

Response to Referee 2's Comments on

"Export activity, innovation and institutions in Southern European nascent entrepreneurship"

Thank you very much for your constructive and thoughtful comments, which are much appreciated. I am happy to revise the paper as described in the responses below.

1. *The major weakness of the paper is the lack of a sound theoretical basis. The related section 2 does not provide such a basis although it should. The proposed model (Fig.2) is by far too superficial as it misses to name the precise contents (and justifications) for personal attributes, individuals' perceptions and the like. The model in the current form is not very helpful. What this section needs is a stringent theoretical explanation why nascent entrepreneurs should opt for exports instead of searching for first or at least early customers in their home country. There are too many very broad arguments in favor explanations for entrepreneurial activities in general - instead of a focus on the question why nascent entrepreneurs may prefer export activities instead of national customers.*

Response: Section 2 has been revised taking into account your comments.

2. *A second major weakness, also occurring in section 2, is the poor overview on the state of the research on nascent entrepreneurs' export activity and innovativity. While some of the cited literature is rightly mentioned, several other publications are not. Instead too many publications cited in this section are related to the relationship between entrepreneurship and economic growth (that is neither part of the title nor belongs to the aims of the paper), although the focus should be on exports and innovation.*

Response: A recognition of other relevant studies has been added to the text.

3. *A third important problem of the paper relates to the interpretation of some of the core GEM variables and indices. The TEA rate, mentioned in the paper, is in fact the sum of nascent entrepreneurs (in GEM defined as " respondents (18-64) involved in nascent business, defined as active, expect to be a full or part owner, and no salaries or wages paid for over three months") and of entrepreneurs of baby businesses ("respondents (18-64) involved as owner and manager in new firms for which salaries or wages have been paid between 3 and 42 months"). Thus, the first part of the definition covers nascent entrepreneurs in a proper sense (i.e. a new business does not yet exist), while the second one covers young firms (i.e., the entrepreneur is NOT a nascent entrepreneur anymore, but a real one!). Thus, the statement on p. 7 is wrong: TEA rate does not precisely refer to nascent entrepreneurs, but to (some) nascent plus young firms. Consequently the cases named as nascent entrepreneurs significantly overestimate the real number of nascent entrepreneurs in the four countries and during the given time period. The actual number of nascent in the GEM data base is much smaller.*

(...) Data section should also provide a table with the absolute number of cases of nascent entrepreneurs by country and by year (real nascent, not all interviewees covered by TEA!). The strong bias towards Spanish entrepreneurs in the sample (81% of the total) is a real problem of the paper.

Response: A recognition of this distinction has been added to p.7 and the title has been modified to include nascent and young entrepreneurs. Statistical information on each type has been added. Note that the full sample is composed of 46.22% nascent entrepreneurs and 53.78% baby business owner-managers. Furthermore, the individual-level regressions have been repeated and the estimation results tables have been placed in an Appendix as well as complemented with an explanation in the newly created robustness checks section (section 5). Although the main results for new product and new technology are the same for the two groups, there are differences in several variables. Start-ups (nascent) are negatively affected by the number of competitors, whilst owner-manager young businesses are positively affected. Also, women are negatively affected in start-ups but not in young businesses, whereas the number of owners has a positive effect only in the latter group. Tertiary education increases exports only in the start-up group. In this group, greater independence goes against exports, but just maintaining income fosters them, whilst in the owner-manager group increasing income makes exporting less likely.

4. *Fourth, I suggest to include a new section 5 (following the pure description of the empirical results) in which the author interprets her results in the light of the theoretical and empirical literature to be much better presented in section 2. Currently the empirical results are just presented but only very poorly interpreted.*

Response: The newly created robustness checks section (section 5) has been complemented with discussion based on the additional literature mentioned in section 2.

5. *It is required that the author more explicitly addresses the fact that several of the assumed causalities between independent variables and between some of the independent variables and the dependent one are far from being clear and obvious (e.g. job growth and export, innovation and export). Many of these pairs of variables in tables 1 and 2 are in fact interdependent - and do NOT show a clear one-direction effect.*

Response: Whilst it is recognized that in cross-sectional data only correlations can be discussed, the individual-level regressions have been repeated adding one interaction between each pair of covariates at a time. The estimation results tables have been placed in an Appendix as well as complemented with an explanation in the newly created robustness checks section (section 5). There are several interactions that are significant when including only those two variables in the regressions: with a positive coefficient, newtech#compete, newtech#motive2, newprod#owners, newprod#motive1, newprod#motive2, compete#motive3; with a negative coefficient, newtech#newprodmt, newtech#owners, newprod#gemeduc, newprodmt#gemeduc, compete#owners, gemeduc#jobgrow, motive1#jobgrow. When the full models of the paper are considered, a few interactions survive the inclusion of the remaining variables: with a positive coefficient, newtech#compete, newtech#motive2, newprod#owners, newprod#motive1; with a negative coefficient,

newtech#nowners, newprod#gemeduc, compete#nowners. The predominance of having a new technology or a new product in the significant interactions confirms the results of the paper regarding the importance of those characteristics for exporting.

6. *Author has to inform much more about the NES data: national experts as data source, sample sizes, how are the samples created and so on.*

(...) Footnote 1: I suggest to refer to the GEM Manual published by Bosma et. al (2012) when pointing to the definitions and meaning of GEM variables and indices. There were several modifications and changes in wording re many variable since the inception of GEM and the cited paper by Reynolds et al. (2005) only covers the early GEM years, not those that are used in the paper under review. Page 5, first para: author may add some information about export intensity among firms in general for each of the four countries (not based on GEM data). Page 5, 3rd para: Bergmann et al. (2014) provide a useful and rather new overview of GEM research and should be added to the list of publications cited so far.

Response: The references you kindly provide have been added to the text in order to inform the reader about GEM developments.

7. *Section 3 should also include a justification for the choice of the 2003-2010 period. GEM data is also available for earlier and, even more comprehensive, for more recent data. Thus, why this period? The financial crises in 2008/2009 is not at all a convincing argument*

Response: You are correct that more recent data is available. GEM APS and NES indicators are available until 2018 for Greece, Italy and Spain, and until 2016 for Portugal. The full datasets are only made available to the public 3 years after data collection, so that 2015 is the last year available online. In the data for 2011-2015, the country structure is not very different: Spain 81.48%, Greece 7.69%, Portugal 6.17%, Italy 4.66%.

The individual-level regressions have been repeated for 2011-2015 and the estimation results tables have been placed in an Appendix as well as complemented with an explanation in the newly created robustness checks section (section 5). Note that some adjustments had to be made as some variables that were reported as continuous are now reported in intervals and the dummy for woman entrepreneur had to be removed for the reason explained below. Besides, the export intensity intervals differ and the industry classification is not the same (now Industry ISIC version 4, 1-digit is used). As such, it does not make sense to simply extend the sample and the regressions for 2011-2015 have been added separately.

Regarding the descriptives, for the post-recession period it can be said that 65.42% of the businesses does not export, whilst 5.15% exports more than 75% of sales. There are 57.44% of businesses with 2 owners and 25.14% with 3 owners. Only 4.47% of the surveyed entrepreneurs are women. A very recent (recent) technology is used by 13.10% (20.07%) of the businesses, whilst 36.13% of the businesses sell a new product. The same product is

offered by many/few/none of other businesses for 53.57%/35.78%/10.66% of the sample. Regarding the education level of the entrepreneurs, 33.05% / 60.74% / 2.90% has primary-level / secondary-level / tertiary-level studies. To increase income / gain independence / just out of necessity is the motive for setting up a new business for 21.94% / 16.57% / 34.23% of the entrepreneurs surveyed. To have known other entrepreneurs was important in setting up a new business for 30.41% of the sample.

From the preliminary results, it can be seen that the current number of jobs, job growth and the number of owners influence positively the probability of exporting, whereas having a new product or a new technology now contribute negatively towards exporting.

8. *The concluding remarks suffer from a too strong consideration of the situation in Portugal while ignoring the entrepreneurial behavior and activities in the other three (much larger) countries.*

Response: GEM APS and NES indicators are available until 2018 for Greece, Italy and Spain, and until 2016 for Portugal. This country is also the one with the smallest number of observations. Nevertheless, in the data for 2011-2015, Spain has 81.48% of the observations, Greece 7.69%, Portugal 6.17%, and Italy 4.66%. Thus, the paragraph has been removed.