

## **“How Enforcement of Intellectual Property Rights Affects the International Technology Transfer: Evidence from Japanese MNCs”**

**Ryuhei Wakasugi, Banri Ito**  
**Global Security Research Institute, Keio University**  
**banri@2002.jukuin.keio.ac.jp**

It is remarkable that the transaction of technology takes a significant part of international trade. This is caused by an increase in the international transfer of technology evolved through foreign direct investment (FDI) and the international fragmentation of production process, in addition to a changing structure of trade in goods to trade in software. It is also notable that a number of developing countries have been strengthening the enforcement of intellectual property rights (IPRS) in their countries in these years. Such an enforcement of IPRS causes a question how it affects the international transfer of technology. Although this issue is one of important research subjects of law and international economics, few empirical analyses have been undertaken thus far. There are some reasons for this. The first is the limited availability of data. Few countries disclose firm-level data on the international transfer of technology. The United States exceptionally performs detailed surveys on the activity of multinational firms. Thus, almost all the literatures in this field have so far been dependent either on data from the U.S. or original surveys tailor-made by researchers. The second is that the reform of IPRS in developing countries has only been implemented since the late 1990s after the conclusion of TRIPs agreement under the WTO framework, and thus, the coverage of data appears to be insufficient. Consequently, empirical analyses have been hampered by the limited size of samples.

In this paper, we at first present a simple analytical framework based on imperfect competition to explain how the strengthened IPRS might affect the technology diffusion from a foreign country to a domestic market. The central idea is that the enforcement of IPRS is to the cost of a local firm that imitated the foreign technology in a low cost and its disadvantage to lose the share of the production of the imperfectly competitive goods since the enforcement of IPRS will raise the appropriability of the technology. On reflection, it is to the advantage of a foreign firm to capture a larger share of the production and raise the value of transferred technology. As a consequence, it is possible that the strengthened IPRS expands the technology flow of a foreign firm to the local market. It, however, is not obvious that this framework well explains the real technology diffusion.

In the part of empirical examination of the paper, we test how significantly the enforcement of IPRS affects the technology flow from Japan to the rest of the world along our theoretical framework. For this purpose, we construct original panel-data by matching firm-specific factors of Japanese multinationals with the market-specific factors including the enforcement index of IPRS. As long as the authors know, this is the first attempt to test the effects of IPRS by using Japanese firm-level data.

The findings of this paper are twofold. First, technology transfer between parent and affiliate firms will prevail in a country that has a high level of IPRS. Second, IPRS reform will stimulate technology transfers. These results are consistent with our theoretical hypothesis that strengthened IPRS would raise imitation costs, which as a result would increase the royalty fee, thus accelerating technology transfers.