

## **Cross-Licensing, R&D Spillovers, and Welfare**

### **Abstract**

This paper examines the effects of cross-licensing on R&D investments, outputs, profits, and social welfare in the presence of technological spillovers. In a heterogeneous duopoly setting, the following findings are drawn. Cross-licensing reduces R&D investments of the competing firms in the post-licensing stage, compared to the case without cross-licensing. Nevertheless, cross-licensing generates a pro-competitive effect in the output markets which, in turns, discourages the firms to cross-license because of reduced profits. Viewed from the perspective of society as a whole, social welfare is at a maximum when the firms cross-license their patented technologies and cooperate in R&D, but do not cooperate in outputs. This result holds irrespective of the rate of technological spillovers.

*Keywords:* Cross-Licensing, R&D Spillovers, Research Joint Ventures, Welfare.