

Note No. 2 to Referee No 1.

" The Growth Effects of R&D Spending in the EU: A Meta-Analysis"

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Having spend some more time looking over the comments from Referee No. 1, we would like to make the following addition to our response:

Referee's comment:

“The negative effect in your meta-regression on the EU-15 could be driven by publication effects which are typically larger in the US-literature. I would therefore strongly recommend controlling for publication biases and also for impact factor of the journals in which the studies have been published”.

Response:

To further analyze the robustness of our results with respect to publication bias (PB) we plan to follow the route suggested by Stanley (2015); Krakovsky (2004); Stanley and Doucouliagos (2007); Stanley (2008).

Following Stanley (2015), the question of publication bias can be broken down to three questions: (i) How can publication selection be detected? (ii) How can an empirical effect be identified, regardless of publication selection? (iii) How can the magnitude of the effect be estimated in a manner that is robust to publication selection?

Question (i) and (ii) can be tackled with the following publication bias meta-regression model:

$$t = \alpha + \beta_0 \left( \frac{1}{Se} \right) + XB + \varepsilon. \quad (1)$$

Whereas question (iii) can be analyzed using the Heckman meta-regression model:

$$t = \alpha + \beta_0 \left( \frac{1}{Se} \right) + \beta_1 (Se) + XB + \varepsilon. \quad (2)$$

To analyze the robustness of the results with respect to publication bias, we will add a separate table where we extend our standard meta-regression model to control for publication bias according to equations (1) and (2). An extension in this direction is of particular interest if the degree of publication bias varies across EU and US-based studies.

## References

Krakovsky, M. (2004) Register or perish, *Scientific American*, 291(Dec.), 18-20.

Stanley, T.D. (2008). "Meta-regression methods for detecting and estimating empirical effects in the presence of publication selection," *Oxford Bulletin of Economics and Statistics*, in press.

Stanley, T.D. and Chris Doucouliagos (2007). "Identifying and Correcting Publication Selection Bias in the Efficiency-Wage Literature: Heckman Meta-Regression." Deakin University Working Paper, 2007-11.

Stanley, T.D. (2015). "*Meta-Regression Methods for Publication Selection Bias: Simulations and Heckman Regression*". (Mimeo). MAER Network, Bulletin of Economics and Meta-Analysis.

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