

Report on Bachelor Thesis

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

Student:	Jan Srna
Advisor:	Vilém Semerák, Ph.D.
Title of the thesis:	Estimates of the role of non-tariff measures in trade between CZE/EU and Japan

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.

The thesis is titled “Estimates of the role of non-tariff measures in trade between CZE/EU and Japan”, but the text is mostly focused on possible effects of the new FTA between Japan and the EU. Of course, the two issues are intimately related (the FTA can be expected to have more significant effects only if it succeeds in reducing non-tariff barriers (NTBs) substantially), but a deeper explanation of the relationship between the two faces of the topic would be useful.

Contribution

Estimation of either importance of the non-tariff measures in mutual trade or of possible effects of the FTA on the EU/Czech Republic would be quite an important empirical contribution – while some research papers have been published, the available results for trade between the Czech Republic and Japan can be described as overly general and sketchy. However, the presented results in the form of the estimated average effects of FTAs and of trade potentials remain also at a rather general level and their value is also diluted by methodological issues.

Section 1.1 provides basic features of the agreement, but it is very brief. Additional details, including e.g. more detailed analysis of existing barriers to trade, would be useful. The thesis does not include a more descriptive part that would have attempted to summarize mutual trade and provide some indirect evidence on the role of NTBs. While it is true that econometric models are preferred in general, a descriptive analysis might have been an interesting opportunity for improving the contribution of the thesis.

Methods

In the end, the author does not really estimate the actual effect of the new FTA with Japan directly as this would be pretty much impossible to do with standard gravity models, but he focuses on

- (i) An extended gravity model, which is used to estimate an average effect of all FTA in his sample. The results are then interpreted as the future effects of the FTA between the EU and Japan. This is not an entirely unusual approach, often we have no other option than to predict the future effect from similar agreements signed in the past. The author admits this issue openly and he also improves this approach by attempting to focus on more detailed features of previous agreements (and thus indirectly also on their possible effects on various forms of NTBs).
- (ii) Estimates of trade potentials based on a gravity model. The description of possible differences between the gravity model used in results (i) and (ii) is rather vague. The estimation of trade potentials is done with the use of a simple method - in-sample forecast, where trade potentials are pretty much just residuals of the estimated model. This has been done by other authors in the past, but there are some issues with this approach too - e.g. Egger (2002) concluded that “... I suggest that any large systematic difference between observed and in-sample predicted trade flows indicates misspecification of the econometric model instead of unused (or overused) trade potentials”.

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Some aspects of the methodology are explained and described relatively poorly:

- Did the author use normal standard errors (instead of robust e.g. clustered ones)? It would appear logical as heteroskedasticity was mentioned previously and it is also easy to implement. But the information is not provided explicitly in the output tables, just a brief and indirect indication in footnote 29 informs the reader about the reliance on non-robust standard errors.
- "Coefficient of a variable that belongs to both models should not be affected" (p. 27) - well, what if one of the specifications suffers from an omitted variable bias?

Furthermore, quite a few additional opportunities for further improvements of the results were not attempted by the author. For instance, the specification focuses on the level effect of PTAs on trade as the author uses a dyadic level dummy variable for the presence of the treaty. The author did not attempt a slightly more complicated specification (with two dummies) that would enable him to test the trade creation and trade diversion effects of the agreements, instead he attempted to analyze the role of the different types of treaties - he used additional variables which describe the "depth" of the treaties. The specification did not consider dynamics (e.g. the fact that FTAs can be phased in gradually or their effect can depend on learning on the side of exporters and importers), but this is not so unusual for simpler empirical papers.

There is also a possible problem with the `depth_index` variable. It is not a simple dummy, but in spite of having a range of values from 0 to 7, it is not a cardinal variable either, just an ordinal one. However, the author acknowledges this (p. 33) and runs also a more transparent version of the regression with dummies for all the dimensions used to measure the depth of FTAs.

On the other hand, the author uses also the PPML estimator and avoids the common oversimplification which explains the need for this estimator by zero trade flows.

Standard sources of trade data are used in the paper, and the author managed to deal with combining large volumes of data from different sources (COMTRADE/WITS, CEPII, DESTA) fairly well. However, the description of the sources of the data and of subsequent steps is rather unbalanced:

- Some issues are described in a very detailed way – e.g. the description of WITS (and of its frontend) (p. 20-21) does not seem to be necessary and could easily be reduced significantly.
- In other cases the reader may not be sure which data were actually used: on p. 21 the author seems to claim that GDP/GNP data come from World Bank databases (WDI), but then "complains" that CEPII provides GDPs for a different set of countries than those included in the WITS (p. 26).

Literature

The paper provides a relatively detailed overview of existing studies on the effects of EU-Japan FTA and of papers on gravity models. What is very important, the author discusses the issue of microfoundations and of their importance. One omission can be found, though: the literature review does not discuss the highly relevant issue of endogeneity of PTA formation - which can be rather crucial for the determination of a correct econometric strategy. Quality of the literature review is also weakened by language and stylistic issues.

A few specific details on the literature review:

- Interestingly the author claims that Anderson (1979) inspired many others (p.12) - this is true, but also very simplified. In fact, the importance of microfoundations was ignored for quite a

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few years following the publication of the original paper; it was only the renewed interest in microfoundation which later caused that the Anderson (1979) paper was fully appreciated.

- The literature review discussed the less directly relevant issue of currency unions effects in a special section (2.1.3 p. 11-12). Although the author uses the opportunity to outline problems of older attempts to use gravity models without proper microfoundations, the importance of microfoundations and of dealing with the features of MTR also dealt with in other sections which makes the section 2.1.3 rather redundant.

Although the author cites papers which provide relevant methodological foundations, there are some reserves in the form of the presentation of the arguments. Similarly, some sections of the text do not fully utilize the insight from the cited papers:

- The explanation of the role of dummies and of their importance in the specification is incomplete (p. 23).
- It is quite strange to read that the author discusses which variables to include (p. 26) - after he has explained the importance of microeconomic foundations and of using econometric specifications which respect such foundations. The reasons why to include population are not explained too well (even though there are older works which lead to such specifications).

Manuscript form

As far as language, style and grammar are concerned, the text reveals that the author was finishing it in a hurry and did not have much time for proof-reading by a native speaker. Quite a few issues typical for non-English authors have remained in the submitted version of the text, this includes also cumbersome formulations which can be difficult to understand.

Both the explanation of methods, as well as the presentation of final results also leave many opportunities for improvement, although some of the issues are not unusual at this level:

- The R software provides ways for how to generate nicer looking results (stargazer), the formatting of the output might have been improved easily.
- It also might have been useful to convert the predicted trade potentials to actual values or percentage rates.
- Some sentences/paragraphs are not easy to comprehend - see e.g. p. 14 and the attempt to explain the logic of the multilateral trade resistance (p. 14) or the logic of Monte Carlo simulations (p. 15). Footnote 6 (page 19) – from the description I do not quite understand why random effects lose variability with the increasing number of zero observations in the sample (the actual sample used for the econometric analysis with the logged data remains the same). The author's use of the term restricted model (p. 19) can be also misleading for some readers - he means restricted sample (not restrictions on coefficients). I am also not sure what is the country's suggestibility (p. 19)
- The formulas which describe specifications of random effects and fixed effects (p. 27) are rather simplified - they do not include the actual "effects" and only include one sample time dummy. Although the author mentions this in the text in one of the previous sections, it would be nice if the results also included the information about the "effects", i.e. whether the author really worked with pair effects.
- Graphs No. 1 and 2 look interesting but include too many (and too diverse) observations to be useful.

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There are some errors in the references, which were probably caused by the fact that the author used an old-fashioned approach to the organization of references rather than a citation management software:

- Bergstrand and Egger (2017) instead of 2013 as correctly mentioned in other cases (p. 10)
- Paper Silva & Tenreyro (2006) (p. 16-17 list of references) should be referred to as Santos Silva & Tenreyro (2006) – however, I must admit that the abbreviated versions appear often in discussions and informal texts. On the other hand, in spite of language issues, I appreciate that the author describes the contribution in a more complex way (and avoids the simplified emphasis on zero trade).

Summary and suggested questions for the discussion during the defense

The author did manage to find relevant sources, process a fairly large datafile and obtain estimates of parameters based on a gravity model. The econometric work also attempted to follow current recommendations concerning the correct implementation of gravity models.

All in all, I recommend the thesis for defense and propose grade D.

Suggested questions:

1. As you mention, "downside for governments if of course the lost [sic] in revenues from duties". Who actually receives this revenue on the European side? Do non-tariff barriers generate anything similar to such revenues?
2. The estimates presented in section 4.2.2. (Table 6) are based on a specification which included population data amongst the variables. Which theoretical model can be used to derive this form of specification?
3. Your results suggest that land-locked countries trade less. How would you explain the result?

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

CATEGORY	POINTS
<i>Contribution (max. 30 points)</i>	20
<i>Methods (max. 30 points)</i>	21
<i>Literature (max. 20 points)</i>	16
<i>Manuscript Form (max. 20 points)</i>	13
TOTAL POINTS (max. 100 points)	70
GRADE (A – B – C – D – E – F)	D

NAME OF THE REFEREE: Vilém Semerák, Ph.D.

DATE OF EVALUATION: August 28th, 2019

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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.*

<i>Strong</i>	<i>Average</i>	<i>Weak</i>
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.*

<i>Strong</i>	<i>Average</i>	<i>Weak</i>
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.*

<i>Strong</i>	<i>Average</i>	<i>Weak</i>
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.*

<i>Strong</i>	<i>Average</i>	<i>Weak</i>
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