Opponent's Report on Dissertation Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague Opletalova 26, 110 00 Praha 1, Czech Republic Phone: +420 222 112 330, Fax: +420 222 112 304

Author:	Mgr. Pavel Ryska
Advisor:	prof. Ing. Josef Šíma, Ph.D.
Title of the Thesis:	The Empirics of Deflation and Economic Growth
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Opponent:	Prof. Joseph T. Salerno

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.)

Pavel Ryska's dissertation is an original contribution that fills a huge gap in the literature on the empirical study of the relationship between deflation and economic growth. Prior to Mr. Ryska's dissertation, empirical studies on the economic effects of deflation were remarkably few in number and narrow in scope. Almost all of them followed a macroeconomic approach and most were focused exclusively on *either* the pre-World War One *or* the post-World War Two era. Only a few used data that spanned both the 19th and 20th centuries. Moreover the results of all these studies were contradictory, most finding a weak or no link and a few others a strong link between deflation and recession. As a result of the scarcity, inherent deficiencies, and conflicting results of these studies, they have pretty much been ignored by mainstream macroeconomists and economic policy-makers, who almost all simply assume a strong causal link between deflation and recession based on models derived from broadly Keynesian reasoning.

Mr. Ryska displays a broad and deep knowledge of the extant theoretical and empirical literature on deflation and recession. His survey of the literature shows deep insight into the central issues and the connection—or lack thereof—between the theoretical and empirical literatures. It is also clearly written and well organized.

Mr Ryska contribution—and it is a significant one—is twofold. First he corrects the deficiencies of the macroeconomic studies by compiling a long dataset for twenty countries. His creative use of the macroeconomic data is very instructive. In addition to analyzing the full sample, he runs regressions for a subsample excluding the Great Depression. Especially enlightening is his demonstration of the heterogeneity of deflationary experiences across different countries during the years of the Great Depression. Also of great merit is his discussion of the so-called Great Recession in contemporary Japan. As the editor of the *Quarterly Journal of Austrian Economics*, I would say that it is the best analysis of the Japanese episode that I have seen and is publishable almost as it stands in an academic journal.

The most innovative and promising part of the dissertation is the use of disaggregated sector data to identify and analyze the relationship between deflation and growth in the various sectors of the Czech economy. Besides the fact that data are microeconomic, the dataset used is recent and contains many instances of deflation and inflation, broadly defined as changes in sector prices. I believe that the intuitive appeal and novelty of this approach and the definitive results it yields will open up a new avenue for empirical research into the effects of deflation.

This dissertation would certainly be accepted at Pace University, NY, where I have participated on several dissertation committees in the Doctor of Professional Studies program, which awards doctorates in finance, international economics, management, and marketing. I am also a member of the graduate faculty and have sat on dissertation committees in the economics department at Auburn University, Alabama and I am confident that the dissertation would also be defendable and acceptable at that institution. I strongly believe that there are several sections of Mr. Ryska's dissertation that can be readily developed into papers that would be published in respectable academic journals, including the sections on the contemporary Japanese "deflation" and the chapter dealing with the empirical analysis of deflation in the Czech economy.

The above evaluation was written with regard to the original version of Mr. Ryska's dissertation and my favorable impression of the dissertation has only been reinforced after reading the revised version. In this version, Mr. Ryska has substantially strengthened the empirical methods used and has sharpened the focus of his dissertation by controlling for shifts in aggregate supply and aggregate demand in the macroeconomic part of the study. The candidate now successfully isolates the effects of deflation on the growth of real income, without any material change in his econometric results and conclusions. He has re-oriented the paper so that it is clearly aimed at providing more penetrating theoretical insights while avoiding policy recommendations that may not be warranted. Along these lines he has also moderated his conclusions so that they apply mainly to actual deflation, properly warning that such conclusions may not apply to deflation-recession arguments that rely on deflationary expectations. In this context his extended discussion of expectations and the difficulties inherent in identifying empirical proxies for them is a valuable addition to the thesis.

Mr. Ryska has extended the revised approach and focus of the macroeconomic analysis of deflation to the microeconomic section, where he now controls for demand and supply factors

and focuses on elucidating the empirical link between price growth and demand growth. He also inserts an important section on the microeconomic foundations of deflation-recession theories that serves to explicitly integrate the two sections of the thesis. Empirical analysis on the microeconomic level suggests some exciting results: that supply-side deflation is pervasive in the data samples; that firms are able to adjust their costs even in the face of demand side deflation; and, most importantly, assuming control variables succeed in capturing the shift of supply and demand curves, there is little evidence of self-perpetuating deflation. Broadly speaking, Ryska's microeconomic study of the Czech economy confirms the absence of a significant link found between deflation and depression in previous macroeconomic studies using large data sets.

In my judgment, Mr. Ryska's dissertation is an outstanding contribution to the theoretical and empirical analysis of link between deflation and growth of real output. While it may not be the last word on the subject it represents an enormous leap forward in current research on the topic and opens up new avenues for future research. Overall, I recommend that this dissertation thesis be accepted without further modification.

Date:	September 11, 2018	
Opponent's Signature:		
Opponent's Affiliation:	Prof. Joseph T. Salerno	
	Pace University New York	