FACULTY
OF SOCIAL SCIENCES
Charles University

Record of the dissertation thesis defence

Academic year: 2023/2024

Student's name and surname:	Mgr. Filip Staněk
Student's ID:	89056850
Type of the study programme:	doctoral
Study programme:	Economics and Econometrics
Study ID:	521930
Title of the thesis:	Essays in Time-Series Forecasting
Thesis department:	(23-CERGE)
Language of the thesis:	English
Language of defence:	English
Supervisor:	Stanislav Anatolev, Ph.D.
Reviewer(s):	John Galbraith, Ph.D. Andrey Vasnev, Ph.D.
Date of defence:	16.09.2024 **Venue of defence:** Praha
Attempt:	regular

Course of the examination:

The Defense Committee Chair initiated the defense by issuing verbal statements confirming that (i) a satisfactory number of Defense Committee Members were present, and (ii) the student Filip Staněk fulfilled all requirements listed in the Study and Examination Code of Charles University. The student was introduced by the chair of his dissertation committee, Stanislav Anatolyev. After the introduction, Filip Staněk presented his dissertation “Essays in Time-Series Forecasting", including its empirical models, datasets and estimation methodologies, and the related findings.
After the presentation the main referee comments were read, which was followed by an open discussion. During the discussion Filip Staněk satisfactorily answered the questions raised by both referees (he submitted all answers in written form to the Defense Committee) and by the audience:
Michal Pešta: You talked about unbiasedness. What can you say about consistency? What about asymptotic results? Can the research be extended in that direction? May the estimator be consistent under certain technical assumptions?
Filip Staněk answered.
Michal Pešta: If you were to use a different data-generating process, such as GARCH, would your results still be valid?
Filip Staněk answered.
Jozef Baruník: From the presentation it was unclear, whether you accounted for any dependency between the components of the loss function. Did you?
Filip Staněk answered.
Jozef Baruník: Did you consider extending your work to higher dimensions?
Filip Staněk answered.
Michal Pešta: Regarding the loss function gamma, in your

computational examples you have considered L2 loss function. What if you use something different to make the whole approach more robust? Is it doable?
Filip Staněk answered.

Paolo Zacchia: I have two simple questions about the general perspective.
First, is your proposition 1 a particular case of the universal approximation theorem?
Second, why do you use these hyper networks? I do not clearly see a typical hypernetwork as in convolutional graphical models here, is it there in the structure of your neural network?
Filip Staněk answered.

Result of defence: pass (P)

Chair of the board: Zacchia Paolo, Ph.D. (present) .....

Committee members: Baruník Jozef, doc. PhDr., Ph.D. (present) .....

Pešta Michal, doc. RNDr., Ph.D. (present) .....