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Dependence structures for multivariate high-frequency data in finance

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Abstract

Stylized facts for univariate high-frequency data in finance are well known. They include scaling behaviour, volatility clustering, heavy tails and seasonalities. The multivariate problem, however, has scarcely been addressed up to now.

In this paper, bivariate series of high-frequency FX spot data for major FX markets are investigated. First, as an indispensable prerequisite for further analysis, the problem of simultaneous deseasonalization of high-frequency data is addressed. In the following sections we analyse in detail the dependence structure as a function of the timescale. Particular emphasis is put on the tail behaviour, which is investigated by means of copulas.

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