

An Analysis of unilateral and cross-licensing based on inventor survey in Japan
: Effects of uncertainty, rent dissipation and a bundle of patents on corporate license

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Abstract

This paper analyzes the effects of uncertainty, rent dissipation and a bundle of patents on corporate license. We use a newly developed data set, based on a large scale survey (4,000 patents) on Japanese inventors, which uniquely cover the nature of the underlying research projects. Our major findings are the following. First, consistent with a theoretical prediction of our model, uncertainty of licensing value of the patent increases significantly the licensor's willing to license, for a given license possibility. This effect significantly accounts for a substantial part of the observed gap between the two for upstream inventions. Second, a higher quality patent is more likely to be offered for a license and more likely to be licensed once offered for a license. Third, the positive effect of the importance of the first mover advantage upon the licensor's willing to license is no weaker when the patent is used internally by the licensor. This suggests that the rent dissipation effect is significantly controlled contractually or is weak due to competition in technology market. Fourth, the size of the bundle of the complementary patents enhances cross license and reduces unilateral license, with the former effect becoming increasingly dominant, and that the invention for the core business of a licensor is more likely to be cross licensed.

JEL Classifications: D45; O32; O31

Key words: Licensing, uncertainty, rent dissipation, complementarity, cross-licensing

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