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Copyright Term Extension: Estimating the Economic Values

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ABSTRACT

This report considers proposals to extend the duration of copyrights by 20 years (as in H.R. 2589 and other bills) and related proposals to charge a fee to the owners in order to receive the extension. The method of analysis is economic rather than legal. The report reviews the basic economic principals involved in copyright law and gives rough estimates of the value of copyrights on books, music, and movies produced in the 1920s and 1930s — those that would be most immediately affected by an extension of copyright terms. Likely marketplace effects of imposing a user fee are also outlined. This report will not be updated. For more from CRS, see the *Guide to CRS Products* under “Intellectual Property.”

Copyright Term Extension: Estimating the Economic Values

Summary

This report considers the possibility of extending the duration of copyrights by 20 years (as contemplated in H.R. 604, H.R. 1621 and S. 505) and related proposals to charge a fee to the owners to receive the extension. Net proceeds from the user fee would be devoted to promoting the creative arts. An extension of current copyrights would most immediately affect works originating in the era beginning with 1922, as these are the ones next due to expire under current law.

Extension of copyright terms essentially raises the most fundamental issues underlying the copyright system. Under copyright (and patent) systems, a monopoly right is granted to creators for a limited time. This is essentially a compromise between the goals of giving an incentive to create and making the works so created accessible to the public. Concepts of the “optimal” duration for copyrights have changed over time, generally in the direction of longer terms.

The report presents results of an investigation into the commercial value of copyrights from the period 1922-1941, which are to expire during 1998-2017 under current law. This is done primarily by examining random samples of works from the period, determining what percentage are still commercially viable, and attributing average values to them. It is thus estimated that annual royalties for these works in 2017 (at 1997 prices) would total on the order of \$330 million, mostly from books and motion pictures, to a lesser extent from musical compositions. However, the values in the near future are much smaller (\$50 million dollars by 2002), both because fewer works are initially involved, and because the works in the first years appear to have less commercial potential.

These figures are a measure of the income that would flow to owners of the copyrights as a result of a 20-year extension. It is argued that if copyrights were not extended, new competition would force publishers to reduce their prices so that, in effect, the loss to owners would be passed to consumers as a benefit. These estimated values are also the ultimate source of funds that would pay an extension user fee. It is argued that owners would bear the cost of a fee, as they would not be able to pass it on to consumers via higher prices.

However, a uniform, “one size fits all” fee would not be able to extract all of the value. As the fee was raised, it would exceed the value of more and more works, the owners would decline to pay (forfeiting ownership to the public domain), and total revenue collected would grow at a decreasing rate. If the fee were raised beyond a certain point, total revenue could actually decrease. Under this contemplated system, however, setting of the fee at any level would not cause any work to become unavailable to the public. Either the fee would be paid and publishing arrangements would continue as before, or ownership would be forfeited and the work would enter the public domain.

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Copyright Term Extension: Estimating the Economic Values

Introduction and Scope

This report considers the economic effects of a proposal to charge a fee to owners of copyrights in order to receive the benefit of a proposed 20-year extension of copyright duration. In addition to bills currently pending for term extension,¹ a number of Members have expressed interest in the idea of tying extension to a fee, the proceeds of which would be devoted to promotion of the creative arts. If an owner were unwilling or unable to pay the user fee at the time of its currently scheduled expiration, the work in question would revert to the public domain. The amount of the fee is yet to be determined, but presumably would more than cover the administrative cost of implementation. As most commonly formulated, the fee would be assessed only with regard to works “made for hire,” i.e., where the creative personnel worked in a contractual employment relationship for the copyright claimant.

Before considering the effects of a filing fee associated with term extension, some attention will be paid to the extension itself. As argued below, the availability of funds for paying the fee would depend ultimately on the extended stream of income resulting from term extension. In particular, we focus on the ownership, use and value of works originating in the years beginning in 1922, as these copyrights are the ones most immediately scheduled to expire under current law, and would be the first to benefit from an extension.

The report proceeds as follows. First, we discuss the economics of intellectual property in general, the incentives for creation, and how utilization of a work changes when it loses its legal protection and enters the public domain. The participants in the market for older works are also described in general terms. Then we present the results of a quantitative analysis of the economic value of copyrights registered during 1922-1941 (for the principal categories of works). Finally, the effects of a user fee for extension are presented in the light of the foregoing.

¹Twenty year extensions are called for in H.R. 1621 (Bono)/S. 505 (Hatch), H.R. 604 (Gallegly), and H.R. 2589 (Coble)(the last of these being passed by the House on March 25, 1998). Bills with user fees have not been introduced in the 105th Congress.

Effects of Term Extension

The Copyright System in General

Essentially, term extension continues into the future the basic effects of copyright itself. Thus, it raises anew many of the fundamental debates about the proper role of copyright and in particular the question of how long an ideal duration would be.

The **economic** purpose of establishing intellectual property rights (including patents as well as copyrights) is to encourage creation and utilization of new works. There are other conceptions of intellectual property, but they are not economic in the sense of being utilitarian. For example, some believe that intellectual property is a natural right, according to which the one who creates a work is entitled to full control over that creation without limit. This view has been expressed by a number of songwriters and their heirs in their testimony on the issue.² It is a moral argument that can only be dealt with as such. It makes no reference to incentives or efficiency, implicitly rejecting the salience of the criteria of economic analysis. This report, however, will focus on the economic aspects of copyright: the incentives for creators and users, and how they interact in the market.

Copyright is structured as a grant of exclusive rights to reproduction or use for a temporary period. The exclusive period is temporary because the system is a compromise between two goals, creation and utilization. On the one hand, creation of works will be maximized if creators enjoy the maximum possible rewards. On the other hand, exclusive ownership typically results in restricted access to the work by the public. Indeed, it can be argued that the socially optimum price for its use is zero, i.e., the public should be given free access to it. This is because intellectual property can be characterized as a *public good*, meaning that use of the knowledge or aesthetic concepts does not deplete them; use incurs no marginal cost. Clearly, though, not allowing any charge for use of a copyright would mean no compensation to the creator and would fail to achieve the purpose of providing an incentive to create. As a compromise solution society has chosen the principle of monopoly for a limited time.

In principle the optimal duration would be such that the monopoly-period profits of successful works just equaled the cost of creation viewed prospectively (that is, including the costs of projects that do not result in works of commercial value). To derive a single number as the *average optimal duration* would be a virtually impossible calculation involving variables that are as yet unmeasurable (such as “cost of creation”), and would not be practicable. Thus, setting duration remains a matter of subjective judgment, although the foregoing indicates the basics of what could be considered. Historically, there has definitely been an evolution. Copyright terms originally were very brief, with a consistent trend since then toward lengthening for

² “... if I were to design and build a house, instead of a song, I could own this house and would have the right to protect it throughout my lifetime. I would be able to pass this along to my children, and it would be theirs to pass to their children and so forth.” Don Henley, in “Copyright Term, Film Labeling, and Film Preservation Legislation.” House Hearing, Serial No. 53, June 1 and July 13, 1995. pp. 241-242.

various reasons, e.g., a concern about the longer life expectancies of authors. At the present time, one of the reasons offered for extension is an international dimension. That is, a number of foreign countries are offering to recognize a longer term for U.S. origin works (with concomitant revenues from their consumers) if the United States extends its term for their works.

Users and Uses of the Public Domain

In General. When a copyright expires, its value to its owner will quickly decline to zero. This is because any publisher can take the property and use or reproduce it without limit. The owner and/or original publisher cannot charge anything for the work because they no longer own them. This does not mean that tangible expressions of the ideas (e.g., books) will be available for free, because costs must still be incurred to produce them. However, the other inputs, such as printing, are presumably available in competitive markets³ and will be priced at economic cost (which includes a “normal” rate of profits). There is no room in the public domain for excess, “economic” profits. The price of the final product will come down to the economic cost, with the result that it will be more widely distributed and consumed.

Specialized Uses of the Public Domain. Distribution of older works has largely become a specialized business. With copyright duration as long as it is — in most cases 75 years — many works enter this sub-industry even before expiration. For example, Penguin Books has not only a “Classics” line, but also “Twentieth-Century Classics” with authors such as Steinbeck, Bellow, and Neruda. With motion pictures, distribution occurs primarily in video form in tape rentals and through specialized cable and satellite channels such as American Movie Classics. Although those businesses seemingly can’t wait for expiration, others strictly limit themselves to the public domain; thus new, cheaper editions can be expected when works come out of copyright. For example, Barnes and Noble (which is primarily a retailer) prints on its own hundreds of titles from the public domain, e.g., *A Tale of Two Cities*, priced cheaply (\$5.98) and placed by the cash registers to attract impulse buying.⁴ Others, e.g., Easton Press, issue premium-priced editions of the classics, but the price is presumably justified by premium design and materials.

In addition to classics book publishers, there are creative communities that rely extensively on the public domain as a source of raw material for new productions. This may take the form of derivative works in new media, e.g., a movie based on a book. Or, more simply, a musical arranger for television programs or commercials will use fragments to put together background, theme and mood music.⁵ Other

³This is a simplifying assumption. In practice there may be other elements of market power. For example, the concentrated nature of record distribution (where five groups account for some 90% of the market) may make possible oligopolistic conduct.

⁴Knecht, G. Bruce. Book Superstores Bring Hollywood-Like Risks to Publishing Business. *Wall Street Journal*, May 29, 1997. p. A6.

⁵Reliance on the public domain appears most pronounced in the case of music, where its “timeless” quality allows themes to be recycled endlessly. See generally, Shemel, Sydney and
(continued...)

applications are more in the nature of straightforward compilations. Certain institutions, including schools, museums and libraries, may put together older pictorial and textual materials for educational or cultural purposes. There are also products (some commercially produced, some by non-profits) in the new media such as CD-ROMs and the World Wide Web, and these have a potentially enormous appetite for “content” in many formats. The Library of Congress American Memory program, for example, makes available from the Library and other institutions historical materials in many media via the Web. To date, it has focused almost exclusively on periods before 1920, one of the reasons being the ready availability of the public domain.

All of these groups are attracted to the public domain because it is free. Apparently this is as much a matter of transaction costs as it is of actual fees. Despite application of new technology by the musical rights associations and others, and even if the owners ultimately do not require any payment, the process of seeking multiple permissions for some media (such as photographs) can be prohibitive. The elimination of transaction costs when copyrights expire is a net benefit to the economy, if all other things (such as creative incentives) are equal.

Incentives for Creation

Existing Works. It is important to distinguish between existing works and new ones, to distinguish, that is, between retrospective extension of terms (“grandfathering”) and prospective extension (for new works). The effect on creation is fairly simple in the case of existing works: there is basically no effect on creation because these works already exist.

We would add one caveat which may be important in some cases but, we believe, will more often be marginal. It has been argued that creation is continuous, that it does not end when a work is first produced and published. For a work to be commercially successful, it requires effort and investment which, while not “creative,” is still necessary to generate value. For example, authors employ literary agents, publishers advertise, etc. With musical compositions and photographs, the collection, arrangement and indexing of the works adds value. With film, preservation requires constant attention. Even the straightforward act of printing a book entails a risk on investment. Arguably, none of these activities will be pursued as vigorously on behalf of public domain works as they are for works with ownership rights. And, from an economic point of view, these activities “create” real value.

New Works. The additional incentive afforded by adding 20 years to the current life plus 50 appears to be small compared to the already existing incentive. This is due to two considerations: the small probability of a work surviving as long as the current term, and the effect of time-discounting of future incomes.

As shown in detail *infra*, only a small percentage of works has an economically viable life even approaching 75 years. Even allowing for the optimism and self-

⁵(...continued)

M. William Krasilovsky. *This Business of Music*. [New York] Billboard Publishers, 1979 (4th ed.). Chap. 23 (Uses and New Versions of Public Domain Music).

confidence necessary in these creative and risky fields, the wildest dreams of artists and producers probably extend no farther than “smash hit” status for their works for a year or two, and healthy sales for five or ten. It is hard to imagine anyone intensifying their efforts on the expectation of their work being commercially viable beyond 75 years.⁶

Separately from the foregoing, there is the factor of *time discounting*, the tendency to attribute progressively less value to outcomes (both positive and negative), that are farther into the future. This is manifested most explicitly in the capital markets, where a dollar payable a year from now is “worth” more like 93 cents payable now. Future payments are “discounted.” Over long periods the discounting has a great effect. As J.P. Morgan reportedly said, “compound interest is the eighth wonder of the world.” (Interest accumulation is the mathematical inverse of discounting.) Assuming a modest rate of discount of 4% per year, a stream of income of \$1 per year during years 76 through 95 would have a present value — for the whole 20-year stream — of 72 cents, adding only about 3% to the current value of \$23.68 for the stream of dollars in years 1 through 75. Clearly, the *ex ante* monetary incentive would be little changed.

The creation of new works may also be affected indirectly by expansion or limitation of the public domain. Lengthening the duration of copyright will reduce the size of the public domain (compared to what it otherwise would be). It is possible that this could either facilitate or retard the creation of new works. On the one hand, postponing the wider availability of classic works may give new works a better chance of finding an audience. On the other hand, as mentioned, the public domain provides raw material for new works, so the creative community may suffer from its narrowing. It appears, though, that both of these effects would be of marginal consequence.

Estimation of Monetary Values

The value (to the owner) of a copyright is the stream of royalty payments⁷ expected from it. To estimate these values for the copyrights in question, i.e., those due to expire in the next 20 years, we have, first, used statistical samples to estimate the number of these that are still commercially viable, and then multiplied the number in each category by a figure representing their average value. We concentrate on three media — books, music and movies — presuming that these represent most of the value at stake, but recognizing that others (such as still photography) will have some value. Commercial viability is indicated: for books, by being “in print,” for musical compositions, by being recorded in records that are in commercial distribution, for movies, by being available on tape for broadcast or individual rental.

⁶Some may believe they are creating “for the ages,” but this is not an economic motivation and would not be affected by the copyright law, whatever form it takes.

⁷The term “royalty” in this report is used generically to indicate the economic return to copyright owners (and related contractual beneficiaries) attributable to their intellectual property. It will not always take the legal form of royalties, and may be completely implicit. For example, if a publisher owns the rights to a book it publishes, no explicit royalty will be paid, but its equivalent is earned and implicitly included in the firm’s recorded profits.

The copyrights on works not available in these forms are presumed to have negligible commercial value. (Moreover, we make no attempt to estimate the value of derivative works, e.g., payments to the writer of *Jaws* for its movie adaptation.)

In order to estimate the number of works still commercially viable, the first step was modelled on a previous study by Economists, Inc.⁸ Random samples of titles were drawn from the copyright renewal records of years 1950 to 1970 (approximately corresponding to initial registrations of 1922 to 1942). Due to the low cost of renewal (\$6 through much of this period), works not renewed must have been of very low value, if any (except for a few cases of negligence, bankruptcy, etc.). Moreover, it is unusual for works deemed worthless at that point to come back to life later. Thus, searching the renewal records can be used as a more efficient way of sampling works of the period than searching the original registrations. This is especially so for books, where only about 1% of the copyrights were renewed. These samples were then checked against reference works, such as *Books in Print*, to determine what percentage of the renewals are still commercially viable.

The average values of older works were estimated differently for each class. For musical compositions, we use a “top down” approach, starting with the size of the total market — \$1.3 billion per year in royalties — as this is well measured by centralizing institutions such as Broadcast Music, Inc. (BMI) and the Fox Agency. We distribute this total by assuming that the value, i.e., popularity, of each song is proportional to the number of times it is recorded, this being reported by the Phonolog service.

For books, we use a “bottom up” approach, in contrast with the “top down” approach for music. Here, we assume each book has a typical “midlist” circulation of 5 thousand per year and earns a typical royalty rate (e.g., 10% of list price for paperbacks). For movies, a mostly bottom-up approach started with relative values based on certain indicia of popularity, but adjusted the scale itself to reflect the value of the whole market. A few prominent transactions (such as Turner Broadcasting’s acquisition of the MGM/UA library) give an indication of what the whole market for older movies is worth.

Results

Books

Of the 268 titles in our sample — works originally copyrighted during 1923 to 1942 and renewed during 1951 to 1970 — 32 (11.9%) were found to be still in print, with a total of 45 editions. There does not appear to be any consistent trend in survival within the sample period, so we apply the same 11.9% rate to each year’s number of renewals in order to estimate the total number surviving today. There was no discernable trend in the numbers of books originally registered, but — for reasons

⁸Siwek, Stephen and Harold Furchgott-Roth. *An Economic Analysis of Copyright Extension Programs*. [Washington] Economists, Incorporated (for the National Endowment for the Arts). September 1991. 68 p. + appendices.

not immediately evident — there was a definite increase in the numbers renewed, from about 2,000 per year around 1950 to more than 7,000 around 1970. Accordingly, the numbers surviving today grow from approximately 300 per year at the beginning to 900 at the end. Qualitatively, the books vary widely in subject matter and genre. The largest single categories are fiction and (especially toward the end of the period) history.

As to values, we assume that each edition (not title) has annual sales of 5,000 copies and royalties of 15% of retail for hardbacks, 10% for paperbacks. The volume assumption may be on the low side of “typical,” the royalty rate on the high side.⁹ We assume that these older works will have a small, specialized audience but that their value to publishers will be higher than normal because there is little uncertainty or ancillary expense and the sales volume, while low, will probably continue longer than for most new books. The average list prices shown for the surviving works in our sample are \$38.70 for hardbacks and \$12.30 for paperbacks. Putting together all these factors, we estimate that each surviving title generates on average roughly \$32,000 per year in royalties (or implicit royalties) for its owner.

Table 1 puts together the data for books by 5-year periods, showing the annual royalty revenues (by 5-year groups) as of the dates of copyright expiration under current law.¹⁰ The revenues of books entering the public domain are expected to grow from about \$9 million per year in the initial period to \$15 million in the final period.¹¹ The table incorporates an assumed further “aging” of the catalog up to the dates of expiration but not beyond,¹² according to the following reasoning: The 11.9% survival of the renewed works over an average period of 37 years means that each year about 3.8% of the surviving titles went out of print. We assume that such a rate of decay will continue steadily (“negative exponentially”) into the future. For example, for the last quinquennium, the numbers of works projected to be surviving (2,306) is less than half the number from that period now in print (4622).

Outliers: We make no allowance here for well-remembered classics, although the period in question includes major works of Faulkner, Steinbeck, Fitzgerald, Frost, Gibran, and Thurber, to name just a few of the more famous. Such works come strongly to mind precisely because they are so rare; statistically speaking they are “outliers” from the center of the distribution. To verify that our method is not missing too much in this regard, we have examined the best-seller lists in *Publishers*

⁹See Seidman, Michael. *Negotiating Your Book Contract*. In *Writer’s Digest Editors. The Basics of Selling (and Protecting!) Your Writing*. [Cincinnati] 1991. p. 24.

¹⁰In this report, “renewal” refers to re-registration in the 28th year of a copyright (required for continued validity under the law in effect at the time), “expiration” refers to the end of the copyrights after 75 years, as currently scheduled; “extension” refers to the proposed additional 20 years.

¹¹All monetary figures in our projections are in constant 1997 dollars.

¹²Aging beyond expiration is estimated below in the section summarizing results for all three media. It would not be correct to calculate the total value of affected royalties as of the last year by adding the lines, unless post-expiration aging is taken into account.

Table 1. Numbers and annual royalties of commercially viable books projected to enter public domain (under current law) during 5-year periods, 1998-2017

Copyrighted	Renewed	To expire	Titles renewed	Titles surviving to expiration	Royalties (million \$)
1922-1926	1950-1954	1998-2002	13,738	1,456	46
1927-1931	1955-1959	2003-2007	19,251	1,682	54
1932-1936	1960-1964	2008-2012	24,811	1,787	57
1937-1941	1965-1969	2013-2017	38,841	2,306	74

Sources: Copyright renewal records, *Books in Print*, calculations by CRS. See text.

Weekly. Its annual review¹³ lists hardbacks down to 100 thousand copies, trade paperbacks down to 50 thousand. Perusal of these lists shows only one title from the period under study here: *The Great Gatsby*, with 370 thousand copies in paperback. Only one other adult title (Burton Malkiel's 1973 *Random Walk Down Wall Street*) is more than a few years old. Generally, children's books are longer lived, with many from Dr. Seuss still going strong. Also, older public domain and folk stories are often reworked for children, e.g., Disney's *Hunchback of Notre Dame*. Finally, we note that the recently reissued *Joy of Cooking* is an ambiguous case. On the one hand, it is a classic, continuously in print for more than 40 years. On the other hand, it has been revised so many times that only a small fraction of the original recipes are still included intact. Probably a trademark on the title would be more valuable than the original copyright.

We conclude from the foregoing that there are very few outliers from the period under study that would significantly boost our total value estimates.

Music

Popular. For musical works, we have narrowed the focus considerably, based on judgments as to where the bulk of commercial value lies. Thus, we have paid more attention to popular works than classical ones. And for the period in question, we consider only rights to the compositions rather than the recordings, as recordings were not eligible for Federal copyright before 1972 and thus are not at issue with regard to current legislation. Moreover, for the popular music from the 1920s and 1930s, current royalties flow to the owners of the songs primarily through new recordings. Recordings made in the period are of lesser interest because styles of performance have changed and, even more importantly, standards of acceptable sound quality have risen greatly.

¹³*Publishers Weekly*, April 7, 1997. pp. 42-56 (covering 1996 sales).

We have basically focussed on popular songs with words and music, excluding from consideration virtually all other musical copyrights, such as: choral works, purely instrumental works,¹⁴ movie scores and incidental music, and instructional materials. In deriving our sample from the copyright renewal records, we observed that about 51% of the renewed works were in these excluded categories (including classical), and have adjusted our final estimate of viable songs accordingly.

For our sample of 266 songs, we found that 30, or 11.3% were still found on records listed in the *Phonolog* database as of 1995 (the latest available to us). Within the period, there appears to be a growth in current popularity going from beginning to end (discussed further *infra*). Our supposition that older compositions survive via new performances is borne out in the aggregate, but there are many exceptions. Thus, songs from the 1920s are often found on labels that specialize in re-issues, such as Folkways, Best of Jazz, and Arhoolie. But moving into the 1930s big band and “crooner” era, we find songs with many recordings, most from that era loosely defined, but stretching out for 10, 20, or more years. So most of the value still appears to derive from the composition rights rather than the oldest recordings.

For valuation, our key assumption is that the value of each composition from this period is proportional to the number of extant recordings of it. They come out of a tradition where popular songs were “covered” by many performing artists. In this, these older works contrast markedly with the modern era (since the advent of rock and roll). At present, new songs are closely identified with a particular performer and a particular recording, while the recordings vary extremely between hits and misses in their sales volume. The works in question here are seasoned, with a relatively small but predictable audience. We presume that each recording does roughly equally well; popularity of songs is indicated by how often they are recorded. In effect, we adopt a uniform, average value per recording and multiply by the estimated number of recordings of songs written in this period. This is a “bottom-up” method that relies on the standardization of royalties for record production, but we refer to the value of the whole rights market in order to include the value of performance royalties, which are more complex.

Revenues flow to owners mainly through two channels, “mechanical” royalties for the production of records, and “performance” royalties derived predominantly from television and radio play and concerts. Both of these channels are fairly well routinized and centralized, so we have reliable estimates of the “universe” of musical royalties. For music writers and publishers,¹⁵ the larger portion of royalties derive from performances, and are collected and distributed by the rights societies — American Society of Composers Authors and Publishers (ASCAP), BMI and SESAC, Inc. The two largest reported collections of about \$760 million in 1994 and we estimate that inclusion of SESAC would augment the total by about 5%. Allowing for inflation since, total performance royalties in 1998 would be roughly \$900 million. As will be seen presently, the key point for our method is not the absolute value of performance royalties, but their ratio to mechanical royalties.

¹⁴Except for a few that were truly “popular,” such as the tunes of Fats Waller.

¹⁵Performers and producers are paid by contract with record companies and concert promoters. See further below.

Mechanical royalties are collected primarily by the Harry Fox Agency, a subsidiary of the National Music Publishers Association. In the vast majority of cases the rate is just over 7 cents per song (for tracks up to five minutes in length), the rate promulgated under the compulsory licensing provision of the copyright law. The market for record albums is about 600 million units per year; if each has an average of 10 songs, the mechanical royalties at the standard rate would be \$420 million. This is on the same order of magnitude as the \$358 million in collections reported by the Fox Agency for 1994. We take \$400 million as a mid-range estimate for mechanical royalties.

As mentioned above, we start by attributing “typical” royalties to each recording. This would be 70 cents per copy for a 10-song album, but how many copies would be typical? Clearly, most of the record market reflects a few very popular and very recent recordings; the songs of the 1920s and 1930s generally fall into the tail of the distribution, even for later recordings of them. It has been reported that the top 2.5% of album titles account for 72% of sales at an average of 130 thousand copies each. For the remaining tail (some 140 thousand titles) the average sales are 1,200 copies.¹⁶ Since not all of the older songs will fall into that tail or have the same average, we also consider more subjective rules of thumb. For example, it has been noted that the major record labels must see a certain minimum potential (apparently on the order of 25,000 copies) before re-releasing old albums, but they are often willing to license independents to do so at a lower level, e.g., with a minimum guarantee of 5,000.¹⁷ We will take 5,000 as an average volume figure for the songs from the period in question. At the standard 7 cents per track, the mechanical rights would come to \$350 per year per song.

The data cited above indicate that for the market overall, performance rights are worth a little more than twice as much as mechanical rights, i.e., 900 million / 400 million = 2.25. Applying this average ratio, we figure that each song in question receives 2.25 x 350, or just under \$800 in performance royalties for each recording. In total, then, each song is valued at about \$1,100 per recording. Of course, there is great diversity, but this is an average that we apply to the estimated numbers of songs.

Returning to the numbers of viable songs, there were 195 thousand musical copyrights renewed from 1950 through 1969 (composed 1922 through 1941), an average of 9,760 per year (with no evident trend). As noted, 51% were in classical and other categories not considered here, leaving 4,773 per year as our universe. In the sample, 11.3% of songs renewed then were found surviving today, implying a total of 539 per year.

For our method, which values each recording equally, the important thing is the current number of “tracks,” or appearances, on current albums. In the sample, each surviving song was found on an average of four or five tracks, but this was not uniform. Rather there was an irregular but definite trend toward more tracks toward the end of the period. This reached a peak with two hits from 1940-1941, “This Love

¹⁶SoundScan Inc. quoted in Standard & Poors. *Movies and Home Entertainment Industry Survey*. [New York] Standard & Poors. February 27, 1997. p. 25.

¹⁷Tamarkin, Jeff. Catalog Rolling. *Pulse!* October 1997. p. 55.

of Mine” (Sinatra-Parker-Sanicola) and “Night We Called It a Day” (Adair-Dennis), which accounted for 60 tracks, far more than any other songs in the sample. We believe this to be more than coincidence, rather, a sign of a real trend continuing into the 1940s, namely the heyday of the big band era, Tin Pan Alley, and a large number of lasting songs generally known as the “standards.” To examine this issue further, we compiled a list of most-recorded songs of all eras, as shown in Table 2. This shows one song already in public domain (St. Louis Blues), two from 1929 and 1930, and the rest of the top 10 dating from 1935 to 1947.

A much larger sample would be needed to delineate the “golden age” precisely, but for our purposes we fit the observed data to a trend line as follows: A relatively low-level base period corresponds to 1922 through 1931, followed by an intermediate period (1932-1938) producing about 3 times as many current tracks per year, and then a rapidly rising finale (presumably continuing into the 1940s) yielding as of 1939-1941 more than 10 times as many tracks as the base period.

Table 2. Songs currently found on the greatest number of albums

Body and Soul (Green, Heyman et al.)	1930
Stardust (Carmichael-Parish)	1929
All the Things You Are (Hammerstein-Kern)	1939
Summertime (Gershwin-Heyward)	1935
St. Louis Blues (Handy)	1914
My Funny Valentine (Rogers-Hart)	1937
Take the A Train (Strayhorn)	1941
Over the Rainbow (Arlen-Harburg)	1939
Autumn Leaves (Kosma-Prevert-Mercer)	1947 ^a
I Can't Get Started with You (Duke-Gershwin)	1935

^a Music and French lyrics, 1947; English lyrics, 1950.

Source: Tabulated by CRS from Phonolog database.

The results for popular music are summarized in Table 3. This includes an aging factor of 3.6% per year, very close to that found for books. Of course, there can be no certainty that past trends will be carried into the future, and there may be divergences between the works of different eras, as already evident with the

standards.¹⁸ That said, what the table shows is royalties of expiring compositions in the range of \$600,000-700,000 per year in the first 10 years, then growing steadily. We project in the final year (2017) expiring royalties would be on the order of \$6 million.

Outliers: Table 2 shows the very peak of popularity of the standards, ranging from more than 250 current recordings of “Body and Soul” to about 150 of “I Can’t Get Started.” cursory examination of the Phonolog listings indicates that perhaps 100 or more songs from the Tin Pan Alley era each have on the order of 75 to 100 recordings. If the songs are worth our hypothesized \$1,100 each, they could represent in the aggregate \$10 million or more in royalties. If their expirations occurred over, say, 15 years, this could add perhaps \$600 thousand per year (\$3 million per 5 years) to each line in Table 2.

Table 3. Numbers and annual royalties of commercially viable recordings of songs^a projected to enter public domain (under current law) during 5-year periods, 1998-2017

Copyrighted	Renewed	To expire	Titles renewed	Recordings surviving to expiration	Royalties (million \$)
1922-1926	1950-1954	1998-2002	22,592	3,130	3.4
1927-1931	1955-1959	2003-2007	25,794	2,600	2.9
1932-1937	1960-1964	2008-2012	22,427	7,230	8.0
1938-1941	1965-1969	2013-2017	24,641	13,791	15.2

^aThe table shows the projected numbers of “tracks”, or recordings, or songs written in the indicated periods. These correspond to an estimated average of 539 viable songs per year with copyrights expiring during the next 20 years.

Sources: Copyright renewal records, Phonolog data base, calculations by CRS. See text.

Classical. As the classical category accounts for 4% of record sales, we presume that total potential royalties (if all of the works had copyrights) are $0.04 \times \$1.3 \text{ billion} = \$52 \text{ million per year}$. Because of its small share, its generally longer survival, and data availability considerations, a different method was used for classical music than for popular. Specifically, we directly extracted a sample of classical recordings from the Schwann catalog¹⁹ and estimated the percentage that are of works written during 1922-41. Thus, in a sample of 231 recordings, 26 were found to date from this period, i.e., 11.3%, implying annual royalties of $0.113 \times 52 = \$5.9 \text{ million}$. As there is no evident trend during the period, we presume that an equal share

¹⁸The “American popular song” may now be getting renewed impetus from new permanent programs of two influential institutions, Carnegie Hall and Lincoln Center. Singer, Barry. Trying to Rescue Songs Once Held Dear. *New York Times*, July 6, 1997. p. H28.

¹⁹*Schwann Opus*, v. 8, no. 4 (Fall 1997).

(approximately \$300 thousand worth) expires in each of the next 20 years, and this is included in our overall summary (Table 5 below).

Although classical records are only 4% of the overall market, they bulk much larger proportionally in our study period: \$300 thousand in royalties vs. \$700 thousand for popular music in the early years. This is because these markets operate on totally different time scales. We find in our sample that there is substantial interest in works going back 300 years; the median date for the whole population is about 1895. An important economic consequence is that 64% of the classical recording repertoire is from the public domain. This is why we termed \$52 million as the measure only of the **potential** royalty market.²⁰

It should also be kept in mind that all of our figures (for both popular and classical) estimate the values only of rights to the compositions, not the recordings of them. An unestimated fraction of these compositions — a fraction that probably rises over time — are associated with still-viable recordings. The principal beneficiaries thereof include, of course, the record companies, and also the producers and performers. The latter groups are compensated according to their contracts, which typically pay 9% of retail sales to the performer, 3% to the producer. (Broadcasters do not have to pay anything to the record companies for airplay.) After a number of deductions to reach the contractual definition of “retail,” the net to the creatives is perhaps a little over a dollar an album, or perhaps 50% more than is received by the owner of the composition. But again, these arrangements would not be directly affected by the proposed extension of federal copyright.

Motion Pictures

The sample used for measuring the motion picture market differed somewhat from those used for books and music. Preliminary testing showed two important differences in the market. First, for the last half of the period a high percentage of the copyrights was renewed and a high percentage of those renewed are still commercially viable. Second, the foregoing was conspicuously not true for silent films.²¹ Accordingly, we used a smaller primary sample (about 50 items rather than the 250 for books and music) and started it with renewals of 1954 (original registrations of 1926). As before, certain categories of works were disregarded on the presumption that they have little commercial value. For movies, the principal exclusions (besides silents) were “shorts” (identifiable in the records as one-reel items), and industrial, advertising or instructional productions. We estimate that some 42% of the renewals

²⁰It is interesting to note that W.A. Mozart alone accounts for 5% of the recordings, which would make his heirs eligible for some \$2.5 million per year in royalties, if the works were copyrighted — more than 200 years after his passing.

²¹The precipitous demise of silent films is well known. See, for example, Eyman, Scott. *The Speed of Sound: Hollywood and the Talkie Revolution, 1926-1930*. [New York] Simon & Schuster, 1997. 413 p. The careers of virtually the whole first generation of movie actors came to an end as soon as talkies were introduced. More relevant for this study, interest in going back to see already-produced silents also ended and has not returned in any substantial way.

were in these excluded categories. In all, for the period 1926-1941 there were 17,692 titles renewed (in 1954 to 1969), or an average 1,106 per year, with no evident trend. Considering the excluded categories, then, there was a universe under consideration of 645 films per year.

To determine the current viability of old films our primary source was the *BiB TV Programming Source Book*,²² a fairly comprehensive compilation used by television stations and cable channels. This showed that just under half of the films in the sample are still commercially available. However, there is a definite trend within the period toward greater survival as one moves forward. Using our primary sample as well as a test sample, we have derived a smoothed scale of current survival probabilities as follows: 1926-1928, 11%, 1929-1932, 40%, and 1933-1941, 65%.

For valuations, a particularly useful feature in the 1996 edition of the BiB guide is its classification of the films' commercial potential, rating them with dollar signs as well as the familiar system of stars indicating quality. The dollar-sign ratings are qualitative and subjective, but we have put them on a quantitative scale (and filled in some gaps) as consistently as possible with prices implicit in the few large transactions that have been publicly reported of late. Recent deals indicate that the average older (more than 10 years) feature film may be worth in the range of \$150 to 200 thousand.²³ Package deals undoubtedly include many titles that are essentially worthless but, on the other hand, also include some fairly recent and successful ones, e.g., *When Harry Met Sally* and *The Graduate*. The higher end of values may be shown by the acquisition by Canal Plus of the Carolco Library, which were all fairly recent productions. These 24 titles brought \$58 million, for an average of \$2.4 million.

There are a few notable classics that would fall out of our assumed range but, working simply in terms of averages, we have assigned values ranging from \$50 thousand for one dollar sign to \$2 million for 3 - ½ or 4 \$s. For our sample, the result is an average value of roughly \$250 thousand. However, there is a trend during the period that we have approximated as follows: for 1926-1930, an average \$175 thousand; for 1931-1934, \$250 thousand; and for 1935-1941, \$400 thousand. Combining these values with the foregoing probabilities of survival yielded estimates of the values of expiring copyrights that grew steadily from \$13 million per year (expirations of 2002 to 2004) to \$168 million per year from 2011 onward. To put these on a comparable basis with the other media, we convert the asset values to current revenues by dividing by a factor of 10.²⁴ The results are summarized in Table 4.

²²McCarthy, Beth, ed. *BiB Television Programming Source Books, 1996-7*. Vols. 1, 2 (films). [Philadelphia] North American Publishing, 1996.

²³Rawsthorn, Alice. PolyGram Agrees Film Purchase. *Financial Times*, December 4, 1997. p. 13; Fabrikant, Geraldine. MGM Owner Said to Offer \$300 Million to Buy Orion. *New York Times*, April 19, 1997. p. 14; Klady, Leonard. Big Boys Anteing Up to Get Library Cards. *Variety*, May 13, 1996. pp. 13, 16.

²⁴A common rule of thumb would value mature media properties at about 10 times annual cash flow. In the table we also give effect to a "decay" or disappearance factor of 1.8% per year (less than half the rate for books or music).

Table 4. Numbers and annual royalties of commercially viable movies projected to enter public domain (under current law) during 5-year periods, 1998-2017

Copyrighted	Renewed	To expire	Titles renewed	Titles surviving to expiration	Royalties (million \$)
1922-1926	1950-1954	1998-2002	2,840	72	1.2
1927-1931	1955-1959	2003-2007	5,636	918	16
1932-1936	1960-1964	2008-2012	5,562	1,934	48
1937-1941	1965-1969	2013-2017	5,378	2,095	61

Sources: Copyright renewal records, *BiB TV Programming Source Book*, calculations by CRS. See text.

Outliers: Various “all time best” lists were inspected to give form to the peak of popularity of old films. In particular, the American Film Institute has compiled 400 titles as a first cut toward naming the 100 best of the first 100 years.²⁵ Narrowing this further with our own subjective judgment of commercial potential, we have identified 32 titles from our study period (4 from the silent era, the rest after 1931) that appear to be of extraordinary continuing value.²⁶ If these had a capitalized value of \$10 million each and a corresponding annual cash flow of \$1 million, as a group this would come to \$32 million/year, raising our estimated total by almost 25%. However, a striking feature of this outlier list is how “backloaded” it is: Almost half of these are from the final 3 years, 1939-1941.²⁷ Thus, the economic impact of copyright expiration, as currently scheduled, would occur toward the end of the projected 20-year period.

Summary

Table 5 combines the results for the three media considered here. Unlike the previous tables, it totals the estimated annual revenues from all works scheduled to expire up to the dates indicated. For example, the second line indicates potential royalties of \$19 million in 1999 for copyrights in the three media scheduled to expire at the beginning of 1998 and 1999. (In doing so, it also continues the depreciation rates beyond the expiration years. This is why the figures for “works to date” are less than the simple sums of figures from works “of the year.”) In order to understand this, it should be borne in mind that time is being measured in two dimensions. First is the year in which works are copyrighted — their vintage — which is associated with

²⁵Available via World Wide Web (listed chronologically) at: <http://ptd15.afionline.org/100/movies/directory.html>.

²⁶The most notable of the 32, in our judgment, are *Wizard of Oz*, *Gone with the Wind*, *Citizen Kane*, *Maltese Falcon*, *Fantasia*, *Duck Soup*, *Night at the Opera*, *King Kong* and *42nd Street*.

²⁷The streak continued into 1942 with classics like *Casablanca* and *Bambi*.

corresponding years of expiration 75 years later or extension to 95 years. The other dimension of time is the years in which royalties are collected. Table 5 shows royalty collections in indicated years, if terms were extended, for two kinds of vintages: The one which would expire that year without extension (“of the year”), and the sum of all those that would expire starting in 1998 (“of works to date”). The final line indicates the estimated value of potential royalties that would be paid or collected in year 2017 due to extension of 20 years’ worth of copyrights. Beyond that time, the total would not grow as rapidly, because the copyrights of 1922 and beyond **would** start to expire notwithstanding the extension and each, year by year, would be dropped from the tabulation.

Table 5. Annual royalties of book, music and movie copyrights, for copyrights expiring in selected years and expiring from 1998 to those years (millions of 1997 dollars)

Year	Books		Music		Movies		All	
	of the year	of works to date	of the year	of works to date	of the year	of works to date	of the year	of works to date
1998	\$9.1	\$9	\$0.7	\$1	0	0	\$10	\$10
1999	9.2	18	0.7	1	0	0	10	19
2000	10.9	28	0.7	2	0	0	12	30
2001	10.5	38	0.7	3	0	0	11	41
2002	12.5	49	0.6	3	1.2	1	14	53
2007	10.6	90	0.5	5	5.4	16	16	111
2012	14.1	132	1.5	12	12.9	62	28	206
2017	12.7	178	6.1	24	11.8	115	31	317

Sources: Previous tables and further calculation by CRS.

In the initial years, almost all of the potential revenue is attributable to books. However, the book revenues subsequently grow only very slowly, rising from \$8 million in the first year to \$13 million for the books expiring in the 20th year. After five years the movie revenues grow rapidly and reach parity with books (in terms of the latest-year expirations) by 2012. Music revenues are smaller than the other media throughout the period but give indications of growing comparable to them with the works of the 1940s (expiring in the 2020s).

The recipients of this income can be characterized in general terms as follows. Quick perusal of the copyright renewal records indicates that the **books** are mostly registered in the names of the authors. Even when the works are still owned by publishers, though, authors usually retain an interest contractually, so royalties are in

most cases going to their personal heirs. **Movie** copyrights are almost all owned by the studios and their successors. While modern contracts assign percentages of revenues from broadcast and video to certain key participants (directors, writers, lead actors, etc.), this is not the case with these older works. The owner will usually be the sole recipient of current revenues. **Music** ownership has many variations. Often it is vested in a publishing company, but this could be owned by the writer (who may also be the first recorded performer), a record company, or one of several large publishers that have bought up other companies or their catalogs of songs. The writer/composer is typically allocated 50% of the royalties contractually.

In terms of nationality, it appears that the great majority of owners are (or at least were at the time of renewal) domestic rather than foreign. The conspicuous exception is classical music. In our sample, 6 out of the 26 works (23%) falling within the study period were by Americans. Eleven were by composers from what is now the European Union (mostly Britain, France and Germany), seven from other European countries (mostly Russia), and two from South America. Looking with a slightly wider perspective — the 49 works in our sample by composers who were active during 1922-1941 regardless of the timing of the particular works — we find only 16% attributable to Americans.²⁸

Fees for Term Extension

Rationale

This section considers the idea of charging a user fee for gaining the proposed extra 20 years of copyright protection. It would be in an amount yet to be determined but supposedly greater than the administrative costs of registration, so that net proceeds would be generated for subsidizing the creative arts. One rationale for the user fee is that it is a way for the very successful creators to “give something back.” The lucky few whose work has survived over the long term would be required to share some of their good fortune to nurture a new generation of artists. (On the other hand, it could be argued that they have simply earned their due, and that if the arts are to be subsidized, the public at large should bear the cost). Another motivation for a user fee is that it could be a compromise between the two most divergent perspectives on intellectual property: That intellectual property is either a perpetual natural right of the creator (and heirs), or it is an institution created legally by the community for the benefit of the community. If term extension is seen to be privatizing more of the public domain, a user fee would be partially compensating the public for it.

Alternatively, and a little more skeptically, the concept envisions a situation where most lucrative older properties have been acquired by corporate interests, by recycling some of the benefits back to the “real” creators (albeit a new generation of

²⁸Aside from the smallness of the sample, these results should be considered of limited precision, because there is a difficulty in appropriately categorizing the “nationality” of the composers. A number of prominent ones, such as Stravinsky, Hindemith and Schoenberg, emigrated mid-career. Furthermore, there is no telling without detailed investigation where the ultimate beneficiaries of their rights are located, a generation or two after their passing.

them). As such, this echoes previous debates about *termination rights*.²⁹ It has been given further focus by the proviso that the user fee only be applied to *works made for hire*.

Effects

The economic values estimated in the preceding section represent the maximum amount that could be collected from copyright owners for the opportunity of extending the duration. That is, if there were a mechanism for requiring owners to either pay a certain amount (tailored to each owner) or forfeit future use of the work, theoretically they could be induced to pay virtually the entire value of their expected net revenues. However, a straight “one size fits all” user fee would not be an adequate mechanism to extract all of the value. A slightly more refined version would set different fees for each class of work, e.g., books, music, films. If judiciously set, these differentiated fees could collect more than a single level while minimizing the number of non-renewals. Alternatively, an auction could yield even more revenue.³⁰ Many variations on such systems are possible. The point is that the entire value of the proposed copyright extensions represents a theoretical outer limit on what could be collected for public purposes.

Utilization of Works. Another important question about user fees is how they might affect the pricing, availability and utilization of copyrighted works. This depends critically on how the system is structured. We assume here a straightforward choice for owners: Either they pay the stated one-time fee (which may be differentiated by copyright type) and receive an extra 20 years of protection, or they turn their rights over to the public domain. (This differs from, say, *domaine publique payant*, where a fee is paid to the state per use.) Economic theory would suggest, in cases where the fee is paid and the term extended, that the entire cost would be born by the owner, i.e., he/she would not be able to pass it on to users via a higher royalty. Consequently, there would be no change in utilization.

The conclusion that utilization would not change despite the payment of the fee rests upon basic price theory. Reduced to its essentials, the reasoning starts from the well-known dictum that price depends on supply and demand. And in this case, neither demand or supply is changed by the user fee; therefore price does not change. First, demand is a constant: The amount that people are **willing** to pay presumably does not depend on who owns the copyright or indeed on whether it is owned at all. Moreover, in the case at hand, supply is constant as well: The work in question may have taken considerable effort to produce, but that cost is “sunk” and hence irrelevant. The intellectual property exists and does not cost anything to produce in

²⁹“Termination rights were created in the 1976 Copyright Act as an agreed compromise between author and publisher-producer interests. . . . Without a reversion of rights, only the publisher-producer would benefit from the longer term.” U.S. Library of Congress. Congressional Research Service. *Proposed U.S. Copyright Term Extension*, by Dorothy Schrader. CRS Report 95-799 S. 1995.

³⁰As in the *domaine publique payant* type of system proposed in S. 2423 (Dodd) in the 103rd Congress.

the present. In sum, the price to users does not change. What changes is the net revenue of the owner, as he/she has to pay the user fee.

Another perspective on this may be gained by considering the distinction between **cost** and **rent** in their economic meaning. The cost of production consists of those expenses, if any, incurred in producing a tangible item, e.g., printing a book. The difference between price and cost is rent.³¹ The significance of rent is two-fold: First, it does not affect price. On the contrary, causation is the other way around: Supply and demand determine price, and price minus cost (and normal profit) determines rent as the residual. Second, no matter what portion of the rent may be taken away from the owner, he/she will still continue to offer the work to users because he/she is still receiving something beyond cost, and something is better than nothing.

There is still the possibility that the required fee exceeds an owner's expected rent. In this case he/she will forfeit the work to the public domain. The result for availability is that of expiration of copyright protection, with consequences as discussed at the beginning of this report.

An interesting feature of the assumed system (pay to play) is that no matter what the level of the fee, the system will not cause any loss of availability to the public nor increased pricing of any works. The foregoing reasoning of this section indicates that there is no effect on pricing when the fee is paid and the copyright extended. In the other case — where the fee is greater than the commercial possibilities would support — the work would be freed from the obligation of paying. The owner would suffer a loss through his/her forfeiture, but society as a whole would find the work still available for use, and probably at lower price.

Revenue Collected. As already noted, the maximum theoretical revenue collection is equal to the total expected rent, which is presumably reflected in the current capitalized value of the copyrights. This maximum would not be extracted by a simple pay-to-play system of user fees, because of the diversity of values of all of these works. Still, there is some one fee level (which we do not have enough information as yet to estimate) that would generate the most possible revenue under the simple fee system. It could be determined by operationalizing the following. The amount collected as a function of the size of the fee, if graphed, would resemble the projectile of a cannonball. Starting with a 0 fee, 0 revenue would result. Then, if the fee were set at \$100 (to pick an arbitrary figure), and if all currently viable works were extended, roughly \$150 thousand could be collected over the first five years from books, \$270 thousand from popular songs, and \$7,000 from movies, based on data cited *supra*. If the fee is raised, revenue collected will rise approximately proportionally, but at some point, some owners will rather let their works lapse. Total revenue will then increase at a decreasing rate until it stops increasing and a maximum has been reached, beyond which total revenue will actually decrease. Ultimately, if the fee exceeds the value of every single work, no one would pay and

³¹More precisely, there is a rate of profit called “normal profit,” and rent is the net return in excess of that.

revenue collected would be zero. The revenue collected as a function of the fee level follows a version of the Laffer Curve much discussed in the context of income taxes.³²

The foregoing figures assume that the fee would apply to all works being extended. If the fee is applied only to works made for hire, revenue collected could be significantly less. A preliminary look at the renewal records indicates that about 35% to 40% of works renewed in the 1950s and 1960s were works made for hire. We do not have a precise breakdown by medium, but it appears that much of the revenue collected would be in the motion picture category. Works in the other categories studied here appear to be registered more often in the name of individual creators. A portion of the musical compositions were made for hire but, interestingly, most of these cases are where the music was written for movies. In books, rights would typically be assigned to publishers initially but, if the copyright was renewed, it would then be done in the name of the author. There is a class of literature that was done for hire, but apparently most of these works were magazine articles or “pulp” novels that have not endured particularly well.³³

³²See, for example, Bender, Bruce. An Analysis of the Laffer Curve. *Economic Inquiry*, July 1984. pp. 414-420.

³³Wineapple, Brenda. Grinding it Out. *New York Times* Book Review, January 18, 1998. p. 15.

Edward Rappaport, Copyright Term Extension: Estimating the Economic Values, Congressional Research Service Report 98-144E (1998). Barbara A. Ringer, Renewal of Copyright, in STUDIES ON COPYRIGHT 503 (Arthur Fisher Memorial ed. 1963). 7. 7.

INTEREST OF THE AMICI CURIAE 1 Amici are professors and scholars who teach and write on economic issues and are concerned about the role of government in promoting economic progress. They 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. Finally, the economics of blockchain copyright management systems need to be carefully considered in order to ensure that they will have necessary network effects. If those issues are resolved in a satisfactory way, blockchain has the potential to rewrite how the copyright industry functions and digital content is distributed. The World Economic Forum estimates that more than 25 countries are investing in blockchain technology, filing more than 2,500 patents and investing \$1.3 billion. Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, provides the following definition of this technology: "In essence, the blockchain is a shared, programmable, cryptographically secure and therefore trusted ledger which no single. Economic value is the value that person places on an economic good based on the benefit that they derive from the good. It is often estimated based on the person's willingness to pay for the good, typically measured in units of currency. The economic value should not be confused with market value, which is the market price for a good or service which can be higher or lower than the economic value that any particular person puts on a good. Key Takeaways. Economic value is the value that a person places on a good or service, based on the benefit they get from it. Economic value is subjective and This brief provides an economic analysis of the main feature of the Copyright Term Extension Act of 1998 ('CTEA'), a twenty-year extension of the copyright term for existing and future works. Taken as a whole, the authors believe that it is highly unlikely that the economic benefits from copyright extension under the CTEA outweigh the additional costs. Discover the world's research. 19+ million members. (2002) had skirted the central issue: "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 ... The extension of copyright duration applied retrospectively to owners of existing film libraries and might have reduced their cost of capital. 12 chapter 2. estimating the true value of natural resources . 13. 2.1 Overview of the Natural Capital Approach . Sustainable natural resources management, and by extension sustainable economic development, depend on institutions and practices of good governance. Proper valuation and accounting of natural resources are necessary for robust development planning. Just as necessary are transparent institutions and good governance. A synthesis of objectives - growth, employment and long-term economic stability - can be found in adopting policies that put countries on the path towards green growth. Natural resources have the potential to provide a significant number of jobs.