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\textbf{Pricing Knowledge and Funding Research of New Technology Sectors in a Growth Model}


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\textbf{Abstract}

A radical evolution in intellectual property law and practices has followed the rise in importance of new technology industries. Nowadays, many patents directly protect knowledge. To account for this evolution, we construct a simple R&D-based growth model where pieces of knowledge are directly protected by patents. To deal with the nonconvexity property of technologies in which knowledge is an input and show how research can be funded privately, we construct a dynamic general equilibrium with Cournot competition and free entry where knowledge is exchanged on markets that can be subject to imperfect exclusion. Under the assumption of perfect exclusion, we show that research is funded optimally as the distortion caused by the knowledge spillover vanishes when markets are complete. We then argue and demonstrate that insufficient research investments leading to an insufficient level of growth can be explained by the public good nature of knowledge itself, i.e., the problem of imperfect exclusion faced by the sellers of knowledge. © 2012 Wiley Periodicals, Inc.

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