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Are Patents Bad for the Economy?

by Alexander Poltorak

Patents, historically the bailiwick of inventors and attorneys, have recently become a household word thanks to sustained media criticism of patents in general - and biotech and e-commerce patents in particular. Once considered a tour de force of economic activity, patents are increasingly ridiculed, criticized as a "monopoly," and accused of stifling competition and the progress of technology. A recent Supreme Court landmark decision reinforced patent monopoly. Is patent monopoly bad for the economy?

It is an undisputed fact among economists that the U.S. patent system has been the cornerstone of the technological progress and economic prosperity of this country. In the US, the President's Commission on Industrial Competitiveness in the early eighties has identified patents as one of the critical areas for achieving competitiveness.

It is interesting to note that a high-ranking Japanese official, Korekiyo Takahashi, later to become the first Japanese Commissioner of Patents, visited the U.S. and wrote in 1886: "We said, 'What is it that makes the United States such a great nation?' And we investigated and we found that it was patents, and we will have patents." Today, Japan is second only to the United States in the number of U.S. patents it receives. Arguably, the patent system played a pivotal role in reforming Japan from a medieval society into one of the leading industrial nations.

Some sort of intellectual property rights have existed from time immemorial. The first explicit mention of a patent-like arrangement dates back to 510 B.C.E. in Sybaris, a Greek colony in Southern Italy, where exclusive rights were granted to inventors of new and outstanding culinary recipes. However, the foundation for the modern patent system was laid down some 2,000 years later in Renaissance Italy.

In 1474, the Venetian Republic enacted a statute granting exclusive rights to inventors of "new and ingenious device[s]" for a term of ten years. Some historians argue that this patent statute played an important role in promoting technological progress in the

Renaissance period.

The English Parliament, in its celebrated Statute of Monopolies of 1624, made a clear distinction between patents and monopolies, legislating that "…any declaration before [against monopolies] shall not extend to any Letter Patents…"

The American founding fathers also recognized the paramount importance of a patent system very early on, and laid the foundation for it in the U.S. Constitution, which states: "The Congress shall have the power to promote the progress of Science and useful Arts, by Securing for a Limited Time to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." (Article I, Section 8).

In the recent unanimous Supreme Court decision in Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. et al., citing the U.S. Constitution, Justice Kennedy wrote: "The patent laws 'Promote the Progress of Science and Useful Arts' by rewarding innovation with a temporary monopoly. The monopoly is a property right…"

So, what is all the fuss about? Apparently, the English Parliament legislation of 1624 notwithstanding, some have the perception that patents are a government-sanctioned monopoly. In a country that purports to epitomize the ultra-modern, free-market economy, monopoly is viewed with scorn. Hence, the public outcry against patents, which, by association, seem to hark back to an age when government control of the free flow of information restricted the individual and protected vested interests. Not surprisingly, the US Justice Department and Federal Trade Commission recently held hearings on "Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy," which focuses on the interplay between the patent and antitrust laws.

It is true that patents give their owners exclusive rights. The US patent statute states: "Every patent shall contain… a grant to the patentee… of the right to exclude others from making, using, offering for sale, or selling the invention …" As is apparent from the language of the law, a patent indeed grants its owner "exclusionary" rights - "the right to exclude others." In fact, the right to exclude others is the only property right given to a patentee. Does this right, however, constitute a monopoly?

In 1942, Judge Giles S. Rich, who served on the US Court of Appeals for the Federal Circuit until his death in 1999 at age 95, set pen to paper on the confusion regarding patent rights and monopolies. He noted that a monopoly, by definition, entails an exclusive right in which certain rights previously possessed by others are removed from the public domain. Thus, for example, the royal grant of a monopoly on a certain trade would restrict others from engaging in that trade, even though they had been so engaged prior to the grant of the monopoly. Therefore, monopolies are considered to be contrary to public policy.

On the other hand, while patent rights may be exclusive, they do not remove anything from the public domain that had been there before because a patent, by definition, requires novelty. Rather, they disclose and ultimately place in the public domain inventions that would otherwise have been protected by trade secrets - therefore they can be said to stimulate rather than restrict innovation. As US Supreme Court Justice Clifford wrote in 1871, "…patents are not to be regarded as monopolies… but as public franchises, granted… to promote the progress of… the useful arts."

Principles of Patent Law, a definitive authority on the US patent system by Donald S. Chisum et al, states, "Patents in and of themselves do not necessarily create monopolies." This treatise points out that a monopoly, by definition, involves an entire market, and patents rarely, if ever, cover an entire market. Therefore, while a patent may grant its owner the exclusive right to a particular solution to a problem that defines a market, it does not prevent others from offering different solutions to the same problem. Patents actively encourage innovation, as competitors are compelled to look for other non-infringing solutions. This combination of public disclosure and the incentive to design around a patent creates a built-in mechanism that minimizes any monopolistic effects a patent may have.

It is clear, then, that a patent does not fall under the definition of a monopoly. But even if it did, what is wrong with a monopoly? The reason that a monopoly is considered detrimental to the public good lies in market inefficiency associated with lack of competition.

For example, the problem of frequent car theft in large cities creates a market for anti-theft devices. Say a single company held a patent on an electronic security system that disables the car's ignition. In a thriving modern market economy, it would still face competition from other electronic security systems employing different means of immobilizing a vehicle, as well as from simple mechanical devices that render a vehicle inoperative. Such competition restores elasticity of demand and works against the evils of monopoly.

Patents enhance disclosure and competition. A patent creates exclusionary rights to a meticulously defined solution to a problem, not to all solutions, and never to the problem itself. One can patent a particular treatment for a disease, but nobody can patent all treatments known or unknown for the disease, and surely, nobody can patent the disease. (One dangerous exception from this rule was created by early attempts to patent genes and DNA sequences. By patenting genes someone may indeed patent a disease. While this debate is going on, lately, US Patent Office has tightened the requirements for patenting genes partially alleviating this concern.) The non-infringing solutions offered by competitors restore elasticity to the demand curve and eliminate market inefficiency and the deadweight associated with it. Thus, in most instances, a patent not only does not share any of the negative characteristics of a monopoly, it usually works against their effects.

It can be argued that inventors already possess an implicit monopoly before filing their patent application. Because a patentable

invention must be useful, novel, and non-obvious, it is usually a trade secret until it is disclosed to the public through the patent application. This secrecy creates a natural monopoly - if someone is the only person with the solution to a problem, as long as one keeps the solution secret one will enjoy a monopoly on this solution, until it is rediscovered by someone else. Of course, some secret solutions would become obvious as soon as they entered the public domain ("Why didn't I think of that?"), others might require reverse engineering, and yet others can remain secret for a very long time (think of the formula for Coca Cola).

However, even easily discoverable secrets, at the very least, give their owner the first mover advantage. Thus, any inventor is inherently a monopolist to the extent of how long the inventor can keep the invention secret. Novel ideas, once patented or kept as trade secrets, create private property that is called intellectual property. And just as any capitalist society recognizes the individual's exclusive right to his or her private property (any property by definition is an exclusionary right), it also recognizes the exclusive right of an inventor (or a creative person) to his or her invention (or other intellectual property).

The process of applying for a patent requires the voluntary surrender of the inventor's secret, which is then transferred into the public domain in exchange for a public franchise (the patent) that gives the inventor limited exclusivity in the practice of the invention. Above all, a patent is a bargain between an inventor and the public - represented by the State - in which an inventor trades his or her inherent natural monopoly embodied in the trade secret in return for a public franchise afforded by a patent.

Contrary to popular misconceptions, the patent system is an anti-monopolistic mechanism designed not only to motivate inventors to invent by rewarding their efforts, but also to move inventions into the public domain. The patent system is a vehicle by which information can be disseminated, while the inventor's intellectual property is protected.

Monopolies have been considered contrary to the public interest since ancient Rome. Patents of one sort or another have been used since even earlier times. Today, they can be found in virtually every civilized society that sees the value of promoting technological progress. Patents, which are rapidly evolving as the new currency of the knowledge-based economy, will continue to be the catalyst of innovation and progress.