The ETF Tangency Portfolio

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Abstract

A variable selection algorithm is developed for large scale matrix variate models with many potential covariates. The methodology generalizes commonly used stochastic search methods based on inclusion probabilities. Inspired by arbitrage pricing theory from finance, the algorithm is applied to pricing models based on factors defined by exchange traded funds (ETF’s), and test asset data common to the finance literature is used as the responses. Portfolio metrics are used to compare across the ETF models selected. Additionally, test assets are taken to be mutual funds, and the algorithm provides a practical ETF benchmark portfolio for these funds.

Key words: exchange traded funds, APT, factor models, mutual fund benchmarking.

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