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Velká obhajoba disertační práce
Dissertation Defense

Vít Macháček
Chapters in cross-country analysis of science

25. 10. 2023 v 17:10, místnost 206
October 25, 2023 5:10 pm, room 206

Školitel / Supervisor:

Ing. Martin Srholec Ph.D.
(CERGE-EI)

Komise / Committee:

Doc. PhDr. Jozef Baruník Ph.D. (IES) - předseda komise

Vincent Larivière PhD (University of Montreal) -
opponent

Theo van Leeuwen PhD (Leiden University) - opponent

doc. Ing. Daniel Münich PhD (CERGE-EI) - opponent

PhDr. Jaromír Baxa Ph.D. (IES)

Doc. Ing. Tomáš Cahlík CSc. (IES)

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Práce dostupná na: / Available:

<https://iesdev.fsv.cuni.cz/default/file/download/id/34824>

Opponent's Report on Dissertation Thesis

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|----------------------|-----------------------------------------------|
| Author: | Vít Macháček |
| Advisor: | Ing. Martin Srholec Ph.D. (CERGE-EI) |
| Title of the Thesis: | Chapters in cross-country analysis of science |
| Type of Defense: | DEFENSE |
| Date of Pre-Defense | February 22, 2023 |
| Opponent: | Theo van Leeuwen PhD (Leiden University) |

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) Is the thesis defensible at your home institution or another respected institution where you gave lectures?
- d) Do the results of the thesis allow their publication in a respected economic journal?
- e) Are there any additional major comments on what should be improved?
- f) What is your overall assessment of the thesis? (a) I recommend the thesis for defense without substantial changes, (b) the thesis can be defended after revision indicated in my comments, (c) not-defensible in this form.

Can you recognize an original contribution of the author?

To assess the thesis of Vit Macháček, I have been reading the three scholarly publications supplied to me, namely *Predatory publishing in Scopus: Evidence on cross-country differences*, by Macháček and Srholec, published in **Quantitative Science Studies** (QSS), in 2022, *Globalization of scientific communication: Evidence from authors in academic journals by country of origin*, by Macháček, published in **Research Evaluation** (RE) in 2022, and finally *Researchers' institutional mobility: bibliometric evidence on academic inbreeding and internationalization*, published in **Science & Public Policy** (SPP) in 2022. To me, this is the basis of the assessment, and thus forms the basis for the PhD defense.

These three papers, all published in prominent journals in our field, by prestigious scholarly publishers, do cover a number of central and/or classical topics in the field of scientometrics and bibliometrics. The work of Vit Macháček is centered around the national level of research activity, although sidesteps are made to include other aspects as well (e.g., scholarly communities in the paper on predatory publishing, institutions in the paper on scientific mobility). However, in the work of Vit Macháček we also distinguish clear innovative dimensions, actually all three papers cover a particular topic that is in the middle of the academic debate in the field of (quantitative) science studies, and are highly policy-relevant. In

the paper in *QSS*, predatory publishing is problematized, as a feature of the transition towards a situation of complete open access publishing. The paper clearly identifies the many problems that come with the transition, and in particular the problems with the business model underlying the transition to full open access. To me, the original contribution of this particular paper is in the fact that this paper is a re-publication of a retracted paper published in *Scientometrics*. The authors have hit an open nerve, as Frontiers, a full Gold Open Access publisher has filed a complaint against the paper, which created quite some turmoil in the field. The fact that this has been re-published shows the braveness of the authors, as the retraction of the original paper was an illustration of an attempt by Frontiers to limit academic freedom. The complaint of the authors against predatory publishing, whatever you think of the methods applied in the study (as this was used as a problem in the original paper published in *Scientometrics*, only to be revealed after Post Publication Peer Review), has clearly made an impact in the debate on open access publishing and the role of certain publishers applying the APC-based business model. The publication in *RE* describes a way forward to make comparisons on a global scale between science systems more feasible. The paper has a strong policy orientation, as it is not only a bibliometric analysis of international cooperation but tries to show the context in which research is conducted, and what influences research practices. The findings of the paper are in itself not shocking, but however still confirm many other papers, that all individually deal with partial topics dealt with by this particular paper: the growth of international cooperation, since long an object of study in the field of quantitative science studies is being helped by this paper, as it shows that basically there is no limit to cooperation, a viewpoint heavily debated in the scientometrics community. The paper also brings in issues such as research assessment practices, and the kind of incentives related to that. A contribution this paper makes is in the contextualization debate, as for some years contextualization is considered an important attribute in scientometric or bibliometric analyses, leading to a deeper and better understanding of scientometric or bibliometric results, moving away from the sheer numbers, but trying to help in the interpretational stage after the results are produced. This is helpful, as it moves away from that tendency to compare on the basis of single numbers only, the paper brings in the contextual ^{vs} universalistic distinction, which helps in understanding why particular disciplines are more globalized compared to others. This additional perspective in helping to understand this process better is mostly following the epistemic distinction between for example the natural and biomedical sciences on the one hand, and the SSH, law and the health sciences on the other hand.

The third paper, published in *SPP*, deals with the topic of the academic workforce, and in particular the dimension of international mobility of that global academic workforce. The research orientates itself on universities (and their staff members) across scholarly domains and 64 countries. The way the research team of this paper defines various positionings in the global academic workforce is really interesting, and partially relates to Gaye Tuchman's book, *Wannabe U. Inside the Corporate University*, in which a similar like distinction is made between insiders and outsiders. A remarkable outcome for me was the fact that mobility can be studied, and that this is mainly a geographical phenomenon, and not so much related to scholarly disciplines, while in the study on globalization, published in *RE*, differences in globalization were field specific. This made me wonder to what extent globalization of science

is mostly an institutional phenomenon, and to a lesser extent a phenomenon based on mobility behaviour of individual scholars.

Is the thesis based on relevant references ?

With respect to the knowledge base (the references used) of the papers published by Vit Macháček I come to the conclusion that the reference lists of the two papers most connected, in *RE* and *SPP*, the reference lists both partially overlap, due to the internal connectedness of the topics in the two papers published, while at the same time the reference list of both papers address much of the relevant scholarly literature, both the somewhat older material, as well as the current debate, there are proper references to policy documents as well as to the data sources used. I would say the reference lists of these two papers give the impression that the author(s) are on top of their topics. The third paper, in *QSS* is less directly connected, so the reference list is somewhat decoupled from the other two papers. However, also here I find a nice blend of older and more recent literature, as well as the proper referencing to the scholarly debate on predatory publishing I described above.

Is the thesis defensible at your home institution or another respected institution where you gave lectures?

With respect to the quality of the thesis, in the light of the question whether or not this would be thesis defensible at your home institution or another respected institution where you gave lectures, I must state that this on the one hand difficult to answer, and on the other hand it is not. How is that ? It is difficult to answer, as every university, even in a small country like the Netherlands, has its' own set of requirements for a PhD thesis. It could be a monograph, or a cumulated thesis, based on submitted or published articles, and then even on the number and or type of publications there is no consensus. So this means that I have trouble giving a definite answer here. However, and that is the relatively easy part, the contents of Vit Macháček's thesis consists of published papers. These have gone through journal-based peer review, so that more or less guarantees a certain quality, in particular as the journals in which the three papers appeared are all three well-respected and highly prestigious titles in our field (although I must admit I am a bit biased here, as co-editor of *Research Evaluation*, but proud to have that paper in our journal).

Do the results of the thesis allow their publication in a respected economic journal?

On the question on whether the results of the thesis allow their publication in a respected economic journal, I can say that the results of the thesis research have already been published, in prestigious titles outside the field of Economics. However, I think that the two manuscripts published in *RE* on globalization in and of science as well as the paper on international mobility of the academic workforce published in *SPP* would have qualified in my view to publishable in an economics journal. Not being an economist myself, but very experienced in science studies, I know that publishing in economics journals might be a long process, with often many iterations between author(s) and peer(s), which can be could for the quality of published

material, but might be complicating a PhD trajectory. So, for the sake of speed, the papers appearing in science studies journals is a good thing for Vit Macháček's PhD project.

Are there any additional major comments on what should be improved?

As the papers have gone through peer review, and I do not know how intensive the peer review process has been, I would not make any additional comments on what else needs to be improved. I know the paper on predatory publishing has been in the eye of storm, and the final published version has been changed, after the submission to *QSS*. This to the satisfaction of the handling editors, as I happen to know. So that concludes the issue.

What is your overall assessment of the thesis?

I have included my previous comments, as I have trouble writing two new full pages on the work by Vit. I think he has dealt with the comments by both myself and the other two opponents more than adequately, and I see no objection to progressing in the procedure, so the defense of this thesis can take place.

So my overall assessment on the main question from the introduction is that I recommend the thesis for defense without substantial changes.

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| Date: | 10.10.2023 |
| Opponent's Signature: | Dr. Thed N. van Leeuwen |
| Opponent's Affiliation: | Centre for Science & Technology Studies (CWTS), Leiden University, the Netherlands |