

Report on Bachelor / Master Thesis

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

Student:	Vesna Jarina
Advisor:	Prof. Roman Horváth, Ph.D.
Title of the thesis:	Geopolitical risk and financial markets: trends, co-movements and effects

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

Short summary

The master thesis aims to determine the effect of geopolitical risk on the financial market. Geopolitical risk is measured by three risk measures - the Geopolitical Risk Index (GPR), the Geopolitical Acts Index (GPA), and the Geopolitical Threats Index (GPT). There are several sets of results. The first part examines the effect of geopolitical risk on financial assets such as oil, gold, and ECO index returns. The effect was estimated via univariate GARCH family models with the risk measures as external regressors. Then, the wavelet coherence of the three assets and risk measures was estimated to find any connection in the time-frequency framework. Results show weak dependence in the GARCH case and minimal time-frequency correlation. The second part investigates the effects of risk measures on the return co-movements using the Return Co-Exceedances, Quantile Regression, and GDCCX-GARCH models.

Contribution

The thesis has potentially some contribution. However, it is unclear how exactly we can relate the results to the objective of the thesis. The thesis lacks clear motivation for how the proposed methods can answer the question of whether we can assess the connection between risk measures and risk spillovers (and market integration). In the first part, we observe a weak connection in the first moment, but it may be caused by the same mechanism that influences assets return and the risk measures changes. In the second part, where the effects of risk measures on the return co-movements are estimated, I do not see a clear idea of how we can get a clear answer to the research question.

Methods

There are several methods used in the thesis: GARCH-type models (uni-/multi variate), wavelets, and quantile regressions. Generally, methods are used correctly, but some of the estimates interpretation should be interpreted with caution. More details are in the questions.

Literature

The author uses all relevant literature and cites correctly.

Manuscript form

The manuscript is logical and well-written. Sections interpreting the results would benefit from a more condensed and focused form.

Overall evaluation and suggested questions for the discussion during the defense

To conclude, Vesna presents a nice piece of work. The thesis fulfills the requirements for a bachelor thesis at IES, Faculty of Social Sciences, Charles University. I fully recommend it for the defense and suggest a grade C. The results of the Turnitin analysis do not indicate significant text similarity with other available sources.

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Questions for the defense:

Q: The estimates from the eGARCH model (Table 5.1) show very high persistence of the beta parameter (0.99). How a very high persistence in this type of model can be interpreted?

Q: Please interpret significant but low values of the delta (Table 5.1) and no significant parameter zeta.

Q: What is the motivation for the stock market comovements with the risk measures?

Q: How many observations are there in the 0.01 and 0.99 quantiles?

Q: How would you quantify the effect and possible predictive potential of the risk measures?

Q: What is the motivation for the GDCCX-GARCH model? How can we interpret the role of an external regressor here?

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

CATEGORY	POINTS
<i>Contribution</i> (max. 30 points)	20
<i>Methods</i> (max. 30 points)	20
<i>Literature</i> (max. 20 points)	20
<i>Manuscript Form</i> (max. 20 points)	15
TOTAL POINTS (max. 100 points)	75
GRADE (A – B – C – D – E – F)	C

NAME OF THE REFEREE: Mgr. Lukáš Vácha, Ph.D.

DATE OF EVALUATION: 8.9.2023

Digitálně podepsáno (8.9.2023)
Lukáš Vácha

Referee Signature