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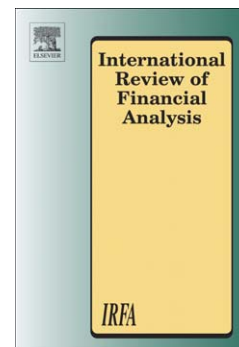
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# A New Weighting-Scheme for Equity Indexes\*

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## Abstract

This paper proposes a novel methodology for computing a cross capitalization-weighted index, coined CCWI, that characterizes the most influential stocks that drive the index. The methodology, based on the factor analysis approach combined with the Equi-correlation model of Engle and Kelly (2012), encapsulates all the main information to replicate any given large equity stock index. We build a proxy that tracks accurately the S&P 500 while reducing the cost of duplication for large equity indexes with the methodology combining the PCA approach and the DECO model. We provide an application to the S&P 500 by constructing an aggregate stock index composed of the most influential stocks. The analysis reveals that the CCWI is useful for asset and risk management. Robustness checks expand the equity index universe to MIB, TSX, CAC, DAX, FTSE, NIKKEI, HSI and DJIA, both during full- and sub-periods.

*JEL Classification:* C32; G01; F15

*Keywords:* Equity Index; Factor analysis; Equi-Correlation; Weighting Scheme

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