Patents and Externalities

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Patent protection for inventions is frequently considered to be a special type of property right and, as Demsetz states it, "a primary function of property rights is that of guiding incentives to achieve a greater internalization of externalities". Internalization of externalities to create rewards for inventors and to induce incentives to invent is the main purpose of patent protection.

Until recently, the overwhelming opinion was that technical progress is nothing but socially beneficial. It increases the productive capacity of the economy, contributes substantially to economic growth and the welfare of society. To enable the originators of technical progress to "internalize" at least part of these social benefits as business profits, it is considered necessary to grant them the exclusive right to use their new knowledge commercially, i.e., to make it illegal to use an invention in the marketplace without permission of the patent holder.

By monopolizing, the patent owner can transform part of the social gain into private profits which serve as rewards and incentives to invest in research and development of new technical knowledge. But even with perfect protection, it is said that "there will be inefficiencies in the allocation of resources among investments in the

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production of new knowledge, since private profitability and social profitability are unlikely to be closely correlated”, and “that the private return from the creation of new knowledge will be less than the social return — a further reason for this is the temporal limitation of the monopoly privilege — and that there will therefore be a tendency toward under-investment in the creation of new knowledge, from the standpoint of social optimality”\(^4\). Arrow concludes: “Clearly, the potential social benefit always exceeds the realized social benefit . . . The realized social benefit, in turn, always equals or exceeds the competitive incentive to invent and, a fortiori, the monopolist’s incentive\(^5\).”

This can be illustrated with the following diagram.

![Diagram](image)

In Fig. 1, \(DD'\) is the demand curve for a new product, assumed to be latent in the utility functions of the consumers, but previously not expressed in the market\(^6\). \(SS'\) is the marginal cost and supply


\(^6\) H. G. Johnson, op. cit., p. 37, who points out that “either \(DD'\) must be defined as a compensated demand curve, or the effect of introducing the new product must be assumed to be too small to affect the marginal utility of income”.