Report on Master Thesis

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

Student:	**Sylvie Dvořáková**
Advisor:	**Jozef Baruník**
Title of the thesis:	**Fractional Cointegration of Daily High and Low Stock Prices**

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

The work builds an interesting empirical model for volatility based on the idea that daily high and low stock market prices are fractionally cointegrated. Author proposes to use recently formalized fractionally cointegrated VAR by Johansen and Nielsen (2012), which is able to capture the cointegration between daily high and low stock prices as well as the long memory of their linear combination, the range, which provides an efficient and robust estimator of volatility. As volatility is empirically known to be a long memory process, this methodology provides an interesting advance in the volatility modelling. In the empirical exercise, author compares the Czech PX-50 stock market index with indices from developed markets and moreover divides the sample to pre-crisis and post-crisis period.

The thesis is logically structured; author shows a very good command of literature, describes the methodology and motivates the hypotheses very well. During the work, author showed a great interest and motivation for studying the volatility phenomena, which can be seen from usage of methodology, which is far beyond the scope of master level studies. I need to stress here that the methodology of long memory estimators used in the thesis is quite advanced and author was able to deal with it and motivate its usage very well. Author used my consultancy services on the very regular and frequenct basis, I had an opportunity to comment the results and the text several times thus I have no other questions to the defence.

In conclusion, I believe that the thesis is a very solid piece of work in all aspects. Author shown strong quantitative skills and finally arrived to empirical results, which contribute to the current literature. Thus I fully recommend the thesis of Sylvie Dvořáková to be defended with grade excellent – 1. Due to the high 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)*	16
TOTAL POINTS	*(max. 100 points)*	**97**
GRADE	**(1 – 2 – 3 – 4)**	**1**

NAME OF THE REFEREE: Jozef Barunik

DATE OF EVALUATION: 13.6.2013

Barunik

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