High frequency foreign exchange market and time series

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Abstract

We investigate high frequency price dynamics in foreign exchange market using data from Reuters information system. In our analysis we show that a naïve approach to the definition of price (for example using the spot mid price) may lead to wrong conclusions on price behavior as for example the presence of short term correlations for returns.

For this purpose we introduce an algorithm which, using the no arbitrage principle, estimates real prices from the spot ones. The new definition leads to returns which are not affected by spurious correlations. Furthermore, any apparent information (defined by using Shannon entropy) contained in the data disappears.