UNIVERSIDAD DE GRANADA

Departamento de
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Económica

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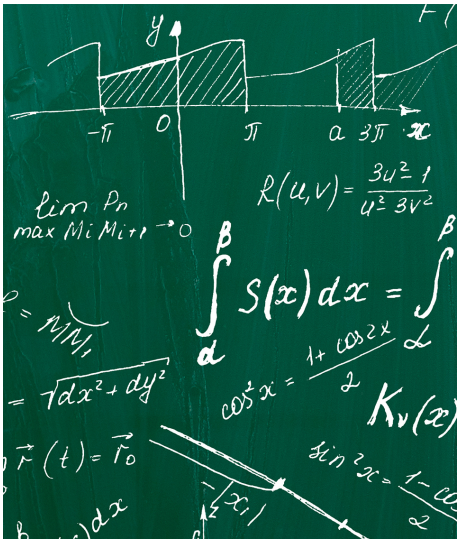

Título: ICT Agglomeration and Green Productivity Dynamics: Evidence from the European Regions

Sala: E22

Hora: 10.30

Resumen: This paper investigates the role of Information and Communication Technology (ICT) industry agglomeration on Green Total Factor Productivity (TFP) across 164 NUTS2 regions in the European Union (EU21). Utilizing panel data from various datasets, the analysis employs a Data Envelopment Analysis (DEA) based MalmquistLuenberger Productivity Index (MLPI) methodology to calculate Green TFP. This productivity measure incorporates considerations of both energy use and production of undesirable outputs. The results show that ICT agglomeration can serve as a crucial indicator of a region's ability to improve green productivity. In addition, our results suggest a positive relationship between ICT agglomeration and improved energy efficiency, although no direct evidence of pollution reduction is found. Moreover, the Local Indicator of Spatial Association (LISA) analysis and the Spatial Durbin Model (SDM) show the absence of trickle-down effects of ICT on green TFP in neighbouring regions. Two main implications emerge from our study. First, ICT agglomeration alone does not contribute to green growth in a region unless it has the capacity to assimilate external knowledge and has reached a threshold level of green TFP. Second, while ICT plays a key role in the transmission of green knowledge and know-how, it does not facilitate the networking of regions in terms of green TFP.

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