Report on Master Thesis

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

Student:	**Anastasiia Naletova**
Advisor:	**Evžen Kočenda**
Title of the thesis:	**Exchange Rate Volatility Effect on Trade Balance in the Czech Republic**

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

Please provide your assessment of each of the following four categories, summary and suggested questions for the discussion. The minimum length of the report is 300 words.

Contribution
The goal of the thesis is to analyze an impact of exchange rate volatility on trade balance of the Czech Republic during 2005-2016. Analysis is performed based on the estimation of a gravity model. The key results are derived from the augmented gravity model, where number of factors are added based on theory as well as empirical reasoning. The main findings show that the estimated augmented model provides a significant positive impact of exchange rate volatility on trade balance of the Czech Republic, and the key factors are the Czech GDP as well as that of trading partners, plus domestic population and the EU membership. Thus, the contribution belongs to the second group of the empirical literature (see below). Positive relationship between exchange rate volatility and trade balance is advocated by the presence of opportunity for generating profit from increased currency risk, and by greater trade gains as the value of exports to the global market increases. The positive line is shown to be in line with the J-Curve theory and monetary approach.

Methods
Method employed in the analysis is based on a gravity model that is extended by nuber of relevant factors. The analysis is performed with a data in a form of a panel dataset for 53 trading partners of the Czech Republic.
First, the exchange rate volatility is computed based on a formula of realized volatility – this non-parametric approach is shown to be well versed for historical time series data analysis on lower frequency. This model-free estimator is advantageous for estimating volatility over a discrete time interval because it treats ex-post volatility as an observable rather than a latent variable. The realized volatility values are obtained for 43 Czech koruna pairs against the trading currencies.
Second, the gravity model is constructed, initially a basic version, then an augmented one. In it, trade balance (explained variable) is defined as a ratio of exports from the Czech Republic to a trading partner over the amount of exports from a trading partner to the Czech Republic. Explanatory variables include GDP and population of the Czech Republic and its trading partners, realized volatility, weighted distance, and dummy variables for EU and OECD membership, common border and direct access of a country to the sea. Quite interesting is the use of the weighted distance that also accounts for transportation costs – in this respect the distance is not fixed but due to weighting it becomes a time-varying variable so that its effect can propagate in the fixed effects model.
The estimations are performed with the pooled OLS, fixed effects and random effects models. The formal tests indicate that the fixed effects model is the most fitting one.
All method tools are of the standard nature and are more or less adequately applied. The only caveat is the use of some non-stationary data, but their logarithmic transformation is performed to minimize the problem.

Literature
The literature section summarizes the current state of research in the field. It is conveniently divided into two parts that cover empirical literature and a theoretical framework. Empirical literature review covers works that deal with negative effect of exchange rate volatility on foreign trade and then with literature showing positive and ambiguous effects. The second part of the review provides details related to the theoretical approaches to links betwen trade balance and exchange rate. Specifically the

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follwoing areas are covered: the Elasticities Approach, Marshall-Lerner Condition, the J-Curve theory, the Absorption Approach, and the Monetary Approach. Literature review is also accompanied by the section that brings a review of the Czech foreign trade. Hence, the literature is reviewed in a great detail and covers all relevant papers and angles.

Manuscript form
The manuscript conforms to formal requirements for the master thesis. It reads well but at some places the flow and grammar could be improved. Text also contains infrequent typos. Introduction is short but clear and it motivates the researched topic well. Research hypotheses are not stated within the text but they are clearly articulated in the thesis proposal; further, the null hypotheses are correctly specified in a negative form. Data are fully described. Most of the tables and figures is presented in an organized and legible manner. However, some tables could be much better formatted and arranged; this is especially relevant to the section with results. Apendix provides additional useful information of the formal as well as empirical nature.

Summary and suggested questions for the discussion during the defense
The thesis represents an adeqautely executed piece of empirical work. The results of the Urkund analysis do not indicate significant text similarity with other available sources. In my view, the thesis fulfills the requirements for a master thesis at IES, Faculty of Social Sciences, Charles University, and I recommend it for the defense and suggest a grade B.

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

CATEGORY		**POINTS**
Contribution	*(max. 30 points)*	22
Methods	*(max. 30 points)*	24
Literature	*(max. 20 points)*	20
Manuscript Form	*(max. 20 points)*	15
TOTAL POINTS	*(max. 100 points)*	**81**
GRADE	**(A – B – C – D – E – F)**	**B**

NAME OF THE REFEREE: Evžen Kočenda

DATE OF EVALUATION: August 29, 2020

Digitally signed (29.08.2020)
Evžen Kočenda

Referee Signature

EXPLANATION OF CATEGORIES AND SCALE:

CONTRIBUTION: *The author presents original ideas on the topic demonstrating critical thinking and ability to draw conclusions based on the knowledge of relevant theory and empirics. There is a distinct value added of the thesis.*

Strong	*Average*	*Weak*
30	*15*	*0*

METHODS: *The tools used are relevant to the research question being investigated, and adequate to the author's level of studies. The thesis topic is comprehensively analyzed.*

Strong	*Average*	*Weak*
30	*15*	*0*

LITERATURE REVIEW: *The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

Strong	*Average*	*Weak*
20	*10*	*0*

MANUSCRIPT FORM: *The thesis is well structured. The student uses appropriate language and style, including academic format for graphs and tables. The text effectively refers to graphs and tables and disposes with a complete bibliography.*

Strong	*Average*	*Weak*
20	*10*	*0*

Overall grading:

TOTAL	**GRADE**
91 – 100	**A**
81 - 90	**B**
71 - 80	**C**
61 – 70	**D**
51 – 60	**E**
0 – 50	**F**