

Chapter 1 : Intellectual property - Wikipedia

The series of papers in this publication were commissioned from renowned international economists from all regions. They review the existing empirical literature on six selected themes relating to the economics of intellectual property, identify the key research questions, point out research gaps.

Intellectual property is normally defined as the set of products protected under laws associated with copyright, patent, trademark, industrial design, and trade secrets. Copyright, which covers the expression of ideas e. But the protection is very narrow. If someone else should, by a remarkable coincidence, write exactly the same song or story as you without ever coming into contact with your work, your prior copyright does not prevent him from selling his work. Copyright currently exists on a work without any effort on the part of the author to attain copyright and without any requirement of quality or originality. Patents, in contrast, last for twenty years and apply to inventions. The protection, although shorter, is broader than that of copyright. If someone else independently creates a duplicate of your invention after you have patented yours, your patent can make his invention worthless since he will not have the legal right to sell his version. This may be true even if his invention is slightly different from yours. Unlike copyright, getting the legal patent from the patent office requires spending resources, and before a patent is granted, the ideas that are to be patented must pass several legal hurdles regarding their originality and quality. As such, traditional laws of property, which require physicality, do not apply. Traditional laws of economics, such as the assumption of scarcity, also seem not to apply because individual expressions and ideas cannot be used up. In particular, the prices individual consumers are willing to pay are summed to arrive at an overall demand for the intellectual product, a process known as the vertical addition of demands. This differs from the more traditional summation of quantities each individual demands at various pricesâ€”horizontal additionâ€”to derive the market demand for rivalrous goods. There is no practical mechanism for the ideal production of nonrivalrous goods, as Kenneth Arrow concluded in his classic article. Harold Demsetz properly noted, though, in his classic critique, that efficiency does not require perfection, and so markets might still produce these goods efficiently. The difficulty of ideally producing nonrivalrous goods is contained in the well-known trade-off between production and consumption, to which we now turn. I will illustrate the example with a creative expression, but it applies equally well to ideas that are patented. Since my listening to a song does not reduce your ability to listen to the same song, efficient consumption of that song, once it has been produced, is to allow everyone who has a positive value of the song that is greater than the cost of transmitting the song often assumed to be zero to consume the song. This is a quite remarkable result. Typical goods, such as apples, are scarce, meaning that there are fewer in existence than the number that potential consumers would wish to eat if apples were freely available; thus, some rationing mechanism, such as price, must be used to determine who gets the apples. Efficient consumption requires that consumers who value the apples more get them and consumers who value them less go without. The correct allocation of apples is important in achieving efficiency. The ability of one unit of a nonrivalrous good to provide for the entire set of users turns usual rules of consumption efficiency on their head. There is no allocation problem to be solved. This would seem to imply that everyone should be allowed to consume all the products that are normally copyrighted, and everyone should be allowed to use the ideas that are normally protected by patent. The requirement that all potential consumers be allowed to consume the intellectual products puts some serious restrictions on the prices that can be charged for the product. If consumers have differing values for the good, but the producer creator can charge each potential consumer a price slightly below the maximum price that consumers are willing to pay, then all potential consumers would consume the product and efficiency would be achieved, a result known as perfect price discrimination. But if, more realistically, the producer is unable to charge different prices to different potential customers, then no matter what price the producer picks, some potential consumers will be priced out of the marketâ€”unless the producer picks a price of zero. A zero price, alas, provides the producer with no revenue. If producers receive no revenue, then there is little reason to believe that production will occur. This, then, is the problem brought about if one attempts to achieve efficient consumption: Reducing consumptive efficiency

is the cost involved in allowing for increased creation of ideas. As government increases the production of creative ideas by giving producers of these ideas more and more control over the production of the embodiments of these ideas, the consumption of these embodiments becomes less and less efficient. The application of this trade-off occurs when the competitive model is grafted onto these ideas. Therefore, if markets are to be used to provide producers with a pecuniary incentive to create intellectual products, creators must be given some degree of control over the use of their products, prohibiting others from copying their ideas or expressions. This is where copyrights and patents come in. As Edmund Kitch correctly pointed out, providing property rights does not confer economic monopoly—which would imply that consumers have only a small number of alternative products that are not very good substitutes. The monopoly created by patent law would generally be somewhat stronger than for copyright law because it is a realistic possibility that others would have independently created the same idea, but the patent eliminates the use of such independent creations. Nevertheless, competition is still possible between the patent holder and other ideas or technologies not limited by the particular patent. Intellectual property protection, then, can be seen to create two countervailing results. First, it provides authors and inventors the wherewithal to receive remuneration for their activities, which has the beneficial impact of increasing the production of expressions and ideas. On the other hand, copyright and patent laws allow the owners of the intellectual properties to charge positive prices for their use, restricting the usage and consumption of these ideas below their ideal levels. Several simplifications in the above story weaken its generality. First, it is not clear that competition will remove all revenues from creators. Although profits will be competed to zero in the long run, the long run does not happen instantaneously. Because the creator is usually the first to market, that temporal advantage would allow the creator to generate some revenue above the cost of reproduction. Second, the extent to which copyright owners require remuneration to create their artistic works is not clear. The claim that creative production requires remuneration of the producers is fully consistent with the usual market principles. Nevertheless, it has often been argued that artistic creation is often undertaken for reasons having little to do with pecuniary rewards. Even if one does not subscribe to the romantic view of art, however, the fame from creating successful works can bring its own rewards and often the ability to generate additional revenues in other markets such as concerts for musicians. The Optimal Term One of the most important aspects of intellectual property is its limited term. In this way, the restriction on consumption would be minimized, and yet the creator would receive sufficient remuneration to produce the product. This would require a different term for each intellectual product. Composers or recording artists who could make money by performing at concerts, for example, would not need as long a copyright term as composers who do not concertize. Although attractive in theory, such an approach does not appear practical and has not been used. The question, then, becomes what the efficient terms for patent and copyright might be—5 years, 50 years, years? This has led to much debate, but no consensus. The problem with determining the optimal term of intellectual property protection is that no one knows any of the key pieces of information needed to determine the optimal term. These include how much incentive is required to induce creators to create, the size of the harm from reduced consumption during the term of the intellectual property law, the size of the revenues generated during the term of protection that can be used to pay the creator, and future interest rates. No one has these facts, and the difficulty in learning them is such that we may never be in a position to determine the optimal term with any precision. Alternatives to Intellectual Property Because of the imperfections of market-based intellectual property systems, various alternatives have been proposed. In most of these alternative systems, the government funds creators. Of course, the funding of these products through tax revenues see taxation causes its own set of inefficiencies that might otherwise appear to be hidden from view, and there is no reason to believe that the inefficiencies from the tax code will be less than the inefficiencies from having too few users of intellectual products. The reason is simple: A final problem with this solution is determining which authors and which inventions should be most richly rewarded. For material such as books and music, it might not be too difficult to get some measure of relative sales of reproductions, and from that to determine the relative payments to be made to authors since one can examine the market shares of the sales of reproductions. Determining the relative market value of inventions would be much more difficult if the government were to

just grant rewards for inventive activity. One interesting idea to overcome this difficulty in valuing patents was suggested by Michael Kremer, who proposed that the government purchase patents and then put them in the public domain. In his model the government determines the value of the patent by holding an auction. The high bidder occasionally gets the patent to keep bidders honest, but most of the time the government takes the patent, and the current patent holder can refuse the price if he thinks it is too low. This plan solves the underconsumption problem and allows follow-on innovations to occur more easily. Unfortunately, it introduces its own distortion through the use of taxes to pay for this scheme. Further, it is susceptible to gaming whereby the original patent owner pays others to overbid for his patents, and it is susceptible to the government overpaying when the patent owner has negative inside information about the value of the patent. Finally, all of this assumes that a government-run intellectual property system is well intentioned and insulated from political considerations. Given our understanding of government regulation of markets see public choice, it seems fair to say that politics will certainly enter these decisions and that the bureaucrats in charge of these agencies will be influenced by the various parties involved.

Current Controversies The reliance on property rights comes to the fore in the current controversy surrounding file sharing. Several prominent legal academics, following the lead of Lawrence Lessig, have suggested that traditional copyright protection of music and movies be discarded and replaced with an organization along the lines of ASCAP or BMI, which would collect monies from income taxes or taxes in markets such as ISPs or blank CDs and distribute the monies to creators. This model, most fully developed by William Fisher, is still a variant of the government provision discussed above, with all of its limitations. It is possible, however, that file sharing cannot be controlled and that the market for sound recordings and movies might essentially vanish. In that case, some alternative is probably better than nothing, although government provision can, in principle, create losses greater than the vanishing of the market. The specter of digital rights management DRM, which would allow copyright owners to monitor and control use of their works through software built into a work, has also created a stir. Another recent controversy surrounds the Sonny Bono Copyright Term Extension Act of 1998, which retroactively increased copyright protection from fifty years to seventy years after the death of the author. The act was challenged as being unconstitutional. A group of seventeen famous economists Akerlof et al. Part of their criticism had to do with the retroactive increase in copyright for old works. After all, increasing the term of copyright for already created works cannot increase the number of already created works, although it would increase the harm from having some consumers priced out of the market. The other part of their criticism had to do with the extension of the copyright term. In their view, the present value of the additional revenues fifty-plus years down the road was too small to have an impact on the production of new creations, and thus served no purpose. Stan Liebowitz and Stephen Margolis criticized this brief on several grounds. First, they argued that one reason to allow current copyright holders to control stewardship over already created works is to reduce externalities, for example, by preventing overuse of certain copyrighted characters that lowers their social value the way overuse of the same house style can lower the value of a neighborhood. Second, even a small increase in expected revenues can have a relatively large impact on the number of new creations relative to the present value of future deadweight losses, as long as the elasticity of supply is not zero, a factor the seventeen economists ignored. Third, a high percentage of best-sellers, which are responsible for a majority of trade sales, remain in print for more than sixty years, thus indicating that the copyright extension would be expected to have an impact on incentives to create.

Further Reading Akerlof, George A. Brief as Amici Curiae in support of Petitioners at 12, *Eldred v. Princeton University Press*, Stanford University Press, *A Mechanism for Encouraging Innovation. The Future of Ideas*.

Chapter 2 : The Economics and Management of Intellectual Property

overall economic activity. This section discusses the relationship between intellectual property creation, firm size, and market structure. The topical and complex issue of the relationship between antitrust policy and intellectual property policy is also reviewed. Section 3 reviews work concerned with establishing valuations of intellectual property.

The Statute of Anne came into force in The Statute of Monopolies and the British Statute of Anne are seen as the origins of patent law and copyright respectively, [8] firmly establishing the concept of intellectual property. The first known use of the term intellectual property dates to , when a piece published in the Monthly Review used the phrase. The organization subsequently relocated to Geneva in , and was succeeded in with the establishment of the World Intellectual Property Organization WIPO by treaty as an agency of the United Nations. According to legal scholar Mark Lemley , it was only at this point that the term really began to be used in the United States which had not been a party to the Berne Convention , [4] and it did not enter popular usage there until passage of the Bayh-Dole Act in Section 1 of the French law of stated, "All new discoveries are the property of the author; to assure the inventor the property and temporary enjoyment of his discovery, there shall be delivered to him a patent for five, ten or fifteen years. Until recently, the purpose of intellectual property law was to give as little protection as possible in order to encourage innovation. Historically, therefore, they were granted only when they were necessary to encourage invention, limited in time and scope. Morin argues that "the emerging discourse of the global IP regime advocates for greater policy flexibility and greater access to knowledge, especially for developing countries. There are also more specialized or derived varieties of sui generis exclusive rights, such as circuit design rights called mask work rights in the US and supplementary protection certificates for pharmaceutical products after expiry of a patent protecting them and database rights in European law. The term "industrial property" is sometimes used to refer to a large subset of intellectual property rights including patents, trademarks, industrial designs, utility models, service marks, trade names, and geographical indications. Patent A patent is a form of right granted by the government to an inventor or their successor-in-title, giving the owner the right to exclude others from making, using, selling, offering to sell, and importing an invention for a limited period of time, in exchange for the public disclosure of the invention. An invention is a solution to a specific technological problem, which may be a product or a process and generally has to fulfill three main requirements: Copyright A copyright gives the creator of an original work exclusive rights to it, usually for a limited time. Copyright may apply to a wide range of creative, intellectual, or artistic forms, or "works". Industrial design right An industrial design right sometimes called "design right" or design patent protects the visual design of objects that are not purely utilitarian. An industrial design consists of the creation of a shape, configuration or composition of pattern or color, or combination of pattern and color in three-dimensional form containing aesthetic value. An industrial design can be a two- or three-dimensional pattern used to produce a product, industrial commodity or handicraft. Generally speaking, it is what makes a product look appealing, and as such, it increases the commercial value of goods. The variety must amongst others be novel and distinct and for registration the evaluation of propagating material of the variety is considered. Trademark A trademark is a recognizable sign , design or expression which distinguishes products or services of a particular trader from the similar products or services of other traders. Trade dress Trade dress is a legal term of art that generally refers to characteristics of the visual and aesthetic appearance of a product or its packaging or even the design of a building that signify the source of the product to consumers. Trade secret A trade secret is a formula , practice, process, design , instrument, pattern , or compilation of information which is not generally known or reasonably ascertainable, by which a business can obtain an economic advantage over competitors and customers. There is no formal government protection granted; each business must take measures to guard its own trade secrets e. Object of intellectual property law[edit] The main purpose of intellectual property law is to encourage the creation of a wide variety of intellectual goods for consumers. Because they can then profit from them, this gives economic incentive for their creation. Unlike traditional property, intellectual property is indivisible – an unlimited number of people can "consume" an intellectual good without it being depleted. Additionally,

investments in intellectual goods suffer from problems of appropriation while a landowner can surround their land with a robust fence and hire armed guards to protect it, a producer of information or an intellectual good can usually do very little to stop their first buyer from replicating it and selling it at a lower price. Balancing rights so that they are strong enough to encourage the creation of information and intellectual goods but not so strong that they prevent their wide use is the primary focus of modern intellectual property law. Some commentators have noted that the objective of intellectual property legislators and those who support its implementation appears to be "absolute protection". The thinking is that creators will not have sufficient incentive to invent unless they are legally entitled to capture the full social value of their inventions". Other recent developments in intellectual property law, such as the America Invents Act, stress international harmonization. Recently there has also been much debate over the desirability of using intellectual property rights to protect cultural heritage, including intangible ones, as well as over risks of commodification derived from this possibility. Financial incentive [edit] These exclusive rights allow owners of intellectual property to benefit from the property they have created, providing a financial incentive for the creation of an investment in intellectual property, and, in case of patents, pay associated research and development costs. The value of intellectual property is considered similarly high in other developed nations, such as those in the European Union. One is to give statutory expression to the moral and economic rights of creators in their creations and the rights of the public in access to those creations. The second is to promote, as a deliberate act of Government policy, creativity and the dissemination and application of its results and to encourage fair trading which would contribute to economic and social development. The arguments that justify intellectual property fall into three major categories. Personality theorists believe intellectual property is an extension of an individual. Utilitarians believe that intellectual property stimulates social progress and pushes people to further innovation. Lockeans argue that intellectual property is justified based on deservedness and hard work. Appropriating these products is viewed as unjust. They argue that we own our bodies which are the laborers, this right of ownership extends to what we create. Thus, intellectual property ensures this right when it comes to production. Innovation and invention in 19th century America has been attributed to the development of the patent system. Systems of protection such as Intellectual property optimize social utility. Intellectual property protects these moral claims that have to do with personality. Lysander Spooner argues "that a man has a natural and absolute right" and if a natural and absolute, then necessarily a perpetual, right" of property, in the ideas, of which he is the discoverer or creator; that his right of property, in ideas, is intrinsically the same as, and stands on identically the same grounds with, his right of property in material things; that no distinction, of principle, exists between the two cases". The Unknown Ideal that the protection of intellectual property is essentially a moral issue. The belief is that the human mind itself is the source of wealth and survival and that all property at its base is intellectual property. To violate intellectual property is therefore no different morally than violating other property rights which compromises the very processes of survival and therefore constitutes an immoral act. Intellectual property infringement Violation of intellectual property rights, called "infringement" with respect to patents, copyright, and trademarks, and "misappropriation" with respect to trade secrets, may be a breach of civil law or criminal law, depending on the type of intellectual property involved, jurisdiction, and the nature of the action. Patent infringement Patent infringement typically is caused by using or selling a patented invention without permission from the patent holder. The scope of the patented invention or the extent of protection [59] is defined in the claims of the granted patent. There is safe harbor in many jurisdictions to use a patented invention for research. This safe harbor does not exist in the US unless the research is done for purely philosophical purposes, or in order to gather data in order to prepare an application for regulatory approval of a drug. It is often called "piracy". Examples of such doctrines are the fair use and fair dealing doctrine. Trademark infringement Trademark infringement occurs when one party uses a trademark that is identical or confusingly similar to a trademark owned by another party, in relation to products or services which are identical or similar to the products or services of the other party. In many countries, a trademark receives protection without registration, but registering a trademark provides legal advantages for enforcement. Infringement can be addressed by civil litigation and, in several jurisdictions, under criminal law. In the United States, trade secrets are protected under state law, and states have nearly

universally adopted the Uniform Trade Secrets Act. This law contains two provisions criminalizing two sorts of activity. The first, 18 U. The second, 18 U. The statutory penalties are different for the two offenses. In Commonwealth common law jurisdictions, confidentiality and trade secrets are regarded as an equitable right rather than a property right but penalties for theft are roughly the same as in the United States.

Chapter 3 : The Economic Structure of Intellectual Property Law by William M. Landes

This paper reviews the literature on the economics of intellectual property rights (IPR), with a particular focus on the main industrial property rights of patents and trade marks.

Chapter 4 : The Economics of Intellectual Property : Ruth Towse :

of intellectual property, and the modernization of the IP infrastructures of many countries has raised expectations on how the IP system can be used to promote economic development. In the field of economics, the literature on intellectual property has been rapidly expanding over recent years, particularly in some developed countries.

Chapter 5 : The Economics of Intellectual Property: A Review to Identify Themes for Future Research

The economic approach to intellectual property is often described as a monolithic, coherent approach that may differ only as it is applied to a particular case. Yet the growing literature of Law and Economics in intellectual property does not speak in one voice.

Chapter 6 : The Economics of Intellectual Property - John Locke Foundation

Intellectual Property Introduction 3 This paper discusses the concept of intellectual property, mainly from an economic per-spective. The concepts of copyright, patent and trademark are each addressed.

Chapter 7 : Intellectual Property - Econlib

posted on July 31, in Economic Growth & Development, Education (PreK), Spending & Taxes 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.