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Intellectual Property Rights: An Economic Approach

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Abstract

This paper aims to analyse the intellectual property rights from an economic perspective. The paper is discussing the points of view of well known economists in relation to the positive and negative impacts of the intellectual property systems. It brings also into discussion the role of IPR as a barrier to entry and a mean to restrict competition and to favour monopoly situations.

Keywords: intellectual property rights, public goods, market power, monopoly

1. Introduction

At the beginning of this millennium, globalization is an important issue, and intellectual property has become an essential part of global society, especially due to the fact that the world is moving towards a knowledge economy. How it will be regulated and managed the production of knowledge, and access to this knowledge will determine how well it will work this new economy and who will use it.

The importance of intellectual property rights for economic activity in a world that relies on innovation is obvious, but differs from country to country and depends according to Promo Braga (1998), on one hand on the amount of resources that a country allocates for the creation of intellectual assets, on the other hand on the amount of protected knowledge and information used in production and consumption.

Protection of intellectual property is considered part of economic policy, despite the fact that economic theories concerning economic growth and development have ignored or considered it a minor.

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2. IPR and the economic development

Models and economic studies have obvious conclusions about the role of intellectual property rights on economic development. As stressed by Keith Maskus (2000), the issue is complex, the effectiveness of intellectual property rights in the development and growth depends on the circumstances of each country. Severe systems of intellectual property protection can either stimulate or restrict growth. The effects on economic growth and technological progress are positive only if they are structured in such a way as to promote competition.

A number of renowned economists, including Joseph Stiglitz (2008), believes that the differences between developed and developing countries are not only resource gaps but also gaps in knowledge and information. Consequently, the success of economic development will be to reduce this gap.

As in any research field or issue, there are controversies, contradictions in approaches, pluses and minuses, advantages and disadvantages, and from this perspective policymakers, both at macroeconomic level of policies and microeconomic level of firms, need to achieve a trade-off between costs and benefits. Costs arising from greater market power held by one who has intellectual property, as well as the administrative costs of management and enforcement of these rights must be outweighed by the benefits resulting from boosting investment in research, development and innovation.

Intellectual property regime, as part of the innovation system, aims to stimulate innovation by allowing innovators to restrict the use of knowledge produced by imposing rewards in exchange for the use of that knowledge and thus offers the possibility of a return on investment. But one should bear in mind that the innovation system contains other elements, too. There are other ways to finance and produce research, eg universities and research laboratories.

According to Stiglitz (Stiglitz, 2008), the most important ideas have emerged in academics and were not protected by patents, which allowed the use of those ideas and innovations for the benefit of the society. The innovation system is based on research and basic research occurs mainly in universities and government-funded laboratories. According to Stiglitz, cash rewards are a small part of what motivates researchers. It is obvious, however, that research must be funded and the financial needs of research are huge, but Stiglitz believes that "research funding through monopoly profits is neither efficient nor equitable".

Obviously, in the context of a market economy, an economy which is based on profit, companies must be compensated in order to be stimulated to innovate. Research, development and innovation are expensive processes. Investing in R & D and innovation results will imply further protection to give companies time to recover the investment made and to be motivated to continue these investments.

Intellectual property protection system has two major economic goals:
  - to stimulate investment in knowledge creation and innovation by establishing exclusive rights of use and exploitation of new technologies and products; absence of such protection would allow competitors to use the results for free and would discourage companies to invest in research, development and innovation;
  - widespread dissemination of new knowledge. Although intellectual property rights can foster the acquisition and dissemination of new knowledge and information, this can be made at costs that are often very high. Information and knowledge, intellectual creations have characteristics of public goods that are non-competitive, and therefore it is difficult to exclude their use by others. Paul Samuelson has defined public good in 1954 as the good whose consumption is non-competitive. The fact that it is consumed by someone, does not prevent someone else to consume it. Knowledge and information have this quality. In other words, there is no marginal cost associated with the consumption of knowledge and information. Unlike public goods, private goods are those that can be consumed by a single consumer. From an economic perspective, it is socially efficient to provide broad access to new discoveries. In a free market, where no intellectual property rights exist, new products and technologies could be easily multiplied at marginal cost, which would benefit society. According to the concept of public good, it can be said that it is more efficient to share knowledge freely to all, but to restrict their use by setting a price for the use.

Between the two objectives there should be a trade-off: an overprotected system will limit social gains by limiting the dissemination and use of results; a weak protection system will reduce innovation due to the lack of an adequate return on investment.

The efficiency in the use of knowledge and information can be addressed statically and dynamically. From a static point of view, to effectively use knowledge and information would require their free distribution. Providing temporary exclusive rights through intellectual property rights (IPR) will lead to pricing above marginal cost and a return on investment made in R & D and innovation. From this point of view, IPR introduce inefficiency in use, distortions, the most problematic of which is the creation of monopoly power. Monopoly leads to both inequalities in consumption and distortions in resource allocation.

On the other hand, the free distribution of knowledge and information would create problems in stimulating innovation and here comes the dynamic efficiency. Therefore, the legal system includes on the one hand intellectual proprietary rights system, on the other hand the anti-trust system to limit abuses of monopoly power. Between competition policy and intellectual property related policies must strike a balance: Competition Policy envisages improving consumer welfare by constraining the behavior of companies that have market power; intellectual property rights confer some monopoly power to those who hold these rights. (Dixon, Greenlagh, 2002)
Although intellectual property rights are promoted as means of achieving economic efficiency, they actually materialize in static inefficiency that can be justified only by the dynamic efficiency. Stiglitz (Stiglitz, 2008) demonstrated that often static inefficiency is higher than expected and dynamic benefits lower.

Theoretical tensions created between incentives and access what concerns the economic analysis of intellectual property rights are arising in Posner's view (Posner, 2005), from the high ratio of fixed to variable costs of intellectual property. Knowledge production costs are high but don't depend on result, which gives the status of fixed costs, in contrast to variable costs such as those related to providing products and technologies to consumers and are small relative to the fixed ones.

The alternatives to solve this tension are represented by a financial system that rewards creators of intellectual property (such as government subsidies) and by a limited system of property rights (such as patents and copywrites) that allows the exclusion of others to access without authorization of the author (exclusion is not so complete as in the case of physical property).

A reward system provides incentives and access simultaneously: the creator of intellectual property is compensated for the costs of creation, but as there is no right to exclude others, the competition will bring price down to marginal cost. The problem is to compute the optimal reward. The danger lies in the possibility of politicization of this reward system.

The intellectual property rights system can generate a return on investment that exceeds the cost of creation and thus unnecessarily restrict access to the results of creation. Economists do not yet have an answer regarding the social utility of protecting intellectual property systems in view of the existence of other incentives for creating intellectual property.

Any way to generate funds for innovation has a social cost (Stiglitz, 2008). When creating a monopoly by offering intellectual property rights, the funds are obtained from the difference between price and marginal cost.
3. IPR, Market power and Monopoly behaviour

Intellectual property rights as patents, copywrite, licenses, trademarks, etc., provide market power for firms and create barriers to entry in the industry, restricting competition. Companies holding intellectual property rights may reduce production and sales generating higher monopoly prices for the consumer.

Market power and competition are two forces acting on most markets. The market power is the ability to influence the market, in particular to influence the price. In a market with perfect competition, firms do not have market power. They face stiff competition. At the other extreme is monopoly, which has strong market power and faces no competition. The majority of real markets are competitive, but the competition is not as fierce as in the case of perfect competition, since in these markets, firms have some market power, but the power is not as strong as in the case of monopoly. Such markets are neither perfect competition nor monopoly, can be characterized either by monopolistic competition or by oligopolistic competition.

The theory of market power considers the perfect competition model as a reference point for assessing the performance of a market. Deviation from the model of perfect competition suppresses the certainty of Pareto optimum: depending on the type of imperfection, the selling price will be higher, the quantity produced will decrease and profits will be generated. This theory states that the existence of a small number of firms in an industry facilitates formal or tacit agreements, causing excess profits, which is the result of a weak competitive markets.

The standard model of Arrow-Debreu competitive equilibrium (Arrow, Debreu, 1954) has the fundamental assumption that technology is fixed, so it ignores innovation. Joseph Schumpeter, in "Capitalism, Socialism and Democracy" published in 1942, has the merit of highlighting the insufficiency of competition theory and the need to develop other theories. Schumpeter emphasizes innovation and believes that competition for innovation creates temporary monoplies. Partha Dasgupta and Joseph Stiglitz in "Uncertainty, Industrial Structure and the Speed of R & D" (Bell Journal of Economics, 1980) consider that Schumpeter is wrong stating that the monopoly will be temporary. They argue that monopoly power is easily perpetuated once installed. Not only is it possible, but there is motivation to be perpetuated.

For Schumpeter, the principle of competition, as it lies in neoclassical theory is a principle which excludes the company strategy. In fact, competition provides as freedom of action the opportunity to enter a market and become subject to terms of market structure and cancels any possibility of the entrepreneur to influence the market. This is the myth of static equality. To consider perfect competition as a static equilibrium is excluding, paradoxically, all competitive behavior of firms. The perfect competition means the absence of any competing activities.

Schumpeter emphasized the need to reintroduce strategy in competition analysis. This means to reconsider the company and its freedom to take risks, to innovate and to reap the benefits of innovation products. This new vision of competition does not deny that there is a tendency towards equilibrium, but rather puts the emphasis on a process to achieve a steady evolution towards a goal that is changing as new ideas, new discoveries, new information influences needs, technologies and accessibility to new resources. Competitive capitalist markets are subject to creative destruction, since any tendency toward equilibrium is broken continuously by the innovations produced in the market.

The need to take into account the market opportunities becomes an essential element in a dynamic view of competition. The role of the entrepreneur proves to be key, while it is absent in the neoclassical model whereas a perfect information excludes any opportunity.

If we consider competition as a dynamic process and if want to study its evolution over time for a given market, it will be impossible to ignore the changes in the behavior of entrepreneurs and therefore business strategies that are implemented. Managerial revolution gives us from this point of view an interesting perspective of the historical evolution of the competitive process.

Managerial revolution contributed to reconsideration of competition as a dynamic process. The entrepreneur does not act in a manner to maximize an objective function under certain exogenous restrictive conditions as stated in neoclassical theory. On the contrary, through a process of interaction with the environment, the entrepreneur develops new methods of production and offers new products in response to a specific situation.

Despite its exceptional social and political significance, monopoly has never occupied a secure niche in the economic theory. 'Early' economists, impressed by the predominance of free competition and small enterprises, regarded monopolies as isolated phenomena. The development in the U.S., UK, Germany of large chemical plants, petroleum, steel, cement, did not stimulate too much the examination of large enterprises.

Schumpeter's message makes clear that generating economic welfare in terms of material goods, or economic growth is closely linked to technological success, the size of large firms and even frequently to restrictions in competition.

Therefore, in the 30s, outside fiscal policy issues and unemployment, no other issue has attracted much attention as a monopoly. There was a time when economists were looking for an explanation of the crisis of capitalist society.

The first step in this area was done in 1926 by Piero Sraffa (in the article "The laws of returns under competitive conditions"). He believes that the monopoly (which is not free competition) is the best market hypothesis theory. In
the years 1932 to 1933, Joan Robinson and Edward Chamberlin wrote two books that have revived interest in monopoly. The first was based more on ideas of Sraffa, the second has a more independent genesis.

Monopoly is a market structure characterized by a firm that produces a differentiated product in a market with significant barriers to entry. Since there are close substitutes, the demand curve of a monopolist will have a pronounced negative slope (more pronounced as in the case of monopolistic competition).

Monopoly is the extreme opposite of perfect competition. As perfectly competitive market structures are rare, pure monopoly markets are rare. All goods and services have more or less close substitutes. The more distant the substitutes are, the closer the market is to pure monopoly.

Why a monopoly has no competitors? Where does the market power of the monopoly come from? There are various power sources of various kinds: technological, legal, social, economic, political. They create barriers to entry that stop other firms from entering the market. Among the main power sources we mention a few:

- Patent or copyright. Owning a patent or a copyright prevents other firms from producing the same product. It is a legal barrier for a number of years during which the company may have monopoly status. To encourage research, governments offer technological innovation patent.
- License or franchise. If a company obtains a license or franchise to be the only manufacturer in a certain area, for example, it will have a monopoly position.

Among the sources of market power that we don’t explain in details are: economies of scale and scope, control of critical resources, regulations, product differentiation, barriers to exit.

Monopoly may obtain economic profits and the existence of barriers to entry will prevent other firms from entering the market. Monopoly profits persist as long as they keep their market power.

4. Conclusions

Economic theory demonstrates that intellectual property rights can play a role either positive or negative on economic growth and development. The relationship is basically positive, but dependent on other factors that promote the benefits of intellectual property protection. Intellectual property protection systems should be based on market economy mechanisms and overcome the problems imposed by the creation and dissemination of information. But we have to manage the issues that arise in relation to the social costs and competitive abuses.

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