Report on Bachelor Thesis

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

Student:	**Martin Macháček**
Advisor:	**Vilém Semerák, Ph.D.**
Title of the thesis:	**Analysis of Free Trade Agreements Between European Union and Latin American Countries**

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 thesis focuses on a relatively traditional topic (analysis of the effects of trade agreements) analyzed with the use of a standard and in general appropriate methodology (gravity model). The results could be called policy-relevant, as the EU attempts to evaluate and even renegotiate some of its older trade agreements, however, the econometric sections would need further improvement in order to become really useful.

The use of the education index in the gravity model is less usual and it could be considered an interesting innovation – unfortunately the author provides only a very general (and not too convincing) explanation of its possible role (p. 21).

In the end, the brief but interesting historical summary of relations between the EU and Latin American countries emerges as the main actual contribution of the paper.

Methods

The thesis is based on the use of gravity models, which can be described as a standard, respected (if used correctly) and relevant method for such a purpose. The author used a dataset based mainly on CEPII data – he used the ready made datasets which include all gravity covariates, but also trade flows, GDPs etc. The fact that he did not have to work with COMTRADE simplified his work significantly. Nevertheless, the author decide to improve his dataset (and the specification) by adding additional regressors from the Heritage foundation and UN sources (education index). The use of additional relevant data from the DESTA database was proposed (p. 21) but not tested by the author.

The role of FTA is captured by a single dyadic dummy variable, which means that the author can only test the presence of the level effect of the FTAs. Possible trade diversion effects or wider effects of trade integration cannot be tested with this specification. It is the simplest possible approach to analyzing the effects of FTAs, but it has been used in empirical literature.

Description of the size of the analyzed sample of data can be considered as misleading. The author mentions that he used a CEPII dataset (which includes as complete sample of global exports as possible), then he explains that he was using EU countries as the origin and individual Latin American countries as destinations. This in fact means that the author was using a rather narrow two dimensional panel rather than the more popular three dimensional panel. This also explains why his regressions report being made over a relatively small number of observations (minimum is 994 – p. 43). But then the author surprisingly claims that he used data on trade flows between 193 countries during 1995-2014 (p. 36), which is clearly wrong. The small dimensions of the sample(s) and the preference for analysis of individual importers also contributed to the features of the results – i.e. the fact that many key variables appeared to be statistically insignificant or that the reported R-sq. statistics are quite low for a gravity model.

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Attempts to reduce the problems of the "gold medal mistake" types of problems convinced the author to include a combination of pair dummies and time dummies. This is a relatively standard solution for simpler uses of gravity models on panel data. However, with the afore-mentioned reduction of the sample the country-pairs effectively become exporter dummies.
The author was clearly considering other estimators, such as the Baier-Bergstrand "Bonus Vetus" approach, but decided not to implement them in the end. The dummies are therefore combined with OLS (leading to a fixed effect model with time dummies) and PPML estimators. It seems that the author has not used robust standard errors (e.g. clustered standard errors), or their use has not been reported.

Literature
The review of literature on trade agreements (and similar arrangements) is rather unbalanced, some aspects are discussed at an appropriate level of detail for a literature review, other are not covered so well. The description of actual historical trade agreements is sketchy. Some important documents are mentioned, e.g. the author correctly mentions the Cobden-Chevalier treaty. Others are not - e.g. Methuen treaty - are not mentioned – even though it is actually relevant for the history of European trade with Brazil. RTAA arrangements are mentioned briefly (p. 12). The system of Imperial Preferences is briefly discussed, but other similar arrangements are not mentioned. Modern history of trade agreements is presented in a more comprehensive way, but the author focused more on changes in the number and extent of such agreements and less on their contents, esp. on the deepening of the agreements, even thought the author is clearly aware of the DESTA database which would have made such a discussion possible – p. 21).

The discussion of the motivation for trade agreements (p. 13-14) includes some political economy aspects and some more recent sources which focus on lobbying. Unfortunately, the lock-in argument for PTAs or the interesting recent research on the role of RTA as an instrument of protection (Rodrik) are not mentioned. On the other hand, the text even discusses issues which are not so directly related to trade agreements (Dutch East India Company, Silk Road).

The thesis includes a standard outline of the history of the gravity model (Ravenstein, Tinbergen) which subsequently continues with mainstream explanation of microeconomic foundations of modern gravity models as derived by by Anderson (1979), Bergstrand and others. Interestingly enough, while the author correctly emphasizes the need for microfoundations, the issue of the properties of the multilateral trade resistance is not discussed directly in the literature review (p. 17 – the discussion of McCallum's border puzzle paper simply mentions an "omitted variable bias"). This term magically appears only later on, when the econometric specification is discussed (p. 28).

Interestingly enough, the McCallum (1995) paper appears again in section 6.1 where the results are discussed. Mr. Macháček attempts to explain the strange features of the results by a "border effect problem" – however, the proposed solution (PPML with a contiguity dummy) is rather strange. After all, the author is not using the type of data where the border effect should be relevant and he has already repeatedly mentioned the microfoundations of gravity models.

As far as the gravity analysis of trade agreements (section 3.3) is concerned, the author correctly reports that most such papers rely on dummy variables which capture the effect of such agreements (p. 18), but he did not elaborate and discuss the forms of dummies (e.g. multiple dummies that can be used to differentiate between trade creation and trade diversion effects of trade agreements). Similarly, research focused on endogeneity of PTA formation is briefly mentioned, but the details (including possible econometric implications) are not discussed.

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Manuscript form
The manuscript has a logical structure, although it was not entirely necessary to include a special section which presents the features and assumptions of fixed effect models (a simple reference to a textbook of econometrics would be sufficient).

The text as well as regression output, charts, bibliography and other additional materials are neatly formatted thanks to the fact that the author relied on Latex-based solution.

There are inconsistencies in the titles of Tables 6.1. The author claims (e.g. p. 28, or implicitly also the description of the tables on p. 30) that he was using pair dummies in his regressions. But the title of table 6.1 suggests that importer fixed effects were used. In fact, the regressions include exporter fixed effects, importer fixed effects make no sense in a sample restricted to an individual importer.

The specification equations 5.1 and 5.2 include a simplified term for the time dummies which seems to suggest that there would be just one coefficient for the time dummies variable (which would be obviously wrong) and the form of which might lead a superficial reader to a belief that the author used a time trend instead of time dummies.

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Summary and suggested questions for the discussion during the defense

The author attempted to implement methods typically used for this kind of empirical topics. Although the implementation is relatively simple (small samples, basic specification), it is still acceptable for a bachelor thesis.

Questions for the defense:

1. Please explain the concept of gold, silver, and bronze medal mistakes which are so often discussed in the gravity literature. Which of the them can be considered a result of the neglect of micro-foundations of the gravity model?
2. Please explain the concept of the multilateral trade resistance. How is it related to McCallum's paper and the subsequent discussion of McCallum's results by authors such as Anderson & van Wincoop (2003)? What does it mean for your claims on the possibility of the border effect problem (p. 33)?

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

CATEGORY		**POINTS**
Contribution	*(max. 30 points)*	20
Methods	*(max. 30 points)*	13
Literature	*(max. 20 points)*	15
Manuscript Form	*(max. 20 points)*	16
TOTAL POINTS	*(max. 100 points)*	**64**
GRADE	**(A – B – C – D – E – F)**	**D**

NAME OF THE REFEREE: ***Vilém Semerák***

DATE OF EVALUATION: ***August 29th, 2019***

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**