Report on Bachelor / Master Thesis

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

Student:	**Viktória Tesárová**
Advisor:	**PhDr. Petr Gapko**
Title of the thesis:	**Value-at-risk: GARCH vs. Stochastic Volatility Models: Empirical Study**

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

The thesis deals with technically demanding topic and compares different time-varying volatility concepts – GARCH and Stochastic Volatility (SV). Their performance is compared using them as an input parameter in Value-at-Risk (VaR) specification on selected stock-indices. The theoretical background of the thesis is strong, standard theory is appropriately described and explained. Thesis is competently written, has logical structure and neat form of the typeset.

Thesis demonstrates author's good understanding of the abovementioned volatility concepts and technical skills to use advanced empirical methods. However, a few comments and possible limitations are mentioned below, which may be also used as the defense questions and potential inspiration for further author's research work on this topic.

It should be explained, why Students-t distribution was chosen instead of other possible options, it seems rather arbitrary and it should be explained better (p. 9).

Thesis employs advanced SV concept, which is technically demanding – as thesis highlights, therefore it would be nice to see also computation time needed for some SV estimates and discuss it better with respect to practical use of SV.

SV method is compared only with GARCH(1,1), though the reasoning is given on page 40, it would be still useful to see also results for GARCH(2,2,) model, especially if 2,2, specification had better AIC for some indices. As the task of the thesis is to compare technical advanced SV method, also higher complexity should be devoted to different GARCH specifications.

Connected to previous comment, different GARCH specifications could be also considered to give better comparison of results of different GARCH approaches (TARCH, EGARCH, APARCH) with respect to SV - if not in the diploma thesis, it should be added in rigorous thesis later.

Finally, just minor comment, some expressions should be reformulated, as they do not comply with strict academic wording, for instance: "hot topic" , "It is known", -without any reference, "It is obvious" ...

Still, this is an excellent thesis, and I recommend the thesis for the defense with the evaluation **Excellent**.

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

CATEGORY		**POINTS**
Literature	*(max. 20 points)*	19
Methods	*(max. 30 points)*	28
Contribution	*(max. 30 points)*	28
Manuscript Form	*(max. 20 points)*	20
TOTAL POINTS	*(max. 100 points)*	**95**
GRADE	**(1 – 2 – 3 – 4)**	**1**

NAME OF THE REFEREE: PhDr. Jakub Seidler

DATE OF EVALUATION: September 5th, 2012

Referee Signature

EXPLANATION OF CATEGORIES AND SCALE:

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

Strong	*Average*	*Weak*
20	*10*	*0*

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.*

Strong	*Average*	*Weak*
30	*15*	*0*

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.*

Strong	*Average*	*Weak*
30	*15*	*0*

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.*

Strong	*Average*	*Weak*
20	*10*	*0*

Overall grading:

TOTAL POINTS	**GRADE**		
81 – 100	**1**	= excellent	= výborně
61 – 80	**2**	= good	= velmi dobře
41 – 60	**3**	= satisfactory	= dobře
0 – 40	**4**	= fail	= nedoporučuji k obhajobě