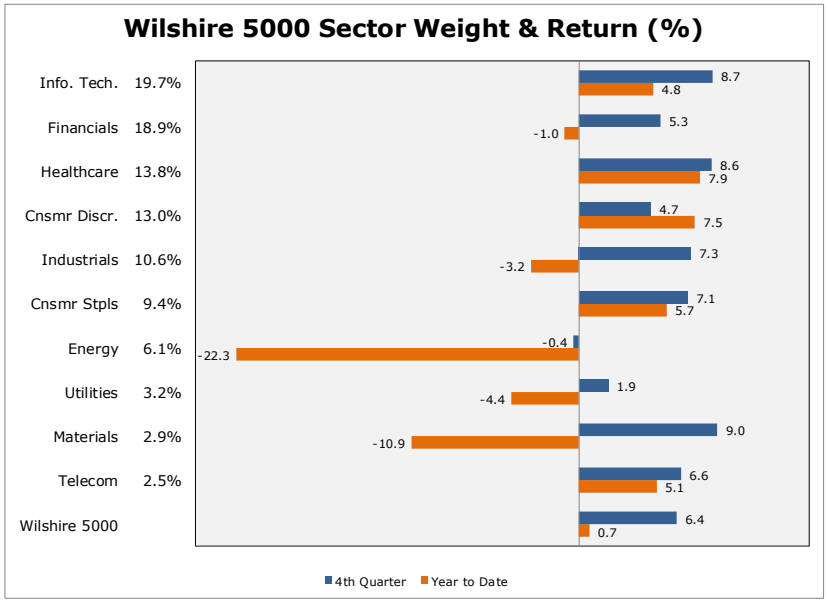
- One final influence is a major global capacity build-up, mainly in China, that was labor and commodity intensive but is leveling-off
- How these issues continue to develop is yet unknown but investors decreased their expectations for future inflation for much of the second half of 2015

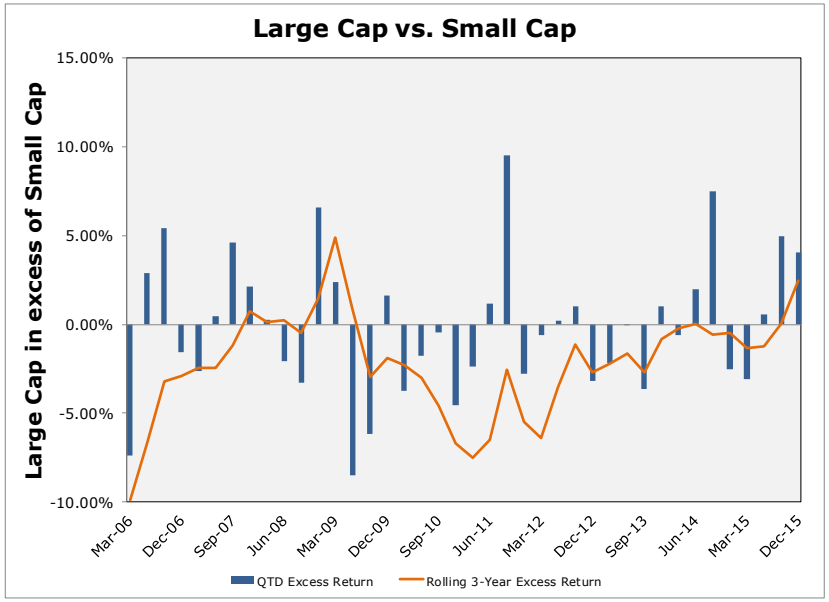
Source: Bureau of Labor Statistics, S&P Dow Jones Indices LLC

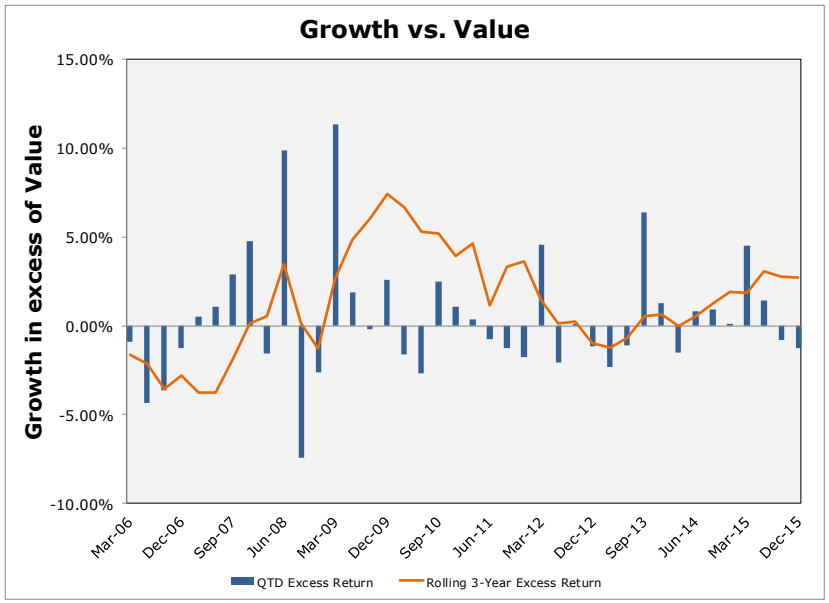
U.S. Equity Market

Wilshire

December 31, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Wilshire 5000	6.4	0.7	0.7	14.7	12.1	7.4
Wilshire U.S. Large Cap	6.8	1.3	1.3	15.0	12.3	7.3
Wilshire U.S. Small Cap	2.6	-4.9	-4.9	12.2	10.1	8.2
Wilshire U.S. Large Growth	6.1	3.5	3.5	16.8	13.1	8.2
Wilshire U.S. Large Value	7.4	-0.8	-0.8	13.5	11.7	6.4
Wilshire U.S. Small Growth	1.7	-5.3	-5.3	12.7	10.3	8.5
Wilshire U.S. Small Value	3.5	-4.4	-4.4	11.8	9.9	7.8
Wilshire REIT Index	7.5	4.2	4.2	11.8	12.4	7.3
MSCI USA Minimum Volatility Index	6.1	4.9	4.9	14.7	13.3	7.7
FTSE RAFI U.S. 1000 Index	5.7	-2.5	-2.5	14.2	11.8	8.2





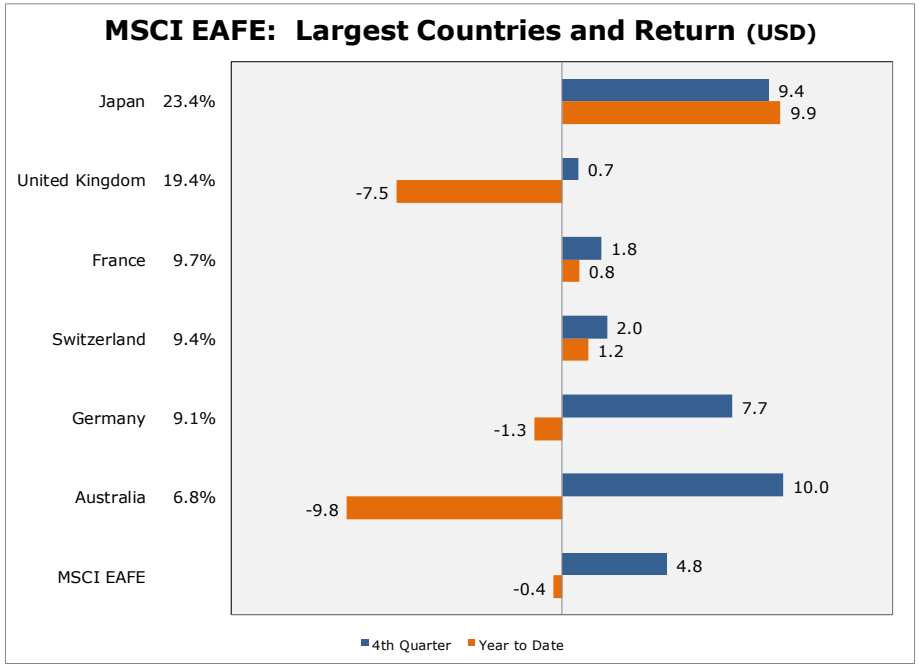


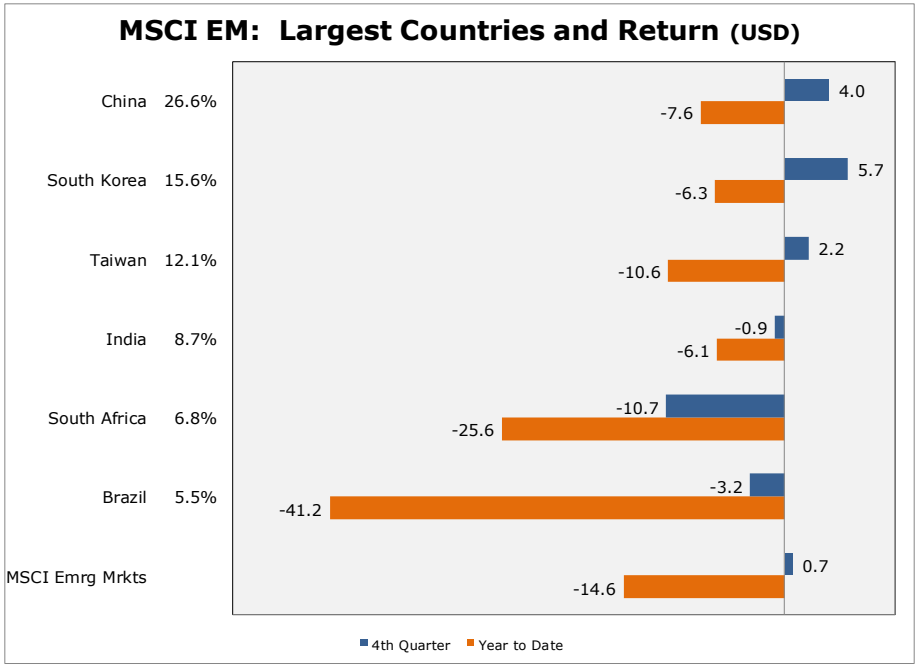
Data sources: Wilshire Compass, Wilshire Atlas

Non-U.S. Equity Market

Wilshire

December 31, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
MSCI ACWI ex-US ($g)	3.3	-5.3	-5.3	1.9	1.5	3.4
MSCI EAFE ($g)	4.8	-0.4	-0.4	5.5	4.1	3.5
MSCI Emerging Markets ($g)	0.7	-14.6	-14.6	-6.4	-4.5	3.9
MSCI Frontier Markets ($g)	-1.2	-14.1	-14.1	5.2	0.7	-1.3
MSCI ACWI ex-US Growth ($g)	5.0	-0.9	-0.9	3.9	2.5	4.0
MSCI ACWI ex-US Value ($g)	1.5	-9.6	-9.6	-0.1	0.5	2.7
MSCI ACWI ex-US Small ($g)	5.3	3.0	3.0	6.0	3.0	5.4
MSCI EAFE Minimum Volatility Idx	6.1	8.4	8.4	10.0	8.3	7.3
FTSE RAFI Developed ex-US Index	3.5	-4.8	-4.8	4.4	2.4	3.8
MSCI EAFE LC (g)	6.4	5.8	5.8	12.8	8.3	3.7
MSCI Emerging Markets LC (g)	1.6	-5.4	-5.4	1.2	1.3	6.4

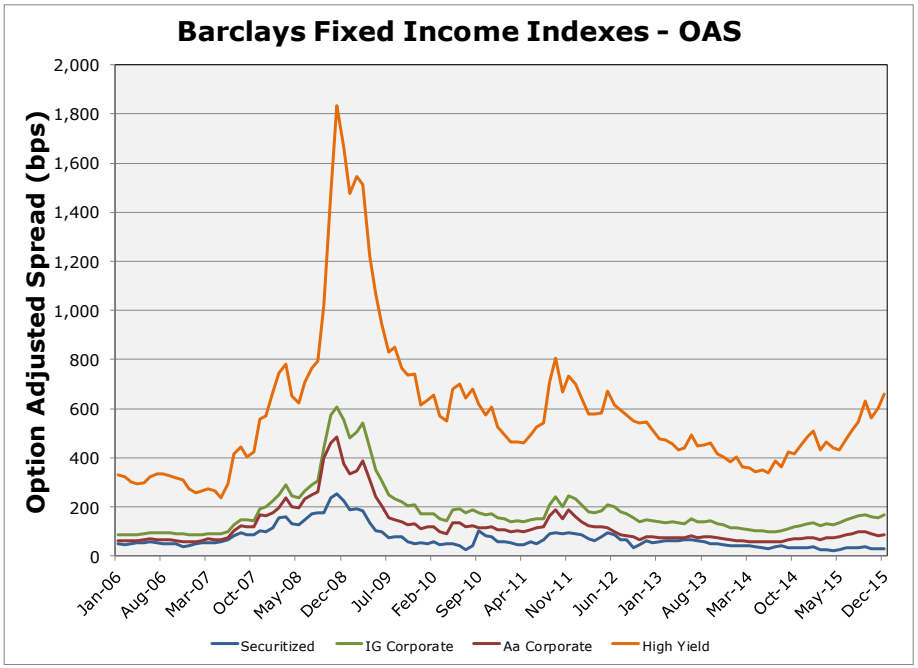


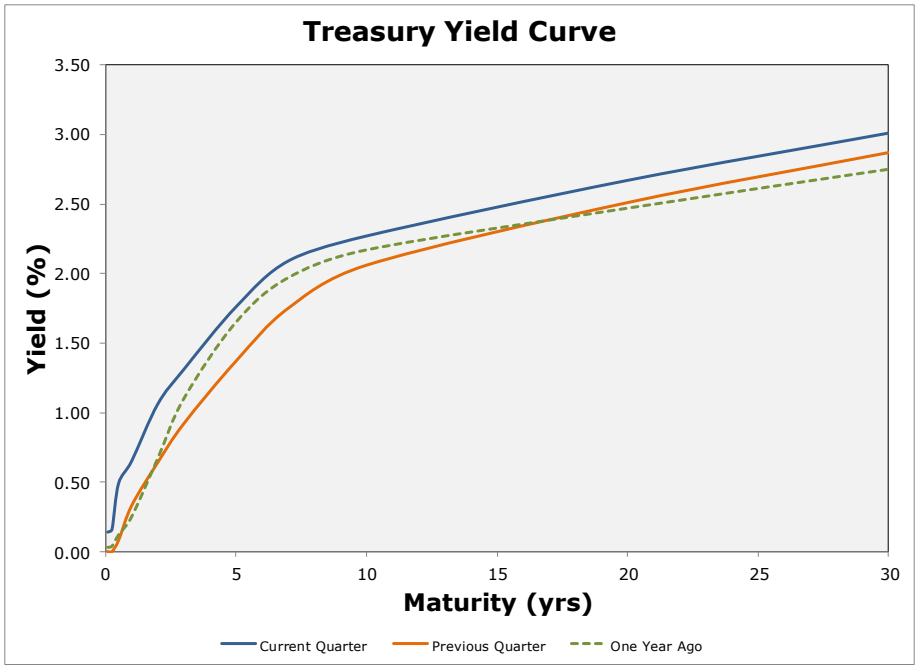


Data sources: Wilshire Compass

U.S. Fixed Income Market

December 31, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Barclays Aggregate Bond Index	-0.6	0.6	0.6	1.4	3.2	4.5
Barclays Treasury Index	-0.9	0.8	0.8	1.0	2.9	4.2
Barclays Gov't-Related Index	-0.4	-0.4	-0.4	0.9	2.9	4.2
Barclays Securitized Index	-0.2	1.5	1.5	2.0	3.0	4.6
Barclays Corporate IG Index	-0.6	-0.7	-0.7	1.7	4.5	5.3
Barclays LT Gov't/Credit Index	-0.9	-3.3	-3.3	1.7	7.0	6.4
Barclays LT Treasury Index	-1.4	-1.2	-1.2	2.6	7.7	6.7
Barclays LT Gov't-Related Index	0.3	-3.8	-3.8	1.1	7.0	6.4
Barclays LT Corporate IG Index	-1.0	-4.6	-4.6	1.4	6.3	6.2
Barclays U.S. TIPS Index	-0.6	-1.4	-1.4	-2.3	2.6	3.9
Barclays High Yield Index	-2.1	-4.5	-4.5	1.7	5.0	7.0
Treasury Bills	0.0	0.1	0.1	0.1	0.1	1.2

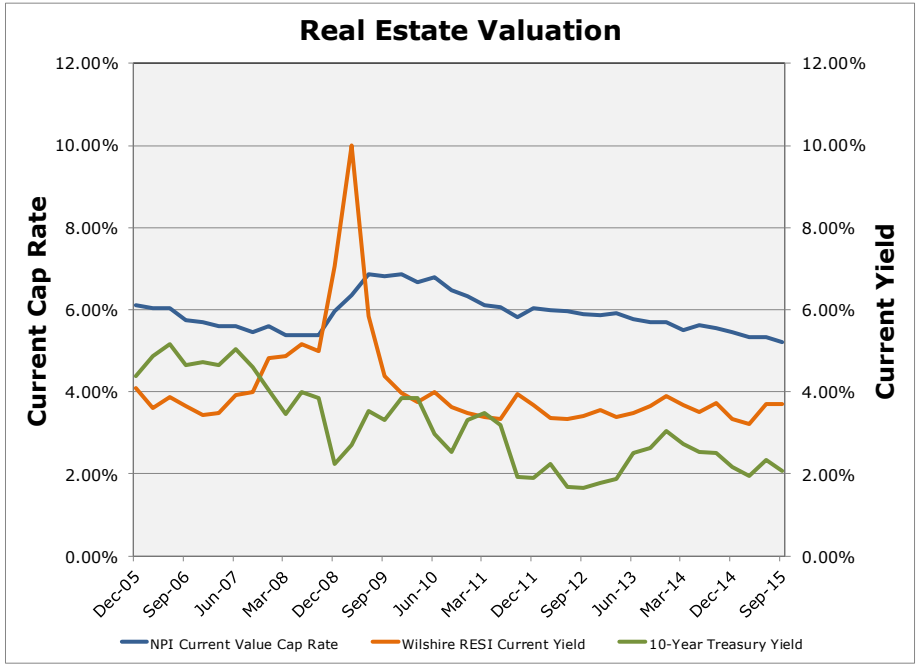


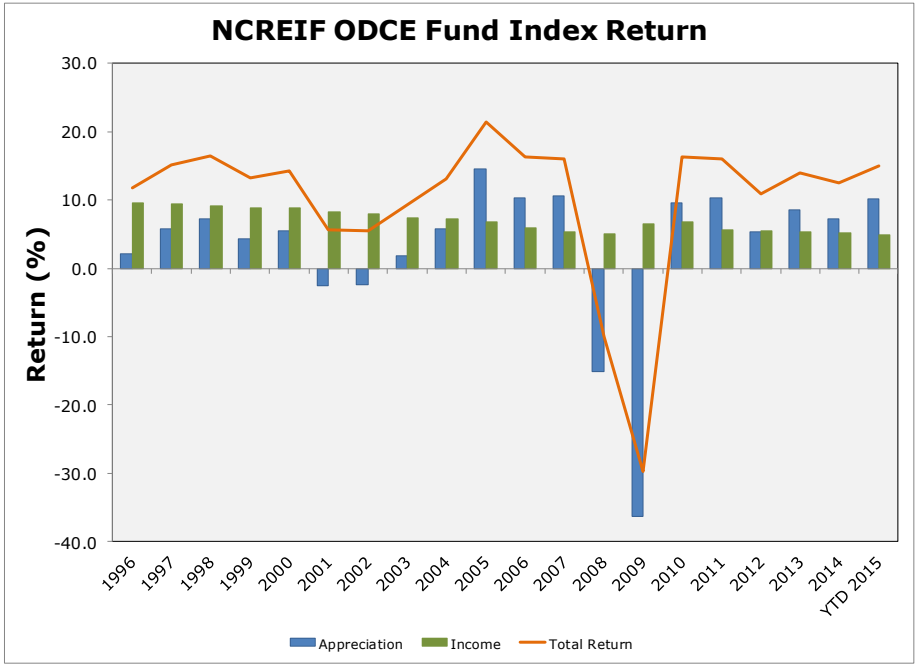


Data sources: Wilshire Compass, Barclays Capital, U.S. Treasury

Real Assets

December 31, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Barclays U.S. TIPS Index	-0.6	-1.4	-1.4	-2.3	2.6	3.9
Bloomberg Commodity Index	-10.5	-24.7	-24.7	-17.3	-13.5	-6.4
Wilshire Global REIT Index	5.5	2.2	2.2	9.2	10.7	6.7
NCREIF ODCE Fund Index	3.3	15.0	15.0	13.8	13.7	6.5
NCREIF Timberland Index	1.9	5.0	5.0	8.4	6.8	6.9
Alerian MLP Index (Oil & Gas)	-2.8	-32.6	-32.6	-3.4	1.5	8.7





Data sources: Wilshire Compass, National Council of Real Estate Investment Fiduciaries

Asset Class Performance

Wilshire

Annual Asset Class Returns - Best to Worst

2010	2011	2012	2013	2014	**2015**
MLPs 35.9%	MLPs 13.9%	Emrg Mrkts 18.6%	U.S. Equity 33.1%	REITs 31.8%	REITs 4.2%
REITs 28.6%	U.S. TIPS 13.6%	Developed 17.9%	MLPs 27.6%	U.S. Equity 12.7%	U.S. Equity 0.7%
Emrg Mrkts 19.2%	REITs 9.2%	REITs 17.6%	Developed 23.3%	Core Bond 6.0%	Core Bond 0.6%
U.S. Equity 17.2%	Core Bond 7.8%	U.S. Equity 16.1%	High Yield 7.4%	MLPs 4.8%	T-Bills 0.1%
Commodities 16.8%	High Yield 5.0%	High Yield 15.8%	REITs 1.9%	U.S. TIPS 3.6%	Developed -0.4%
High Yield 15.1%	U.S. Equity 1.0%	U.S. TIPS 7.0%	T-Bills 0.1%	High Yield 2.5%	U.S. TIPS -1.4%
Developed 8.2%	T-Bills 0.1%	MLPs 4.8%	Core Bond -2.0%	T-Bills 0.0%	High Yield -4.5%
Core Bond 6.5%	Developed -11.7%	Core Bond 4.2%	Emrg Mrkts -2.3%	Emrg Mrkts -1.8%	Emrg Mrkts -14.6%
U.S. TIPS 6.3%	Commodities -13.3%	T-Bills 0.1%	U.S. TIPS -8.6%	Developed -4.5%	Commodities -24.7%
T-Bills 0.1%	Emrg Mrkts -18.2%	Commodities -1.0%	Commodities -9.5%	Commodities -17.0%	MLPs -32.6%

Annualized 5-Year as of Dec. '15
REITs 12.4%
U.S. Equity 12.1%
High Yield 5.0%
Developed 4.1%
Core Bond 3.2%
U.S. TIPS 2.6%
MLPs 1.5%
T-Bills 0.1%
Emrg Mrkts -4.5%
Commodities -13.5%

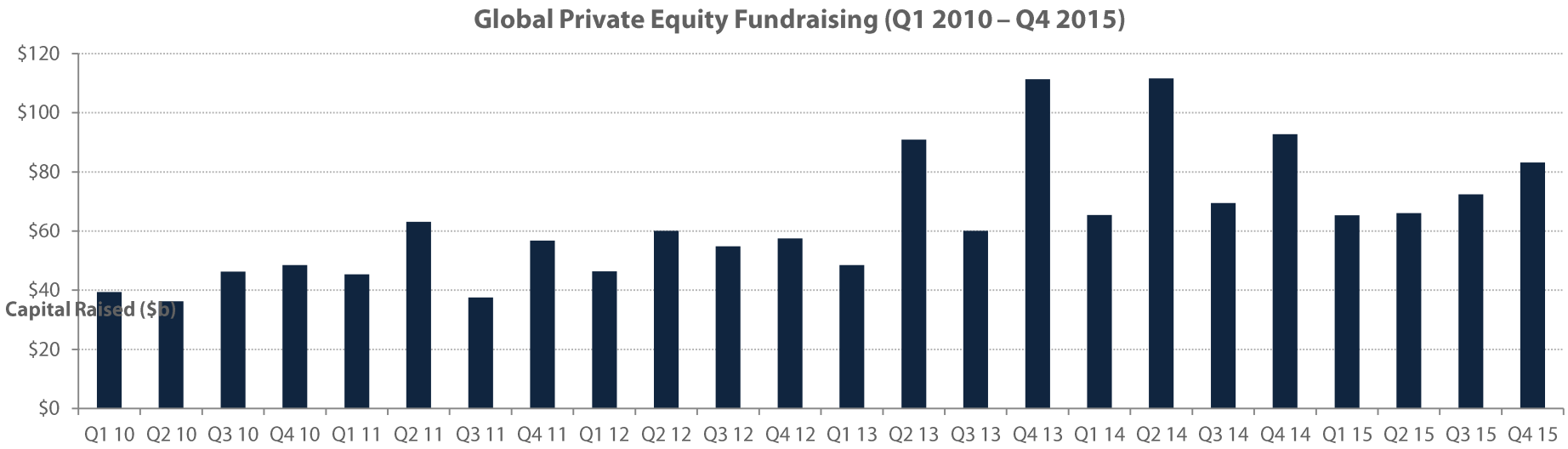
Data sources: Wilshire Compass

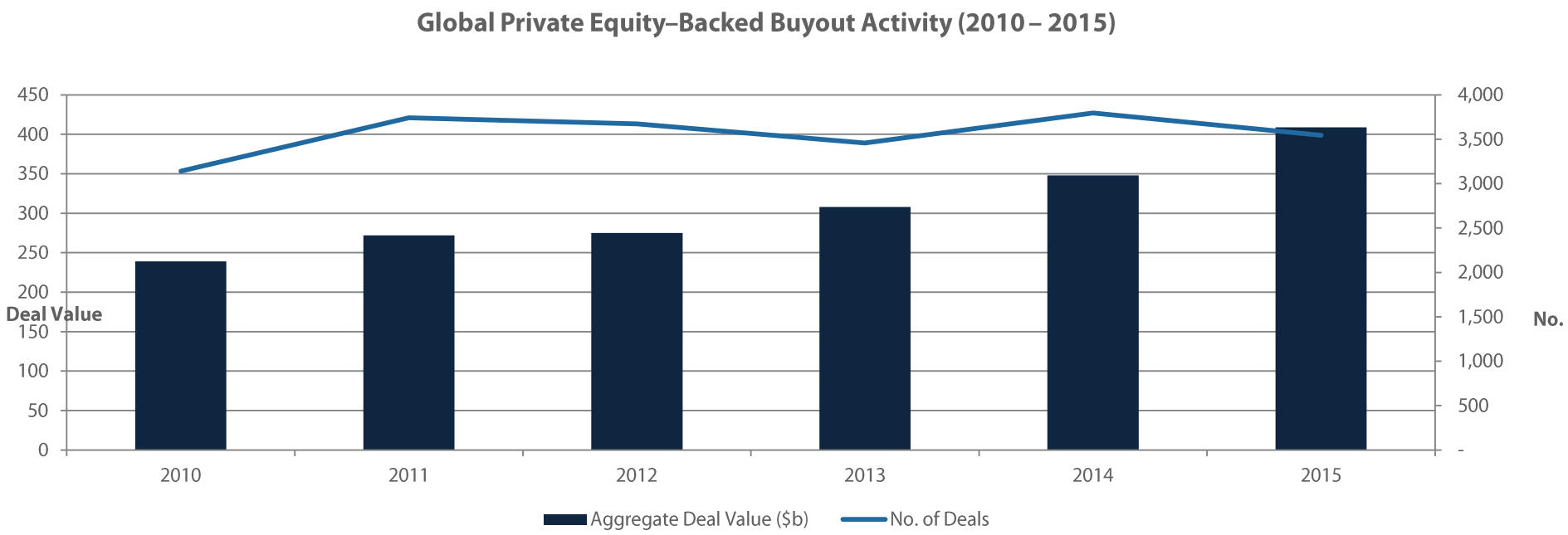
Note: Developed asset class is developed markets ex-U.S., ex-Canada.

Appendix: Private Markets Update

Private Equity – Fundraising & Investment Activity

Wilshire

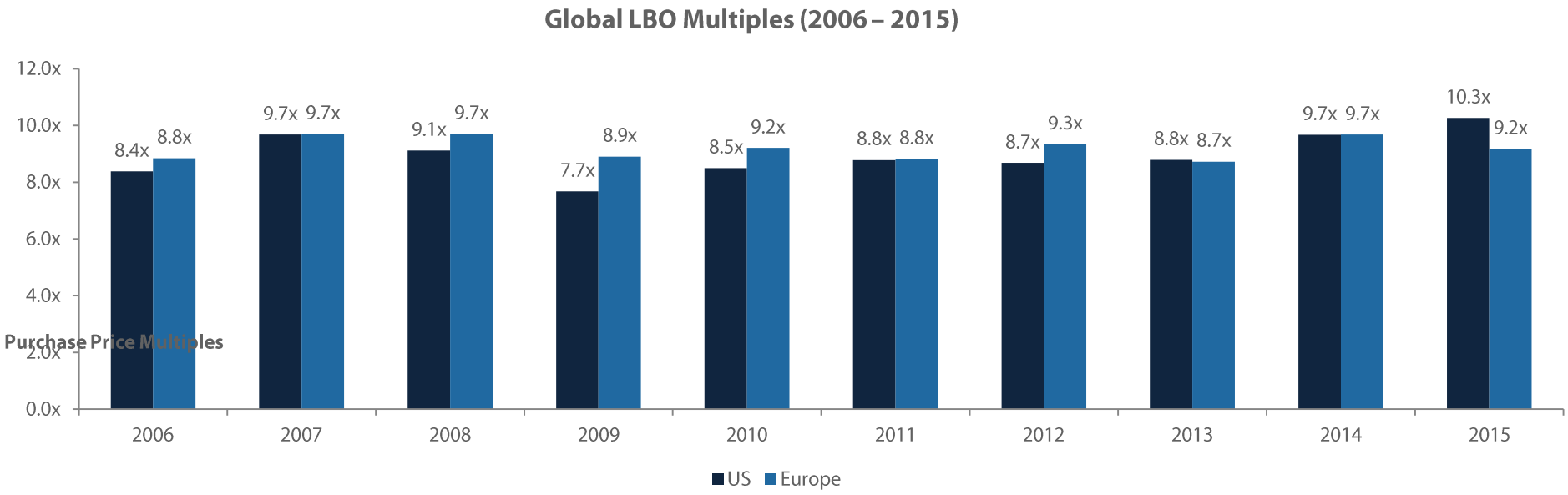


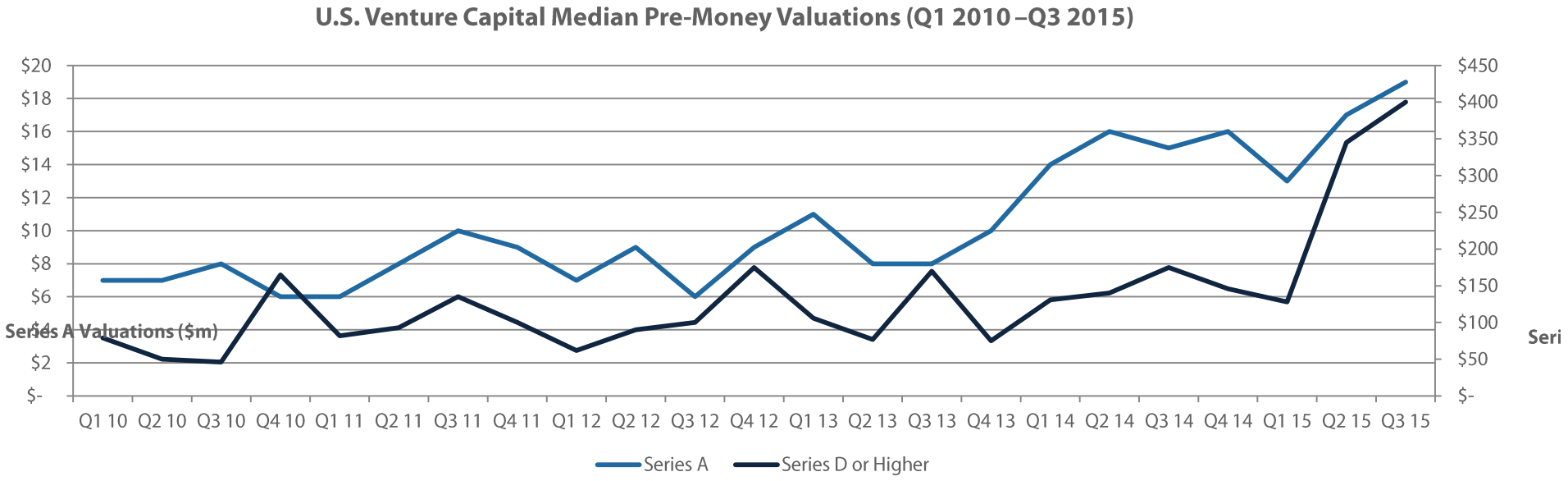


Sources: Preqin.

Private Equity – Pricing & Valuations

Wilshire

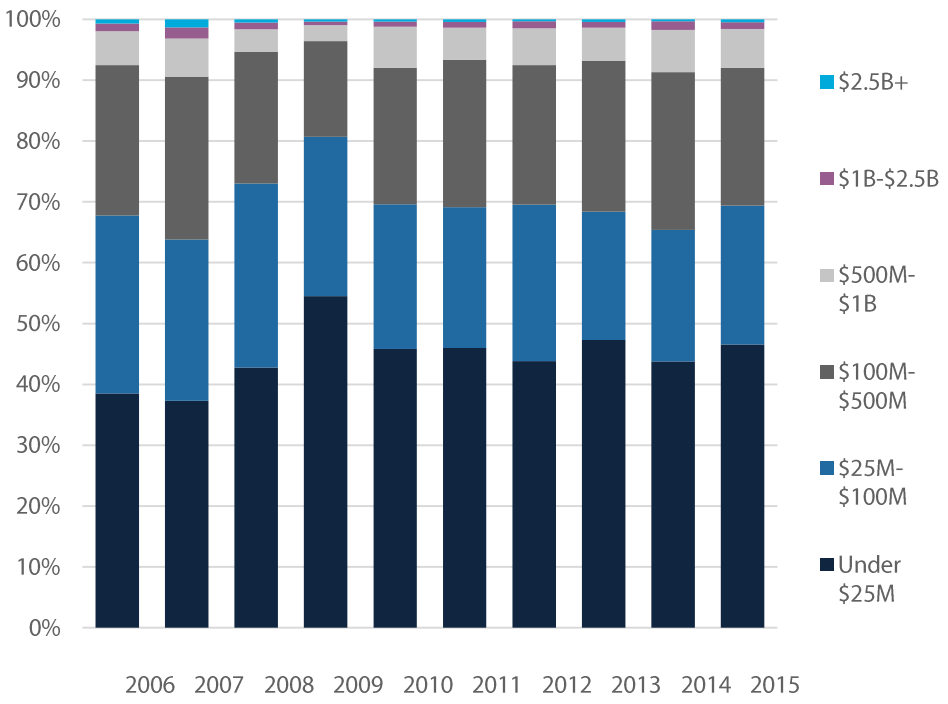


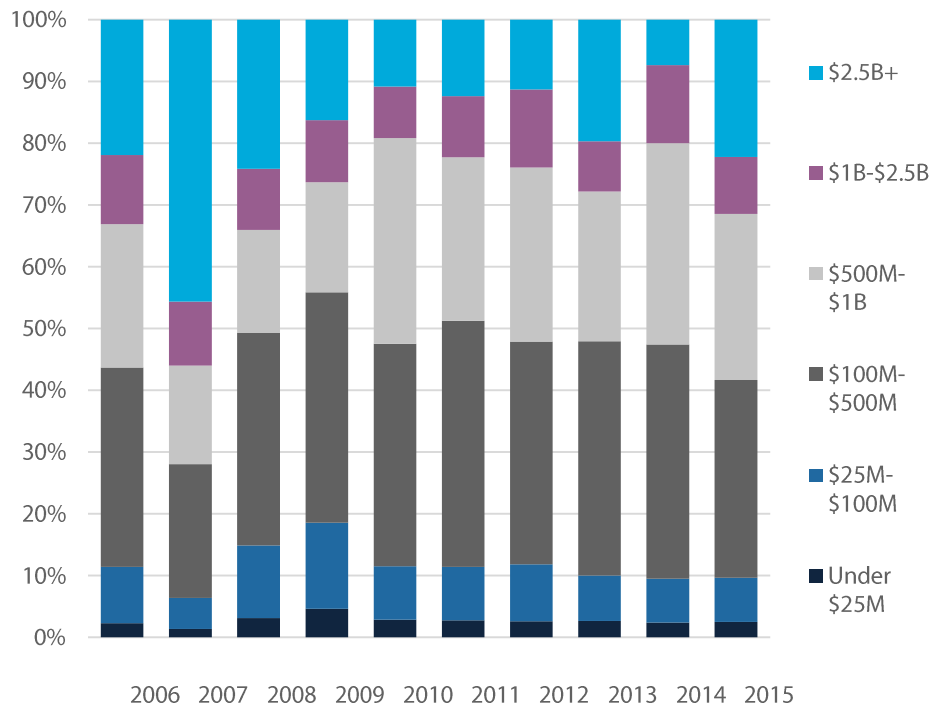


Source: S&P LCD; Cooley.

Private Equity – U.S. Investment Activity by Deal Size

Wilshire





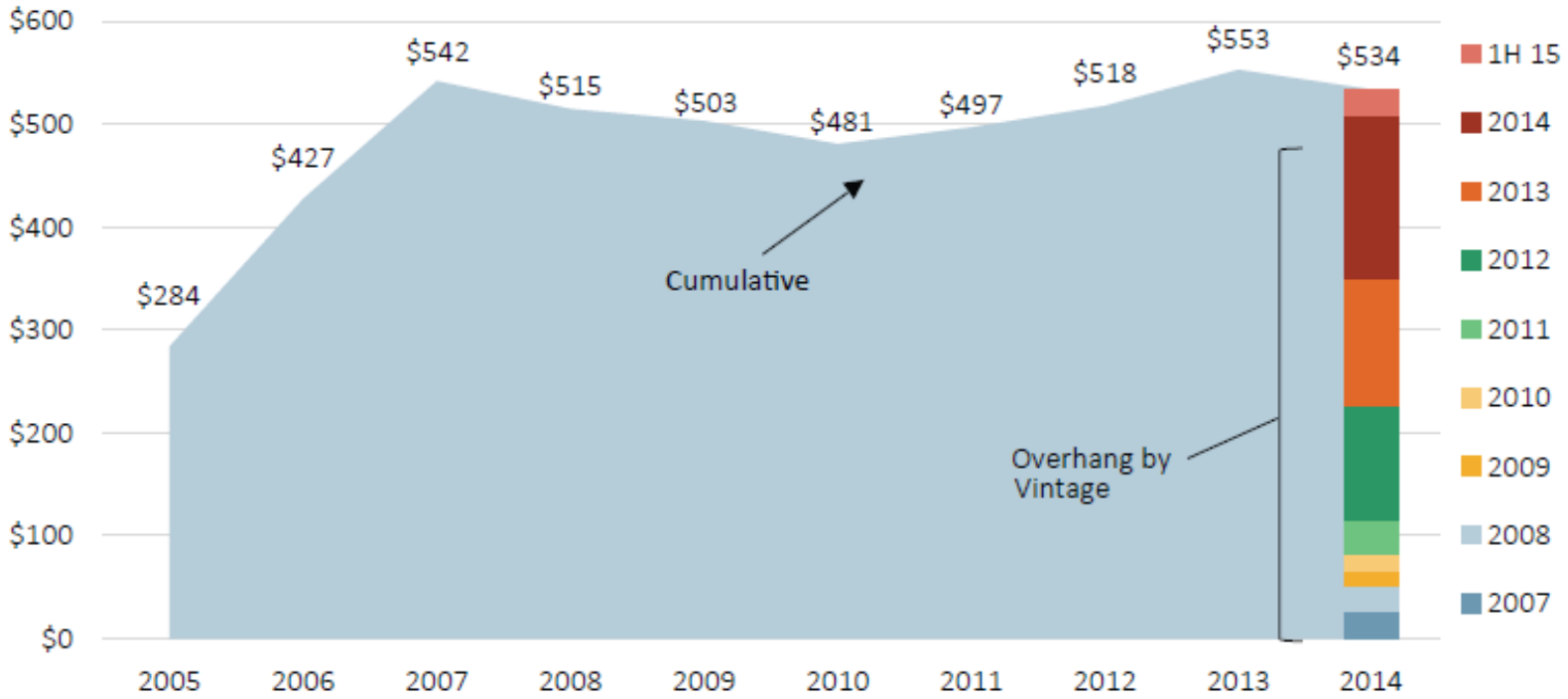
- Smaller deals continue to dominant deal activity by count
- Significantly more mega transaction ($2.5B+) volume in 2015

Source: Pitchbook.

Private Equity – Capital Overhang

Wilshire

Cumulative Vintage Year Overhang

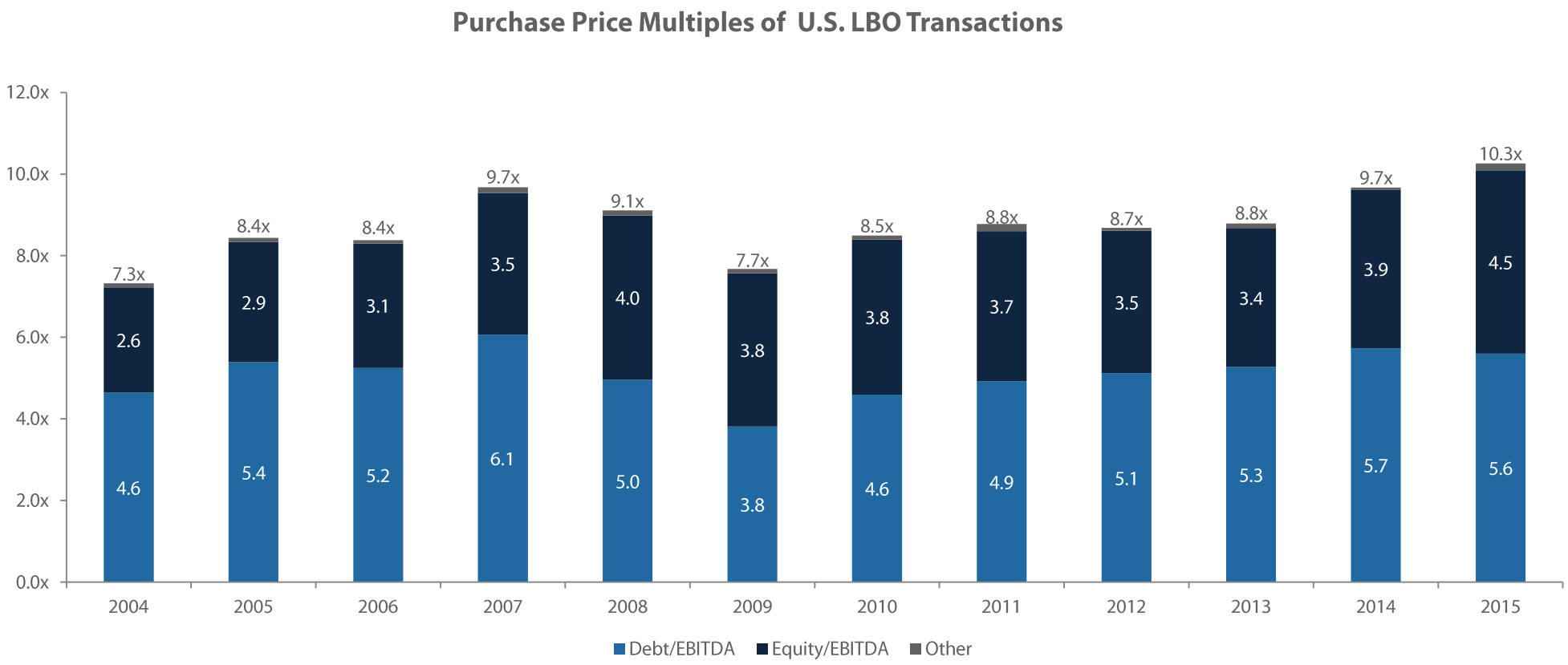


- Total private equity overhang significantly grew to an estimated $542 billion during the run-up to the financial crisis
- While the overhang slightly decreased across 2007 through 2010, the overhang has generally increased since then

Source: Pitchbook. As of August 2015.

Private Equity – U.S. LBO Purchase Price Multiples

Wilshire



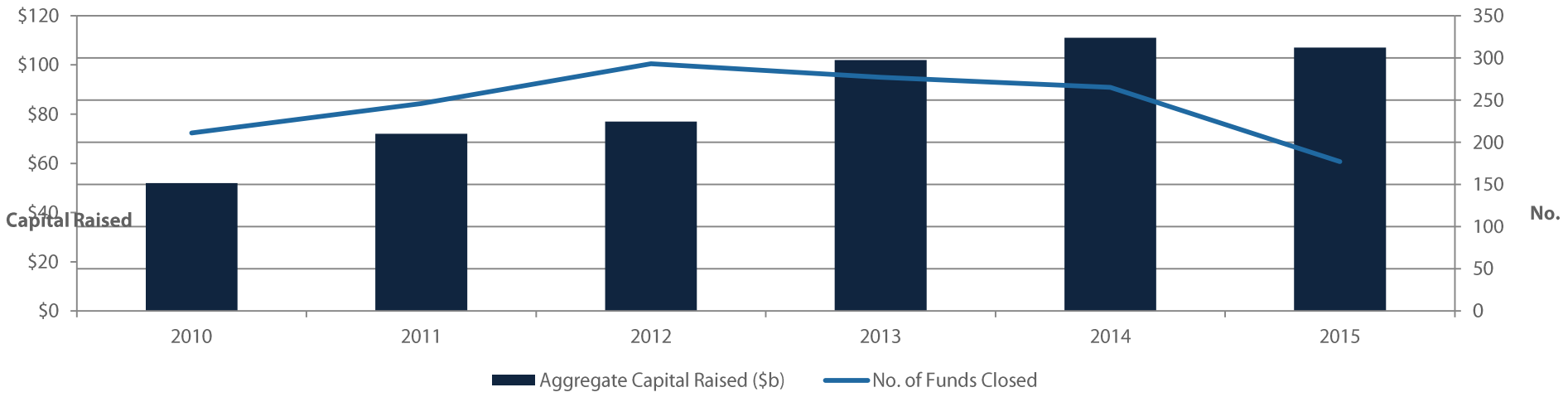
- As debt has become more readily available, purchase price multiples have increased from the low point in 2009
- Pricing in 2015 has eclipsed the 10.x threshold, which is a recent high

Source: S&P LCD.

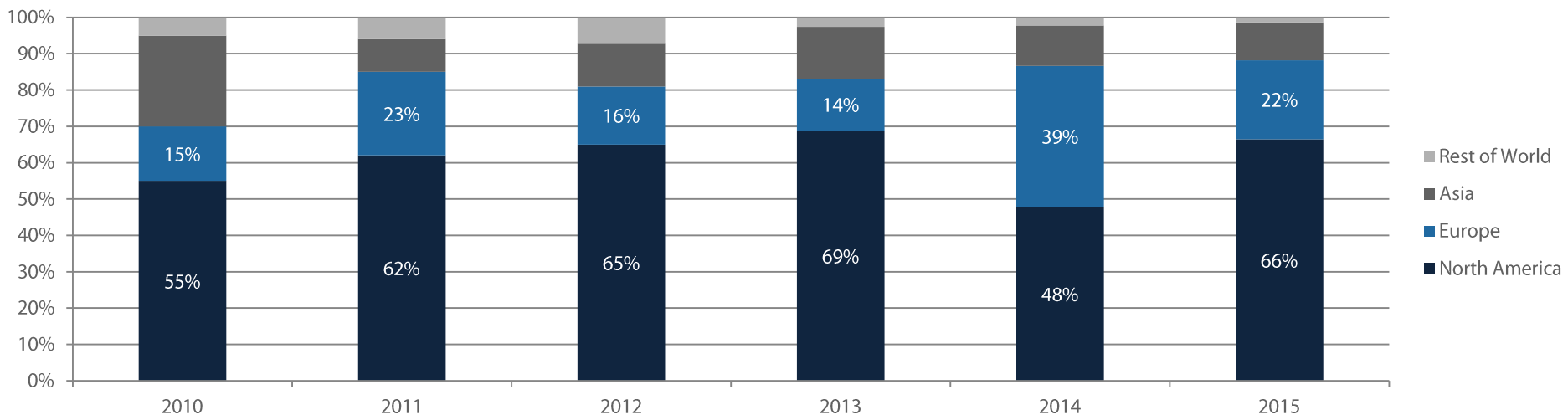
Private Real Estate – Fundraising Activity

Wilshire

Quarterly Closed-End Private Real Estate Fundraising (2010 – 2015)



Proportion of Aggregate Capital Raised by Closed-End Private Real Estate Funds by Fund Geographic Focus (2010 – 2015)



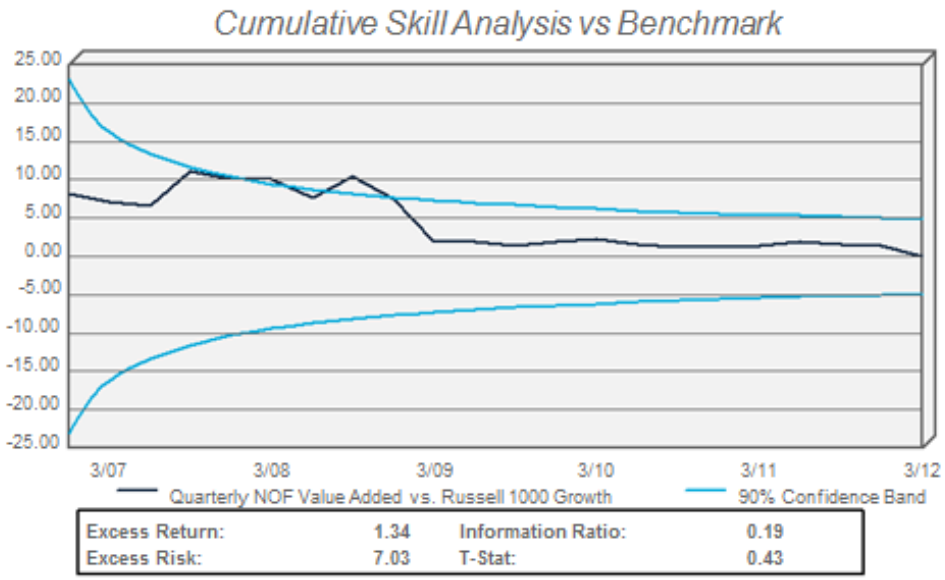
Sources: Preqin.

Appendix

Wilshire

Cumulative Skill Graph

- Graphical representation of the statistical significance of excess returns over a specified benchmark for the cumulative time period being analyzed.
- Positive cumulative excess performance is shown when the dark blue line is above the "0.00" line measured on the left Y axis.
- The light blue lines that form a channel, or the shape of a trumpet horn, represent the boundaries of the statistical significance test.
- The width of the channel is calculated based on the amount of "Excess Risk" that the manager takes over the benchmark.



Data sources: Wilshire Compass

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