

Upstream Product Market Regulations, ICT, R&D and Productivity

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Both firm and industry level empirical research has supported the idea that competitive pressure enhances innovation and is a driver of productivity. Bourlès *et al.* (2010) focus on the influence of competition in industries producing intermediate inputs (called upstream industries thereafter) on productivity outcomes in industries using these inputs (downstream industries), but these authors do not characterize the channels through which regulations impact productivity growth. The goal of our empirical investigation is to go further and to attempt such characterization. More precisely, we investigate a possible R&D and ICT investment channel, the importance of these investments in each industry being possibly influenced by upstream regulations. In order to check this proposition, we first estimate a relation where the distance to the multifactor productivity frontier depends on the R&D and ICT accumulation gap with the frontier industry level and on the upstream regulation level. Then, we investigate the impact of upstream regulations on R&D and ICT capital accumulation through the estimation of two factor demand relations. ICT and R&D investments are important determinants of modern growth and good proxy for innovation, but they are only one of the channels of the innovation process. For instance, organizational innovations and other immaterial factors are also determinants of efficiency improvements. Therefore, our approach also takes into account a direct impact of upstream regulations on MFP in the production function first relation.