Reviews of ECONJOURNAL-D-22-00038

Survival of the fittest: the long-run productivity analysis of the listed information technology companies in the U.S. stock market

Reviewer #1:

The paper's effort to estimate the operating efficiency in the IT industry with a long-term perspective (1989-2018) is successful. Authors extend the balanced panel data model of Kneip et al. (2012) to an unbalanced one showing that the economies of scale play a relevant role for survival and growth in the IT world.

The paper is accurately written and well-articulated.

I only suggest minor points:

1.I would recall the "Solow paradox" to provide a more-broad picture of the potential role of ICT/IT on productivity in different industries, IT-itself included.

2.In the Introduction it is necessary to give basic info on data used in the empirical part (country, average number of companies, time-span, etc).

3. I suggest reporting the extended descriptions of the acronyms REV, PRO, OVE, PPE in the note of Table 1.

4. In the Conclusions, more discussion could be provided on heterogeneity in the IT industry and whether evidence from the unbalanced panel could be generalized to the worldwide picture or not.

Reviewer #2

This paper deals with an interesting issue, using a proper methodology bridging DEA and SFA approaches; moreover, results appear interesting and robust. Still, two are the main scopes for improvements.

1)   The introduction is extremely short and the location of the paper is not well rooted in the economics literature, which is the literature Economics readers are familiar with. Aspects like the role of innovation in affecting productivity, the importance of firm's size and age, the key institutional drivers of efficiency such as education and human capital, the role of trade, etc. - although not measured and treated in this work - should be briefly discussed in the incipit (Section 1, first paragraph) which is rather hasty at present. Here below some recent references from which the Authors may start with, in order to extend their introduction and relate their own contribution with the relevant extant economic literature.
-Agostino, M., Di Tommaso, M. R., Nifo, A., Rubini, L., & Trivieri, F. (2020). Institutional quality and firms' productivity in European regions. Regional Studies, 54, 1275–1288.
-Añón Higón, D., Máñez, J.A., Rochina-Barrachina, M.E., Sanchis, A., Sanchis, J.A (2022). Firms' distance to the European productivity frontier, Eurasian Business Review, 12, 197–228.
-Bartelsman, E., Dobbelaere, S., & Peters, B. (2015). Allocation of human capital and innovation at the frontier: Firm-level evidence on Germany and the Netherlands. Industrial and Corporate Change, 24, 875–949.
-Ding, S., Sun, P., & Jiang, W. (2016). The effect of import competition on firm productivity and innovation: Does the distance to technology frontier matter? Oxford Bulletin of Economics and Statistics, 78, 197–227.
-Gopinath, G., Kalemli-Ozcan, S., Karabarbounis, L., & Villegas-Sanchez, C. (2017). Capital allocation and productivity in South Europe. Quarterly Journal of Economics, 132, 1915–1967.
-Kancs, D., Siliverstovs, B., 2016. R&D and non-linear productivity growth. Research Policy, 45, 634–646.
-Kumbhakar, S.C., Ortega-Argilés, R., Potters, L., Vivarelli, M., Voigt, P., 2012. Corporate R&D and firm efficiency: evidence from Europe's top R&D investors. Journal of Productivity Analysis, 37, 125–140.
-Lanfranchi, D., Grassi, L. (2021). Translating technological innovation into efficiency: the case of US public P&C insurance companies, Eurasian Business Review, 11, 565–585.
-Ortega-Argilés, R., Piva, M., Vivarelli, M., 2014. The transatlantic productivity gap: is R&D the main culprit? Canadian Journal of Economics, 47, 1342–1371.

-Shu, P., & Steinwender, C. (2018). The impact of trade liberalization on firm productivity and innovation. NBER Working Papers 24715, National Bureau of Economic Research, Inc.

2)   Since the source of data is COMPUSTAT (p.4), in more detail IT companies listed in the US stock market, all the references to SMEs in the interpretation of the results appear weird. Indeed, the used dataset does not comprise SMEs and this should be discussed in terms of ex-ante sample selection. Moreover, SMEs cannot be considered as one of the reasons explaining the differences in results using the unbalanced and the balanced panel.

However, on the whole this is a very good paper which deserves publication, once these suggestions will be implemented.