

industry in a country bound to a 20 year patent term by international agreements. The industry claims that the patent term protection is not adequate and the domestic patent authorities also concur with the industry that the socially optimal patent term ought to be longer. The patent adjudication institutions in this country could possibly exploit the scope dimension of the patent and give the patent a wider interpretation, which will increase the commercially effective impact of the patent to the patent-holder.⁶⁷ Since the scope dimension is open to interpretations, it has the potential of being abused by some countries either to attract R&D investment or to encourage imitation. It is one of the major recommendations of this Paper that trade policy analysis and negotiations should take into consideration the scope of patents in any future work.

Another aspect of patenting is that it sets off a race among potential innovators to win the patent prize. The prospect of developing and patenting the HDTV had set off a race among firms in Japan, Europe and the United States. To a large extent, these firms perform parallel R&D. From society's point of view, such duplication of R&D expenditures entails waste of economic resources. Sensing this, America's Federal Communications Commission (FCC) decided to pick an HDTV standard through a neutral technical competition and has chosen a technology consortium to do the job.⁶⁸ Thus, one way to minimize the dissipation of benefits from innovation is for competition authorities to permit the formation of research joint ventures.

Awarding only one broad patent to the first firm past the post makes R&D projects excessively risky from a social viewpoint. To increase its chance of winning the patent, each firm contributes to the acceleration of the race, which leads to dissipation of patent rents, as discussed in section II.1 above. One possibility to minimize the dissipation of these rents is to widen the scope of a patent by increasing the number of prizes and narrowing the interpretation of the protected idea. Awarding multiple patents in a product group consisting of similar but differentiated products will benefit consumers as well as innovators. Consumers will have more varieties to choose from and firms can market their products at prices higher than marginal cost. To the extent the present patent system rewards late finishers, it contributes to a socially preferred choice of research strategy.⁶⁹

⁶⁷ The patent for oversized rackets could be interpreted to cover the range from 70 to 150 square inches, thereby eliminating domestic and import competition. See footnote 65 above.

⁶⁸ To avoid wasting future profits, firms comprising AT&T, General Instrument, Philips, Thomson, Zenith, the David Sarnoff Research Centre and the MIT have formed a "grand alliance" or a joint venture. See *The Economist*, May 29, 1993: 74.

⁶⁹ M. La Manna, R. Macleod, and D. de Meza, "The Case for Permissive Patents", *European Economic Review*, 33, 1989: 1427-1443.