

## **Reassessing the link between firm size and export**

This paper re-examines the very interesting link between firm size and exports (in terms of export propensity). The author considers that the positive relationship found by the previous literature, could be biased toward mean of export propensity distribution. Results show that when the whole of distribution is considered, the effect is underestimated at the bottom and overestimated at the top of distribution. The higher is the export propensity, the weaker the size-export relationship.

The paper is well written and clear. The research question is interesting with a well-defined contribution. Results are relevant to design incentive export policies. The empirical strategy (quantile regression) seems suitable to reach the aims of the paper.

However, in my opinion, author should consider several theoretical and methodological weaknesses in order to provide more accurate conclusions. The main points are:

- **Regarding the theoretical framework**, my main concern is about the relevance of persistence of exports. Author should consider not only export propensity in a current year but also the persistence or mobility through the export distribution. To what extent does the link between size and exports hide a deeper relationship between size and persistence in a particular export status?. In other words, Are the smallest (largest) firms more (less) persistent in their export activities?.
  - In this sense, theoretical framework about firm heterogeneity could include a revision of numerous “learning by exporting” literature. (Mañez-Castillejo et. al, 2010; and Díaz-Mora et. al, 2015 are some examples using the ESEE”).
- **Regarding the data and descriptive analysis (section 2):**
  - It is striking the high difference between ESEE and EFIGE results for Spain even when the same year (2008) is considered. A deeper explanation about of features of each database is required. It could be interesting provide mean tests in order to contrast the similitude of the results.
  - Page 6 (table 1): ¿How many firms are there in each quantile?. It is seems reasonable to expect a very small number of firms. For instance, the small firms in the highest quantiles (from 90 to 95 quantiles) could be unrepresentative.
  - Page 7 (table 2): Author should specify how the change of firm size is treated. It is necessary to know if a significant number of firms change their size range from year to year. If a dynamic approach is considered, the same firm could be in different size ranges depending on year. For instance, this could explain the increasing share of medium size firms in the 5<sup>th</sup> quintile: successful firms increase their size and it positively affects movement toward higher quintiles.
  - It is necessary to know, for each year, the number of firms and the export threshold in each quintile.
  - In order to analyse the degree of firm heterogeneity in each quintile, author should compute mobility across quintiles. ¿Which is the probability of changing quintile for each size range?. For instance, if mobility is lower for the largest firms, the apparent heterogeneity in the 5<sup>th</sup> could be spurious: Each year, some small firms could have achieved the highest quintile temporarily. On the contrary, the largest firms could be consolidated during several year in

the top of distribution. One, two or three-year transition matrices can be a simple way to compute the changing probability across quintiles.

- **Regarding estimation results (section 4):**
  - In order to control endogeneity problems, author should clarify how an increase of exports might affect firm size. To what extent does size matter to stay in the highest export quintiles?.
  - As a robustness check, in specification models should be considered the degree of quantile persistence. It could be done by introducing dummy variables to identify if firms remains in the quantile regarding the previous year.
  - Given the direct relationship between firm size and industry characteristics, it seems necessary to control sectoral effects in the ESEE database estimation.

#### References

- Díaz-Mora, C.; Córcoles, D. and Gandoy R.(2015): "Exit from exporting: Does Being a two-way trader matter?". *Economics the Open-Access, Open-Assessment Ejournal*. Vol 9 pp 2015-20.
- Mañez-Castillejo, J.A; Rochina-Barrachina M.E and Sanchís-Llopis J.A.(2010): "Does Firm Size Affect Self-selection and Learning-by-Exporting?". *The World Economy*, Vol 33, Issue 3, March 2010, pp315-346.