Report on **Bachelor / Master Thesis**

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

Student:	**Martin Nedvěd**
Advisor:	**PhDr. Ladislav Krištoufek**
Title of the thesis:	**Gold, oil and stocks as safe havens for Bitcoin**

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

Short summary

The thesis discusses whether different assets, specifically gold, oil and S&P 500 index can be considered safe havens for Bitcoin. The steadily increasing market capitalization of Bitcoin along with recent rapid decreases of Bitcoin price make this topic highly relevant. The author finds out that gold displays safe haven properties towards Bitcoin, and that oil acts as a weak safe haven for Bitcoin.

Contribution

The topic discussed by the author is highly relevant in today's state of the financial markets. While there is a modest strand of literature discussing the potential of Bitcoin as a safe haven for traditional assets, there is lack of literature investigating the opposite relationship. This thesis contributes to the literature by examining the potential of gold, oil and stocks to act as safe havens towards Bitcoin hence offset the potential extreme losses realized by holding Bitcoin.

Methods

The author follows the model of Baur & Lucey (2010) to conclude about the safe haven properties of Bitcoin. The model employs dummy explanatory variables indicating whether returns fall within a certain quantile, sign and significance of these dummy variables is used to conclude about the safe haven properties. Such method is adequate to the purpose, however it is described rather inaccurately. Equation (4.1) is confusing and it is not clear, if the estimation in this thesis is done in the same fashion as in Baur & Lucey (2010), or if the regression is done in two stages. The general ARCH and GARCH models are dexribed in an abundantly excessive fashion, however the exact procedure of combining equation (4.1) with the GARCH model for residuals (which is in my view not trivial) is not described at all. Model selection should be conducted based on multiple information criteria, not just AIC. The author carries out all the necessary tests of the assumptions.

Literature

The literature review shows a good understanding of the literature on the topic in question. It presents the relevant literature in a comprehensive fashion, although it could be written in an „easier to read" way.

Manuscript form

The thesis is written with an adequate English and it is well structured. The tables and figures withhold to the academic standards, and are well referred to. All sources are properly cited and contained in the bibliography.

Overall evaluation and suggested questions for the discussion during the defense

In my view, the thesis fulfills the requirements for a bachelor thesis at IES, Faculty of Social Sciences, Charles University, I recommend it for the defense and suggest a grade B.

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The results of the Urkund analysis do not indicate significant text similarity with other available sources.

Below I present questions suggested to be addressed during the thesis defense.

- Explain how Equation (4.1) is exactly estimated.
- Elaborate on the procdure of estimating Equation (4.1) while employing the GARCH family models for the residuals.
- The result is that gold is a safe haven to Bitcoin (at least on the 5% quantile). How do you explain the positive and significant coefficient for the 2.5% quantile in Table 5.4?

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

CATEGORY		**POINTS**
Contribution	*(max. 30 points)*	30
Methods	*(max. 30 points)*	18
Literature	*(max. 20 points)*	18
Manuscript Form	*(max. 20 points)*	19
TOTAL POINTS	*(max. 100 points)*	**85**
GRADE	**(A – B – C – D – E – F)**	**B**

NAME OF THE REFEREE: Josef Kurka

DATE OF EVALUATION: 24.5.2022

Digitally signed (24.5.2022)
Josef Kurka

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Referee Signature