

## Abstract

This bachelor thesis analyzes high correlation between the monopolistic leader of crypto-currency market, Bitcoin, and its followers, so called altcoins. The first research question follows the everyday life situation of a younger brother, trying to imitate, follow, or even outrun his elder. *Do alternative crypto-currencies follow the price development of their leader?* Our thesis presents positive answer to this question, as analysis of all altcoins included in this paper (Litecoin, Ripple, Peercoin and Dogecoin) proved strong causality from the Bitcoin's point of view. Subsequently, we analyzed this relationship into deeper details for each currency, using vector autoregressive model and consecutive impulse-response function. In the second part of this thesis we build on our previous findings with the following research question. *May the price development of altcoins be effectively predicted, based on the price development of bitcoin?* In this regard, we used static forecast in combination with Diebold-Mariano test, evaluating forecasting accuracy of our preceding model, compared to alternative predictions excluding the bitcoin's price. This analysis reflected various generally insignificant results with a few exceptions, indicating predictability potential. Consequently, we claim that even though we proved significant bitcoin leadership, this effect is apparently not strong enough for development of profitable trading strategy.

## Keywords

Crypto-currency, Bitcoin, Litecoin, Ripple, Peercoin, Dogecoin, altcoin, causality, predictability, forecast.