

Report on Bachelor Thesis

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

Student:	Martin Hronec
Advisor:	Jozef Barunik
Title of the thesis:	Forecasting stock market returns and volatility in different time horizons using Neural Networks

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

The thesis aims to use neural networks framework to improve forecasting of stock market returns and volatility. The main motivation of this approach is that the data under study may contain nonlinearities, which can be well captured by generalized regression approach such as neural networks. It may seem that the topic of returns and volatility forecasting has been studied from all aspects in the literature, and it is difficult to make a contribution. Still, many authors are attracted to the topic from obvious reasons, and Martin was able to make a contribution to the discussion, as he argues that while nonlinear regression approach is not useful in short term forecasts, its value should be understood in longer horizon forecasts. This is potentially interesting and important result, which points us to the fact that stock markets contain nonlinear dependencies in the longer horizons.

The topic of the thesis is quite ambitious for Bachelor student, but Martin was eager to pursue the analysis, and it turned into well-executed project. We have discussed the results at various stages very frequently, Martin incorporated all my comments into the final text, and hence I have no questions to the defence.

In conclusion, I believe Martin delivers nicely and competitively executed project with potentially interesting results, and the work deserves to be successfully defended.

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

CATEGORY	POINTS
<i>Literature</i> (max. 20 points)	20
<i>Methods</i> (max. 30 points)	30
<i>Contribution</i> (max. 30 points)	30
<i>Manuscript Form</i> (max. 20 points)	16
TOTAL POINTS (max. 100 points)	96
GRADE (1 – 2 – 3 – 4)	1

NAME OF THE REFEREE: Jozef Barunik

DATE OF EVALUATION: 29.5.2015

Referee Signature