Report on Master Thesis

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

Student:	Petr Žák
Advisor:	PhDr. RNDr. Josef Stráský, Ph.D.
Title of the thesis:	Forecasting the Exchange Rate in the Czech Republic Using Non-linear Threshold Models

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

The thesis is ballanced in terms of the subject's introduction, review of the literature, methods, as well as the applied analysis. The empirical work itself is presented with a lot of details, albeit at places it is done in somewhat mechanical way that hampers a flow of the text. The language of the thesis is easy to understand. The subject of the thesis is clearly defined. The comments below point at some shortcomings – their absence could further improve the thesis.

In section 2.2 the author states "Despite of the fact that Poland, Hungary and the Czech Republic are members of the European Union, they have not accepted the euro currency yet. They still keep their own currency as a monetary tool and as we saw recently in case of the Czech Republic to intervene on foreign exchange markets. It is therefore surprising that the literature related to exchange rate forecasting in CEE is rather scarce". Why is the ability to forecast exchange rate so important with respect to joining the eurozone? At least, the importance can be inferred from the above statement. From the exchange rate perspective, it is a stability of exchange rate that is important precondition to join the eurozone, rather than ability to forecast exchange rate.

The analysis of the forecasting performance of all models used in the thesis is performed over two distinctive periods: (i) the period before CNB decided to use interventions on November 7th, 2013, and (ii) the intervention period from November 7th, 2013 till April 18, 2016. Analysis of the forecasting abilities is sensible during the first period of the free float. However, during the intervention period the CNB commits to keep the exchange rate close to the the the 27 CZK/EUR rate and intervene against the koruna appreciation. In such case, forecasting is able to work only within small changes in exchange rate over short time spans because the exchange rate is bounded. However, the weekly data are used in the analysis and it is hard to believe that weekly span of the data would allow for any effective forecasting that would capture less-than-week span exchange rate movements. Forecasting then make sense later after a commitment of the central bank is lifted off.

The auhtor appropriately analyzes the residuals from analyzed models – this is very good as this step is incorrectly omitted in many analyses. Further, in section 5 the author states that the "BDS test on standardized residuals fails to reject the null hypothesis of remaining residuals to be independently and identically distributed. In this case the BDS test reveals no evidence of nonlinear dependence left in residuals." With respect to this, two comments emerge. First, even Ljung-Box test on residuals from GARCH model should be performed on standardized residuals. However, there is no information on this as in the text only "residuals" are mentioned in conjunction with the Ljung-Box test. Failing to use standardized resuduals likely invalidates results of this test. Second, it has been shown that even the BDS test lacks enough power to detect non-linearities in some data. An alternative with more power might be used instead (see Econometric Reviews, 20(3), 2001, 337-351 and Econometric Reviews, 24(3), 2005, 265-296).

The design and structure of the thesis might be improved. For example, many tables and figures could be moved to Appendix because at their current places they break the flow of the text. Further, number

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of tables, figures and regression outputs are poorly formatted. The presentation of the thesis seems rather mechanical – but that can be understood as it conforms to the accent on the technical analysis stated in the thesis' proposal.

Hypotheses are stated in a clear manner and point at the goal of the thesis itself. Still, the hypotheses are stated in positive form. The correct way to formulate the hypotheses is to write them as negative statements so that the hypotheses can be either rejected or not rejected.

In the case of successful defense, I recommend the grade "velmi dobře" (good, 2).

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

CATEGORY		POINTS
Literature	*(max. 20 points)*	16
Methods	*(max. 30 points)*	26
Contribution	*(max. 30 points)*	23
Manuscript Form	*(max. 20 points)*	14
TOTAL POINTS	*(max. 100 points)*	**79**
GRADE	**(1 – 2 – 3 – 4)**	**2**

NAME OF THE REFEREE: Evžen Kočenda

DATE OF EVALUATION: January 19, 2017

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Referee Signature