

Trade costs in bilateral trade flows: Heterogeneity and zeroes in structural gravity models

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This paper contributes to the theoretical and empirical explanation of international trade flows with structural gravity models taking heterogeneity and excess zeroes into account. A large empirical literature has documented the presence of firm's heterogeneity in productivity and fixed costs. An important corollary is that trade is determined along an extensive (number of firms) as well as an intensive (average exports per firm) margin. The extensive margin exists because less-productive firms that cannot cover their fixed costs will not export at all.

We show how a gravity relationship arises from a generalized version of the structural trade model of Helpman et al. (2008), encompassing the normal distribution hypothesis to model unobserved heterogeneity in trade costs. With the objective to fit better the over-dispersion in trade flows, this extension dictates a negative binomial rather than a Poisson estimator and zero-inflated models. The impact of trade costs in influencing both the extensive and the intensive margin of trade is then empirically evaluated. The size of exporting and destination economies, cultural and institutional factors are also considered. Our analysis is applied to a sample of 37 countries SITC-4 digit trade flows, and heterogeneous effects across sectors and trade integrated areas, such as APEC and EU27, emerge.

References

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