Wilshire

Retirement Board of Allegheny County

Executive Summary of Investment Performance

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Quarter Ending September 30, 2015

Market Commentary

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U.S. Equity

The U.S. stock market was down for the third quarter of 2015, falling -6.91%. This marked the first negative quarter in three years, ending the longest "win" streak since the mid-late nineties. The first major sell-off of the quarter occurred in August, a week after China devalued its currency. Another minor sell-off occurred in September after the FOMC announced it would not raise the Fed funds rate at that time. China played a role here too, as the Committee expressed concerns about global growth prospects, which clearly unnerved investors.

Large capitalization stocks outperformed smaller shares during the quarter while growth stocks trailed value. Sector performance was mostly negative although Utilities produced a gain of 4.9% for the quarter. The two sectors that were down the most were Energy and Materials, down -18.5% and -17.2% respectively.

Although much focus has been placed on China and global growth, the inflation picture also weighs on the FOMC. Inflation has been running below the Committee's target rate of 2% for a little more than three years and has been trending towards zero recently. The ultimate risk, of course, is entering a period of sustained deflation, something Japan has struggled with for more than two decades.

Non-U.S. Equity

Stock markets worldwide were rocked in the third quarter by jitters over the impact of China's economic slowdown on global commerce and central bank policies in multiple world regions. European equities experienced somewhat smaller losses than Asia-Pacific region stocks, as the Eurozone's economy in the second quarter grew at a higher rate than analysts had expected. The euro's recent weakness has boosted the region's exports, and stock valuations are at unusually attractive levels after recent market plunges. Emerging market equities were dragged down by China as well as by the collapse in commodities markets.

Fixed Income

China's economic woes sent many investors to the relative safety of U.S. Treasuries. The yield curve flattened with long-term Treasuries outperforming shorter-term issues by a wide margin. The Fed refrained from raising interest rates in September, but many officials have suggested that rates will be raised by year-end. With financing conditions already tightening in corporate-bond space, the anticipation of increased borrowing costs has pushed spreads higher relative to Treasuries. High yield bonds and emerging market debt saw spreads jump dramatically during the quarter.

September 2015 Asset Class Assumptions

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	Total Return (%)			Risk (%)
	Dec. 2014	Q3 2015	Change	Dec. 2014
Investment Categories:				
U.S. Stocks	6.25	6.75	0.50	17.00
Dev ex-U.S. Stocks	6.25	6.75	0.50	18.00
Emerging Mkt Stocks	6.25	6.75	0.50	26.00
Global Stocks	6.45	6.95	0.50	17.15
Private Markets	8.80	9.65	0.85	27.50
Cash Equivalents	1.45	1.30	(0.15)	1.25
Core Bonds	3.35	3.30	(0.05)	5.00
LT Core Bonds	3.45	4.00	0.55	10.00
TIPS	2.90	2.85	(0.05)	6.00
High Yield Bonds	5.15	5.85	0.70	10.00
EMD Local Currency (h)	5.60	5.85	0.25	5.00
U.S. RE Securities	4.85	5.15	0.30	17.00
Private Real Estate	5.70	5.90	0.20	14.00
Commodities	3.70	3.60	(0.10)	15.00
MLPs	8.85	10.95	2.10	17.00
Real Asset Basket	6.15	6.55	0.40	8.35
Inflation:	1.70	1.60	(0.10)	1.75
Returns minus Inflation:				
U.S. Stocks	4.55	5.15	0.60	
U.S. Bonds	1.65	1.70	0.05	
Cash Equivalents	(0.25)	(0.30)	(0.05)	
Stocks minus Bonds:	2.90	3.45	0.55	
Bonds minus Cash:	1.90	2.00	0.10	

Economic Review

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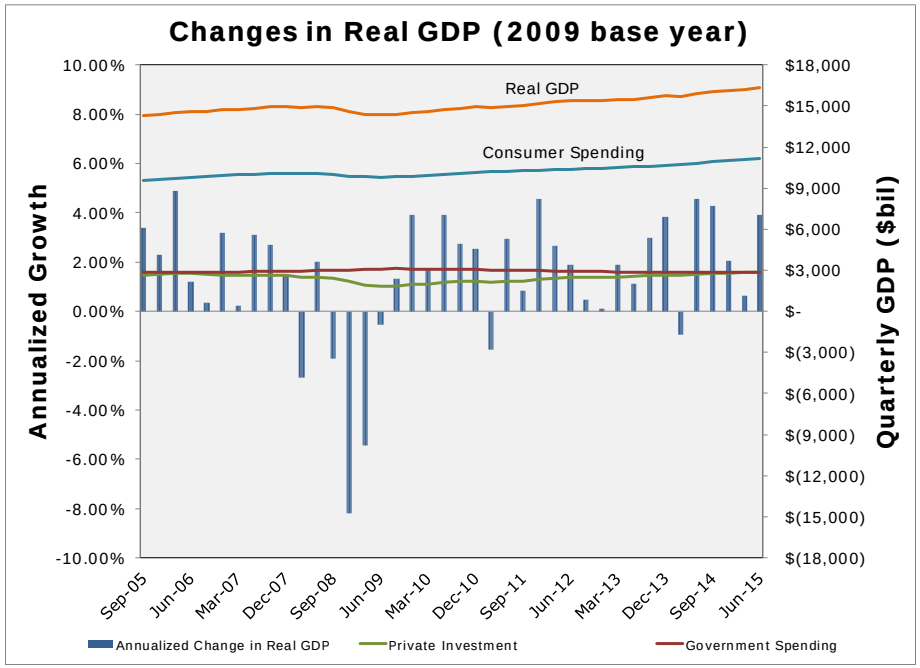
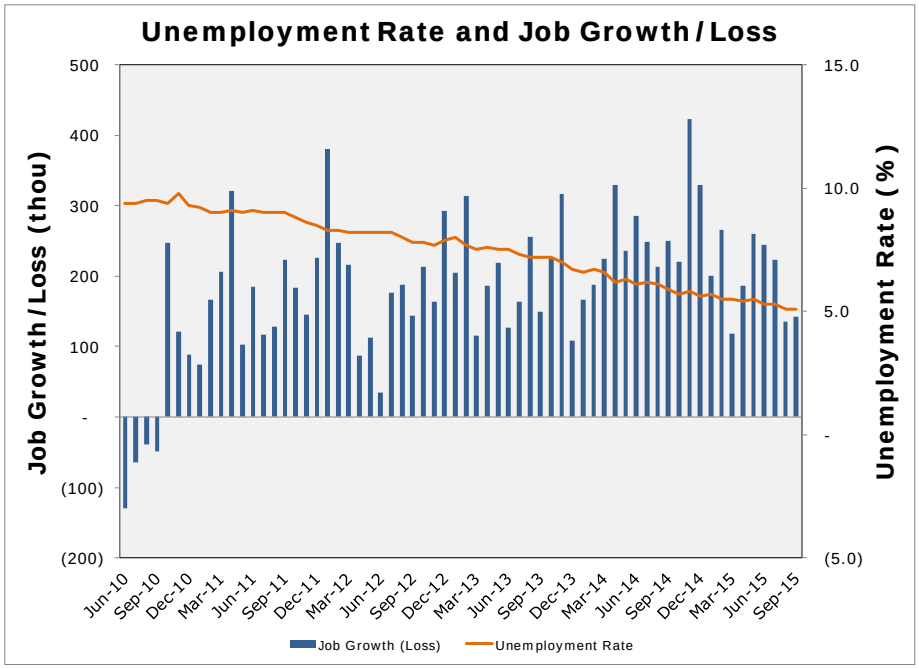
September 30, 2015	Key Economic Indicators			
CPI (all items)	Monthly Change		Cumulative Change	
Seasonally adjusted	Sep-15	-0.2	3-Month	-0.1
	Aug-15	-0.1	12-Month	0.0
	Jul-15	0.1	10-Yr Annual	1.8
Breakeven Inflation	10-Year	1.4		
Consumer Sentiment	Sep-15	87.2		
Unv. of Michigan Survey	Aug-15	91.9		
	1-Yr Ago	84.6	10-Yr Avg	77.3
Manufacturing	Sep-15	50.2	Change in Manufacturing Sector	
Inst. for Supply Mgmt	Aug-15	51.1	>50	Expansion
Purchasing Mngrs' Idx	1-Yr Avg	53.4	<50	Contraction

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





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

Inflation Breakdown

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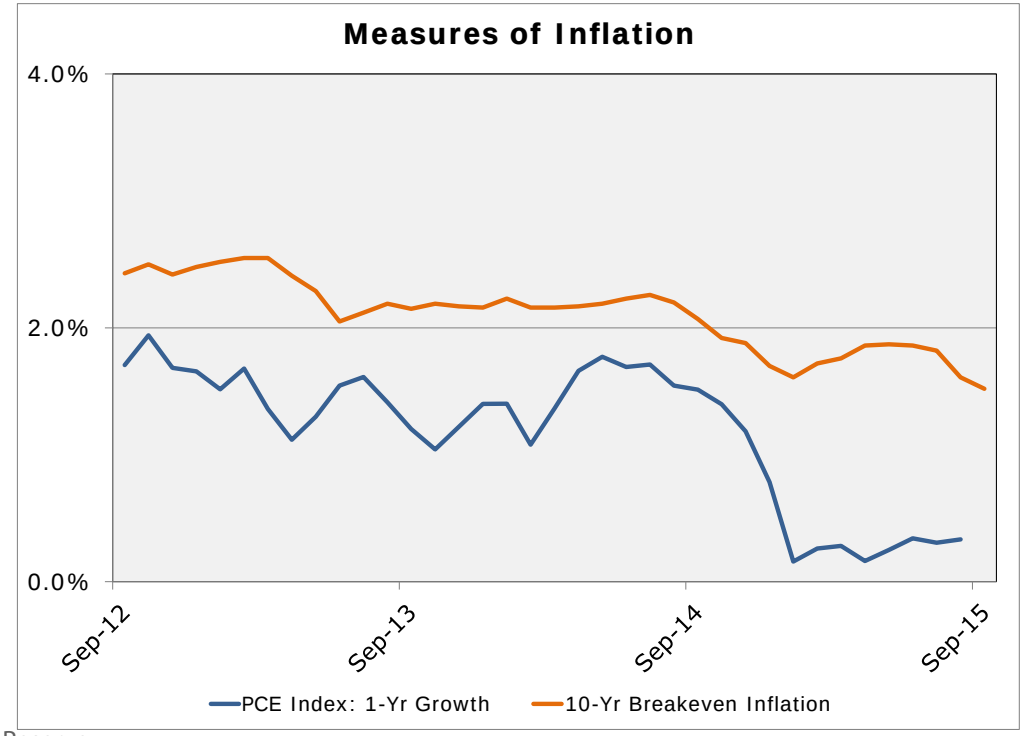
- Main source of price pressure is within 'Shelter' due to surging rental prices
- Fed's favored inflation measure, Personal Consumption Expenditures Index, running well below their target of 2%; expectations trending downward

U.S. CPI as of September, 2015

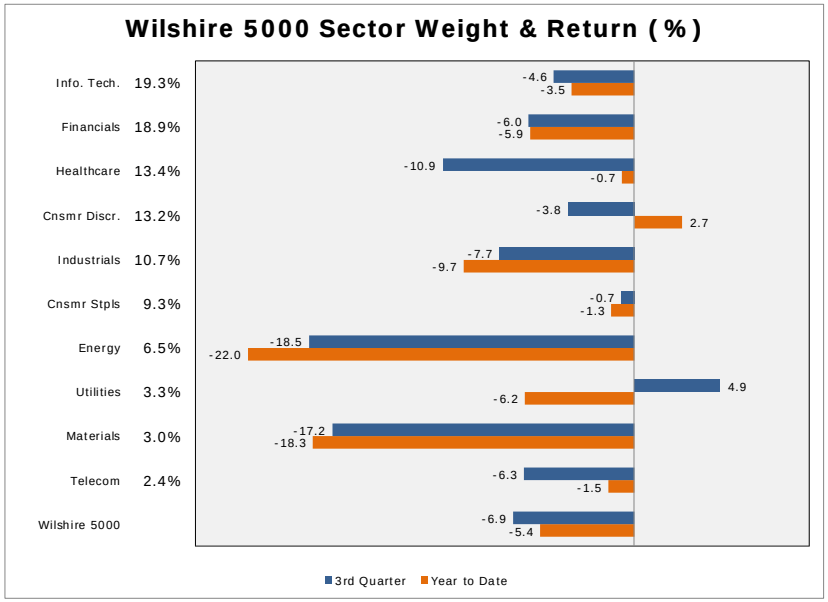
Item	Weight within Index	1-Year Change
All items	100%	0.0%
Shelter	33%	3.2%
Food	14%	1.6%
Energy	8%	-18.4%
Medical care services	6%	2.4%
New vehicles	4%	0.5%
Apparel	3%	-1.4%
Used cars and trucks	2%	-1.7%
Core Inflation	78%	1.9%

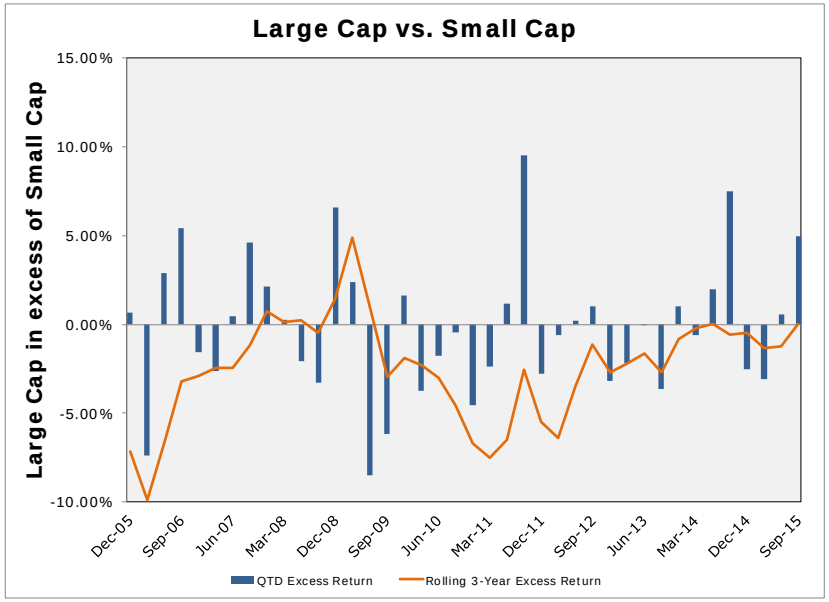


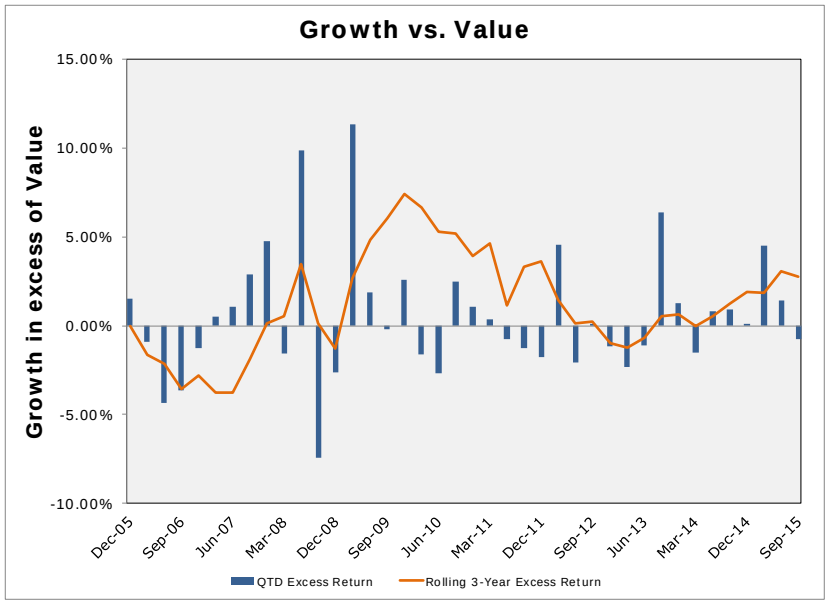
Source: Bureau of Labor Statistics, Federal Reserve

U.S. Equity Market

September 30, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Wilshire 5000	-6.9	-5.4	-0.4	12.4	13.2	7.0
Wilshire U.S. Large Cap	-6.4	-5.1	-0.4	12.4	13.2	6.9
Wilshire U.S. Small Cap	-10.9	-7.3	-0.1	12.4	12.9	8.1
Wilshire U.S. Large Growth	-6.6	-2.4	2.6	14.2	14.2	7.9
Wilshire U.S. Large Value	-6.3	-7.6	-3.1	10.9	12.3	5.8
Wilshire U.S. Small Growth	-12.9	-6.9	-0.6	12.7	13.3	8.6
Wilshire U.S. Small Value	-8.9	-7.6	0.4	12.1	12.5	7.6
Wilshire REIT Index	2.9	-3.0	11.7	10.1	12.5	6.8
MSCI USA Minimum Volatility Index	-1.4	-1.1	6.6	11.8	13.5	7.2
FTSE RAFI U.S. 1000 Index	-7.9	-7.7	-3.3	12.9	13.1	7.8







Data sources: Wilshire Compass, Wilshire Atlas

Returns by Quality Segment

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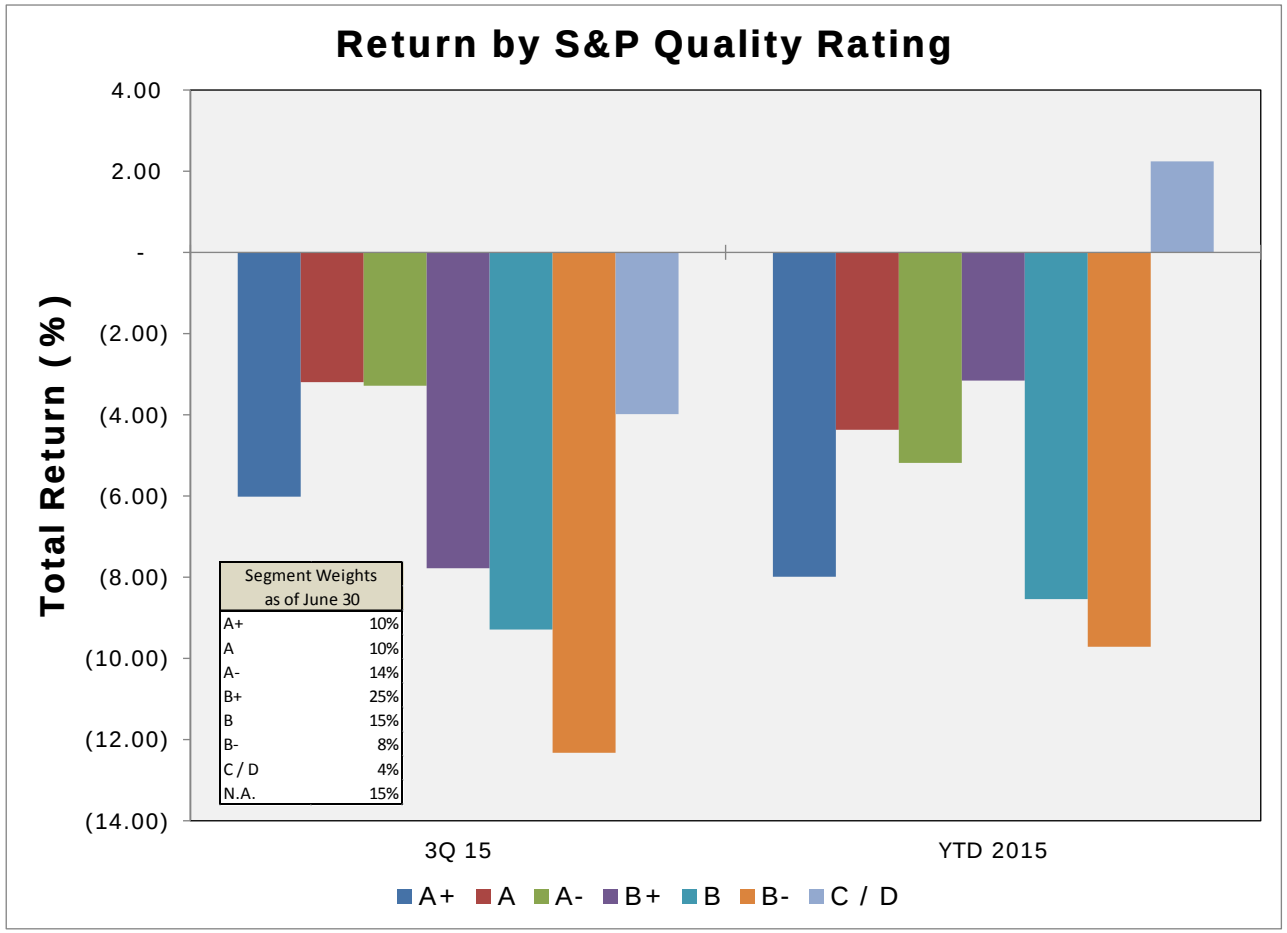
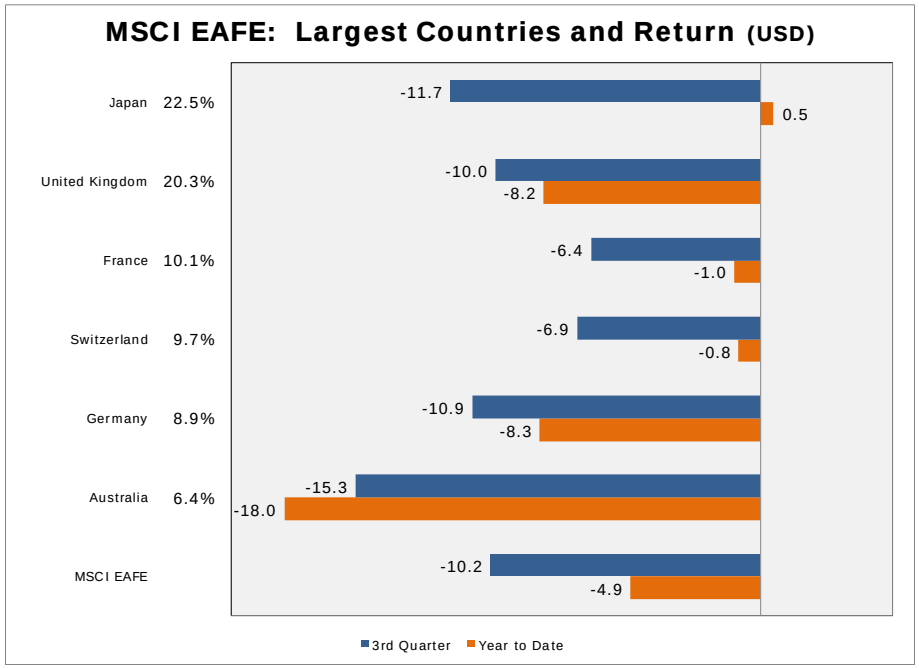
Performance by quality ranking has been mixed in 2015, the highest quality names are underperforming while the lowest rated names are actually positive for the year

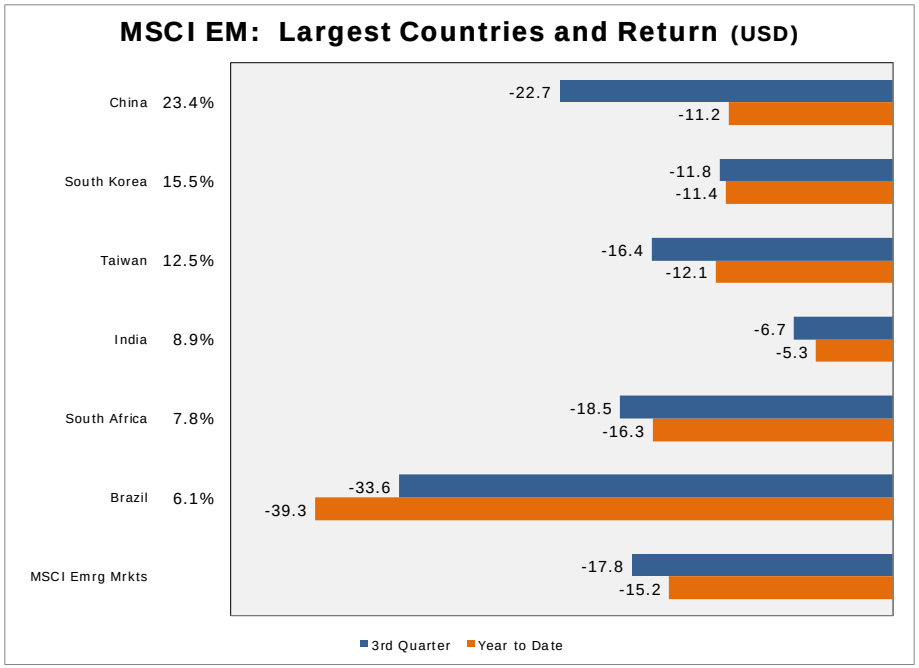


Data sources: Wilshire Atlas

Non-U.S. Equity Market

September 30, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
MSCI ACWI ex-US ($g)	-12.1	-8.3	-11.8	2.8	2.3	3.5
MSCI EAFE ($g)	-10.2	-4.9	-8.3	6.1	4.4	3.4
MSCI Emerging Markets ($g)	-17.8	-15.2	-19.0	-4.9	-3.2	4.6
MSCI Frontier Markets ($g)	-10.5	-13.0	-23.8	6.7	2.5	-1.5
MSCI ACWI ex-US Growth ($g)	-10.7	-5.7	-7.8	4.0	3.1	4.0
MSCI ACWI ex-US Value ($g)	-13.5	-10.9	-15.7	1.5	1.4	2.9
MSCI ACWI ex-US Small ($g)	-9.9	-2.2	-6.1	5.9	4.2	5.5
MSCI EAFE Minimum Volatility Idx	-4.7	2.1	2.3	8.0	7.6	6.8
FTSE RAFI Developed ex-US Index	-11.9	-8.0	-12.5	5.7	3.0	3.8
MSCI EAFE LC (g)	-8.9	-0.6	1.2	13.2	8.2	3.8
MSCI Emerging Markets LC (g)	-12.0	-6.9	-6.8	2.4	2.1	6.9





Data sources: Wilshire Compass

Divergent Performance in Emerging Markets

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- Degree of foreign capital investment plays a role in divergent performance; the greater the reliance on foreign funds, the greater the sensitivity to market corrections
- Countries with a commodities-based income have felt the strain of lower energy prices
- Countries issuing debt in USD are susceptible to Fed tightening / higher debt service costs

1-Year Returns (%) - as of September 30, 2015

Country / Region	Local Currency	USD	Currency Impact
China	-5.2	-5.0	0.2
India	-1.5	-5.9	-4.4
Indonesia	-19.4	-32.9	-13.6
Malaysia	-11.1	-33.7	-22.6
Taiwan	-4.0	-11.3	-7.3
EM Far East	**-7.5**	**-14.1**	**-6.5**
Brazil	-16.1	-48.4	-32.3
Columbia	-24.2	-50.5	-26.2
Mexico	-4.1	-24.0	-19.9
EM Latin America	**-12.5**	**-38.7**	**-26.1**
Czech Republic	-13.2	-22.3	-9.2
Hungary	21.7	6.7	-15.1
Poland	-15.2	-26.3	-11.1
Russia	9.5	-28.8	-38.3
Turkey	1.2	-23.8	-25.0
EM Europe & ME	**1.4**	**-27.1**	**-28.4**
South Africa	5.0	-14.2	-19.2
EM Region	**-7.1**	**-19.3**	**-12.2**

Source: MSCI

Balance of Payments Cycle

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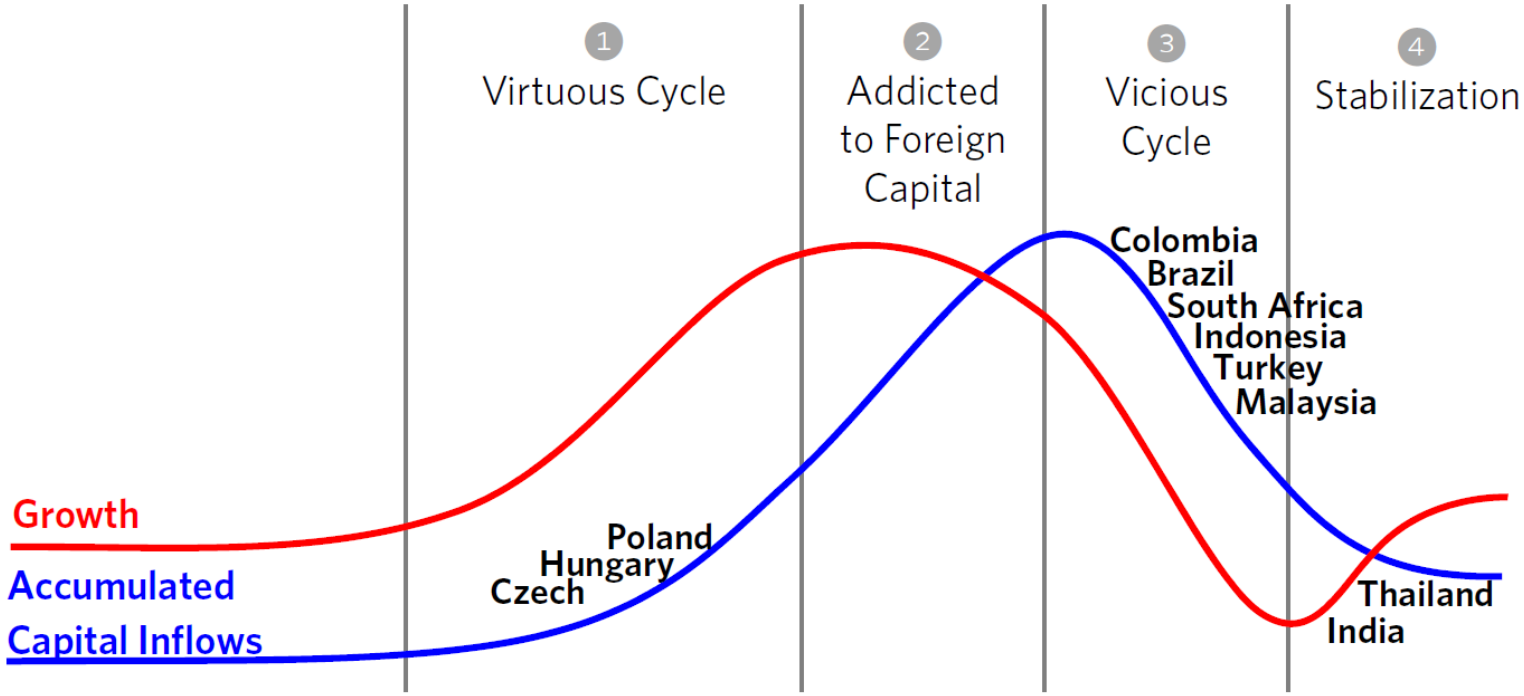
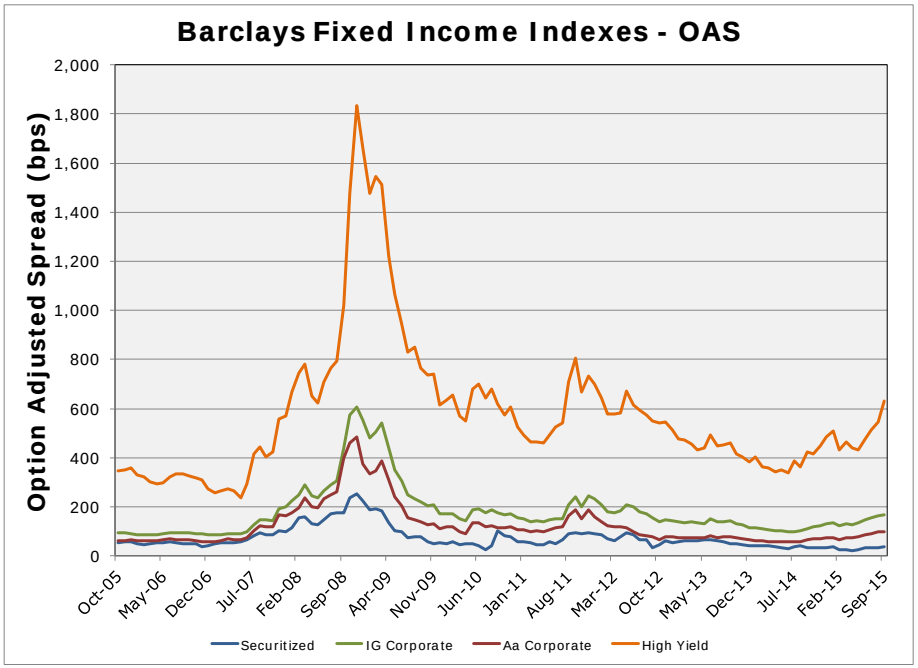
- As economic growth within an economy fades, so does foreign capital
- Eastern European countries are benefiting from European Central Bank easing
- Commodity producing economies, reliant on foreign capital (Stage 3), have been the most susceptible to global market stress

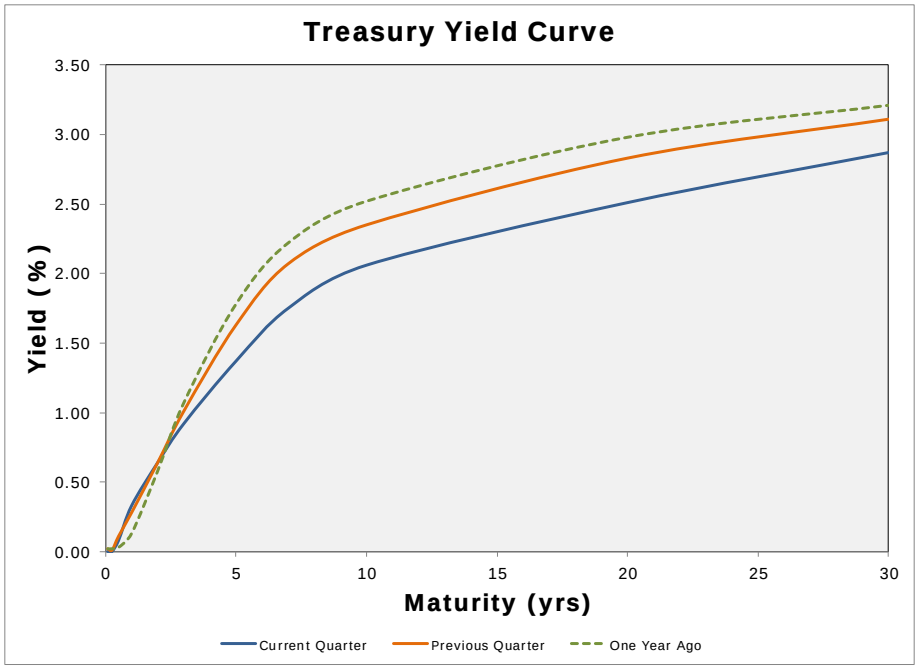


Source: Bridgewater

U.S. Fixed Income Market

September 30, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Barclays Aggregate Bond Index	1.2	1.1	2.9	1.7	3.1	4.6
Barclays Treasury Index	1.8	1.8	3.8	1.3	2.5	4.4
Barclays Gov't-Related Index	-0.1	0.0	1.5	1.3	2.6	4.3
Barclays Securitized Index	1.3	1.7	3.4	2.0	3.1	4.6
Barclays Corporate IG Index	0.8	-0.1	1.7	2.2	4.3	5.4
Barclays LT Gov't/Credit Index	2.2	-2.4	3.1	2.2	6.0	6.6
Barclays LT Treasury Index	5.1	0.2	8.8	2.8	6.2	7.0
Barclays LT Gov't-Related Index	-1.1	-4.0	0.3	1.5	5.6	6.5
Barclays LT Corporate IG Index	1.1	-3.7	0.2	2.0	5.8	6.4
Barclays U.S. TIPS Index	-1.2	-0.8	-0.8	-1.8	2.5	4.0
Barclays High Yield Index	-4.9	-2.5	-3.4	3.5	6.1	7.3
Treasury Bills	0.0	0.0	0.0	0.1	0.1	1.3



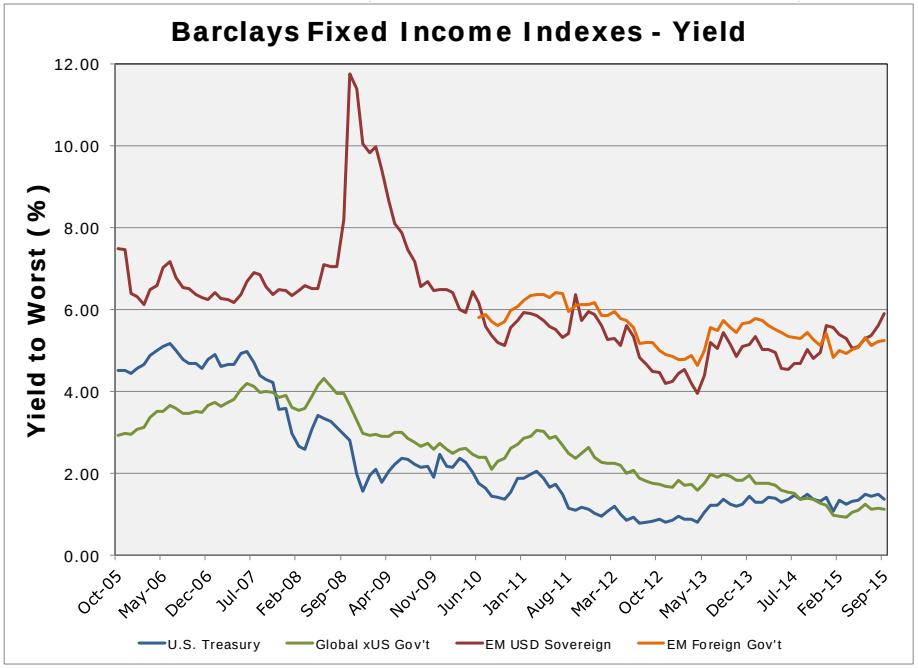


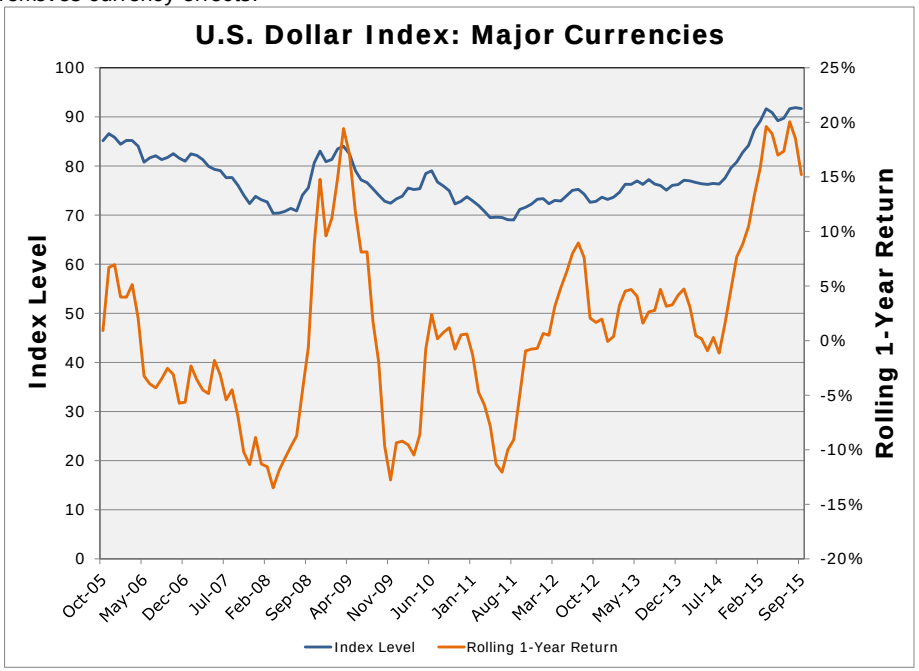
Data sources: Wilshire Compass, Barclays Capital, U.S. Treasury

Non-U.S. Fixed Income Market

September 30, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Developed Markets						
Barclays Global Aggregate xUS	0.6	-4.8	-7.7	-4.0	-0.9	3.0
Barclays Global Aggregate xUS *	1.5	0.8	3.4	4.0	3.8	4.3
Barclays Wrld Govt xUS IL Bond	-1.4	-3.7	-3.4	0.8	2.6	4.1
Barclays Wrld Govt xUS IL Bond *	1.0	1.1	5.9	5.0	5.2	4.8
Emerging Mrkts (Hard Currency)						
Barclays EM USD Aggregate	-2.4	0.3	-1.4	1.3	4.7	6.9
Emerging Mrkts (Foreign Currency)						
Barclays EM Local Currency Govt	-8.3	-11.3	-15.0	-4.7	-0.8	n.a.
Barclays EM Local Currency Govt *	-0.3	-0.2	0.9	1.2	2.4	n.a.
Euro vs. Dollar	0.2	-7.8	-11.6	-4.6	-3.9	-0.8
Yen vs. Dollar	2.2	0.1	-8.4	-13.4	-7.0	-0.6
Pound vs. Dollar	-3.7	-2.9	-6.6	-2.1	-0.8	-1.6

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





Data sources: Wilshire Compass, Barclays Capital

European Debt Issues

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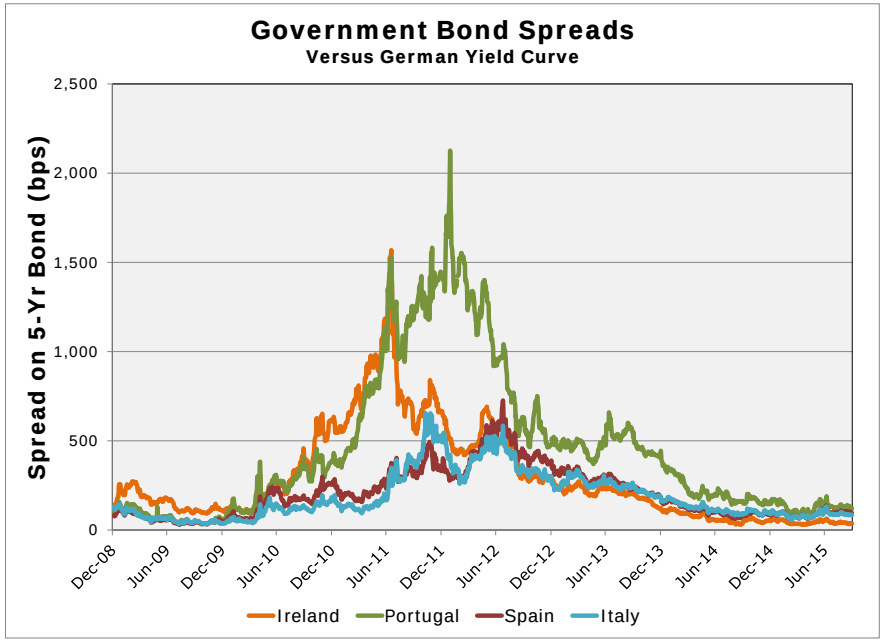
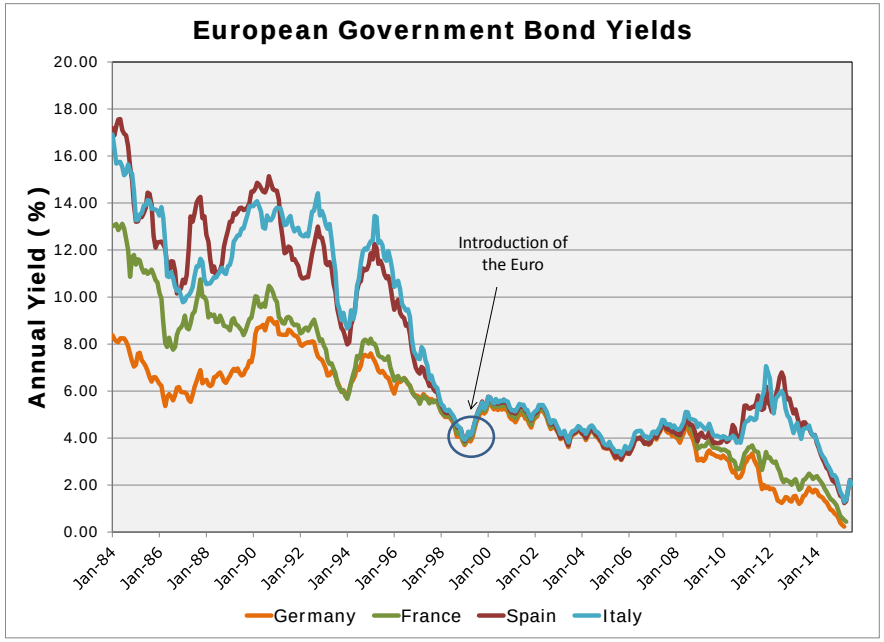
- Events in Greece did not seem to effect bond yields in other European economies to a major degree



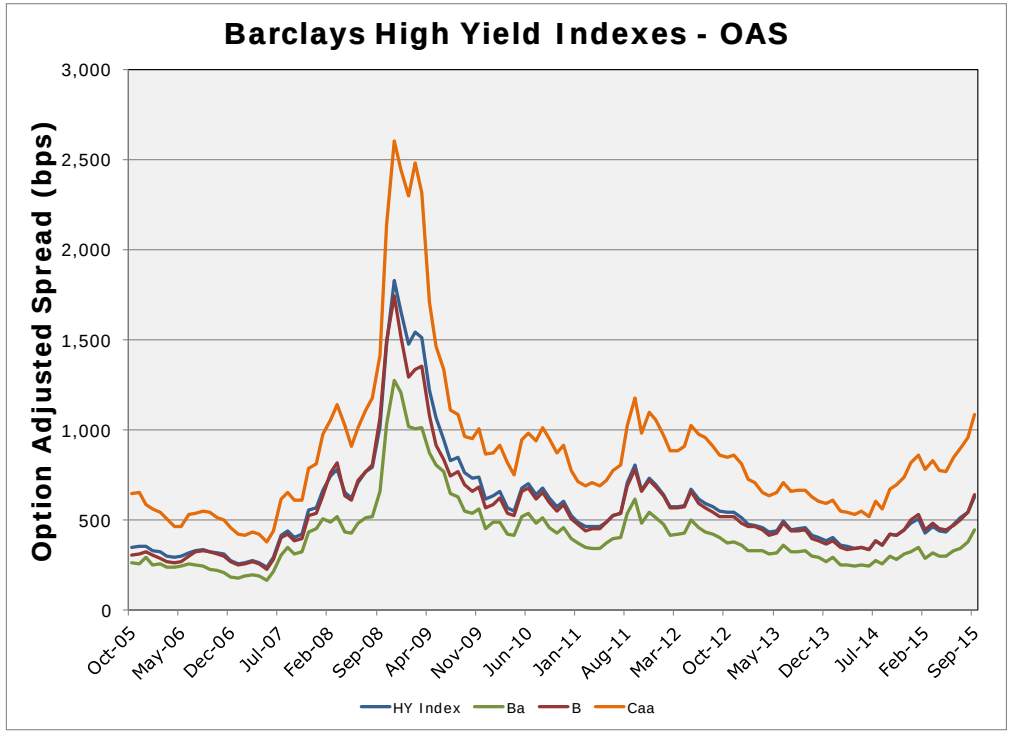
- Yields on government bonds in the most dominant European economies, Germany and France, are nearing zero



Source: Barclays Capital, International Monetary Fund

High Yield Bond Market

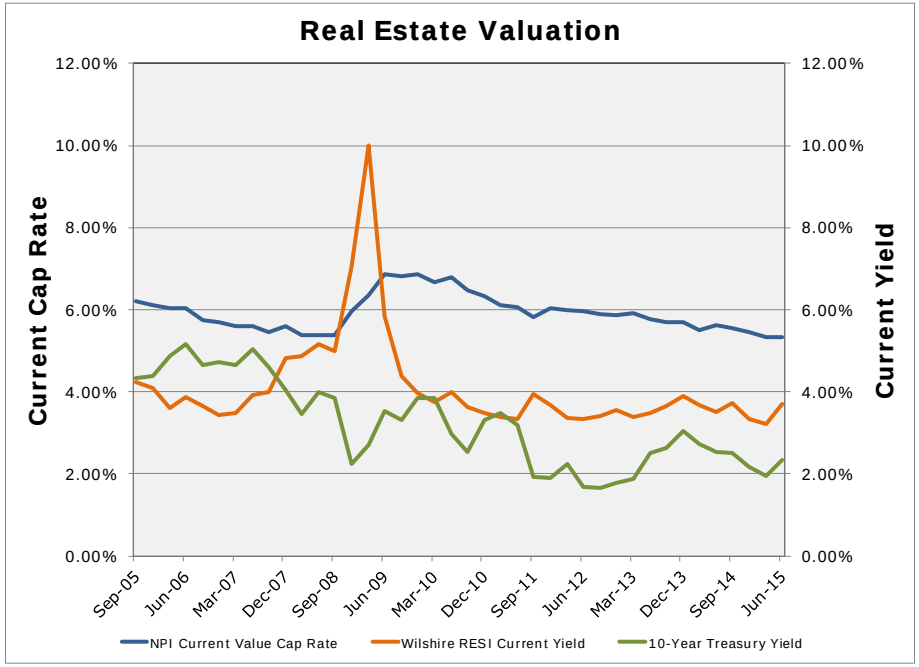
September 30, 2015	Weight	Qtr	Ytd	1 Yr	3 Yr
Barclays High Yield Index	100%	-4.9	-2.5	-3.4	3.5
Quality Distribution					
Ba U.S. High Yield	44.5%	-3.1	-0.9	0.0	4.1
B U.S. High Yield	40.3%	-5.6	-2.8	-4.3	3.1
Caa U.S. High Yield	14.7%	-7.3	-5.0	-8.7	3.4
Ca to D U.S. High Yield	0.3%	-28.6	-43.7	-57.0	-27.1
Non-Rated U.S. High Yield	0.2%	-7.4	-9.5	-11.9	1.3

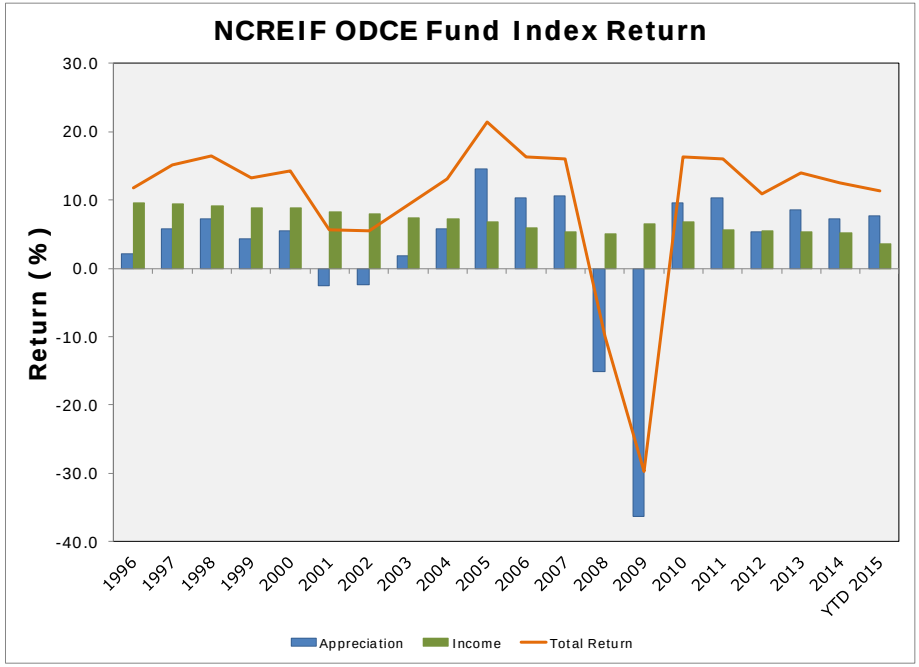


Data sources: Barclays Capital

Real Assets

September 30, 2015	Qtr	Ytd	1 Yr	3 Yr	5 Yr	10 Yr
Barclays U.S. TIPS Index	-1.2	-0.8	-0.8	-1.8	2.5	4.0
Bloomberg Commodity Index	-14.5	-15.8	-26.0	-16.0	-8.9	-5.7
Wilshire Global REIT Index	1.0	-3.1	7.8	8.6	11.1	6.3
NCREIF ODCE Fund Index	3.7	11.3	14.9	13.4	14.0	6.7
NCREIF Timberland Index	0.8	3.1	9.3	9.8	6.3	7.9
Alerian MLP Index (Oil & Gas)	-22.1	-30.7	-39.2	-3.6	3.9	8.2





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

MLP Performance: 2014-15

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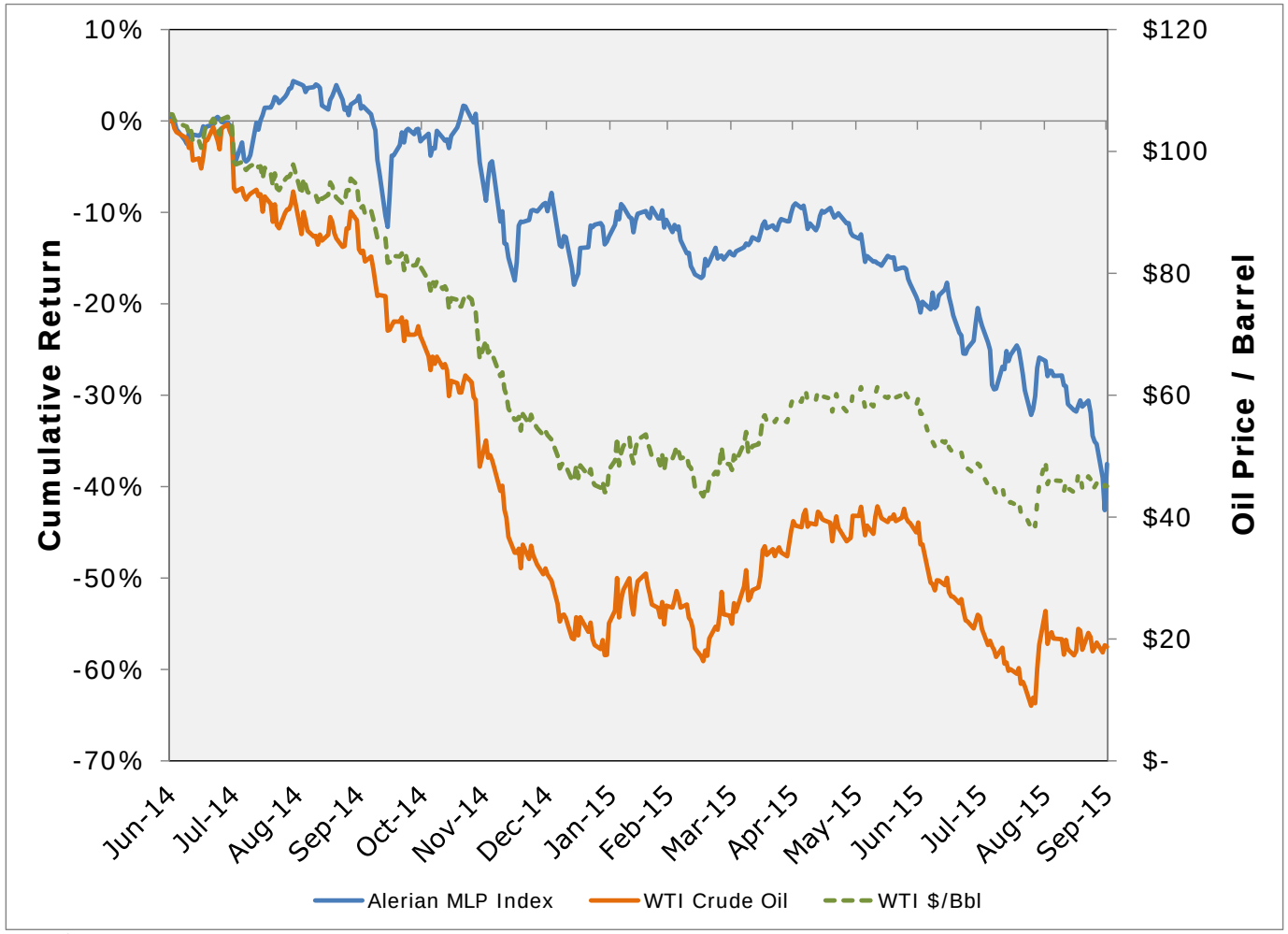
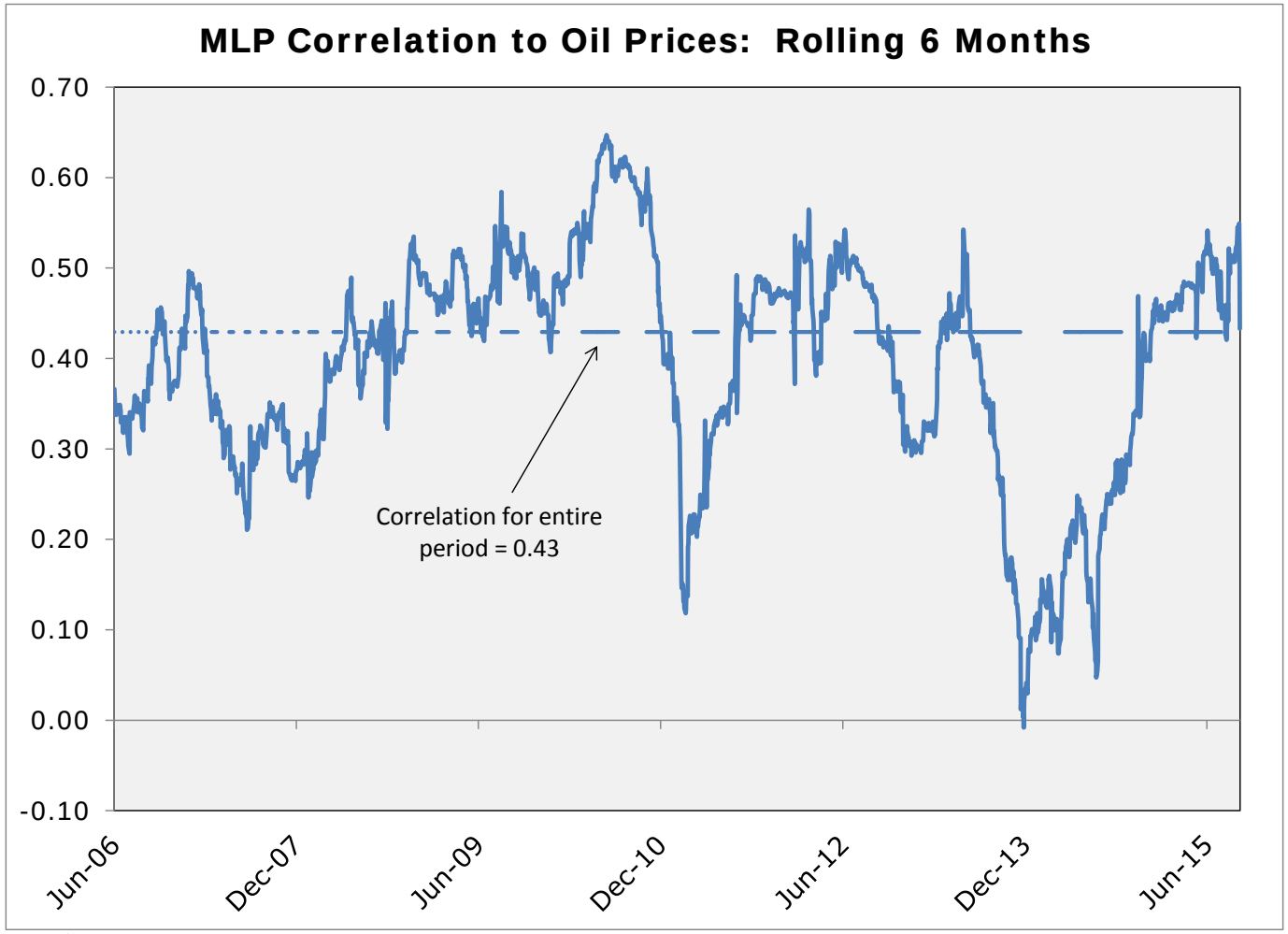
- Sell-off in MLPs has coincided with falling oil prices – although valuation levels and tighter capital markets have played a role
- Drop in MLPs less pronounced than oil prices, which is historically the norm



Source: Alerian, US. Energy Information Administration

MLP Correlation to Oil

- Although midstream energy assets are operated to minimize exposure to commodity prices, a statistical correlation does exist
- However, broader economic drivers could be moving both markets



Source: Alerian, US. Energy Information Administration

Asset Class Performance

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Annual Asset Class Returns - Best to Worst

2010	2011	2012	2013	2014	**YTD 2015**
MLPs 35.9%	MLPs 13.9%	Emrg Mrkts 18.6%	U.S. Equity 33.1%	REITs 31.8%	Core Bond 1.1%
REITs 28.6%	U.S. TIPS 13.6%	Developed 17.9%	MLPs 27.6%	U.S. Equity 12.7%	T-Bills 0.0%
Emrg Mrkts 19.2%	REITs 9.2%	REITs 17.6%	Developed 23.3%	Core Bond 6.0%	U.S. TIPS -0.8%
U.S. Equity 17.2%	Core Bond 7.8%	U.S. Equity 16.1%	High Yield 7.4%	MLPs 4.8%	High Yield -2.5%
Commodities 16.8%	High Yield 5.0%	High Yield 15.8%	REITs 1.9%	U.S. TIPS 3.6%	REITs -3.0%
High Yield 15.1%	U.S. Equity 1.0%	U.S. TIPS 7.0%	T-Bills 0.1%	High Yield 2.5%	Developed -4.9%
Developed 8.2%	T-Bills 0.1%	MLPs 4.8%	Core Bond -2.0%	T-Bills 0.0%	U.S. Equity -5.4%
Core Bond 6.5%	Developed -11.7%	Core Bond 4.2%	Emrg Mrkts -2.3%	Emrg Mrkts -1.8%	Emrg Mrkts -15.2%
U.S. TIPS 6.3%	Commodities -13.3%	T-Bills 0.1%	U.S. TIPS -8.6%	Developed -4.5%	Commodities -15.8%
T-Bills 0.1%	Emrg Mrkts -18.2%	Commodities -1.0%	Commodities -9.5%	Commodities -17.0%	MLPs -30.7%

Annualized 5-Year as of Sept. '15
U.S. Equity 13.2%
REITs 12.5%
High Yield 6.1%
Developed 4.4%
MLPs 3.9%
Core Bond 3.1%
U.S. TIPS 2.5%
T-Bills 0.1%
Emrg Mrkts -3.2%
Commodities -8.9%

Data sources: Wilshire Compass

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

Total Fund

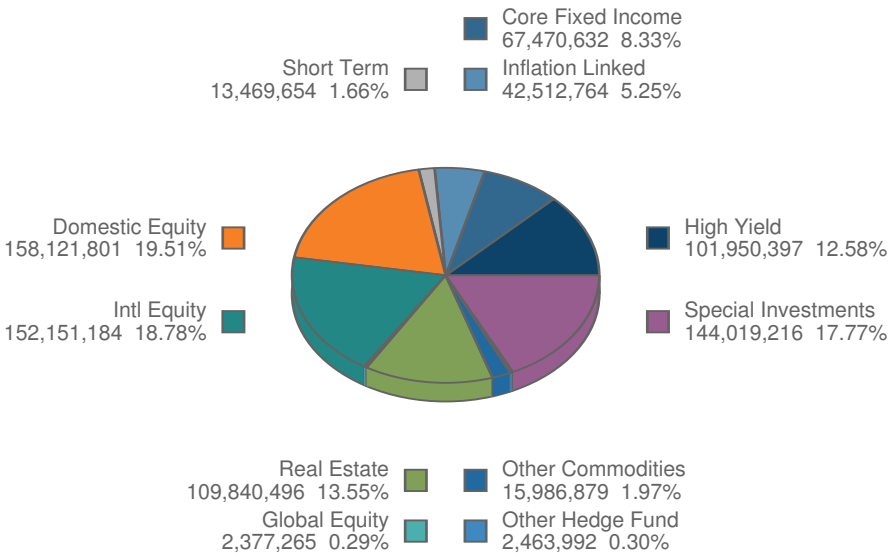
Actual Allocation vs Policy Allocation

Wilshire

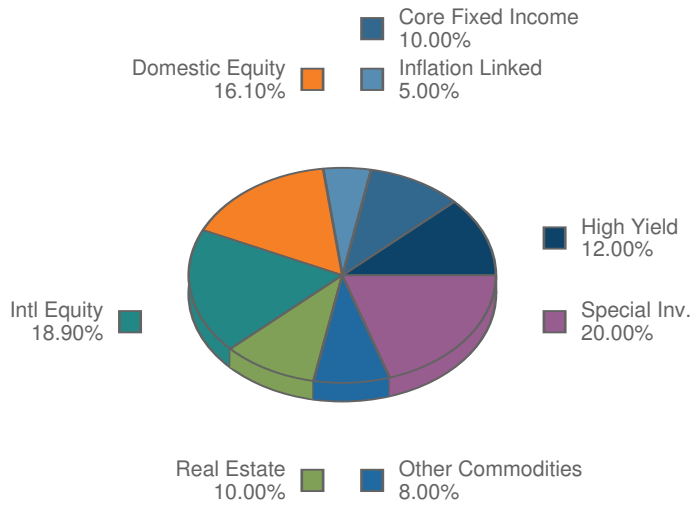
Total Fund Composite

As of September 30, 2015

Total Fund



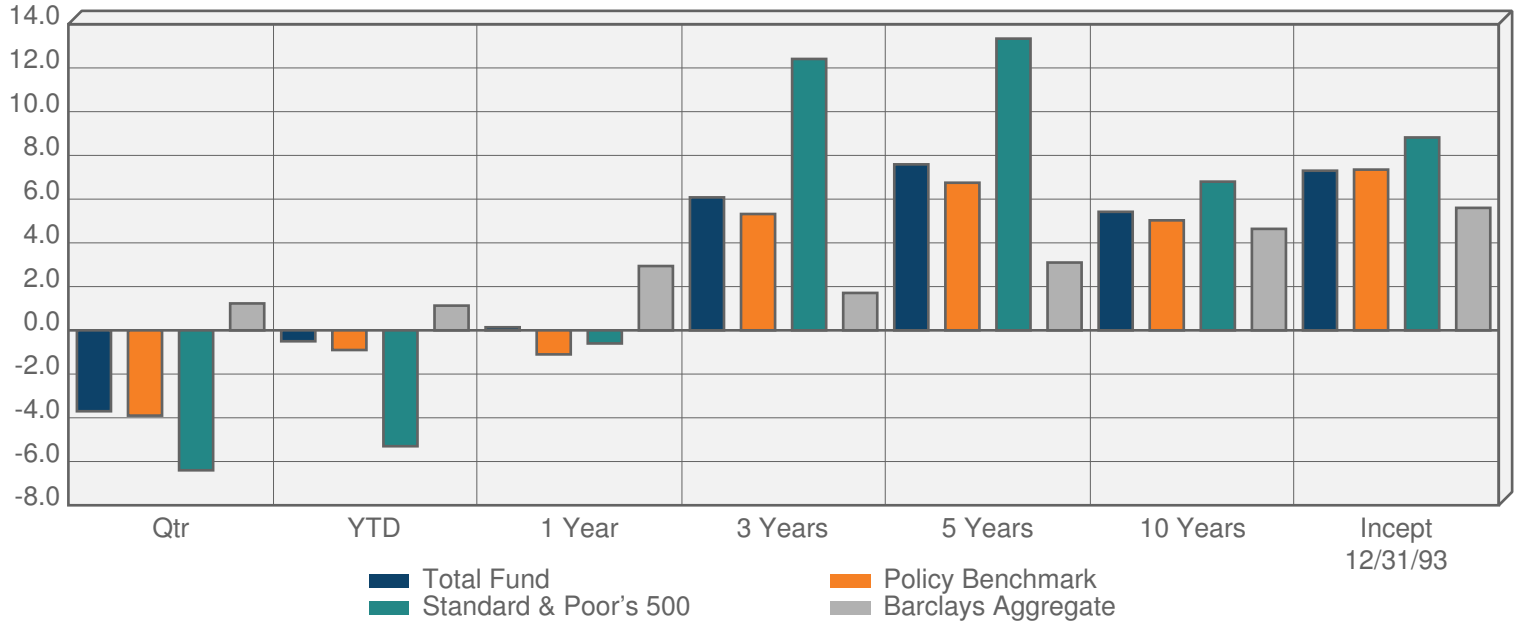
Policy Index



Wilshire

Total Fund Composite

Periods Ended September 30, 2015

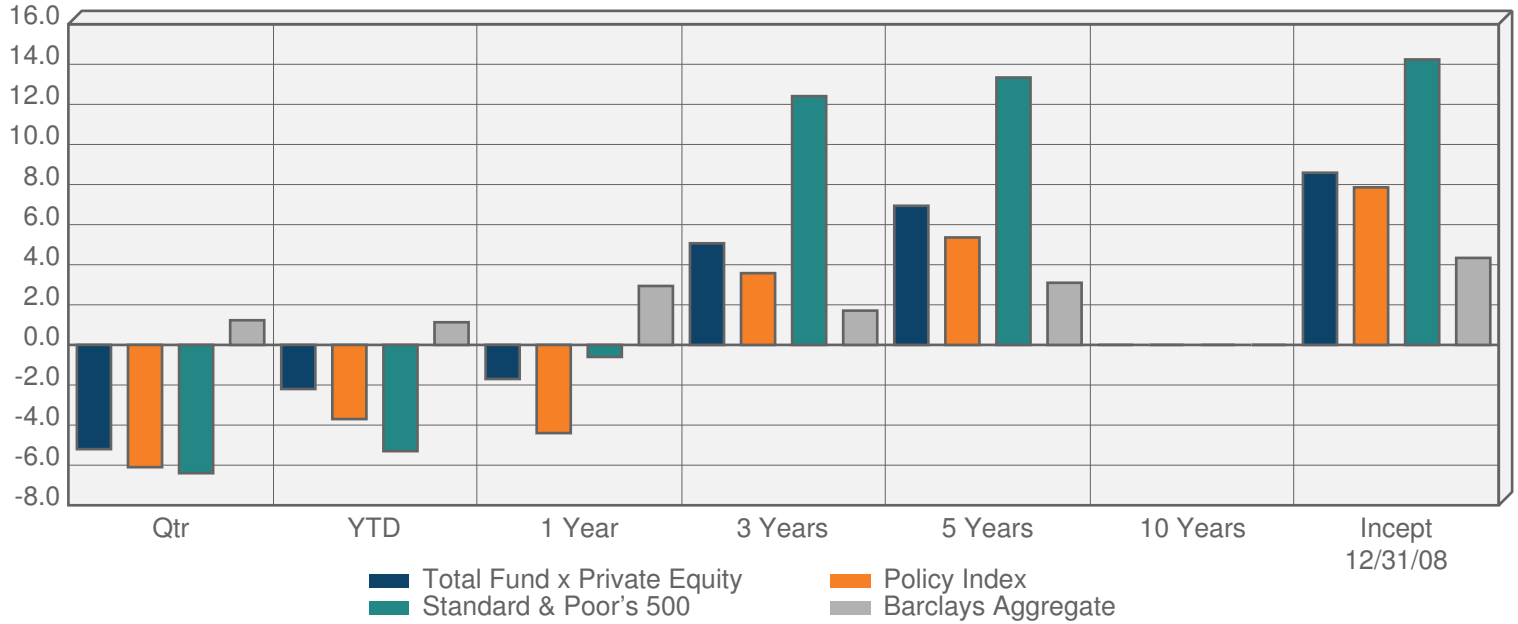


Total Returns	Qtr	YTD	1 Year	3 Years	5 Years	10 Years	Incept 12/31/93
Total Fund	-3.74	-0.47	0.14	6.08	7.59	5.42	7.30
Policy Benchmark	-3.86	-0.91	-1.13	5.32	6.75	5.03	7.35
Standard & Poor's 500	-6.44	-5.29	-0.62	12.41	13.34	6.80	8.82
Barclays Aggregate	1.23	1.13	2.94	1.71	3.10	4.64	5.60

Wilshire

Total Fund x Private Equity Composite

Periods Ended September 30, 2015



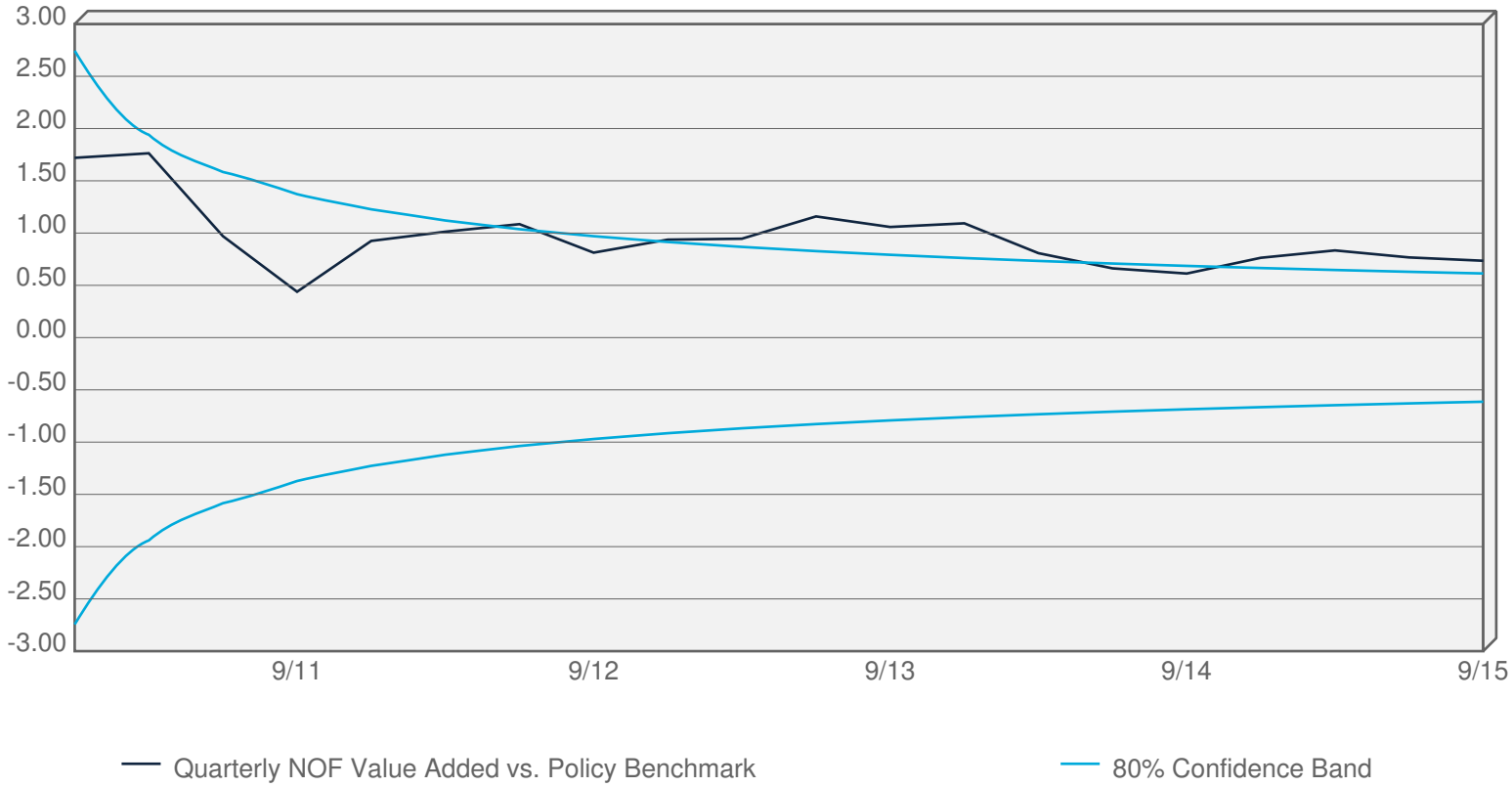
Total Returns	Qtr	YTD	1 Year	3 Years	5 Years	10 Years	Incept 12/31/08
Total Fund x Private Equity	-5.16	-2.15	-1.73	5.07	6.94		8.59
Policy Index	-6.08	-3.75	-4.45	3.58	5.36		7.86
Standard & Poor's 500	-6.44	-5.29	-0.62	12.41	13.34		14.24
Barclays Aggregate	1.23	1.13	2.94	1.71	3.10		4.34

Cumulative Skill Analysis

Wilshire

Total Fund Composite

Five Years Ending September 30, 2015



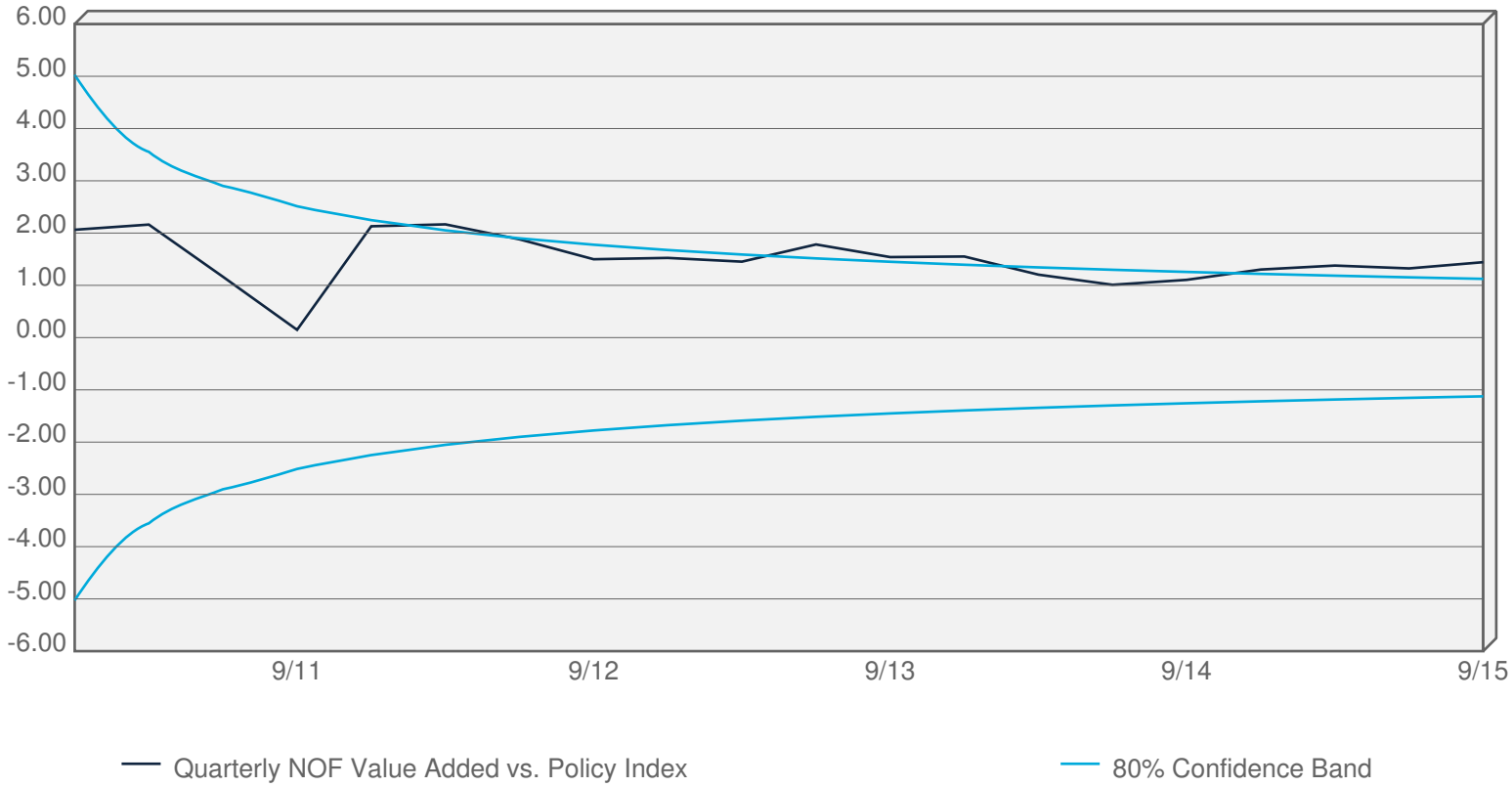
Excess Return:	**0.74**	**Information Ratio:**	**0.88**
Excess Risk:	**0.83**	**T-Stat:**	**1.97**

Cumulative Skill Analysis

Wilshire

Total Fund x Private Equity Composite

Five Years Ending September 30, 2015



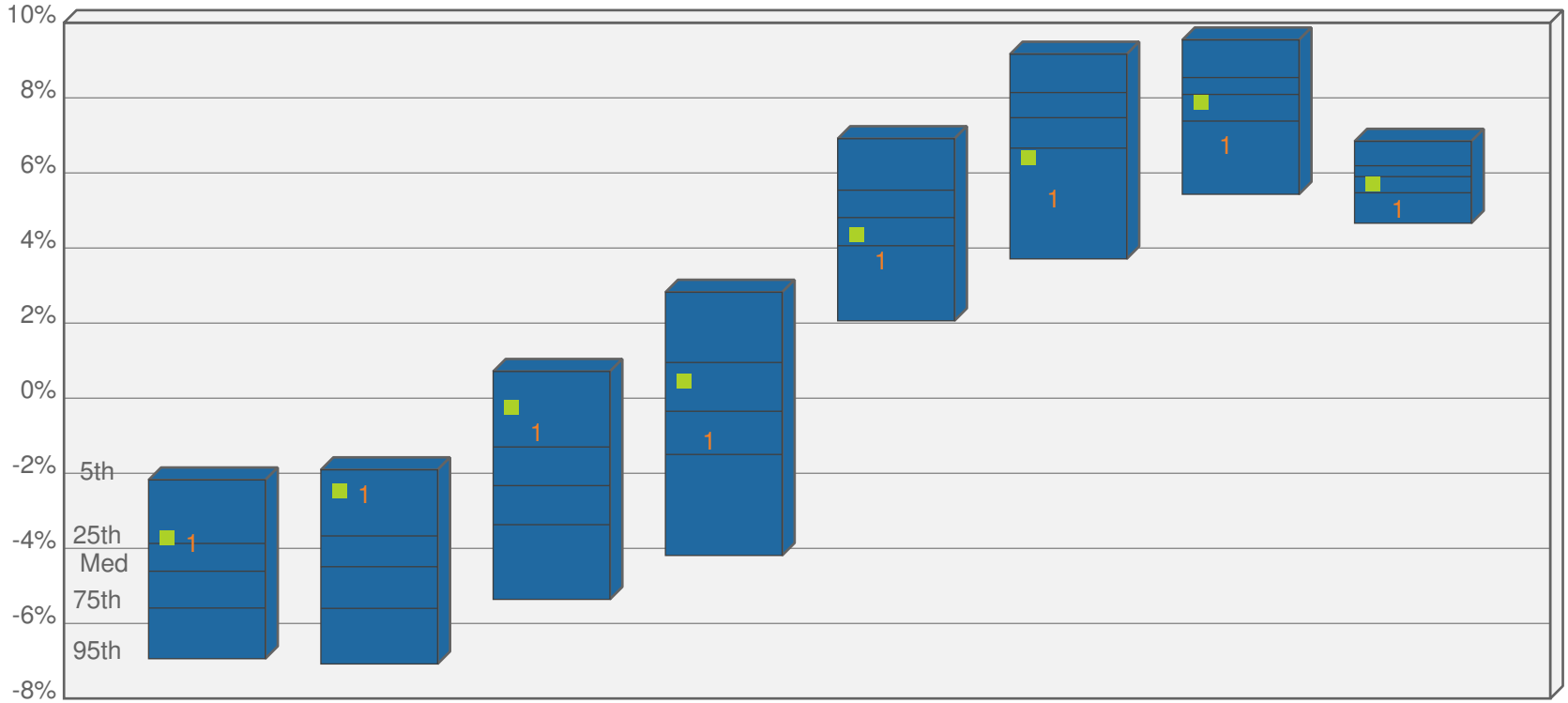
Excess Return:	**1.44**	**Information Ratio:**	**0.94**
Excess Risk:	**1.53**	**T-Stat:**	**2.11**

Performance Comparison

Wilshire

Total Fund Composite

Periods Ended September 30, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Total Fund	-3.68 (21)	-2.44 (8)	-0.21 (9)	0.50 (34)	4.38 (64)	6.45 (77)	7.92 (57)	5.73 (58)
1 Policy Benchmark	-3.86 (24)	-2.57 (8)	-0.91 (18)	-1.13 (67)	3.66 (82)	5.32 (87)	6.75 (82)	5.03 (89)
5th %tile	-2.18	-1.91	0.71	2.82	6.91	9.16	9.54	6.84
25th %tile	-3.87	-3.67	-1.30	0.95	5.54	8.14	8.54	6.19
Median	-4.61	-4.49	-2.33	-0.35	4.81	7.47	8.09	5.90
75th %tile	-5.59	-5.60	-3.37	-1.50	4.06	6.66	7.38	5.47
95th %tile	-6.94	-7.08	-5.36	-4.19	2.06	3.71	5.43	4.66
Number of Funds	162	162	157	157	155	154	150	130

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

Performance Comparison

Wilshire

Trailing Returns

Periods Ended September 30, 2015

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
US Equity Composite									
Net of Fee Return	**-7.65**	**-6.94**	**-4.91**	**0.47**	**12.65**	**13.21**	**6.56**	**12/31/93**	**8.14**
Wilshire 5000	-6.91	-6.86	-5.36	-0.38	12.42	13.17	6.97	12/31/93	8.82
Value Added	-0.74	-0.09	0.45	0.85	0.23	0.04	-0.41	12/31/93	-0.67
Non US Equity Composite									
Net of Fee Return	**-10.54**	**-9.10**	**-5.49**	**-7.48**	**3.58**	**2.76**	**3.03**	**12/31/00**	**3.98**
Policy Index	-11.88	-11.00	-7.84	-11.41	2.63	2.00	2.48	12/31/00	2.94
Value Added	1.34	1.90	2.35	3.93	0.94	0.76	0.55	12/31/00	1.04
Global Equity									
Net of Fee Return	**-10.74**	**-10.12**	**-7.10**					**12/31/14**	**-7.10**
MSCI ACWI (N)	-9.45	-9.13	-7.04					12/31/14	-7.04
Value Added	-1.29	-0.99	-0.06					12/31/14	-0.06
Core Fixed Composite									
Net of Fee Return	**0.70**	**-0.60**	**0.97**	**2.16**	**1.51**	**3.07**	**4.66**	**9/30/82**	**8.21**
Barclays Aggregate	1.23	-0.47	1.13	2.94	1.71	3.10	4.64	9/30/82	7.76
Value Added	-0.53	-0.13	-0.16	-0.78	-0.20	-0.03	0.02	9/30/82	0.44
High Yield Fixed Composite									
Net of Fee Return	**-5.56**	**-5.72**	**-3.52**	**-5.86**	**2.15**	**5.15**		**3/31/08**	**7.49**
Citi High Yield Market Capped	-5.52	-5.35	-3.11	-4.41	2.91	5.83		3/31/08	7.50
Value Added	-0.04	-0.38	-0.41	-1.46	-0.76	-0.67		3/31/08	-0.00
TIPS Fixed Composite									
Net of Fee Return	**-1.66**	**-3.18**	**-1.73**	**-2.24**	**-2.21**	**2.09**		**3/31/08**	**3.04**
Barclays U.S. TIPS	-1.15	-2.20	-0.80	-0.83	-1.83	2.55		3/31/08	3.08
Value Added	-0.51	-0.98	-0.93	-1.41	-0.38	-0.46		3/31/08	-0.04

Performance Comparison

Wilshire

Trailing Returns

Periods Ended September 30, 2015

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
ERECT Composite									
Net of Fee Return	**1.33**	**1.54**	**2.86**	**3.38**	**5.48**	**6.10**		**9/30/10**	**6.10**
Real Estate Composite									
Net of Fee Return	**3.24**	**7.61**	**8.70**	**13.27**	**12.95**	**13.67**	**7.21**	**3/31/03**	**8.84**
NCREIF ODCE NOF	3.43	7.13	10.51	13.84	12.39	12.94	5.72	3/31/03	7.21
Value Added	-0.19	0.47	-1.80	-0.58	0.56	0.73	1.48	3/31/03	1.63
Hedge Fund Composite									
Net of Fee Return	**-2.88**	**-1.71**	**-1.71**	**-4.07**	**1.98**			**9/30/11**	**2.40**
91 Day T-Bill Index + 3%	0.75	1.51	2.26	3.02	3.06			9/30/11	3.06
Value Added	-3.64	-3.22	-3.97	-7.10	-1.08			9/30/11	-0.66
Commodities Composite									
Net of Fee Return	**-14.91**	**-10.95**	**-16.66**	**-26.99**	**-14.14**	**-6.65**		**3/31/07**	**-5.37**
DJ UBS Commodity Index	-14.47	-10.48	-15.80	-25.99	-16.02	-8.89		3/31/07	-7.02
Value Added	-0.44	-0.47	-0.86	-1.00	1.89	2.24		3/31/07	1.65
Life Settlement Composite									
Net of Fee Return	**-3.44**	**-3.87**	**-3.50**	**-5.44**				**12/31/12**	**1.08**
Israel Bonds and Cash									
Net of Fee Return	**0.37**	**0.76**	**0.89**	**1.13**	**1.21**	**2.09**	**3.96**	**3/31/99**	**3.33**
Total Fund x Private Equity									
Net of Fee Return	**-5.16**	**-4.32**	**-2.15**	**-1.73**	**5.07**	**6.94**		**12/31/08**	**8.59**
Policy Index	-6.08	-5.29	-3.75	-4.45	3.58	5.36		12/31/08	7.86
Value Added	0.91	0.97	1.59	2.72	1.49	1.58		12/31/08	0.73

Performance Comparison

Wilshire

Trailing Returns

Periods Ended September 30, 2015

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Private Equity Composite									
Net of Fee Return	**5.26**	**8.75**	**10.87**	**12.85**	**12.23**	**13.74**	**8.82**	**3/31/03**	**5.69**
RBAC Custom Private Equity Bench	5.27	8.75	10.87	12.85	12.23	13.74	8.82	3/31/03	5.69
Value Added	-0.00	0.00	0.00	-0.00	-0.00	-0.00	0.00	3/31/03	0.00
Total Fund									
Net of Fee Return	**-3.74**	**-2.59**	**-0.47**	**0.14**	**6.08**	**7.59**	**5.42**	**12/31/93**	**7.30**
Policy Benchmark	-3.86	-2.57	-0.91	-1.13	5.32	6.75	5.03	12/31/93	7.35
Value Added	0.12	-0.02	0.44	1.27	0.76	0.84	0.39	12/31/93	-0.05

Custom Benchmark Specification

Wilshire

Total Fund

September 30, 2015

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

Custom Benchmark Specification

Wilshire

Total Fund

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
Policy Benchmark (cont.)			10.00	Citi High Yield Market Capped
			10.00	NCREIF ODCE NOF
			7.50	Barclays U.S. TIPS
			2.50	Bloomberg Commodity Index
	6/10	12/12	10.00	RBAC Custom Private Equity Benchmark
			5.00	Bloomberg Commodity Index
			6.00	Barclays U.S. TIPS
			10.00	NCREIF ODCE NOF
			10.00	Citi High Yield Market Capped
			14.00	Barclays Aggregate
			20.00	Wilshire 5000
			25.00	MSCI ACWI X US (N)
	3/13	9/15	20.00	RBAC Custom Private Equity Benchmark
			18.90	MSCI ACWI X US (N)
			16.10	Wilshire 5000
			12.00	Citi High Yield Market Capped
			10.00	Barclays Aggregate
			10.00	NCREIF ODCE NOF
			8.00	Bloomberg Commodity Index
			5.00	Barclays U.S. TIPS

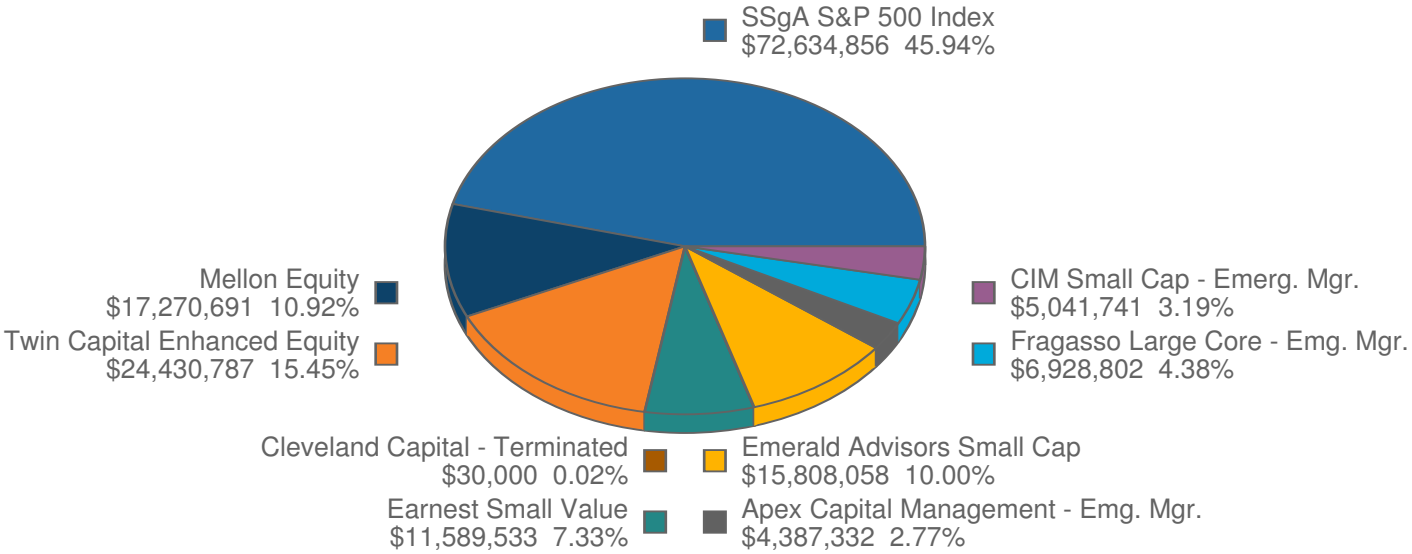
US Equity

Manager Allocation

Wilshire

US Equity Composite

As of September 30, 2015

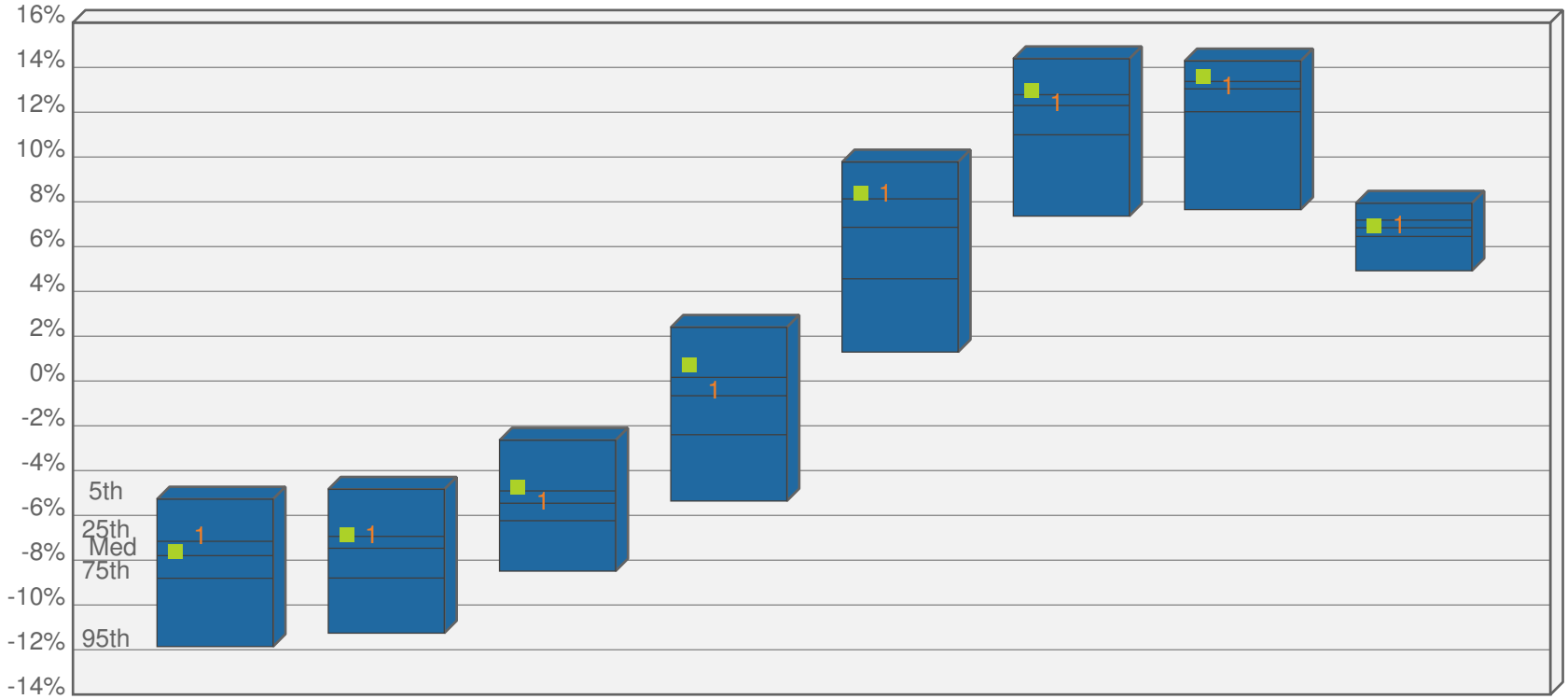


Performance Comparison

Wilshire

US Equity Composite

Periods Ended September 30, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
US Equity Composite	-7.58 (45)	-6.80 (21)	-4.70 (24)	0.77 (19)	8.44 (18)	13.02 (17)	13.63 (17)	6.97 (39)
1 Wilshire 5000	-6.91 (18)	-6.86 (22)	-5.36 (45)	-0.38 (36)	8.38 (18)	12.42 (39)	13.17 (39)	6.97 (39)
5th %tile	-5.28	-4.84	-2.65	2.39	9.77	14.38	14.28	7.93
25th %tile	-7.16	-6.94	-4.91	0.16	8.13	12.78	13.37	7.18
Median	-7.80	-7.47	-5.46	-0.66	6.86	12.30	13.04	6.84
75th %tile	-8.81	-8.80	-6.24	-2.40	4.56	10.99	12.02	6.45
95th %tile	-11.86	-11.26	-8.49	-5.36	1.29	7.36	7.65	4.92
Number of Funds	141	137	136	134	120	105	85	65

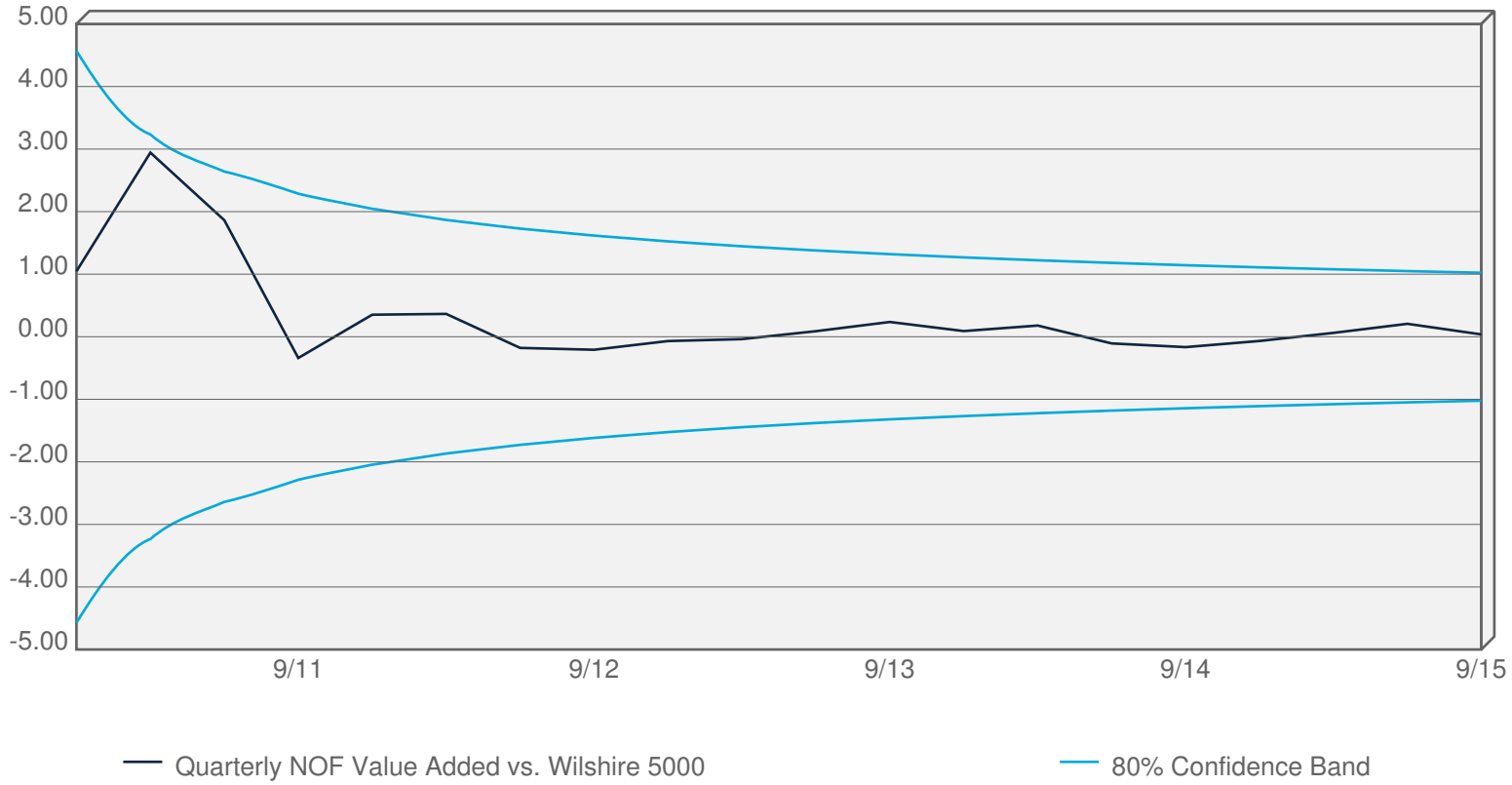
*TUCS Total Ret of US Equity Investment Pools Universe - Gross of Fees

Cumulative Skill Analysis

Wilshire

US Equity Composite

Five Years Ending September 30, 2015



Excess Return:	**0.04**	**Information Ratio:**	**0.03**
Excess Risk:	**1.39**	**T-Stat:**	**0.06**

Performance Comparison

Wilshire

Trailing Returns

Periods Ended September 30, 2015

	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	**-6.39**	**-6.14**	**-5.26**	**-0.58**	**12.39**	**13.34**		**12/31/07**	**5.84**
Standard & Poor's 500	-6.44	-6.18	-5.29	-0.62	12.41	13.34		12/31/07	5.80
Value Added	0.04	0.04	0.02	0.04	-0.02	0.00		12/31/07	0.05
Mellon Equity									
Net of Fee Return	**-7.39**	**-7.97**	**-7.06**	**-2.43**	**12.16**	**13.98**	**7.54**	**3/31/94**	**9.22**
Standard & Poor's 500	-6.44	-6.18	-5.29	-0.62	12.41	13.34	6.80	3/31/94	9.12
Value Added	-0.95	-1.79	-1.78	-1.81	-0.25	0.64	0.74	3/31/94	0.10
Twin Capital Enhanced Equity									
Net of Fee Return	**-6.26**	**-5.80**	**-4.29**	**0.48**	**12.71**	**13.73**		**12/31/05**	**7.05**
Standard & Poor's 500	-6.44	-6.18	-5.29	-0.62	12.41	13.34		12/31/05	6.75
Value Added	0.18	0.38	0.99	1.10	0.30	0.39		12/31/05	0.30
Fragasso Large Core - Emg. Mgr.									
Net of Fee Return	**-7.63**	**-8.11**	**-8.75**	**-3.76**	**11.27**			**9/30/12**	**11.27**
Standard & Poor's 500	-6.44	-6.18	-5.29	-0.62	12.41			9/30/12	12.41
Value Added	-1.19	-1.93	-3.46	-3.15	-1.14			9/30/12	-1.14
Apex Capital Management - Emg. Mgr.									
Net of Fee Return	**-11.52**	**-8.35**	**-4.43**	**-2.14**	**13.62**			**12/31/11**	**15.84**
Russell 2500 Growth	-11.05	-10.50	-3.85	3.35	13.80			12/31/11	14.87
Value Added	-0.47	2.15	-0.58	-5.50	-0.17			12/31/11	0.97
Earnest Small Value									
Net of Fee Return	**-11.22**	**-12.32**	**-8.58**	**-0.45**	**12.05**	**11.98**		**6/30/09**	**14.23**
Russell 2000 Value	-10.73	-11.80	-10.06	-1.60	9.18	10.16		6/30/09	13.66
Value Added	-0.49	-0.52	1.47	1.15	2.87	1.82		6/30/09	0.57

Performance Comparison

Wilshire

Trailing Returns

Periods Ended September 30, 2015

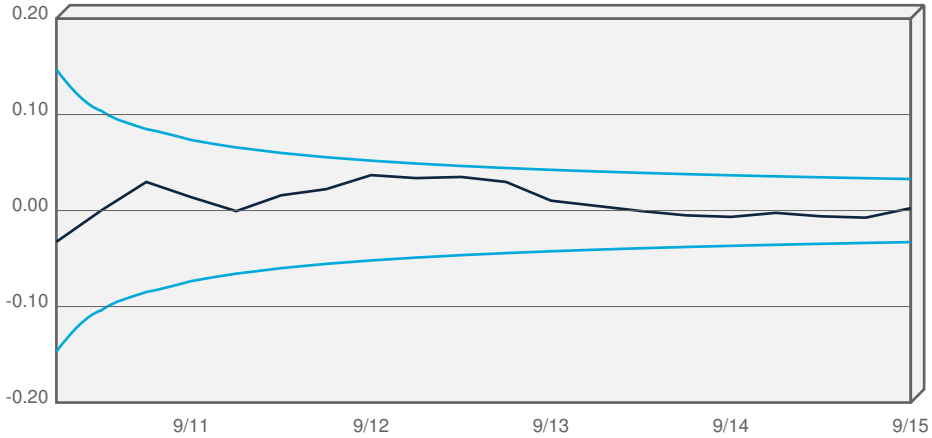
	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Emerald Advisors Small Cap									
Net of Fee Return	**-9.95**	**-3.82**	**5.11**	**17.46**	**18.60**	**18.10**	**9.85**	**9/30/04**	**10.59**
Russell 2000 Growth	-13.06	-11.34	-5.47	4.04	12.84	13.26	7.66	9/30/04	8.56
Value Added	3.11	7.52	10.57	13.41	5.76	4.84	2.18	9/30/04	2.03
CIM Small Cap - Emerg. Mgr.									
Net of Fee Return	**-12.95**	**-12.62**	**-8.51**	**-0.65**				**12/31/13**	**-1.72**
Russell 2000	-11.92	-11.55	-7.73	1.25				12/31/13	-1.85
Value Added	-1.03	-1.07	-0.78	-1.90				12/31/13	0.13
US Equity Composite									
Net of Fee Return	**-7.65**	**-6.94**	**-4.91**	**0.47**	**12.65**	**13.21**	**6.56**	**12/31/93**	**8.14**
Wilshire 5000	-6.91	-6.86	-5.36	-0.38	12.42	13.17	6.97	12/31/93	8.82
Value Added	-0.74	-0.09	0.45	0.85	0.23	0.04	-0.41	12/31/93	-0.67

Wilshire

SSgA S&P 500 Index

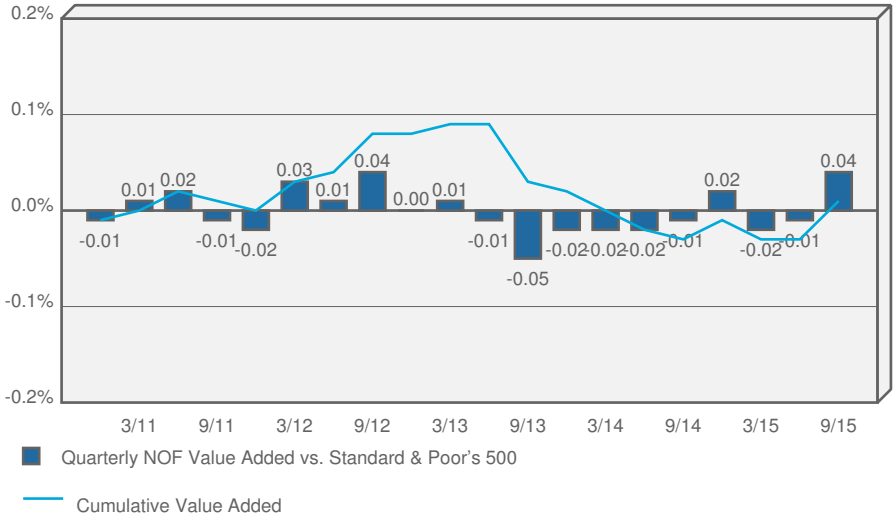
September 30, 2015

Cumulative Skill Analysis vs Benchmark

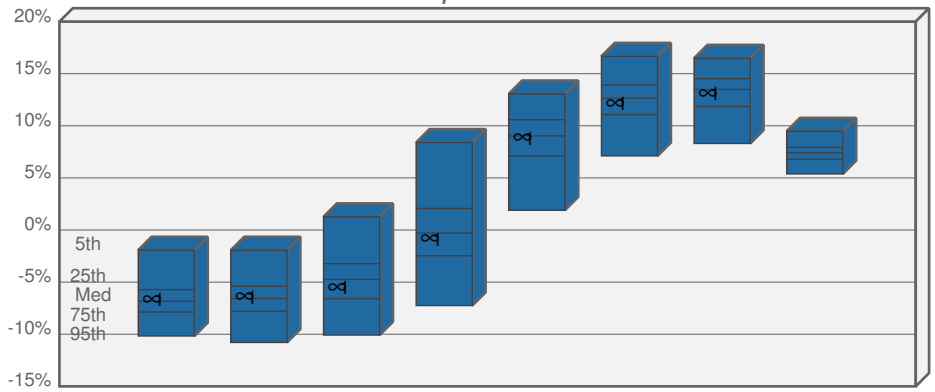


Excess Return:	**0.00**	**Information Ratio:**	**0.06**
Excess Risk:	**0.04**	**T-Stat:**	**0.13**

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	-6.38 (40)	-6.12 (38)	-5.24 (58)	-0.55 (53)	9.11 (49)	12.41 (55)	13.36 (53)	
1 Standard & Poo	-6.44 (41)	-6.18 (39)	-5.29 (58)	-0.61 (54)	9.09 (49)	12.41 (55)	13.34 (54)	
Median	-6.84	-6.58	-4.73	-0.30	9.03	12.65	13.49	7.42
Number of Funds	192	191	190	190	189	184	174	140

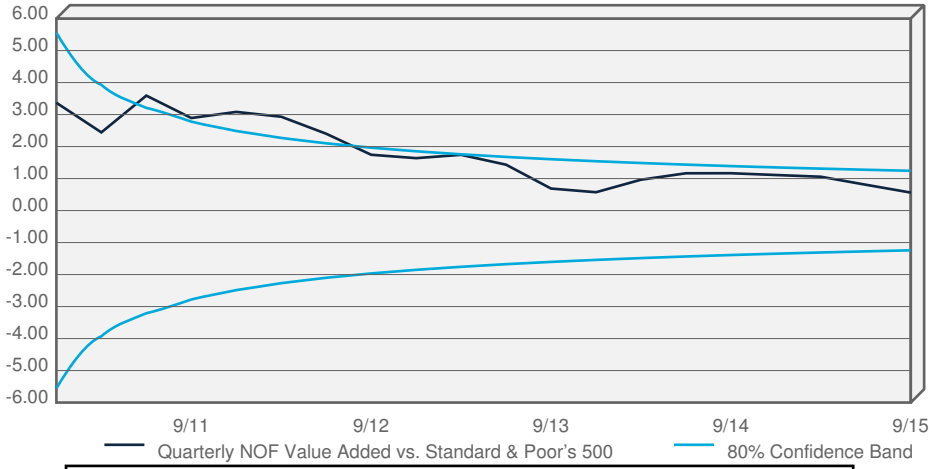
*Compass Total Returns of Active Large Core Equity Portfolios Universe - Gross of Fees

Wilshire

Mellon Equity

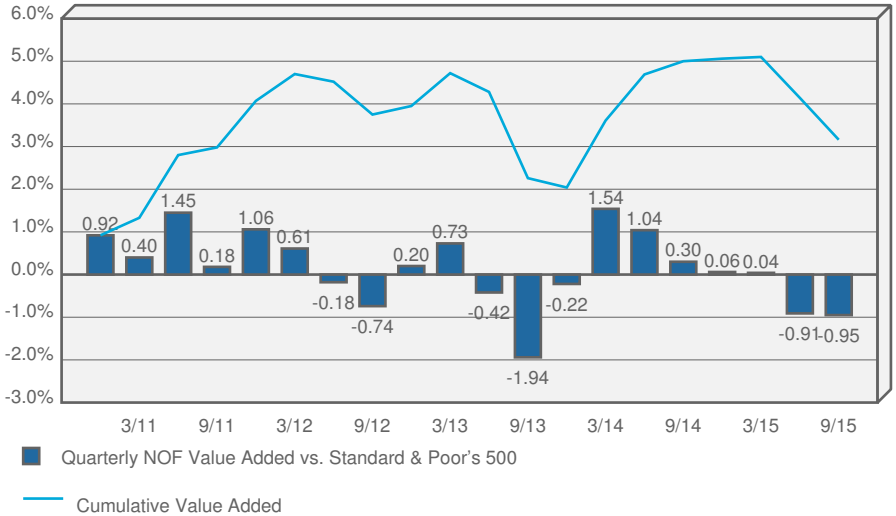
September 30, 2015

Cumulative Skill Analysis vs Benchmark

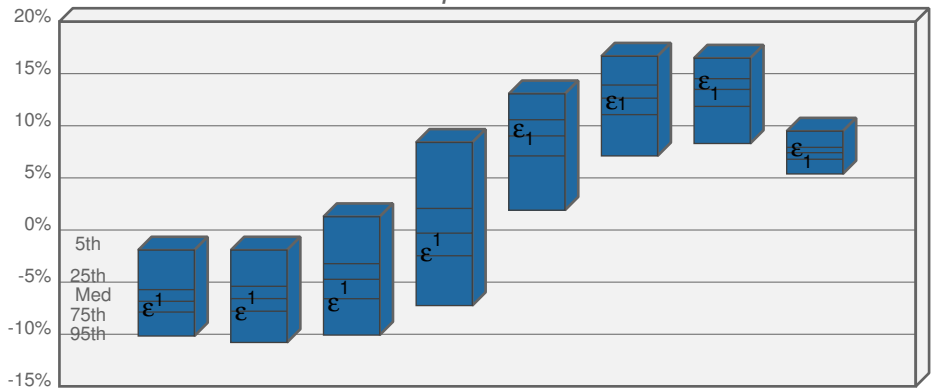


Excess Return:	**0.56**	**Information Ratio:**	**0.33**
Excess Risk:	**1.69**	**T-Stat:**	**0.74**

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	-7.39 (61)	-7.78 (74)	-6.87 (79)	-2.12 (70)	9.86 (39)	12.55 (51)	14.42 (28)	7.95 (24)
1 Standard & Poo	-6.44 (41)	-6.18 (39)	-5.29 (58)	-0.61 (54)	9.09 (49)	12.41 (55)	13.34 (54)	6.80 (74)
Median	-6.84	-6.58	-4.73	-0.30	9.03	12.65	13.49	7.42
Number of Funds	192	191	190	190	189	184	174	140

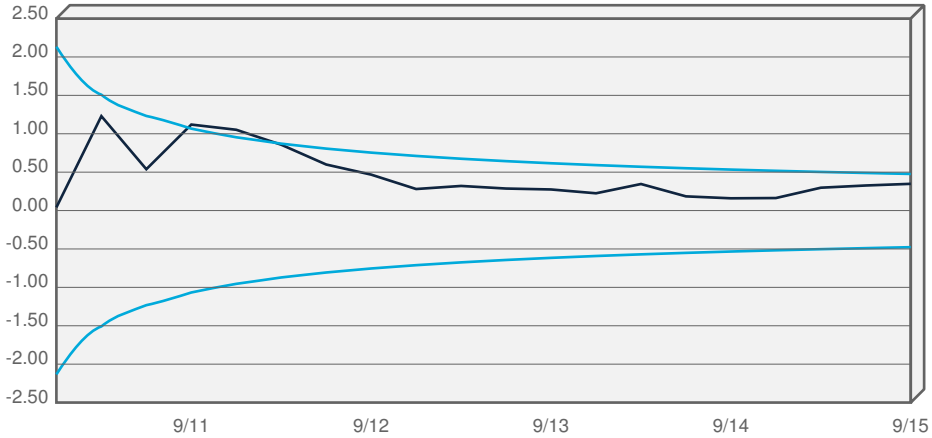
*Compass Total Returns of Active Large Core Equity Portfolios Universe - Gross of Fees

Wilshire

Twin Capital Enhanced Equity

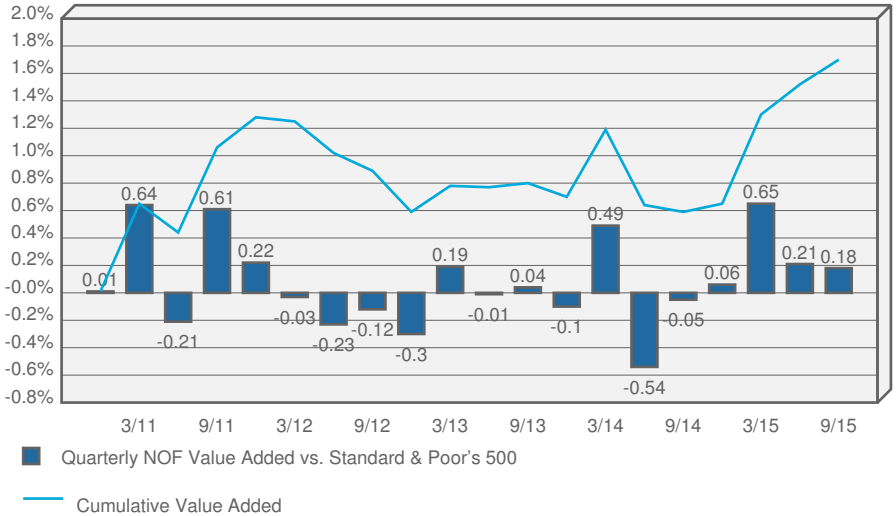
September 30, 2015

Cumulative Skill Analysis vs Benchmark

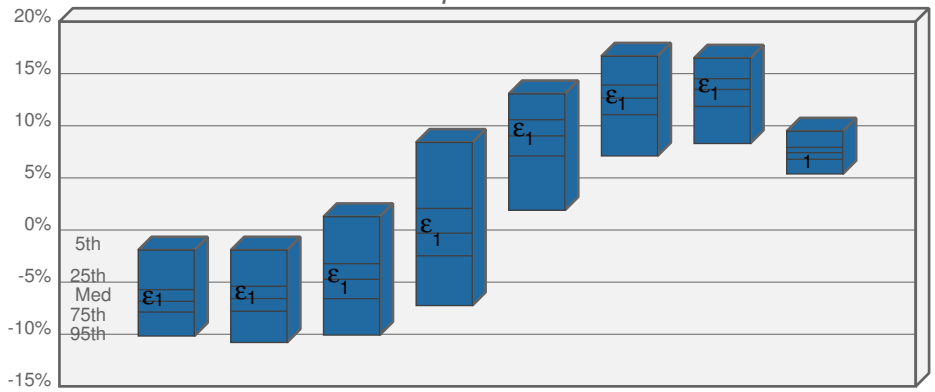


Excess Return:	**0.35**	**Information Ratio:**	**0.54**
Excess Risk:	**0.65**	**T-Stat:**	**1.20**

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	-6.18 (35)	-5.72 (29)	-4.12 (41)	0.74 (36)	9.96 (34)	13.06 (42)	14.10 (36)	
1 Standard & Poo	-6.44 (41)	-6.18 (39)	-5.29 (58)	-0.61 (54)	9.09 (49)	12.41 (55)	13.34 (54)	6.80 (74)
Median	-6.84	-6.58	-4.73	-0.30	9.03	12.65	13.49	7.42
Number of Funds	192	191	190	190	189	184	174	140

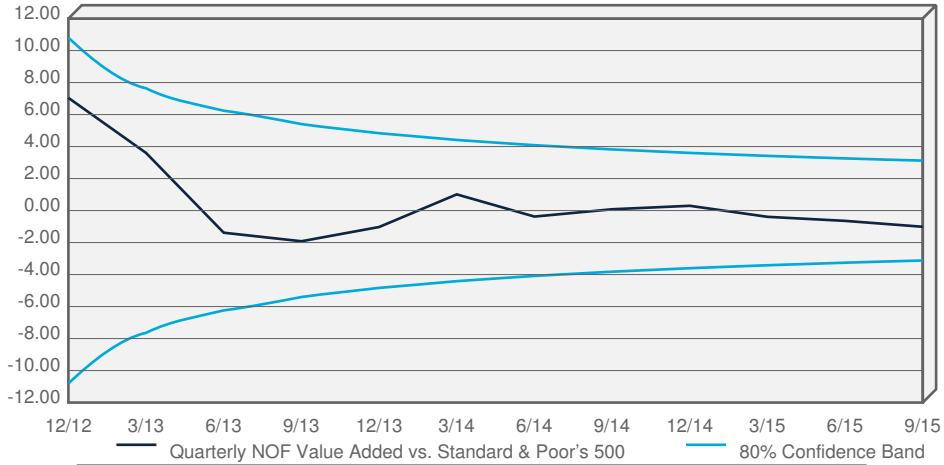
*Compass Total Returns of Active Large Core Equity Portfolios Universe - Gross of Fees

Wilshire

Fragasso Large Core - Emg. Mgr.

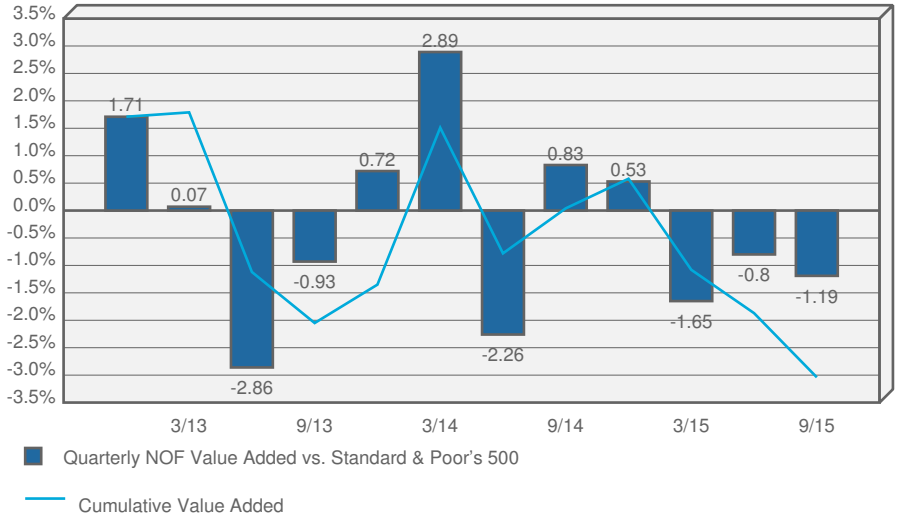
September 30, 2015

Cumulative Skill Analysis vs Benchmark

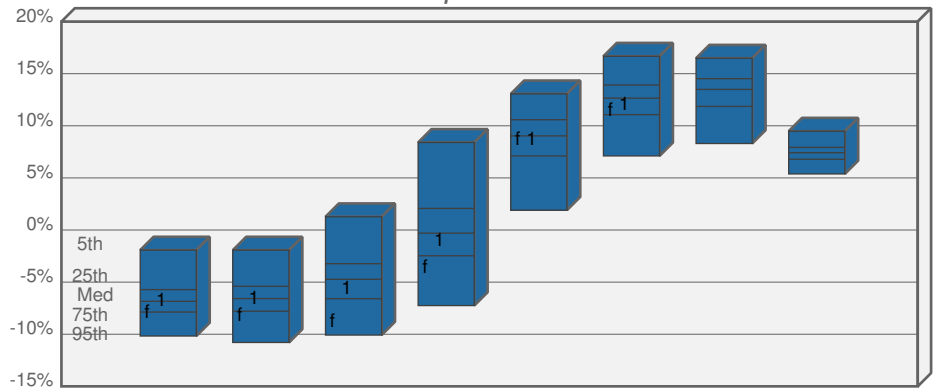


Excess Return:	**-1.01**	**Information Ratio:**	**-0.31**
Excess Risk:	**3.29**	**T-Stat:**	**-0.53**

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
f Fragasso Large	-7.50 (65)	-7.86 (75)	-8.38 (87)	-3.25 (77)	9.08 (49)	11.84 (65)		
1 Standard & Poo	-6.44 (41)	-6.18 (39)	-5.29 (58)	-0.61 (54)	9.09 (49)	12.41 (55)		
Median	-6.84	-6.58	-4.73	-0.30	9.03	12.65	13.49	7.42
Number of Funds	192	191	190	190	189	184	174	140

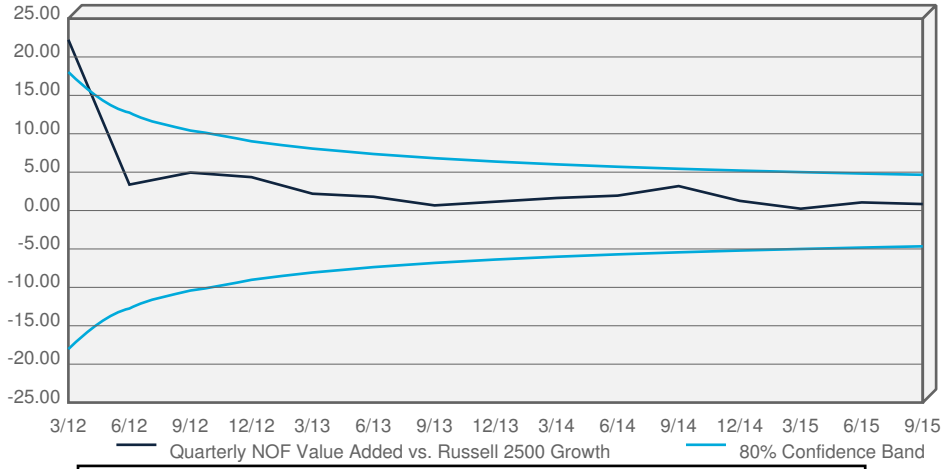
*Compass Total Returns of Active Large Core Equity Portfolios Universe - Gross of Fees

Wilshire

Apex Capital Management - Emg. Mgr.

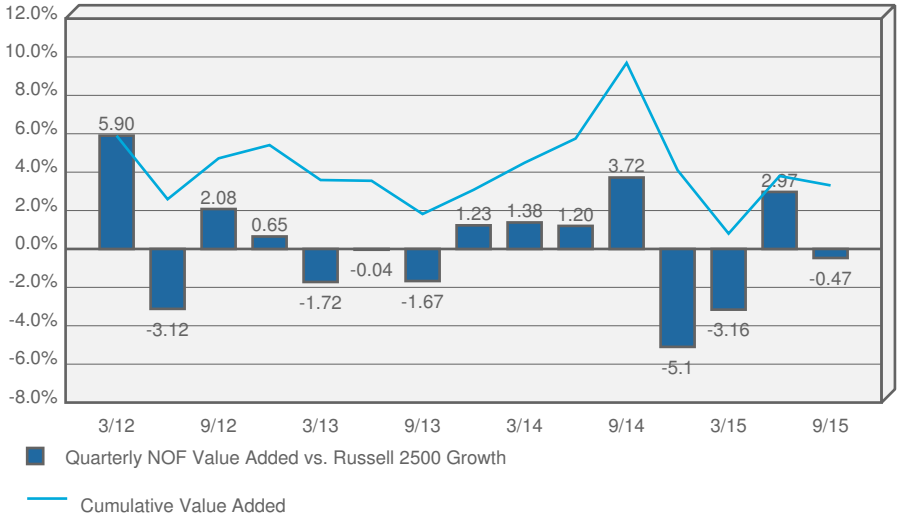
September 30, 2015

Cumulative Skill Analysis vs Benchmark

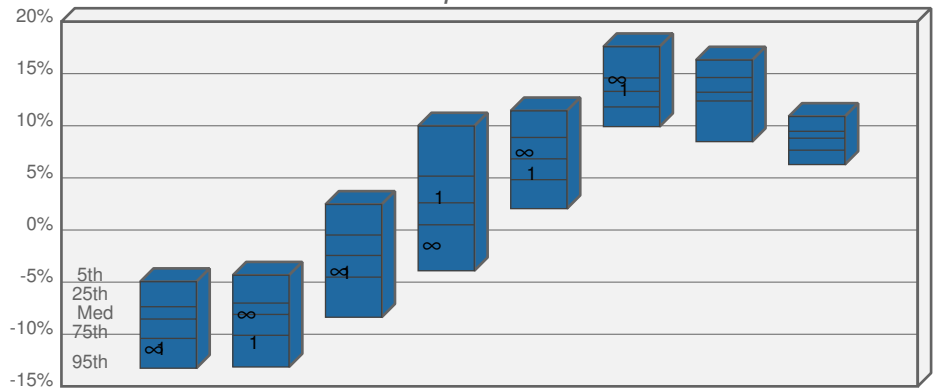


Excess Return:	**0.85**	**Information Ratio:**	**0.15**
Excess Risk:	**5.48**	**T-Stat:**	**0.27**

Value-Added Analysis vs Benchmark



*Performance Comparison vs Peer Universe**



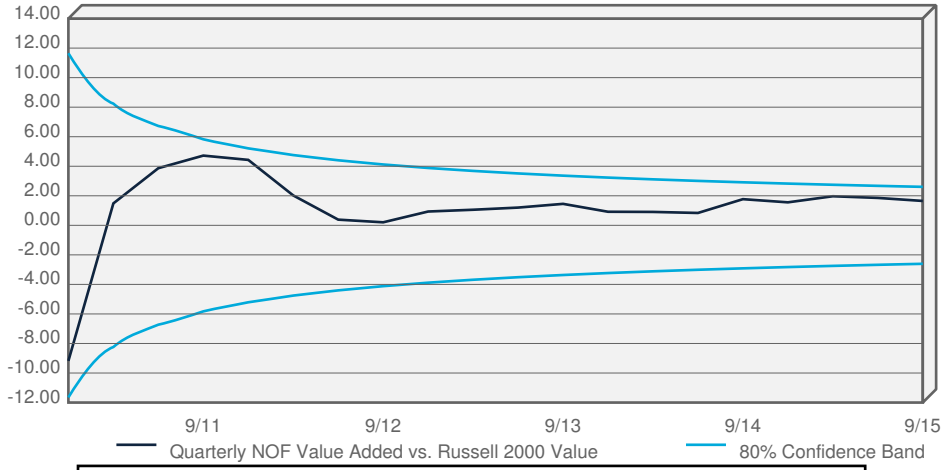
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
∞ Apex Capital M	-11.33 (81)	-7.96 (47)	-3.82 (63)	-1.32 (83)	7.63 (38)	14.57 (26)		
1 Russell 2500 G	-11.05 (79)	-10.50 (79)	-3.85 (64)	3.35 (39)	5.68 (67)	13.80 (41)		
Median	-8.54	-8.10	-2.44	2.61	6.83	13.30	13.22	8.81
Number of Funds	97	96	96	96	94	94	87	72

*Compass Total Returns of Active Midcap Growth Equity Portfolios Universe - Gross of Fees

Earnest Small Value

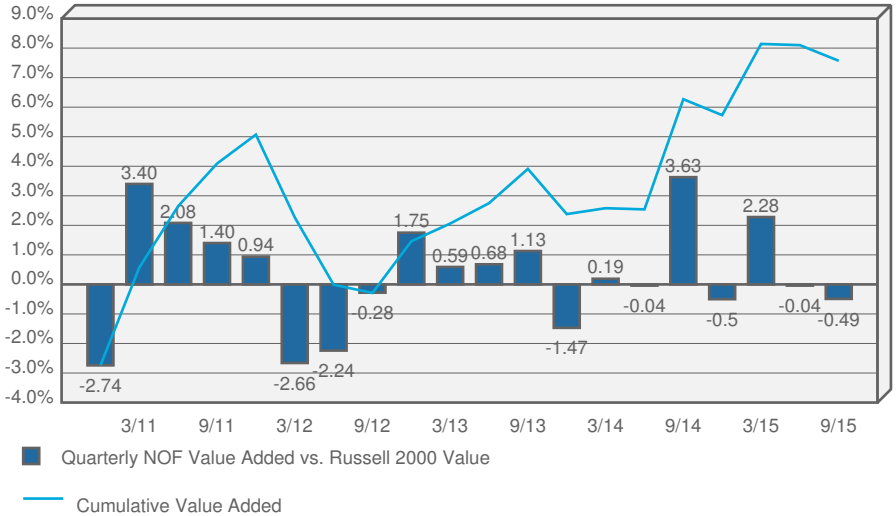
September 30, 2015

Cumulative Skill Analysis vs Benchmark

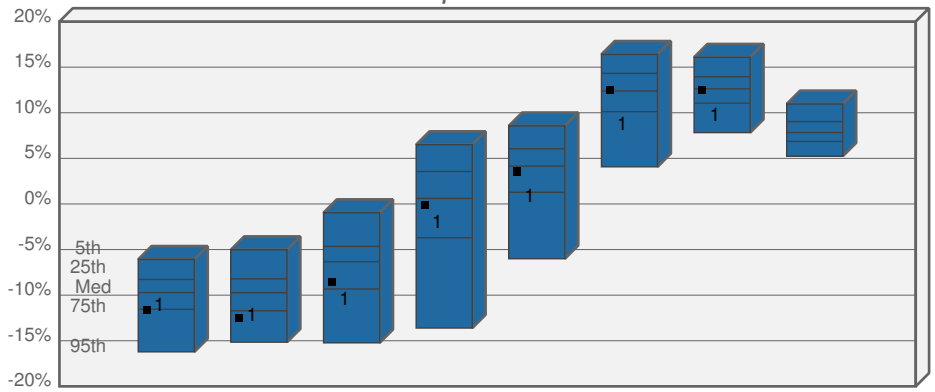


Excess Return:	**1.65**	**Information Ratio:**	**0.47**
Excess Risk:	**3.54**	**T-Stat:**	**1.04**

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	-11.00 (71)	-11.90 (77)	-7.93 (64)	0.49 (51)	4.17 (49)	13.12 (39)	13.07 (44)	
1 Russell 2000 V	-10.73 (67)	-11.80 (75)	-10.06 (82)	-1.60 (66)	1.22 (75)	9.18 (81)	10.16 (84)	
Median	-9.72	-9.73	-6.34	0.61	4.15	12.38	12.62	7.83
Number of Funds	204	200	200	200	198	194	186	146

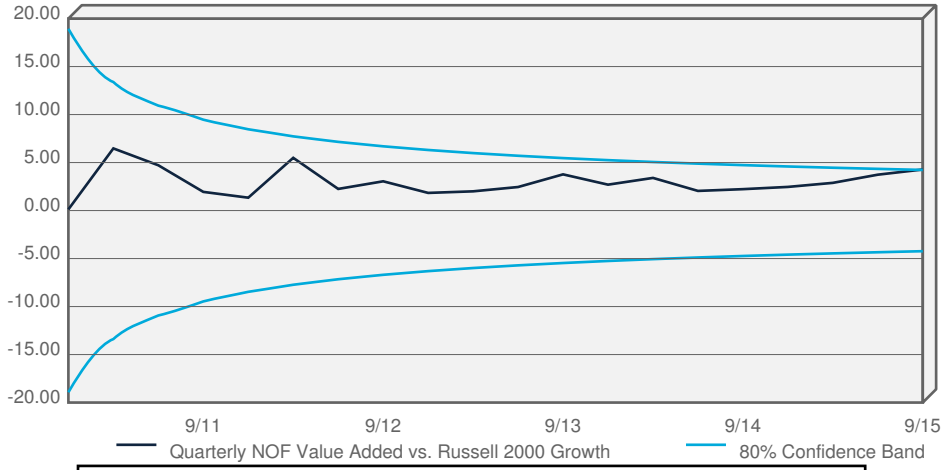
*Compass Total Returns of Active Small Cap Value Equity Portfolios Universe - Gross of Fees

Wilshire

Emerald Advisors Small Cap

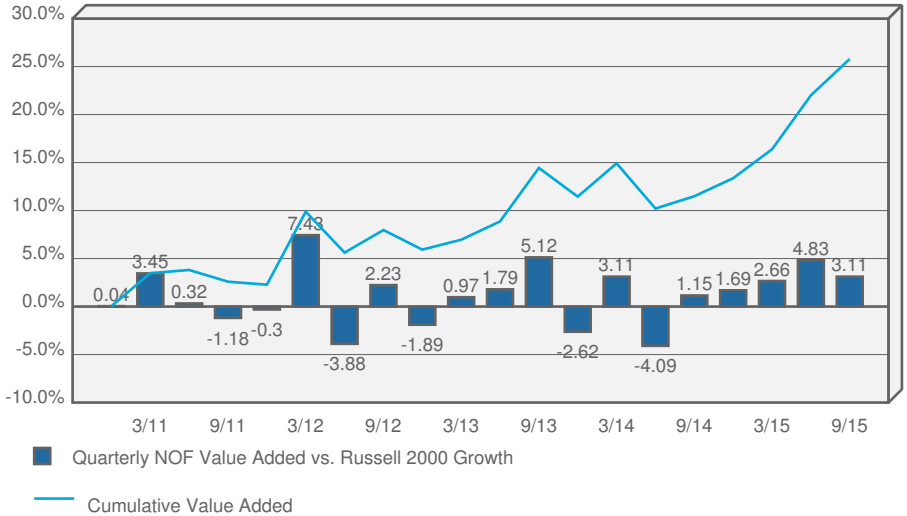
September 30, 2015

Cumulative Skill Analysis vs Benchmark

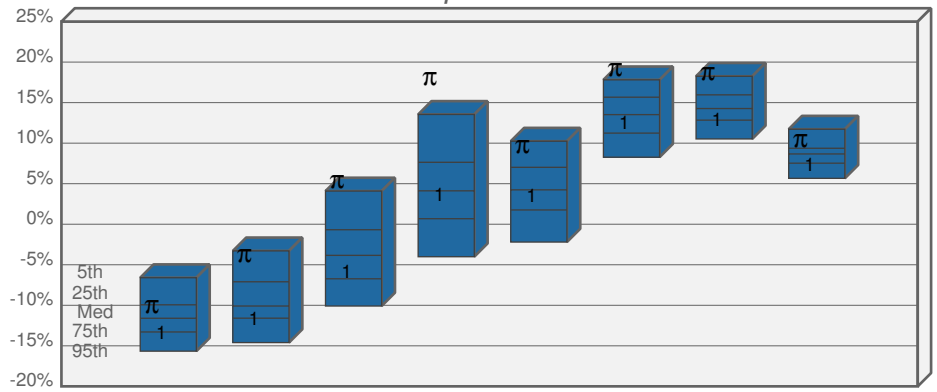


Excess Return:	**4.28**	**Information Ratio:**	**0.74**
Excess Risk:	**5.75**	**T-Stat:**	**1.66**

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	-9.78 (23)	-3.47 (5)	5.68 (2)	18.30 (1)	9.99 (5)	19.43 (1)	18.97 (3)	10.64 (7)
1 Russell 2000 G	-13.06 (71)	-11.34 (73)	-5.47 (64)	4.04 (51)	3.92 (55)	12.84 (56)	13.26 (69)	7.67 (72)
Median	-11.60	-10.09	-3.84	4.12	4.24	13.52	14.27	8.67
Number of Funds	159	157	157	157	154	151	149	126

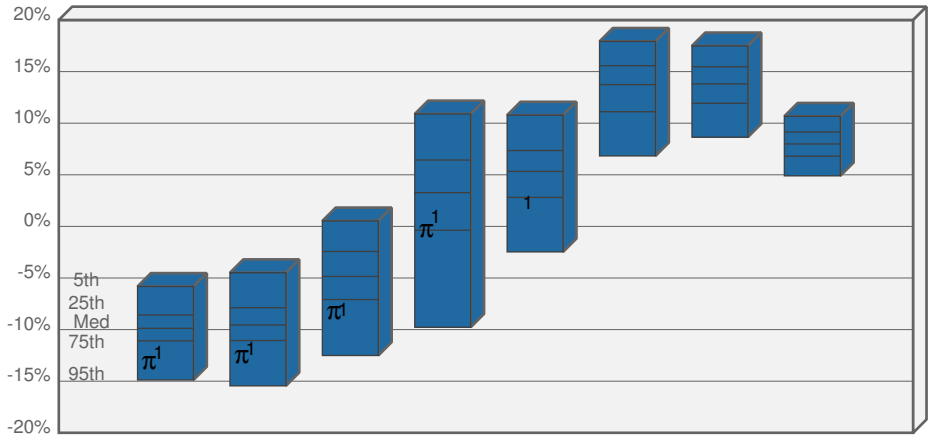
*Compass Total Returns of Active Small Cap Growth Equity Portfolios Universe - Gross of Fees

Wilshire

CIM Small Cap - Emerg. Mgr.

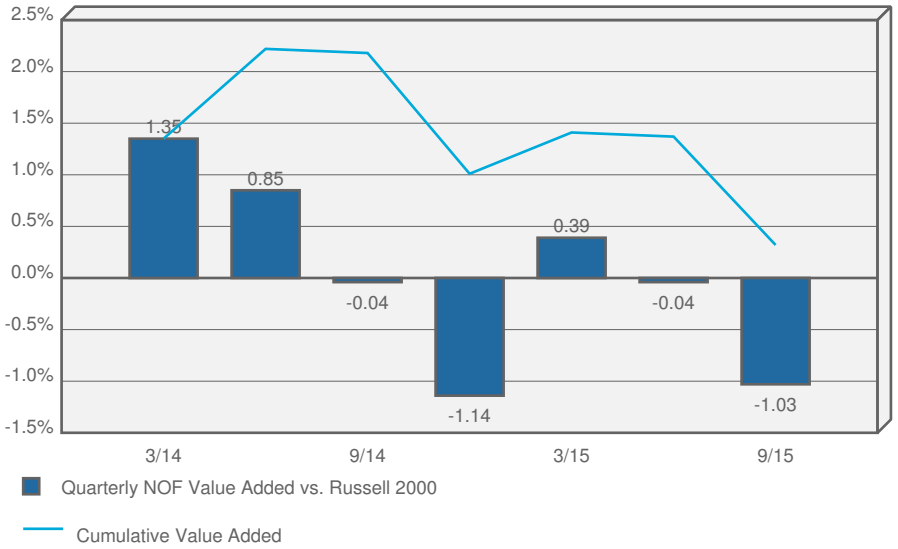
September 30, 2015

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
π CIM Small Cap	-12.95 (87)	-12.32 (85)	-8.05 (84)	-0.16 (74)				
1 Russell 2000	-11.92 (81)	-11.55 (81)	-7.73 (82)	1.25 (66)	2.58 (77)			
Median	-9.88	-9.55	-4.85	3.27	5.33	13.74	13.81	7.99
Number of Funds	141	140	140	138	135	134	124	96

Value-Added Analysis vs Benchmark



*Compass Total Returns of Active Small Cap Core Equity Portfolios Universe - Gross of Fees

Custom Benchmark Specification

Wilshire

US Equity Composite

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
Wilshire 5000	9/93	9/15	100.00	Wilshire 5000

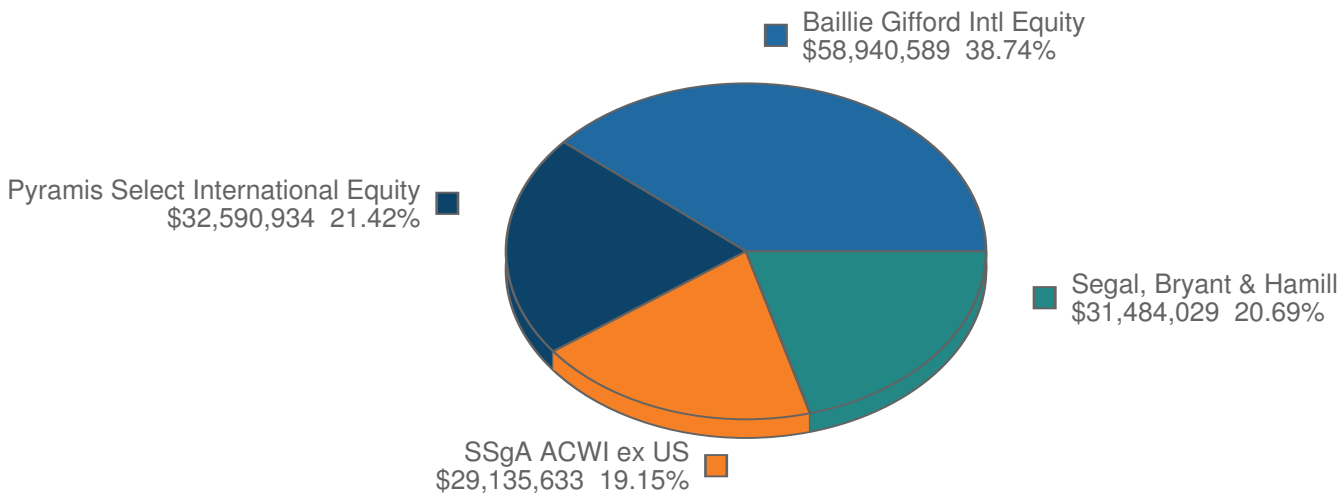
Non US Equity

Manager Allocation

Wilshire

Non US Equity Composite

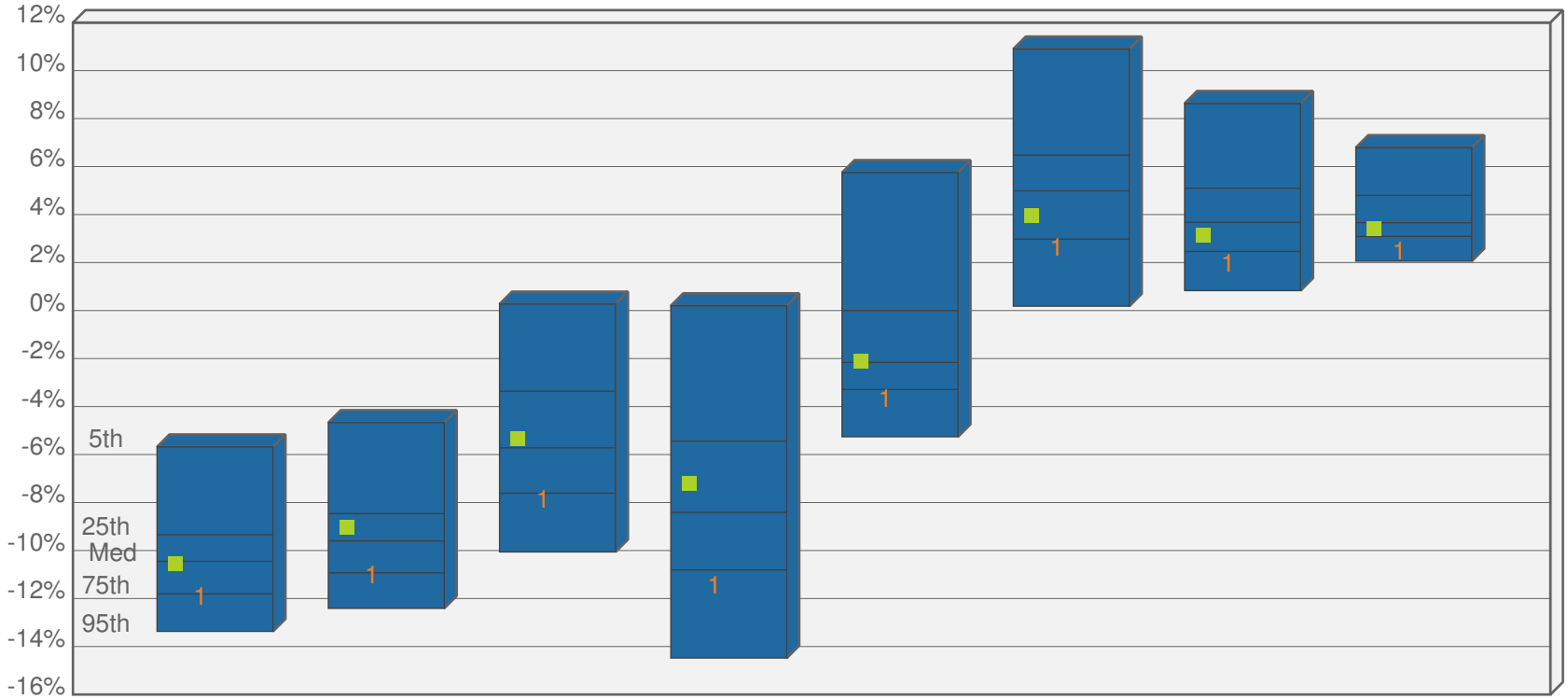
As of September 30, 2015



Wilshire

Non US Equity Composite

Periods Ended September 30, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Non US Equity Composite	-10.50 (50)	-8.98 (33)	-5.28 (43)	-7.16 (36)	-2.05 (48)	4.01 (59)	3.19 (59)	3.47 (54)
1 Policy Index	-11.88 (78)	-11.00 (77)	-7.84 (82)	-11.41 (82)	-3.66 (83)	2.63 (80)	2.00 (82)	2.48 (93)
5th %tile	-5.68	-4.67	0.27	0.20	5.75	10.90	8.63	6.79
25th %tile	-9.34	-8.46	-3.36	-5.44	-0.00	6.48	5.10	4.80
Median	-10.45	-9.60	-5.72	-8.41	-2.16	4.99	3.68	3.66
75th %tile	-11.81	-10.93	-7.61	-10.81	-3.29	2.98	2.46	3.09
95th %tile	-13.37	-12.41	-10.06	-14.48	-5.26	0.18	0.83	2.06
Number of Funds	134	126	125	125	116	106	95	67

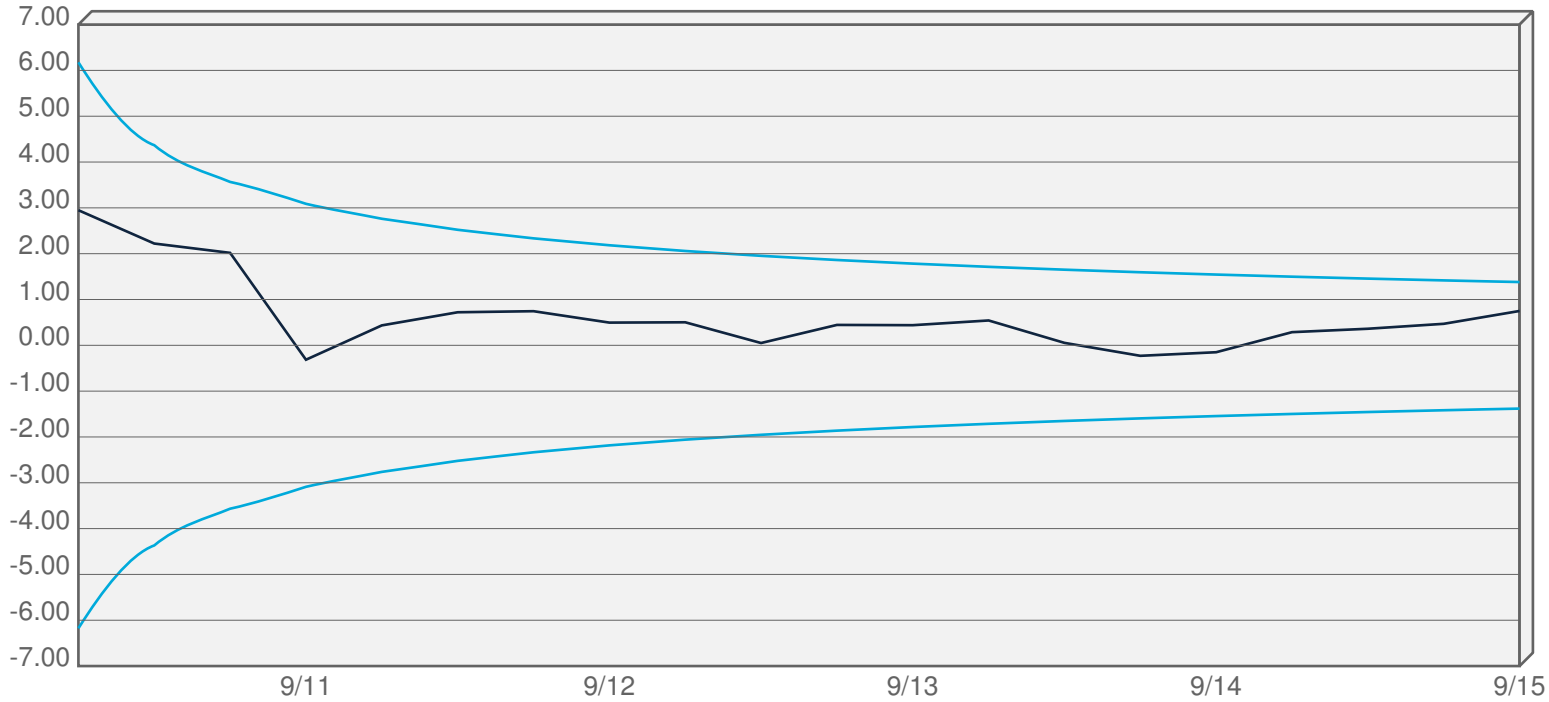
*TUCS Total Ret of Non-US Equity Investment Pools Universe - Gross of Fees

Cumulative Skill Analysis

Wilshire

Non US Equity Composite

Five Years Ending September 30, 2015



Quarterly NOF Value Added vs. Policy Index

80% Confidence Band

Excess Return:	**0.75**	**Information Ratio:**	**0.40**
Excess Risk:	**1.88**	**T-Stat:**	**0.89**

Performance Comparison

Wilshire

Trailing Returns

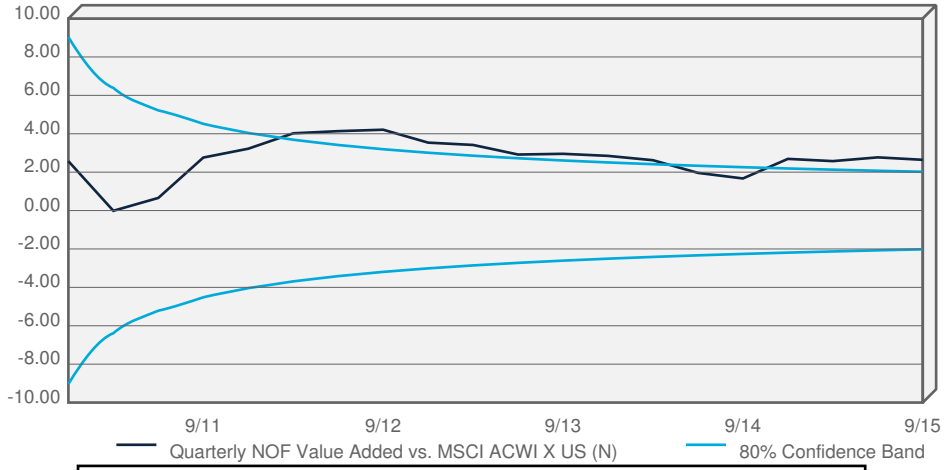
Periods Ended September 30, 2015

	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	**-12.12**	**-10.28**	**-7.01**	**-6.35**	**3.99**	**4.51**		**9/30/09**	**5.86**
MSCI ACWI X US (N)	-12.17	-11.71	-8.63	-12.16	2.34	1.82		9/30/09	2.76
Value Added	0.05	1.43	1.62	5.82	1.65	2.69		9/30/09	3.10
Pyramis Select International Equity									
Net of Fee Return	**-11.51**	**-9.85**	**-6.37**	**-9.26**	**3.29**	**2.52**	**2.65**	**12/31/00**	**3.72**
Policy Benchmark	-12.17	-11.71	-8.63	-12.16	2.34	1.82	2.39	12/31/00	2.88
Value Added	0.66	1.85	2.26	2.91	0.94	0.70	0.25	12/31/00	0.84
SSgA ACWI ex US									
Net of Fee Return	**-10.55**							**6/30/15**	**-10.55**
MSCI ACWI X US (N)	-12.17							6/30/15	-12.17
Value Added	1.62							6/30/15	1.62
Segal, Bryant & Hamill									
Net of Fee Return	**-6.47**							**6/30/15**	**-6.47**
MSCI EAFE Small Cap (N)	-6.83							6/30/15	-6.83
Value Added	0.36							6/30/15	0.36
Non US Equity Composite									
Net of Fee Return	**-10.54**	**-9.10**	**-5.49**	**-7.48**	**3.58**	**2.76**	**3.03**	**12/31/00**	**3.98**
Policy Index	-11.88	-11.00	-7.84	-11.41	2.63	2.00	2.48	12/31/00	2.94
Value Added	1.34	1.90	2.35	3.93	0.94	0.76	0.55	12/31/00	1.04

Baillie Gifford Intl Equity

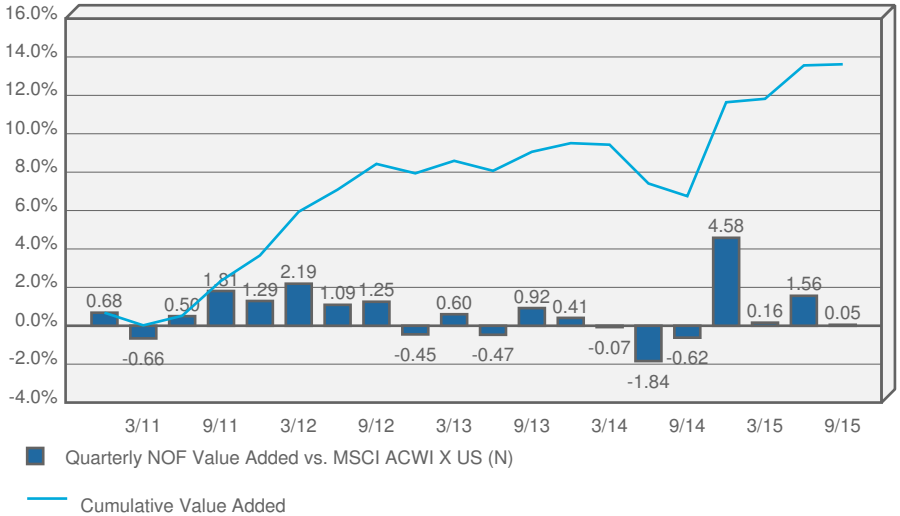
September 30, 2015

Cumulative Skill Analysis vs Benchmark

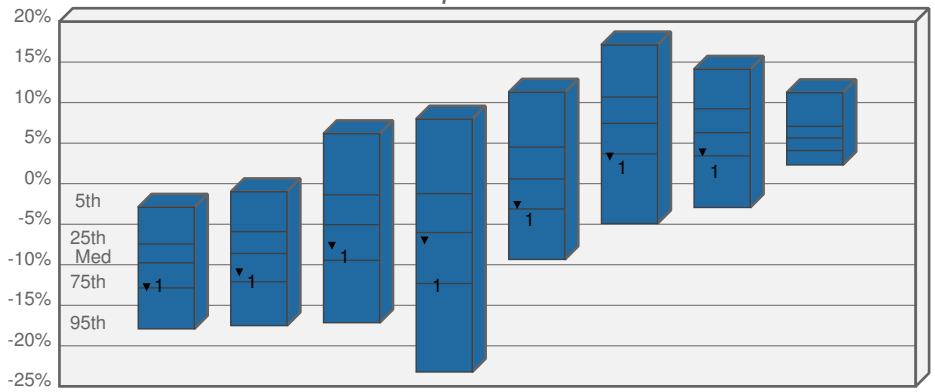


Excess Return:	**2.64**	**Information Ratio:**	**0.96**
Excess Risk:	**2.75**	**T-Stat:**	**2.15**

Value-Added Analysis vs Benchmark



*Performance Comparison vs Peer Universe**



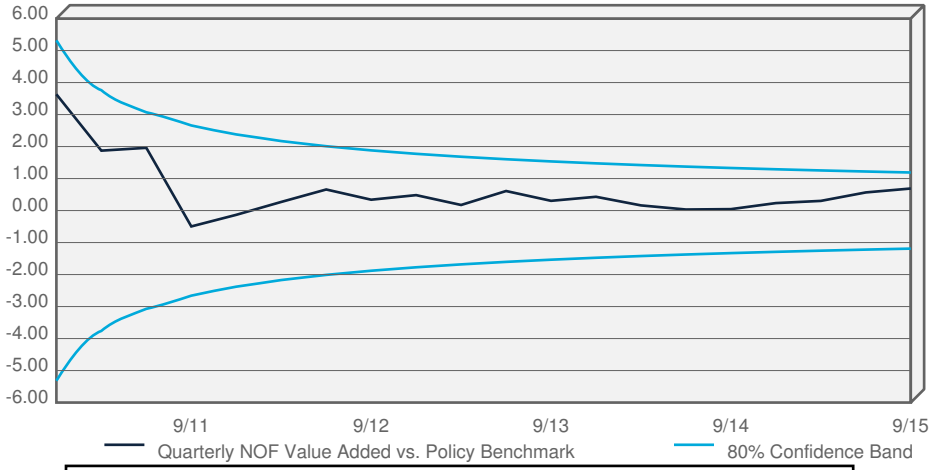
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
▼ Baillie Giffor	-12.12 (70)	-10.28 (64)	-7.01 (63)	-6.35 (51)	-1.98 (68)	3.99 (74)	4.51 (65)	
1 MSCI ACWI X US	12.17 (70)	-11.71 (73)	-8.63 (71)	-12.16 (74)	-4.07 (80)	2.34 (79)	1.82 (82)	
Median	-9.76	-8.61	-5.06	-6.03	0.59	7.44	6.30	5.63
Number of Funds	1579	1556	1550	1533	1473	1397	1205	745

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

Pyramis Select International Equity

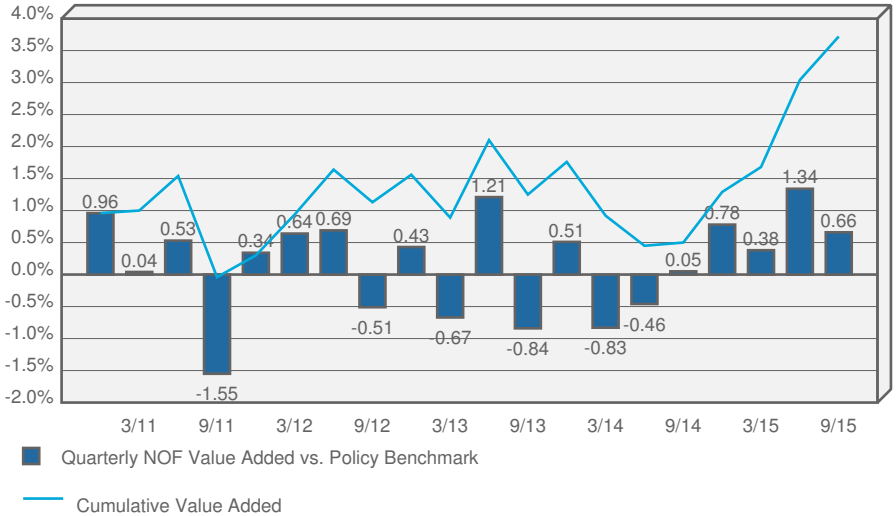
September 30, 2015

Cumulative Skill Analysis vs Benchmark

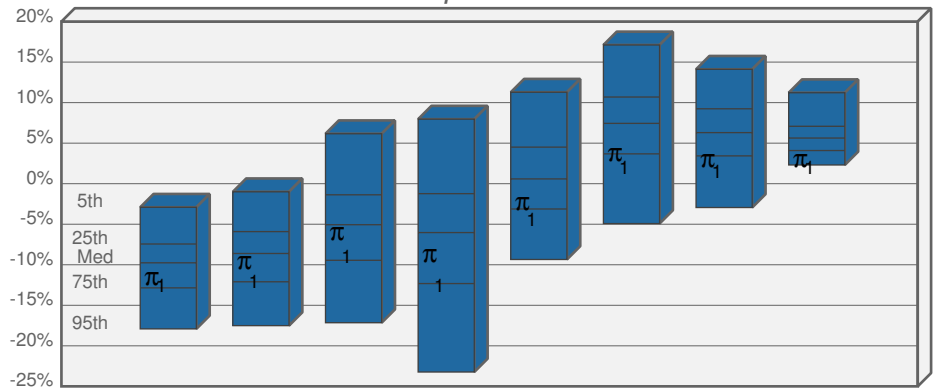


Excess Return:	**0.69**	**Information Ratio:**	**0.43**
Excess Risk:	**1.62**	**T-Stat:**	**0.95**

Value-Added Analysis vs Benchmark



*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
π Pyramis Select	-11.31 (65)	-9.40 (58)	-5.75 (55)	-8.50 (61)	-2.08 (69)	3.91 (74)	3.17 (76)	3.25 (87)
1 Policy Benchma	-12.17 (70)	-11.71 (73)	-8.63 (71)	-12.16 (74)	-4.07 (80)	2.34 (79)	1.82 (82)	2.39 (94)
Median	-9.76	-8.61	-5.06	-6.03	0.59	7.44	6.30	5.63
Number of Funds	1579	1556	1550	1533	1473	1397	1205	745

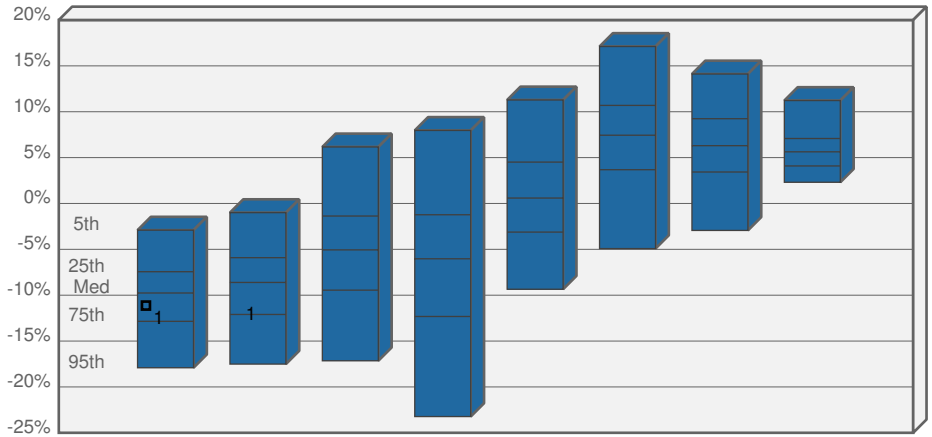
*Compass Total Returns of International Equity Portfolios Universe - Gross of Fees

Wilshire

SSgA ACWI ex US

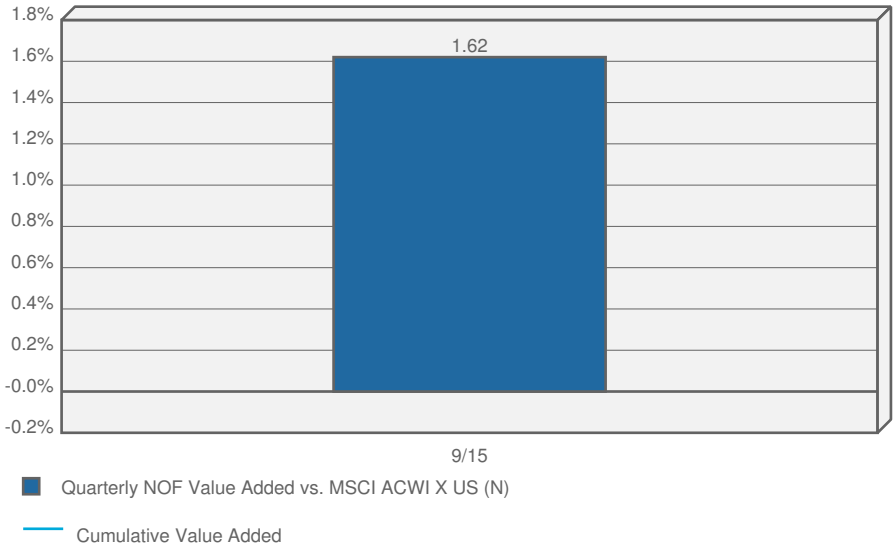
September 30, 2015

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
SSgA ACWI ex U	-10.55 (59)							
1 MSCI ACWI X US	12.17 (70)	-11.71 (73)						
Median	-9.76	-8.61	-5.06	-6.03	0.59	7.44	6.30	5.63
Number of Funds	1579	1556	1550	1533	1473	1397	1205	745

Value-Added Analysis vs Benchmark



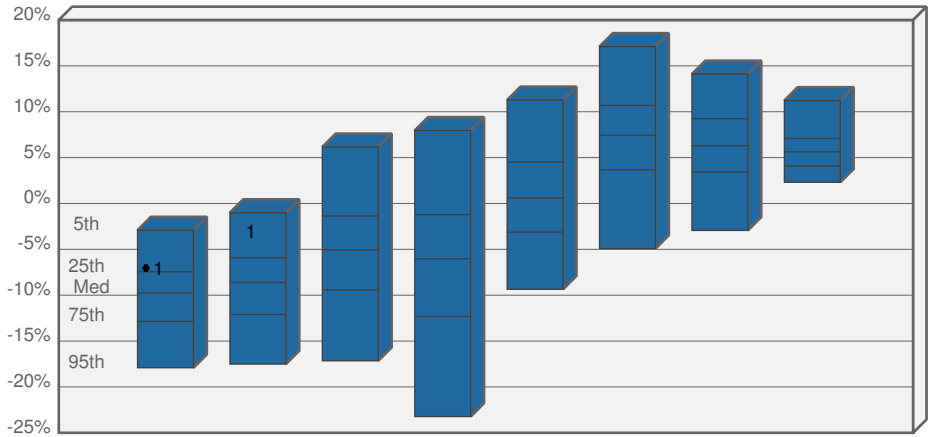
*Compass Total Returns of International Equity Portfolios Universe - Gross of Fees

Wilshire

Segal, Bryant & Hamill

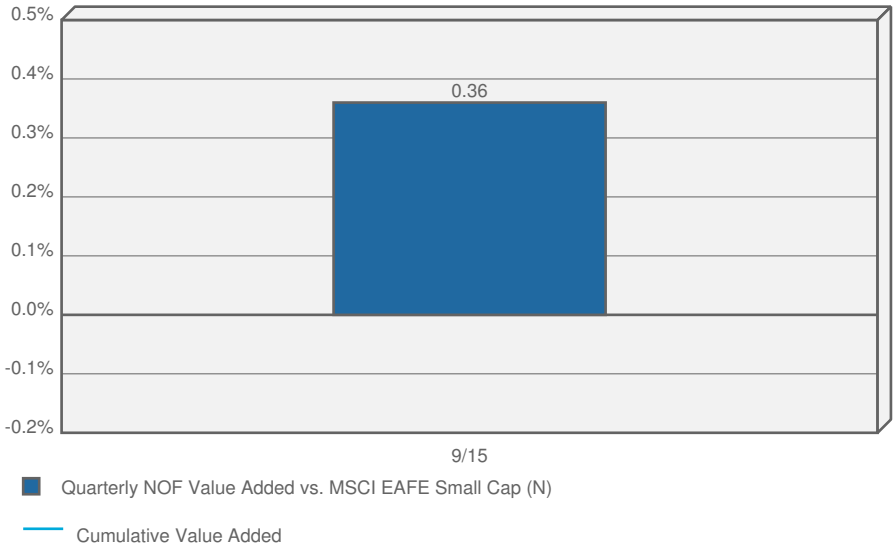
September 30, 2015

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
◆ Segal, Bryant	-6.47 (18)							
1 MSCI EAFE Smal	-6.83 (20)	-2.78 (9)						
Median	-9.76	-8.61	-5.06	-6.03	0.59	7.44	6.30	5.63
Number of Funds	1579	1556	1550	1533	1473	1397	1205	745

Value-Added Analysis vs Benchmark



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

Custom Benchmark Specification

Wilshire

Non US Equity Composite

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
Policy Index	12/00	6/08	100.00	MSCI EAFE Index (N)
	9/08	12/14	100.00	MSCI ACWI X US (N)
	3/15	9/15	100.00	MSCI ACWI X US IMI Index (N)

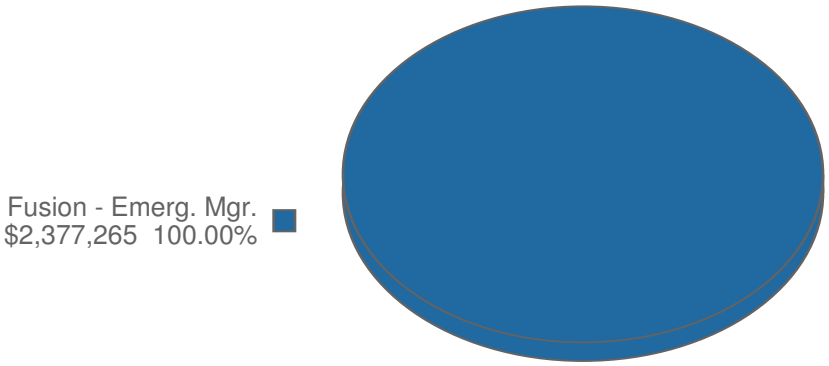
Global Equity

Manager Allocation

Wilshire

Global Equity Composite

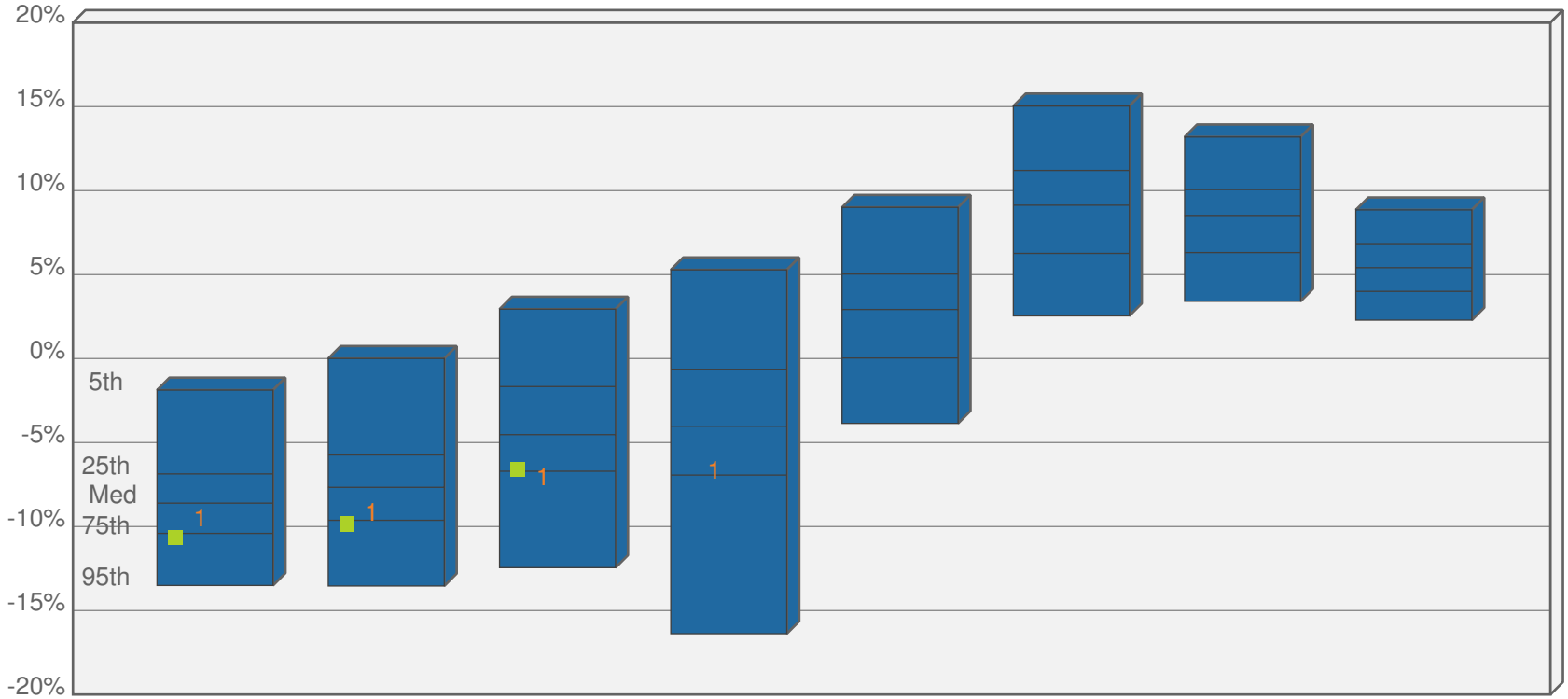
As of September 30, 2015



Wilshire

Global Equity Composite

Periods Ended September 30, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Global Equity	-10.57 (77)	-9.80 (75)	-6.55 (73)					
1 MSCI ACWI (N)	-9.45 (60)	-9.13 (67)	-7.04 (76)	-6.66 (72)				
5th %tile	-1.88	0.00	2.94	5.28	9.00	15.03	13.19	8.85
25th %tile	-6.87	-5.74	-1.67	-0.64	5.03	11.20	10.06	6.84
Median	-8.61	-7.67	-4.53	-4.03	2.92	9.13	8.52	5.41
75th %tile	-10.41	-9.63	-6.71	-6.94	0.03	6.26	6.31	4.00
95th %tile	-13.51	-13.54	-12.45	-16.38	-3.86	2.54	3.41	2.29
Number of Funds	373	364	358	349	313	297	253	98

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

Performance Comparison

Wilshire

Trailing Returns

Periods Ended September 30, 2015

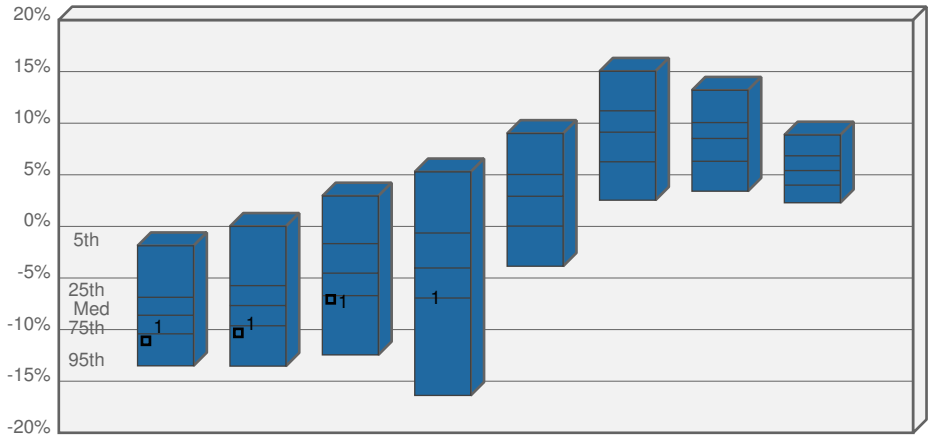
	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Fusion - Emerg. Mgr.									
Net of Fee Return	**-10.74**	**-10.12**	**-7.10**					**12/31/14**	**-7.10**
MSCI ACWI (N)	-9.45	-9.13	-7.04					12/31/14	-7.04
Value Added	-1.29	-0.99	-0.06					12/31/14	-0.06
Global Equity									
Net of Fee Return	**-10.74**	**-10.12**	**-7.10**					**12/31/14**	**-7.10**
MSCI ACWI (N)	-9.45	-9.13	-7.04					12/31/14	-7.04
Value Added	-1.29	-0.99	-0.06					12/31/14	-0.06

Wilshire

Fusion - Emerg. Mgr.

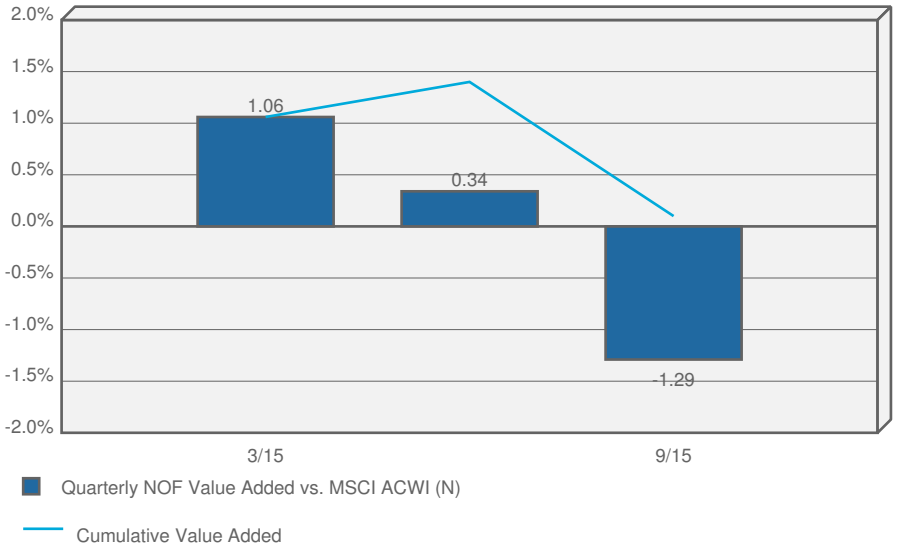
September 30, 2015

*Performance Comparison vs Peer Universe**



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
◘ Fusion - Emerg	-10.57 (77)	-9.80 (75)	-6.55 (73)					
1 MSCI ACWI (N)	-9.45 (60)	-9.13 (67)	-7.04 (76)	-6.66 (72)				
Median	-8.61	-7.67	-4.53	-4.03	2.92	9.13	8.52	5.41
Number of Funds	373	364	358	349	313	297	253	98

Value-Added Analysis vs Benchmark



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

Custom Benchmark Specification

Wilshire

Global Equity

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
MSCI ACWI (N)	12/14	9/15	100.00	MSCI ACWI (N)

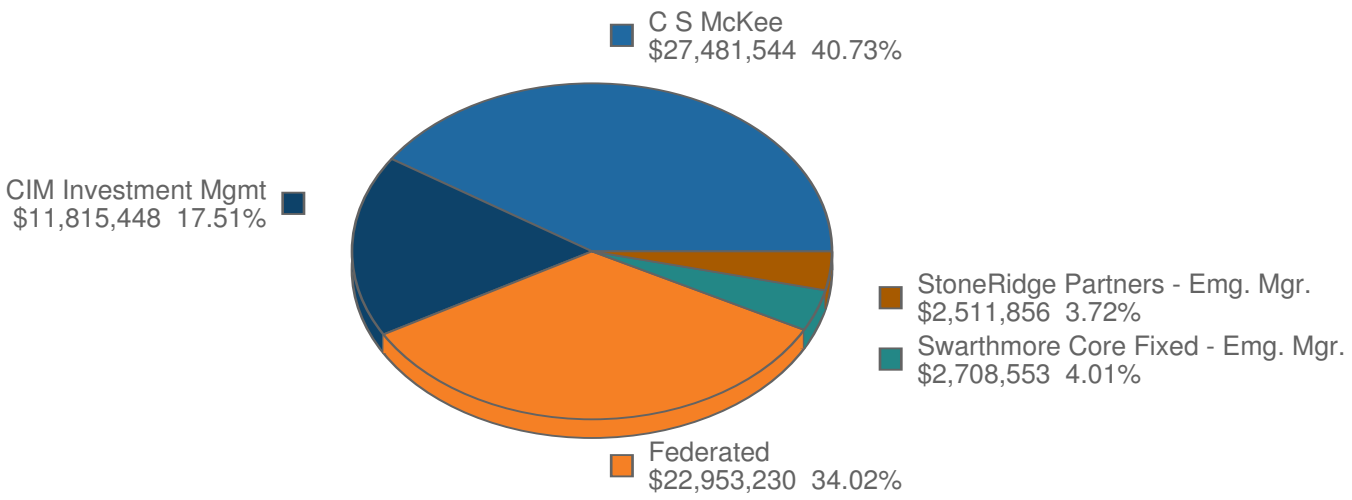
Core Fixed Income

Manager Allocation

Wilshire

Core Fixed Composite

As of September 30, 2015

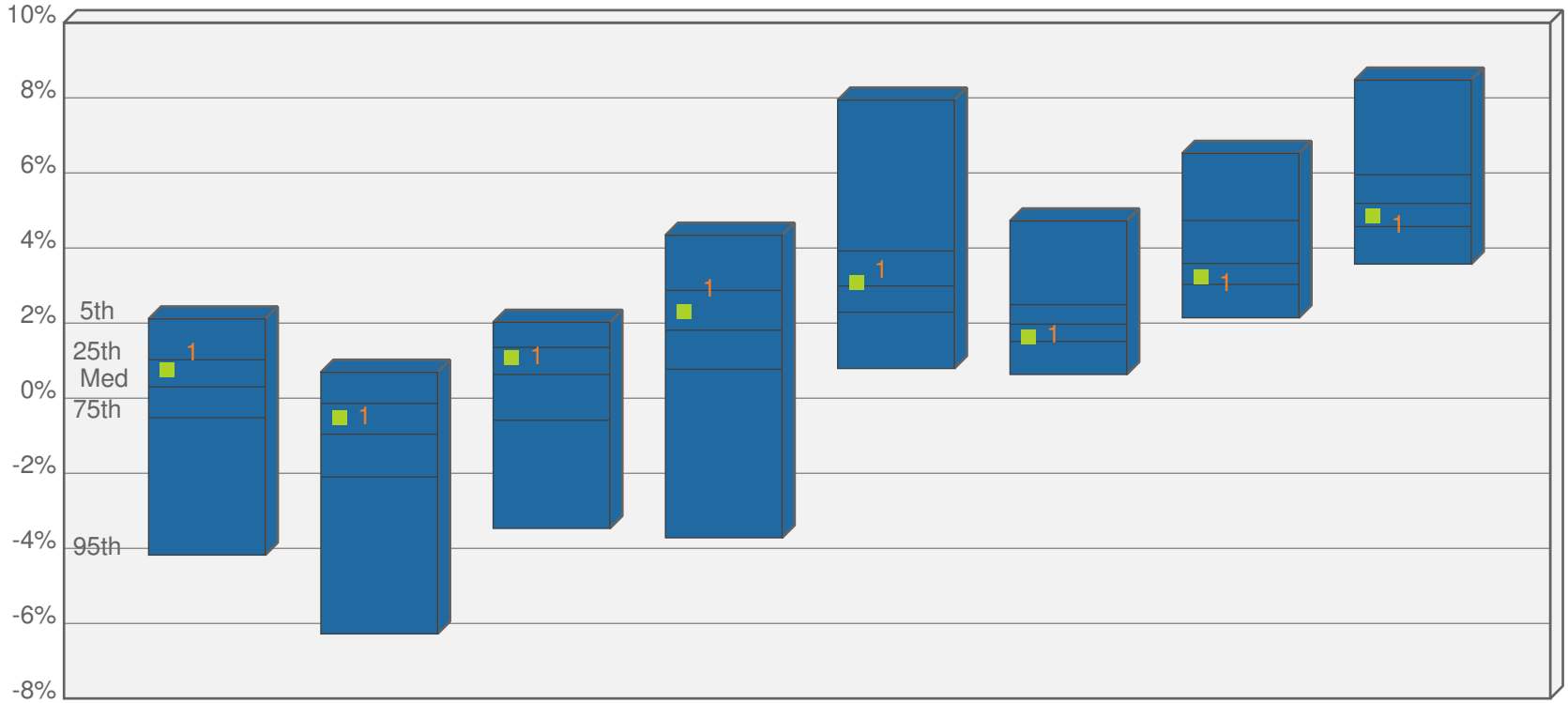


Performance Comparison

Wilshire

Core Fixed Composite

Periods Ended September 30, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Core Fixed Composite	0.78 (33)	-0.48 (37)	1.11 (36)	2.35 (36)	3.11 (45)	1.66 (69)	3.26 (66)	4.90 (62)
1 Barclays Aggrega	1.23 (18)	-0.47 (36)	1.13 (35)	2.94 (22)	3.45 (42)	1.71 (64)	3.10 (71)	4.64 (73)
5th %tile	2.11	0.69	2.02	4.34	7.94	4.72	6.52	8.47
25th %tile	1.02	-0.14	1.35	2.87	3.92	2.49	4.73	5.95
Median	0.30	-0.96	0.63	1.81	2.99	1.97	3.59	5.19
75th %tile	-0.52	-2.10	-0.59	0.77	2.29	1.51	3.03	4.57
95th %tile	-4.18	-6.28	-3.47	-3.72	0.79	0.63	2.14	3.57
Number of Funds	174	169	167	167	158	138	113	74

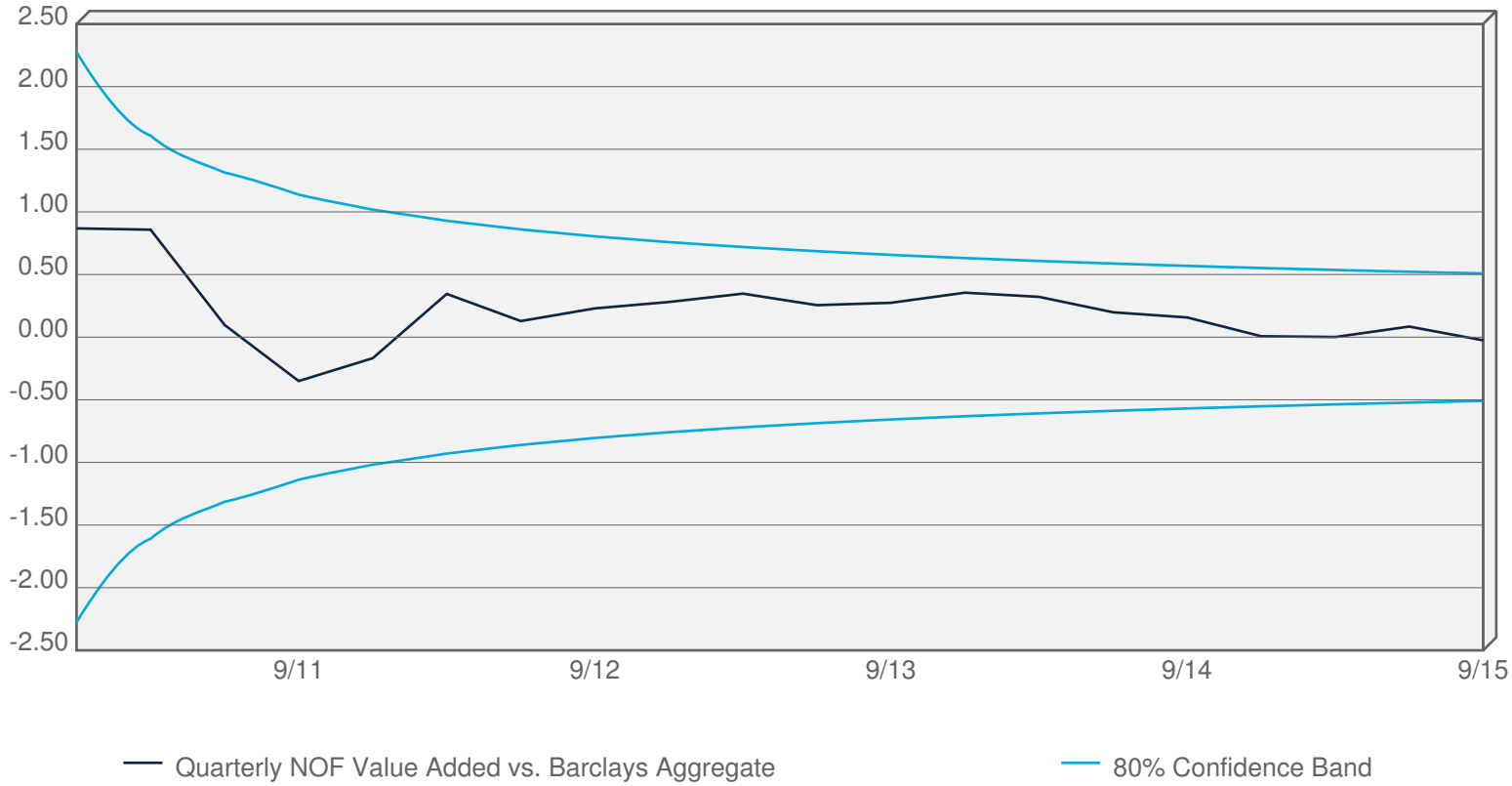
*TUCS Total Ret of Fixed Income Investment Pools Universe - Gross of Fees

Cumulative Skill Analysis

Wilshire

Core Fixed Composite

Five Years Ending September 30, 2015



Excess Return:	**-0.03**	**Information Ratio:**	**-0.04**
Excess Risk:	**0.69**	**T-Stat:**	**-0.08**

Performance Comparison

Wilshire

Trailing Returns

Periods Ended September 30, 2015

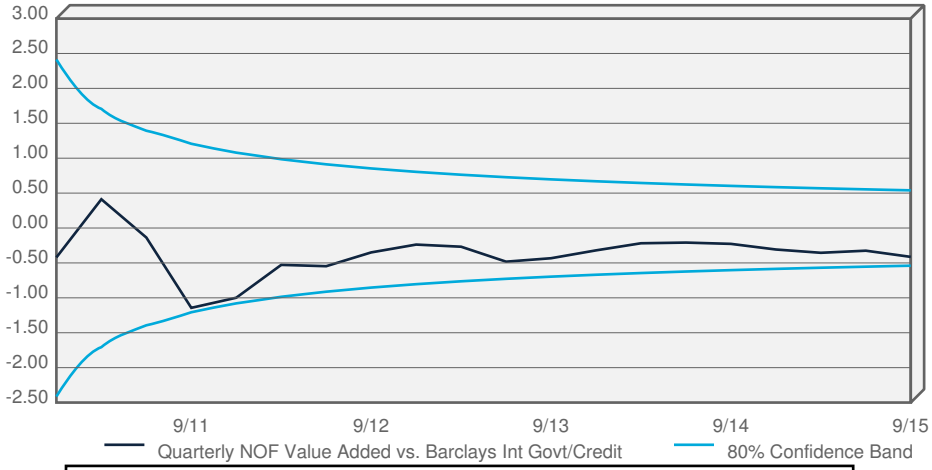
	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
CIM Investment Mgmt									
Net of Fee Return	**0.42**	**-0.15**	**1.00**	**1.49**	**0.99**	**2.00**		**12/31/05**	**3.85**
Barclays Int Govt/Credit	0.95	0.32	1.77	2.68	1.45	2.42		12/31/05	4.22
Value Added	-0.53	-0.47	-0.77	-1.19	-0.46	-0.42		12/31/05	-0.38
C S McKee									
Net of Fee Return	**1.16**	**-0.19**	**1.64**	**3.31**	**2.11**	**3.63**	**5.26**	**12/31/82**	**7.93**
Barclays Aggregate	1.23	-0.47	1.13	2.94	1.71	3.10	4.64	12/31/82	7.56
Value Added	-0.08	0.28	0.51	0.37	0.40	0.53	0.62	12/31/82	0.37
Federated									
Net of Fee Return	**0.31**	**-1.38**	**0.16**	**1.25**	**1.31**	**3.20**		**9/30/06**	**5.26**
Barclays Aggregate	1.23	-0.47	1.13	2.94	1.71	3.10		9/30/06	4.75
Value Added	-0.92	-0.91	-0.97	-1.69	-0.40	0.10		9/30/06	0.51
Swarthmore Core Fixed - Emg. Mgr.									
Net of Fee Return	**0.62**	**-0.39**	**0.89**	**1.70**	**0.73**			**6/30/12**	**1.05**
Barclays Int Govt/Credit Index	0.95	0.32	1.77	2.68	1.45			6/30/12	1.77
Value Added	-0.33	-0.71	-0.88	-0.98	-0.72			6/30/12	-0.72
Core Fixed Composite									
Net of Fee Return	**0.70**	**-0.60**	**0.97**	**2.16**	**1.51**	**3.07**	**4.66**	**9/30/82**	**8.21**
Barclays Aggregate	1.23	-0.47	1.13	2.94	1.71	3.10	4.64	9/30/82	7.76
Value Added	-0.53	-0.13	-0.16	-0.78	-0.20	-0.03	0.02	9/30/82	0.44

Wilshire

CIM Investment Mgmt

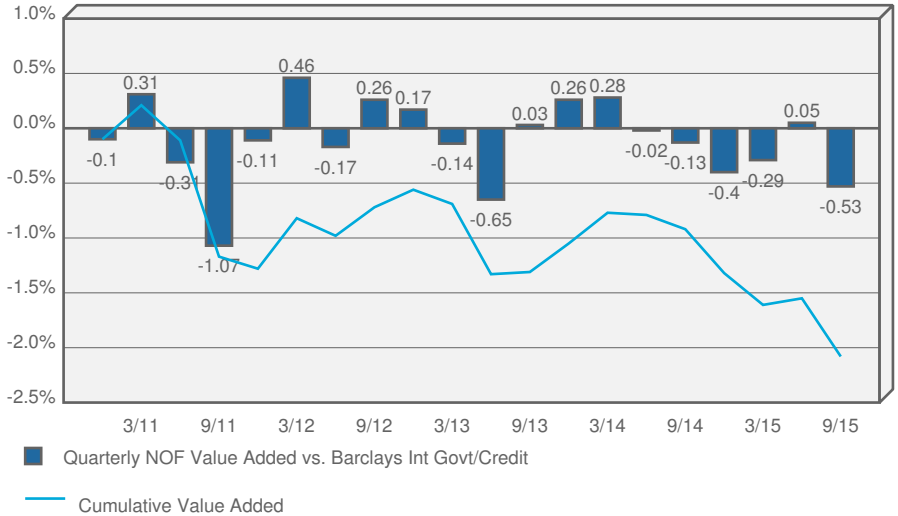
September 30, 2015

Cumulative Skill Analysis vs Benchmark

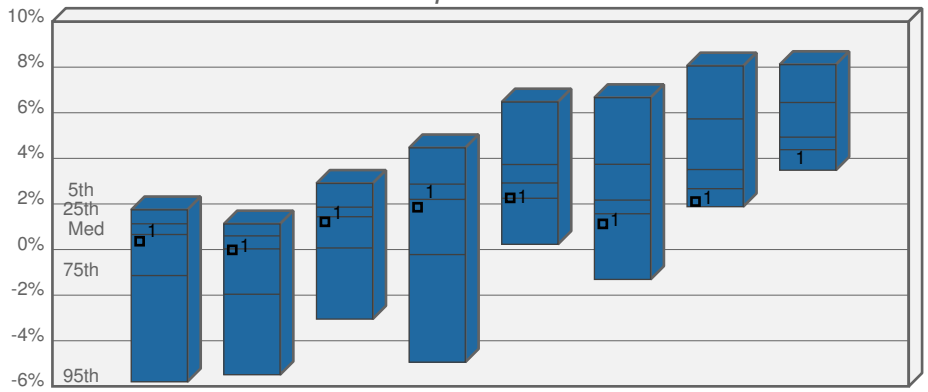


Excess Return:	**-0.41**	**Information Ratio:**	**-0.56**
Excess Risk:	**0.73**	**T-Stat:**	**-1.26**

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
◻ CIM Investment	0.60 (51)	0.22 (43)	1.45 (49)	2.09 (53)	2.50 (67)	1.36 (84)	2.34 (88)	
1 Barclays Int G	0.95 (36)	0.32 (39)	1.77 (33)	2.68 (34)	2.44 (70)	1.45 (81)	2.42 (85)	4.17 (81)
Median	0.66	0.03	1.44	2.20	2.92	2.17	3.51	4.93
Number of Funds	433	429	429	429	423	415	397	329

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

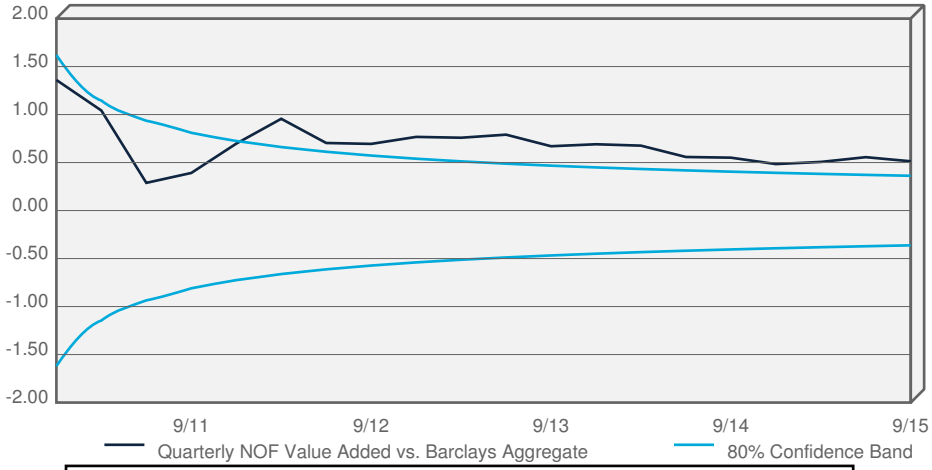
Investment Manager Analysis

Wilshire

C S McKee

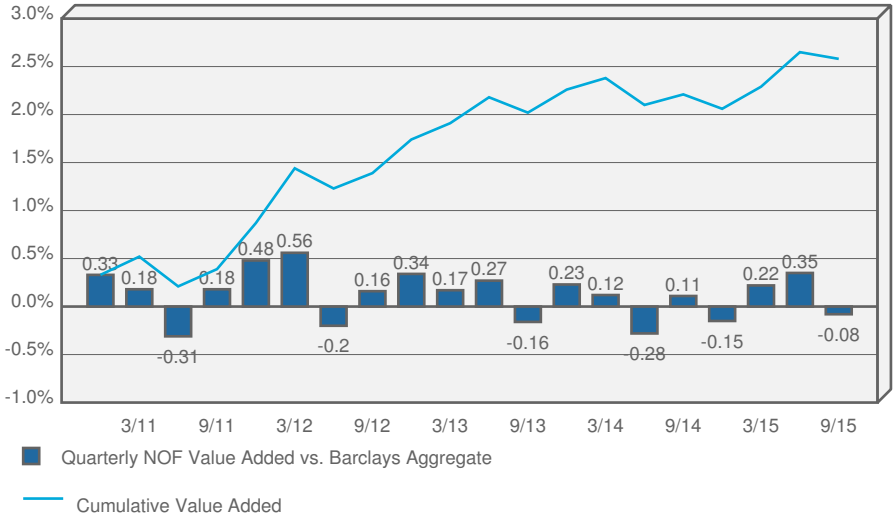
September 30, 2015

Cumulative Skill Analysis vs Benchmark

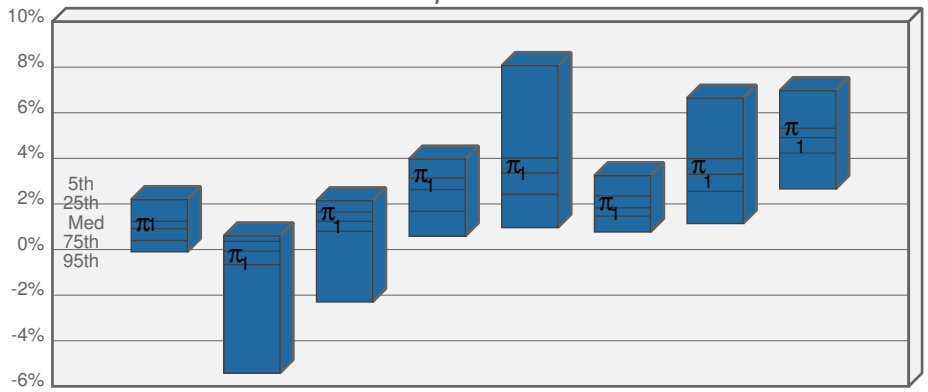


Excess Return:	**0.51**	**Information Ratio:**	**1.04**
Excess Risk:	**0.49**	**T-Stat:**	**2.33**

Value-Added Analysis vs Benchmark



*Performance Comparison vs Peer Universe**



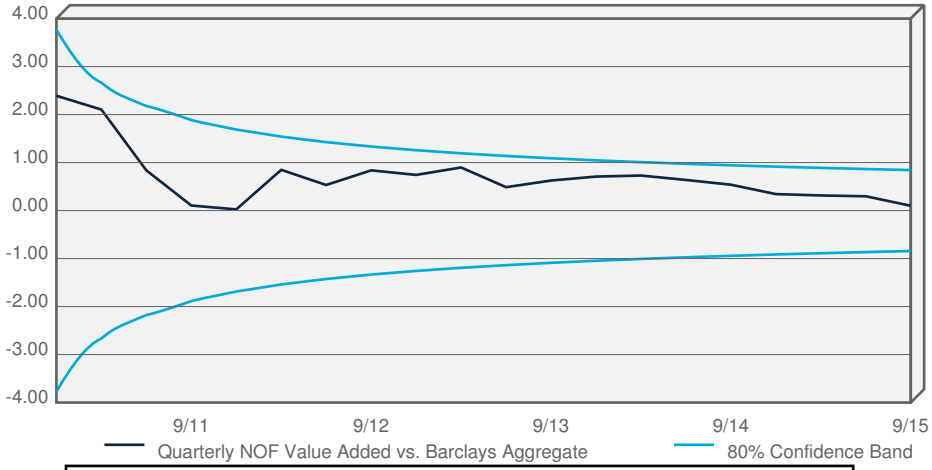
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
π C S McKee	1.21 (28)	-0.13 (52)	1.70 (22)	3.37 (15)	3.76 (32)	2.16 (32)	3.75 (33)	5.45 (21)
1 Barclays Aggre	1.23 (26)	-0.47 (66)	1.13 (58)	2.94 (34)	3.45 (47)	1.71 (59)	3.10 (58)	4.64 (63)
Median	0.92	-0.07	1.24	2.63	3.36	1.83	3.30	4.91
Number of Funds	424	421	421	419	411	403	391	338

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

Federated

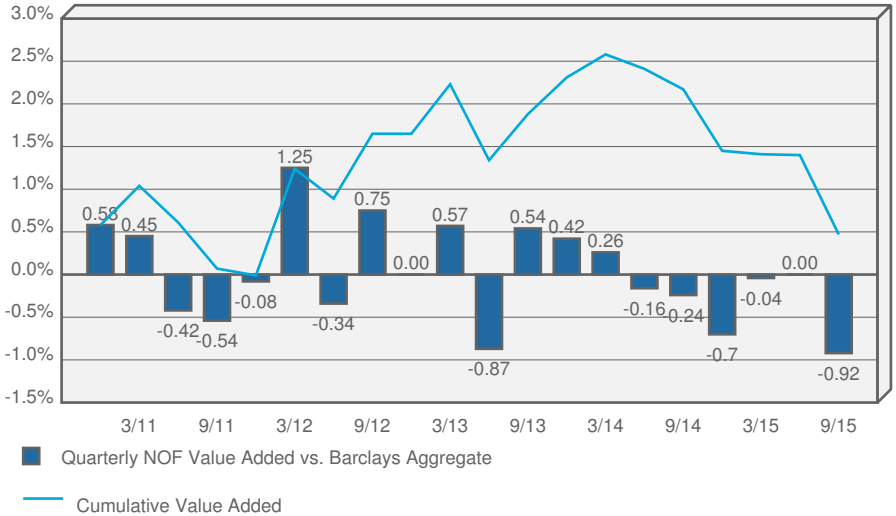
September 30, 2015

Cumulative Skill Analysis vs Benchmark

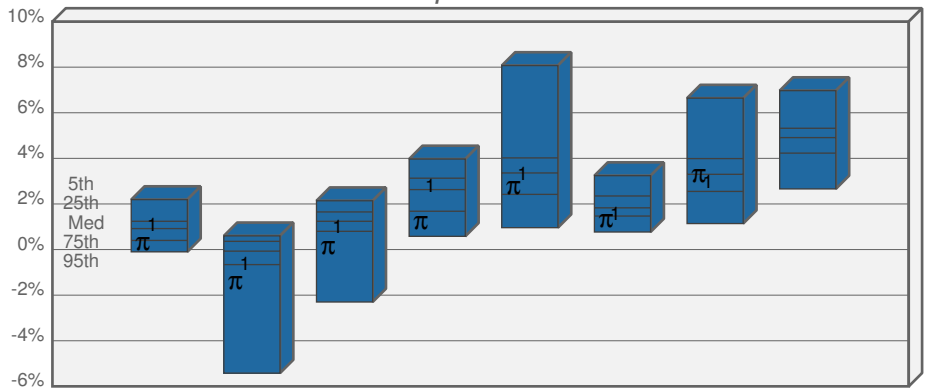


Excess Return:	**0.10**	**Information Ratio:**	**0.09**
Excess Risk:	**1.15**	**T-Stat:**	**0.19**

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	0.38 (76)	-1.31 (86)	0.23 (87)	1.32 (84)	2.83 (63)	1.41 (78)	3.36 (47)	
1 Barclays Aggre	1.23 (26)	-0.47 (66)	1.13 (58)	2.94 (34)	3.45 (47)	1.71 (59)	3.10 (58)	
Median	0.92	-0.07	1.24	2.63	3.36	1.83	3.30	4.91
Number of Funds	424	421	421	419	411	403	391	338

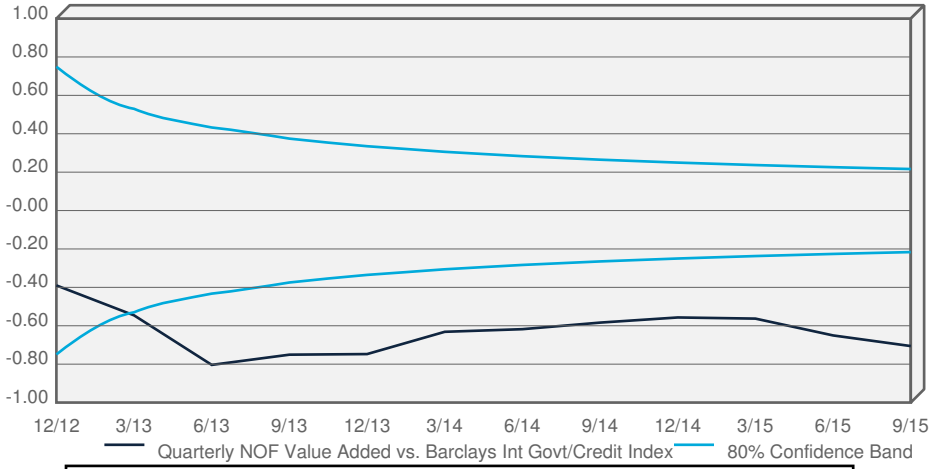
*Compass Total Returns of Active Core Fixed Income Portfolios Universe - Gross of Fees

Wilshire

Swarthmore Core Fixed - Emg. Mgr.

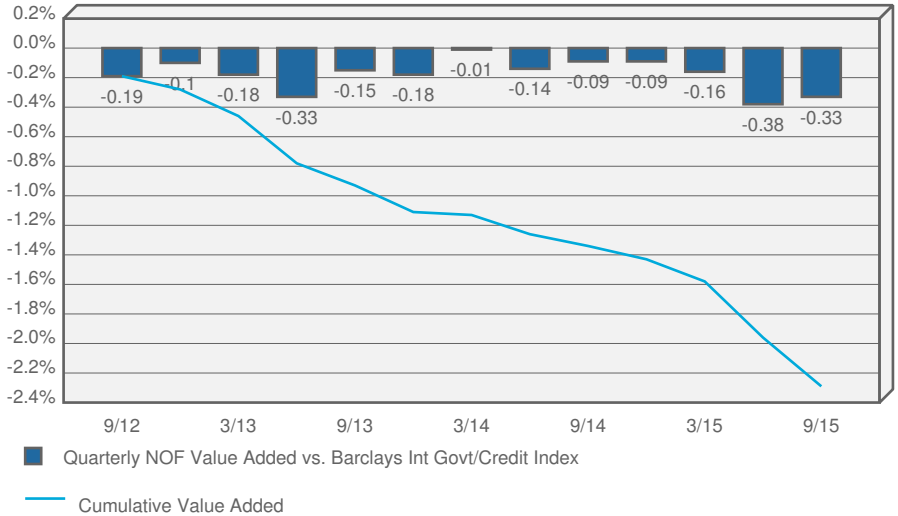
September 30, 2015

Cumulative Skill Analysis vs Benchmark

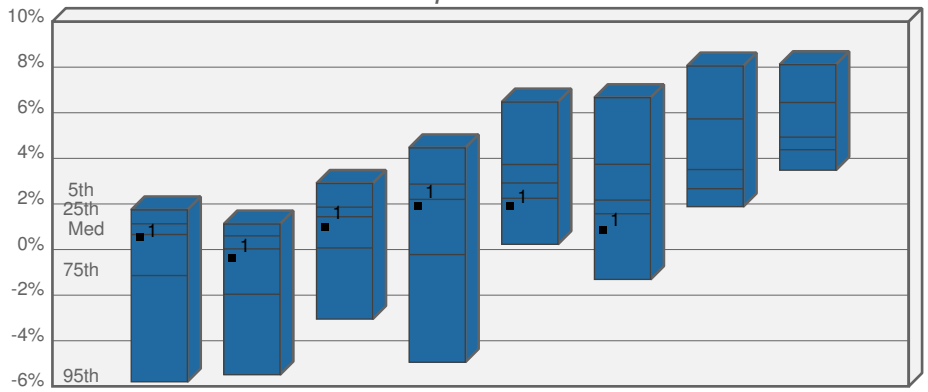


Excess Return:	**-0.71**	**Information Ratio:**	**-3.10**
Excess Risk:	**0.23**	**T-Stat:**	**-5.37**

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
■ Swarthmore Cor	0.79 (44)	-0.14 (56)	1.24 (57)	2.14 (52)	2.13 (78)	1.08 (89)		
1 Barclays Int G	0.95 (36)	0.32 (39)	1.77 (33)	2.68 (34)	2.44 (70)	1.45 (81)		
Median	0.66	0.03	1.44	2.20	2.92	2.17	3.51	4.93
Number of Funds	433	429	429	429	423	415	397	329

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

Custom Benchmark Specification

Wilshire

Core Fixed Composite

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
Barclays Aggregate	12/82	9/15	100.00	Barclays Aggregate

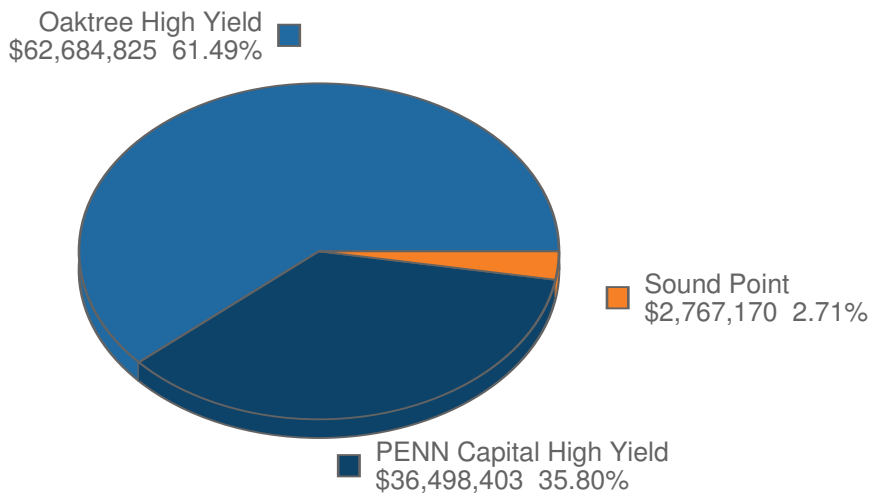
High Yield

Manager Allocation

Wilshire

High Yield Fixed Composite

As of September 30, 2015

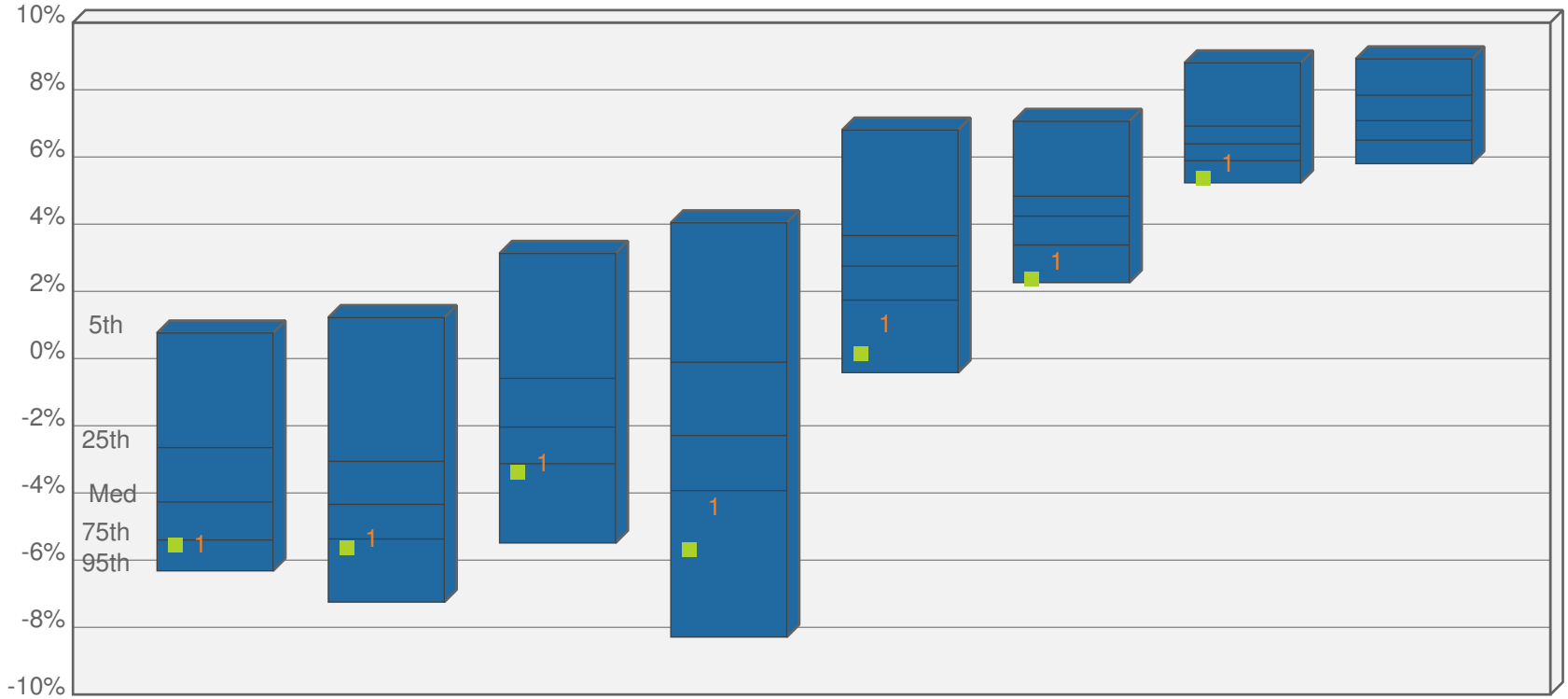


Performance Comparison

Wilshire

High Yield Fixed Composite

Periods Ended September 30, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
High Yield Fixed Composi	-5.50 (76)	-5.61 (81)	-3.34 (82)	-5.64 (87)	0.17 (93)	2.41 (90)	5.41 (91)	
1 Citi High Yield	-5.52 (76)	-5.35 (73)	-3.11 (73)	-4.41 (81)	1.03 (82)	2.91 (83)	5.83 (77)	
5th %tile	0.76	1.22	3.13	4.04	6.80	7.06	8.80	8.92
25th %tile	-2.65	-3.06	-0.59	-0.11	3.66	4.83	6.92	7.84
Median	-4.27	-4.34	-2.04	-2.29	2.75	4.24	6.39	7.08
75th %tile	-5.40	-5.37	-3.13	-3.93	1.74	3.38	5.89	6.50
95th %tile	-6.32	-7.25	-5.49	-8.29	-0.42	2.26	5.23	5.80
Number of Funds	128	126	124	124	115	100	78	29

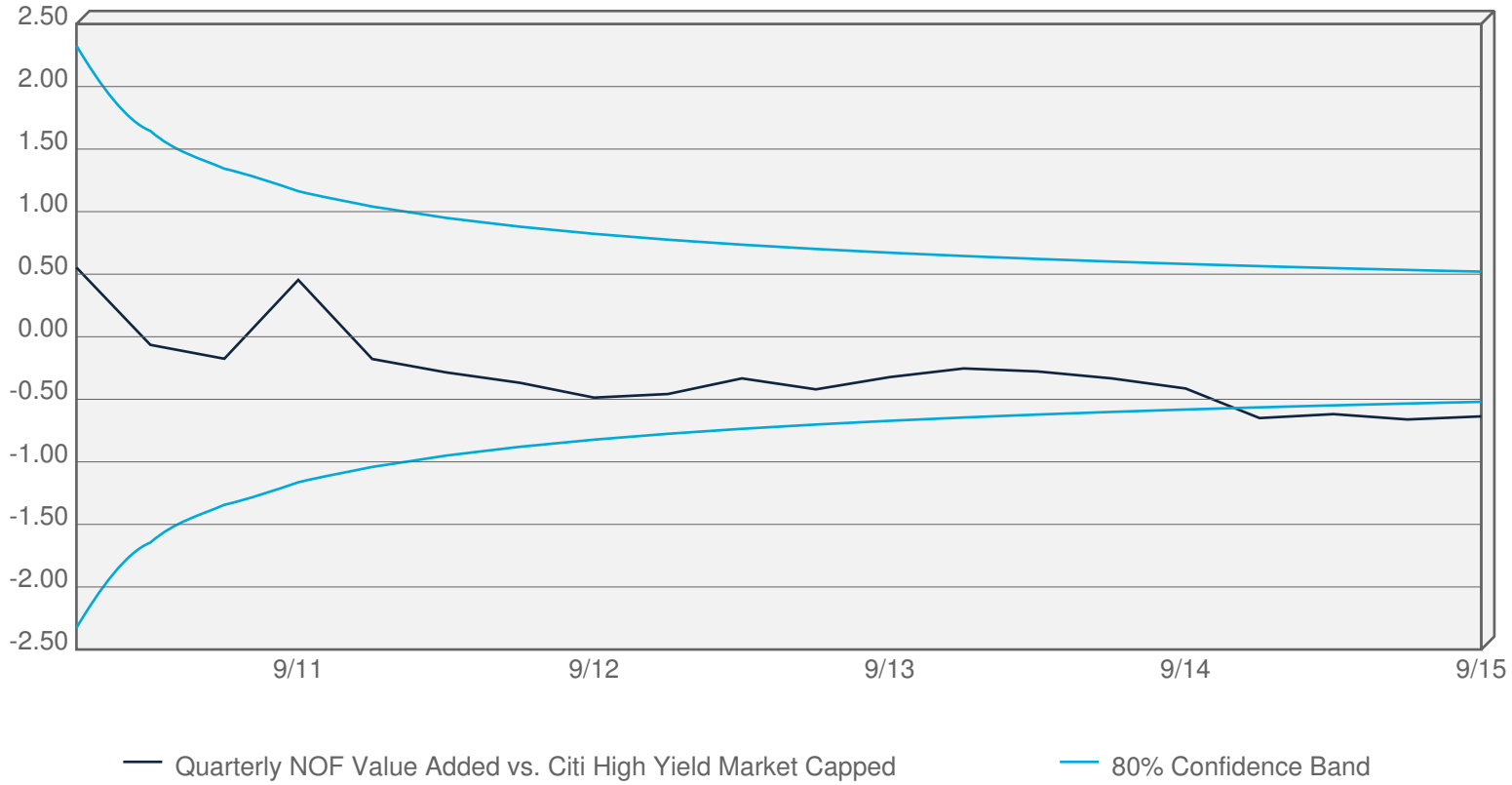
*TUCS Total Ret of Fixed Income Portfolios - High Yield Universe - Gross of Fees

Cumulative Skill Analysis

Wilshire

High Yield Fixed Composite

Five Years Ending September 30, 2015



Excess Return:	**-0.64**	**Information Ratio:**	**-0.90**
Excess Risk:	**0.71**	**T-Stat:**	**-2.01**

Performance Comparison

Wilshire

Trailing Returns

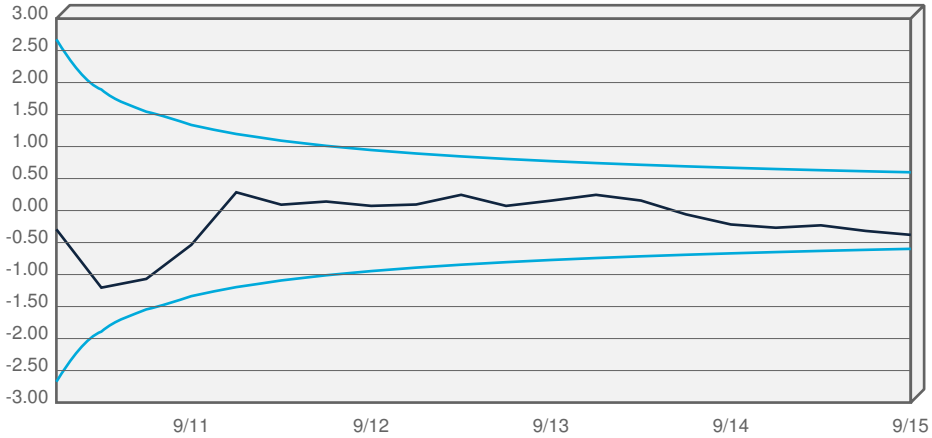
Periods Ended September 30, 2015

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Oaktree High Yield									
Net of Fee Return	**-5.44**	**-5.64**	**-3.24**	**-4.28**	**2.34**	**5.42**		**3/31/08**	**7.56**
Citi HY Cash Pay Cap All BB/B	-5.07	-4.82	-2.50	-3.29	3.04	5.82		3/31/08	6.60
Value Added	-0.37	-0.82	-0.74	-0.99	-0.70	-0.40		3/31/08	0.96
PENN Capital High Yield									
Net of Fee Return	**-6.10**	**-6.29**	**-4.40**	**-8.74**	**1.67**	**4.61**		**6/30/08**	**7.22**
ML High Yield Master II	-4.90	-4.95	-2.53	-3.57	3.46	5.94		6/30/08	8.04
Value Added	-1.20	-1.34	-1.87	-5.17	-1.79	-1.32		6/30/08	-0.81
Sound Point									
Net of Fee Return	**-0.03**	**1.32**	**4.03**	**3.72**				**9/30/13**	**4.89**
CSFB Leveraged Loan	-1.22	-0.45	1.61	1.23				9/30/13	2.76
Value Added	1.19	1.77	2.42	2.49				9/30/13	2.13
High Yield Fixed Composite									
Net of Fee Return	**-5.56**	**-5.72**	**-3.52**	**-5.86**	**2.15**	**5.15**		**3/31/08**	**7.49**
Citi High Yield Market Capped	-5.52	-5.35	-3.11	-4.41	2.91	5.83		3/31/08	7.50
Value Added	-0.04	-0.38	-0.41	-1.46	-0.76	-0.67		3/31/08	-0.00

Oaktree High Yield

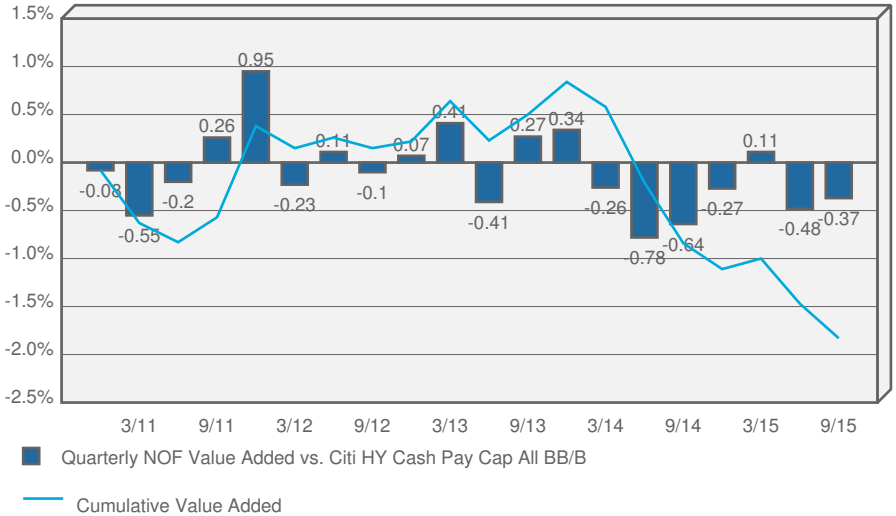
September 30, 2015

Cumulative Skill Analysis vs Benchmark

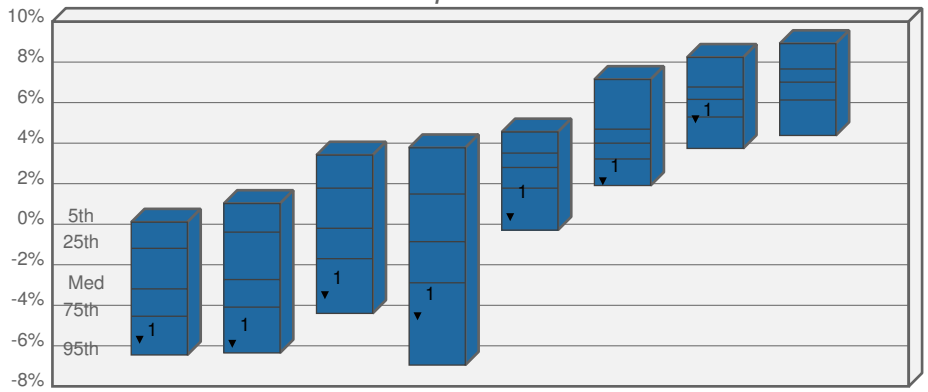


Excess Return:	**-0.38**	**Information Ratio:**	**-0.47**
Excess Risk:	**0.81**	**T-Stat:**	**-1.04**

Value-Added Analysis vs Benchmark



Performance Comparison vs Peer Universe*



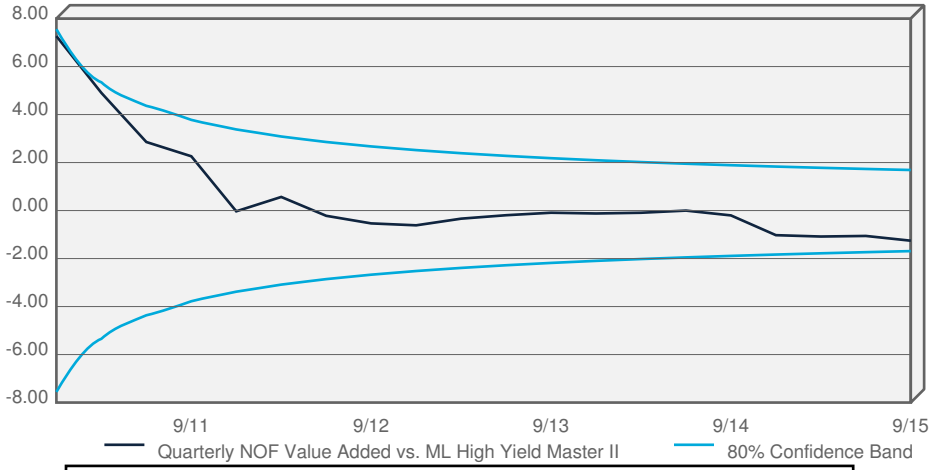
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
▼ Oaktree High Y	-5.44 (86)	-5.64 (90)	-3.24 (89)	-4.28 (84)	0.61 (90)	2.38 (91)	5.44 (71)	
1 Citi HY Cash P	-5.07 (84)	-4.82 (82)	-2.50 (84)	-3.29 (78)	1.74 (77)	3.04 (81)	5.82 (57)	
Median	-3.19	-2.73	-0.20	-0.86	2.80	4.00	6.16	7.01
Number of Funds	215	214	213	213	207	196	169	123

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

PENN Capital High Yield

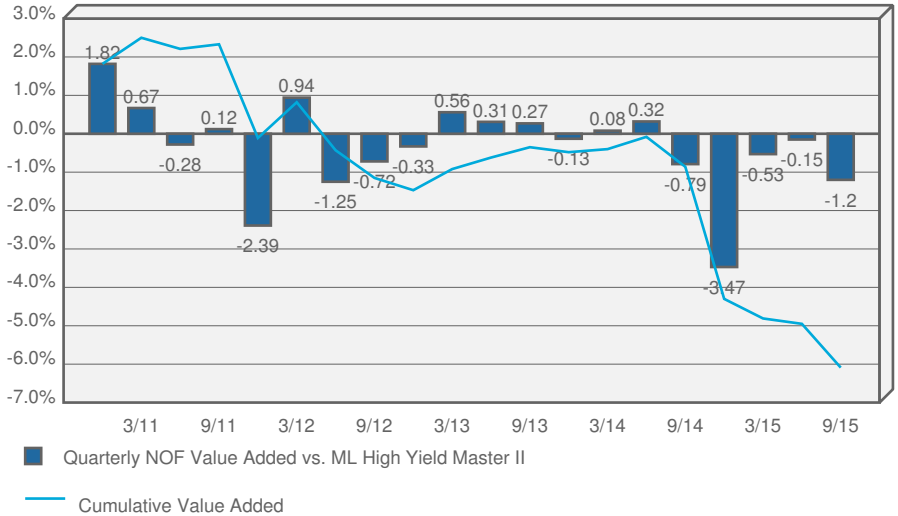
September 30, 2015

Cumulative Skill Analysis vs Benchmark

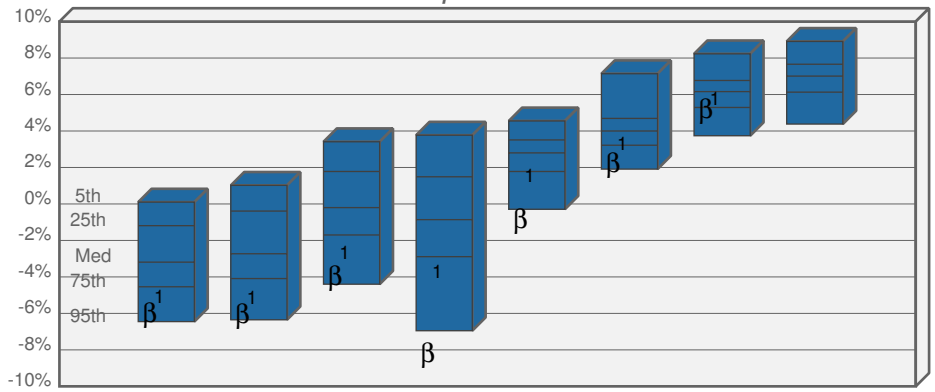


Excess Return:	**-1.26**	**Information Ratio:**	**-0.55**
Excess Risk:	**2.30**	**T-Stat:**	**-1.22**

Value-Added Analysis vs Benchmark



*Performance Comparison vs Peer Universe**



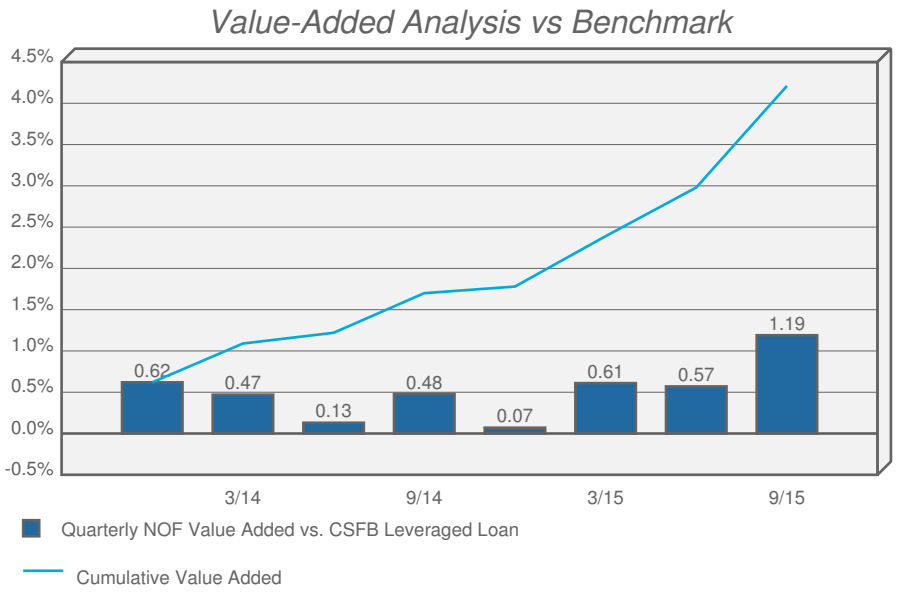
	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
β PENN Capital H	-5.95 (93)	-6.00 (92)	-3.95 (94)	-8.16 (97)	-0.79 (96)	2.26 (92)	5.23 (75)	
1 ML High Yield	-4.90 (80)	-4.95 (84)	-2.53 (84)	-3.57 (80)	1.69 (78)	3.46 (68)	5.94 (54)	
Median	-3.19	-2.73	-0.20	-0.86	2.80	4.00	6.16	7.01
Number of Funds	215	214	213	213	207	196	169	123

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

Wilshire

Sound Point

September 30, 2015



Custom Benchmark Specification

Wilshire

High Yield Fixed Composite

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
Citi High Yield Market Capped	6/08	9/15	100.00	Citi High Yield Market Capped

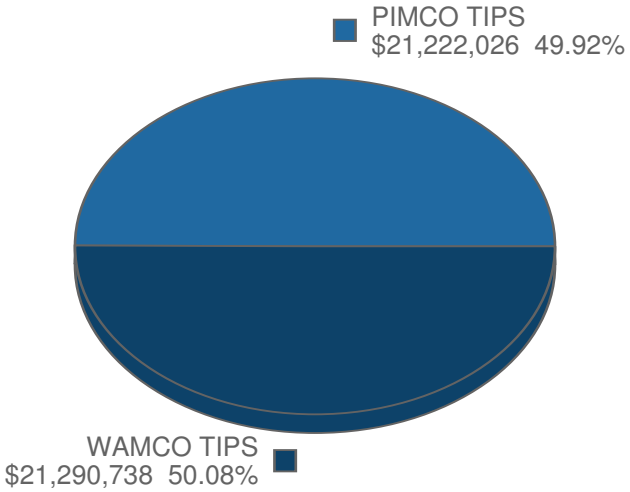
TIPS

Manager Allocation

Wilshire

TIPS Fixed Composite

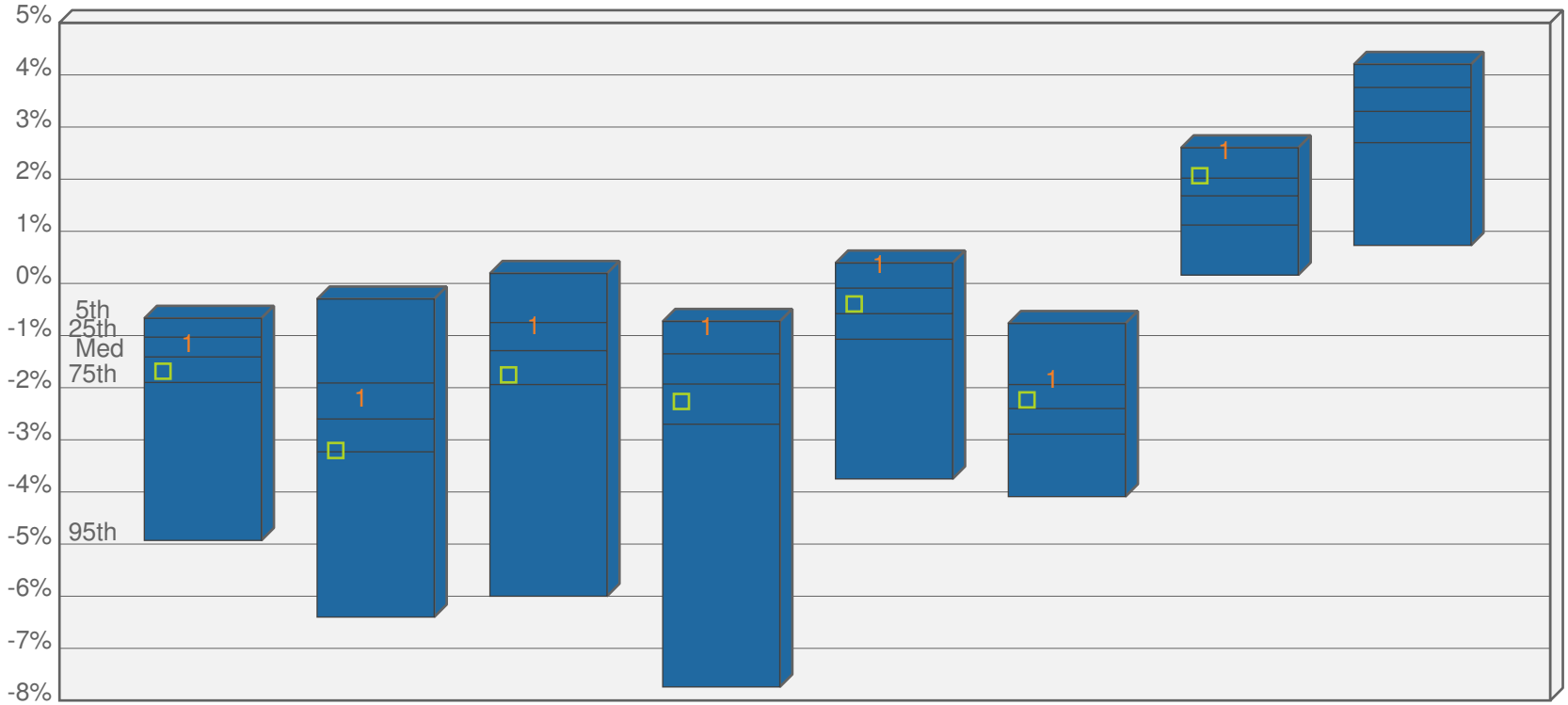
As of September 30, 2015



Wilshire

TIPS Fixed Composite

Periods Ended September 30, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
□ TIPS Fixed Composite	-1.66 (67)	-3.18 (73)	-1.73 (66)	-2.24 (61)	-0.37 (37)	-2.21 (40)	2.09 (19)	
1 Barclays U.S. TI	-1.15 (29)	-2.20 (30)	-0.80 (26)	-0.83 (7)	0.37 (7)	-1.83 (18)	2.55 (5)	
5th %tile	-0.67	-0.30	0.19	-0.73	0.39	-0.77	2.60	4.20
25th %tile	-1.03	-1.91	-0.75	-1.35	-0.09	-1.94	2.02	3.76
Median	-1.41	-2.60	-1.29	-1.93	-0.58	-2.40	1.68	3.30
75th %tile	-1.90	-3.23	-1.94	-2.70	-1.07	-2.89	1.12	2.70
95th %tile	-4.93	-6.40	-6.00	-7.74	-3.75	-4.09	0.16	0.73
Number of Funds	187	184	184	179	176	173	150	86

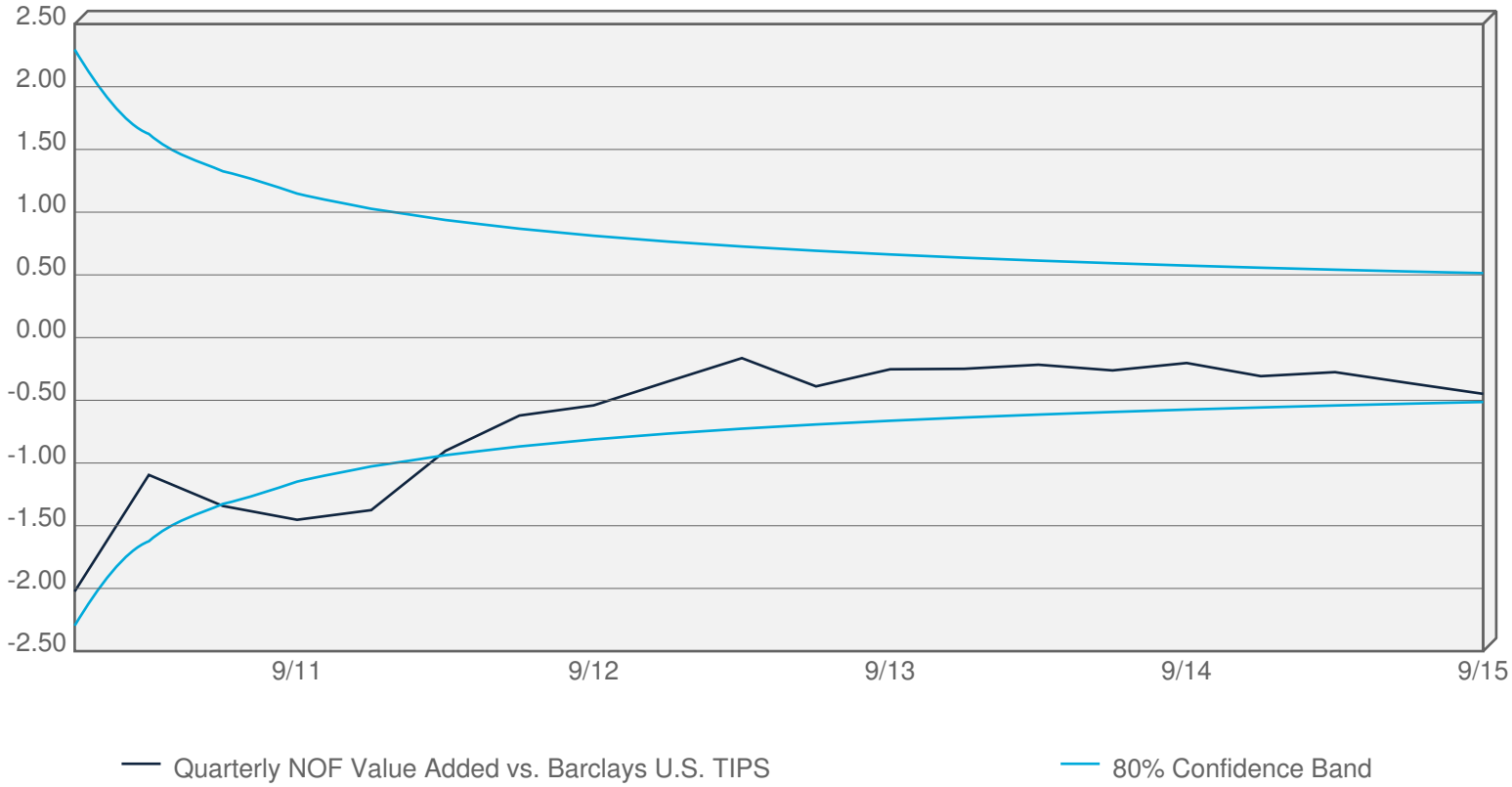
*Total Returns of TIPS Mutual Funds Universe - Net of Fees

Cumulative Skill Analysis

Wilshire

TIPS Fixed Composite

Five Years Ending September 30, 2015



Excess Return:	**-0.45**	**Information Ratio:**	**-0.64**
Excess Risk:	**0.70**	**T-Stat:**	**-1.44**

Wilshire

Trailing Returns

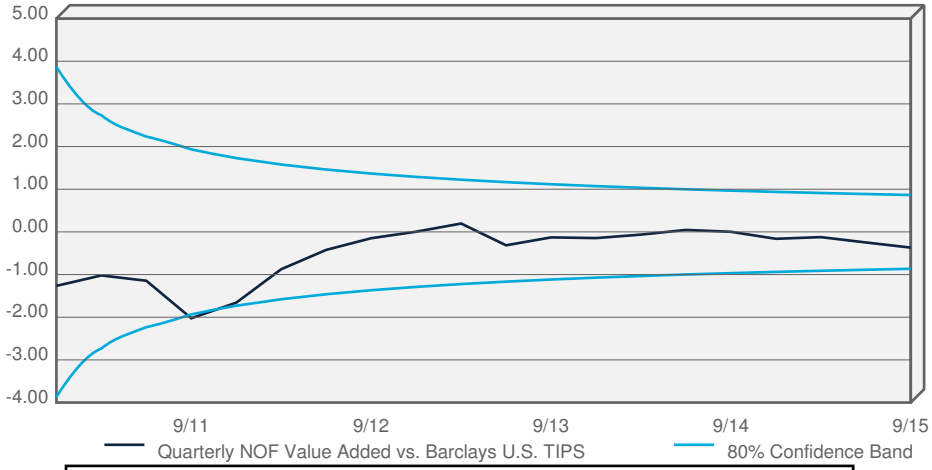
Periods Ended September 30, 2015

	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
PIMCO TIPS									
Net of Fee Return	**-1.81**	**-3.45**	**-1.95**	**-2.65**	**-2.34**	**2.17**		**3/31/08**	**3.34**
Barclays U.S. TIPS	-1.15	-2.20	-0.80	-0.83	-1.83	2.55		3/31/08	3.08
Value Added	-0.66	-1.26	-1.14	-1.82	-0.51	-0.38		3/31/08	0.26
WAMCO TIPS									
Net of Fee Return	**-1.51**	**-2.90**	**-1.51**	**-1.83**	**-2.09**	**2.01**		**3/31/08**	**2.73**
Barclays U.S. TIPS	-1.15	-2.20	-0.80	-0.83	-1.83	2.55		3/31/08	3.08
Value Added	-0.37	-0.70	-0.71	-1.00	-0.25	-0.54		3/31/08	-0.35
TIPS Fixed Composite									
Net of Fee Return	**-1.66**	**-3.18**	**-1.73**	**-2.24**	**-2.21**	**2.09**		**3/31/08**	**3.04**
Barclays U.S. TIPS	-1.15	-2.20	-0.80	-0.83	-1.83	2.55		3/31/08	3.08
Value Added	-0.51	-0.98	-0.93	-1.41	-0.38	-0.46		3/31/08	-0.04

PIMCO TIPS

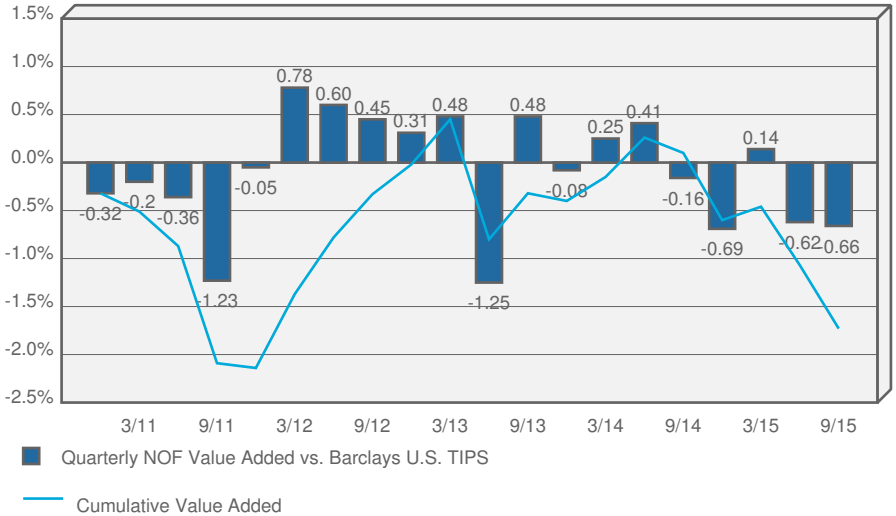
September 30, 2015

Cumulative Skill Analysis vs Benchmark

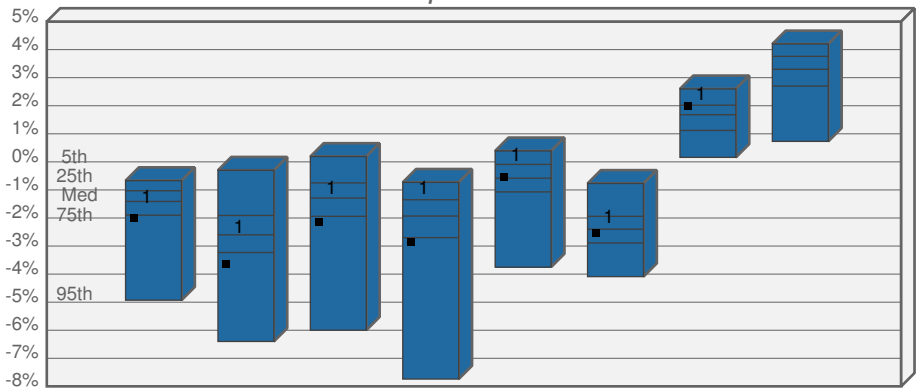


Excess Return:	**-0.37**	**Information Ratio:**	**-0.31**
Excess Risk:	**1.18**	**T-Stat:**	**-0.70**

Value-Added Analysis vs Benchmark

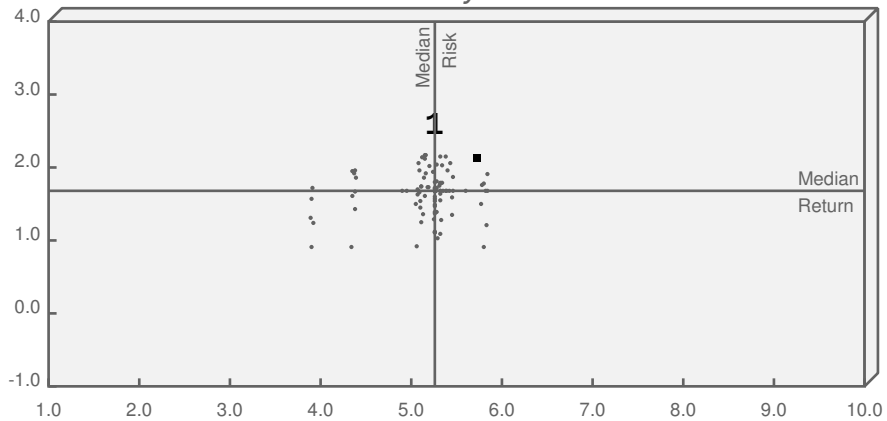


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
■ PIMCO TIPS	-1.81 (71)	-3.45 (81)	-1.95 (75)	-2.65 (74)	-0.36 (36)	-2.34 (46)	2.17 (15)	
1 Barclays U.S.	-1.15 (29)	-2.20 (30)	-0.80 (26)	-0.83 (7)	0.37 (7)	-1.83 (18)	2.55 (5)	
Median	-1.41	-2.60	-1.29	-1.93	-0.58	-2.40	1.68	3.30
Number of Funds	187	184	184	179	176	173	150	86

Five Year Risk/Return Analysis vs Peer Universe*



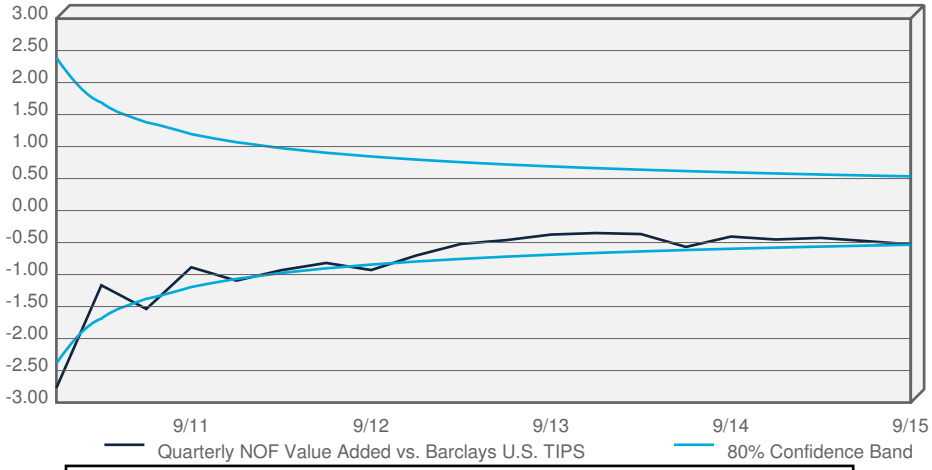
Description	Legend	Net Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
PIMCO TIPS	■	2.17	15	5.84	9
Barclays U.S. TIPS	1	2.55	5	5.31	40
Median		1.68		5.26	

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

WAMCO TIPS

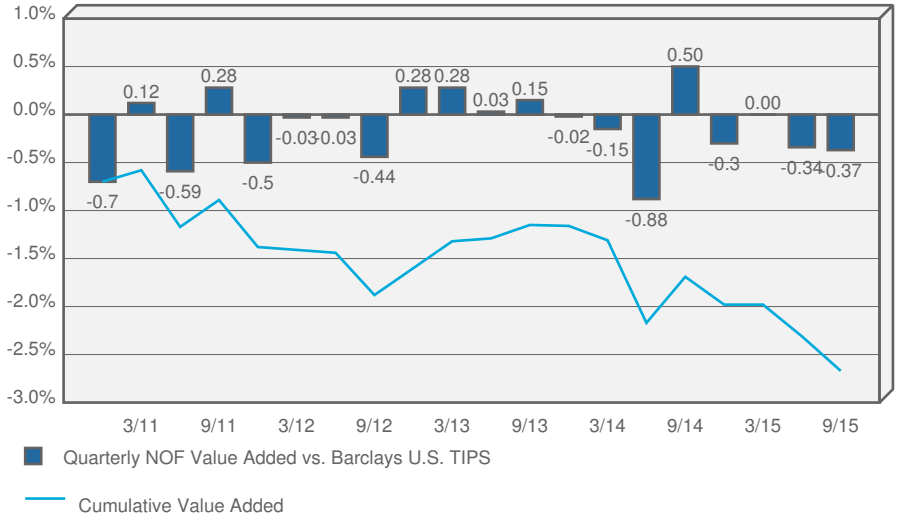
September 30, 2015

Cumulative Skill Analysis vs Benchmark

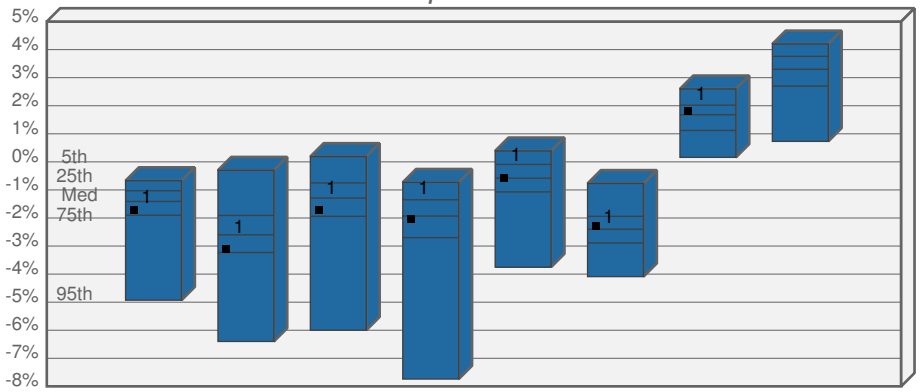


Excess Return:	**-0.53**	**Information Ratio:**	**-0.73**
Excess Risk:	**0.73**	**T-Stat:**	**-1.63**

Value-Added Analysis vs Benchmark

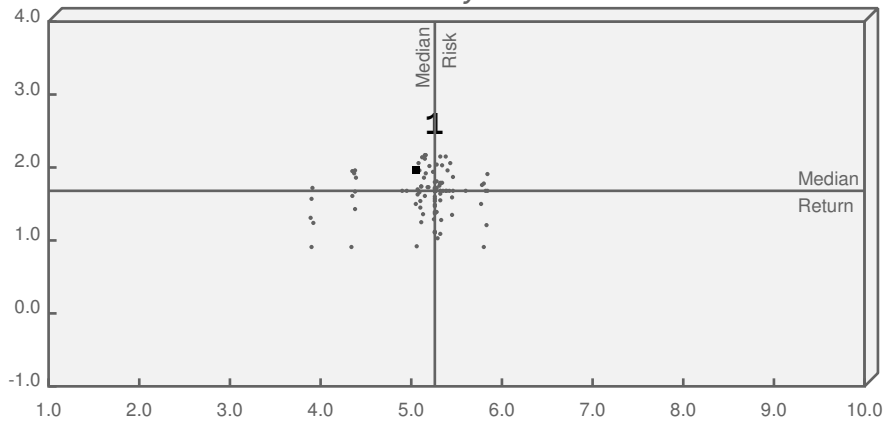


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
■ WAMCO TIPS	-1.51 (59)	-2.90 (59)	-1.51 (58)	-1.83 (46)	-0.39 (39)	-2.09 (36)	2.01 (26)	
1 Barclays U.S.	-1.15 (29)	-2.20 (30)	-0.80 (26)	-0.83 (7)	0.37 (7)	-1.83 (18)	2.55 (5)	
Median	-1.41	-2.60	-1.29	-1.93	-0.58	-2.40	1.68	3.30
Number of Funds	187	184	184	179	176	173	150	86

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Net Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
WAMCO TIPS	■	2.01	26	5.17	58
Barclays U.S. TIPS	1	2.55	5	5.31	40
Median		1.68		5.26	

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

Custom Benchmark Specification

Wilshire

TIPS Fixed Composite

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
Barclays U.S. TIPS	6/08	9/15	100.00	Barclays U.S. TIPS

Alternative Investments

Internal Rate of Return

Wilshire

Private Equity Composite*

September 30, 2015

	Quarter End Market Value	Commitment Value	Inception Date	IRR Since Inception
Adams Street 2003	6,113	13,733	5/08/07	36.64
Adams Street 2008 Global	7,990	10,000	1/07/08	13.31
Adams Street 2009 Global	3,843	5,000	1/12/09	12.12
Constitution	7,586	6,000	8/04/11	19.89
Crestline Recovery II	2,030	3,000	7/14/11	15.61
Draper Triangle	6,117	10,000	2/22/07	11.01
Goldman Sachs	3,425	10,000	2/02/07	19.04
Mellon PAM Fund V	8,683	10,000	7/10/07	18.60
Mesirow Partners Fund IV	13,741	17,000	6/01/07	12.96
Permal Capital Mgmt	2,115	3,000	8/15/11	17.63
ValStone Partners IV	11,311	20,000	7/01/08	11.17
ValStone Partners III	656	10,000	2/08/07	54.35
PLSG Accelerator Fund	163	250	12/27/11	-3.33
Charlestown Capital - Emg. Mgr.	2,978	1,000	1/09/12	33.90
Birchmere Ventures	313	500	3/07/12	-12.48
iNetworks	2,092	5,000	1/07/13	-13.92
Pharos Capital	679	3,000	3/21/13	-22.60
Draper Triangle III	3,256	10,000	4/01/13	-35.89
ValStone Partners V	13,418	20,000	4/22/13	7.46
Greenspring	3,953	3,000	7/26/13	19.01
Blackstone	1,632	2,000	11/18/13	1.86
INOF II	1,315	1,000	12/13/13	14.44
Greenspring III	1,402	0	8/07/14	5.31
Greenspring Sec I	538	0	8/07/14	17.25
Ironside III	5,140	0	11/12/14	7.89
Entrust	640	0	2/11/15	-0.73
Blackstone Tac Op II	483	0	3/15/15	-0.25
North Haven Capital Partners V	240	0	7/30/15	0.00
Accolade V	332	0	8/12/15	0.00

*Dollar values are shown in thousands

Internal Rate of Return

Wilshire

Private Equity Composite*

September 30, 2015

	Quarter End Market Value	Commitment Value	Inception Date	IRR Since Inception
Private Equity Composite	**112,180**	**163,483**	**2/02/07**	17.01

*Dollar values are shown in thousands

Custom Benchmark Specification

Wilshire

Private Equity Composite

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
RBAC Custom Private Equity Bench	6/03	9/15	100.00	RBAC Custom Private Equity Benchmark

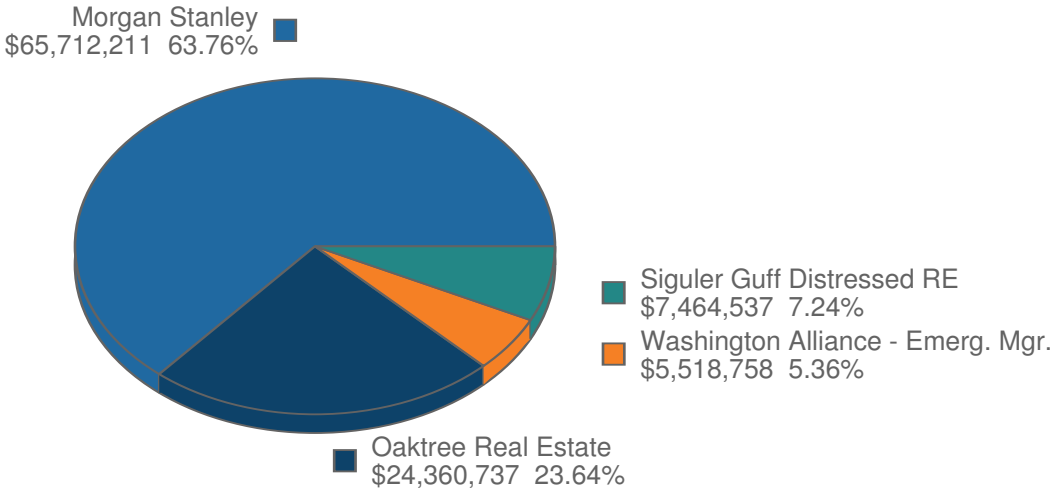
Real Estate

Manager Allocation

Wilshire

Real Estate Composite

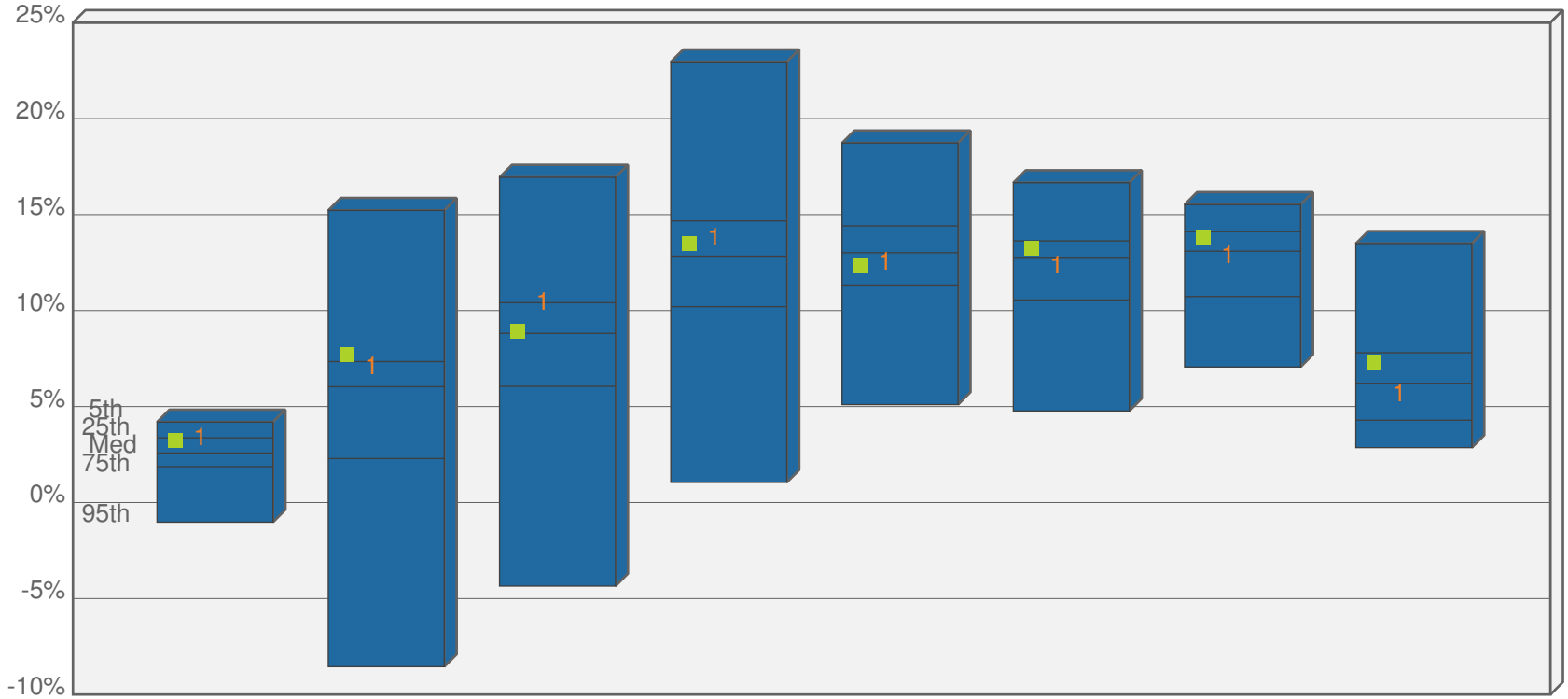
As of September 30, 2015



Wilshire

Real Estate Composite

Periods Ended September 30, 2015



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
Real Estate Composite	3.32 (26)	7.79 (14)	8.98 (44)	13.56 (36)	12.44 (56)	13.32 (30)	13.89 (26)	7.40 (30)
1 NCREIF ODCE NOF	3.43 (18)	7.13 (29)	10.51 (20)	13.84 (33)	12.60 (51)	12.39 (53)	12.94 (53)	5.72 (52)
5th %tile	4.19	15.22	16.94	22.95	18.73	16.66	15.52	13.49
25th %tile	3.37	7.34	10.41	14.67	14.41	13.63	14.11	7.80
Median	2.58	6.03	8.81	12.83	13.01	12.77	13.09	6.21
75th %tile	1.87	2.29	6.05	10.20	11.33	10.55	10.73	4.29
95th %tile	-1.02	-8.55	-4.35	1.05	5.10	4.77	7.06	2.86
Number of Funds	74	67	67	67	64	57	52	39

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

Performance Comparison

Wilshire

Trailing Returns

Periods Ended September 30, 2015

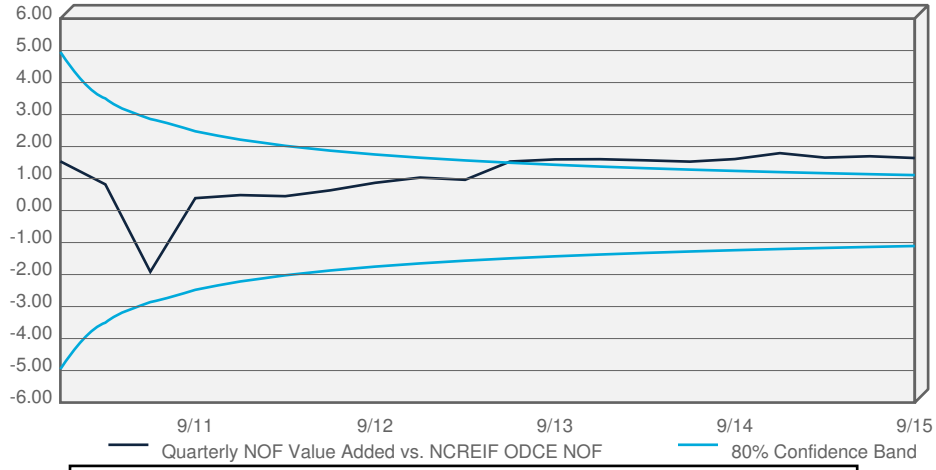
	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Morgan Stanley									
Net of Fee Return	**3.58**	**7.95**	**11.15**	**15.86**	**14.82**	**14.80**	**7.41**	**3/31/03**	**8.86**
NCREIF ODCE NOF	3.43	7.13	10.51	13.84	12.39	12.94	5.72	3/31/03	7.21
Value Added	0.15	0.81	0.65	2.01	2.43	1.86	1.69	3/31/03	1.65
Real Estate Composite									
Net of Fee Return	**3.24**	**7.61**	**8.70**	**13.27**	**12.95**	**13.67**	**7.21**	**3/31/03**	**8.84**
NCREIF ODCE NOF	3.43	7.13	10.51	13.84	12.39	12.94	5.72	3/31/03	7.21
Value Added	-0.19	0.47	-1.80	-0.58	0.56	0.73	1.48	3/31/03	1.63
ERECT Fund II									
Net of Fee Return	**1.33**	**1.54**	**2.86**	**3.38**	**6.89**	**8.74**	**6.46**	**6/30/05**	**6.53**
Consumer Price Index	-0.29	0.77	1.33	-0.04	0.93	1.72	1.81	6/30/05	1.99
Value Added	1.62	0.77	1.53	3.41	5.96	7.02	4.64	6/30/05	4.55
ERECT Composite									
Net of Fee Return	**1.33**	**1.54**	**2.86**	**3.38**	**5.48**	**6.10**		**9/30/10**	**6.10**

Real Estate Composites returns do not include ERECT Funds

Morgan Stanley

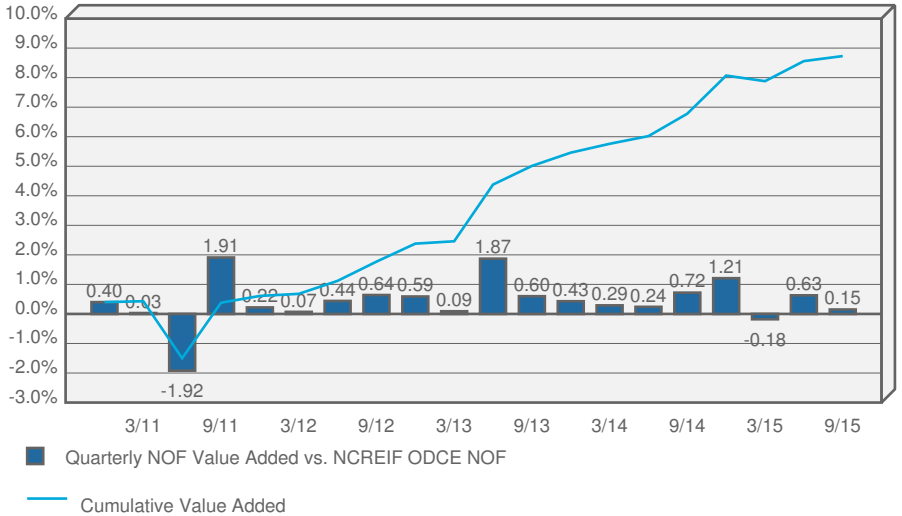
September 30, 2015

Cumulative Skill Analysis vs Benchmark

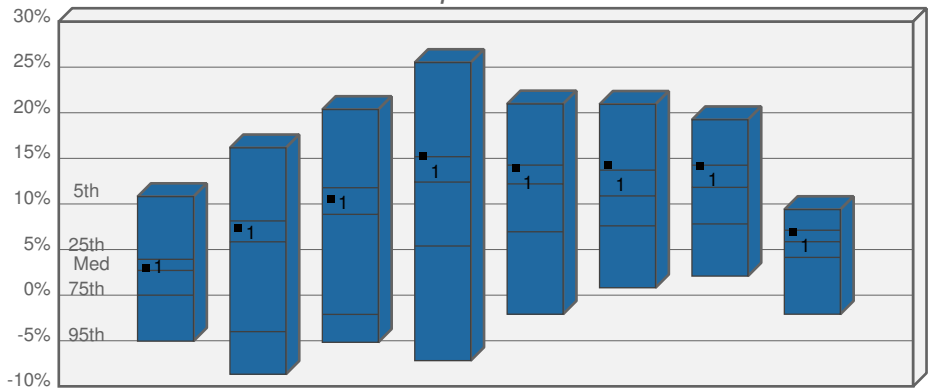


Excess Return:	**1.64**	**Information Ratio:**	**1.09**
Excess Risk:	**1.51**	**T-Stat:**	**2.44**

Value-Added Analysis vs Benchmark

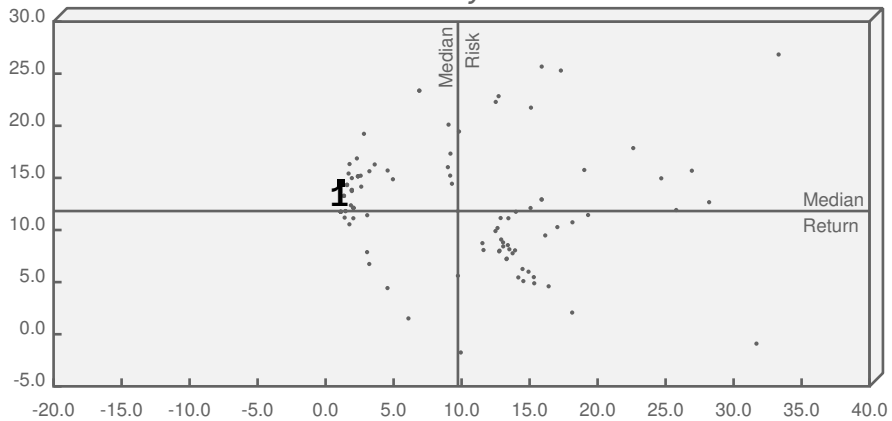


Performance Comparison vs Peer Universe*



	1 Quarter	2 Quarters	3 Quarters	1 Year	2 Years	3 Years	5 Years	10 Years
■ Morgan Stanley	3.58 (28)	7.95 (28)	11.15 (30)	15.86 (20)	14.53 (23)	14.82 (18)	14.80 (21)	7.52 (20)
1 NCREIF ODCE NO	3.43 (31)	7.13 (40)	10.51 (37)	13.84 (36)	12.61 (44)	12.39 (36)	12.95 (34)	5.72 (52)
Median	2.71	5.85	8.86	12.40	12.20	10.88	11.82	5.86
Number of Funds	742	699	656	641	512	435	353	122

Five Year Risk/Return Analysis vs Peer Universe*



Description	Legend	Gross Fee Ret		Standard Deviation	
		Value	Rank	Value	Rank
Morgan Stanley	■	14.80	21	1.88	91
NCREIF ODCE NOF	1	12.95	34	1.39	97
Median		11.82		9.73	

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

Portfolio Rate of Return

Wilshire

Oaktree Real Estate*

As of September 30, 2015

Quarter	Commitment Value $	Beginning Capital Account	Contribution	Distribution	Appreciation	Expenses	Investment Fees	Ending Capital Account	Internal Rate of Return	Annualized IRR
09/13	20,000	0	9,400	0	0	0	0	9,400	0.00	NA
12/13		9,400	309	1,410	-19	0	309	7,971	-3.76	NA
03/14		7,971	4,000	0	-64	0	0	11,907	-4.16	NA
06/14		11,907	2,074	0	316	0	74	14,223	-1.39	NA
09/14		14,223	74	0	552	0	74	14,775	2.81	2.72
12/14		14,775	1,275	0	925	0	75	16,900	9.56	7.36
03/15		16,900	1,875	0	944	0	75	19,643	15.85	10.08
06/15		19,643	1,075	0	946	0	75	21,590	21.58	11.60
09/15		21,590	2,075	0	771	0	75	24,361	25.63	11.88
Total	**20,000**		**22,156**	**1,410**	**4,371**	**0**	**756**	**24,361**	**25.63**	**11.88**

*Dollar values are shown in thousands

Portfolio Rate of Return

Wilshire

Washington Alliance - Emerg. Mgr.*

As of September 30, 2015

Quarter	Commitment Value $	Beginning Capital Account	Contribution	Distribution	Appreciation	Expenses	Investment Fees	Ending Capital Account	Internal Rate of Return	Annualized IRR
09/13	5,000	0	1,376	0	0	0	0	1,376	0.00	NA
12/13		1,376	203	0	0	0	0	1,579	0.00	NA
03/14		1,579	819	0	0	0	0	2,397	0.00	NA
06/14		2,397	7	27	-124	0	7	2,246	-6.89	NA
09/14		2,246	1,810	90	200	0	0	4,166	3.25	3.21
12/14		4,166	0	152	95	0	0	4,109	6.55	5.14
03/15		4,109	0	0	0	0	0	4,109	6.00	3.93
06/15		4,109	803	0	462	0	11	5,363	20.84	11.34
09/15		5,363	0	200	355	0	0	5,519	31.06	14.38
Total	**5,000**		**5,018**	**469**	**988**	**0**	**18**	**5,519**	**31.06**	**14.38**

*Dollar values are shown in thousands

Portfolio Rate of Return

Wilshire

Siguler Guff Distressed RE*

As of September 30, 2015

Quarter	Commitment Value $	Beginning Capital Account	Contribution	Distribution	Appreciation	Expenses	Investment Fees	Ending Capital Account	Internal Rate of Return	Annualized IRR
03/14	15,000	0	4,200	0	0	0	0	4,200	0.00	NA
06/14		4,200	0	900	0	0	0	3,300	0.00	NA
09/14		3,300	900	0	141	0	0	4,341	3.60	NA
12/14		4,341	900	0	-8	0	0	5,233	3.28	NA
03/15		5,233	0	462	0	0	0	4,771	3.13	2.83
06/15		4,771	690	2	-61	0	0	5,398	1.67	1.23
09/15		5,398	2,250	2	-182	0	0	7,465	-2.36	-1.48
Total	**15,000**		**8,940**	**1,366**	**-110**	**0**	**0**	**7,465**	**-2.36**	**-1.48**

*Dollar values are shown in thousands

Custom Benchmark Specification

Wilshire

Real Estate Composite

September 30, 2015

	Quarter Start	Quarter End	Percent	Description
NCREIF ODCE NOF	12/01	9/15	100.00	NCREIF ODCE NOF

Commodities

Wilshire

Trailing Returns

Periods Ended September 30, 2015

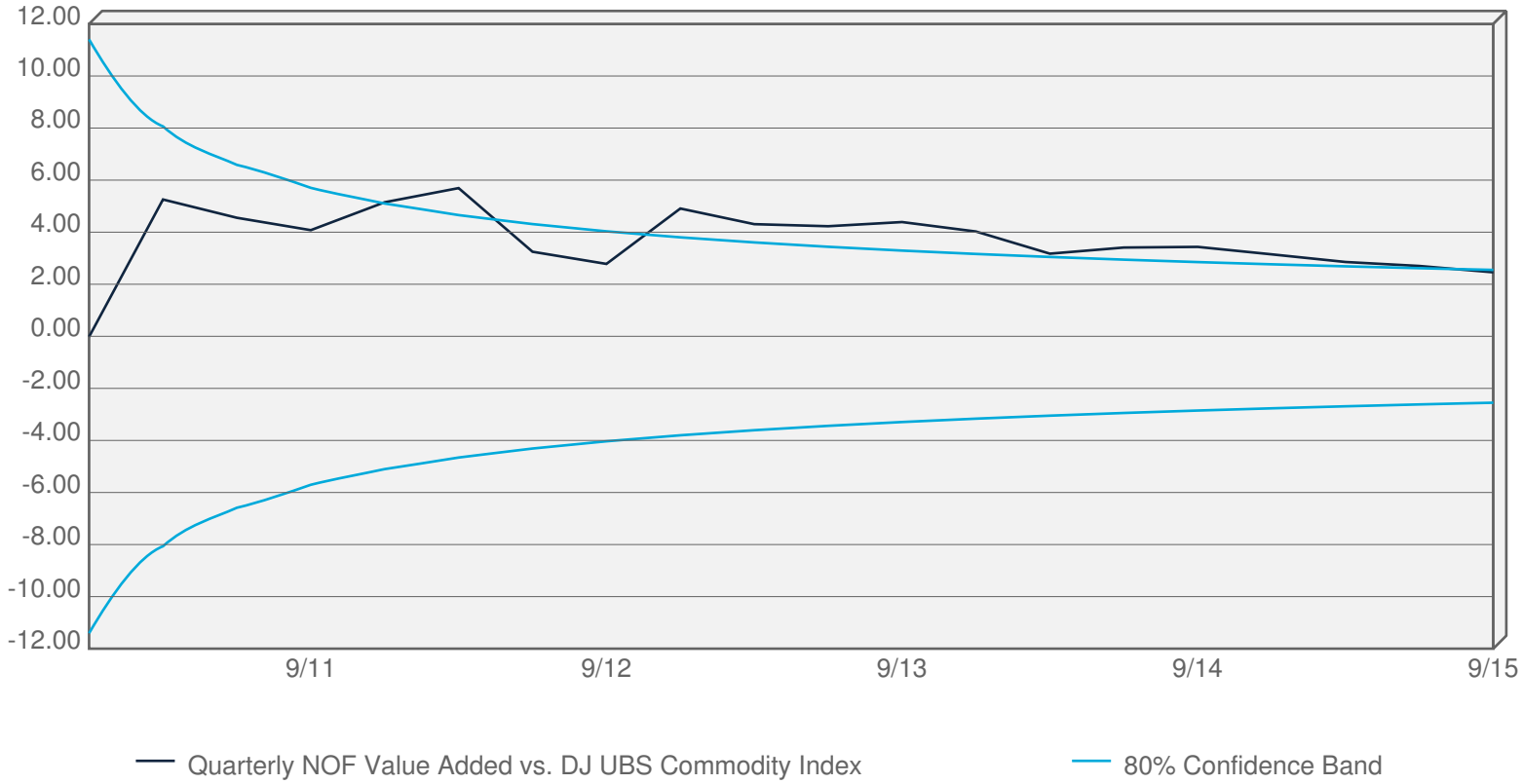
	Quarter	2 Quarters	3 Quarters	1 Year	3 Years	5 Years	10 Years	Incept Date	Incept Ret
Gresham Strategic Commodities									
Net of Fee Return	**-14.91**	**-10.95**	**-16.66**	**-27.52**	**-15.45**	**-7.51**		**3/31/07**	**-5.89**
DJ UBS Commodity Index	-14.47	-10.48	-15.80	-25.99	-16.02	-8.89		3/31/07	-7.02
Value Added	-0.44	-0.47	-0.86	-1.54	0.57	1.38		3/31/07	1.13
Commodities Composite									
Net of Fee Return	**-14.91**	**-10.95**	**-16.66**	**-26.99**	**-14.14**	**-6.65**		**3/31/07**	**-5.37**
DJ UBS Commodity Index	-14.47	-10.48	-15.80	-25.99	-16.02	-8.89		3/31/07	-7.02
Value Added	-0.44	-0.47	-0.86	-1.00	1.89	2.24		3/31/07	1.65

Cumulative Skill Analysis

Wilshire

Commodities Composite

Five Years Ending September 30, 2015



Excess Return:	**2.46**	**Information Ratio:**	**0.71**
Excess Risk:	**3.47**	**T-Stat:**	**1.59**

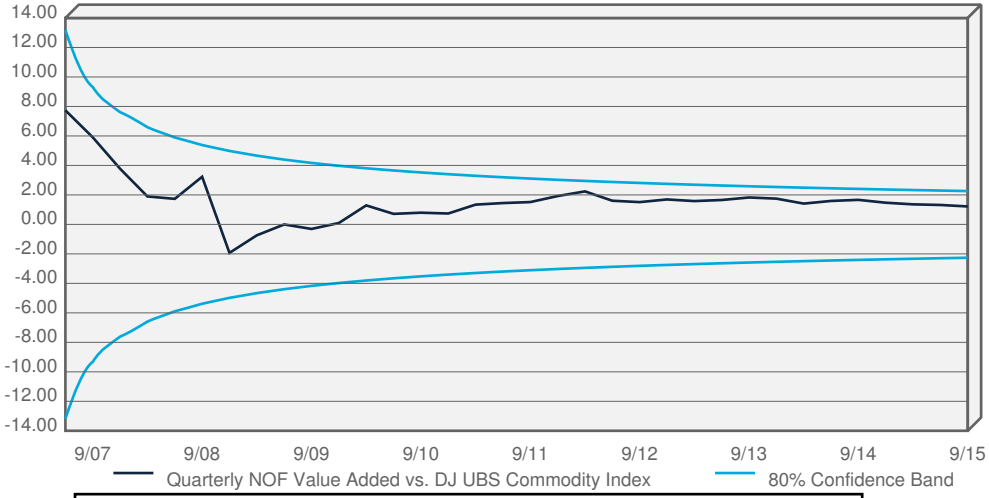
Investment Manager Analysis

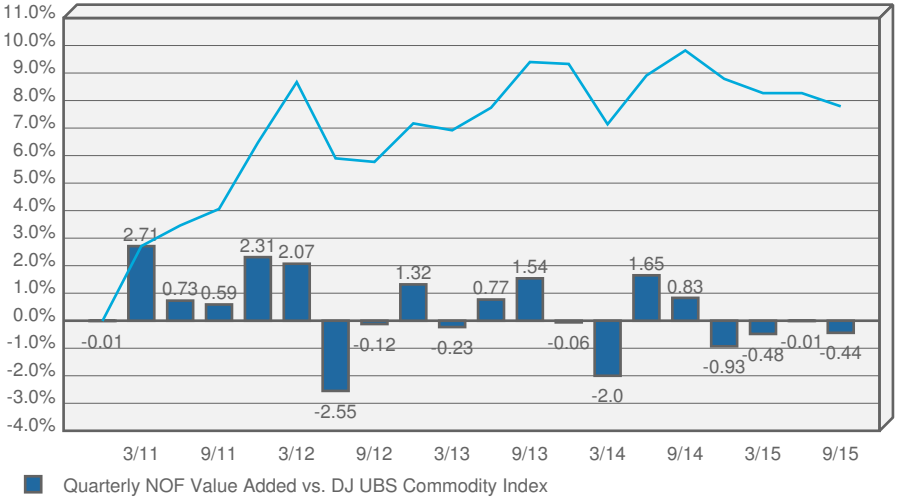
Wilshire

Gresham Strategic Commodities

September 30, 2015

Cumulative Skill Analysis vs Benchmark



Excess Return:	**1.22**	**Information Ratio:**	**0.30**
Excess Risk:	**4.01**	**T-Stat:**	**0.86**

Value-Added Analysis vs Benchmark