



The Productivity Puzzle in Network Industries: Evidence from the Energy Sector

EPRG Working Paper 2021

Cambridge Working Paper in Economics 2073

Victor Ajayi

Geoffroy Dolphin

Karim Anaya

Michael Pollitt

Abstract

What accounts for the recent widespread slowdown in the productivity in advanced economies has remained a puzzle. One plausible explanation has been attributable to regulation, particularly anti-competitive regulations and environmental regulations. This paper focuses on the regulated energy network sectors by undertaking three sets of analysis in examining TFP in a sample of OECD countries over the period 1995-2016. First, using the growth accounting method, we find that there is a substantial productivity puzzle for the electricity and gas sectors, which exhibits a lower TFP growth than the whole economy over the period, and falls post-financial crisis. Second, we identify the impact of regulation on productivity using a panel regression analysis. Our findings indicate that TFP levels seem weakly explained by changes to the competitive environment of the energy sector. Third, we show that energy and climate policy has negatively and significantly reduced energy sector productivity, at the same time as increasing capital input to the sector. We also find that the strength of energy and climate policy is positively correlated with lower aggregate TFP growth.

Keywords: Total factor productivity, growth accounting, regulation, energy networks, climate policy

JEL Classification: D24, O47, H23

Contact v.ajayi@jbs.cam.ac.uk
Publication July 2020
Financial Support Ofgem