



Dale R. Folwell, CPA

INVESTMENT MANAGEMENT

MEMORANDUM

To: North Carolina Supplemental Retirement Board of Trustees, Supplemental Investment Subcommittee

From: Loren de Mey, Assistant Investment Director

Date: May 16, 2018

Subject: Discussion / Action: NC 401(k) and NC 457(b) Plans – Review and Evaluation of the NC SMID Cap Core Fund and Replacement Options for TimesSquare

At its February 21, 2018 meeting, the Supplemental Investment Subcommittee requested that staff and Mercer review and evaluate potential passive investment options, as well as an active manager replacement for the TimesSquare SMID Cap Growth strategy, within the NC SMID Cap Core Fund. The Subcommittee requested that staff and Mercer provide a report of this review and evaluation.

Staff and Mercer present three potential options for the Subcommittee's consideration. These options include:

1. Replace the TimesSquare SMID Cap Growth strategy with the Russell 2500 Index Fund;
2. Replace the TimesSquare SMID Cap Growth strategy with the Russell 2500 Index Fund and reweight the existing managers in order to adjust for any style bias that may be created; and
3. Replace TimesSquare with another active manager for the SMID Cap Growth strategy, within the NC SMID Cap Core Fund.

Following this memo are two items for the Subcommittee's review, including:

1. Mercer's presentation, which includes an evaluation of the risks, returns, fees, and style characteristics of each of the three options; and
2. Staff's memo, which shares the review and results of the active manager replacement search.

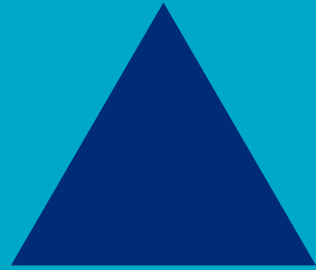
HEALTH WEALTH CAREER

NORTH CAROLINA SUPPLEMENTAL RETIREMENT PLANS

SMALL/MID CAP FUND STRUCTURE ANALYSIS

Kelly Henson
Will Dillard, CFA

BACKGROUND AND CURRENT STRUCTURE



NC CURRENT INVESTMENT STRUCTURE

Tier I Target Date Funds	Tier II - A Passive Core Options	Tier II - B Active Core Options	Tier III Specialty Options
Goal Maker		Stable Value Fund	
	Fixed Income Index	Fixed Income Fund	
		Inflation Responsive Fund	
	Large Cap Equity Index	Large Cap Core Fund	
	Small/Mid Cap Equity Index	Small/Mid Cap Core Fund	
		Global Equity Fund	
	International Equity Index	International Equity Fund	

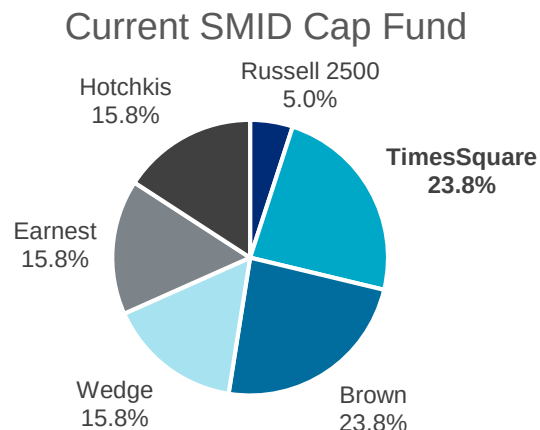
NEW GOALMAKER ALLOCATIONS

Aggressive	Pre-Retirement						Post-Retirement		
Years to Retirement	26+	21-25	16-20	11-15	6-10	0-5	0-5	6-10	11+
US Large (Passive)	34%	34%	32%	30%	28%	27%	25%	24%	21%
SMID Cap Equity (Active)	14%	14%	14%	12%	10%	10%	8%	6%	6%
International Equity (Active)	40%	40%	38%	36%	32%	24%	21%	20%	17%
Bonds (Active)	2%	2%	7%	13%	21%	27%	26%	19%	19%
Stable Value (Active)	0%	0%	0%	0%	1%	3%	8%	14%	17%
Real Assets (Active)	10%	10%	9%	9%	7%	6%	4%	3%	3%
TIPs (Passive)	0%	0%	0%	0%	1%	3%	8%	14%	17%

Moderate	Pre-Retirement						Post-Retirement		
Years to Retirement	26+	21-25	16-20	11-15	6-10	0-5	0-5	6-10	11+
US Large (Passive)	33%	30%	27%	24%	21%	19%	18%	16%	14%
SMID Cap Equity (Active)	14%	12%	12%	10%	8%	6%	6%	4%	4%
International Equity (Active)	38%	36%	32%	28%	24%	19%	15%	14%	12%
Bonds (Active)	6%	13%	21%	28%	33%	36%	34%	27%	23%
Stable Value (Active)	0%	0%	0%	3%	6%	10%	14%	19%	22%
Real Assets (Active)	9%	9%	8%	7%	6%	5%	4%	4%	3%
TIPs (Passive)	0%	0%	0%	0%	2%	5%	9%	16%	22%

Conservative	Pre-Retirement						Post-Retirement		
Years to Retirement	26+	21-25	16-20	11-15	6-10	0-5	0-5	6-10	11+
US Large (Passive)	27%	24%	20%	17%	14%	13%	11%	10%	9%
SMID Cap Equity (Active)	12%	10%	8%	8%	6%	4%	4%	2%	2%
International Equity (Active)	32%	28%	25%	18%	16%	12%	9%	9%	8%
Bonds (Active)	21%	31%	37%	41%	42%	41%	36%	33%	29%
Stable Value (Active)	0%	0%	4%	8%	12%	17%	22%	25%	26%
Real Assets (Active)	8%	7%	6%	5%	4%	3%	3%	2%	2%
TIPs (Passive)	0%	0%	0%	3%	6%	10%	15%	19%	24%

CURRENT SMID CAP FUND



- Currently the SMID Cap Fund totals \$1.024B¹ and has an investment expense ratio of 0.524%
- TimesSquare manages roughly \$244M and has an IM fee of 0.65%
- TimesSquare plays the role of the downside protector within the SMID Fund, focusing on higher quality companies with strong management and typically has biases towards companies with lower debt and higher return on equity
- NC Board voted to replace TimesSquare after continued underperformance and staff turnover, particularly within the health care sector

¹ After the GM transition in June the SMID Cap Fund is estimated to be approximately \$720M (TSCM would represent \$171M of the total Fund)

INVESTMENT MANAGERS

EARNEST (Relative Value)

- Believe stock prices follow identifiable patterns
- Value bias as a by-product of return pattern recognition and fundamental analysis
- Seeks companies with relatively strong profitability measures and higher quality characteristics

Hotchkis (Deep Value, High Beta, Momentum)

- Identify attractively valued companies with short term mispricing's
- Long-term, low turnover approach leads to deeper value bias
- More concentrated 50-100 holdings; higher volatility and tracking error

WEDGE (Higher Quality Value)

- Combination of quantitative and fundamental research
- 50/50 blend of mid and small cap strategies
- Both small and mid cap teams adhere to consistent approach to identify stocks that meet their fundamental and quality parameters

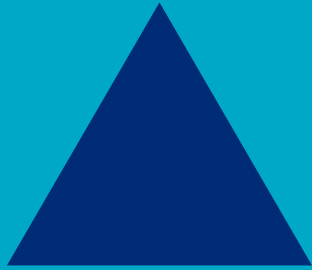
Brown (Growth at a Reasonable Price)

- Seek companies that can compound earnings for an extended period of time
- Growth engine of the SMID Cap Growth Portfolio
- Typically will hold 75 securities with modest turnover

TimesSquare (Traditional Growth, Profitability)

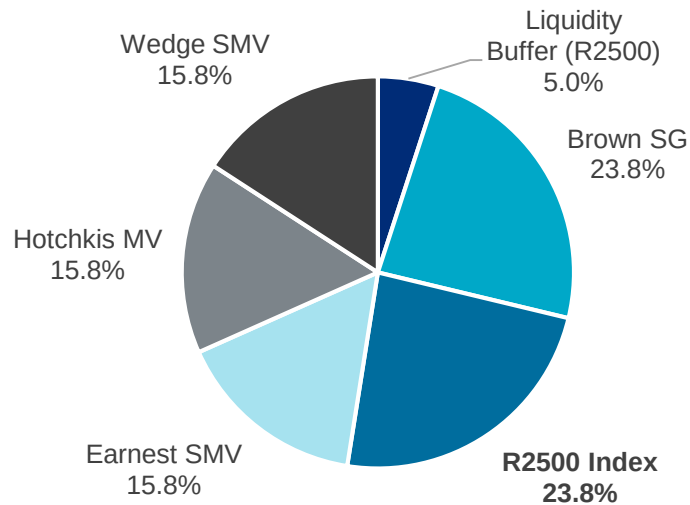
- Diversified portfolio of high quality growth companies
- Higher quality approach has protected well in down markets
- Will typically hold 90-120 securities

SCENARIO ANALYSIS

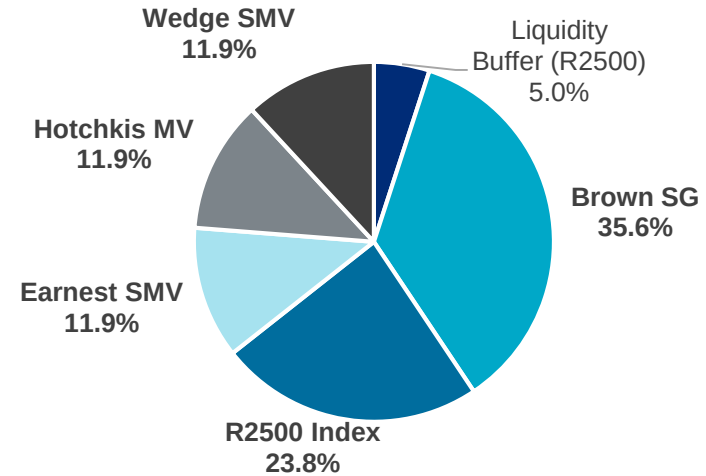


POTENTIAL SCENARIOS

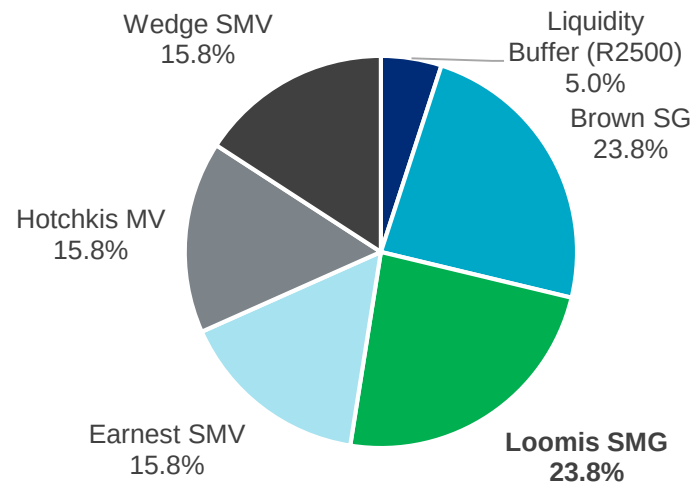
Scenario 1 - Map TSCM Assets to R2500 Index



Scenario 2 - Map TSCM Assets to R2500 Index (Re-Weight Existing Managers)



Scenario 3 - Replace TSCM with Active Loomis



SCENARIO COMPARISON

SUMMARY STATISTICS VS. RUSSELL 2500 INDEX

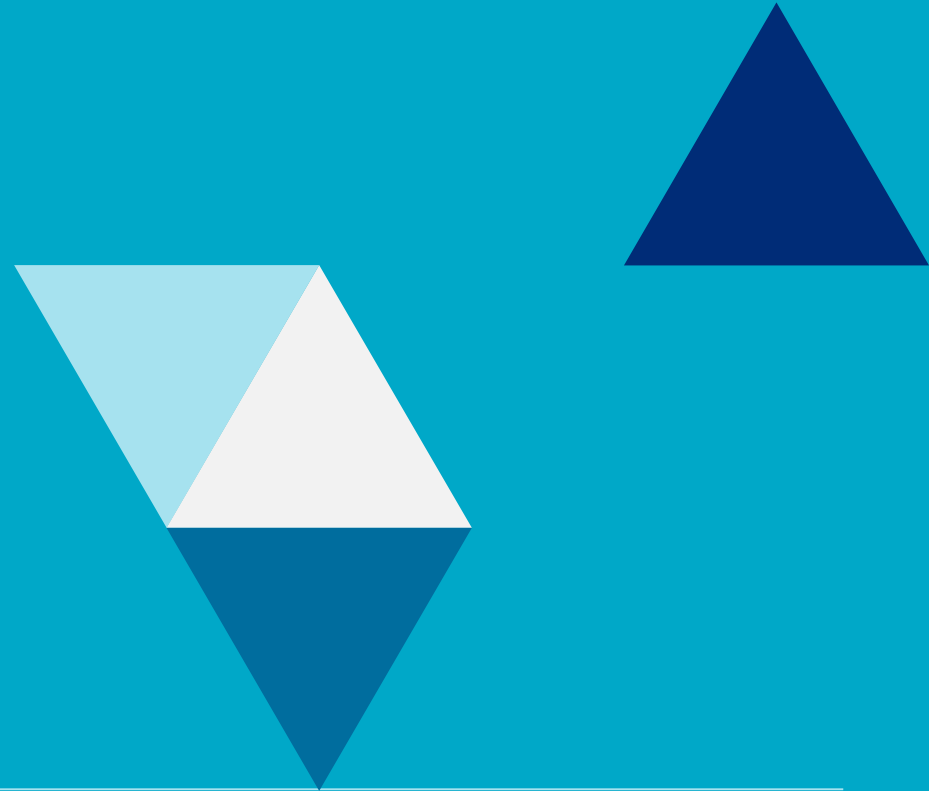
- The table below outlines key characteristics used to understand the biases in the portfolios based on the holdings of the underlying managers.
- The Value, Growth and Momentum scores are determined by averaging the score of the underlying value, growth and momentum factors for all of the holdings of the underlying managers. This was reviewed for the most recent period shown below but also for the trailing three year period. A core portfolio will have value and growth scores between -1 and 1. Style tilts in the portfolio can cause performance to deviate significantly from the benchmark.

Scenario	Active Share	Tracking Error (6 Year)	Standard Deviation (6 Year)	Value Score ¹	Growth Score ¹	Momentum Score ¹	Estimated Fees
Current	74.4%	1.4%	9.7%	0.28	-0.21	-1.57	0.550%
Scenario 1	59.4%	1.0%	9.8%	2.00	-1.76	-2.04	0.398%
Scenario 2	59.7%	1.7%	9.8%	-0.16	-0.83	-1.73	0.401%
Scenario 3	74.6%	1.6%	9.6%	-0.47	0.35	-0.35	0.537%

- Active Share is a measure of the percentage of stock holdings in a portfolio that differ from the benchmark.
 - The measure is used to highlight which active portfolios truly differ from their reference index and can correlate with the portfolio's ability to deliver on inefficiencies in the market.
- Tracking Error measures the divergence in price behavior from the benchmark.
 - Having a higher passive allocation corresponds to smaller tracking error, but also reduces the potential for outperformance.

¹ Analysis located in the Appendix

PERFORMANCE ANALYSIS



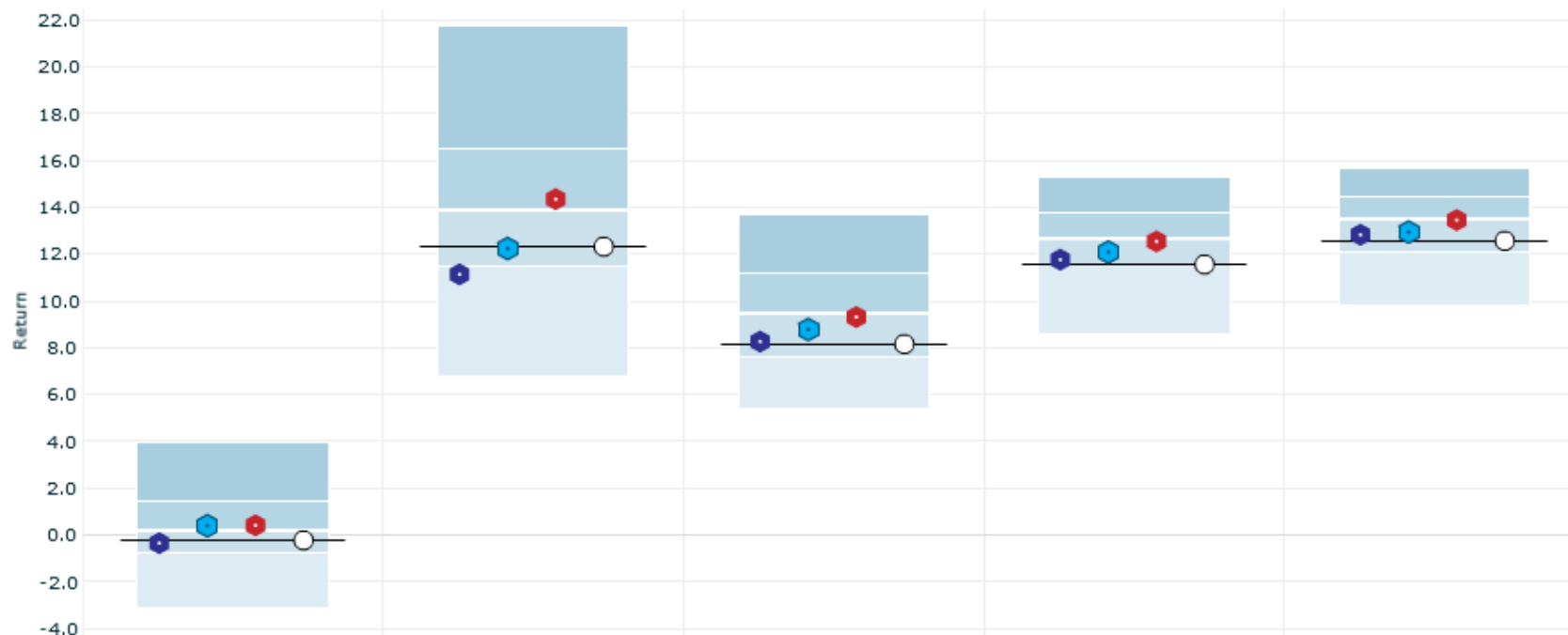
BACK-TESTED PERFORMANCE

- Actual net return history for NC utilized in each scenario
- In Scenario 3, the Loomis returns are composite results net of the quoted fee for NC

NET PERFORMANCE ANALYSIS

Return in \$US over 3 mths, 1 yr, 3 yrs, 5 yrs, 6 yrs ending March-18

Comparison with the US Equity SMID Core universe (Percentile Ranking)



	3 mths (%)	1 yr (%)	3 yrs (%pa)	5 yrs (%pa)	6 yrs (%pa)
Scenario1	-0.3 (69)	11.1 (80)	8.3 (69)	11.8 (69)	12.8 (58)
Scenario2	0.4 (47)	12.2 (67)	8.8 (64)	12.1 (59)	12.9 (57)
Scenario3	0.4 (47)	14.3 (43)	9.3 (56)	12.5 (52)	13.5 (51)
RU2500	-0.2 (61)	12.3 (67)	8.2 (72)	11.5 (75)	12.6 (65)
5th Percentile	3.9	21.7	13.7	15.3	15.7
Upper Quartil	1.4	16.5	11.2	13.8	14.4
Median	0.2	13.9	9.4	12.7	13.5
Lower Quartil	-0.8	11.5	7.6	11.6	12.1
95th Percentil	-3.1	6.8	5.4	8.6	9.8
Number	59	54	50	44	42

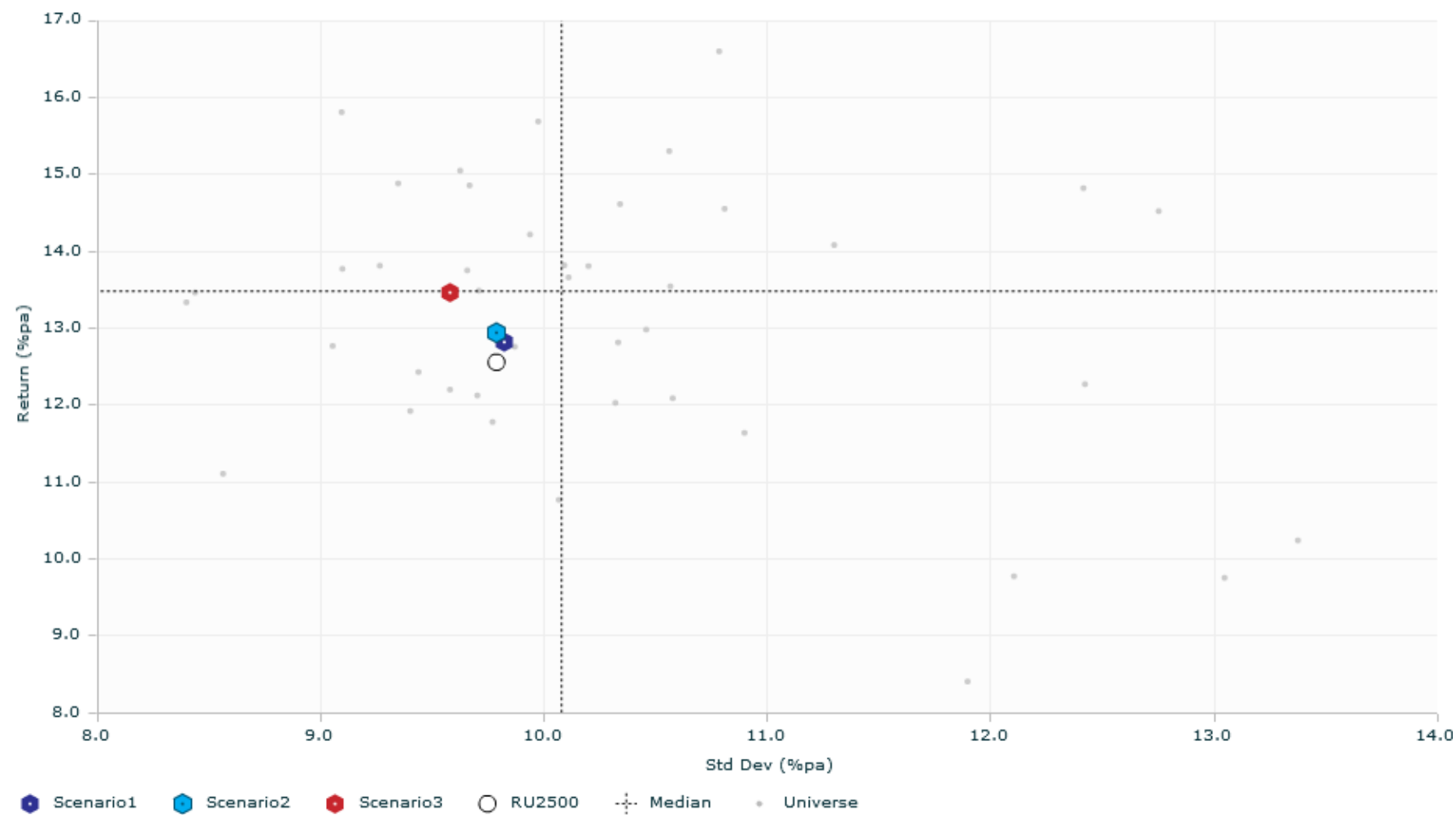
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PERFORMANCE ANALYSIS

Return and Std Deviation in \$US over 6 yrs ending March-18

Comparison with the US Equity SMID Core universe (quarterly calculations)



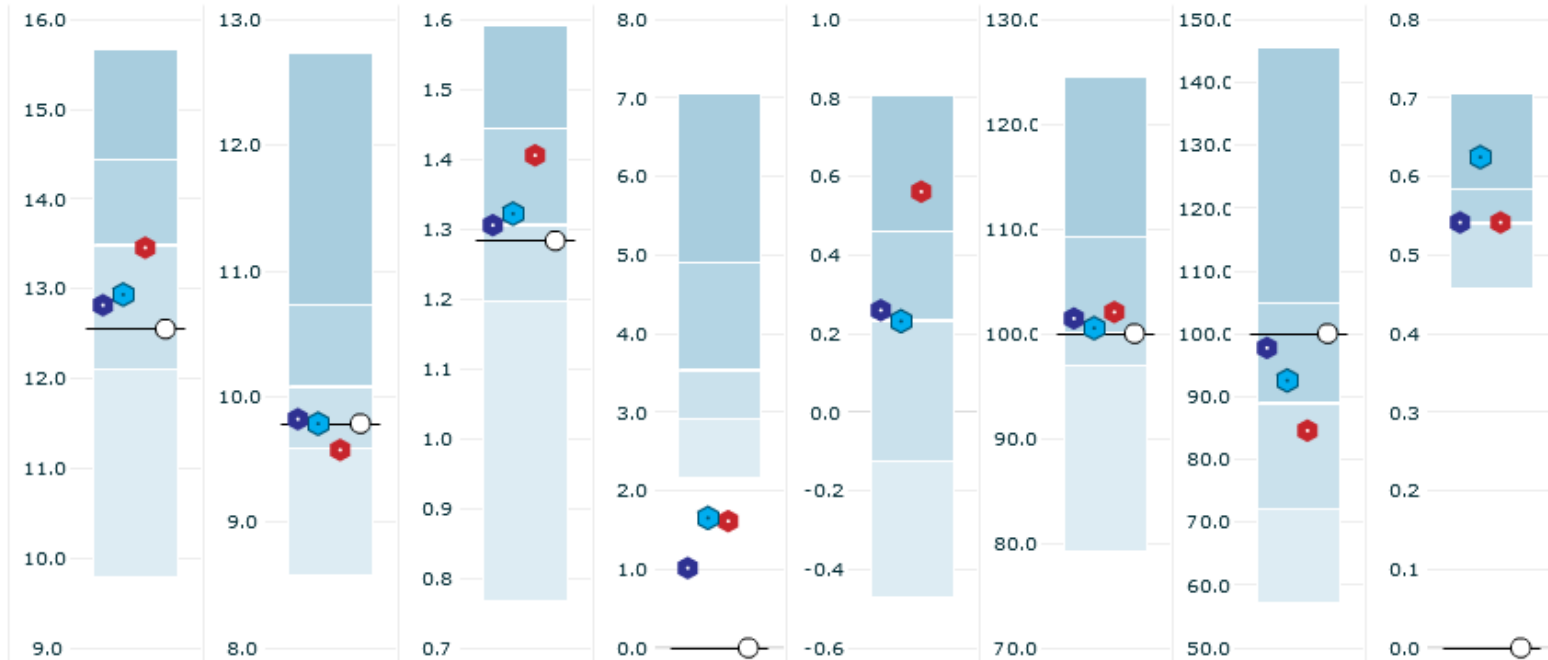
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PERFORMANCE ANALYSIS

Performance characteristics vs. Russell 2500 in \$US over 6 yrs ending March-18

Comparison with the US Equity SMID Core universe (Percentile Ranking) (quarterly calculations)



	Ret (%pa)	Std Dev (%pa)	Ret/SD	TE (%pa)	IR	Up Cap (%)	Down Cap (%)	Bat Av
Scenario1	12.8 (58)	9.8 (60)	1.3 (50)	1.0 (1...)	0.3 (49)	101.5 (46)	97.7 (39)	0.54 (44)
Scenario2	12.9 (57)	9.8 (61)	1.3 (48)	1.7 (1...)	0.2 (50)	100.5 (48)	92.6 (45)	0.63 (10)
Scenario3	13.5 (51)	9.6 (76)	1.4 (35)	1.6 (1...)	0.6 (20)	102.1 (45)	84.6 (55)	0.54 (44)
RU2500	12.6 (65)	9.8 (61)	1.3 (56)	0.0 (1...)	-	100.0 (51)	100.0 (36)	0.00 (1...)
5th Percentile	15.7	12.7	1.6	7.1	0.8	124.5	145.5	0.71
Upper Quartil	14.4	10.7	1.4	4.9	0.5	109.3	104.5	0.58
Median	13.5	10.1	1.3	3.5	0.2	100.1	88.8	0.54
Lower Quartil	12.1	9.6	1.2	2.9	-0.1	96.9	72.2	0.46
95th Percentil	9.8	8.6	0.8	2.2	-0.5	79.2	57.2	0.46
Number	42	42	42	42	42	42	42	42

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The batting average is the proportion of quarters that the portfolio outperformed the benchmark. The median SMID Cap Core manager outperformed in 54% of the past 24 quarters.

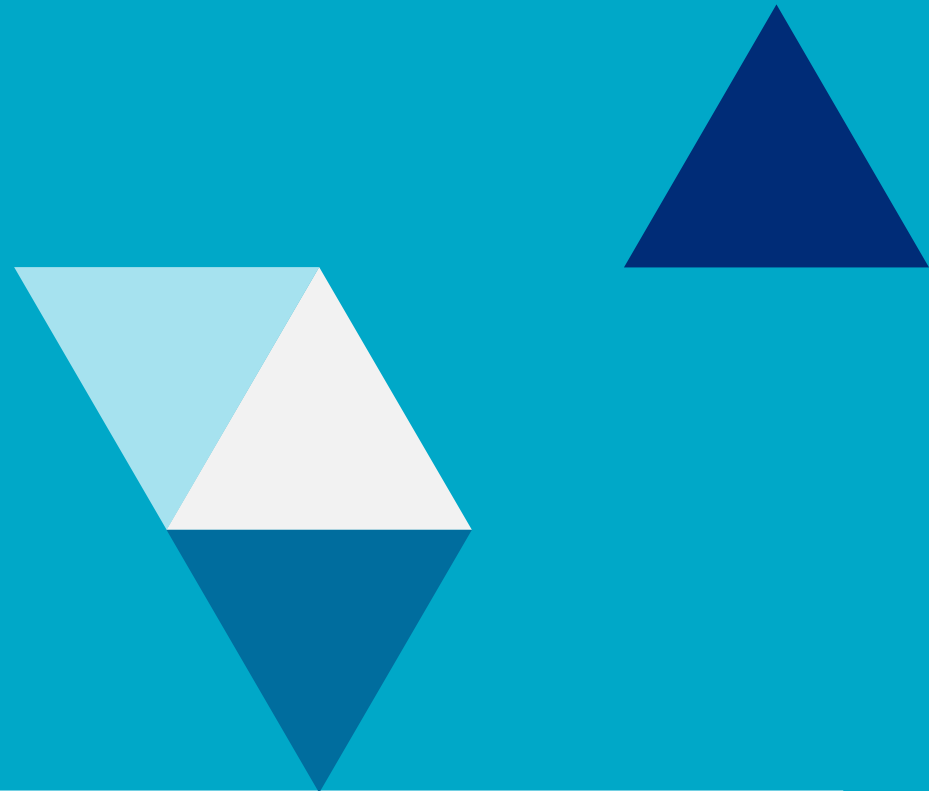
NEXT STEPS

	Scenario 1	Scenario 2	Scenario 3
Update IPS	- Update 'Investment Objective' to reflect value tilt / Fund Name - Update underlying mandates and target allocations	- Update 'Investment Objective' - Update underlying mandates and target allocations	- Update underlying mandates and target allocations
Communication to Participants	- Letter to all participants in Fund¹ - Fund fact sheet changes - Website notification - Signature Newsletter article	- Letter to all participants in Fund¹ - Fund fact sheet changes - Website notification - Signature Newsletter article	- Fund fact sheet changes - Website notification - Signature Newsletter article
Estimated Transition Costs²	Commission & Taxes: \$29,872 Spread & Market Impact: \$221,945 Total Costs: \$251,817 / 14 bps	Commission & Taxes: \$29,872 Spread & Market Impact: \$221,945 Total Costs: \$251,817 / 14 bps *there will be additional trading costs for trimming value managers and adding to remaining growth manager	Commission & Taxes: \$54,331 Spread & Market Impact: \$682,935 Total Costs: \$737,266 / 42 bps

¹ Communicate with participants who hold the NC SMID Core Fund utilizing the most cost effective means available. Staff estimates this total cost to be approximately \$70K and not to exceed \$133K

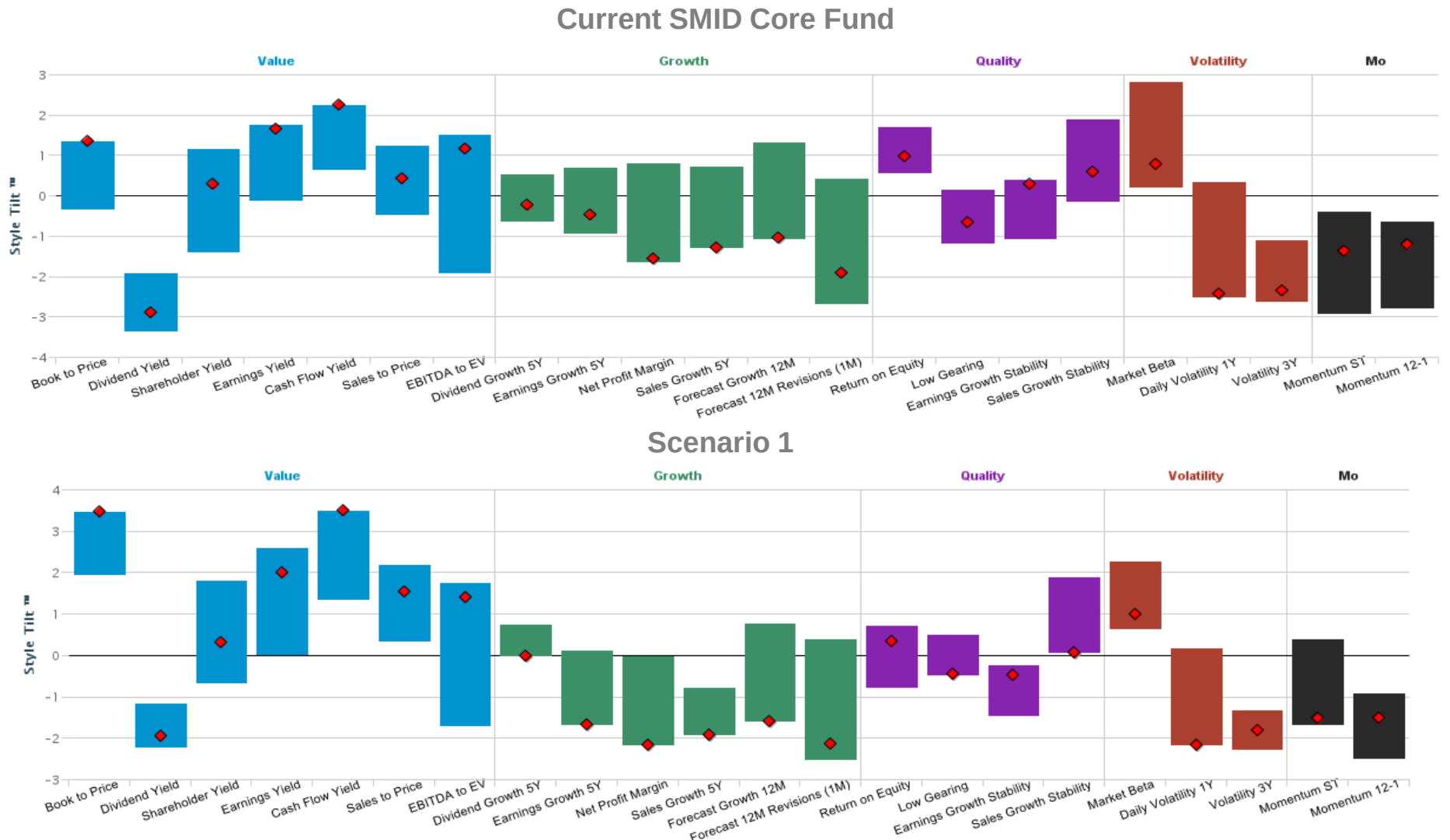
² Preliminary estimate

APPENDIX



HOLDINGS BASED STYLE ANALYSIS

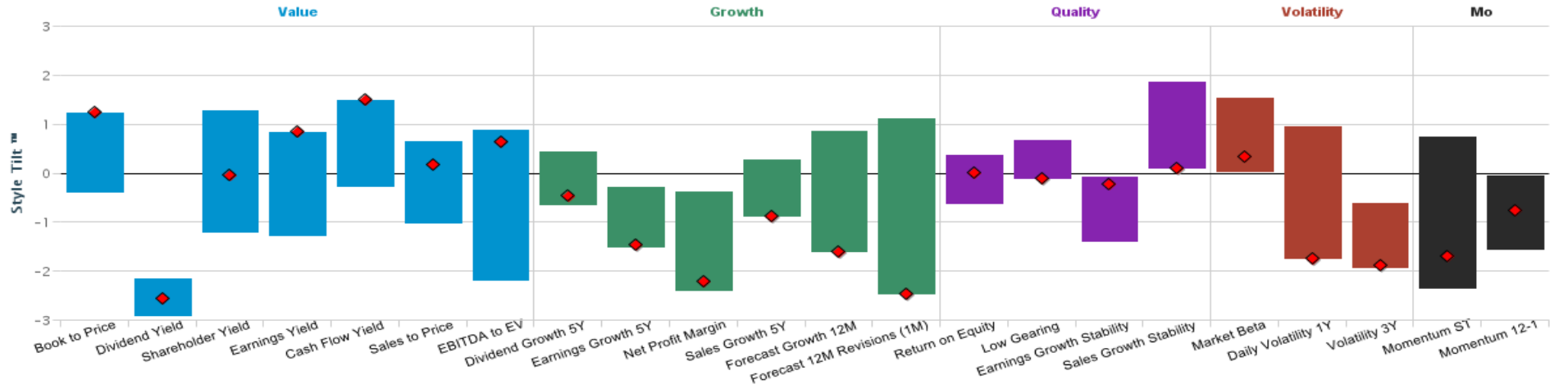
CURRENT AND SCENARIO 1 (TRAILING 3 YEARS)



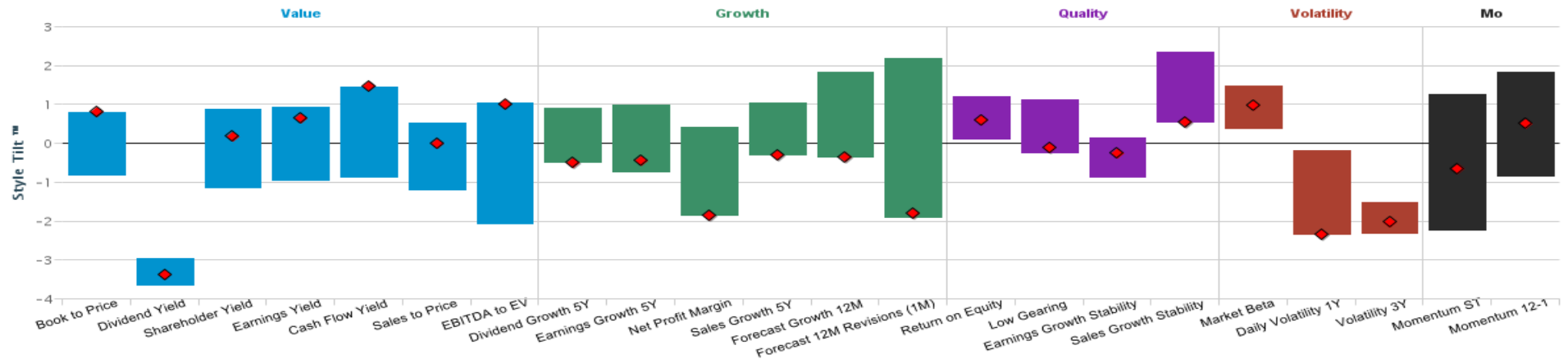
HOLDINGS BASED STYLE ANALYSIS

SCENARIO 2 AND 3 (TRAILING 3 YEARS)

Scenario 2



Scenario 3



STYLE RESEARCH BACKGROUND

The Style Research Portfolio Style Skyline™ shows how a portfolio is positioned or Tilted relative to a benchmark with respect to key themes or Styles. In addition to revealing differences in exposures to fundamental investment factors, these Style Tilts™ are also designed to capture how significant or “deliberate” these differences are and to facilitate direct comparisons of benchmark relative Style orientation between portfolios.

In the default Style Skyline™, the first six bars from the left are Value factors (shown as blue in the output). The next six bars are the Growth factors (green bars) and include four current/historic measures as well as two forward-looking Growth factors (incorporating IBES consensus earnings estimates and earnings forecast revisions). The remaining bars on the right cover Size, Beta, Momentum, Gearing/Leverage and Foreign Sales, Quality Factors, Macro Factors and ESG Factors.

The default Style Skyline™ includes 18 distinct Style factors selected from a range of 60, which can be selected by the user. See Appendix 1 for a detailed list and definitions of all available factors. The example given below (Figure 1) shows positive and significant Tilts towards Value factors and negative Tilts towards most Growth factors, identifying a traditional Value portfolio. The portfolio is also Tilted towards Smaller Cap stocks and negative Momentum on both short and medium-term measures.

A positive/negative Style Tilt indicates that the portfolio factor is higher/lower than the benchmark; i.e. a positive blue bar on Book/Price (“Value”) would mean that the portfolio has a positive bias to Value while a negative blue bar indicates “expensive” on that Value measure.

As a general rule of thumb, for any individual Style Tilt (whether “Standard” or Country/Sector Adjusted) :

- Style Tilts between -0.5 and +0.5 are probably not significant.
- Style Tilts less than -0.5 or more than +0.5 indicate a Tilt exists but may not be significant.
- Style Tilts less than -1 or more than +1 are significant. • Style Tilts less than -2 or more than +2 are very significant

FACTOR DEFINITIONS



STYLE
RESEARCH

Book to Price

The ratio of the company's book value (the sum of shareholders' equity plus accumulated retained earnings from the P & L Account) to its share price.

This factor has been one of the most successful measures of the intrinsic value of company shares.

Earnings Yield

Annual earnings (adjusted for amortizations of intangibles, extraordinary charges and credits) per share divided by the share price.

This factor measures the worth of a company's shares according to the company's ability to support each share with after tax earnings.

Cash Flow Yield

Annual cash flow per share divided by the share price.

This factor is related to earnings yield but also includes other items, specifically: depreciation, amortizations, and provisions for deferred liabilities. It is intended to capture the cash availability of the company as a multiple of the share price, and offers a value criteria based on the stream of accessible cash earnings.

Sales to Price

Net sales per share divided by the share price.

This factor measures the worth of a company's shares according to the annual sales volume supporting the company business. The item is considered by many analysts to be less susceptible to manipulation than other valuation criteria; it is however, a less comprehensive measure of a company's range of activities.

EBITA to EV

The ratio of the company's EBITDA to Enterprise Value. EBITDA is Earnings before interest, taxes and depreciation and is calculated by taking the pretax income and adding back interest expense on debt and depreciation, depletion and amortization and subtracting interest capitalized.

YIELD FACTORS

Dividend Yield

The annual dividend paid per share divided by the share price.

This factor measures the value of company shares according to the stream of dividend income resulting from share ownership.

Shareholder Yield

The sum of Net Buyback Yield, Dividend Yield and Net Debt Paydown Yield.

This factor measures the proportion of a company's value distributed to shareholders through dividend payments, share repurchases and debt reduction.

GROWTH FACTORS

Earnings Growth 5Y

The average annual growth rate of earnings (adjusted for amortizations of intangibles, extraordinary charges and credits) over a trailing five years.

Earnings Growth is, perhaps, the clearest of the growth criteria. However, it is subject to the distortions of reporting conventions and manipulation and, particularly in some markets, only known after a considerable lag.

Sales Growth 5Y

The average annual growth rate of net sales per share over a trailing five years.

Although growth in sales per share might be only a narrow measure of a company's business growth, and may be subject to a number of distortions, it is less subject to differences in reporting conventions or manipulation than many other balance sheet or profit and loss items.

Forecast Growth 12M

Consensus forecast growth of earnings over the next 12 months. The 12 month growth is calculated on a pro-rata basis from the forecasts for each of the company's next 2 annual reporting periods.

Dividend Growth 5Y

The average annual growth rate of dividends over a trailing five years.

QUALITY FACTORS

Return on Equity

Net Income after preferred dividends divided by the book value of shareholders' common equity.

RoE measures the profitability of the operations of the company as a proportion of the total amount of equity in the company. Since RoE multiplied by the reinvestment rate (the proportion of earnings not paid as dividends but reinvested in the company) gives the warranted growth rate of a company, RoE is a traditional measure of a company's growth potential.

Net Profit Margin

The "net margin", annual net income before preferred dividends (plus policyholders' surplus for insurance companies), divided by annual net sales.

This measure attempts to assess the company's potential for profitable, sustained expansion or growth.

Low Gearing

The negative of debt to equity. Low geared companies can be regarded as being of higher "quality" as they are less burdened by debt repayment costs.

Earnings Growth Stability

This 'quality' factor is calculated as the negative of the standard deviation of earnings growth over the most recent 3 years of growth data.

Sales Growth Stability

This 'Quality' factor is calculated as the negative of the standard deviation of Sales Growth over the most recent 3 years of growth data.

SIZE FACTORS

Market Cap

The market capitalization of the stock.

The average size statistic of a portfolio is the weighted (by holding value) average size of the securities held. The average size statistic of a benchmark (or total market) is the weighted (by holding value) average size of the securities within the benchmark (or total market).

VOLATILITY FACTORS

Market Beta

The "slope coefficient", (β), from the simple regression:

Security monthly return = $\alpha + \beta * \text{market monthly return} + \text{random error}$.

The regression is carried out over 36 month periods. Where sufficient information is not available, $\beta=1$ is assumed.

Daily Volatility 1Y

The standard deviation of the last year of daily total returns, expressed as an annualized percentage.

Volatility 3Y

The standard deviation of the last 36 months of total returns, expressed as an annualized percentage.

MOMENTUM FACTORS

Momentum ST

Calculated using a 6 month "memory" of monthly total returns. The past period returns are weighted using a "decay ratio" of 2/3, per month. This weighted historic return factor measures the degree of performance trend following. It is useful in recognizing trading character of specific markets and in noticing occasional changing patterns through the market cycle.

Momentum 12-1

The total return of the stock over the last 12 months, excluding the total return over the most recent month since reversal effects are often associated with one-month returns.

Forecast 12M Revisions

IBES balance of Earnings forecast revisions for the over the next 12 months.

Calculated as the difference between the number of upwards revisions minus the number of downwards revisions (as sampled over the past 1M period), expressed as a percentage of the number of estimates.

The 12 month earnings revisions is calculated on a pro-rata basis from the forecasts for each of the company's next 2 annual reporting periods.

IMPORTANT NOTICES

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Returns for periods greater than one year are annualized. Returns are calculated gross of investment management fees, unless noted as net of fees.

Mercer universes: Mercer's universes are intended to provide collective samples of strategies that best allow for robust peer group comparisons over a chosen timeframe. Mercer does not assert that the peer groups are wholly representative of and applicable to all strategies available to investors.



INVESTMENT MANAGEMENT

MEMORANDUM

TO: North Carolina Supplemental Retirement Board of Trustees

FROM: Loren de Mey, Assistant Investment Director

DATE: May 9, 2018

SUBJECT: Discussion / Action: 401k and 457b Plans – SMID Cap Growth Active Manager Search Recommendation

As directed by the Supplemental Investment Subcommittee, Investment Management Division (IMD) staff and Mercer have conducted a search for an active manager as a potential replacement for TimesSquare in the NC Small/Mid Cap (SMID) Core Fund. If the Supplemental Investment Subcommittee and Board decide to pursue an active option for this replacement, then Staff and Mercer recommend Loomis Sayles as the fund manager.

The key reasons supporting Loomis Sayles as the manager recommendation include:

1. Disciplined investment process
2. Experienced investment team and strong track record
3. Strong risk management culture with solid downside protection
4. Backing of a strong organization
5. Competitive fees within the active SMID Cap Growth universe

Due Diligence Search Process

Mercer worked with IMD to screen the universe of the more than 70 SMID cap growth investment managers. Managers were evaluated on a number of essential factors, including Mercer rating, assets under management, performance net of fees, and complementary styles with the other investment strategies within the NC SMID Cap Core Fund. The initial list was reviewed with staff and a thorough review of the detailed search report prepared by Mercer was conducted, which included significant quantitative and qualitative analysis. As a result of this work, three managers were selected as finalists. Conference calls were conducted with the three finalists. In addition to the conference calls, staff reviewed firm materials including due diligence questionnaires, manager presentations, consultant reports, and performance and risk statistics. Loomis was selected as the preferred manager, based on its team's strong track record, disciplined investment process and strong risk management culture. Consistent with SRP's manager search and selection policy, staff, accompanied by Mercer, conducted an onsite due diligence meeting with Loomis Sayles in its Boston office.

Organization

Loomis, Sayles & Company, L.P. (Loomis Sayles), structured as a limited partnership, is a wholly-owned subsidiary of Natixis Investment Managers, L.P., the US-based subsidiary of Natixis, a french corporate and investment bank. Natixis Investment Managers, L.P., headquartered in Boston, has several investment management affiliates and other securities-related firms both in and outside of the



INVESTMENT MANAGEMENT

United States. Loomis Sayles had over \$266 billion in assets under management as of March 31, 2018.

Investment Team

The Loomis Sayles SMID Cap Growth team is comprised of two portfolio managers, Mark Burns and John Slavik, four dedicated analysts, and a product manager. Biographies are included in Appendix A.

SMID Cap Growth Strategy - Investment Philosophy and Process

The SMID Cap Growth strategy currently has \$730 million in assets, with capacity of \$3 billion. The team also manages a Small Cap Growth strategy with assets of \$2.3 billion and is currently closed to new investors.

The investment team's goal is a low volatility approach to high growth SMID cap investing. They employ a bottom-up, fundamental investment process and strive to make active stock selection the primary driver of returns. Given the breadth and scope of the SMID cap growth universe, the investment team believes the asset class is largely inefficient. They seek to exploit market inefficiency by identifying what they call "emerging winners." These are businesses that, in the team's view, have strong fundamentals, but are under-recognized by the market.

Given the inherent volatility of SMID cap growth stocks, the team believes it is important to apply risk management from the stock level to the portfolio level and from the buy decision to the sell decision. The team seeks to provide outperformance over full market cycles with portfolio volatility at or below benchmark volatility.

Idea Generation and Analysis

The team sources investment ideas through traditional fundamental analysis and a proprietary growth screen. First, the team leverages their experience in fundamental research and their network of industries and company contacts. The team's proprietary growth screen ranks the investable universe according to three criteria: earnings power, relative strength and share turnover. About 40-50 percent of the team's ideas are sourced through the growth screen.

Each investment idea is then vetted and researched through rigorous fundamental analysis. The team looks for visibility and predictability of growth drivers with strong competitive advantages. The team uses discounted cash flow modeling as their primary tool to better understand and compare the reward to risk in high growth businesses across sectors and industries.

Once the team identifies investment candidates that meet their criteria, they seek to initiate positions that they believe are priced to offer a minimum 25 percent upside potential. Position sizes are typically 0.75 - 3.0 percent, with 65-85 holdings in the portfolio.

Risk Management

The team integrates risk management into their investment process. They believe that quality companies will tend to participate less in down markets than the broader investable universe. Through their valuation analysis, the team seeks to select stocks that offer a return potential of 2:1, upside-to-downside to help manage downside volatility and facilitate greater return sustainability. They also ensure position size is commensurate with their estimate of the business model risk and their level of conviction.



INVESTMENT MANAGEMENT

To help minimize volatility at the strategy level, they attempt to manage factor and sector risks. Adhering to constraints on sector weights and position sizes during portfolio construction can further enhance risk management. Combining relatively tight constraints with an active, bottom-up stock selection process can help ensure the importance of stock selection for potential alpha generation rather than sector bets.

A clearly defined stop/loss discipline is an important part of their risk management. The team actively monitors all holdings in the strategy. Sell decisions are typically a function of deterioration in the fundamentals of their investment thesis or somewhat less frequently, price target attainment. The stop/loss discipline, however, relies on both absolute and relative price measure to help identify when and where their view is significantly at odds with the market. Significant price deterioration of a holding over the trailing month can lead to further review and potentially a sale. Not only does the stop/loss discipline help remove emotion from their decision process, it can be important to capital preservation. Additionally, the stop loss discipline can allow the team to move on from mistakes and reallocate time and capital to better ideas. This feature has also contributed to the portfolio's overall downside protection characteristics.

The portfolio managers are ultimately responsible for risk management, but there is oversight from Chief Investment Officer (CIO), Jae Park, and his team. While general oversight of each investment team and strategy is provided, the CIO and his team are not involved in direct money management. The CIO ensures that risk management is integrated into the investment process occurring concurrently with investment decisions, while also confirming the strategy is within its historical risk profile. The investment teams, which report to the CIO, are responsible for constructing portfolios that are appropriate given the investment objectives, investment restrictions, and risk tolerances of clients. In doing so, they rely on comprehensive, fundamental research in which risk assessment plays a key role.

Expected Performance in Different Market Environments

The team favors quality companies with differentiated growth opportunities that they believe are positioned to benefit from longer-term, secular growth drivers. The Loomis Sayles SMID Cap Growth strategy would be expected to outperform in markets where returns are driven primarily by quality, growth fundamentals.

The strategy may underperform relative to the benchmark in markets where returns are driven by low-quality stocks and in narrow markets where a sector or small group of industries drive returns.

Investment Management Fee

59 basis points

This fee is an 18% discount from the firm's standard fee schedule.



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Performance *(net of fees ending March 2018):*

	Q1 2018	1 YR	3 YR	5 YR	6 YR
Loomis SMID	3.0	26.5	12.5	14.7	15.2
R2500 Growth	2.4	19.9	9.1	13.4	13.4
Excess	0.6	6.6	3.4	1.3	1.8

Risk Statistics *(versus the Russell 2500 Growth Index for 6 years ending March 2018)*

Standard Deviation	9.9
Sharpe Ratio	1.6
Information Ratio	0.7
Upside Capture	109.7
Downside Capture	74.3



INVESTMENT MANAGEMENT

Appendix A: Biographies

Portfolio Management

Mark F. Burns, CFA

Mark Burns is a vice president of Loomis, Sayles & Company and co-portfolio manager of the Loomis Sayles Small Cap Growth and Small/Mid Cap Growth funds and the Loomis Sayles Small Cap Growth and Small/Mid Cap Growth strategies. Mark has 21 years of investment industry experience. He joined Loomis Sayles in 1999 as a small cap growth analyst working on a range of sectors, including technology, consumer and healthcare. Mark was instrumental in developing the Loomis Sayles diversified approach to small cap management. He previously worked as an investment analyst for New England Pension Consultants, where he researched small cap strategies, developed risk/return assumptions for all asset classes and performed asset allocation studies. Mark earned his undergraduate degree at Colby College and an MBA from the Johnson School of Management at Cornell University.

John J. Slavik, CFA

John Slavik is a vice president of Loomis, Sayles & Company and co-portfolio manager of the Loomis Sayles Small Cap Growth and Small/Mid Cap Growth funds and the Loomis Sayles Small Cap Growth and Small/Mid Cap Growth strategies. He has 26 years of investment industry experience. Before joining Loomis Sayles in 2005, John was a portfolio manager for Westfield Capital Management, LLC where he helped manage small and small/ mid cap growth assets. John was also vice president of equity research at Harbor Capital Management, where he held research responsibilities and was a member of the growth product portfolio management team. Prior to that, he was an associate portfolio manager and research analyst at Phoenix Investment Counsel. John is a member of CFA Society Boston and a graduate of the University of Connecticut.

Dedicated Resources

James W. Lamb, CFA

James Lamb is a vice president and senior equity research analyst for the small-smid cap growth team at Loomis, Sayles & Company. Prior to joining Loomis Sayles in 2008, he was an investment associate in fundamental equity research at Putnam Investments. James earned an AB in engineering sciences from Dartmouth College.

Chris O'Brien, CFA, CMT

Chris O'Brien is a vice president and senior equity research analyst for the small-smid cap growth team at Loomis, Sayles & Company. He joined Loomis Sayles in 2013 from John Hancock Asset Management, where he was a portfolio manager for their small and mid cap equity group. Previously, Chris was a small cap analyst at State Street Research and Baring Asset Management, Inc. He earned an undergraduate degree from Trinity College and his MBA from Babson College.

Nathaniel C. Roberts

Nate Roberts is a vice president and senior equity research analyst for the small-smid cap growth team at Loomis, Sayles & Company. He joined Loomis Sayles in 2007 from J.L. Kaplan Associates, where he was an equity analyst responsible for covering industrials, aerospace & defense and building products. Previously, Nate was a junior analyst at Putnam Investments, and an associate in Cantor Fitzgerald's environmental brokerage services area. Nate earned a BA from Bucknell University and an MBA from the Sloan School of Management at the Massachusetts Institute of Technology.



INVESTMENT MANAGEMENT

Anand Vankawala

Anand Vankawala is a senior equity analyst for the small-mid cap growth team at Loomis, Sayles & Company. He joined Loomis Sayles in 2017 and has eight years of investment industry experience. Previously, Anand was at Century Capital Management, first as a junior equity analyst assisting in models and research across all sectors, and later as a senior equity analyst covering small cap and mid cap healthcare companies and analyzing general sector trends. Prior to this, he was at Avondale Partners, where he was responsible for covering stocks that fell within the healthy living category. Before this, Anand held medical research positions at the INC Research Contract Clinical Research Organization and the Illinois Institute of Technology Engineering Research Center. He earned a BS in biomedical engineering from the Illinois Institute of Technology and an MS in finance from Vanderbilt University.

Product Management

Noreen A. Drohan

Noreen Drohan is a vice president of Loomis, Sayles & Company and product manager for the small cap and small/mid growth portfolios. Noreen joined Loomis Sayles in 2005 as a portfolio assistant. She was promoted to product specialist in 2006, and later to associate product manager. Noreen earned a BS from Northeastern University and an MBA from University College Cork in Cork City, Ireland.