Supervisor's Report on Dissertation Thesis

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Author:	**Jaromír Baxa**
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Title of the Thesis:	Three Essays on Empirical Analysis of Economic Policy
Type of Defense:	**DEFENSE**
Date of Pre-Defense:	May 21, 2012

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 research area of the thesis is an empirical macroeconomics especially applications of nonlinear macroeconomics models with estimating of the monetary parameters for economic policy analysis. The topic is very upcoming subject as consequence of running through financial crises. The formulations of the nonlinear models with estimating theirs parameters bring interesting insights into mechanisms of the economy that is traditionally described by using DSGE model with nonlinearities often left behind. Studying effects of nonlinearities and their incorporation into macroeconomic models is one of the fast developing parts of the economic dynamics theory and applications.

Thesis targets are

a. To investigate influence of the inflation targeting on the central banking behavior.
b. A quantitative analysis of the financial instability influence on interest rates dynamics.
c. Forms of fiscal politics effects on financial instability periods.

In the first part, the evolution of monetary policy rules in a group of inflation targeting countries (Australia, Canada, New Zealand, Sweden and the United Kingdom) is examined. A moment- based estimator in a time-varying parameter model with endogenous regressors is applied. The estimation methodology closely follows Schlicht and Ludsteck (2006) and Kim (2006), which is in-line with the current research. Despite the fact that Baxa with his co-authors use an alternative to the conventional Kalman filter/smoother methodology, they include a direct comparison of the two methods in appendix of their paper. The main findings are: coefficients in the monetary policy rules changed rather gradually, pointing to the importance of applying a time-varying estimation framework and interestingly, both the interest rate smoothing parameter as well as interest rate response to inflation is much lower than typically reported by previous time-invariant estimates of policy rules.

These findings are original and shed new perspectives on inflation targeting. Especially, it is shown that inflation targeting is not necessarily connected with restrictive monetary policy at any time when the inflation increases, however the inflation can be stabilized indirectly, via determination of inflation expectations.

The same framework is then used for an analysis of the reactions of monetary policy on financial stress, which is measured using the novel, Financial stress index developed at the IMF (Balakrishnan, 2009). Not only Baxa et al. show that the reaction on financial stress varies over time and that it is statistically significant only in periods of larger stress, they also quantify the responses of central banks in terms of changes in interest rates.

In the final part, a threshold VAR model is used for studying whether the effects of fiscal policy on economic activity differ depending on financial market conditions. Baxa uses nonlinear impulse response functions (Koop, Pesaran and Potter, 1996) that are not conditional on the regime of the shock, but they allow for a shift from one regime to the other, too. Still, analysis of fiscal policy in multiple-regime models is relatively infrequent and the same holds for an analysis of the mutual effects of fiscal policy and financial stability. The main findings are that output reacts mostly positively to a fiscal shock in both financial stress regimes, and differences in estimated multipliers across regimes are relatively small, but increasing over time and especially during the current crisis.

The first two papers are already forthcoming in journals Macroeconomic Dynamics and in Journal of Financial Stability; the third one was published as the IES WP and also as working paper at the ECB. In the third paper co-authors mentioned in the WP versions contributed mainly with comments as supervisors in the ECB and so the third paper can be considered as written by Baxa on its own.

By my opinion the author reached all prescribed targets. Moreover, an approach of nonlinear multidimensional model utilized for an analysis of fiscal policy is novelty, too. The alternative method to conventional using of Kalman filter is novelty also. Estimation of parameters of the economics models is conducted carefully. Very important are empirical results from econometric modeling based on relatively newly available datasets.

As over-all-look, I can state that all parties of this thesis have excellent professional level. Therefore I suggest, after successful defense, conferring the degree

Ph. D.

to PhDr. Jaromír Baxa.

Date:	12. 9. 2012
Advisor’s Signature:	
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d) Are there any additional major comments on what should be improved?
e) What is your overall assessment of the thesis? (a) I recommend the thesis for defence without substantial changes, (b) the thesis can be defended after revision, (c) not-defendable in this form.

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

Content of the Report:

Baxa's dissertation thesis is focused on the empirical analysis of monetary and fiscal policy using nonlinear models. This one consists two parts, the first part deal with the analysis of monetary policy using the monetary policy rule with time-varying parameters. The second part is focused on finding answer to the question, whether the negative effects of financial instability on economic growth can be mitigated by expansionary fiscal policy.

In the first part, the evolution of monetary policy rules in a group of inflation targeting countries (Australia, Canada, New Zealand, Sweden and the United Kingdom) is examined. A moment- based estimator in a time-varying parameter model with endogenous regressors is applied. The estimation methodology closely follows Schlicht and Ludsteck (2006) and Kim (2006), which is in-line with the current research. Despite the fact that Baxa with his co-authors use an alternative to the conventional Kalman filter/smoother methodology, they include a direct comparison of the two methods in appendix of their paper. The main findings are:

1) coefficients in the monetary policy rules changed rather gradually, pointing to the importance of applying a time-varying estimation framework,

2) the interest rate smoothing parameter is much lower than typically reported by previous time-invariant estimates of policy rules,

3) the response of interest rates to inflation is particularly strong during periods when central bankers want to break a record of high inflation.

4) inflation persistence typically decreased after the adoption of inflation targeting.

These findings are original and shed a new perspectives on inflation targeting. Especially, it is shown that inflation targeting is not necessarily connected with restrictive monetary policy at any time when the inflation increases, however the inflation can be stabilized indirectly, via determination of inflation expectations. This paper has been recently conditionally accepted for publication in Macroeconomic Dynamics.

The same framework is then used for an analysis of the reactions of monetary policy on financial stress, which is measured using the novel, Financial stress index developed at the IMF (Balakrishnan, 2009). Not only Baxa et al. show that the reaction on financial stress varies over time and that it is statistically significant only in periods of larger stress, they also quantify the responses of central banks in terms of changes in interest rates. The paper is forthcoming in Journal of Financial Stability and it appeared also in the recently published Handbook of Central Banking, Financial Regulation and Supervision, Edgar Elgar, 2012.
In the second part, a threshold VAR model is used for studying whether the effects of fiscal policy on economic activity differ depending on financial market conditions. Baxa uses nonlinear impulse response functions (Koop, Pesaran and Potter, 1996) that are not conditional on the regime of the shock, but they allow for a shift from one regime to the other, too. Still, analysis of fiscal policy in multiple-regime models are relatively infrequent and the same holds for an analysis of the mutual effects of fiscal policy and financial stability. The main findings are:

1) output reacts mostly positively to a fiscal shock in both financial stress regimes, and differences in estimated multipliers across regimes are relatively small.

2) a financial stress shock has a negative effect on output.

This paper is now submitted in Journal of International Money and Finance.

By my opinion the author reached all prescribed targets with novel approaches. Results from relevant publications were used. Results from actual Baxa‘s research activity were submitted or already published in several respected economic journals . All parties of this thesis have excellent professional level. Therefore I recommend the dissertation thesis for defence without substantial changes.

References

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Koop, G., Pesaran, M., Potter, S. (1996). “Impulse Response Analysis in Nonlinear Multivariate Models,” Journal of Econometrics, 74, 119-148.

Schlicht, Ekkehart; Ludsteck, Johannes, 2006. Variance Estimation in a Random Coefficients Model. IZA Discussion Paper No. 2031.

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