Report on Bachelor Thesis

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

Student:	**Štěpán Havel**
Advisor:	**Jozef Barunik**
Title of the thesis:	**Conditional quantile models for asset returns**

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

Contribution

The thesis focuses on conditional non-parametric estimation of Value-at-Risk (VaR) that is a key measure for evaluation of market risk in financial risk measurement and management. While number of methods have been already proposed, author develops a model based on quantile regression and proposes to use as large as possible amount of information about other stocks to explain the VaR using regularization techniques. Author's main contribution and novelty is in the proposed approach that has not been applied yet for calculation of VaR. Empirically, author finds sound one day ahead forecasts.

Methods

The author works with advanced time series techniques not covered by standard curriculum of Bc. level that needed lot of additional understanding of the methods and work. I must stress that Stepan worked very independently and mastered the demanding tools well. Moreover, one can clearly see from the presentation of the results the efforts Stepan paid to the work.

Literature

Stepan demonstrates deep understanding of the literature and gives credit to all important as well as relevant studies. The author works with relevant literature properly and develops her own original ideas based on proper understanding of the previous literature. With this respect, Stepan provided excellent work.

Manuscript form

The text is logical, well written, connects findings to the existing literature well. Stepan worked consistently to obtain the results for long period, and we have discussed the results and text on a regular basis during the year, as well as during the last stage of writing. Formally, manuscript meets all requirements, the only shortage is language which lacks precision and reader is lost from time to time, as well as few errors and typos including those in equations and formal presentation.

Summary and suggested questions for the discussion during the defense

In conclusion, I believe that during the work Stepan proved himself to be an independent researcher, he obtained interesting original results, mastered advanced econometric techniques, and finally was able to use all these skills to deliver sound and economically relevant work. Hence the thesis deserves to be defended without doubts. Moreover, the results from Urkund analysis do not indicate any significant text similarity with other available sources. In case Stepan is confident in presenting the detailes of the work during the defense, and especially present economic motivation and importance of the discussion and implications of the regularized quantile regressions findings that are novel, I suggest to award the work with grade „A" without further questions.

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

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

NAME OF THE REFEREE: Jozef Barunik

DATE OF EVALUATION: 19.8.2020

Jozef Barunik 100000083222

Digitally signed by Jozef Barunik 100000083222
Date: 2020.09.01 16:09:10 +02'00'

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**