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**Seventeen Famous Economists Weigh in on Copyright: The Role of  
Theory, Empirics, and Network Effects**

**Stan Liebowitz and Stephen Margolis**

**Related Publications 04-01  
January 2004**

Stan Liebowitz is a Professor in the School of Management at the University of Texas at Dallas. Stephen Margolis is a Professor in the College of Management at North Carolina State University. Please contact [Stanley.Liebowitz@UTDallas.edu](mailto:Stanley.Liebowitz@UTDallas.edu) or [Stephen.Margolis@ncsu.edu](mailto:Stephen.Margolis@ncsu.edu).

## Executive Summary

The case of *Eldred v. Ashcroft*, which sought to have the Copyright Term Extension Act (CTEA, aka Sonny Bono Copyright Act) declared unconstitutional, was recently decided by the Supreme Court. A remarkable group of seventeen economists including five Noble laureates, representing a wide spectrum of opinion in economics, submitted an amicus curie brief in support of *Eldred*. The economists condemned CTEA on the grounds that the revenues earned during the extension are so heavily discounted that they have almost no value, while the extended protection of aged works creates immediate monopoly deadweight losses and increases the costs of creating new derivative works.

More important, we believe, than the particulars of this case, is the articulation of the economic issues involved in copyright extension. These issues are not fully developed in the brief, nor is the case as one sided as the *Eldred* economists claimed. First, private ownership of creative works may internalize potentially important externalities with respect to the use of existing works and the creation of derivative works. Second, the *Eldred* economists neglect the elasticity of the supply of creative works in their analysis, focusing instead solely on the benefits received by authors. Consequently, they may underestimate the potential for additional creativity, which confers benefits immediately. Third, the *Eldred* economists neglect certain features of copyright law, such as fair use, the distinction between idea and expression, and the parody exemption, which mitigate the costs of copyright. Finally, we present data that counters a common claim that copyright extension so far out in the future can have little effect on creativity. The small fraction of books that have the majority of commercial value when they are new appear to remain valuable for periods of time that are consistent with the expanded term of copyright under CTEA.

# Seventeen Famous Economists Weigh in on Copyright: The Role of Theory, Empirics, and Network Effects

Stan Liebowitz and Stephen Margolis

## 1. Introduction

On May 20, 2002, seventeen economists including five Nobel laureates, representing a broad spectrum of the profession, presented an amicus brief in support of the petitioners in *Eldred v. Ashcroft*, a case before the Supreme Court that sought to have the Sonny Bono Copyright Term Extension Act of 1998 (CTEA) ruled unconstitutional.<sup>1</sup> The economists' amicus brief was unusual in several respects, not the least among them the fact that it brought together a group of economists almost as notable for its diversity of opinion (which spans the ideological spectrum from Kenneth Arrow to Milton Friedman) as for its academic distinction.<sup>2</sup>

The CTEA has two major provisions. First, it extends the term of copyright protection for a given work from fifty years after the author's death to seventy years after the author's death.<sup>3</sup> Second, it applies this extension retroactively to works that were produced prior to the act.

The CTEA was criticized vigorously from a number of perspectives, but most forcefully from an active academic community that has advocated expansion of an "information commons." *Eldred v. Ashcroft* became one of the vehicles for this opposition to copyright extension and became a cause celebre in parts of the Internet and academic communities. The litigation was coordinated at the Berkman Center for Internet and Society and argued before the Supreme Court by Laurence Lessig, a leading advocate for expanding the public domain.

Eric Eldred publishes on the Internet literary works that have entered the public domain. The CTEA prevented certain works that he had intended to provide through his web site from entering public domain. Eldred claimed that the CTEA was unconstitutional on two grounds. First, it violated the patent and copyright clause of the constitution, which specifies that patents and copyrights are provided for "a limited time" and that they are authorized in order to promote

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<sup>1</sup> Brief of George A. Akerlof et al. as Amici Curiae in support of Petitioners at 12, *Eldred v. Ashcroft*, No. 01-618.

<sup>2</sup> The signatories to the amicus brief are: George A. Akerlof, Kenneth J. Arrow, Timothy F. Bresnahan, James M. Buchanan, Ronald H. Coase, Linda R. Cohen, Milton Friedman, Jerry R. Green, Robert W. Hahn, Thomas W. Hazlett, C. Scott Hemphill, Robert E. Litan, Roger G. Noll, Richard Schmalensee, Steven Shavell, Hal R. Varian, and Richard J. Zeckhauser. In truth, not all are famous, at least not yet, but we are taking just a bit of poetic license in creating the title of the article.

the “progress of science and the useful arts.”<sup>4</sup>” Second, the CTEA was a violation of free speech. The Supreme Court has now ruled on the case, rejecting Eldred’s claims.

While the constitutionality of CTEA seems to be settled, the battle over the length and strength of copyright is not. Critics of CTEA and supporters of Eldred’s cause have continued to press for copyright reform and the issue is unlikely to go away.

This, plus recent unabated debate over various copyright issues, makes the economists’ amicus brief worth a careful look. Although legal briefs are not necessarily the place to look for balanced and nuanced discussions, when seventeen of the best and brightest economists, representing virtually all major schools of thought, present an economic argument against copyright extension, both the general public and the economics profession might well expect a definitive treatment of the issues. Unfortunately, the brief falls short of those expectations. While we cannot argue that the extensions of the CTEA are clearly efficient, we do argue that the case is not so one sided as presented in the economists’ brief.

There are important aspects of the economics of copyright that were ignored or not fully considered by the Eldred economists. They overlook factors, such as the elasticity of supply of creative works, which might reverse their conclusion about the impact of copyright extension on the creation of new works. They neglect the possibility of network effects in the market for derivative works that might make a copyright commons uneconomic, independent of any impact on supply. Finally, they avoid the difficult empirical work that would be needed to provide an answer to the question they entertain.

## **2. Basic Points in the Brief**

The amicus brief makes two points:

- a. The portion of the law making the increased copyright length retroactive makes little economic sense. Copyright is granted to provide incentives for authors to create. Yet there can be no incentive impact when copyright is extended on items that have already been created under the previous copyright rules.

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<sup>3</sup> This is for copyrighted works produced by individuals.

- b. The extension of copyright, from life plus 50 year to life plus 70 years, has a current effect on creation only through incremental revenues that are many years in the future. The effects on present values of these incremental revenues are so small that they can have little incentive effect. The incremental deadweight losses brought about by the copyright extension also occur far in the future and also are discounted heavily. Although both factors are likely to be very small, the Eldred economists argue that copyright should not be extended because copyright also imposes current costs on the creators of new copyrighted items, who reuse old material in their new works.

We agree with the Eldred economists that point (a) above is an easy call, but only if the analysis is restricted to incentives to create. We will argue at length below, however, that there are other important considerations that might reverse this conclusion. We find that point (b) is not an easy call and is incompletely explored in the economists brief. We next consider each of these points in turn. Following that, we present data that is relevant to the evaluation of copyright extension.

### **3. Retroactive Extension of Copyright Term**

Point (a) appears to be an easy call because lengthening the term of copyright can have no effect on the size or quality of the body of creative works that existed at the time that CETA was enacted. Copyright extension cannot reach back in time to bring forth additional work.

Lengthening the term of copyright increases the price for using already-created materials that would otherwise move into the public domain. This price elevation results in the monopoly deadweight loss that occurs where intellectual property is priced above reproduction cost. It is easy to see which way the cost-benefit calculation goes. Because there are no new creations resulting from retroactive extension of copyright, there can be no benefit from new works, and clearly there are costs.

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<sup>4</sup> A portion of the clause reads, “to promote the progress of science and the useful arts by securing for a limited time to authors and inventors the exclusive right to their respective rights and discoveries.”

The Eldred economists thus argued that the argument regarding retroactive copyright extension is completely one sided. There are substantial costs of the extension in the form of added deadweight losses, and no realistic benefit of increased creative activity. While that simple logic is unassailable, the economists' evaluation of retroactive extension ignored some benefits of copyright ownership and, by neglecting some features of copyright law, overstated a cost of copyright.

The amicus brief does acknowledge the possibility that such after-the-fact extensions of copyright might increase the incentives of future authors who may expect the same treatment in any subsequent copyright extension. They regard this as a minor influence and we agree. The Eldred Court did note, however, that congress has consistently applied copyright extensions retroactively, citing fairness arguments that legislators have repeatedly raised to support that practice.

### **Efficiency of ownership**

The political fight over the Sonny Bono act appears to have largely been about the impact on already existing works. Indeed, potential revenues in 2110 probably are not a big incentive for Marshal Mather or Shania Twain. But the rights to derivative works are an important matter to current owners of aged works and to non owners, such as Mr. Eldred, who would now like to use these works. Public choice considerations nicely predict the players in the recent controversy—on both sides they are parties with interests in old works. These interests are worth pursuing because they are not discounted by seventy, eighty or one-hundred years.

Eldred is aggrieved because he is unable to republish works that were written in the nineteen twenties. In support of the CTEA, amicus briefs were submitted by various owners of mature copyrights. One of the most interesting of these was submitted by Dr. Seuss Enterprises, Allene White, and Barbara and Madeline Bemelmans. Allene White is the owner of many copyrights of E. B. White (Stuart Little, Charlotte's Web); Madeline and Barbara Bemelmans are the owners of the copyrights of Ludwig Bemelmans, the creator of the Madeline series. If you do not know who Doctor Seuss was you need to get out a little more often.

The issue is management of existing creative works. The economists' brief considers only the monopoly deadweight losses—one side of the argument—and concludes that all the weight is

against extension. But there is another issue, not noted in the economists' brief<sup>5</sup>, but well known to economists: open access is not a universally preferable way to manage a resource. We note that the tragedy of the commons is thought not to hold for non-rivalrous goods since the viewing of *The Grinch* by one person does not prevent others from viewing it as well. It is possible, however, that one person's owning a copy of *The Grinch* might alter the utility of another person's ownership, or that one person's creation of a derivative work based on the Grinch might alter the value of another's derivative work. These possibilities are explored below, where several distinct reasons are given for consumers to have preferences with regard to the number of copies of a work that exist, or the number and character of derivative works.

We are certainly not the first to note a stewardship role of intellectual property protection. Edmund Kitch<sup>6</sup> makes the argument that patent is better understood not as monopoly but as a claim-staking system, allowing efficient exploitation of a technological realm. In a recent paper on copyright, Landes and Posner<sup>7</sup> elaborate on the advantage of ownership for the management of valuable creative works. They note the possibility of excessive or inappropriate uses of intellectual properties and the role of copyright in avoiding the common access problem.

### *The possibility of misuse*

Consider one claim of the Dr. Seuss brief. These copyright owners note a number of recent feature films made from their properties. These movies are large risky investments that would be even more risky if the studios could not be assured some degree of exclusivity. They cite as an example *The Grinch* (2000), which cost over \$125 million to produce. How would the prospects for the movie be affected if just before its release, the Grinch character suddenly

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<sup>5</sup> The closest the economists come to mentioning this issue is their acknowledgement that extending copyright might increase the copyright owners' incentives to invest in improvements to the creative work (p. 9) They mostly dismiss this as an issue, noting that "a twenty-year copyright extension will have little or no incremental effect. Misuse or excessive activity in the creation of derivatives does not appear in their discussion, nor does any role of copyright in addressing such problems.

<sup>6</sup> Edmund W. Kitch, "The Nature and Function of a Patent System," 20 *Journal of Law and Economics*, 265-90. (1977)

<sup>7</sup> William M. Landes and Richard A. Posner, "Indefinitely Renewable Copyright," John M. Olin Law & Economics Working Paper No. 154, (2<sup>nd</sup> series) 11-15 (2002). Landes and Posner discuss the possibility of a copyright externality and note the possibility of technological, as opposed to mere pecuniary externalities. In turn, they are reacting to a statement in a brief by a group of intellectual property law professors that declares that "There can be no overgrazing of intellectual property, however, because intellectual property cannot be destroyed or even diminished by consumption." Denis S. Karjala, "Statement of Copyright and Intellectual Property Law Professors in Opposition to J.R. 604, H.R. 2589, and S. 505, The Copyright Term Extension Act, Submitted to the Joint Committees of the Judiciary," Jan. 28, 1998.

appears in pornographic movies or advertising for cigarettes, altering the public's view of the character? The copyright owner's role in this is not unlike that of the private owner of a natural resource that can be subject to crowding. In either case, the owner prevents dissipation of a valuable asset by misuse of the asset. A profit maximizing owner would be expected to pick that set of derivative projects that maximizes profits. The question is balance between the restriction output brought about by monopoly considerations versus restrictions brought about to prevent lost value due to misuse.

There are, of course, many expensive derivative works such as movies that are based upon creative works that are entirely in the public domain. The question is whether they are produced as regularly or as well, and whether the level of utilization improves upon that which occurs under exclusive ownership.<sup>8</sup> This is an empirical question to which economists do not yet have the answer.

Malicious or offensive derivative uses of some creative works might seriously diminish the value of the creative work without sufficient offsetting value. The existence of a Madeline Does Dallas might lead to some awkward questions during bedtime stories. Of course, the law accepts some damage to the value of creative works when they are subject to parody or criticism. But these fair-use exceptions to copyright protection exist because they clearly serve a purpose that is expected, on average, to pass a benefit-cost test.

### *Snob, Veblen, and Aesthetic Network Effects*

A second concern for efficient management of intellectual property concerns a particular type of network effect. As currently used, the term network effects is almost exclusively associated with positive effects--each user's utility increases with the number of users. But as we know from congestion externalities, network effects can also be negative.<sup>9</sup> One of the earliest and most original treatments of network effects (although that term was not yet in use) was the paper by Harvey Leibenstein who considered both positive effects ("bandwagon") and negative effects ("snob" and "Veblen"). Snob effects occur when consumers derive more utility as there are fewer other users of a product, the opposite of the current use of network effects. Veblen

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<sup>8</sup> Further, are they produced under greater secrecy, raising their costs, in order to protect themselves from contemporaneous imitators?

<sup>9</sup> See Stan J. Liebowitz and Stephen E. Margolis "Network Externalities: An Uncommon Tragedy" *The Journal of Economic Perspectives*, Spring 1994, 8-2 Pp. 133-150.

effects occur when consumers derive additional utility from a product as its market price gets higher.

Although the term ‘snob’ is surely catchy, it carries an unfortunate connotation that mischaracterizes many of these network effects. Ordinary consumers evidence such preference about many kinds of goods. It can be something as unsnobbish a simple preference for variety. An image may delight the eyes if it is seen every now and then, but it may seem absolutely banal if it appears on every telephone pole.

Architectural works, which are protected by copyright, are instructive examples. Builders in housing developments usually offer a variety of elevations of houses of the same floor plan so that they don’t end up with too many houses that look the same. The practice of building varied elevations cannot be monopoly restriction to elevate price, since the restriction on any one design does not restrict the total output of a set of very good substitutes. Yet builders do vary designs and often enter contracts obligating them to do so. The production of different elevations does increase cost, relative to building the same design over and over again, yet the total value of a development must increase by more than these additional costs or builders would discontinue the practice. In tract developments, the negative network effect of visually identical houses may be internalized by a builder’s ownership of a large number of lots. In other instances it can be internalized by a subdivision’s covenants and restrictions. And of course, this “aesthetic” network effect (if we can put in our own term) can be internalized by copyright.

These are real external effects, not just pecuniary ones. Many consumers derive less utility if their house looks just like all the others in the subdivision, as so memorably criticized by a professional anti-snob, Pete Seeger, who applied the phrase “ticky-tacky”. If this consumer preference for variety could not be internalized by the market, total wealth would be reduced. Note that the decisions of individual consumers might lead to too little variety since the harm to other consumers does not directly enter the utility calculus.

The scope of such external effects is quite large and we would suggest underappreciated in the literature. For example, the literature on resale price maintenance suggests a ‘demonstration’ motive by manufacturers who try to keep retailers from charging too low a price.<sup>10</sup> The story is that some retailers may not provide a needed service and may instead free-

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<sup>10</sup> Since the manufacturer receives the same price from the retailer independent of the retailer’s price, it would appear that the manufacturer would be pleased to have the retailer increase total sales without the manufacturer

ride off of retailers that do provide the service, causing the service to disappear under competitive pressures. An additional explanation we might suggest, especially for those cases where demonstrations of a product seems unimportant, would be that some retailers do not provide enough of an exclusive aura about their products (snob effects), or some retailers might lower the price to a level that distresses other consumers of the product (Veblen effect), in either case lowering the utility for all the other users of the product.

Such external effects also might explain why competition does not lower the prices of high-end items (top of the line autos, stereo equipment, appliances, and so forth) which are known to have higher margins and yet where monopoly power would appear to be missing. Competitors with lower prices for equivalent products would not take customers away from the high priced product, and competition would not reduce markups, if the customers derive utility from the fact that the original product is sold to a more exclusive clientele. Such external effects can also explain why diamonds are preferred to cubic zirconias.

Within the world of copyrighted works, evidence of these aesthetic network effects is plentiful. The practice among artists of numbering prints and publicizing the total number in the series, with a promise not to increase the number of prints, might be a mere monopoly restriction, but it also might be a way of increasing the actual utility that a consumer enjoys. Snob effects might help to explain why original paintings sell for so much more than almost perfect forgeries that seemingly provide the same visual experience.<sup>11</sup> These effects might help explain the behavior and existence of the designer clothing industry and, of course, the custom-home building industry.

In all these cases, demand itself is a function of the number of users. Where these effects appear, they affect the shape of the demand curve—they are not simply movements along a demand curve.

Where there are technological network effects, such as these, it is important that these effects be internalized. Firms producing copies or derivatives of creative works, after the expiration of copyright, may be in the position of fishermen on an open access lake. They

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needing to lower his price. Yet there are numerous cases where manufacturers try to limit retailers from charging too little. See Telser, L. G., "Why Should Manufacturers Want Fair Trade?" *Journal of Law and Economics*, October 1960.

<sup>11</sup> Obviously, for works still under copyright, a forgery might sell for less since it violates copyright. For the large number of works in the public domain, however, it is still the case that copies that can only be discerned by experts will not sell for anywhere as high a price as the original.

produce at their own private optima, not taking into account the effects that they have on other producers. Ownership of the source works can effectively manage these interactions, and copyright provides that ownership. The difficulty, of course, is distinguishing between pecuniary and real (technological) effects. Internalizing pecuniary effects leads to monopoly; internalizing real effects leads to efficient levels of activity.

These network effects may be prevalent for some classes of creative works. They may be important for simple copies of visual works that are publicly displayed, musical and literary works that are used in advertising, and for decorative items. They may also be important for derivative works of all sorts. At a minimum, we would need to know something about the empirical realities of these markets before making pronouncements about the efficiency, or lack of efficiency, in the copyright law.

### **The costs to current creators of derivative works**

A major portion of the economists' Eldred brief is devoted to a purported increase in the costs of creation resulting from copyright extension. They claim that because creative works derive inspiration and form from the creative works of the past, copyright stifles new creation, and extended copyright stifles creation unnecessarily. Their discussion is largely misguided in that it fails to take account of some of the special features of copyright.

The economists' brief cites a seminal paper by Landes and Posner<sup>12</sup> that notes the costs and benefits of copyright extension. The economists' brief is largely consistent with the first part of Landes and Posner, which presents a model of copyright, but it neglects a central purpose of their paper. Landes and Posner build a model of an abstracted copyright law to illustrate the properties of an optimal level of protection, the determinants of the optimal level of protection, and the trade-off that exists at the optimum. They then use their model as a platform for explaining some of the specific features of actual copyright law. Their approach is summarized in the following fair use reproduction of their work:<sup>13</sup>

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<sup>12</sup> William Landes and Richard Posner, "An Economic Analysis of Copyright Law," 18 *Journal of Legal Studies* 325-363 (1989). This paper develops a severely abstracted model of copyright duration in which all copying is prohibited for the duration of copyright. Their purpose is to use this model to explore the tradeoffs implicit in copyright so that they might explain some of the provisions of actual copyright law. Landes and Posner suggest that the fair use defenses and the protection of only the expression of an idea, rather than the idea itself mitigate some of the potential costs of copyright protection.

We shall see in Section II that various doctrines of copyright law, such as the distinction between idea and expression and the fair use doctrine, can be understood as attempts to promote economic efficiency by balancing the effect of greater copyright protection—in encouraging the creation of new works by reducing copying—against the effect of less protection—in encouraging the creation of new works by reducing the cost of creating them.<sup>14</sup>

The Eldred economists' discussion of the costs of derivative works takes no note of the moderating influences of these features of copyright. There is no question that creators of derivative works have the greatest latitude, and therefore the lowest costs, where the works that they would employ are in the public domain. But the fair use exceptions and the distinction between the idea and the expression provide sufficient relief from the restrictions that a very large share of creative re-uses of copyrighted works is permitted.<sup>15</sup>

Interestingly, we could in this space present a fairly loose paraphrase of Landes and Posner's discussion of both the distinction between expression and the idea and fair use, and although it might be a breach of academic etiquette (particularly if we didn't admit what we were doing) it would not be a copyright violation. There are two reasons. First, these matters are discussed in a number of places, so it would be difficult to establish that we were copying Landes and Posner. Second, while we would be reflecting the ideas in their discussion, we would not—unless we got lazy and started copying—be using their expression.

Copyright does not protect ideas, only the expression of the ideas. Many economists have seen “It’s a Wonderful Life,” the Jimmy Stewart movie classic, and have read *The Choice*, Russell Roberts' fine treatment of free trade. Although Roberts uses the plot device of a man who must return to earth to earn his angel's wings, (in Roberts' work it's David Ricardo), his book does not infringe the movie. Though clearly an important creative element of the movie, the plot device is an idea which is not protected by copyright. Television addicts will also note the flock of shows that followed the Friends format or the current proliferation of survivor type shows. Artists do indeed draw on old themes, and they are allowed to do so. On the other hand, they are not allowed to incorporate details of copyrighted works. So the Eldred economists are correct,

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<sup>13</sup> We hope it is fair use, because we expect that their lawyers would be better than ours.

<sup>14</sup> Page 333. So long as we limit our attention to the creation of additional works, we must conclude that retroactive extension of copyright is inefficient.

<sup>15</sup> Fair use is a defense against the claim of copyright infringement, and is often used to allow small (or sometimes large) amounts of copyrighted works to be copied when the copying is likely to not harm the market. The most

copyright does raise artists' costs—they do have to do some work themselves. But because only expression and not ideas are protected, extensive parts of the culture are not walled off from creative re-use.

Fair use doctrines also include important exemptions to copyright that further expand the legal re-uses of existing works. An important example of fair use is parody, which allows works to be reused in certain kinds of creative transformations. For example, comical parodies of books or movies that use many recognizable details of the original work are permitted.

A recent case that captured a great deal of public attention illustrates that very extensive use of a creative work can fall under fair use. Alice Randall's novel, *The Wind Done Gone*, prompted objections from the Margaret Mitchell Trust, owners of the rights to *Gone with the Wind*. *The Wind Done Gone* uses the characters and plot elements from the earlier work, but views them from the perspective of the black people who shared Tara with Scarlett O'Hara and the others. Although an initial injunction delayed publication, an appeals court subsequently found that this new perspective both transformed the original work substantially and did so to provide important criticism. Here again, copyright did not bar creative use of important elements of our culture that were essential to a creative work of social criticism. Critics of copyright have deplored the fact that Ms. Randall was forced to defend her fair use in court, but the fact that copyright occasionally imposes legal costs is not a sufficient argument for its curtailment. Additionally, Ms. Randall could have told her story without so directly borrowing the particulars of *Gone with the Wind* and its reservoir of publicity and sentiment, although that might have limited the scope of her market.

#### **4. New Works: Comparisons of costs and benefits**

The optimal length for copyright is not something that anyone can claim to know with any precision. Although there have been claims in the literature that the optimal length is so short

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complete analysis can probably be found in Wendy Gordon, "Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors," 82 Columbia Law Review 1600-1657, 1982.

that copyright is unnecessary, there has been very little recent and serious examination of this issue.<sup>16</sup>

Putting aside, for now, the matter of efficient management of existing works, how much can we say about the efficiency of copyright extension?

To make a full a determination of the costs and benefits of copyright extension economists would need to know more about these markets than we currently do know. Economists are far from alone in this ignorance; the information requirements are severe. The data that we would need, but do not have, are (1) the number and value of new works brought forth by extensions of copyright duration (the elasticity of supply of creative works and the surplus created by additional works); (2) the reduction of surplus for reproductions of copyrighted materials under extended copyright relative to the surplus that would be generated if copyright protection were less lengthy (the increased unnecessary deadweight losses).

The general structure of the tradeoff between creation and use is well known. Nevertheless, a detailed construction of the values to be compared is rarely discussed, so we present that now.

### **The Gains and Losses from extending copyright**

The Eldred economists use a bit of shorthand to describe the benefits from an extension of copyright—they talk about the additional royalties generated by the extension. With distant payments being so far in the future, the present values of gains to current authors generated by extending copyright from, say, 90 to 100 years, are likely to be very small.

The benefits to society, however, are not the same as the present value of payments going to the copyright owners.<sup>17</sup> The Eldred economists emphasize that the present value of payments to authors are small in order to suggest that these payments can have only very limited effects on creation of additional works.

Yet, small increases in payment need not have small impacts on the creation of additional works. There is certainly a possibility for some authors, in some range of income and propensity

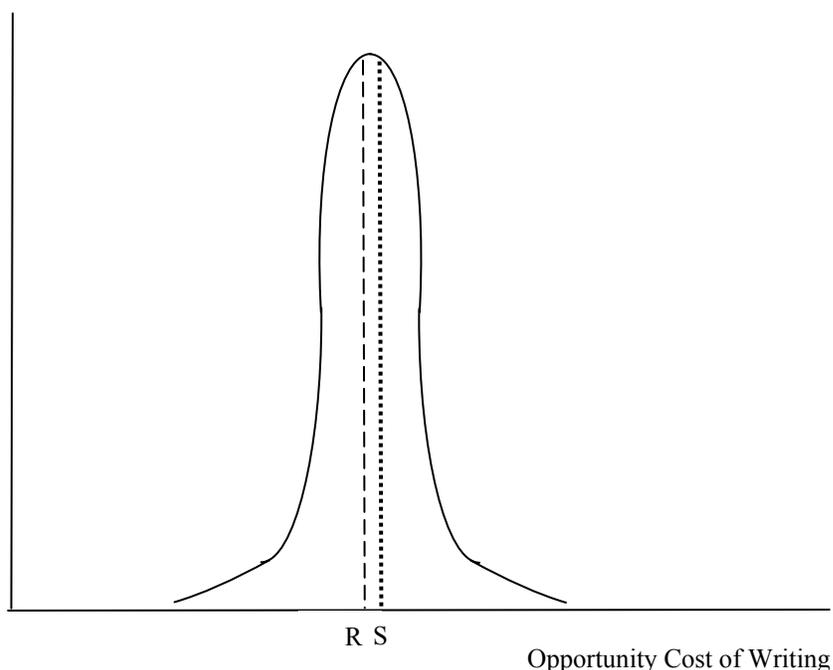
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<sup>16</sup> Some of the earlier claims were: Plant, A. “The Economic Aspects of Copyright in Books.” 1 *Economica*, 167, 1934; Hurt, R., and Schuchman, R. “The Economic Rationale of Copyright.” 56 *American Economic Review*, 421, May 1966.

<sup>17</sup> Wendy J. Gordon also makes this point in “Authors, Publishers, and Public Goods: Trading Gold for Dross” 36 *Loyola of Los Angeles Law Review*, Fall 2002 159.

to create, that a small increase in present value could make an important difference in their creative output due, perhaps, to reaching a point where authors switch to full-time writing.<sup>18</sup>

**Figure 1: Distribution of Authors**



At a conceptual level, which is the level of the amicus brief, it is certainly possible that there might be many potential authors with similar opportunity costs who, at the current copyright length, are on the margin of writing books. In Figure 1, for example, we present a very tight distribution of opportunity costs for authors. Even a fairly trivial increase in royalty payments, such as an increase in the present value of royalties from R (the dashed line) to S (the dotted line) might lead to a substantial increase in the number of works if the distribution is dense at those magnitudes. In this instance of a tightly packed distribution of costs of creation, small increases in payments from an expansion of copyright might bring forth large increases in the number of creative works, with associated large social benefits.<sup>19</sup>

<sup>18</sup> An example might be Charles Ives, working at his insurance job by day and writing music in his spare time.

<sup>19</sup> We assume that this large increase in works also leads to a large increase in surplus. We also assume that the new works do not decrease the surplus generated from older works. It is possible, of course, that the potential surplus for copyrighted works is limited, and that the increased surplus from these new works comes at the expense of decreased surplus for works that would otherwise have been consumed in place of the new works.

Thus, the Eldred economists' focus on the royalty streams is incorrect. They should have focused instead on the impact of copyright changes on the value of new works forthcoming. This is a distinction that can make a difference as we demonstrate in Section 0. First, we briefly review the economic impacts of changes in the term of copyright.

### **Productive and Unproductive Deadweight Loss**

Calling a deadweight loss 'productive' might seem to be oxymoronic, but in fact some deadweight losses serve a useful function where they are unavoidable consequences of an incentive system for which we have no feasible better alternative.

Under a copyright regime, the deadweight loss engendered by the copyright is a byproduct of the incentives to the creator that are generated by the copyright. With a system of private ownership providing the incentive for creation, there cannot be a reward to the creator without also having an apparent deadweight loss in the consumption market.<sup>20</sup>

While it is misleading to refer to copyright as equivalent to monopoly, the monopoly model is the easiest to apply and is the standard vehicle for considering the issues that we take up here.<sup>21</sup> Moreover, the monopoly model is the framework for the arguments in the amicus brief. In what follows, we will refer to "books," but it should be evident that 'books' here stand in for any creative work.

Figure 2 is the standard textbook treatment of monopoly. Assume it represents market for reproductions of a particular book title for some period of time. The demand for this title lasts for multiple time periods, all identical to the first.

The perfectly competitive solution is a price of  $P_c$  and quantity  $Q_c$ , which yields no profit in the reproduction market with which to pay the creator of the title. This maximizes the surplus in the reproduction market (1+2+3+4+5) for this title. However, the title will not be produced if the creator requires a positive payment to induce creation, which implies that no surplus at all

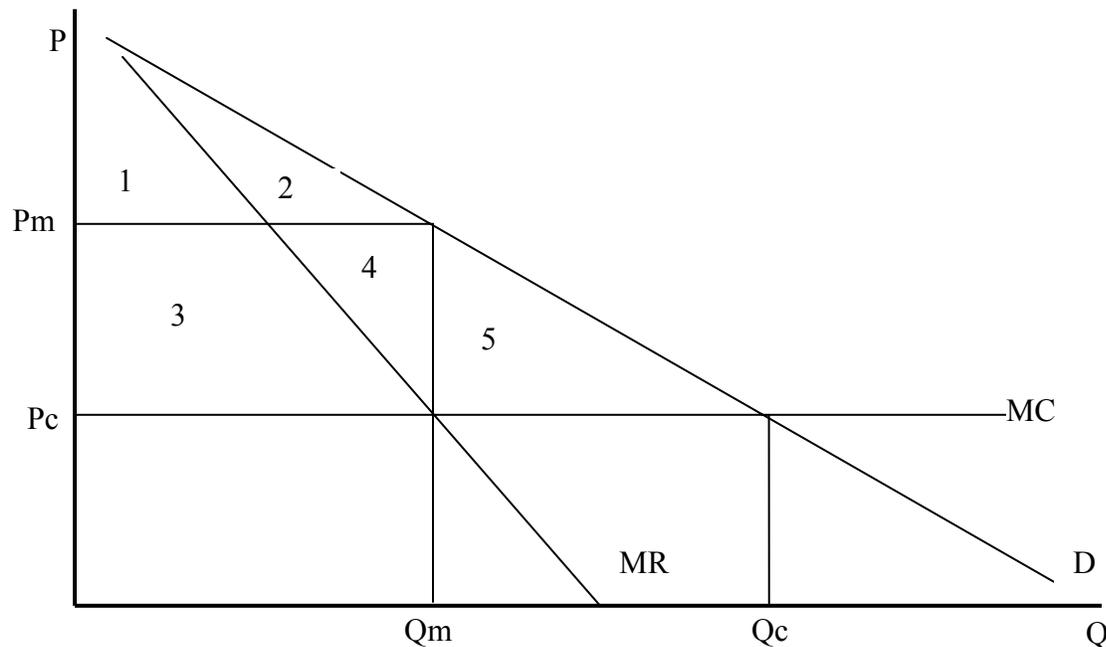
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<sup>20</sup> Perfect price discrimination can avoid the deadweight loss, and we note that various approximations to such price discrimination can reduce this loss, though such measures provide only imperfect relief.

<sup>21</sup> Although copyright provides a monopoly over the particular title, there might be very many very close substitute titles available. This monopoly is really no different than the fact that every firm gets a monopoly on the name of the individual product that they sell. Kia and Mitsubishi have a monopoly over automobiles with their names, although few would argue that they have monopoly power in the automobile market. This point is made in Edmund W. Kitch, "Elementary and Persistent Errors in the Economic Analysis of Intellectual Property" 53 *Vanderbilt Law Review*, November, 2000, p. 1727.

will occur without some copyright protection. This is one of the problems identified by Arrow in his classic 1962 article.<sup>22</sup>

**Figure 2: The Market for Reproductions of a Title**



Though it is not ideal, copyright (monopoly) provision still is likely to produce a positive value for society compared to no production at all. Under copyright, if creation is induced, society benefits from the production of copies of this title in the amount of  $1+2+3+4$ , less the fixed costs of creation. Area 5 is normally called a deadweight loss since we can imagine a situation where area 5 could be part of the surplus. Being able to imagine an improvement, however, is not the same as being able to bring it about, as pointed out by Demsetz in his classic response to Arrow.<sup>23</sup> Once we accept a copyright regime as the mechanism to stimulate production of creative works, however, area 5 no longer is a feasible component of the surplus and thus it isn't really a deadweight loss. Area 5, if we need to label it, can be thought of as a

<sup>22</sup> See Kenneth J. Arrow, "Economic Welfare and the Allocation of Resources for Invention", in R. Nelson (ed.), *The Rate and Direction of Inventive Activity*. Princeton, NJ: Princeton University Press, 1962).

<sup>23</sup> See Harold Demsetz, "Information and Efficiency: Another Viewpoint," 12 *Journal of Law and Economics* 12, 1-22 (1969).

‘productive’ deadweight loss, or the cost of copyright, since it is required in order to generate any surplus at all.

The debate between Demsetz and Arrow largely hinged on the definition of ‘efficient’. Was the efficient output the theoretical ideal, as suggested by Arrow, or was it the best that we could actually achieve, as suggested by Demsetz. Although we believe that Demsetz won that point, we do not need to answer that question for the purpose of evaluating copyright length. Once we accept that copyright is the mechanism that is to be used to provide incentives for creative works, and once we accept that all books are to be given the same copyright term, then the ‘productive’ deadweight losses are best understood as irrelevant to welfare considerations since there is no other manner in which they could become part of the surplus within the confines of the chosen copyright mechanism.<sup>24</sup>

The analysis further suggests that we need to be careful how we treat these deadweight losses in a determination of the optimal copyright duration. For example, if we were to adopt a methodology of comparing the gains to the losses when extending copyright, a proper cost-benefit analysis would not contrast the sum of areas 1 through 4 with area 5 since area 5 isn’t a loss. In other words, even if area 5 were larger than  $1+2+3+4$ , it would be incorrect to conclude that society would be better off not having this good produced at all, compared to monopoly production.

Of course, this diagram now illustrates gains (of copyright extension) with no balancing losses. How then could we arrive at any optimal length of copyright less than infinity? The answer is to realize that once a creator has received sufficient payment to generate creation, any further payment is unnecessary. And any further deadweight losses are now unnecessary, meaning that deadweight losses from this point forward are no longer productive.

If the creator receives a payment in the first period (say areas 3+4) that fully covers the cost of creation, then in the second period area 5 would now be an old-fashioned deadweight loss. In this second period we have a cost of copyright extension with no balancing benefit since the book would have been created based only on the revenues from the first period.

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<sup>24</sup> This also assumes that copyright owners cannot perfectly price discriminate, since the ability to perfectly discriminate would convert area 5 into producers’ surplus.

Who would ever argue that we should treat all ‘deadweight losses’ alike? Unfortunately, we suspect that such conclusion might well occur to the casual reader of the economists Amicus brief, from which we take the following:

First, the CTEA [Copyright Term Extension Act of 1998] extends the period during which a copyright holder determines the quantity produced of a work, and thus increases the inefficiency from above-cost pricing by lengthening its duration. *With respect to the term extension for new works, the present value of the additional cost is small, just as the present value of incremental benefits is small.* [Italics added].<sup>25</sup>

The Eldred economists talk about additional costs from extending the term of copyright. They do not tell us how these costs are calculated except for a brief discussion of the harm brought about by the monopoly restrictions on quantity. There is certainly no attempt to distinguish those deadweight losses that are productive, that is, necessary to bring about additional creative works, and those that are not.

Even more troublesome is the claim that the present value of additional benefits is necessarily small. The parallel construction between the benefits and costs in the italicized sentence implies, incorrectly, that both benefits and costs occur far into the future, which leads to their being heavily discounted and thus small. The logic is correct for the increased costs of copyright extension (which only start occurring when the current copyright term expires), but it is not true for the benefits. The present value of additional *revenues* to authors might be heavily discounted (and small), but this need not imply that the impact of these revenues on the creation of works is small since we need to know something about the elasticity of creation before we can make any such statements. Further, the benefits from any additional creative works begin to accrue immediately—they are not discounted far into the future, the way that incremental revenues and incremental costs are.

### **An Example of Beneficial Copyright Extension**

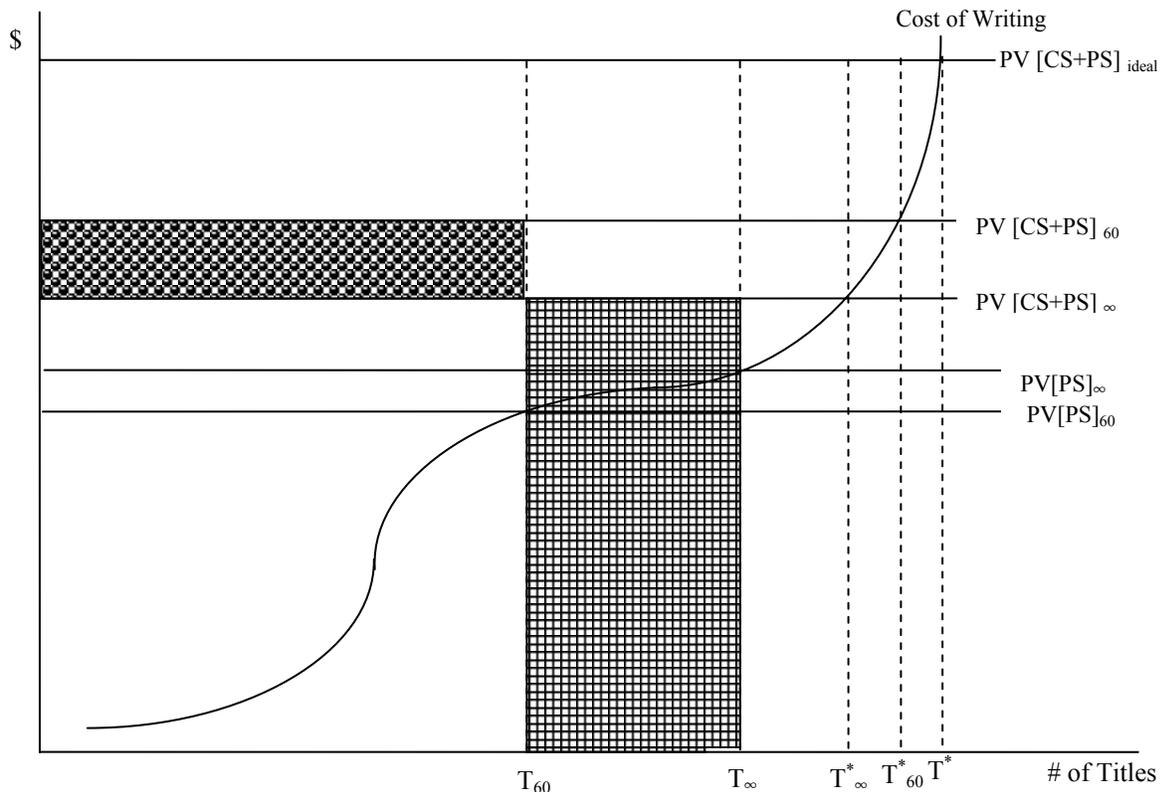
Figure 3 shows how copyright extension might lead to rather large benefits even with a lengthy original term of copyright. In this diagram, we assume that all titles have equal value to consumers and equal costs of reproduction, but have different costs of writing. On the horizontal

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<sup>25</sup> Page 1 of the brief.

axis we have new titles, aligned in increasing order by the cost of creation. All the dollar values are discounted to present values.

**Figure 3**



The opportunity cost of creation is represented by the upward sloping ‘Cost of Writing’ curve. For the purposes of this example, we have put a relatively flat inflection point in the middle to indicate that in this region there are many new titles with similar opportunity costs of writing (as in Figure 1).<sup>26</sup> Books will be written as long as the (discounted) rewards to the author are greater than the costs of writing the book, where writing costs are stipulated to include editing, design, and any other fixed cost of creation that are avoided by follow-on publishers. We assume that the market for publishers’ acquisition of titles is perfectly competitive, so that the

<sup>26</sup> Figure 3 makes the case rather lopsidedly in favor of increased copyright duration, but the results could hold under a variety of weaker conditions. Certainly there is no need for an inflection point or an almost horizontal cost of writing curve. All that is required is for the increase in author’s payment to lead to a large enough increase in titles relative to the reduction in surplus for already written books. Nevertheless, the inflection point is consistent with the normal distribution assumed in Figure 1.

entire producer's surplus in the market for the reproductions of a single title is captured by the author.

Since each title is assumed to have identical values to consumers and identical costs of reproduction, the (present value) of the sum of producer and consumer surplus is the same for each book and can be represented by a horizontal line for any potential copyright regime. The ideal value of each title (e.g., perfect price discrimination by the publisher selling copies of titles, the present value of areas 1-5 in Figure 1) is represented by the highest horizontal line labeled  $PV[CS+PS]_{ideal}$ . For any number of titles, the area under this line represents the potential value of the titles to society, that is, the total value of the titles if each were exploited to exhaust all possible gains from trade.

$T^*$  represents the optimal number of titles that would be produced in this ideal world, since all titles to the left have a potential surplus in the market for reproductions that is greater than the cost of writing the book, and all titles to the right have a creation cost greater than the potential surplus.

In a world of copyright, however, the surplus in the reproduction market is less than ideal. In Figure 3, we represent two cases: an infinite copyright life and a 60 year copyright life, indicated by the subscripts. Although the extension of copyright length proposed by CTEA was far less than infinity, we use the assumption of infinite life to make our point.

The present values of the realized total surplus (producer plus consumer surpluses) under either copyright regime are shown in the diagram as  $PV[CS+PS]_{60}$  and  $PV[CS+PS]_{\infty}$  for a 60 year and infinite copyright life, respectively. Assuming that the demand for each book title persists for more than sixty years, the present value of the total surplus in the reproduction market is less with an infinite copyright than with a 60-year copyright since the reproduction market would never achieve its efficient (non-monopoly) output under an infinite copyright regime. The vertical difference between these two horizontal lines might be quite small because the surpluses after 60 years are highly discounted in present value terms, as the Eldred economists argued, although we have drawn them as having a non-negligible difference in value.

The payments received by the authors are the (present values) of the producer's surplus in the reproduction market, and are reflected by horizontal lines,  $PV[PS]$  (subscripted for the different copyright terms), with obviously smaller values than the total surplus.<sup>27</sup>

We are now ready to examine how a change from a 60 year term to an infinite term affects the market. The increase in unnecessary deadweight loss for the books that would have been written with a copyright length of 60 years (those books to the left of  $T_{60}$  in Figure 3) is given by the rectangle with the embedded spheres. This area reflects the lower surpluses in the reproduction market that result from the increased life of the monopoly restriction (from 60 years to infinity).

The change in the number of new titles depends on the additional reward received by authors *and* on the elasticity of creation with respect to reward. We have drawn this elasticity to be very high, as indicated by the flat portion of the curve representing the cost of creation. Even though the increased rewards to creators are very low, the high elasticity leads to a relatively large increase in the number of titles. The value to society from the increase in titles is given by the cross-hatched rectangle, which is drawn to be larger than the harm from the unnecessary deadweight loss. In this example, it is clear that an infinite copyright is better than a 60 year copyright. This is a possibility that is shortchanged by the Eldred economists.

Note that the optimal (efficient) number of titles under either copyright regime is greater than the actual number of titles (because authors only receive part of the surplus) and that the optimal number of titles declines as copyright term increases (because total surplus decreases). Note as well that the optimal number of titles is always less than the ideal number of titles, because the total potential surpluses are not realized under any real-world copyright regime.

Further, the full benefits from a copyright extension include the consumer and producer surpluses now and in the immediate future of any additional works that result from copyright extension. These benefits are not all highly discounted. It is these full benefits—not the relatively minor incremental revenues that the Eldred economists discussed—that must be traded off against the additional deadweight losses that occur far in the future.<sup>28</sup>

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<sup>27</sup> Although the vertical difference between the  $PS_{60}$  and  $PS_{\infty}$  lines is drawn as being less than the difference between the  $[PS+CS]_{60}$  and the  $[PS+CS]_{\infty}$  lines, this need not be the case. If it were not, our example would only get stronger since the losses from copyright extension would be smaller than the area in the figure.

<sup>28</sup> The Amicus brief argues that the deadweight losses are felt immediately. But this is only true for the case preexisting works under retroactive copyright extension. In this case, the works that would have gone into the public

The correct assessment of copyright extension would balance the present value of the surpluses generated by the new works that result from the copyright extension against the heavily discounted *additional unnecessary* deadweight losses for those works that would be created in the absence of the extension.

Finally, there is the question of how realistic the construction of Figure 3 might be. That depends on many factors. In the real world, how dense is the distribution of opportunity costs otherwise portrayed in Figure 1? Where in that distribution are the points representing pre-copyright-extension copyright length and extended copyright length? The assumption in Figure 3 that all titles are of ex post equal value is clearly false. Are the most valuable books produced by writers on the left or right side of the distribution in Figure 1? Are the more valuable titles likely to get produced first? All in all, without additional research the Eldred economists are not in a position to state whether the current copyright length is too long or too short.

## **5. What do economists (vaguely) know about copyright length**

The CTEA's extension of the copyright term occurs very far into the future relative to the creation of a copyrighted work. What are the odds that the extension will have any consequence for a creative work? To answer this we need to know something about the longevity of copyrighted works.

The Amicus brief reports a Congressional Research Service study that finds that only a small percentage of works copyrighted during the 1920s and 1930s and renewed in the 1950s and 1960s had commercial value in 1998 (11% of copyrights in books, 12% in musical works, and 26% in motion pictures).<sup>29</sup> It also reports that less than 1% of books had their copyrights renewed.<sup>30</sup> This is an interesting result, but it can be very misleading. Copyrighted works do not start life as equals. The great majority of copyrighted works never have much market value. It is well-known that a small percentage of titles account for a large share of sales of copyright materials.

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domain in the immediate future, instead remain under the control of the copyright owner, generating immediate deadweight losses.

<sup>29</sup> Edward Rappaport, Copyright Term Extension: Estimating the Economic Values, Congressional Research Service Report 98-144E (1998).

<sup>30</sup> Rappaport, page 6. It is not clear what the basis for this statistic is.

In the mid 1980s Liebowitz conducted an unpublished examination of the longevity of titles. Among other things, that study examined the concentration of sales. In 1986, adult hardbound trade books and book club sales together totaled approximately \$1.7 billion.<sup>31</sup> It is known that there were approximately 25,000 new hardbound trade titles produced that year, in addition to the hundreds of thousands of old titles in that category.<sup>32</sup> Best-sellers for that year, which numbered less than two hundred, therefore, represented an almost infinitesimal percentage of these titles. Yet the top one hundred and twenty four best-sellers in 1987 generated combined sales of approximately 35 million copies.<sup>33</sup> The average 1986 price of a hardcover book was \$32.<sup>34</sup> Thus best-sellers were likely to have generated between nearly \$1 billion dollars in sales out of a total of \$1.7 billion.<sup>35</sup> Note that this does not include sales of best-sellers from previous years still selling in relatively large numbers. These numbers back up what we already know to be true from anecdotal evidence—that the distribution of book sales is very highly skewed toward the more successful book titles.

One question, then, is the longevity of those titles that actually have significant market value and make up the majority of sales in the market, i.e., successful books. To address this question, Liebowitz constructed a small data set consisting of a sample of titles reviewed in *Book Review Digest* in the 1920s, along with best sellers. *Book Review Digest* reviewed approximately 25% of new titles. Generally, these were the titles attracting the most attention, written by the more important authors and published by the better known houses. Table 1 gives the number of these titles that were in print after fifty eight years.

More than half of the best-sellers in the sample remained in print for a long enough period of time that the 1976 extension to the copyright law would likely have affected the present value of future book sales.<sup>36</sup> Even for non-best-sellers, a third still survived after 58 years,

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<sup>31</sup> Table 1, pp. 414 1988 Bowker Annual

<sup>32</sup> Table 1 pp. 403 in the Bowker 1988 Annual indicate 41,925 new titles in 1986, including paper. Tables 2 and 3, pp. 404-405 indicated approximately 17000 new paperback titles in 1986.

<sup>33</sup> Pages 522-528 in the 1988 Bowker Annual provide details on the number of copies sold of the 60 leading titles, and information that an additional 64 titles sold over 100,000 copies.

<sup>34</sup> Table A, pp. 408 in 1988 Bowker Annual.

<sup>35</sup> This could be taken as evidence to support the idea that optimal copyright length is not very long. If it were the case that best-selling authors derive far more income than their next best opportunity, then for two thirds of the market, copyright would be longer than necessary. Without further examination of the income distribution of these authors, however, we cannot assert the truth of such a statement.

<sup>36</sup> Prior to 1976 the copyright term in the US was 28 years followed by an additional renewal of 28 years. The 1976 law increased this to 50 years after the death of the author.

indicating that a fairly significant share of other books would likely be affected by changes in copyright law even when the copyright length is quite long.

	Number Of Titles	Number in print After 58 Years	% in print After 58 Years
All Books	236.00	97.00	41%
Best Sellers	91.00	49.00	54%
Non Best Sellers	145.00	48.00	33%

Table 2 presents a further breakdown of longevity by category of title. There clearly are large differences among titles in different categories in the likelihood of remaining in print for 58 years. For some categories, the number of books remaining in print for this period is quite large.

Category	All Titles	Best Sellers Removed
Academic	68%	68%
Philosophical	52%	41%
History	51%	43%
Biography	49%	42%
Religion	46%	40%
Poetry	43%	40%
Fiction	36%	40%
Mystery	23%	16%
Comedy	25%	0%
Autobiography	19%	11%
Art	17%	17%
Travel	6%	6%
Sports	0%	0%

What is the import of this for an analysis of Eldred? Mostly that the inferences about depreciation rates of books drawn from overall survival rates are likely to be misleading. The

great majority of books are obscure. They never had much market value. Their demise does not reflect depreciation so much as the fact that they were never really viable. They are unlikely to have significant value in the public domain just as they had insufficient value under copyright to keep them in print. But, for the small number of titles generating the lion's share of economic value, life expectancy is rather long. Extending copyright might have only a small change in expected revenues for these books, but not because they have gone out of print or lost commercial potential.

## **6. Conclusion**

It is quite amazing that copyright duration, a topic that has brought forth hardly any economic research, could bring together such a strong group of economists. Given both the ideological range and the distinction of this group, readers might well conclude that there is no other side to the economics of this issue. Apparently, copyright extension joins rent control as one of very few things that economists seem to agree on.

Nevertheless, we believe that economists should not be so quick to jump aboard. There is another side to the economics of copyright extension different than the one put forward by this distinguished group. A more complete view, we argue, requires consideration of the responsiveness of creative efforts to marginal incentives and the function of ownership of intellectual property beyond the incentive to create. A more nuanced view requires attention to the features of copyright law that mitigate some of the potential harms of the right to exclude copying and the creation of derivative works. A more correct view requires an examination of empirical magnitudes that has yet to be fully undertaken.

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