

Referee report on: "Choice of Foreign R&D Entry Mode and Impact on Firm Performance"

### Summary

In this paper the determinants of foreign R&D activities and its impact on the performance of the parent companies is investigated simultaneously using a Heckman selection model. The data consists of survey data of about 700 multinational firms located in Switzerland and Austria. The results show that foreign R&D is significantly related to innovation output of the parent company. The results for productivity are mixed. The determinants of foreign R&D location show the expected sign. The authors investigate an interesting topic based on novel firm level data. I like the general approach of the authors. The conceptual background is well done and the empirical results are plausible. The problem of endogeneity of some right hand variables is addressed by using the approach of Rivers and Vuong (1988). Below there are some issues that should be addressed.

### Main comments

The paper is too long. It covers 11000 words excluding tables. Please go through the paper delete what is not needed. In particular, the conceptual part is too long. Some parts should be deemphasized. For instance the OLI model is well known. Section 3 and section 5 should be combined and the whole section should be shortened so that the reader gets to the empirical model more quickly. Write down the estimation equations. In contrast, the empirical section covers only three pages and can be extended a bit. Overall, I suggest changing the structure of the paper. After the introduction start with the conceptual background then introduce the empirical model. Then proceed with the data description and finally report the empirical results.

Please report details on how the Heckman selection model is estimated. Have you used the one step ML or two step approaches? Report the correlation coefficient of the error terms or

the inverted mills ratio. What about the appropriateness of the two identifying variables “export intensity” and “degree of competition”? Are they insignificant in the probit equation? Please use present tense as much as possible and be consistent in the use of tenses, particularly in the literature review part. The use past tense is only recommended if past research is of secondary importance to your research. If so keep the use of passive tense to a minimum.

please check for instance: “Based on the same approach Cieslik and Ryan (2009) showed“  
Do not write, Cieslik and Ryan (2009) showed. Do write, Cieslik and Ryan (2009) show  
please check also the following citations (for example): p. 6 „Rammer and Schmiele (2008) and Schmiele (2012) got similar“; p.8 “Iwasa and Odagiri (2004) found that “research-oriented”; Higon *et al.* (2011) obtained; p 17 “For the majority of O-variables we obtained the expected positive sign” -> write we obtain

There are many other examples

Title of the paper: I think we should change “impact” into “relationship”. With cross-section data we cannot study impacts or effects.

Minor points

p. 1 this sentence needs to be rewritten:

Against this background it is surprising that the extensive entry mode research did not provide any econometric analysis dealing with mode choice in the *specific case of foreign R&D*.

I suggest

Against this background it is surprising that the extensive literature on the entry mode choice provides very little empirical evidence on the drivers of **R&D** location **abroad**.

p 1

for reviews of this literature see Sarkar and Cavusgil (1996); Datta et al. (2002); Zhao et al. (2004); Brouthers and Hennart (2007); Morschett et al. (2010)).

You may include Dunning and Lundan (2009), please check

p1

„cannot be carried over unseen to the case of R&D“

this sentence has to be rewritten, I suggest:

„cannot necessarily be transferred to the case of R&D“

Overall, there are some grammatical errors. See for instance see p 7. appropriability of knowledge should be appropriability. Paper should be checked by a native speaker

p 1 in general

Please make sure that you include a statement on the paper's contribution within the introduction, preferably within the first few paragraphs, the sooner, the better

p 1

„we analyse the impact of foreign“

I suggest to change impact into relationship

p 2

old proportion that is higher than in (practically) all EU countries,

new proportion that is higher than in any of the EU countries,

please check

p .3

the authors may consider to rewrite following sentence:

old „Moreover, “transaction cost theory” hypothesises“

new: „the transaction cost theory states“

p 4

As early as in the 1970s, Dunning argued

reference is missing; change into present tense

p 4

the literature review is fine. However, I suggest to check following references: Moncada-Paternò-Castello et al. (2011) and Rabbiosi (2011).

footnote 9: Chen and Chang (1996) is cited in the text but . Please make sure Make sure that that all reference text citations are included in the reference list and that no references are included in the literature list that do not appear in the text.

p 17: “Insufficient IPR protection” The majority of multinational firms invest in developed countries characterized by a high IPR protection regime. Is this really relevant here?

*p 19*

„of an innovation function“

*better knowledge production function or innovation output equation*

*p 20*

The synopsis of the empirical results (see Table 7) should be shifted to the results section

#### Literature

Dunning, J. H., & Lundan, S. M. (2009). The internationalization of corporate R&D: a review of the evidence and some policy implications for home countries<sup>1</sup>. *Review of Policy Research*, 26(1-2), 13-33

Moncada-Paternò-Castello, P., Vivarelli, M., & Voigt, P. (2011). Drivers and impacts in the globalization of corporate R&D: an introduction based on the European experience. *Industrial and Corporate Change*, 20(2), 585-603

Rabbiosi, L. (2011). Subsidiary roles and reverse knowledge transfer: An investigation of the effects of coordination mechanisms. *Journal of International Management*, 17(2), 97-113.