

Review of: "Digitalization of research: do ICT improve scientific production in developing countries?"

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This study analyzes the role of ICTs in explaining the productivity of researchers. It is argued that ICTs, and the internet in particular (via access to international data and articles published in the best scientific journals), provide an opportunity for the international convergence of human capital levels and that ICTs could help the accumulation of human capital of learners and researchers in countries with low human capital endowments. Thus, ICTs contribute to the productivity of researchers through two main channels: access to information and global knowledge. The study focuses on the effects of ICT diffusion on researcher productivity in developing countries, following the work of Acemoglu and Verdier (1998), Mawussé (2013), and Ebeke et al. (2015).

The authors argue that their paper goes beyond the determinants traditionally discussed in the literature and proposes an empirical analysis that focuses specifically on the role of ICTs in explaining the productivity of researchers. The empirical strategy is based on dynamic panel data. The model attempts to capture the productivity of researchers via two indicators: the number of scientific papers published and the number of patents filed. The variables used are ICTs, macroeconomic, and historical variables. The institutional variables selected for this study are democracy and corruption. The macroeconomic series selected are GDP per capita, mining rent, total population, national health expenditure, and the proportion of female university teachers. The data used consists of 70 developing countries over the period 2000-2016, and the Generalized Method of Moments (GMM) is used to account for endogeneity bias in the study.

The results showed that the diffusion of ICT, particularly the internet, positively and significantly explains both the number of scientific articles published and the number of patents filed. In relation to per capita income, all coefficients are positive and significant at the 1% level. The productivity of researchers increases with the wealth of the country; however, the coefficient associated with this variable is more important in explaining the number of patents filed than the number of scientific articles published. In relation to human capital, the quality of public education policies positively and significantly contributed to the number of patents filed and the number of scientific articles published. National health expenditures negatively affect the productivity of researchers in developing countries. The results also indicate that corruption reduces scientific output in developing countries, and the authors attribute this to researcher selection bias, as talented students who might otherwise have continued their studies and become researchers suddenly drop out when they compare the welfare level of those who are well educated with those who are not but enriched by corruption, or to the behaviors of university and research institution faculty in developing countries, who are most often seeking promotion in the central government to capture the benefits of their education. On the other hand, democracy is positively correlated with scientific

production, regardless of the indicator used.

In conclusion, this study attempts to provide insights into the socio-economic determinants of the productivity of researchers in developing SAA countries. The topic of the study is interesting; however, in terms of its contents and its structure, it needs to be improved. First of all, the literature survey section is needed. Some parts of the paper are misleading. For example, when the authors start making comparisons between African countries under the Francophone and Anglo-Saxon influence, one expects that this will be carried throughout the study, which is not the case. Moreover, there is no explanation of the criteria that determined the countries and the time span of the data set, and it would increase the quality of the paper if empirical results were more thoroughly investigated and policy recommendations were drawn and suggested from these results.