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INVESTMENT MANAGEMENT

To: North Carolina Supplemental Retirement Board of Trustees

From: Loren de Mey, Assistant Investment Director

Date: August 30, 2019

Subject: Discussion / Action: NC 403(b) Program: Watch List Recommendation

Background

The DFA US Small Cap Fund I (DFSTX) was initially selected for the domestic Small Cap mandate within the NC 403(b) Program in May 2017. Dimensional Fund Advisors (DFA) is a global investment firm with \$586 billion in total assets under management. The firm's headquarters are in Austin, Texas, with other main offices in Charlotte and Santa Monica. The firm has been translating academic research into investment solutions since 1981, offering investing strategies that focus on the drivers of expected return across equity and fixed income. DFA manages \$17.5 billion in the DFA Small Cap I Fund and \$43 billion across all of their domestic small cap strategies, including core and value. As of June 30, 2019, the NC 403(b) Program had \$1.1 million invested in the DFA US Small Cap I Fund.

Investment Philosophy and Process

DFA applies a dynamic implementation process that integrates advanced research and a methodical portfolio design while balancing risks and costs that may impact performance. DFA's investment philosophy is based on rigorous theoretical and empirical research and over 35 years of experience of implementing investment solutions. The following three beliefs underpin DFA's investment philosophy:

1. **Market prices contain reliable information.** Security prices contain reliable information about systematic differences in expected returns among securities. DFA uses that information to identify what they believe are reliable dimensions of expected returns. These include the equity market, company size, relative price, and profitability. DFA then implements strategies along those dimensions.
2. **Diversification is essential.** Diversification helps reduce uncertainty, manage risk, and improve the reliability of outcomes. Diversification also adds value by providing flexibility, which in turn allows for more effective management and trading of a portfolio.
3. **Managing tradeoffs adds value.** By identifying and focusing on the tradeoffs that matter, DFA seeks to add value by targeting market premiums efficiently daily, reducing the costs associated with turnover, and implementing a flexible trading strategy that enables opportunistic execution and minimizes costs.



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Small Cap Portfolio

DFA's small cap portfolio seeks to invest in companies with market capitalizations in the smallest 10% of the market universe. DFA then excludes those securities with the lowest profitability and highest relative prices from purchase. DFA continuously evaluates the portfolio while efficiently balancing expected premiums with the costs of turnover on a daily basis. The strategy implements a systematic approach using current market prices and fundamental data to identify differences in expected returns among securities. While the portfolio is rebalanced on an ongoing basis, overall turnover is kept low as DFA spreads turnover over time and across many substitutable securities. This creates flexibility when executing trades and helps lower trading costs.

Performance

While DFA's investment philosophy and process has outperformed over the long-term, DFA's relative performance has struggled since 2017. Stocks with low profitability and higher valuations, which DFA excludes, have continued to outperform. Additionally, DFA's greater emphasis on micro caps and consequent smaller allocation to larger smaller caps has also detracted from relative performance. The strategy's exclusion of REITs has also negatively impacted relative performance over the most recent one-year period.

Calendar Year Performance

	YTD	2018	2017	2016	2015	2014	2013	2012
DFA	15.30	-13.13	11.52	23.53	-3.29	4.44	42.21	18.39
R2000	17.66	-11.01	14.65	21.31	-4.41	4.89	38.82	16.35
Excess	-2.36	-2.12	-3.13	2.22	1.12	-0.45	3.39	2.04

Trailing Year Performance (ending 7/31/19)

	One-Year	Three-Year	Five-Year	Ten-Year
DFA	-6.92	8.26	7.54	12.94
R2000	-4.42	10.36	8.53	12.47
Excess	-2.5	-2.1	-0.99	0.47

Note: inception of the DFA Small Cap Fund I in the NC 403(b) Program was May 2017

Recommendation

Given DFA's trailing 3-year performance underperformed both the benchmark and peers for the most recent four quarters, staff recommends adding the DFA Small Cap Fund I to the watch list.

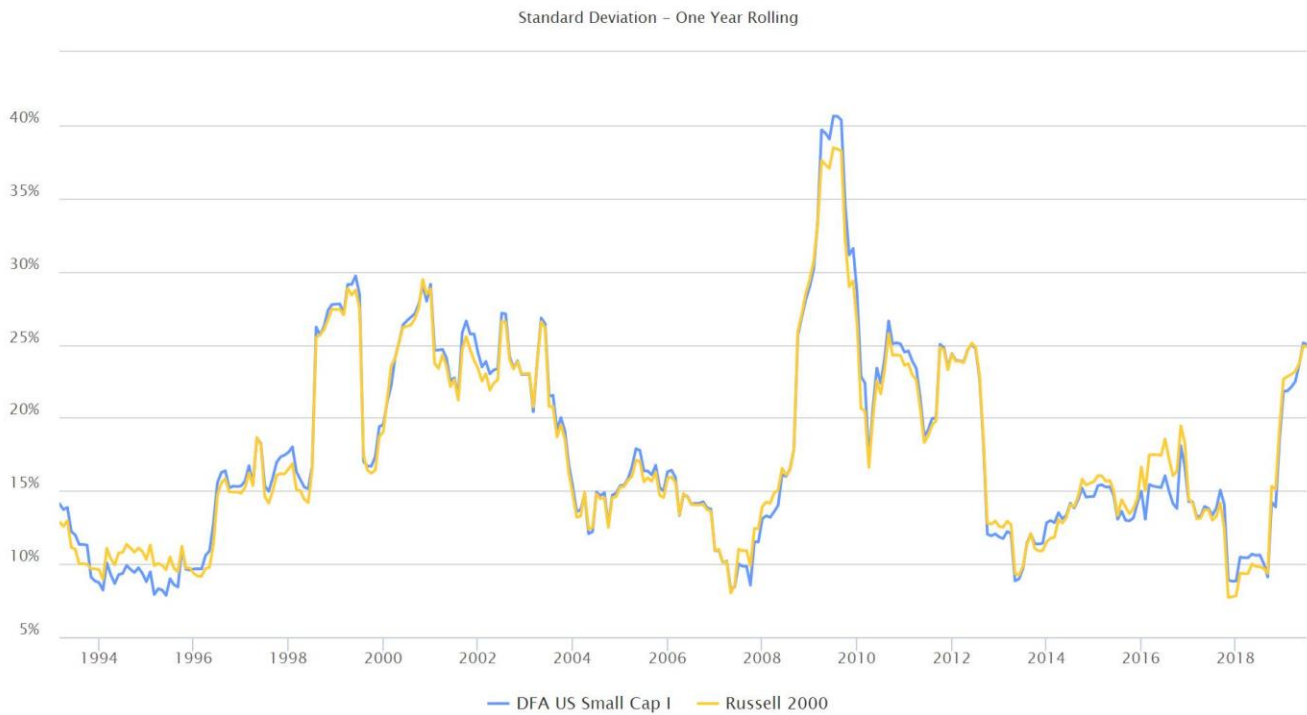
	Three-Year (6/30/19)	Three-Year (3/31/19)	Three-Year (12/31/18)	Three-Year (9/30/18)
DFA	9.81	9.73	6.2	15.5
R2000	12.30	12.92	7.4	17.1
Peer Ranking (Percentile)	73 rd	57 th	51 st	54 th



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Source: eVestments



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The following chart shows the underperformance of small cap growth stocks with low profitability over the long-term.

Relative Annual Performance of Small Growth Low Profitability Stocks

Annual Returns in Excess of the US Small Cap Market, January 1975–June 2019



Annualized Return (%)	January 1975–June 2019
Dimensional US Small Cap Index	15.71
Dimensional US Small Cap Growth Low Profitability Index	6.72
Relative Performance of US Small Cap Growth Low Profitability Index	-8.98

Source: DFA