Technology Diffusion via Patent Collaborations: The Case of European Integration

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Abstract

This paper aims to study the impact of potential determinants for technology diffusion via patent collaborations between emerging and developed countries in Europe by implementing an econometric estimation with panel data. First, we use the probability of patent collaborations as the explained variable under LOGIT estimations. Then, we use the intensity of collaborations under both OLS/GLS and Poisson estimations. We especially study the impact of the European Union integration of Eastern Europe countries on such technological collaborations with European Western countries. We also analyze the impact of further explanatory variables such as common borders, geographic distance, Gross Domestic Products, populations, income inequalities, Research and Development expenditures, technological gap, technological distance public expenditures in education, bilateral trade and Foreign Direct Investments. The results show that the European integration of emerging countries does not significantly increase the probability of patent collaborations. But it does significantly increase the intensity of patent collaborations. Emerging countries’ exports to developed countries is the main determinant for both the probability and the number of patent collaborations. The impact is significant and positive.

JEL Classifications: F13, O33

Keywords: Technology Diffusion, Patent Collaborations, Econometric Estimation, European Union Integration.

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