## **Opponent's Report on Dissertation Thesis**

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Title of the Thesis:	The Empirics of Deflation and Economic Growth
Type of Defense:	DEFENSE
Date of Pre-Defense:	December 6, 2017
Opponent:	Prof. Jörg Guido Hülsmann

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 defendable 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-defendable in this form.

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

Mgr Pavel Ryska has submitted a doctoral thesis written in English of one hundred forty-eight pages. The work is organised into six chapters, with forty-one tables, twenty-seven figures, and a bibliography of more than hundred twenty references. It also contains six appendices, most notably a seventeen-page final appendix highlighting the changes that the author has made to the pre-defence version of his thesis, as well as his replies to the comments of the committee members. Despite a handful of typographical errors, the dissertation is very well written and presented, with the necessary transitions between chapters and within the chapters.

Mgr Ryska deals with a question of great importance for economic policy in general, and for monetary policy in particular, namely, with the relationship between price-deflation and economic performance. He correctly observes that contemporary monetary policy is based on the premise that price-deflation is detrimental for employment and economic growth, and that

this premise is more than often *presumed* to be true, while there is lacking evidence in the academic literature, both on the theoretical and on the empirical level. For more than eighty years, the Great Depression of the 1930s, in particular as it played out in the US, has served as the standard case referred to in economic textbooks to "prove" the nefarious impact of price-deflation on employment and growth. However, recent scholarship, most notably the Atkeson-Kehoe 2004 article, has questioned this narrative. In the light of their findings, it appears that the Great Depression was after all a rather exceptional case, not a typical one, as far as the nexus between price-deflation and economic performance is concerned. Unfortunately, their work has not inspired much emulation from other scholars. The empirical record of price-deflation still needs to be studied more systematically and comprehensively. Until the present day, despite its crucial importance, this field is one of the most underresearched in all of economics. Mgr Ryska contribution is therefore most welcome and most timely.

As the title of the thesis suggests, the author focuses on the *empirical* aspect of the subject. In Chapter 2, he gives a pertinent presentation of the relevant theoretical literature, even though this is not where he claims to make his genuine contribution. Still it deserves to be said that this presentation is well done and quite complete. Most notably, it features the useful distinction between the theories that consider price-deflation to be a *systematic* cause of other economic variables, and those theories that consider price-deflation a consequence or symptom of various causes, without being itself a systematic cause of other variables. The candidate also provides pertinent and valuable discussions of deflation vs dis-inflation (pp. 15f) and of anticipated vs unanticipated deflation (pp. 16f).

When he mentions in passing the important distinction between statistical and economic significance (p. 18) he could have mentioned McCloskey and Ziliak's (1996) article published in the *Journal of Economic Literature*, but this is a minor point. Similarly, in his presentation of the debt-deflation mechanism, the candidate could have stressed more strongly the crucial role played by the collapse of the money supply resulting from bankruptcies of fractional-reserve banks, but this is again a secondary consideration since the focus of his work lies elsewhere. We mention is passing that the present referee has strong reservations about the use of "non-standard" (i.e. upward-sloping) dynamic aggregate "demand curves" (pp. 22-24) as a graphical tool to represent the secondary effects of price-deflation. However, in the context of Mgr Ryska's dissertation, this probably boils down to a semantic quibble over the expression "demand curve" and we will therefore not insist on this point.

The main contributions of the thesis are to be found in chapters 3, 4, and 5. Here the candidate approaches the empirical record his field. His contributions are numerous and important. For the sake of brevity, I shall highlight only the most important ones.

In chapter 3, he has surveyed all (to my knowledge) contemporary English-language empirical studies of price-deflation from a macroeconomic point of view. He has identified their main shortcomings and limitations, and he has himself proceeded to mend these shortcomings by suitable adjustments to the methodology (more comprehensive data base, panel data, introduction of control variables). His analysis leads him to confirm the results of Atkeson-Kehoe 2004, which therefore now have a more solid basis.

Going beyond these predecessors, he also discusses the important case of Japan after 1992. Here the introduction of control variables proves to be especially useful, as it turns out that the per-capita performance in Japan in that period was by and large the same as in Germany, France, and Italy, even though the annual price-inflation rate was about 2 percent higher in the latter countries as compared to Japan. Mgr Ryska also provides pertinent and interesting discussions of the particularities of the Great Depression, as well as of the possible influence of monetary regimes on the observed price-level data.

Chapters 4 and 5 represent Mgr Ryska's most original contribution. Abandoning the macroeconomic approach, he studies the nexus between price-deflation and output with the help of sectoral data from the Czech economy. This is a highly unusual approach. After all, price-deflation is a macroeconomic phenomenon and needs not be confused with variations of individual prices or with sector prices. However, Pavel Ryska gives a perfectly legitimate account of his procedure. He rightly observes that the nefarious role of price-deflation (price-deflation as a systematic cause of other economic variables) is usually explained in the light of *microeconomic* mechanisms. It should therefore be possible to verify these mechanisms with the help of sector-level or firm-level data. But Mgr Ryska finds exactly the opposite. Sectors with particular low price-inflation or with price deflation are typically sectors with higher-than-average output growth and higher-than-average gross value added. In chapter 5 he adduces evidence that this record might reflect the impact of higher labour-productivity.

The presentation of the results is pertinent and sufficiently nuanced. The only point I would hold against the candidate is his repeated insistence that these results have essentially a theoretical, rather than practical or political relevance. It is certainly true that the *immediate* contribution of his research is to shed light on theoretical debates. But the practical implications seem to be rather obvious. I should also mention that I regret, possibly as much

as the candidate himself, that data limitations currently prevent to extend the kind of work that he has started, by bringing into consideration ever more, and more relevant, control variables, especially supply-side data (capital formation, capital consumption, technological progress) and data serving as proxies for government interventions. Certainly such information should be helpful in coming to grips with the prime econometric outlier, the Great Depression.

All in all, I consider Mgr Ryska's dissertation to be not only original, but solid and quite mature. The candidate has produced a high-level thesis that need not fear comparison to high-level doctoral researched carried out in other universities in France, Spain, and the UK with which I have been affiliated in the past few years. I have no doubt that chapters 3 through 5 are suitable for publication in respected economic journals, and I think that the thesis can be defended and published as is.

Date:	13 September 2018
Opponent's Signature:	
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