Retirement Board of Allegheny County

Executive Summary of Investment Performance

December 31, 2013

Total Fund

Asset Allocation

Wilshire

As of December 31, 2013

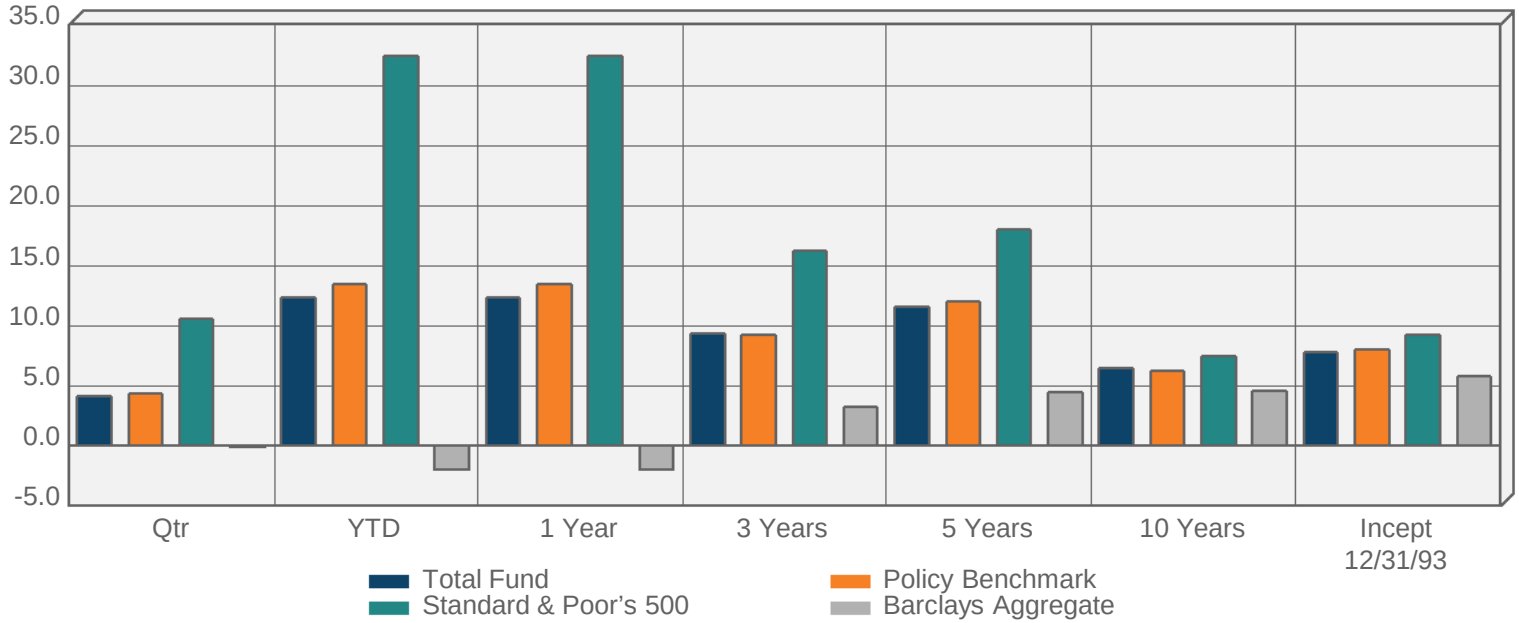
	Market Value ($ MM)	Actual Allocation	Policy Target	Variance *	Range
EQUITY	**347.6**	**42.3%**	**35.0%**	**7.3%**	**30% - 40%**
US Equity	164.0	20.0%	16.1%	3.9%	14% - 18%
Non US Equity	183.6	22.3%	18.9%	3.4%	16% - 22%
FIXED INCOME	**215.8**	**26.3%**	**27.0%**	**-0.7%**	**23% - 31%**
Core Fixed Income	63.6	7.7%	10.0%	-2.3%	8% - 12%
High Yield Fixed Income	110.2	13.4%	12.0%	1.4%	10% - 14%
TIPS Fixed Income	42.0	5.1%	5.0%	0.1%	4% - 6%
ALTERNATIVES	**242.2**	**29.5%**	**38.0%**	**-8.5%**	**32% - 44%**
Private Equity	113.1	13.8%	20.0%	-6.2%	15% - 24%
Real Estate ^	67.6	8.2%	10.0%	-1.8%	5% - 12%
Commodities	23.2	2.8%	8.0%	-5.2%	7% - 9%
Life Settlement	35.3	4.3%	0.0%	4.3%	0%
Hedge Funds - In Transition	3.0	0.4%	0.0%	0.4%	0%
CASH & EQUIVALENTS	**16.1**	**2.0%**	**0.0%**	**2.0%**	**0% - 2%**
Cash	9.7	1.2%	0.0%	1.2%	0% - 2%
Israeli Bonds	6.5	0.8%	0.0%	0.8%	0% - 2%
TOTAL	**821.7**	**100.0%**	**100.0%**	**0.0%**	**100%**

* Positive values reflect overweight to asset class
^ Includes ERECT Funds

Investment Performance

Total Fund Composite

Periods Ended December 31, 2013



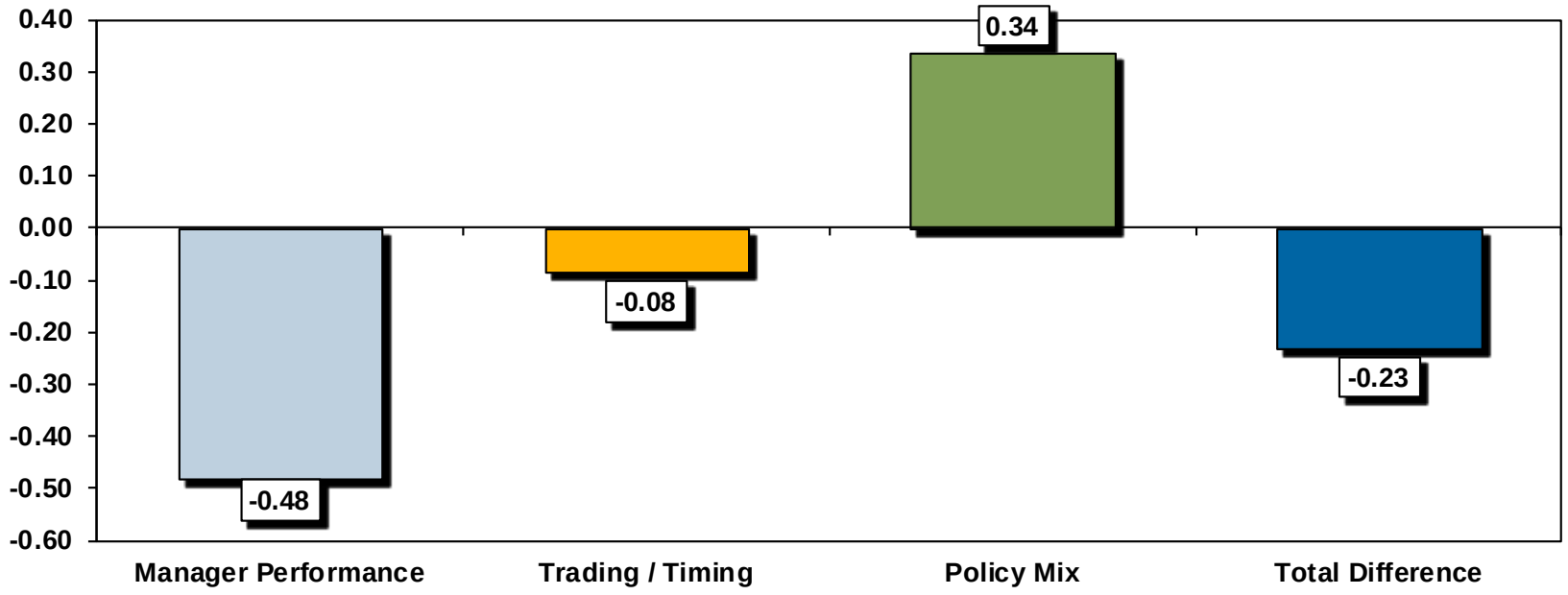
Total Returns	Qtr	YTD	1 Year	3 Years	5 Years	10 Years	Incept 12/31/93
Total Fund	4.15	12.34	12.34	9.35	11.57	6.41	7.76
Policy Benchmark	4.38	13.38	13.38	9.21	11.96	6.23	7.97
Standard & Poor's 500	10.52	32.41	32.41	16.18	17.93	7.40	9.22
Barclays Aggregate	-0.14	-2.02	-2.02	3.26	4.44	4.55	5.74

Attribution Analysis

Wilshire

Total Fund *

For Quarter Ending December 31, 2013



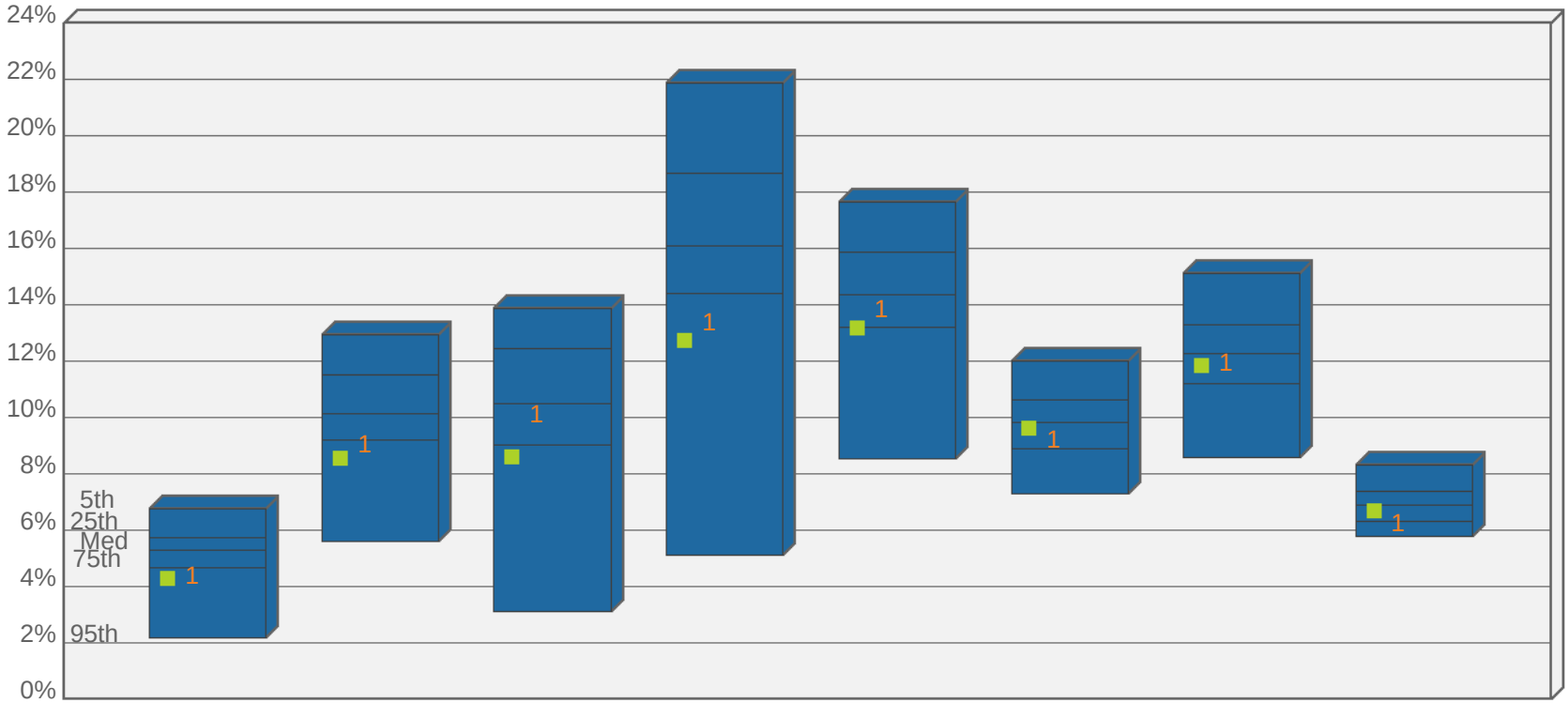
- Manager performance detracted 48 basis points of value from the Total Fund in the third quarter
- Trading costs and the timing of cash flows detracted 8basis points of value from the Total Fund return over the past quarter
- The actual mix of investments versus the policy mix positively impacted the fund by 34 basis points
- The Total Fund underperformed its benchmark by 23 basis points for the quarter ending December 31, 2013

* Net of investment management fees

Performance Comparison

Total Fund Composite

Periods Ended December 31, 2013



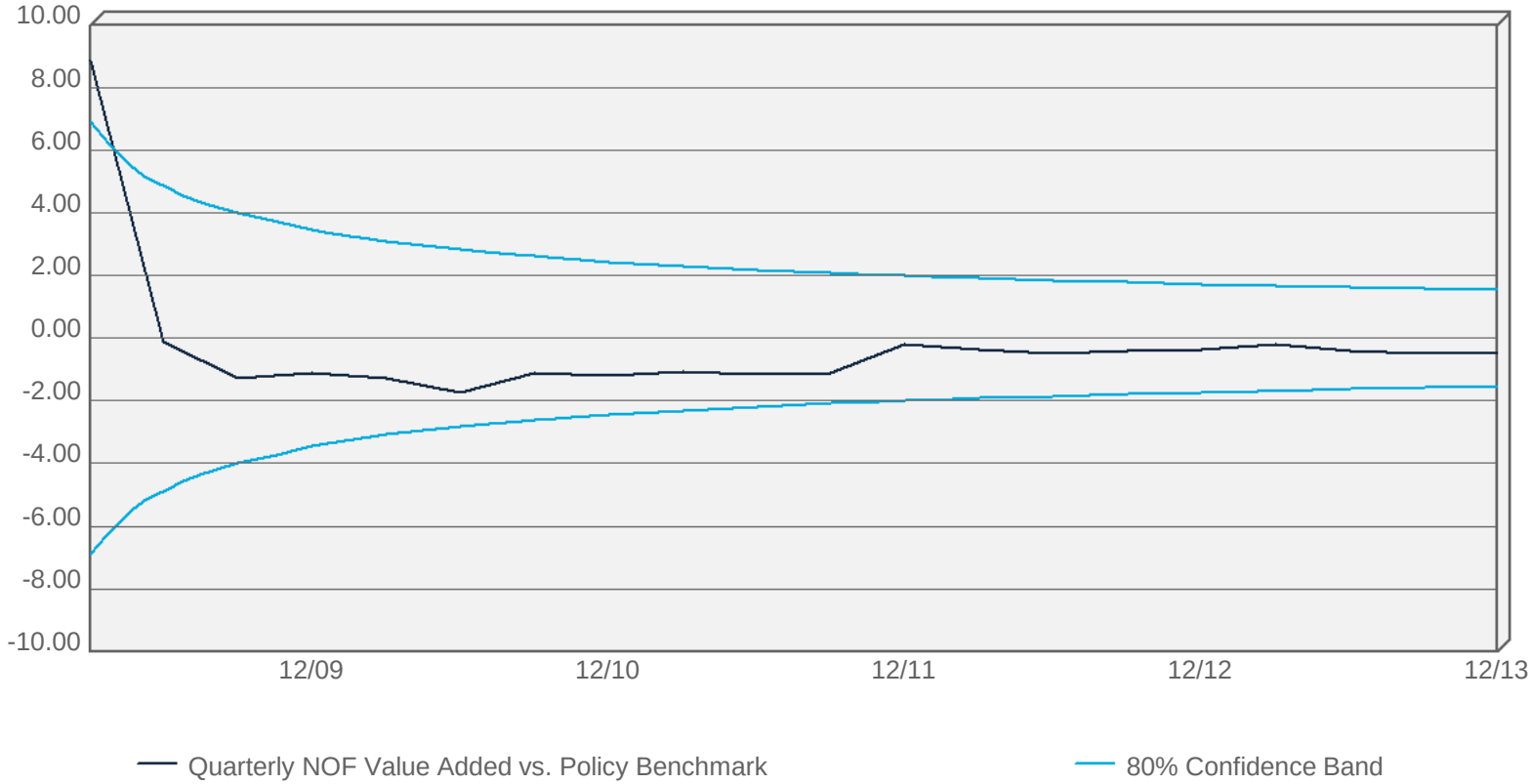
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Total Fund	4.34 (83)	8.60 (81)	8.64 (79)	12.77 (84)	13.20 (76)	9.67 (55)	11.87 (59)	6.73 (59)
1 Policy Benchmark	4.38 (83)	9.05 (78)	10.11 (57)	13.38 (81)	13.86 (62)	9.21 (70)	11.96 (57)	6.23 (84)
5th %tile	6.76	12.95	13.87	21.89	17.66	12.04	15.13	8.34
25th %tile	5.74	11.53	12.46	18.69	15.88	10.64	13.32	7.39
Median	5.31	10.17	10.51	16.10	14.39	9.84	12.30	6.90
75th %tile	4.67	9.23	9.03	14.42	13.23	8.92	11.21	6.35
95th %tile	2.20	5.64	3.15	5.12	8.53	7.32	8.60	5.80
Number of Funds	186	186	186	183	179	174	151	122

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

Cumulative Skill Analysis

Total Fund Composite

Five Years Ending December 31, 2013



Excess Return:	**-0.50**	**Information Ratio:**	**-0.24**
Excess Risk:	**2.10**	**T-Stat:**	**-0.53**

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
US Equity Composite									
Net of Fee Return	**9.65**	**16.81**	**20.45**	**33.66**	**15.97**	**18.29**	**7.34**	**12/31/93**	**8.54**
Wilshire 5000	10.11	16.75	19.98	33.06	15.96	18.58	7.97	12/31/93	9.27
Value Added	-0.45	0.06	0.47	0.60	0.01	-0.29	-0.63	12/31/93	-0.73
Non US Equity Composite									
Net of Fee Return	**5.23**	**15.96**	**13.59**	**16.02**	**5.50**	**12.46**	**7.17**	**12/31/00**	**5.35**
Policy Benchmark	4.76	15.34	11.75	15.29	5.14	12.81	6.58	12/31/00	4.31
Value Added	0.47	0.62	1.84	0.73	0.36	-0.35	0.58	12/31/00	1.04
Core Fixed Composite									
Net of Fee Return	**0.19**	**0.88**	**-1.62**	**-1.51**	**3.59**	**5.50**	**4.66**	**9/30/82**	**8.49**
Barclays Aggregate	-0.14	0.43	-1.90	-2.02	3.26	4.44	4.55	9/30/82	7.98
Value Added	0.33	0.45	0.28	0.51	0.32	1.06	0.11	9/30/82	0.51
High Yield Fixed Composite									
Net of Fee Return	**3.52**	**5.94**	**4.23**	**7.40**	**8.81**	**17.19**		**3/31/08**	**10.58**
Citi High Yield Market Capped	3.37	5.59	4.22	7.18	9.16	17.99		3/31/08	10.13
Value Added	0.15	0.35	0.01	0.22	-0.35	-0.80		3/31/08	0.45
TIPS Fixed Composite									
Net of Fee Return	**-2.05**	**-1.05**	**-8.64**	**-8.62**	**3.45**	**6.50**		**3/31/08**	**3.74**
Barclays U.S. TIPS	-2.00	-1.31	-8.27	-8.61	3.55	5.63		3/31/08	3.53
Value Added	-0.05	0.26	-0.37	-0.02	-0.10	0.87		3/31/08	0.21
Private Equity Composite									
Net of Fee Return	**3.64**	**4.79**	**7.40**	**10.95**	**13.82**	**8.73**	**6.14**	**3/31/03**	**4.42**
Wilshire 5000+3% Qtr. Lagged	6.81	10.59	23.54	24.59	19.98	13.76	11.44	3/31/03	12.46
Value Added	-3.18	-5.80	-16.14	-13.64	-6.16	-5.03	-5.30	3/31/03	-8.04

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Real Estate Composite									
Net of Fee Return	**2.29**	**6.02**	**11.82**	**14.64**	**13.84**	**3.59**	**8.05**	**3/31/03**	**8.30**
NCREIF ODCE NOF	2.95	6.40	10.23	12.91	12.53	2.71	6.16	3/31/03	6.35
Value Added	-0.66	-0.38	1.59	1.74	1.30	0.87	1.89	3/31/03	1.95
Commodities Composite									
Net of Fee Return	**-1.11**	**2.52**	**-6.37**	**-7.65**	**-4.09**	**5.45**		**3/31/07**	**-1.53**
DJ UBS Commodity Index	-1.05	1.06	-8.49	-9.52	-8.10	1.51		3/31/07	-3.78
Value Added	-0.06	1.46	2.11	1.87	4.02	3.93		3/31/07	2.25
Israel Bonds and Cash									
Net of Fee Return	**0.51**	**0.88**	**0.83**	**1.90**	**1.69**	**3.15**	**3.93**	**3/31/99**	**3.40**
Total Fund									
Net of Fee Return	**4.15**	**8.25**	**8.29**	**12.34**	**9.35**	**11.57**	**6.41**	**12/31/93**	**7.76**
Policy Benchmark	4.38	9.05	10.11	13.38	9.21	11.96	6.23	12/31/93	7.97
Value Added	-0.23	-0.80	-1.82	-1.04	0.14	-0.39	0.19	12/31/93	-0.21

Custom Benchmark Specification

Wilshire

Total Fund

December 31, 2013

	Quarter Start	Quarter End	Percent	Description
Policy Benchmark	12/93	12/06	35.00	Barclays Aggregate
			65.00	Russell 3000
	3/07	6/08	45.00	Wilshire 5000
			25.00	Barclays Aggregate
			10.00	MSCI EAFE Index (N)
			5.00	DJ UBS Commodity Index
			5.00	91-Day T-Bill + 3.0% Ann (Monthly)
			5.00	Wilshire 5000+3% Qtr. Lagged
			5.00	NCREIF ODCE NOF
	9/08	9/08	45.00	Wilshire 5000
			25.00	Barclays Aggregate
			10.00	MSCI ACWI X US (N)
			5.00	DJ UBS Commodity Index
			5.00	Wilshire 5000 + 3% Index
			5.00	91-Day T-Bill + 3.0% Ann (Monthly)
			5.00	NCREIF ODCE NOF
	12/08	6/09	35.00	Wilshire 5000
			20.00	Barclays Aggregate
			15.00	MSCI ACWI X US (N)
			7.50	NCREIF ODCE NOF
			5.00	DJ UBS Commodity Index
			5.00	Barclays U.S. TIPS
			5.00	Citi High Yield Market Capped
			5.00	Wilshire 5000+3% Qtr. Lagged
			2.50	91-Day T-Bill + 3.0% Ann (Monthly)
	9/09	3/10	30.00	Wilshire 5000
			20.00	MSCI ACWI X US (N)
			15.00	Barclays Aggregate
			10.00	Citi High Yield Market Capped

Custom Benchmark Specification

Wilshire

Total Fund

December 31, 2013

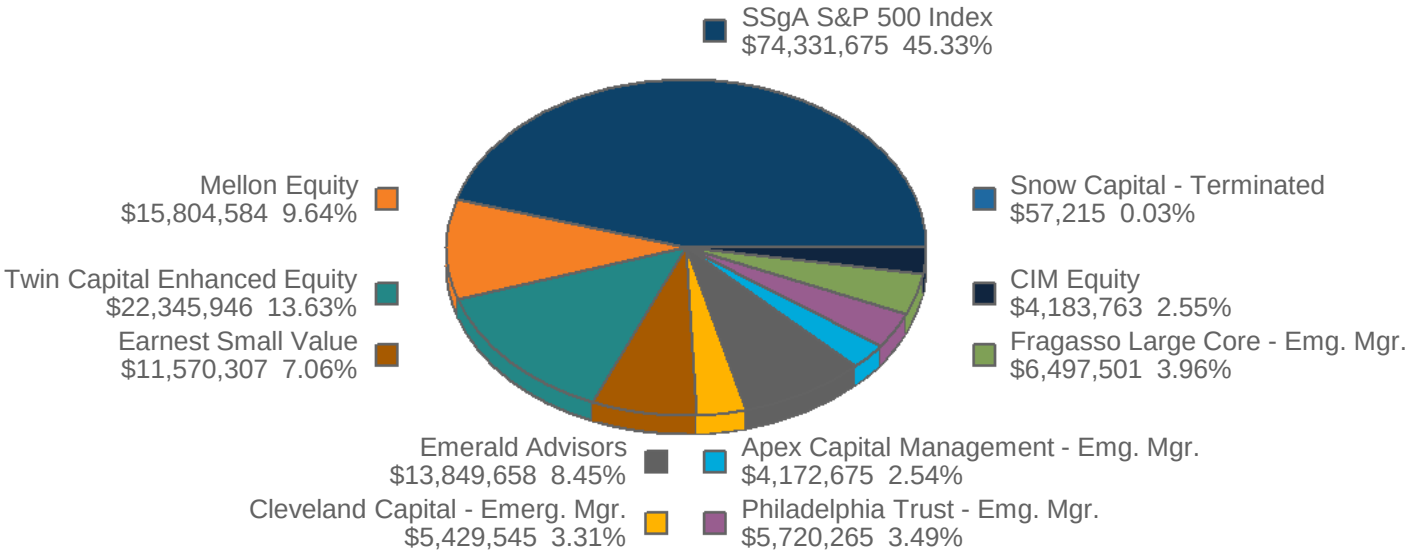
	Quarter Start	Quarter End	Percent	Description
Policy Benchmark (cont.)			10.00	NCREIF ODCE NOF
			7.50	Barclays U.S. TIPS
			5.00	Wilshire 5000+3% Qtr. Lagged
			2.50	DJ UBS Commodity Index
	6/10	12/12	25.00	MSCI ACWI X US (N)
			20.00	Wilshire 5000
			14.00	Barclays Aggregate
			10.00	Citi High Yield Market Capped
			10.00	NCREIF ODCE NOF
			10.00	Wilshire 5000+3% Qtr. Lagged
			6.00	Barclays U.S. TIPS
			5.00	DJ UBS Commodity Index
	3/13	12/13	8.00	DJ UBS Commodity Index
			20.00	Wilshire 5000+3% Qtr. Lagged
			5.00	Barclays U.S. TIPS
			12.00	Citi High Yield Market Capped
			10.00	Barclays Aggregate
			18.90	MSCI ACWI X US (N)
			16.10	Wilshire 5000
			10.00	NCREIF ODCE NOF

Domestic Equity

Manager Allocation

US Equity Composite

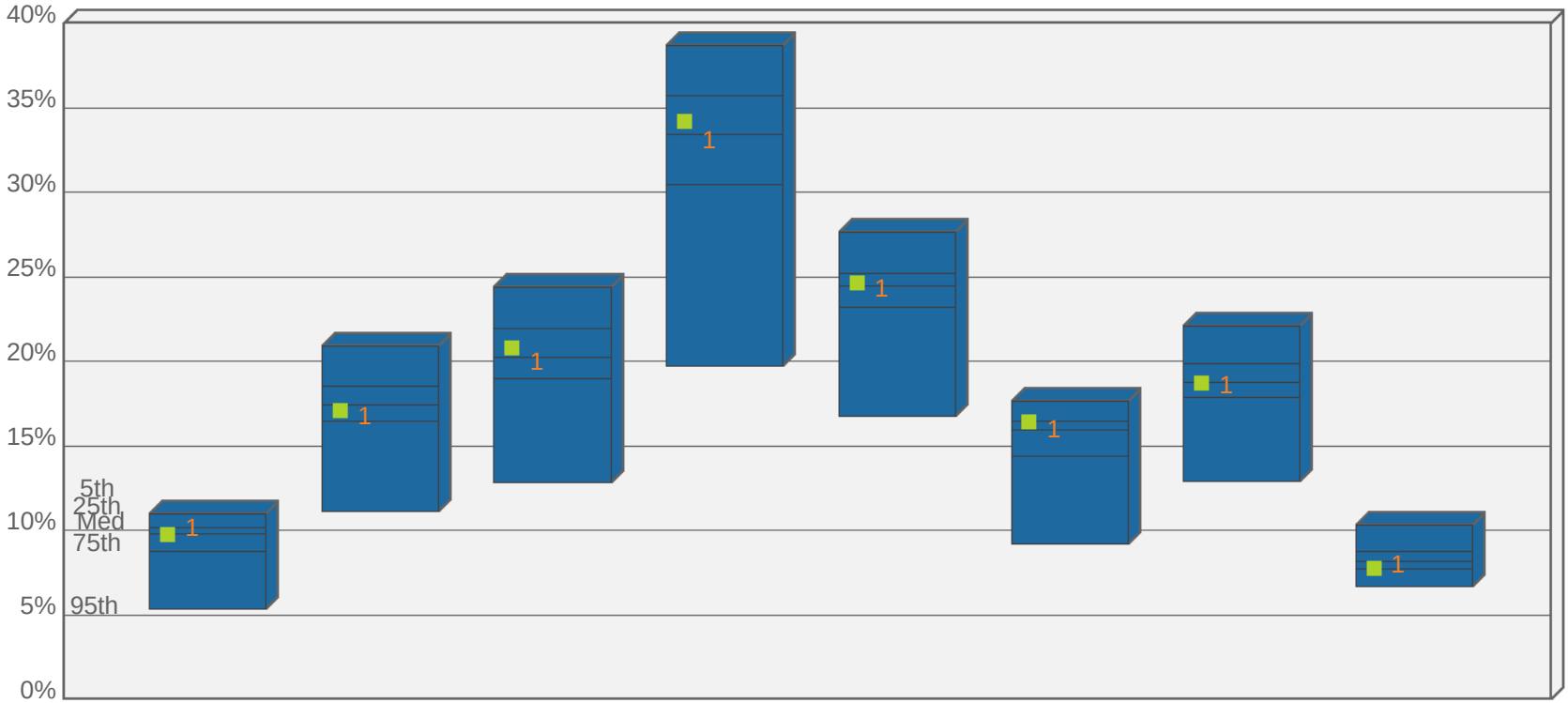
As of December 31, 2013



Performance Comparison

US Equity Composite

Periods Ended December 31, 2013



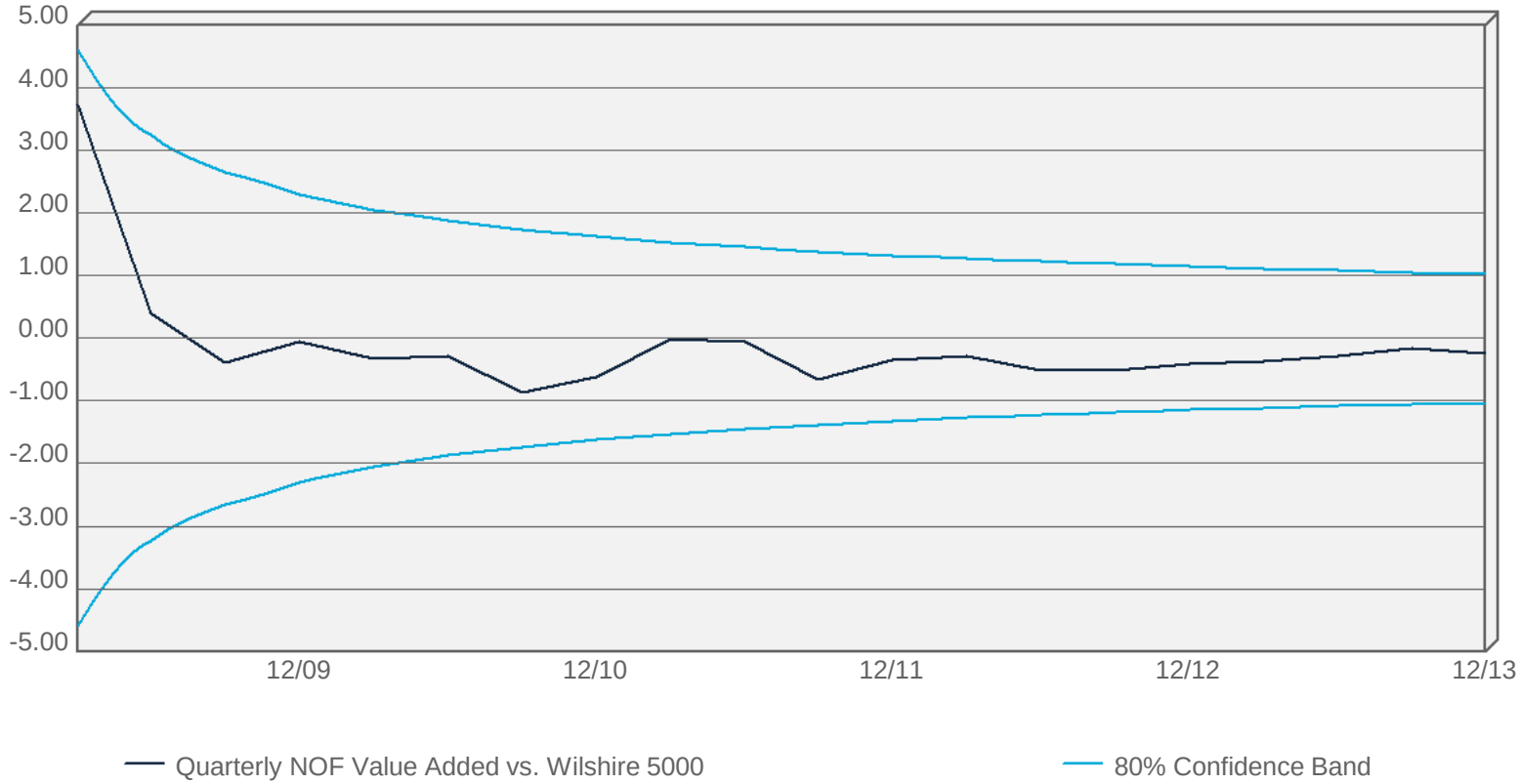
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
US Equity Composite	9.82 (49)	17.16 (56)	20.81 (42)	34.24 (37)	24.69 (43)	16.47 (24)	18.77 (49)	7.78 (70)
1 Wilshire 5000	10.11 (31)	16.75 (67)	19.98 (54)	33.06 (55)	24.27 (58)	15.96 (52)	18.58 (61)	7.97 (60)
5th %tile	10.97	20.95	24.43	38.69	27.68	17.66	22.08	10.30
25th %tile	10.20	18.54	21.94	35.74	25.21	16.46	19.86	8.80
Median	9.80	17.43	20.24	33.41	24.49	15.98	18.74	8.20
75th %tile	8.75	16.49	18.96	30.46	23.21	14.43	17.89	7.70
95th %tile	5.38	11.14	12.82	19.74	16.78	9.21	12.90	6.71
Number of Funds	168	164	159	157	131	122	104	70

*TUCS Total Ret of Equity Investment Pools Universe - Gross of Fees

Cumulative Skill Analysis

US Equity Composite

Five Years Ending December 31, 2013



Excess Return:	**-0.24**	**Information Ratio:**	**-0.17**
Excess Risk:	**1.39**	**T-Stat:**	**-0.39**

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
SSgA S&P 500 Index									
Net of Fee Return	**10.50**	**16.24**	**19.62**	**32.33**	**16.19**	**17.99**		**12/31/07**	**6.29**
Standard & Poor's 500	10.52	16.32	19.71	32.41	16.18	17.93		12/31/07	6.23
Value Added	-0.02	-0.08	-0.09	-0.08	0.01	0.05		12/31/07	0.06
Mellon Equity									
Net of Fee Return	**10.30**	**13.95**	**16.80**	**30.05**	**16.58**	**17.35**	**8.02**	**3/31/94**	**9.61**
Standard & Poor's 500	10.52	16.32	19.71	32.41	16.18	17.93	7.40	3/31/94	9.56
Value Added	-0.22	-2.37	-2.91	-2.36	0.40	-0.59	0.62	3/31/94	0.06
Twin Capital Enhanced Equity									
Net of Fee Return	**10.42**	**16.25**	**19.63**	**32.54**	**16.46**	**17.72**		**12/31/05**	**7.53**
Standard & Poor's 500	10.52	16.32	19.71	32.41	16.18	17.93		12/31/05	7.29
Value Added	-0.10	-0.07	-0.08	0.13	0.28	-0.22		12/31/05	0.23
Earnest Small Value									
Net of Fee Return	**7.82**	**17.23**	**20.92**	**35.69**	**16.55**			**6/30/09**	**20.63**
Russell 2000 Value	9.29	17.59	20.49	34.50	14.48			6/30/09	21.20
Value Added	-1.47	-0.36	0.42	1.19	2.07			6/30/09	-0.57
Cleveland Capital - Emerg. Mgr.									
Net of Fee Return	**5.21**	**12.03**	**20.14**	**19.74**	**13.12**			**6/30/09**	**16.74**
Policy Index	9.67	20.73	25.27	40.01	15.77			6/30/09	21.97
Value Added	-4.46	-8.70	-5.13	-20.27	-2.66			6/30/09	-5.23
Emerald Advisors									
Net of Fee Return	**5.56**	**24.48**	**31.34**	**49.97**	**20.22**	**24.54**		**9/30/04**	**11.25**
Russell 2000 Growth	8.18	22.03	26.58	43.29	16.81	22.57		9/30/04	10.28
Value Added	-2.62	2.45	4.77	6.67	3.41	1.97		9/30/04	0.97

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Apex Capital Management - Emg. Mgr.									
Net of Fee Return	**9.72**	**20.98**	**24.84**	**37.93**				**12/31/11**	**29.29**
Russell 2500 Growth	8.49	21.44	25.35	40.66				12/31/11	27.81
Value Added	1.23	-0.46	-0.51	-2.73				12/31/11	1.48
Philadelphia Trust - Emg. Mgr.									
Net of Fee Return	**8.19**	**15.13**	**17.72**	**28.58**				**12/31/11**	**20.01**
Standard & Poor's 500	10.52	16.32	19.71	32.41				12/31/11	23.92
Value Added	-2.32	-1.18	-1.99	-3.83				12/31/11	-3.92
Fragasso Large Core - Emg. Mgr.									
Net of Fee Return	**11.23**	**16.03**	**16.10**	**28.50**				**9/30/12**	**23.51**
Standard & Poor's 500	10.52	16.32	19.71	32.41				9/30/12	24.80
Value Added	0.72	-0.29	-3.61	-3.91				9/30/12	-1.28
US Equity Composite									
Net of Fee Return	**9.65**	**16.81**	**20.45**	**33.66**	**15.97**	**18.29**	**7.34**	**12/31/93**	**8.54**
Wilshire 5000	10.11	16.75	19.98	33.06	15.96	18.58	7.97	12/31/93	9.27
Value Added	-0.45	0.06	0.47	0.60	0.01	-0.29	-0.63	12/31/93	-0.73

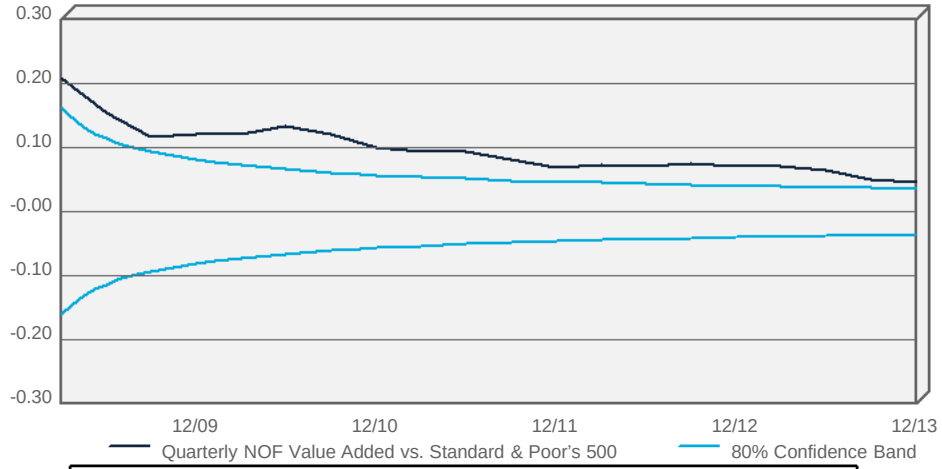
Investment Manager Analysis

Wilshire

SSgA S&P 500 Index

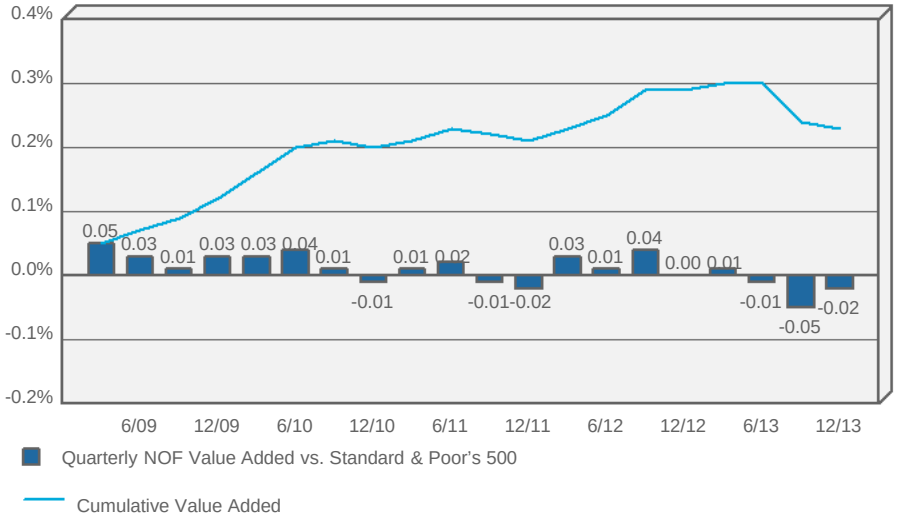
December 31, 2013

Cumulative Skill Analysis vs Benchmark

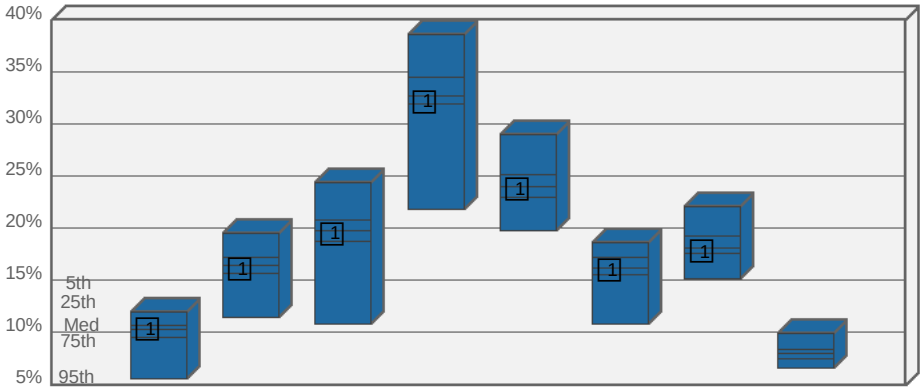


Excess Return:	**0.05**	**Information Ratio:**	**0.92**
Excess Risk:	**0.05**	**T-Stat:**	**2.06**

Value-Added Analysis vs Benchmark

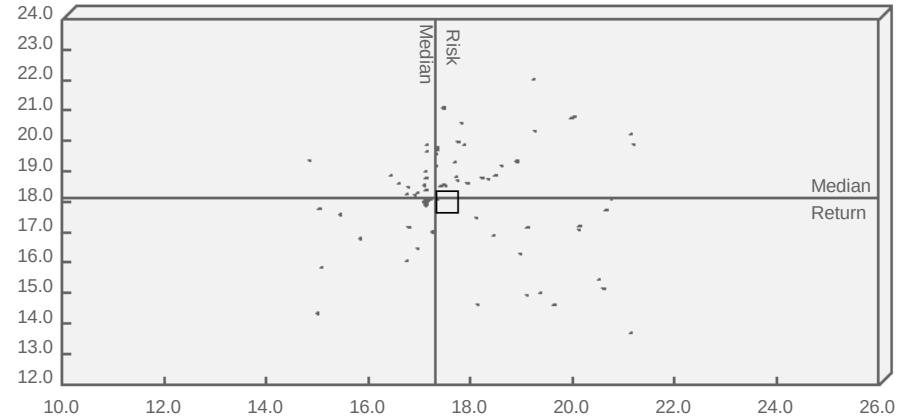


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
SSgA S&P 500 I	10.51 (38)	16.26 (67)	19.65 (61)	32.35 (63)	23.96 (53)	16.21 (57)	18.00 (59)	
1 Standard & Poo	10.52 (34)	16.32 (56)	19.71 (53)	32.41 (57)	23.92 (57)	16.18 (61)	17.94 (66)	
Median	10.37	16.48	19.75	32.69	23.99	16.26	18.11	7.97
Number of Funds	386	383	376	371	326	296	237	100

*Five Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
SSgA S&P 500 Index		18.00	59	17.59	40
Standard & Poor's 500	1	17.94	66	17.59	40
Median		18.11		17.32	

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

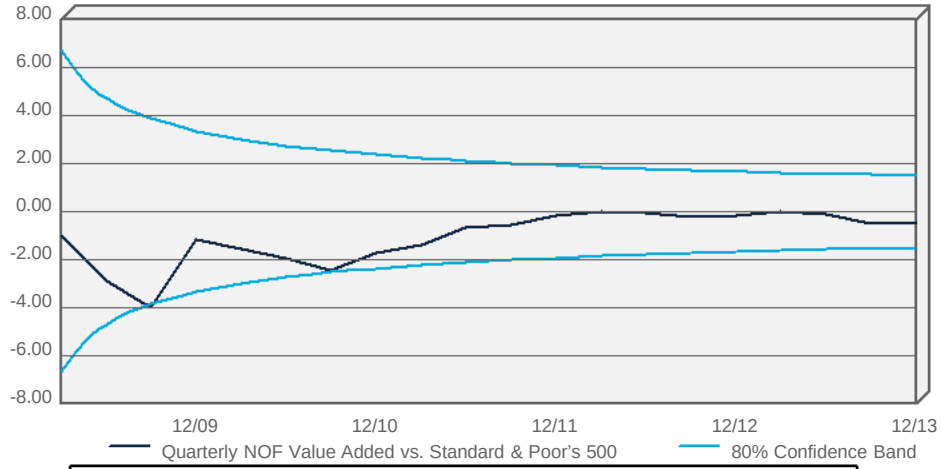
Investment Manager Analysis

Wilshire

Mellon Equity

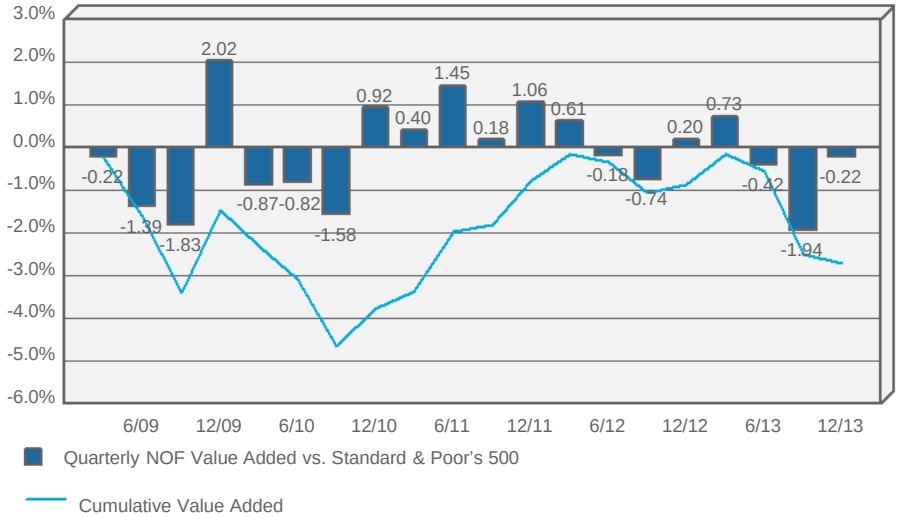
December 31, 2013

Cumulative Skill Analysis vs Benchmark

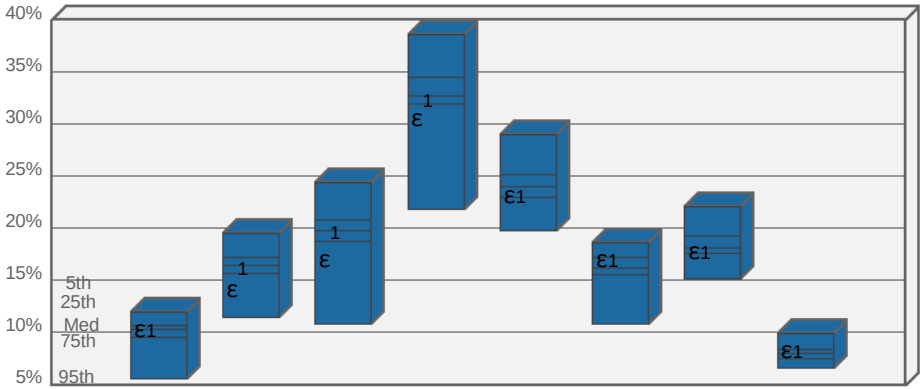


Excess Return:	**-0.50**	**Information Ratio:**	**-0.25**
Excess Risk:	**2.03**	**T-Stat:**	**-0.55**

Value-Added Analysis vs Benchmark

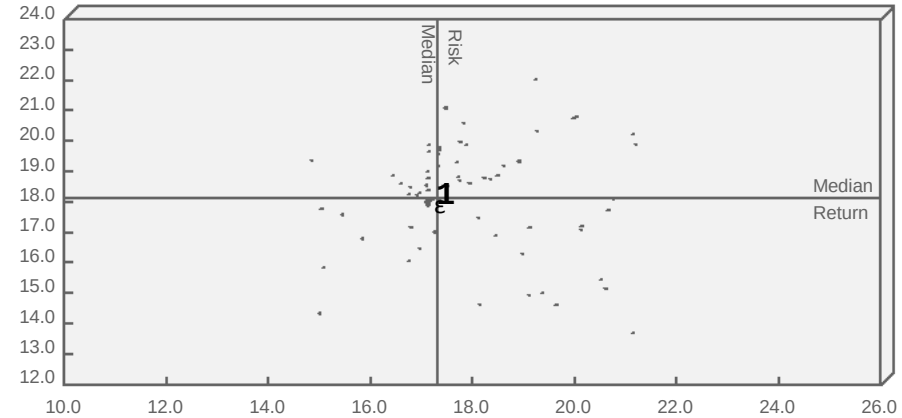


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
ε Mellon Equity	10.45 (47)	14.30 (85)	17.16 (87)	30.73 (82)	23.25 (73)	17.10 (27)	17.86 (70)	8.44 (25)
1 Standard & Poo	10.52 (34)	16.32 (56)	19.71 (53)	32.41 (57)	23.92 (57)	16.18 (61)	17.94 (66)	7.40 (86)
Median	10.37	16.48	19.75	32.69	23.99	16.26	18.11	7.97
Number of Funds	386	383	376	371	326	296	237	100

*Five Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Mellon Equity	ε	17.86	70	17.55	41
Standard & Poor's 500	1	17.94	66	17.59	40
Median		18.11		17.32	

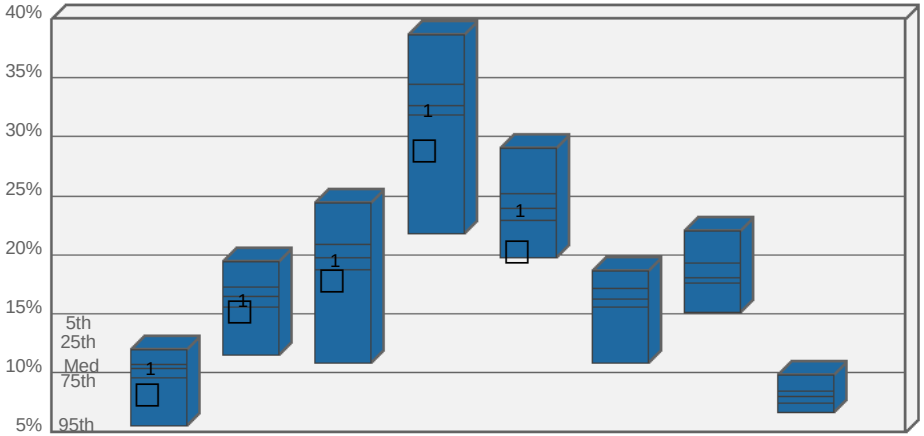
*TUCS Total Returns of Large Neutral Equity Portfolios Universe - Gross of Fees

Investment Manager Analysis

Philadelphia Trust - Emg. Mgr.

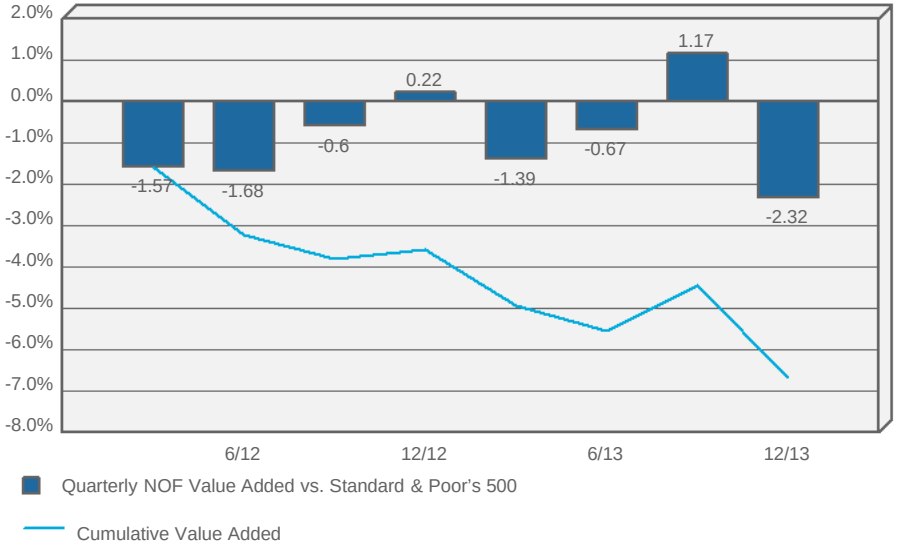
December 31, 2013

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Philadelphia T	8.33 (88)	15.41 (77)	18.01 (83)	29.03 (88)	20.49 (92)			
1 Standard & Poo	10.52 (34)	16.32 (56)	19.71 (53)	32.41 (57)	23.92 (57)			
Median	10.37	16.48	19.75	32.69	23.99	16.26	18.11	7.97
Number of Funds	386	383	376	371	326	296	237	100

Value-Added Analysis vs Benchmark



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

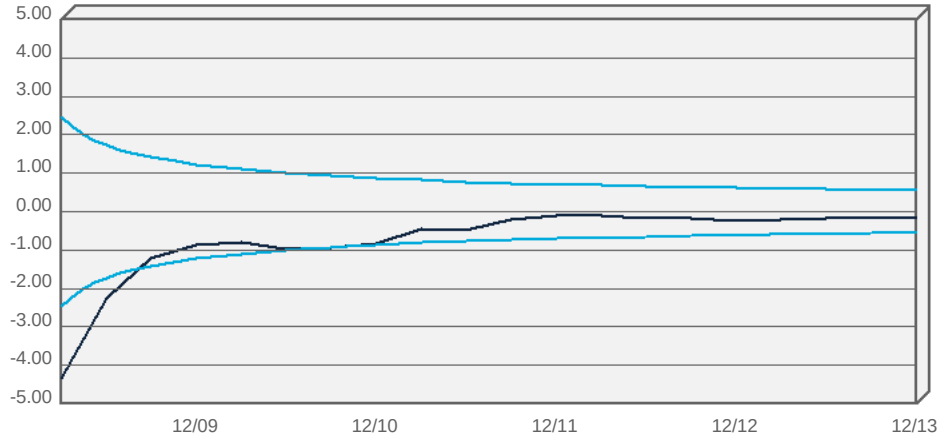
Investment Manager Analysis

Wilshire

Twin Capital Enhanced Equity

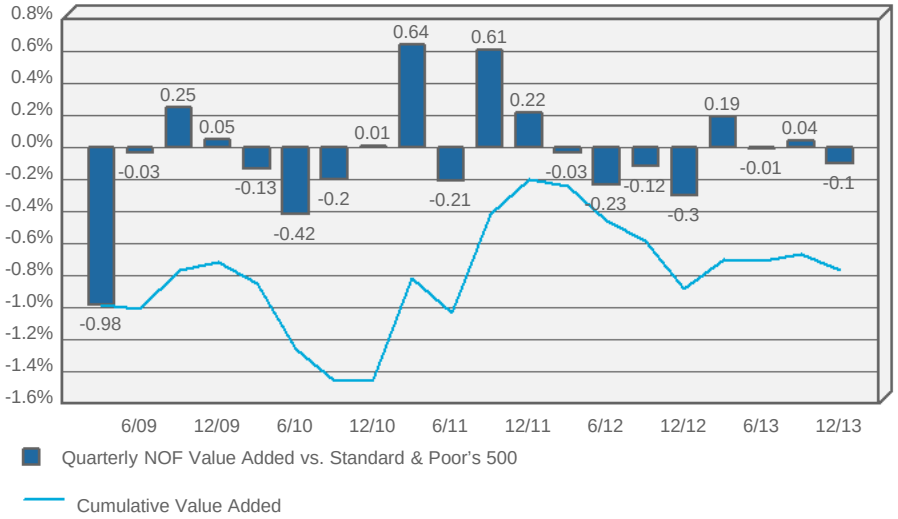
December 31, 2013

Cumulative Skill Analysis vs Benchmark

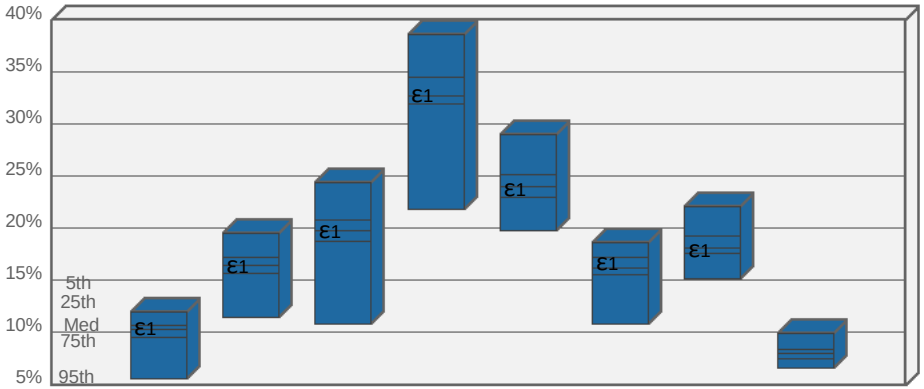


Excess Return:	**-0.18**	**Information Ratio:**	**-0.25**
Excess Risk:	**0.75**	**T-Stat:**	**-0.55**

Value-Added Analysis vs Benchmark

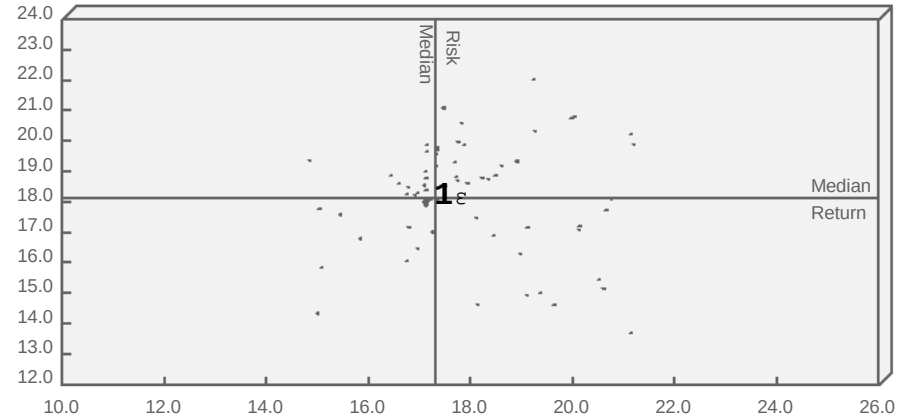


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
ε Twin Capital E	10.60 (28)	16.54 (48)	19.92 (44)	32.98 (44)	23.97 (52)	16.85 (34)	18.11 (51)	
1 Standard & Poo	10.52 (34)	16.32 (56)	19.71 (53)	32.41 (57)	23.92 (57)	16.18 (61)	17.94 (66)	
Median	10.37	16.48	19.75	32.69	23.99	16.26	18.11	7.97
Number of Funds	386	383	376	371	326	296	237	100

*Five Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
Twin Capital Enhanced Equity	ε	18.11	51	17.85	33
Standard & Poor's 500	1	17.94	66	17.59	40
Median		18.11		17.32	

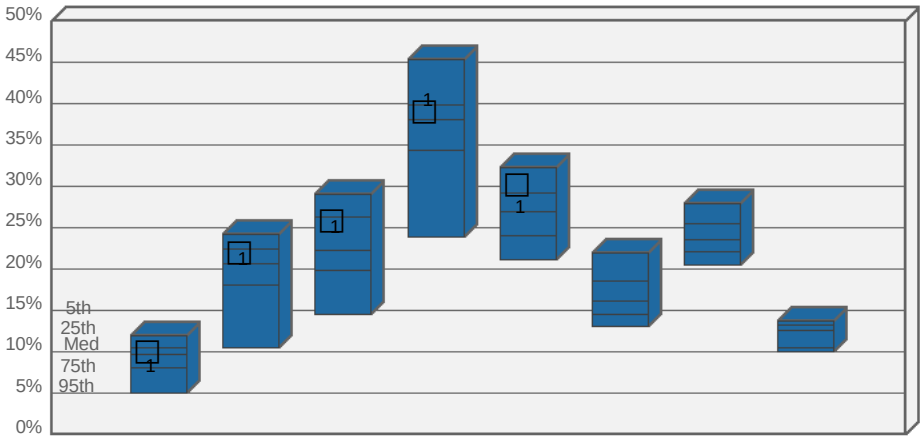
*TUCS Total Returns of Large Neutral Equity Portfolios Universe - Gross of Fees

Investment Manager Analysis

Apex Capital Management - Emg. Mgr.

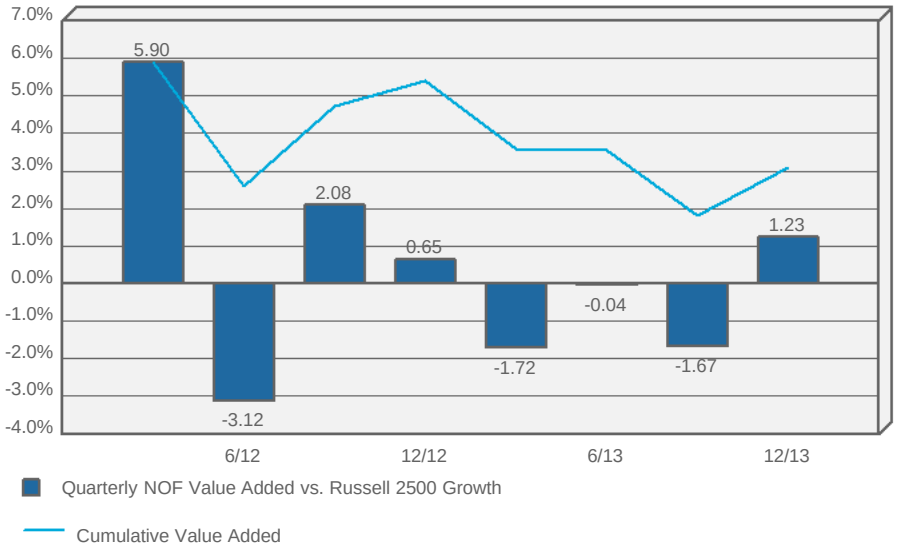
December 31, 2013

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Apex Capital M	10.17 (41)	22.19 (34)	26.09 (28)	39.31 (33)	30.47 (15)			
1 Russell 2500 G	8.49 (64)	21.44 (41)	25.35 (34)	40.66 (17)	27.81 (46)			
Median	9.69	20.54	22.29	38.11	26.94	16.12	23.53	12.60
Number of Funds	122	119	116	115	100	89	63	20

Value-Added Analysis vs Benchmark



*TUCS Total Returns of Mid Cap Growth Equity Portfolios Universe - Gross of Fees

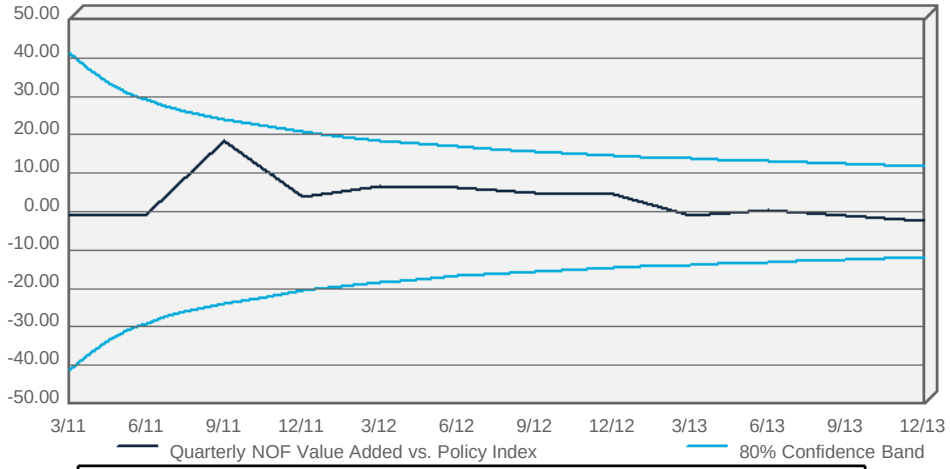
Investment Manager Analysis

Wilshire

Cleveland Capital - Emerg. Mgr.

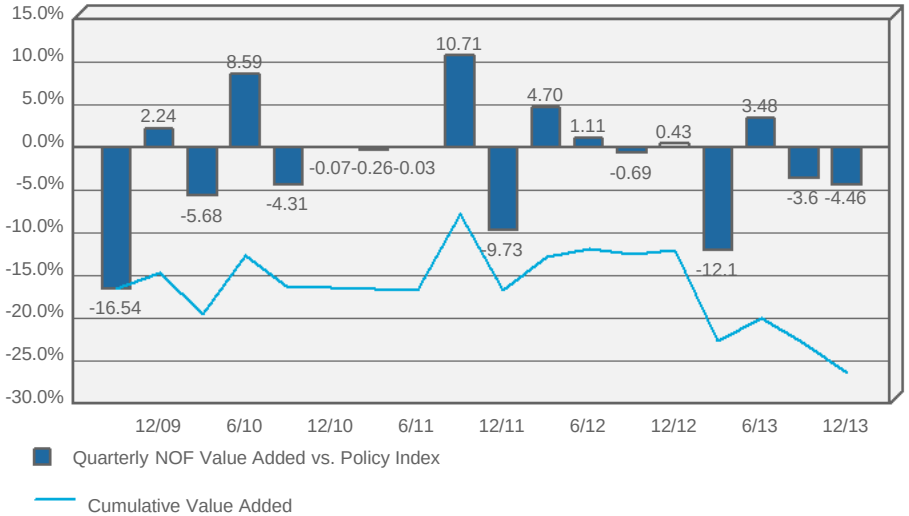
December 31, 2013

Cumulative Skill Analysis vs Benchmark

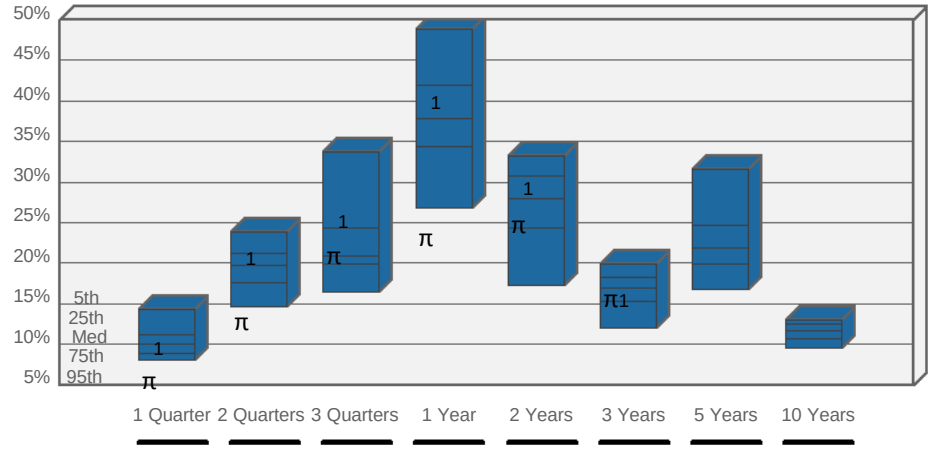


Excess Return:	**-2.30**	**Information Ratio:**	**-0.18**
Excess Risk:	**12.54**	**T-Stat:**	**-0.32**

Value-Added Analysis vs Benchmark

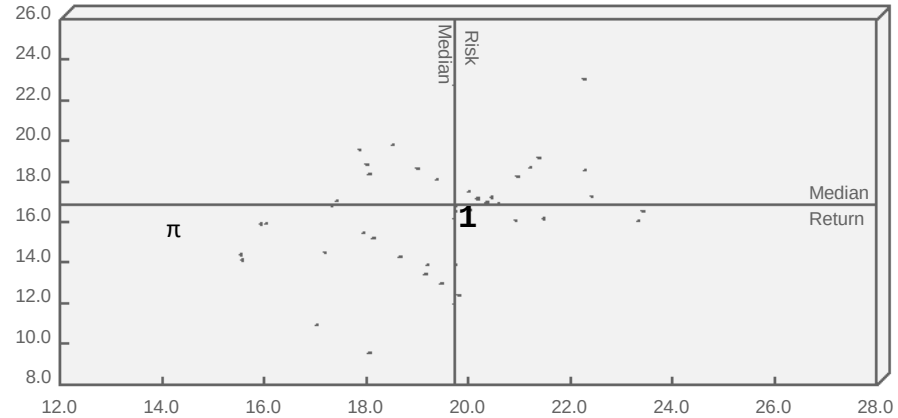


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
π Cleveland Capi	5.60 (95)	12.84 (95)	21.01 (48)	23.28 (95)	24.90 (71)	15.62 (70)		
1 Policy Index	9.67 (55)	20.73 (30)	25.27 (18)	40.01 (35)	29.37 (26)	15.77 (70)		
Median	10.00	19.78	20.89	37.83	27.96	16.85	21.84	11.72
Number of Funds	57	57	57	56	52	50	45	16

*Three Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Cleveland Capital - Emerg. Mgr.	π	15.62	70	14.38	99
Policy Index	1	15.77	70	20.10	33
Median		16.85		19.73	

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

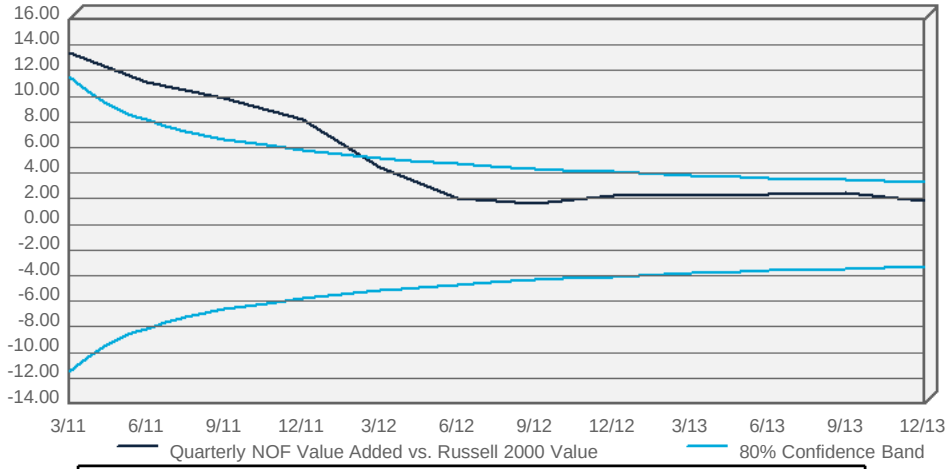
Investment Manager Analysis

Wilshire

Earnest Small Value

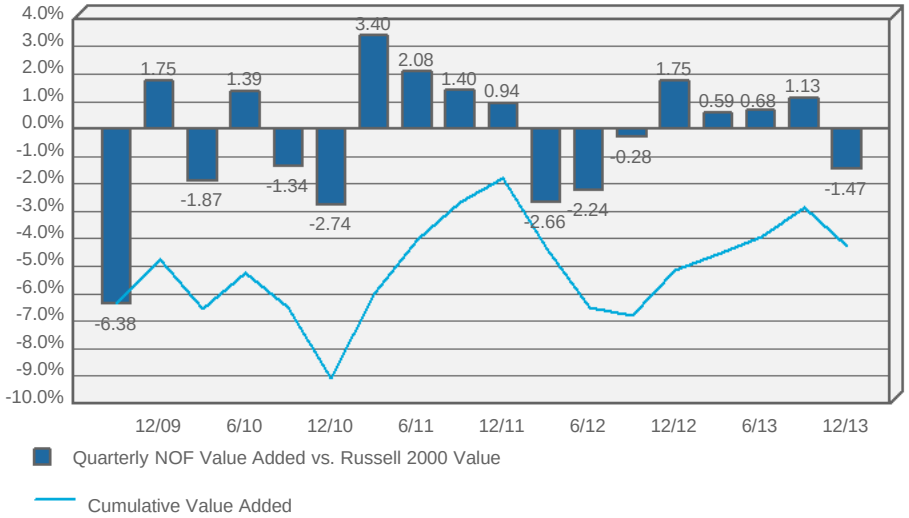
December 31, 2013

Cumulative Skill Analysis vs Benchmark

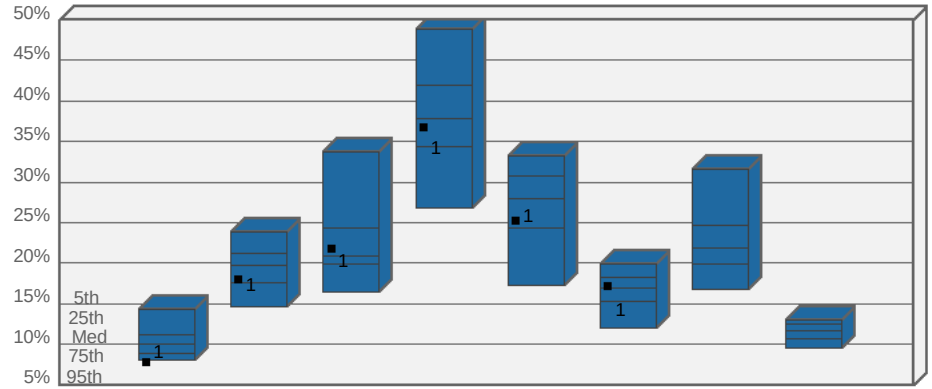


Excess Return:	**1.81**	**Information Ratio:**	**0.52**
Excess Risk:	**3.50**	**T-Stat:**	**0.90**

Value-Added Analysis vs Benchmark

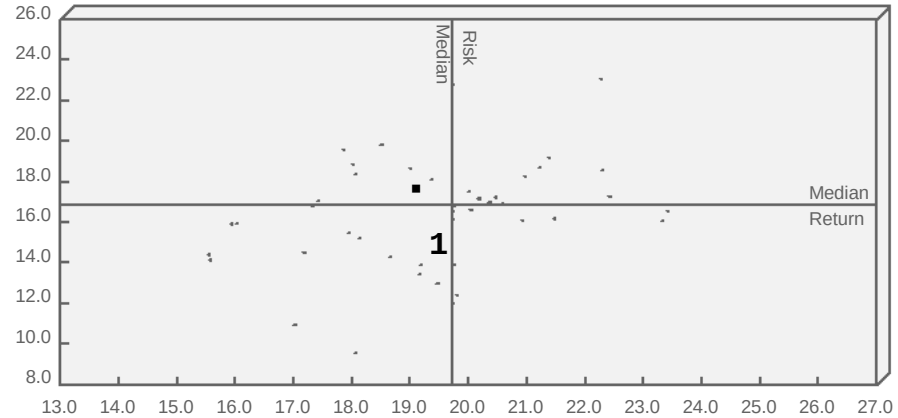


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
■ Earnest Small	8.32 (91)	18.62 (60)	22.35 (42)	37.30 (55)	25.88 (61)	17.80 (27)		
1 Russell 2000 V	9.29 (60)	17.59 (80)	20.49 (51)	34.50 (71)	26.01 (59)	14.48 (77)		
Median	10.00	19.78	20.89	37.83	27.96	16.85	21.84	11.72
Number of Funds	57	57	57	56	52	50	45	16

*Three Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Earnest Small Value	■	17.80	27	19.29	54
Russell 2000 Value	1	14.48	77	19.59	50
Median		16.85		19.73	

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

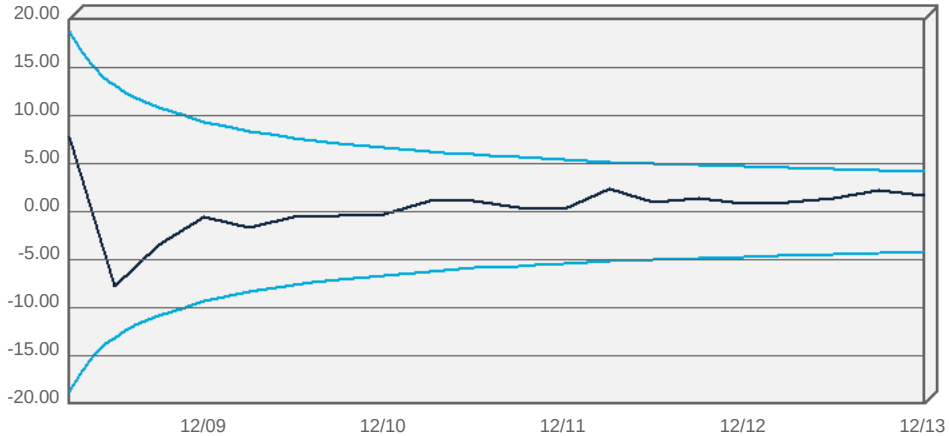
Investment Manager Analysis

Wilshire

Emerald Advisors

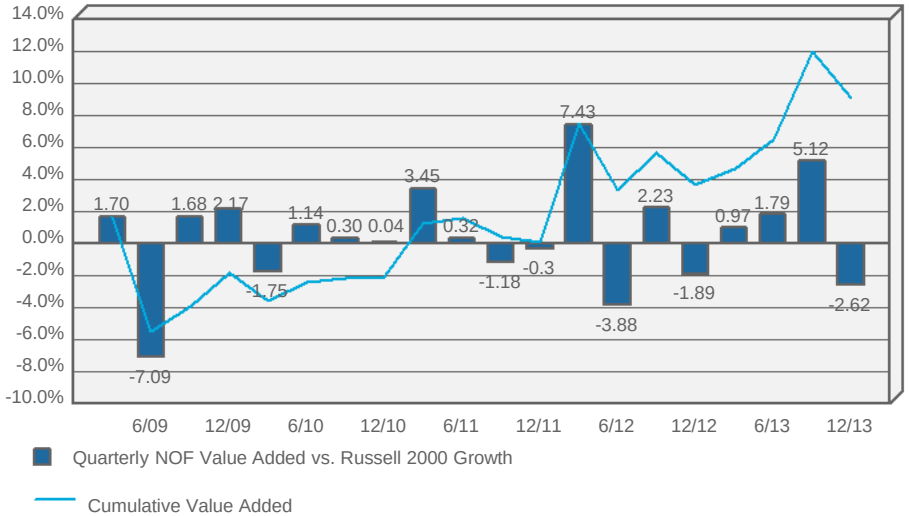
December 31, 2013

Cumulative Skill Analysis vs Benchmark

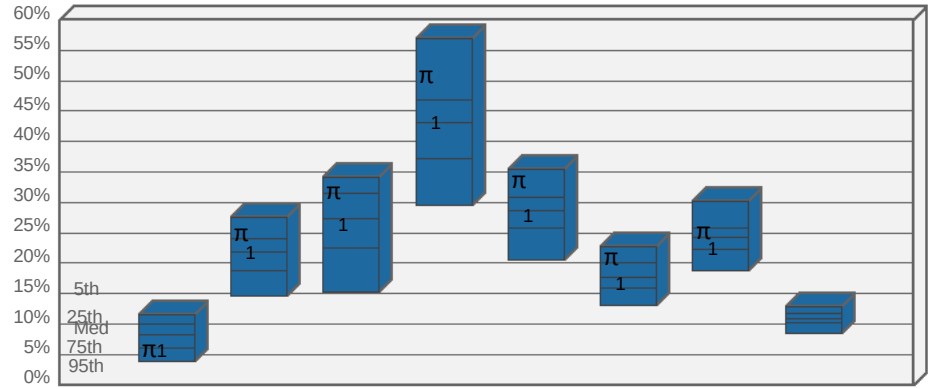


Excess Return:	**1.61**	**Information Ratio:**	**0.28**
Excess Risk:	**5.68**	**T-Stat:**	**0.63**

Value-Added Analysis vs Benchmark

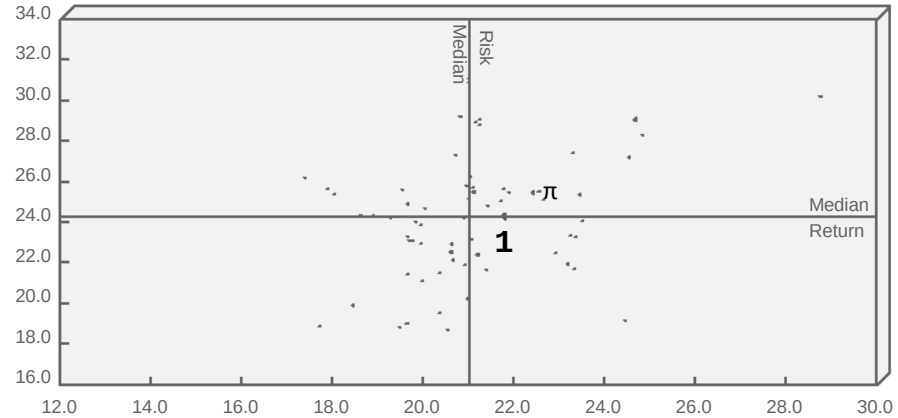


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
π Emerald Adviso	5.99 (76)	25.22 (13)	32.12 (18)	51.13 (13)	33.79 (7)	21.17 (11)	25.51 (33)	
1 Russell 2000 G	8.18 (49)	22.03 (47)	26.58 (54)	43.29 (49)	28.14 (53)	16.81 (59)	22.57 (70)	
Median	8.14	21.81	27.35	43.12	28.54	17.67	24.26	10.96
Number of Funds	160	160	156	155	139	131	101	42

*Five Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Emerald Advisors	π	25.51	33	22.99	23
Russell 2000 Growth	1	22.57	70	21.91	29
Median		24.26		21.02	

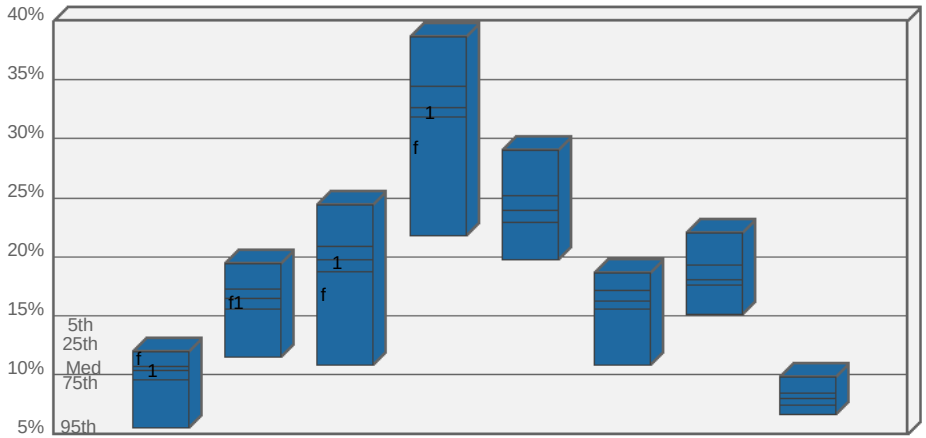
*TUCS Total Returns of Small Growth Equity Portfolios Universe - Gross of Fees

Investment Manager Analysis

Fragasso Large Core - Emg. Mgr.

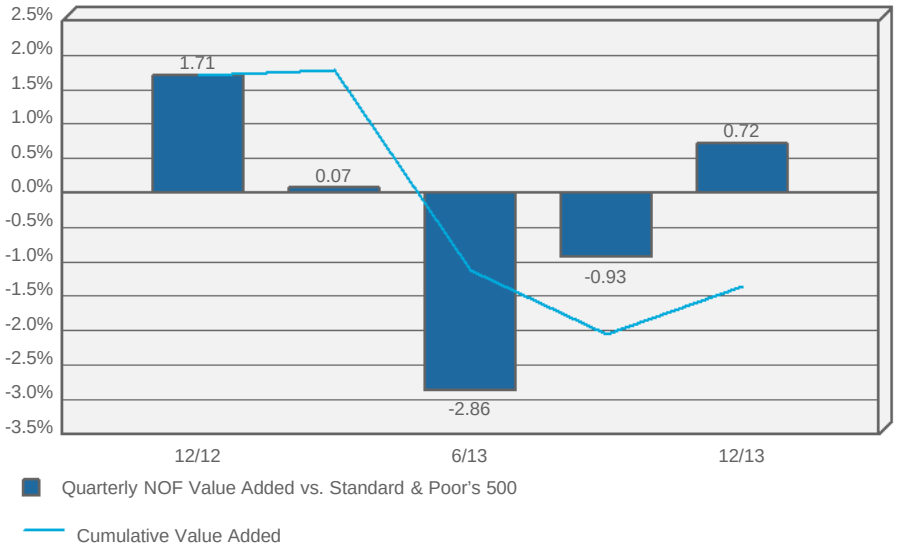
December 31, 2013

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
f Fragasso Large	11.56 (10)	16.88 (38)	16.95 (87)	29.44 (87)				
1 Standard & Poo	10.52 (34)	16.32 (56)	19.71 (53)	32.41 (57)				
Median	10.37	16.48	19.75	32.69	23.99	16.26	18.11	7.97
Number of Funds	386	383	376	371	326	296	237	100

Value-Added Analysis vs Benchmark



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

Custom Benchmark Specification

US Equity Composite

December 31, 2013

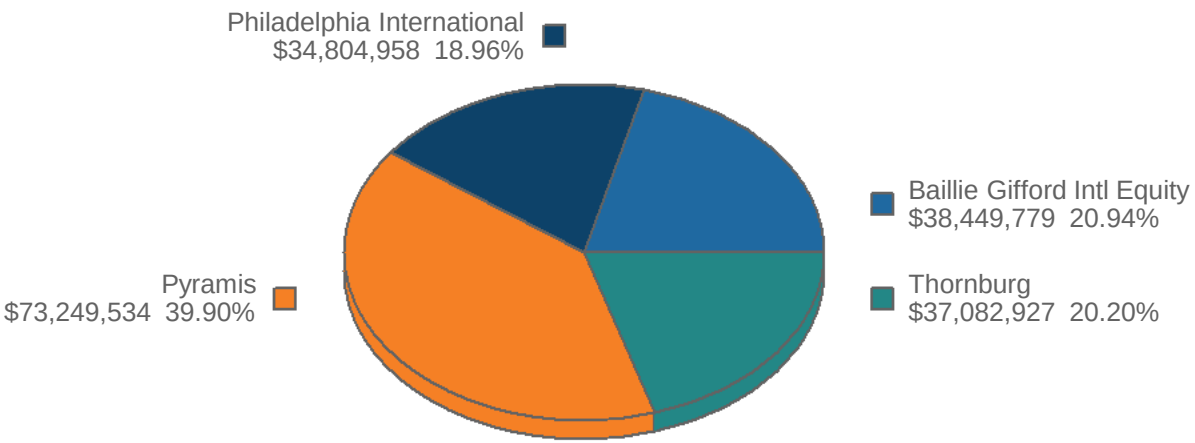
	Quarter Start	Quarter End	Percent	Description
Wilshire 5000	9/93	12/13	100.00	Wilshire 5000

International Equity

Manager Allocation

Non US Equity Composite

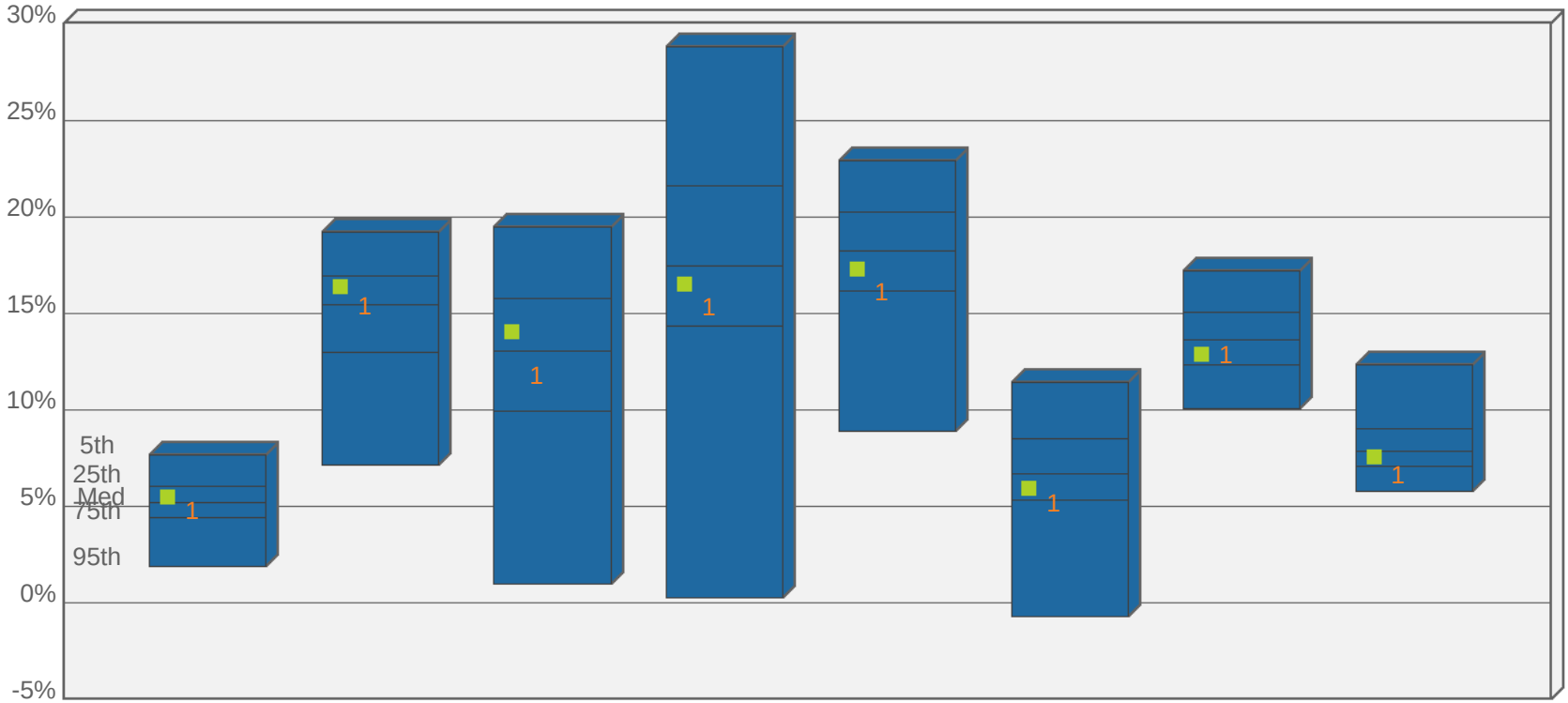
As of December 31, 2013



Performance Comparison

Non US Equity Composite

Periods Ended December 31, 2013



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Non US Equity Composite	5.50 (43)	16.42 (35)	14.07 (40)	16.57 (56)	17.32 (57)	5.98 (59)	12.94 (63)	7.60 (62)
1 Policy Benchmark	4.76 (67)	15.34 (51)	11.75 (64)	15.29 (68)	16.05 (75)	5.14 (76)	12.81 (65)	6.58 (83)
5th %tile	7.69	19.17	19.45	28.82	22.89	11.41	17.20	12.33
25th %tile	6.06	16.96	15.76	21.57	20.22	8.48	15.05	9.05
Median	5.23	15.42	13.03	17.48	18.22	6.70	13.61	7.89
75th %tile	4.40	13.00	9.91	14.33	16.13	5.33	12.31	7.10
95th %tile	1.88	7.15	1.00	0.30	8.88	-0.71	10.07	5.78
Number of Funds	243	229	223	215	196	193	154	102

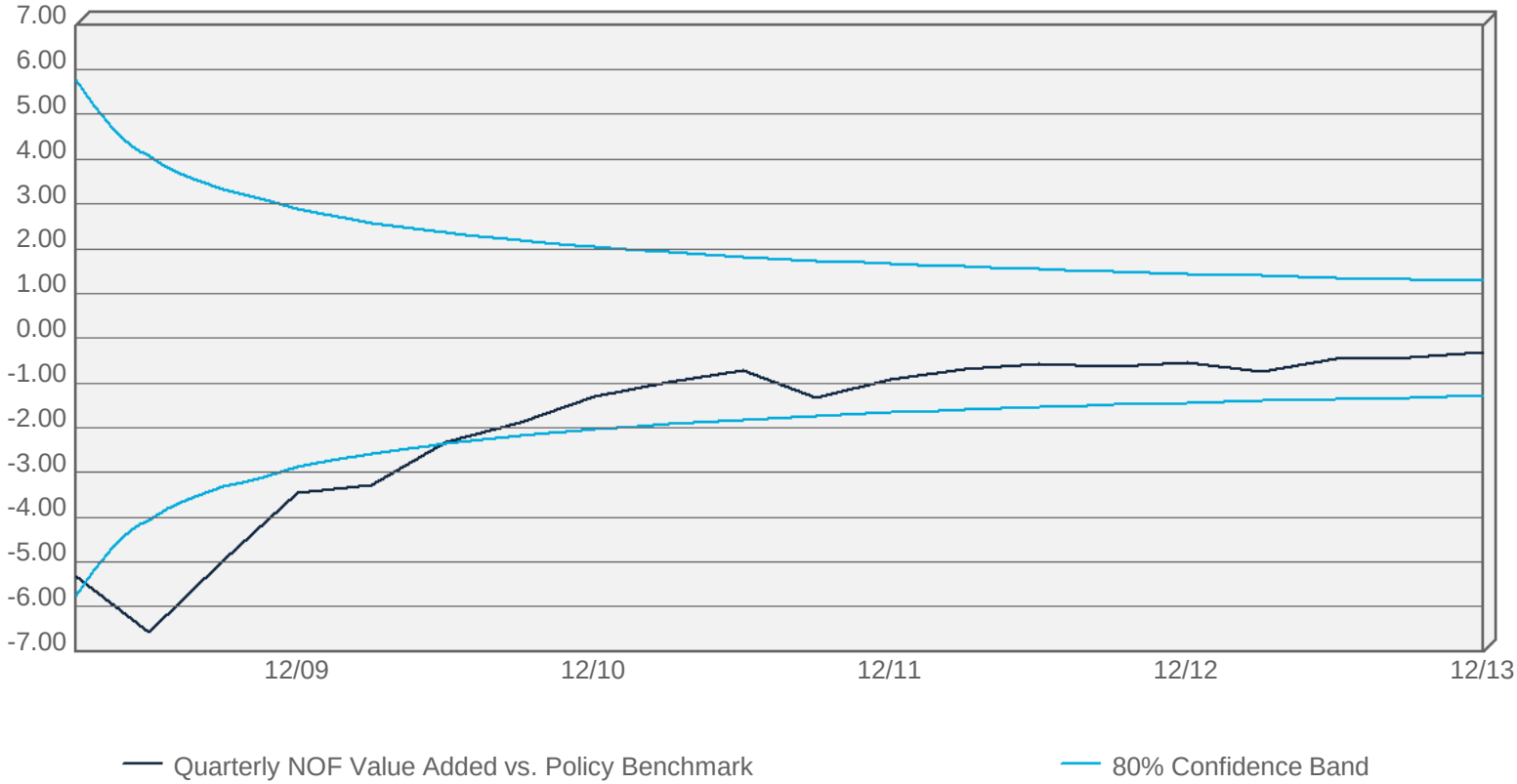
*TUCS Total Ret of Non-US Equity Investment Pools Universe - Gross of Fees

Cumulative Skill Analysis

Wilshire

Non US Equity Composite

Five Years Ending December 31, 2013



Excess Return:	**-0.31**	**Information Ratio:**	**-0.18**
Excess Risk:	**1.75**	**T-Stat:**	**-0.40**

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Baillie Gifford Intl Equity									
Net of Fee Return	**5.17**	**16.75**	**12.56**	**16.80**	**8.16**			**9/30/09**	**10.70**
MSCI ACWI X US (N)	4.76	15.34	11.75	15.29	5.14			9/30/09	7.13
Value Added	0.41	1.41	0.82	1.51	3.02			9/30/09	3.57
Philadelphia International									
Net of Fee Return	**6.27**	**18.62**	**17.08**	**17.41**	**4.34**			**6/30/09**	**10.22**
MSCI ACWI X US (N)	4.76	15.34	11.75	15.29	5.14			6/30/09	11.07
Value Added	1.51	3.28	5.34	2.12	-0.80			6/30/09	-0.86
Pyramis									
Net of Fee Return	**5.27**	**15.02**	**12.82**	**15.65**	**5.32**	**12.15**	**6.85**	**12/31/00**	**5.11**
Policy Benchmark	4.76	15.34	11.75	15.29	5.14	12.81	6.58	12/31/00	4.31
Value Added	0.51	-0.32	1.08	0.36	0.18	-0.67	0.27	12/31/00	0.80
Thornburg									
Net of Fee Return	**4.21**	**14.36**	**12.75**	**15.61**	**4.86**	**11.95**		**9/30/08**	**6.80**
MSCI ACWI X US (N)	4.76	15.34	11.75	15.29	5.14	12.81		9/30/08	6.89
Value Added	-0.56	-0.97	1.00	0.33	-0.28	-0.87		9/30/08	-0.10
Non US Equity Composite									
Net of Fee Return	**5.23**	**15.96**	**13.59**	**16.02**	**5.50**	**12.46**	**7.17**	**12/31/00**	**5.35**
Policy Benchmark	4.76	15.34	11.75	15.29	5.14	12.81	6.58	12/31/00	4.31
Value Added	0.47	0.62	1.84	0.73	0.36	-0.35	0.58	12/31/00	1.04

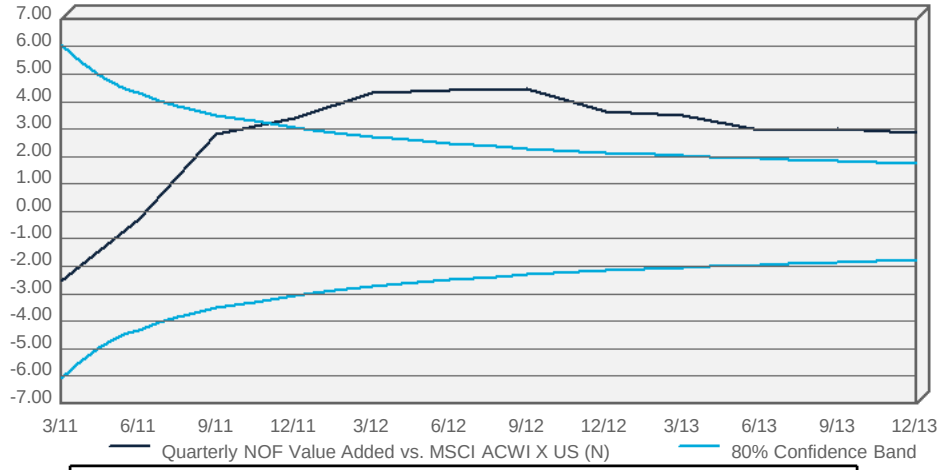
Investment Manager Analysis

Wilshire

Baillie Gifford Intl Equity

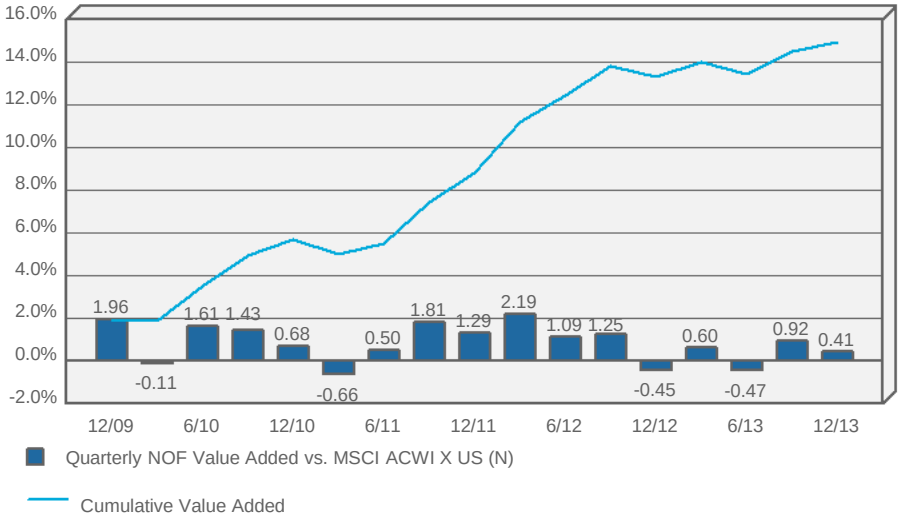
December 31, 2013

Cumulative Skill Analysis vs Benchmark

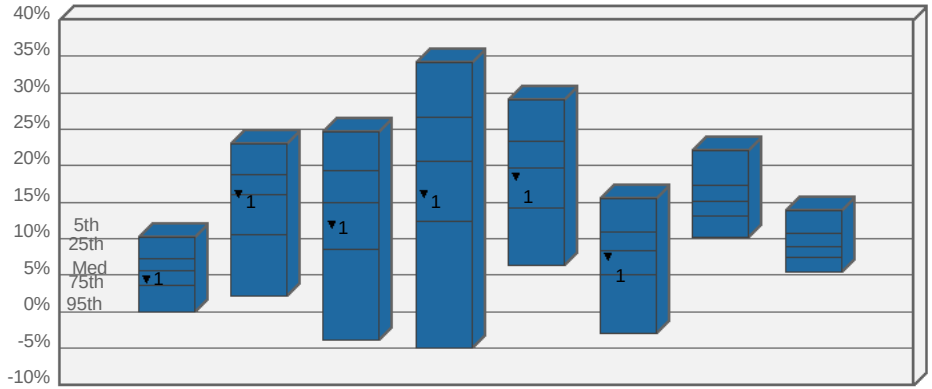


Excess Return:	**2.87**	**Information Ratio:**	**1.55**
Excess Risk:	**1.85**	**T-Stat:**	**2.69**

Value-Added Analysis vs Benchmark

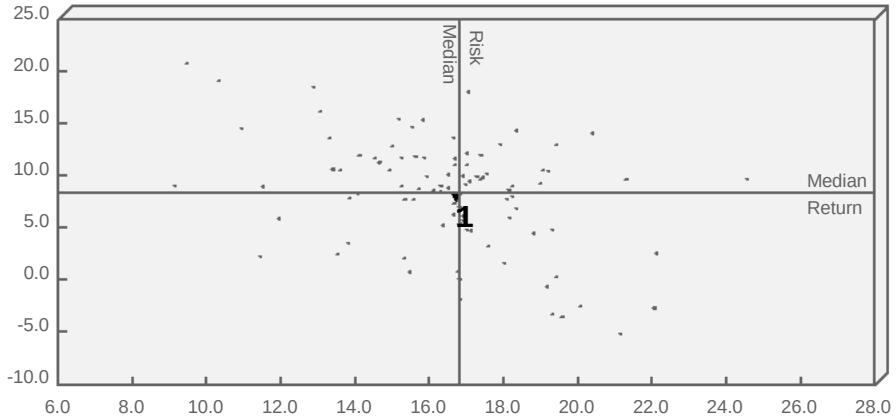


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
▼ Baillie Giffor	5.17 (56)	16.75 (45)	12.56 (60)	16.80 (63)	19.09 (53)	8.16 (51)		
1 MSCI ACWI X	4.76 (64)	15.34 (57)	11.75 (66)	15.29 (68)	16.05 (69)	5.14 (74)		
Median	5.65	16.08	14.93	20.54	19.61	8.33	15.09	8.93
Number of Funds	2303	2271	2193	2115	1931	1722	1245	479

*Three Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Baillie Gifford Intl Equity	▼	8.16	51	17.01	45
MSCI ACWI X US (N)	1	5.14	74	17.11	43
Median		8.33		16.81	

*TUCS Total Returns of Intl Equity Portfolios - Non-US Equity Universe - Gross of Fees

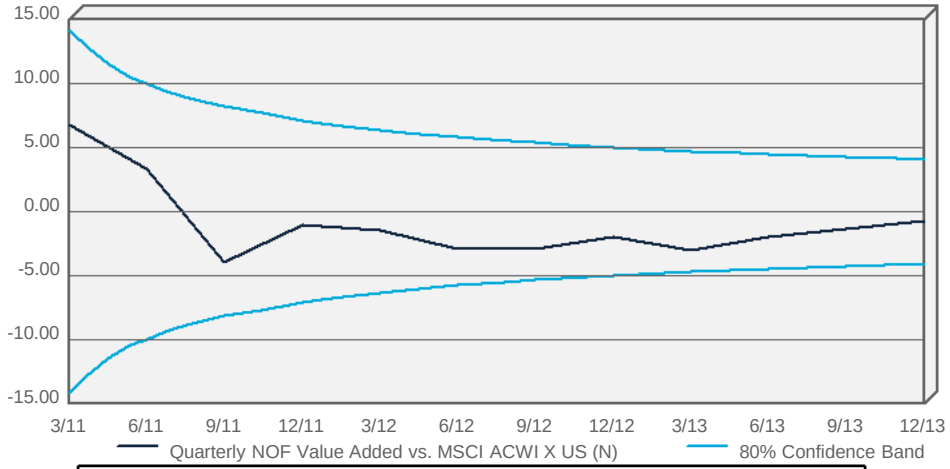
Investment Manager Analysis

Wilshire

Philadelphia International

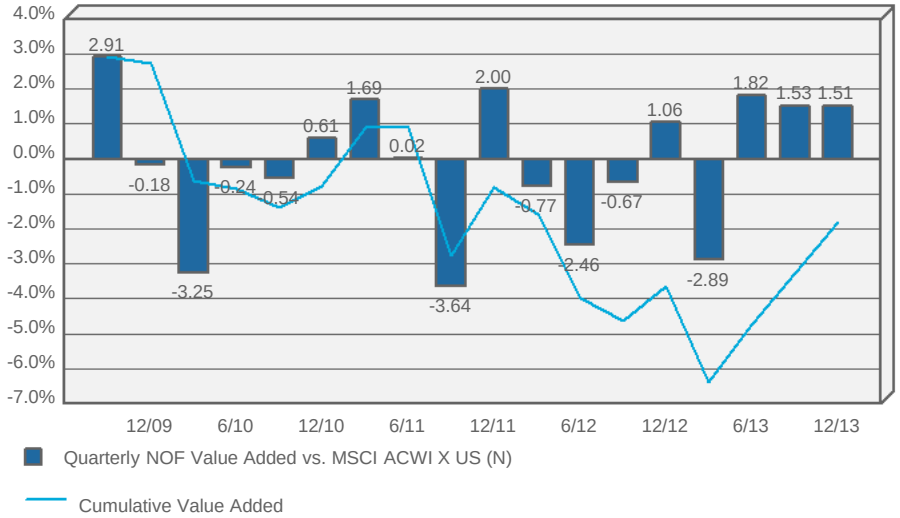
December 31, 2013

Cumulative Skill Analysis vs Benchmark

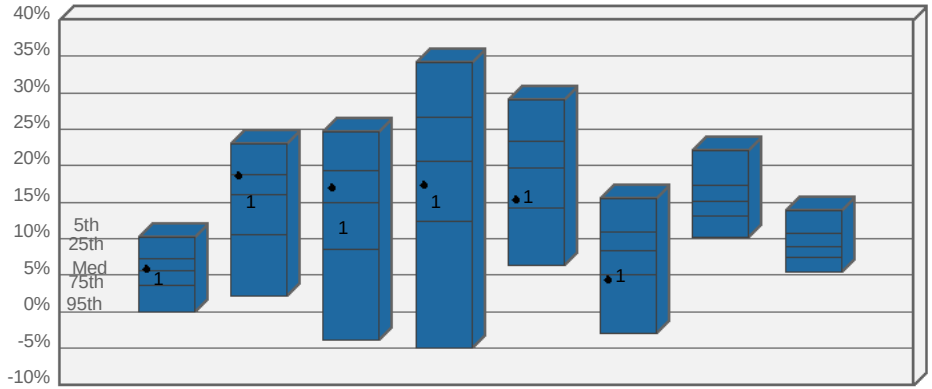


Excess Return:	**-0.76**	**Information Ratio:**	**-0.18**
Excess Risk:	**4.31**	**T-Stat:**	**-0.31**

Value-Added Analysis vs Benchmark

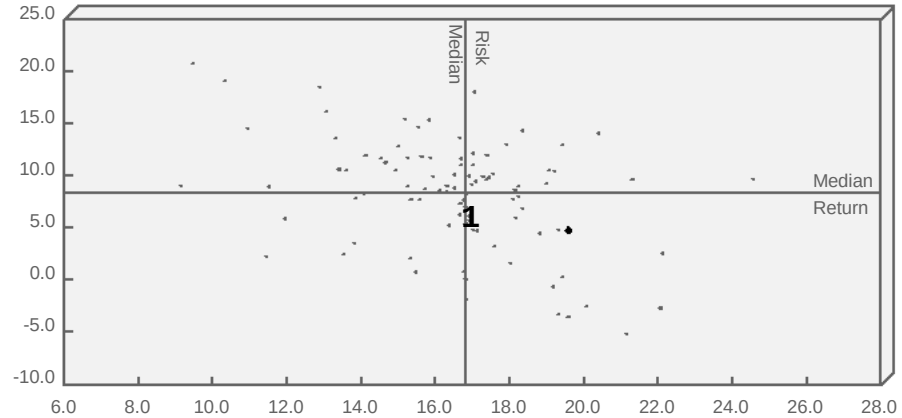


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
♦ Philadelphia I	6.52 (37)	19.33 (21)	17.78 (33)	18.11 (58)	16.08 (69)	5.00 (75)		
1 MSCI ACWI X	4.76 (64)	15.34 (57)	11.75 (66)	15.29 (68)	16.05 (69)	5.14 (74)		
Median	5.65	16.08	14.93	20.54	19.61	8.33	15.09	8.93
Number of Funds	2303	2271	2193	2115	1931	1722	1245	479

*Three Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
Philadelphia International	♦	5.00	75	19.86	9
MSCI ACWI X US (N)	1	5.14	74	17.11	43
Median		8.33		16.81	

*TUCS Total Returns of Intl Equity Portfolios - Non-US Equity Universe - Gross of Fees

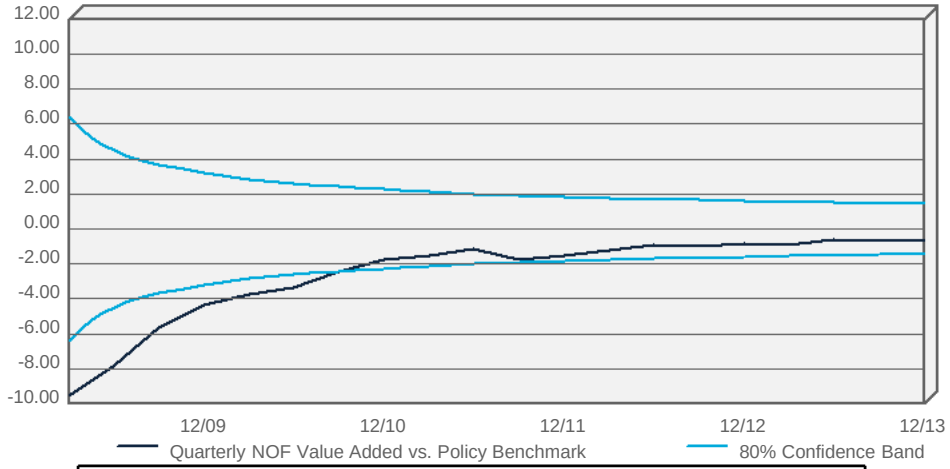
Investment Manager Analysis

Wilshire

Pyramis

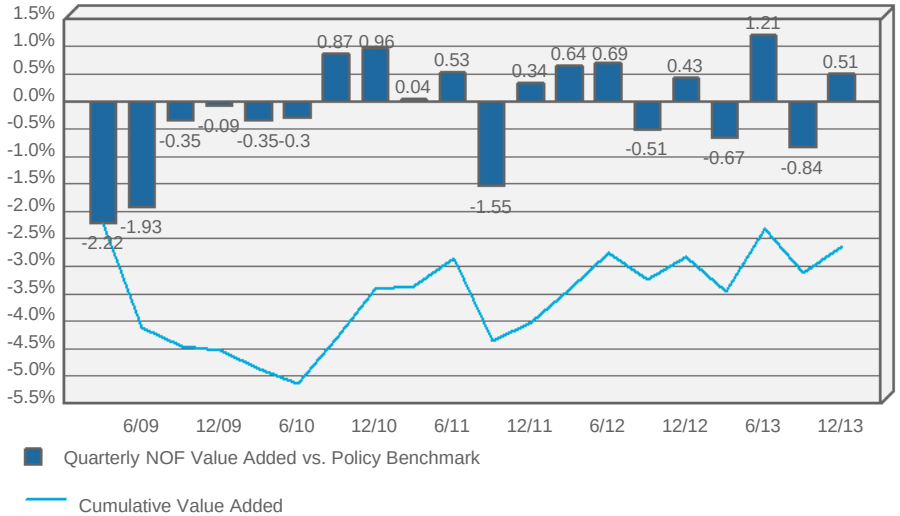
December 31, 2013

Cumulative Skill Analysis vs Benchmark

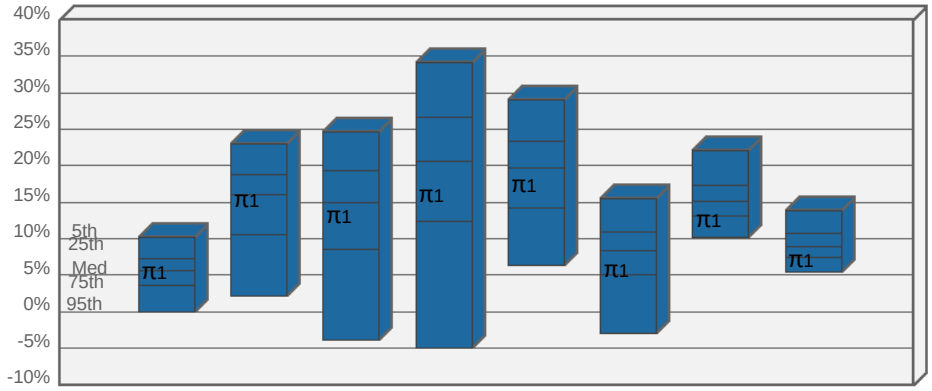


Excess Return:	**-0.59**	**Information Ratio:**	**-0.30**
Excess Risk:	**1.94**	**T-Stat:**	**-0.68**

Value-Added Analysis vs Benchmark

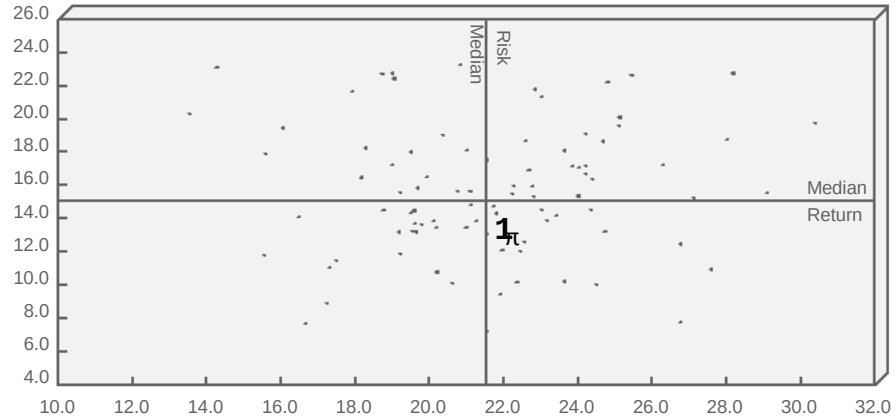


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
π Pyramis	5.73 (47)	15.61 (54)	13.41 (57)	16.25 (65)	17.65 (61)	5.97 (69)	12.86 (78)	7.40 (76)
1 Policy Benchma	4.76 (64)	15.34 (57)	11.75 (66)	15.29 (68)	16.05 (69)	5.14 (74)	12.81 (78)	6.58 (86)
Median	5.65	16.08	14.93	20.54	19.61	8.33	15.09	8.93
Number of Funds	2303	2271	2193	2115	1931	1722	1245	479

*Five Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Pyramis	π	12.86	78	22.46	37
Policy Benchmark	1	12.81	78	22.17	41
Median		15.09		21.54	

*TUCS Total Returns of Intl Equity Portfolios - Non-US Equity Universe - Gross of Fees

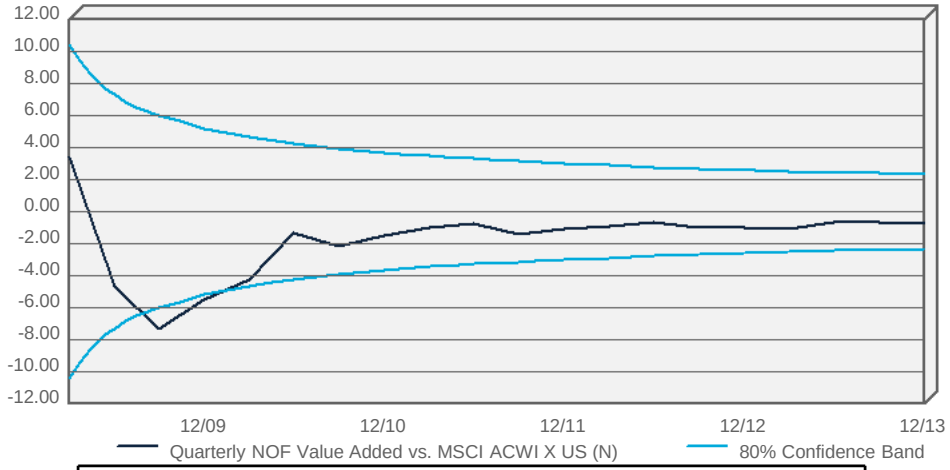
Investment Manager Analysis

Wilshire

Thornburg

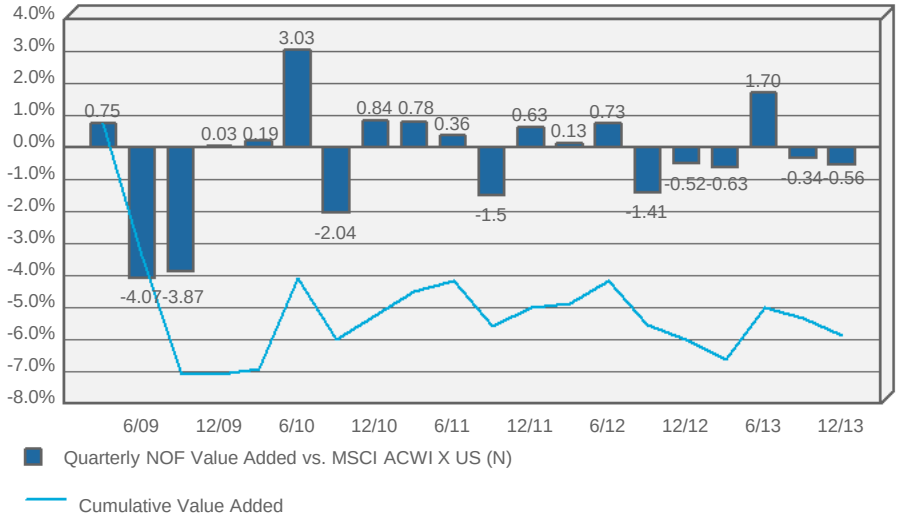
December 31, 2013

Cumulative Skill Analysis vs Benchmark

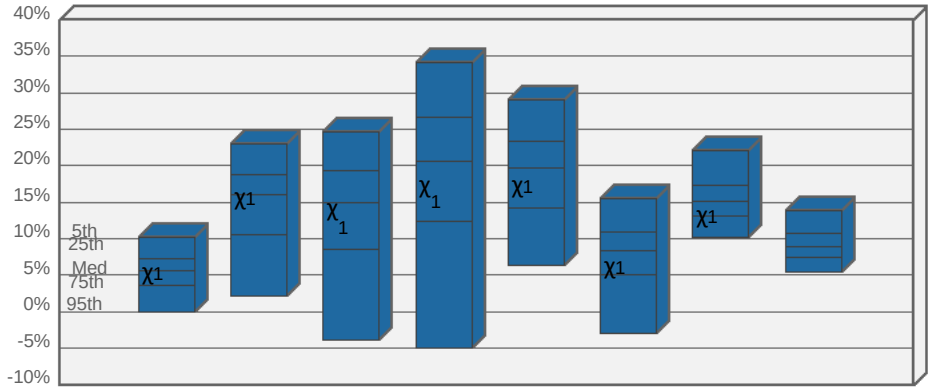


Excess Return:	**-0.77**	**Information Ratio:**	**-0.24**
Excess Risk:	**3.16**	**T-Stat:**	**-0.54**

Value-Added Analysis vs Benchmark

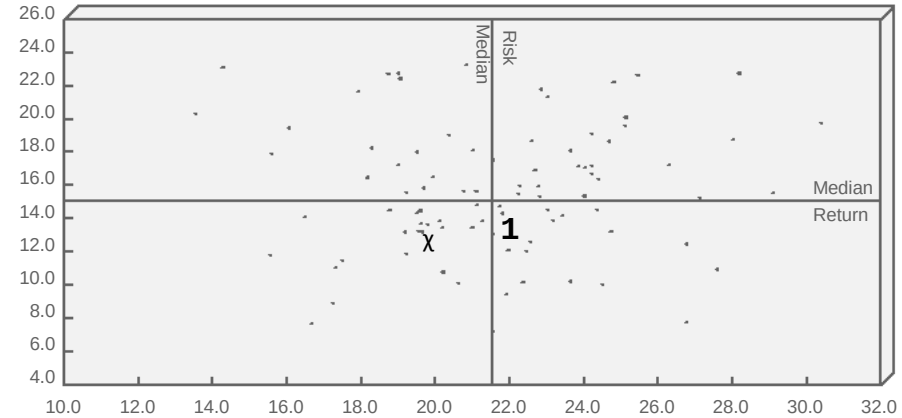


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
χ Thornburg	4.40 (69)	14.72 (62)	13.24 (57)	16.38 (65)	16.37 (68)	5.27 (73)	12.21 (85)	
1 MSCI ACWI X	4.76 (64)	15.34 (57)	11.75 (66)	15.29 (68)	16.05 (69)	5.14 (74)	12.81 (78)	
Median	5.65	16.08	14.93	20.54	19.61	8.33	15.09	8.93
Number of Funds	2303	2271	2193	2115	1931	1722	1245	479

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
Thornburg	χ	12.21	85	20.08	70
MSCI ACWI X US (N)	1	12.81	78	22.17	41
Median		15.09		21.54	

*TUCS Total Returns of Intl Equity Portfolios - Non-US Equity Universe - Gross of Fees

Custom Benchmark Specification

Non US Equity Composite

December 31, 2013

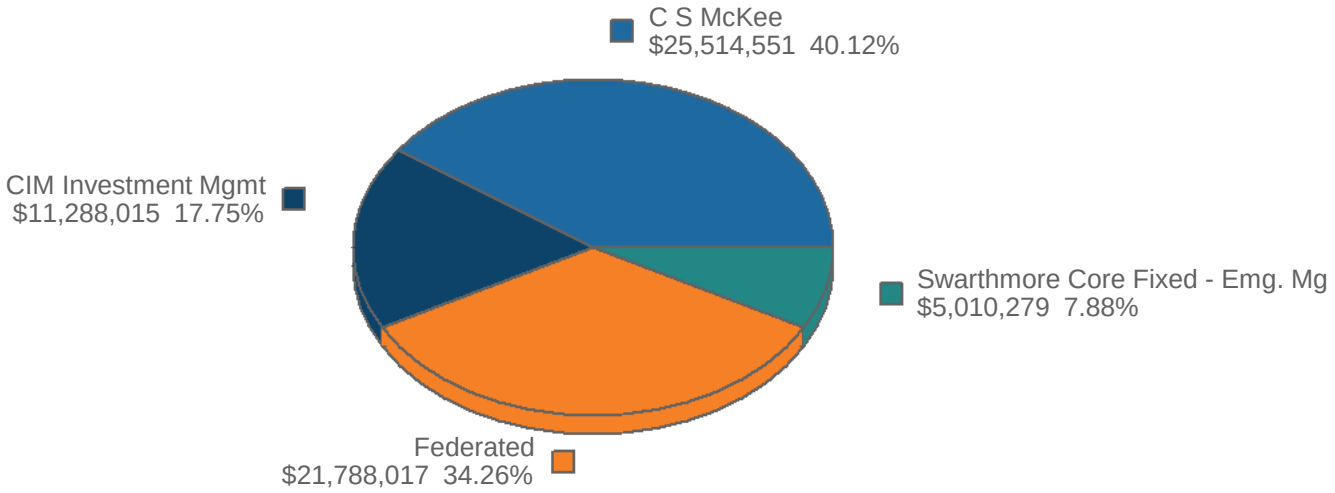
	Quarter Start	Quarter End	Percent	Description
Policy Benchmark	12/00	6/08	100.00	MSCI EAFE Index (N)
	9/08	12/13	100.00	MSCI ACWI X US (N)

Fixed Income

Manager Allocation

Core Fixed Composite

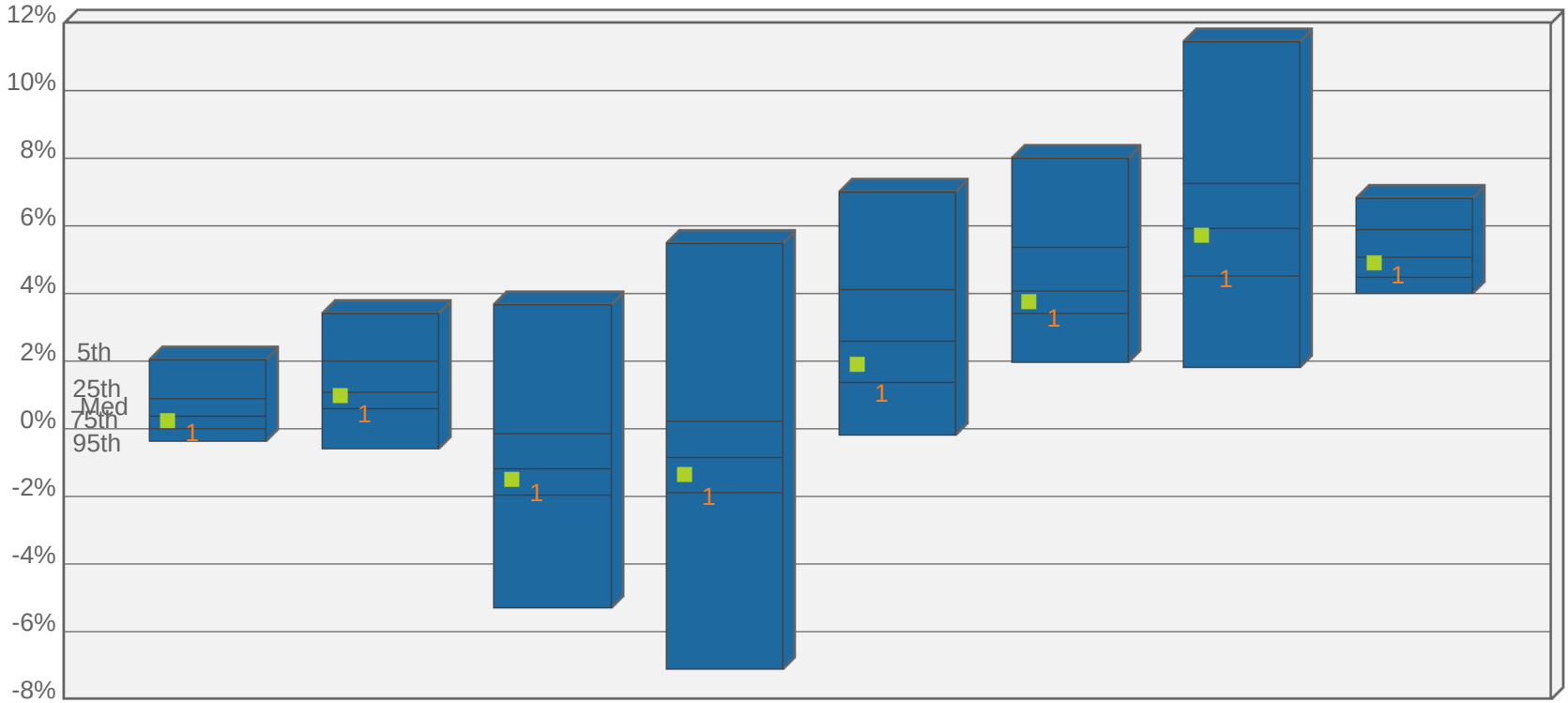
As of December 31, 2013



Performance Comparison

Core Fixed Composite

Periods Ended December 31, 2013



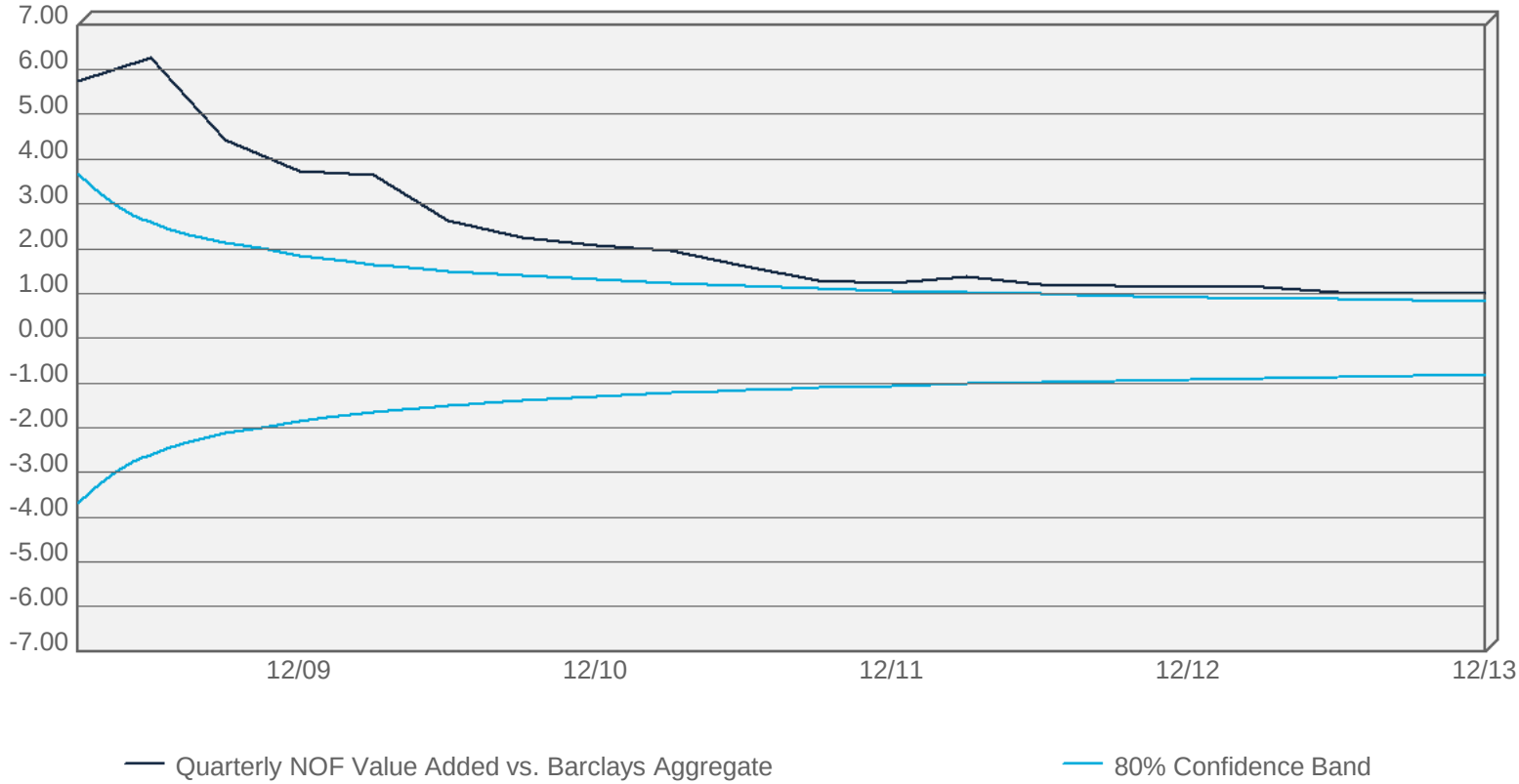
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Core Fixed Composite	0.27 (58)	1.00 (55)	-1.48 (64)	-1.32 (64)	1.95 (63)	3.81 (61)	5.76 (53)	4.93 (56)
1 Barclays Aggregate	-0.14 (89)	0.43 (81)	-1.90 (73)	-2.02 (78)	1.05 (87)	3.26 (80)	4.44 (78)	4.55 (73)
5th %tile	2.06	3.44	3.67	5.51	7.02	8.03	11.45	6.83
25th %tile	0.90	2.02	-0.15	0.25	4.13	5.39	7.27	5.90
Median	0.38	1.09	-1.18	-0.85	2.60	4.09	5.94	5.10
75th %tile	-0.00	0.61	-1.93	-1.86	1.39	3.41	4.55	4.48
95th %tile	-0.36	-0.59	-5.28	-7.10	-0.18	1.99	1.82	4.01
Number of Funds	235	222	217	210	185	178	134	82

*TUCS Total Ret of Fixed Income Investment Pools Universe - Gross of Fees

Cumulative Skill Analysis

Core Fixed Composite

Five Years Ending December 31, 2013



Excess Return:	**1.02**	**Information Ratio:**	**0.91**
Excess Risk:	**1.12**	**T-Stat:**	**2.03**

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
CIM Investment Mgmt									
Net of Fee Return	**0.24**	**0.88**	**-1.48**	**-1.36**	**2.59**	**4.43**		**12/31/05**	**4.21**
Barclays Int Govt/Credit	-0.02	0.59	-1.12	-0.86	2.91	3.96		12/31/05	4.54
Value Added	0.26	0.29	-0.37	-0.50	-0.32	0.47		12/31/05	-0.32
C S McKee									
Net of Fee Return	**0.10**	**0.50**	**-1.56**	**-1.52**	**3.92**	**5.41**	**5.25**	**12/31/82**	**8.14**
Barclays Aggregate	-0.14	0.43	-1.90	-2.02	3.26	4.44	4.55	12/31/82	7.76
Value Added	0.23	0.07	0.34	0.51	0.66	0.97	0.70	12/31/82	0.38
Federated									
Net of Fee Return	**0.29**	**1.40**	**-1.85**	**-1.41**	**3.85**	**6.54**		**9/30/06**	**5.82**
Barclays Aggregate	-0.14	0.43	-1.90	-2.02	3.26	4.44		9/30/06	4.92
Value Added	0.42	0.97	0.06	0.62	0.59	2.10		9/30/06	0.90
Swarthmore Core Fixed - Emg. Mg									
Net of Fee Return	**-0.21**	**0.26**	**-1.77**	**-1.69**				**6/30/12**	**-0.16**
Barclays Int Govt/Credit Index	-0.02	0.59	-1.12	-0.86				6/30/12	0.59
Value Added	-0.18	-0.33	-0.65	-0.83				6/30/12	-0.75
Core Fixed Composite									
Net of Fee Return	**0.19**	**0.88**	**-1.62**	**-1.51**	**3.59**	**5.50**	**4.66**	**9/30/82**	**8.49**
Barclays Aggregate	-0.14	0.43	-1.90	-2.02	3.26	4.44	4.55	9/30/82	7.98
Value Added	0.33	0.45	0.28	0.51	0.32	1.06	0.11	9/30/82	0.51

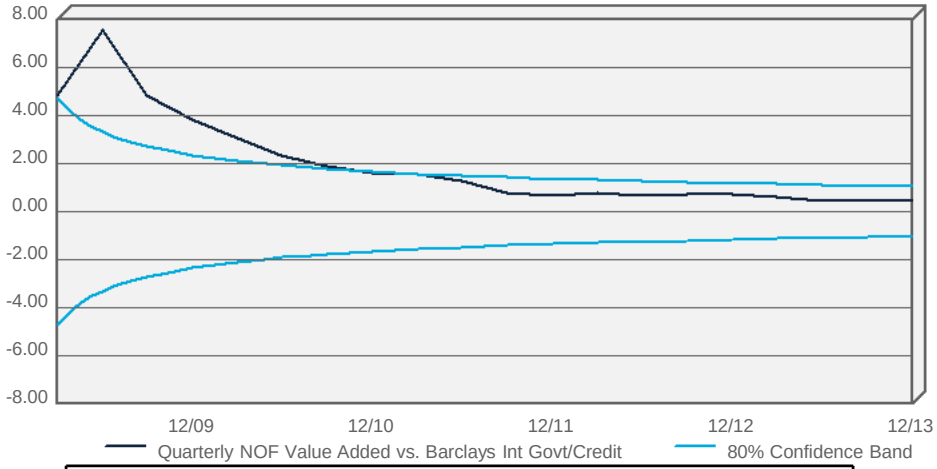
Investment Manager Analysis

Wilshire

CIM Investment Mgmt

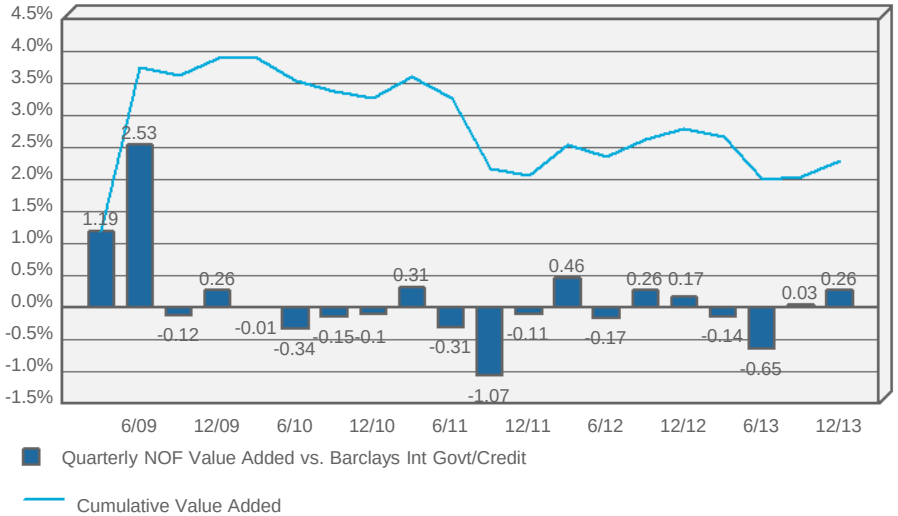
December 31, 2013

Cumulative Skill Analysis vs Benchmark

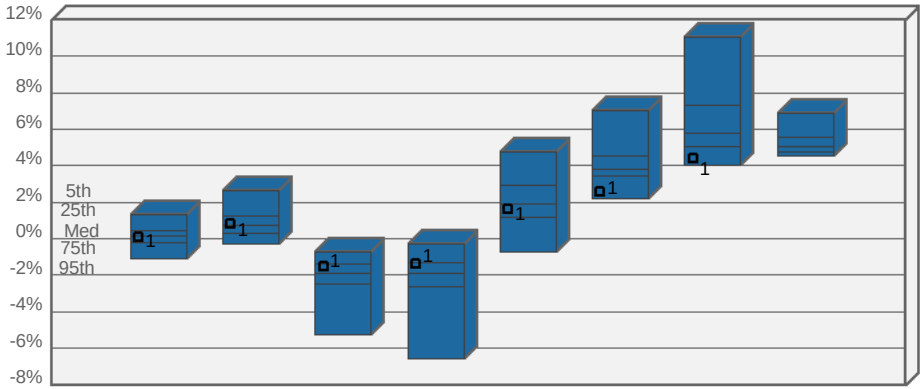


Excess Return:	**0.45**	**Information Ratio:**	**0.32**
Excess Risk:	**1.43**	**T-Stat:**	**0.71**

Value-Added Analysis vs Benchmark

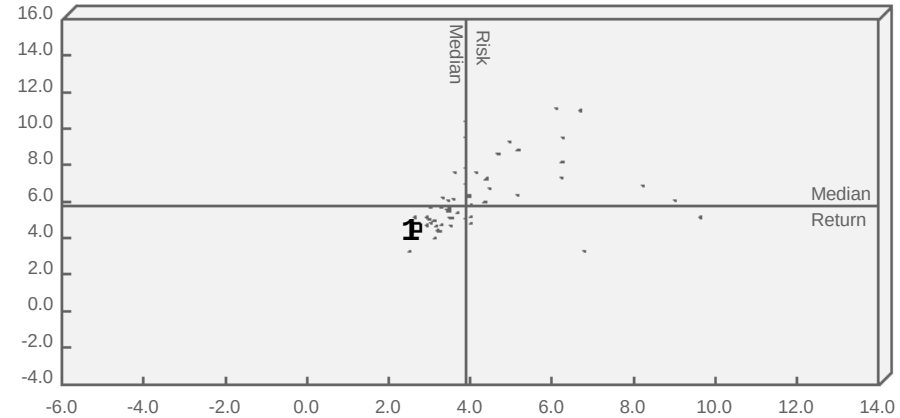


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
CIM Investment	0.39 (30)	1.10 (35)	-1.27 (20)	-1.08 (20)	1.88 (50)	2.87 (88)	4.72 (84)	
Barclays Int G	-0.02 (62)	0.59 (53)	-1.12 (15)	-0.86 (14)	1.49 (62)	2.91 (88)	3.96 (95)	
Median	0.13	0.71	-1.91	-1.91	1.88	3.79	5.78	5.03
Number of Funds	127	124	120	117	106	90	56	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
CIM Investment Mgmt		4.72	84	2.96	91
Barclays Int Govt/Credit	1	3.96	95	2.68	95
Median		5.78		3.89	

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

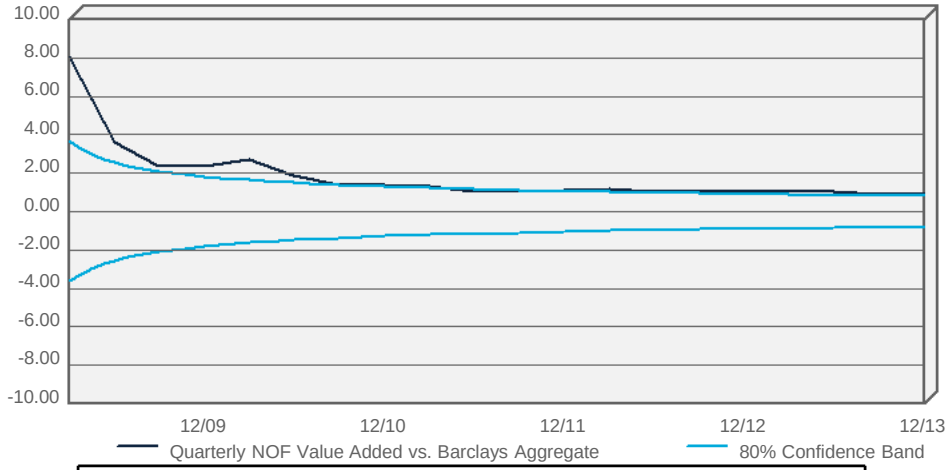
Investment Manager Analysis

Wilshire

C S McKee

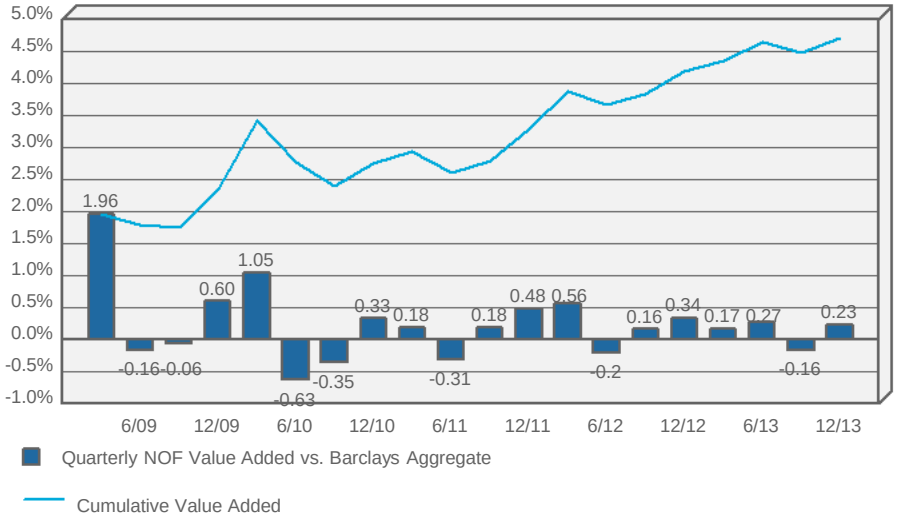
December 31, 2013

Cumulative Skill Analysis vs Benchmark

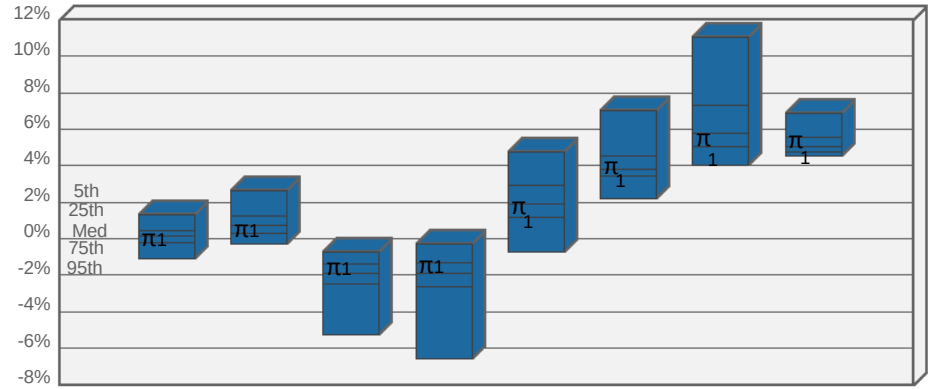


Excess Return:	**0.93**	**Information Ratio:**	**0.84**
Excess Risk:	**1.11**	**T-Stat:**	**1.87**

Value-Added Analysis vs Benchmark

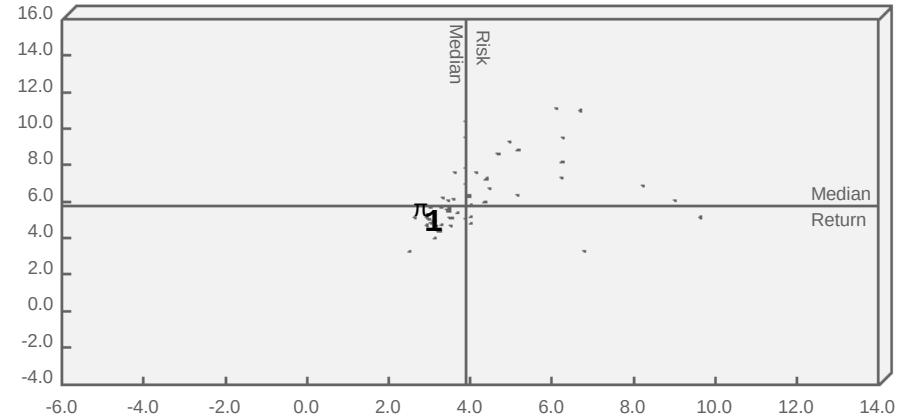


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
π C S McKee	0.10 (53)	0.56 (55)	-1.51 (29)	-1.42 (35)	1.86 (51)	4.08 (40)	5.61 (55)	5.48 (25)
1 Barclays Aggre	-0.14 (66)	0.43 (62)	-1.90 (49)	-2.02 (55)	1.05 (77)	3.26 (77)	4.44 (89)	4.55 (88)
Median	0.13	0.71	-1.91	-1.91	1.88	3.79	5.78	5.03
Number of Funds	127	124	120	117	106	90	56	32

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
C S McKee	π	5.61	55	2.99	91
Barclays Aggregate	1	4.44	89	3.24	76
Median		5.78		3.89	

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

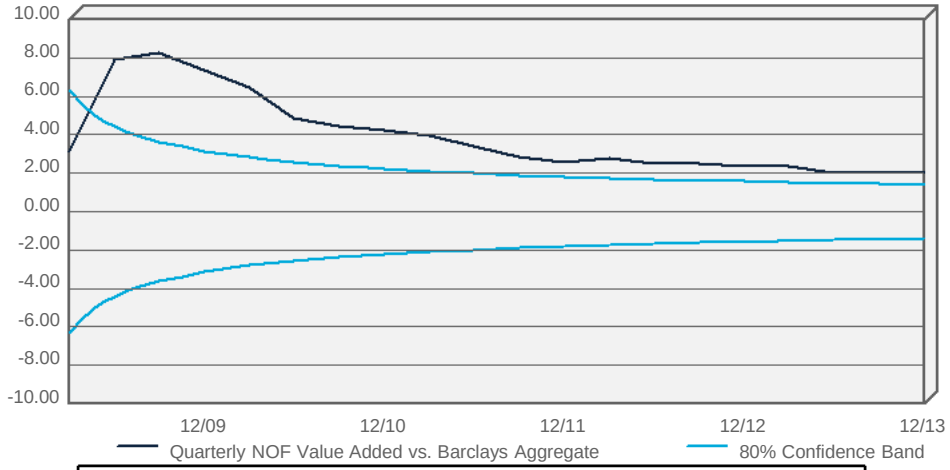
Investment Manager Analysis

Wilshire

Federated

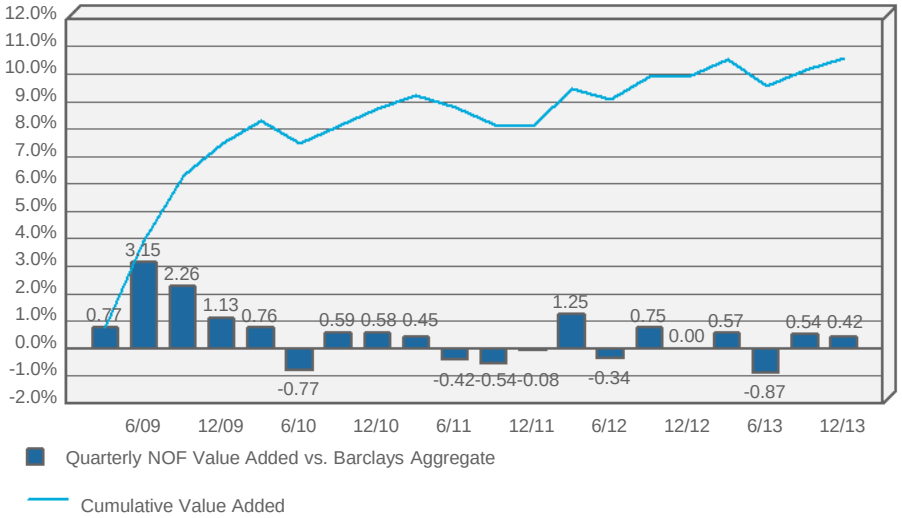
December 31, 2013

Cumulative Skill Analysis vs Benchmark

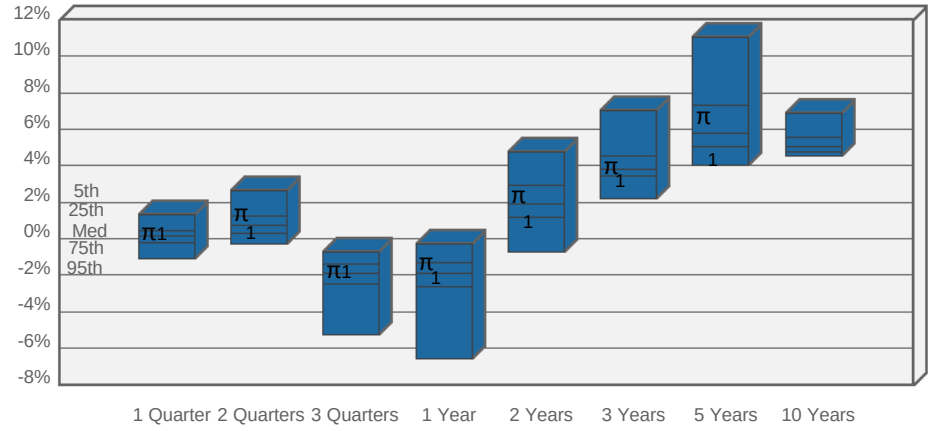


Excess Return:	**2.01**	**Information Ratio:**	**1.05**
Excess Risk:	**1.91**	**T-Stat:**	**2.35**

Value-Added Analysis vs Benchmark

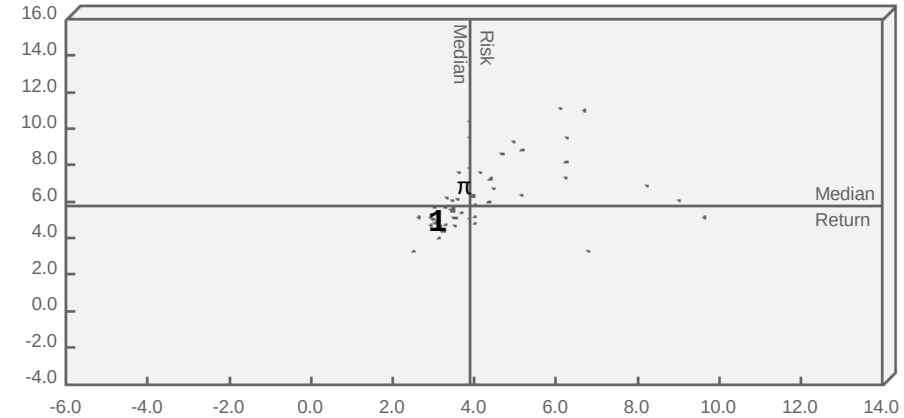


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
π Federated	0.39 (30)	1.50 (16)	-1.65 (40)	-1.21 (21)	2.44 (37)	4.07 (40)	6.81 (32)	
1 Barclays Aggre	-0.14 (66)	0.43 (62)	-1.90 (49)	-2.02 (55)	1.05 (77)	3.26 (77)	4.44 (89)	
Median	0.13	0.71	-1.91	-1.91	1.88	3.79	5.78	5.03
Number of Funds	127	124	120	117	106	90	56	32

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Federated	π	6.81	32	3.95	48
Barclays Aggregate	1	4.44	89	3.24	76
Median		5.78		3.89	

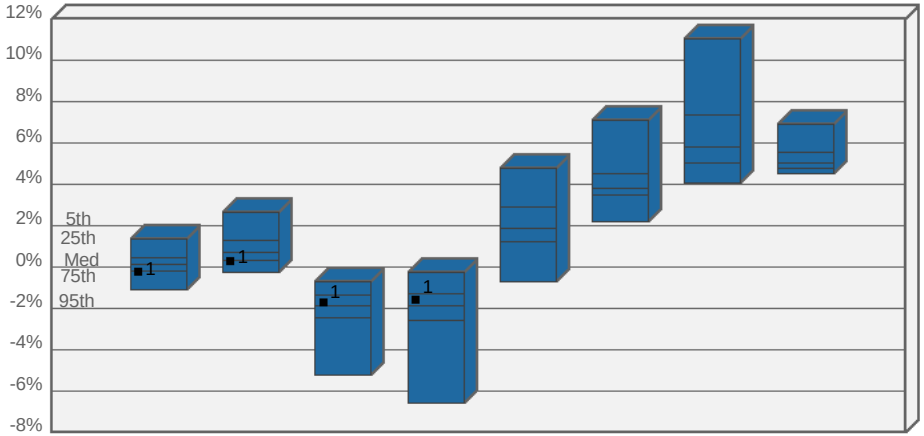
*TUCS Total Returns of Fixed Income Portfolios - Core Universe - Gross of Fees

Investment Manager Analysis

Swarthmore Core Fixed - Emg. Mg

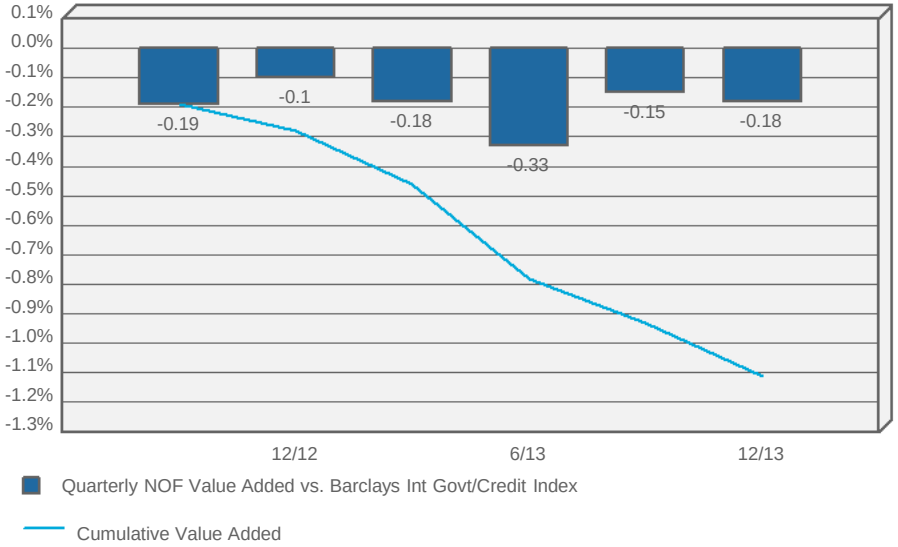
December 31, 2013

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
■ Swarthmore Cor	-0.03 (63)	0.52 (57)	-1.51 (29)	-1.35 (32)				
1 Barclays Int G	-0.02 (62)	0.59 (53)	-1.12 (15)	-0.86 (14)				
Median	0.13	0.71	-1.91	-1.91	1.88	3.79	5.78	5.03
Number of Funds	127	124	120	117	106	90	56	32

Value-Added Analysis vs Benchmark



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

Custom Benchmark Specification

Core Fixed Composite

December 31, 2013

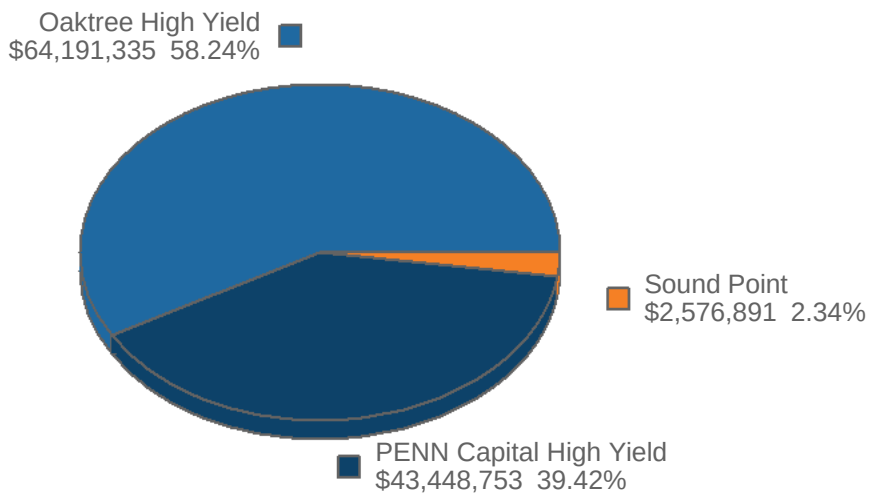
	Quarter Start	Quarter End	Percent	Description
Barclays Aggregate	12/82	12/13	100.00	Barclays Aggregate

High Yield

Manager Allocation

High Yield Fixed Composite

As of December 31, 2013

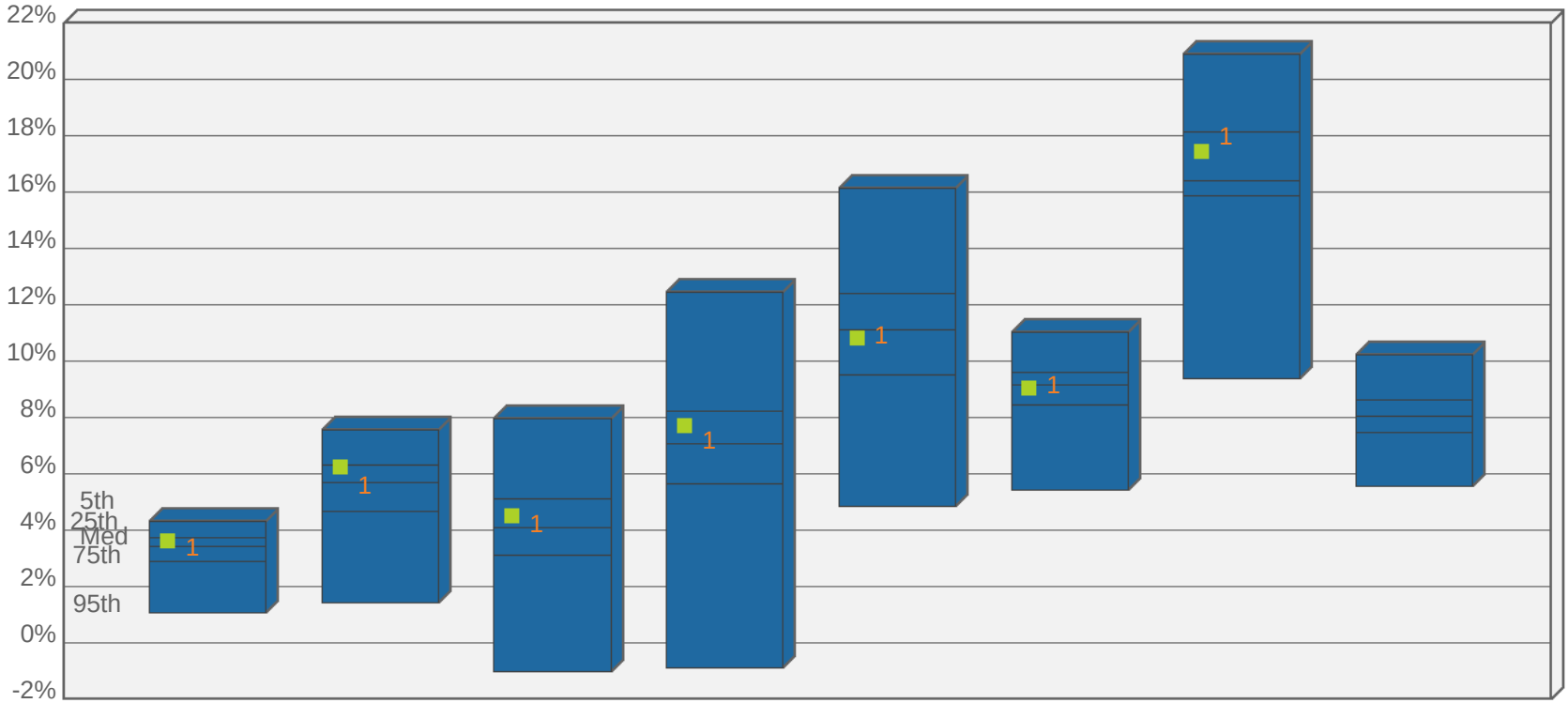


Performance Comparison

Wilshire

High Yield Fixed Composite

Periods Ended December 31, 2013



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
High Yield Fixed Composite	3.65 (36)	6.27 (28)	4.56 (36)	7.74 (37)	10.88 (51)	9.10 (52)	17.49 (29)	
1 Citi High Yield Market Capped	3.37 (56)	5.59 (52)	4.22 (46)	7.18 (48)	10.91 (51)	9.16 (50)	17.99 (26)	
5th %tile	4.32	7.58	7.99	12.45	16.13	11.05	20.91	10.23
25th %tile	3.75	6.34	5.11	8.25	12.42	9.63	18.15	8.63
Median	3.45	5.72	4.11	7.09	11.14	9.18	16.40	8.05
75th %tile	2.89	4.69	3.13	5.68	9.52	8.45	15.89	7.47
95th %tile	1.08	1.43	-1.02	-0.86	4.85	5.43	9.40	5.56
Number of Funds	132	130	127	123	103	94	66	28

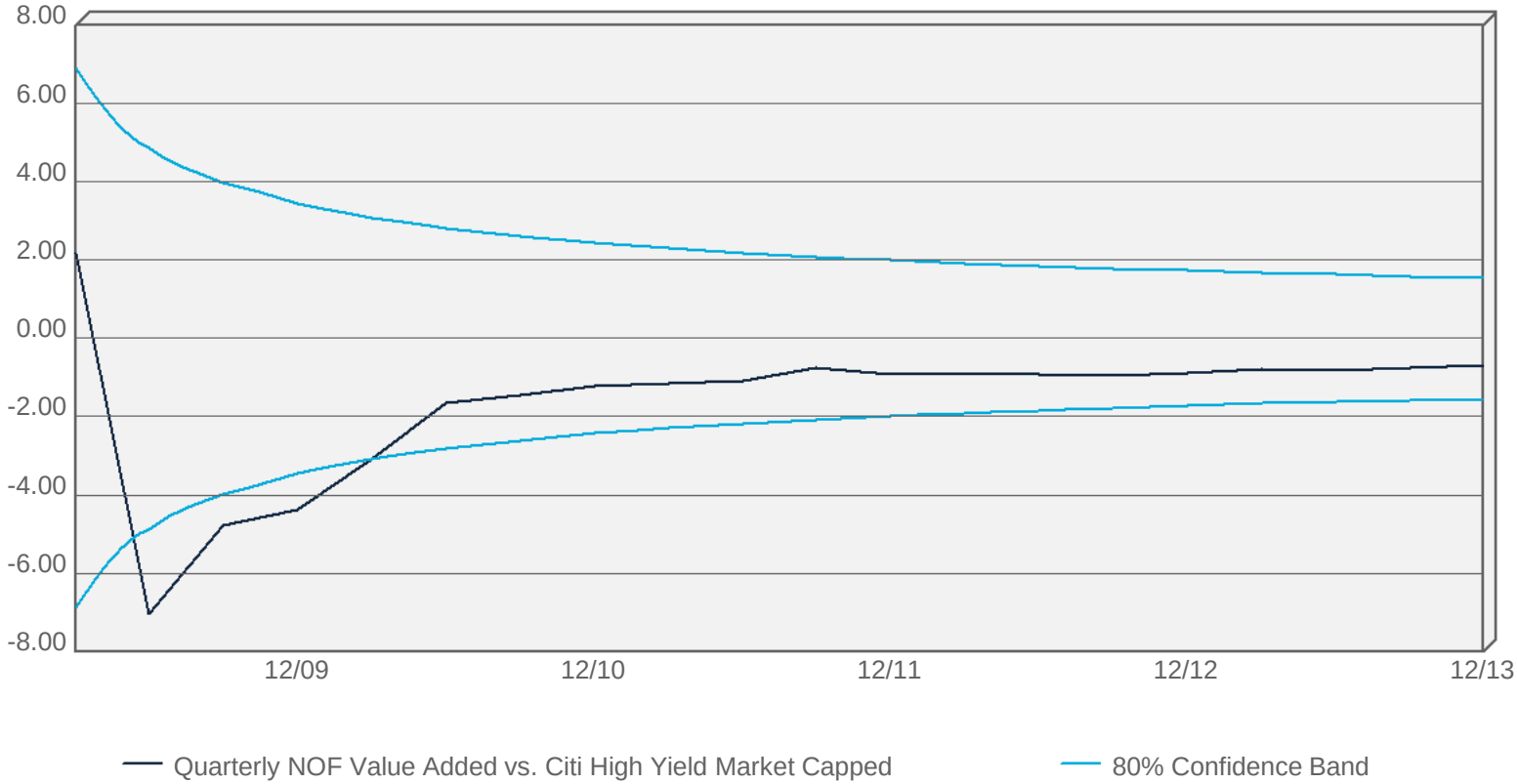
*TUCS Total Ret of Fixed Income Portfolios - High Yield Universe - Gross of Fees

Cumulative Skill Analysis

Wilshire

High Yield Fixed Composite

Five Years Ending December 31, 2013



Excess Return:	**-0.68**	**Information Ratio:**	**-0.32**
Excess Risk:	**2.09**	**T-Stat:**	**-0.73**

Performance Comparison

Wilshire

Trailing Returns

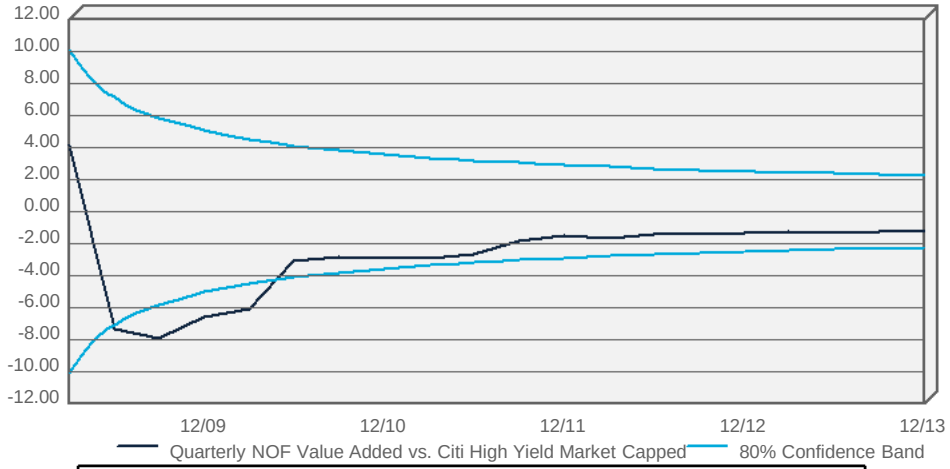
Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Oaktree High Yield									
Net of Fee Return	**3.65**	**5.93**	**3.83**	**6.71**	**9.20**	**16.63**		**3/31/08**	**10.45**
Citi High Yield Market Capped	3.37	5.59	4.22	7.18	9.16	17.99		3/31/08	10.13
Value Added	0.27	0.34	-0.39	-0.47	0.04	-1.36		3/31/08	0.33
PENN Capital High Yield									
Net of Fee Return	**3.37**	**5.98**	**4.87**	**8.49**	**8.25**	**17.99**		**6/30/08**	**10.83**
ML High Yield Master II	3.50	5.83	4.40	7.42	9.03	18.64		6/30/08	10.74
Value Added	-0.13	0.15	0.47	1.07	-0.78	-0.65		6/30/08	0.09
Sound Point									
Net of Fee Return	**2.45**							**9/30/13**	**2.45**
CSFB Leveraged Loan	1.82							9/30/13	1.82
Value Added	0.62							9/30/13	0.62
High Yield Fixed Composite									
Net of Fee Return	**3.52**	**5.94**	**4.23**	**7.40**	**8.81**	**17.19**		**3/31/08**	**10.58**
Citi High Yield Market Capped	3.37	5.59	4.22	7.18	9.16	17.99		3/31/08	10.13
Value Added	0.15	0.35	0.01	0.22	-0.35	-0.80		3/31/08	0.45

Oaktree High Yield

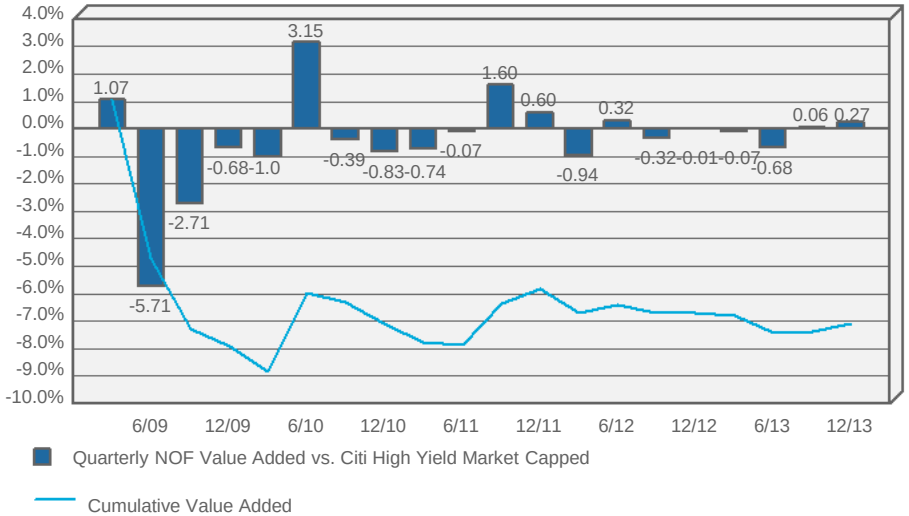
December 31, 2013

Cumulative Skill Analysis vs Benchmark

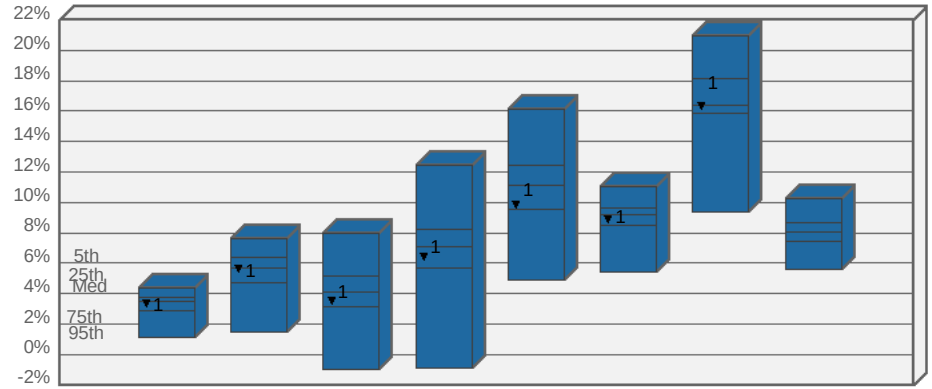


Excess Return:	**-1.15**	**Information Ratio:**	**-0.38**
Excess Risk:	**3.06**	**T-Stat:**	**-0.84**

Value-Added Analysis vs Benchmark

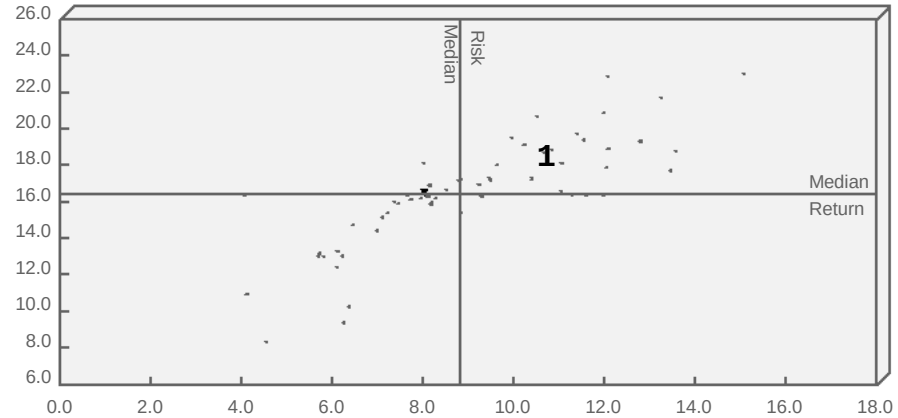


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
▼ Oaktree High Y	3.65 (36)	5.93 (36)	3.83 (61)	6.71 (63)	10.17 (66)	9.20 (48)	16.63 (43)	
1 Citi High Yiel	3.37 (56)	5.59 (52)	4.22 (46)	7.18 (48)	10.91 (51)	9.16 (50)	17.99 (26)	
Median	3.45	5.72	4.11	7.09	11.14	9.18	16.40	8.05
Number of Funds	132	130	127	123	103	94	66	28

*Five Year Risk/Return Analysis vs Peer Universe**



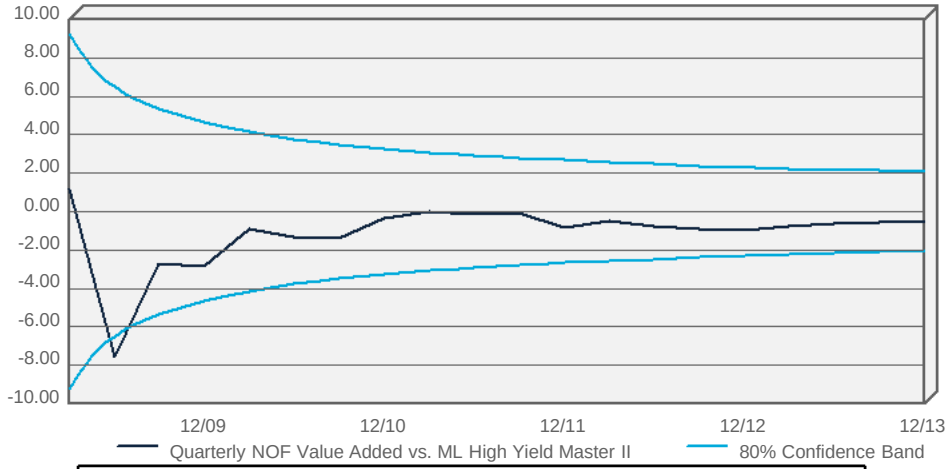
Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
Oaktree High Yield	▼	16.63	43	8.25	56
Citi High Yield Market Capped	1	17.99	26	10.85	25
Median		16.40		8.83	

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

PENN Capital High Yield

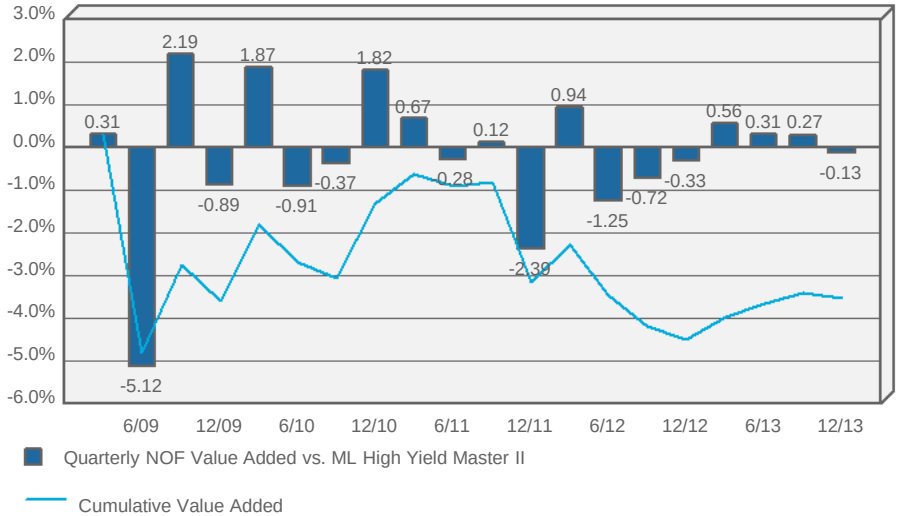
December 31, 2013

Cumulative Skill Analysis vs Benchmark

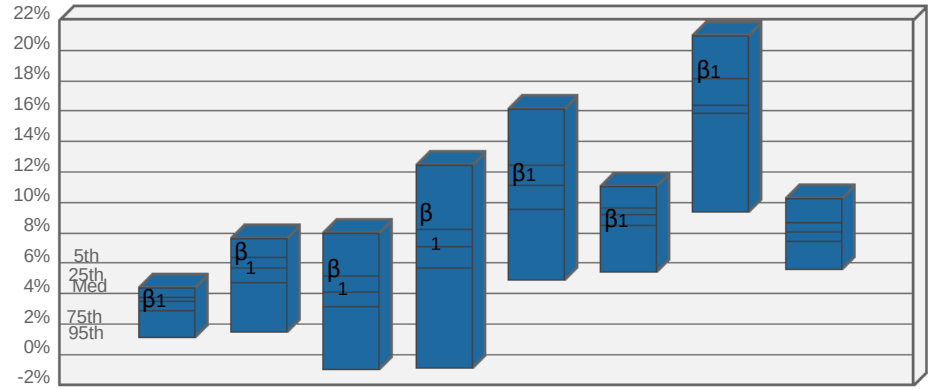


Excess Return:	**-0.56**	**Information Ratio:**	**-0.20**
Excess Risk:	**2.81**	**T-Stat:**	**-0.44**

Value-Added Analysis vs Benchmark

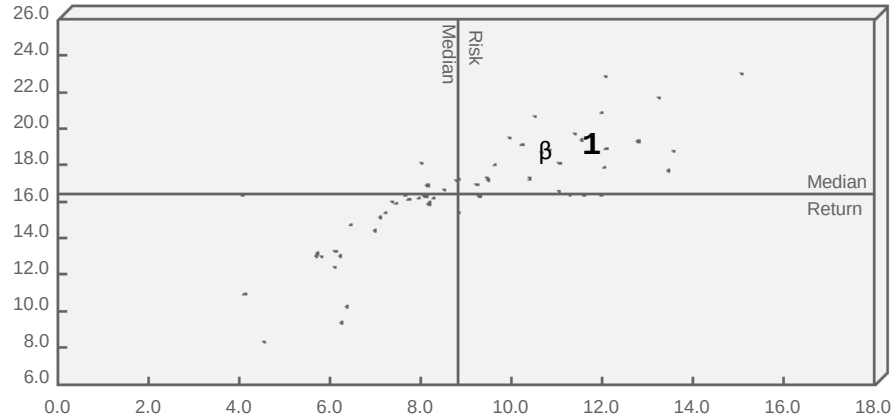


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
β PENN Capital H	3.70 (34)	6.83 (14)	5.71 (14)	9.36 (15)	12.00 (33)	8.97 (56)	18.74 (22)	
1 ML High Yiel	3.50 (45)	5.83 (44)	4.40 (38)	7.42 (44)	11.43 (45)	9.03 (52)	18.65 (22)	
Median	3.45	5.72	4.11	7.09	11.14	9.18	16.40	8.05
Number of Funds	132	130	127	123	103	94	66	28

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret Value	Gross Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
PENN Capital High Yield	β	18.74	22	10.93	25
ML High Yield Master II	1	18.65	22	11.89	14
Median		16.40		8.83	

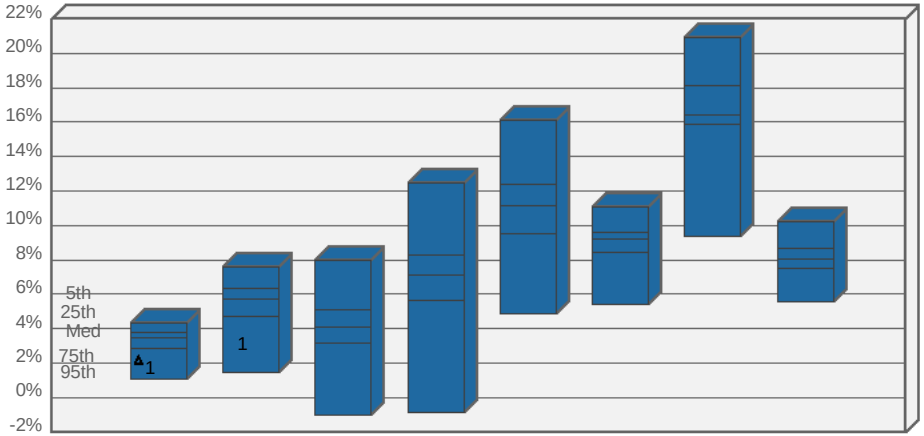
*TUCS Total Returns of Fixed Income Portfolios - High Yield Universe - Gross of Fees

Investment Manager Analysis

Sound Point

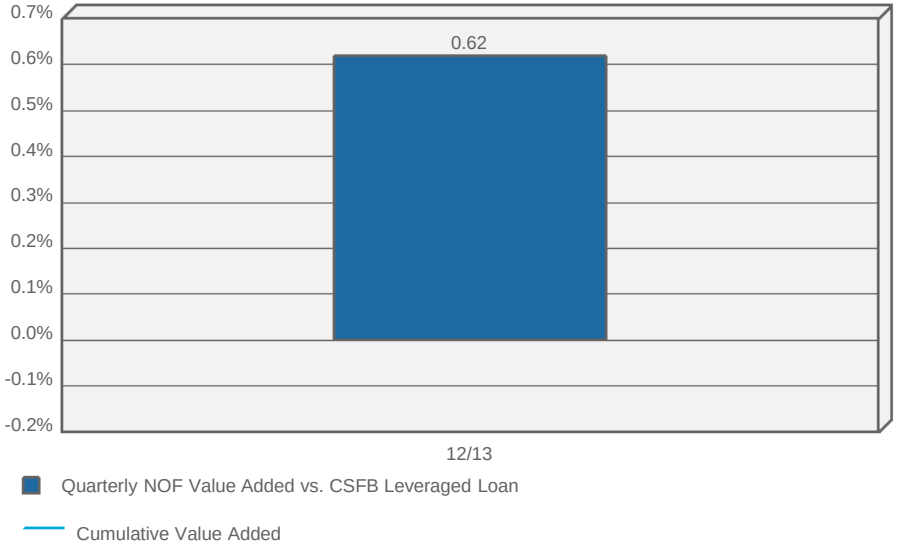
December 31, 2013

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
▲ Sound Point	2.45 (82)							
1 CSFB Leverag	1.82 (86)	3.26 (84)						
Median	3.45	5.72	4.11	7.09	11.14	9.18	16.40	8.05
Number of Funds	132	130	127	123	103	94	66	28

Value-Added Analysis vs Benchmark



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

Custom Benchmark Specification

Wilshire

High Yield Fixed Composite

December 31, 2013

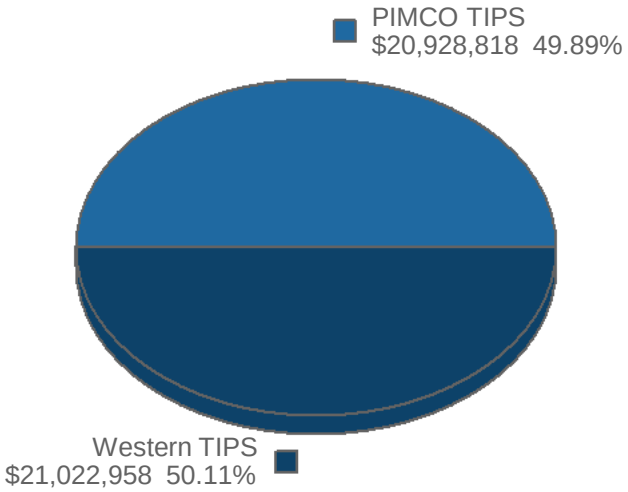
	Quarter Start	Quarter End	Percent	Description
Citi High Yield Market Capped	6/08	12/13	100.00	Citi High Yield Market Capped

TIPS

Manager Allocation

TIPS Fixed Composite

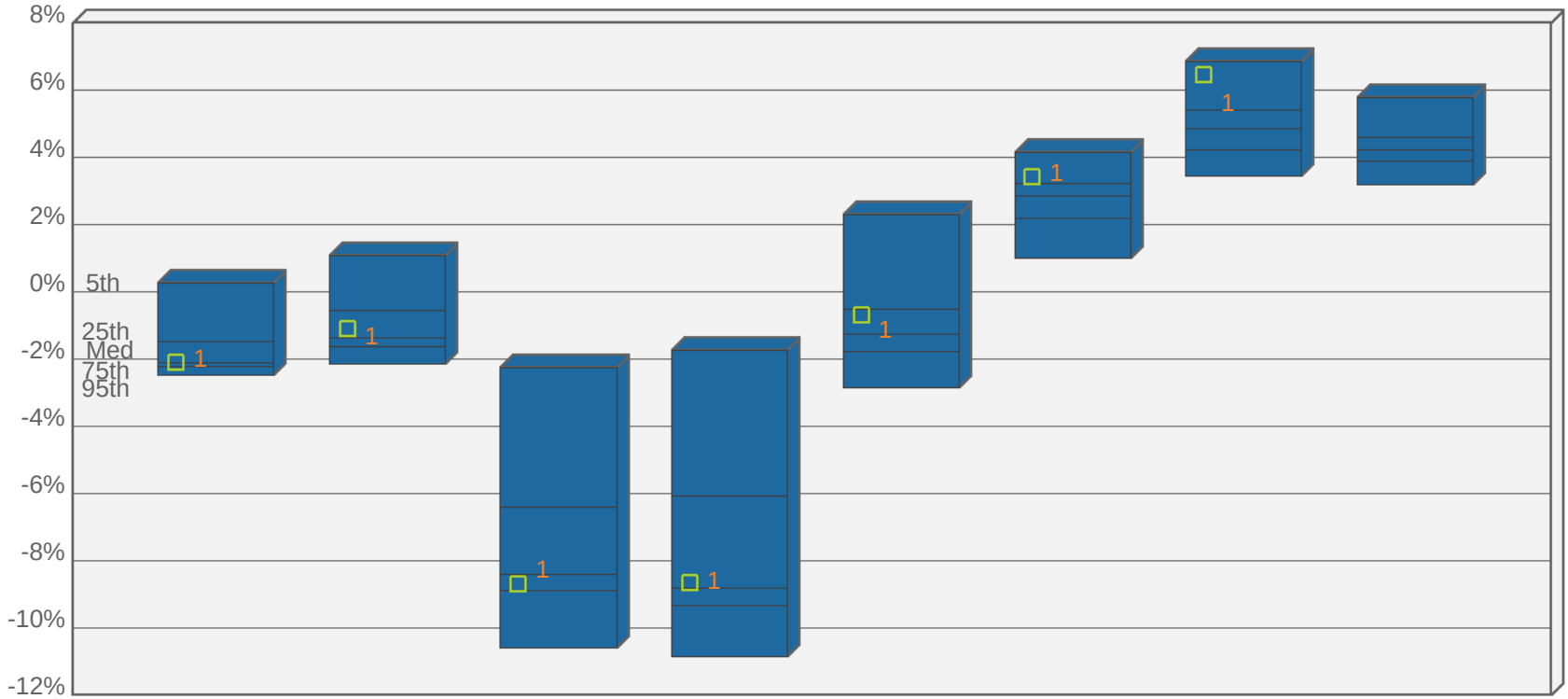
As of December 31, 2013



Performance Comparison

TIPS Fixed Composite

Periods Ended December 31, 2013



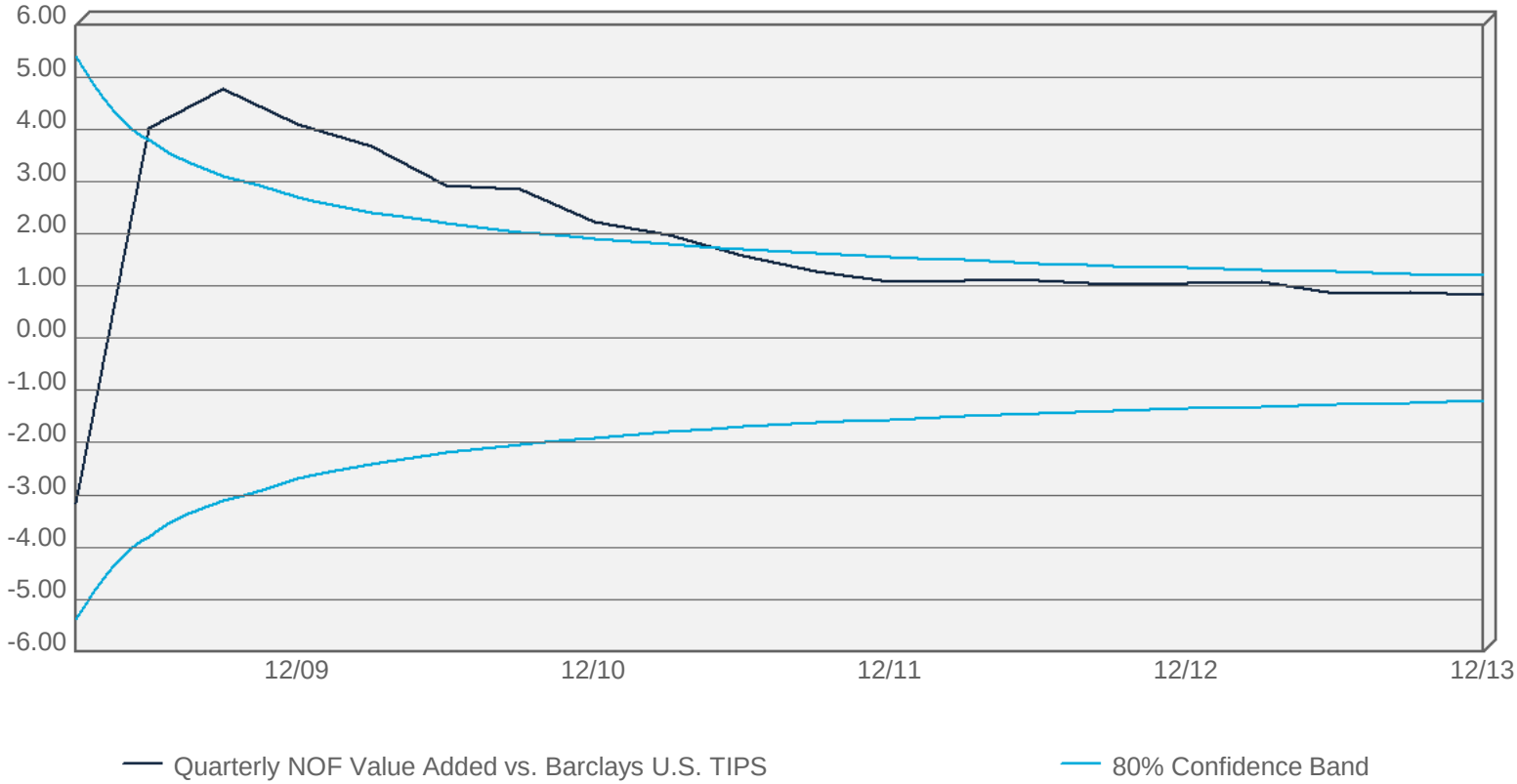
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
TIPS Fixed Composite	-2.05 (46)	-1.05 (31)	-8.64 (65)	-8.62 (40)	-0.66 (30)	3.45 (10)	6.50 (8)	
1 Barclays U.S. TIPS	-2.00 (41)	-1.31 (42)	-8.27 (45)	-8.61 (39)	-1.12 (44)	3.55 (7)	5.63 (19)	
5th %tile	0.26	1.08	-2.24	-1.73	2.31	4.17	6.85	5.79
25th %tile	-1.45	-0.54	-6.40	-6.05	-0.49	3.22	5.42	4.59
Median	-2.08	-1.36	-8.38	-8.79	-1.26	2.86	4.86	4.25
75th %tile	-2.21	-1.63	-8.87	-9.33	-1.77	2.20	4.22	3.89
95th %tile	-2.48	-2.12	-10.59	-10.82	-2.82	1.02	3.45	3.20
Number of Funds	192	191	191	191	178	168	130	48

*Total Returns of TIPS Mutual Funds Universe - Net of Fees

Cumulative Skill Analysis

TIPS Fixed Composite

Five Years Ending December 31, 2013



Excess Return:	**0.83**	**Information Ratio:**	**0.51**
Excess Risk:	**1.64**	**T-Stat:**	**1.13**

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
PIMCO TIPS									
Net of Fee Return	**-2.08**	**-0.92**	**-9.15**	**-9.05**	**3.50**	**7.30**		**3/31/08**	**4.12**
Barclays U.S. TIPS	-2.00	-1.31	-8.27	-8.61	3.55	5.63		3/31/08	3.53
Value Added	-0.08	0.39	-0.88	-0.44	-0.05	1.67		3/31/08	0.59
Western TIPS									
Net of Fee Return	**-2.02**	**-1.18**	**-8.13**	**-8.20**	**3.40**	**5.68**		**3/31/08**	**3.35**
Barclays U.S. TIPS	-2.00	-1.31	-8.27	-8.61	3.55	5.63		3/31/08	3.53
Value Added	-0.02	0.13	0.15	0.40	-0.15	0.05		3/31/08	-0.18
TIPS Fixed Composite									
Net of Fee Return	**-2.05**	**-1.05**	**-8.64**	**-8.62**	**3.45**	**6.50**		**3/31/08**	**3.74**
Barclays U.S. TIPS	-2.00	-1.31	-8.27	-8.61	3.55	5.63		3/31/08	3.53
Value Added	-0.05	0.26	-0.37	-0.02	-0.10	0.87		3/31/08	0.21

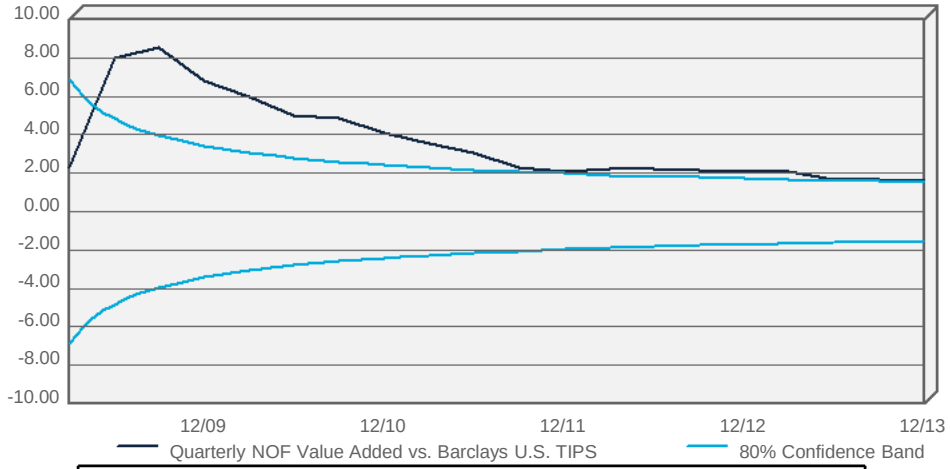
Investment Manager Analysis

Wilshire

PIMCO TIPS

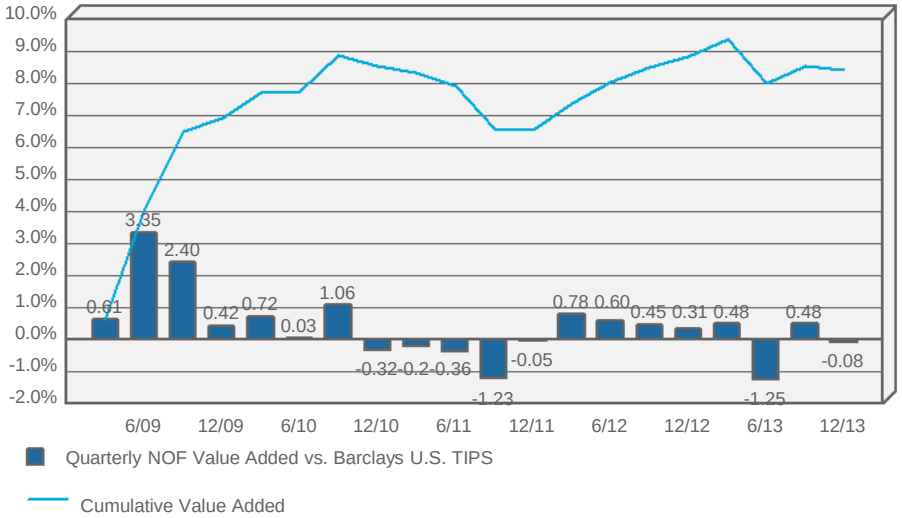
December 31, 2013

Cumulative Skill Analysis vs Benchmark

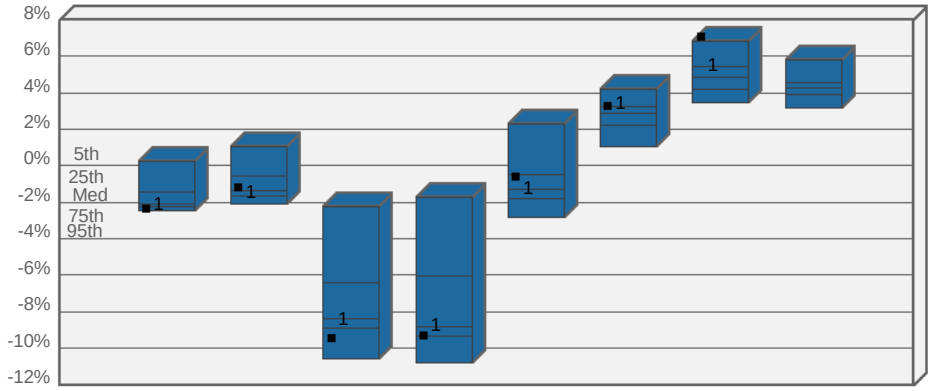


Excess Return:	**1.59**	**Information Ratio:**	**0.76**
Excess Risk:	**2.08**	**T-Stat:**	**1.70**

Value-Added Analysis vs Benchmark

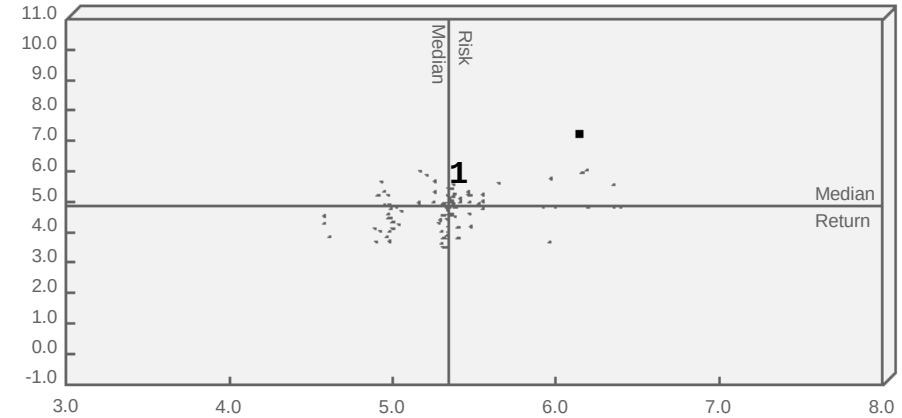


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
■ PIMCO TIPS	-2.08 (52)	-0.92 (28)	-9.15 (81)	-9.05 (62)	-0.32 (23)	3.50 (8)	7.30 (1)	
1 Barclays U.S.	-2.00 (41)	-1.31 (42)	-8.27 (45)	-8.61 (39)	-1.12 (44)	3.55 (7)	5.63 (19)	
Median	-2.08	-1.36	-8.38	-8.79	-1.26	2.86	4.86	4.25
Number of Funds	192	191	191	191	178	168	130	48

Five Year Risk/Return Analysis vs Peer Universe*



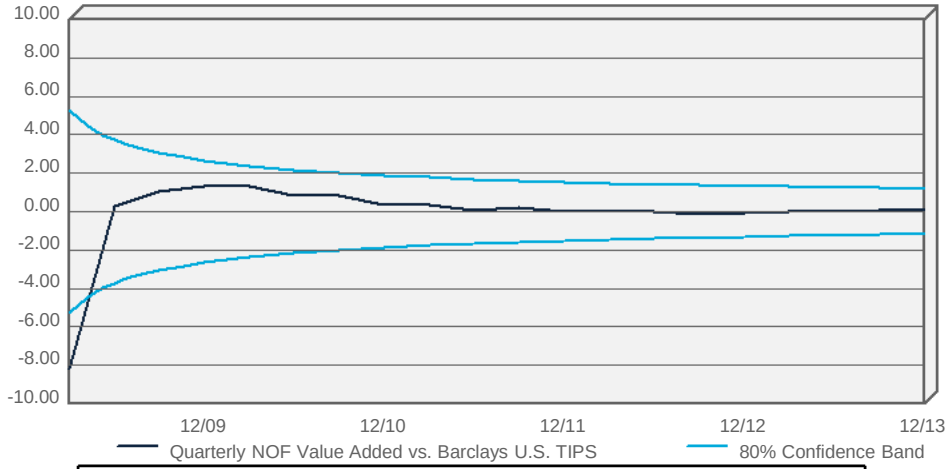
Description	Legend	Net Fee Ret Value	Net Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
PIMCO TIPS	■	7.30	1	6.21	7
Barclays U.S. TIPS	1	5.63	19	5.44	34
Median		4.86		5.34	

*Lipper Total Returns of TIPS Mutual Funds Universe - Net of Fees

Western TIPS

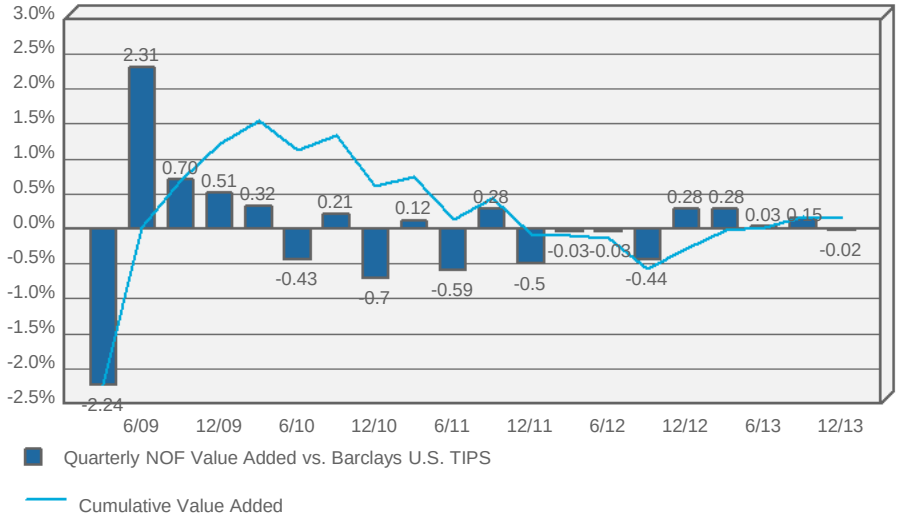
December 31, 2013

Cumulative Skill Analysis vs Benchmark

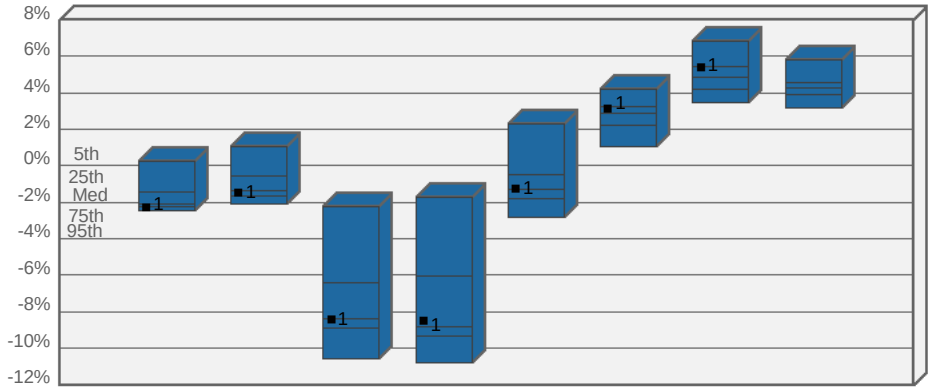


Excess Return:	**0.05**	**Information Ratio:**	**0.03**
Excess Risk:	**1.61**	**T-Stat:**	**0.07**

Value-Added Analysis vs Benchmark

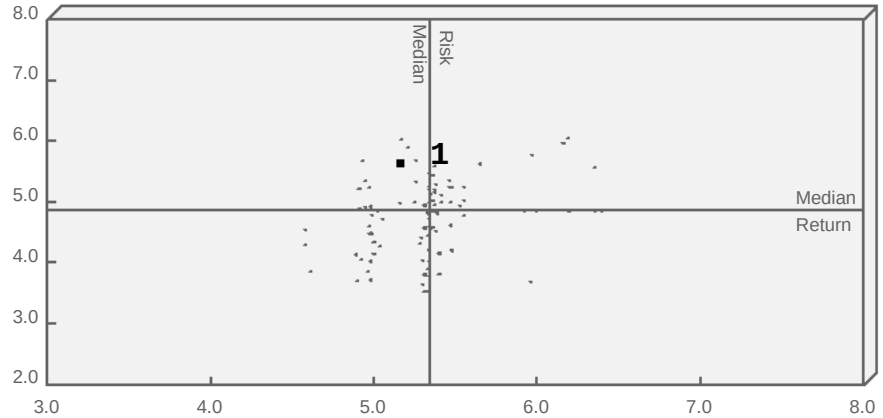


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
■ Western TIPS	-2.02 (45)	-1.18 (35)	-8.13 (41)	-8.20 (31)	-1.01 (41)	3.40 (13)	5.68 (18)	
1 Barclays U.S.	-2.00 (41)	-1.31 (42)	-8.27 (45)	-8.61 (39)	-1.12 (44)	3.55 (7)	5.63 (19)	
Median	-2.08	-1.36	-8.38	-8.79	-1.26	2.86	4.86	4.25
Number of Funds	192	191	191	191	178	168	130	48

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Net Fee Ret Value	Net Fee Ret Rank	Standard Deviation Value	Standard Deviation Rank
Western TIPS	■	5.68	18	5.23	69
Barclays U.S. TIPS	1	5.63	19	5.44	34
Median		4.86		5.34	

*Lipper Total Returns of TIPS Mutual Funds Universe - Net of Fees

Custom Benchmark Specification

TIPS Fixed Composite

December 31, 2013

	Quarter Start	Quarter End	Percent	Description
Barclays U.S. TIPS	6/08	12/13	100.00	Barclays U.S. TIPS

Alternative Investments

Investment Manager Allocation

Wilshire

RBAC Private Equity and Other

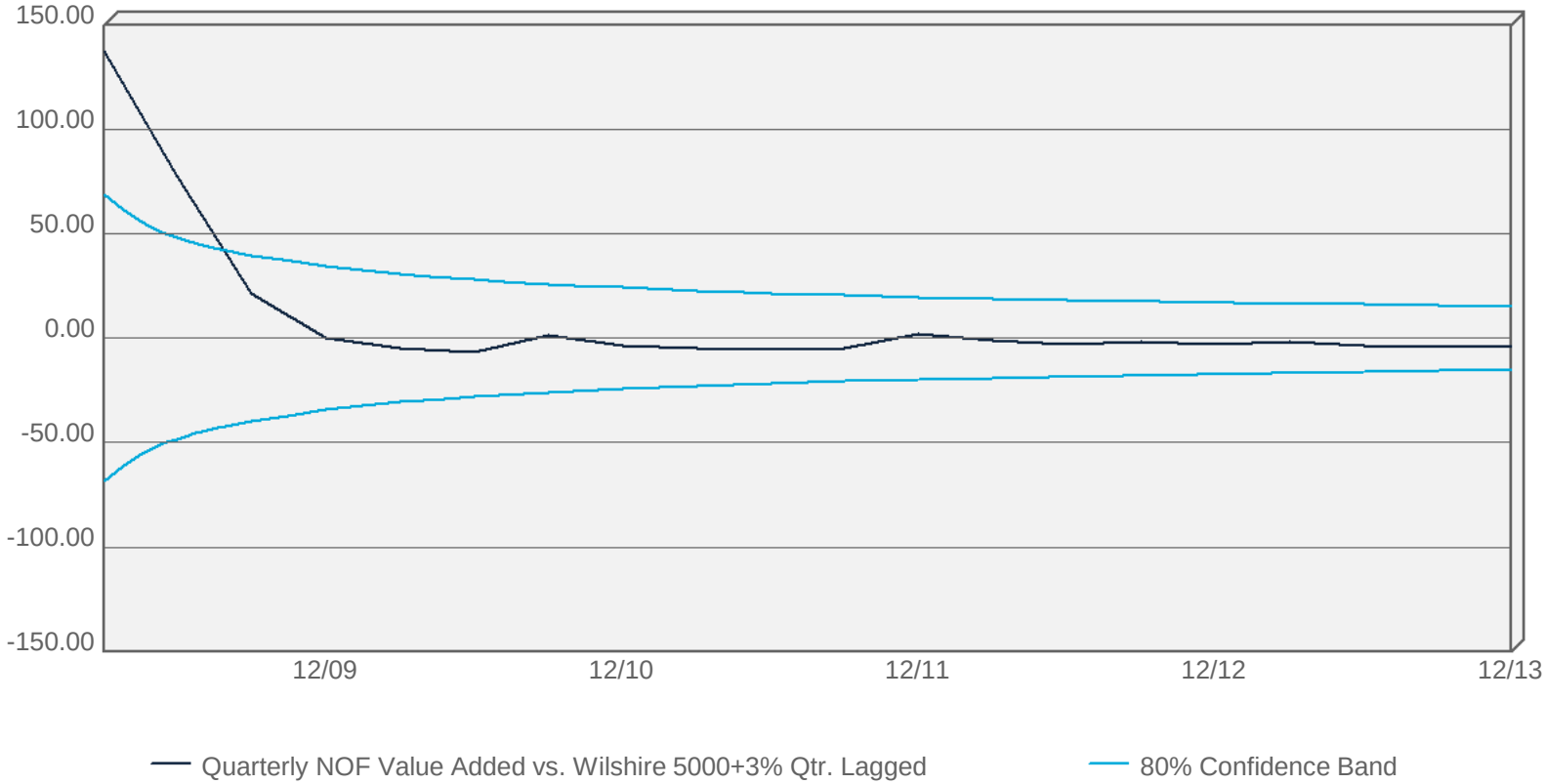
As of December 31, 2013

Asset Class	Manager	Style	Allocation ($000)	% of Total
DIVERSIFIED				
	Adams Street 2003	Fund of Funds	8,017	7.1%
	Adams Street 2008	Fund of Funds	6,281	5.6%
	Adams Street 2009	Fund of Funds	2,583	2.3%
	Constitution Capital Partners	Fund of Funds/Buyout	8,512	7.5%
	Mesirow Partners Fund IV	Fund of Funds	13,278	11.7%
	Permal Opportunities IV	Secondary Investments	1,998	1.8%
	Total Diversified	--	**40,669**	**35.9%**
DIRECT				
	Draper Triangle	Venture Capital	12,950	11.4%
	Draper Triangle III	Venture Capital	414	0.4%
	Goldman Sachs	Private Equity	5,709	5.0%
	Mellon PAM Fund V	Venture Capital	8,745	7.7%
	Crestline Recovery II	Special Situations	2,994	2.6%
	PLSG Accellerator Fund	Special Situations	138	0.1%
	ValStone Partners III	Special Situations	1,219	1.1%
	ValStone Partners IV	Special Situations	20,682	18.3%
	ValStone Partners V	Special Situations	13,035	11.5%
	Birchmere Ventures	Venture Capital	187	0.2%
	Charlestown Capital	Special Situations	1,787	1.6%
	Pharos Capital III	Private Equity	322	0.3%
	iNetworks	Private Equity	1,170	1.0%
	Greenspring	Venture Capital	1,829	1.6%
	Blackstone	Private Equity	284	0.3%
	INOF II	Private Equity	1,000	0.9%
	Total Direct	--	**72,465**	**64.1%**
	TOTAL PRIVATE EQUITY		**113,134**	**100.0%**
LIFE SETTLEMENT				
	CCA Green	Life Settlement	31,712	21.4%
	CCA Blue	Life Settlement	3,544	2.4%
	TOTAL PRIVATE EQUITY AND LIFE SETTLEMENT		**148,390**	

Cumulative Skill Analysis

Private Equity Composite

Five Years Ending December 31, 2013



Excess Return:	**-4.42**	**Information Ratio:**	**-0.21**
Excess Risk:	**20.82**	**T-Stat:**	**-0.47**

Custom Benchmark Specification

Private Equity Composite

December 31, 2013

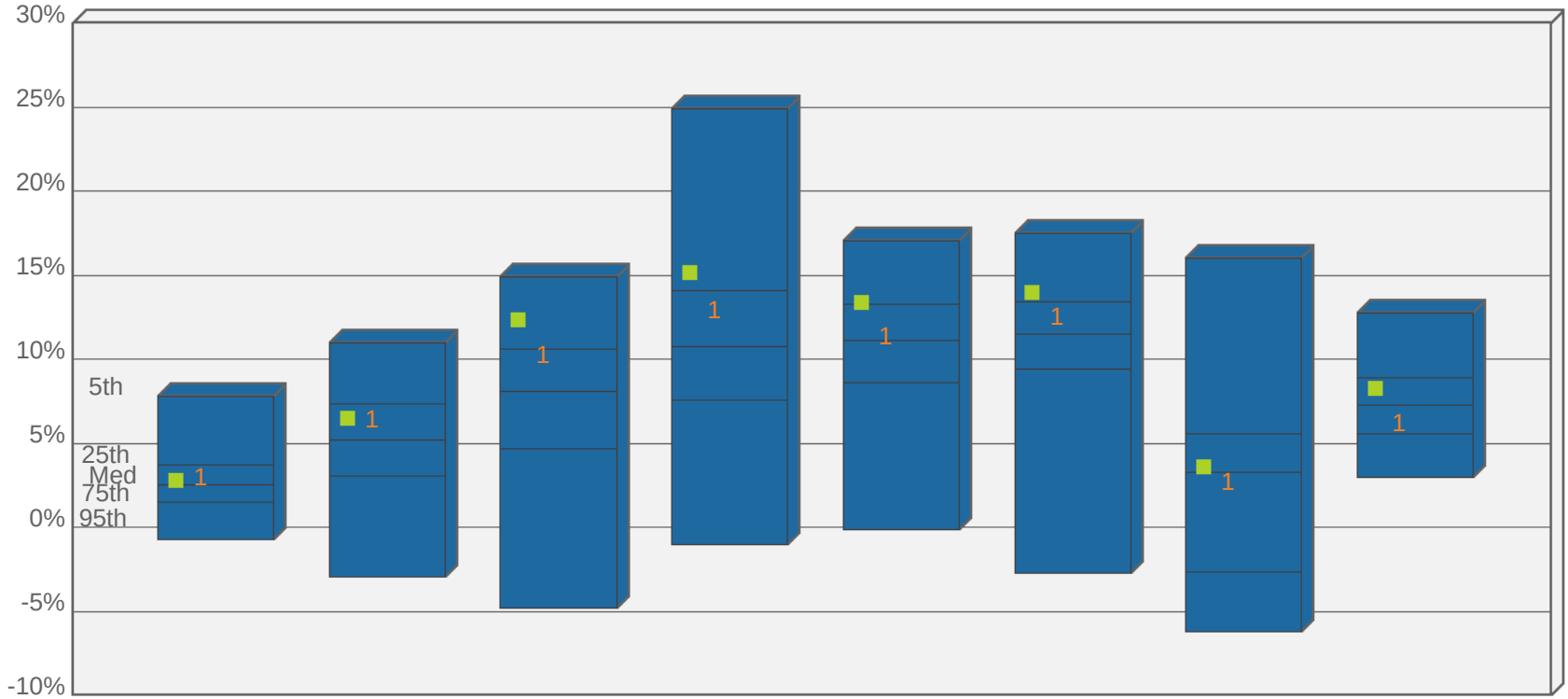
	Quarter Start	Quarter End	Percent	Description
Wilshire 5000+3% Qtr. Lagged	6/03	12/13	100.00	Wilshire 5000+3% Qtr. Lagged

Real Estate

Performance Comparison

Real Estate Composite

Periods Ended December 31, 2013



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Real Estate Composite	2.81 (43)	6.56 (32)	12.39 (13)	15.23 (16)	13.44 (24)	14.03 (19)	3.69 (46)	8.29 (29)
1 NCREIF ODCE NOF	2.95 (39)	6.40 (35)	10.23 (31)	12.91 (34)	11.34 (47)	12.53 (37)	2.71 (54)	6.16 (70)
5th %tile	7.82	10.99	14.92	24.95	17.03	17.49	16.00	12.78
25th %tile	3.75	7.35	10.65	14.07	13.30	13.45	5.60	8.90
Median	2.55	5.18	8.10	10.79	11.12	11.53	3.28	7.26
75th %tile	1.50	3.06	4.71	7.62	8.61	9.41	-2.63	5.55
95th %tile	-0.71	-2.93	-4.82	-1.04	-0.12	-2.68	-6.16	2.99
Number of Funds	116	113	111	107	102	100	90	46

*TUCS Total Ret of Real Estate Investment Pools Universe - Gross of Fees

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Morgan Stanley									
Net of Fee Return	**3.38**	**7.46**	**13.34**	**16.20**	**14.35**	**3.04**	**7.77**	**3/31/03**	**7.96**
NCREIF ODCE NOF	2.95	6.40	10.23	12.91	12.53	2.71	6.16	3/31/03	6.35
Value Added	0.43	1.06	3.11	3.30	1.82	0.32	1.61	3/31/03	1.61
Real Estate Composite									
Net of Fee Return	**2.29**	**6.02**	**11.82**	**14.64**	**13.84**	**3.59**	**8.05**	**3/31/03**	**8.30**
NCREIF ODCE NOF	2.95	6.40	10.23	12.91	12.53	2.71	6.16	3/31/03	6.35
Value Added	-0.66	-0.38	1.59	1.74	1.30	0.87	1.89	3/31/03	1.95
ERECT Fund II									
Net of Fee Return	**1.97**	**4.08**	**4.02**	**10.25**	**9.69**	**7.85**		**6/30/05**	**6.88**
Consumer Price Index	-0.47	-0.19	0.12	1.50	2.06	2.08		6/30/05	2.15
Value Added	2.44	4.27	3.90	8.74	7.63	5.77		6/30/05	4.73
ERECT Composite									
Net of Fee Return	**1.97**	**4.08**	**3.34**	**6.56**	**6.27**			**9/30/10**	**6.76**

Real Estate Composites returns do not include ERECT Funds

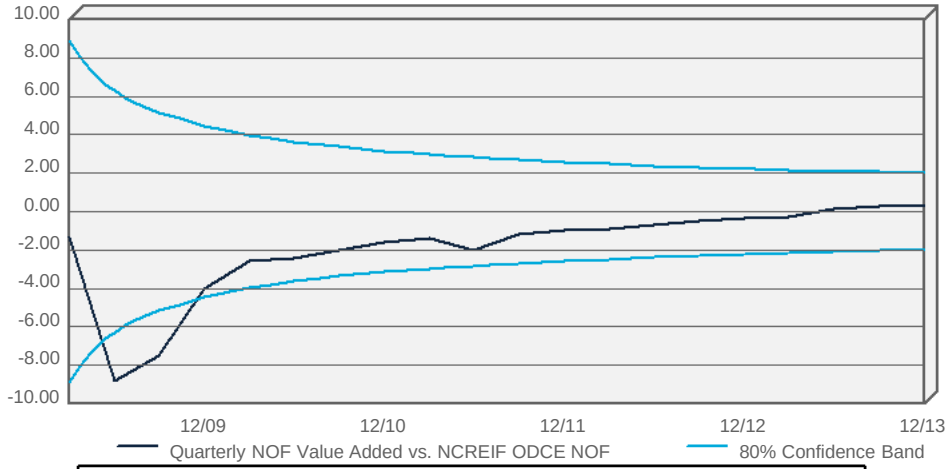
Investment Manager Analysis

Wilshire

Morgan Stanley

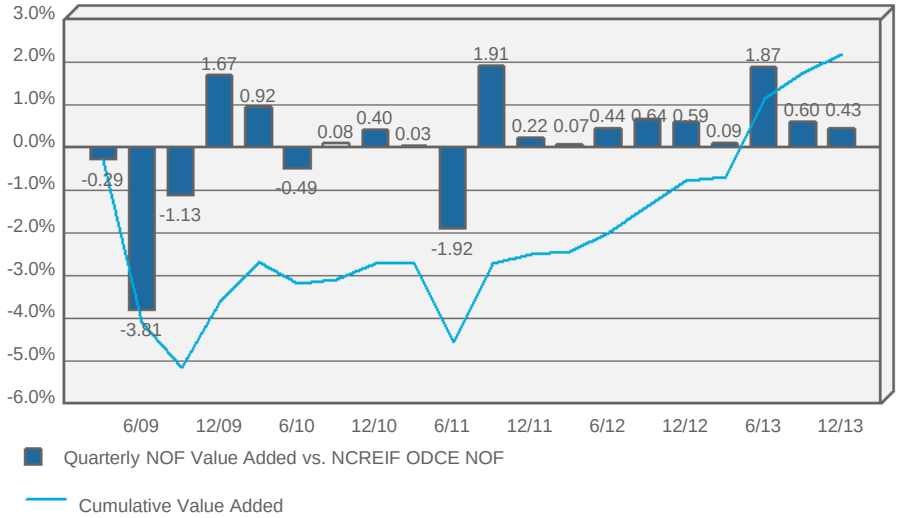
December 31, 2013

Cumulative Skill Analysis vs Benchmark

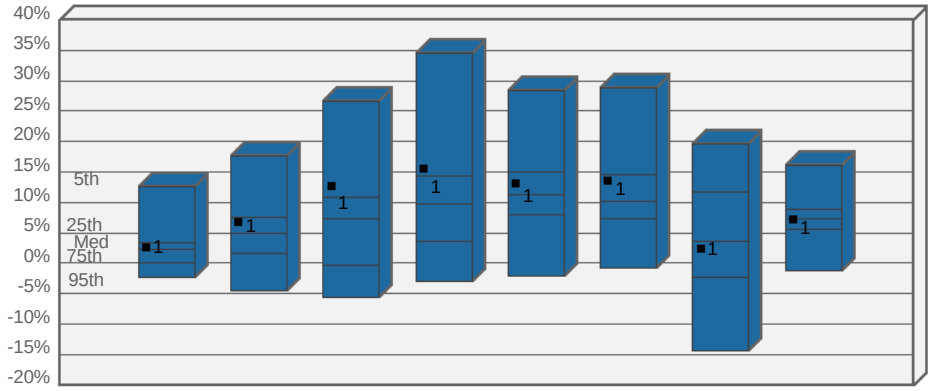


Excess Return:	**0.31**	**Information Ratio:**	**0.12**
Excess Risk:	**2.71**	**T-Stat:**	**0.26**

Value-Added Analysis vs Benchmark

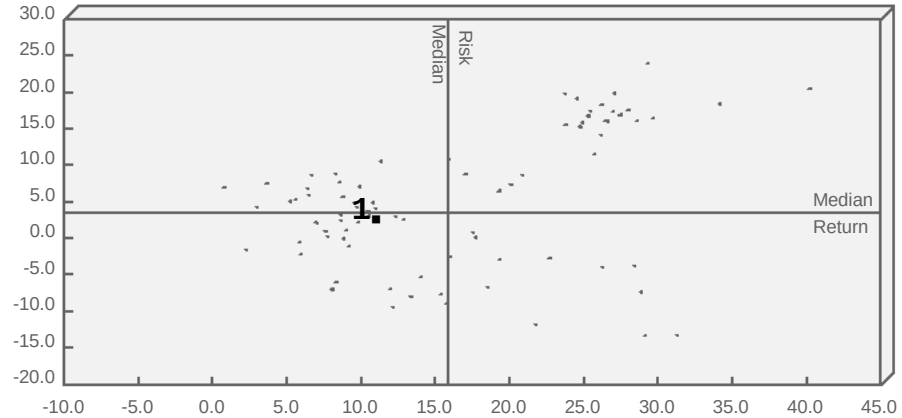


*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
■ Morgan Stanley	3.38 (26)	7.46 (24)	13.34 (15)	16.20 (18)	13.92 (31)	14.35 (26)	3.04 (52)	8.04 (41)
1 NCREIF ODCE	2.95 (39)	6.40 (35)	10.23 (32)	12.91 (31)	11.34 (50)	12.53 (37)	2.71 (55)	6.16 (67)
Median	2.27	4.88	7.22	9.75	11.34	10.16	3.57	7.28
Number of Funds	641	655	646	632	586	531	384	106

*Five Year Risk/Return Analysis vs Peer Universe**



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Morgan Stanley	■	3.04	52	11.73	62
NCREIF ODCE NOF	1	2.71	55	10.41	73
Median		3.57		15.90	

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

Custom Benchmark Specification

Real Estate Composite

December 31, 2013

	Quarter Start	Quarter End	Percent	Description
NCREIF ODCE NOF	12/01	12/13	100.00	NCREIF ODCE NOF

Commodities

Performance Comparison

Wilshire

Trailing Returns

Periods Ended December 31, 2013

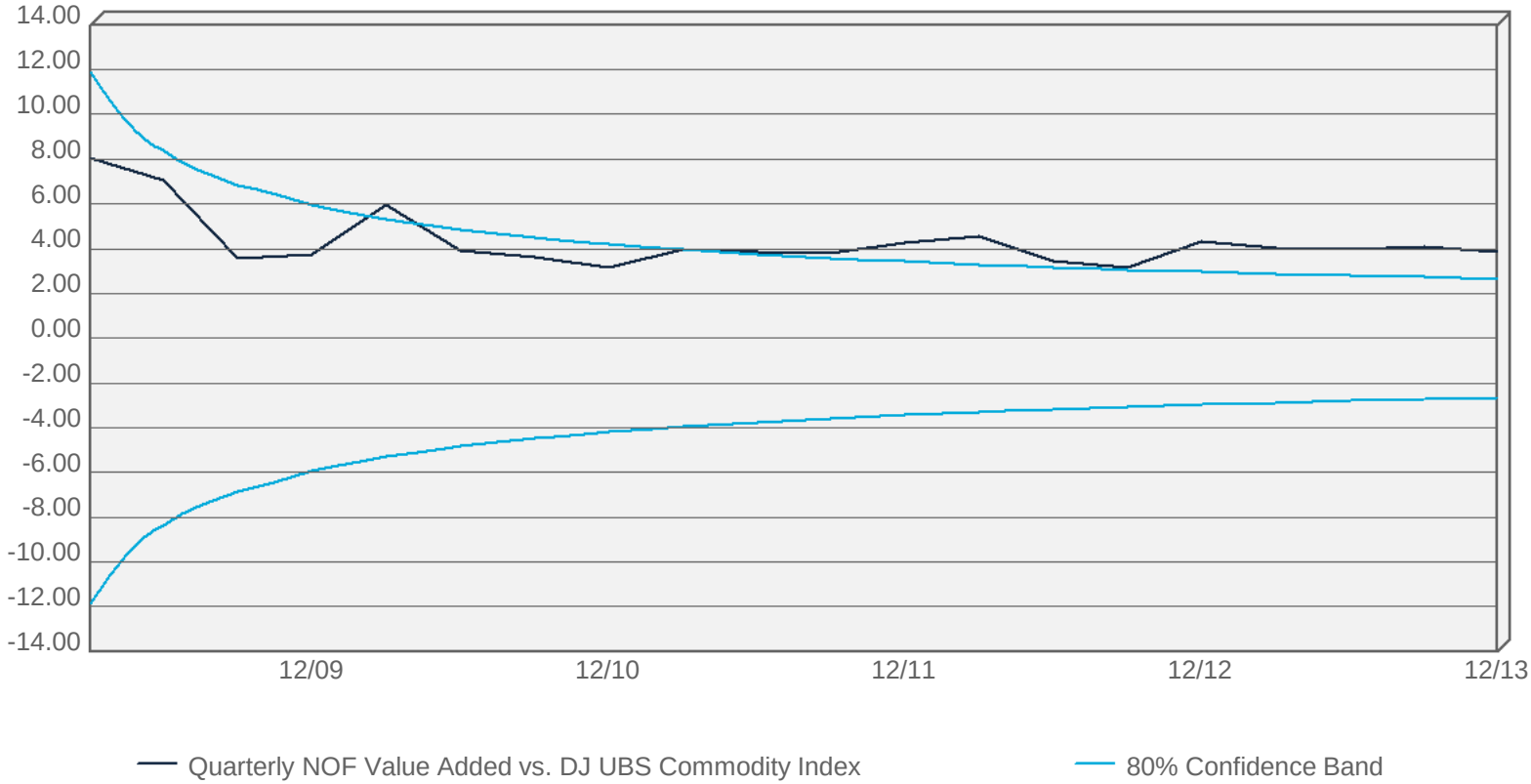
	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Gresham Strategic Commodities									
Net of Fee Return	**-1.11**	**2.52**	**-6.37**	**-7.65**	**-5.32**	**4.63**		**3/31/07**	**-2.10**
DJ UBS Commodity Index	-1.05	1.06	-8.49	-9.52	-8.10	1.51		3/31/07	-3.78
Value Added	-0.06	1.46	2.11	1.87	2.78	3.11		3/31/07	1.68
Commodities Composite									
Net of Fee Return	**-1.11**	**2.52**	**-6.37**	**-7.65**	**-4.09**	**5.45**		**3/31/07**	**-1.53**
DJ UBS Commodity Index	-1.05	1.06	-8.49	-9.52	-8.10	1.51		3/31/07	-3.78
Value Added	-0.06	1.46	2.11	1.87	4.02	3.93		3/31/07	2.25

Cumulative Skill Analysis

Wilshire

Commodities Composite

Five Years Ending December 31, 2013



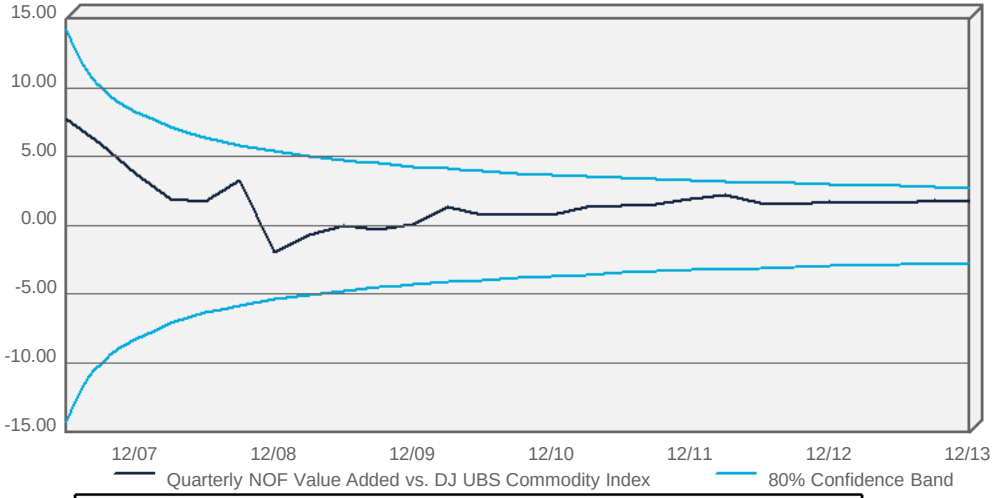
Excess Return:	**3.87**	**Information Ratio:**	**1.07**
Excess Risk:	**3.61**	**T-Stat:**	**2.40**

Investment Manager Analysis

Gresham Strategic Commodities

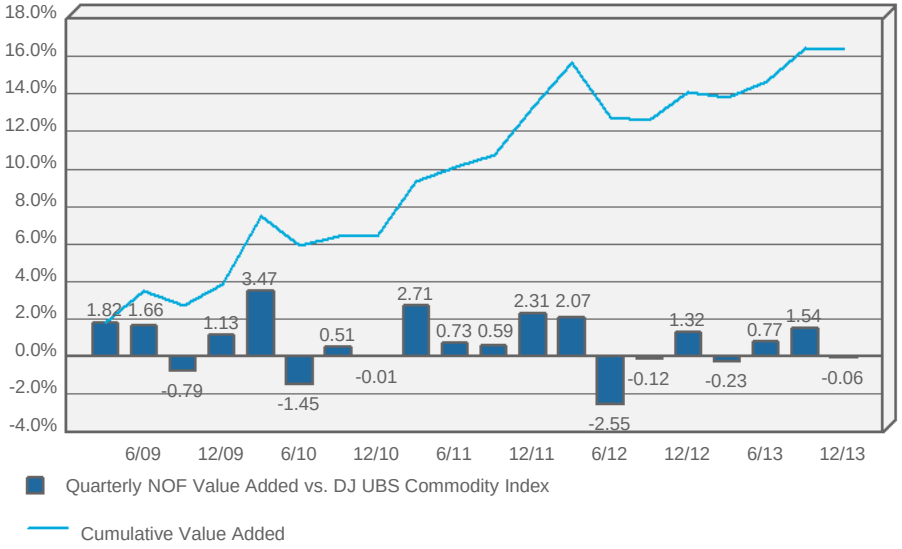
December 31, 2013

Cumulative Skill Analysis vs Benchmark



Excess Return:	**1.75**	**Information Ratio:**	**0.40**
Excess Risk:	**4.33**	**T-Stat:**	**0.99**

Value-Added Analysis vs Benchmark



Appendix:
Capital Market Update

U.S. Equity

The U.S. stock market surged 10.1% in the fourth quarter to post a stellar 33.1% total return for 2013, marking its best annual return since climbing 36.5% in 1995. The index, which rode monetary stimulus to notch its fifth consecutive annual gain, closed 2013 at an all-time high and is now up 38.5% on a total return basis since the Wilshire 5000 Index's previous high on October 9, 2007.

Large cap stocks outpaced smaller shares during the quarter but lagged for the year. Growth stocks outperformed value in 2013, as well as during Q4. All economic sectors showed gains during the quarter, with Industrials and Information Technology performing the best. The interest-rate-sensitive Utilities group was a laggard during the quarter.

The U.S. has experienced a massive expansion in its monetary base since 2008, undergoing three rounds of quantitative easing. While the FOMC's recent announcement to taper QE3 represents a monetary tightening, the Fed continues to maintain a highly accommodative stance. Even if one assumes that tapering continues at $10 billion increments following each FOMC meeting, the monetary base could expand above $4 trillion by the end of 2014.

Non-U.S. Equity

Developed global stock markets enjoyed stellar performance in 2013, brushing aside concerns over sluggish recoveries in certain countries from the Great Global Recession and taking full advantage of the easy money made available through accommodative central bank policies. Japanese stocks were especially strong performers, propelled by a sharply weaker yen that made Japanese exports relatively cheap for their trading partners. Emerging market stocks, on the other hand, struggled in 2013 against local economic slowdowns and political uncertainties.

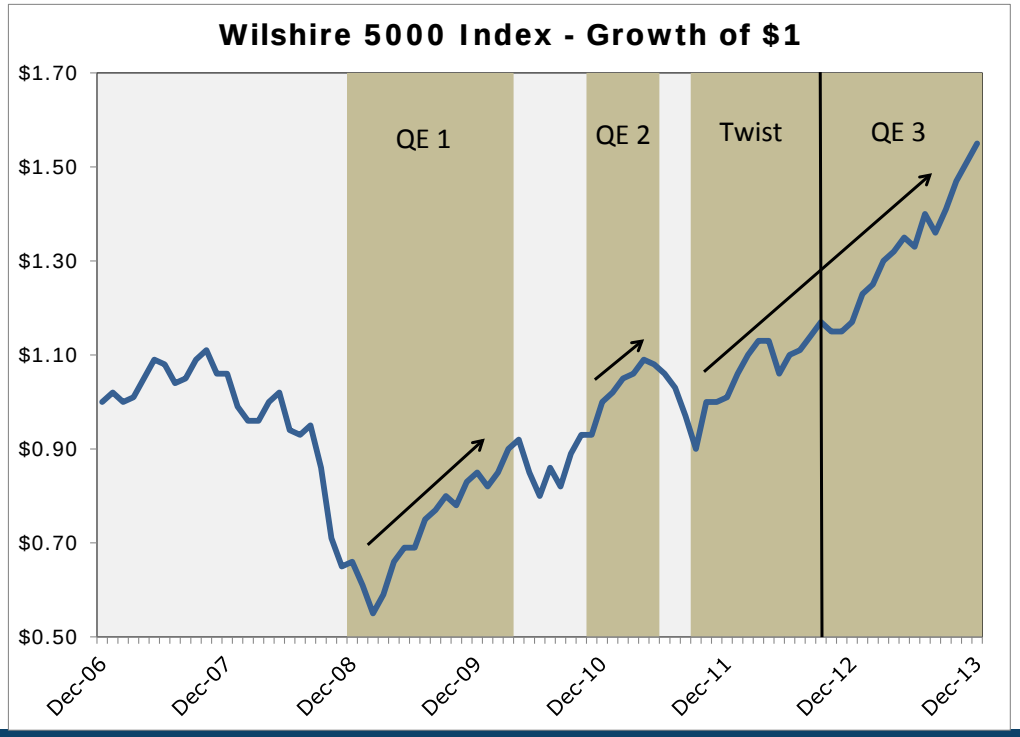
Fixed Income

Bond yields drifted down in October, then reversed course and rose in November and December; the bellwether 10-year U.S. Treasury yield ended the year at 3.04%, its highest level since July 2011 and a full 126 basis points higher than its yield at year-end 2012. Investors rotated into investment-grade and high yield corporate bonds during 2013, leading to tighter spreads relative to a year ago. Developed market bonds as a whole were essentially flat in 2013, while emerging market debt lost ground as investors found the asset space less attractive than in previous years.

Federal Reserve Begins Tapering

Wilshire

- Federal Reserve will reduce its asset purchasing program by $10b starting in January 2014 (moving from $85b in purchases per month to $75b)
- First purchase of $75b will be divided between Treasuries ($40b) and mortgage bonds ($35b)
- At current trends, interest rates are likely to remain low even after the unemployment rate falls below the Fed's guidepost of 6.5%
- Growth in the monetary base has been supportive of equity prices



2014 Asset Class Assumptions

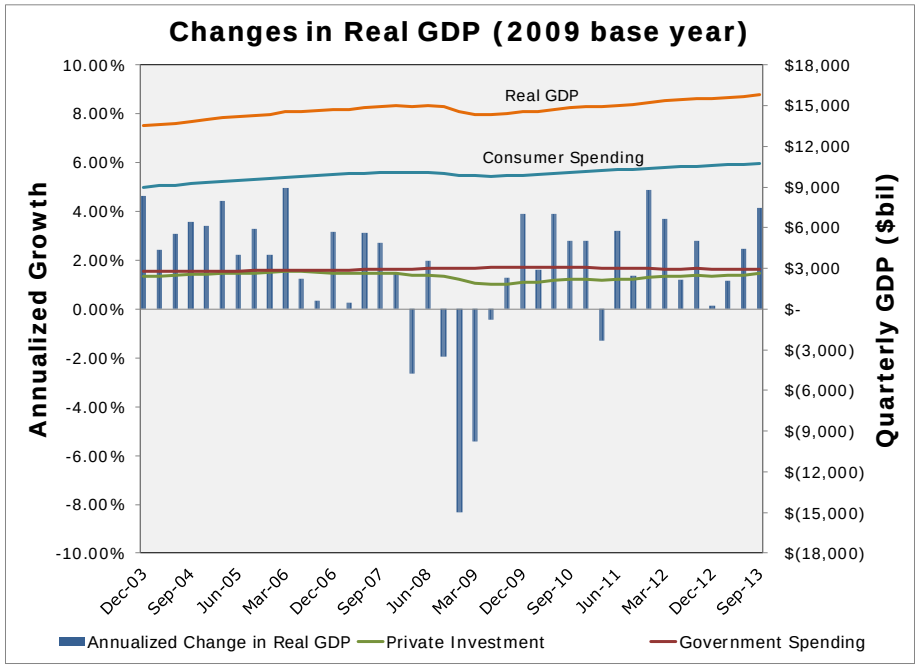
Wilshire

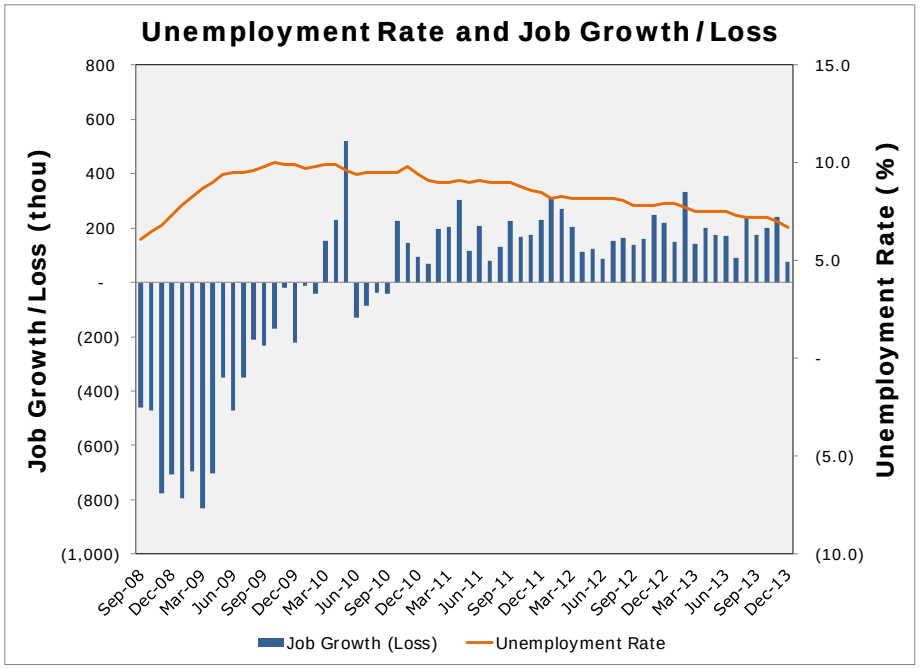
	Total Return (%)			Risk (%)
	2013 ACA	2014 ACA	Change vs 2013	2014 ACA
Investment Categories:				
U.S. Stocks	7.75	7.25	(0.50)	17.00
Dev ex-U.S. Stocks	7.75	7.25	(0.50)	18.00
Emerging Mkt Stocks	7.75	7.25	(0.50)	26.00
Global Stocks	8.00	7.45	(0.55)	17.20
Private Markets	10.75	10.40	(0.35)	27.50
Cash Equivalents	1.55	1.55	-	1.25
Core Bonds	3.25	4.10	0.85	5.00
LT Core Bonds	3.10	4.70	1.60	10.00
TIPS	2.60	4.00	1.40	6.00
High Yield Bonds	5.15	5.15	-	10.00
Non-U.S. Bonds (Hdg)	2.90	2.70	(0.20)	3.50
U.S. RE Securities	5.30	5.20	(0.10)	15.00
Private Real Estate	6.05	5.95	(0.10)	12.25
Commodities	4.55	4.25	(0.30)	13.00
Real Asset Basket	6.35	6.55	0.20	7.75
Inflation:	2.55	2.25	(0.30)	1.75
Returns minus Inflation:				
U.S. Stocks	5.20	5.00	(0.20)	
U.S. Bonds	0.70	1.85	1.15	
Cash Equivalents	(1.00)	(0.70)	0.30	
Stocks minus Bonds:	4.50	3.15	(1.35)	
Bonds minus Cash:	1.70	2.55	0.85	

Economic Review

December 31, 2013	Key Economic Indicators			
CPI (all items)	Monthly Change		Cumulative Change	
Seasonally adjusted	Dec-13	0.3	3-Month	0.3
	Nov-13	0.0	12-Month	1.5
	Oct-13	-0.1	10-Yr Annual	2.4
Breakeven Inflation	10-Year	2.3		
Consumer Sentiment	Dec-13	82.5		
Unv. of Michigan Survey	Nov-13	75.1		
	1-Yr Ago	72.9	10-Yr Avg	78.2
Manufacturing	Dec-13	57.0	Change in Manufacturing Sector	
Inst. for Supply Mgmt	Nov-13	57.3	>50	Expansion
Purchasing Mngrs' Idx	1-Yr Avg	53.9	<50	Contraction

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

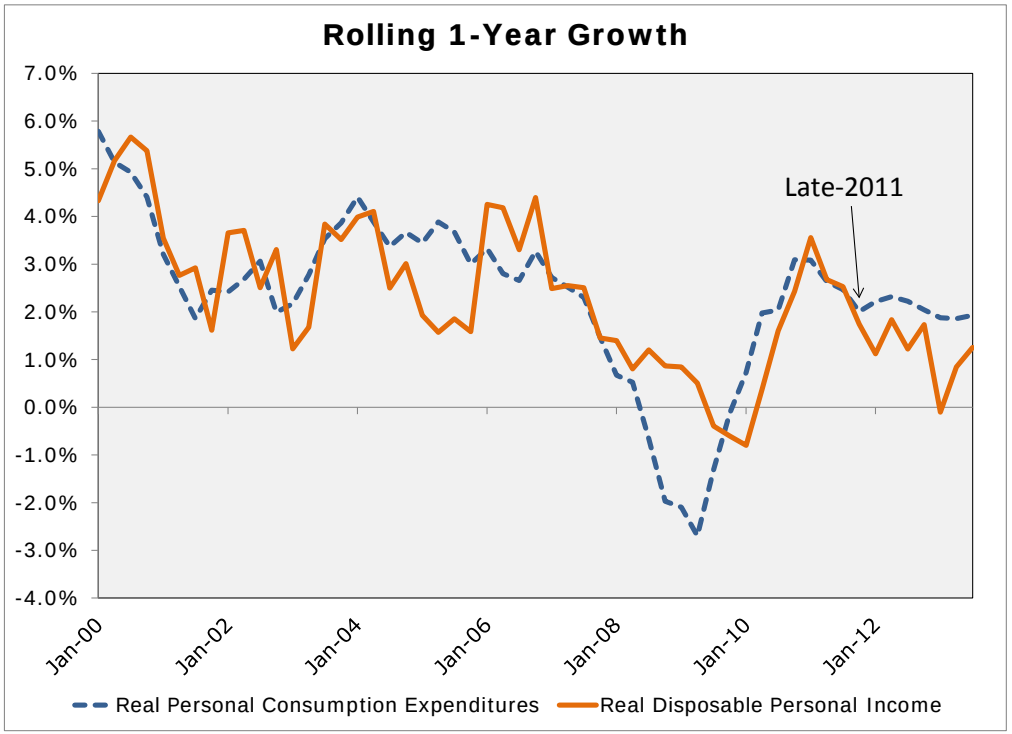




Data sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve Bank of St. Louis, Barclays Capital

Consumption and Economic Growth

- Personal consumption (PCE) is a major component of GDP, accounting for two-thirds of total economic activity
- Growth in consumption often mirrors growth in disposable personal income (DPI)
- Real DPI growth has been moderate – but trending downward recently
- Real PCE growth also has been moderate, averaging a little more than 2%, since mid-2010, although is fortunately positive

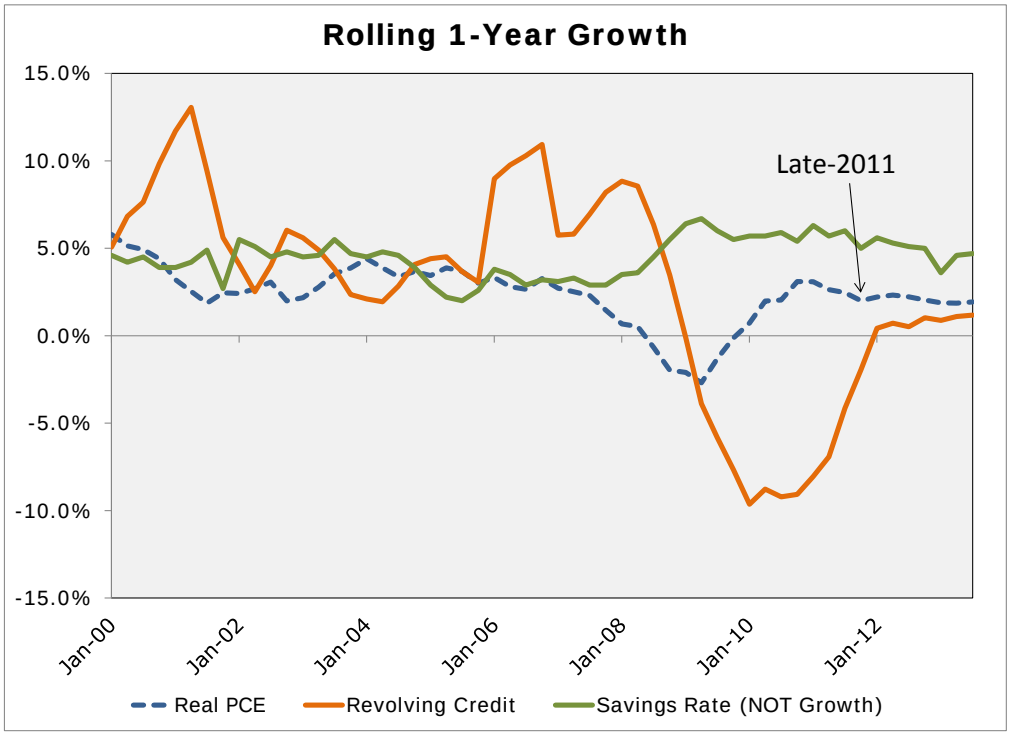


Source: Bureau of Economic Analysis

Consumption and Economic Growth

Wilshire

- By accessing savings or credit, the aggregate consumer can quickly adjust its behavior in order to maintain spending – if they so choose
- After a massive reduction of revolving credit (mostly credit cards) following the recession, consumers are again using (very) small amounts of debt
- Savings habits also have changed (modestly) with a savings rate below 5% in 2013, the first time being below that level since mid-2008

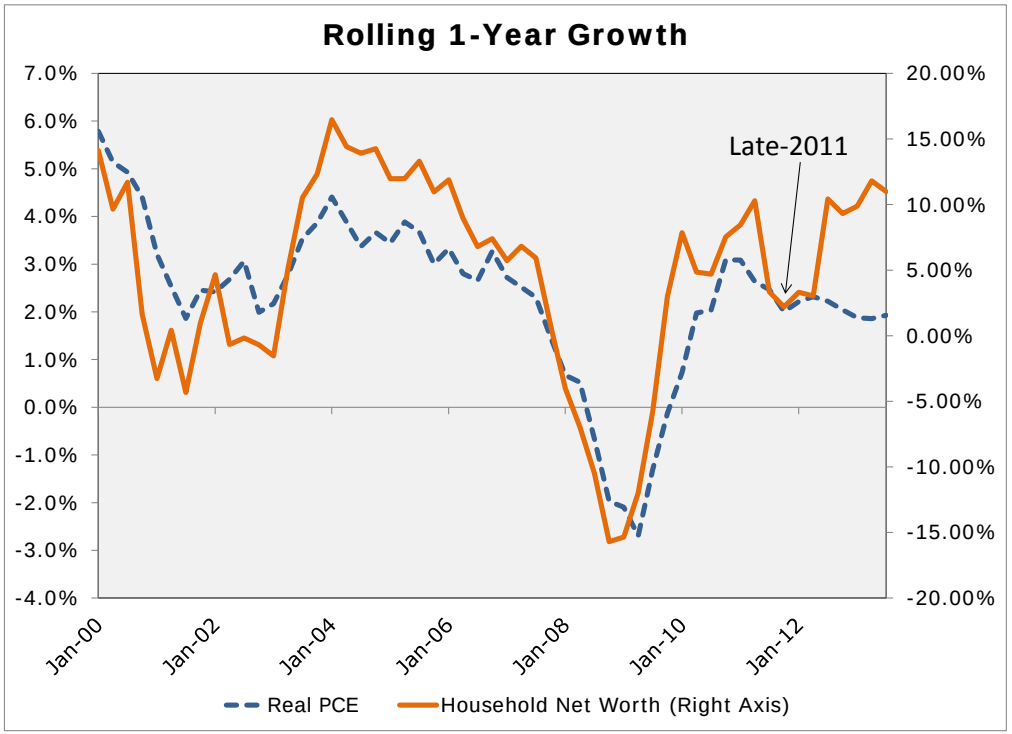


Source: Bureau of Economic Analysis, Federal Reserve

Consumption and Economic Growth

Wilshire

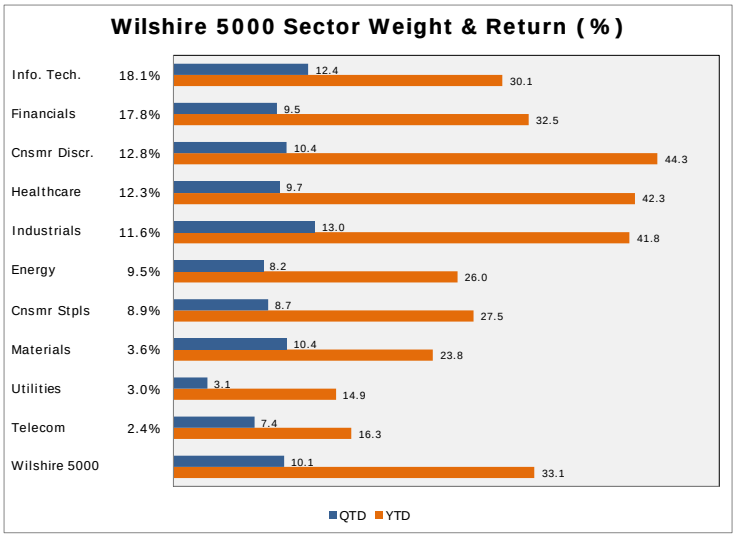
- Household wealth can also have an effect on spending
- Recently, however, wealth has been increasing dramatically without much of an impact on spending
- Is quantitative easing simply supporting asset prices rather than meaningfully driving economic growth? (i.e. Is the wealth effect diminishing?)

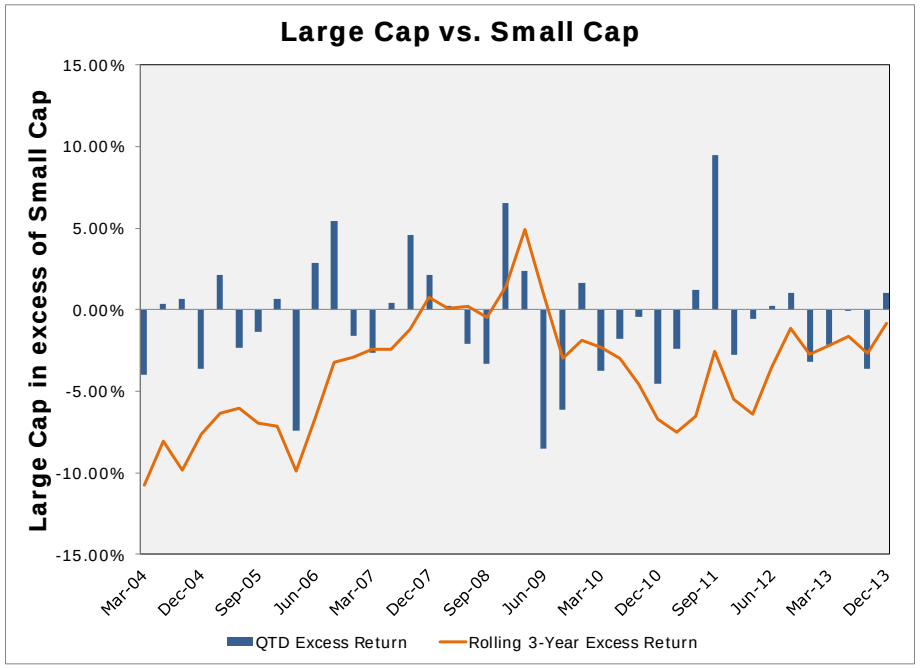


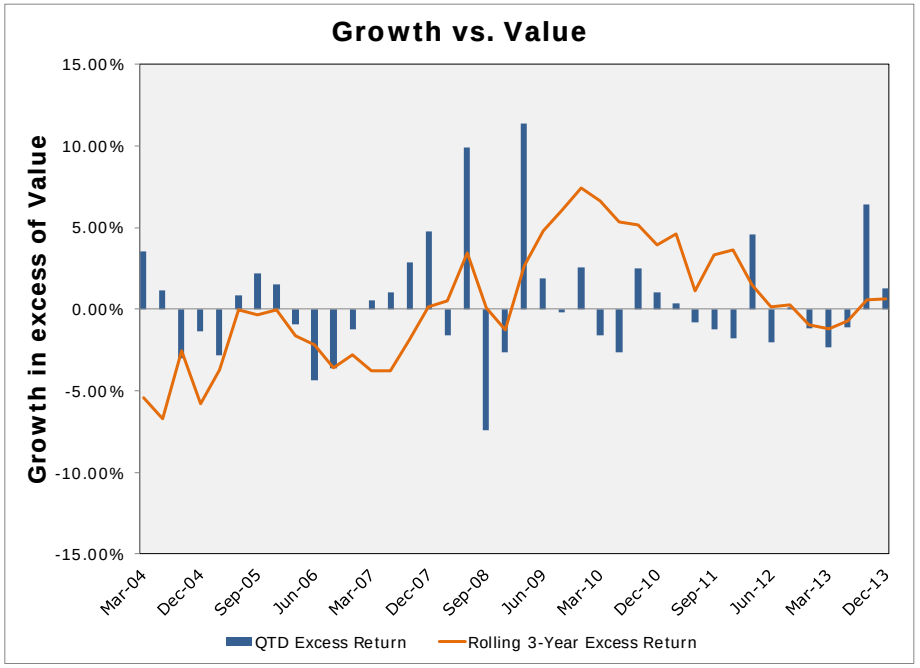
Source: Bureau of Economic Analysis, Federal Reserve

U.S. Equity Market

December 31, 2013	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Wilshire 5000	10.1	33.1	33.1	16.0	18.6	8.0
Wilshire U.S. Large Cap	10.2	32.3	32.3	15.9	18.0	7.7
Wilshire U.S. Small Cap	9.1	39.0	39.0	16.8	23.9	10.7
Wilshire U.S. Large Growth	11.1	35.0	35.0	16.2	19.8	8.2
Wilshire U.S. Large Value	9.5	30.2	30.2	15.7	16.1	7.1
Wilshire U.S. Small Growth	8.6	45.0	45.0	18.2	25.9	11.6
Wilshire U.S. Small Value	9.6	33.8	33.8	15.5	21.8	9.9
Wilshire REIT Index	-0.8	1.9	1.9	9.4	16.7	8.4
MSCI USA Minimum Volatility Index	7.3	24.4	24.4	15.3	15.5	7.5
FTSE RAFI U.S. 1000 Index	10.5	35.6	35.6	16.7	22.1	n.a.





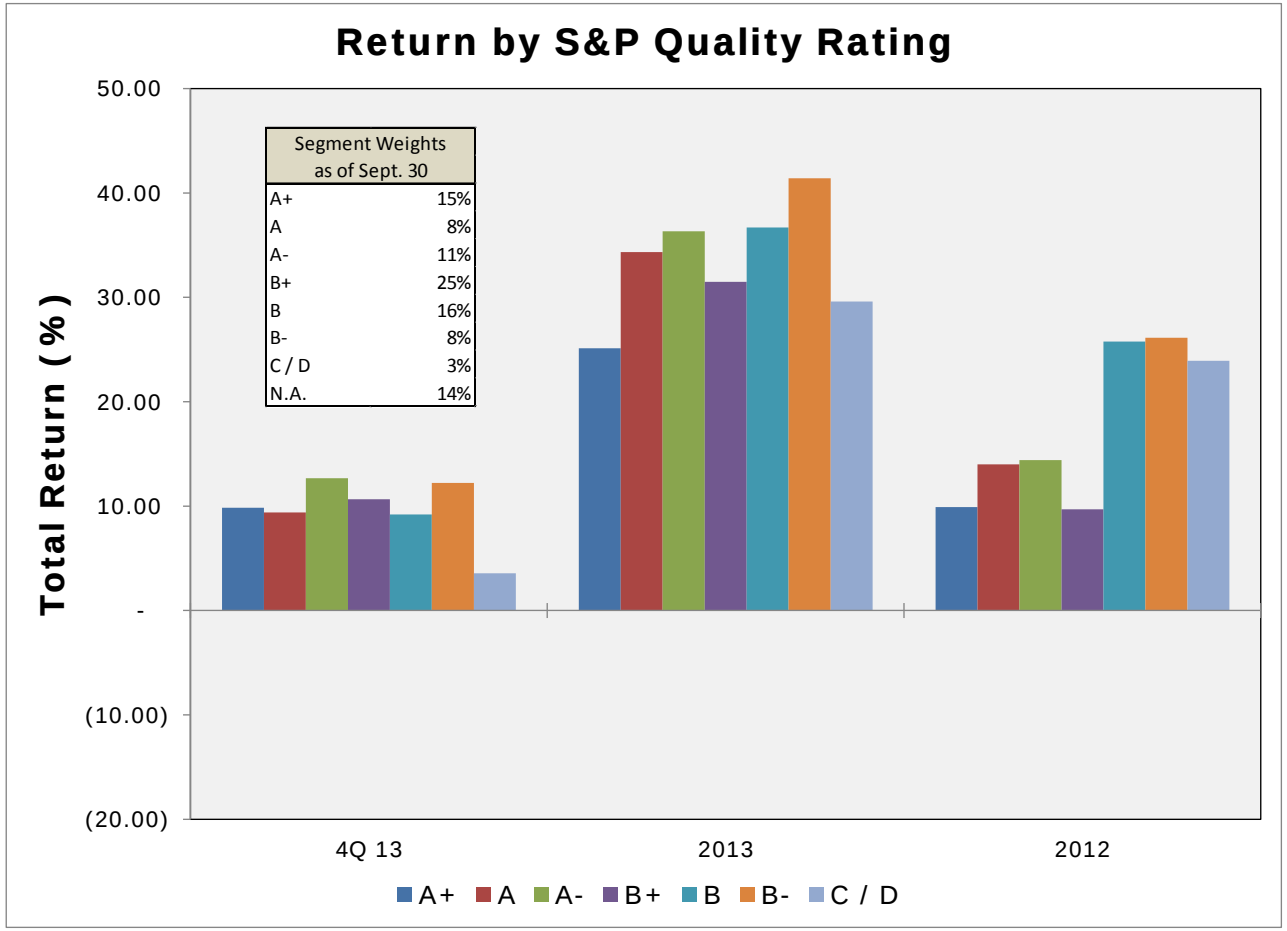


Data sources: Wilshire Compass, Wilshire Atlas

Returns by Quality Segment

Wilshire

Broad based gains across the quality spectrum during 2013, unlike 2012 when lower quality names outperformed

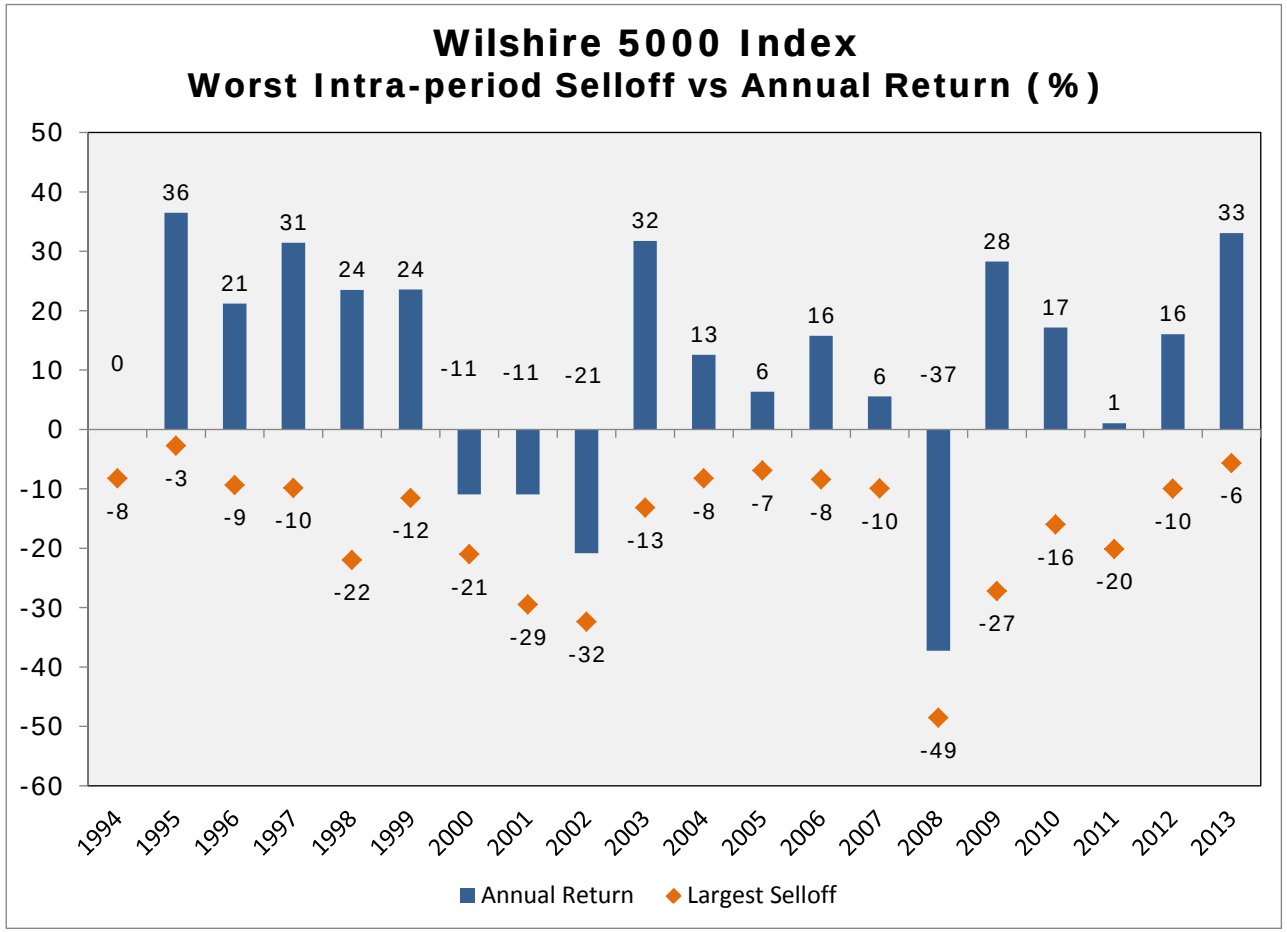


Data sources: Wilshire Atlas

Annual Equity Returns

Wilshire

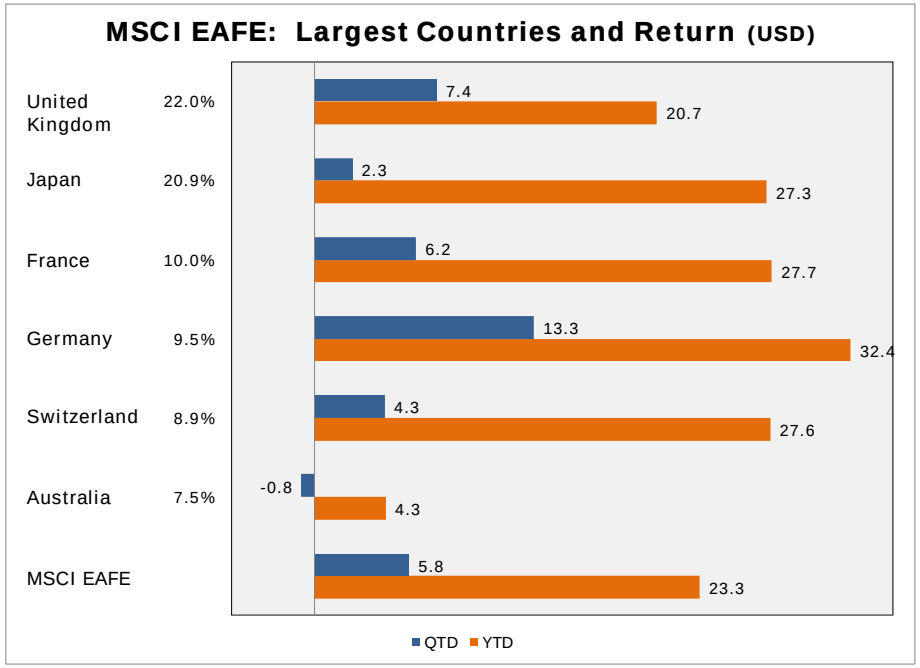
- U.S. Equity has now produced 5 straight years of positive returns since the credit crisis
- Sell-offs during each year have diminished in magnitude, -27% and -16% in 2009 and 2010 to just a -6% sell-off in 2013

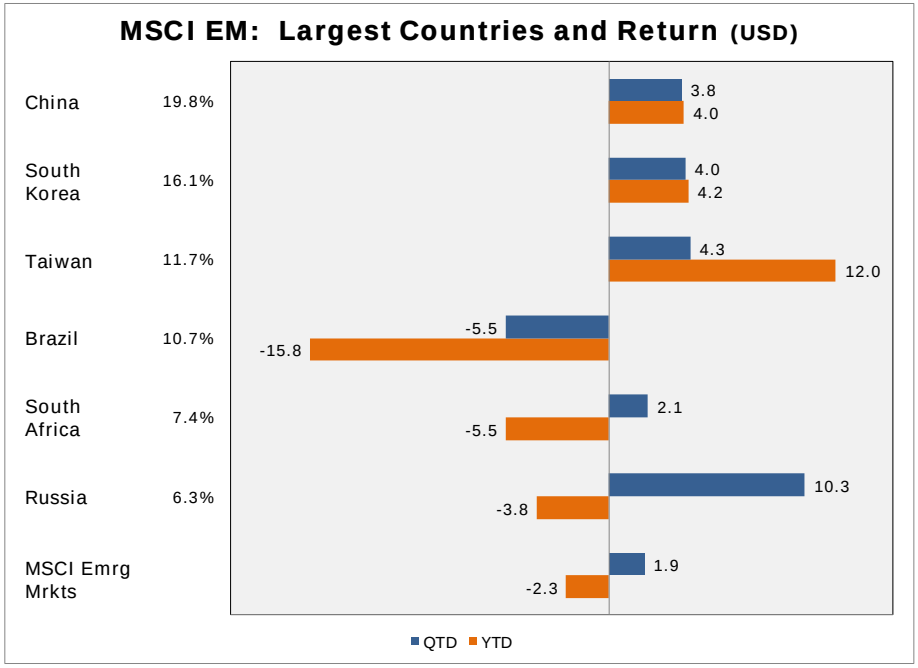


Source: Wilshire Atlas

Non-U.S. Equity Market

December 31, 2013	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
MSCI ACWI ex-US ($g)	4.8	15.8	15.8	5.6	13.3	8.0
MSCI EAFE ($g)	5.8	23.3	23.3	8.7	13.0	7.4
MSCI Emerging Markets ($g)	1.9	-2.3	-2.3	-1.7	15.1	11.5
MSCI Frontier Markets ($g)	6.6	26.3	26.3	4.0	10.0	7.3
MSCI ACWI ex-US Growth ($g)	4.7	15.9	15.9	5.3	13.3	7.7
MSCI ACWI ex-US Value ($g)	4.9	15.6	15.6	5.9	13.3	8.3
MSCI ACWI ex-US Small ($g)	4.7	20.1	20.1	5.3	19.2	10.5
MSCI EAFE Minimum Volatility Idx	2.3	17.1	17.1	9.3	10.8	9.7
FTSE RAFI Developed ex-US Index	6.5	25.4	25.4	7.6	14.0	n.a.
MSCI EAFE LC (g)	6.4	27.5	27.5	9.9	11.8	6.5
MSCI Emerging Markets LC (g)	3.0	3.8	3.8	2.2	14.7	11.4



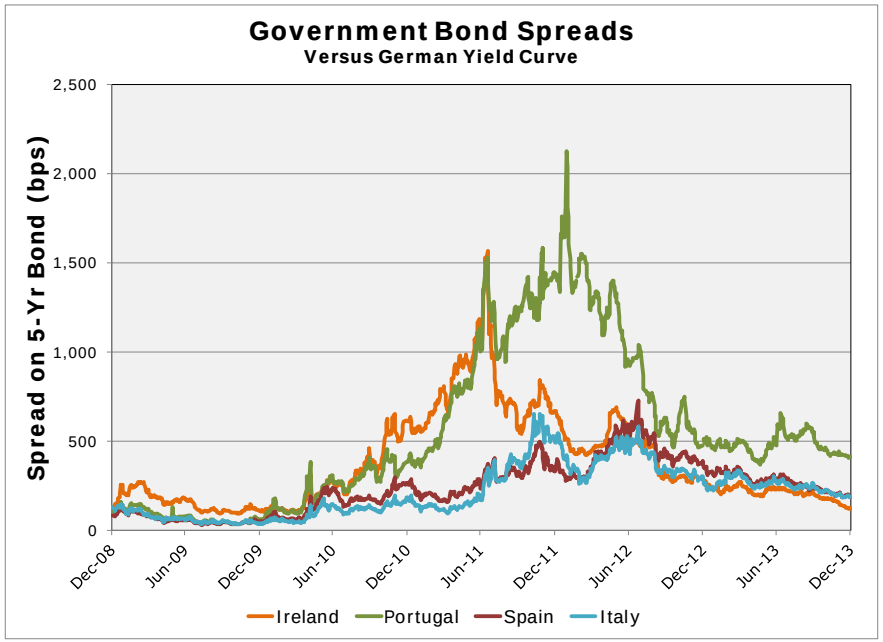


Data sources: Wilshire Compass, MSCI Barra

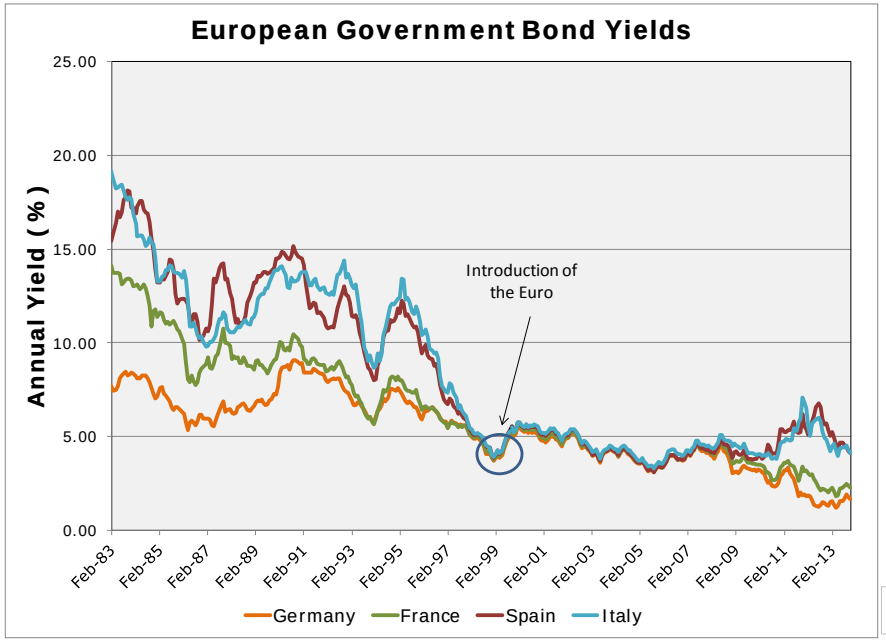
European Debt Issues

Wilshire

- Government yield spreads fell during the fourth quarter for some of the relatively troubled European economies



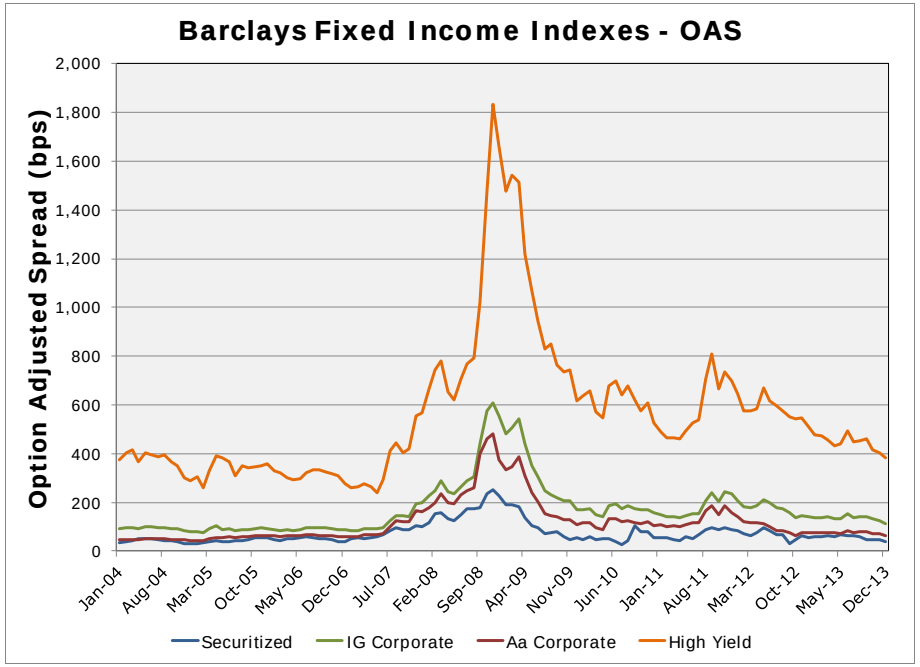
- Yields on government bonds have moderated while the spreads among different countries are beginning to tighten

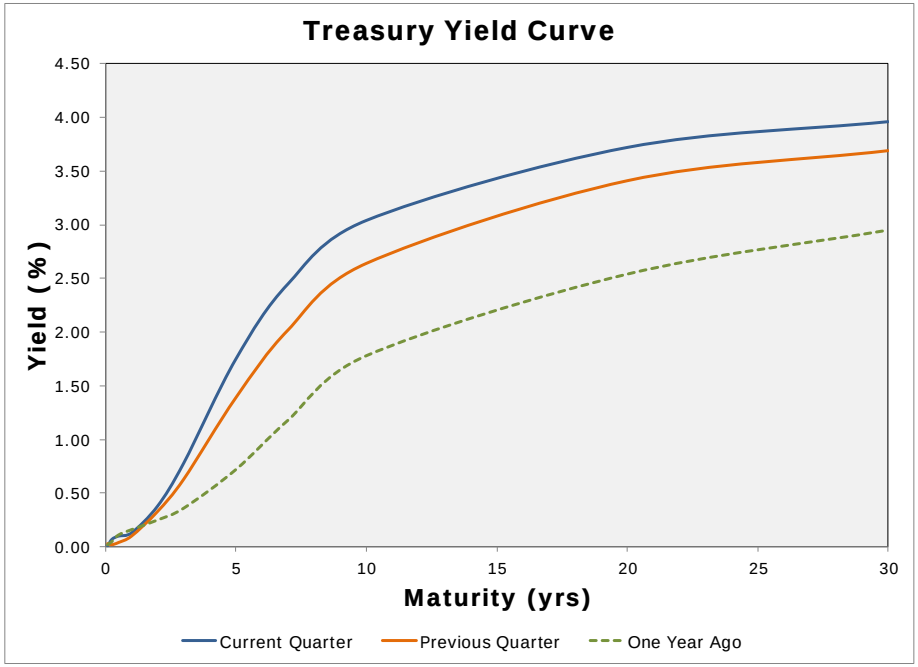


Source: Barclays Capital, International Monetary Fund

U.S. Fixed Income Market

December 31, 2013	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Barclays Aggregate Bond Index	-0.1	-2.0	-2.0	3.3	4.4	4.5
Barclays Treasury Index	-0.8	-2.8	-2.8	2.9	2.1	4.2
Barclays Gov't-Related Index	0.0	-2.7	-2.7	2.9	3.2	4.3
Barclays Securitized Index	-0.4	-1.3	-1.3	2.6	4.4	4.5
Barclays Corporate IG Index	1.1	-1.5	-1.5	5.4	8.6	5.3
Barclays LT Gov't/Credit Index	-0.1	-8.8	-8.8	6.7	6.4	6.4
Barclays LT Treasury Index	-3.1	-12.7	-12.7	5.5	2.3	5.9
Barclays LT Gov't-Related Index	-0.1	-9.8	-9.8	7.1	5.8	6.8
Barclays LT Corporate IG Index	1.9	-5.7	-5.7	7.1	10.3	6.4
Barclays U.S. TIPS Index	-2.0	-8.6	-8.6	3.6	5.6	4.8
Barclays High Yield Index	3.6	7.4	7.4	9.3	18.9	8.6
Treasury Bills	0.0	0.1	0.1	0.1	0.1	1.7



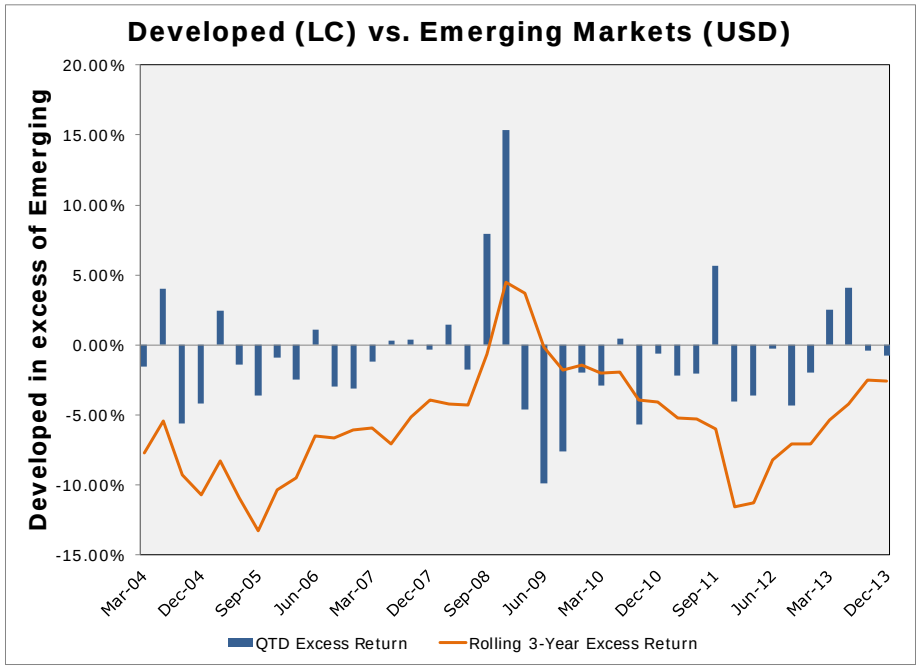


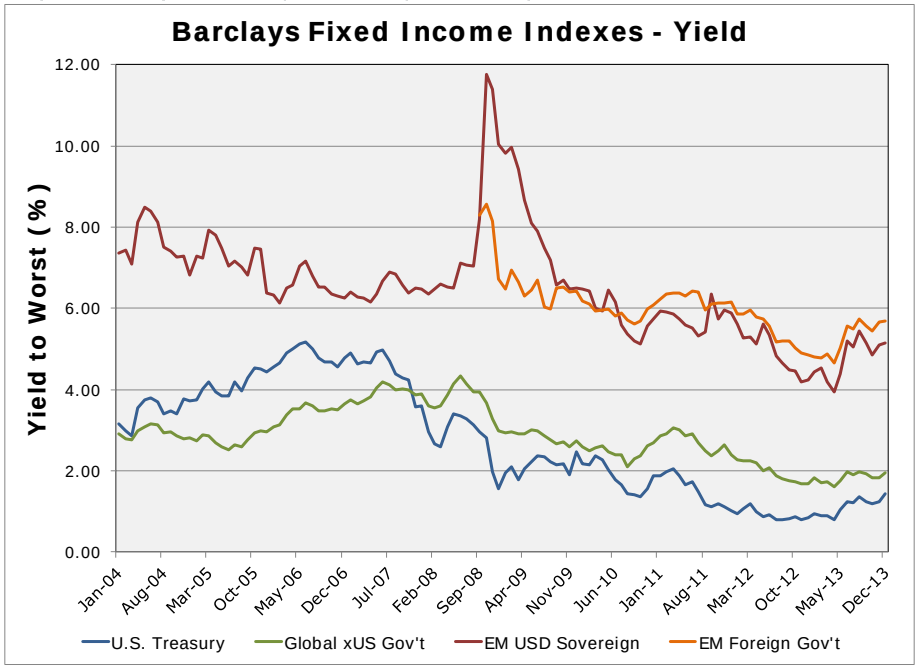
Data sources: Wilshire Compass, Barclays Capital, U.S. Treasury

Non-U.S. Fixed Income Market

December 31, 2013	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Developed Markets						
Barclays Global Aggregate xUS	-0.7	-3.1	-3.1	1.7	3.5	4.4
Barclays Global Aggregate xUS *	0.4	1.2	1.2	3.8	3.8	4.3
Barclays Wrld Govt xUS IL Bond	0.6	-0.8	-0.8	4.8	6.2	5.6
Barclays Wrld Govt xUS IL Bond *	-0.7	-1.8	-1.8	4.2	5.0	5.0
Emerging Mrkts (Hard Currency)						
Barclays EM USD Aggregate	1.2	-4.1	-4.1	6.5	12.9	8.5
Emerging Mrkts (Foreign Currency)						
Barclays EM Local Currency Gov't	-0.3	-4.3	-4.3	3.4	7.8	n.a.
Barclays EM Local Currency Gov't *	-0.3	-2.5	-2.5	2.9	3.6	n.a.
Euro vs. Dollar	1.8	4.5	4.5	0.9	-0.2	0.8
Yen vs. Dollar	-6.6	-17.7	-17.7	-8.3	-2.9	0.2
Pound vs. Dollar	2.3	1.9	1.9	1.9	2.9	-0.8

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

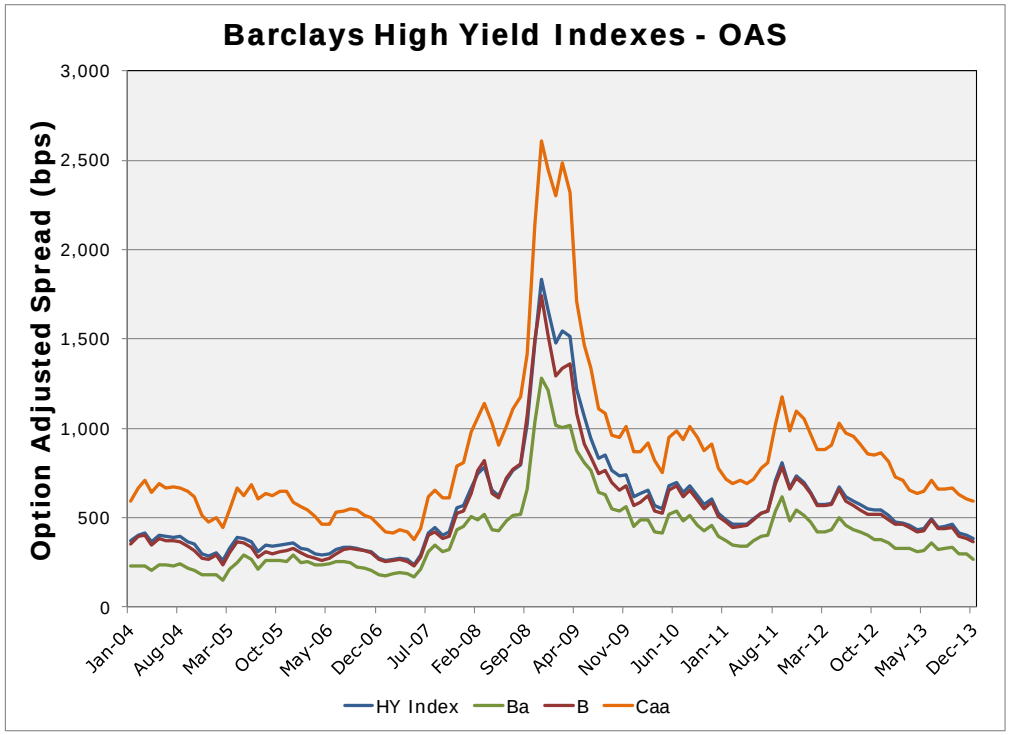




Data sources: Wilshire Compass, Barclays Capital

High Yield Bond Market

December 31, 2013	Weight	Qtr	Ytd	1 Yr	3 Yr
Barclays High Yield Index	100%	3.6	7.4	7.4	9.3
Quality Distribution					
Ba U.S. High Yield	41.0%	3.2	5.0	5.0	8.7
B U.S. High Yield	40.1%	3.6	7.3	7.3	9.3
Caa U.S. High Yield	18.1%	4.3	13.8	13.8	10.9
Ca to D U.S. High Yield	0.6%	10.2	5.0	5.0	6.1
Non-Rated U.S. High Yield	0.2%	3.9	8.2	8.2	12.2

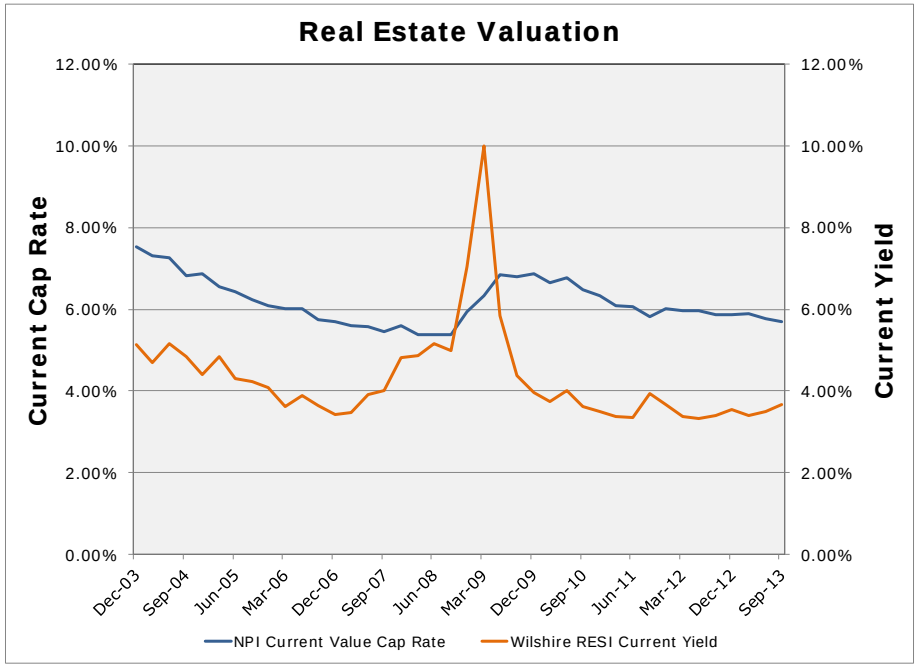


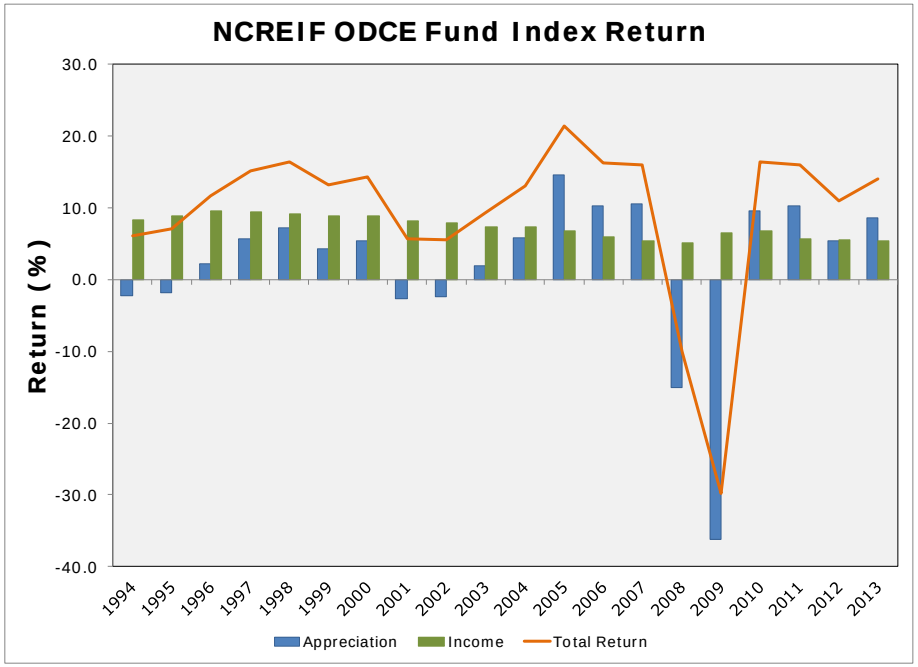
Data sources: Barclays Capital

Real Assets

December 31, 2013	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Barclays U.S. TIPS Index	-2.0	-8.6	-8.6	3.6	5.6	4.8
Dow Jones UBS Commodity Index	-1.1	-9.5	-9.5	-8.1	1.5	0.9
Global Public Real Estate*	-0.6	2.2	2.2	9.2	16.8	8.9
NCREIF ODCE Fund Index	3.2	14.0	14.0	13.6	3.7	7.2
NCREIF Timberland Index	5.9	9.7	9.7	6.3	2.7	8.4
Alerian MLP Index (Oil & Gas)	5.3	27.6	27.6	15.0	29.5	15.0

* Wilshire Global Real Estate Securities from December 2003 to December 2004. Wilshire Global REITs from 2004 to present.





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

Asset Class Performance

Wilshire

Annual Asset Class Returns - Best to Worst

2009	2010	2011	2012	**2013**
Emrg Mrkts 79.0%	REITs 28.6%	U.S. TIPS 13.6%	Emrg Mrkts 18.6%	U.S. Equity 33.1%
High Yield 58.2%	Emrg Mrkts 19.2%	REITs 9.2%	Developed 17.9%	Developed 23.3%
Developed 32.5%	U.S. Equity 17.2%	Core Bond 7.8%	REITs 17.6%	High Yield 7.4%
REITs 28.6%	Commodities 16.8%	High Yield 5.0%	U.S. Equity 16.1%	REITs 1.9%
U.S. Equity 28.3%	High Yield 15.1%	U.S. Equity 1.0%	High Yield 15.8%	T-Bills 0.1%
Commodities 18.9%	Developed 8.2%	T-Bills 0.1%	U.S. TIPS 7.0%	Core Bond -2.0%
U.S. TIPS 11.4%	Core Bond 6.5%	Developed -11.7%	Core Bond 4.2%	Emrg Mrkts -2.3%
Core Bond 5.9%	U.S. TIPS 6.3%	Commodities -13.3%	T-Bills 0.1%	U.S. TIPS -8.6%
T-Bills 0.2%	T-Bills 0.1%	Emrg Mrkts -18.2%	Commodities -1.0%	Commodities -9.5%

Annualized 5-Year 2009-2013
High Yield 18.9%
U.S. Equity 18.6%
REITs 16.7%
Emrg Mrkts 15.1%
Developed 13.0%
U.S. TIPS 5.6%
Core Bond 4.4%
Commodities 1.5%
T-Bills 0.1%

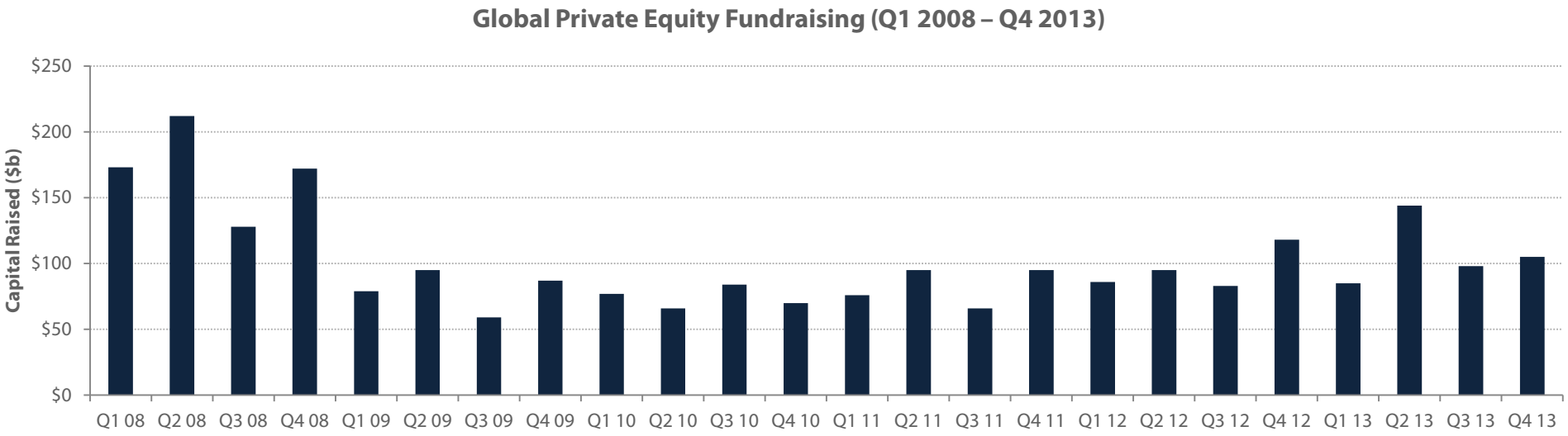
Data sources: Wilshire Compass

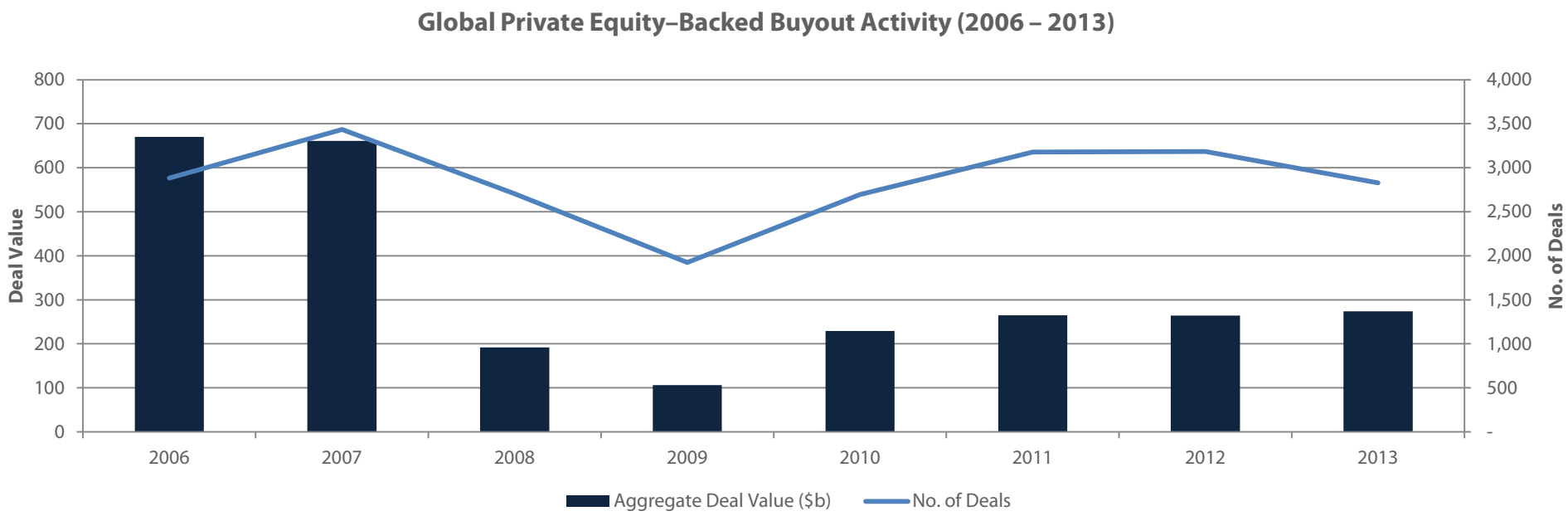
Note: Developed asset class is developed markets ex-U.S., ex-Canada.

Appendix: Private Markets Update

Private Equity Environment – Fundraising & Investment Activity

Wilshire

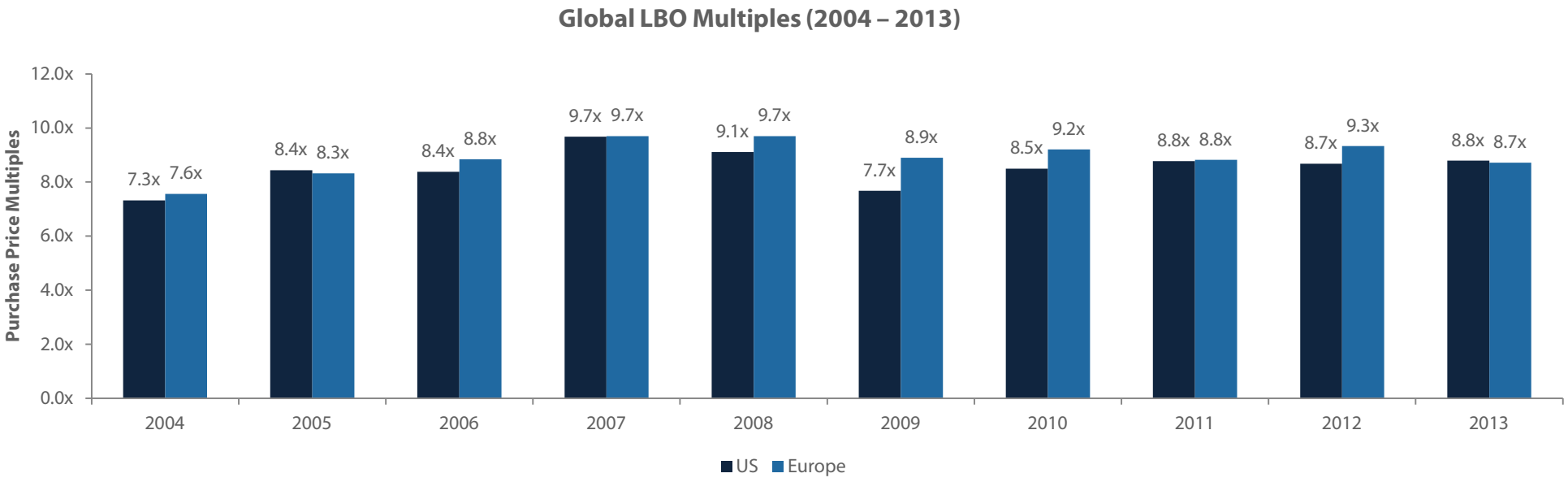


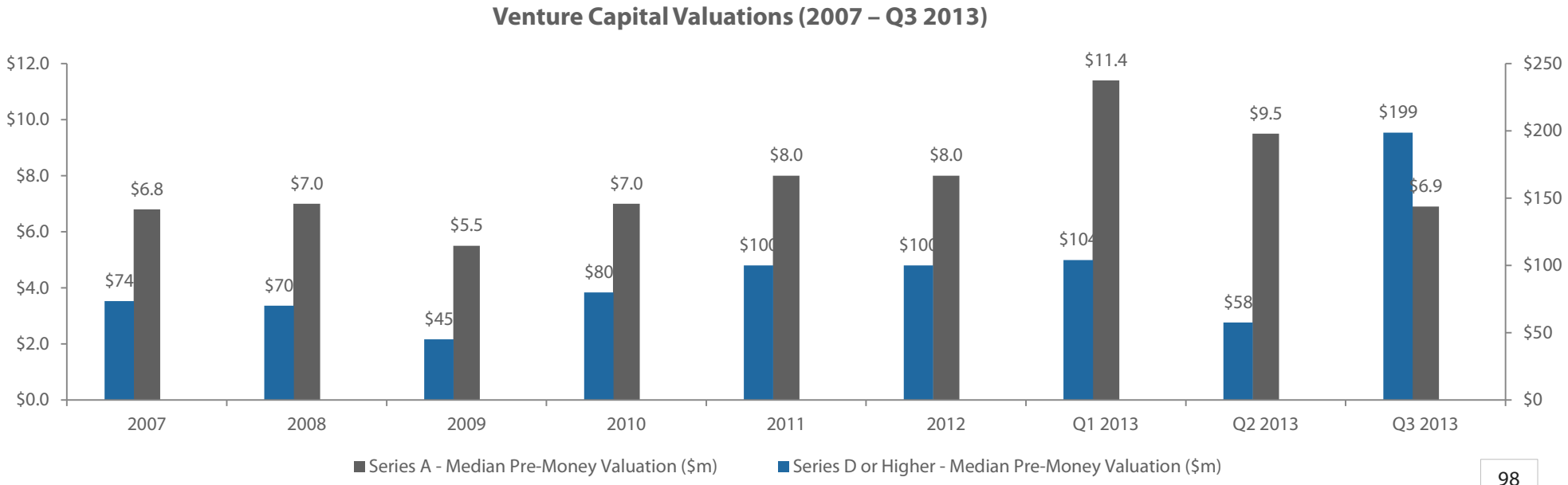


Sources: Preqin.

Private Equity Environment – Pricing

Wilshire

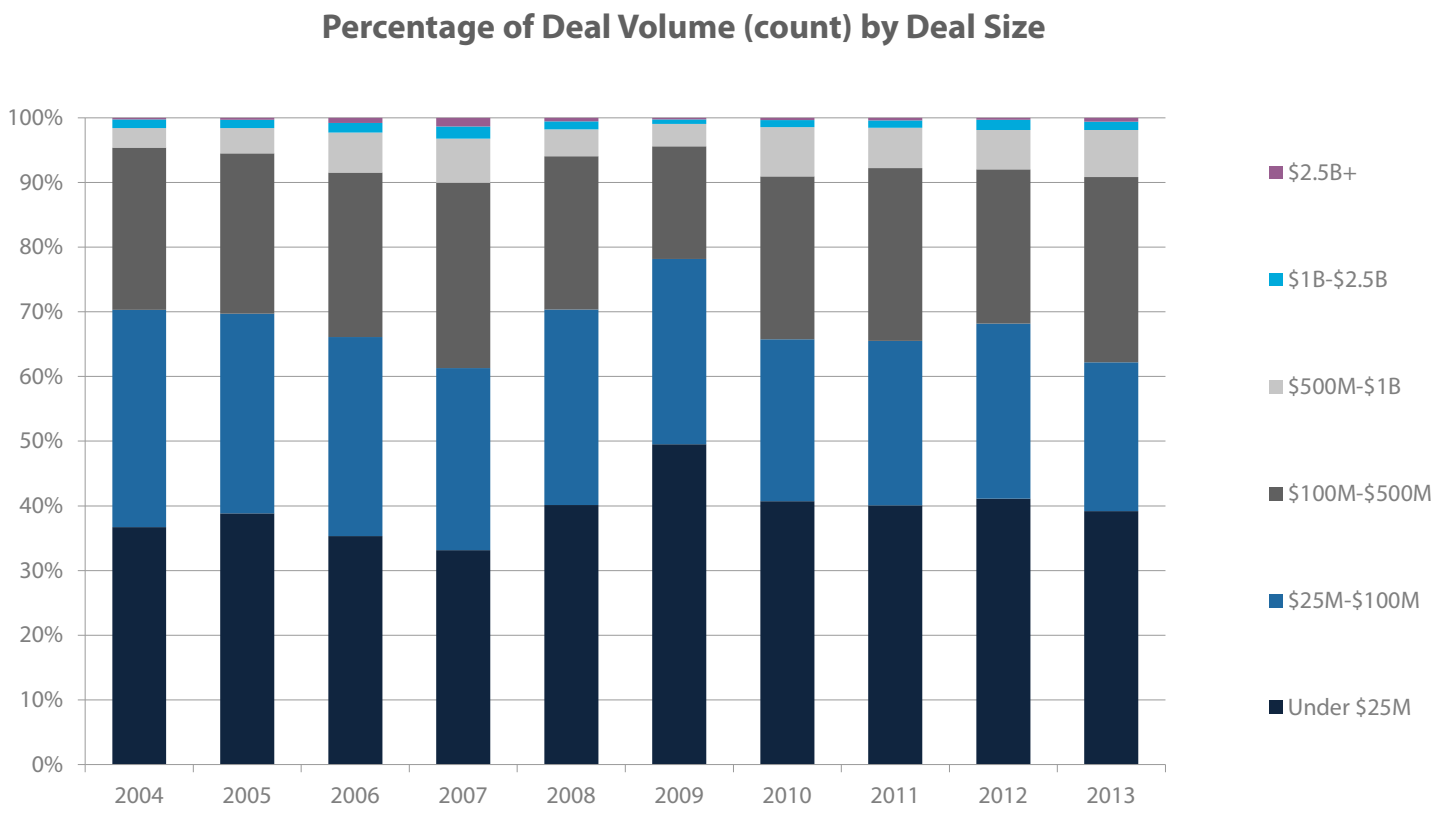




Source: S&P LCD; Cooley Venture Financing Report.

U.S. Investment Activity by Deal Size

Wilshire



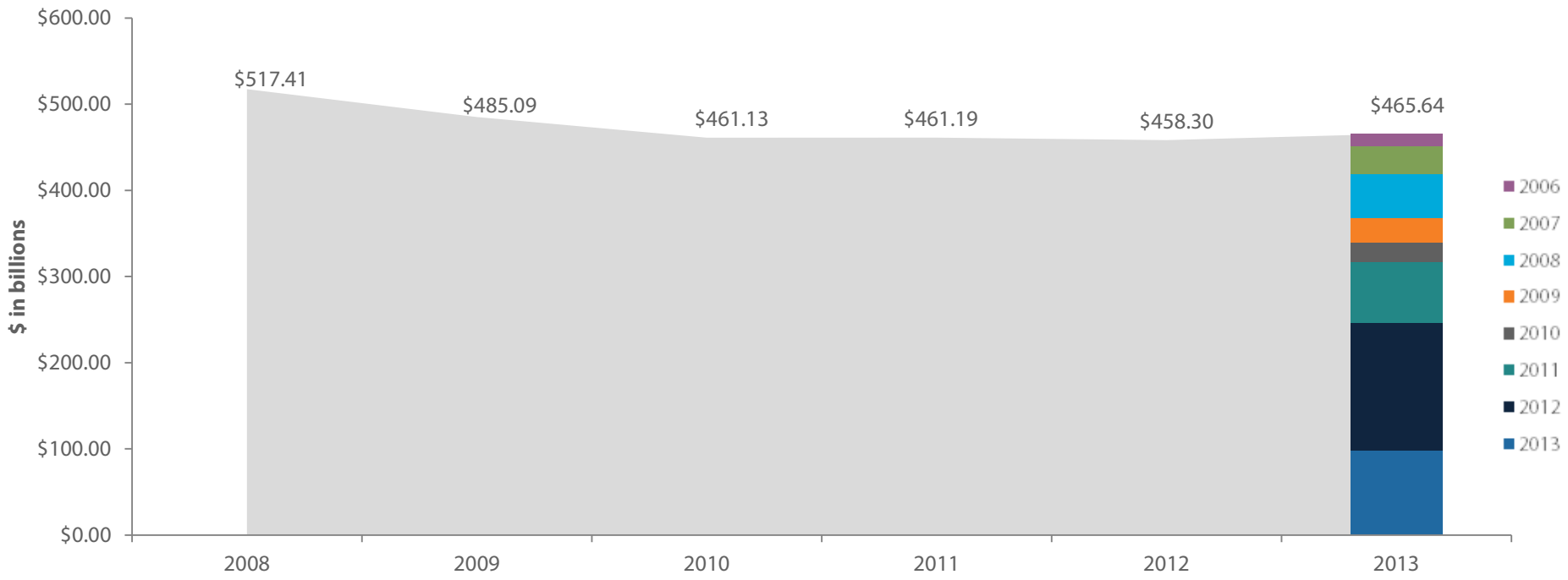
- Smaller deals continue to dominant deal activity by count
- However, deals under $25 million dropped under the 40% threshold for the first time since 2007

Source: Pitchbook.

North American Private Equity Overhang

Wilshire

Cumulative Vintage Year Overhang



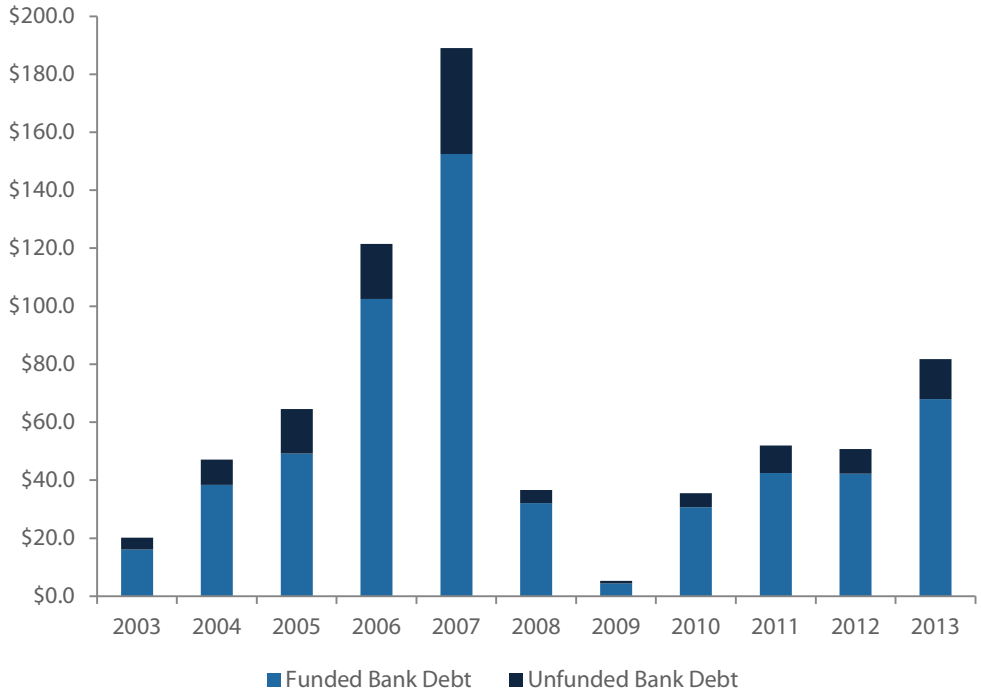
- Total private equity overhang significantly grew to over $517 billion during the run-up to the financial crisis
- While the overhang has slightly decreased since 2008, it remains relatively high at approximately $466 billion

Source: Pitchbook. 2013 data as of 1H 2013.

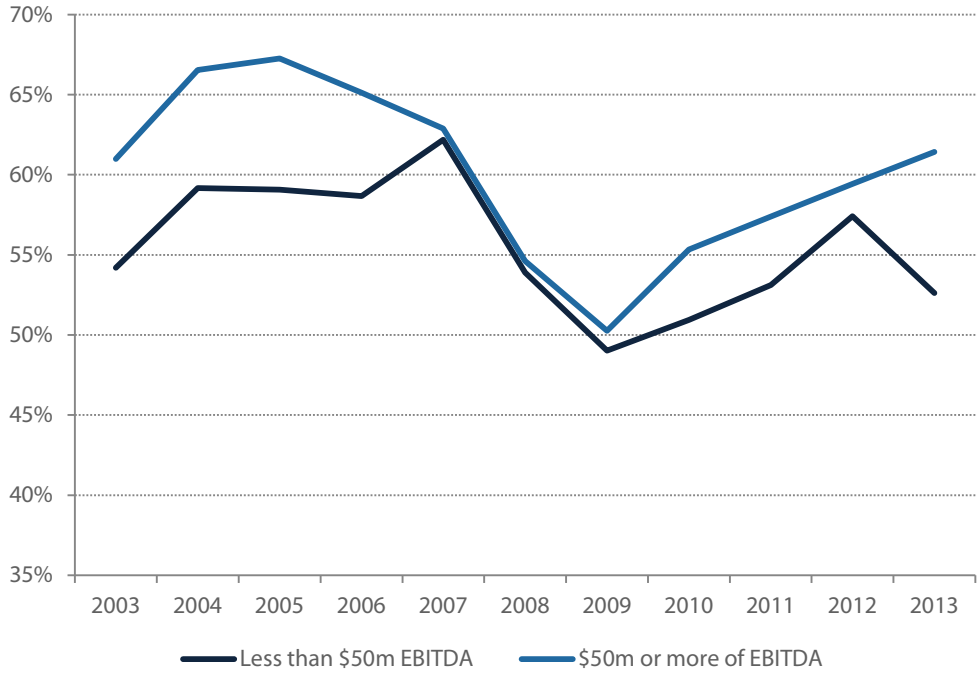
U.S. Debt Markets

Wilshire

Total U.S. Leveraged Buyout Loan Volume ($b)



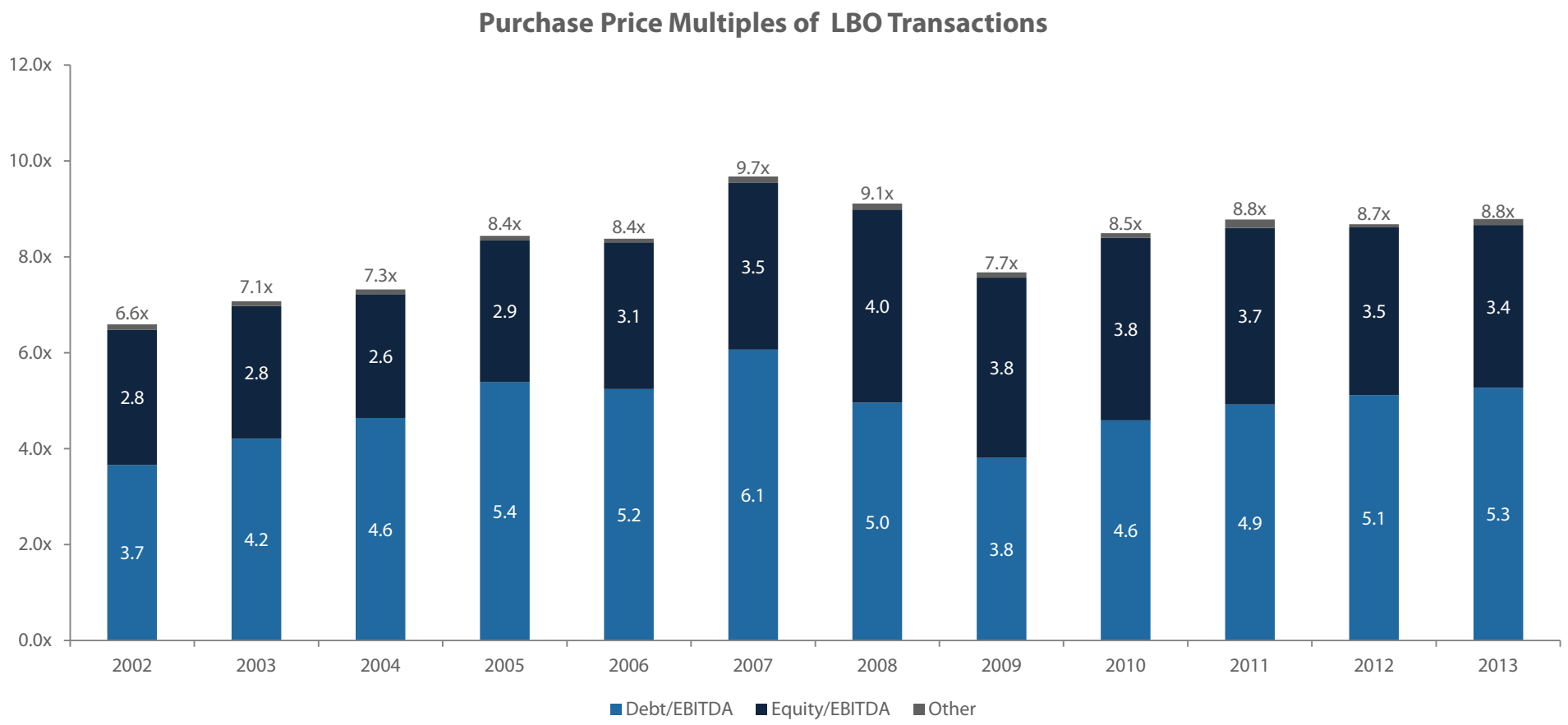
Percentage of Debt Used in Buyouts



- The amount of capital available for leverage has gone down significantly since its peak volume in 2007, but continues to climb from the historically low levels in 2009
- Transactions with less than $50m of EBITDA continue to apply less leverage than those of larger deals by a meaningful percentage

Source: S&P LCD.

U.S. LBO Purchase Price Multiples



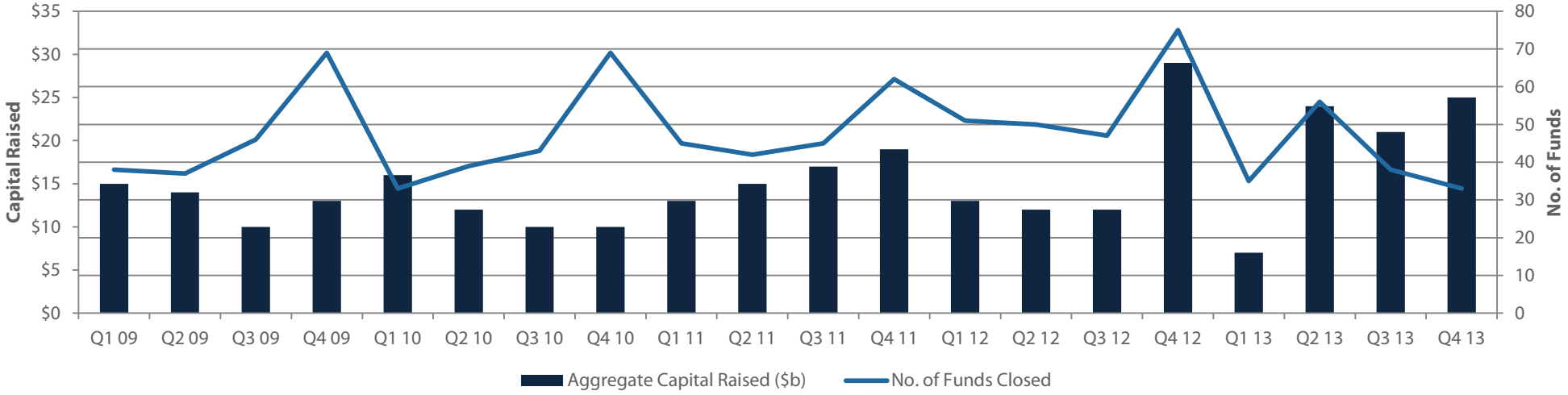
- As the debt markets have come back, purchase price multiples have increased from 2009 and have been stable in the 8.5x to 8.8x range

Source: S&P LCD.

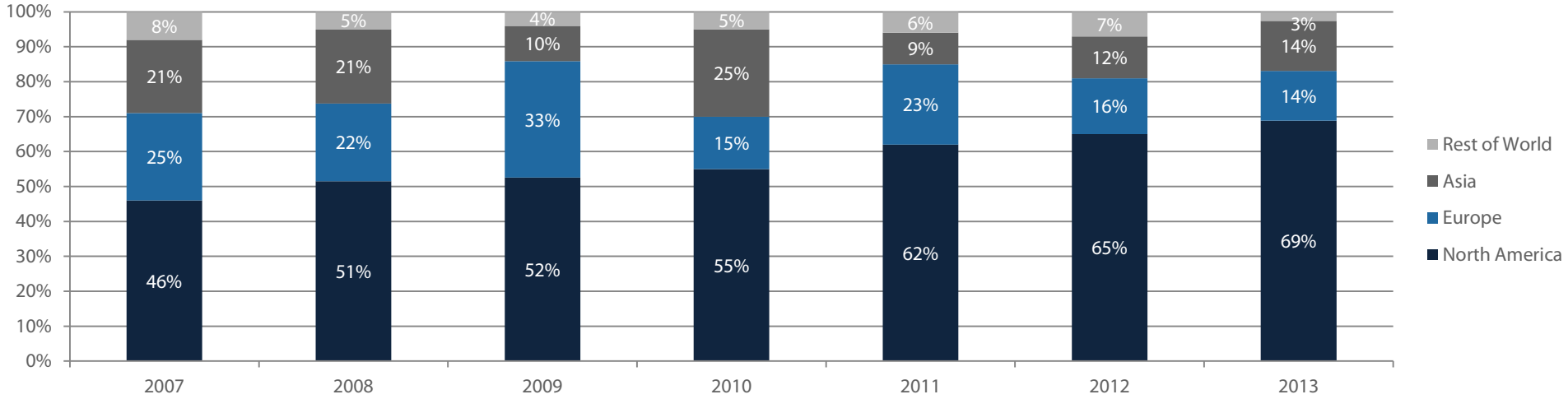
Real Estate Fundraising

Wilshire

Quarterly Closed-End Private Real Estate Fundraising (Q1 2009 – Q4 2013)



Proportion of Aggregate Capital Raised by Closed-End Private Real Estate Funds by Fund Geographic Focus (2007 – 2013)

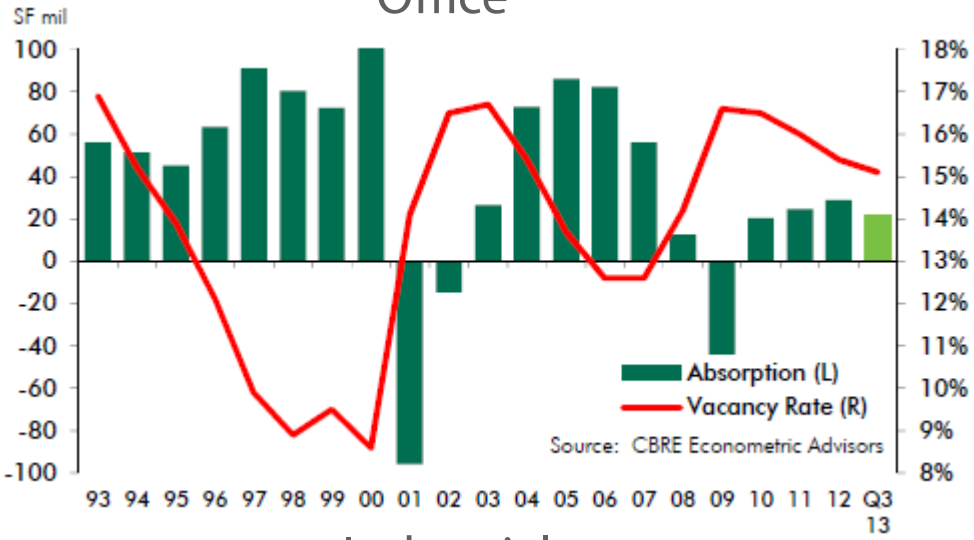


Source: Preqin.

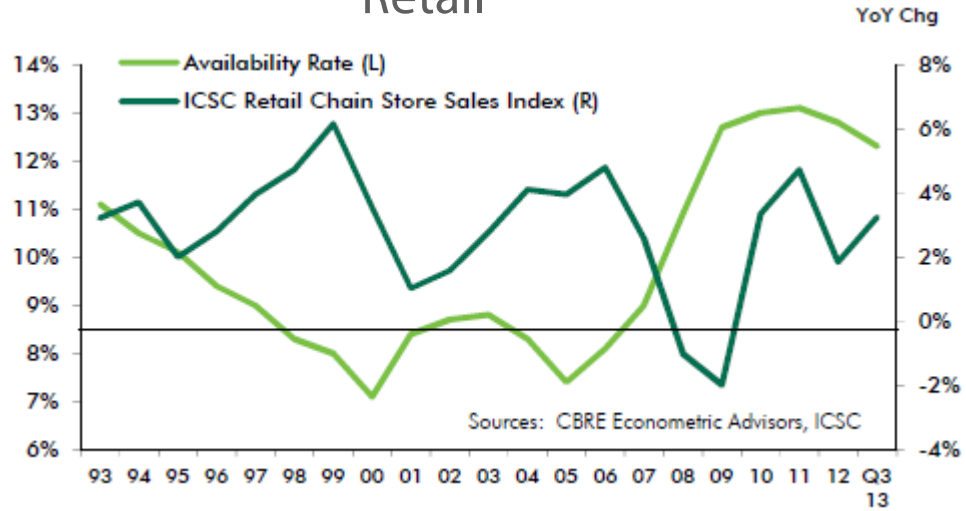
Commercial Property (as of 3Q 2013)

Wilshire

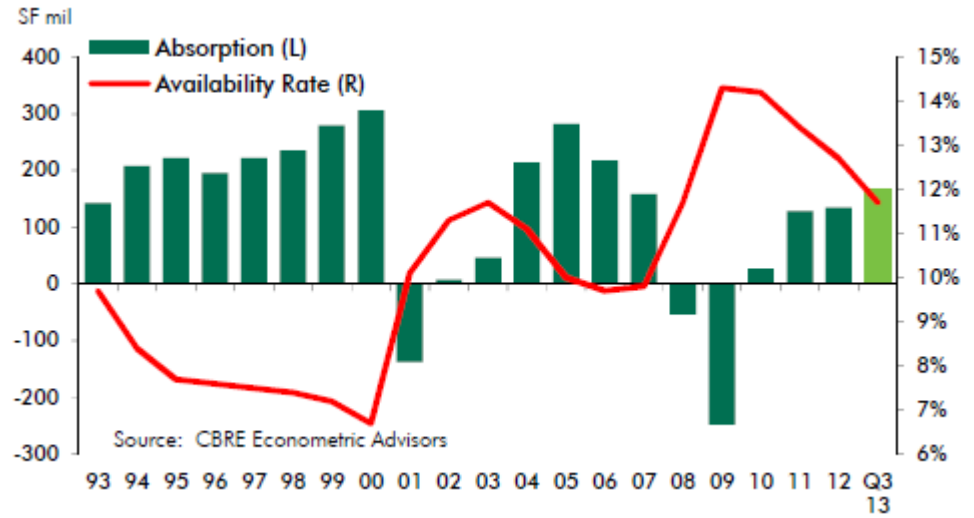
Office



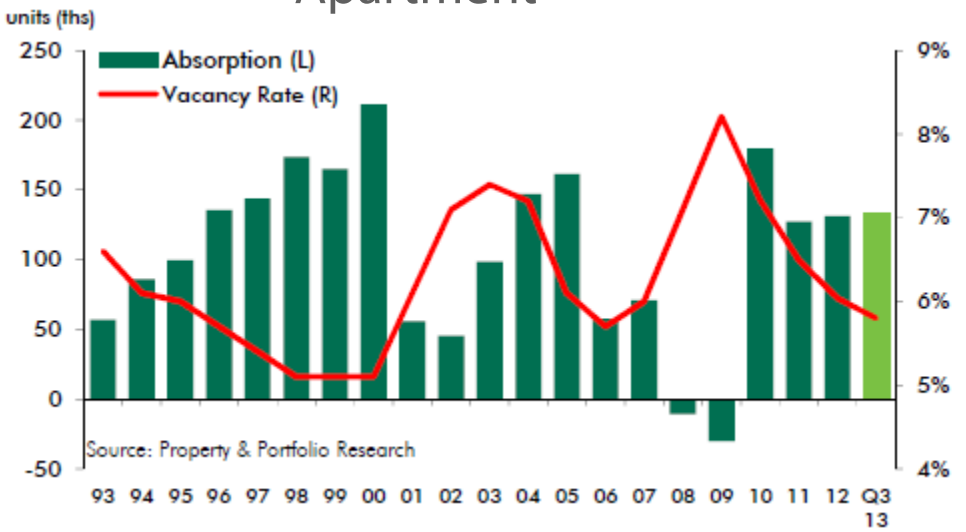
Retail



Industrial



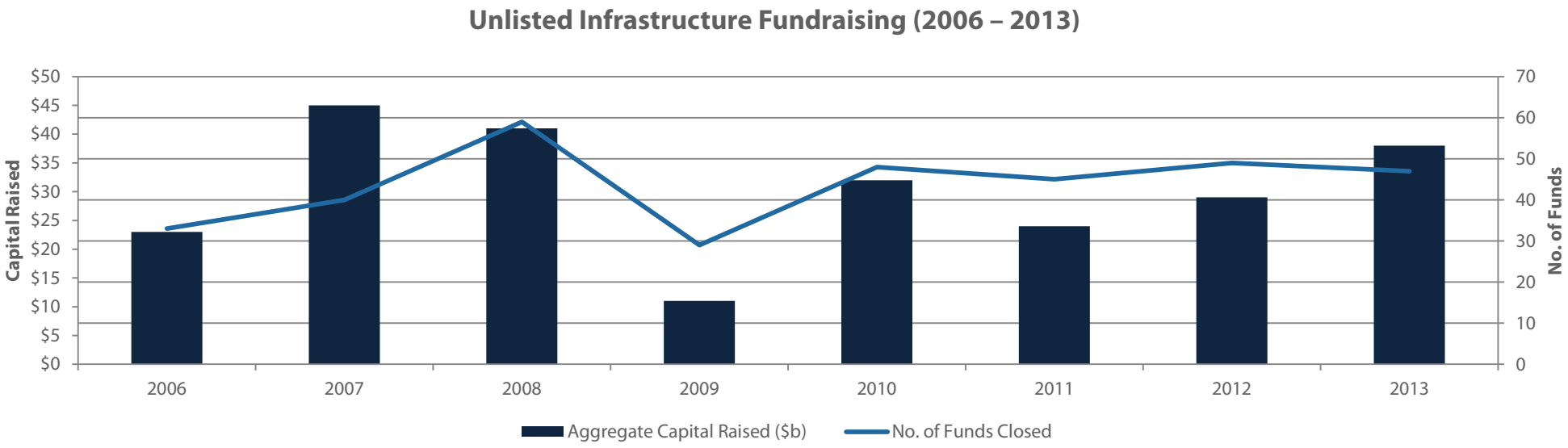
Apartment

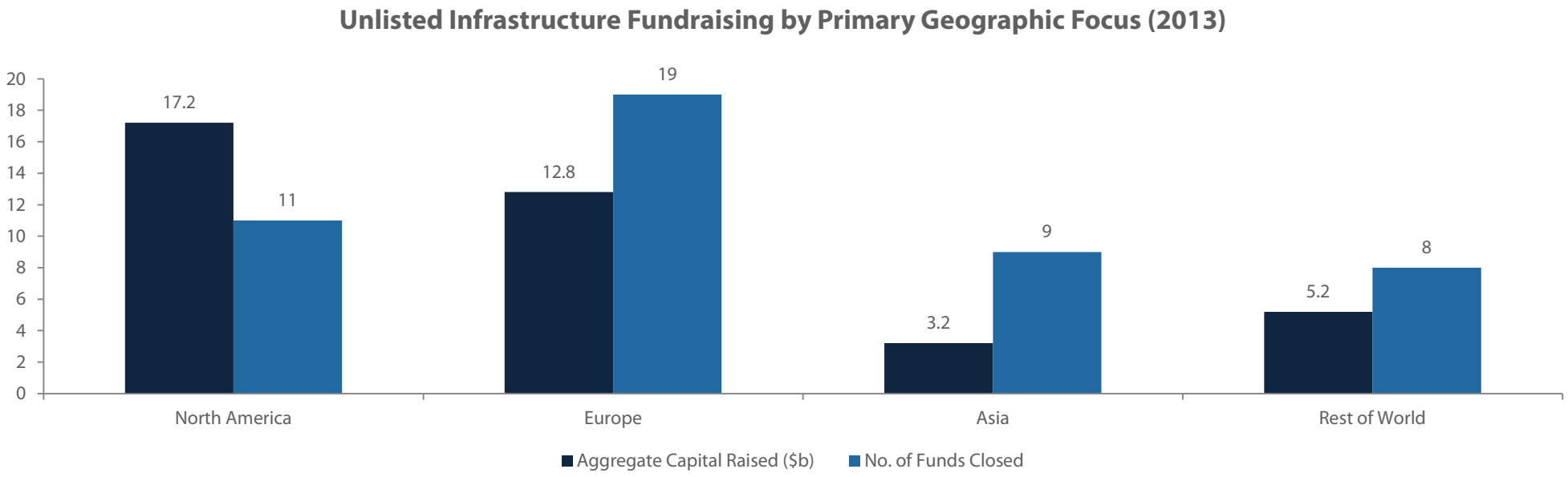


Source: CB Richard Ellis

Infrastructure Fundraising

Wilshire



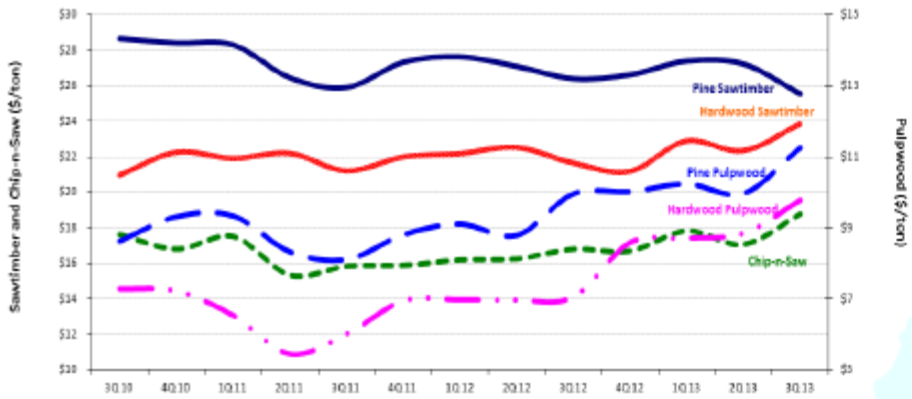


Source: Preqin.

Timber

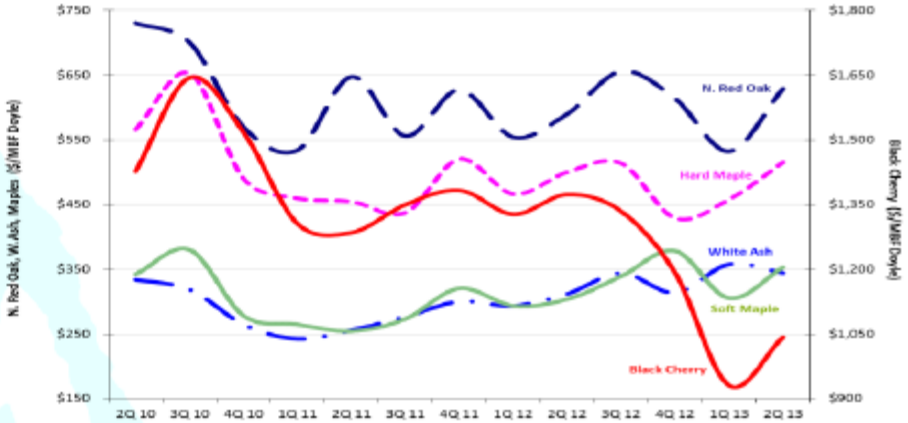
Wilshire

Southeastern Timber Prices



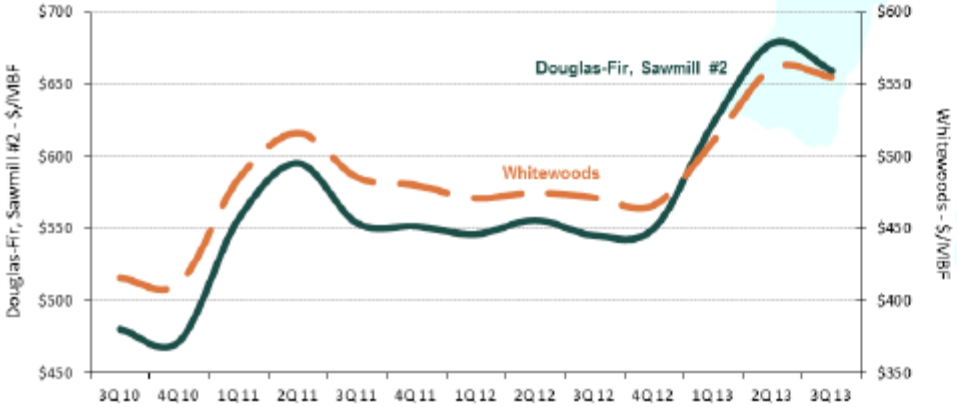
Source: Forest2Market®

Northeastern Hardwood Timber Prices



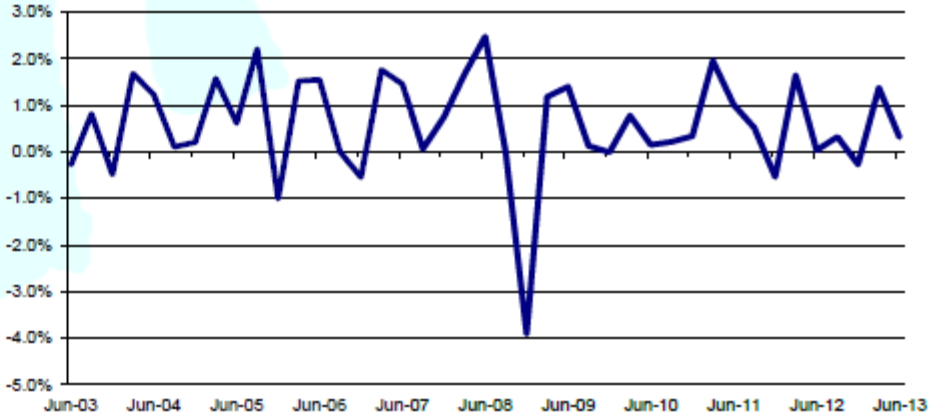
Source: Pennsylvania Woodlands Timber Market Report - Northwest Region

Pacific Northwest Timber Prices



Source: Log Lines®

Inflation (CPI)

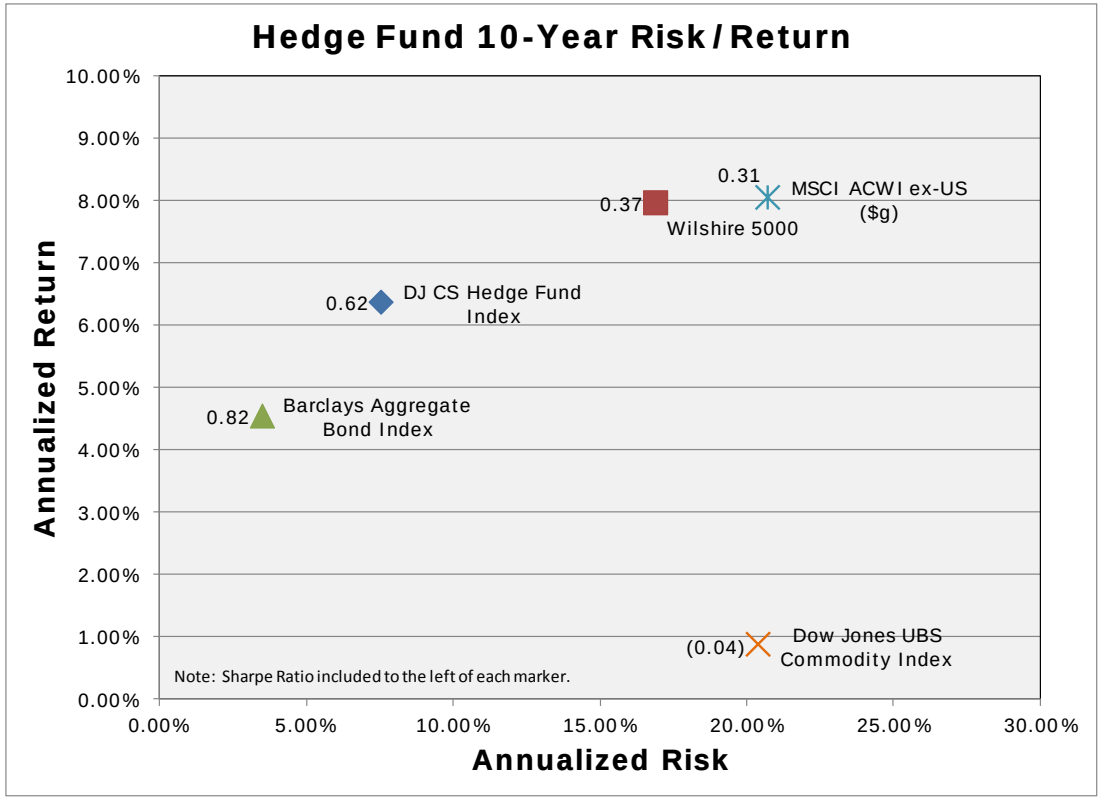


Source: http://www.bls.gov/cpi/home.htm

Source: Forest Investment Associates

Hedge Fund Performance

December 31, 2013	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
DJ CS Hedge Fund Index	4.2	9.7	9.7	4.8	8.7	6.4
Event Driven Index	4.8	15.5	15.5	5.1	9.5	7.8
Global Macro Index	2.8	4.3	4.3	5.1	8.0	8.3
Long/Short Equity Index	6.3	17.7	17.7	5.7	9.0	7.0
Multi-Strategy Index	4.3	11.2	11.2	8.0	11.4	6.7
Wilshire 5000	10.1	33.1	33.1	16.0	18.6	8.0
MSCI ACWI ex-US ($g)	4.8	15.8	15.8	5.6	13.3	8.0
Barclays Aggregate Bond Index	-0.1	-2.0	-2.0	3.3	4.4	4.5
Dow Jones UBS Commodity Index	-1.1	-9.5	-9.5	-8.1	1.5	0.9



Data sources: Wilshire Compass