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# Comprehensive Analysis of Market Conditions in the Foreign Exchange Market: Fluctuation Scaling and Variance-Covariance Matrix

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We investigate quotation and transaction activities in the foreign exchange market for every week during the period of June 2007 to December 2010. A scaling relationship between the mean values of number of quotations (or number of transactions) for various currency pairs and the corresponding standard deviations holds for a majority of the weeks. However, the scaling breaks in some time intervals, which is related to the emergence of market shocks. There is a monotonous relationship between values of scaling indices and global averages of currency pair cross-correlations when both quantities are observed for various window lengths  $\Delta t$ .

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