Report on Bachelor Thesis

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

Student:	**Markéta Pokorná**
Advisor:	**Boris Šopov**
Title of the thesis:	**Estimation and Application of the Tail Index**

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

The thesis is focused on the Tail index, which in broader context belongs to the Extreme value theory (EVT). EVT is an estimation framework designed to model and possibly predict occurence of unlikely events with large impacts (for example large floods, hurricanes but also broad market crashes). Author is more focused on the latter side of examples and uses financial data to apply researched methods.

Literature review is slightly disappointing, for the reviewed literature is downright ancient. Across the literature review, the author reviews one work published in year 2008, one in 2005, few in 2000 – 2001 and vast majory from pre 2000. Since the last large recession occured at 2008, there isnt a single publication in the review from after the recession, begging the question why the literature review isnt focused on works published with the last major recession in mind rather than works published long before it happened. This is especially important in the context of the last recession being highly contextually important to the used methods as the author mentions herself in the thesis.

On the other hand, contribution of the thesis is solid while used methodology is top-notch. The range of methods used is impressive and well docummented, while methods themselves are sophisticated enough to be relevant for future research. The results of the thesis itself are somewhat mixed though – it appears that none of the used methods brought any useful results. At the level of a bachelor thesis, that is however sufficient as negative results are still results and it opens opportunities for future research which might actually bring some positive results.The lack of clear positive results hurts the idea of applicability of the research to something real, so for a reader it is difficult to take away something from the thesis.

For the defense, I would recommend the following questions:

1) What has caused the lack of almost any recent literature in the review and the thesis overall? Is the methodology being used in recent literature, is it being further developped, has it been replaced by a different methodology that does the same better or has it been abandoned because of some reasons?
2) Were the applied methodology reached any positive results, what would have they been useful for? What would be the real world application?
3) The thesis makes comparison of predicted values compared to value at risk estimate (VaR). While methodology oriented on the tails should outperform VaR estimates at this subsection of data, tail estimates ignore the rest of the data - how does the author see the actual use of used methods? In some combination with VaR?

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

CATEGORY		**POINTS**
Literature	*(max. 20 points)*	10
Methods	*(max. 30 points)*	30
Contribution	*(max. 30 points)*	25
Manuscript Form	*(max. 20 points)*	20

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TOTAL POINTS	*(max. 100 points)*	**85**
GRADE	**(1 – 2 – 3 – 4)**	**1**

NAME OF THE REFEREE: ***Tomáš Zelený***

DATE OF EVALUATION: ***6.6.2015***

Referee Signature