

NORTH CAROLINA
DEPARTMENT OF STATE TREASURER



Dale R. Folwell, CPA
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INVESTMENT MANAGEMENT DIVISION

Public Equity – IAC Presentation

Presented by:

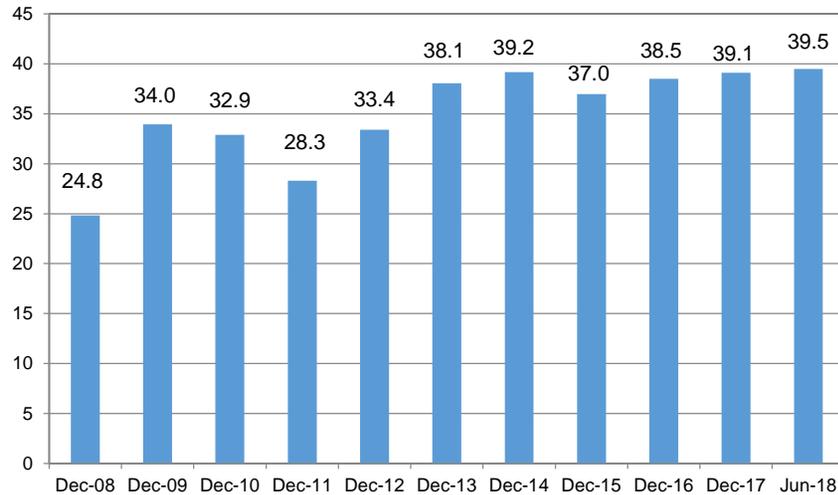
*Rhonda Smith, Director
Casey High, Portfolio Manager
Greg Taylor, Portfolio manager*

August 23, 2018

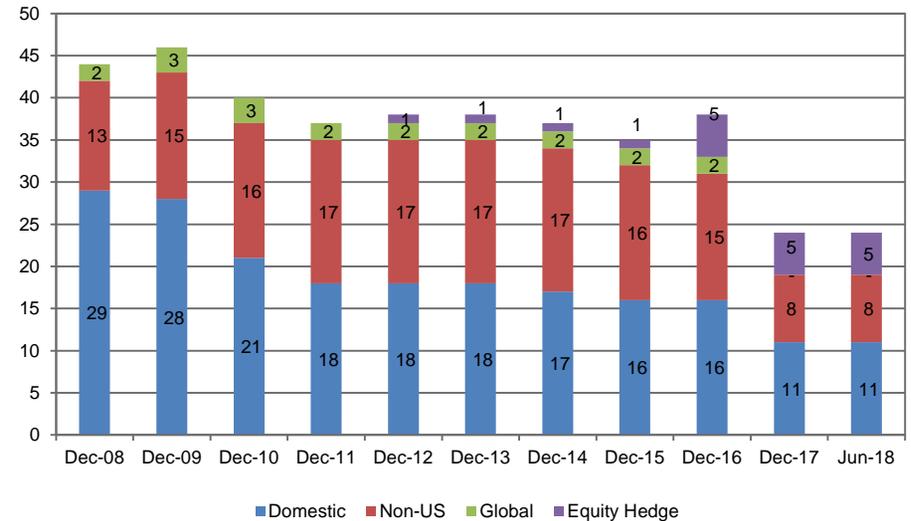


Snapshot of Total Public Equity

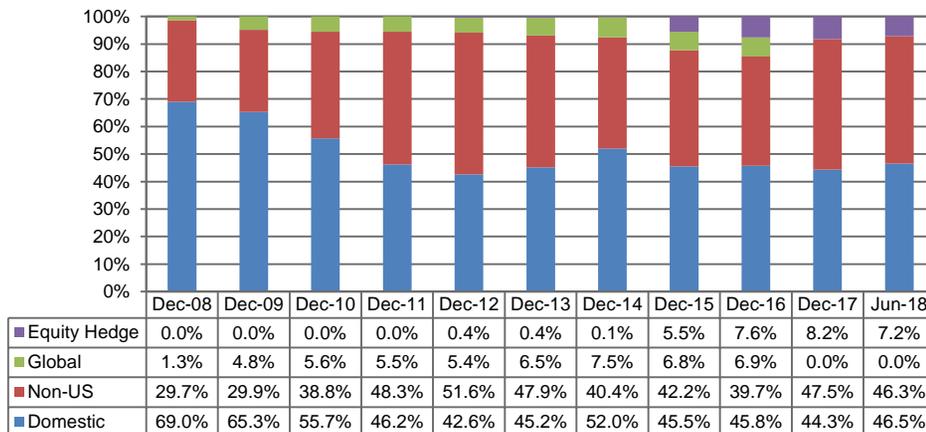
Equity Assets* (\$B)



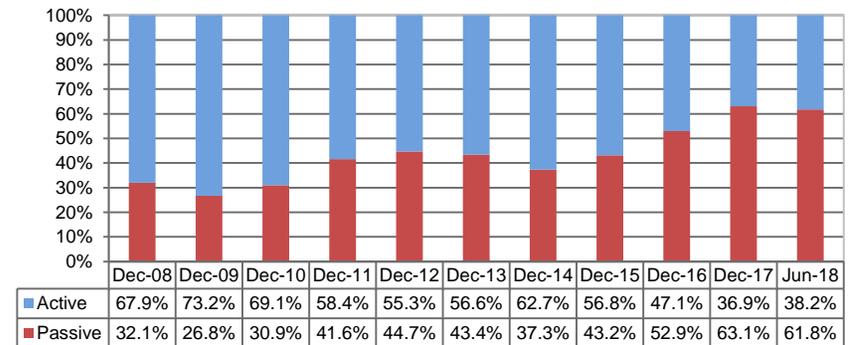
Number of Mandates*



Asset Allocation



Active vs Passive



Excludes cash and transition
Excluded Hedged Equity until 2016

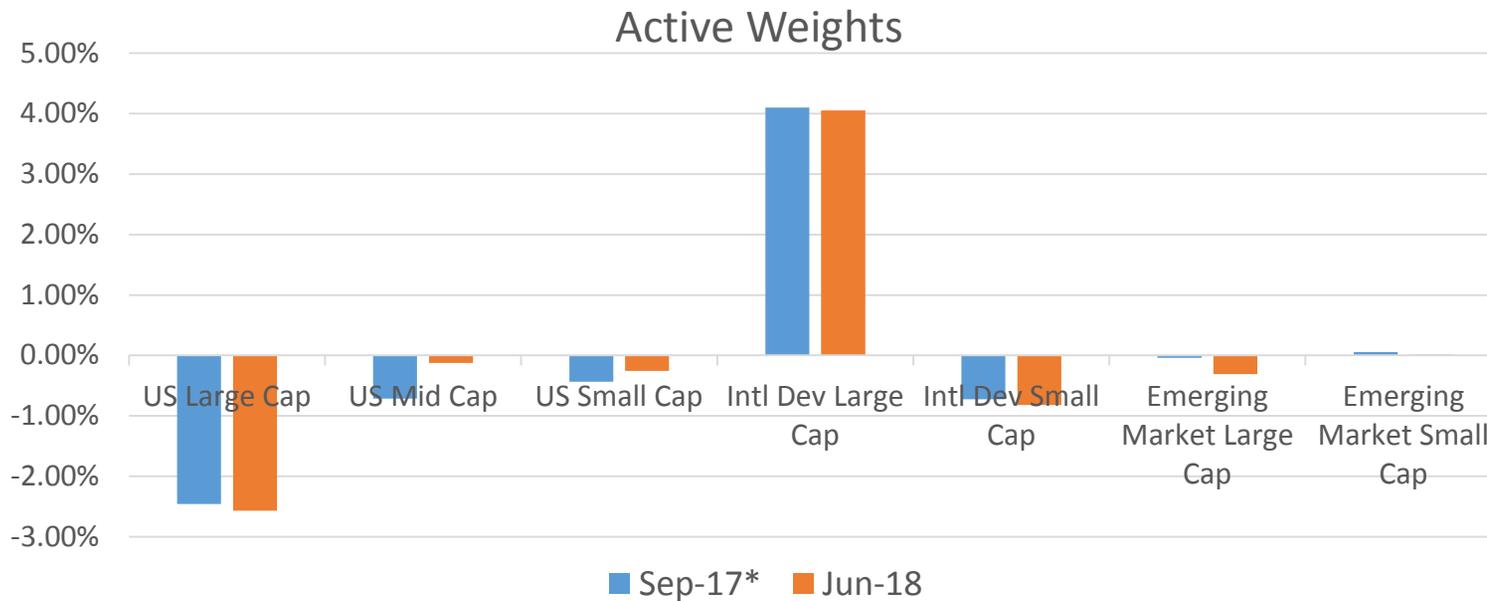


NCRS Public Equity Net Performance – June 30, 2018

	Market Value (\$MM)	3 Month	1 Year	3 Years	5 Years	10 Years	15 Years
Public Equity	\$39,512	1.08	12.53	8.77	10.18	6.93	8.06
Benchmark		0.68	10.55	7.87	9.31	6.19	7.37
Domestic Portfolio	\$18,381	4.09	15.73	11.39	13.33	10.27	9.79
Russell 3000		3.89	14.78	11.58	13.29	10.23	9.61
Non-US Portfolio	\$18,293	-1.57	10.89	7.27	7.73	3.36	8.05
Custom Benchmark		-2.61	7.75	5.46	6.39	2.48	7.01
Equity Hedge	\$2,835	0.10	4.89	3.82	4.68	-	-
MSCI ACWI (beta adjusted)		0.29	4.41	3.40	2.97	-	-



Structural Analysis



Annual Risk Measures	Sep-17*	Jun-18
Misfit Risk	0.35%	0.29%
Active Risk	0.62%	0.65%
Tracking Error	0.71%	0.71%

Strategies (Active)	Sep-17*	Jun-18
US	9 (6)	11 (6)
Non-US	8 (6)	8 (6)
Hedged Equity	5 (4)	5 (4)
Total	22 (16)	22 (16)
No of Investment Managers	15	15

**September 30, 2017 was earliest quarter-end post-restructure of Public Equity portfolio as presented to IAC members in November 2017.*



Portfolio Updates

New Manager Investment Allocation:

- Recommendation to allocate to new low cost quasi-passive equity strategy in motion.
- US Portfolio will be implemented by NCRS Internal Equity team, Non US Portfolio will be managed externally by new manager.
- The allocations will be funded from a rebalance of current international portfolio following exceptional recent performance.

Annual Risk Measures	Current	Post Update
Misfit Risk	0.29%	0.21%
Active Risk	0.65%	0.59%
Tracking Error	0.71%	0.63%

Investment Objectives:

- Enhance Public Equity Portfolio long term risk/return profile.
- Increase diversification of equity portfolio sources of risk, and manage active manager concentration/risk.
- Reduce portfolio investment management fees.



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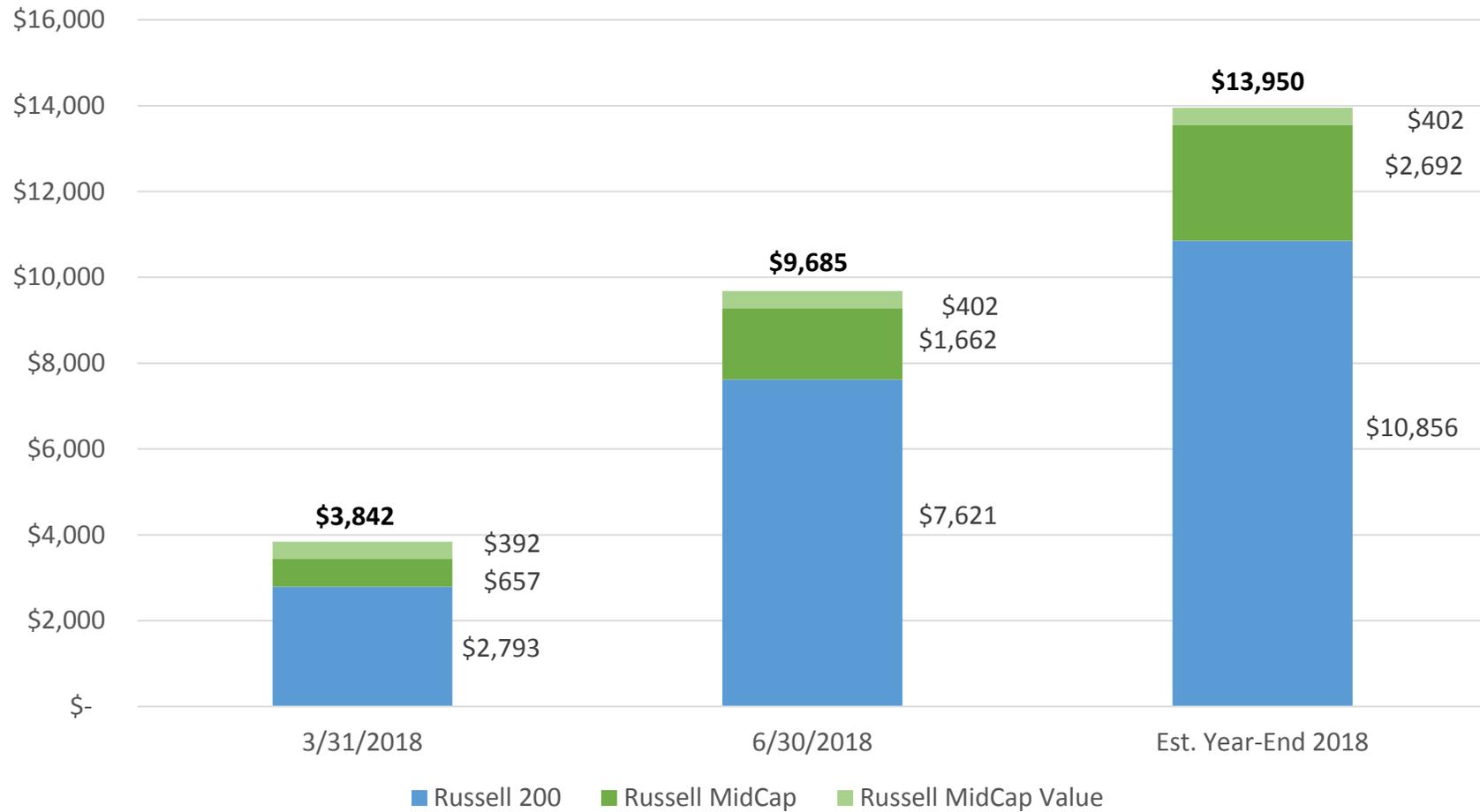
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Public Equity Internal Index Management



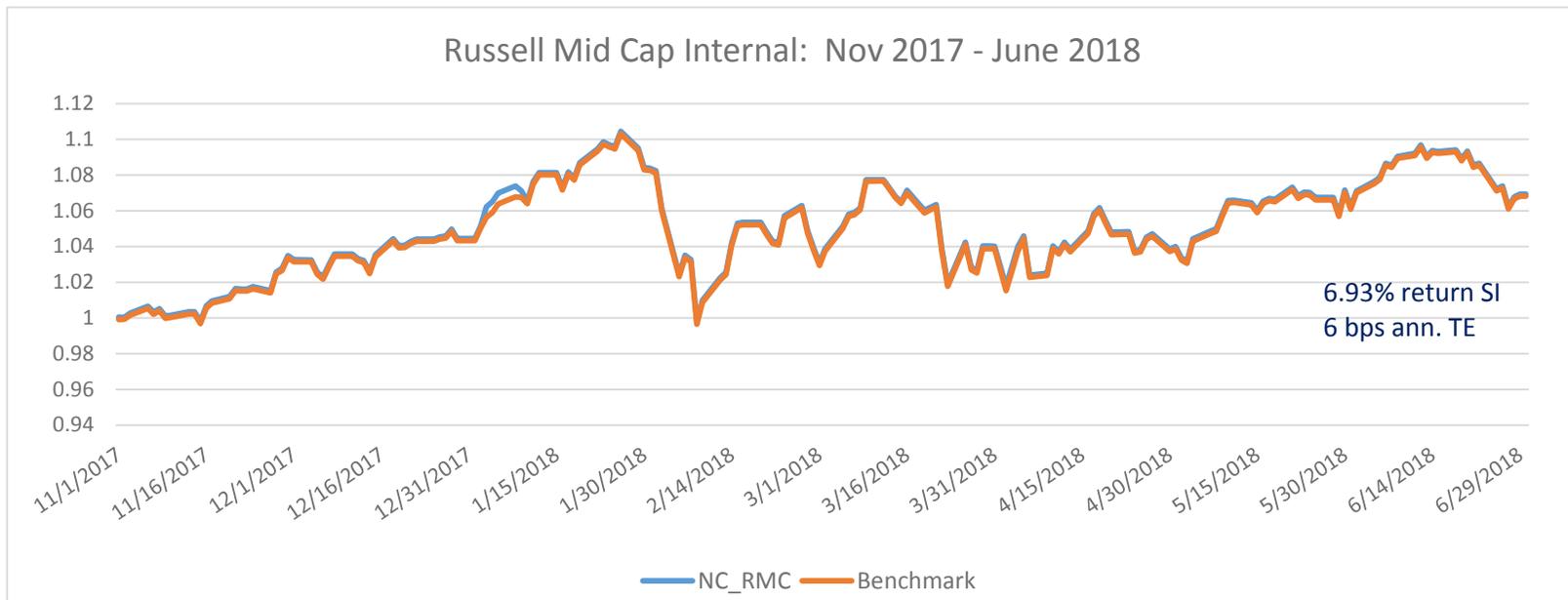
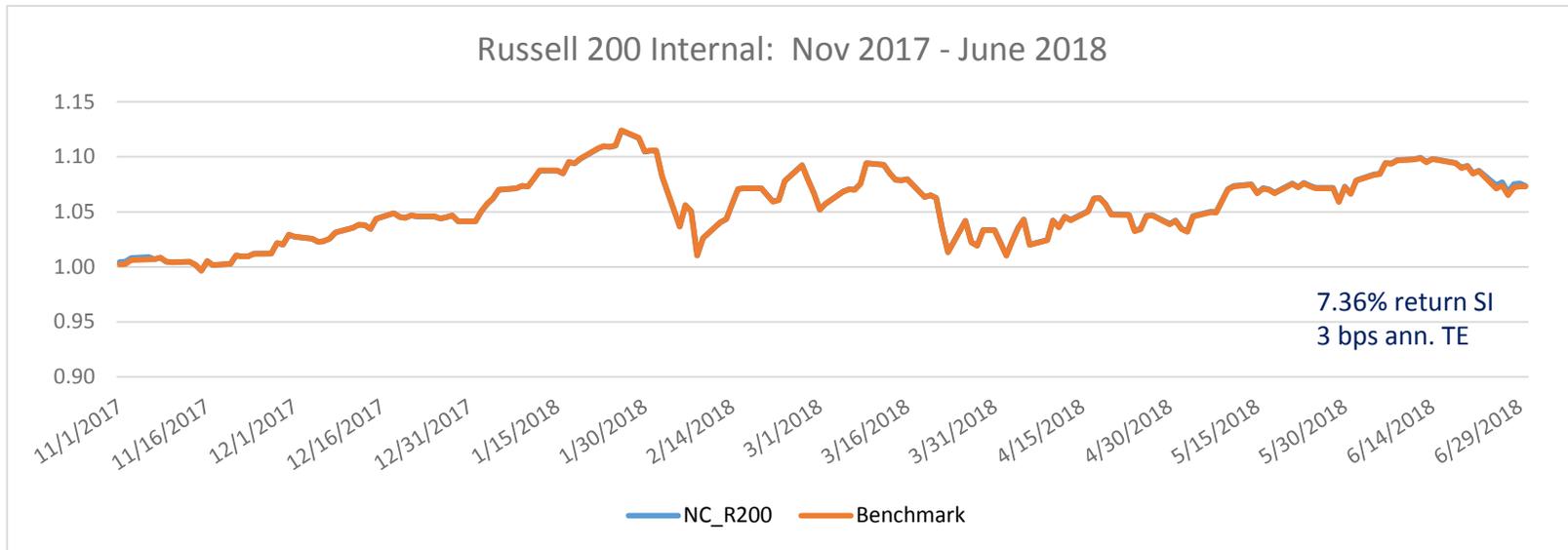
Internal Passive Equity

Internal U.S. Passive Equity AUM (MM's)



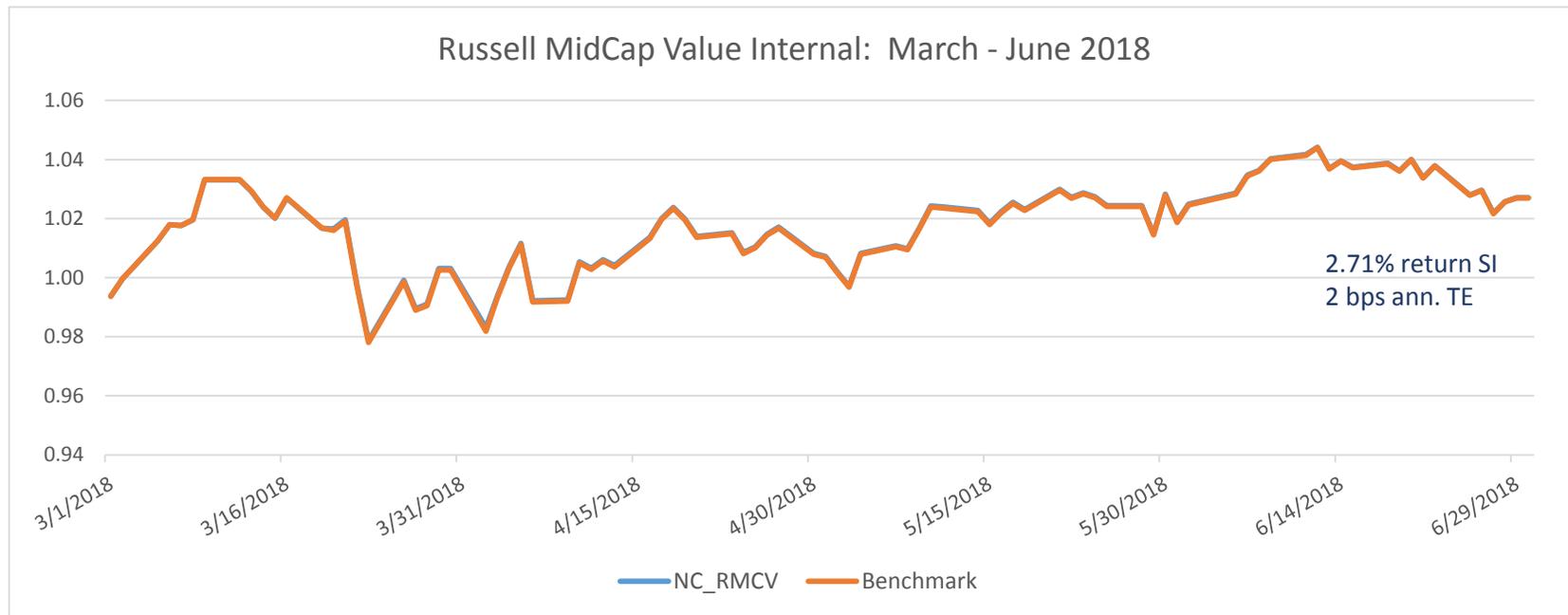


Performance (Nov 2017 – June 2018)





Performance (March – June 2018)



- Received approval in March to assume direct management responsibility for the **Russell MidCap Value** Index account (previously managed externally) to realize additional fee savings
- Same management strategy as Russell 200 and Russell MidCap – full replication



Internal Equity Initiative – Presented to IAC in 2017

<p>Nov 2016 – July 2017</p>	<ul style="list-style-type: none"> • Worked with Cutter Associates to assess current DST technology and operational infrastructure for adequacy to meet future investment needs and ensure institutional best practices. • Engaged Piedmont Investment Advisors for knowledge transfer and training over a 2-3 year period. • Engaged with peer public plans to effectively design and implement a governance model that appropriately reflects institutional legal and compliance oversight of policies and procedures. • Worked to assess and procure the appropriate vendors to provide index/benchmark measurement data and middle- and back-office support. • Evaluated and selected initial group of broker dealers for trade execution.
<p>Aug – Nov 2017</p>	<ul style="list-style-type: none"> • Mock testing of the “paper portfolios” began in order to refine the workflow necessary to complete the trade life cycle.
<p>Nov 1, 2017</p>	<ul style="list-style-type: none"> • Live testing began with managing \$50MM in both the internal NCRS Russell Top 200 and NCRS Russell Mid Cap accounts. <ul style="list-style-type: none"> ○ \$50MM of securities were transferred in kind from the external Russell Top 200 account into the internal NCRS Russell Top 200 account. ○ \$50MM of Pension Cash funded the Internal NCRS Russell Mid Cap account.



Internal Equity Initiative – 2018 YTD & Going Forward

Q1 2018	<p>Transition external Russell Top 200 account assets (\$3.5B) in multiple tranches</p> <p>Near completion as we plan to transition the final ~\$590MM in Q3 2018</p>
2018-2019	<p>Transition the remainder of the external passive U.S. large cap and mid cap equity assets.</p> <p>Near completion as we plan to transition the final ~\$3.7B in Q3 2018</p>
2019-	<p>Expansion of internal capabilities beyond U.S. Passive</p> <p>Ongoing exploration of unique opportunities to take advantage of internal trading capabilities</p>



Internal Equity – Direct Expenses

Investment	Est. per annum Cost (bps)	Est. per annum \$Cost
U.S. Passive Equity (External)	0.50	698,000
U.S. Passive Equity (Internal)	0.11	153,000
Total Public Equity Savings per annum		545,000
Total Plan Savings per annum		587,000*

**Total Plan savings are estimated exclusive of Equity's proportional cost of Bloomberg AIM since this is a fixed expense at the Plan level*

- As internal passive equity assets under management grow, the cost as a % of those assets shrinks.

Vendor/System Name	Vendor/System Service
Bloomberg Terminal Access	Portfolio Analytics
Bloomberg AIM*	Trading System
SS&C GlobeOp	Middle & Back Office
FTSE Russell	Index Constituent Data
NYSE Market Data	Real-time Pricing Data

**Fixed Expense at Plan level; Equity splits total cost with Fixed Income based on % weighting of total internally-managed assets*



Russell Indices Annual Reconstitution (June 2018)

NCRS Account	No of shares Held	No of shares Traded	No of shares Transferred	Turnover (%)
Russell 200	88,464,215	1,965,588	2,312,568	1.69%
Russell Mid Cap	32,582,317	3,472,858	1,766,804	6.47%
Russell Mid Cap Value	9,413,607	2,902,124	545,764	19.44%
Total	130,460,140	8,340,570	4,625,136	3.25%

- 1,027 names traded, gross market value of \$428MM.
- We were able to negotiate commission rate of 0.1c per share with broker (\$8,342 paid).
- Implemented transfer of 4.6MM shares (market value of \$219MM) directly with custodian for stocks migrating between the indices we manage to, saving trade related costs.



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Public Equity – Hedged Equity



Portfolio Structure as of 6/30/18

Funding Date	Manager	Structure	Strategy	Investment \$MM
5/2015	BlackRock	Platform 1/2016	Passive <i>Global</i>	\$2,500
2/2016	Effissimo	Co-Mingled	Active <i>Japanese Activist Sector Fund</i>	\$125
7/2016	Menta Capital	Platform	Active <i>Quantitative Equity Market Neutral</i>	\$200
9/2016	Effissimo	Bespoke	Active <i>Japanese Activist Sector Fund</i>	\$25
10/2016	Marshall Wace	Platform	Active <i>Global</i>	\$200



Adjustment to Portfolio Structure

Restructured 0.4 Beta ACWI Portfolio Exposure:

- More cost effective structure while maintaining the same investment return profile.
- Increase the portion of total plan managed internally.
- Saving c\$3.3MM in management fees per year.

Investment	Cost (bps)	MV Change	Cost/ Saving
0.4 Beta	15.50	(2,230,452,514)	(3,457,201)
NCRS US Equity	-	492,006,972	-
External Non US Equity	2.50	459,634,026	114,909
Cash	-	1,278,811,516	-
Total			(3,342,293)



Hedged Equity Next Steps

- Objective/Role
- Portfolio Structure
- Risk/Return Profile
- Fee Landscape



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Appendix



Legislative Authority to Invest

- **N.C. Gen. Stat. §147-69.2(b)(8) and (8)b**

- “...may be invested in a strategy composed primarily of equity securities traded on a public securities exchange or market organized and regulated pursuant to the laws of the jurisdiction of the exchange or market and issued by any company incorporated or otherwise created or located within or outside the United States as long as the investments meet the conditions of this subdivision.”
- “The aggregate amount of the investment invested through investment companies described in subdivision **(e)(4)b**. of this section shall not exceed eight and one-half percent (8.5%) of the market value of all invested assets of the Retirement Systems, except that the market value of the group trusts and individual, common or collective trust funds of banks and trust companies shall not be applied against this limit.”
 - **(e)(4)b** – “Investment companies as defined under United States generally accepted accounting principles as promulgated by Financial Accounting Standards Board, including without limitation entities registered under the Investment Company Act of 1940; individual, common, or collective trust funds of banks and trust companies; limited partnerships, limited liability companies or other limited liability investment vehicles; and insurance contracts that provide for the participation in individual or pooled separate accounts of insurance companies. Any limited liability investment vehicles organized by the State Treasurer shall be deemed investment companies for the purposes of this subsection.”



IMD Investment Policy Statement

- **Sec. III-B**

- Hedged Equity. This subcomponent is limited to various equity-based hedge fund strategies implement through externally managed investment vehicles.

- **Sec IV-A, B & C**

- **Allocation.** Authorized ranges and targets for subcomponents:

Subcomponent	Minimum	Target	Maximum
Long – Only	88%	93%	100%
Hedged Equity	0%	7%	12%

- **Leverage.** Leverage is only allowed within the Hedged Equity subcomponent of the Portfolio. IMD shall review the use of leverage to determine the reasonableness in the context of investment strategy.
- **Dedicated short-only strategies are not authorized,** although transitory aggregate net short exposures at the individual fund level will occur from time-to-time due to managers tactically positioning for extraordinary market environments or other situations that may be fund specific (e.g., wind-down).