Report on Bachelor / Master Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague

Student:	**Tomáš Šembera**
Advisor:	**František Čech**
Title of the thesis:	**The volatility patterns and correlation of cryptocurrencies: Overcoming the Bitcoin's primacy**

OVERALL ASSESSMENT (provided in English, Czech, or Slovak):

Please provide your assessment of each of the following four categories. The minimum length of the report is 300 words.

The thesis analyzes developments of the cryptocurrencies in their competition to expand their utilization. The thesis is ballanced in terms of the subject's introduction, review of the literature, methods, as well as the applied analysis. The empirical work itself is presented with a lot of details that is hard to digest in its entirety. The language of the thesis is easy to understand. The subject of the thesis is clearly defined.

Contribution
The thesis covers various aspects of the cryptocurrencies' developments. It analyses volatility patterns of the cryptocurrencies because one of their major obstacles in becoming generally accepted medium of exchange is their high volatility. The results show that the Bitcoin is still dominating cryptocurrency. Further, it is analyzed whether market participants percieve various cryptocurrencies individually or as homogenous entity. The findings based on the correlations between individual cryptocurrencies and Bitcoin bring forth the evidence of the positive correlations among cryptocurrencies: this means that they are percived rather jointly. The thesis represents a comprehensive treatment of the subject.

Methods
The workhorse of the methodology employed in the thesis is a GARCH model. The dominancy of the Bitcoin is analyzed via series of the univariate GARCH-type models. Evaluation of the cryptocurrencies' maturity are assessed with the help of the plentiful output of models' coefficients. Coorelations among cryptocurrencies are analyzed via a multivariate GARCH-type model (BEKK). In order to account for periods of price surges, data set is divided into subsamples and subsample-specific average coefficients are used to make a judgement. All employed models represent a standard set of techniques and are described in full detail in Section 4. Overall the methodology approach is fine, well motivated and skillfully executed.

Literature
The literature is reviewed in a detail and covers all relevant papers. There is probably nothing much in terms of related papers that could be added at this point.

Manuscript form
The manuscript conforms to formal requirements for the master thesis. It reads well and contains only some minor typos. Introduction is clear and motivates well the researched topic. Data are fully described and well chosen, including the researched time span. Hypotheses are clearly stated. Tables and figures are presented in an organized and legible manner. Extent of the suplementary material is overwhelming, though.

In case of the successful defense, I recommend the grade "výborně" (excellent, 1).

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SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY		POINTS
Contribution	*(max. 30 points)*	27
Methods	*(max. 30 points)*	27
Literature	*(max. 20 points)*	20
Manuscript Form	*(max. 20 points)*	19
TOTAL POINTS	*(max. 100 points)*	**93**
GRADE	**(1 – 2 – 3 – 4)**	**1**

NAME OF THE REFEREE: Evžen Kočenda

DATE OF EVALUATION: *27.8.2017*

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Referee Signature