

March 15, 2017



**Mendocino County Employees'
Retirement Association**

U.S. Equity Education and
Manager Structure

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Agenda

- U.S. Equity Education
- Current MCERA U.S. Equity Portfolio
- MCERA U.S. Equity Manager Structure Options

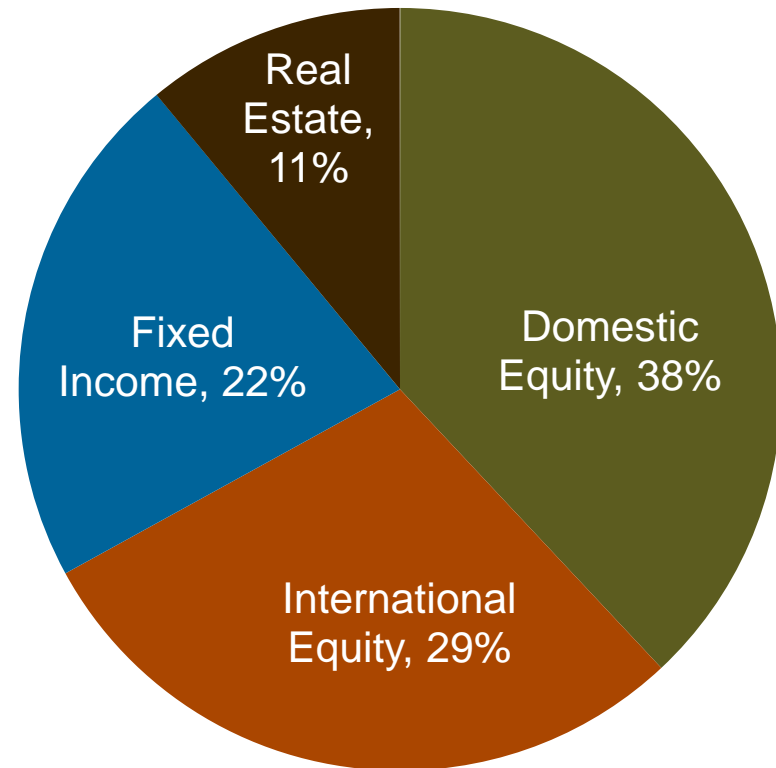


U.S. Equity Overview

MCERA Target Asset Allocation

- MCERA has a 38% target allocation to U.S. equity
- The U.S. equity allocation is benchmarked to the Russell 3000, which includes large, mid, and small cap stocks

MCERA Target Asset Allocation



Terminology

- Market capitalization - the value of all the shares of a company (current share price times outstanding shares)
- Equity styles – commonly defined by valuation, growth and size

Multi Cap	Large Cap	> \$10 Billion
	Mid Cap	\$1.5 - \$10 Billion
	Small Cap	< \$1.5 Billion

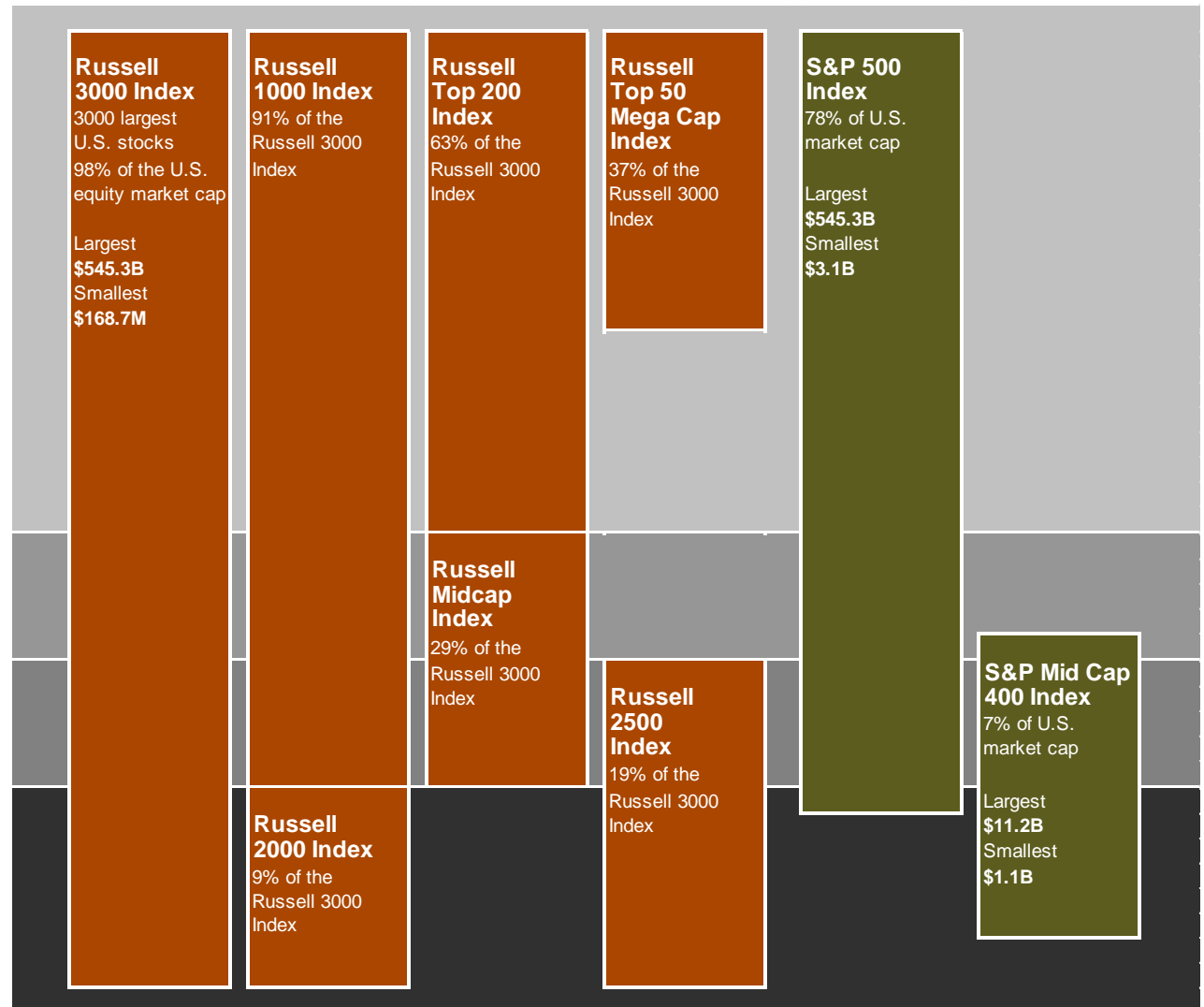
Blend (Core)	Growth	Expected to have above average growth in earnings and profitability
	Value	Undervalued relative to their potential for capital appreciation

Active vs. Passive Considerations

- Active and passive strategies can be complementary and can both play important roles in a portfolio
- Passive mandates provide low-cost exposure to the market
- Passive allocations are good liquidity vehicles for rebalancing, transition management, and making cash contributions/distributions
- Passive allocations are simple to monitor with less manager (and business) risk
- Passive mandates provide competitive performance in efficient markets and lower the tracking error for the total portfolio
- There are active managers who outperform the index – the challenge is to identify and hold them throughout their full performance cycle
- Like any style of investing, passive management will go in and out of favor over time

U.S. Equity Benchmark Descriptions

- The Russell 3000 is a capitalization-weighted index which includes large, mid, and small cap stocks
 - 63% large cap (Russell Top 200)
 - 29% mid cap (Russell Mid Cap)
 - 8% small cap (Russell 2000)
- For comparison, the S&P 500 includes primarily large and mid cap stocks with 84% in large cap and 16% in mid cap



Source: Russell, S&P as of 6/2015.

U.S. Equity Performance

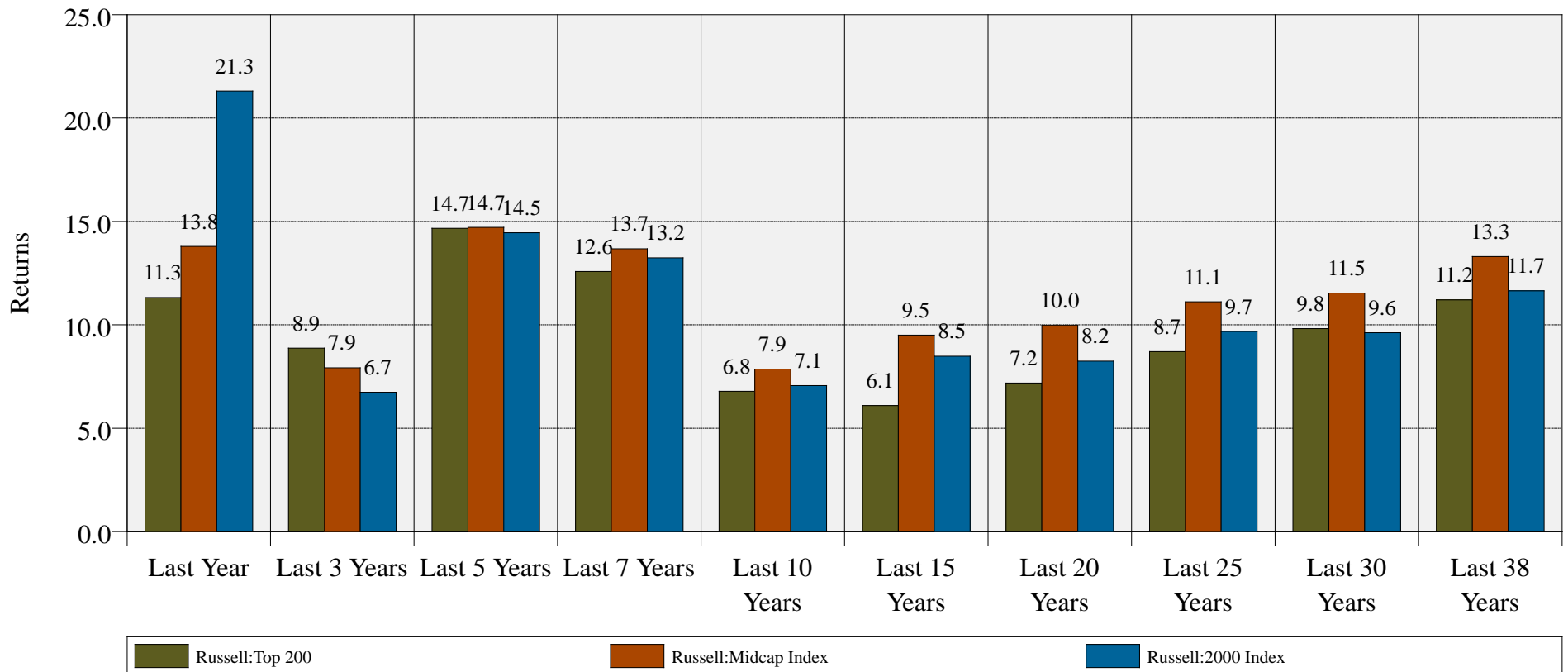
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Russell 1000 Growth 11.81%	Russell 2000 Value -28.92%	Russell Midcap 40.48%	Russell 2000 Growth 29.09%	Russell 1000 Growth 2.64%	Russell 2000 Value 18.05%	Russell 2000 Growth 43.30%	S&P 500 13.69%	Russell 1000 Growth 5.67%	Russell 2000 Value 31.74%
Russell 2000 Growth 7.05%	Russell 2000 -33.79%	Russell 1000 Growth 37.21%	Russell 2000 26.85%	S&P 500 2.11%	Russell 2500 17.88%	Russell 2000 38.82%	Russell 1000 Value 13.45%	S&P 500 1.38%	Russell 2000 21.31%
Russell 1000 5.77%	Russell 2500 -36.79%	Russell 2000 Growth 34.47%	Russell 2500 26.71%	Russell 1000 1.50%	Russell 1000 Value 17.51%	Russell 2500 36.80%	Russell 1000 13.24%	Russell 1000 0.92%	Russell 2500 17.59%
Russell Midcap 5.60%	Russell 1000 Value -36.85%	Russell 2500 34.39%	Russell Midcap 25.48%	Russell 3000 1.03%	Russell Midcap 17.28%	Russell Midcap 34.76%	Russell Midcap 13.22%	Russell 3000 0.48%	Russell 1000 Value 17.34%
S&P 500 5.49%	S&P 500 -37.00%	Russell 1000 28.43%	Russell 2000 Value 24.50%	Russell 1000 Value 0.39%	Russell 1000 16.42%	Russell 2000 Value 34.52%	Russell 1000 Growth 13.05%	Russell 2000 Growth -1.38%	Russell Midcap 13.80%
Russell 3000 5.14%	Russell 3000 -37.31%	Russell 3000 28.34%	Russell 3000 16.93%	Russell Midcap -1.55%	Russell 3000 16.42%	Russell 3000 33.55%	Russell 3000 12.56%	Russell Midcap -2.44%	Russell 3000 12.74%
Russell 2500 1.38%	Russell 1000 -37.60%	Russell 2000 27.17%	Russell 1000 Growth 16.71%	Russell 2500 -2.51%	Russell 2000 16.35%	Russell 1000 Growth 33.48%	Russell 2500 7.07%	Russell 2500 -2.90%	Russell 1000 12.05%
Russell 1000 Value -0.17%	Russell 1000 Growth -38.44%	S&P 500 26.47%	Russell 1000 16.10%	Russell 2000 Growth -2.91%	S&P 500 16.00%	Russell 1000 33.11%	Russell 2000 Growth 5.60%	Russell 1000 Value -3.83%	S&P 500 11.96%
Russell 2000 -1.57%	Russell 2000 Growth -38.54%	Russell 2000 Value 20.58%	Russell 1000 Value 15.51%	Russell 2000 -4.18%	Russell 1000 Growth 15.26%	Russell 1000 Value 32.53%	Russell 2000 4.89%	Russell 2000 -4.41%	Russell 2000 Growth 11.32%
Russell 2000 Value -9.78%	Russell Midcap -41.46%	Russell 1000 Value 19.69%	S&P 500 15.06%	Russell 2000 Value -5.50%	Russell 2000 Growth 14.59%	S&P 500 32.39%	Russell 2000 Value 4.22%	Russell 2000 Value -7.47%	Russell 1000 Growth 7.08%

Market Performance

Market (Beta) Returns by Capitalization

Market (Beta) Returns

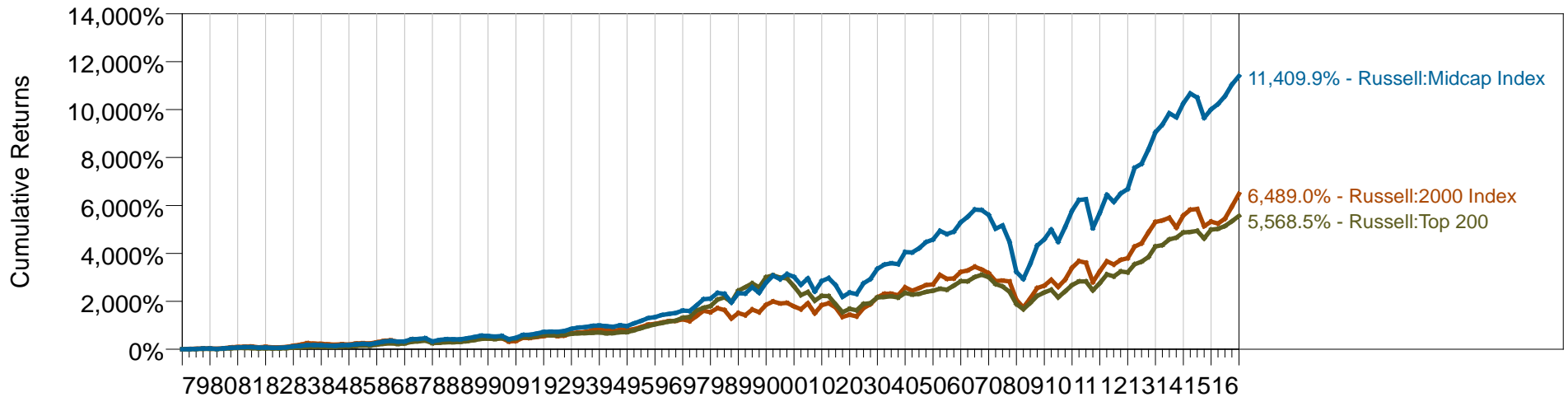
For Period Ending December 31, 2016



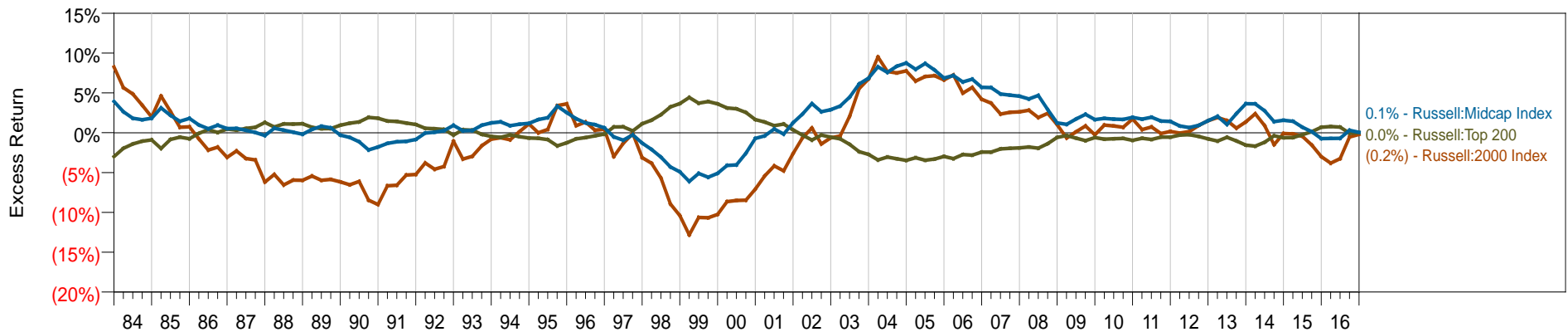
- The current structure features an intentional overweight to small cap, and to a lesser extent, mid cap
 - The tilt is expected to generate greater returns over the long run albeit with greater volatility
- A small and mid cap overweights can produce a positive or negative experience depending on the time period analyzed

Small and Mid Cap versus Large Cap

Cumulative Returns

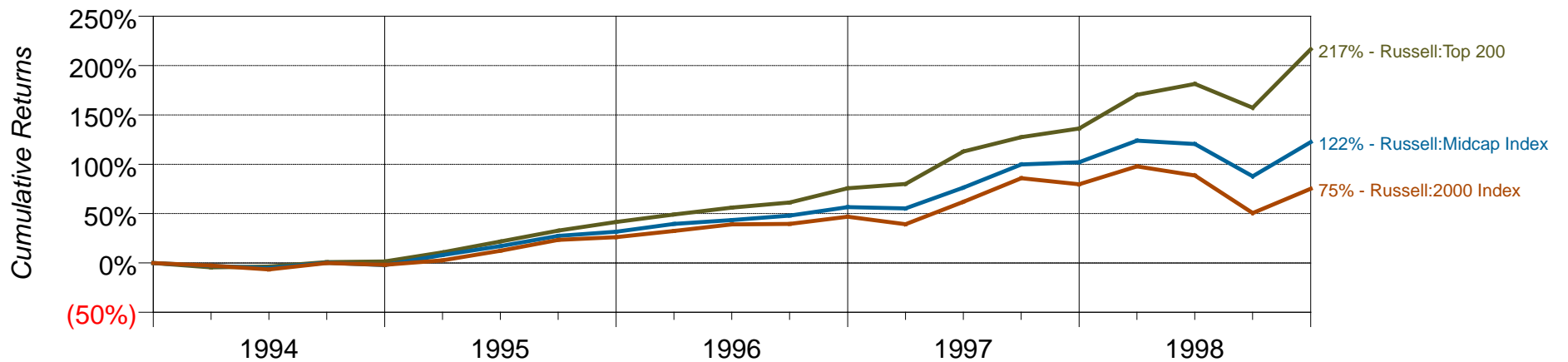
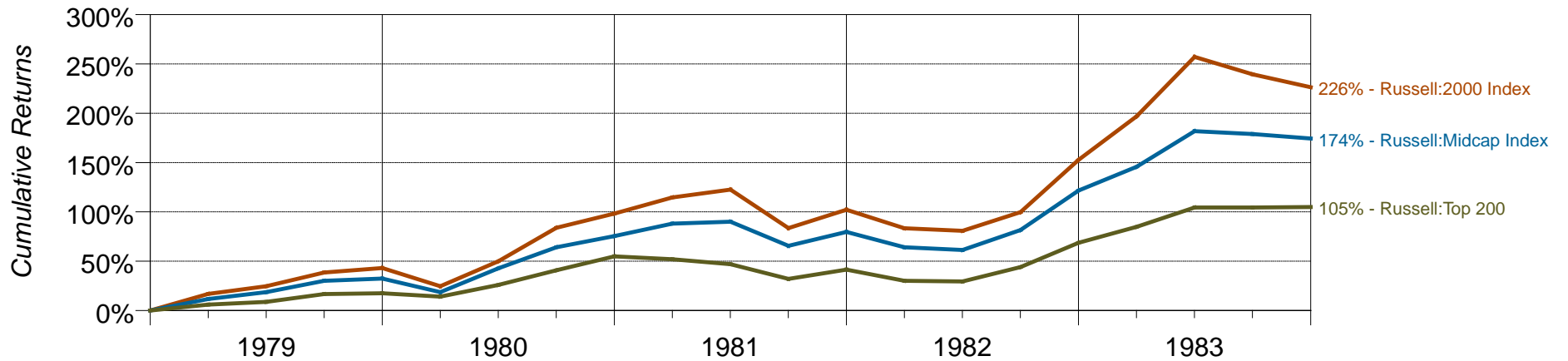


Rolling 20 Quarter Excess Return Relative To Russell:3000 Index



A Tale of Two Time Periods

Cumulative Performance for 5 years ending 12/31/1983 and 12/31/1998



Calendar Year Performance of Large, Mid and Small Cap

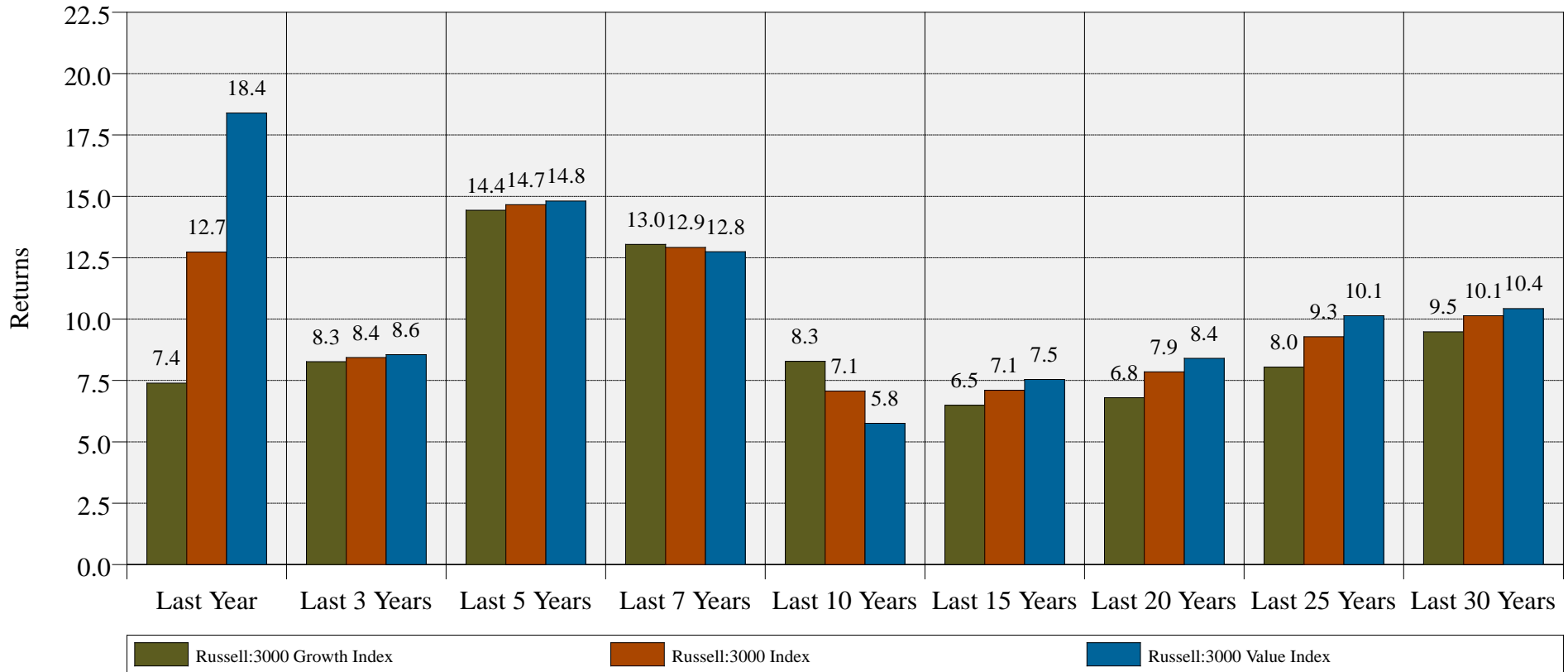
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Russell Large	Russell Small	Russell Mid	Russell Small	Russell Large	Russell Mid	Russell Small	Russell Large	Russell Large	Russell Small
5.9%	(33.8%)	40.5%	26.9%	2.8%	17.3%	38.8%	13.2%	2.4%	21.3%
Russell Mid	Russell Large	Russell Small	Russell Mid	Russell Mid	Russell Small	Russell Mid	Russell Mid	Russell Mid	Russell Mid
5.6%	(36.1%)	27.2%	25.5%	(1.5%)	16.3%	34.8%	13.2%	(2.4%)	13.8%
Russell Small	Russell Mid	Russell Large	Russell Large	Russell Small	Russell Large	Russell Large	Russell Small	Russell Small	Russell Large
(1.6%)	(41.5%)	24.2%	12.5%	(4.2%)	16.0%	32.4%	4.9%	(4.4%)	11.3%

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Russell Large	Russell Large	Russell Large	Russell Mid	Russell Small	Russell Mid	Russell Small	Russell Mid	Russell Mid	Russell Small
34.5%	34.0%	21.8%	8.2%	2.5%	(16.2%)	47.3%	20.2%	12.7%	18.4%
Russell Mid	Russell Mid	Russell Small	Russell Small	Russell Mid	Russell Small	Russell Mid	Russell Small	Russell Small	Russell Large
29.0%	10.1%	21.3%	(3.0%)	(5.6%)	(20.5%)	40.1%	18.3%	4.6%	15.5%
Russell Small	Russell Small	Russell Mid	Russell Large	Russell Large	Russell Large	Russell Large	Russell Large	Russell Large	Russell Mid
22.4%	(2.5%)	18.2%	(12.1%)	(14.6%)	(23.4%)	26.7%	8.3%	3.8%	15.3%

Market Performance

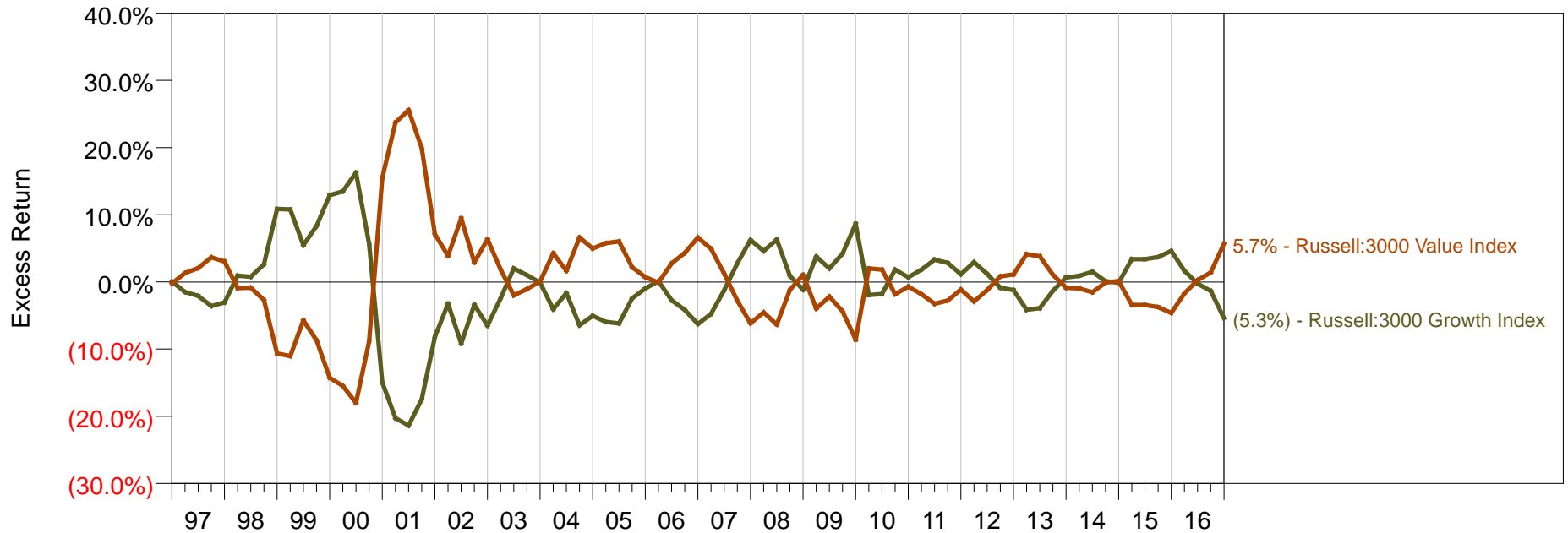
Market (Beta) Returns by Style

Market (Beta) Returns
For Period Ending December 31, 2016



Style Bias – Growth versus Value

Rolling 4 Quarter Excess Return Relative To Russell:3000 Index for 20 Years Ended December 31, 2016



- Market reversal in 2016 towards value-oriented stocks (current MCERA U.S. Equity portfolio has a slight growth tilt)
- It is virtually impossible to forecast style outperformance
 - Historically, growth and value performance has been cyclical
 - Growth cycles were mostly dominant past 10 years. Value cycles were mostly dominant 10 years prior to 2007
- A structure with balanced style exposures is preferred

Large Cap Broad Equity Style versus Russell 1000

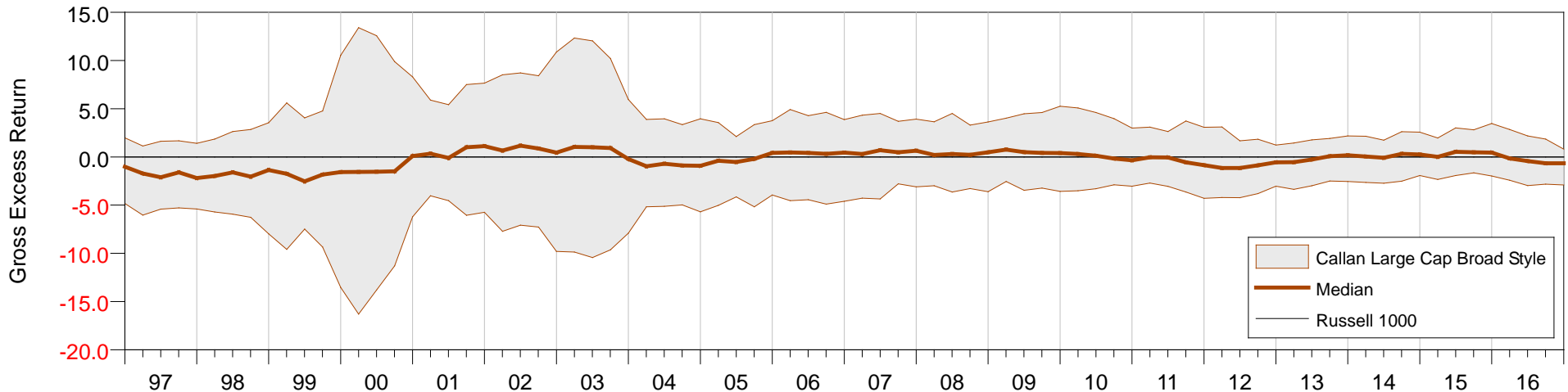
❖ Large cap active management rarely adds value over the benchmark

Percent of rolling 3-year periods where Manager Beat Benchmark by more than Fee Hurdle – by Percentile

Fee Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	39%	38%	30%	30%	24%	15%	14%	14%	14%	10%
45th Percentile	50%	48%	48%	48%	46%	43%	40%	39%	38%	33%
40th Percentile	68%	68%	65%	61%	58%	53%	51%	49%	48%	46%
35th Percentile	76%	75%	75%	75%	74%	73%	70%	68%	68%	63%
30th Percentile	88%	86%	84%	83%	83%	83%	81%	80%	78%	76%
25th Percentile	94%	91%	90%	90%	89%	86%	85%	85%	84%	84%

Average Annualized 3-Year Excess Return (gross) – Median Manager: **-0.26%**

Rolling 12 Quarter Gross Excess Return relative to Russell 1000 for 20 Years ended December 31, 2016



Mid Cap Broad Equity Style versus Russell Midcap

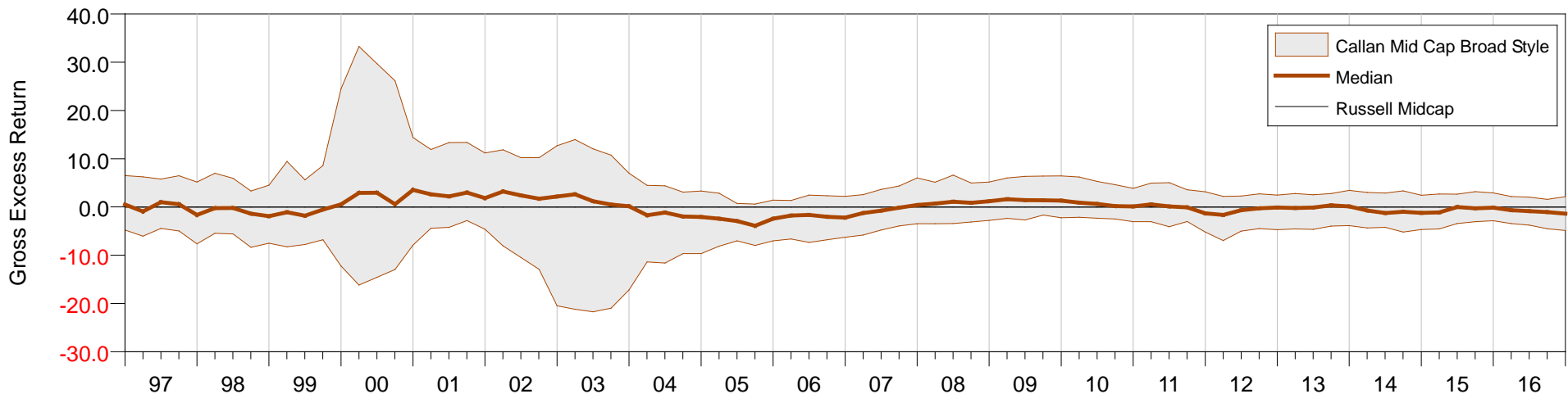
❖ Mid cap active management rarely adds value over the benchmark

Percent of rolling 3-year periods where Manager Beat Benchmark by more than Fee Hurdle – by Percentile

Fee Hurdle	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%
Median	39%	38%	36%	36%	33%	30%	30%	29%	28%	28%
45th Percentile	46%	46%	45%	44%	44%	44%	44%	41%	41%	41%
40th Percentile	61%	59%	56%	56%	55%	55%	55%	54%	51%	50%
35th Percentile	69%	69%	66%	66%	65%	63%	60%	59%	59%	58%
30th Percentile	83%	83%	83%	79%	78%	74%	74%	73%	70%	68%
25th Percentile	90%	89%	88%	86%	86%	85%	85%	85%	85%	85%

Average Annualized 3-Year Excess Return (gross) – Median Manager: **-0.03%**

Rolling 12 Quarter Gross Excess Return relative to Russell Midcap for 20 Years ended December 31, 2016



SMID Cap Broad Equity Style versus Russell 2500

❖ SMID cap active management frequently outperforms the benchmark

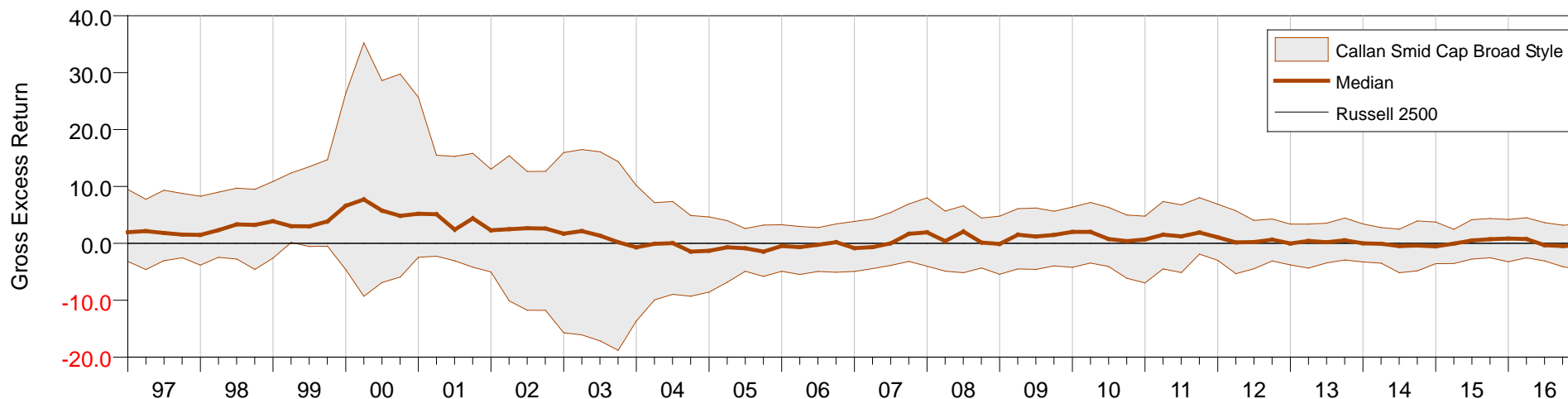
Percent of rolling 3-year periods where Manager Beat Benchmark by more than Fee Hurdle – by Percentile

Fee Hurdle	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%
Median	61%	61%	58%	58%	55%	55%	55%	53%	51%	49%
45th Percentile	78%	75%	74%	71%	70%	66%	65%	65%	65%	61%
40th Percentile	88%	88%	86%	86%	86%	85%	83%	81%	80%	78%
35th Percentile	93%	93%	93%	91%	91%	89%	88%	88%	88%	86%
30th Percentile	100%	99%	99%	99%	99%	99%	98%	96%	95%	94%
25th Percentile	100%	100%	100%	100%	100%	100%	99%	99%	99%	99%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.29%

Rolling 12 Quarter Gross Excess Return relative to Russell 2500 for 20 Years ended December 31, 2016



Small Cap Broad Equity Style versus Russell 2000

❖ Small cap active management frequently outperforms the benchmark

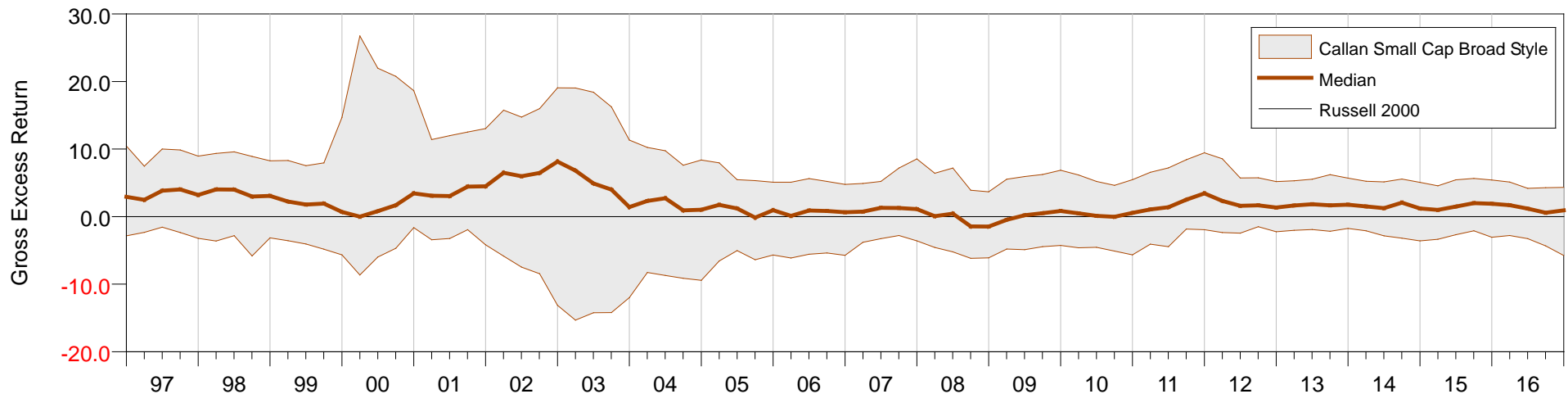
Percent of rolling 3-year periods where Manager Beat Benchmark by more than Fee Hurdle – by Percentile

Fee Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	85%	84%	81%	81%	79%	79%	78%	74%	74%	70%
45th Percentile	95%	93%	93%	91%	90%	89%	89%	89%	89%	86%
40th Percentile	98%	98%	98%	98%	98%	98%	96%	93%	93%	93%
35th Percentile	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
30th Percentile	99%	98%	98%	98%	98%	98%	98%	98%	98%	98%
25th Percentile	100%	100%	100%	100%	100%	99%	99%	99%	99%	99%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.96%

Rolling 12 Quarter Gross Excess Return relative to Russell 2000 for 20 Years ended December 31, 2016





**Current MCERA U.S. Equity
Portfolio**

Current MCERA U.S. Equity Structure Observations

- MCERA U.S. Equity allocation performed well relative to the Russell 3000 Index prior to 2012, but has been challenged since that time.
 - Below benchmark and below median for trailing 1-, 2-, and 3-years ended December 31, 2016
 - Roughly comparable to benchmark and median for trailing 5- and 7-years ended December 31, 2016
 - Above benchmark and above median for trailing 10-years ended December 31, 2016
- The overall structure has a small and mid cap equity bias and a growth tilt
 - 7 growth managers and 5 value managers
 - Growth managers have more growth-oriented styles than value managers have value-oriented styles
- The structure has a large number of managers
 - Large number of managers (13) for an asset base of ~\$178M.
 - Many managers have overlapping styles
 - *Russell 1000 Index has 30% mid cap exposure, creating overlap with Large Cap and Mid Cap managers*
 - Difficult to monitor and rebalance
- Alternative structures will explore these primary questions:
 - *Is a small and mid cap overweight still appropriate going forward?*
 - *How can the structure be simplified?*
 - *How to deal with the overlap in mid-cap exposures between large cap and mid-cap managers?*
 - *What is the appropriate number of managers and how does that impact fees?*

Current MCERA U.S. Equity Structure

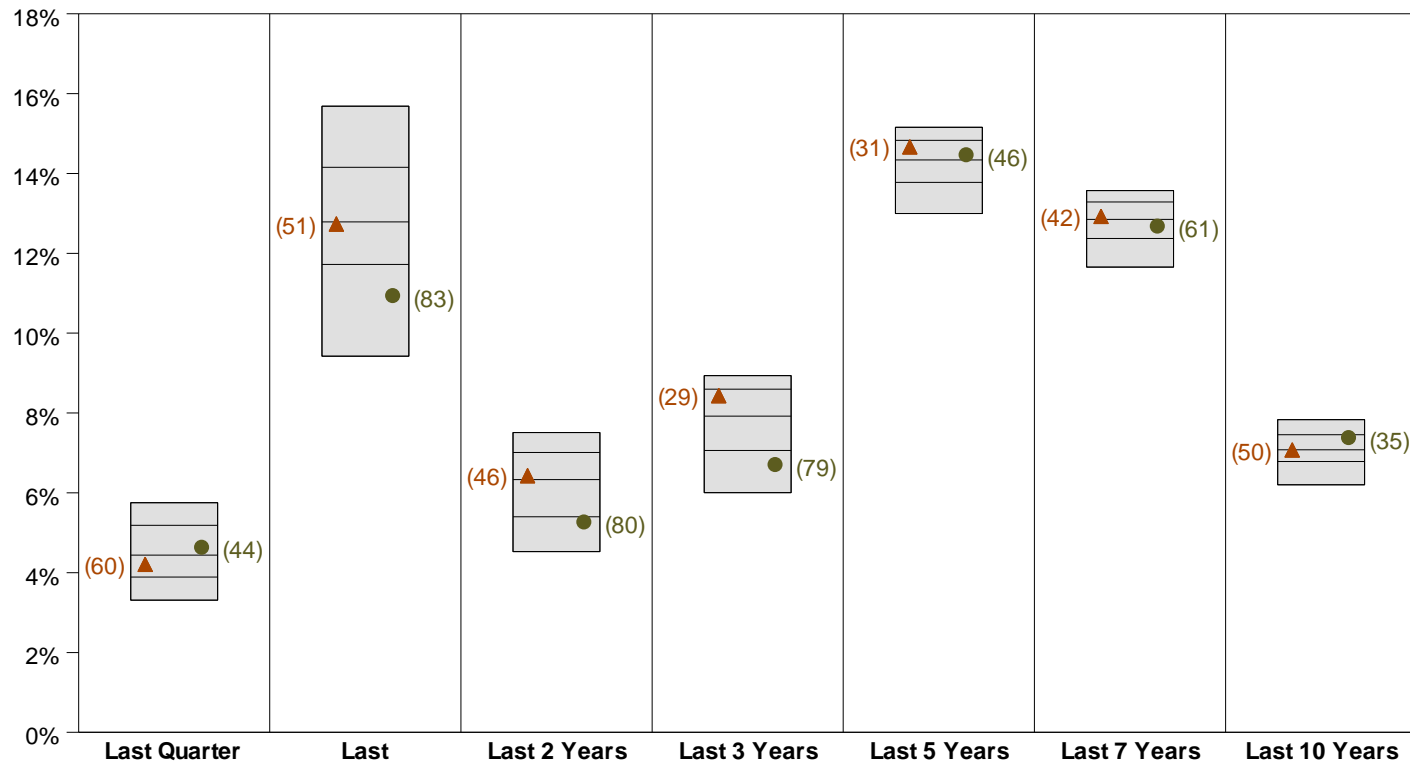
	U.S. Equity Manager	Style	% of Domestic Equity Portfolio	\$, mm
LARGE CAP	Vanguard S&P 500	Core	5.1%	\$22.31
	Dodge & Cox	Value	6.0%	\$26.42
	Boston Partners	Value	6.0%	\$26.10
	Harbor Cap App	Growth	5.4%	\$23.56
	Janus Research	Growth	5.3%	\$23.17
MID CAP	Fidelity LPS	Value	1.2%	\$5.43
	Royce TR	Value	1.8%	\$5.57
	Morgan Stanley	Growth	0.9%	\$3.95
	Janus Enterprise	Growth	1.4%	\$5.89
SMALL CAP	Prudential (QMA)	Value	3.2%	\$13.86
	Alliance Bernstein	Growth	1.6%	\$6.94
MICRO CAP	RS Investments	Growth	1.2%	\$5.27
	AMG Mgrs EM Opp	Growth	2.1%	\$9.02

Characteristics as of 12/31/16	
Active	87%
Passive	13%
Large	69%
Mid	12%
Small	15%
Micro	5%
Core	13%
Growth	44%
Value	43%
# Managers	13

U.S. Equity Portfolio

Performance as of December 31, 2016

Performance vs Pub Pln- Domestic Equity (Gross)

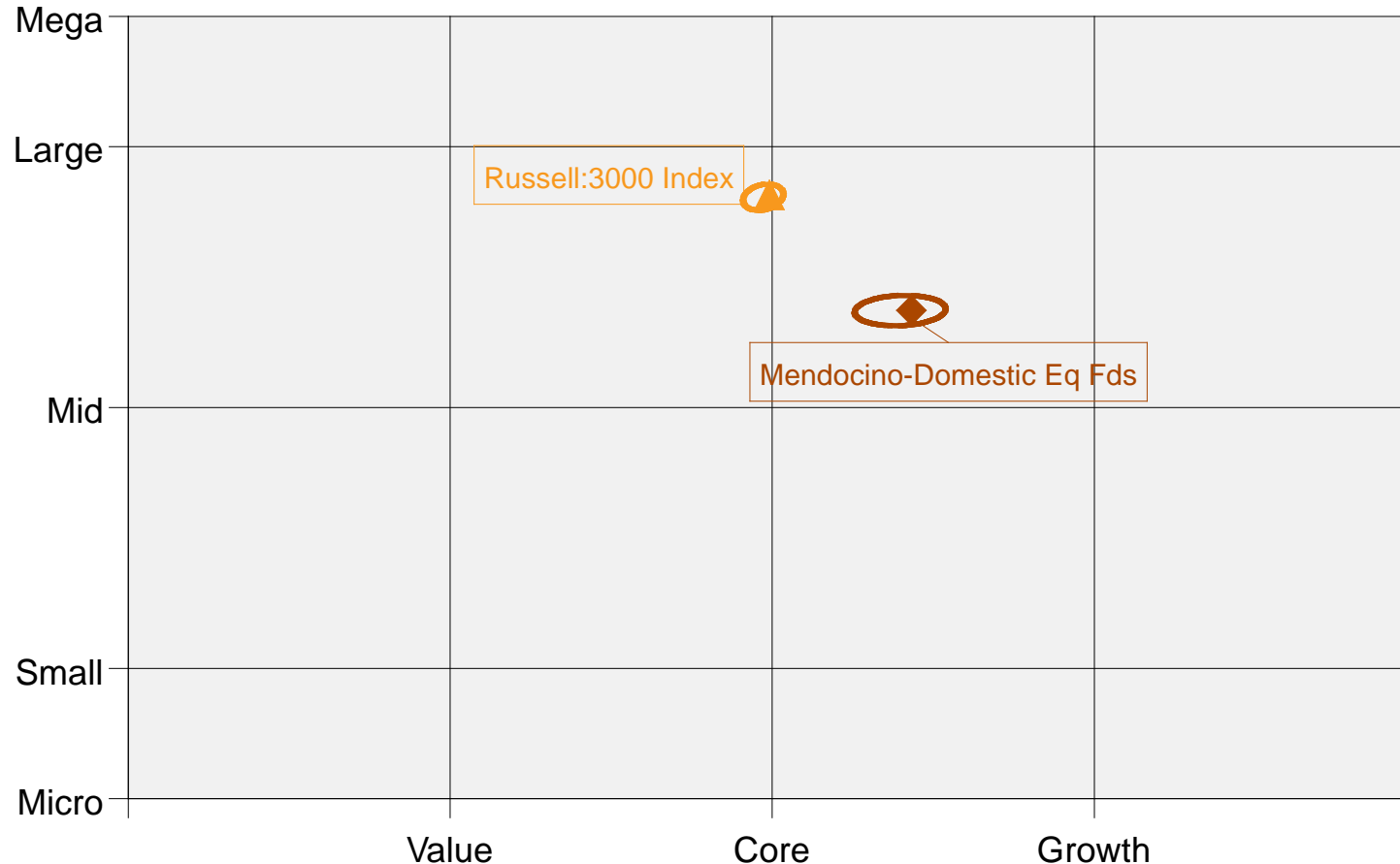


10th Percentile	5.75	15.69	7.51	8.93	15.16	13.57	7.83
25th Percentile	5.19	14.16	7.01	8.60	14.83	13.29	7.46
Median	4.44	12.79	6.33	7.92	14.34	12.85	7.08
75th Percentile	3.89	11.72	5.40	7.06	13.78	12.37	6.78
90th Percentile	3.31	9.42	4.53	6.00	13.00	11.65	6.20
Domestic Equity Composite	● 4.60	10.90	5.23	6.66	14.42	12.64	7.34
Russell 3000 Index	▲ 4.21	12.74	6.43	8.43	14.67	12.92	7.07

U.S. Equity Portfolio

Capitalization & Style Map for 5 Years Ended December 31, 2016

Style Map
for 5 Years Ended November 30, 2016

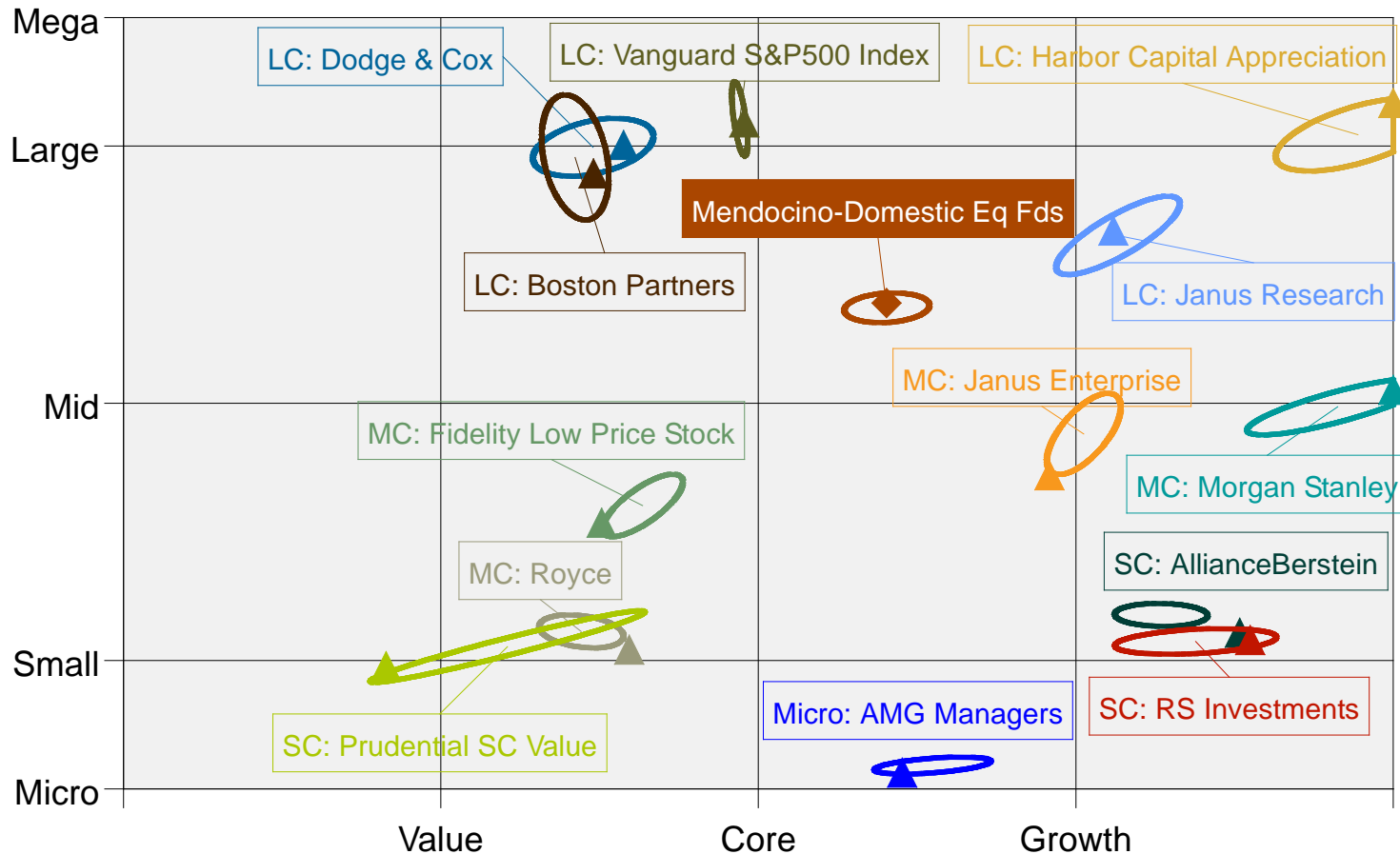


- Analysis confirms that the total U.S. equity portfolio has historically been overweight to small and mid cap stocks, and has a growth bias

U.S. Equity Portfolio

Capitalization & Style Map for 5 Years Ended December 31, 2016

Style Map
for 5 Years Ended December 31, 2016

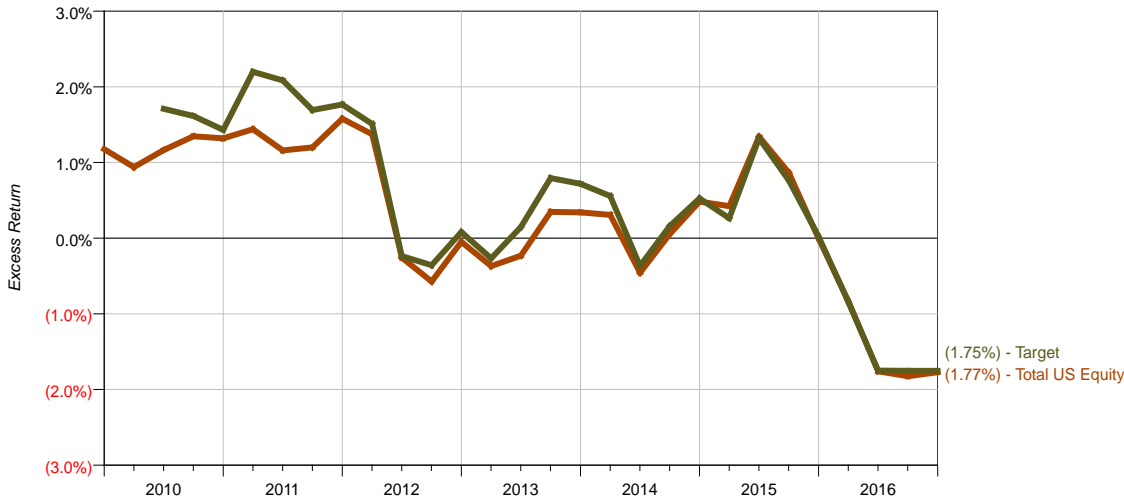


- Analysis confirms that growth managers appear more style extreme than the value managers

Performance

Return-Based: Excess-Returns and Tracking Error

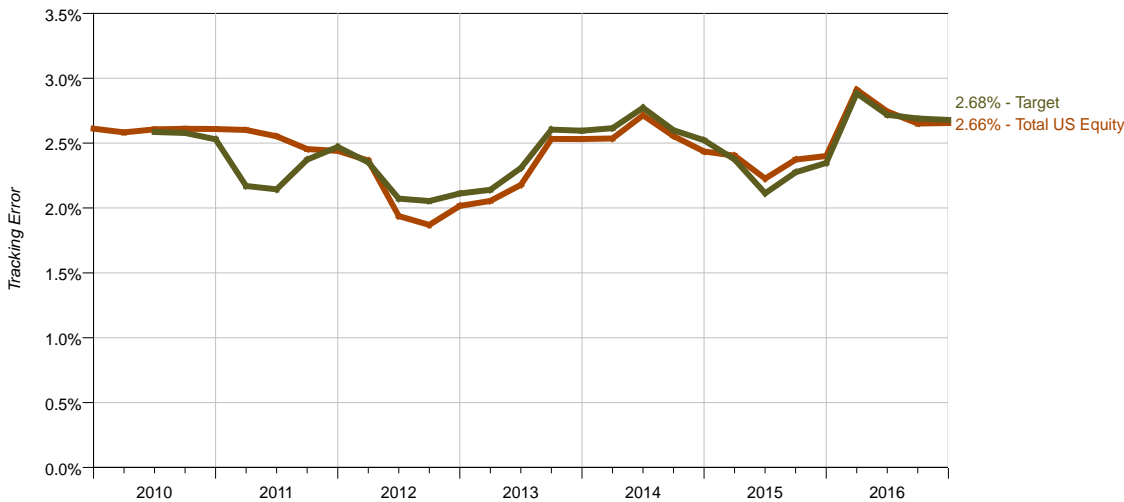
Rolling 12 Quarter Excess Return Relative To Russell:3000 Index
for 7 Years Ended December 31, 2016



- Top charts show “relative-return” performance on a rolling 3-year (12 quarters) basis.
- Total US Equity represents the fund’s actual performance.
 - Excess returns have been weak and volatile over the past several years.
- Target shows what the current manager line-up would have produced historically.

- The bottom charts shows the tracking error in performance.
 - Total US Equity has exhibited total tracking error between 2-3%.

Rolling 12 Quarter Tracking Error Relative To Russell:3000 Index
for 7 Years Ended December 31, 2016





U.S. Equity Manager Structure Alternatives

General Guiding Principles of Investment Structure

- Active management offers the potential to add value over the index and can be complementary to passive management.
 - Excess returns are more difficult to achieve in efficient markets such as large cap U.S. equity
 - Potential for excess returns are compelling in small/mid cap US equity, non-US equity, emerging equity and non-US small cap equity
- Well-diversified market-neutral exposure with no unintended biases
 - Avoid overlapping mandates
 - May wish to purposefully add bias to small/mid cap U.S. equity and emerging markets equity for potential return enhancement
- Callan's overriding philosophy is to keep the structure as simple as possible
- Allocations to managers should be meaningful for the Plan
- The appropriate number of managers must balance style and relationship diversification with lower fees and more manageable monitoring
- Two primary influences on the appropriate number of managers
 - Size of the allocation relative to the total Plan
 - The higher the allocation, the greater the desired manager diversification
- Active versus passive
 - Fewer managers may be suitable when the portfolio is managed passively

Alternative Structures

Percentage Allocations

Sub-Asset Class	Equity Manager	Style	% Target	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Large Cap	Boston Partners	Value	14.0%	15.0%	25.0%	20.0%		
	Dodge & Cox	Value	14.0%	15.0%				
	Harbor Capital Appreciation	Growth	14.0%	15.0%	25.0%	20.0%		
	Janus Research	Growth	14.0%	15.0%				
	Vanguard S&P 500	Core (Passive)	13.0%	10.0%	25.0%			
	<i>New Manager (Russell 1000)</i>	Core (Passive)					40.0%	75.0%
Mid Cap	Fidelity Low Priced Stock	Value	3.0%	5.0%	5.0%		5.0%	
	Royce Total Return	Value	3.0%					
	Janus Enterprise	Growth	3.0%	5.0%	5.0%		5.0%	
	Morgan Stanley	Growth	3.0%					
Small Cap	Prudential Small Value (QMA)	Value	7.0%	10.0%	7.5%	10.0%	7.5%	10.0%
	AllianceBernstein US Small Gr	Growth	4.0%	10.0%	7.5%	10.0%	7.5%	10.0%
	RS Investments	Growth	3.0%					
Micro Cap	AMG Managers Em Opp Fund	Growth	5.0%					

Size / Style Characteristics

Difference between Beta Composite and Benchmark		% Target	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Large Cap	Growth	-7.1%	-7.0%	-4.2%	-4.2%	-6.0%	-4.2%
	Value	-7.1%	-7.0%	-4.2%	-4.2%	-6.0%	-4.2%
Mid Cap	Growth	1.5%	0.9%	0.6%	-1.9%	2.4%	-1.9%
	Value	1.5%	0.9%	0.6%	-1.9%	2.4%	-1.9%
Small/Micro Cap	Growth	8.1%	6.1%	3.6%	6.1%	3.6%	6.1%
	Value	3.1%	6.1%	3.6%	6.1%	3.6%	6.1%

- Five alternative structures were examined in this study, in addition to the current Target position as of December 31, 2016.

Alternative Structures

Fee Analysis

Dollar Allocations & Fees

Sub-Asset Class	Equity Manager	Style	% Actual	% Target	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Large Cap	Boston Partners	Value	\$26.1	\$24.9	\$26.6	\$44.4	\$35.5		
	Dodge & Cox	Value	\$26.4	\$24.9	\$26.6				
	Harbor Capital Appreciation	Growth	\$23.6	\$24.9	\$26.6	\$44.4	\$35.5		
	Janus Research	Growth	\$23.2	\$24.9	\$26.6				
	Vanguard S&P 500	Core (Passive)	\$22.3	\$23.1	\$17.8	\$44.4			
	<i>NewManager (Russell 1000)</i>	Core (Passive)						\$71.0	\$133.1
Mid Cap	Fidelity Low Priced Stock	Value	\$5.4	\$5.3	\$8.9	\$8.9		\$8.9	
	Royce Total Return	Value	\$5.6	\$5.3					
	Janus Enterprise	Growth	\$5.9	\$5.3	\$8.9	\$8.9		\$8.9	
	Morgan Stanley	Growth	\$4.0	\$5.3					
Small Cap	Prudential Small Value (QMA)	Value	\$13.9	\$12.4	\$17.8	\$13.3	\$17.8	\$13.3	\$17.8
	AllianceBernstein US Small Gr	Growth	\$6.9	\$7.1	\$17.8	\$13.3	\$17.8	\$13.3	\$17.8
	RS Investments	Growth	\$5.3	\$5.3					
Micro Cap	AMG Managers Em Opp Fund	Growth	\$9.0	\$8.9					
Estimated Fees			0.61%	0.61%	0.59%	0.48%	0.39%	0.22%	0.18%
Estimated Dollar (\$) Fees - thousands			\$1,083	\$1,082	\$1,046	\$844	\$687	\$392	\$325

- Fees analysis is based on current agreements

Alternative Structures Objectives

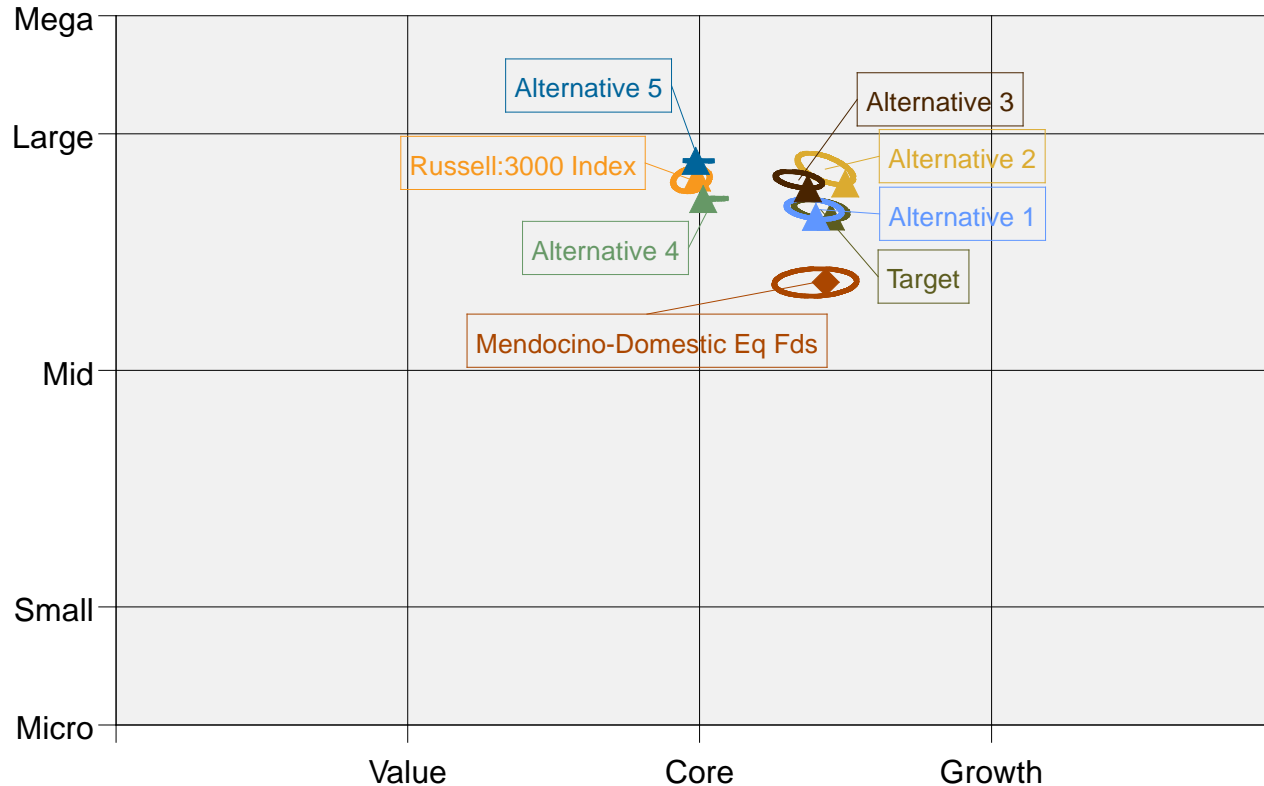
- In general, the objective of all 5 alternatives was to reduce (but not eliminate) the small / mid cap bias, while simplifying the structure by reducing the number of managers. Fee reduction was a secondary objective.
 - These structures are certainly not the only structures that can be considered
 - *Elements of each structure can be enhanced and/or combined with elements of other structures to get the right structure for MCERA*

Current	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<ul style="list-style-type: none"> • Most managers with 13 • Highest in fees 	<ul style="list-style-type: none"> • Objective - simplify the mid cap and small cap exposures • Two managers in each category, one value and one growth, achieve the desired goals • 9 managers structure 	<ul style="list-style-type: none"> • Builds off of Alt. 1, with the objective to further simplify the large cap exposures • Three managers in large cap achieve the desired goal: 2 active managers and 1 complementary passive • The 2 active managers would represent both categories - one value and one growth • 7 managers structure 	<ul style="list-style-type: none"> • Builds off of Alt. 2, with the objective of removing overlap with the large cap and mid cap manager benchmarks • To best achieve this goal, the mid-cap exposures are eliminated, and the passive benchmark is changed from S&P 500 to the Russell 1000 Index to gain mid-cap exposure passively • 5 managers structure 	<ul style="list-style-type: none"> • Objective is twofold • 1: Minimize fees by allocating all large cap and mid cap exposure passively, on the belief that active management in these market segments is less effective. • 2: concentrate active management in mid cap and small cap: one value and one growth in each category • 5 manager structure 	<ul style="list-style-type: none"> • Objective is twofold • 1: Minimize fees by allocating all large cap and mid cap exposure passively, on the belief that active management in these market segments is less efficient. • 2: concentrate active management in the small cap exposures with 2 managers: one value and one growth • 3 manager structure

Style Map

Holdings-Based Analysis: Capitalization and Style

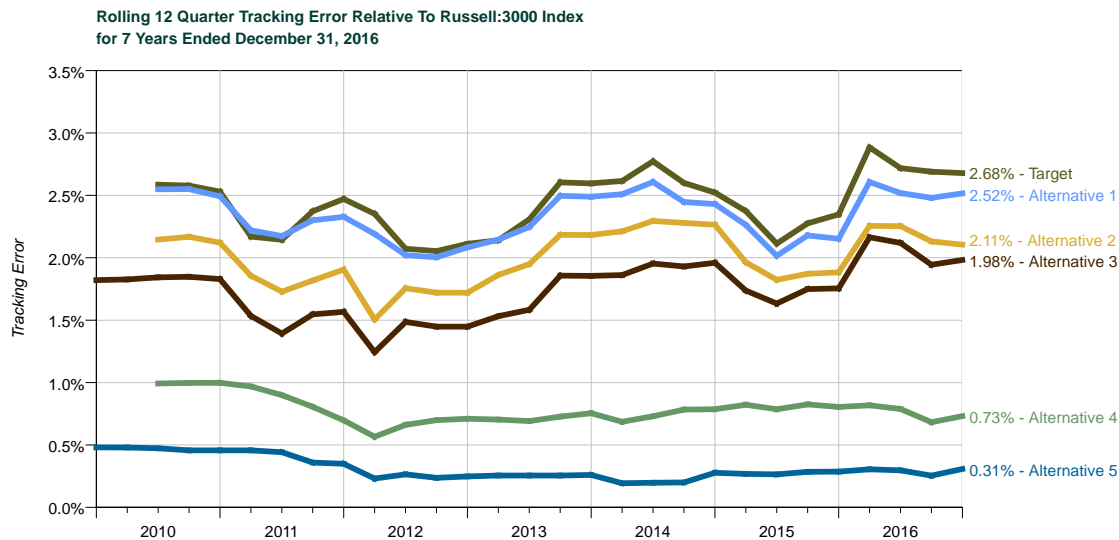
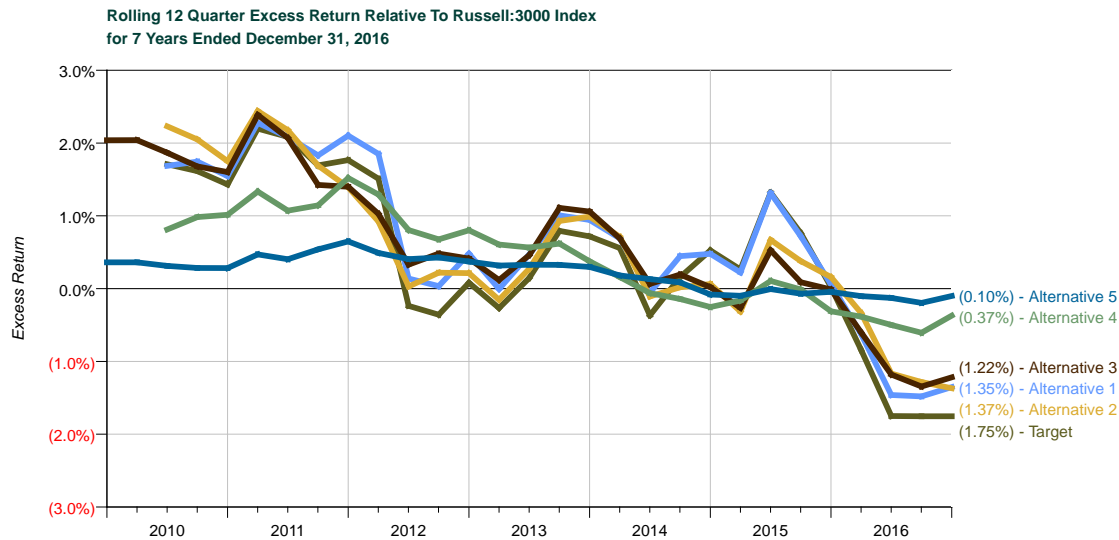
Style Map
for 5 Years Ended November 30, 2016



- The alternative structures, shown in the chart on a historical basis, move the total fund holdings to reduce (but not eliminate) the small / mid cap bias more in line with capitalization of the broad benchmark.
- However, the growth bias remains for Alternatives 1-3 due to the individual manager holdings. Alternative 4 and 5, with a large passive allocation, demonstrates the tightest alignment.

Performance

Return-Based: Excess-Returns and Tracking Error



- The top chart shows “relative-return” historical performance of the alternative structures on a rolling 3-year (36 month) basis.
- Alternatives 1-3 demonstrate a similar pattern of excess return as the current Target but with a more streamlined approach.
- The bottom charts shows the historical tracking error in performance.
- Alternatives 1-3 demonstrate historically lower tracking error than the current Target, while Alternative 4 and 5 would greatly reduce tracking error.

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