Report on Master Thesis

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

Student:	**Bc. Jiří Poláček**
Advisor:	**PhDr. Jozef Baruník Ph.D.**
Title of the thesis:	**Realized Jump GARCH model: Can decomposition of volatility improve its forecasting?**

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

The thesis is an empirical work studying impact of jump variation on future volatility of Central and Eastern European (CEE) stock markets. In terms of economic value of the study, understanding of jump variation is of great importance. Jumps in prices caused by (mostly) exogenous events increase riskiness of assets, hence it is necessary to disentangle between endogenous part of volatility, and jumps. In terms of econometric estimation, approach taken by author is novel and interesting as it utilizes nonparametric high frequency data based measures in the classical model driven approach. This allows author to fully exploit the possible value of jump variation in forecasting of future volatility. In terms of empirical findings, author finds that jumps are important for future volatility, but only to a limited extent due to the high level of information aggregation within the stock market index. This may seem to be obvious, as we know from the theory that idiosyncratic jumps always die out in large enough portfolio. With this respect, author confronts this important finding from the literature and shows that even at an aggregate level, jumps play important role for future volatility.

The structure of the thesis is logical, text is well-written, methodology well-described and empirical results are carefully discussed. Overall form of the thesis is hence on very good level. Over the past year, author used my advisory services on the regular basis and we have discussed many issues in the methodology as well as text, which he managed to incorporate to the submitted version. Thus, I have no additional questions to the defence.

In conclusion, I believe that the thesis is a very solid work in all aspects, author shown strong quantitative skills while working with computationally demanding high frequency data and finally arrived to very interesting and potentially important results for the financial econometrics literature. Thus I fully recommend the thesis of Jiri Polacek to be defended with grade excellent – 1. Due to the originality and contribution of the results I also believe the thesis deserves a consideration for the *"distinction for an extraordinarily good master's diploma thesis"* award.

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

CATEGORY		**POINTS**
Literature	*(max. 20 points)*	20
Methods	*(max. 30 points)*	30
Contribution	*(max. 30 points)*	30
Manuscript Form	*(max. 20 points)*	18
TOTAL POINTS	*(max. 100 points)*	**98**
GRADE	**(1 – 2 – 3 – 4)**	**1**

NAME OF THE REFEREE: Jozef Barunik

DATE OF EVALUATION: 16.9.2014

Digitally signed by Jozef Baruník
DN: c=CZ, o=Univerzita Karlova v Praze, cn=Jozef Baruník, 1.2.840.113549.1.9.2=100000083222
Date: 2014.09.17 19:50:03 +02'00'

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