

Abstract

This work combines discrete and continuous methods while modeling connectedness of financial tick data. As discrete method we are using vector autoregression. For continuous domain Hawkes process is used, which is special case of point process. We found out that financial assets are connected in non-symmetrical fashion. By using two methodologies we were able to model better how are the series connected. We confirmed existence of price leader in our three stock portfolio and modeled connectedness of jumps between stocks. As conclusion we state that both methods yields important results about price nature on the market and should be used together or at least with awareness of second approach.

JEL Classification C32, G11, G14

Keywords Vector Autoregression, Hawkes process, High-frequency analysis, Connectedness

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