

Report on Master Thesis

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

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| Student: | Vyacheslav Lypko |
| Advisor: | PhDr. Jozef Baruník, Ph.D. |
| Title of the thesis: | Modelling Dynamics of Correlations between Stock Markets with High-frequency Data |

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

The thesis aims at modeling the dynamics of correlations between stock markets using high frequency data and non-linear methods such as neural networks. Author estimates correlations using so called realized measures and he builds several forecasting models including linear (H)AR and non-linear neural networks for correlation forecasts. The main novelty of the work is thus proposing a neural network to estimate and forecast realized correlations.

This empirical study is basically carried out correctly, but being an empirical study, it lacks much better economic motivation and interpretation of the results. The text in fact briefly summarizes the results of estimation and does not interpret them or draw any conclusions. For example author mentions several times that the results may have implications for portfolio managers, in the introduction even shows the VaR and portfolio variance formulas, but these are never used in the text later on. I believe that thesis is rather technical exercise which lacks this kind of economic interpretation of the results which lowers its value.

The text itself feels like it would have been written "overnight" which is a pity as it significantly decreases the quality of the thesis as well. The methodology part is a "list of important concepts" rather than comprehensive text (by the way, there is one very important concept of DCC GARCH by Robert Engle (2002) for the modeling and forecasting correlation dynamics which has not been mentioned), etc.

In conclusion, I believe that the thesis is an standard work which brings potentially interesting empirical research with novel approach to modeling of the correlations in the stock markets. Unfortunately, it lacks more thorough treatment which makes it an standard work. Therefore, in case of successful defence, I recommend a grade 2.

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

| CATEGORY | POINTS |
|---|---------------|
| <i>Literature</i> (max. 20 points) | 15 |
| <i>Methods</i> (max. 30 points) | 25 |
| <i>Contribution</i> (max. 30 points) | 15 |
| <i>Manuscript Form</i> (max. 20 points) | 12 |
| TOTAL POINTS (max. 100 points) | 67 |
| GRADE (1 – 2 – 3 – 4) | 2 |

NAME OF THE REFEREE: Jozef Baruník
DATE OF EVALUATION: 5.9.2012



Referee Signature