# Report on Doctoral Thesis

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| **Doctoral student:** | Ashiqur Rahman |

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| **Title of Doctoral Thesis:** | Financial Constraints on Small and Medium Enterprises (SMEs): Evidence from the Czech and Slovak Republic |
| **Reviewer:** | doc. Ing. Aleksandr Ključnikov, Ph.D. |
| **Place of Doctoral Examination:** | Faculty of Management and Economics, Tomas Bata University in Zlín, the Check Republic |

*Evaluation of the actuality of the topic of the Doctoral Thesis*

The doctoral thesis aims to examine financial constraints on Czech and Slovak Small and Medium-Sized Enterprises (SMEs) from two different perspectives: a) examining the factors that affect collateral requirements on loan contract focusing on the determinants of collateral lending to SMEs and the collateral to loan ratio in SME lending and b) examining credit rationing to innovative SMEs, involved in the product and process innovation and investing R&D activities. The research gap was clearly identified at the base of the literature research summary in chapter 3.1.

I consider both topic perspectives to be current and vitally important. The financial constraints are limiting the growth of the most dynamic sector of Czech and Slovak economy - Small and Medium-Sized Enterprises. The inability of SMEs to fulfill collateral requirements belong to the top 3 reasons for the rejection of the bank loans. The excessive amount of collateral compared to the loan size may also be a critical issue for the SMEs, which may be forced to hold an unneeded amount of assets just in order to provide a higher amount of collateral for the banks.

Better access of SMEs to bank financing is vital especially in the times of the Covid19 crisis, therefore the topic becomes even more important these days.

*Evaluation of the fulfillment of the objectives set out in the dissertation thesis.*

The main objective of the Dissertation Thesis is to investigate collateral-based lending in the segment of SMEs and to examine why innovative SMEs are credit rationed for the Czech and Slovak Republic. The main objective is accomplished by seven partial objectives and seven well-grounded scientific hypotheses. The author applied appropriate scientific methods for the hypotheses evaluation and thoughtfully described the results and evaluated the hypotheses in chapter 5.4. I consider the objectives of the Dissertation Thesis to be fulfilled.

*Evaluation of the procedure of research objectives solvation, results of Doctoral Thesis and the contribution of the student*

The doctoral thesis has a classic structure of a research paper. In the introductory part, the author describes the reasoning for the selection of the thesis topic. A well-structured and extensive literature presented in chapter 2 thoughtfully reviews more than 168 mostly current research papers from the respectable sources in the fields of theories of collateral-based lending, implications of collateral in SME lending (asymmetric information, relationship lending and collateral, bank-borrower distance and SME financing, bank competition, concentration and collateral, loan maturity and collateral) and financial constraints and innovative SMEs. At the base of the literature review, the author identified the research gap (chapter 3.1), formulates the research aim (chapter 3.2), formulated the research questions (chapter 3.3), and defined the research objectives (chapter 3.4). The author used an extensive way of scientific hypotheses formulation when each hypothesis is grounded by a separate research chapter, justifying its formulation.

The research is based on a primary questionaries' survey of 104 firms in the Czech Republic and 105 firms in Slovakia. To my knowledge, the research sample is not statistically representative, but the number of respondents allows the author to make valid conclusions.

A binary logistic regression method was chosen as a quantitative research method. The author invented 2 own models for the Determinants of Collateral and Credit Rationing to Innovative SMEs. Both models are well explained. Chapter 4.5 is devoted to the definition of the dependent, independent, and control variables for both models.

Chapter 5 presents the results of the data analysis and hypotheses evaluation using the descriptive and econometric approach, and their discussion (chapter 5.4), and chapter 6 summarizes the main results related to both initial research perspectives.

I can conclude that procedure of research objectives solvation is adequate, all the research questions were solved, and hypotheses evaluated. The students showed a capability of conduction independent research ad n fulfilled all objectives. My only concern is related to the validity of the sample. This issue was not explicitly addressed in the paper.

*Evaluation of the contribution for the development of the field of study and the practice*

At the base of the evaluation of the Doctoral Thesis, I can confirm that the results of the study bring an improvement of the SME financing literature and brings some implications for managerial practice. The study used an unusual combination of firm-level and bank market-level data to describe the determinants of collateral and the factors that determine the ratio of collateral in comparison to the loan size, and this combination was successful (the models were statistically significant).

From the practical point of view, the finding that relationship banking is an effective determinant of collateral in the Czech Republic and Slovakia is quite surprising and means that

the loan evaluation methods are still influenced by bankers. The finding that innovative SMEs are not considered as riskier by banks is also interesting and important.

*Evaluation of formal and language issues of the Doctoral Thesis*

The Doctoral Thesis fulfills all formal requirements for this type of scientific work. The language is at the appropriate level, a small number of minor mistakes do not spoil the overall impression.

*Evaluation of the publications of the doctoral candidate*

The doctoral candidate presented a list of 18 articles published in peer-reviewed international scientific journals listed in the Web of Science (ESCI) and/or Scopus database, with at least 6 of them with the positive impact factor, and 1 conference paper. All presented publications are related to the field of research. The number and the quality of publications exceed the reasonable requirements for the doctoral graduate.

*Questions for the student for further discussion*

1. The total number of the respondents in the research survey is 209. Is the research statistically significant with this number of the respondents and why?
2. Can you explain how did you quantified and evaluated banks concentration, bank competition and the distance between the bank and the borrower in the conditions of the selected relatively small countries? Which bank location was taken into consideration?

**Based on a comprehensive assessment of the topic, the degree of achievement of goals, results, and benefits of work for the practice and the development of the scientific field, I recommend the Dissertation thesis for the defense, and in case that the defense will be successful I propose to grand the doctoral candidate an academic title of "Doctor" (abbreviated as "Ph.D.").**

In Ostrava, 22.5.2020

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