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Introduction

In the United States, Congress has the authority to enact copyright laws for a single purpose: "to promote the Progress of Science."[1] In the United States, we do not provide copyright protection to vindicate the supposed natural rights of authors. Copyright is not a reward for an author's labors.[2] In the United States, we do not provide copyright protection to vindicate the supposed moral rights of authors. Copyright is not, strictly speaking, a prohibition on plagiarism nor does copyright necessarily ensure that an author can claim credit for his or her own work, though it may occasionally have either effect. In the United States, copyright serves a single utilitarian and consequentialist goal: "the progress of science." The Supreme Court has interpreted the progress of science language to encompass two legitimate ends: (i) encouraging the creation of new works of authorship and (ii) ensuring the broader dissemination of existing

[1] U.S. Const. Art. I, § 8, cl. 8. Because this provision authorizes patent and copyright, it is commonly known as the Patent and Copyright Clause. The Clause provides:

> To promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

Note the three pairs of words or phrases set in parallel structure: (i) science and the useful arts; (ii) authors and inventors; and (iii) writings and discoveries. The first word or phrase in each of these pairs refers to copyright: science, authors, and writings. The second refers to patent. Thus, "the useful arts" refers to the industrial or technical arts, not to art in the ordinary sense of the word today. "Science" encompasses learning broadly defined, and today includes music and audio-visual works, as well as science textbooks.

[2] *See, e.g.*, Feist Pubs. Inc. v. Rural Tele. Serv. Co., 499 U.S. 340, 349–50 (1991) ("The primary objective of copyright is not to reward the labors of authors, but '[t]o promote the Progress of Science and useful Arts,'" Art. I, § 8, cl. 8.); United States v. Paramount Pictures, 334 U.S. 131, 158 (1948) ("The copyright law, like the patent statutes, makes reward to the owner a secondary consideration."); Fox Film Corp. v. Doyal, 286 U.S. 123, 127 (1932) ("The sole interest of the United States and the primary object in conferring the monopoly lie in the general benefits derived by the public from the labors of authors.").

works of authorship.[3] For most of its 300 years, copyright has focused on the first of these ends – encouraging the creation of new works. Over that time, a simple intuition has justified ever broader copyright protection: More copyright means more revenue; more revenue means more original works. This is the fundamental premise on which copyright was founded. It is the fundamental premise on which copyright has been built.

For more than 300 years, we have steadily expanded the duration, scope, and reach of copyright based on this premise. Where the first United States copyright act, the Copyright Act of 1790, provided for a primary term of only fourteen years,[4] today in the United States copyright protection extends for the life of the author plus seventy years.[5] Where the first United States copyright act provided protection only against near verbatim reprinting of an entire work by a competing publisher for direct profit,[6] today in the United States copyright provides protection against the copying of any original and expressive aspect of a work, whether done by a competitor or another, and whether or not the copying was done for profit.[7] Where the first United States copyright act extended its protection only to maps, charts, and books,[8] today in the United States copyright extends to an array of creative endeavors. Under the current statute, copyright extends its protection to any "original work of authorship."[9]

[3] *See* Eldred v. Ashcroft, 537 U.S. 186, 206 (2003) (upholding the constitutionality of the Copyright Term Extension Act of 1998 on the grounds, inter alia, that it "may also provide greater incentive for American and other authors to create and disseminate their work in the United States.").

[4] Act of May 31, 1790, ch. 15, § 1, 1 Stat. 124, 124. The Act also provided for a fourteen-year renewal term. Until after the middle of the nineteenth century, however, the renewal provision was seldom used. *See, e.g.*, Edward C. Walterscheid, *Inventor Equity: The Case for Patent Term Extension*, 86 *J. Pat. & Trademark Off. Soc'y* 599, 601 (2004).

[5] 17 U.S.C. § 302(a) (2017). *See generally*, William Patry, *The Failure of the American Copyright System: Protecting the Idle Rich*, 72 *Notre Dame L. Rev.* 907, 915–33 (1997) (tracing the extension of copyright's term).

[6] Act of May 31, 1790, ch. 15, § 1, 1 Stat. 124, 124 (giving the copyright owner the exclusive right to "print, reprint, publish or vend" the copyrighted work). Although the competing publisher and for profit limitation were not express in the first United States copyright act, they were implicit given the printing technology of the day.

[7] Compare id. § 6, 1 Stat. at 125 (prohibiting unauthorized "print[ing] or publish[ing]" of a copyrighted work), with 17 U.S.C. § 106(1)–(6) (2017) (granting the copyright owner the exclusive rights to reproduce, prepare derivative works from, distribute, publicly perform, or publicly display the copyrighted work). As one court explained: Copyright today extends "to any lawful use of their property, whereby they may get a profit out of it." Benny v. Loew's, Inc., 239 F.2d 532, 534 (9th Cir. 1956), *affirmed sub nom.* Columbia Broadcasting System, Inc. v. Loew's, Inc., 356 U.S. 43 (1958).

[8] Act of May 31,1790, ch. 15, pmbl., 1 Stat. 124,124.

[9] 17 U.S.C. § 102(a) (2017) ("Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later

This broad category specifically includes, inter alia: literary works; musical works and sound recordings; dramatic works; choreographic works; pictorial, graphic, and sculptural works; audio-visual works; and architectural works.[10] Throughout this expansion, the reasoning seems to be: if some incentives are good, more must be better.

Nevertheless, although we have justified and expanded copyright based on the fundamental premise that more incentives will yield more and better original works, we have never tested it. To be fair, there has been very little opportunity to test the connection between revenue and creative output. In most of the copyright industries over the last three hundred years, there has been a steady increase in both revenue and creative output, but whether this parallel rise reflects coincidence, causation, or something else entirely is difficult to determine. One copyright industry, however, has experienced a sharp rise, followed by an equally sharp fall, in revenue over the last fifty years: the music industry. In 1961, the Recording Industry Association of America (or RIAA) reported just under $4 billion (in constant 2013 dollars, or $2013) in sales of recorded music in the United States. From there, sales of recorded music rose, more or less steadily, to a peak in 1999 of just over $20 billion ($2013). That more or less steady rise in sales ended, however, in 1999 when Napster opened its virtual doors. Since then, with the rise of file sharing, sales of recorded music in the United States have fallen steadily. For the year 2014, sales fell below $7 billion ($2013) – a level not seen, on an inflation-adjusted basis, since 1967.

This rise and fall provides us with a unique natural experiment and an important opportunity to test copyright's fundamental premise: for the recording industry, did the increase in revenue from 1962 to 1999 lead to increased creative output? Did decreased revenue from 2000 to 2015 lead to decreased creative output? If copyright's fundamental premise is true, then music output, both in terms of quantity and quality, should, all else being equal, have risen steadily from the 1960s until the end of the 1990s, and then should have begun a steady fall.

Moreover, this should be an easy test for copyright's fundamental premise to pass. The revenue change is not a slow, steady, and barely perceptible rise and fall, but sharp and dramatic. From 1961 to 1999, revenue from the sales of recorded music in the United States increased by a factor of five in constant dollar terms, that is after accounting for inflation. Given this dramatic rise, the

developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.").

[10] 17 U.S.C. § 102(a)(1)–(8) (2017).

improvement in popular music from the 1960s into the 1990s should be immediately apparent to all of us. After reaching its peak in 1999, sales revenue fell by 66.4 percent over the next fifteen years. Given this dramatic fall, the decline in popular music from the late 1990s to 2015 should also be immediately apparent. Yet, in both cases, they are not.[11]

When we look at various measures of the quantity and quality of popular new music released in the United States, we find that the exact opposite has been true. According to SoundScan, despite the decline in revenue, the number of new albums released in the United States in 2012, at 76,882, nearly doubled the number of new albums released in 1999, at 38,857. When *Rolling Stone* magazine ranked the 500 greatest albums of all time, the list skewed heavily toward albums released in the late 1960s and early 1970s, when the revenue from the sale of recorded music was low, not toward albums released in the late 1990s, when revenue was high. Turnover on the Billboard Hot 100 chart peaked in 1966, when 743 new songs were good enough to make the chart. From there, as revenues rose, chart turnover fell, reaching a nadir in 2002 when only 295 new songs were good enough to make the chart. Thereafter, as revenue fell with the rise of file sharing, chart turnover started increasing. In 2011, 497 new songs were good enough to make the Hot 100 chart – a level not seen since the mid-1970s. If we use Spotify worldwide play counts in 2014, and treat long-term playability as a measure of or proxy for music output in terms of both quantity and quality, we find no evidence that more money led to more and better music. Spotify consumers in 2014 did not, for example, disproportionately stream songs from the high-revenue 1990s, compared to the lower-revenue 1960s or 1980s. For each of these measures, there was either no statistically significant correlation between revenue and output, or the correlation was statistically significant and negative. Less money led to more and better music.

Rather than support copyright's fundamental premise, the empirical evidence thus finds the exact opposite relationship for popular music: more revenue led to fewer and lower quality hit songs. In this book, I demonstrate and then explore possible explanations for this startling but undeniable result. Although a number of possibilities may contribute to the observed patterns, I suggest that the primary factor is that copyright, as presently structured, is fundamentally ill-conceived. It is not solely or principally that there is too much copyright – the problem of excess copyright, as it were – although that may be true, as well. It is that the incentives copyright provides are almost

[11] Of the many people I have spoken to and informally polled, only my colleague, Saurabh Vishnubhakat, has rated the 1990s as the pinnacle of popular music.

entirely misdirected. As presently structured, copyright does very little to increase the return for, and thus ensure the production of, additional works at the margins, those earning just enough to cover their persuasion costs. Instead, it tends to maximize the returns for the most popular works, enabling our most popular artists to capture rents far in excess of their persuasion cost – the problem of copyright's excess.[12]

The incentives copyright provides are thus fundamentally misdirected. Because of this misdirection, when revenues from the sale of recorded music increased by a factor of five from the 1960s through the 1990s, earnings for top artists soared, while those for the marginal artist remained flat. While the huge earnings of the top artists attracted some new entrants, each hoping to be the next big thing, most of these new entrants proved to be one-hit wonders. At the same time, copyright's excess meant that top artists were earning more from a single hit than the average college-educated American would earn in a lifetime. Having earned so much from a single hit, the top artists felt little need to rush back into the studio. As a result, as revenues rose, the productivity of our top artists fell.

If the goal of increasing creative output is not merely a meaningless mantra, recited to calm and comfort angry copyright consumers, this suggests a need to rethink copyright fundamentally. To increase creative output, our approach for the last 300 years has been to maximize the scope and duration of copyright. This approach has been exactly wrong. In the recording industry, such an approach vastly overpays our top artists, and by doing so, reduces their creative output. At the same time, very little of the return from ever-broader copyright trickles down to the marginal artist. Broader copyright thus does very little to increase creative output at the margins. As a result, the net effect of maximizing copyright in order to maximize revenue has been, at least for the popular music industry, to reduce creative output.

This book proposes a three-pronged approach to solving the problems that copyright's excess creates. First, we must prevent any further expansion in copyright generally, and in the sound recording copyright specifically. Second, we should consider serious, even radical, reform. Reform would entail sharply reducing or redefining the scope and duration of copyright protection both: (i) to reduce the excess incentives copyright provides our most popular artists and authors and (ii) to increase the incentives copyright provides for the marginal or average artist. Reform may also entail a transition away from copyright's uniform system of rights to alternative measures, such as

[12] "Persuasion" cost is the minimum sum an artist or band must receive in order to persuade them to produce and release a song.

tax credits, subsidies, and prizes. These alternative incentive mechanisms are better tailored to increasing the financial returns for creative work at the margins, without creating excess returns for the most popular superstars. Third, if we cannot successfully reform the sound recording copyright, then we should abolish it. If copyright seeks to maximize the creative output in the recording industry, the sound recording copyright is presently doing more harm than good.

The remainder of this book is organized as follows.

Chapter 2, "The (Surprisingly Weak) Economic Case for Copyright," begins with the traditional economic justification for copyright. Articulated as long ago as a 1643 Stationer's Guild petition to the Star Chamber, the economic justification for copyright has, by now, become familiar: in the absence of copyright, competitors will copy a new work of authorship when it is first released, offer it for less, and deprive the original author of any return on his or her authorship investment. Foreseeing this outcome, the original author will forego the authorship investment and invest his or her resources elsewhere. As a result, in the absence of copyright, markets will produce too few creative works. By protecting the author against copying competitors, copyright can increase the economic returns to authorship and thereby increase creative output.

In the traditional economic account, we balance the welfare gains from increased output against the welfare losses from reduced access. Increased output requires increased incentives; increased incentives require higher prices; higher prices impose transaction costs and deadweight losses. Moreover, copyright protection is largely uniform. When we extend copyright's term or expand its protection, we do so for both the marginal and the nonmarginal work alike. As a result, providing copyright or increasing its scope or duration tends to overprotect preexisting works, defined as works that would have been brought forth with no or less copyright protection.[13] For these preexisting works, broader copyright raises prices and limits access, and does so unnecessarily – beyond the extent necessary to ensure that particular work's creation and distribution. In the traditional account, defining copyright's optimal scope thus becomes a balance of the welfare gains from increased creative output at the margins against the welfare losses from undue limitations on access to nonmarginal works.

[13] Note the precise definition. Preexisting works or artists, in this book, are not simply those that already exist. Preexisting does not mean "before," nor is it used to connote a sense of time. Rather, preexisting works or artists are those that either exist now or would exist in the future, but in either case, do so or would do so without copyright or with less copyright.

After introducing this traditional model, this chapter offers four important alternative economic models that raise serious questions about the conclusions of the traditional model: (i) the discrete-goods model; (ii) the superstar model; (iii) second-best analysis; and (iv) a model examining the consumption externality associated with the enjoyment of music. These alternative approaches suggest that copyright's optimal scope for sound recordings may be zero, and is, in any event, far narrower than the traditional model suggests. The chapter also critiques some popular, but ultimately empty, justifications for broader copyright, including (i) the recent focus on copyright as a job-creating engine; (ii) the suggestion that excess incentives are necessary given the uncertainty over which new songs will be hits and which duds; and (iii) the need to ensure a liveable wage for the proverbial starving artist.

Chapter 3, "Copyright and Revenue in the Recording Industry," recounts the rise and effective "fall" of the sound recording copyright.[14] It traces the creation of the sound recording copyright in 1971, its expansion to include a digital public-performance right in 1995, and its effective decline with the rise of file sharing, beginning in 1999. It revisits, briefly, the recording industry's early attempts to control file sharing through litigation against intermediaries, such as Napster, Aimster and Grokster; its litigation campaign against individual file sharers; its attempts to force or persuade internet service providers (or ISPs) and payment services to act as gatekeepers; its efforts to criminalize file sharing and thereby shift some of the enforcement costs onto taxpayers; and its recent attempts to adopt site blocking and other methods to shut down file sharing and other forms of unauthorized copying on the Internet. While the recording industry has been winning many of these battles, it has just as clearly been losing the war. File-sharing traffic on the Internet today is higher than it has ever been, and is likely to continue to grow, despite the recording industry's efforts to stop it.

Along with the rise and fall of the sound recording copyright, this chapter presents the parallel rise and fall in the revenue from the sale of recorded music in the United States. From a low of $4 billion ($2013) in 1961, sales revenue for the recording industry rose to an initial peak of $15 billion ($2013) in 1978, shortly after Congress created the sound recording copyright in 1971. Sales then fell off with the second OPEC oil embargo and associated recessions, reaching a low under $9 billion ($2013) in 1982 and 1983. Sales then began to rise again, reaching $20.7 billion ($2013) in 1999. With the advent

[14] The rise of file sharing did not destroy the sound recording copyright entirely, as we shall see. The fall in revenue has leveled off in the last few years as a result of a rise in streaming revenue from the sound recording public-performance right.

of file sharing in 1999, sales began to fall, and for the last three years have hovered around $7 billion ($2013).

The parallel rise and fall of copyright and sales revenue make the sound recording copyright a good natural experiment to test copyright's fundamental premise.

In order to test copyright's fundamental premise, Chapter 4, "Measuring Music Output," presents four measures of music output. These measures include: (i) SoundScan's data on the number of new albums released annually; (ii) *Rolling Stone*'s ranking of the 500 greatest albums of all time; (iii) annual new song count, new artist count, and new artist productivity from the Billboard Hot 100 chart; and (iv) Spotify's list of the top 1,001 older songs streamed worldwide in 2014. After presenting the measures of music output, this chapter presents a preliminary analysis of whether increased sales revenue led to more and better music. As discussed, there was a very sharp rise in sales of recorded music – a fivefold increase in constant dollar terms – from 1961 to 1999, yet these measures provide no evidence of increased music output, in either quantity or quality, associated with that sharp rise in sales revenue. Similarly, there was an equally sharp fall in sales revenue from the peak in 1999 to 2014, with sales in 2014 amounting to only a third of those achieved in 1999. Again, these four measures of music output provide no evidence of decreased music output, in either quantity or quality, associated with that sharp decline.

Chapter 5, "The Search for a Correlation: Did More Money Mean More Music?", is the heart of this book. It presents a detailed attempt to find a correlation between music revenue and music output in the United States over the last fifty years. Unlike previous studies,[15] it does not just focus on recent years in an attempt to determine whether file sharing has reduced sales

[15] Earlier studies that have attempted to examine whether the fall in revenue after the rise of file sharing led to diminished music output include: Christian Handke, *Digital Copying and the Supply of Sound Recordings*, 24 Information Econ. & Pol'y 15 (2012) (examining the release of new albums in Germany from 1984 through 2006 and finding that neither the quantity nor quality of original sound recordings fell after the rise of file sharing); Joel Waldfogel, *Copyright Protection, Technological Change, and the Quality of New Products: Evidence from Recorded Music Since Napster*, 55 J.L. & Econ. 715 (2012) (examining the number of albums released and critics' evaluations of albums released in the United States from 1980 through 2010 and finding that neither the quantity nor quality of the releases changed after the rise of file sharing); and my own earlier study, Glynn S. Lunney, Jr., *Empirical Copyright: A Case Study of File Sharing, Sales Revenue, and Music Output*, 17 Sup. Ct. Econ. Rev. (forthcoming 2018) (examining new songs and new artists appearing in a sample of the Hot 100 chart from 1985 through 2014 and finding that neither the quantity nor quality of music output decreased after the rise of file sharing).

of recorded music or music output. The study presented extends beyond the last twenty to thirty years to examine how revenue and output have changed since the birth of the modern music industry in the early 1960s. It traces the rise and fall of sales revenue over fifty-four years, from 1961 through 2014, and then explores how music output has changed over a fifty-four-year period, beginning one year later in 1962, and extending through 2015. It uses extensive regression analysis in a desperate search to find copyright's supposed correlation between incentives, measured by sales of recorded music, and music output.

Contrary to copyright's fundamental premise, this analysis finds that increased sales revenue did not lead to more and better popular music. To the contrary, regression analysis either found no statistically significant correlation, or when the correlation was statistically significant, it was negative. For the music industry over this period, higher sales revenue was associated, all else being equal, with fewer and lower-quality hit songs; lower sales revenue was associated, all else being equal, with more and higher-quality hit songs.

Chapter 6, "More Money Meant Less Music," seeks to explain this startling and unexpected result. File sharing is, of course, not the only technological change that has reshaped the music industry over the last fifty years. This chapter, therefore, begins by exploring some of the conventional explanations for these changes in music output, such as decreased costs or reduced barriers to entry. While these changes may explain some of the observed results, particularly for the last fifteen years, they do not offer a comprehensive account. The study finds the same correlation between lower revenue and increased output not just in the post-1999 file-sharing world, but also in the 1960s, early 1970s, and mid-1980s. Obviously, the introduction of iTunes in 2004 or of YouTube in 2006 as alternate distribution and promotion channels cannot explain why we see the same correlation between lower revenue and increased output in the 1960s. Alternatively, perhaps the observed correlations are telling us that the incentives-based theory of copyright is simply wrong; music production may be a cultural phenomenon that does not respond to the imperatives of the market. Perhaps, but if that were the case, and I am certainly prepared to entertain the possibility, that would require an equally fundamental rethinking of copyright. Moreover, this explanation is also inconsistent with the data. If this hypothesis were correct, then there would be no observed correlations and no predictable patterns, just random noise. But that is not what we find. Music output is changing in response to changing revenue, and in predictable ways, just not in the way that copyright's more revenue equals more original works premise would suggest.

What fifty years of data demonstrates is that during periods of high revenue, our top artists produce fewer hits, and we may get a few more new artists.

During periods of low revenue, our top artists produce more hits, and we may get a few less new artists. Moreover, because most new artists prove to be one-hit wonders, the loss in output from our top artists, during periods of high sales revenue, outweighs the increased output from the additional new artists. As a result, when sales revenue goes up, we get fewer high-quality hit songs released. On the other hand, when sales revenue goes down, we get more high-quality hit songs released.

This pattern suggests that the key trade-off from broadening copyright is not, as the traditional model posits, incentives versus access, but sharply reduced productivity from our most popular artists against a few additional new artists at the margins.

In this chapter, I suggest that these correlations are not mere coincidence but causation, and offer the skewed distribution of revenues in the music industry as the explanatory link. In the music industry, most of the revenue flows to the top artists. Because of this and because copyright is uniform, increasing copyright's scope and duration, as we have done repeatedly and systematically over the last 300 years, serves primarily to enrich the most popular authors and artists. Enriching our most popular artists does very little to increase the expected profitability, and hence ensure the production, of additional works at the margins. At the same time, enriching our most popular artists reduces their need to work, and hence their productivity. Increased revenue did not therefore yield increased creative output.

Chapter 7, "Rationalizing Copyright," concludes with suggestions as to how to restructure copyright to ensure that it advances its constitutional purpose. Copyright's existing approach of maximizing protection to maximize revenue has reduced creative output in the recording industry. The question now becomes: What changes need to be made to align copyright rationally with its constitutionally delimited purpose? As stated at the outset, this book proposes a three-pronged approach to solving the problems that copyright's excess creates. First, we must prevent any further expansion in the sound recording copyright. Second, we must undertake radical copyright reform. We must sharply reduce or redefine the scope and duration of copyright protection in order to avoid vastly overpaying our most popular artists. We should also consider replacing overbroad copyright with alternative measures, such as tax credits, subsidies, or prizes, which are better tailored to increasing the financial returns for creative work at the margins. Third, if we cannot accomplish radical reform, then we should simply abolish the sound recording copyright.

In this chapter, I explore these topics in more detail and discuss how we might overcome the vested political interests of copyright owners that make sensible copyright reform nearly impossible.