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Copyright's Mercantilist Turn

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COPYRIGHT'S MERCANTILIST TURN

GLYNN S. LUNNEY, JR.

ABSTRACT

Over the last twenty years, arguments for broader copyright have taken an increasingly mercantilist turn. Unable to establish that broader copyright will lead to more or better original works, as the Constitution and the traditional economic framework require, proponents have begun arguing for broader copyright on the basis of revenue and jobs. Rampant unauthorized copying is theft or piracy, proponents insist, depriving copyright owners of revenue and destroying jobs. Whether or not it leads to more or better works, broader copyright will increase revenue to copyright owners and thus increase employment in the copyright industries. This increased employment, on its own, justifies broader copyright, or so proponents contend. In this Article, I critically reexamine this argument and show that it is empty.

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I. INTRODUCTION

Over the last twenty years, justifications for broader copyright protection have taken an increasingly mercantilist turn. In the recent debates over the Protect Intellectual Property Act (PIPA) and the Stop Online Piracy Act (SOPA), proponents did not seriously argue that these measures would enhance welfare by encouraging the production of more and better works of authorship. Rather, they argued that these bills would increase revenues to domestic copyright owners and thereby create jobs.[1] This shift from neoclassical welfare economics to mercantilist[2] justifications for policy is not unique to PIPA

1. *See infra* notes 24-31 and accompanying text.

2. The term "mercantilist" or "mercantilism" has been applied to several different political or economic approaches. Originally, it referred to approaches that sought to maintain a favorable balance of trade in order to bring gold and silver into an economy while removing it from other nations' economies. Over time, however, this emphasis on the money supply diminished, and mercantilism came to refer to a collusive relationship between government and mercantile interests where, in exchange for paying levies and taxes to support the nation-state, government would enact policies to protect business interests against competition. *See* ROBERT B. EKELUND, JR. & ROBERT D. TOLLISON, MERCANTILISM AS A RENT-SEEKING SOCIETY: ECONOMIC REGULATION IN HISTORICAL PERSPECTIVE (1981); ROBERT B. EKELUND, JR. & ROBERT D. TOLLISON, POLITICIZED ECONOMIES: MONARCHY, MONOPOLY, AND MERCANTILISM (1997); Elise S. Brezis, *Mercantilism*, *in* THE OXFORD ENCYCLOPEDIA OF ECONOMIC HISTORY 484 (2003) ("[Adam] Smith's second criticism of mer-

and SOPA, however. Rather, it has become a defining feature of United States trade policy with respect to copyright and intellectual property, more generally, over the last few decades. Moving away from the tenets of free trade, trade policy in the intellectual property arena has sought increasingly to protect domestic industries from foreign competition and to ensure thereby more revenue for and more jobs in those industries within the United States.

This switch from neoclassical welfare economics to mercantilism is, in one sense, entirely understandable. To justify broadening copyright under neoclassical welfare economics, proponents would need to establish three propositions: first, for any given work of authorship, broader copyright would lead to more revenue for that work than would narrower copyright; second, the prospect of such increased revenue would lead individuals to devote additional resources to, and hence create, more or better works of authorship; and third, society would value such more or better works more highly than the alternative uses to which the resources would otherwise have been devoted. While the first proposition might seem self-evident, the second and third certainly are not and as it turns out, establishing any of these propositions, let alone all three, has proven extremely difficult.

With respect to the second proposition, for example, for hundreds of years copyright has relied on the simple, yet fundamental, premise that more revenue for copyright owners means more and better original works of authorship. Yet, the relationship between revenue and creative output is not so straightforward. Consider the music industry. As various popular press accounts have repeatedly touted, record sales have fallen sharply since Napster started the file-sharing ball rolling.[3] In 1999, record sales, whether in physical or electronic format, stood at $20.4 billion (in constant 2012 dollars).[4] In 2012, such sales amounted to just over $7 billion.[5] The record industry attributes this decline to unauthorized consumer copying, file sharing, or in their preferred parlance, "piracy" or "content theft." Empirical studies dispute this.[6] Nevertheless, while the role unauthorized copying

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cantilism was that mercantilist policies did not emerge from a national goal, but rather from the interest of merchants and manufacturers in retaining their monopolies—in other words, Smith viewed mercantilism as a rent-seeking doctrine.").

3. For a discussion of this issue, see *infra* text accompanying notes 82-92.

4. *Shipment Database*, RIAA, https://www.riaa.com/keystatistics.php?content_selector=research-shipment-database-overview (last visited Feb. 11, 2015) (after subscribing as a member, select shipment data from year 1973 through 2013 to download data).

5. *Id.*

6. *See, e.g.*, Sudip Bhattacharjee, Ram D. Gopal, Kaveepan Lertwachara, James R. Marsden & Rahul Telang, *The Effect of Digital Sharing Technologies on Music Markets: A Survival Analysis of Albums on Ranking Charts*, 53 MGMT. SCI. 1359, 1360 (2007) (finding that file sharing has no overall effect on length of time song spends on charts); Ram D. Gopal, Sudip Bhattacharjee & G. Lawrence Sanders, *Do Artists Benefit from Online Music Sharing?*, 79 J. BUS. 1503, 1503 (2006) (finding that students with faster Internet connec-

has played in this decline remains unclear, the decline itself cannot be disputed.

Yet, regardless of whatever may have caused this decline, we have not seen a corresponding fall in the production of new music. Three empirical studies have examined music output since Napster opened its doors in 1999, and all three found that music output has continued to grow.[7] In my own study, I use regression analysis to account for other factors, such as declining costs, and show that the decline in revenue was associated with an increase in high quality music output.[8] Reduced revenue was associated with fewer new artists, as copyright's traditional economic account suggests. However, the same reduction in revenue was also associated with increased output from existing artists. As I predicted in 2001,[9] it appears that file sharing has reduced the excess incentives that our existing copyright laws would have otherwise provided for our most popular artists and authors. Facing reduced revenue from any given song, our most popular artists have chosen to create and disseminate more songs in order to reach their desired income and standard of living. Moreover, because the increased output from existing artists exceeded the decreased output from having fewer new artists, the reduction in revenue that has occurred in the music industry since file sharing began has been

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tions sample more and that sampling increases the propensity to purchase authorized copies); Felix Oberholzer-Gee & Koleman Strumpf, *The Effect of File Sharing on Record Sales: An Empirical Analysis*, 115 J. POL. ECON. 1, 1-2 (2007) (finding that unauthorized downloads do not reduce authorized purchases); Martin Peitz & Patrick Waelbroeck, *Why the Music Industry May Gain from Free Downloading: The Role of Sampling*, 24 INT'L J. INDUS. ORG. 907, 912 (2006), *available at* http:www.sciencedirect.com/science/article/pii/S0167718705001682# (using a multi-variable monopoly model to postulate that file sharing increases sales); Rafael Rob & Joel Waldfogel, *Piracy on the High C's: Music Downloading, Sales Displacement, and Social Welfare in a Sample of College Students*, 49 J.L. & ECON. 29, 29-32 (2006) (finding that five unauthorized downloads substitute for a single authorized purchase in their sample); Birgitte Andersen & Marion Frenz, *The Impact of Music Downloads and P2P File-Sharing on the Purchase of Music in Canada* 22, (Dynamics of Insts. and Mkts. in Europe Working Papers on Intellectual Prop. Rights, Working Paper No. 82, 2008), *available at* http:www.dime-eu.org/working-papers/wp14?page=1 (finding that file sharing increases sales: twelve additional downloads were associated with additional 0.44 CD purchases); Tatsuo Tanaka, *Does File Sharing Reduce CD Sales?: A Case of Japan* 0 (Inst. of Innovation Research, Hitotsubashi Univ., Working Paper No. 05-08, 2004), *available at* http://www.iir.hit-u.ac.jp/archive/event/WP05-08tanaka.pdf (finding that file sharing has no effect on sales).

7. *See* Christian Handke, *Digital Copying and the Supply of Sound Recordings*, 24 INFO. ECON. & POL'Y 15 (2012); Joel Waldfogel, *Copyright Protection, Technological Change, and the Quality of New Products: Evidence from Recorded Music Since Napster*, 55 J.L. & ECON. 715 (2012); Glynn S. Lunney, Jr., *Empirical Copyright: A Case Study of File Sharing and Music Output* 4 (Tulane U. Sch. of Law, Pub. Law and Legal Theory Working Paper Series, Working Paper No. 14-2, 2014), *available at* http://ssrn.com/abstract=2372630.

8. Lunney, *supra* note 7.

9. Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copyright, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 890-92 (2001).

associated with a net increase in the production of new hit songs, *ceteris paribus*.

Contrary to popular expectations, then, file sharing seems to have had a positive net impact on the production of original works of music, and it seems to have had that effect precisely because it reduced revenue to copyright owners. Given that the Constitution and Supreme Court opinions plainly state that copyright's purpose is not to maximize copyright owners' revenue, but "[t]o promote the Progress of Science,"[10] there would seem to be no rational basis for measures, such as SOPA and PIPA, designed to reverse the digital revolution and curtail file sharing and other forms of consumer copying.

Recognizing the difficulty and, perhaps the futility, of attempting to justify such measures under the traditional economic and constitutional framework, proponents of broader copyright have sought to reframe the debate. Rather than attempt to establish that broader copyright enhances welfare or increases the production of copyrighted works, proponents of broader copyright have argued instead that broader copyright will generate more revenue for copyright owners and, in turn, more jobs in the copyright industries. While this alternative argument has some superficial appeal, in large part, that appeal arises because the jobs argument nicely complements the traditional "more and better works" justification. With broader copyright, not only can we increase creative output, but we can also create more jobs and ensure the proverbial starving artist a livable wage—all with one stroke of our legislative pen. Despite this superficial attractiveness, the real question is whether the jobs argument can justify broader copyright on its own, independent of copyright's traditional justification. In other words, even if broader copyright meant no increase in creative output—or as is more likely today given copyright's extreme breadth, a measurable decrease in creative output—can we nevertheless justify broader copyright on the grounds that it will create more jobs in the copyright industries?

We cannot. This attempt to refocus the debate on revenue and jobs represents a classic mercantilist ploy and, as Adam Smith established more than three hundred years ago, is seriously flawed.[11] While creating jobs seems like a good and desirable role for govern-

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10. U.S. CONST. art. I, § 8, cl. 8; *see also* Feist Publ'ns, Inc. v Rural Tel. Serv. Co., 499 U.S. 340, 349 (1991) ("The primary objective of copyright is not to reward the labor of authors, but '[t]o promote the Progress of Science and useful Arts.' " (quoting U.S. CONST. art. I, § 8, cl. 8)); Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975) ("The immediate effect of our copyright law is to secure a fair return for an 'author's' creative labor. But the ultimate aim is, by this incentive, to stimulate artistic creativity for the general public good."); United States v. Paramount Pictures, Inc., 334 U.S. 131, 158 (1948) ("The copyright law, like the patent statutes, makes reward to the owner a secondary consideration.").

11. ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS (Edinburgh, Thomas Nelson 1848).

ment, particularly in today's economy, governments do not, in the end, create jobs. Needs, wants, and desires do. Through regulations, taxes and spending, and other government action, governments can shift jobs from one sector of the economy to another, by encouraging the satisfaction of some desires, while discouraging the satisfaction of others. As a general rule, however, over the long run, creating jobs in one sector, through government action, necessarily entails losing jobs elsewhere.[12]

Consider the argument that broader copyright creates jobs. For broader copyright to create jobs in the copyright industries, it must increase revenue to copyright owners. Yet, for the copyright industries to receive more revenue, consumers must pay more for works of authorship. Broader copyright, after all, does not generate revenue from thin air. It has to come from somewhere. If consumers have to pay more for works of authorship, they will have less to spend on everything else. Thus, more revenue for the copyright industries necessarily means less revenue for other sectors of the economy. If more revenue for copyrighted works means more jobs for the copyright industries, presumably less revenue everywhere else means fewer jobs elsewhere in the economy.

In that sense, the jobs argument for SOPA and PIPA or for broader copyright, more generally, represents a perfect example of Frederic Bastiat's Broken Window Fallacy.[13] Writing in 1850, Bastiat emphasized the need to account in economics and politics both for that which is seen and that which is not seen. ("*Ce qu'on voit et ce qu'on ne voit pas.*") When a boy breaks a shopkeeper's window, the shopkeeper must employ a glazier to fix it. If we focus solely on the employment of the glazier—that which is seen—then one might conclude that the government should hire children to go around breaking windows in order to increase the employment of glaziers in the economy. Howev-

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12. As Professor Machlup has explained in the patent context:

> It is easy to conceive of the possibility that such allocation [of productive resources to invention] is too meager. But can there ever be too much? Is not more research and development always better than less? Is it possible that too much is devoted to the inventive effort of the Nation? This depends on what it is that is curtailed when inventive activity is expanded. More of one thing must mean less of another, and the question is, what it is of which there will be less. . . . Whenever permanent economic policies—not just war or depression measures—are discussed, sound economics must start from the principle that no activity can be promoted without encroaching on some other activity. More of one service or product must mean less of another.

STAFF OF SUBCOMM. ON PATENTS, TRADEMARKS, AND COPYRIGHTS OF THE S. COMM. ON THE JUDICIARY, 85th CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM: STUDY NO. 15, 45-46 (Comm. Print 1958) [hereinafter PATENT STUDY] (primarily written by Fritz Machlup).

13. FREDERIC BASTIAT, *That Which Is Seen and that Which Is Not Seen*, *in* ESSAYS ON POLITICAL ECONOMY 72 (David A. Wells trans., N.Y., G. P. Putnam's Sons 1877) (1850).

er, as Bastiat cautioned, we must also account for that which is not seen. Because the shopkeeper had to spend his money on the glazier, he could not spend that money elsewhere: on new shoes or a new book for his library. When we account for this lost spending elsewhere—that which is not seen—we find that the broken window generates no net stimulus to employment. The glazier earns more; but whoever would have received that money but for the broken window—whether cobbler, bookseller, or another—earns exactly that much less.

The mercantilist argument for broader copyright suffers from much the same fallacy. It urges us to focus solely on that which is seen—the increased revenue and enhanced employment broader copyright brings to the copyright industries. It asks us to ignore that which is not seen—the reduced revenue and diminished employment broader copyright brings to every other sector of the economy. Once we account for both that which is seen and that which is not seen, we find the mercantilist argument for broader copyright entirely empty. Just as the broken window generates no net stimulus for the economy, so too does broader copyright. Whatever increased revenue broader copyright generates for the copyright industries, it simply takes from elsewhere in the economy.

Of course, arguing for broader copyright in order to increase the employment of authors and artists is not precisely the same as arguing for a government policy urging children to break windows in order to increase the employment of glaziers. Breaking windows destroys something of value; encouraging authorship creates something of value—more or better works of authorship. Yet, this difference, while important, does not diminish the relevance of Bastiat's parable.[14] Even though authorship is a productive activity, we still must account for that which is not seen. But for broader copyright, there would have been more revenue for and hence more employment in other sectors of the economy, and presumably that alternative employment would have been productive as well. Although the alternative employment would not create more or better works of authorship, it would create something else of value to society. The question thus becomes whether we would value the additional works of authorship that we assume broader copyright will bring forth more

14. While the Broken Window parable is the first and perhaps most well-known in Bastiat's essay, he actually presents a number of examples and, as we shall see, addresses this sort of trade-off directly, particularly in his section entitled "Theatres and Fine Arts." *See infra* text accompanying notes 101-11.

than or less than the something else that we would have had but for broadening copyright.[15]

By so accounting for that which is not seen, we find that the mercantilist jobs mantra is not a shortcut; it does not and cannot avoid the hard question of valuing alternative uses of the available resources. To justify broader copyright on the grounds that it will create more jobs, proponents still must show that those copyright jobs produce something that is more valuable to society than the goods or services that the alternative jobs would have produced. While phrased slightly differently, this is essentially the same proposition proponents of broader copyright have been unable to establish under the traditional economic and constitutional framework.

Demonstrating both a loss of revenue to copyright owners and a loss of associated jobs in the copyright sectors of the economy is not, therefore, sufficient to justify broader copyright, whether in the form of PIPA and SOPA or otherwise. Labeling the behavior at issue as "piracy" or "content theft" cannot provide the necessary justification either. The only way to justify further government intervention is for the proponents of broader copyright to demonstrate that the widespread consumer copying and distribution that the Internet has made possible has: (1) led to a reduction in the expected revenue associated with any given work; (2) that this reduction in expected revenue has led to a reduced output of works of authorship; and (3) that the lost output in copyrighted works would have been more valuable than the alternative output elsewhere in the economy. However, proponents of broader copyright have neither made this showing nor does it appear that they can. Arguing that broader copyright increases revenue to the copyright industries and thereby leads to more employment in those industries proves nothing all.

This article explores these issues in turn. Section II begins with a review of the arguments proponents advanced in support of PIPA and SOPA and notes the emphasis on lost revenue and jobs. In Section III, we examine the neoclassical welfare approach to defining the optimal scope of copyright. As part of this discussion, we take a look at how digital technology has changed the music industry and examine in detail the effects consumer copying has had on creative output. In Section IV, we turn to a critique of the mercantilist approach to copyright. Taking Bastiat's lessons to heart, Section IV demonstrates that revenue and jobs alone are not a sufficient justification for government intervention absent associated net welfare losses. It also demonstrates that pursuing a copyright policy that attempts to max-

15. As Professor Baxter has explained: "This is the classic economic criterion for optimal allocation." William F. Baxter, *Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis*, 76 YALE L.J. 267, 268 n.7 (1966).

imize revenue for and employment by the copyright industries inevitably leads to welfare losses.

II. ILLUSTRATING THE MERCANTILIST TURN

On January 18, 2012, democracy happened in the United States. Until that point, it appeared that SOPA and PIPA were headed for passage.[16] Following the lead of the Senate Judiciary Committee, which had passed PIPA in May 2011, the Chairman of the House Judiciary Committee, Representative Lamar Smith (R-Tex), introduced SOPA on October 26, 2011, with an initial group of twelve bipartisan co-sponsors. According to its sponsors, the bill was intended to shut down foreign websites that made available to United States consumers unauthorized copies of copyrighted works (described as "rogue" websites, in keeping with the view that labels alone suffice to make plain wrongdoing). It did so both directly, by providing for court orders that would require Internet service providers to block access to such websites[17] (the so-called DNS blocking remedy) and indirectly by providing for court orders that would bar: (i) online advertisers and payment facilitators from conducting business with such sites; and (ii) search engines from listing such sites.[18] The House Judiciary Committee held an initial hearing on November 16, 2011, featuring four witnesses who supported the bill and one, Katherine Oyama, Google's Copyright Counsel, who opposed it.

Despite proponents' attempts to limit testimony on the issues,[19] opposition to and concerns about the bill began to mount. As a result,

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16. For example, in the second day of mark-up hearings on SOPA, Representative Issa (Calif.), an opponent of SOPA, acknowledged that opponents of SOPA were going to lose. *Markup of H.R. 3261, Stop Online Piracy Act: Hearing Before the H. Comm. on the Judiciary*, 112th Cong. 28 (2011) [hereinafter *SOPA Markup*] (statement of Rep. Issa), *available at* http://judiciary.house.gov/_files/hearings/pdf/transcript12162011.pdf ("Mr. Chairman, it is very clear, we are going to lose here today. No, let me rephrase that, we are going to lose eventually, and we are going to lose in the worst possible way. We are going to lose without all the facts, we are going to lose without the process being open in the way that I would hope it will be in the new year.").

17. Stop Online Piracy Act, H.R. 3261, 112th Cong. § 102(c)(2)(A)(i) (2011), *available at* http://www.gpo.gov/fdsys/pkg/BILLS-112hr3261ih/pdf/BILLS-112hr3261ih.pdf.

18. *Id.* § 102(c)(2)(B)–(D).

19. *See SOPA Markup supra* note 16, at 82 (statement of Rep. Sensenbrenner), *available at* http://judiciary.house.gov/_files/hearings/pdf/transcript12152011.pdf ("I am concerned that when we had the hearing on this bill as far as the DNSSEC provisions were concerned, none of the six witnesses were able to address this issue."); *id.* at 88 (statement of Rep. Chaffetz) ("I understand that there is a problem, but I worry that this is the wrong remedy. I was trying to think of a way to try to describe my concerns with this bill, but basically we are going to do surgery on the Internet, and we haven't had a doctor in the room tell us how we [sic] going to change these organs. We are basically going to reconfigure the Internet and how it is going to work without bringing in the nerds, without bringing in the doctors."); *id.* at 95, 98 (statement of Rep. Lungren) ("One of my problems with this bill is we have not had the benefit of technical experts to appear and testify before us, and certainly on the same platform. . . . When we had that last hearing, there wasn't a

Representative Smith introduced an amended version of the bill on December 15, 2011.[20] Mark-up hearings were then held for two days before Congress adjourned. At the end of the December 16th mark-up session, Representative Smith stated that he expected "to resume markup at the next earliest practicable day that Congress is in session."[21] By January 16, 2012, the number of cosponsors for SOPA had swelled from the initial twelve to thirty-one,[22] and Representative Smith had scheduled the next mark-up session for January 20th.

However, just two days before the scheduled mark-up, on January 18, 2012, the English Wikipedia, Reddit, and an estimated 7,000 other smaller websites coordinated a service blackout in order to raise awareness on SOPA and PIPA. Together with petition drives and other protests, this online activism generated a firestorm like nothing Congress had ever seen before—at least on copyright issues. In response, on January 20, 2012, Representative Smith cancelled the scheduled mark-up hearing and postponed further consideration of SOPA.[23]

My focus for now is not on the Internet as a means of overcoming the collective action problems that have long plagued the opponents of broader copyright:[24] it is on the arguments proponents of SOPA

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single person who could answer the technical questions, and they all admitted that, even though a couple of them still opined.").

20. *Id.* at 9-11.

21. *Id.* at 57.

22. *See* H.R. 3261.

23. Press Release, H. Comm. on the Judiciary, Statement from Chairman Smith on Senate Delay of Vote on PROTECT IP Act (Jan. 20, 2012) [hereinafter Statement from Chairman Smith], *available at* http://judiciary.house.gov/index.cfm/press-releases?ID=1B5961D6-9862-3B91-BDD8-54B9ACB377D1.

24. As I have explained elsewhere:

> In dealing with the Copyright Act, we should bear in mind that it directly benefits a well-organized special interest group, authors and publishers, at the expense of a more dispersed group, the public. Given a statuto [sic] with such a distribution of benefits and hurdens [sic], public choice theory predicts that over time the statute will inevitably come to favor more and more the desires of the special interest group at the expense of the more dispersed group. When combined with some superficially plausible rationale that can serve to screen the legislator's motivations, the concentrated group's disproportionato [sic] ability to raise money that can be used—whether in the form of campaign contributions, bribes, or for expert opinions that back the group's position—to convince legislators to favor the concentrated group's position, has proven unfortunatoly [sic] persuasive in convincing our elected representatives to serve the special interest at the expense of the general public. That our elected representatives have therefore broadened copyright's protection to include these additional rights provides no assurance that there is adequato [sic] justification for these rights. Awarding authors these rights will often be the result of interest group pressure, combined with a superficially plausible explanation to cover the legislators' actions.

and PIPA used to justify their proposals. From the outset, proponents of SOPA and PIPA said little about what one might consider the traditional justifications for broader copyright. In fact, almost nothing at all was said about how these "rogue" websites, if not addressed, would lead to fewer works of authorship. Certainly, no attempt was made to show that not only would fewer works be forthcoming but that there would be fewer works than would be socially optimal. Rather, proponents of SOPA and PIPA emphasized the need for legislation to protect American jobs.

For example, in joining with Representative Smith to introduce SOPA, Representative Bob Goodlatte (R-Va) issued a press release, entitled *Goodlatte Introduces Legislation to Protect American Jobs*, explaining his support for SOPA. Given its title, the basis for his support was not surprising:

> Piracy denies individuals who have invested in the creation and production of these goods a return on their investment thus reducing the incentive to invest in innovative products and new creative works. The end result is the loss of American jobs. Estimates indicate that IP theft costs the U.S. economy over $100 billion a year and results in the loss of thousands of American jobs.[25]

Similarly, during the November 16th hearing, Michael O'Leary of the Motion Picture Association of America sought to justify enactment of SOPA as follows:

> Fundamentally, this is about jobs. The motion picture and television industry supports more than two million American jobs in all 50 states. The 20 states and Puerto Rico represented by this Committee are home to 1.7 million American jobs supported by the motion picture and television industry, including more than 525,000 direct motion picture and television industry jobs. About 12 percent of those are directly employed in motion picture and television production and distribution, jobs paying an average annual salary of nearly $79,000. Those are not just the people whose names you see on the marquee in front of the theater – they're the hard-working people behind the scenes, from the carpenter who built the set, to the costumer and make-up artist who helped bring each character to life, to the Foley artist who created the sound effects.[26]

Glynn S. Lunney, Jr., *Reexamining Copyright's Incentives-Access Paradigm,* 49 VAND. L. REV. 483, 629 n.476 (1996) (citations omitted); *see also, e.g.*, WILLIAM M. LANDES & RICHARD A. POSNER, THE POLITICAL ECONOMY OF INTELLECTUAL PROPERTY LAW 14 (2004); Lunney, *supra* note 9, at 896-98; Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1, 62 (2001).

25. Press Release, Goodlatte Introduces Legislation to Protect American Jobs (Oct. 27, 2011), *available at* goodlatte.house.gov/press_releases/281.

26. *The "Stop Online Piracy Act": Hearing on H.R. 3261 Before the H. Comm. on the Judiciary*, 112th Cong. 72 (2011) (statement of Michael P. O'Leary, Senior Exec. Vice President, Global Policy and External Affairs, on behalf of the Motion Picture Association of

Following the November 16th hearing, another of SOPA's co-sponsors, Representative John Conyers, Jr. (D-Mich.), reiterated the jobs theme in expressing his support for SOPA:

> I have always stood by artists, and it is for this reason that I want to see the Stop Online Piracy Act become law. The bill is of vital importance to protecting American jobs and artisans, protecting the American consumers from dangerous counterfeits, and ensuring the very vitality of American culture.
>
> . . . .
>
> We can protect and promote American jobs, perhaps millions of them, by getting a bill like this to President Obama's desk for his signature as soon as possible.[27]

Even when forced to postpone further consideration of SOPA, Representative Smith reiterated his support for congressional action in this area, on the basis, yet again, of jobs: "American intellectual property industries provide 19 million high-paying jobs and account for more than 60 percent of U.S. exports. The theft of America's intellectual property costs the U.S. economy more than $100 billion annually and results in the loss of thousands of American jobs."[28]

This emphasis on jobs as a justification for expanded copyright protection is not simply a result of our recent recession. In 2007, before either the recession or SOPA and PIPA had arrived on the scene, the copyright industries had already begun using jobs as an argument to support copyright expansion. In that year, the Institute for Policy Innovation released a study purporting to show that for the year 2005, piracy accounted for losses to the U.S. economy of $58 billion in output, over 370,000 jobs, and $2.6 billion in tax revenue.[29]

The emphasis on jobs has also not been restricted to copyright. In March 2012, the U.S. Patent and Trademark Office, together with the Economics and Statistics Administration, issued its report on the economic impact of intellectual property in the United States.[30] Of

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America, Inc.), *available at* http://judiciary.house.gov/_files/hearings/printers/112th/112-154_71240.PDF.

27. Press Release, H. Comm. on the Judiciary, Democrats, Conyers: The Stop Online Piracy Act Protects American Jobs and Prevents Theft (Nov. 16, 2011), *available at* http://democrats.judiciary.house.gov/press-release/conyers-stop-online-piracy-act-protects-american-jobs-and-prevents-theft.

28. Statement from Chairman Smith, *supra* note 23.

29. STEPHEN E. SIWEK, INST. FOR POLICY INNOVATION, IPI CTR. FOR TECH. FREEDOM, THE TRUE COST OF COPYRIGHT INDUSTRY PIRACY TO THE U.S. ECONOMY: POLICY REPORT 189, at i (2007), *available at* http://www.ipi.org/ipi_issues/detail/the-true-cost-of-copyright-industry-piracy-to-the-us-economy.

30. REBECCA M. BLANK & DAVID J. KAPPOS, ECON. AND STATISTICS ADMIN. & THE U.S. PATENT AND TRADEMARK OFFICE, INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: INDUSTRIES IN FOCUS (2012).

the report's ten principal findings, six related directly to the relationship between intellectual property and jobs, including:

> (1) A finding that IP-intensive industries account directly for 27.1 million American jobs, or 18.8 percent of all employment in the economy, in 2010;
>
> (2) A finding that IP-intensive industries account indirectly for another 12.9 million supply chain jobs in the United States, and thus account directly or indirectly for 27.7 percent of all jobs in the economy;
>
> (3) Findings with respect to job creation and job growth in the IP-intensive industries; and
>
> (4) Findings that jobs in IP-intensive industries pay more highly than jobs in non-IP-intensive industries.[31]

Moreover, it's quite clear that this emphasis on jobs as a justification for broader intellectual property will not end with the defeat of PIPA and SOPA. In July 2012, the Chamber of Commerce issued its cry for action on counterfeiting and piracy by reiterating the relationship between intellectual property and jobs: "IP-intensive industries directly and indirectly support more than 55 million American jobs – jobs that pay 30% higher wages than those in other industries – and account for $5.8 trillion in national output."[32]

Now to some extent, we can readily reject many of these jobs-based arguments for broader copyright on the relatively simple ground that the job loss numbers are as bogus as a three-dollar bill. As the GAO explained in a recent report,[33] reliable estimates of both the revenue losses and the job losses caused by unauthorized copying are nearly impossible to generate for two reasons. First, the amount of unauthorized copying itself is difficult to estimate.[34] Second, the rate at which unauthorized copying substitutes for authorized purchases is also difficult to estimate.[35]

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31. *Id.* at vi-viii.

32. *Unfair Trading Practices Against the U.S.: Intellectual Property Rights Infringement, Property Expropriation, and Other Barriers: Hearing Before the H. Comm. on Foreign Affairs*, 112th Cong. 42 (2012) (statement of David Hirschmann on behalf of U.S. Chamber of Commerce), *available at* http://archives.republicans.foreignaffairs.house.gov/112/75162.pdf.

33. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-423, INTELLECTUAL PROPERTY: OBSERVATIONS ON EFFORTS TO QUANTIFY THE ECONOMIC EFFECTS OF COUNTERFEIT AND PIRATED GOODS 15-16 (2010) ("Most experts we spoke with and the literature we reviewed observed that despite significant efforts, it is difficult, if not impossible, to quantify the net effect of counterfeiting and piracy on the economy as a whole.").

34. *Id.* at 16.

35. *Id.* at 17.

Yet, the purpose of this paper is not to critique the job loss numbers that proponents of PIPA and SOPA have offered. Others have admirably tackled that topic already.[36] The question that I would like to address is whether the creation of additional jobs in the copyright industries, standing on its own, can ever provide a legitimate, alternative basis for copyright expansion. If we knew for certain that broadening copyright in a certain way would create some thousands of jobs and have no effects other than job creation, would those jobs provide a basis for legislative action? To begin to answer that question, the next section begins with a review of copyright's traditional welfare justification, both as a matter of theory and empirically through an examination of the impact file sharing has had on the music industry.

III. COPYRIGHT'S TRADITIONAL JUSTIFICATION: THE FEAR OF THE COPYING COMPETITOR AND ITS LIMITS

For more than four hundred years, copyright's central justification has remained essentially unchanged. In the absence of copyright protection, we fear that competitors will quickly copy new works of authorship, undercut the price for authorized copies and thereby reduce the incentive authors will receive for creating and disseminating original works. Indeed, in a perfectly competitive world, competitors would copy new original works immediately and by offering their copies at a price set to cover the competitors' marginal costs, would eliminate any economic incentive for creating and disseminating an original work. In such a world, in the absence of copyright, we might not have too few original works but none at all. For more than four hundred years, this fear that the incentives for authorship might prove insufficient in the absence of copyright has provided copyright's central justification. The

36. Mike Masnick at Techdirt and Julian Sanchez at the Cato Institute, in particular, have thoroughly critiqued many of the numbers SOPA proponents have touted. *See, e.g.*, Mike Masnick, *A Step by Step Debunking of US Chamber of Commerce's Dishonest Stats About 'Rogue Sites,'* TECHDIRT (Nov. 30, 2011, 10:43 AM), http://www.techdirt.com/articles/20111130/02093116930/step-step-debunking-us-chamber-commerces-dishonest-stats-about-rogue-sites.shtml; Mike Masnick, *Ridiculous: Lamar Smith Basing His Plan to Massively Regulate the Internet on False or Misleading Research*, TECHDIRT (Dec. 15, 2011, 7:49 AM), http://www.techdirt.com/articles/20111214/23451317095/ridiculous-lamar-smith-basing-his-plan-to-massively-regulate-internet-false-misleading-research.shtml; Julian Sanchez, *How Copyright Industries Con Congress*, CATO INST. (Jan. 3, 2012, 2:07 AM), http://www.cato.org/blog/how-copyright-industries-con-congress; Julian Sanchez, *SOPA, Internet Regulation, and the Economics of Piracy*, ARS TECHNICA (Jan. 18, 2012, 12:45 PM), http://arstechnica.com/tech-policy/2012/01/internet-regulation-and-the-economics-of-piracy; *see also* WILLIAM PATRY, HOW TO FIX COPYRIGHT 61-70 (2012) (arguing that projected job losses are based on inaccurate data).

Stationer's Guild used it to justify its monopoly over printing as long ago as 1586.[37] And it remains today, remarkably unchanged.[38]

In the same way, the central limit on copyright has remained equally unchanged. Copyright raises the price of books and other copyrighted works.[39] That higher price simultaneously provides the incentive to create original works *and* limits access to existing works. Given the higher price, some consumers will no longer be able to afford authorized copies of an original work. The search for optimal copyright is therefore thought to entail a search for the optimal balance between incentives and access. As Lord Thomas Macaulay expressed in his speech to the House of Commons in 1841:

> It is good that authors should be remunerated; and the least exceptionable way of remunerating them is by a monopoly. Yet monopoly is an evil. For the sake of the good we must submit to the evil; but the evil ought not to last a day longer than is necessary for the purpose of securing the good.[40]

Or as Professor Landes and Judge Posner more recently offered:

> Copyright protection—the right of the copyright's owner to prevent others from making copies—trades off the costs of limiting access to a work against the benefits of providing incentives to create the

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37. The Stationer's Guild argued:

> And further if privileges [that is, copyright] be revoked no books at all should be printed, within short time, for commonly the first printer is at charge for the Author's pains, and some other such like extraordinary cost, where an other that will print it after him, comes to the Copy gratis, and so may he sell better cheaper than the first printer, and then the first printer shall never utter [that is, sell] his books.

2 A TRANSCRIPT OF THE REGISTERS OF THE COMPANY OF STATIONERS OF LONDON: 1554—1640 A.D. at 805 (photo. reprint 1950) (Edward Arber ed., London, privately printed 1875).

38. Almost exactly four centuries after the Stationer's Guild articulated it to the Star Chamber, Professor Landes and Judge Posner used it in their attempt to justify copyright. They argued:

> In [the] absence [of copyright protection] anyone can buy a copy of the book when it first appears and make and sell copies of it. The market price of the book will eventually be bid down to the marginal cost of copying, with the unfortunate result that the book probably will not be produced in the first place, because the author and publisher will not be able to recover their costs of creating the work.

William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 328 (1989).

39. I am not particularly interested in whether we characterize these higher prices as "monopoly" or not. *See* Edmund W. Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727, 1729-38 (2000).

40. THOMAS BABINGTON MACAULAY, *A Speech Delivered in the House of Commons on the 5th of February, 1841*, *in* 8 THE WORKS OF LORD MACAULAY 195, 199 (Lady Trevelyan ed., 1897), *available at* http://yarchive.net/macaulay/copyright.html.

> work in the first place. Striking the correct balance between access and incentives is the central problem in copyright law.[41]

In devising an optimal copyright system, this supposed balance between incentives and access has become the central guide: too little copyright and we will have too few original works; too much and we will not be able to enjoy the works we have. Only through the appropriate balancing of incentives and access will we have neither too little nor too much copyright develop—copyright will be just right, or at least, that's the conventional wisdom.

Yet, there are problems with this approach. First, as it is usually phrased, the attempt to balance incentives and access is incomplete and mischaracterizes the issue. Second, even if we knew what to balance, we may not have the information that we need to devise a copyright system that strikes the balance appropriately.[42] Part A reviews what we know about devising an optimal copyright system, given the information available. Part B then presents some new empirical data examining the impact of the Internet and digital technology on the music industry in the United States to see what light, if any, that new information may cast on the question of optimal copyright. Here we find, somewhat surprisingly, that while revenue is down, output in the music industry is up.

A. Neither Too Much nor Too Little, the Search for "Goldilocks" Copyright

Even if we think of an exclusive right to prohibit copying as a form of property, property rights in information and other goods characterized by non-rivalrous consumption, so-called "public" goods, lack the intrinsic desirability of property rights in goods characterized by ri-

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41. Landes & Posner, *supra* note 38, at 326; *see* Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 696 (2d Cir. 1992) ("[C]opyright law seeks to establish a delicate equilibrium. On the one hand, it affords protection to authors as an incentive to create, and, on the other, it must appropriately limit the extent of that protection so as to avoid the effects of monopolistic stagnation."); Niva Elkin-Koren, *Copyright Policy and the Limits of Freedom of Contract*, 12 BERKELEY TECH. L.J. 93, 100 (1997) ("[C]opyright law seeks to balance the level of incentives to create and the interest in maximizing access to information once created. Finding the correct balance between access and incentives is the central task of copyright policy."); Robert A. Kreiss, *Accessibility and Commercialization in Copyright Theory*, 43 UCLA L. REV. 1, 4 (1995) ("To function properly, copyright law must strike a balance between the rights given to copyright authors and the access given to copyright users."). *But see* WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 11 (2003) (acknowledging that while the balance between incentives and access is important, it cannot account for everything).

42. *See, e.g.*, Joseph P. Liu, *Owning Digital Copies: Copyright Law and the Incidents of Copy Ownership*, 42 WM. & MARY L. REV. 1245, 1310 (2001) ("Although the minimalist framework, as a theoretical matter, accurately captures the essential considerations underlying copyright law (that is, the basic balance between access and incentives), lack of information and numerous practical difficulties in applying the framework serve to limit its ability to generate clear or effective results.").

valrous consumption, so-called "private" goods. While copyright may be necessary to encourage the creation and release of an original work of authorship, once the work has been created and released, copyright becomes simply an encumbrance. By raising the price of access to original works, it creates a deadweight loss for those consumers unable to afford the higher price.

But the deadweight loss from higher prices is not the only cost that copyright creates. Copyright prohibits a wide range of potential uses of copyrighted works absent the copyright owner's consent.[43] This effectively imposes a licensing requirement for those uses and thereby creates transaction costs that would not otherwise exist. Where those transaction costs exceed the potential gains from trade for particular uses, it blocks the use directly and thus creates externalities. And by requiring the copyright owner's permission, it limits our ability to put an original work to all of its highest and best uses. Instead of a work being put to all of its valuable uses—as it should be given its public good character—it is put only to those uses of which the copyright owner approves.

As a result, an original work of authorship, once created and disseminated, will be less valuable to society with copyright than without, and it will be less valuable with more copyright than with less.[44]

Moreover, copyright generates a second cost, one that does not arise from limiting access to existing works. Specifically, copyright can push popular authors and artists onto the backward-bending portion of the labor supply curve and thus perversely lead to fewer works from the most popular authors and artists.[45] The labor supply curve becomes backward-bending at the point where a worker's earnings become high enough that the worker begins to value leisure more highly than labor. If you pay me one thousand dollars per hour, I will work more than if you pay me one hundred dollars per hour. But if you pay me ten thousand dollars per hour or one hundred thousand dollars per hour, at some point I will begin to work less. When my earnings become high enough, I will want to spend my time doing the things that I most enjoy, rather than working. As an exam-

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43. *See* Glynn S. Lunney, Jr., *Copyright, Derivative Works, and the Economics of Complements*, 12 VAND. J. ENT. & TECH. L. 779, 802-03 (2010).

44. As Arrow has explained: "It is necessary to distinguish between the realized social benefit and the potential social benefit, . . . which, in this case, means the sale of the product at postinvention cost, *c'*. Clearly, the potential social benefit always exceeds the realized social benefit." Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, *in* NAT'L BUREAU OF ECON. RESEARCH, THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 622 (1962); *see also* William W. Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV. 1659, 1715-17 (1988); Landes & Posner, *supra* note 38, at 341-42 (explaining that consumer and producer surplus would be higher with less copyright protection).

45. *See* Lunney, *supra* note 9, at 890-92.

ple of this, Mike Scherer has traced the productivity of Giuseppi Verdi, one of the most influential 19th century Italian composers, following the introduction of copyright in northern Italy. After copyright was introduced and Verdi's per-opera earnings increased, Verdi substantially reduced the number of operas he wrote and released each decade.[46] My own favorite example of this is country-and-western singer, Garth Brooks. After releasing his first album in 1989, Mr. Brooks became one of the top-selling solo artists of all time. Yet, rather than encourage Mr. Brooks to write and perform more music, copyright ensured that Mr. Brooks earned so much from his music that he could afford to and did retire in 2001, at the age of 39. While he announced his return to music in 2009 and is doing stage shows in Las Vegas, since his retirement, Garth Brooks has not been the creative musical force that he was during the 1990s.

Rather than the unhelpful catch-phrase, "access," copyright's principal costs within the markets for the creation and dissemination of copyrighted works arise from its uniform scope of protection and the resulting overprotection of works that would have been created and disseminated with less or no copyright. When we consider the range of original works that could potentially be created, we find that some works will be brought forth with no or very little copyright protection, while others require more copyright protection. Yet, copyright remains a fundamentally one-size-fits-all system. If we increase copyright protection in order to bring forth those works that require more protection, we will also provide that same increased protection to all of the preexisting works.[47] Because of these works' public-good character, overprotecting the preexisting works reduces their social value,

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46. F.M. Scherer, *The Emergence of Musical Copyright in Europe from 1709 to 1850*, 5 REV. ECON. RES. ON COPYRIGHT ISSUES 3, 11 (2008) [hereinafter Scherer, *The Emergence of Musical Copyright*]; *see also* F.M. SCHERER, QUARTER NOTES AND BANK NOTES: THE ECONOMICS OF MUSIC COMPOSITION IN THE EIGHTEENTH AND NINETEENTH CENTURIES 194 (2004) (explaining that new copyright policies made a "substantial difference" to Verdi's compositional effort); F.M. Scherer, *The Evolution of Music Markets*, *in* 1 HANDBOOK OF THE ECONOMICS OF ART AND CULTURE 123, 138 (Victor A. Ginsburgh & David Throsby eds., 2006) (offering Giuseppi Verdi as another example of copyright pushing an artist onto the backward-bending portion of the labor supply curve). As Professor Scherer explained:

> Verdi's abundant surviving correspondence makes it clear that the maestro viewed opera composition as exhausting drudgery. As his wealth accumulated, Verdi reduced his compositional effort — from 14 operas in the 1840s to seven in the 1850s, two in the 1860s, and one each in the succeeding three decades. The reduction in effort cannot be attributed to declining ability; some of Verdi's great operas are among the handful of late compositions. Rather, his correspondence makes clear, the higher "price" elicited for each opera made it possible to reduce effort along a classic backward-bending supply curve.

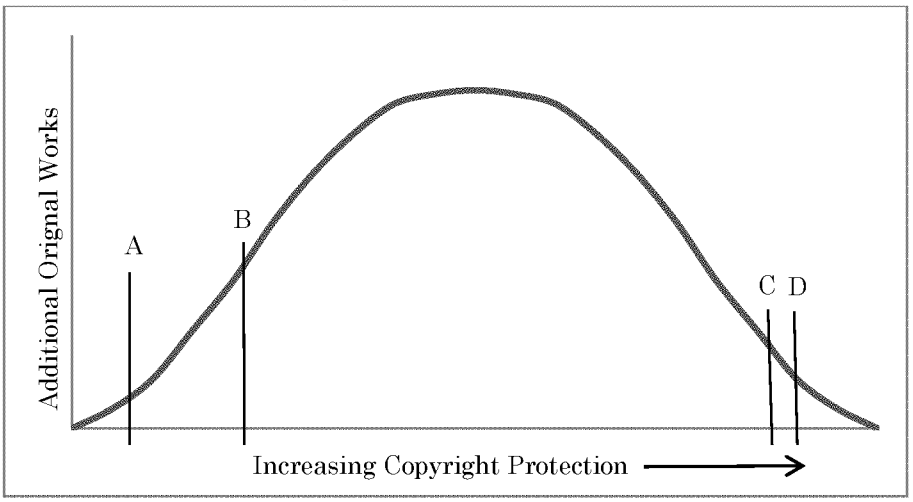
Scherer, *The Emergence of Musical Copyright*, *supra* note 46, at 11.

47. By preexisting, I mean that the works would have been created and disseminated with less or no copyright protection.

and it is this overprotection cost for the preexisting works that we must balance against the social value added by any additional works that broader copyright brings forth. Specifically, overprotection reduces the social value of works that would have been created and disseminated with less or no copyright; and it ensures that the most popular authors and artists receive payment for their work that so far exceeds their reservation cost for that work that it likely reduces the output of these authors and artists.[48] Against these overprotection costs, broader copyright's principal benefit is the value of those additional works that would not be forthcoming but for broader copyright.

This shift in emphasis, from balancing benefits from additional works against costs for preexisting works, rather than benefits against costs for a particular work, may seem trivial, but it is critically important. When we consider the potential range of original works that broader copyright could bring forth, we will likely find, to the extent works of authorship exhibit similar cost and demand structures, that there is some normal distribution in the number of works that increasing copyright protection will bring forth, as Figure 1 illustrates.

Figure 1. Distribution of Additional Work Brought Forth as Copyright Protection Increases.



The idea in Figure 1 is that different works require different levels of copyright protection to ensure their expected profitability and

48. In addition to these costs, copyright may also skew the incentives for authors, encouraging authors to create popular works at the expense of great works. *See* Lunney, *supra* note 9, at 888-90.

hence creation. Thus, copyright protection at level *A* ensures the expected profitability of works at *A* and to the left of *A*. Given the copyright protection available, works to the right of *A* remain unprofitable and will not be forthcoming. If we want to increase output in the copyright sector, we need to increase the level of copyright protection, moving, for example, from *A* to *B* on Figure 1. Such an increase in copyright protection will ensure the expected profitability of a larger category of works and will bring forth those additional works that lie between *A* and *B*.

Yet, if we expand protection from level *A* to level *B,* copyright's uniform term and scope of protection means that we will provide the broader protection not only to the additional works that the increased copyright protection brings forth, but also to the preexisting works that would have been brought forth with less or no copyright protection. Moving from *A* to *B* will thus increase the overprotection costs associated with these preexisting works. Nevertheless, as Figure 1 suggests, in moving from *A* to *B*, the overprotection costs associated with preexisting works will not prove overwhelmingly large. For such a move, the preexisting works consist only of those works that lie under the distribution curve to the left of *A*. This is only a relative few, both in absolute number and relative to the number of additional works the shift to *B* brings forth.

On the other hand, if we move from a lot of copyright protection to even more, moving from *C* to *D* on Figure 1, the overprotection costs become substantial. For this move, the preexisting works consist of all of those that lie under the distribution curve to the left of *C*. This is a very large number of preexisting works, both in absolute terms and relative to the number of additional works that the shift to *D* brings forth. Even if one believes that an efficient licensing market will help reduce the overprotection costs for any given work, when we add up the overprotection costs for such a very large number of preexisting works, those costs likely become prohibitive.

It's true that, even when framed properly, this balance between the costs and benefits of broader copyright remains an empirical question. Nevertheless, it does not take detailed economic information to get an accurate, if very rough, sense for the likely costs and benefits for some copyright and copyright-like expansions. Consider the 1998 copyright term extension, which extended copyright from life-plus-fifty years to life-plus-seventy years. On the benefit side, the first question should have been: How many additional works will an additional twenty years of protection bring forth? The probable answer, given the uncertainty and discounting associated with any rev-

enue so far in the future, is statistically indistinguishable from zero.[49] On the other side of the balance, adding twenty years to copyright's term has a considerable social cost. Specifically, it ties up the vast number of works that would have been created even without the term extension—essentially all works—for an additional twenty years. In short, the proposed extension generated all costs and no benefits.[50] Or consider the recent proposals for fashion design protection. On the benefit side, the initial question again is: How many additional designs will we get by providing fashion design protection? My own sense, here, given the strong reputational rents already available for creative designers,[51] is very little. On the other side of the balance, the question is: What is the cost to society of protecting all of the fashion designs that we would have gotten even without such protection? Given the great variety of designs being produced without such protection today, my own sense, again, is that the likely costs of overprotecting all of the preexisting designs would be substantial. As with copyright term extension, the costs of fashion-design protection will likely prove so high, and the benefits, if they exist at all, would be so small, it would seem that the only reasonable answer we can reach is that fashion-design protection would reduce social welfare.[52]

While this balancing of costs and benefits can therefore prove useful, it remains incomplete. So far in balancing the costs and benefits

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49. Brief for George A. Akerlof et al. as Amici Curiae Supporting Petitioners at 8-9, Eldred v. Ashcroft, 537 U.S. 186 (2003) (No. 01-618), 2002 WL 1041846. Of the seventeen economists who signed the brief, five (George Akerlof, Kenneth Arrow, James Buchanan, Ronald Coase, and Milton Friedman) are Nobel Prize winners. ALL NOBEL PRIZES, http://www.nobelprize.org/nobel_prizes/lists/all/ (last visited Feb. 11, 2015).

50. Lord Macaulay made the same basic point in arguing against copyright term extension in England in the 19th century. As he explained in a speech to the House of Commons in 1841:

> A monopoly of sixty years produces twice as much evil as a monopoly of thirty years, and thrice as much evil as a monopoly of twenty years. But it is by no means the fact that a posthumous monopoly of sixty years gives to an author thrice as much pleasure and thrice as strong a motive as a posthumous monopoly of twenty years. On the contrary, the difference is so small as to be hardly perceptible. We all know how faintly we are affected by the prospect of very distant advantages, even when they are advantages which we may reasonably hope that we shall ourselves enjoy. But an advantage that is to be enjoyed more than half a century after we are dead, by somebody, we know not by whom, perhaps by somebody unborn, by somebody utterly unconnected with us, is really no motive at all to action.

MACAULAY, *supra* note 40, at 198-202.

51. For a formal model of reputation rents and innovation, see Glynn S. Lunney, Jr., *Patent Law, the Federal Circuit, and the Supreme Court: A Quiet Revolution*, 11 SUP. CT. ECON. REV. 1, 58-63 (2004).

52. For a longer argument on this issue, see Kal Raustiala & Christopher Sprigman, *The Piracy Paradox: Innovation and Intellectual Property in Fashion Design*, 92 VA. L. REV. 1687 (2006).

of broadening copyright, we have relied on two usually unspoken assumptions. First, we have focused solely on the markets for copyrighted works and have ignored how broader copyright might interact with imperfections in other markets. Such a partial equilibrium approach necessarily assumes, *inter alia*, that all other markets are complete (i.e. that there are no externalities in other markets) and perfectly competitive.[53] Second, we have also assumed that consumers will be willing to substitute unauthorized copies of an original work for authorized copies,[54] even if that threatens the creation of a given work.

Neither assumption matches the real world, however. Other markets suffer from imperfections too.[55] Free riders, positive externalities, and copying are present not only in the market for original works of authorship but are ubiquitous features of virtually every market. Similarly, while consumers may sometimes substitute an unauthorized copy of an original work for an authorized copy, they will not always do so. Particularly when that substitution begins to threaten the incentives necessary to ensure an original work's creation, we should expect a consumer's own self-interest to lead the consumer to purchase the authorized copy or otherwise contribute to the creation of the original work.[56] Acknowledging this more complicated reality and adopting more realistic assumptions on these issues sharply narrows copyright's optimal scope.

As I have shown elsewhere, when we acknowledge that other markets face free riding, positive externalities, and copying, copyright will tend to ensure the allocation of available resources to their highest and best use when it ensures that those who invest in the creation and dissemination of original works, more generally, experience a return neither greater than nor less than the return available for creative work in other fields.[57] Such an approach leads to the op-

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53. *See* Lunney, *supra* note 24, at 488 n.13; *see also* JOAN ROBINSON, THE ECONOMICS OF IMPERFECT COMPETITION 317-18 (1933).

54. Perhaps, the assumption is that consumers cannot tell the difference between authorized and unauthorized copying, but that can be addressed by a law requiring proper labeling.

55. *See, e.g.*, ROBINSON, *supra* note 53, at 51, 88-89; Glynn S. Lunney, Jr., *Copyright's Price Discrimination Panacea*, 21 HARV. J.L. & TECH. 387, 406-09 (2008) ("In short, markets for creativity, wherever they are found in the economy, are neither complete nor perfectly competitive.").

56. *See* Glynn S. Lunney, Jr., *Copyright, Private Copying, and Discrete Public Goods*, 12 TULANE J. TECH. & INTELL. PROP. 1, 17, 20, 32 (2009).

57. *See* Lunney, *supra* note 24, at 599-601; *see also* Lunney, *supra* note 55, at 447 (showing that such a rough equivalence promotes an efficient allocation of resources in a second-best world). Terry Fisher has acknowledged the importance of this point but has expressed the concern that my proposed solution "would sacrifice most of the economic benefits highlighted by Demsetz and Goldstein." William Fisher, *Theories of Intellectual Property*, *in* NEW ESSAYS IN THE LEGAL AND POLITICAL THEORY OF PROPERTY 168, 182 (Ste-

timal allocation of available resources in two respects. First, it would lead additional resources to be allocated to creating additional works if that represents the highest valued use of those resources. But, second, it would not lead additional resources to be allocated to creating additional works if there is some other use of those resources that would create more value. As it turns out, this standard also has the advantage that it is relatively easy to implement given the empirical information available. For example, if we are trying to determine copyright's optimal duration, determining whether the costs outweigh the benefits for extending copyright from life-plus-fifty years to life-plus-seventy years was relatively easy, even under the partial equilibrium approach. However, attempting to use that approach to define whether the optimal copyright term is one year, five years, ten years, or something longer is much more difficult.

In contrast, if our goal is to ensure authors and copyright owners a period of exclusivity approximately the same as the lead-time available to other innovators, the empirical data to determine the optimal

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phen Munzer ed., 2001). The concern seems to be that without a legal right to control certain users, creators of original works will not receive appropriate pricing signals. As Paul Goldstein has argued: "The logic of property rights dictates their extension into every corner in which people derive enjoyment and value from literary and artistic works. To stop short of these ends would deprive producers of the signals of consumer preference that trigger and direct their investments." PAUL GOLDSTEIN, COPYRIGHT'S HIGHWAY 178-79 (1994). This is utter nonsense. It fundamentally misunderstands the nature of pricing in competitive markets. As an example, consider Professor Goldstein's argument that we would have too few books suitable for making into movies unless an author has a right to charge a separate licensing fee for making a movie from the book. *See* GOLDSTEIN, *supra,* at 178-81. Using his reasoning, we could equally well argue that we will have too few off-road capable vehicles unless carmakers have the right to charge a separate licensing fee for off-road use. Without a property right to price such use separately, how will car-makers receive an appropriate price signal for off-road capable vehicles? As we all readily recognize, the off-road use argument is wrong, but for the same reasons, so is Goldstein's argument for a derivative work right. In competitive markets, prices are a function of costs, not of consumer values. As a result, if vehicles suitable for both on- and off-road use cost more to bring to market than vehicles suitable for only on-road use, then so long as there is sufficient demand, the price for off-road capable vehicles will be higher. If they are not more costly, then the price will not be higher. We do not need an "off-road use" right that a car-maker can separately license in order to generate appropriate pricing signals. It's the same for books. If a book suitable for movie use is more costly to write, then the market price for such books will be higher. If not, then not. Again, no "movie making" derivative work right is necessary for appropriate pricing signals. I have explained elsewhere the differences between cars and books that might justify a derivate work right. *See* Lunney, *supra* note 24, at 628-30, 632, 641. In short, a derivate work right can be justified only if it is necessary to ensure the creation of the book in the first place or if there is only going to be one movie-version of the book. As it turns out, both rationales are persuasive only if the associated feature film is likely to be a natural monopoly, even in the absence of copyright. *See* Lunney, *supra* note 43, at 814. While movies have historically had such a character, digital technology is reducing that natural monopoly character, as well as the natural monopoly character of radio airplay. As it does so, rights that were sensible given the associated natural monopolies, such as the derivative work right and the public performance right, will likely become increasingly unnecessary and, indeed, undesirable.

copyright term is readily available.[58] For innovations protected by trade secrets, innovators on average have a lead-time of two to twelve years.[59] Given patentee's decisions on whether to pay the maintenance fees or not, patents, on average, last eleven years.[60] If copyright competes for resources, such as creativity, with these other creative, but not copyrightable sectors of the economy, then to avoid either an underproduction or an overproduction of original works, copyright's original fourteen-year term seems pretty close to ideal.[61] Such an approach also suggests that copyright's principal, if not exclusive, focus should be on mechanical duplication, as that is the principal difference between copying the creativity in original works and copying creativity elsewhere in the economy.[62]

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58. Some may argue that, even given the proper framework, we still don't have sufficient information to determine copyright's optimal scope perfectly. My own sense is that we have sufficient information to design copyright well enough. Yet, if one accepts the argument that we can't tell whether the additional works that broader copyright may bring forth are more or less valuable than the alternative uses to which those resources would otherwise be devoted, that lack of empirical evidence inevitably leads to a simple answer as to the optimal scope of copyright protection: none. This is because copyright imposes real costs. If it does not generate equally real welfare gains, it cannot be justified. The only net welfare gain copyright offers is encouraging the production of additional original works when that represents a more valuable use of the available resources than the alternative to which those resources would otherwise be devoted. If we can't tell which use is more highly valued, then copyright has no welfare gains to offer and should either be abolished or be recognized as a poorly designed charitable mechanism for redistributing wealth from society to copyright owners. *See* Tom W. Bell, *Authors' Welfare: Copyright as a Statutory Mechanism for Redistributing Rights*, 69 BROOK. L. REV. 229, 231-32 (2003).

59. As a general rule under trade secret law, a successful plaintiff is entitled to a "lead-time" injunction—an injunction that lasts only for the time it would have taken the defendant to discover the secret lawfully, either by reverse engineering, independent development, or otherwise. *See, e.g.*, K-2 Ski Co. v. Head Ski Co., 506 F.2d 471, 474 (9th Cir. 1974). In their treatise on trade secret law, Roger Milgrim and Eric Bensen cite a number of illustrative cases applying this principle. *See* ROGER M. MILGRIM & ERIC E. BENSEN, 4 MILGRIM ON TRADE SECRETS § 15.02[1][d] (2014). Some of these cases deny injunctive relief on the grounds that the lead-time period had already expired; some grant permanent injunctions. Of the twenty cases they cite that grant an injunction for a specific time, the duration of the injunctions ranges from 3 months to 10 years, with a mean of 2.5 years, a median of 2 years, and a mode of 3 years. *Id.* § 15.02[1][d] n.20.

60. *See* Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1504 (2001) (presenting in Table 3 data showing that patentees pay the maintenance fees due eleven years after the patent issues for less than forty percent of the patents issued). Moreover, even while a patent remains in force, it does not usually preclude competitive entry. *See* Edwin Mansfield, Mark Schwartz & Samuel Wagner, *Imitation Costs and Patents: An Empirical Study*, 91 ECON. J. 907, 913 (1981) ("Contrary to popular opinion, patent protection does not make entry impossible, or even unlikely. Within 4 years of their introduction, 60% of the patented successful innovations in our sample were imitated.").

61. Alternatively, under this approach, one might argue that patent protection should be longer but, given the relative political economies involved, the patent term is likely to be far closer to socially optimal than the copyright term.

62. *See* Lunney, *supra* note 24, at 626 ("To the extent the relative copying advantages depicted in Tables 6 and 9 represent the relative copying advantages available to authors generally, the empirical evidence tends to establish that copyright should protect literary works only against exact or near-exact duplication.").

Adopting more realistic assumptions and recognizing the need to account for the imperfections inevitably present elsewhere in the economy thus suggests a far narrower optimal scope for copyright than does a partial equilibrium approach. Yet, a more careful examination of the second usually unspoken assumption—that consumers will free ride and substitute a less expensive or free, unauthorized copy for an authorized copy whenever they can—may go even further. It may suggest that there is no need for copyright at all.

When it comes to the question of whether a rational, self-interested consumer will either (i) pay for access or (ii) free ride, the consumer has two conflicting desires that she must reconcile. First, she enjoys the work and wants it to exist, so she wants the author to receive sufficient payment to ensure the work's creation. Second, while wanting to ensure the work's creation, our consumer also wants to pay as little for access to the work as possible. In sum, our music consumer wants the work for free, but she knows that if everyone free rides, the work will not be created.

We can analyze how a consumer will resolve this dilemma using a game theoretic framework and the principles of Nash equilibrium.[63] When we do, we find a mixture of paid access and free riding that, in the absence of copyright, may lead to suboptimal incentives, but may not. It depends on our starting assumptions. In economic theory and in the economy, there are some public goods that markets can produce efficiently, without the need for specific government intervention. For our purposes, the relevant distinction is between continuous public goods, where the choice is between more or less of the public good at issue, and discrete public goods, where the choice is between having or not having the public good. With respect to music and works of authorship more generally, if we assume that the relevant market is for original works generally and analyze the issue as one involving a continuous public good, then we find the familiar, underproduction result. While consumers will pay something for access to the original works, there will be too little paid access and too much free riding and as a result, the market will produce too few original works in the absence of copyright.[64] On the other hand, if we assume that the relevant market is for a particular work of authorship—a particular song or book or movie, rather than just more songs, books, or movies, and analyze the issue as one involving discrete public

63. As John Nash explained it: "an equilibrium point is . . . such that each player's . . . strategy maximizes his payoff if the strategies of the others are held fixed." John Nash, *Non-Cooperative Games*, 54 ANNALS OF MATHEMATICS 286, 287 (1951); *see also* John F. Nash, *Equilibrium Points in n-Person Games*, 36 PROC. NAT'L ACAD. SCI. 48, 48-49 (1950) (introducing his equilibrium concepts).

64. For a formal partial equilibrium proof of this result, see Lunney, *supra* note 55, app. at 449-51.

goods, then we reach a quite different conclusion. At the robust Nash equilibria, while there may be free riding, consumers will nevertheless pay enough to ensure the work's creation.[65] As a result, if consumers view individual works, rather than works generally, as the relevant market, then the market will produce an optimal supply of original works even in the absence of copyright.[66]

Consider a simple subscription model. There are N consumers who each have some reservation value for a work, V_i. To ensure creation and dissemination of the work, the author must receive some reservation cost, C. Returning to a partial equilibrium approach, for the sake of simplicity, assume that the work is worth more than it costs, or $\sum V_i \geq C$, and therefore welfare would be improved if the work is created. Each consumer can make a binding commitment to pay some price for access to the work, P_i, or can choose to free ride. The work will be created if the sum of the prices consumers promise to pay exceeds the cost of the work: $\sum P_i \geq C$. Otherwise, the work will not be created. Consumers pay only if the work is created.

Given this set-up, we find two types of Nash equilibria. In the first, the sum of the promised prices exactly equals the author's reservation cost: $\sum P_i = C$.[67] While some free riding may occur in these equilibria,[68] enough consumers pay for access to cover the author's reservation cost. As a result, the work is created, and the market reaches an efficient and Pareto optimal outcome. In the second, the sum of the promised prices are insufficient to cover the author's reservation cost, $\sum P_i < C$, and no single individual can increase their price sufficiently to make up the difference, $C - \sum P_i > V_i - P_i$ for i=1, N.[69] For these equilibria, too much free riding occurs, and the promised payments fail to cover the author's reservation cost. As a result, the work is not created, and the market fails to achieve the efficient outcome.

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65. *See* Lunney, *supra* note 56, at 15.

66. *See* Thomas R. Palfrey & Howard Rosenthal, *Participation and the Provision of Discrete Public Goods: A Strategic Analysis*, 24 J. PUB. ECON. 171, 190-91 (1984); *see also* Anat R. Admati & Motty Perry, *Joint Projects Without Commitment*, 58 REV. ECON. STUD. 259 (1991); Mark Bagnoli & Barton L. Lipman, *Private Provision of Public Goods Can Be Efficient*, 74 PUB. CHOICE 59, 59-61 (1992); Stefano Barbieri & David A. Malueg, *Private Provision of a Discrete Public Good: Efficient Equilibria in the Private-Information Contribution Game*, 37 ECON. THEORY 51, 51-53 (2007); Mark Gradstein, *Efficient Provision of a Discrete Public Good*, 35 INT'L ECON. REV. 877, 877 (1994); Flavio M. Menezes, Paulo K. Monteiro & Akram Temimi, *Private Provision of Discrete Public Goods with Incomplete Information*, 35 J. MATH. ECON. 493, 495-96 (2001).

67. *See* Lunney, *supra* note 56, at 10-16. Instances where the sum of the prices exceeds the author's reservation costs are not Nash equilibria, because each consumer would want to reduce her promised price until the sum of the prices exactly equals the author's reservation costs.

68. *Id.* at 12-13.

69. If a single individual could make up the difference, then the individual would be better off doing so, and we would move to the first type of Nash equilibria.

While these are both Nash equilibria, only the efficient equilibria, where the work is created, are robust.[70] At one of the efficient Nash equilibria, for each and every consumer, any change in strategy would make the consumer worse off. Of course, even at these equilibria, each consumer would still prefer to pay less if they could, but they cannot and so they will not. Attempting to pay less (or to pay nothing) would mean that the work would not be created and at these Nash equilibria, each consumer prefers to have the work created, given the price that they are paying, than to pay nothing and not have the work at all.[71]

In contrast, with respect to the inefficient Nash equilibria, where the work is not created, none of them are robust. At any one of the inefficient equilibria, a consumer has nothing to gain by changing her strategy, but she has nothing to lose either. At these Nash equilibria, the work will not be created and nothing will be paid. As a result, consumers who did not promise their full reservation value are indifferent between their current promised price and a slightly higher or lower promised price. Moreover, such a consumer will actively prefer any of the Nash equilibria where the work is created to any of the Nash equilibria where it is not. Given that preference, if a consumer has any uncertainty as to what other consumers will bid, a consumer who has promised a price less than his or her reservation value has an incentive to increase his or her promised price. By bidding somewhat more, a consumer can increase the likelihood that the work will be created. Taken together, this means that the inefficient Nash equilibria are not robust. No consumer has any incentive to stay at any of them and if they could find a way to move to one of the efficient Nash equilibria, they would.

Given this and contrary to longstanding belief, the market may well be capable, even in the absence of copyright, of producing original works of authorship efficiently. So long as consumers desire specific, individual works of authorship and therefore treat original works as discrete public goods, the massive government intervention that copyright represents may prove entirely unnecessary.

As is so common with economic modeling, our starting assumption thus dictates our result. An assumption that the relevant market is for works generally leads us to the continuous public goods model and the conclusion that the market will invariably produce too few original works. In contrast, an assumption that consumers are looking for a specific work leads us to the discrete public goods model and

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70. For a discussion of the concepts economists use to sort Nash equilibria, see ERIC VAN DAMME, REFINEMENTS OF THE NASH EQUILIBRIUM CONCEPT (1983).

71. I am employing the conventional tie breaker, such that having the work is worth just slightly more to the consumer, even at her reservation value, than not having the work.

the opposite conclusion: For such discrete public goods, the market can achieve an efficient, Pareto optimal outcome and produce an optimal supply of original works. The question then becomes whether the continuous or discrete public goods analysis better matches the real world characteristics of original works. This in turn depends upon whether consumers: (i) consider any given original work sufficiently unique to constitute its own market; or (ii) consider each original work merely an indistinguishable widget that together with other original works (also indistinguishable widgets) form a broader market for works generally. Which model better describes the actual market or markets for original works will thus depend entirely on consumer preferences and may vary for different types of works.

Yet, to the extent consumers consider an original work sufficiently unique to constitute its own market, we may not need copyright at all. Instead, all we may need are market mechanisms that (i) enable consumers to commit to purchasing access to a work; and (ii) help consumers reach one of the efficient Nash equilibria. While such mechanisms may have been difficult to implement in an analog world,[72] we have already seen several practical implementations of such mechanisms on the Internet, including Kickstarter,[73] Stephen King's marketing of the novella, *The Plant*, and Nine Inch Nails's release of tracks from its *Ghost I-IV* album.[74]

Economic theory thus reaches somewhat inconsistent conclusions on the underlying need for copyright and on how to define its proper limits, depending on the assumptions with which we begin. We need not rely on theory alone, however. The rise of file sharing provides a rare opportunity to test copyright's fundamental premises and the competing predictions of economic theory against economic reality. In the next section, we explore how the rise of file sharing has affected creative output in the music industry.

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72. As I have discussed elsewhere, lighthouses represent a discrete public good and were initially funded through a subscription model. *See* Lunney, *supra* note 56, at 22.

73. Kickstarter is a website that allows individuals to propose projects and solicit donations to support the projects. It is a subscription-based model where the donations are made, and the project only proceeds if a specified level of support is reached. Launched on April 21, 2009, Kickstarter has enabled individuals to raise an estimated $1 billion for their projects. *See Seven Things to Know About Kickstarter*, KICKSTARTER, https://www.kickstarter.com/hello (last visited Feb. 11, 2015). Musicians have used Kickstarter to pay for the production costs for a new album and for tours. For example, in 2012, Amanda Palmer raised more than one million dollars from more than 17,000 individual donations for a tour and a new album. *See* Alison Fensterstock, *Making Her Own Way: Do-It-Yourself Singer Amanda Palmer Uses 1990s Ingenuity and 21st Century Savvy to Finance Her Rise to Fame*, THE TIMES-PICAYUNE, Sept. 15, 2012, at C-1.

74. *See* Lunney, *supra* note 9, at 863-64; Lunney, *supra* note 56, at 23-24.

B. Testing Theory Empirically: File Sharing and Music Output

We are all familiar with file sharing's basic story. Since Napster opened its virtual doors in 1999, widespread consumer copying and distribution of copyrighted works through file sharing services has become the new reality. Copyright owners have tried to stop it, of course. They have sued both file sharing services, such as Napster, Aimster, and Grokster,[75] and individual file sharers.[76] While winning the vast majority of these battles, copyright owners have just as surely been losing the war. Despite their lawsuits and their educational campaigns, file sharing has become remarkably widespread. For virtually every copyrighted song, television program, and movie that exists, a consumer, without much effort, can obtain her own unauthorized copy for free by file sharing. As a formal matter, copyright continues to provide an extremely high level of protection; as a practical matter, the effective level of protection copyright provides to original works has fallen radically. Given this sharp reduction in copyright protection, the natural question becomes: How has it affected creative output?

To begin our examination of this issue, Figure 2 presents an estimate of the file sharing traffic on the Internet in North America, from Cisco's Visual Networking Index for 2008 and 2014.[77]

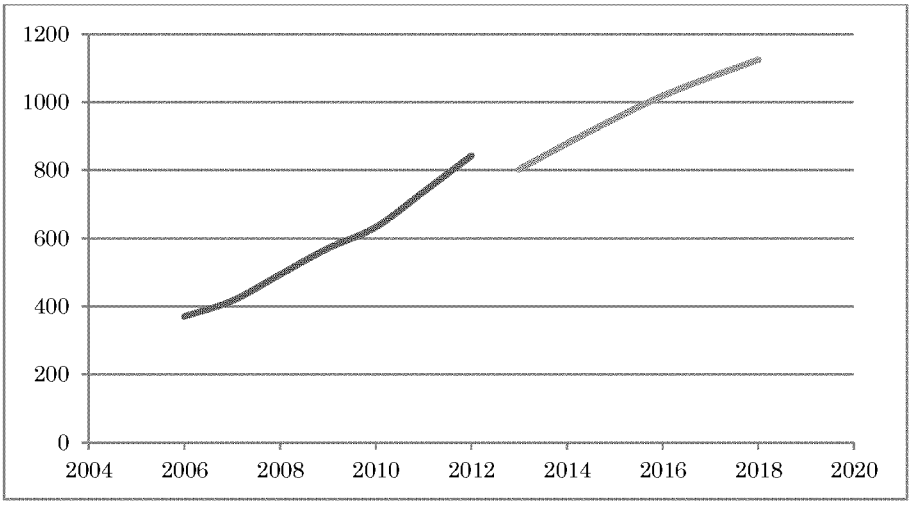
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75. *See* Metro-Goldwyn-Meyer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 941 (2005) (reversing summary judgment in favor of Grokster and remanding for reconsideration under newly articulated inducement standard for secondary liability); *In re* Aimster Copyright Litig., 334 F.3d 643, 656 (7th Cir. 2003) (affirming grant of preliminary injunction against Aimster); Arista Records, L.L.C. v. Lime Group, L.L.C., 784 F. Supp. 2d 398, 409-10 (S.D.N.Y. 2011) (granting summary judgment motion holding Lime Group liable for inducing copyright infringement).

76. *See* Sony BMG Music Entm't v. Tenenbaum, 660 F.3d 487, 489-90 (1st Cir. 2011) (affirming finding of copyright infringement against an individual for file sharing); Capitol Records, Inc. v. Thomas-Rasset, 799 F. Supp. 2d 999, 1001-02, 1016 (D. Minn. 2011) (affirming finding of copyright infringement for uploading twenty-four songs through a file-sharing program, but reducing damages award to $54,000).

77. CISCO, CISCO VISUAL NETWORKING INDEX: FORECAST AND METHODOLOGY, 2013-2018, at 11 (2014) [hereinafter CISCO, 2014 VISUAL NETWORKING INDEX]; CISCO, CISCO VISUAL NETWORKING INDEX: FORECAST AND METHODOLOGY, 2007-2012, at 4 (2008).

Figure 2. Estimates of File Sharing Traffic on the Internet: North America (in petabytes/month). Source: Cisco, Visual Networking Index for 2008 and 2014.



As Figure 2 reflects, file sharing traffic in North America in 2012 amounted to roughly eight hundred petabytes per month. Just to give a sense of scale to this issue, the typical music CD contains 800 megabytes of data. One step up from a megabyte is a gigabyte. A gigabyte is one thousand megabytes, and a typical DVD contains 4 gigabytes of data. A petabyte is one million gigabytes. At eight hundred petabytes per month, the current rate of file sharing traffic represents approximately 200 million DVDs or 1 billion CDs, copied each month. Compare that to the roughly 139 million albums that I estimated U.S. consumers made through file sharing on Napster in September 2000,[78] and we can see that, despite the copyright industries' "victories" over file sharing, file sharing has increased substantially over the past twelve years. While not all of this traffic represents the unauthorized copying and distribution of copyrighted works, estimates suggest that the vast majority of it does.[79]

Interestingly, in its two most recent indices, released in May 2013 and June 2014, Cisco projects that file sharing traffic in North America will grow much more slowly from 2012 to 2018 than it did from

78. *See* Glynn S. Lunney, Jr., *Fair Use and Market Failure:* Sony *Revisited*, 82 B.U. L. REV. 975, 1028 (2002).

79. *Cf.* Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 922 (2005) (noting that a study by an expert for the plaintiff showed that "nearly 90% of the files available for download on the FastTrack system were copyrighted works").

2006 through 2012.[80] Instead of continuing to grow by fifteen to twenty percent annually, as Cisco had consistently projected in its 2008, 2009, 2010, 2011, and 2012 indices, in its 2013 and 2014 indices, Cisco projected that file sharing traffic will grow by only seven to nine percent annually in North America from 2012-2018. It is not clear what is behind this slowdown. In its 2013 and 2014 indices, Cisco projects a slowdown in the growth rate for file sharing traffic over the next four years—but the slowdown is not limited to just North America. The slowdown is projected worldwide. Indeed, for two of its regions, Africa and the Middle East, and Western Europe, Cisco projects that file sharing traffic will actually start declining, at respective rates of twelve and two percent annually, over the next four years.[81] Given that the slowdown is worldwide, the slowing growth rate does not appear to be the result of a legal intervention by any particular country. It may simply be that file sharing is running its inherently self-limiting course and reaching an equilibrium. In a finite world, nothing can continue to grow geometrically indefinitely. Yet, regardless of whatever is causing the slowdown in the growth of file sharing traffic, the slowdown itself tends to diminish the need for further legal intervention to address the file sharing issue.

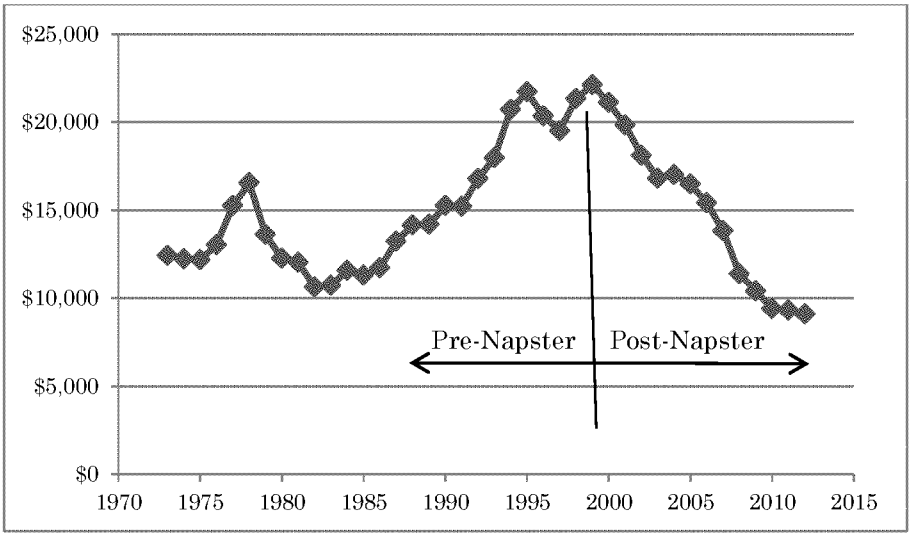
In any event, unable to stop file sharing, the effective level of copyright protection provided to original works has fallen dramatically since 1999. As file sharing has grown and the *de facto* level of copyright protection provided has fallen, the music industry, in particular, has been hard hit. With the rise of file sharing, the music industry has seen revenue from record sales decline steadily and sharply. To illustrate, Figure 3 presents the RIAA's total dollar value for music shipments, in all formats, whether physical or electronic, from 1973 to 2013.[82] In order to account for inflation, shipments are in constant 2013 dollars.

80. CISCO, CISCO VISUAL NETWORKING INDEX: FORECAST AND METHODOLOGY, 2012-2017, at 11 (2013) [hereinafter CISCO, 2013 VISUAL NETWORKING INDEX]; CISCO, 2014 VISUAL NETWORKING INDEX, *supra* note 77, at 11.

81. CISCO, 2013 VISUAL NETWORKING INDEX, *supra* note 80, at 11 (2013); CISCO, 2014 VISUAL NETWORKING INDEX, *supra* note 77, at 11.

82. This data is from the RIAA Shipment Data. *Shipment Database*, *supra* note 4 (after subscribing as a member, select shipment data from year 1973 through 2013 to download data). The year 1973 is as far back as the RIAA data goes.

Figure 3. Dollar Value of Music Sales (All Formats) in the United States (Constant 2013 Dollars, in Millions): 1973-2013. Source: RIAA.



As Figure 3 reflects, since Napster opened its doors, the RIAA reports that shipments of music have fallen from a peak of $20.4 billion in 1999 to only $7 billion in 2013. This is a fall of some $13 billion or 65.7 percent. Such a fall is not entirely unprecedented. A similar peak and fall occurred from 1978 through 1982, when shipments peaked at $14.8 billion (in constant 2013 dollars) before falling to $8.8 billion in 1982—a fall of some $6 billion or 40.7 percent. Presumably, not even the music industry would contend that file sharing caused this initial fall in music sales. Rather, this initial fall was likely due to difficulties in the economy generally from 1980 through 1982. Because music is a luxury good, spending on it can fall quite rapidly when unemployment rates rise or per capita income falls.

Yet, even if not entirely unprecedented, the decline in music shipments that follows Napster and tracks the rise of file sharing is both sharper and lasts longer than the decline during the early 1980s. Undoubtedly, difficulties in the economy generally, particularly after the start of the Great Recession in 2008, contribute to the post-Napster decline in music shipments. But file sharing may also have played a role. Existing economic studies disagree as to whether and if so, to what extent, file sharing may have contributed to this decline.[83] Yet, I am perfectly prepared to accept that file sharing is responsible, directly or indirectly, for some part of this decline.

83. *See* sources cited *supra* note 6.

The relevant question, however, is not whether file sharing caused this decline in record sales, but how this decline in record sales affected the creation of new music. The Constitution gives Congress the authority to enact copyright law "to promote the Progress of Science . . . ."[84] This is the sole standard against which copyright law must measure itself. In defining this standard, the Court has explained that promoting the "Progress of Science" encompasses two legitimate ends: (i) encouraging the creation of new works; and (ii) encouraging the dissemination of existing works.[85] File sharing undoubtedly promotes the widespread dissemination of existing works. The concern has been that it will discourage the creation of new works because copyright owners are not directly compensated for the unauthorized copies of their works distributed through file sharing networks. Given that file sharing plainly serves to promote broader dissemination, the question becomes whether there is equally clear evidence that file sharing discourages the creation of new works. Before examining this question directly, I should acknowledge that record sales are not the only source of revenue that supports the creation of new music. Sync licenses,[86] endorsement deals, concert ticket sales and associated merchandising, and public performance royalties, just to name a few, provide revenue streams that support the creation of new music, as well. Many of these are complements to the sale of recorded music and so may serve as a means for recapturing all or part of the revenue lost as a result of declining music sales.

While possible in theory, in reality, growth in the revenues associated with complementary products, such as live performances, has not done much to mitigate the decline in music sales. While we do not have data on all of the revenue sources available to artists and songwriters, two of the main alternative revenue sources, concert revenue and public performances royalties, are available, and they have not grown sufficiently to offset the revenues lost from falling record sales. As reported by Pollstar, revenue from concerts in North America grew from $2.07 billion in 1999 (adjusted to 2012 dollars)[87] to $4.3

84. U.S. CONST. art. I, § 8, cl. 8.

85. Golan v. Holder, 132 S. Ct. 873, 888-89 (2012); *see also* Harper & Row, Publishers v. Nation Enters., 471 U.S. 539, 558 (1985) ("[C]opyright supplies the economic incentive to create and disseminate ideas.").

86. A synchronization license, or "sync" license, is required when a movie, television program, or advertisement wants to include a musical work and synchronize the music to the visual images. *See* Leadsinger, Inc. v. BMG Music Publ'g, 512 F.3d 522, 527 (9th Cir. 2008).

87. *See* Roy Trakin, *The Concert Puzzle: Can the Live Concert Industry Rebound from a Difficult 2010?*, GRAMMY.COM (Mar. 25, 2011, 6:00 AM), http://www.grammy.com/news/the-concert-puzzle ("Over the last decade, as the recorded music industry contracted at a double-digit annual rate, the live concert touring business continued to grow, with worldwide ticket revenues rising from $1.5 billion in 1999 to $4.6 billion in 2009, according to *Pollstar*."). Adjustments to 2012 dollars were performed using the Bureau of Labor and

billion in 2012.[88] Similarly, royalties paid by ASCAP and BMI for the public performance of musical works grew from $1.29 billion in 1999 (again, adjusted to 2012 dollars) to $1.58 billion in 2012.[89] Since 2003, SoundExchange has also begun paying royalties for the public performance of sound recordings and has paid out approximately $462 million in 2012.[90] While these revenue sources grew faster than the rate of inflation, the total increase in revenue available from these alternative sources from 1999 to 2012, is not enough to offset the $13 billion decline in revenue from record sales over that same period.[91]

This brings us to the heart of the matter: how has this decline in revenue affected creative output in the music industry? For four hundred years, copyright's fundamental premise has been that more revenue will lead to more and better creative works. If this premise is accurate, then the sharp decline in music industry revenue since 1999 should have led to fewer or lower quality songs. Surprisingly, perhaps, given copyright's premise, it has not.

We begin with industry data. Figure 4 presents data from SoundScan on the number of new albums released in the United States each year since 1996.

Statistics' CPI Inflation calculator. *See CPI Inflation Calculator*, U.S. BUREAU OF LABOR AND STATISTICS, http://www.bls.gov/data/inflation_calculator.htm (last visited Feb. 11, 2015).

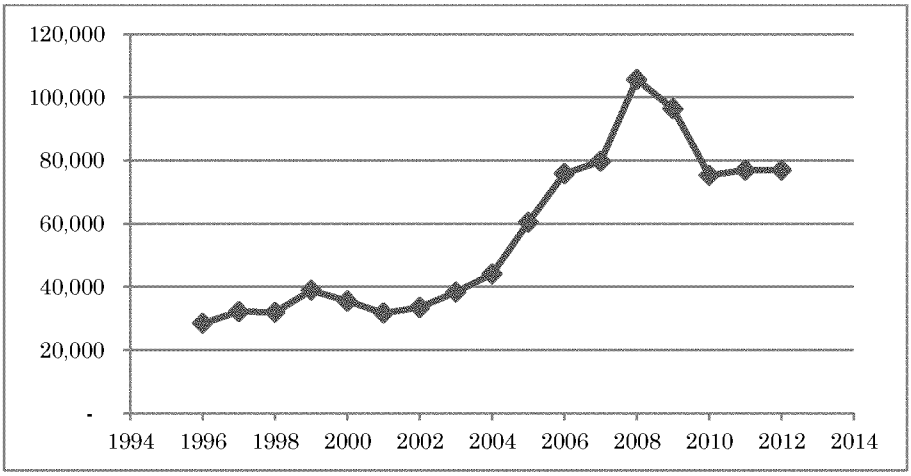
88. *See Pollstar's Top 200 North American Tours*, POLLSTAR (Jan. 7, 2013, 5:01 PM), http://www.pollstar.com/news_article.aspx?ID=803803 ("With all 2012 box office reports for North America totaling more than $4.3 billion, the Top 100 tours accounted for more than half that amount, generating $2.52 billion.").

89. *See ASCAP Reports 2012 Financials*, ASCAP (Mar. 4, 2013), http://www.ascap.com/press/2013/0304-ascap-reports-2012-financials.aspx ("The American Society of Composers, Authors and Publishers (ASCAP), the worldwide leader in performing rights and advocacy for music creators, today announced that it distributed over $827 million in royalties to its songwriter, composer and publisher members in the calendar year ended 2012, a slight increase over 2011."); Ed Christman, *BMI Releases Results, Revenue Down 3.5% Due to Radio Rate Settlement*, BILLBOARD (Sept. 20, 2012, 6:02 PM), http://www.billboard.com/biz/articles/news/publishing/1083703/bmi-releases-results-revenue-down-35-due-to-radio-rate ("During the recently completed year, BMI distributed $749.8 million in royalties, down 5.8% from the $796 million paid out in the prior year."); Tamara Conniff, *ASCAP Composes Record Year*, HOLLYWOOD REP., Feb. 14, 2001 ("The American Society of Composers, Authors and Publishers' revenue reached a record high of $576 million last year, up $41 million from 1999, the company said Tuesday. Domestic and foreign royalty distribution to its members totaled $479.1 million. Domestic distribution increased 12% from 1999, ASCAP chief John LoFrumento said."); Sherman Friedman, *BMI Launches Online Song Registration*, NEWSBYTES, June 19, 2000 ("BMI currently distributes about $500 million in worldwide royalties from all media to its members on an annualized basis.").

90. SOUNDEXCHANGE, SOUNDEXCHANGE ANNUAL REPORT FOR 2012, at 7 (2013), *available at* http://www.soundexchange.com/wp-content/uploads/2013/06/2012-Annual-Report-06-13-13.pdf ("In 2012, SoundExchange's gross distributions were approximately $462 million.").

91. *Cf.* Felix Oberholzer-Gee & Koleman Strumpf, *File Sharing and Copyright*, *in* 10 INNOVATION POLICY AND THE ECONOMY 21, 23 (2010), *available at* http://www.nber.org/chapters/c11764.pdf (suggesting that sale of complementary goods has largely offset loss of record sale revenue, but including iPod sales and failing to account for inflation by using a nominal, rather than constant, dollar analysis).

Figure 4. New Albums Released in the United States: 1996-2012. Source: Nielsen SoundScan.



As Figure 4 illustrates, the quantity of new albums released in the United States is up substantially since Napster's debut. Using a consistent methodology, SoundScan estimates that the number of new albums released increased from just under forty thousand albums in 1999 to a peak of over one hundred thousand albums in 2008. With the onset of the Great Recession in 2008, the number of new albums fell back in 2009-2012, but even so, the number of new albums released in 2012, at just under eighty thousand, nearly doubles the pre-Napster output.

While the increasing number of albums released suggests that the revenue decline has not affected music output in terms of quantity, it does not account for a possible decline in quality, nor does it foreclose the possibility that even more albums might have been released but-for the decline in revenue. Of course, to a considerable extent, such arguments are either entirely disingenuous or the product of wishful thinking. When the Great Recession hit in 2008 and new home and automobile sales fell precipitously, there was a corresponding, and immediate fall in new housing starts and automobile production in the United States.[92] For either industry, we did not need to argue

92. According to the U.S. Census Bureau, new housing starts fell from over twenty million units a year in 2004, 2005, and 2006, to only 10.2 million units in 2008, and then to only 6.6 million units in 2009—a decline of more than 50 percent. *See New Residential Construction: Seasonally Adjusted Annual Rate for Housing Units Started*, U.S. CENSUS BUREAU, http://www.census.gov/econ/currentdata/ (last updated Mar. 26, 2014) (select "New Residential Construction"; then press "submit"; then under "Select Industry or Category" select "Annual Rate for Housing Units Started"; then press "Get Data"). Similarly, the International Organization of Motor Vehicle Manufacturers (OICA) reports that automobile production in the United States fell from over 10 million units in 2004, 2005, and 2006 to only 5.7 million units in 2009. *Production Statistics*, OICA, http://www.oica.net/

that while housing starts or automobile production remained constant, the size, quality, and features of the homes or cars had fallen. Nor did we need to argue that output in either sector remained high, but output would have been even higher but for the recession. The sort of sharp and immediately measurable decline in output that these industries experienced reflects how a competitive and well-functioning market responds to a sharp decline in revenue. In a competitive market, firms are already operating at the margins of profitability;[93] they cannot simply absorb a sharp decline in revenue and maintain production. That the music industry was able to do so suggests that the music industry may not operate in a comparably competitive and well-functioning market.

In a just completed empirical study,[94] I have nonetheless attempted to examine these issues directly and to account for the possibility that: (i) music quality might have fallen as a result of the revenue decline; or (ii) music output might have been higher but for the revenue decline. In the study, I treat the rise of file sharing and the parallel fall in music industry revenue as a natural experiment in radically reduced copyright protection. To explore the relationship between copyright protection, revenue, and high quality creative output, I created a hand-coded data set for the songs that appeared in the top fifty of the Billboard Hot 100 in the first week of each month for each year from 1985 through 2013. I focused on songs that appeared in the top fifty of the Hot 100 in order to control for quality.[95] Both before and after file sharing, reaching the top fifty of the Hot 100 provided some evidence of a song's ability to satisfy the musical preferences of music consumers. At a minimum, a new song will hit the top fifty of the Hot 100 only if consumers prefer it to the preexisting songs otherwise available.[96] Appearance in the top fifty thus provides a reasonable proxy for quality that should be consistent across the pre- and post-file sharing eras.

In the data set, for each of the 17,400 songs in the study, I coded, *inter alia*: (i) whether the song was performed by a New Artist, in that it was the artist's first appearance in the Top 50 and occurred

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category/production-statistics/ (last visited Feb. 11, 2015) (select each corresponding year under "Production Statistics") (more detailed reports of production by year and type of vehicle may also be downloaded).

93. *See, e.g.*, HAL R. VARIAN, INTERMEDIATE MICROECONOMICS: A MODERN APPROACH 400-01 (Ed Parsons ed., 5th ed. 1999).

94. *See* Lunney, *supra* note 7.

95. For other quality-consistent measures of music output, see Handke, *supra* note 7; Waldfogel, *supra* note 7; Joel Waldfogel, *Bye, Bye, Miss American Pie? The Supply of New Recorded Music Since Napster* (Nat'l Bureau of Econ. Research, Working Paper No. 16882, 2011), *available at* http://www.nber.org/papers/w16882.

96. While listeners may have a preference for "new," as well as "good," music, there is no evidence that this preference has changed from the pre- to the post-file sharing era.

with, or before, the artist's first single on the artist's first studio album; and (ii) whether the song was a New Song, in that it had not previously appeared in the Top 50 and was not a cover. Once I had identified the New Artists for each year, I went back and created a second data set. In the second data set, for each New Artist, I determined: (i) the number of Top 50 chart appearances each New Artist had during the first ten calendar years of their career; and (ii) the number of different songs with which each New Artist hit the Top 50, again during the first ten calendar years of their career. Because this second data set covered an artist's first ten years, it covers a more limited time period and covers only those New Artists who first appeared in the Top 50 from 1985-2005.[97]

After collecting the data, I used regression analysis to isolate and define any statistically significant correlations between revenue, file sharing, and music output. By using regression analysis, I was able to isolate the relationship between revenue and music output, regardless of other changes that may have been occurring in the economy generally or in the music industry specifically, such as the declining cost of album production. The regression analysis established that the sharp decline in revenue from music shipments following the rise of file sharing was associated, if we hold all else constant: (i) with fewer new artists entering the market; but (ii) also with more hit songs, on average, by those new artists who did enter. The first marginal effect, that the number of new artists declined as revenue fell, is entirely consistent with copyright's traditional incentives story. As revenue fell, an artist's expected earnings from pursuing a career in music also fell, and so, at the margins, some individuals decided to devote their talents elsewhere.

The second marginal effect, that existing artists produced more music as revenue fell, is not, however, consistent with copyright's traditional story.[98] That existing artists produced more music as revenue fell suggests that, during the 1990s, the returns that copyright provided musical were too high. In the study, I suggest that given copyright's effective scope at that time, our most popular artists were receiving an incentive for their music far in excess of their reservation price. These excess incentives had gotten so high that they were pushing our most popular artists onto the backward bending portion of the labor supply curve. Finding themselves on the backward-

97. For the New Artists from 2005, it covers only the first nine calendar years of their careers.

98. One could suggest that given the decline in new artists, it was inevitable that preexisting artists would fill the available spaces, but that fundamentally misunderstands the Billboard Hot 100. The chart does not guarantee space to a certain number of new songs each year. Rather, a new song can earn a place on the Hot 100 only if it is more popular than, and hence can displace, existing songs on the chart.

bending portion of the labor supply curve, our most popular artists chose to substitute leisure for work, and so produced less music.

As file sharing became an option, it sharply reduced these excess incentives. With the rise of file sharing, revenues for creating and disseminating any given song fell.[99] As a result, fewer artists found themselves on the backward portion of the labor supply curve, and so each new artist produced, on average, more hit songs, than each new artist did when revenues were high. In short, when revenues from music sales fell with the rise of file sharing, those individuals who decided to devote their talents to music began to produce more of it.

We can see this not only in the regression results, but in the data itself. From 1985 through 1999, a fifteen-year period, the top new artists were Sean Combs, who appeared on twenty-four different Top 50 songs in the first ten calendar years of his career; Mariah Carey, who had twenty such appearances; and Whitney Houston, who also had twenty such appearances. In contrast, with the rise of file sharing and the fall in revenue from record sales, from 2000 through 2006, the top new artists were Rihanna, who had thirty-five such appearances in the first nine years of her career; Taylor Swift, who had twenty-nine such appearances in the first eight years of her career; Ludacris, who had twenty-nine such appearances in the first ten years of his career; Akon who had twenty-six such appearances; and 50 Cent, who had twenty-four such appearances. In other words, in just seven years during the low revenue era of file sharing, we had five new artists who each had as many or more Top 50 appearances than the top new artist from the preceding fifteen, high revenue years. The regression results establish that this is not a coincidence or random chance. There was a statistically significant correlation between higher revenue from music shipments and fewer hits by each new artist.

Although counterintuitive, this result is entirely consistent with the backward-bending labor supply curve that economic theory pre-

99. This is most readily seen in the declining sales level achieved by the most popular album each year. According to Billboard magazine, the most popular album in 1994 was Billy Ray Cyrus's *Some Gave All*. Keith Caulfield, *Justin Timberlake's '20/20' 2013's Best Selling Album, 'Blurred Lines' Top Song*, BILLBOARD (Jan. 2, 2014, 6:49 PM), http://www.billboard.com/articles/news/5855151/justin-timberlakes-2020-2013s-best-selling-album-blurred-lines-top-song. It sold 4.83 million copies. *Id.* From there, sales of the top album rose fairly steadily and reached a peak in 2000 with 'N Sync's *No Strings Attached*, which sold 9.93 million copies. David Basham, *Got Charts? Linkin Park, Shaggy, 'NSYNC Are 2001's Top-Sellers*, MTV (Jan. 4, 2002), http://www.mtv.com/news/1451664/got-charts-linkin-park-shaggy-nsync-are-2001s-top-sellers/. With the rise of file sharing, sales of the top album began to fall. Sales fell more or less steadily from 2001 through 2013, reaching a nadir in 2013 with Justin Timberlake's *The 20/20 Experience*, which sold only 2.43 million copies. Caulfield, *supra*.

dicts and that empirical studies have verified.[100] When revenues were high, new artists did not have to work as hard to achieve the lifestyle they desired, and so they chose at the margins to substitute leisure for work. As revenues fell, new artists had to work harder to achieve the lifestyle they desired and so, at the margins, they choose to substitute work for leisure. As a result, as revenues fell, output from those new artists increased.

Moreover, the case study not only isolated and identified these two marginal effects, it used regression analysis to calculate their relative magnitude precisely. As it turns out, for the period studied, the second marginal effect was larger than the first. Any given decline in revenue from music shipments had a larger marginal effect on output from existing artists than it did on the supply of new artists. As a result, the decline in the dollar value of music shipments since file sharing began was associated with a net increase in the number of new hit songs, holding all else constant.[101] We got fewer new artists, but more hit songs from the new artists we had. For the music industry, the rise of file sharing and the associated decline in revenue thus meant the creation of more new hit songs.[102] Indeed, file sharing increased music output precisely because it decreased music industry revenue.

Even though file sharing thus led to both more new music and far broader dissemination of existing music, copyright owners have, since file sharing began, been begging Congress and the courts to wave their magic pens and put a stop it. For the first time, this case study allows us to see precisely how music output would have changed had their efforts proven successful. If file sharing had been

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100. "[O]nly lottery winners experience sudden wealth in a way similar to that of suddenly popular authors today. Studies of lottery winners demonstrate that such large awards sharply reduce, on average, time worked." Lunney, *supra* note 9, at 891. As Professor Gregory Mankiw has summarized:

> The results from studies of lottery winners are striking. Of those winners who win more than $50,000, almost 25 percent quit working within a year, and another 9 percent reduce the number of hours they work. Of those winners who win more than $1 million, almost 40 percent stop working. The income effect on labor supply of winning such a large prize is substantial.

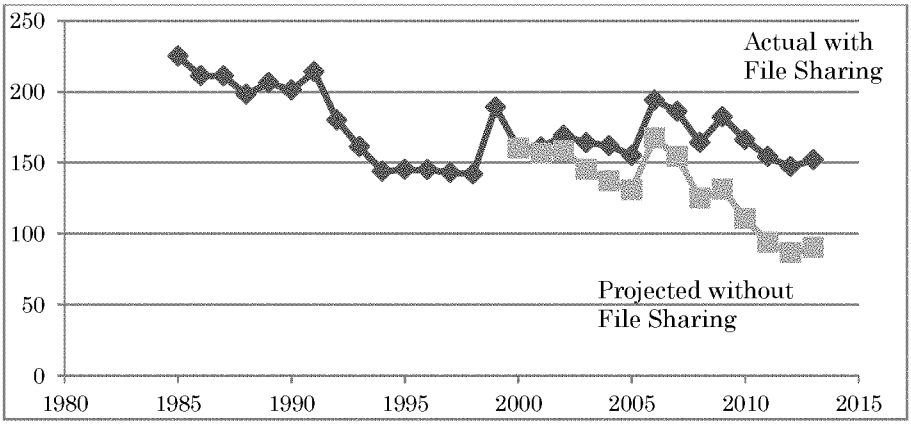
N. GREGORY MANKIW, PRINCIPLES OF MICROECONOMICS 483 (2d ed. 2000).

101. *See* Lunney, *supra* note 7, at 25 ("The New Song regression estimates that a one million dollar decline in record sales was associated with a 0.00466 increase in the number of new songs appearing in the study's sample of the top fifty on an annual basis, holding all else constant. If we multiply this coefficient by a $13 billion decline in record sales, the regression results would estimate that this decline would be associated with 60.6 additional new songs entering the study's sample of the top fifty on an annual basis.").

102. For similar results using other measures of music quality, see Joel Waldfogel, *And the Bands Played On: Digital Disintermediation and the Quality of New Recorded Music* (Carlson Sch. of Mgmt. and Dep't of Econ., Preliminary Draft, 2012), *available* at http://www.ssrn.com/abstract=2117372, and also see Oberholzer-Gee & Strumpf, *supra* note 91, at 20 (noting that book publishing, movie production, and music output have all risen substantially since file sharing began).

stopped and revenue from music shipments had remained at their peak 1999 levels, we would had somewhat more hit songs because higher revenue would have encouraged more new artists to enter the field. But, we would also have had fewer hit songs because higher revenue would have encouraged those new artists who did enter the field to devote more time to leisure. Because the second marginal effect would have outweighed the first, we would, in the end, have had significantly fewer new songs in the Top 50 of the Billboard Hot 100 had file sharing been stopped and had revenues from music shipments remained high. Using the basic regression results presented in Table 2 of the study,[103] Figure 5 presents a trend chart showing precisely how much less music we would have had if file sharing had been stopped.[104]

Figure 5. New Music: Actual and Projected (If File Sharing Had Been Stopped and Revenue Had Remained High)
New Songs in the Top 50 of the Billboard Hot 100: 1985-2013.



As Figure 5 illustrates, had the recording industry successfully stopped filed sharing and kept their revenue at peak 1999 levels, we would have seen significantly fewer hit songs since 2001. While radically counterintuitive, these results unmistakably establish something many of us in academics have long suspected. Copyright has gotten radically overbroad. It lasts far too long and provides far broader protection than is necessary or desirable to achieve its constitutional purposes. In the 1990s, copyright had gotten so broad that

103. Lunney, *supra* note 7, at 23.

104. To calculate the projected number of New Songs, I multiplied the coefficient on music shipments from the regression analysis by the difference in music sales had sales remained constant at the peak 1999 level rather than fallen for each year from 2001 through 2013, and I subtracted the resulting change in new song production from the actual number of new songs that appeared in the sample for each year.

it was generating incentives for our most popular artists so far in excess of their reservation price that we were, perversely, getting less music from them. Had the record industry's efforts to stop file sharing proven successful, we would have continued vastly overpaying our most popular artists for their music. And had we continued to overpay them, our most popular artists would have shown their appreciation by giving us fewer hit songs in return. The net result: Had revenues remained high, fewer new hit songs would have been produced over the last ten years.

File sharing provided a necessary and desirable corrective. By allowing consumers to copy and distribute original music freely, outside the restrictive strictures of copyright, the rise of file sharing helped reduce the extent to which copyright was overprotecting original works. By reducing the effective level of protection copyright provided, file sharing reduced the excess incentives for creating new music copyright would otherwise have provided. By reducing these excess incentives, file sharing led to the production of more hit songs.

Copyright's fundamental premise that more revenue equals more works is thus not always true. While some copyright may generate more original works, too much copyright and too much revenue can lead to fewer works, as the regression results establish was happening in the music industry before the rise of file sharing. Under copyright's traditional and constitutionally sanctioned justification, there thus appears no plausible basis for broadening copyright in an attempt to control file sharing, at least, for music. Given how broad copyright is today, broadening copyright even further will not lead to more and better works, but instead will lead to fewer and worse. That helps to explain why proponents of broader copyright have rushed to embrace other arguments, such as increased employment, to support their demands for broader copyright. In the next section, we turn to this alternative argument and attempt to answer the question of whether increasing revenues to and jobs in the copyright industries can provide an alternative justification for broader copyright. As we do, we must take care to evaluate the argument on its own merits and not allow copyright's traditional justification to color our thinking. We will therefore assume, consistent with the results from my case study of file sharing and music output, that any increase in revenue to the copyright industries will not lead to increased creative output.[105]

105. Even if you are reluctant to embrace the results of my case study, it remains worthwhile to determine whether the jobs argument can support broader copyright independently of copyright's traditional more or better works storyline.

IV. IN THE ABSENCE OF MORE OR BETTER WORKS, CAN MORE JOBS ALONE JUSTIFY BROADER COPYRIGHT?

If broader copyright does not lead to more or better works of authorship, and it may in fact lead to fewer, as the evidence suggests, then we cannot justify broader copyright by the additional jobs it may create. While broader copyright can increase copyright industry revenue, and may thereby lead to more jobs in the copyright industry, it does so by redistributing wealth from consumers to the copyright industry. Such a redistribution generates no net welfare gain on its own. It simply takes money from one group and gives the same money to another. Indeed, given the transaction and administrative costs such a redistribution would entail, any such redistribution necessarily generates a net welfare loss. Moreover, the possibility that such additional revenue may generate additional employment in the copyright sector also cannot justify such a redistribution. As Frederic Bastiat explained more than a century ago, the sort of redistribution that broader copyright achieves generates no net stimulus for the economy. Any additional jobs broader copyright might create in the copyright sector would simply displace employment elsewhere in the economy.

A. Of Broader Copyright and Broken Windows

As discussed in the introduction, the basic thrust of the mercantilist argument for SOPA and PIPA—that these measures will increase revenue to and hence jobs in the copyright industries—represents an example of Bastiat's Broken Window Fallacy.[106] Just as a broken window may yield additional revenue to glaziers by taking it from other sectors of the economy, broader copyright may similarly yield additional revenue to copyright owners, but it does so only by taking it from other sectors of the economy. While we can readily see and account for the additional jobs we hope for in the copyright sector, we must also account for the loss in jobs—not so readily seen, but just as real—elsewhere. When we do, we find that broader copyright generates no net stimulus for the economy as a whole.

Of course, the broken window analogy is not perfect. Copyright is trying to create something of value—new or better works of authorship—not break a window. Nonetheless, the need to evaluate the trade-off between different uses of scarce resources remains. In his essay, Bastiat addressed this point directly in discussing state funding for the arts.[107] Just as supporters of SOPA and PIPA insisted that jobs justified congressional action, so too in Bastiat's day, supporters

106. BASTIAT, *supra* note 13, at 72.

107. *Id.* at 87.

of a proposed government subsidy for theatres in the amount of sixty thousand francs also touted jobs as the justification:

> "The economical question, as regards theatres, is comprised in one word – labour. . . . The theatres in France, you know, feed and salary no less than 80,000 workmen of different kinds; painters, masons, decorators, costumers, architects, &c., which constitute the very life and movement of several parts of this capital, and on this account they ought to have your sympathies."[108]

Or

> "The pleasures of Paris are the labour and the consumption of the provinces, and the luxuries of the rich are the wages and bread of 200,000 workmen of every description, who live by the manifold industry of the theatres, and who receive from these noble pleasures, which render France illustrious, the sustenance of their lives and the necessaries of their families and children. It is to them that you will give 60,000 francs."[109]

Even if we assume, as Bastiat did, that the entire subsidy went to the workers, rather than corrupt government officials,[110] and further assume, again as Bastiat did, that supporting theatre workers is, at some general level, desirable, we still must account for that which is not seen. A subsidy after all does not create wealth that was not there before. "Certainly," Bastiat wrote, "nobody will think of maintaining that the legislative vote has caused this sum to be hatched in a ballot-box; that it is a pure addition made to the national wealth; that but for this miraculous vote these 60,000 francs would have been for ever invisible and impalpable."[111] It merely redistributes existing wealth:

> [I]t is clear that the taxpayer, who has contributed one franc, will no longer have this franc at his own disposal. It is clear that he will be deprived of some gratification to the amount of one franc; and that the workman, whoever he may be, who would have received it from him for some service, will be deprived of a benefit to that amount. Let us not, therefore, be led by a childish illusion into believing that the vote of the 60,000 francs may add anything whatever to the well-being of the country, and to national labour. It displaces enjoyments, it transposes wages – that is all.[112]

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108. *Id.* at 92 (quoting M. Lamartine).

109. *Id.* at 92-93 (quoting M. Lamartine).

110. *Id.* at 93 ("Yes, it is to the workmen of the theatres that a part, at least, of these 60,000 francs will go; a few bribes, perhaps, may be abstracted on the way. Perhaps, if we were to look a little more closely into the matter, we might find that the cake had gone another way, and that these workmen were fortunate who had come in for a few crumbs. But I will allow, for the sake of argument, that the entire sum does go to the painters, decorators, &e.").

111. *Id.* at 93-94.

112. *Id.* at 94.

While Bastiat acknowledged that one might justify this redistribution by showing that work in a theatre has some value or intrinsic merit other labor lacks,[113] the supporters of theatre subsidies in Bastiat's day, just as the supporters of SOPA and PIPA today, did not make that argument.[114] They did not suggest that one form of labor was intrinsically more valuable than another. Rather, they pretended that they could, through government action,[115] create additional jobs in one sector at no cost to the rest of the economy. This was as wrong then as it is today. In both cases, the argument "mistak[es] a *transferment* for a *gain*."[116]

Applied to broader copyright, Bastiat's lesson is simple: Broader copyright does not create jobs; it simply substitutes jobs in the copyright sector for jobs elsewhere. For copyright owners to receive more for their works, consumers must pay more. If consumers pay more for original works, they will necessarily have less for everything else. An extra dollar for copyright owners means a dollar less for everyone else. Broadening copyright so that copyright owners earn millions more means millions less everywhere else in the economy. Those millions may generate more jobs in the copyright sector, but they do so not by employing resources that would otherwise go unused or wasted. Rather, they do so by taking those resources from elsewhere in the economy.

If we pursue the question of whether additional jobs in the copyright sector might be more valuable than jobs elsewhere, we find ourselves back at the central question neoclassical welfare economics asks: Which is the more valuable use of the available resources? If resources are going elsewhere that would be more valuably used to create additional original works, then broadening copyright can make sense. If they are not, then broadening copyright does not make

113. *Id.* ("Will it be said that for one kind of gratification, and one kind of labour, it substitutes more urgent, more moral, more reasonable gratifications and labour?").

114. *Id.* ("There is nothing to prove that this latter class [of theatre workers] calls for more sympathy than the former [class of non-theatre workers]. M. Lamartine does not say that it is so. He himself says, that the labour of the theatres is *as* fertile, as productive as any other (not more so) . . . .").

115. While it is true that Bastiat, in his essay, focused on direct government subsidies for the arts, rather than the indirect subsidies that broader copyright provides, the economic consequences of the two are the same. Tom W. Bell, *Authors' Welfare: Copyright as a Statutory Mechanism for Redistributing Rights*, 69 BROOK. L. REV. 229, 240-42 (2003); *see also* Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1032 (2005) ("If we must fall back on a physical-world analogy for intellectual property protection—and I see no reason why we should—treating intellectual property as a form of government subsidy is more likely to get people to understand the tradeoffs involved than treating it as real property."). Whether government raises taxes on other employment in order to subsidize the arts directly, or enacts broader copyright so that the prices for original works are higher, "you diminish wages of labourers, drainers, carpenters, blacksmiths, and increase in proportion those of the singers." BASTIAT, *supra* note 13, at 94.

116. BASTIAT, *supra* note 13, at 95.

sense. That broader copyright may generate additional revenue and more jobs in the copyright sector adds nothing to the discussion and is irrelevant. Indeed, it should be obvious that employing more individuals in the copyright sector of the economy in order to produce the same level and quality of creative output is wasteful. If we are going to achieve the same creative output in any event, we might as well use fewer employees to reach that output and employ the additional individuals at issue more productively elsewhere in the economy.[117] In the next section, we explore in more detail the relationship between broader copyright, increased copyright owner revenue, and welfare.

B. Optimal Copyright: Maximizing Welfare Versus Maximizing Jobs

If we ignore Bastiat's lesson and design copyright to maximize copyright owner revenue, in the hope that it would maximize employment in the copyright industries, we will reduce welfare. To see this, consider the following simplified general equilibrium model. For the model, we will assume a continuum of potential products in a two-sector economy. Resources can be devoted either to the production of an original work of authorship in one sector of the economy or a non-copyrightable product in the other. The initial product in each sector generates a social value of one hundred, with the social value of each additional product decreasing in a linear fashion, on a one-for-one basis. Thus, the second product has a social value of ninety-nine, the third ninety-eight, and so on. We have one hundred units of a resource available that can be used to create either one product in the copyright sector or one product in the non-copyright sector, and all resources are fully employed. Thus, the sum of works in the copyright sector, n, and the sum of products in the non-copyright sector, m, will equal one hundred. In the absence of copyright, an individual who authors a new original work in the copyright sector will capture some fraction, ϕ_c, of that product's social value. Similarly, an individ-

117. Consider agriculture as an example. Over the course of the twentieth century, the farm population fell from 32.5 million or 31.9 percent of the total U.S. population in 1916 to 2.9 million or only 1 percent of the U.S. population in 2006. JULIAN M. ALSTON ET AL., PERSISTENCE PAYS: U.S. AGRICULTURAL PRODUCTIVITY GROWTH AND THE BENEFITS FROM PUBLIC R&D SPENDING 9-11, 16 (2010). Yet, because of technological advances, the value added by this much smaller farm workforce grew nearly six-fold from 1929 to 2006, from $17 billion to $98 billion (measured in 2000 prices). *Id.* at 10. It's true that these same technological advances cost the farm sector millions of jobs. Nevertheless, by releasing these workers into the rest of the economy, these technological advances, and their associated job losses, made possible the tremendous growth that occurred in the economy generally. U.S. Gross Domestic Product increased thirteen-fold from 1929 to 2006, from $866 billion to $11.3 trillion. *Id.* One can scarcely imagine a more foolhardy government policy than one that, in the name of protecting jobs, tried to limit these technological advances in order to keep one-third of our population employed on farms.

ual who creates a new product in the non-copyright sector will capture some fraction, ϕ_n, of that product's social value. The available resources are allocated between the two sectors so that the marginal work in the copyright sector and the marginal product in the non-copyright sector receive the same "price" or return on the resource; thus $\phi_c S_{cn} = \phi_c S_{nm}$, where S_{cn} and S_{nm} are the social value of the marginal work, *n*, and the marginal product, *m*, respectively. We will further assume that, in the absence of copyright, an individual captures only ten percent of the social value of a new original work, while an individual captures twenty percent of the social value of a new non-copyrightable product.[118]

Given this set-up, we can calculate the revenue captured by the copyright sector[119] and the social welfare attributable to both sectors as we increase the level of copyright protection provided.[120] As copyright protection increases, it increases the fraction of the value that an author or copyright owner captures with respect to a new original work from ten percent to one hundred percent. Figure 6 presents the results. For welfare, I use the welfare obtained with no copyright as a baseline and present the welfare obtained at any given level of copyright as a gain or loss relative to the "no copyright" welfare. Welfare in the chart thus represents the gain in welfare or the loss in welfare for any given level of copyright protection, compared to a world without copyright.

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118. While these fractions are assumptions, I have based them on my own sense for their likely values. An innovator or author will capture the full "value" of her work, and thus the fraction, ϕ, will equal one only if: (i) the legal rules fully insulate the new product from competition; and (ii) perfect price discrimination can be achieved without cost. More plausibly, if the legal rules protect a new product from competition for its full economic life and the innovator sets a uniform profit-maximizing price for the product against a backdrop of a downward sloping, linear demand curve, and constant marginal costs, then the innovator will capture half of the new product's social value, and the fraction will equal 0.5 or 50 percent. Of the remainder, it will be evenly split between consumer surplus and deadweight loss (representing unrealized social value). *See* Lunney, *supra* note 9, at 864-67; Lunney, *supra* note 24, at 557 n.283. I am estimating the fraction at twenty percent for non-copyrighted creative products based largely upon Mansfield, Schwartz, and Wagner's work and their conclusion that most new products, whether patented or not, face competition within four years. Mansfield, Schwartz, & Wagner, *supra* note 60, at 914 & n.1 ("In the bulk of the cases, the new product could have been imitated in 2 years or less even if the imitator carried out the project at the most leisurely pace. In practically all cases it could be imitated in 3 years or less."). I use ten percent as the fraction for copyrighted works to acknowledge that works of authorship can generally be copied more easily, more quickly, and less expensively than new products elsewhere in the economy. Even if we vary these assumptions, the essential insights of the model remain. Both the optimal level of copyright at which welfare is maximized and the crossover point at which copyright begins to reduce welfare are reached well before copyright owner revenue is maximized.

119. Rents or revenue to the copyright sector will equal $\phi c^*(100n-0.5n\text{^}2)$.

120. Total social welfare will equal $(100n-0.5n\text{^}2)+(100m-0.5m\text{^}2)$.

Figure 6. The Effect of Increasing Copyright on Social Welfare and Copyright Owner Revenue.

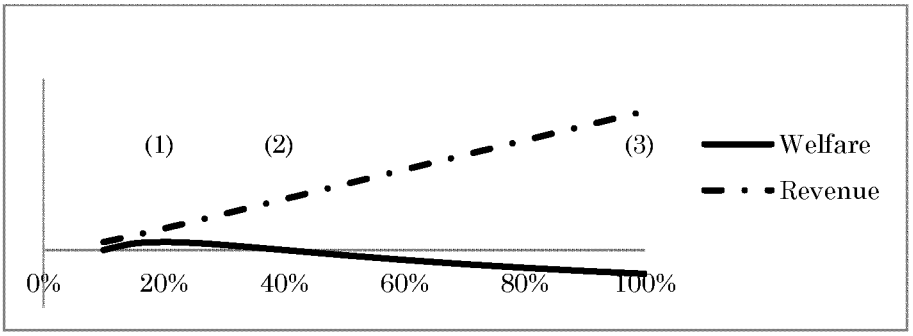


Figure 6 illustrates several important points. First, point (1) represents the optimal level of copyright protection. This is the level of copyright protection that generates the highest social value. It does so by ensuring that the available resources are devoted to their highest valued use. With no copyright, resources are flowing elsewhere (into the non-copyright sector) when they could be used more valuably to create additional works of authorship. By correcting this, copyright can generate real welfare gains and ensure that resources flow towards the creation of additional works when that represents their most valuable use. Yet, as Figure 6 illustrates, only a very minimal copyright protection regime is necessary to achieve that goal. Once copyright becomes broader than necessary to equalize (approximately) the return between the copyright and non-copyright creative sectors, it begins to lead to the same misallocation of resources that it was meant to correct. Resources continue to flow into the creation of additional works when those resources would otherwise have been more valuably used elsewhere. As copyright continues to broaden, welfare losses begin to mount. While overly broad copyright leads to too many resources being devoted to original works, rather than too few, the welfare loss resulting from the resource misallocation is the same.[121] Thus as copyright becomes broader and moves past point (1), welfare begins to fall.

This brings us to point (2): the crossover. As broader copyright draws more and more resources into the production of additional

121. *See* PATENT STUDY, *supra* note 12, at 58-60; Robert M. Hurt & Robert M. Schuchman, *The Economic Rationale of Copyright*, 56 AM. ECON. ASS'N 421, 429-30 (1966); Lunney, *supra* note 24, at 599-601. While this seems counterintuitive, it follows from the same economic logic that justifies copyright. If we under-protect original works, we will have too few original works. "Too few" has a specific economic meaning. Specifically, it means that resources are flowing elsewhere when they would be more valuably used to create additional works. If we overprotect original works, we will have too many original works in the exact same sense. Resources will go towards creating additional works when those same resources would otherwise have been more valuably used elsewhere in the economy.

works, we quickly reach a point where the welfare losses from broader copyright are such that we would be better off with no copyright at all. In Figure 6, once we have past point (2), copyright has become so broad that we would be better off with no copyright at all. At this point, copyright is attracting too many resources into the creation of additional works and consequently leaving too few resources for the rest of the economy. The welfare losses resulting from this inefficient allocation of the available resources are just as bad as those created by having no copyright at all. Given the assumptions I made to generate Figure 6, we reach the crossover point in our model when the system of legal rights copyright creates would enable copyright owners to capture more than forty percent of the value of their original works. To be clear, I do not intend Figure 6 to define the precise point at which we reach this "no copyright is better" crossover in the real world.[122] Rather, the point of Figure 6 is that such a crossover exists and we will find ourselves at the crossover point well before copyright becomes broad enough to enable copyright owners to capture a work's full value and also well before copyright becomes broad enough to maximize revenue to copyright owners.

This brings us to point (3), the point at which copyright maximizes revenue to copyright owners. As Figure 6 reflects, revenues to the copyright industries continue to increase over the full range of potential copyright protection. As broader copyright enables a copyright owner to capture an ever-greater fraction of the value associated with her work, revenue to the copyright industries steadily increases. This increased revenue comes from increasing the revenue associated: (i) with preexisting works; and (ii) with the additional works that broader copyright brings forth. Thus, if the goal is to maximize copyright industry revenue, with the hope thereby of maximizing copyright sector employment, then the appropriate response is to design copyright so that authors capture the full value of their respective works.[123]

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122. Whether it does so depends on how accurately its assumptions match the real world markets against which the production of original works competes for resources. While I find the assumptions to be a reasonably good match for real world markets, others might plausibly disagree. We should also note that the welfare calculations in Figure 6 represent only those welfare gains and losses attributable to resource allocation. I have omitted any consideration of the overprotection costs that arise from copyright's uniformity. Had we included those costs as well, the welfare gain associated with any given level of copyright would have been reduced and the welfare losses associated with any given level of copyright would have been larger. In addition, the model assumes a uniform distribution in the additional works that broader copyright brings forth. If, as is more likely, the additional works exhibit a normal distribution as shown in Figure 1, the welfare losses from broader copyright would be higher.

123. In the real world, ever-broader protection may not maximize copyright industry revenue. As Jim Bessen and Mike Meurer have argued in the patent context, if copyright protection becomes sufficiently broad, then it may become difficult to introduce new works as they will face too many claims of copyright infringement from earlier works. JAMES

As Figure 6 makes clear, however, designing copyright to maximize copyright industry revenue and employment does not increase welfare; it decreases welfare. In welfare terms, the additional revenue to the copyright industries does not represent a net gain for society; it represents mere wealth redistribution from consumers to copyright owners. Every additional dollar that flows to the copyright industries must be taken from consumers (or perhaps, as Bastiat argued, from other industries). Indeed, given the inevitable administrative and transaction costs broader copyright entails, to put one dollar into the hands of copyright owners, we have to take somewhat more than a dollar from consumers. This redistribution does not therefore represent a welfare gain; instead it represents a welfare loss.

It may be that in pursuing the goal of maximizing copyright owner revenue, copyright has already become so broad that it is past and perhaps well past point (2), the crossover point.[124] Yet, whether we have already reached the crossover point or not, Figure 6 firmly re-

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BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 8-11 (2008).

124. Some might insist that so long as we cannot tell whether attracting more resources into the production of original works, through broader copyright, represents a more valuable or less valuable use of those resources, then economics has nothing useful to say about copyright's optimal scope. Such a position is wrong. First, given a comparative return approach, I think we have pretty good evidence that copyright enables an individual to capture a far greater fraction of the value added by a work of authorship than by other creative endeavors in our economy. I have presented that evidence here and elsewhere, *see* Lunney, *supra* note 24, at 606-27, and suggested how we should narrow copyright so that it provides a return to authorship sufficient to attract additional resources into the production of additional works if and only if that represents the highest valued use of those resources. Second, it may be that I have not persuaded everyone as to the merits of my approach and some may continue to insist that there is simply no way to prove one way or another whether producing more original works represents a more or less valuable use of resources than the alternative use to which the resources were otherwise be devoted. But even if that were true, our inability to prove whether the creation of more works of authorship is a more or less valuable use of the resources than the alternative, that does not lead to the conclusion that welfare economics has nothing useful to say. Rather, we must then concentrate on those welfare gains or losses that we can prove. We know that copyright entails a significant wealth transfer from consumers to copyright owners. To accomplish this transfer, copyright enables copyright owners to charge more for their works than they otherwise could and thus creates deadweight losses. Copyright also imposes significant administrative costs every time a copyright infringement suit is brought and may stifle innovation for complementary products, such as distribution platforms. *See, e.g.*, Michael A. Carrier, *Copyright and Innovation: The Untold Story*, 2012 WIS. L. REV. 891, 936-40, 949-51 (2012). It also imposes transaction costs, requiring licensing for uses that could otherwise be done without permission. Where a licensing agreement can be reached, copyright bars some valuable uses of a work that could otherwise occur. From a welfare perspective, broader copyright increases welfare only if it leads to more and better works of authorship *and* if those works represent a more valuable use of the resources than the alternative uses to which the resources would otherwise be devoted. If this supposed benefit cannot be proven one way or the other, if we could be just as well off with more teachers, doctors, or engineers, as we would be with more authors, then we cannot establish that copyright offers any welfare gains at all. It imposes only costs. In that case, it becomes simple to define copyright's optimal scope: None.

futes the notion that attempting to maximize revenue to and employment in the copyright sector represents a sensible policy goal. Going beyond point (1), which represents the efficient level of protection, may increase revenue to and jobs in the copyright industries, but it will take that revenue and those jobs from elsewhere in the economy. Moreover, once we are past point (1), additional jobs in the copyright sector will generate less value than the jobs taken away elsewhere in the economy. In short, designing copyright to maximize copyright owner revenue will only make us worse off.

C. Market Failure in Product Markets and Political Markets

Unfortunately, there is good reason to believe that copyright today is already well past the crossover point and is affirmatively making us worse off than we would be with no copyright. That reason is Congress. Just as markets for goods and services will fail to achieve a Pareto optimal allocation of resources in predictable circumstances, so too will political markets. In a representative democracy, political markets fail, *inter alia,* when the interests of a dispersed interest group, such as consumers, and those of a concentrated interest group, such as the copyright industries,[125] collide. Whether we think of our elected representatives as public-minded servants of the people or as venal and corrupt crooks merely waiting their turn to be indicted, Congress is systematically likely to enact measures that benefit a concentrated group at the expense of a dispersed group, even when the measures represent nothing more than undesirable rent-seeking.

This political failure arises because a concentrated group has a significant collective action advantage over a dispersed group in organizing to influence the course of proposed legislation. For any given amount at stake for the group as a whole, the members of a dispersed group will have less individually at stake than will the members of a concentrated group. Given that becoming involved in a political fight entails information and transaction costs, as an individual's personal stake becomes increasingly small, it becomes increasingly rational to remain uninformed and uninvolved. Moreover, because legislation is a public good, as a group gets larger and more diverse, individuals

125. Glynn S. Lunney, Jr., *A Critical Reexamination of the Takings Jurisprudence,* 90 MICH. L. REV. 1892, 1950-52 (1992); *see also* RUSSELL HARDIN, COLLECTIVE ACTION 38-49 (3rd ed. 1993) (modeling the theory that condensed groups will succeed against dispersed groups); ALBERT O. HIRSCHMAN, EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES 40-41 (1970) (discussing the collective action advantages that a concentrated group will have over a dispersed group); MANCUR OLSON JR., THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS 22-36, 127-28 (1965) (same).

become more likely to rely (or free ride) on the efforts of others.[126] In contrast, when proposed legislation would impact a smaller and more cohesive group,[127] each member of the group has a larger individual stake in the fight and hence is more likely to become informed and involved. Moreover, a smaller group is more likely to have effective mechanisms, such as trade associations, to coerce participation by each member and to thereby limit free riding.[128]

For these reasons, a concentrated group will have more resources available, for a given dollar amount at risk, than will a dispersed group.[129] In addition, the concentrated group is likely to prove more effective in using the resources available to influence the legislature than a dispersed group.[130] An honest politician, lacking perfect infor-

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126. In other words, political markets for legislation are likely to fail for precisely the same reason that ordinary markets fail for public goods.

127. Whether a group is concentrated or dispersed depends more on its "effective size" than the absolute number of affected individuals. Effective size refers to the fact that corporations, unions, and other well-organized groups count as only one "effective person," even though the corporation may have thousands of employees and shareholders. In addition, "effective" delineation recognizes that, while the total costs of a measure may be imposed on a very large group, the primary cost may fall on a select subgroup. For example, air pollution control might impose ninety-five percent of its cost on fifty corporations and the remaining five percent on five million individuals with wood-burning fireplaces. Determining whether an industry is concentrated presents the same problem: five major corporations may control ninety-five percent of the business with 500 other corporations controlling the remaining five percent. To determine concentration in a market, a court can look to the market share of the top four to eight corporations, *see* George J. Stigler, *Free Riders and Collective Action: An Appendix to Theories of Economic Regulation*, 5 BELL J. ECON. & MGMT. SCI. 359, 362 (1974), or use the Herfindahl-Hirschman Index, *see generally* Neil B. Cohen & Charles A. Sullivan, *The Herfindahl-Hirschman Index and the New Antitrust Merger Guidelines: Concentrating on Concentration*, 62 TEX. L. REV. 453 (1983). Using such an approach we can readily see that although broadening copyright implicates copyright interests owned by millions of people—since everyone who has ever written a personal e-mail is a copyright owner—the effective size of the interest group benefitted by broader copyright has, historically, been much smaller than these large numbers suggest because most of the benefit falls on the handful of movie studios, publishing houses, and record labels.

128. *See, e.g.*, James D. Gwartney & Richard E. Wagner, *Public Choice and the Conduct of Representative Government*, *in* PUBLIC CHOICE AND CONSTITUTIONAL ECONOMICS 19-23 (James D. Gwartney & Richard E. Wagner eds., 1988) (Vol. 6 of POLITICAL ECONOMY AND PUBLIC POLICY); OLSON, *supra* note 125, at 22-36, 127-28; William N. Eskridge, Jr., *Politics Without Romance: Implications of Public Choice Theory for Statutory Interpretation*, 74 VA. L. REV. 275, 286-87 (1988).

129. *See* Lunney, *supra* note 125, at 1951 ("For a given dollar amount at risk, each member of a concentrated group faces a higher individual risk than would a member of a dispersed group. In addition, a concentrated group can more easily coerce each of its members to participate than can a dispersed group. As a result, each member of a concentrated group is more likely to participate in the lobbying effort and less likely to free ride on the efforts of others.").

130. *See* Lunney, *supra* note 125, at 1950-51 ("[A concentrated] group can coordinate and control its members' efforts, achieving economies of scale. The group can avoid duplication of effort, obtain expert support for its position, and even hire a full-time lobbyist to protect its interests. When the legislature requires information on costs or technology within the exclusive control of the members of an interest group, the concentrated group can

mation with respect to the desirability of proposed legislation, may use the support and opposition that she hears as evidence of the measure's desirability. But in a fight over broadening copyright, such a politician is likely to hear strong support for and little opposition to such a measure. This apparent support is not, however, because the measure is desirable; rather, it derives from the huge collective action advantage the copyright industries enjoy over consumers generally. For venal politicians, that same collective action advantage translates into disproportionate resources for copyright owners to buy such politicians and their votes.

As a result, Congress is systematically likely to enact legislative measures that broaden copyright even when they reduce welfare.[131] As Figure 6 shows, even when broadening copyright would generate welfare losses, it continues to increase copyright owner revenue. As self-interested actors, copyright owners care about their revenues, not about social welfare. We should therefore fully expect copyright owners to go to Congress and fight for broader copyright and the associated increase in their revenue, even if broader copyright generates welfare losses to society as a whole. Given the market concentration in the various copyright industries,[132] we should expect that lobbying effort to be well-funded and effective, which it is. Of course, every additional dollar in revenue to copyright owners means a dollar (and then some) lost by consumers. But we should not expect consumers to prove effective, generally, in lobbying against broader copyright. Even when broader copyright would transfer hundreds of millions, even billions, of dollars from consumers to copyright owners, each individual consumer has only a few dollars at stake if a given proposal to broaden copyright passes. That individual cost will likely prove to be insufficient and, indeed, has proven insufficient historically to persuade many consumers to become personally involved in lobbying against broader copyright.

The net result of this collective action advantage, consistently pressed over the last two hundred years, has been a steady expansion of copyright's term and scope. Most of this expansion has been undesirable; for the most part, it has represented mere rent-seeking: transferring wealth from consumers to copyright owners with no wel-

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more easily coordinate the release of the information, arranging the release in a manner designed to shape the legislature's perceptions of the merits of a proposed measure.").

131. *See, e.g.*, Lunney, *supra* note 9, at 895-901.

132. *See, e.g.*, Lydia Pallas Loren, *Untangling the Web of Music Copyrights*, 53 CASE W. RES. L. REV. 673, 719 (2003) (noting that "in the music industry there is the very real problem of industry concentration"); Lunney, *supra* note 9, at 916 & n.325 (citing sources showing that in the movie industry in the year 2000, 70.4% of domestic box office revenue went to six studios and that the five record labels in the *Napster* case had a market share of roughly 75%).

fare gains. Indeed, much of the expansion has likely generated considerable welfare losses. While undesirable, this expansion has come because the collective action advantages of copyright owners have tricked Congress (or Congress has allowed itself to be tricked)[133] into believing that the expansion was desirable. The opposition to PIPA and SOPA was successful because it enabled consumers, at least for one brief moment, to let Congress know how they truly felt about broader copyright. The online petition drive both gave consumers the information that they needed to determine whether they wanted to oppose the measures and provided a means to express their opposition. Moreover, it provided consumers with both at a very low cost—a cost sufficiently low that it was rational for individual consumers to take the time to become involved.

Whether the forces that defeated PIPA and SOPA can be converted into a political movement that will accomplish true copyright reform in the United States remains to be seen. While I am not terribly optimistic, I am hopeful. Canada recently managed several significant steps in the right direction.[134] Given the flaws in the political process and the resulting likelihood of political failure in this area, it is too bad, really, that Thomas Jefferson could not persuade James Madison to limit Congress's constitutional power in this area to a specific term of years.[135] Had he done so, copyright would be far less overbroad, at least, in terms of duration, than it is today.

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133. While Congress likely includes a mixture of honest and venal politicians, actions that seek to limit the presentation of competing viewpoints or access to other objective sources of information regarding a proposed measure's desirability, such as Representative Smith's decision to limit witnesses before proceeding to the mark-up of SOPA and Congress's earlier decision to de-fund the Office of Technology Assessment, *cf.* Pamela Samuelson, Book Note, *Is Copyright Reform Possible?*, 126 HARV. L. REV. 740 (2013) (recommending the re-establishment of the OTA), tend to support the view that our elected representatives are predominantly venal.

134. At the judicial level, the Canadian Supreme Court has recognized a broader approach to fair dealing in several recent cases and has also reiterated its position that copyright exceptions such as fair dealing should be treated as users' rights. *See* Soc'y of Composers, Authors and Music Publishers of Can. v. Bell Can., [2012] S.C.R. 326, 327 (Can.) (holding that providing thirty-second previews of music to consumers constitutes fair dealing); Alta. (Educ.) v. Canadian Copyright Licensing Agency (Access Copyright), [2012] S.C.R. 345, 349-52 (Can.) (holding that the copying of short excerpts from complementary texts by teachers constitutes fair dealing). In its recent statutory reform, Canada also limited the availability of statutory damages for non-commercial purposes. Copyright Modernization Act, S.C. 2012, c. 20, cl. 46 (Can.) (limiting statutory damages in cases involving infringement(s) for non-commercial purposes to a maximum of $5,000 (Canadian) for all infringements in a single proceeding for all works).

135. In response to James Madison's proposal to limit Congress's power in this area "for limited times," Jefferson responded:

> I like it as far as it goes; but I should have been for going further. For instance the following alterations and additions would have pleased me. . . . Art. 9. Monopolies may be allowed to persons for their own productions in literature and

Perhaps rather than copyright reform, it is time for our own Statute of Monopolies moment. In 1624, the English Parliament rose up and rejected the English Crown's practice of bestowing the exclusive right to manufacture, import, or sell various commodities on one court favorite or another.[136] As with copyright, royal patents in the 16th and 17th centuries initially served a public purpose and were granted to help ensure the introduction of new trades into Britain. Over time, however, they became undesirable monopolies granted "as rewards for political patronage."[137] To restrain the Crown's power and to ensure that it served a public purpose, the English Parliament enacted the Statute of Monopolies.[138]

Perhaps, it is time for "We the People" to rise up and deprive Congress of the power to provide exclusive rights in works of authorship. Thomas Jefferson believed that we could and would take such action should it prove necessary. As he wrote to Madison in discussing the need for limits on Congress's power to grant exclusive rights to authors and inventors: "These restrictions I think are so guarded as to hinder evil only. However if we do not have them now, I have so much confidence in my countrymen as to be satisfied that we shall have them as soon as the degeneracy of our government shall render them necessary."[139]

The degeneracy of our government on the issue of copyright has become increasingly apparent. The only real question at this point is whether we will prove ourselves worthy of Jefferson's faith.

While I recognize the political difficulty and perhaps futility of proposing a constitutional amendment limiting Congress's power in this area, I think it is both the time and past the time to put such options on the table. It has been over two hundred years since our

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> their own inventions in the arts for a term not exceeding —— years but for no longer term and no other purpose.

Letter from Thomas Jefferson to James Madison (Aug. 28, 1789), *in* 15 THE PAPERS OF THOMAS JEFFERSON 364, 367-68 (Julian P. Boyd ed., Princeton Univ. Press 1958) [hereinafter Letter from Jefferson to Madison].

136. Statute of Monopolies, 1623, 21 Jac, c. 3 (Eng.). For commentary on the Statute of Monopolies, see Tyler T. Ochoa & Mark Rose, *The Anti-Monopoly Origins of the Patent and Copyright Clause*, 84 J. PAT. & TRADEMARK OFF. SOC'Y 909 (2002).

137. Adam Mossoff, *Rethinking the Development of Patents: An Intellectual History, 1550-1800*, 52 HASTINGS L.J. 1255, 1265 (2001); *see also* Thompson v. Haight, 23 F. Cas. 1040, 1042-43 (C.C.S.D.N.Y. 1826) (No. 13,957) (Van Ness, District Judge) ("[T]hese pernicious expedients for increasing the revenue, or replenishing the exhausted coffers of the crown, were never employed in the extent to which they were pushed by [Elizabeth]. Elizabeth lavished them, with a munificent hand, upon her courtiers and her servants, whether distinguished by her personal favour or for their public services. All trade and commerce, whether foreign or domestic, was appropriated by monopolists.").

138. *See* Mossoff, *supra* note 137, at 1270-73; *see also* Ochoa & Rose, *supra* note 136, at 913 (discussing the Statute of Monopolies and its exceptions).

139. Letter from Jefferson to Madison, *supra* note 136, at 368.

Constitution was written, and we have a much better sense today for where representative democracy works and where it fails. Because copyright benefits a concentrated and well-organized interest group at the expense of a dispersed group, establishing an optimal copyright regime is simply not something Congress has done or will do well. We should therefore limit Congress's power to act on this issue. At the simplest, such a constitutional amendment might follow Jefferson's suggestion and substitute "for no more than fourteen years" for the phrase "for limited times" in Article I, section 8, clause 8. Taking it a step further, an amendment might specify or limit the nature of the "exclusive rights" that Congress may grant. I fully recognize that such an approach would enshrine a set of rights that, even if optimal today, may not prove optimal for all time. Such an approach would almost certainly impose a set of legal rights that will not perfectly fit the needs of the future, as technology and markets change. Nevertheless, I believe that such an approach remains preferable to our current approach. Any welfare losses that may result from constitutionalizing today's optimal set of rights and imposing those rights onto the future would be less than the welfare losses that will result and have resulted from leaving the issue to Congress. Given how overbroad copyright has become, even an amendment barring Congress (and the states as well) from granting exclusive rights to authors for their writings altogether would likely be better than where we find ourselves today.

In the end, the question is not whether the market for original works will, if left to itself, achieve a Pareto optimal allocation of resources. Very few markets work perfectly. If we had no copyright and essentially left the market to its own devices, there will undoubtedly be some instances where resources flow to other uses even though creating an additional original work represents the most valuable use of those resources. Even so, the real question is not whether some degree of market failure will otherwise occur, but whether Congress can improve on the market's outcome, given the likelihood of political failure on this issue. Given how well music output has held up in the face of widespread file sharing and given the excesses of today's copyright law, we have far more to fear from congressional action than we do from leaving the market for original works alone.

V. CONCLUSION

As a test case of our brave new digital world, the music industry's experience suggests that we can have both widespread consumer copying and sufficient incentives to produce new original work. Rather than decrease in the face of widespread consumer copying, output in the music industry, both in terms of quantity and quality, has increased and by some measures has increased sharply. If copyright's

purpose is indeed a public one, "to promote the Progress of Science," then the fact of increased copyright output would seem to fully rebut any need for increased copyright protection.

Yet copyright owners insist that they need more copyright. Rather than argue that widespread consumer copying is leading to fewer original works—because it is not—copyright owners have argued instead that more protection means more revenue for copyright owners and hence more jobs in the copyright sector.[140] Even if true, this argument provides no basis for legislative action. As Bastiat long ago explained, government action that increases revenue to one sector of the economy necessarily reduces revenue to every other sector of the economy. Whether this is done through a direct tax-and-subsidy scheme or through an indirect subsidy such as copyright, the result is the same. If broader copyright means more revenue and more jobs in the copyright sector, it necessarily means less revenue and hence fewer jobs everywhere else.

For that reason, the jobs argument cannot justify broader copyright. While the public good character of original works and the ease with which they can otherwise be copied may justify some level of copyright protection, they justify only that level of protection needed to enable individuals to recover a fraction of their respective work's value both comparable to and neither higher nor lower than that recoverable for creative work elsewhere in the economy. As a practical matter, ensuring such equality requires only a very limited degree of copyright protection—something akin to the fourteen years of protection against mechanical duplication by competing commercial publishers that the 1790 Copyright Act provided. [141]

The widespread consumer copying that digital technology and the Internet have made possible are a recent phenomenon. While we still do not know all of the ways in which digital technology will impact the creation and distribution of new original works, both economic theory and empirical data to date suggest that consumer copying, even if widespread, does not pose a threat to copyright's constitutional delimitation of promoting the "Progress of Science." Consumer copying, including unauthorized file sharing, increases access to and the value of original works directly.[142] While it may reduce copyright

140. *See supra* notes 25-32 and accompanying text.

141. While the 1790 Copyright Act included a fourteen-year renewal, in addition to the fourteen-year primary term, not many works were renewed. *See* LAWRENCE LESSIG, FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY 319 nn.9-10 (2004) ("Few copyright holders ever chose to renew their copyrights. For instance, of the 25,006 copyrights registered in 1883, only 894 were renewed in 1910.").

142. *See* Lunney, *supra* note 78, at 1023-29. *See generally* Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263 (2002) (discussing how file sharing has created a new digital economy).

owner revenue, the music industry's experience suggests that, even with widespread consumer copying, we will still have incentives that are sufficient and, perhaps more than sufficient, to ensure the creation and dissemination of new original works.

To be sure, it may turn out that the music industry's experience will not prove representative.[143] In other fields, in the face of widespread consumer copying, we may see actual reductions in creative output. But it will be soon enough to act when creative output actually falls. That consumer copying has led to falling revenue and perhaps reduced employment for particular copyright industries does not and cannot justify expanding copyright. If we pretend otherwise and, in doing so, increase copyright protection in an attempt to maximize copyright owner revenue and, perhaps, copyright industry employment, we will only be left worse off.

143. For an article examining the effects of consumer copying on the porn industry and reaching similar conclusions, see Kate Darling, What Drives IP Without IP? A Study of the Online Adult Entertainment Industry (Feb. 2013) (draft of unpublished manuscript), *available at* http://www.ssrn.com/abstract=2198934.