

The Euro and the Competitiveness of European Firms

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Discussion

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Calibration

The model implies that the average marginal cost ($\bar{c}_s^h = 1/\overline{TFP}_s^h$) in country h and sector s can be written as a simple function of the domestic cutoff (c_s^{hh}) and of the shape parameter (k_s):

$$\bar{c}_s^h = c_s^{hh} \frac{k_s}{k_s + 1} \quad (1)$$

The shape parameter is the slope of the cdf (G^s) of marginal costs (c):

$$G^s(c) = \left(\frac{c}{c_s} \right)^{k_s}$$

k_s can be estimated (using the Amadeus dataset) by regressing

$$\ln G_i^s = \underbrace{-k_s \ln c_s}_{\text{constant}} + k_s \ln(1/TFP_i^s) + u_i^s$$

Average marginal cost is computed using sector-level estimates of the TFP from EUKLEMS

Domestic cutoffs (c_s^{hh}) are then retrieved using (1)

These cutoffs are the authors' measure of overall competitiveness

The model in the paper allows to derive a closed-form expression for these cutoffs:

$$c_s^{hh} = f(\text{product differentiation,} \\ \text{trade frictions,} \\ \text{country size,} \\ k_s, \\ \text{sunk entry costs,} \\ \text{technology})$$

Some of these parameters can be directly computed or estimated (country size, trade frictions, k_s), the others (technology and entry costs) are calibrated so as to match estimates of c_s^{hh} . Finally, product differentiation is estimated by regressing the calibrated values of (the bundle of) technology and entry regulation parameters on industry dummies.

The main takeaway from this exercise is that it allows to disentangle the contribution to overall competitiveness (c_s^{hh}) of:

- location and market access variables (i.e., country size and trade frictions)
- technological and institutional variables (entry regulation)

We learn that

- Some countries are peripheral both in terms of market access and of technology and regulation (Portugal, Spain, Italy and UK)
- Some other countries can instead offset an unfavorable location due to a good technology and regulation (Sweden)
- Finally, some countries' competitiveness is mainly driven by a favorable location (Belgium)

An alternative strategy

It is probably equally plausible to assume that the shape parameter is constant across industries and different across countries:

$$G^h(c) = \left(\frac{c}{c_{hh}} \right)^{k_h}$$

In this case, by regressing

$$\ln G_i^h = \underbrace{-k_h \ln c_{hh}}_{\text{constant}} + k_h \ln(1/TFP_i^h) + u_i^h$$

we may not only retrieve an estimate of the average shape parameter (k_h), but also of the average domestic cutoff c_{hh} .

An advantage of this approach is that it allows to use:

$$\bar{c}^h = c^{hh} \frac{k_h}{k_h + 1}$$

to retrieve an estimate of the average marginal cost implied by calibrated model. These estimates could then be compared with the aggregate TFP estimates in EUKLEMS to validate the model