

● The Patent System

The objective of the patent grant is to encourage firms to invest in innovations and to facilitate the spread of knowledge for stimulating further creativity in the economy. A patent confers the right on the innovator to exclude all others from making, selling, or using the subject matter of a valid patent. The patentee firm can either "work" the patent itself or sell licenses for a royalty and let other businesses commercialize the invention. Since the patentee is the only legal supplier of the innovative product or process, we have a situation of a monopoly. A monopolist firm sets the price higher than the unit production cost, and thereby makes super-normal profits or "rents". Over the life of the patent, the patent-holder is legally entitled to these monopoly rents. Consumers of the patented products pay the higher prices. A patent system viewed in this way, shifts some of the *consumers' surplus* to the patentee as rents. As in the case of a monopoly, appropriation of patent rents entails economic inefficiencies.

Why should the society let the innovator appropriate the rents? In its profitability calculus, the innovator takes into account only private revenues and costs. Social benefit in the economy is the sum of net benefits to *all* businesses and consumers. Innovations have considerable beneficial spillovers or externalities for other industries and consumers. Taking these additional benefits into account makes the social benefit² of innovations greater than the private benefit the innovator calculates for itself. To the extent the patentees can capture the monopoly profits, innovations should increase and a socially efficient level of resources will be employed in innovative industries. Thus, it makes sense to let the innovators appropriate monopoly rents up to a certain point. Moreover, when innovative firms make profits, some households still benefit as shareholders.

The "piracy" of new knowledge results in the diffusion of innovations when imitators come out with new varieties at lower prices than charged by the patentee. But if such competition is introduced too soon, either through illegal copying or by setting a patent term of short duration, the innovator may not make profits that offset the costs of innovation. Patent infringement takes the incentives away from innovators to invest in the production of knowledge. On the one hand, from society's viewpoint, the diffusion of new technology and knowledge is beneficial. But, on the other hand, if the diffusion of the patented knowledge transmits disincentives to innovators, society is saddled with too low a level of innovation compared to what would be optimal. Consequently, the life of a patent should be long enough to enable the investors to make a profit on their innovations, which in turn will encourage further innovations in the economy and bring about an efficient allocation of resources.

² That is, economy-wide benefits.