Report on **Master Thesis**

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

Student:	**Bc. Simona Ivančová**
Advisor:	**prof. PhDr. Petr Teplý, Ph.D.**
Title of the thesis:	**Climate risk in financial markets**

OVERALL ASSESSMENT:

Short Summary
The thesis investigates the impact of climate transition risk on credit risk within financial markets, utilizing unique internal data from a bank that includes carbon footprint information for SME and corporate clients. The analysis employs a logistic regression model to stress test a standard credit scoring model by incorporating transition risk variables such as three scopes of carbon footprint, financed carbon footprint, and carbon intensity. The findings reveal significant insights into the relationship between climate transition risk and credit risk, providing empirical evidence and methodological advancements.

Contribution
The thesis makes several significant contributions: First, empirical evidence as it offers empirical evidence on the relationship between climate transition risk and credit risk, demonstrating that Scope 1 emitters are less prone to credit default, while Scope 2 and Scope 3 emitters show higher default tendencies. Second, methodological advancements as the performance of climate-stressed logistic regression models is compared to standard models, revealing that including Scope 2 and Scope 3 carbon footprints improves the model's predictive accuracy. Third, predictor identification because four financial predictors of credit default are identified, validating the bank's data and enhancing the standard model's predictive capabilities. Finally, literature contribution as the thesis provides a comprehensive review of academic literature on climate transition risk in financial markets, highlighting research gaps and suggesting areas for future studies.

Methods
The methodology is robust, employing logistic regression to perform a climate stress test on a standard credit scoring model. Transition risk variables include three scopes of carbon footprint, financed carbon footprint, and carbon intensity. The analysis rigorously tests the models' discriminatory power and predictive accuracy, offering methodological insights that could be valuable for future research and practical applications in financial risk assessment.

Literature
A 5-page literature review on related theoretical models and empirical studies seems reasonable. The literature review is thorough and well-structured, effectively summarizing existing research on climate transition risk in financial markets. It identifies significant gaps in the literature, providing a solid foundation for the thesis and indicating opportunities for further research.

Manuscript Form
The manuscript is well-organized and clearly written, with logical progression and clear presentation of ideas. The use of tables and figures to illustrate key findings is effective, enhancing the readability and comprehension of the analysis.

Overall Evaluation
Overall, the thesis is a commendable piece of work that provides valuable insights into the intersection of climate transition risk and financial credit risk. The use of unique internal data and the methodological rigor of the analysis contribute significantly to the field. The findings have practical implications for financial institutions assessing credit risk in the context of climate change.

Simona has developed a solid academic approach, reviewed the existing literature, identified open questions and drew relevant conclusions from that. In my view, the thesis fulfills the requirements for a master thesis at IES, Faculty of Social Sciences, Charles University, I recommend it for the defense and suggest **a grade A.**

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The results of the Urkund analysis do not indicate significant text similarity with other available sources. However, this 19% similarity is not relevant to Simona's empirical results.

Suggested Questions for the Discussion During the Defense

1. Can you elaborate on the specific challenges you faced when integrating carbon footprint data into the credit scoring model?
2. How do you address potential limitations or biases in the internal data provided by the bank?
3. How do you foresee the evolution of credit risk assessment models in light of increasing climate-related risks?

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

CATEGORY		**POINTS**
Contribution	*(max. 30 points)*	29
Methods	*(max. 30 points)*	29
Literature	*(max. 20 points)*	19
Manuscript Form	*(max. 20 points)*	19
TOTAL POINTS	*(max. 100 points)*	**96**
GRADE	**(A – B – C – D – E – F)**	**A**

NAME OF THE REFEREE: prof. PhDr. Petr Teplý, Ph.D.

Digitálně podepsáno (7. 6. 2024)
Petr Teplý

DATE OF EVALUATION: June 7, 2024

Referee Signature

EXPLANATION OF CATEGORIES AND SCALE:

CONTRIBUTION: *The author presents original ideas on the topic demonstrating critical thinking and ability to draw conclusions based on the knowledge of relevant theory and empirics. There is a distinct value added of the thesis.*

Strong	*Average*	*Weak*
30	*15*	*0*

METHODS: *The tools used are relevant to the research question being investigated, and adequate to the author's level of studies. The thesis topic is comprehensively analyzed.*

Strong	*Average*	*Weak*
30	*15*	*0*

LITERATURE REVIEW: *The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

Strong	*Average*	*Weak*
20	*10*	*0*

MANUSCRIPT FORM: *The thesis is well structured. The student uses appropriate language and style, including academic format for graphs and tables. The text effectively refers to graphs and tables and disposes with a complete bibliography.*

Strong	*Average*	*Weak*
20	*10*	*0*

Overall grading:

TOTAL	**GRADE**
91 – 100	**A**
81 - 90	**B**
71 - 80	**C**
61 – 70	**D**
51 – 60	**E**
0 – 50	**F**