

A Model of Innovation, Standardization, and Imitation: the Effects of Intellectual Property Rights Protection

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Abstract

We present a product cycle model in which both innovation and standardization are endogenous. Our view on the international technology transfer is more akin to Raymond Vernon's original formulation of the product cycle: international technology transfer from an innovative region (the North) to an imitative region (the South) does not take place without standardization of the production techniques. In the model, while the South can imitate only products for which the technology has already been standardized, strengthening intellectual property rights (IPR) protection in the South keeps the Northern producers who have standardized their production techniques safer from imitation. It follows that stronger IPR protection, stimulating an incentive to standardize, implies an expansion of the set of standardized Northern products that can be imitated by the South. Finally, it promotes Southern imitation and thus international technology transfer. In addition, since enhanced technology transfer relaxes resource scarcity in the North, tighter IPR in the South may increase the long-run rate of innovation in the North: there is an inverted-U relationship between innovation and IPR in the model. These conclusions, which sharply contrast with those in the literature, suggest that IPR protection can enhance innovation and subsequent growth. We also show that the long-run welfare of both regions increases with stronger IPR protection if IPR is hardly protected in the South.

JEL classification: F21, F43, O31, O34

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