

Report on Master Thesis

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

Student:	Bc. et Bc. Katarína Vinšová
Advisor:	Mgr. Michal Paulus
Title of the thesis:	Analysis of the EU - South Korea FTA and its effects on their mutual trade using the gravity model

OVERALL ASSESSMENT:

Contribution

The aim of the thesis is to enrich scarce existing literature on the effects of EU-South Korea FTA on mutual trade. I find that goal contributory to the existing literature however I have doubts about used methods (see another section below).

My additional critical remark:

- On page 22 you claim that you examine the impact of EU-S. Korea FTA by new approach – gravity model of trade. However, you mention paper by Juust et al. (2020) which is according to your description also utilizing gravity model. Can you please explain in more details your contribution compared to the other existing papers? In other words, how is your research different to the papers (e.g. Juust et al. (2020)) examining the impact of EU-Korea FTA?

Methods

The weakest part of the thesis is methodology. The author generally summarizes the concept of microfounded gravity model, however I cannot find real application of structural modeling in the thesis. The estimated equation (4.1, p. 31) represents simple pooled OLS specification without any treatment of the so-called multilateral resistance terms (MRT). I find that as a serious weakness because non-structural specification may lead (and very likely is leading in case of FTA) to biased estimations and therefore to untrustworthy results. The key goal of the author in my perspective is to persuade commission that the chosen methodology is valid and explain why structural specification was avoided even though the relevance of microfounded gravity was at least briefly summarized in chapter 2.2.3.

My additional critical comments are below:

- I am a little bit confused by the explanation of the so-called gold medal mistake (page 24). Firstly, I do not agree that GDPs in logarithms are used as proxies for MRT. There are many standard procedures how to approximate them (e.g. set of dummies recommended by Baldwin and Taglioni (2006) or Taylor expansion of MRT proposed by Baier and Bergstrand (2009)) but I have seen a paper approximating MRT via GDPs in log because GDPs in log are standard explanatory variables in gravity model. Secondly, the golden medal introduced by Baldwin and Taglioni (2006) means simply that an author forgets to take the MRT into account (in fact omitted variable problem). Can you please explain what do you therefore mean by the golden medal in your text (p.24)? Can you also explain your claim that MRTs are approximated by GDPs in log?
- On page 10 (first paragraph) you claim that distance can be used as a proxy for MRT. Again, can you explain that claim and give us some example of a study utilizing that strategy? Distance seems to me again a standard gravity variable.
- What I miss in the literature review or methodology chapter is reasonable discussion about ways how to approximate MRT and therefore how to estimate structural gravity. E.g. one solution proposed by Baldwin and Taglioni (2006) is to approximate MRTs with a set of dummies. Baier and Bergstrand (2009) are using Taylor expansion as another way of dealing with MRT. At least few strategies with the chosen approach by the author shall be presented.
- I agree that PPML estimator (p.26) is suitable tool to cope with zero trade data. However, it does not solve the problem that some databases are mixing zero trade flows with missing observations. Example of a research solving that problem is e.g. Helpman, Melitz and Rubinstein (2008).
- The equation (4.1) of the estimated model is presented on page 31. However, the equation looks like a simple “naïve” gravity specification. Therefore, I have one crucial question: how did you cope with MRT in your estimations? In which sense is your gravity model structural?

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- You are estimating the model on panel data. Did you perform tests analyzing whether the fixed effects, random effects or pooled OLS estimator shall be used? What was your choice and why?

Baier, S. L., & Bergstrand, J. H. (2009). Bonus vetus OLS: A simple method for approximating international trade-cost effects using the gravity equation. *Journal of International Economics*, 77(1), 77-85.

Baldwin, R., & Taglioni, D. (2006). *Gravity for dummies and dummies for gravity equations* (No. w12516). National bureau of economic research.

Helpman, E., Melitz, M., & Rubinstein, Y. (2008). Estimating trade flows: Trading partners and trading volumes. *The quarterly journal of economics*, 123(2), 441-487.

Literature

The literature review is logically structured and covers all main topics associated with the research question of the author. I have only one very minor critical remark:

- Some claims summarizing main results of academic research on gravity models are not supported by references to existing academic papers. I would personally point to at least one relevant paper to increase validity of the literature review (example is e.g. on page 8: „*It has been proven by many studies that common language, border, history, race etc. promote deeper connections between two countries which further deepens economic ties.*“).

Manuscript form

There are sometimes few minor typos. The text would be improved by another round of editing but I do not assess the presence of those errors as serious.

Summary and suggested questions for the discussion during the defense

The thesis examines policy relevant topic and potentially offers contributory findings. Unfortunately, the methodology is the weakest and most problematic side of the paper and it very likely makes the results untrustworthy. The thesis is in fact utilizing so-called “naïve” gravity model concept which is regarded as an approach lacking theoretical base and therefore leading to biased results. Basic strategies to estimate structural gravity model and avoid weaknesses of the “naïve” model formulation are well known and easy to implement (e.g. the strategy of Baldwin and Taglioni (2006) is to simply add few sets of dummies). In addition, the thesis is working with a panel data but I have not found proper statistical tests examining suitability of utilizing fixed or random effects models. In fact, the author estimates pooled OLS while in my experience 95% gravity models are estimated via fixed effects model based on the results of those statistical tests. Therefore, I find the methodological aspects of the thesis very unsatisfactory.

To sum it up, the key goal of the author is to persuade commission that the utilized methodology is plausible and is leading to reliable results. Then I could recommend the thesis to be defended because the topic itself is policy relevant and contributory. Therefore, I recommend the thesis for the defense and suggest a grade E if the author is able to properly explain utilized methodology and sufficiently address key comments.

As a supervisor I have been lacking more concentrated effort to finish the thesis. The submitted draft of the thesis has not been consulted in advance which I find unfortunate because I find the topic interesting and policy relevant and the methodological shortcomings can be quite easily corrected.

My questions for the defense are mainly aimed to explain the utilized methodology. If the author is able to address my comments, then the thesis can be defended.

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- Given the specification of the equation 4.1 on page 31 it looks like you estimated simple “naïve” version of a gravity model. Why did not you estimate structural version of it? What was the reason?
- You are estimating the model on panel data. Did you perform tests analyzing whether the fixed effects, random effects or pooled OLS estimator shall be used? What was your choice and why?
- Can you please explain what do you mean by the golden medal in your text (p.24)? Can you also explain your claim that MRTs are approximated by GDPs in log?
- Then on page 10 (first paragraph) you claim that distance can be used as a proxy for MRT. Again, can you explain that claim and give us some example of a study utilizing that strategy?
- On page 22 you claim that you examine the impact of EU-S. Korea FTA by new approach – gravity model of trade. However, you mention paper by Juust et al. (2020) which is according to your description also utilizing gravity model. Can you please therefore explain in more details your contribution compared to the other existing papers? In other words, how is your research different to papers (e.g. Juust et al. (2020)) examining the impact of EU-Korea FTA?

The results of the Urkund analysis do not indicate significant text similarity with other available sources.

SUMMARY OF POINTS AWARDED:

CATEGORY	POINTS
<i>Contribution (max. 30 points)</i>	21
<i>Methods (max. 30 points)</i>	3
<i>Literature (max. 20 points)</i>	17
<i>Manuscript Form (max. 20 points)</i>	14
TOTAL POINTS (max. 100 points)	55
GRADE (A – B – C – D – E – F)	E

NAME OF THE REFEREE: Mgr. Michal Paulus

DATE OF EVALUATION: 7. 9. 2020

*Digitally signed (7. 9. 2020)
Michal Paulus*

Referee Signature

