

Institutional investors and the dependence structure
of asset returns

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Abstract:

We propose a model of a financial market with multiple assets, which takes into account the impact of a large institutional investor rebalancing its positions, so as to maintain a fixed allocation in each asset. We show that feedback effects can lead to significant excess realized correlation between asset returns and modify the principal component structure of the (realized) correlation matrix of returns. Our study naturally links, in a quantitative manner, the properties of the realized correlation matrix -- correlation between assets, eigenvectors and eigenvalues -- to the sizes and trading volumes of large institutional investors. In particular, we show that even starting with uncorrelated 'fundamentals,' fund rebalancing endogenously generates a correlation matrix of returns with a first eigenvector with positive components, which can be associated to the market, as observed empirically. Finally, we show that feedback effects flatten the differences between assets' expected returns and tend to align them with the returns of the institutional investor's portfolio, making this benchmark fund more difficult to beat, not because of its strategy but precisely because of its size and market impact.