

**CREATING ROOM FOR ECONOMICS
IN THE INTELLECTUAL PROPERTY CURRICULUM**

Outline

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I. Why integrate economics into intellectual property teaching?: While there is a limit on time and courses that can be devoted to a discussion of economics in the intellectual property curriculum, there certainly is not a limit in interest. I have taught a number of intellectual property courses over the past decade which integrate discussion of economic concepts, including a seminar on the law and economics of intellectual property. The materials that follow provide one blueprint for how to think about the relationship between economics and intellectual property. The annotated bibliography at the end of the outline will provide some helpful references for instructors who want to better understand economics, in general, and its relevance to intellectual property.

- A. **Pedagogical advantages:** There are several pedagogical reasons for introducing economics into the study of intellectual property.
- a. **Because It's There:** Courts make reference to economics concepts in many seminal intellectual property cases and a discussion of economics will help to clarify the court's thinking and perhaps even identify some shortcomings. Furthermore, the Founding Fathers were heavily informed by economic thinking (as well as other strands of thought back when ideas were not quite compartmentalized and fragmented as they are now), and economics certainly plays off many of the utilitarian principles that inform American intellectual property law.
 - b. **Learning to Think:** It is somewhat insulting to claim that law school is about teaching students to think. Presumably, they do think already. The question is what they think about and how. An understanding of economics can help in understanding analytical tools more broadly, particularly the use and misuse of assumptions, the relationship between deductive and inductive reasoning, and the construction and application of arguments to reach and support a conclusion. When seen from this perspective, economics is not alien, but complementary, to legal reasoning and methods. The challenge is to make the teaching of analytical skills engaging and meaningful to students who have artistic or scientific backgrounds.
 - c. **The Autonomy of Law:** There may still be some holdouts in the profession who see law as an autonomous, self-contained discipline. Most professionals, however, recognize that while law has its own rules and ways of doing things, the study and practice butts up against other fields. Economics is one of them. It is inappropriate and dangerous to say that economics is the only way to think about law. Economics is not autonomous either. But introducing economics into intellectual property study can help to underscore the point that law is a tool to help understand and solve real-world problems and that law becomes more effective as a tool when used in conjunction with other instruments such as economics.
- B. **Deep Problems:** There are ample and important critiques of economic analysis of intellectual property. Some of these critiques overlap with broader doubts about

interdisciplinary approaches to law. Others are based on a dichotomy between consequentialist/utilitarian views and rights based or deontic views of the law. Others still build on the dualism of humanist and structuralist theories of social and legal processes. Intellectual property is exciting precisely because it requires attention to these jurisprudential issues in stimulating and accessible contexts. From this perspective, introducing economics into the study of intellectual property enriches rather than narrows the field. However, here is a list of some common problems raised in response to economic analysis of intellectual property with my brief responses.

- a. **Bias towards markets:** Economists view markets as a tool rather than an end.
- b. **Bias towards strong property rights:** Economists are critical of strong rights as well as the system of intellectual property more broadly.
- c. **Bias towards analytical and mechanical thinking:** This critique has been raised by economists about the teaching of the field. There has been a real push to making the concepts more approachable and relevant both in presentation and in application.
- d. **Anti-humanist worldview:** The “two cultures” problem is a difficult one and no more so on the issue of economics in intellectual property, than in other areas of law. Economics, at its broadest, is about the construction of society and therefore at its heart humanist in orientation. The problem is that too often the heart is concealed.
- e. **Different modes of thinking:** The tension between analytical and holistic ways of thinking is pervasive in the law.

II. A Brief Primer on the Economics of Intellectual Property: This section provides an overview of economic concepts as they arise in intellectual property. The organization starts from broad issues in economics, then turns to normative issues, and finally focuses on analytical concepts.

- A. **The Domain of Economics:** There are three broad areas that constitute the subject of economics: production, distribution, and consumption. One of the assumptions of economics is that there are things in the world, or resources, that can be used for various purposes. These resources can be transformed into other resources and they in turn can be consumed. A deep question is how these resources are to be distributed (or allocated) among different individuals in society to meet wants and needs. This broad project gives rise to three central issues.
 - a. **Want and Needs:** Economics is silent about where human wants and needs come from. That is a question for sociology, psychology, anthropology, or philosophy, or perhaps, more often than not, a question that cannot be answered. One area where the question of wants and needs is problematic in economics is the area of information. Sometimes individuals may not know what their wants and needs are and may be even more clueless about the wants and needs of others. In these situations, the subject of information economics attempts to answer how institutions can be organized to resolve problems of identifying as well as satisfying human wants and needs.
 - b. **Scarcity:** Wants and needs cannot be satisfied perfectly and absolutely. Resources are limited given the wants and needs of all individuals. Society has to be organized in order to make trade-offs among the wants and needs that are satisfied for each specific individual and among all individuals. Normative criteria inevitably have to be evoked, and these are discussed in the next section.

- i. Often intellectual property is viewed as a regime of no scarcity or artificial scarcity. A song or scientific knowledge, to take two examples, can be given to all those who want or need it without constraint. Legal restrictions on copying or using the song or knowledge are viewed as creating artificial scarcity through legal privilege or monopoly. This analysis ignores that the underlying scarce resource is human labor and an individual must decide between spending time writing the song or creating the knowledge and other uses of time. Therefore, scarcity exists for the production of intellectual property even if it is artificially created for the distribution and consumption of intellectual property. The argument is that the artificial scarcity in distribution and consumption is necessary for dealing with the scarcity that affects production.
- c. **Institutional Design:** Economics is about the design of social institutions for the production, distribution, and consumption of scarce resources to satisfy human wants and needs. The market is the institution that is the centerpiece for economic study, but from its inception, economics has also focused on the design of other institutions. Because price and quantity are the key variables in a market institution, economics have traditionally focused on their study. But developments in game theory and information economics have lead many economics to study institutions which are structured through command or deliberation, rather than price signals.
 - i. Intellectual property poses a challenge to institutional design by economists, because the subject of intellectual property (songs, inventions, and other knowledge based resources) is labeled **non-rival** and **non-excludable**. Many people find these concepts confusing. It may help to remember that rivalry and excludability describe a range, rather than pure types. Non-rivalry means that one individual consuming a resource does not limit the ability of others to consume the resource. If I consume a loaf of bread, there is one less loaf of bread for others to consume. The same is not true for a song or other knowledge based resource. While non-rivalry is a description of consumption, non-excludability is a description of distribution. Non-excludability means that once a resource is distributed to a consumer, it becomes very difficult to keep other consumers from having access to the resource. Non-rivalry means that the subject of intellectual property can be shared among consumers without depletion. Non-excludability means that someone who seeks to distribute the subject of intellectual property to consumers will find it impossible to keep other consumers from accessing the work after it has been distributed. In some ways, all of intellectual property law involves creating mechanisms for making works excludable while still obtaining the benefits of sharing that stems from the non-rivalrous nature of intellectual property.
 - ii. Here are some examples of the concepts of non-rivalry and non-excludability in action. A non-copy protected CD is excludable if priced in such a way that keeps certain people from having access to the CD. However, because a non-copy protected CD can still be ripped and shared among users, it is non-rivalrous. The non-rivalry in consumption poses obvious problems for the distributor's attempt to make the CD excludable. A copy-protected CD is excludable and

is also rivalrous because the users are limited in the ability to share the music. However, since the CD can still be played so that large groups can share the music, even the copy-protected CD is not completely rivalrous. Of course, legal restrictions on public performance and digital audio-transmissions work to limit this last aspect of sharing.

- d. The previous example illustrates how economics informs the understanding of intellectual property. Society has several choices about how music can be produced, distributed, and consumed. These choices are informed by the wants and needs of individuals and the limited resources available to produce, distribute, and consume music. Economics is the study of how institutions can be designed to meet human needs and wants when trade-offs have to be made. In the CD example, by making music more excludable and rivalrous we create institutions that might make it more profitable for producers of music to distribute CD's, but we do so at the cost of enforcing these rights and losing some of the benefits from sharing. Economics highlights the consequences of our choices. Economics also can help in articulating normative criteria for how to make these choices.

B. The Normative Dimension of Economics: There are three implicit and explicit normative criteria that inform economic analysis.

- a. **Efficiency:** This criterion is most commonly associated with economics and boils down to the notion that institutions should be designed to make the pie as big as possible. In practice, this criteria often boils down to maximizing wealth in society or the aggregate surplus created by the production and distribution of resources. There are several benchmarks used for gauging efficiency: liberty to act, freedom to exchange, or the creation of perfect price signals. As a practical matter, efficiency is often a code word for some notion of liberty or unregulated markets. At a deeper level, the concept stands in for market based utilitarianism. It is important to recognize that efficiency is a stand-in for these other normative criteria. Within the field of economics, efficiency is an analytical tool for assessing models of institutions and serves as a benchmark for identifying failures in institutional design (whether they be market failure or government failure).
- b. **Welfarism:** This criterion is more close to where most economists stand. Welfarism is a form of utilitarianism in which certain individuals or groups are given more weight than others in making the utilitarian calculus. One way to characterize welfarism is efficiency with a constraint on distribution: make the pie as big as possible as long as certain groups have a slice of a desired size. Welfarism recognizes that as a matter of practical politics or human compassion, simply maximizing wealth in society is not a sufficiently meaningful or helpful criterion. As a practical matter, welfarism stands for promotion of liberty with a consideration of egalitarian goals.
- c. **Distributive justice:** This criterion states that institutions should be designed with particular groups in mind, whether that group is consumers, creators, producers, or distributors. The choice of group is purely a political one, unaided by economics. Where economics comes into play is in identifying when the protected group is hurt or benefited by the choice of a particular institutional arrangement. For example, in the case of the copy protected CD, economics can help to identify how consumers might be hurt by digital rights management. If consumers are the group to be protected, economics helps to show how digital rights management works against the

interest of consumers. Even though most economists would distance themselves from this criterion, most intellectual property advocacy is informed by principles of distributive justice. Economics can help to identify how the interests of the protected group are affected by changes in intellectual property law and also, more controversially, the costs of focusing on one set of interests rather than another.

- C. The Economic Analysis of Intellectual Property:** This section provides some specific illustrations of how to integrate the economic concepts into the study of particular intellectual property doctrines. The examples are meant to be illustrative rather than comprehensive, for reasons of space.
- a. Production:** The exclusive rights created by intellectual property are designed to facilitate the production of certain types of resources. The underlying scarce resource is the allocation of one's time to various types of activities. In the discussion that follows, I will refer to the "creative person," as the person who creates or invents a work that is subject to intellectual property protection.
 - i.** A creative person has to choose between various alternative uses of her time. If she uses her time to invent a new machine or process or to create an artistic work, she needs to receive some compensation for the time devoted to these endeavors that would be equivalent to other uses of her time. If the use of her time for creative endeavors can be monetized, then she will be compensated for the use of time that is equivalent to the wage she can earn in the marketplace. The problem is that the time used for creative endeavors may not be fully monetized.
 - ii.** In producing a song, or other work that is knowledge based, the work can be used by others, absent legal or other restriction. In producing a work that is rivalrous and excludable, the work can be sold in the marketplace and the proceeds from the sale can be used to compensate the creator. The amount of compensation would be less than or equal to the amount the work was sold for less any other expenses in the creation of the work. One implication is that the song, or other knowledge-based work, should be made rivalrous and excludable in order for the creative person to be compensated for the commitment of her time. The exclusive rights of intellectual property are designed to compensate the creative person.
 - iii.** The problem is the amount of compensation will depend upon the extent of exclusivity and vice versa. The problem is that if compensation is too small, the creative person will devote her energies to some other endeavor. If they are too big, then too much effort will be devoted to creativity. Therefore, the amount of compensation should be equal to the creative person's opportunity cost. Notice that this in general will be less than fully appropriating the full value of the intellectual property. Full appropriation would result in devoting too much of one's time to creative efforts and less to other efforts which can be more readily monetized. The conclusion is that the right to exclude provided by intellectual property will be limited.
 - iv.** One limitation comes from the familiar problem of cumulative invention. What the creative person produces may be inputs for the efforts of other creators, and not just simply consumed. Therefore,

the right to exclude needs to be limited by the needs of other creative persons. This limitation provides one rationale for doctrines like the idea/expression distinction in copyright, limits on patentable subject matter, and the distinctiveness requirement in trademark.

- v. Another limitation comes from the idea of opportunity cost itself. The analysis above suggests that the scope of the right to exclude needs to be tailored to the alternatives of the specific creative person. Such specific tailoring is impractical to implement. Therefore, intellectual property creates broad standards that are to be implemented on a case by case basis. The doctrine of originality in copyright attempts to reward efforts that rise above mere sweat of the brow, which represents the production of goods that are readily monetizable as opposed to works that are not. Patentability rules attempt to tailor patent ownership to inventive efforts that also are not readily monetizable because they result in truly novel and nonobvious products. Finally, trademark rules attempt to guide effort towards the creation of marks that are distinctive as source identifiers to aid in consumer search.
 - vi. The economic theory of production not only helps to define the scope of the right to exclude, but also serves to analyze ownership rules like work for hire and inventorship. The copyright work for hire doctrine helps to define ownership when multiple workers contribute to production and opportunity cost might be difficult or impossible to measure. The doctrine shifts ownership from the actual creators to the aggregative entity for which the numerous creators work. The doctrine, however, creates problems when creators have aspects of both traditional agents and independent contractors, as in universities. In such situations, the underlying employment relationship is complex and the notion of opportunity cost harder to measure, even though the creative work is undertaken by one person, for example, the professor. In such situations, the law may want to give more deference to the local institutional policies to help in shaping the nature of the relationship and in identifying the uses of labor. Patent inventorship resolves the problem of multiple inventors by giving each inventor rights in the work. The problem, however, is that the invention may be more difficult to define in patent than in copyright. As a result, patent law uses patent claims to help define the boundaries of the invention and to identify the inventors in whom the rights vest.
- b. Distribution: The exclusive rights of intellectual property also determine how the work is distributed. The key question is how institutions are shaped to facilitate the distribution of creative works. Institutions used for distribution include markets, households, community organizations, universities, and other social arrangements which use literary and scientific knowledge. The problem of distribution is often framed as a choice between market and non-market institutions, but it is important to keep in mind the range of non-market institutions available as well as the many shapes that the market can take.
- i. Distribution is a broad term for both economics and intellectual property. In the narrowest sense, distribution means a transfer of intellectual property rights through license, assignment, sale, or some

other device. More broadly, distribution means the dissemination of the subject of intellectual property through use, reproduction, performance, and other mechanisms. This broader definition can shade into the categories of production and consumption, and it is important to keep them separate. For example, home copying of CD's would be viewed as consumption if the copier is listening to the music privately, as production if the copier is using the copied files to make other works, and as distribution if the copied files are disseminated to other individuals. The economic, and therefore legal, implications of each of these uses are different.

- ii. The right to exclude, quite literally, serves to make the subject of intellectual property excludable. As is well recognized, intellectual property creates artificial scarcity which makes it possible for those who distribute the subject of intellectual property to use rationing mechanisms, like price, to sell, license, assign, or otherwise transact the work once it has been produced.
- iii. The challenge is how strong this right to exclude should be. Economics helps to recognize the costs of too strong a right to exclude. These costs are in the form of losses or limitations on other effective mechanisms for the transmission of knowledge to consumers.
- iv. Doctrines such as fair use in copyright, experimental use in patent law, and nominative use in trademark law recognize that intellectual property need not always be transmitted through market mechanisms. Furthermore, these doctrines recognize that exclusive use of market mechanisms may come at some cost. For example, nominative use in trademark recognizes that a trademarked name or symbol can be used in a way that is not meant to brand a product or service. This transmission of a trademarked name or symbol may serve to increase the flow of knowledge. Similarly, fair use and experimental use aid the transmission of knowledge in situations where markets would be a hindrance (not simply because the transaction costs of creating a market are too high).
- v. Recognizing the choice of how knowledge is to be transmitted helps in introducing the place of antitrust and misuse doctrines in intellectual property law. When competitive markets are the appropriate mechanism for distribution, antitrust law acts as a check on intellectual property to limit anti-competitive conduct. When intellectual property is used in a way that limits the rights of users to disseminate knowledge through non-market mechanisms or facilitate anti-competitive conduct, misuse should be applied as a limiting principle.
- vi. The discussion of distribution provides a means to introduce the normative criteria of efficiency, welfarism, and distributive justice as guidelines for structuring intellectual property rights for the purposes of distributing knowledge. Cases like *Sony*, *Jazz Photo*, *Madey*, *Merck*, and other cases dealing with the distribution of intellectual property rights illustrate these concepts and provide excellent contexts for classroom discussion of how intellectual property shapes market and non-market institutions.

- c. **Consumption:** The exclusive rights of intellectual property determine how the subject of intellectual property is used and accessed by consumers.
 - i. The desirability of market mechanisms, specifically licensing, as the sole means for giving access to intellectual property is one important subject of debate. There is a tension on this point among economic thinkers. Some, arguing from the efficiency of market transactions, conclude that all uses should be licensed. Others argue that markets may not be appropriate for criticism and parody, and therefore would suggest a narrow category of fair use for these uses. Others still point out that there is value in sharing intellectual property and that this non-market means for using intellectual property should not be shut out by market mechanisms.
 - ii. This last view can be understood as recognizing the value of sharing for efficiency or alternatively can be seen as an argument for the efficient split of the surplus from intellectual property between producers and users. Fair use and other limitations on the exclusive rights of intellectual property, allow consumers to capture consumer surplus that would otherwise go to producers. This capture can be justified on distributive justice grounds as well as efficiency grounds.

III. Economics and Other Perspectives

- a. **Economics and Various Schools of Cultural Theory:** One criticism of economics is that it does not fully appreciate aesthetic value and ignores aesthetic theory. There has been some attempt by economists to more fully appreciate culture. The most noteworthy is the work by David Throsby. From an economics perspective, one criticism of the various cultural theory approaches is that they do not appreciate the technicalities of the market mechanism in shaping culture. The interaction between markets and culture is a fertile and interesting area for discussion and scholarship.
- b. **Behavioral economics:** The integration of psychology and economics in the study of legal institutions has been hot during the last decade or so and has served as an alternative to the rigid rational choice model of economics. There are potential applications of this approach to intellectual property that have not been explored. The recognition and identification of the cognitive failures of intellectual property holders might be fruitful in supporting a “transactions pessimist” view of intellectual property that would support broader doctrines of fair use and antitrust as limits on IPR’s than exist currently.
- c. **Economics and Advocacy:** Economics is viewed as cold and sterile and not fulfilling the rhetorical needs of intellectual property advocacy. There is an interesting literature on the rhetoric of economics, and equally strong concern that the rhetoric of economics in law leads to conservative results. A study of economics suggests that many of the tensions that exist in law and other fields between liberal and conservative perspectives also exist in economics. One reaction to this observation is to conclude that economics does not add any value to current debates and only serves to obfuscate intellectual property advocacy. It is wrong to think that economics provides a blueprint for resolving the current tensions in intellectual property law. But economics can inform the substance of advocacy and provide a framework to assess the consequences of arguments and proposals.

BIBLIOGRAPHY

This bibliography is not designed to be comprehensive. Instead, the goal is to call attention to some recent (and classic) scholarship related to the ideas in this outline.

Anderson, Elizabeth. Value in Ethics and Economics (1993)(analysis of value theory and economics).

Broome, John. Ethics Out of Economics (1999)(value theory and utilitarianism).

David, Paul. Can 'Open Science' be Protected from the Evolving Regime of Intellectual Property Rights Protections?, 160 Journal of Theoretical and Institutional Economics 1-26 (2004).

Friedman, Benjamin. The Moral Consequences of Economic Growth (2005)(making the case for justice in gauging the benefits of economic growth).

Frischmann, Brett. An Economic Theory of Infrastructure and Commons Management, 89 Minn. L. Rev. 917 (2005)(public goods theory, the commons, and intellectual property rights).

Ghosh, Shubha. Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor After Eldred, 19 Berkeley Technology Law Journal 1315(2004)(suggesting a new way to think about patent law and intellectual property more broadly from a regulatory perspective).

Ghosh, Shubha. Deprivatizing Copyright, 54 Case Western L. Rev. 387 (2003)(discussing economics of culture and cultural production).

Gordon, Wendy. Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors, 82 Columbia Law Review 1600 (1982)(transaction cost analysis of fair use).

Jaffe, Adam & Lerner, Josh. Innovation and Its Discontents (2004)(important integration of economic analysis of current patent system).

Kesan, Jay & Banik, M. Patents as Incomplete Contracts: Aligning Incentives for R&D Investment with Incentives to Disclose Prior Art, 2 Wash. U. J. of L & Pol'y 23 (2000)(economics of contracting and patent policy).

Landes, William & Posner, Richard. The Economic Structure of Intellectual Property (2004)(congestion costs and intellectual property with implications for reform).

Lunney, Glynn. Fair Use and Market Failure: Sony Revisited, 82 B.U. L. Rev. 975 (2002)(challenging transaction cost justification for fair use).

Lunney, Glynn. Reexamining Copyright's Incentives-Access Paradigm, 49 Vand. L. Rev. 483 (1996)(economics of public goods and copyright).

Machlup, Fritz. An Economic Review of the Patent System, Study of the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary (U.S. Senate 85th Congress)(1958).

Merges, Robert & Nelson, Richard R. On the Complex Economics of Patent Scope, 90 Columbia Law Review 839 (1990)(transaction cost analysis of patent rights).

Meurer, Michael. Too Many Markets or Too Few?: Copyright Policy Towards Shared Works, 77 Southern California Law Review 903 (2004)(analyzing the value of sharing in consumption of copyrighted works).

Meurer, Michael. Copyright Law and Price Discrimination, 23 Cardozo Law Review 55 (2001)(copyright law and market structure).

Mokyr, Joel. The Lever of Riches: Technological Creativity and Economic Progress (1990)(perspectives on growth and technological change from an economic historian).

Nussbaum, Martha & Sen, Amartya, eds. The Quality of Life (1993)(important collection of essays discussing measures of economic growth and social improvement).

Plant, Sir Arnold. The New Commerce in Ideas and Intellectual Property in Arnold Plant, Selected Essays and Addresses (1974).

Samuelson, Pam. Should Economics Play a Role in Copyright Law and Policy?, 1 U. Ottawa L. & Tech. J. 3 (2004).

Scotchmer, Suzanne. Innovation and Incentives (2004)(very current and thorough scholarship on the economics of innovation and intellectual property rights).

Throsby, David. Economics and Culture (2001)(a creative economist looks at creativity and cultural production).

Watts, Michael, ed., The Literary Book of Economics (2003)(an engaging collection of literary sources that illustrate economic concepts).

Yoo, Christopher. Copyright and Product Differentiation, 79 N.Y.U. L. Rev. 212 (2004)(copyright and market structure).