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INVESTMENT MANAGEMENT

To: North Carolina Supplemental Retirement Board of Trustees

From: Loren de Mey, Assistant Investment Director

Date: October 27, 2017

Subject: Discussion/Action: TIPS Fund Recommendation for the NC 403b Program

Pending Board approval for the new GoalMaker models for the NC 403b Program, the new glidepath will include an allocation to a Treasury Inflation Protected Securities (TIPS) Fund. The TIPS Fund will also be available to participants outside of GoalMaker.

Recommendation

Staff recommends adding the Vanguard Short-Term Inflation Protected Securities Index Fund Admiral Shares (VTAPX) to the NC 403b Program. The key reasons supporting this recommendation include the following:

1. Strong organization
2. Experienced team and track record managing index strategies
3. The fund's inflation participation and strong correlation with the Consumer Price Index (CPI)

In reviewing potential TIPS Index Funds, Investment Management Staff (IMD) first reviewed the TIPS indices which included the Bloomberg Barclays TIPS Index, the Bloomberg Barclays 1-10 year TIPS Index and the Bloomberg Barclays 0-5 year TIPS Index. The various TIPS indices offer different duration, risk, and performance profiles. Likewise, each index has a different historical correlations with the CPI. These risk, performance and correlation profiles are provided in the table below.

	Duration	Return 5 Yr*	Return 10 Yr*	Correlation with CPI**
Bloomberg Barclays 0-5 Year TIPS Index	2.8 years	0.22%	2.27%	0.78
Bloomberg Barclays 1-10 Year TIPS Index	5.4 years	0.08%	3.27%	0.59
Bloomberg Barclays TIPS Index	7.7 years	0.02%	3.90%	0.41

*ending 9/30/17

**for 10 years ending 6/30/17

The concurrent recommendation for the NC 401k/457 Plans is a separate account that tracks the Bloomberg Barclays 1-10 year TIPS Index. Given there is not a mutual fund available that tracks the Bloomberg Barclays 1-10 Year TIPS Index, the next best option would be the Bloomberg Barclays 0-5 Year TIPS Index, given the Index's stronger correlation with the CPI. While the Bloomberg Barclays TIPS Index shows the highest historical performance over the longer-term, this index also has the lowest correlation to the CPI. This index also has greater interest rate risk given its longer duration profile and may not be the best fit for participants approaching or in retirement.



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Organization

The Vanguard Group, Inc. is one of the world’s largest investment companies, offering a large selection of low-cost mutual funds, ETFs, advice and related services. The firm has approximately \$4 trillion in global assets under management and offers approximately 180 U.S. funds and 190 additional funds in markets outside the United States.

Portfolio Manager

Joshua Barrickman, CFA, is a Principal of Vanguard and co-head of Vanguard’s Fixed Income Indexing America. He has worked with Vanguard since 1998 and has managed the fund since its inception in 2012.

Strategy

The Vanguard Short-Term Inflation Protected Securities Index Fund seeks to track the performance of the Bloomberg Barclays 0-5 year TIPS Index. This market-weighted index measures the performance of U.S. Treasury Inflation-Protected Securities with maturities of less than five years. As of 9/30/17 Vanguard managed \$21.8 billion in the strategy.

Performance (as of 9/30/17)

	1 YR	2- YR	3 YR	10 YR
Vanguard Short Term TIPS Fund*	0.40	1.45	0.55	-
BB 0-5 YR TIPS Index	0.51	1.56	0.63	2.27

*Fund inception 10/16/12

Fund Statistics

Yield to Maturity	1.96%
Duration	2.7 years
Average Coupon	0.55%
Ticker	VTAPX
Standard deviation	1.59%

Net Expense Ratio: 0.07%