

Report on Bachelor / Master Thesis

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

Student:	Josef Růžička
Advisor:	PhDr. Jaromír Baxa, Ph.D.
Title of the thesis:	What Drives the Sovereign Bond Spreads in Central and Eastern Europe?

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

The thesis analyses the government bond markets of CEE countries since 2008. It examines the impact of local macroeconomic fundamentals and global market conditions. The author divides the analysis into two parts. In the first descriptive part, he splits CEE countries into two homogenous groups using PCA method. In the second part, he then estimates econometric model and provides us with results.

Generally the thesis is unbalanced. The strongest part of the thesis is its technical part. I highly appreciate the structure of the empirical work: PCA method creating homogenous groups and then econometric estimation. The author also tries to check for the robustness of the model. Unfortunately the econometric part seems to me poorly done.

The weakest parts of the thesis are the theoretical part (chapter 3), which lacks more precise elaboration, and the econometrics (chapter 5). In addition the author should generally explain more his steps because the content is in some parts confusing and unclear.

The most problematic and confusing is the chapter 3 where he describes the theoretical model. The equilibrium condition (equation 3.2) is shown without its derivation. It's not clearly shown that two models on page 8 are equivalent and that the author is entitled to work just with the simplified version of the model. In addition the whole structure of the chapter 3 is confusing – I see no reason why the second half of the chapter is structured into “propositions, lemmas, etc.”, while the first part describing also economic models lacks this structure.

The subchapter 3.1.3 needs to be elaborated more in details. This subchapter describes a Poisson Default Model (JP Morgan (2000)) but the whole model is described just verbally and only in three short paragraphs. Then he generalizes this model in chapter 3.1.4 where he provides also mathematical description. However I cannot find any reference (citation) to the original model (JP Morgan (2000)) in the whole chapter 3.1.4. Hence it seems that the whole model is an invention of the author and it is not clear which parts of the model is author's work and which belongs to the baseline model.

The second problematic part is the chapter 5. The author uses advanced techniques which are taught on master level courses: the PCA method (multivariate statistics) and ARDL model (time series model which is even not taught at our institute). This fact would be impressive if the technical chapter was also well written. The chapter 5 where the ARDL model is estimated lacks not only the theoretical description of the ARDL model, but just simple explanation of this abbreviation is missing (Autoregressive distributed lag model). The text does not explain the ARDL model and what is the most important, the author does not explain

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why he uses this very advanced technique. Why he has not used other time-series techniques as e.g. ARIMA?

Another very important problem in the chapter structure is that the author tests for a stationarity (unit root test) at the end of the chapter, in the subchapter Robustness Checks. I think this is crucial misunderstanding of the robustness check, because its role is not to check basic assumptions of time-series models. The stationarity test should be before the whole estimation begins, because it tests very basic assumption in the whole time-series econometrics. Unfortunately this is the only test of the time series model (which is at the end of the chapter...). Because there is no description of the ARDL model, its assumptions and the reason for its usage, we have no certainty that the unit root test is sufficient. Hence the whole model specification is unconvincing.

In addition I have just addition minor comments. The column of the expected signs of explanatory variables in Table 5.1 is confusing. Are these signs results of the recession? If not where are the arguments which are a basis for the signs? Then I do not understand why the Czech Republic is taken away from the model (page 32). What is wrong? Is it outlier? The author claims that the model does not describe CZ well, but I do not think that it is sufficient reason to take it away from the model. If we exclude all "inconvenient" observation then we would of course have perfect model. In Table 5.2 (2) two insignificant variables are excluded, but why VIX^2 is not also excluded? The same nature of inconsistency in the exclusion of variables is applied also in Table 5.3 and Table 5.4.

Generally the thesis use very advanced techniques. However whole thesis lacks more detailed explanation of used models and mainly why they are employed. The level of the technical part is impressive on the first sight; unfortunately the thesis lacks explanation why the advanced time-series model is used and its proper usage is hence unconvincing. Hence I grade the thesis as good.

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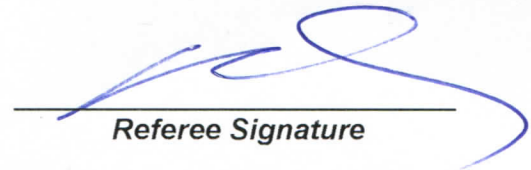
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SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY	POINTS
Literature (max. 20 points)	20
Methods (max. 30 points)	20
Contribution (max. 30 points)	25
Manuscript Form (max. 20 points)	13
TOTAL POINTS (max. 100 points)	78
GRADE (1 – 2 – 3 – 4)	2

NAME OF THE REFEREE: Mgr. Michal Paulus

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Referee Signature