

## **Modelling the anomalies in cryptocurrency exchange**

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### **Abstract**

A High attention to the cryptocurrencies stems largely from the curiosity about the underlying reasons of their popularity and about the implementations to support an economic growth. Extensive research reveals positive effects as well as obstacles due to the cryptocurrencies adoption. This publication treats the demand for cryptocurrency as a result of the interaction between the positive and negative effects in the real-virtual markets. Due to the cryptocurrency adoption the enterprises of the real economy increase their turnover. At the same time, cryptocurrency waste the resources of the real sector, while these resources are necessary for the system operation. To study the dynamics of the cryptocurrency exchange rate under the influence of these factors, simulation is involved. The simulation model proposed explains the surges of the exchange rate as a result of the difference between the returns on the two markets - real and virtual ones – and therefore as a result of cash flow amounts between these markets. It is the investments imbalance in the virtual market, according to the studies, that underlies the sudden changes in the exchange rate. The quantitative data used in calculations were revealed in the experimental studies of the bitcoin network.