Opponent’s Report on Dissertation Thesis

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<table>
<thead>
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<td>Advisor:</td>
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<td>Title of the Thesis:</td>
<td>Institutions, entrepreneurship, trade, and economic growth</td>
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<td>Type of Defense:</td>
<td>DEFENSE</td>
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<td>Date of Pre-Defense:</td>
<td>October 12, 2016</td>
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<tr>
<td>Opponent</td>
<td>Doc. Ing. Vladimír Benáček, CSc. 22 May 2017</td>
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Address the following questions in your report, please:

a) Can you recognize an original contribution of the author?
b) Is the thesis based on relevant references?
c) Do the results of the thesis allow their publication in a respected economic journal?
d) Are there any additional major comments on what should be improved?
e) Were the comments raised at the pre-defense, addressed in the dissertation submitted to the regular defense?
f) What is your overall assessment of the thesis? (a) I recommend the thesis to be defended without major changes; (b) The thesis is not defendable.

(Note: The report should be at least 2 pages long.)

Content of the Report:

a) **Comment on the originality of contribution**

Since I considered the dissertation defendable already at the pre-defence and the quality of the text was further upgraded, here I can repeat the same comments that I mentioned in my first report of 30 September 2016: **The strength of the dissertation thesis of Mr Jiri Schwarz rests in the systematic quest for unveiling the mechanism how economic agents make their decisions** and how the parameters of economic indicators could become deceitful if some simple intuitive assumptions are assigned to them. The behaviour of agents can be viewed differently if a heterogeneous institutional setup, whose characteristics are subject to change both in space and in time, is added to the analysis. It is not the model technicalities and the study of instruments of model analysis that would pose the main contribution of this dissertation. I appreciate the cognitive and empirical robustness of the research and the endeavour of the author to bring the research closer to the realism in modelling.

I can recognize clearly several original contributions in the whole dissertation, which I discussed in details in the pre-defence in October and that I also mentioned in the next sections of my report.
b) **The relevance of references**

Definitely the wide scope of references in this dissertation deserves recognition. Mr Schwarz has underpinned his work by considering or applying the theoretical and methodological procedures of leading authors in the field. The present version of the thesis included some more recent publications, which further enlarged the scope of references.

c) **Defendability and publishability**

I consider this dissertation to be defendable in any good European research-based university. The first paper was already published in a respected journal. There are also signs that the third paper is bound to be published soon. But even if the last two papers do not achieve early publication, I see the main highlight of this research not so much in the quantitative technicalities (that many journals consider crucial) but in its ability to discuss and explain various economic aspects of entrepreneurial behaviour and motivate thus readers to new inspiring outlooks on the behaviour of agents in given fields of analysis. In that sense the objective of the presented research was very successful.

d) **Additional comments on what should be improved**

I have checked the response of the author to the comments of all three opponents. The author has systematically responded to nearly all comments (which is definitely my case) and extended the text by revisions (adding to the thesis some 10-20 pages) that made the thesis clearer and more reader-friendly. I do not think that further insistence on changes in the coverage of chapters would bring a new quality to the presented research. Of course, the econometric methodology has many niches that could be filled by alternative testing – but also this does not present a change that would make this thesis substantially better. Therefore my next comments are mere recommendations if the research would continue and target a different paper for publication.

I am still of the opinion that the first paper (that I considered most innovative and inspiring) could be further extended in its scope. Since it can be considered a specific form of a gravity model (which is quite original), it could be further expanded by affiliating it methodologically closer to the most recent methodological strands in the cost-based and price-based gravity modelling (e.g. that of M. Melitz or P. Egger). Therefore I would still suggest that there could be considered three extensions of the model (2.5) on p. 28 designed for the analysis of the dispersion of prices between cities: the first extension could be derived from the most recent specification of gravity models; the second by embodying to the theoretical frame the impacts of exchange rate fluctuations and the inflationary pass-thru; and the third one would include the qualitative heterogeneity of groups of products. Thus all these extensions would be at the level of product groups.

I am still repeating my question from pre-defence: what statistical circumstances (e.g. the characteristics of data) brought you to opt for the fixed effects regression in testing the price dispersion between locations? There are still many alternatives (where random effects are just one of them) - on which grounds were they rejected?
Now to the problem of quantitative treatment of the private and the social values of patents in the second paper when direct values for both are not available: this is a problem of the credibility of proxies, which marks the tradeoff between quantitative exactness subject to certain degree of error in analogy, and qualitative perfection that is operable just intuitively – e.g. as a speculation. Naturally, the author opted for the former, but the risk of such a move is still present: betting on the second best as a pragmatic solution could lead to a conclusion that does not belong to the functioning of the dynamics of real world that is not stationary both in time and in space. However, I am not insisting that the work with proxies should be changed. I would be satisfied if the author were aware of these risks in his modelling in all three papers, once the work with “institutions” (e.g. with an aim to decrease the exposure to omitted variables bias) opens the models too widely to uncontrolled analogies and endogeneity biases caused by potential circular causality.

e) Were the comments raised at the pre-defense, addressed in the dissertation submitted to the regular defense?

Practically all my comments from the pre-defence were addressed in the present version of the thesis and in the vast majority of them the outcome was either improving the contents or improving my understanding of the text. The crucial sentence of the author’s 27 pages of comments on the comments of three reviewers is just at the end: "Everything is hopefully much clearer now". Indeed, my impression is that the author brought the thesis closer to the readers while retaining his idiosyncratic originality.

f) What is your overall assessment of the thesis?

I recommend the thesis to be defended without major changes.