

Efficiency-based index tracking optimization model

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Summary

- The objective is to perform the index tracking optimization using the MF-DFA.
- First, the efficiency levels of the assets are estimated, then a ranking is made, and finally, the assets are selected.
- The optimization problem is to minimize the tracking error variation (TEV).
- The replicated indices were the SP500, Nikkei 225 and Ibovespa, using daily data from 2012 to 2021.

- Apply the methodology for the DeFi Index.
- Replace the objective function with a tail risk measure.
- Linearize the nonlinear problem to have a lower computational cost.