Fee versus Royalty Policy in Licensing through Bargaining: An Application of the Nash Bargaining Solution

Shin Kishimoto
Tokyo Institute of Technology, Graduate School of Decision Science and Technology
2-12-1 Oh-okayama, Meguro-ku
Tokyo
Japan
e-mail: kishimoto.s.aa@m.titech.ac.jp

Shigeo Muto (corresponding author)
Tokyo Institute of Technology, Graduate School of Decision Science and Technology
2-12-1 Oh-okayama, Meguro-ku
Tokyo
Japan
e-mail: muto@soc.titech.ac.jp

Abstract
In this paper, we consider a Cournot duopoly market in which the patent-holding firm negotiates with its rival firm about payments for licensing a cost-reducing innovation. Applying the Nash bargaining solution, we compare two licensing policies, a fixed fee and a royalty. We show that (1) royalty licensing is better than fixed fee licensing for the patent-holding firm if the innovation is not drastic. (2) there exists a case in which royalty licensing may be better than fixed fee licensing for consumers. The former is exactly the same as the results in noncooperative game analysis; but the latter is different.

Keywords: Patent licensing, Nash bargaining solution, Cournot duopoly market