

The Systemic Effects of Benchmarking

Diogo Duarte, Kyoungwan Lee, and Gustavo Schenkler*

August 31, 2015[†]

Abstract

We show that the competitive pressure to beat a benchmark may induce institutional trading behavior that exposes retail investors to tail risk. In our model, institutional investors are different from a retail investor because they derive higher utility when their benchmark outperforms. This forces institutional investors to take on leverage to overinvest in the benchmark. Institutional investors execute fire sales when the benchmark experiences shock. This behavior increases market volatility, raising the tail risk exposure of the retail investor. Ex post, tail risk is only short lived. All investors survive in the long run under standard conditions, and the most patient investor dominates. Ex ante, however, benchmarking is welfare reducing for the retail investor, and beneficial only to the impatient institutional investor.

*Duarte, Lee, and Schenkler are at the Questrom School of Business, Boston University, Boston, MA 02215, USA. Duarte and Lee acknowledge support from the Center for Finance, Law, and Policy at Boston University. Schenkler is corresponding author: Phone (617) 358-6266, email: gas@bu.edu, web: <http://people.bu.edu/gas/>.

[†]We are grateful for insightful comments by Tony Berrada, Andrea Buffa, Jerome Detemple, Darrell Duffie, Kay Giesecke, Ken Judd, Marcel Rindisbacher, Donna Shoemaker, and the participants at the 2014 SIAM Conference on Financial Mathematics and Engineering, the 2015 BU-ICI Asset Management Conference, the 2015 Spring Meeting of the MIT Center for Systemic Risk Analysis, and seminars at Boston University, and Stanford University.