

Exporting and Economic Performance:
Firm-Level Evidence From Spanish
Manufacturing

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Discussion

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Outline

The questions

The ways through the answers

The answers

Comments

The questions

Are exporting firms different from the non-exporting ones?

Country studies on firm- and plant-level data say:

- Exporters outperform non-exporters in various aspects (size, sales, TFP, capital intensity, wages, skill intensity, ect.)
- Exporters are a minority, produce majority of GDP, and sell most of their output domestically

1. **Do these differences hold for Spanish manufacturing?**

The questions

Why are exporters different from non-exporters?

Theory says:

- Exporting firms need to be more efficient to afford the cost of being exporter: self-selection (e.g.: Melitz, 2003, BEJK, 2003)
- Exporting firms become more efficient due to learning by exporting

2. Self-selection or learning-by-exporting? ...or both?

Ways through the answers

Data from the ESEE: 1403 firms surveyed in 1990-1999, 10145 obs.

Ways through Q1.:

- Statistics
- Mean comparisons
- Static panel estimates with time and industry fixed-effects

$$\ln X_{it} = \alpha + \beta \text{Export}_{it} + \Lambda' \mathbf{Z}_{it} + \sum_I \gamma_I \text{Industry}_i + \sum_I \delta_I \text{Year}_i + \varepsilon_{it}$$

Note: β (the export premium) is not about causality

if η_i were added, β would be a Diff-in-Diff estimator

Ways through the answers

- Dynamic Panel Data approach to TFP estimation (SYS-GMM)

$$\Delta y_{it} = \alpha + \rho \Delta y_{it-1} + \delta(\mathbf{L})' \Delta \mathbf{F}_{it} + \Delta v_{it}$$

$$y_{it} = \alpha + \rho y_{it-1} + \delta(\mathbf{L})' \mathbf{F}_{it} + \eta_t + v_{it}$$

Note: $v_{it} = (1-\rho)\eta_i + v_{it}$ is TFP of firm i at time t

η_i = fixed firm-specific component of TFP

compare $E[\eta_i | i \in \text{EXP}]$ with $E[\eta_j | j \in \text{N-EXP}]$ estimating

$$y_{it} = \alpha + \rho y_{it-1} + \delta(\mathbf{L})' \mathbf{F}_{it} + \eta_t + \beta(1-\rho) \text{Export}_i + v_{it}$$

β = extra-TFP of EXP vs N-EXP

Export status is assumed fixed over time

Ways through the answers

Ways through Q2.:

- Dynamic Panel Data approach to TFP estimation (SYS-GMM)
 - identify η_i with Continuing Exporter_{*i*} and Entering Exporter_{*i*}
Positive coeff on EE → Self-selection holds (EXP are more productive than N-EXP at all times, even before becoming EXP)
 - identify η_i with High Export Intensity and Low Export Intensity
HEI > LEI → Learning-by-exporting holds (more exposure to export, more learning, higher TFP)

Ways through the answers

Ways through Q2. (cont'd):

- Static panel regressions for ΔTFP
- Matching on propensity score
 - probit for the likelihood of firm i becoming Exporter
 - predict p_i
 - match $i \in \text{EXP}$ with $j \in \text{N-EXP}$ s.t. $p_i - p_j = \min\{|p_i - p_k|\} \forall k \in \text{N-EXP}$
 - run static panel regressions for ΔTFP in the sample of matched firms

Positive coefficient on Export \rightarrow learning-by-exporting holds

The answers

Q1. Also in Spain:

- Exporters outperform non-exporters in: size, sales, TFP, capital intensity, wages, skill intensity, R&D activity and effort
- Exporters are a minority, and sell most of their output domestically

Q2.

- Self-selection into Export status holds
- Learning-by-exporting does not hold (at least non-robust)

Comments

Hot topic, interesting data, well-done analysis

- Why not exploiting time dimension of Export status even in the DPD? TFP_i need not be constant as your $Export_i$
- Why not saving v_{it} from DPD and run Export-premium regressions controlling for the Z 's?
- Why not trying Diff in Diff approach? (add firm fixed effects)
- TFP: neither index nor DPD estimates account for human capital or skill intensity, while you show skill intensity is higher in Exporters. Worth controlling for it.
- $HEI > LEI$ could be due to self-selection as well: more productive firms export to more mkts

Comments

- Explore effects of exporting on industry TFP: reallocation of factors from N-EXP to EXP implies higher TFP (evidence in Bernard and Jensen, 2004 and Pavcnik, 2002)
- $1-\rho$ from the DPD gives by construction the weight of firm-specific components in TFP. How much of this firm-specificity is captured by Export status?
- t-stat in the mean comparisons would be of help (are all differences significant?)
- Sargan and m2 tests are not always super (take a further look at it)
- Estimates for Δ TFP look a bit uninformative: mis-specification?