# Report on Bachelor / Master Thesis

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

| Student:             | Bc. Karolína Vachušková                                     |
|----------------------|---|
| Advisor:             | doc. PhDr. Ing. et Ing. Petr Jakubík, Ph.D. et Ph.D.        |
| Title of the thesis: | Mortgage Lending and Credit Risk: Micro-Level Data Analysis |

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

Please provide a short summary of the thesis, your assessment of each of the four key categories, and an overall evaluation and suggested questions for the discussion. The minimum length of the report is 300 words.

#### **Short summary**

The thesis explores the relationship between various lending parameters and credit risk using data from the Czech Republic. The study focuses on the debt service-to-income ratio, debt-to-income ratio, and loan-to-value ratio to analyze their impact on loan delinquency. The findings provide insights into the factors influencing credit risk, including income and wealth classes, as well as regional variations. The work is structured into chapters detailing the data analysis methods, hypotheses, regression results, and concluding with the main findings and implications.

#### Contribution

The contribution of the thesis lies in its examination of the effects of key lending parameters on credit risk using a unique dataset of mortgage loans from one commercial bank in the Czech Republic. By analyzing the debt service-to-income ratio, debt-to-income ratio, and loan-to-value ratio, the study sheds light on how these factors impact loan delinquency. Additionally, the research explores the heterogeneous effects of these lending variables based on income and wealth classes, as well as regional differences. The findings contribute to the understanding of credit risk in the Czech banking sector and provide insights for policymakers on the effectiveness of macroprudential policy instruments in managing credit risk using caps on DTI, DSTI and LTV.

## Methods

The thesis employs robust statistical methods, including logit regressions, to analyze a substantial dataset of monthly loan-level data from a Czech commercial bank. The use of these statistical techniques enhances the credibility and reliability of the analysis. Additionally, the inclusion of robustness checks and model testing further strengthens the validity of the findings. Perhaps, the author could discuss potential limitations of the methods used and addressing any assumptions made during the analysis. Overall, the methods used in the thesis demonstrate a high level of sophistication and contribute to the overall quality of the research.

#### Literature

The literature review is comprehensive, providing a solid theoretical foundation for the research and identifying key gaps in existing literature. The inclusion of relevant studies on credit risk, retail-lending parameters, and macroprudential policy instruments demonstrates a thorough understanding of the research area. The review effectively sets the stage for the study, guiding the research objectives and hypotheses. Overall, the work with literature in the thesis is commendable and significantly contributes to the scholarly discourse on credit risk in mortgage lending.

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# **Manuscript form**

The manuscript is well-organized and clear in its presentation. The organization of the text helps guide the reader through the analysis, and the clarity of the writing enhances understanding. The style of writing, language, and formatting is of a high standard to meet the academic requirements of a master's thesis.

#### Overall evaluation and suggested questions for the discussion during the defense

The thesis uses a robust research methodology, employing rigorous statistical techniques and analyzing a large dataset of monthly loan-level data from a Czech commercial bank. This thorough approach allows for a detailed exploration of how lending parameters influence credit risk in the mortgage market. One of the standout features of the manuscript is its comprehensive literature review, which not only establishes a strong theoretical framework but also identifies key gaps in existing research. This demonstrates a deep understanding of the subject matter and sets a clear direction for the study. The structured presentation of research objectives, hypotheses, and methodology further enhances the manuscript's credibility and readability. The discussion of results is particularly noteworthy for its insightful analysis of variables such as the debt service-to-income ratio and loan-to-value ratio in relation to loan delinquency. By including robustness checks and model testing, the manuscript ensures the reliability and validity of its findings, enhancing the overall quality of the research. In summary, it represents a well-executed study that significantly advances the understanding of credit risk in mortgage lending.

The author could elaborate on the following questions during the defense.

- 1) Given that your data are based on one commercial bank. Could you see any potential biases or limitations in the dataset?
- 2) Can you elaborate on the implications of your research findings for financial institutions or policymakers involved in mortgage lending practices? How might your results be applied in real-world scenarios to mitigate credit risk?
- 3) Looking ahead, what areas of research do you believe warrant further exploration based on the outcomes of your study? Are there any new research questions or methodologies that could build upon your current findings?

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. The results of the Turnitin analysis do not indicate significant text similarity with other available sources.

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

| CATEGORY        |                  | POINTS |
|-----------------|------------------|--------|
| Contribution    | (max. 30 points) | 28     |
| Methods         | (max. 30 points) | 26     |
| Literature      | (max. 20 points) | 19     |
| Manuscript Form | (max. 20 points) | 18     |

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| <b>TOTAL POINT</b>    | S (max. 100 points) | 91 |
|-----------------------|---------------------|----|
| GRADE $(A-B-C-D-E-F)$ |                     | Α  |

NAME OF THE REFEREE:

**DATE OF EVALUATION: 2.6.2024** 

Digitally signed (2.6.2024): Petr Jakubík

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.

**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.

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

**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.

# Overall grading:

| TOTAL    | GRADE |
|----------|-------|
| 91 – 100 | Α     |
| 81 - 90  | В     |
| 71 - 80  | С     |
| 61 – 70  | D     |
| 51 – 60  | E     |
| 0 – 50   | F     |