Opponent's **Report on Dissertation Thesis**

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

Author:	**Jakub Seidler**
Advisor:	Prof. Ing. Oldřich Dědek, CSc.
Title of the Thesis:	Three Essays on Credit and Credit Risk
Type of Defense:	**DEFENSE**
Opponent:	Doc. Ing. Jiří Witzany, 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.)

Content of the Report:

The Dissertation Thesis consists of three essays on actual topics in the area of credit risk management and modeling. Each of the essays brings an original contribution and is based on relevant references. All the papers have been published, or allow publication in a respected economic journal.

The first essay proposes a novel technique for estimation of the Loss Given Default (LGD) parameter from stock market data. Empirical results are obtained for the most liquid companies on the Prague stock exchange and appear to be in line with other known LGD estimates. The methodology is based on the Merton's structural model. In fact, it is analogous to the KMV Moody's EDF (Expected Default Frequency) methodology that has been applied commercially. The paper makes a reference and a brief comparison to the methodology. One can ask why the EDF-like methodology has not been applied to LGD so far. The following remarks should be understood as proposals for possible future research directions rather than a criticism because every LGD estimation approach necessarily makes a number of simplifying assumptions. In particular, the Merton's model estimation is based on a fixed time horizon (e.g. five or three years although Basel II works in a one year horizon) so that European option valuation Black-Scholes formula can be used. In practice, default can happen any time leading rather to the concept of first-passage models and American style options (that would

have to be valued numerically). Another important assumption is that there are flat workout costs set expertly at the level of 10%. Considering first-passage models, one should also work with the length of the recovery process that significantly influences the recovery rates. I.e., in a more realistic Merton-like model, the recovery rate should depend on the value of assets at the time of default plus an average length of the recovery process. Overall, there is a lot of uncertainty in the estimated LGD values, as the authors admit in the conclusion. However, the model could discriminate well between low and high LGD values. The outputs of the model could play a role of an LGD rating that needs a further calibration, i.e. the model values should be mapped to calibrated LGD values reflecting the actual and historical recovery data. In fact, the same calibration procedure is applied by the KMV model and again a comparison would be useful.

The second essay deals with an important and actual issue of regulatory capital procyclicality and counter-cyclical capital cushion formation. Basel Committee on Banking Supervision recommends to use the HP filter in order to determine an equilibrium private credit level and to decide whether the current private credit level is excessive or not. For emerging economies the authors propose, instead of the HP filter, to use an out-of/sample regression approach, basically comparing the emerging economies with other developed economies and their historical private credit levels corresponding to historical similar macroeconomic characteristics. It turns out that for many CEE countries, including the Czech Republic, the HP filter indicates an excessive private credit level while the comparative approach says the opposite.

The third essay on stress testing verification is much less technically difficult than the first two papers. It gathers data on the CNB stress testing "predictions" and compares them with the real values, i.e. CAR, RWA, profits, credit losses, capital, and NPL of the Czech banking system. The results are more-or-less in line with the expectations, i.e. the stress testing conservative predictions underperform the reality. Although it is difficult with the limited data, I miss at least an attempt of a more systematic assessment of the stress testing conservativeness analogous to the Basel II philosophy. That is, based on the empirical evidence, can we say that the stress testing predictions correspond to a 90%, 99%, or other conservative quantile in terms of losses or CAR of the banking system?

Overall, the three essays of the thesis bring original results in several important directions of credit risk modeling and management, and open further discussion on many important issues in the investigated areas. The thesis would be defendable at my home university or at similar universities abroad. The minor remarks stated above can be discussed during the defense or may serve as possible ideas for further research. **I recommend the thesis for defense without substantial changes.**

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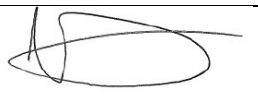
Opponent's Signature:	
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Type of Defense:	**PRE-DEFENSE**
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- It would be useful to show more details on the outputs of the HP filter smoothing, in particular for different values of the coefficient lambda
- The index *h* is probably missing in the equation on page 50. The indexation and the MG method should be better explained.
- The explanatory variable gdp/pop, GDP per capita in USD, multiplied by the coefficient 0.13 on the right hand side of the regression equation on p. 51 apparently is of different order compared to the explained variable (change of credit/gdp) on the left hand side. It seems that there is a mistake in notation.

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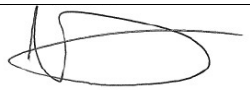
Opponent's Signature:	
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