Ad Valorem versus Per-unit Royalty Licensing in Vertically-related Markets

Lin, Chi-Chih*

Chen, Yi-Hui

Abstract

This study attempts to provide a simple justification for the presence of ad valorem royalties in licensing contracts by an inside innovator like Qualcomm to license the patent of its innovation to the retailers of its final product in a vertically-related market. We consider two licensing modes and two licensing entities that constitute four licensing practices. The licensing modes include per unit royalties and ad valorem royalties. The licensing entities include competing rivals and downstream retailers. Accordingly, the four licensing practices are (1) licensing to competing rivals by means of per unit royalties; (2) licensing to downstream retailers by means of per unit royalties; (3) licensing to competing rivals by means of ad valorem royalties; and (4) licensing to downstream retailers by means of ad valorem royalties. The fourth licensing practice is the licensing contract used by Qualcomm. Relative to per unit royalty licensing, ad valorem royalty licensing relieves the problem of double marginalization that stems from the fact that the patent holder produces its innovation only by itself when adopting per unit royalty licensing, whereas, the innovator just licenses to competing rivals in the case of ad valorem royalty licensing. Compared to licensing the patent to competing rivals, licensing the patent to downstream retailers increases the competition in the product market by giving the consumers more choice. Accordingly, it is better for the consumer's surplus and social welfare to license to downstream retailers by means of ad valorem royalties. By contrast, it is not certain that the patent-holding firm can enjoy better profit margins. The reason for this is that the total income of the patent-holding firm is the sum of the profit from its own production and its licensing revenue. The total income could increase when the increase in licensing revenue more than offsets the decrease in the profit from its own

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* Lin, Chi-Chih (Corresponding author), Professor, Department of Applied Economics, Fo Guang University; Chen, Yi-Hui, Master's Degree Holder, Department of Applied Economics, Fo Guang University.

production, which only occurs if the number of firms (competing rivals and downstream retailers) is limited.

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