

Joachim Wagner / March 12, 2015

Comments on the referee report on my paper

"Credit constraints and the extensive margins of exports: First evidence for German manufacturing"

I thank the referee for carefully reading my paper and for pointing out some important points that I will take care of in preparing a revised version. Below, the remarks of the referee are reproduced *in italics* and my comments are added **in red**.

The paper sheds further light on the way financial factors affect firm behavior by investigating the effects of credit constraints on the extensive margins of export of German manufacturing firms. The extensive margin is defined both in terms of the number of products exported (8-digit level of classification) and the number of foreign markets served. The paper exploits a newly-created dataset that covers a large sample of German firms and combines information taken from customs' records with those supplied by the leading German credit-rating agency to measure each firm's credit-worthiness. The quality of the data represents a further value added of the work.

Two main hypotheses are tested, namely that a poor credit rating (implying more difficult access to external financial resources) leads firms to export fewer products and to serve fewer destinations. Both these hypotheses find support in the data, with estimated coefficients being statistically significant and the impact being economically large: a one deviation deterioration in the credit rating score is associated with a reduction in the number of products exported that ranges between 3.8 and 13.7 (and a reduction in the number of destinations served ranging between 3.4 and 4.3).

The paper is focused on a very specific issue and its scope quite narrow. This may or may not be an advantage depending on whether readers are familiar with the relevant literature, and therefore interested in a very specific application, or would rather prefer to read about the more general effect of credit constraints on German manufacturing exporters.

With respect to the way the empirical analysis is conducted, I would like to present a few suggestions:

1. *Both the number of products exported and the number of destinations served are count variables. This implies that OLS estimation might be biased and other methodologies should be adopted (e.g. Poisson regression). Is there any specific reason to prefer OLS?*

Both the number of products exported and the number of destinations vary over a large span of values (from 1 to about 500 in the case of goods; from 1 to more than 100 in the case of destinations) so OLS might be fine although both variables are count variables. As a robustness check I ran negative binomial regressions and the results are qualitatively similar. But I take the point and will document these results in detail in the revised version.

2. *It is not fully clear whether the dataset includes non-exporting firms (reporting a zero for the number of products and destinations), or rather focuses on exporting firms only. If, as it seems to me, only exporters are analyzed, we may wonder whether any selection bias is present. The author should briefly discuss the issue.*

By construction the data set includes exporting firms only because it is based on the information about exports of firms collected by customs or in the statistics of intra-EU

exports. I take the point that this is not explicitly mentioned in the paper, and I will do so in a revised version. Furthermore, to take care of any potential selection bias I will estimate zero-truncated negative binomial regression models.

3. *I wonder how much of the action is driven by firms entering the export market with 1 product shipped to 1 destination. In other words, I would like to see the impact of credit constraints conditional on the previous extensive margin. Given the evidence suggesting that most firms enter foreign markets sequentially, if the estimated coefficients were mainly picking up the impact of moving from no export to 1 single product, then the interpretation of the results would be significantly affected. In fact, that change in the extensive margin would represent entry into export.*

I agree that this is an interesting point, but it cannot be investigated with the data at hand (see my comment on point 2).

4. *An interesting question building on the previous point (and, of course, on the results of the paper) is whether any non-linear effects exist. Do credit constraints have a stronger effect for firms moving from, say 1 to 2 products, than for those already exporting 10?*

I agree that this is an interesting point. I will look at results from empirical models that include the squared value of the credit rating score in a future version of the paper.

Two other minor points are the following

5. *The list of control variables includes both labor productivity and average wages: in principle these two variables should be highly correlated and I wonder whether they are both significant in the analysis.*

Both variables are significant, but I take the point and will look at empirical models that do not include both variables.

6. *At the beginning of Section 3 the paper describes the use of credit rating scores by banks and potential trading partners. If foreign partners decide not to do business with firms characterized by poor credit rating, then part of the action captured by the credit rating coefficient may have to do with the lack of foreign demand (or the inability to be accepted as a business partner) rather than with the difficulty of being granted a loan. In other words, if credit ratings correctly capture the trust-worthiness of a firm, then obtaining or not a bank loan might not be the most binding constraint on that firm's activities.*

I thank the referee for pointing out this and will discuss this in a revised version.