

Report on the outcomes of a Short-Term Scientific Mission¹

Action number: CA19130

Grantee name: Tomas Plihal

Details of the STSM

Title: P2P Lending for FinTech

Start and end date: 29/08/2022 to 02/10/2022

Description of the work carried out during the STSM

Description of the activities carried out during the STSM. Any deviations from the initial working plan shall also be described in this section.

(max. 500 words)

This short-term scientific mission grant aimed to work on a joint project called Network-based credit risk models on P2P lending markets. Everything worked as expected. The applicant systematically worked on the project goals, actively consulted all issues, and reported the work progress to his colleagues during the short-term scientific mission. He cleaned and prepared the dataset for possible problems such as outliers, potential collinearity issues, missing data, and unbalanced samples. All of these issues were successfully solved. The next step was to create the benchmark network based on the minimum spanning tree methodology, which is highly computationally intensive for large datasets (each dataset has around 30 thousand observations). Therefore, it is crucial to work on the efficiency of the code and find the most suitable solution for estimating the network. This step was also successful, and the computation time decreased from several hours to approximately 15 minutes. The last step was selecting and extracting network characteristics used as features in the machine learning models. As a result, the applicant created a dataset that allowed the team to start estimating the machine learning predictive models and getting preliminary results. According to the results, the feature extraction will be adjusted accordingly if any issues arise.

Description of the STSM main achievements and planned follow-up activities

¹ This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant.

Description and assessment of whether the STSM achieved its planned goals and expected outcomes, including specific contribution to Action objective and deliverables, or publications resulting from the STSM. Agreed plans for future follow-up collaborations shall also be described in this section.

(max. 500 words)

We expected several outputs and contributions to the Action MoU objectives and deliverables. It fits the project deliverables from 1 to 5, and the main outcomes of this short-term scientific mission will be presented during one of the subsequent COST meetings. The project brings more transparency to the P2P lending market that is still not widely examined in the academic literature. It will improve the understanding of the behavior of this market and provide a guide on how to rate loans, select investment strategies, and manage risks for the investors. Our effort aims to publish several scientific articles during this project. The short-term scientific mission helped tremendously to begin this effort and provided us with a clean dataset with extracted new features and efficient automated processes of its estimation. The collaboration continues with the model estimation and will continue until the research is published. We hope that it will continue even after the project is finalized.