Diploma thesis evaluation

Name of the student: Bc. Yuling Li
Title of the thesis: Risk Estimation and Backtesting

The topic of the thesis is risk estimation and backtesting. The goal of the thesis is to verify different VaR estimation approaches by means of backtesting on chosen time series. The goal is in line with the assignment and it has been achieved as can be seen from the elaboration of the thesis.

The structure of the thesis is logical and in line with the goal. There are five chapters. First chapter is the introduction and fifth chapter is the conclusion. In the second chapter, the author describes risk measures with the focus on Value at Risk (VaR) and Conditional Value at Risk (CVaR). In the third chapter, the backtesting procedure is described. The fourth chapter is the most important one as the empirical results are provided within this chapter. To be more concrete, author backtest four different methods of VaR estimation. For each of them she presents the simplified example, which illustrates the procedure, and empirical results for shares of Apple during period from 2008 until 2017.

Author has written an excellent thesis in which she combined both the contribution for educational purposes (simplified examples) and the scientific contribution (empirical studies). She also applied advanced approaches – statistical testing of backtesting results, which are clearly and concisely described. From the descriptions of the results and definitions, the reader can sense that the author does understand the topic completely. Due to my opinion, there are no methodical errors in the thesis. In addition, it must be noted that the student worked independently during elaboration of the thesis. She also worked with broad list of other books and even articles.

I can conclude that the submitted thesis is elaborated in line with the principles for elaboration of final theses. Thus, in line with above-mentioned evaluation, I recommend the thesis for defense at the final state exam.

Question for the defense
Is there a VaR confidence level, for which we can accept the normal distribution as an accurate model?

Ostrava, May 9, 2018

[Signature]

doc. Ing. Aleš Kresta, Ph.D.