Report on Bachelor / Master Thesis

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

Student:	**Aleksandr Volkov**
Advisor:	**prof. PhDr. Ladislav Krištoufek, Ph.D.**
Title of the thesis:	**Can Bitcoin serve as an inflation hedge in the USA, Euro area, and Czech markets?**

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

Please provide a short summary of the thesis, your assessment of each of the four key categories, and an overall evaluation and suggested questions for the discussion. The minimum length of the report is 300 words.

Short summary
The thesis investigates whether Bitcoin can be used as an inflation hedge. The paper covers three economies (U.S., Euro area, Czechia). To answer the research question, the author tests two hypothesis: (i) positive Bitcoin returns; (ii) correlation between inflation rates and Bitcoin returns. Using basic econometrical tools, obtained results are evaluated (only the first hypothesis is verified). The author clearly concludes that Bitcoin cannot serve as an inflation hedge. Findings are interpreted in the light of previous literature as well.

Contribution
Chosen topic is relevant since all considered economies have started to face high inflation in the last year and economic subjects try to find way to protect their savings. Therefore, investigating different and new hedging tools such as cryptocurrencies is relevant. Because of a lack of previous studies, computations for Czechia are the main value added of this thesis. On the other hand, the relevancy of conclusions is limited by using mostly simple statistical and econometrical methods.

Methods
The OLS estimation of Fisher coefficient and calculation of the hedging demand are primarily used to verify hypotheses.

Fisher equation is estimated by OLS with one explanatory variable. I wonder why a larger model with lags and control variables was not estimated as well. The author provides test of homoskedasticity of residuals, however test of its normal distribution (which is an assumption for evaluating of the statistical significance) is missing.

The hedging demand is estimated from basic statistical moments (Pearson correlation coefficient and variances).

In the case of US data, the vector autoregression is estimated as well. I appreciate that more sophisticated method is utilized in the paper, however, it is not explained why multivariate time series model is used. I assume that ARIMA and GARCH models will be more relevant when the author wants to incorporated time series perspective.

I miss more sensitivity analysis such as estimations for subsamples and the moving window for OLS regression.

Literature
Provided literature review is sufficient. I miss only the richer discussion of different possible estimation strategies. The author quotes relevant literature in a proper way.

Manuscript form
Overall, the manuscript form is sufficient, and the thesis is mostly easy to read. The structure of the thesis is common. However, the introduction does not provide standard overview of the thesis. The research question and its motivation are stated later at the end of the second chapter. The main body of the thesis does not include any figure, although it might be useful to see data as a time series. In

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the main text, the author frequently refers to Appendix. Relevant tables and figures should be included in the main body of the thesis. Numbers of pages are mostly missing. Equations are not numbered.

Overall evaluation and suggested questions for the discussion during the defence
In my view, the thesis fulfils the requirements for a bachelor thesis at IES, Faculty of Social Sciences, Charles University, I recommend it for the defence and suggest a grade C. The results of the Urkund and Turnitin analysis do not indicate significant text similarity with other available sources.

Questions:

1) Discuss other possibilities how to measure inflation expectations. Why do you prefer naïve approach that the expected inflation is equal to the current one?

2) Are there any other approaches how the hedging demand can be estimated?

3) Explain why the vector autoregression is used as an additional model. What is the contribution of a multivariate times series model in your research? Why did you add more assets in the model?

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

CATEGORY		POINTS
Contribution	*(max. 30 points)*	24
Methods	*(max. 30 points)*	19
Literature	*(max. 20 points)*	17
Manuscript Form	*(max. 20 points)*	14
TOTAL POINTS	*(max. 100 points)*	**74**
GRADE	**(A – B – C – D – E – F)**	**C**

NAME OF THE REFEREE: Tomáš Šestořád

DATE OF EVALUATION: 13th January 2023

Digitally signed (13th January 2023)
Tomáš Šestořád

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Referee Signature

EXPLANATION OF CATEGORIES AND SCALE:

CONTRIBUTION: *The author presents original ideas on the topic demonstrating critical thinking and ability to draw conclusions based on the knowledge of relevant theory and empirics. There is a distinct value added of the thesis.*

METHODS: *The tools used are relevant to the research question being investigated, and adequate to the author's level of studies. The thesis topic is comprehensively analyzed.*

LITERATURE REVIEW: *The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

MANUSCRIPT FORM: *The thesis is well structured. The student uses appropriate language and style, including academic format for graphs and tables. The text effectively refers to graphs and tables and disposes with a complete bibliography.*

Overall grading:

TOTAL	GRADE
91 – 100	A
81 - 90	B
71 - 80	C
61 – 70	D
51 – 60	E
0 – 50	F