

Zeppelin University

Bachelor Arbeit

Chair of International Economic Theory and Politics

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The Bitcoin Cryptocurrency 2020-2022:
Network Analysis on High Activity Addresses

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Abstract

The attention that the bitcoin cryptocurrency has experienced in recent years has led to increased transactions and actors. Thanks to the decentralised structure, transparency and public availability, all data on the bitcoin blockchain for 2020 to 2022 could be extracted and analysed. Specifically looking at the movement of high-activity addresses with more than 500 weekly occurrences, individual weekly networks were created, clusters identified, and their interconnectivity measured and visually represented using Gephi. Extracted network parameters were observed and regressed to explain their influence on the cryptocurrencies price and volume. Through the analysis of structural breaks, bitcoin's role in the Russia-Ukraine crisis was highlighted, illustrating the possible reasons for changes in network activity using data collected for high-activity transactors. Ultimately there are countless areas to explore to understand and make blockchain-based applications such as cryptocurrencies safe, for which this paper and its methodology provide a possible foundation.