Report on **Master Thesis**

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

Student:	**Bc. HaEun Kim**
Advisor:	**Vilém Semerák, Ph.D.**
Title of the thesis:	**Measuring the Welfare Effects of the US-China Trade War Using a Computable General Equilibrium Model**

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

Please provide a short summary of the thesis, your assessment of each of the four key categories, and an overall evaluation and suggested questions for the discussion. The minimum length of the report is 300 words.

Short summary

The thesis provides estimates of the welfare and structural effects of the trade war between China and the USA. The estimates are calculated with the use of a multicountry multisectoral comparative static CGE model. The model used is the well-known GTAP model (in combination with the latest version of the GTAP database).

Contribution

As the thesis is based on an existing model and data, the main contribution brought by the author can be described as follows:
- Design of the structure of model, i.e. specification of the number of sectors and regions (and the decisions on the structure of aggregated sectors and regions)
- Creation and implementation of the scenarios simulated in the model.
- Calculation and interpretation of her own results.
- Provision of simple sensitivity tests (section 5.3).
- A reasonable literature review which summarizes other authors' findings on the possible welfare effects of the trade war (section 2.3) and the history of the conflict (section 3).
- Description of recent trends in Sino-US trade.

Methods

Ms Kim relies on the GTAP framework, which includes the vast and complex GTAP model of trade and a complete database of input-output data and matching additional indicators (tariffs etc.). This reliance on an existing framework is a fairly usual approach; the complexity and data requirements of current CGE models typically require team collaboration. Creating such a framework independently from scratch is beyond what might be expected in a typical thesis. As partially outlined in the previous paragraph, the author's own contribution to the methodology has three aspects:
- Design of the structure of the model (the number and delimitation of regions and sectors in the model).
    - This is often a tricky issue; the "right" model structure should be a compromise between the efforts to provide a maximum level of detail and attempts to keep the model reasonably simple (for computational reasons but also for the sake of clearer interpretation). Ms Kim opted for 5+1 regions (5 regions and the "rest of world") and 11 sectors, as described in section 4.2
- Definition of the five scenarios simulated in the model.
    - The author did not include only the simplest options (obtained by a relatively straightforward modification of the exogenous variable that captures the effects of

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tariffs), but included two additional types of scenarios – one with additional non-tariff barriers (scenario 5), one with direct quantitative constraints on the volume of imports (these two scenarios required a small change in the closure of the model).
- Calculation and interpretation of her own results
    o The results appear to have a logical structure and seem to be in line with both expectations and with results of other similar attempts published by other authors.

Literature

The literature review (section 2 of the text) provides an overview of the methodologies used on similar types of analysis; the CGE models are briefly compared with econometric methods (the student specifically focuses on gravity models), partial equilibrium simulations, and finally with approaches derived from input-output analysis.
She correctly describes the CGE category of models as standard models used by many institutions for analysis of trade policy shocks, especially when indirect and structural effects are to be analyzed. However, the comparison of the methods and especially the brief outlines of the other approaches might still benefit from additional editing.
Similarly, there are some newer developments in the field of CGE models (e.g. the inclusion of micro-data) which might have been mentioned even if they are not directly implemented in the GTAP. However, basic literature on the CGE models and issues relevant for their applications are covered reasonably well, partly thanks to the reliance on survey texts such as Burfisher (2016). The author also discusses possible sensitivity to assumptions (esp. the role of elasticity parameters, p. 34-35 and section 5.3).

Manuscript form

The paper is mostly written in a straightforward style, without excessive language issues, and it is mostly reasonably structured too.
Formatting and related issues (the inclusions of the list of references, tables, etc.) are at an adequate level – not in the least, thanks to the reliance on latex. The use of latex is on the other hand responsible for some minor issues in the list of references (p. 55).
The student kept the number of presented tables at a reasonable level (in comparison to the plethora of output that can be obtained from GTAP); additional tables are provided in the appendix.

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Overall evaluation and suggested questions for the discussion during the defense

The results of the Urkund analysis do not indicate significant text similarity with other available sources (while the percentage reported by the Urkund is higher than average, it seems to be caused by the fact that Urkund included the proposal and previously submitted sections of the thesis into the analysis). Similarly, the progress of work on the thesis suggests that it is the author's original contribution.

All in all, the thesis fulfils the requirements for a Master thesis at the IES, Faculty of Social Sciences, Charles University and I recommend it for the defence. I suggest grade B.

Questions for the defence:
- Explain the advantages and disadvantages of CGE models, compare them with econometric attempts to estimate the effects of trade policy shocks.
- Explain the logic of the trade efficiency based scenario (scenario 5).
- One of the most interesting results is the sensitivity of land-owners' revenues in the US to possible disturbances in trade with China (p. 42). Do you find this result plausible and can you provide some other evidence that agricultural trade with China is really so important for the USA?

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

CATEGORY		POINTS
Contribution	*(max. 30 points)*	24
Methods	*(max. 30 points)*	23
Literature	*(max. 20 points)*	17
Manuscript Form	*(max. 20 points)*	19
TOTAL POINTS	*(max. 100 points)*	**83**
GRADE	**(A – B – C – D – E – F)**	**B**

NAME OF THE REFEREE: *Vilém Semerák*

DATE OF EVALUATION: *September 10th, 2021*

Digitally signed
September 12th, 2021
Vilém Semerák

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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.*

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.*

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

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.*

Overall grading:

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