## **Opponent's Report on Dissertation Thesis**

Institute of Economic Studies, Faculty of Social Sciences, Charles University Opletalova 26, 110 00 Praha 1, Czech Republic Phone: +420 222 112 330, Fax: +420 222 112 304

Author:	Barbora Štěpánková		
Advisor:	Prof. PhDr. Ladislav Krištoufek Ph.D.		
Title of the Thesis:	Three Essays on Bank-Sourced Credit Risk Estimates		
Type of Defense:	DEFENSE		
Date of Pre-Defense	February 17, 2021		
Opponent:	Prof. Jake Ansell Ph.D.		

Address the following questions in your report, please:

- a) Can you recognize an original contribution of the author?
- b) Is the thesis based on relevant references?
- c) Is the thesis defendable at your home institution or another respected institution where you gave lectures
- d) Do the results of the thesis allow their publication in a respected economic journal?
- e) Are there any additional major comments on what should be improved?
- f) What is your overall assessment of the thesis? (a) I recommend the thesis for defense without substantial changes, (b) the thesis can be defended after revision indicated in my comments, (c) not-defendable in this form.

(Note: The report should be at least 2 pages long.)

The thesis tackles issues associated with movement of ratings of corporate businesses within a three-paper structure. The first two papers challenge the regulatory assumption that the underlying model is Markovian. Particularly that the last state is determinant of future behaviour and that there is no temporal effect in relations to changes (stationarity). Having establish lack of these properties, the 2<sup>nd</sup> paper then proposes an alternative approaches within the regulatory framework consistent with matrix form. The 3<sup>rd</sup> paper moves away from this area and produces an account of dispersion within the context of banks' own estimation. The results are important since they are empirically based and challenge current regulatory frameworks as implemented.

The exploration is an addition to our knowledge, particularly in challenging the regulatory framework. The thesis is rigorous in its approach based on excellent set of data for the research. The conclusions and implications arrived at by the author are sound and do not overstate their case. The strength of the research contained within the thesis is supported by it publication in leading journals.

Obviously, a series of issues were raised in the pre-defence. The responses from the candidate are presented in Responses to Referees in Chapter 5. The issues that I raised were two fold the elements, which potentially not covered in Thesis and those outside the regulatory framework.

The financial environment changes with new regulation or protocols. Two of these that directly affect the area of credit are IFRS 9 and Basel 4 Accord. The first deals with accounting changes that have influence the assessment of credit behaviour, the latter deals with financing of liquidity. The candidate response appropriately, that issue is methodology as it stands, but whilst there is little evidence of change in given data available given their implications may only just emerging. This is a sound comment. Yet, using simulation, it might be plausible to explore these changes. One accepts this a sound observation that future work would be needed. Secondly the issue of macro-economic measures whilst there is consideration of inflation, other measures are not considered. In previous, unpublished work lagged GDP does affect SMEs, it may have less effect on corporate businesses. The suggestion by the candidate that adverse macro-economic measures may lead to a bias toward downgrade is very appealing.

The candidate has strongly positioned herself within the regulatory framework and credit research stream of work. Acknowledging, boundaries are important so that you can address a relevant audience. So, the developments are related to the framework. Hence, development of alternative approaches are restricted to current practice. Yet, often this lead to compounding of the issues ones wishes to resolve. Along these lines, I raised issues in pre-defence about approach and alternatives that step outside these constraints.

On the issue of upgrades and downgrades, I suggested the grading systems were not of equal length. The probability of default may be a continuous measure as the candidate suggests, but the Banks supply the grades. Hence, the Banks may chose differing internal scales and reporting number of grades. The issue is with the Banks and the production of data. So, even though, one might wish them to use a continuous measure it will not currently happen. Purely theoretical results will not useful.

Simulation underpins work in this thesis supported by empirical data. Simulation is based on assumptions built on our perception of the situation. Equally, empirical work is restricted by those measurable quantities and may be only representative of a particular instance. In an area where we cannot run controlled experiments theoretical models are equally based on individual judgements (Godel's work on decidability). Simulation can and should be questioned, yet it allows experimentation within our own scope. Hence, I accept the candidates justification of her approach in the Thesis.

The last point, whilst the candidate does provide development of modelling within the framework, I always feel that one should explore alternatives modelling frameworks. This would require a major change in regulatory environment. The candidate did review the material on alternatives but again restricted it by both regulatory and credit research. This is appropriate within the confines of the doctorate, but hopes it stimulates her to further work into the future.

I recommend the thesis for defense without substantial change.s

Date:	April 29, 2021
Opponent's Signature:	
Opponent's Affiliation:	Prof. Jake Ansell Ph.D.
	University of Edinburgh