Effects of early patent disclosure on knowledge dissemination: evidence from the impact of introducing Pre-Grant Publication System in the United States (Preliminary)

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Abstract

The patent system plays two roles in promoting innovation: one is to protect inventions from imitation during a certain period of time and thereby to promote investment in R&D and commercialization; second is to disclose useful technological information to the public and to facilitate the diffusion of technological knowledge as well as avoiding duplicated R&D activities. This study is directed to the second role. The pre-grant publication system was introduced in the United States in 2000 and pending patent applications began to be made open to the public after 18 months of their earliest priority dates although there is an exception. We have investigated the effects of pre-grant publication system on the diffusion of technological knowledge by examining the change in applicant (inventor) non-self-citation data before and after the legal system change. We tested the following two hypotheses: (1) knowledge flows to later-filed patents expanded because the pending patent applications that were eventually abandoned and not granted patents were also published under the pre-grant publication system. (2) The introduction of pre-grant publication system accelerated the knowledge diffusion due to the earlier publication. We have found a significant evidence for the second effect but the first effect was not significant for the disclosures by the major US patentees, due to high grant rate.

Key words: Disclosure, knowledge flow, patent, pre-grant publication
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