The Economics of Intellectual Property

July 2003

By John J. Bethune, Ph.D.

The Economics of Intellectual Property

Defining and protecting intellectual property, generally referred to as patents and copyrights, and trademarks have been legal and political endeavors for at least the last several hundred years. In the United States, protections of intellectual property are enshrined in the Constitution. This paper discusses the concept of intellectual property from an economic perspective.

Strictly speaking, patents and copyrights are grants of monopoly privilege. Standard economic analysis typically suggests that monopolies are harmful to society. But an exception to this standard analysis is almost always made in the area of intellectual property protection. Using simple economic analysis it can be demonstrated that these particular kinds of monopoly grants are necessary and beneficial.

It can be shown that protecting intellectual property creates important incentives to pursue new research and create new works of art, and without these protections many innovative works would never be pursued. Because of this, patents and copyrights are a form of monopoly that can yield benefits to society in excess of the costs that are incurred. This study emphasizes the point that the value of these benefits is diminished, and the costs increased, the longer the period continues. Simple graphical analysis demonstrates that a time period can be chosen for both copyright and patent protection that will maximize the benefit to society, while minimizing the harmful distortions that monopolies create. As we will see, this analysis is applicable to patents and copyrights, but not trademarks.

Special attention is focused on the benefits and costs of various legal regimes. Separate sections address how current law protects copyrights and patents. At present, copyright protection for works of literature, music, movies, etc. extends for the life of the author plus 70 years. The analysis suggests that this length of time is excessive, and that it would benefit society to shorten the time period for which these materials are given protection. On the other hand, it is probably the case that in some circumstances, society would benefit from extending patent protection for inventions and new products beyond its current 17 years. For example, it is often the case in the research and development of new drugs, that the monetary and time costs of development are not fully compensated under the current legal structure.

Trademark protection is treated separately from copyright and patents. The study concludes that trademark laws do offer optimal protections, particularly from the perspective of consumers.

Introduction

This paper discusses the concept of intellectual property, mainly from an economic perspective. The concepts of copyright, patent and trademark are each addressed. In addition the paper will briefly examine the history of intellectual property rights and discuss the economic analysis of the contemporary intellectual property law. Let us begin by considering a few real-world examples facing our society.

Today is your birthday and a large group of your friends and family have a party for you in the park, where they sing the "Happy Birthday to You" song. The entire group is now in violation of U. S. copyright law. A barber shop leaves the radio on the golden oldies channel. Unless the owner is paying royalties to a copyright clearance center, he is in violation of U. S. copyright law. Mac McDonald wants to open a hamburger stand and call it by his last name. He also wants to call his larger hamburger by his first name. Trademark law would not allow this.

In California, because of strict emissions standards, only one firm produces the type of gasoline permissible for sale under California law. This leaves California consumers paying 40 to 50 cents more per gallon than the national average. Patent law prevents other firms from producing this relatively simple reformulated gasoline, and competing with the current monopoly supplier.

Pharmaceutical companies spend tens of millions of dollars developing new drugs to prevent and cure diseases. Once developed, the drug is copied and distributed internationally by firms that can choose to ignore U. S. and international patent law. Further, price controls in other countries force the pharmaceutical companies to sell their (often lifesaving) products at a value that will not cover the research and development costs. Are these practices slowing the development of new drugs and treatments?

All of the above situations involve the concept of intellectual property and how we, as a society, try to afford protection through law. Recent trends in intellectual property law have been to expand protections in the area of copyright, while, on the other hand, seeking to limit the protections afforded by patents. These are important public policy considerations and economic analysis can shed important light on how they might be addressed.

I. What are Intellectual Property Rights and Why Should They be Protected?

The right to property is fundamental to the free enterprise system. The ability to possess and trade property promotes harmony and contributes significantly to a free and orderly society. Countries that create legal systems that define and protect private property rights have generally prospered, while nations that define ownership collectively, or socialistically, have experienced stagnant or declining levels of economic well-being.

Defining legal rights to physical property is relatively straightforward and can usually be determined by possession, with some considerations for how the property was acquired. For example, physical property that was acquired through theft or fraud is not protected. However, there are various types of intangible property that have been identified by law as worthy of affording ownership rights and the subsequent legal protections this entails. A major category in this realm is the concept of intellectual property.

Intellectual property can be placed into three general categories: patents, copyrights and trademarks. Patents are typically granted for inventions that are novel, non-obvious, and have practical utility. Copyrights protect the creation of written and artistic works, and trademarks give ownership to words and symbols deemed to be unique to a particular enterprise.

The origin of legal protection of intellectual property can be traced to the late 1400s when the Republic of Venice began issuing patents for various inventions. These grants of monopoly privilege developed in England as a means to secure funds for the Crown, and were codified by the Statue on Monopolies in 1623.[1] Further, copyrights were established to allow the governing authorities to monitor information and ideas that were being published and circulated. The framers of the United States Constitution also saw a need to afford protection to intellectual property and expressed this in Article I, Section 8 by giving Congress the power to grant monopoly privilege: "to promote the progress of science and useful arts by securing for limited time to authors and inventors the exclusive right to their respective writings and discoveries."

While early English patent and copyright law was designed as a means to empower the state, whether for revenue generation, or for the purpose of limiting economic activity or political expression, United States law was clearly intended to promote the public good. As Justice Sandra Day O'Connor recently wrote: "The primary objective of copyright is not to reward the labor of authors… but encourage others to build freely upon the ideas and information conveyed by a work."[2]

As Justice Sandra Day O'Connor recently wrote: "The primary objective of copyright is not to reward the labor of authors… but encourage others to build freely upon the ideas and information conveyed by a work."

But how do grants of monopoly privilege promote the public good? Monopolies are considered inefficient from an economic perspective and typically restrict consumer choice and lead to higher prices than would otherwise prevail in a competitive situation. To understand how these restrictions might benefit the public, we need to consider what types of benefits and costs are involved.

Traditional economic theory holds that if a product, for which there are no adequate substitutes, has only a single seller, this results in an inefficient market. Neoclassical economics defines an inefficient outcome as one that generates costs to society that are greater than the benefits resulting from the action. A monopolist will restrict output and charge a price higher than would occur in a competitive situation. Excessive profits result and are maintained be-

cause other competitors do not enter the market, due to some significant barrier to entry. Typical examples of such barriers include the legal prohibition on the delivery of first-class mail by anyone but the U.S. Postal Service, and the government-granted monopoly franchises held by most cable television companies and local telephone and electric companies. In such cases an under-allocation of resources is used to produce these product results (relative to consumer desire for the product). Through time, the longer the monopoly exists, the greater the costs to society.

With respect to patents and copyrights, the government creates a legal barrier to entry through the grant of an exclusive right to these intellectual works. Consumers pay a higher price for the product than would otherwise be the case if competitors were legally permitted to copy the protected work. If valued by society, the creator would be expected to earn a higher rate of return on investment (profit) than would be the case in a competitive situation.

Presumably, patents and copyrights give rise to the production of goods that society values. However, once these products are created and marketed, copiers are able to reproduce the work at relatively low cost. Without legal protections the "intellectual component" of these goods can be characterized as nonexclusive (the benefits can be shared by anyone) and there is no rivalry (consumption by one person does not affect the consumption by others). Without legal protections, the creators would be unable to reap any significant monetary benefits, especially in light of the likely costs incurred to create the good. If this is the case, an undersupply of these creative ideas and the resulting works would ensue, making society worse off.

Without legal protections, the creators would be unable to reap any significant monetary benefits…If this is the case, an undersupply of these creative ideas and the resulting works would ensue, making society worse off.

For example, suppose a drug manufacturing firm invests $100 million and, after much trial and error, discovers a cure for cancer. A patent would allow the producer to charge a very high price for this extremely valuable product, and the company would most likely be able to cover its previously incurred research and development costs, plus earn a profit on its investment. However, if there were no protections for the firm's intellectual property, another company could copy the drug and sell it at a much lower price while still earning a profit (since there are no development costs to recover). While this may sound appealing to consumers that desire lower prices, one has to question whether the drug would have ever been created if the firm had known its product was not protected. Without legal protections, investments in goods characterized as intellectual property would most likely not occur, leaving society worse off.

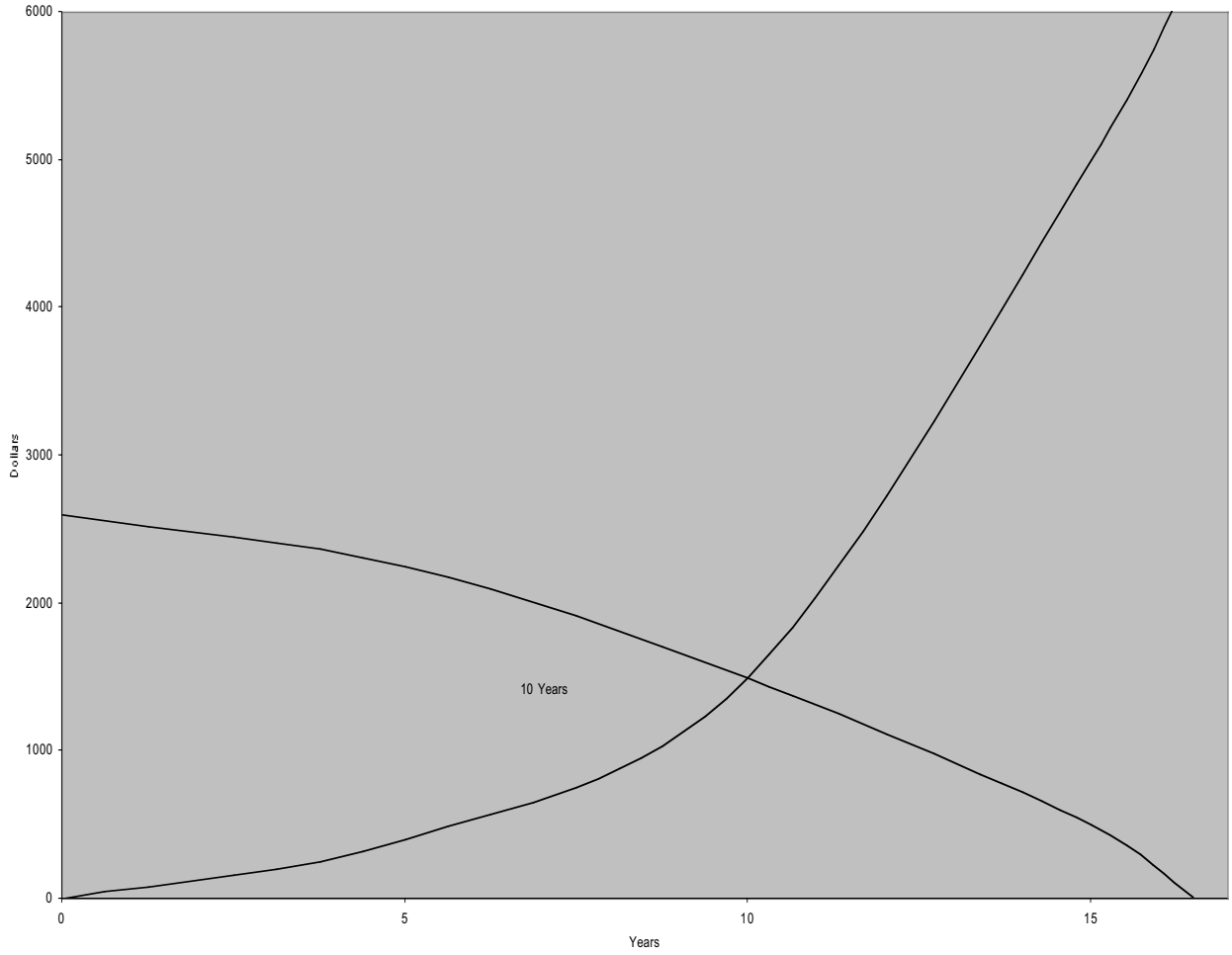
Recently, an example similar to this was reported in the news. A drug company was testing Covera for use in treating high blood pressure. Studies of this nature usually require exhaustive testing spanning many years. The owner of the patent (the company has changed hands twice since initial testing began) had spent over $50 million on the trials, which in-

volved 16,602 individuals at 661 testing centers in 15 countries. After four years, the testing was halted (two years before results are considered valid). Though Covera had shown promise, the trials ended for "commercial reasons." Since the drug had been in existence and used for other applications, the patent life was not considered of sufficient length to justify the additional costs of testing and then producing and marketing the product. Thus, the potential benefits to society from this drug to treat high blood pressure were lost.

II. The Economics of Patents and Copyrights

The question of legally protecting owners of patents and copyrights, from an economic perspective, is often approached from the standpoint of efficiency. This involves weighing benefits and costs. We want to extend protection as long as the benefits to society exceed the costs, and we do not want the length of the protected period to extend beyond a time where costs to society exceed the benefits. This approach is shown graphically in Figure 1.

Figure 1



Theoretically, we can measure all the social benefits and social costs for protecting intellectual property and plot these graphically. For simplicity these are shown in dollar units on the vertical axis. The horizontal axis shows the number of years protection might be extended to an intellectual work. The negatively sloped line (MSB) represents the marginal social benefits of protection, implying that the additional returns to society decline as the length of the protective period is extended.

The assumption of diminishing marginal benefits is a standard one in economics. In this case, we assume that society will receive the most benefits from protecting a work for one year, as opposed to no protection at all. There are still large benefits to society in extending the protection to a second year, but the additional benefits of the second year are not as great as when we moved from zero to one. Continuing out, additional benefits from five years of protection are less than those received from two years, the additional benefits of ten years are less than five, etc. As long as the additional benefits remain positive, total benefits will be increasing, but at a decreasing rate.

The benefits society receives are a function of the number of protected works created. The assumption here is that creators have more incentive to create if they receive protection from copiers. The longer the period of protection, the more likely a creator is to produce these intellectual works. Conversely, the shorter the time frame, the smaller the number of works created, resulting in a potential loss to society.

The benefits society receives are a function of the number of protected works created… creators have more incentive to create if they receive protection from copiers… The costs to society include higher prices and restricted consumer choices.

Consider the novels of John Grisham as an example. Current law allows him to copyright his work, and thus gives him complete control over the production and distribution, for his lifetime plus 70 additional years. With this amount of protection, he is likely to continue to write books and sell movie rights knowing that his time and effort will be rewarded quite handsomely. However, if he was afforded a much shorter protective time frame, say five years, would he continue to produce the novels that he currently writes? At the end of the five-year period, any publisher could sell his books. Further, any movie producer could use the stories without compensating Mr. Grisham. The total return on his writing (and time) is greatly reduced by this truncation of the copyright protection period. If this were the case all along, he may have chosen to practice law rather than to become writer, a field with a high degree of uncertainty. Thus, society would have never received the entertainment value of his novels and resulting movies.

The costs to society of protecting intellectual property are similar to those posited for the social costs of monopoly in general. These include higher prices and restricted consumer choices in the short run. If there were no legal restrictions and consumers had strong desires for the product, more resources would flow into the production of these goods (relative to consumer demand), prices would fall, and choices would expand.

With respect to marginal social costs (the additional costs to society as the time length of protection is expanded, represented as MSC on Figure 1), it is assumed that these will rise through time and, thus, total costs will increase at an increasing rate. To move from no protection to a protective period of one year would create a small amount of social cost, and adding a second year would add comparably more costs to society. As we move to 10, 20, or 30 years of protection, these costs are increasingly greater. This would be reflected primarily in the higher (monopoly) prices paid by consumers of the products. For example, when a person holds a copyright to a song, any time it is played or performed, a royalty must be paid. If the protection did not exist, everyone who enjoys the song would pay lower prices for CDs, tickets to concerts, and other forms of production or reproduction when the song is played or performed.

To find the optimal length of protection, the marginal social benefits and marginal social costs should be equalized, and this occurs in Figure 1 where the two lines cross. For purposes of this example, the optimal length of time is ten years. Past ten years the additional benefits to society would be more than offset by the additional costs associated with the monopoly privilege. If the time frame is shorter than ten years, the net benefits to society could be increased by lengthening the period of the patent or copyright protection. This is because the additional benefits (MSB) would be greater than the additional costs (MSC). From an economic viewpoint, ten years would "maximize" the net benefits to society in this example.

While this general analysis holds for both patents and copyrights, the unique nature of these two types of endeavors requires that we consider each separately when determining how long a creative work should be protected.

A. Considerations on Current Copyright Law

Of course, the above analysis is theoretical in nature and not necessarily conducive to empirical testing and verification. Getting exact, or even proxy measures of marginal social benefits and marginal costs, is most likely not possible. However, some general considerations can be addressed in light of this analysis.

In 1998, protection of copyrights was extended to the life of the author, plus 70 years.[3] Is this the optimal length for protection as was theoretically developed, or would an alternative length be more economically efficient? While there is no way to answer this question with certainty, there are several considerations that might assist in approaching an answer.

Let us consider this issue by mixing common sense with the analysis previously presented. First, take an arbitrary length of time—for example, 15 years. If creators of copyright-protected works were only given this length of time for protection, would they still write their books, songs, software, etc.? How much would production of these works be limited, or output reduced, if the legal length of protection was only 15 years? How much does society gain by extending the length of protection from 15 years to the life of the author plus 70 years? Intuitively, it would seem that these additional benefits are likely to be small.

What we seek is just enough protection to induce the creator to create, and no more. Since our guiding criterion is efficiency, and not fairness, we want the good that is provided to society, but only at the minimal social cost with respect to monopoly protection. It would seem that, with respect to copyrights, most, if not all, creations would still be produced if the protective time period was much shorter than is currently in place.

Conversely, how much greater are the costs to society if it extends the protective period to a length of time that will easily exceed 100 years in most cases? During this time, consumers will have to purchase the protected work from the monopoly supplier, and will not benefit from lower prices most likely available from copiers in a non-protected, competitive environment.

Intuitively, at least, it would seem that the current length of protection for copyright presents a situation where the costs to society greatly exceed the benefits. Recent articles in *The Chronicle of Higher Education* have detailed stories of how difficult and expensive copyright law adherence has been for libraries, forcing them to expend great sums to comply with the existing law. One article presented the opinion of certain users when it stated: "The Scholars argued that the law favors the corporate copyright holders over consumers who, they say, are prevented from enjoying a vast array of copyright-protected books, movies, and music."[4] According to the article Supreme Court Justice Stephen Breyer, "said the Copyright Term Extension Act appears to benefit corporations that own copyrights at the expense of the public. He said that the law is 'virtually perpetual' and that it inhibits the promotion of science."

It would seem that the current length of protection for copyright presents a situation where the costs to society greatly exceed the benefits.

If we can generally agree that legal protection of copyright extends for too long a time period, we might ask, "why has Congress adopted such laws?" Special interest seems to play a crucial role here. Corporate holders of copyrights, musicians, actors, and others who profit from extended copyright protection are significant givers to the political parties and individual members of Congress. Further, these beneficiaries were disproportionately represented during Congressional testimony when changes to the law were considered. A check of the web site http://politicalcelebrities.tripod.com/ shows that individuals who stand to benefit from lengthened protections made major contributions to politicians who would vote on favorable legislation. Tom Arnold made major gifts to 14 politicians or their political action fund committees. Ed Asner made 17 major contributions, and Rosanna Arquette made eight. This represents only the first letter of the alphabet. A check of contributions by entertainment and publishing concerns might yield similar results.

Since the beneficiaries of the law that extended copyright length are well organized and politically powerful (from Julia Roberts to Walt Disney, Inc.), it is not surprising that their desires were achieved through the political process. This is especially true when we consider that those who bear the costs—those who purchase music CDs and DVDs, read novels, go to

movies—are not an organized group. The costs of the copyright protection are so widely dispersed that no single payer is greatly disadvantaged. Given the high cost of organizing an interest group and lobbying elected officials, there is little incentive for those harmed by the laws to become informed about their effects and to present meaningful opposition.

B. Considerations on Current Patent Law

Next, let us consider the efficiency of the length of time afforded to the protection of patents. The law recognizes the need to encourage inventions and innovations, but it also recognizes the costs associated with the monopoly it creates. Unlike copyright law, patent law is more limited and more focused. As legal scholar and judge Richard Posner writes: "[T]he law uses several devices to try to minimize the costs of duplicating inventive activity that a patent system invites. Here are four of them:

1)A patent expires after 17 years, rather than being perpetual. This reduces the value of the patent to the owner and hence the amount of resources that will be devoted to obtaining patents.

2)Inventions are not patentable if they are 'obvious.' The functional meaning of obvious is discoverable at low cost. The lower the cost of discovery, the less necessary patent protection is to induce the discovery to be made, and the greater is the danger of overinvestment if patent protection is allowed…

3)Patents are granted early — before an invention has been carried to the point of commercial feasibility — in order to head off costly duplication of expensive development work.

4)Fundamental ideas (the laws of physics, for example) are not patentable, despite their great value. [5]

Copyright protections are, at a minimum, over five decades longer than patent protections… patent protection should be longer and more strictly enforced, both domestically and internationally.

Just as articles in *The Chronicle of Higher Education* have been critical of the excessive length of protection given current copyright law, articles in *The Wall Street Journal* (*WSJ*) have focused their attention on patent law. In this case, however, the length of time given for monopoly protection is considered to be too short. Focusing on the pharmaceutical industry, the argument here is that by the time a particular drug reaches the market, much of the time given for patent protection has expired due to the lengthy approval process used by the Food and Drug Administration.

When comparing research and development costs, the amount of money spent by patent holders far outweighs the sums spent by those protected by copyright. It would seem reasonable to expect these industries to receive similar treatment from intellectual property laws. But this is not the case. Copyright protections are, at a minimum, over five decades longer

than patent protections.[6] Writers have also noted how infringements in the international markets have hurt pharmaceutical company profits, as have the activities of generic manufacturers. Given that generic drug manufacturers, by definition, do not generate new drugs, while branded companies plow profits back into research and development, the potential losses for society should be evident. *WSJ* writers typically conclude that patent protection should be longer and more strictly enforced, both domestically and internationally.

C. A Notable Dissent to the Standard Arguments

As a final note on patent and copyright law, while the economic perspective presented here is clearly dominant, there are dissenting views. For example, one alternative often discussed in academic circles might be labeled the "libertarian" position. Probably the best example of this perspective is represented by philosopher Tom Palmer writing in the *Hamline Law Review*.[7] He argued that protections of "intellectual property rights" outside of a framework of a voluntary contract are themselves a violation of property rights. First, they violate the rights of those simultaneous, independent discoverers of ideas or products who come in second in the race to the patent office. Further, such laws, it is argued, prevent people from using both physical property and knowledge that they possess in ways that they see fit. Thus, if someone conveys information to another without contractually limiting the ways in which it can be used, then the person should have the right to use it freely.

> *The "libertarian" position… argue[s] that protections of "intellectual property rights" outside of a framework of a voluntary contract are themselves a violation of property rights.*

In arguing against the practical aspects of intellectual property protection—that without such protections innovation would be stifled—Palmer points to a number of areas where protection is not part of the law. He cites fashions, business, accounting and marketing strategies, magic tricks and jazz improvisation, and scientific principles and mathematical formula to argue that a lack of legal protection has not held back the discovery process. In making this point, Palmer also makes note of Thomas Jefferson, who "proposed an amendment as part of the Bill of Rights which would have nullified the patents and copyrights clause of Article 1, Section 8 of the Constitution."[8] He quotes Jefferson, in referring to patents and copy laws in England, that "these monopolies produce more embarrassment than advantage to society; and it may be observed that the nations that refuse monopolies of invention, are as fruitful as England in new and useful devices."[9]

III. Trademarks as Property

Businesses and corporations spend a great deal of time and money establishing their products as unique and easily distinguishable from their competitors. From an economic perspective, trademarks are useful in eliminating consumer ignorance by providing information on what to expect from an easily recognizable product. Firms use these as a symbol for product

quality, and trademarks encourage firms to maintain this quality and high standards in all their products. Further, trademarks lower the costs spent by consumers searching for valuable information about products. Different "brand names" convey different messages about overall product quality.

Thirteenth-century England protected trademarks under the common law.[10] In the United States, the Federal Trademark Act of 1946 established a method for registering trademarks and service marks. The applicant must demonstrate that the item to be registered is unique and distinctive. Registration of the mark entitles the holder to particular rights and protections, including being able to place a registered trademark sign by the title or phrase in question. However, one does not necessarily have to register these distinctive marks to be protected under current U. S. law.

A trademark owner needs to be careful that the title of the product does not fall into common use, thus negating the protection afforded by trademark. For example, many people use the term "xeroxing" when they refer to photocopying. If the Xerox company does not act, this term could fall into common usage and the protection of the brand name would be lost. Some words that once had trademarks, but were lost due to common usage, are aspirin, brassiere, cola, Easter basket, escalator, hoagie, Montessori, pocket book, shredded wheat, soft soap, super glue, thermos, trampoline, and yo-yo.

Trademarks encourage firms to maintain quality and high standards...[and] lower the costs spent by consumers searching for valuable information about products. Different "brand names" convey different messages about product quality.

Some terms have been challenged as being generic, but still carry trademark protection. They include Coke, Dictaphone, Levi's, Polaroid, Teflon, The Uncola, Tinkertoy, Tiparillo, and Wing-nut.

Unlike patents and copyright, trademarks do carry perpetual protection as long as the term does not fall into general usage. This is viewed as efficient from an economic perspective because it reduces consumer ignorance and search costs. If a trademark were to expire, the company would have to rename the previously protected product and other companies would be free to adopt the originally trademarked name, all of which would be very confusing to consumers.

An ideal trademark is one that does not use a common word but, instead, is a made up name or word. Xerox, Kodak, Izod, etc. all represent names that are unique and easily distinguished.

If trademark owners were allowed to use generic terms, this would impose a cost on competitors who would be excluded from using a descriptive term to describe their product. The law will, however, protect descriptive names if consumers identify these as related to particular firms and not to the product category as a whole. An example would be Burger King's use of "The Whopper" to describe its large hamburger, or the names "Holiday Inn,"

"Sleep Inn," and "Comfort Inn" to describe various places to obtain overnight accommodations.

Finally, a trademark, while property, can be sold or transferred only when the product it designates is sold or transferred. It cannot be used beyond the item intended, and it expires when the item is discontinued or the company ceases to exist.

Conclusion

This paper considers the impact of intellectual property, and the laws protecting it, from an economic perspective. For economics, the focus is on the length of time over which legal patent, copyright, and trademark protection is afforded to intellectual property. Because the benefits and costs to society of patents and copyright protection are tied to this time frame, it is essential that policymakers pay close attention to the kind of economic analysis presented here. If not, these laws run the risk of generating more harm than good.

In particular it is concluded that perpetual legal protection for trademarks, as is currently the case, is efficient and beneficial for consumers. However, current laws protecting copyright are probably excessive. The time period over which protection is afforded is much too long, generating additional costs to society with very few benefits. On the other hand, it appears that laws protecting patents, at least with respect to some products that involve especially costly and lengthy research and development, are too brief and may not be sufficient to encourage invention and innovation.

Notes

1. See Robert Cooter and Thomas Ulen's *Law and Economics*, 1st and 2nd Edition, (Reading, MA: Addison-Wesley Educational Publishers), 1988 and 1997 and Tom Palmer "Intellectual Property: A Non-Posnerian Approach," *Hamline Law Review*, Vol. 12, No. 2, Spring 1989, pp. 261-304.

2. As quoted in the Hall Davidson "The Educator's Guide to Copyright and Fair Use," *Tech Learning*, October 16, 2002.

3. "The Copy Right Act of 1976 as amended on October 27, 1998."

4. "Supreme Court Upholds Copyright Law Fought by Some Scholars," *The Chronicle of Higher Education*, January 24, 2003, p. A31. See also Siva Vaidyanathan, "Copyright as Cudgel," *The Chronicle of Higher Education*, August 2, 2002, pp. B7-B9 and Andrea L. Foster, "A Bookworm's Battle," *The Chronicle of Higher Education,* October 25, 2002, ppA35-A36.

5. See Richard Posner's *Economic Analysis of the Law*, Little, Brown and Company, Boston, Massachusetts, 1992, page 39.

6. These articles have been numerous. See, for example, Scott Gotlieb, "Patent Mistakes," *Wall Street Journal,* October 23, 2002, p. A18; "The Aids Initiative" (unsigned editorial), February 7, 2003, p. A 10; and "Revolution at the FDA" (unsigned editorial), February 19, 2003, p. A14.

7. Op. cit. at note 1. One should also consult Murray Rothbard, *Man Economy and State,* (Los Angeles, California: Nash Publishing Corporation) 1962.

8. Palmer, Ibid., p. 278, n. 53.

9. Thomas Jefferson, "Letter to Isaac McPherson," Monticello, August 13, 1813 as quoted in Palmer, Ibid.

10. Most of the information presented here is found in Cooter and Ulen op. cit. at note 1.

- **John J. Bethune** is the Kennedy Chair of Business and Professor of Economics at Barton College in Wilson, North Carolina. He received his Ph. D. in Economics from Florida State University and has published in several journals, including *Studies in Economic Analysis*, *The Journal of Economic Education*, *The Southern Economic Journal*, *The Long Term View*, and *The American Economist*. He currently serves as a policy advisor for the Heartland Institute and as a Salvatori Fellow with the Heritage Foundation.

The John Locke Foundation is a nonprofit, nonpartisan policy institute based in Raleigh. Its mission is to develop and promote solutions to the state's most critical challenges. The Locke Foundation seeks to transform state and local government through the principles of competition, innovation, personal freedom, and personal responsibility in order to strike a better balance between the public sector and private institutions of family, faith, community, and enterprise.

To pursue these goals, the Locke Foundation operates a number of programs and services to provide information and observations to legislators, policymakers, business executives, citizen activists, civic and community leaders, and the news media. These include the foundation's monthly newspaper, *Carolina Journal*; *Carolina Journal Weekly Report*, an update on state politics and public policy published by fax and electronic mail; *The Locke Letter*, a bimonthly newsletter for donors; regular events and conferences on important public policy issues; and research reports of varying lengths on topics facing state and local governments.

The Foundation is a 501(c)(3) research institute and is funded solely from voluntary contributions from individuals, corporations, and charitable foundations. It was founded in 1990. For more information, visit www.JohnLocke.org.