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

March 31, 2016

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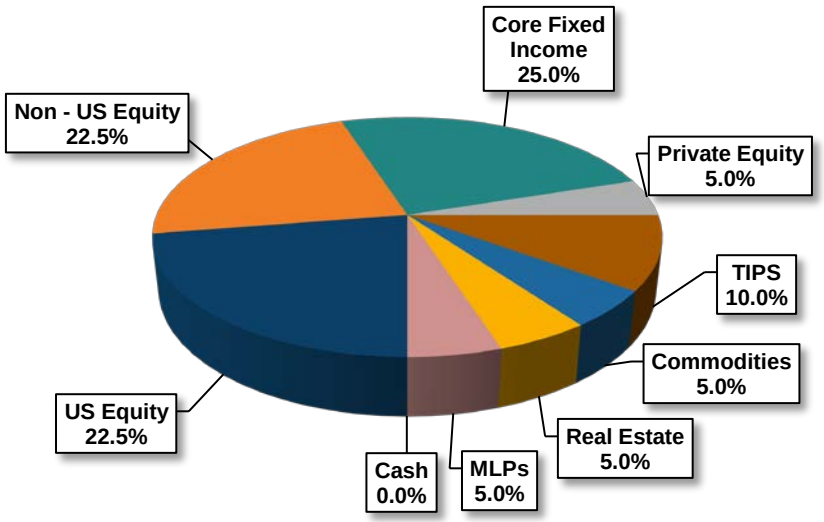
Total Fund

Policy Allocation vs Actual Allocation

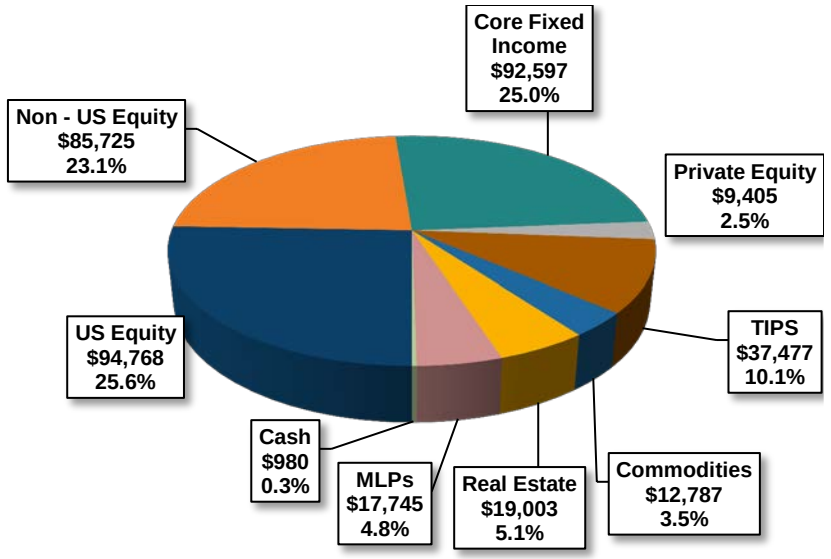
Total Fund Composite

As of March 31, 2016

Policy Allocation[1]



Actual Allocation (in $'000s)



Total Assets: $370,486,000

[1] Effective date: April 1, 2015

Policy Allocation vs Actual Allocation

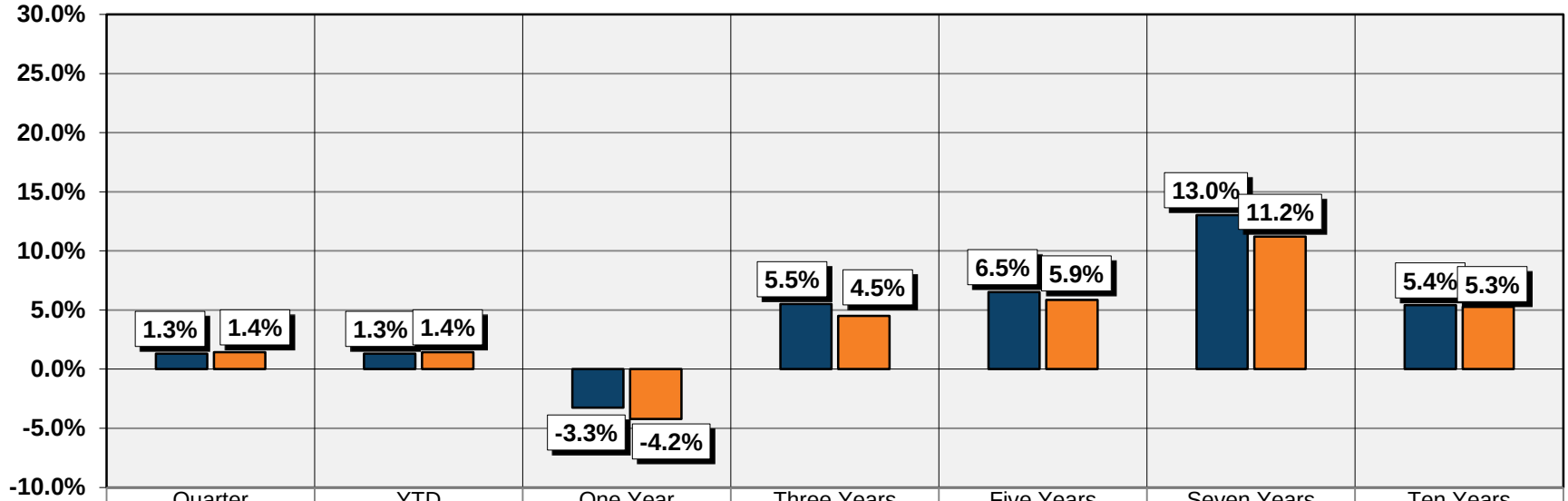
Total Fund Composite

As of March 31, 2016

	Market Value (in $'000)	Asset Allocation	
		Actual	Policy
US Equity	$94,768	25.58%	22.50%
Non - US Equity	$85,725	23.14%	22.50%
Core Fixed Income	$92,597	24.99%	25.00%
Private Equity	$9,405	2.54%	5.00%
TIPS	$37,477	10.12%	10.00%
Commodities	$12,787	3.45%	5.00%
Real Estate	$19,003	5.13%	5.00%
MLPs	$17,745	4.79%	5.00%
Cash	$980	0.26%	0.00%
Total Fund Composite	$370,486	100.00%	100.00%

Total Fund Composite*

Periods Ended March 31, 2016



	Quarter	YTD	One Year	Three Years	Five Years	Seven Years	Ten Years
Total Fund Composite	1.3%	1.3%	-3.3%	5.5%	6.5%	13.0%	5.4%
Total Fund Policy**	1.4%	1.4%	-4.2%	4.5%	5.9%	11.2%	5.3%

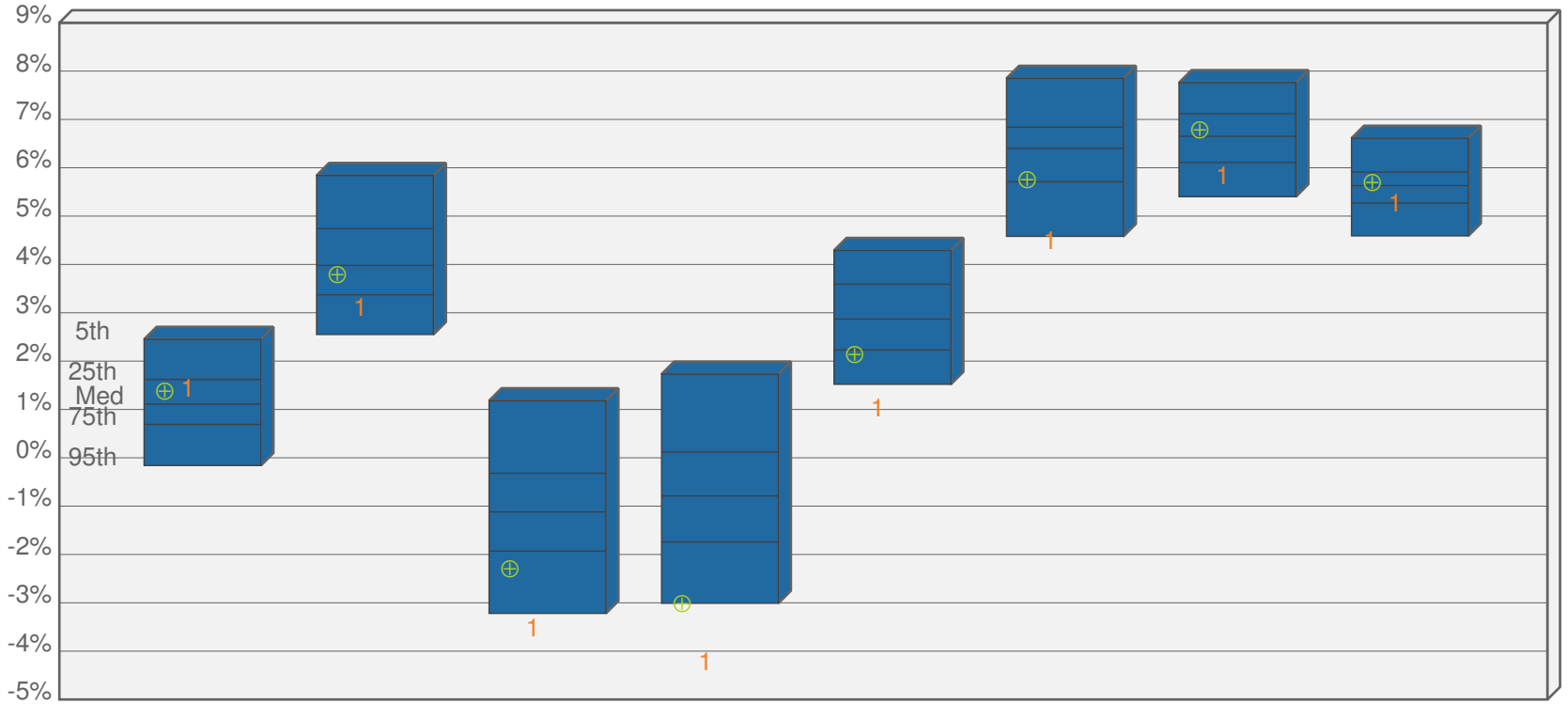
*Returns are net of fees

** 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

Total Fund Composite

Periods Ended March 31, 2016



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊕ Total Fund	1.38 (36)	3.80 (62)	-2.29 (81)	-3.01 (96)	2.15 (78)	5.77 (71)	6.80 (45)	5.71 (37)
1 Policy Index	1.44 (30)	3.12 (84)	-3.52 (97)	-4.22 (100)	1.04 (98)	4.50 (95)	5.85 (83)	5.27 (76)
5th %tile	2.45	5.84	1.18	1.73	4.29	7.85	7.76	6.61
25th %tile	1.62	4.74	-0.32	0.12	3.59	6.84	7.12	5.91
Median	1.11	3.98	-1.12	-0.79	2.87	6.40	6.65	5.63
75th %tile	0.69	3.37	-1.93	-1.74	2.23	5.71	6.11	5.27
95th %tile	-0.16	2.55	-3.22	-3.01	1.52	4.58	5.40	4.59
Number of Funds	135	133	132	132	128	122	117	99

*Wilcop Total Returns of Total Returns of Wilshire Public Funds Universe - Gross of Fees

Trailing Returns

Periods Ended March 31, 2016

	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	**0.34**	**0.34**	**-1.22**	**11.15**	**11.11**	**18.42**	**7.03**	**9/30/87**	**9.11**
Wilshire 5000	1.17	1.17	0.23	11.26	11.01	17.04	6.95	9/30/87	9.14
Value Added	-0.83	-0.83	-1.45	-0.11	0.10	1.38	0.08	9/30/87	-0.03
Core Fixed Composite									
Net of Fee Return	**2.89**	**2.89**	**1.40**	**2.96**	**4.66**	**8.09**	**5.48**	**9/30/87**	**7.11**
Barclays Aggregate	3.03	3.03	1.96	2.50	3.78	4.52	4.90	9/30/87	6.80
Value Added	-0.14	-0.14	-0.56	0.46	0.88	3.57	0.59	9/30/87	0.31
Non-U.S. Equity Composite									
Net of Fee Return	**-0.45**	**-0.45**	**-4.57**	**3.60**	**3.01**	**11.60**	**2.20**	**12/31/89**	**7.97**
Policy Benchmark	-0.38	-0.38	-9.19	0.32	0.31	9.18	2.01	12/31/89	4.03
Value Added	-0.07	-0.07	4.62	3.28	2.70	2.42	0.19	12/31/89	3.94
Real Estate Composite									
Net of Fee Return	**4.37**	**4.37**	**-0.79**	**5.11**	**7.02**			**6/30/09**	**12.23**
FTSE EPRA/NAREIT Dev (N)	5.23	5.23	0.41	5.47	7.65			6/30/09	13.26
Value Added	-0.85	-0.85	-1.20	-0.35	-0.63			6/30/09	-1.03
Commodities Composite									
Net of Fee Return	**3.20**	**3.20**	**-20.24**	**-16.45**				**3/31/13**	**-16.45**
Bloomberg Commodity Index	0.42	0.42	-19.56	-16.86				3/31/13	-16.86
Value Added	2.78	2.78	-0.68	0.41				3/31/13	0.41
MLP Composite									
Net of Fee Return	**-5.54**	**-5.54**	**-33.79**					**3/31/15**	**-33.79**
S&P MLP Index	-6.33	-6.33	-37.21					3/31/15	-37.21
Value Added	0.79	0.79	3.42					3/31/15	3.42

Trailing Returns

Periods Ended March 31, 2016

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
TIPS Composite									
Net of Fee Return	**4.55**	**4.55**						**6/30/15**	**2.68**
Barclays U.S. TIPS	4.46	4.46						6/30/15	2.60
Value Added	0.09	0.09						6/30/15	0.08
Total Real Assets Composite									
Net of Fee Return	**2.24**	**2.24**	**-10.49**					**3/31/15**	**-10.49**
Policy Index	1.65	1.65	-11.40					3/31/15	-11.40
Value Added	0.60	0.60	0.91					3/31/15	0.91
Alternative Investments Composite									
Net of Fee Return	**2.34**	**2.34**	**10.61**	**11.27**	**7.57**			**6/30/10**	**6.82**
Wilshire 5000 +2.5%	1.79	1.79	2.73	13.76	13.51			6/30/10	17.44
Value Added	0.55	0.55	7.88	-2.49	-5.94			6/30/10	-10.62
Total Fund									
Net of Fee Return	**1.31**	**1.31**	**-3.26**	**5.51**	**6.53**	**13.04**	**5.41**	**9/30/87**	**8.17**
Policy Index	1.44	1.44	-4.22	4.50	5.85	11.21	5.27	9/30/87	8.19
Value Added	-0.13	-0.13	0.96	1.01	0.68	1.83	0.14	9/30/87	-0.02

Custom Benchmark Specification

Total Fund

March 31, 2016

	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%

Total Fund

March 31, 2016

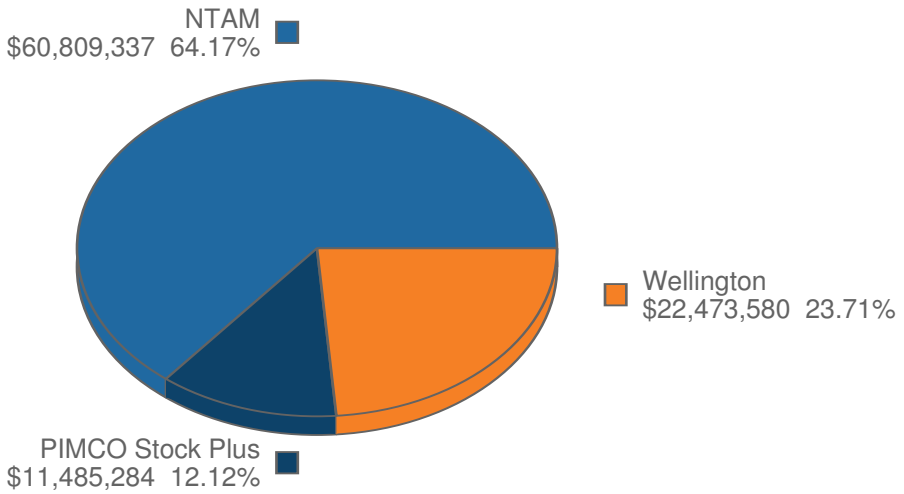
	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)			5.00	Bloomberg Commodity Index
	6/15	3/16	22.50	Wilshire 5000
			5.00	Wilshire 5000 + 2.5%
			22.50	MSCI ACWI X US (N)
			25.00	Barclays Aggregate
			5.00	FTSE EPRA/NAREIT Dev (N)
			5.00	Bloomberg Commodity Index
			10.00	Barclays U.S. TIPS
			5.00	S&P MLP Index

U.S. Equity

Manager Allocation

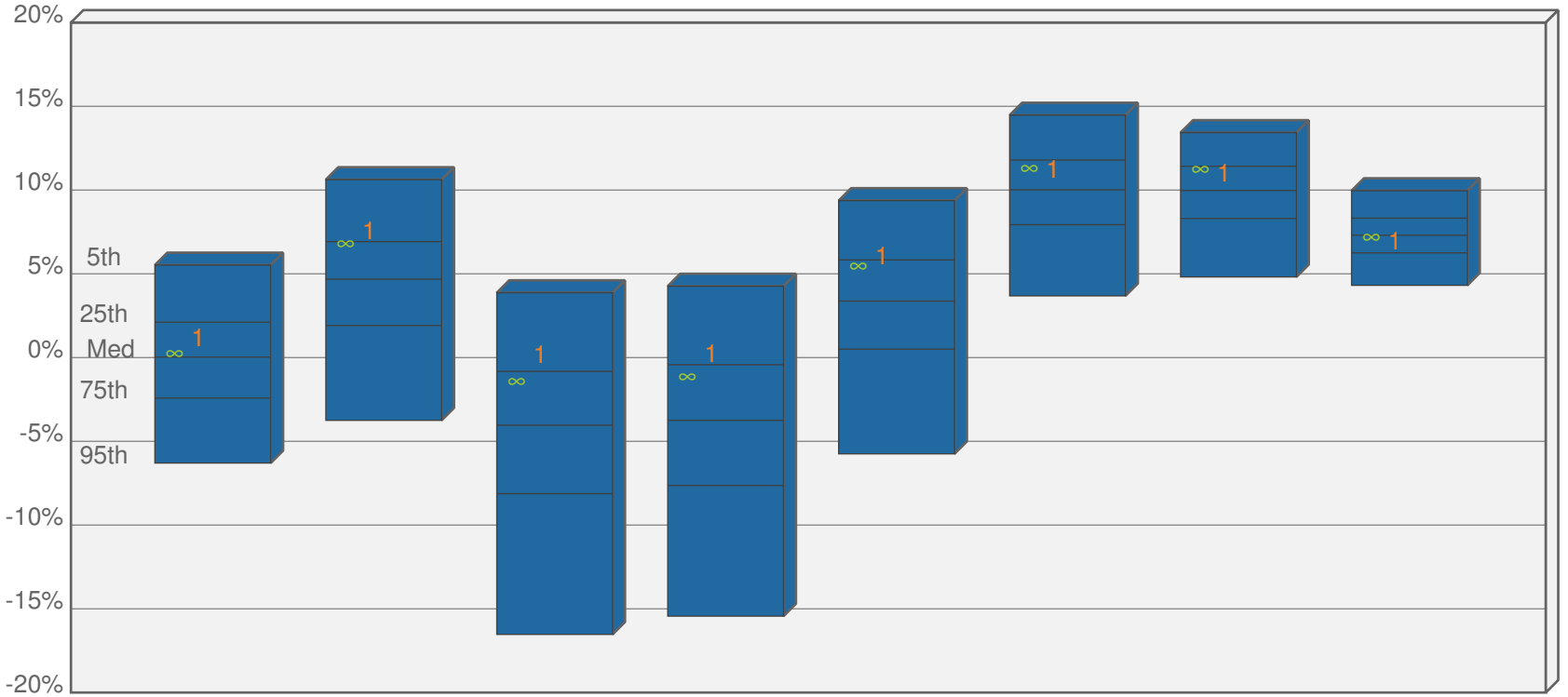
U.S. Equity Composite

As of March 31, 2016



U.S. Equity Composite

Periods Ended March 31, 2016



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
∞ U.S. Equity Composite	0.39 (46)	6.90 (25)	-1.28 (28)	-1.00 (28)	5.59 (28)	11.41 (30)	11.39 (25)	7.32 (49)
1 Wilshire 5000	1.17 (35)	7.61 (19)	0.17 (17)	0.23 (20)	6.07 (23)	11.26 (33)	11.01 (32)	6.95 (58)
5th %tile	5.52	10.62	3.87	4.26	9.37	14.47	13.43	9.96
25th %tile	2.11	6.92	-0.83	-0.43	5.83	11.79	11.42	8.32
Median	0.03	4.68	-4.04	-3.75	3.37	10.01	9.97	7.30
75th %tile	-2.42	1.91	-8.13	-7.64	0.50	7.93	8.30	6.25
95th %tile	-6.30	-3.75	-16.53	-15.44	-5.75	3.68	4.81	4.31
Number of Funds	1717	1717	1716	1696	1670	1652	1582	1273

*Compass Total Returns of Equity Portfolios Universe - Gross of Fees

Performance Comparison

Trailing Returns

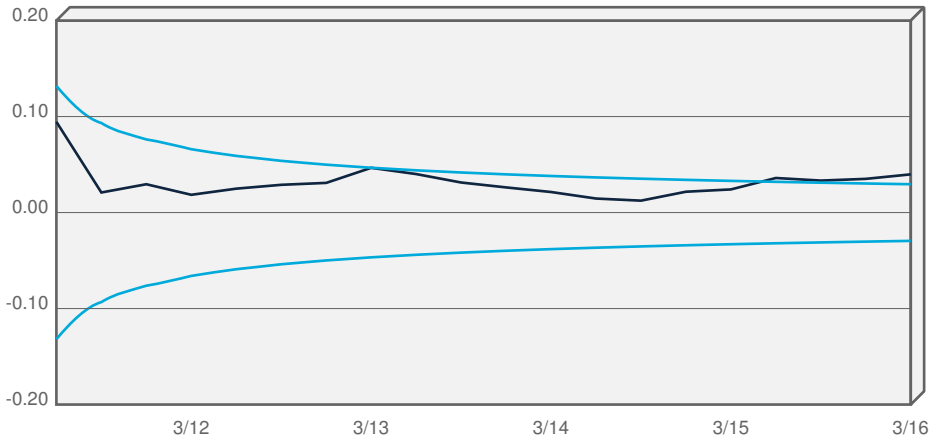
Periods Ended March 31, 2016

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
NTAM									
Net of Fee Return	**1.38**	**1.38**	**1.89**	**11.87**	**11.62**	**17.06**	**6.94**	**9/30/98**	**6.36**
Policy Benchmark	1.35	1.35	1.78	11.83	11.58	16.96	6.97	9/30/98	6.35
Value Added	0.03	0.03	0.10	0.04	0.04	0.09	-0.03	9/30/98	0.01
PIMCO Stock Plus									
Net of Fee Return	**1.04**	**1.04**	**-0.11**	**11.26**	**12.36**	**19.57**	**7.74**	**9/30/00**	**4.91**
Standard & Poor's 500	1.35	1.35	1.78	11.83	11.58	16.96	7.01	9/30/00	4.38
Value Added	-0.31	-0.31	-1.89	-0.57	0.78	2.61	0.73	9/30/00	0.54
Wellington									
Net of Fee Return	**-2.63**	**-2.63**	**-9.19**	**9.35**	**9.87**	**21.93**	**7.81**	**9/30/99**	**10.56**
Russell 2000	-1.52	-1.52	-9.76	6.84	7.20	16.42	5.26	9/30/99	7.39
Value Added	-1.12	-1.12	0.57	2.51	2.67	5.51	2.55	9/30/99	3.17
U.S. Equity Composite									
Net of Fee Return	**0.34**	**0.34**	**-1.22**	**11.15**	**11.11**	**18.42**	**7.03**	**9/30/87**	**9.11**
Wilshire 5000	1.17	1.17	0.23	11.26	11.01	17.04	6.95	9/30/87	9.14
Value Added	-0.83	-0.83	-1.45	-0.11	0.10	1.38	0.08	9/30/87	-0.03

NTAM

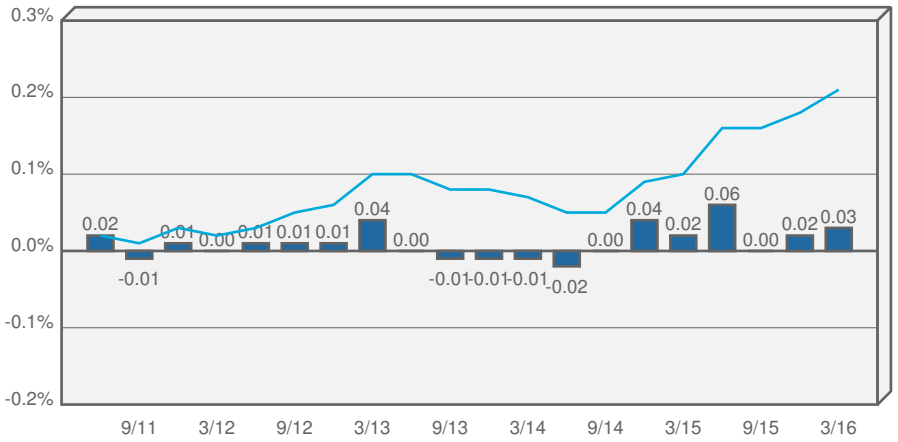
March 31, 2016

Cumulative Skill Analysis vs Benchmark

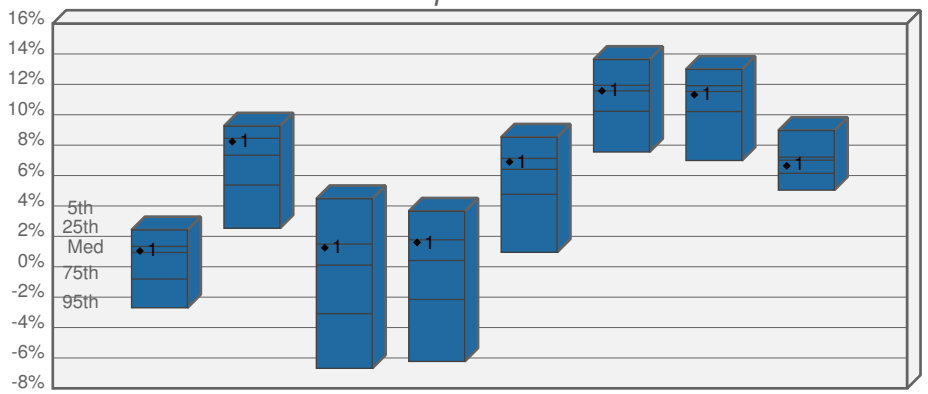


Excess Return:	**0.04**	**Information Ratio:**	**0.99**
Excess Risk:	**0.04**	**T-Stat:**	**2.22**

Value-Added Analysis vs Benchmark

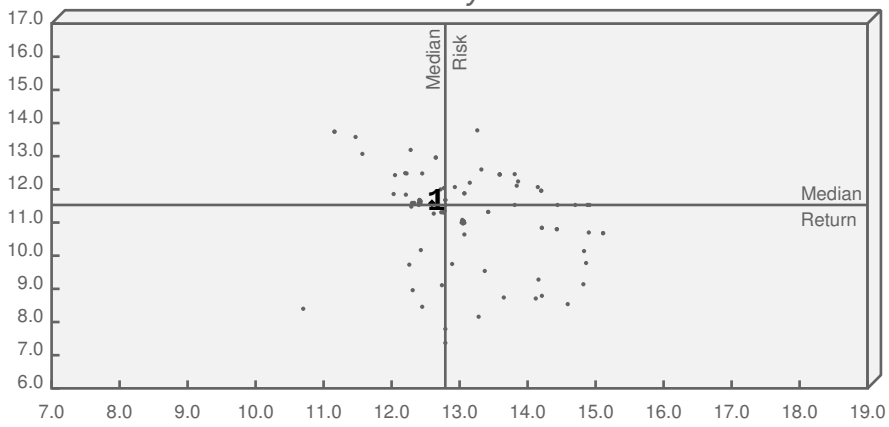


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
◆ NTAM	1.39 (12)	8.58 (8)	1.60 (14)	1.95 (11)	7.25 (16)	11.92 (25)	11.67 (32)	6.99 (52)
1 Policy Benchma	1.35 (19)	8.49 (17)	1.50 (23)	1.78 (23)	7.12 (25)	11.83 (32)	11.58 (44)	6.97 (53)
Median	0.94	7.34	0.11	0.41	6.41	11.57	11.53	7.01
Number of Funds	206	206	206	206	204	196	168	92

Five Year Risk/Return Analysis vs Peer Universe*



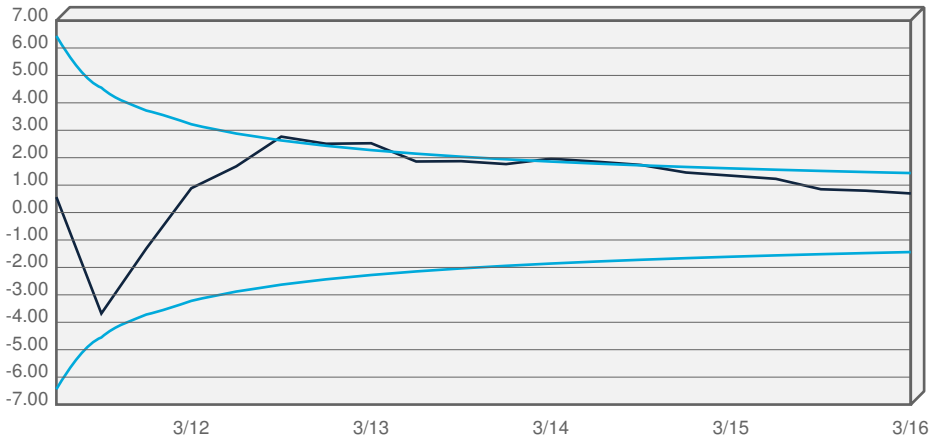
Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
NTAM	◆	11.67	32	12.75	56
Policy Benchmark	1	11.58	44	12.74	57
Median		11.53		12.79	

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

PIMCO Stock Plus

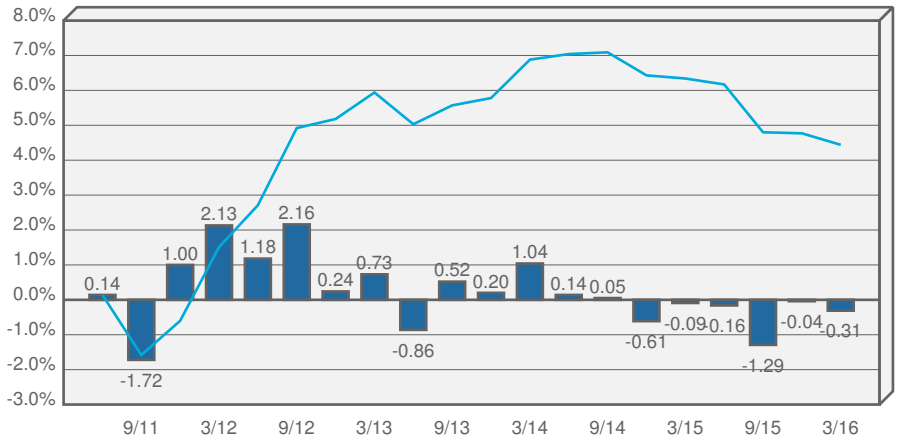
March 31, 2016

Cumulative Skill Analysis vs Benchmark

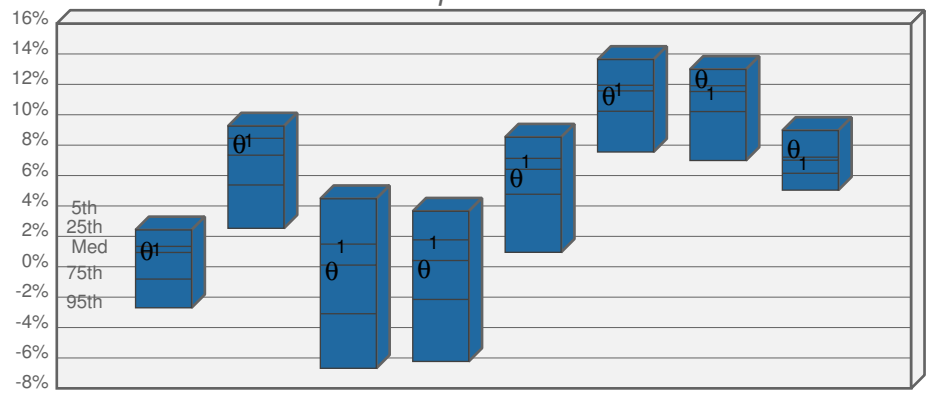


Excess Return:	**0.70**	**Information Ratio:**	**0.36**
Excess Risk:	**1.96**	**T-Stat:**	**0.80**

Value-Added Analysis vs Benchmark

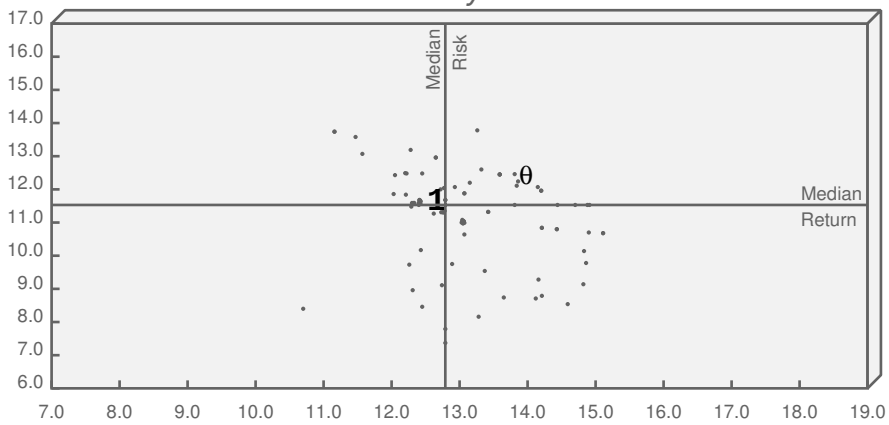


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
θ PIMCO Stock Pl	1.04 (43)	8.12 (33)	-0.23 (53)	-0.11 (54)	5.86 (62)	11.26 (60)	12.36 (13)	7.74 (14)
1 Standard & Poo	1.35 (19)	8.49 (17)	1.50 (23)	1.78 (23)	7.12 (25)	11.83 (32)	11.58 (44)	7.01 (52)
Median	0.94	7.34	0.11	0.41	6.41	11.57	11.53	7.01
Number of Funds	206	206	206	206	204	196	168	92

Five Year Risk/Return Analysis vs Peer Universe*



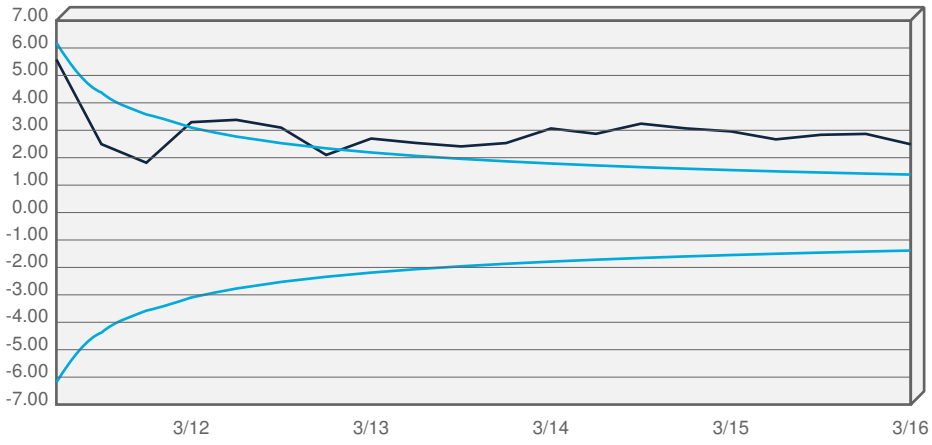
Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
PIMCO Stock Plus	θ	12.36	13	14.09	22
Standard & Poor's 500	1	11.58	44	12.74	57
Median		11.53		12.79	

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

Wellington

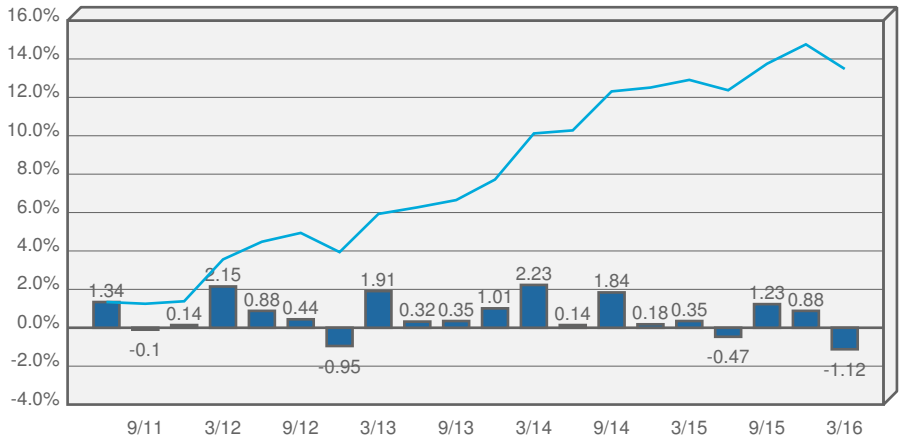
March 31, 2016

Cumulative Skill Analysis vs Benchmark

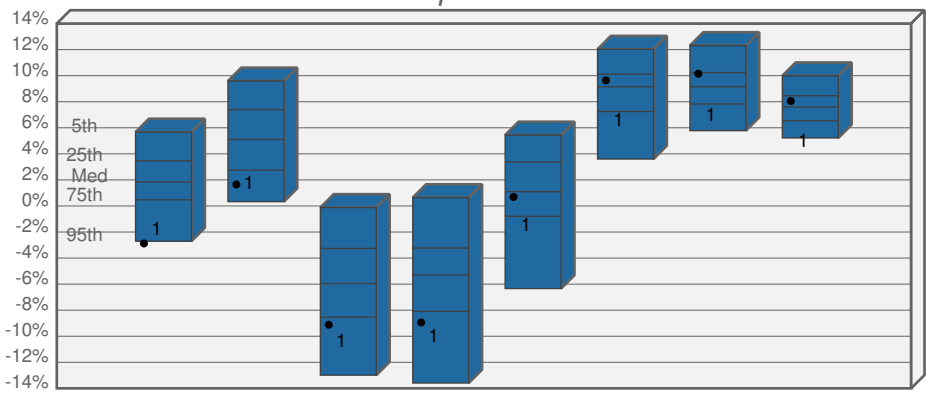


Excess Return:	**2.49**	**Information Ratio:**	**1.32**
Excess Risk:	**1.88**	**T-Stat:**	**2.96**

Value-Added Analysis vs Benchmark

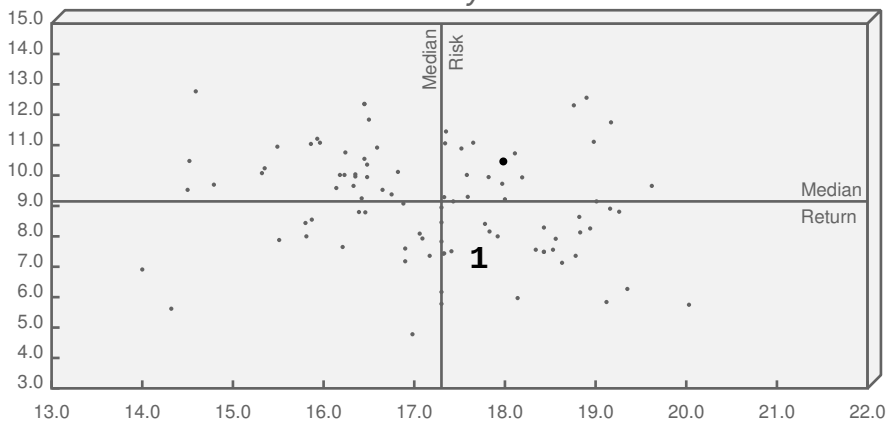


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
• Wellington	-2.47 (94)	2.06 (87)	-8.71 (76)	-8.53 (78)	1.10 (50)	10.05 (27)	10.56 (20)	8.46 (25)
1 Russell 2000	-1.52 (90)	2.02 (88)	-10.14 (89)	-9.76 (89)	-1.18 (83)	6.84 (83)	7.20 (87)	5.26 (93)
Median	1.84	5.10	-5.96	-5.29	1.10	9.15	9.15	7.59
Number of Funds	116	115	115	115	115	105	91	54

Five Year Risk/Return Analysis vs Peer Universe*



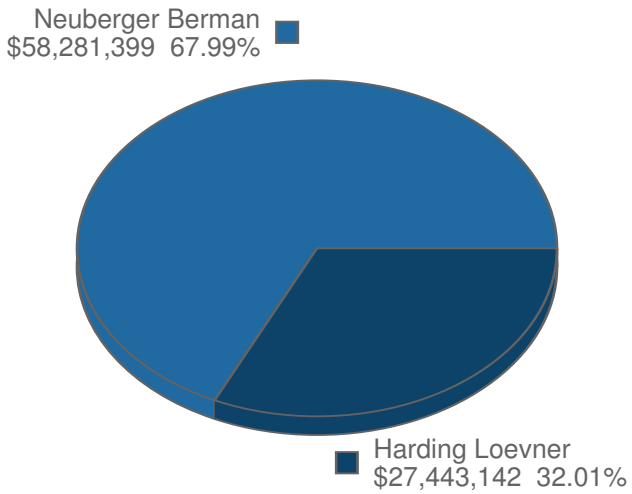
Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Wellington	•	10.56	20	18.10	30
Russell 2000	1	7.20	87	17.77	36
Median		9.15		17.30	

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

Non - U.S. Equity

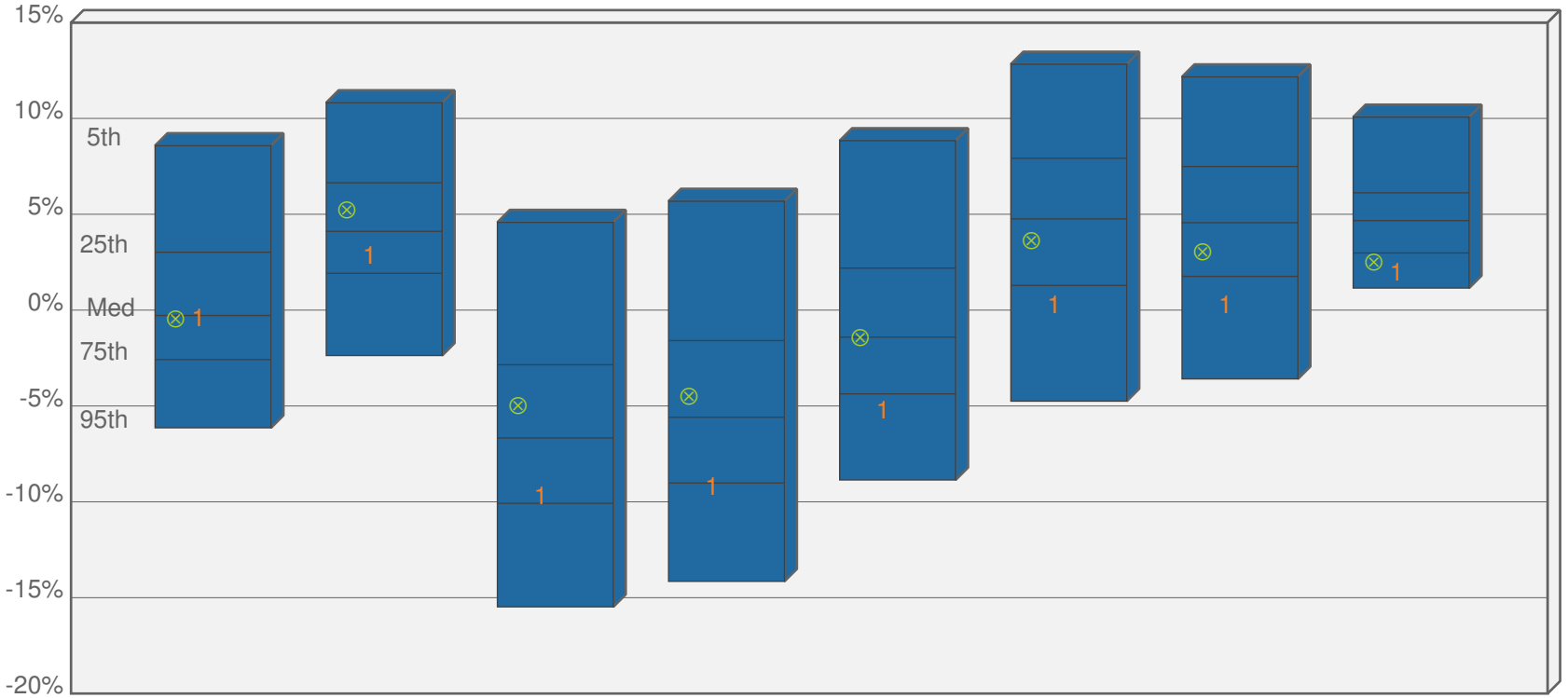
Non-U.S. Equity Composite

As of March 31, 2016



Non-U.S. Equity Composite

Periods Ended March 31, 2016



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗ Non-U.S. Equity Composit	-0.45 (51)	5.27 (38)	-4.97 (37)	-4.47 (42)	-1.39 (49)	3.63 (58)	3.06 (62)	2.53 (82)
1 Policy Benchmark	-0.38 (51)	2.86 (64)	-9.66 (72)	-9.19 (75)	-5.19 (81)	0.32 (79)	0.31 (83)	2.01 (88)
5th %tile	8.58	10.82	4.58	5.68	8.84	12.83	12.17	10.07
25th %tile	3.02	6.64	-2.85	-1.59	2.19	7.92	7.49	6.12
Median	-0.28	4.11	-6.67	-5.59	-1.41	4.76	4.56	4.67
75th %tile	-2.58	1.92	-10.08	-9.02	-4.37	1.29	1.76	2.98
95th %tile	-6.14	-2.37	-15.48	-14.15	-8.86	-4.75	-3.59	1.15
Number of Funds	1529	1527	1521	1497	1437	1358	1169	740

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

Trailing Returns

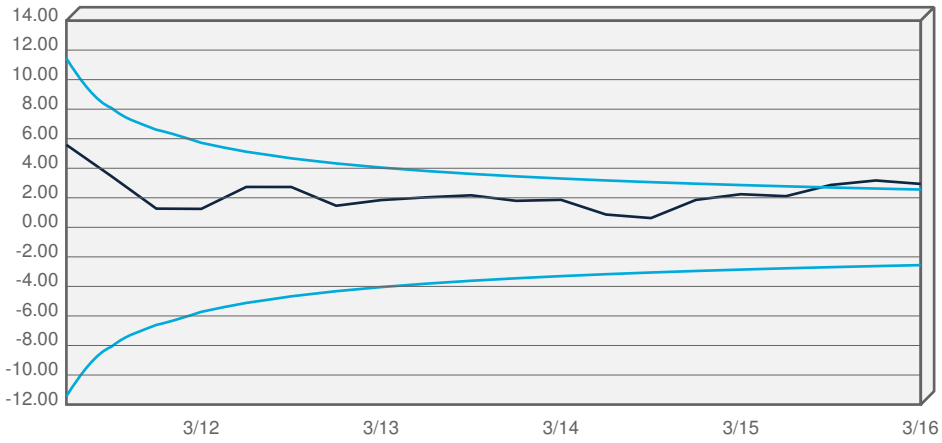
Periods Ended March 31, 2016

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Neuberger Berman									
Net of Fee Return	**-0.73**	**-0.73**	**-3.95**	**4.00**	**3.26**	**11.79**		**6/30/06**	**2.30**
MSCI ACWI X US (N)	-0.38	-0.38	-9.19	0.32	0.31	9.18		6/30/06	1.99
Value Added	-0.36	-0.36	5.24	3.68	2.95	2.61		6/30/06	0.32
Harding Loevner									
Net of Fee Return	**0.02**	**0.02**	**-5.99**					**3/31/15**	**-5.99**
MSCI ACWI X US (N)	-0.38	-0.38	-9.19					3/31/15	-9.19
Value Added	0.40	0.40	3.20					3/31/15	3.20
Non-U.S. Equity Composite									
Net of Fee Return	**-0.45**	**-0.45**	**-4.57**	**3.60**	**3.01**	**11.60**	**2.20**	**12/31/89**	**7.97**
Policy Benchmark	-0.38	-0.38	-9.19	0.32	0.31	9.18	2.01	12/31/89	4.03
Value Added	-0.07	-0.07	4.62	3.28	2.70	2.42	0.19	12/31/89	3.94

Neuberger Berman

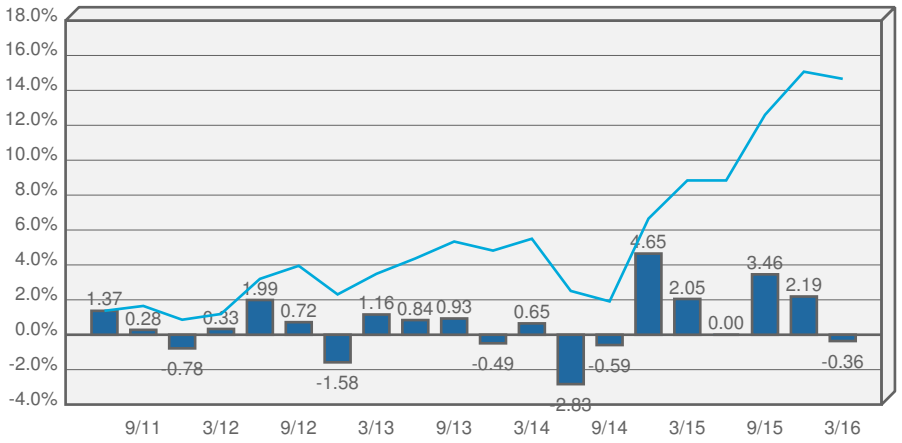
March 31, 2016

Cumulative Skill Analysis vs Benchmark

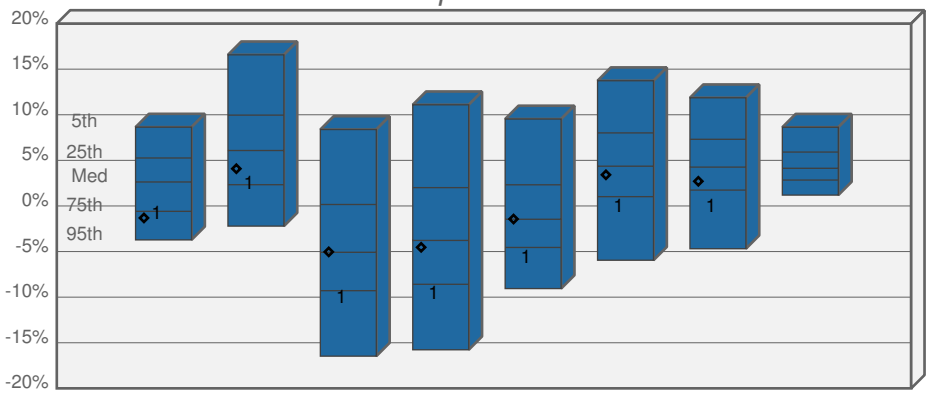


Excess Return:	**2.94**	**Information Ratio:**	**0.84**
Excess Risk:	**3.48**	**T-Stat:**	**1.89**

Value-Added Analysis vs Benchmark

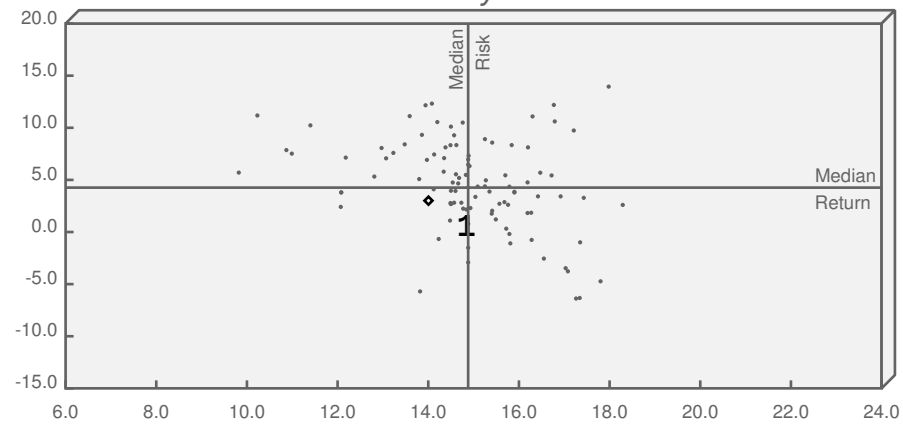


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
◇ Neuberger Berm	-0.73 (75)	4.67 (58)	-4.45 (46)	-3.95 (50)	-0.85 (46)	4.00 (52)	3.29 (59)	
1 MSCI ACWI X US	-0.38 (73)	2.86 (70)	-9.66 (78)	-9.19 (80)	-5.19 (81)	0.32 (79)	0.31 (82)	
Median	2.63	6.08	-5.08	-3.78	-1.46	4.36	4.26	4.13
Number of Funds	1791	1769	1747	1714	1625	1529	1331	636

Five Year Risk/Return Analysis vs Peer Universe*



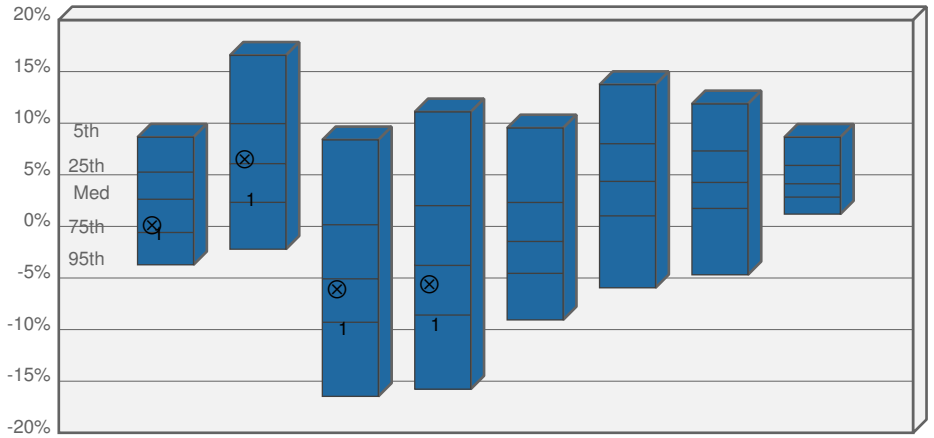
Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Neuberger Berman	◇	3.29	59	14.24	68
MSCI ACWI X US (N)	1	0.31	82	14.95	48
Median		4.26		14.88	

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

Harding Loevner

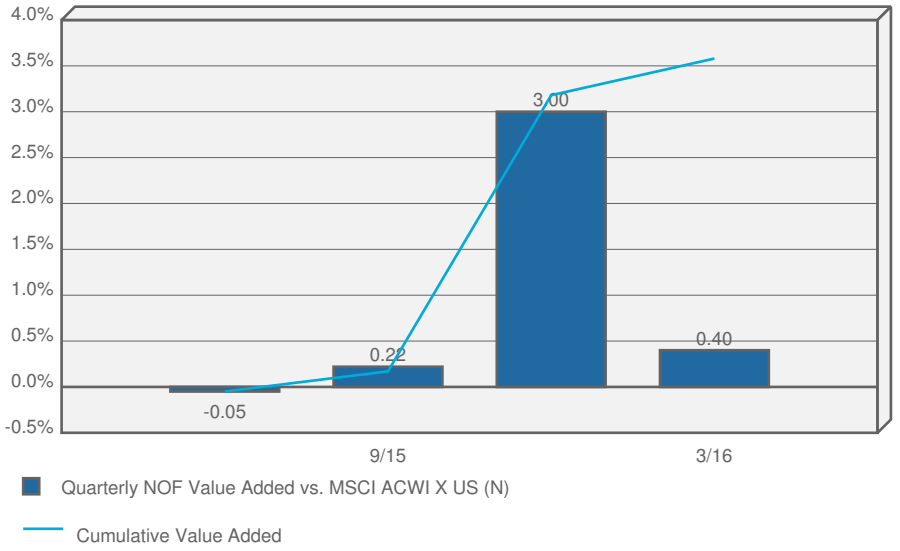
March 31, 2016

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗ Harding Loevne	0.16 (67)	6.56 (47)	-6.04 (56)	-5.56 (58)				
1 MSCI ACWI X US	-0.38 (73)	2.86 (70)	-9.66 (78)	-9.19 (80)				
Median	2.63	6.08	-5.08	-3.78	-1.46	4.36	4.26	4.13
Number of Funds	1791	1769	1747	1714	1625	1529	1331	636

Value-Added Analysis vs Benchmark



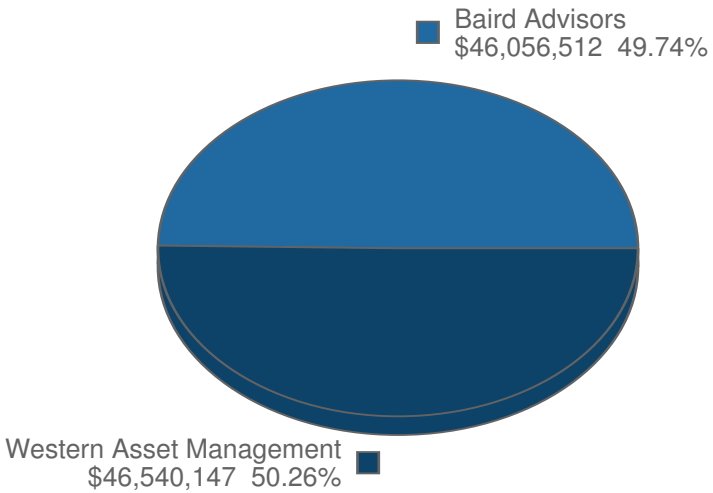
*TUCS Total Returns of International Equity Portfolios Universe - Gross of Fees

Core Fixed Income

Manager Allocation

Core Fixed Composite

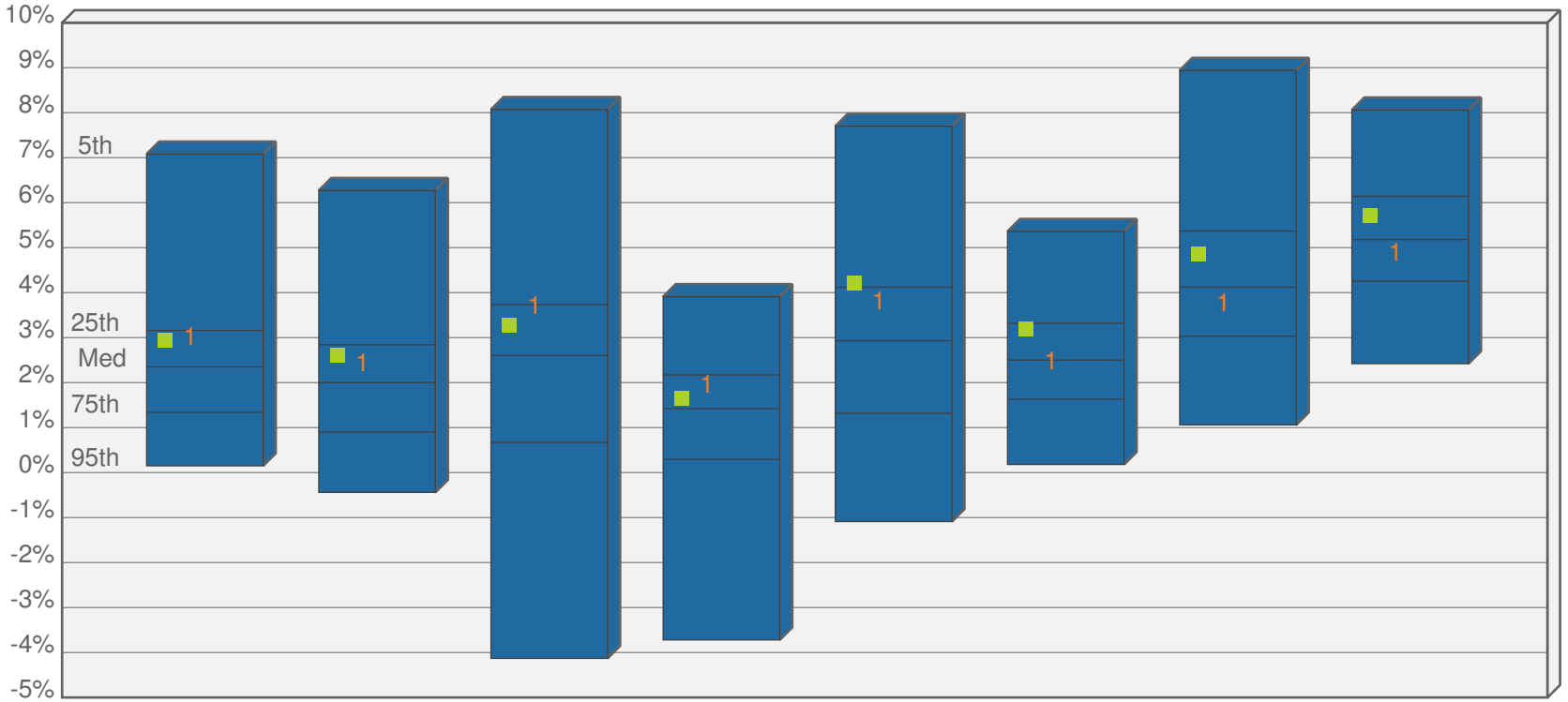
As of March 31, 2016



Wilshire

Core Fixed Composite

Periods Ended March 31, 2016



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Core Fixed Composite	2.96 (31)	2.63 (29)	3.31 (33)	1.67 (43)	4.24 (22)	3.22 (26)	4.89 (31)	5.74 (32)
1 Barclays Aggrega	3.03 (29)	2.44 (36)	3.71 (25)	1.96 (32)	3.82 (33)	2.50 (50)	3.78 (60)	4.90 (59)
5th %tile	7.08	6.27	8.07	3.91	7.70	5.36	8.94	8.06
25th %tile	3.16	2.84	3.73	2.17	4.12	3.32	5.37	6.14
Median	2.35	2.00	2.60	1.42	2.93	2.50	4.12	5.18
75th %tile	1.34	0.90	0.67	0.29	1.32	1.63	3.03	4.25
95th %tile	0.15	-0.44	-4.13	-3.72	-1.09	0.18	1.06	2.42
Number of Funds	1372	1369	1364	1356	1324	1295	1218	924

*Compass Total Returns of Fixed Income Portfolios Universe - Gross of Fees

Trailing Returns

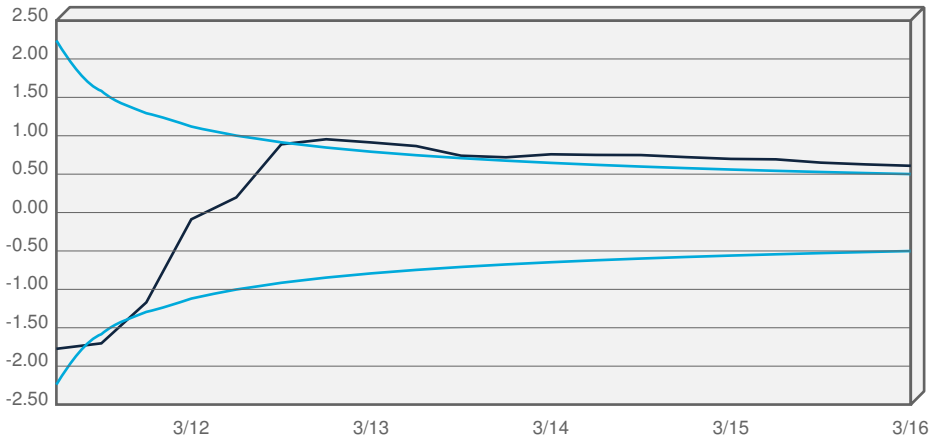
Periods Ended March 31, 2016

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Baird Advisors									
Net of Fee Return	**3.10**	**3.10**	**2.22**	**2.92**	**4.41**	**6.22**	**5.16**	**3/31/03**	**4.74**
Barclays Aggregate	3.03	3.03	1.96	2.50	3.78	4.52	4.90	3/31/03	4.44
Value Added	0.07	0.07	0.26	0.42	0.63	1.70	0.26	3/31/03	0.30
Western Asset Management									
Net of Fee Return	**2.67**	**2.67**	**0.59**	**2.99**	**4.83**	**9.86**	**5.68**	**3/31/04**	**5.19**
Barclays Aggregate	3.03	3.03	1.96	2.50	3.78	4.52	4.90	3/31/04	4.36
Value Added	-0.37	-0.37	-1.38	0.49	1.05	5.34	0.79	3/31/04	0.83
Core Fixed Composite									
Net of Fee Return	**2.89**	**2.89**	**1.40**	**2.96**	**4.66**	**8.09**	**5.48**	**9/30/87**	**7.11**
Barclays Aggregate	3.03	3.03	1.96	2.50	3.78	4.52	4.90	9/30/87	6.80
Value Added	-0.14	-0.14	-0.56	0.46	0.88	3.57	0.59	9/30/87	0.31

Baird Advisors

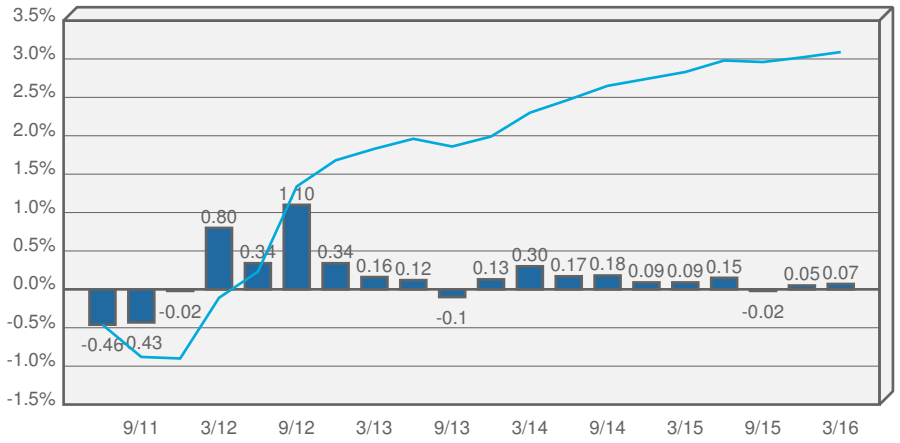
March 31, 2016

Cumulative Skill Analysis vs Benchmark

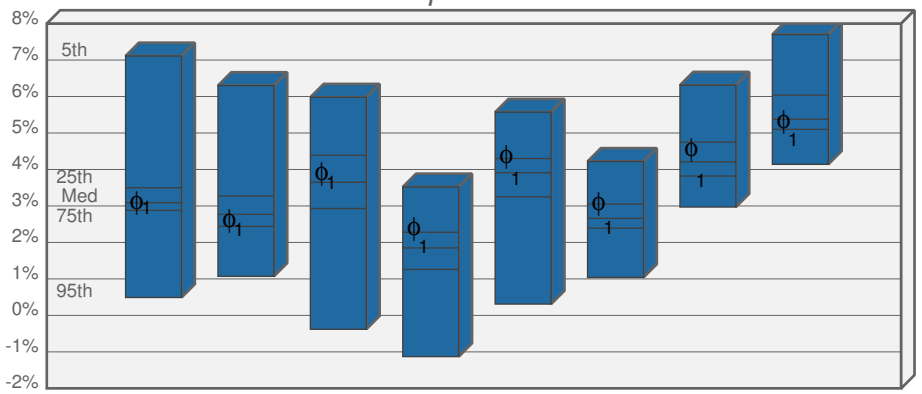


Excess Return:	**0.61**	**Information Ratio:**	**0.89**
Excess Risk:	**0.68**	**T-Stat:**	**2.00**

Value-Added Analysis vs Benchmark

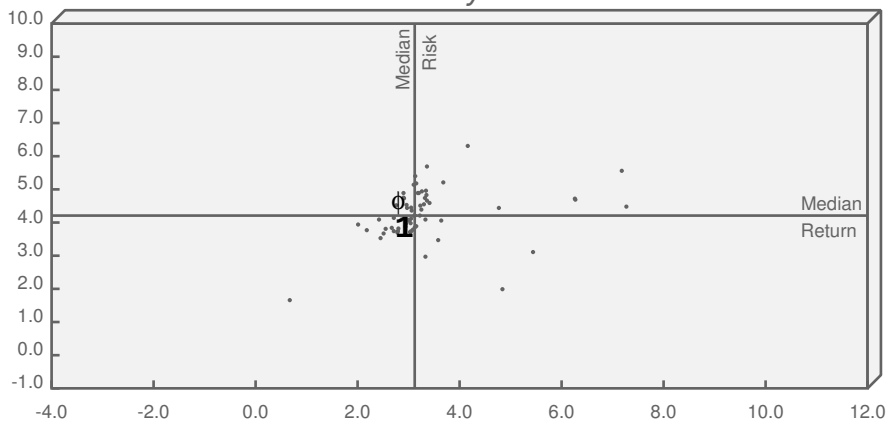


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
ϕ Baird Advisors	3.16 (43)	2.68 (55)	3.98 (33)	2.45 (21)	4.44 (20)	3.14 (20)	4.63 (32)	5.38 (53)
1 Barclays Aggre	3.03 (64)	2.44 (75)	3.71 (39)	1.96 (39)	3.82 (51)	2.50 (66)	3.78 (78)	4.90 (81)
Median	3.09	2.77	3.65	1.85	3.91	2.66	4.21	5.38
Number of Funds	98	98	97	97	93	81	68	32

Five Year Risk/Return Analysis vs Peer Universe*



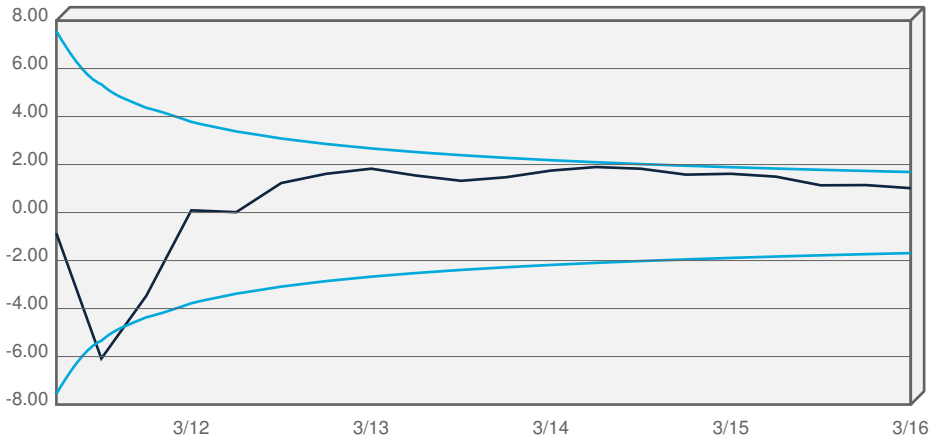
Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
Baird Advisors	ϕ	4.63	32	2.95	72
Barclays Aggregate	1	3.78	78	3.02	64
Median		4.21		3.12	

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

Western Asset Management

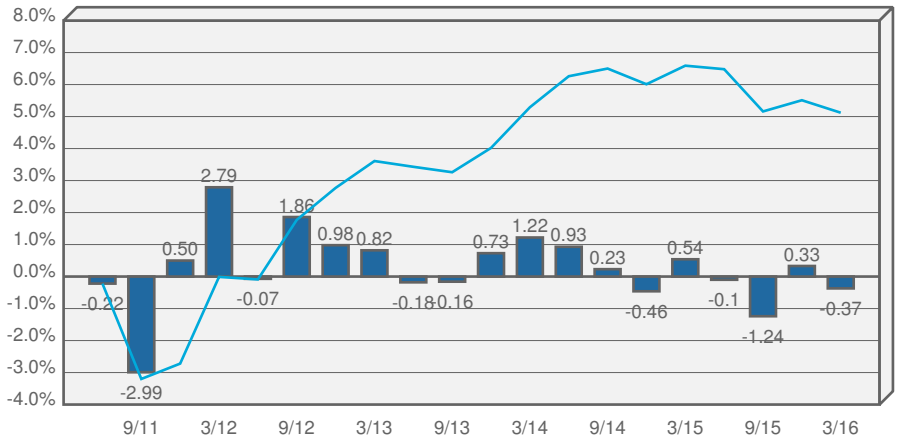
March 31, 2016

Cumulative Skill Analysis vs Benchmark

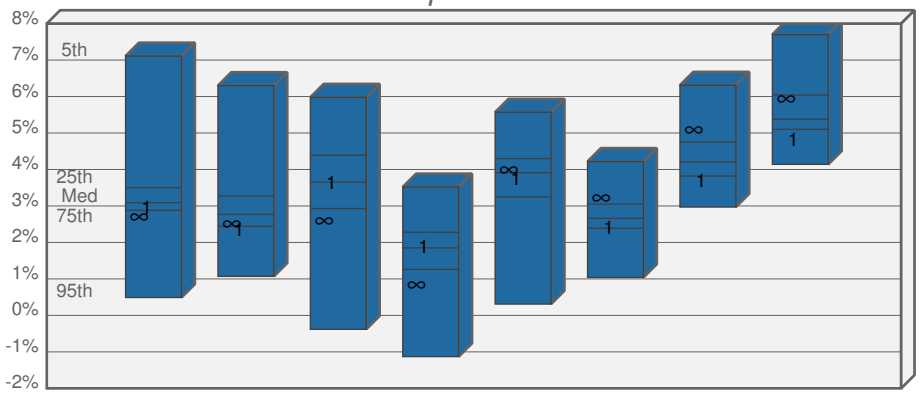


Excess Return:	**1.02**	**Information Ratio:**	**0.44**
Excess Risk:	**2.30**	**T-Stat:**	**0.99**

Value-Added Analysis vs Benchmark

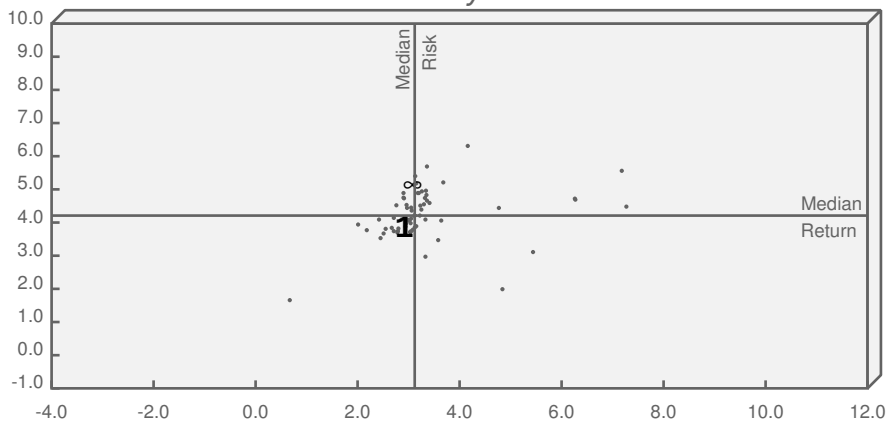


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
∞ Western Asset	2.75 (79)	2.58 (60)	2.64 (82)	0.90 (81)	4.05 (41)	3.29 (15)	5.14 (14)	6.00 (31)
1 Barclays Aggre	3.03 (64)	2.44 (75)	3.71 (39)	1.96 (39)	3.82 (51)	2.50 (66)	3.78 (78)	4.90 (81)
Median	3.09	2.77	3.65	1.85	3.91	2.66	4.21	5.38
Number of Funds	98	98	97	97	93	81	68	32

Five Year Risk/Return Analysis vs Peer Universe*



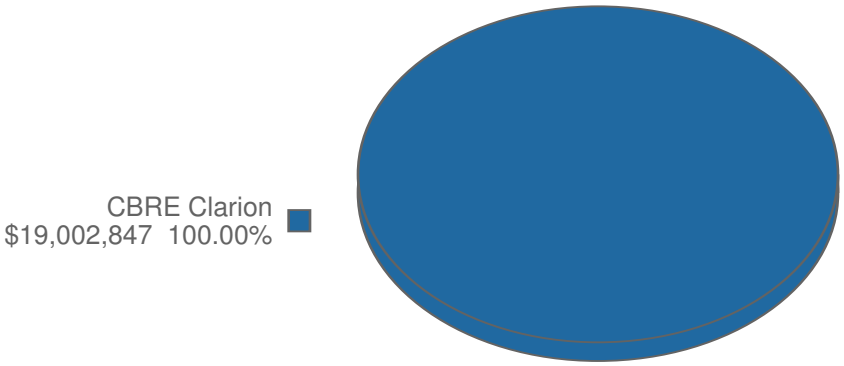
Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Western Asset Management	∞	5.14	14	3.18	44
Barclays Aggregate	1	3.78	78	3.02	64
Median		4.21		3.12	

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

Real Estate

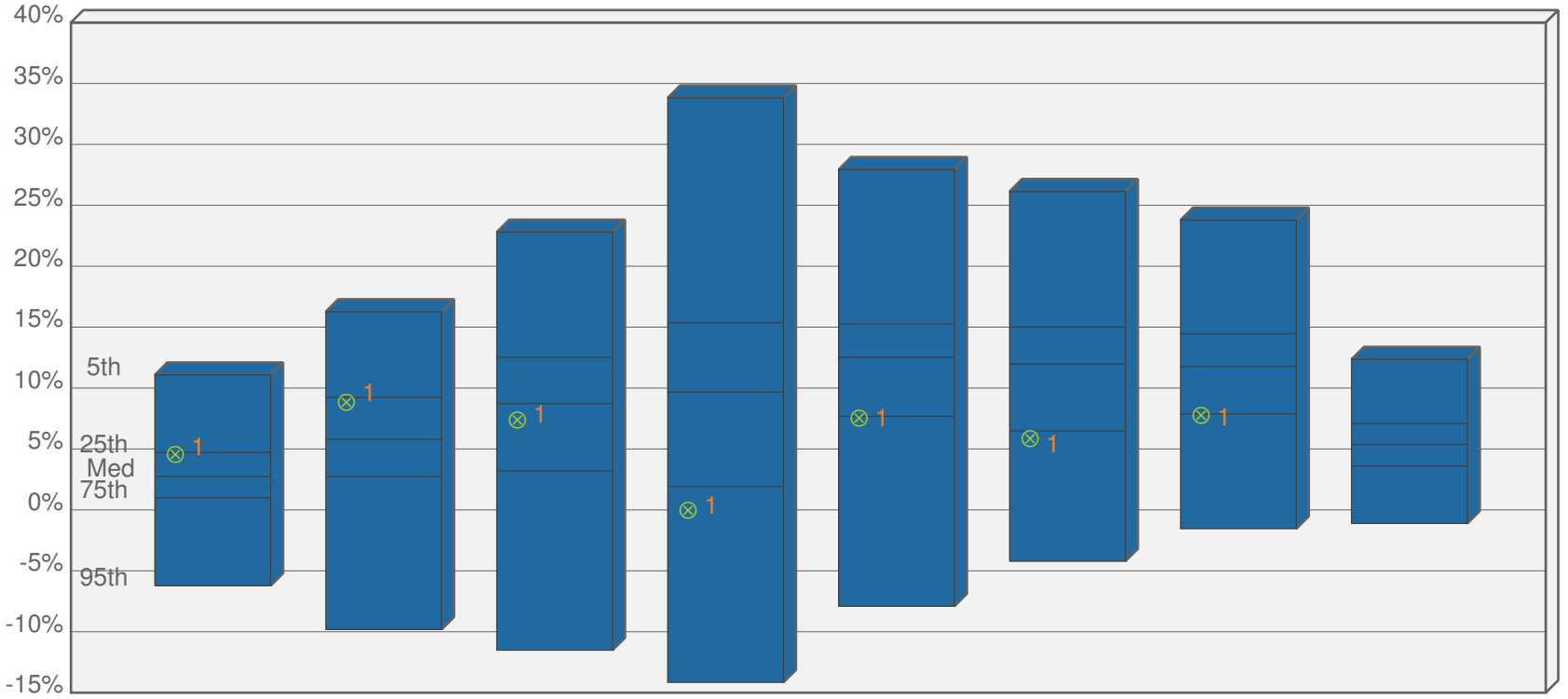
Real Estate Composite

As of March 31, 2016



Real Estate Composite

Periods Ended March 31, 2016



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗ Real Estate Composite	4.58 (27)	8.91 (26)	7.42 (58)	-0.00 (81)	7.54 (77)	5.91 (80)	7.82 (75)	
1 FTSE EPRA/NAREIT	5.23 (21)	9.64 (21)	7.85 (55)	0.41 (79)	7.54 (77)	5.47 (80)	7.65 (76)	
5th %tile	11.08	16.27	22.80	33.82	27.94	26.14	23.79	12.36
25th %tile	4.72	9.23	12.52	15.36	15.26	15.02	14.46	7.10
Median	2.74	5.80	8.73	9.66	12.53	11.97	11.78	5.37
75th %tile	1.00	2.73	3.20	1.93	7.67	6.48	7.88	3.60
95th %tile	-6.22	-9.81	-11.51	-14.15	-7.90	-4.21	-1.54	-1.11
Number of Funds	379	406	406	387	379	337	282	126

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

Trailing Returns

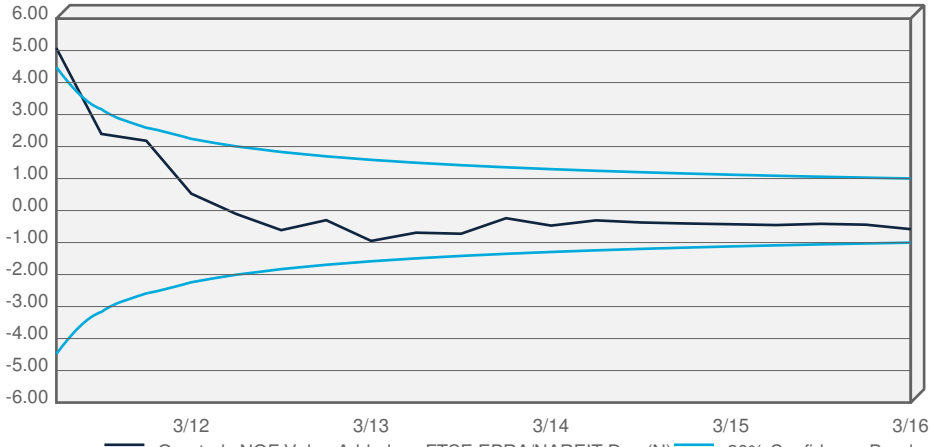
Periods Ended March 31, 2016

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
CBRE Clarion									
Net of Fee Return	**4.37**	**4.37**	**-0.79**	**5.11**	**7.02**			**6/30/09**	**12.23**
FTSE EPRA/NAREIT Dev (N)	5.23	5.23	0.41	5.47	7.65			6/30/09	13.26
Value Added	-0.85	-0.85	-1.20	-0.35	-0.63			6/30/09	-1.03
Real Estate Composite									
Net of Fee Return	**4.37**	**4.37**	**-0.79**	**5.11**	**7.02**			**6/30/09**	**12.23**
FTSE EPRA/NAREIT Dev (N)	5.23	5.23	0.41	5.47	7.65			6/30/09	13.26
Value Added	-0.85	-0.85	-1.20	-0.35	-0.63			6/30/09	-1.03

CBRE Clarion

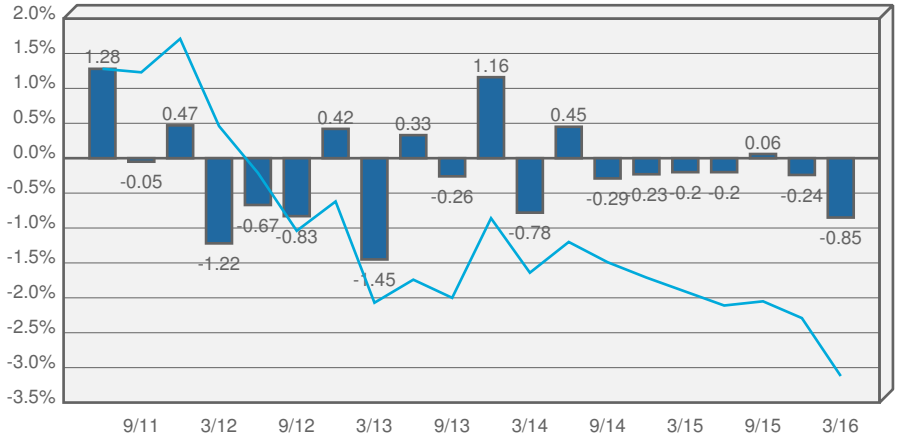
March 31, 2016

Cumulative Skill Analysis vs Benchmark

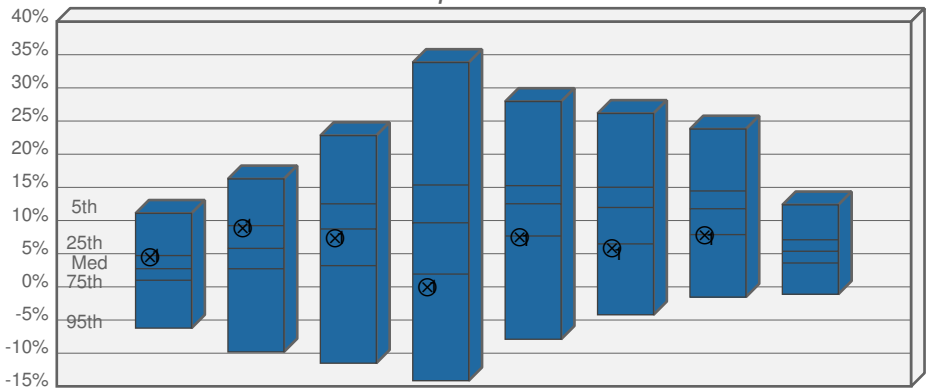


Excess Return:	**-0.58**	**Information Ratio:**	**-0.43**
Excess Risk:	**1.36**	**T-Stat:**	**-0.95**

Value-Added Analysis vs Benchmark

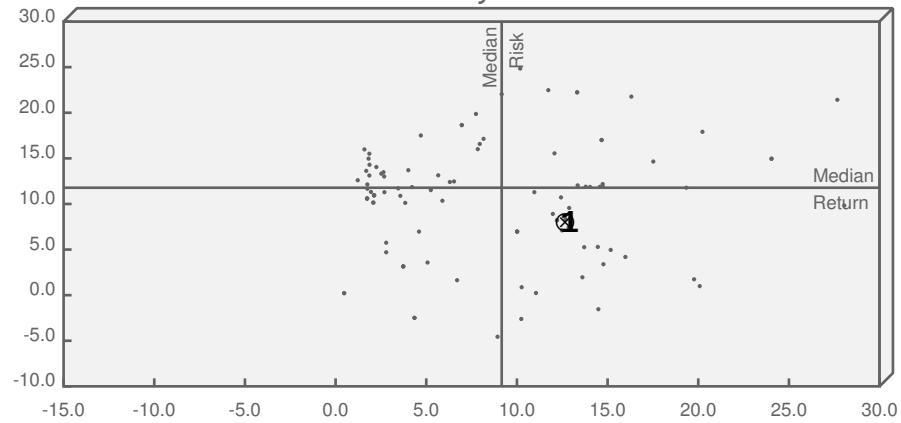


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗ CBRE Clarion	4.58 (27)	8.91 (26)	7.42 (58)	-0.00 (81)	7.54 (77)	5.91 (80)	7.82 (75)	
1 FTSE EPRA/NAR	5.23 (21)	9.64 (21)	7.85 (55)	0.41 (79)	7.54 (77)	5.47 (80)	7.65 (76)	
Median	2.74	5.80	8.73	9.66	12.53	11.97	11.78	5.37
Number of Funds	379	406	406	387	379	337	282	126

Five Year Risk/Return Analysis vs Peer Universe*



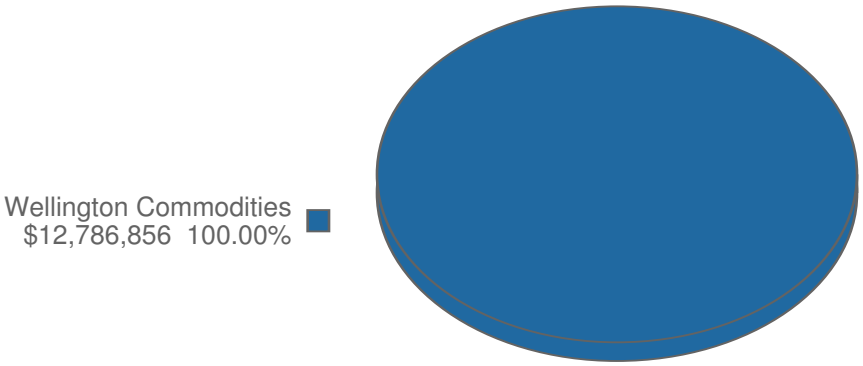
Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
CBRE Clarion	⊗	7.82	75	12.90	34
FTSE EPRA/NAREIT Dev (N)	1	7.65	76	13.19	32
Median		11.78		9.16	

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

Commodities

Commodities Composite

As of March 31, 2016



Trailing Returns

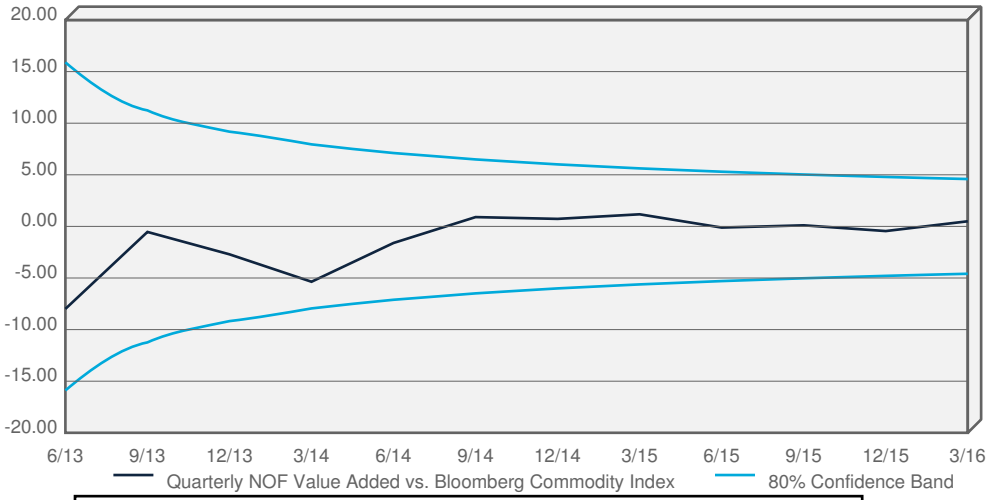
Periods Ended March 31, 2016

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Wellington Commodities									
Net of Fee Return	**3.20**	**3.20**	**-20.24**	**-16.45**				**3/31/13**	**-16.45**
Bloomberg Commodity Index	0.42	0.42	-19.56	-16.86				3/31/13	-16.86
Value Added	2.78	2.78	-0.68	0.41				3/31/13	0.41
Commodities Composite									
Net of Fee Return	**3.20**	**3.20**	**-20.24**	**-16.45**				**3/31/13**	**-16.45**
Bloomberg Commodity Index	0.42	0.42	-19.56	-16.86				3/31/13	-16.86
Value Added	2.78	2.78	-0.68	0.41				3/31/13	0.41

Wellington Commodities

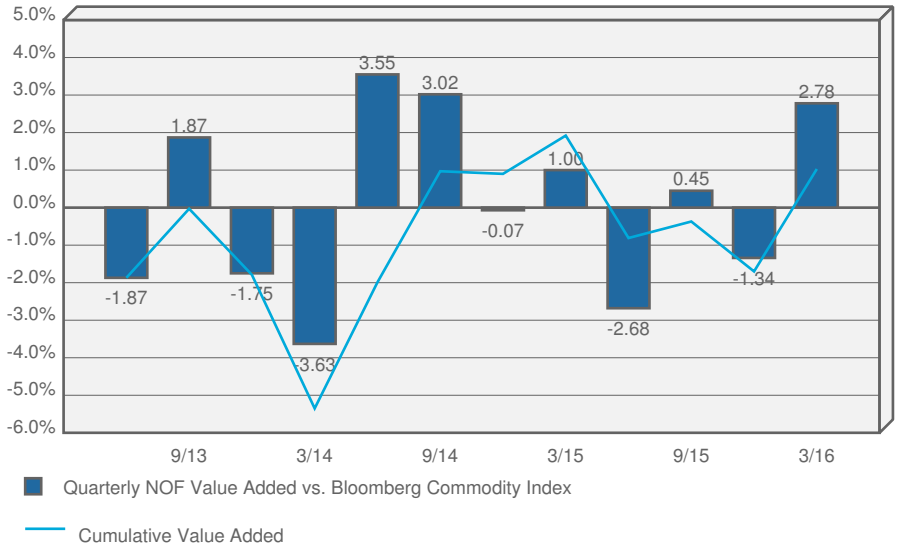
March 31, 2016

Cumulative Skill Analysis vs Benchmark



Excess Return:	**0.50**	**Information Ratio:**	**0.10**
Excess Risk:	**4.83**	**T-Stat:**	**0.18**

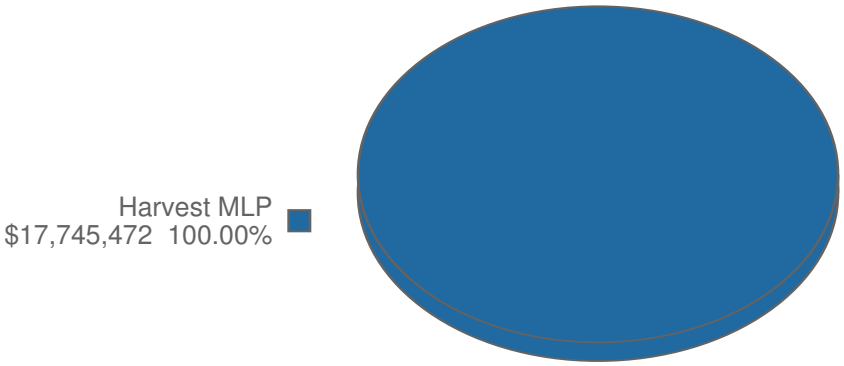
Value-Added Analysis vs Benchmark



MLP

MLP Composite

As of March 31, 2016



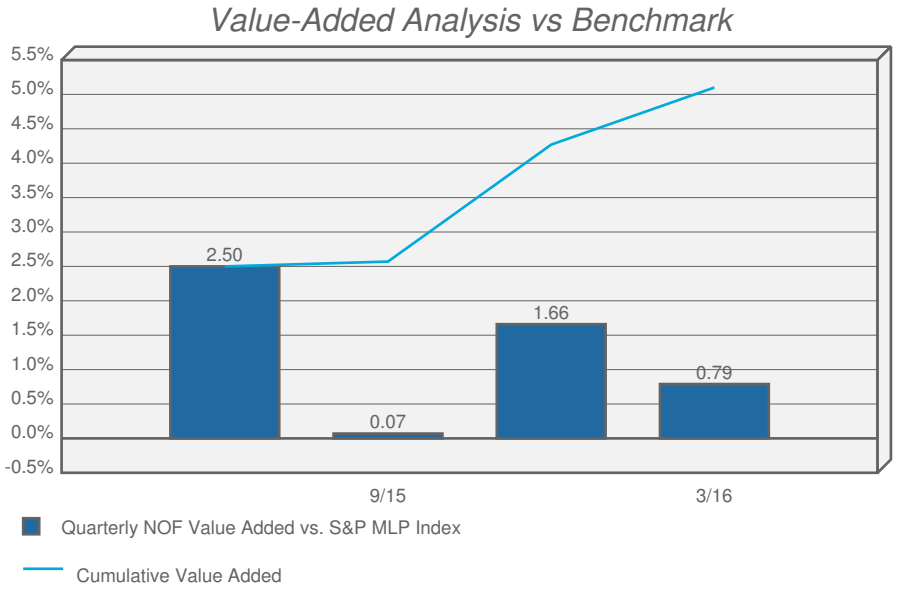
Trailing Returns

Periods Ended March 31, 2016

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Harvest MLP									
Net of Fee Return	**-5.54**	**-5.54**	**-33.79**					**3/31/15**	**-33.79**
S&P MLP Index	-6.33	-6.33	-37.21					3/31/15	-37.21
Value Added	0.79	0.79	3.42					3/31/15	3.42
MLP Composite									
Net of Fee Return	**-5.54**	**-5.54**	**-33.79**					**3/31/15**	**-33.79**
S&P MLP Index	-6.33	-6.33	-37.21					3/31/15	-37.21
Value Added	0.79	0.79	3.42					3/31/15	3.42

Harvest MLP

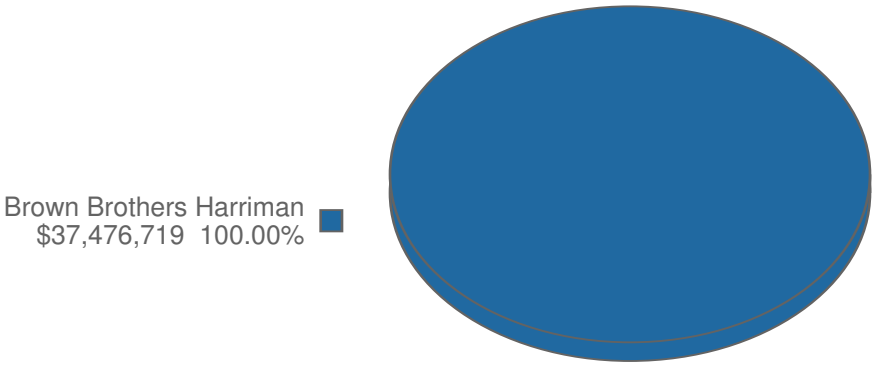
March 31, 2016



TIPS

TIPS Composite

As of March 31, 2016



Trailing Returns

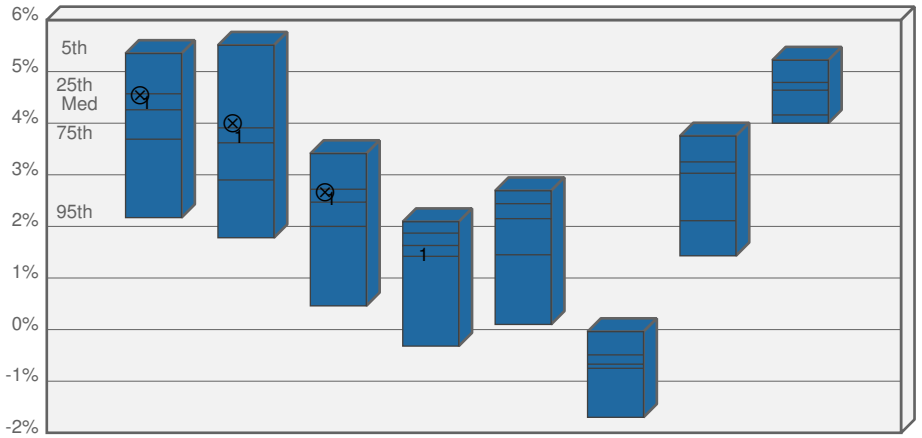
Periods Ended March 31, 2016

	1 Qtr	YTD	1 Year	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Incept Date	Incept Ret
Brown Brothers Harriman									
Net of Fee Return	**4.55**	**4.55**						**6/30/15**	**2.68**
Barclays U.S. TIPS	4.46	4.46						6/30/15	2.60
Value Added	0.09	0.09						6/30/15	0.08
TIPS Composite									
Net of Fee Return	**4.55**	**4.55**						**6/30/15**	**2.68**
Barclays U.S. TIPS	4.46	4.46						6/30/15	2.60
Value Added	0.09	0.09						6/30/15	0.08

Brown Brothers Harriman

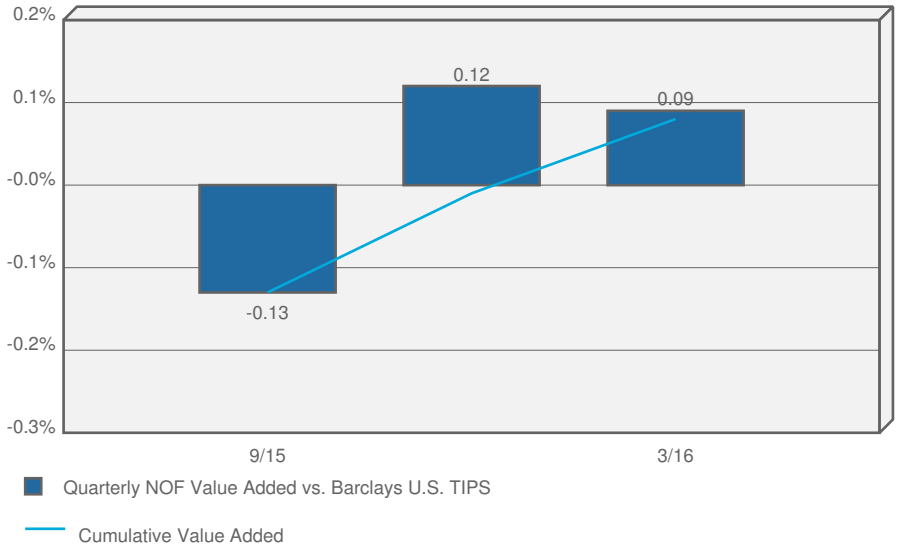
March 31, 2016

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
⊗Brown Brothers	4.55 (27)	4.01 (18)	2.68 (29)					
1 Barclays U.S.	4.46 (35)	3.79 (43)	2.60 (40)	1.51 (59)				
Median	4.26	3.62	2.47	1.63	2.15	-0.67	3.03	4.64
Number of Funds	37	37	37	37	37	37	35	22

Value-Added Analysis vs Benchmark



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

Private Equity

Private Partnerships

As of March 31, 2016

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%	$492,391	1.57	14.31%
Adams Street Non-US Dev. 2010 Fund	$1,500,000	April 27, 2010	$805,879	54%	$88,573	6%	$875,231	1.20	6.21%
Adams Street Non-US EM 2010 Fund	$500,000	January 3, 2011	$341,170	68%	$0	0%	$434,243	1.27	10.15%
Adams Street US 2010 Fund	$2,500,000	April 27, 2010	$1,222,912	49%	$104,933	4%	$1,847,872	1.60	14.05%
Adams Street 2013 Global Fund	$5,000,000	July 3, 2013	$2,100,813	42%	$0	0%	$2,189,313	1.04	3.02%
Aberdeen Global Partners	$5,000,000	January 17, 2012	$3,200,000	64%	$417,490	8%	$3,220,043	1.14	6.74%
Adams Street 2015 Global	$6,500,000	September 30, 2015	$299,000	5%	$0	0%	$345,603	1.16	--
Alternative Investments Composite	**$21,500,000**	**April 27, 2010**	**$8,428,510**	**39%**	**$839,853**	**4%**	**$9,404,696**	**1.22**	**9.18%**

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

Capital Market Review

Market Commentary

U.S. Equity

The U.S. stock market was up for the first quarter of 2016 by 1.17%. The year did not begin in a positive direction, and the index fell -9% during the first dozen trading days. The market eventually rallied 14% from its trough as concerns over the ways a weak global economy might affect the U.S. were met with sound economic data and aggressive action by some of the world's major central banks. In January, the Bank of Japan joined the European Central Bank in adopting a negative interest rate, actually charging banks to hold cash with them overnight.

Large capitalization stocks outperformed smaller shares during the quarter while growth stocks trailed value. Sector performance was mostly positive except for the Financials and Health Care sectors. The three best performing sectors were Utilities, Telecom and Consumer Staples, up 15.3%, 14.6% and 5.4%, respectively.

The yield curve fell sharply this quarter and flattened with the 10-Year Treasury hitting a low point of 1.6%, 20 basis points higher than its low in 2012. While a flat to inverted yield curve is thought to be a potential indication of a looming recession, the current period of a next-to-zero Fed Funds Rate makes such a signal less valuable. The 2012 and 2016 environments are the flattest the curve has been during the post-credit crisis era.

Non-U.S. Equity

The long decline in crude oil finally found a floor in February, providing a bit of upward support to highly-volatile global stock markets. Asia-Pacific region stocks yielded wildly varied results, with losses in Japan and China offset by bull markets in smaller countries. Europe's overall economic malaise has been compounded by intense anxiety over the upcoming vote in the U.K. regarding continued participation in the European Union. Finally, uncertainty over U.S. Fed policy led to weakness in the U.S. dollar, lifting returns on non-USD assets for U.S.-based investors.

Fixed Income

U.S. Treasury yields plunged in the first half of the first quarter of 2016 as stock market volatility fed safe-haven trades into longer-term Treasuries. Ten-year Treasuries started the quarter yielding 2.3%, then steadily fell to 1.6% on February 11 before rising to 1.8% by March 31 as equities stabilized. Credit spreads widened in the first half of the quarter in short-lived risk-off trading, but subsequently tightened, boosting returns. U.S. TIPS yielded strong returns in the quarter despite uncertainty over Fed policy and stubbornly-low breakeven inflation.

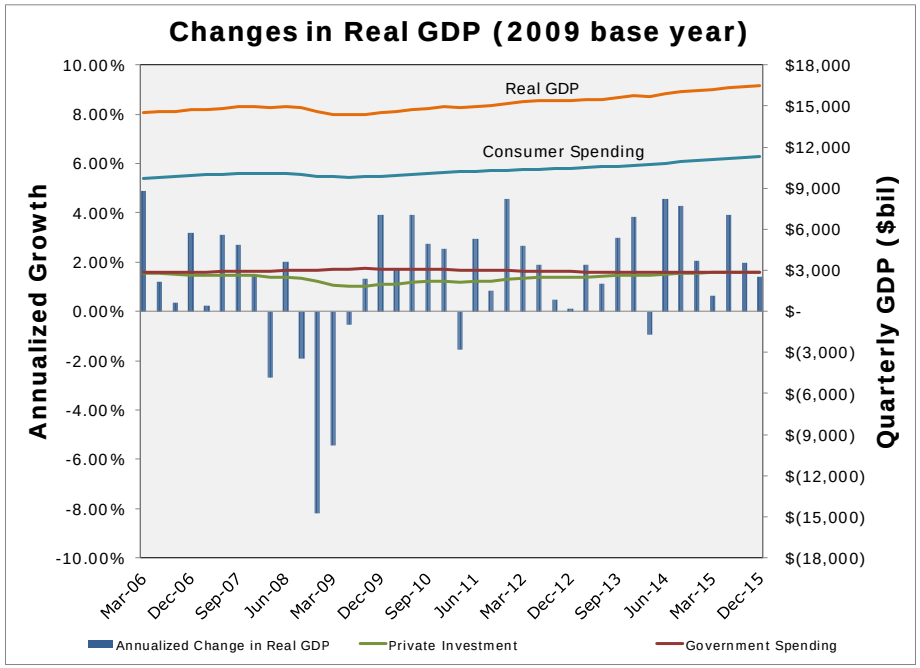
March 2016 Asset Class Assumptions

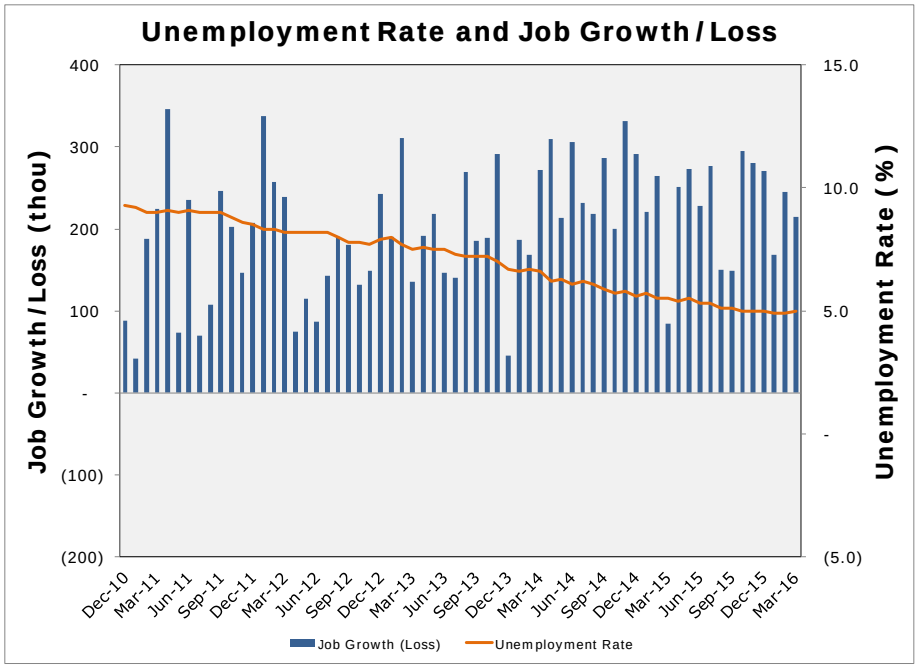
	Total Return (%)			Risk (%)
	Dec. 2015	Q1 2016	Change vs YE	Dec. 2015
Investment Categories:				
U.S. Stocks	6.50	6.50	-	17.00
Dev ex-U.S. Stocks	6.50	6.50	-	18.00
Emerging Mkt Stocks	6.50	6.50	-	26.00
Global Stocks	6.70	6.70	-	17.10
Private Markets	9.50	9.40	(0.10)	27.50
Cash Equivalents	1.25	1.40	0.15	1.25
Core Bonds	3.50	3.10	(0.40)	5.00
LT Core Bonds	4.30	3.65	(0.65)	10.00
TIPS	3.25	2.70	(0.55)	6.00
High Yield Bonds	6.35	6.30	(0.05)	10.00
EMD Local Currency (h)	5.60	5.15	(0.45)	5.00
U.S. RE Securities	5.00	5.00	-	17.00
Private Real Estate	5.80	5.95	0.15	14.00
Commodities	3.55	3.65	0.10	15.00
MLPs	9.65	10.05	0.40	17.00
Real Asset Basket	6.40	6.40	-	8.40
Inflation:	1.55	1.65	0.10	1.75
Returns minus Inflation:				
U.S. Stocks	4.95	4.85	(0.10)	
U.S. Bonds	1.95	1.45	(0.50)	
Cash Equivalents	(0.30)	(0.25)	0.05	
Stocks minus Bonds:	3.00	3.40	0.40	
Bonds minus Cash:	2.25	1.70	(0.55)	

Economic Review

March 31, 2016	Key Economic Indicators			
CPI (all items)	Monthly Change		Cumulative Change	
Seasonally adjusted	Mar-16	0.1	3-Month	-0.1
	Feb-16	-0.2	12-Month	0.9
	Jan-16	0.0	10-Yr Annual	1.8
Breakeven Inflation	10-Year	1.6		
Consumer Sentiment	Mar-16	91.0		
Unv. of Michigan Survey	Feb-16	91.7		
	1-Yr Ago	93.0	10-Yr Avg	77.6
Manufacturing	Mar-16	51.8	Change in Manufacturing Sector	
Inst. for Supply Mgmt	Feb-16	49.5	>50	Expansion
Purchasing Mngrs' Idx	1-Yr Avg	50.5	<50	Contraction

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

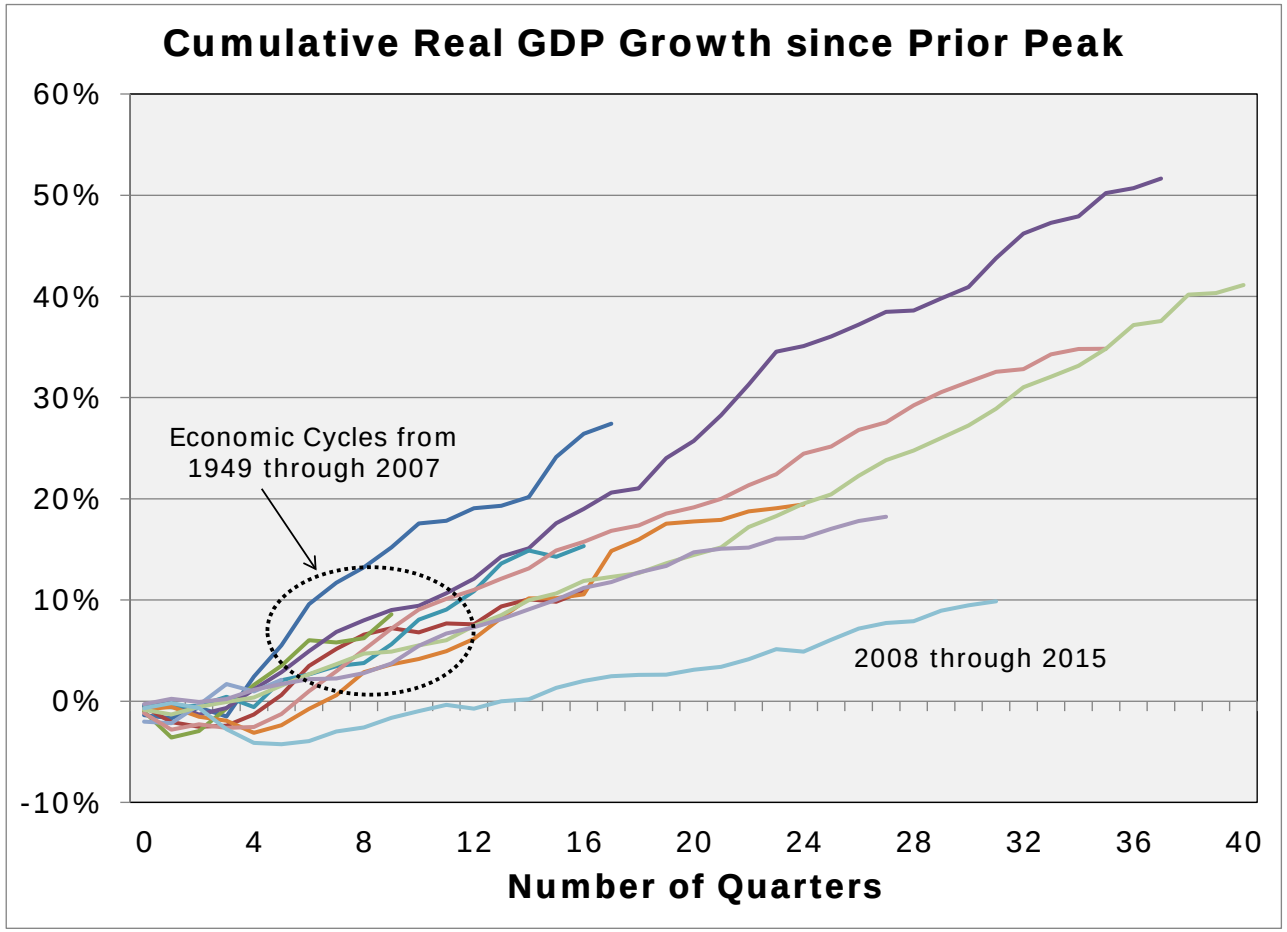




Data sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve Bank of St. Louis, Barclays Capital

Economic Cycles

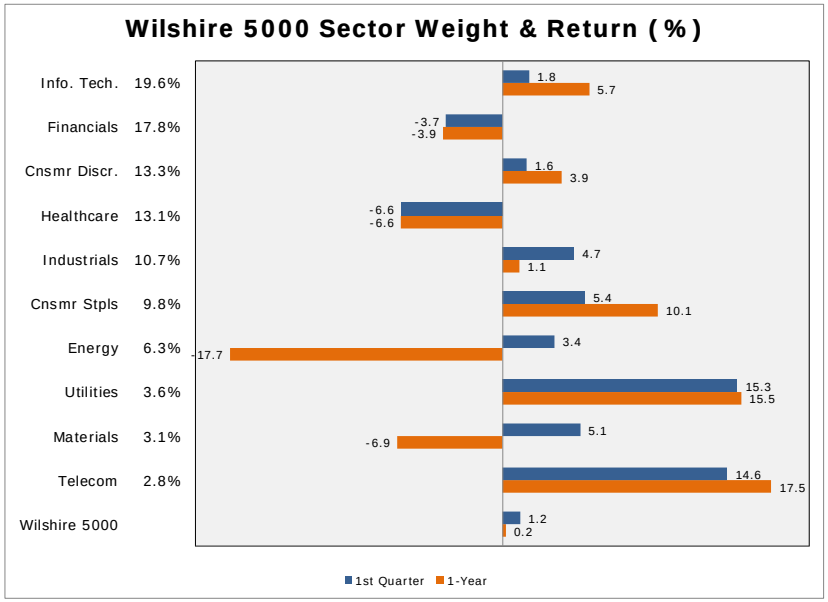
- Recession of 2008-2009 was the worst in 70 years
- Following recovery has been among the weakest during that time
- Total duration of cycle is now at 8 years

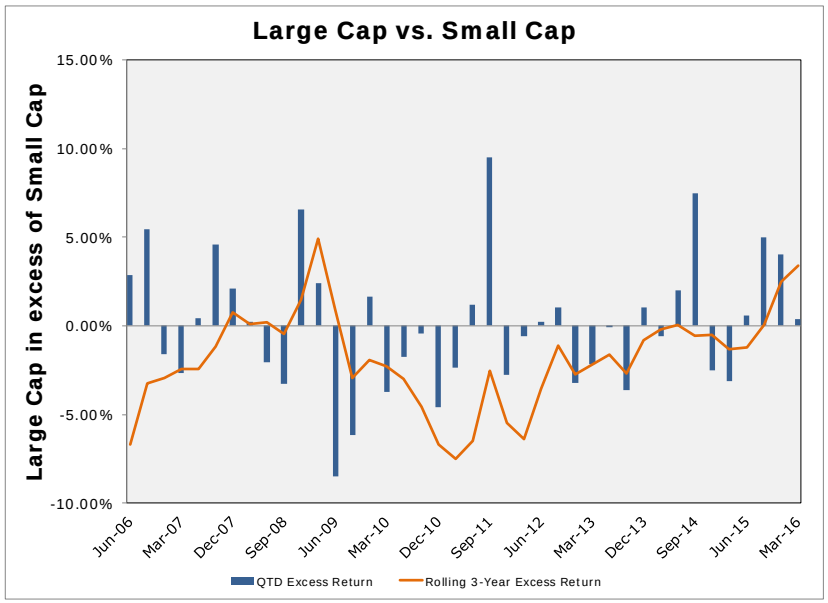


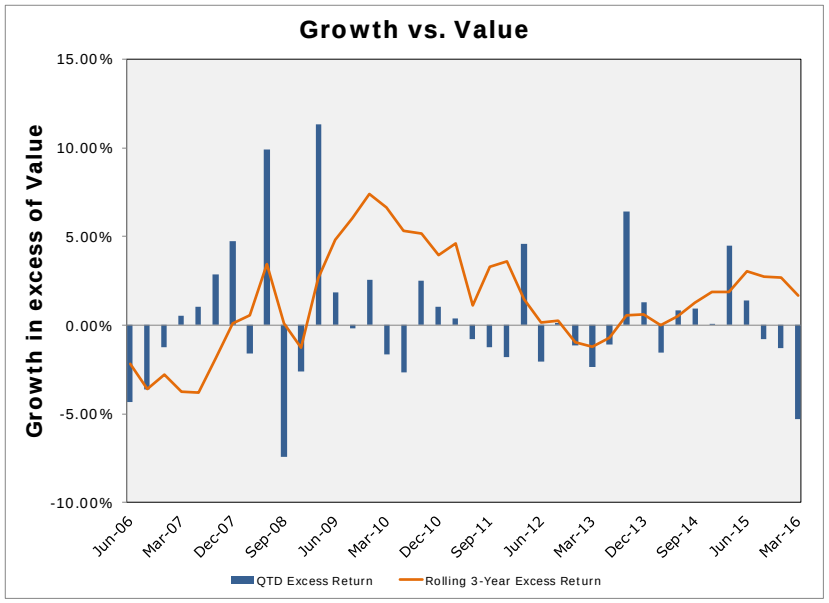
Source: Bureau of Economic Analysis, Recession dates as defined by the National Bureau of Economic Research

U.S. Equity Market

March 31, 2016	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Wilshire 5000	1.2	1.2	0.2	11.3	11.0	7.0
Wilshire U.S. Large Cap	1.3	1.3	1.3	11.6	11.3	7.0
Wilshire U.S. Small Cap	0.9	0.9	-8.2	8.0	8.5	7.0
Wilshire U.S. Large Growth	-1.7	-1.7	-1.9	12.8	11.4	7.7
Wilshire U.S. Large Value	3.7	3.7	3.9	10.6	11.2	6.3
Wilshire U.S. Small Growth	-2.8	-2.8	-12.9	7.1	7.6	6.8
Wilshire U.S. Small Value	4.1	4.1	-3.8	8.8	9.4	7.1
Wilshire REIT Index	5.2	5.2	4.8	11.1	12.1	6.3
MSCI USA Minimum Volatility Index	5.5	5.5	8.2	12.1	13.5	8.1
FTSE RAFI U.S. 1000 Index	2.0	2.0	-0.9	10.4	10.9	7.9



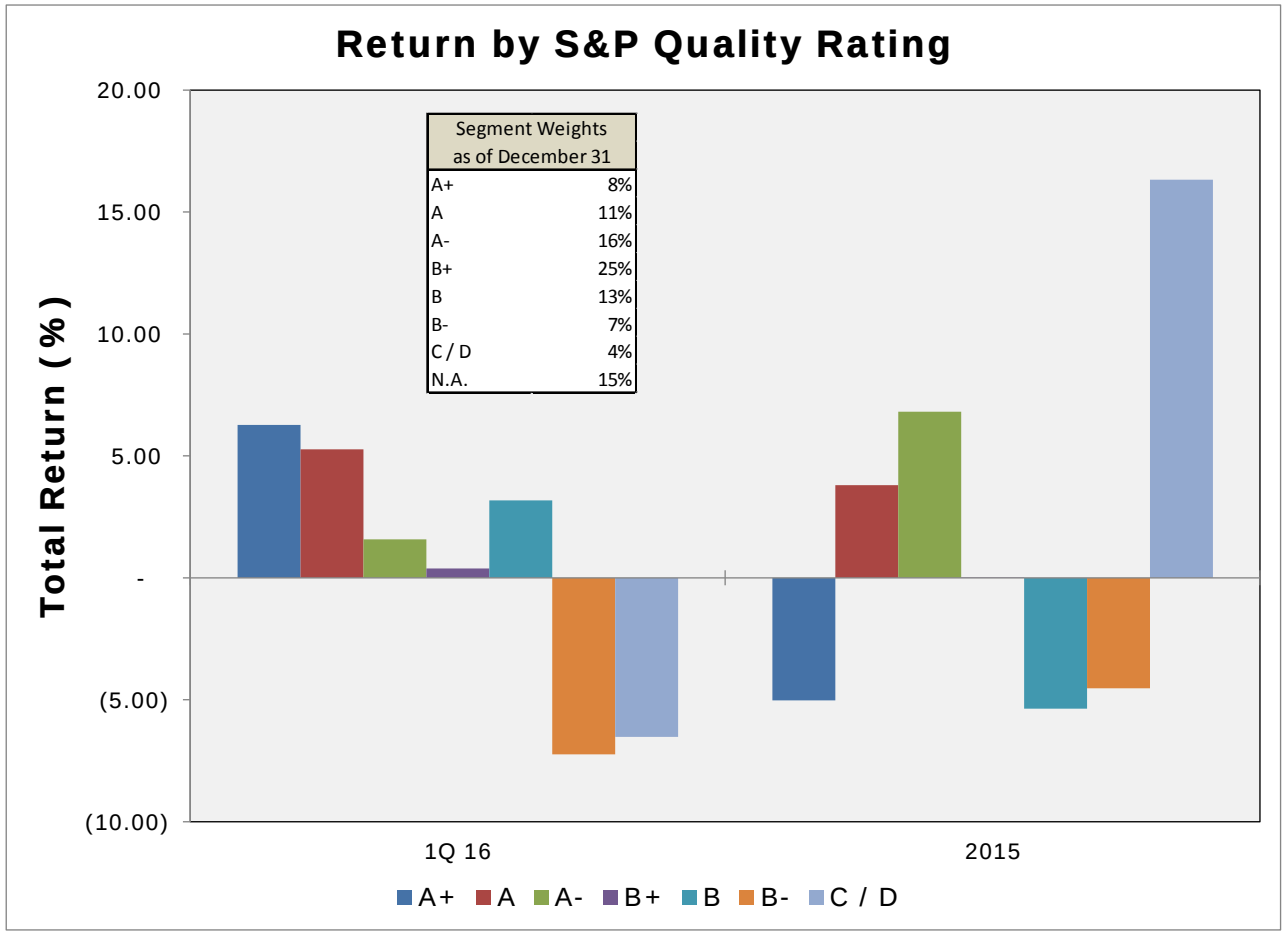




Data sources: Wilshire Compass, Wilshire Atlas

Returns by Quality Segment

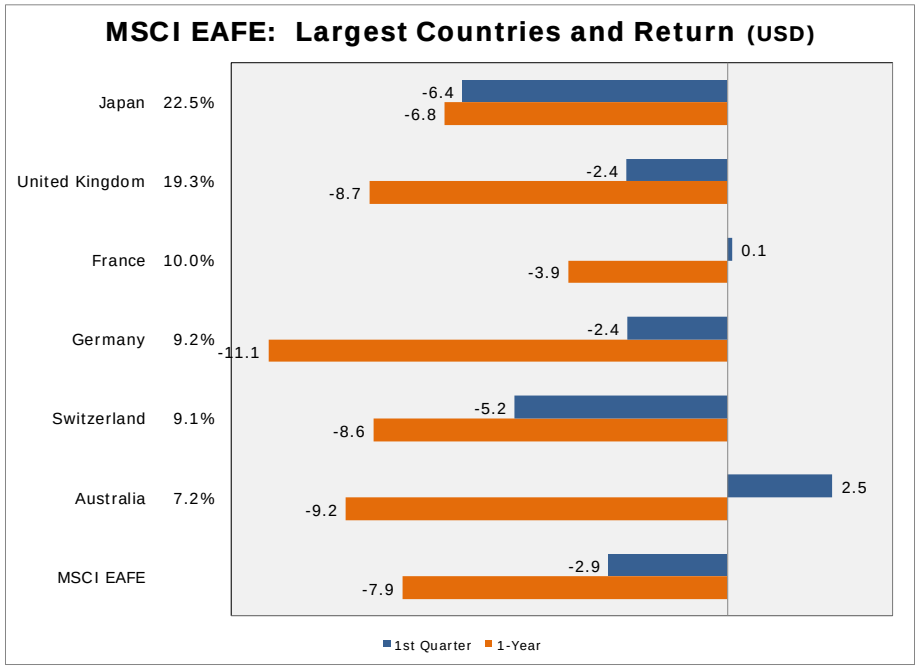
Returns decreased with quality to begin 2016 with A+ and A rated names leading the pack

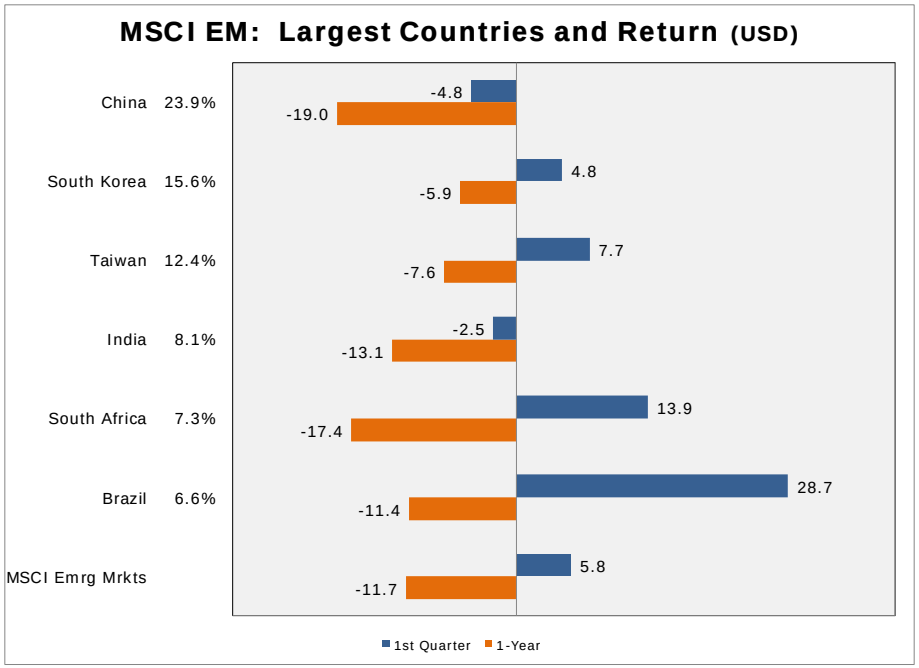


Data sources: Wilshire Atlas

Non-U.S. Equity Market

March 31, 2016	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
MSCI ACWI ex-US ($g)	-0.3	-0.3	-8.8	0.8	0.8	2.4
MSCI EAFE ($g)	-2.9	-2.9	-7.9	2.7	2.8	2.3
MSCI Emerging Markets ($g)	5.8	5.8	-11.7	-4.2	-3.8	3.3
MSCI Frontier Markets ($g)	-0.8	-0.8	-12.1	2.2	1.7	-0.3
MSCI ACWI ex-US Growth ($g)	-0.2	-0.2	-5.8	2.3	2.0	3.1
MSCI ACWI ex-US Value ($g)	-0.3	-0.3	-11.8	-0.8	-0.5	1.7
MSCI ACWI ex-US Small ($g)	0.8	0.8	-0.3	4.0	2.8	4.3
MSCI EAFE Minimum Volatility Idx	2.2	2.2	4.0	7.2	8.4	6.7
FTSE RAFI Developed ex-US Index	-2.5	-2.5	-10.3	2.5	0.9	2.6
MSCI EAFE LC (g)	-6.4	-6.4	-10.8	6.9	6.7	2.2
MSCI Emerging Markets LC (g)	2.8	2.8	-7.3	2.3	1.7	5.7

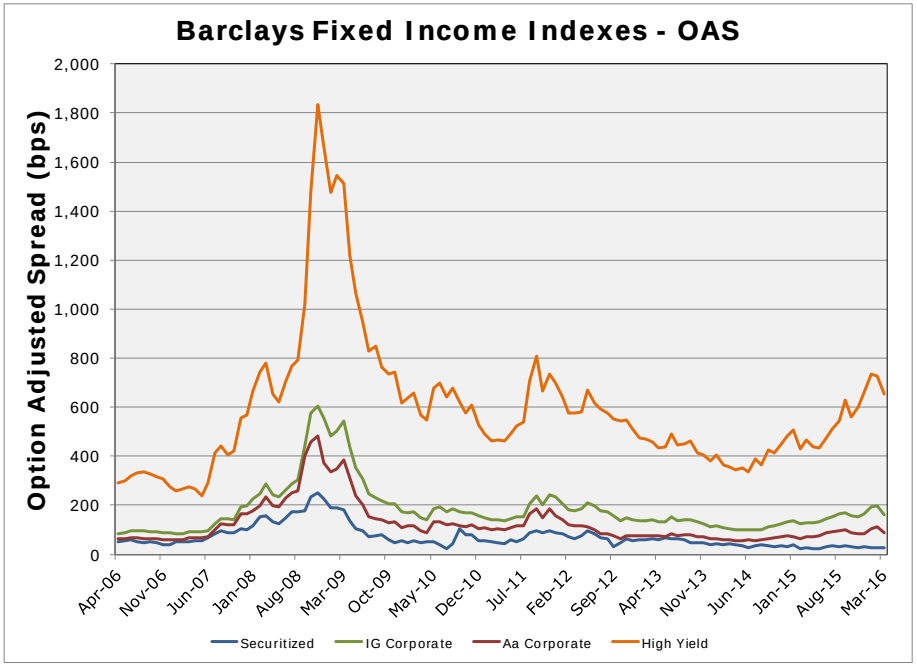


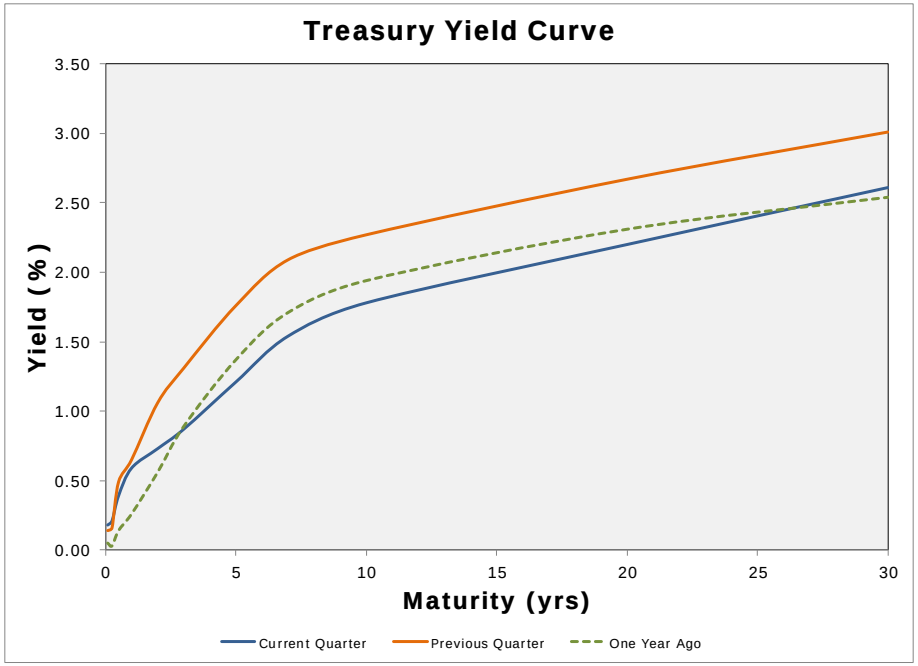


Data sources: Wilshire Compass

U.S. Fixed Income Market

March 31, 2016	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Barclays Aggregate Bond Index	3.0	3.0	2.0	2.5	3.8	4.9
Barclays Treasury Index	3.2	3.2	2.4	2.1	3.6	4.6
Barclays Govt-Related Index	3.1	3.1	1.3	2.1	3.4	4.6
Barclays Securitized Index	2.1	2.1	2.4	2.7	3.3	4.8
Barclays Corporate IG Index	4.0	4.0	0.9	3.0	5.2	5.8
Barclays LT Govt/Credit Index	7.3	7.3	0.4	4.8	8.5	7.6
Barclays LT Treasury Index	8.2	8.2	2.8	6.1	9.7	8.0
Barclays LT Govt-Related Index	6.7	6.7	0.4	3.8	8.1	7.5
Barclays LT Corporate IG Index	6.8	6.8	-1.3	4.3	7.7	7.2
Barclays U.S. TIPS Index	4.5	4.5	1.5	-0.7	3.0	4.6
Barclays High Yield Index	3.4	3.4	-3.7	1.8	4.9	7.0
Treasury Bills	0.1	0.1	0.1	0.1	0.1	1.1

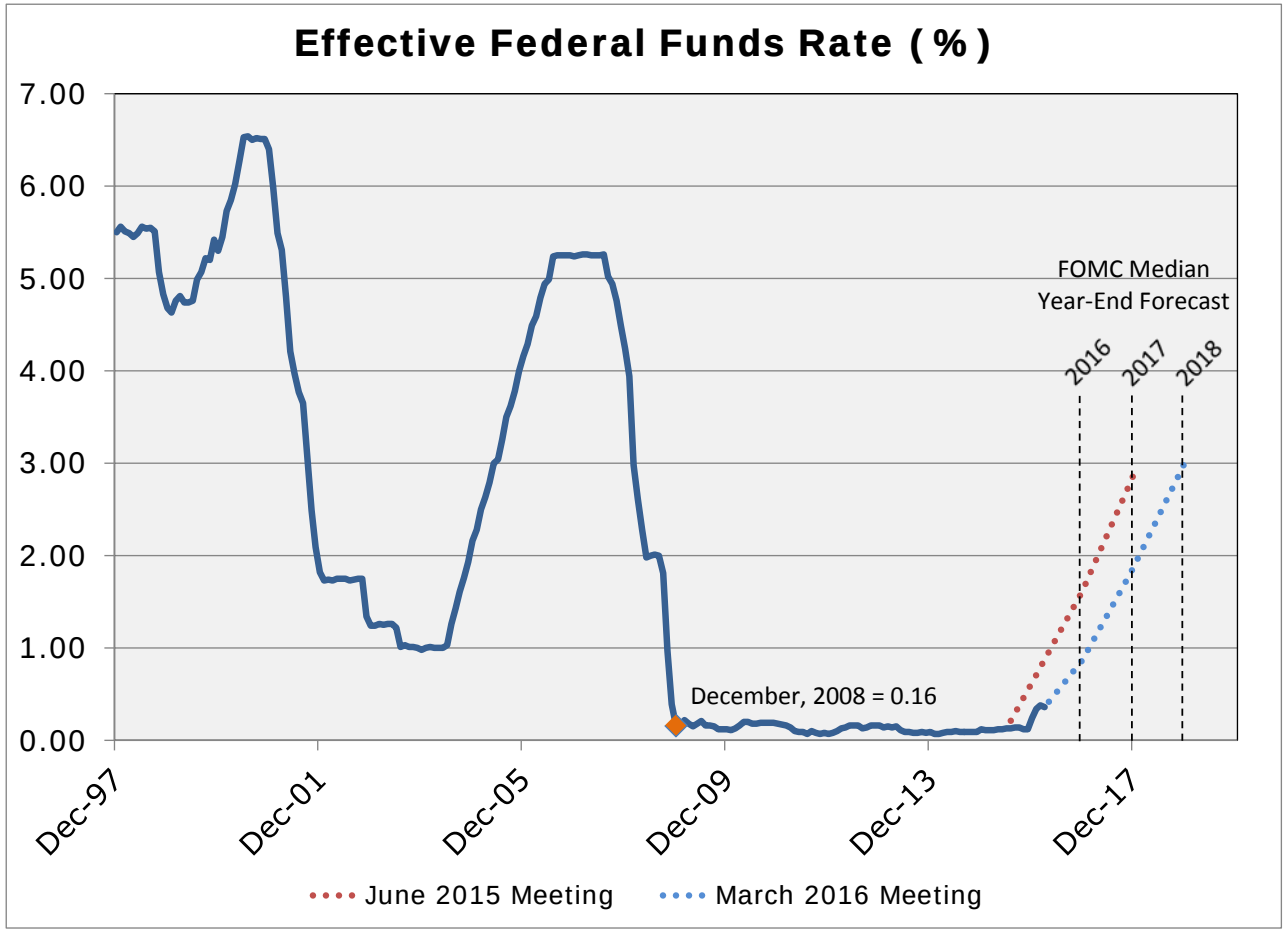




Data sources: Wilshire Compass, Barclays Capital, U.S. Treasury

Federal Reserve

- As expected, the Federal Reserve raised the Fed Funds Rate 0.25% in December
- Median forecast by Open Market Committee members has been declining
- Forecast for year-end 2016 has gone from 1.6% in June to 0.9% in March

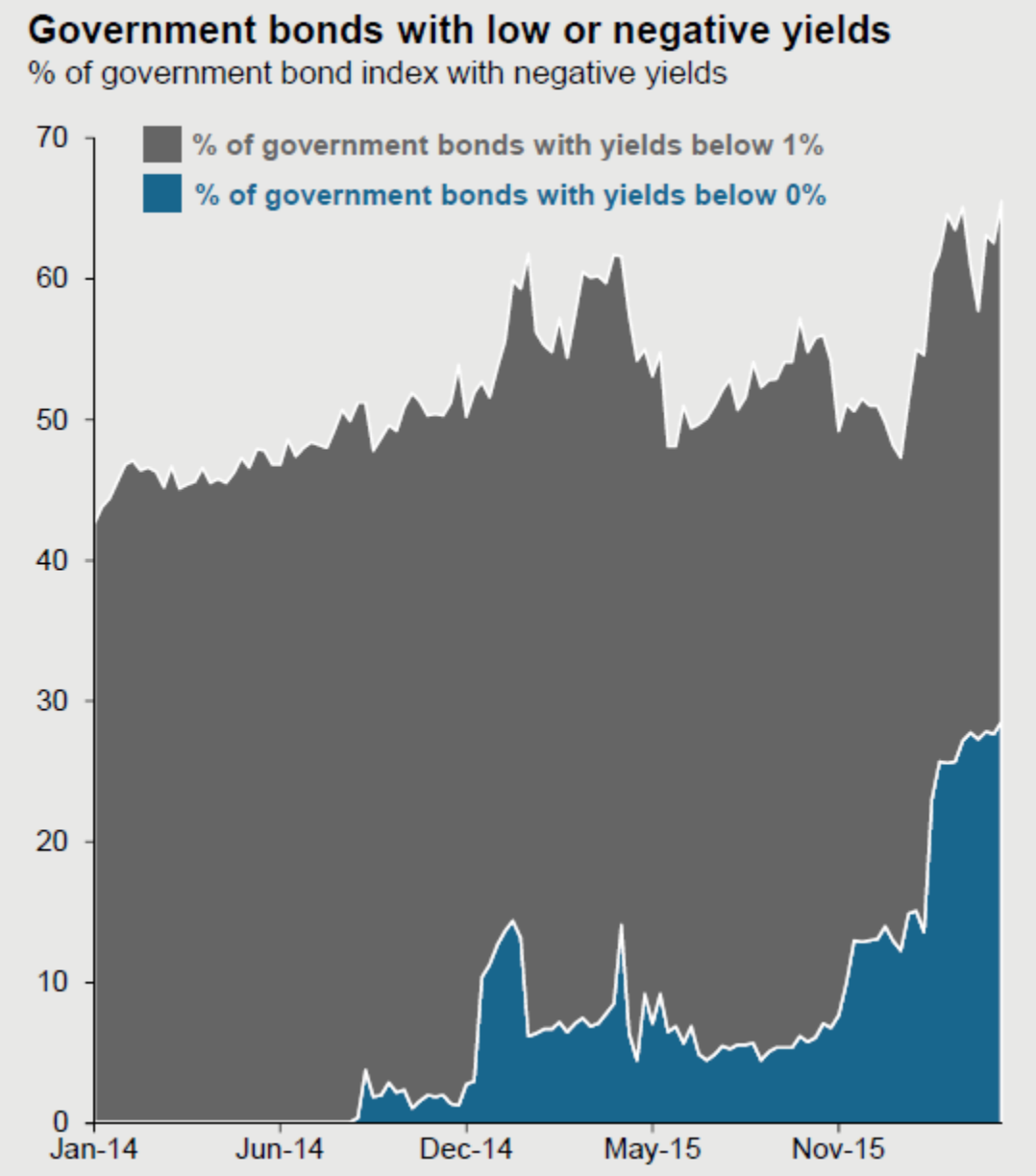


Source: Federal Reserve

Global Fixed Income

- In January, the Bank of Japan joined the European Central Bank in adopting a negative interest rate, actually charging banks to hold cash with them overnight

- Other countries with negative rates include Sweden, Denmark and Switzerland

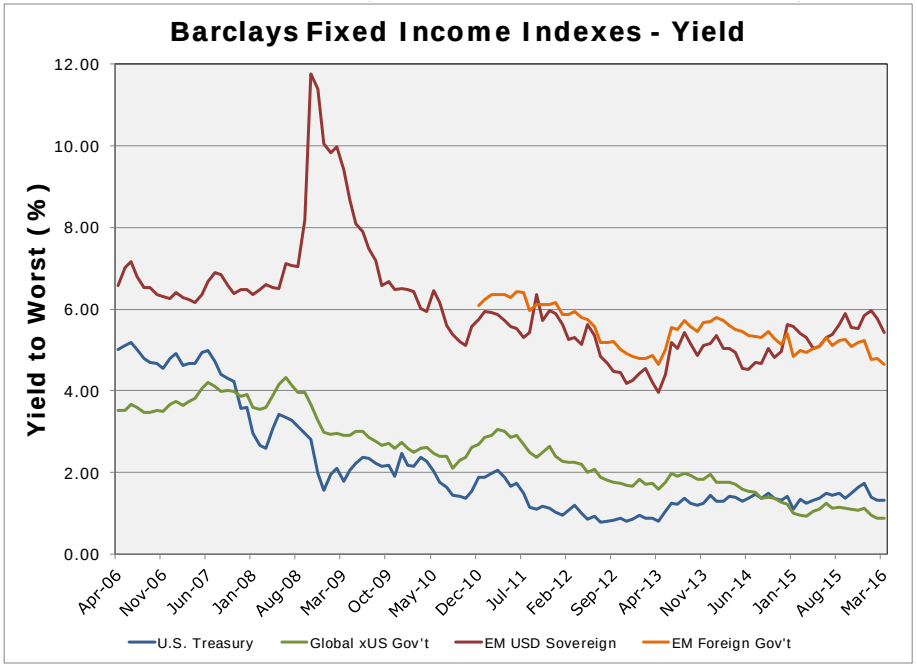


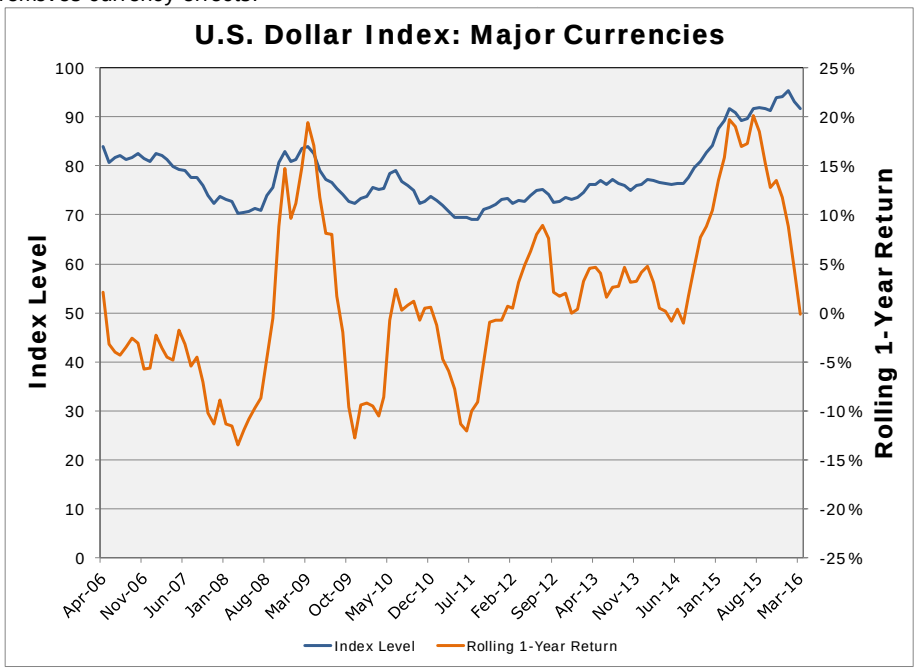
Source: J.P. Morgan

Non-U.S. Fixed Income Market

March 31, 2016	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Developed Markets						
Barclays Global Aggregate xUS	8.3	8.3	6.7	-0.3	0.4	3.9
Barclays Global Aggregate xUS *	3.5	3.5	2.8	4.6	5.2	4.7
Barclays Wrld Govt xUS IL Bond	4.9	4.9	0.7	0.4	2.1	4.4
Barclays Wrld Govt xUS IL Bond *	3.6	3.6	-0.2	3.5	5.7	5.0
Emerging Mrkts (Hard Currency)						
Barclays EM USD Aggregate	4.5	4.5	3.5	2.6	5.7	7.1
Emerging Mrkts (Foreign Currency)						
Barclays EM Local Currency Govt	8.6	8.6	0.1	-3.0	0.5	n.a.
Barclays EM Local Currency Govt *	3.2	3.2	1.9	1.5	3.4	n.a.
Euro vs. Dollar	4.9	4.9	6.1	-3.9	-4.3	-0.6
Yen vs. Dollar	7.0	7.0	6.7	-5.8	-5.9	0.5
Pound vs. Dollar	-2.5	-2.5	-3.2	-1.8	-2.2	-1.9

* Returns are reported in terms of local market investors, which removes currency effects.



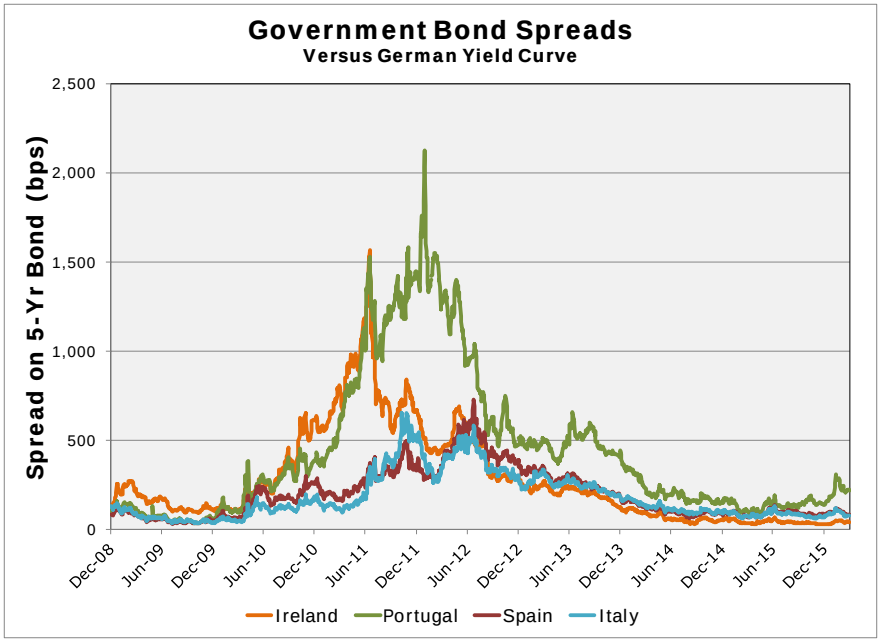


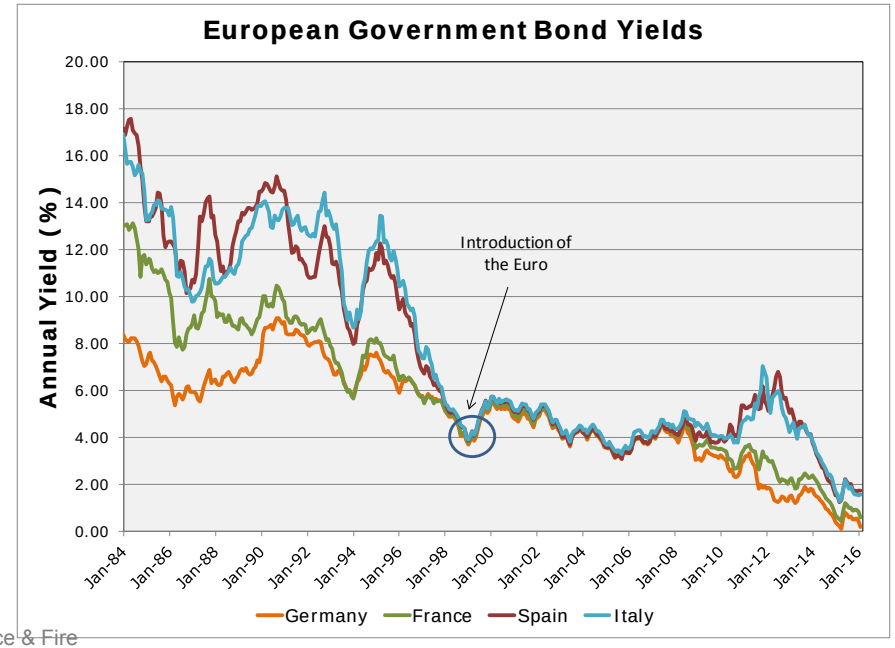
Data sources: Wilshire Compass, Barclays Capital

European Debt

- Little widening occurring in the secondary European markets

- Yields on government bonds are again falling after a brief uptick

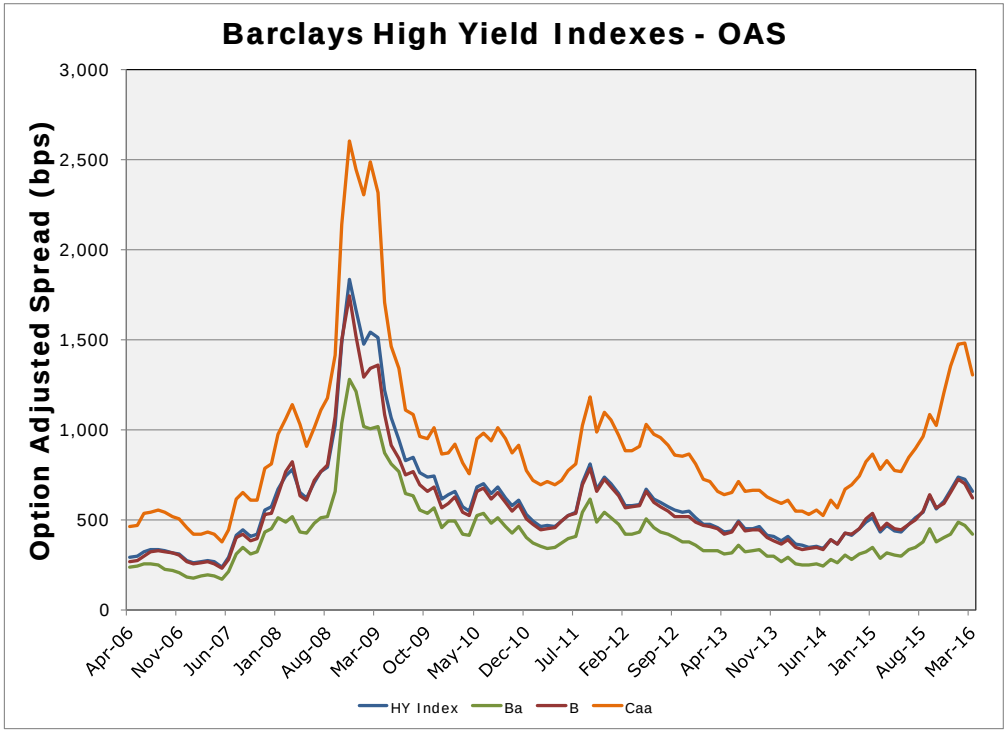




Source: Barclays Capital, International Monetary Fund

High Yield Bond Market

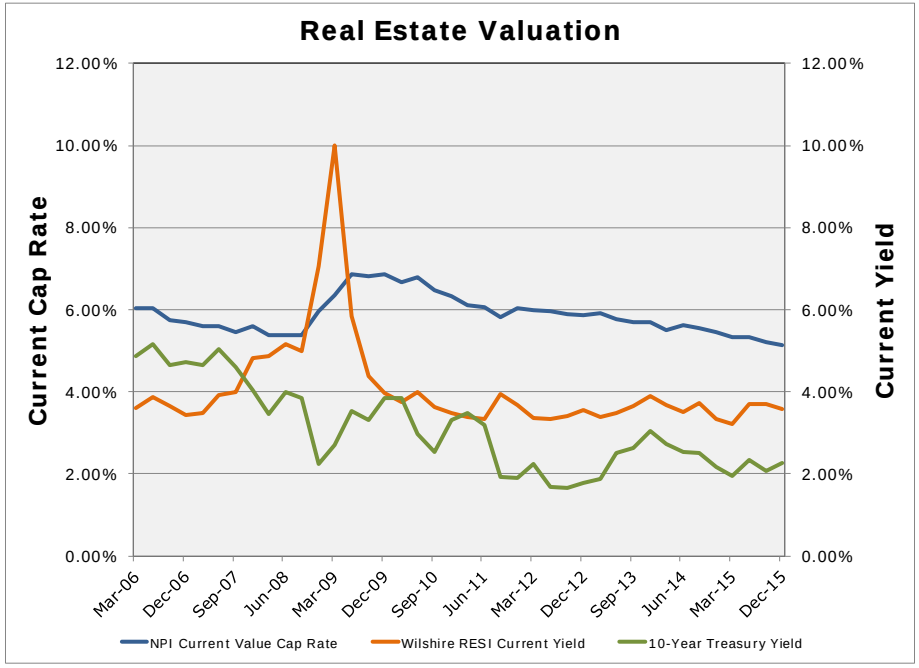
March 31, 2016	Weight	Qtr	Ytd	1 Yr	3 Yr
Barclays High Yield Index	100%	3.4	3.4	-3.7	1.8
Quality Distribution					
Ba U.S. High Yield	46.2%	3.9	3.9	0.1	3.7
B U.S. High Yield	38.0%	2.5	2.5	-4.9	1.1
Caa U.S. High Yield	14.8%	3.8	3.8	-10.6	-1.0
Ca to D U.S. High Yield	0.8%	4.7	4.7	-52.8	-33.2
Non-Rated U.S. High Yield	0.1%	-3.6	-3.6	-19.3	-5.7

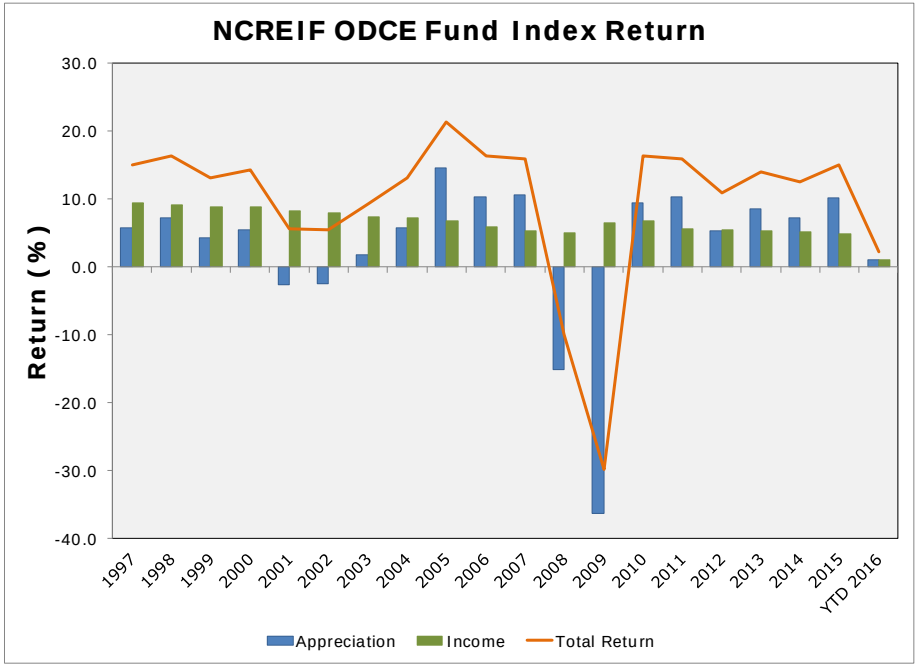


Data sources: Barclays Capital

Real Assets

March 31, 2016	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Barclays U.S. TIPS Index	4.5	4.5	1.5	-0.7	3.0	4.6
Bloomberg Commodity Index	0.4	0.4	-19.6	-16.9	-14.1	-6.2
Wilshire Global RESI Index	5.4	5.4	2.4	7.7	9.9	5.5
NCREIF ODCE Fund Index	2.2	2.2	13.7	13.6	13.3	6.4
NCREIF Timberland Index	-0.3	-0.3	2.9	7.7	6.6	6.6
Alerian MLP Index (Oil & Gas)	-4.2	-4.2	-31.8	-10.3	-0.6	7.7





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

Asset Class Performance

Annual Asset Class Returns - Best to Worst

2011	2012	2013	2014	2015	**YTD 2016**
MLPs 13.9%	Emrg Mrkts 18.6%	U.S. Equity 33.1%	REITs 31.8%	REITs 4.2%	Emrg Mrkts 5.8%
U.S. TIPS 13.6%	Developed 17.9%	MLPs 27.6%	U.S. Equity 12.7%	U.S. Equity 0.7%	REITs 5.2%
REITs 9.2%	REITs 17.6%	Developed 23.3%	Core Bond 6.0%	Core Bond 0.6%	U.S. TIPS 4.5%
Core Bond 7.8%	U.S. Equity 16.1%	High Yield 7.4%	MLPs 4.8%	T-Bills 0.1%	High Yield 3.4%
High Yield 5.0%	High Yield 15.8%	REITs 1.9%	U.S. TIPS 3.6%	Developed -0.4%	Core Bond 3.0%
U.S. Equity 1.0%	U.S. TIPS 7.0%	T-Bills 0.1%	High Yield 2.5%	U.S. TIPS -1.4%	U.S. Equity 1.2%
T-Bills 0.1%	MLPs 4.8%	Core Bond -2.0%	T-Bills 0.0%	High Yield -4.5%	Commodities 0.4%
Developed -11.7%	Core Bond 4.2%	Emrg Mrkts -2.3%	Emrg Mrkts -1.8%	Emrg Mrkts -14.6%	T-Bills 0.1%
Commodities -13.3%	T-Bills 0.1%	U.S. TIPS -8.6%	Developed -4.5%	Commodities -24.7%	Developed -2.9%
Emrg Mrkts -18.2%	Commodities -1.0%	Commodities -9.5%	Commodities -17.0%	MLPs -32.6%	MLPs -4.2%

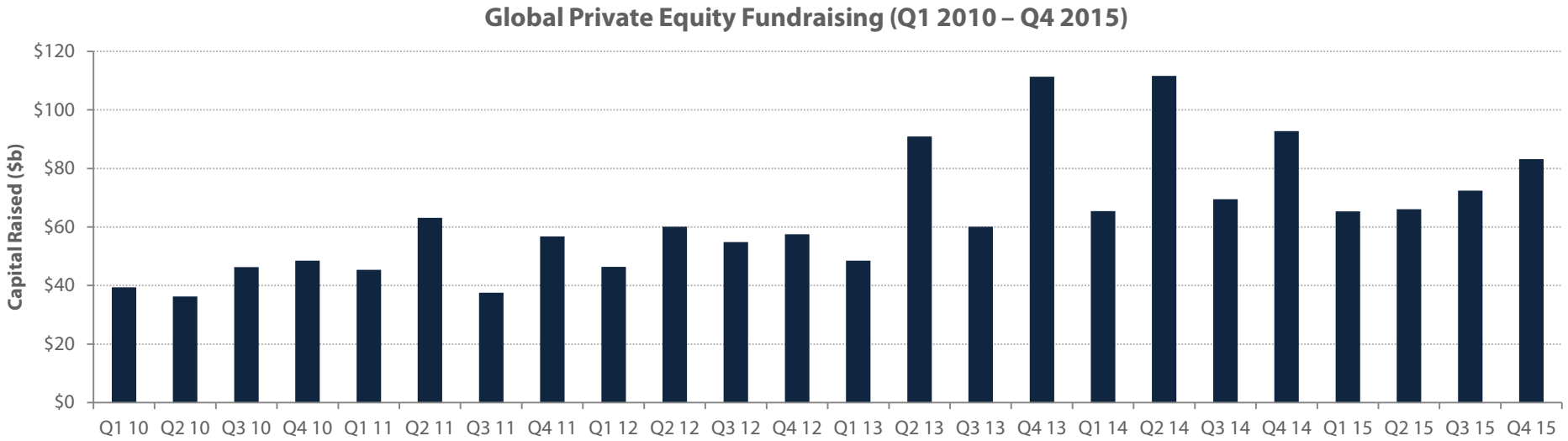
Annualized 5-Year as of Mar. '16
REITs 12.1%
U.S. Equity 11.0%
High Yield 4.9%
Core Bond 3.8%
U.S. TIPS 3.0%
Developed 2.8%
T-Bills 0.1%
MLPs -0.6%
Emrg Mrkts -3.8%
Commodities -14.1%

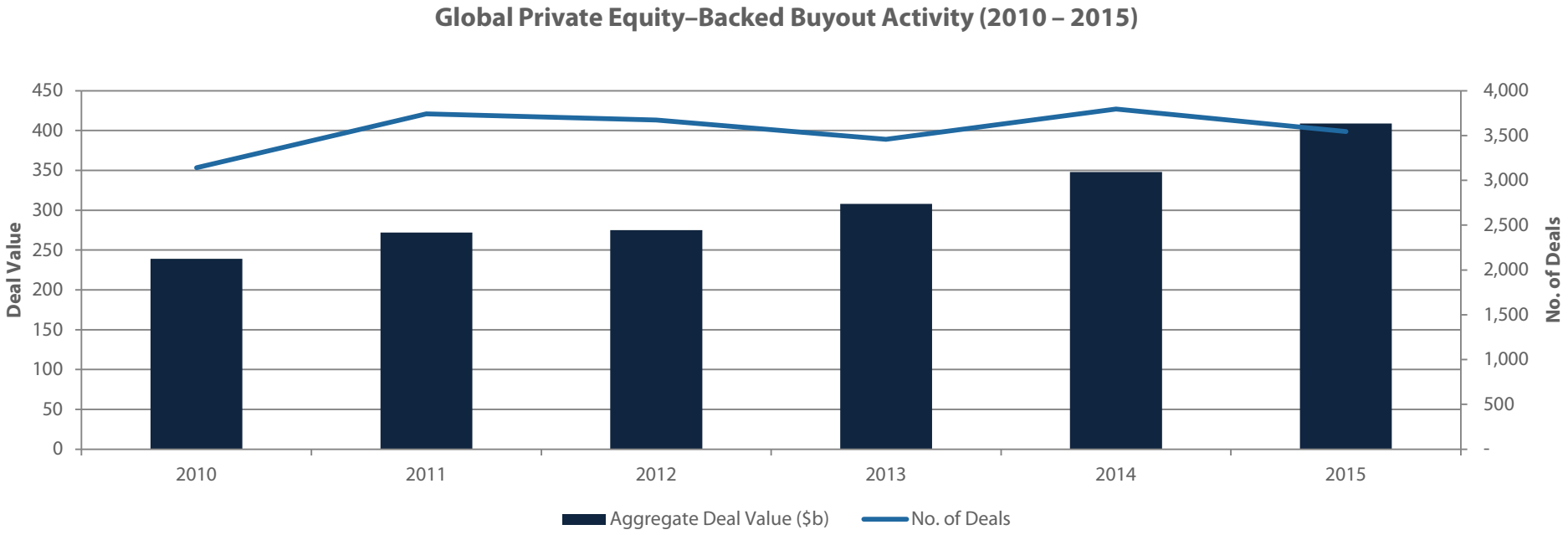
Data sources: Wilshire Compass

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

Appendix: Private Markets Update

Private Equity – Fundraising & Investment Activity



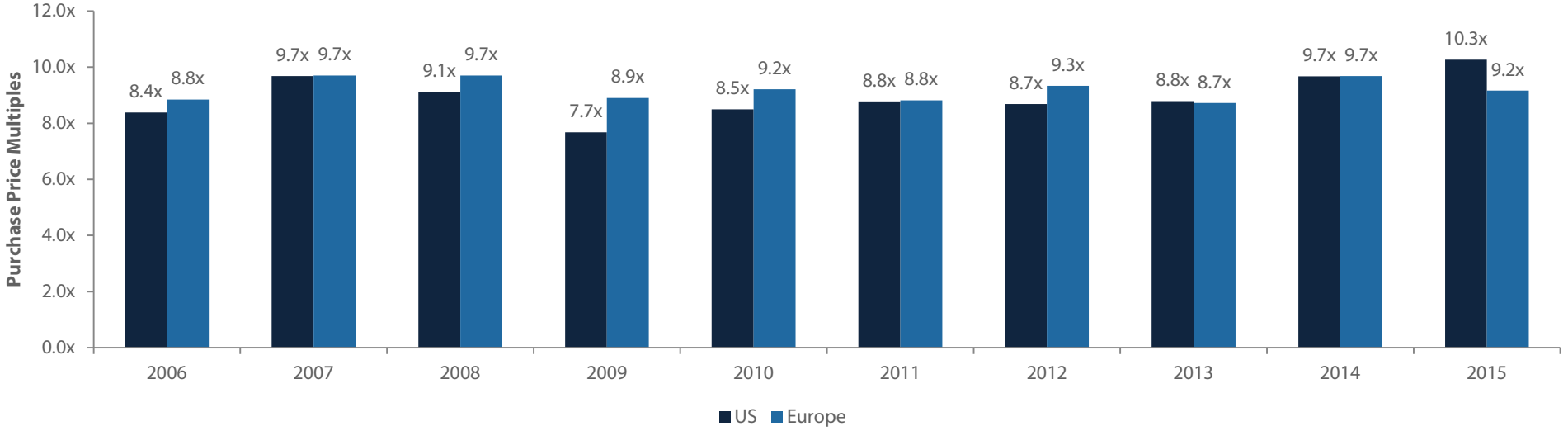


Sources: Preqin.

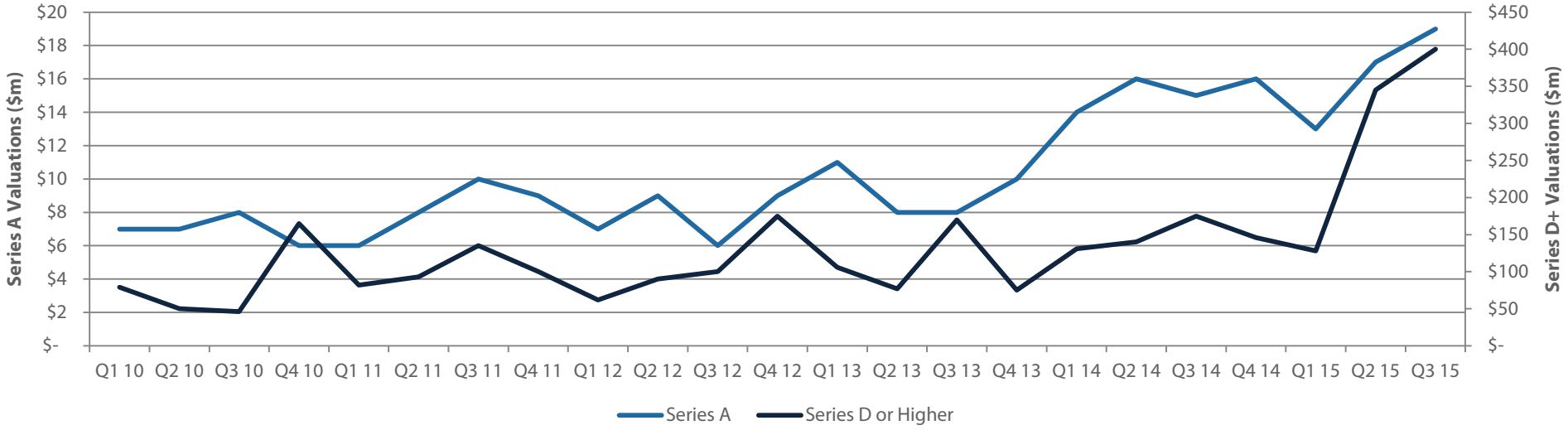
Private Equity – Pricing & Valuations

Wilshire

Global LBO Multiples (2006 – 2015)



U.S. Venture Capital Median Pre-Money Valuations (Q1 2010 –Q3 2015)

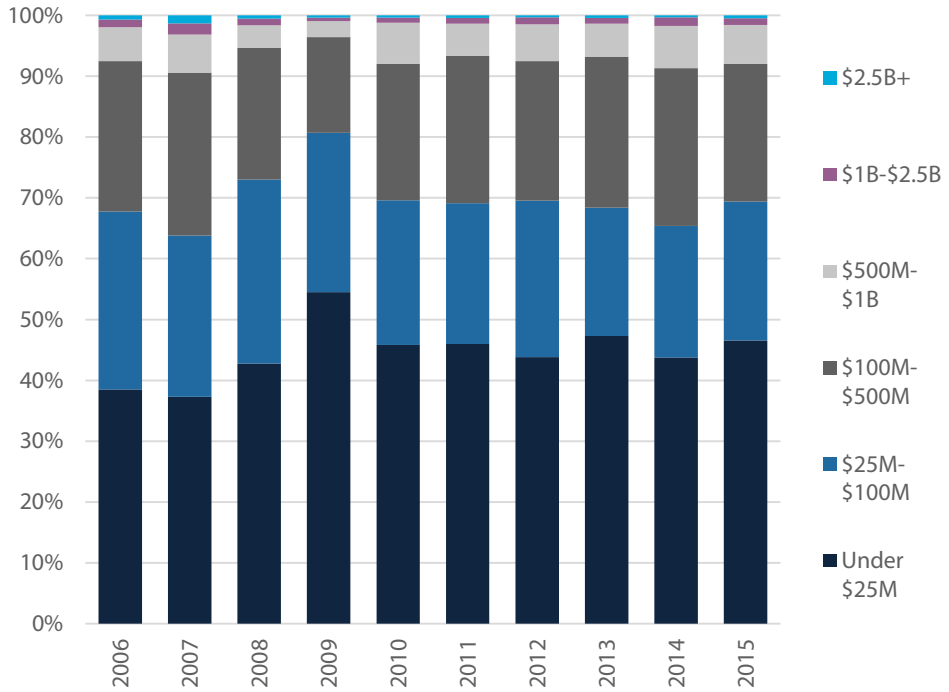


Source: S&P LCD; Cooley.

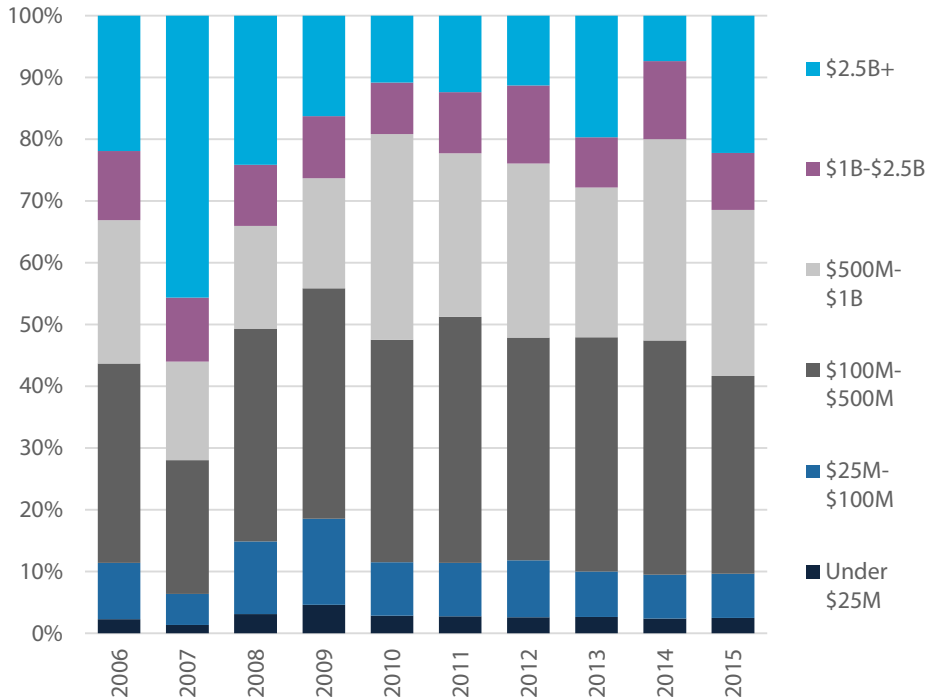
Private Equity – U.S. Investment Activity by Deal Size

Wilshire

Percentage of Deal Volume (count) by Deal Size



Percentage of Deal Volume (dollars) by Deal Size

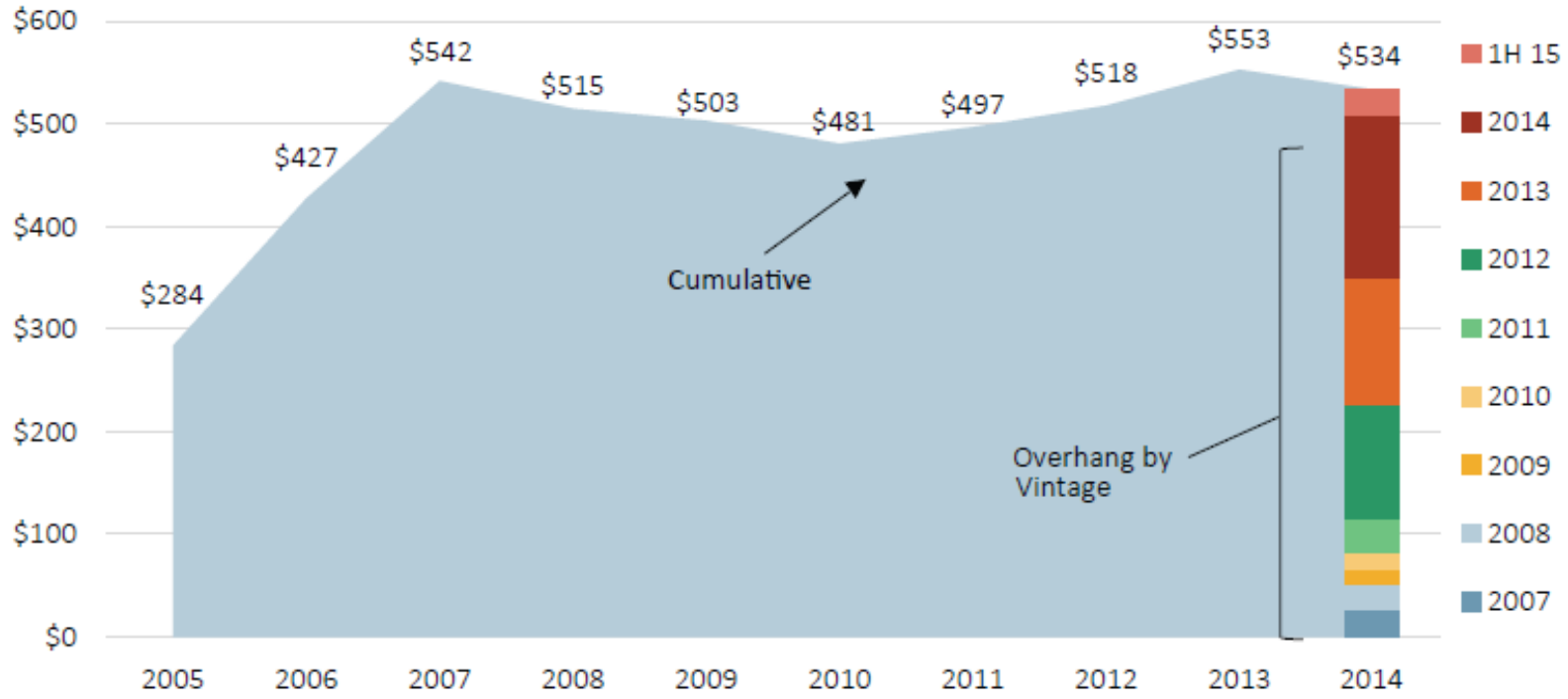


- Smaller deals continue to dominant deal activity by count
- Significantly more mega transaction ($2.5B+) volume in 2015

Source: Pitchbook.

Private Equity – Capital Overhang

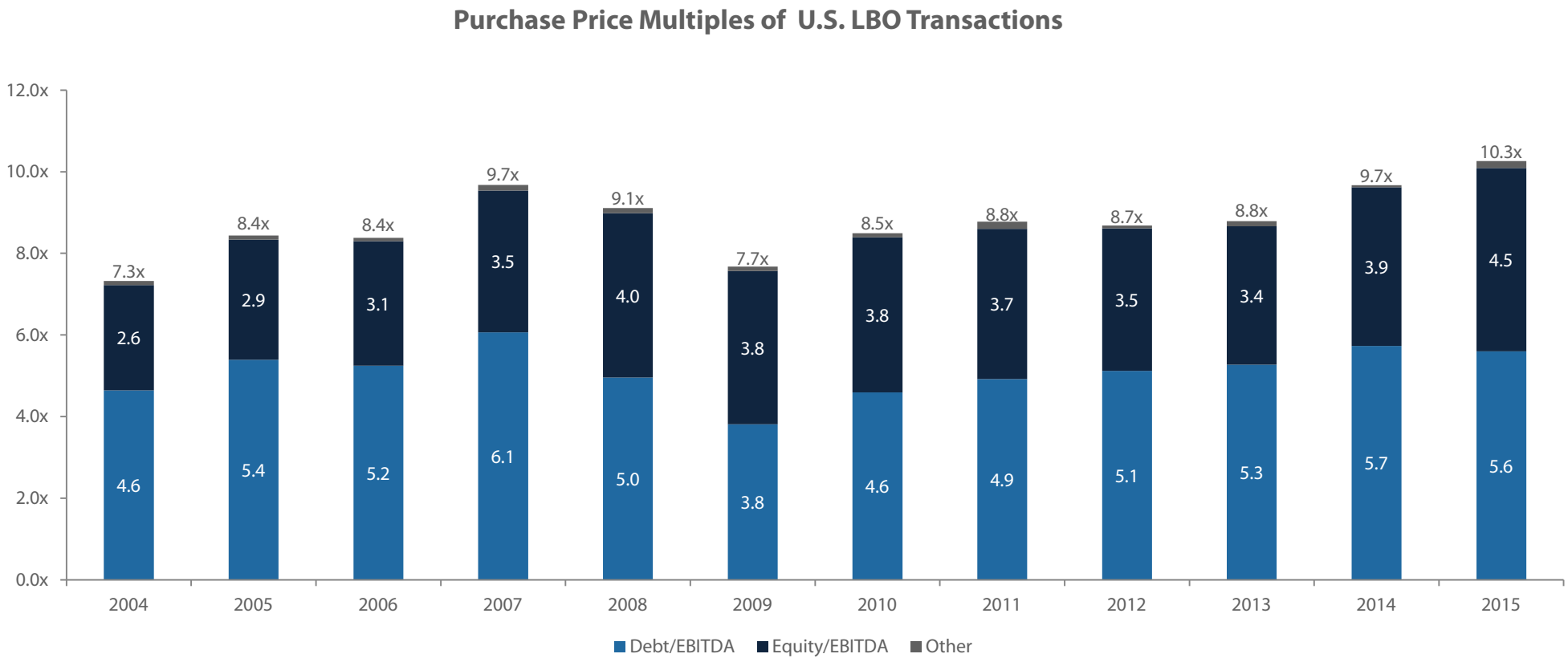
Cumulative Vintage Year Overhang



- 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

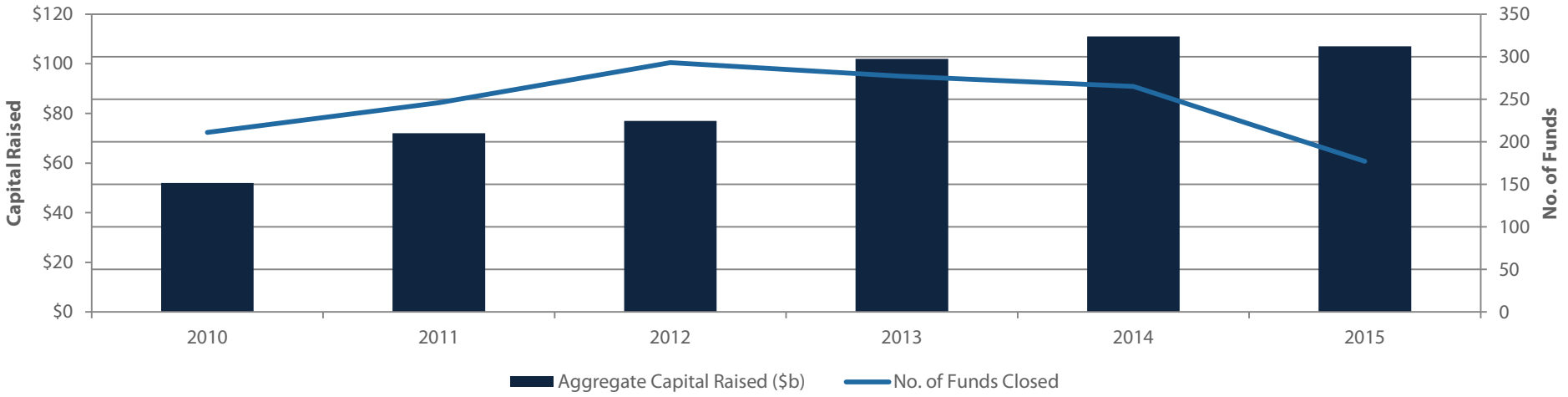


- As debt has become more readily available, purchase price multiples have increased from the low point in 2009
- Pricing in 2015 has eclipsed the 10.x threshold, which is a recent high

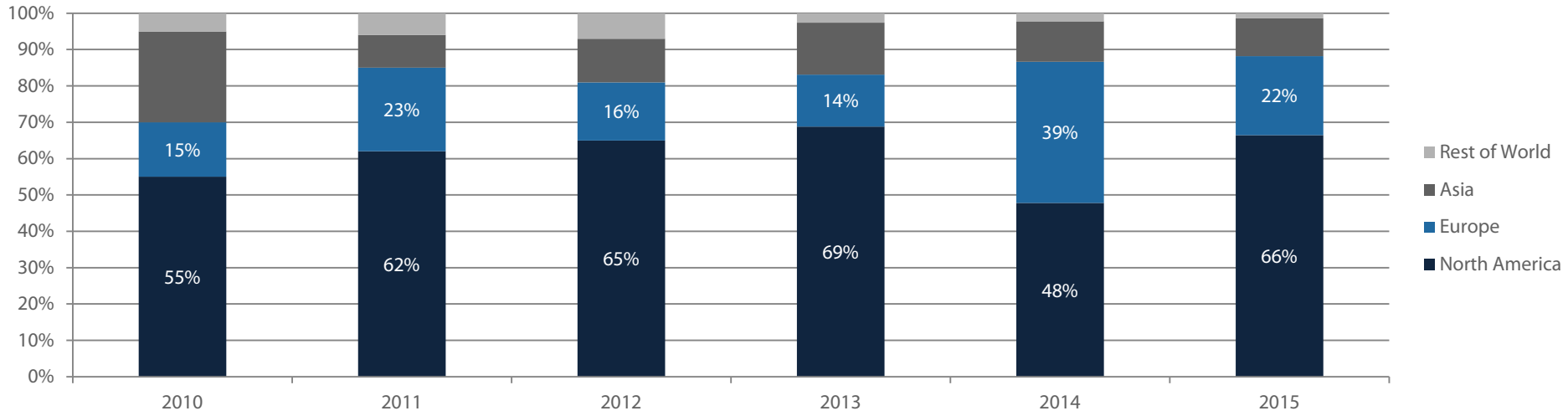
Source: S&P LCD.

Private Real Estate – Fundraising Activity

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)

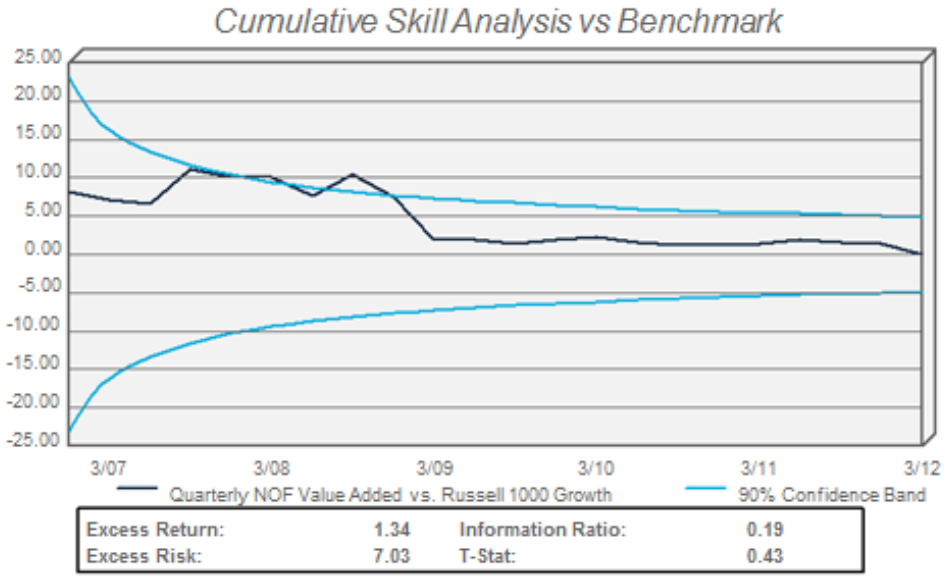


Sources: Preqin.

Appendix

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