An Efficient Factor from Basis "Anomalies"

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October 13, 2016

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Abstract

A look-ahead-bias-free, ex-ante mean-variance efficient portfolio from Size, B/M and Momentum "anomalies" has an ex-post Sharpe ratio of 2.3. It captures the non-monotonic benefits from characteristics that are ignored by the multi-factors and eliminates 39 out of 42 unique anomalies. Using tests of cross-sectional regressions, mean-variance efficiency, miss-specification, model comparison and spurious factors, the 1-factor significantly out-perform the *combined (or separate)* 11 factors: MKT-Rf, SMB, HML, MOM, RMW, CMA, qME, qIA, qROE, QMJ, LIQ among combinations of 147 test assets. The efficient factor is priced at the firm-level with 12% per year spread.

Analytically, "anomalous" predictabilities are *equivalent* to 1-factor pricing, regardless of rational/behavioral cause. A projected Stochastic Discount Factor return deduced from the efficient factor is consistent with economic theory.

Keywords: Anomaly, mean-variance efficient, multi-factors, asset-pricing
JEL Classification: G11, G12, G14

*Department of Economics, Duke University; bingzhi.zhao@duke.edu. I am gratefully indebted to my advisors Tim Bollerslev, George Tauchen, Andrew Patton, Jia Li and Federico Bugni, all errors are mine. I thank the seminar participants at the 2016 Triangle Financial Volatility Conference, Duke Financial Econometric Lunch Group. I give special thanks to Svetlana Bryzgalova for her critical comments and suggestions. I also thank Michael Brandt, Anna Cieslak, Dacheng Xiu, Federico Bandi, Brian Weller for helpful comments. The ETF or Inverse ETF construction for the efficient portfolio is patent pending. A Excel sanity check and reproducible package is available on my website: www.sites.duke.edu/bingzhizhao

†http://ssrn.com/abstract=2841496