REFLECTIONS ON THE USE AND MISUSE OF ECONOMIC ANALYSIS IN COPYRIGHT

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Economic analysis has long been used to justify copyright regulation. Long before the Statute of Anne, the Stationer's Guild told the story of the copying competitor, who in the absence of regulation, would copy every original book and offer it for less. In the story, the coping competitor would, in the absence of regulation, deprive the original author of an opportunity to recoup their authorship investment, and so lead to a world where no books at all would be published. To ensure sufficient incentives for authorship, some degree of copyright regulation was thought essential. At the same time, in the traditional account, too much copyright would unduly raise the prices for, or otherwise limit access to, creative works. In combination, these two concerns led to the familiar balance between incentives and access. In the 1950s, William Blaisdell of the Copyright Office eschewed this traditional economic framework and offered an alternative economic justification for copyright: Copyright creates national wealth. Later work built on his approach to argue that copyright creates jobs and a favorable balance of trade as well. This article critiques Blaisdell's approach and shows that the argument that copyright creates national wealth or jobs or a favorable balance of trade is without merit.

INTRODUCTION

A policy-oriented economist today faces a stark choice between (i) telling the truth and (ii) having influence. In all but a few, isolated cases, economics offers very little in the way of definitive answers.[2] Economics can point out trade-offs and identify costs or benefits of policy proposals that may otherwise go unnoticed.[3] But as to the ultimate question whether any given policy proposal will increase or decrease aggregate social welfare, economics today offers, at best, uncertainty. Even a seemingly straightforward

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[2] *See* Glynn S. Lunney, Jr., *An Introduction to the Law and Economics of Trademarks*, at 6, *in* Research Handbook on the Law and Economics of Trademark Law (Glynn S. Lunney., Jr. ed. 2023).

[3] *Id.* at 8.

question, such as whether government action that replaces monopoly with competition in a given market will increase social welfare, is surprisingly difficult to answer, at least once we move beyond mathematical models that require unrealistic assumptions.[4]

With respect to intellectual property, two studies well illustrate this stark choice. In the 1950s, the Subcommittee on Patents, Trademarks, and Copyrights of the Senate Judiciary Committee looked to experts and commissioned a number of studies on patent and copyright law to help guide future legislation and potential reforms.[5] Of these studies, two explored the economic rationales for intellectual property, with one exploring the economics of patents and the other the economics of copyright. In the patent study, Fritz Machlup, a professor in the Department of Political Economy at Johns Hopkins University, examined the economic justification for patent law. He told the truth. After a careful delineation of the potential benefits and costs of patent law, Machlup wrote:

> No economist, on the basis of present knowledge, could possibly state with certainty that the patent system, as it now operates, confers a net benefit or a net loss upon society.[6]

While Machlup's conclusion is almost certainly the truth, it provides very little guidance on whether we should or should not have patent law, and if we have it, what patent law should look like, moving forward.

By way of contrast, in the copyright study, William M. Blaisdell, an economist at the Copyright Office, chose influence.[7] Rather than carefully delineate the trade-offs, the benefits and the costs, that copyright regulation entails, Blaisdell focused solely on the economic importance of the industries that relied on copyright as part of their business models. While admitting the potential for inaccuracies in his estimates, Blaisdell nevertheless concluded that:

> In 1954, the copyright industries, as a group, contributed an estimated $6.1 billion to the total national income of $299.7 billion. For purposes of comparison, it is noted that the copyright industries contributed more than mining or banking or the electric

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[4] *See generally* Richard G. Lipsey and R. Kelvin Lancaster, *The General Theory of Second Best*, 63 Rev. Econ. Stud. 11 (1956).

[5] The Committee commissioned thirty-five studies on copyright law. *See* https://www.copyright.gov/history/studies/. And the Committee commissioned at least fifteen on patent law. *See* Senate Subcomm. on Patents, Trademarks, and Copyrights, Comm. on the Judiciary, 85th Cong., An Economic Review of the Patent System iii (Comm. Print 1958) (listing fifteen studies of patent law that the Committee commissioned and published)..

[6] Senate Subcomm. on Patents, Trademarks, and Copyrights, Comm. on the Judiciary, 85th Cong., An Economic Review of the Patent System 79 (Comm. Print 1958) (prepared by Fritz Machlup) [hereinafter Machlup].

[7] This was part of the 35 studies commissioned to assess the revision of copyright. Regarding economics, there were two: The Size of the Copyright Industry, Study No. 2, and a more niche study, The Economic Aspects of the Compulsory Licenses, Study No. 6. This essay focuses on the first study, No. 2. *See* https://www.copyright.gov/history/studies/.

> and gas utilities; they contributed slightly less than the automobile manufacturing industry or railroad transportation.[8]

In short, Blaisdell concluded that copyright creates national wealth. Because of copyright, his analysis suggests, the United States had a national income $6.1 billion (at the time) higher than it otherwise would have had.[9] His analysis and conclusion are not well-grounded economics, however. Instead, they are advocacy, proffered as neutral economic statistics. Blaisdell's analysis implicitly assumed that copyright is both: (i) necessary for these industries and their associated contribution to national income to exist; and (ii) sufficient to create societal wealth from nothing. With respect to the necessary aspect, his analysis mistakes correlation for causation. With respect to the sufficient aspect, it represents a paradigmatic example of Frederic Bastiat's broken window fallacy.[10]

Yet, despite its abject failure as economic analysis, Blaisdell's approach continues to prove influential. Since 1990 and continuing through 2025, the International Intellectual Property Alliance (the "IIPA") has published more than twenty reports touting the macroeconomic benefits of copyright.[11] These reports embrace and expand on Blaisdell's arguments to claim that copyright not only contributes to the GDP, but creates jobs and a trade surplus in copyright-regulated goods for the United States, as well.[12] In 2003, the World Intellectual Property Organization (the "WIPO") published a guide that adopted this approach and described appropriate methodologies for measuring the economic impact of copyright industries within domestic economies.[13] In the United States, elected officials, such as Senators Hatch and Whitehouse, and Representatives Schiff and Goodlatte, have touted these macroeconomic numbers as justification for ever more restrictive copyright regulation.[14] Where Machlup's truth, while occasionally cited by

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[8] Senate Subcomm. on Patents, Trademarks, and Copyrights, Comm. on the Judiciary, 85th Cong., Size of the Copyright Industries 27 (Comm. Print 1960) [hereinafter Blaisdell] (prepared by William M. Blaisdell). Note: it was first published in 1959. For a copy of the study, *see* https://www.copyright.gov/history/studies/study2.pdf.

[9] *Id.* at 27.

[10] Frederick Bastiat, *That Which Is Seen and that Which Is Not Seen*, *in* Essays on Political Economy 72 (David A. Wells trans., 1877) (1850).

[11] Seven of these are available on the IIPA's website. *See* Copyright Industries in the U.S. Economy - IIPA.

[12] International Intellectual Property Alliance, Copyright Industries in the US Economy: 2024 Report (2025) (in preface).

[13] World Intellectual Property Organization, Guide on Surveying the Contributions of Copyright-Based Industries (2003) (available at https://www.wipo.int/edocs/mdocs/copyright/en/sccr_10/sccr_10_4.doc).

[14] *See, e.g.*, Senator Sheldon Whitehouse (D-RI), Press Release, New Report Highlights Significant Contributions to the U.S. Economy by the Copyright Industries, July 20, 2009 (available at https://www.whitehouse.senate.gov/news/release/new-report-highlights-significant-contributions-to-the-us-economy-by-the-copyright-industries/) ("The Congressional International Anti-Piracy Caucus, which is chaired by Senators Sheldon Whitehouse (D-RI) and Orrin Hatch (R-UT), and Congressmen Adam Schiff (D-CA) and Bob Goodlatte (R-VA), commended a new report released today by the International Intellectual Property Alliance (IIPA) that underscores the critical role that copyright industries play in supporting the U.S. economy.")

academics, is largely ignored in real-world policy-making circles, Blaisdell's propaganda has influence.[15] Frankly, it's enough to drive any honest economist to despair.

Nevertheless, with at least a vague hope of correcting this situation, in this essay, celebrating fifty years since the enactment of the Copyright Act of 1976, I reflect on the use and misuse of economic analysis in copyright. In this essay, I will try to distinguish between legitimate economic analysis and advocacy masquerading as economic analysis. And I will endeavor to separate the great deal we think we know from the very little we actually know regarding the economic consequences of copyright law. My goal is not to perfect my reader's understanding of the economics of copyright. That is too much to ask. Rather, through this essay, I seek only to make my readers more discerning consumers of the economic arguments advocates routinely offer on copyright issues.

At the outset, I would caution that it's easy to fall prey to the desire for simple answers to complex social problems, especially when the simple answer aligns with our self-interest or *a priori* beliefs. Unfortunately, those who tout economics as offering such simple answers are speaking from a desire for influence not truth. Aligning incentives with desired social outcomes may seem a simple solution to so many of society's complex problems, but as we shall see, with respect to copyright, it is neither simple nor a solution.

To explore these issues, Section I starts at the beginning and introduces the first use of economic arguments to justify copyright, or more accurately, its predecessor. It also introduces the incentives-access balance that remains an enduring economic approach to defining an optimal copyright regime. Section II shifts from these traditional economic arguments for copyright to Blaisdell's argument that copyright creates wealth and, by extension, jobs. After introducing Blaisdell's approach, section II then proceeds to show why it completely lacks economic merit. Section III explores what we really know, from an economic perspective, regarding copyright. Section IV concludes.

I. ECONOMICS AND COPYRIGHT LAW: THE BEGINNING

To understand the importance of economics as a justification for copyright, we must return to a time before copyright. More than a century before the enactment of the Statute of Anne in 1710, the Stationers Guild, in a 1586 petition to the Star Chamber to renew the exclusive right or privilege of a printer to publish a licensed book, articulated what remains the essential economic justification for copyright:

> And further if privileges [that is, the exclusive right to publish a book] be revoked no books at all should be printed, within [a] 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, come[s] 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, publish] his books.[16]

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[15] *See id.*

[16] Edward Arber, Ed., 2 A Transcript of the Registers of the Company of Stationers of London: 1554-1640 A.D. at 805 (1875).

Almost exactly four centuries later, Professors Landes and Posner offered essentially the same economic justification, albeit with a more modern phrasing:

> In [the] absence [of copyright protection], anyone can buy a copy of the book when it first appears and make and sell copies. The market price of the book will eventually be bid down to the marginal cost of copying, with the unfortunate result that the book 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.[17]

This simple story provides the essential economic justification for copyright. Like all good economics, it is not a deontological or natural rights story, but a story of consequences. Without copyright, we shall have no books at all. That outcome, that consequence – no books at all – is bad. To prevent it, government should enact copyright.

As stories go, it's perfect. It has a sympathetic victim – the author, who seeks only to share the fruits of his or her creative labors with the world. It has a heinous villain – the copying competitor, who rather than do their own work copies and profits off the work of another. And it has a dazzling hero who saves the day: copyright law.

Of course, it is just a story. Like any good story, there's a kernel of truth in it, but beyond that, its relationship with truth is, as the kids say, complicated. The story suggests that competitors will always copy, in the absence of copyright, but that is not true. Competitors may choose not to copy for reasons other than copyright. For example, the original publisher may threaten to publish a fighting edition and undercut the copying competitor's prices.[18] Or copying may not offer much in the way of costs savings, for example with live opera performance or football plays, where the talent of the singers or athletes plays a key role in successfully re-creating the original work. Other tools, such as encryption, may prove effective to prevent copying.

Similarly, the story suggests that consumers will always substitute a lower price unauthorized copy for a higher price original. Yet, in the real world, consumers may stick with the original despite the availability of much less expensive copies. When file sharing came along and offered consumers essentially free copies of recorded music, for example, sales of recorded music fell and fell sharply, but even at file sharing's peak, those sales did not fall to zero.[19] In other cases, differences remain between the original and the copy, and those differences may prove enough to persuade consumers not to switch.

Moreover, the story's conclusion – that no works of authorship at all will be published absent copyright – is plainly false. Even without copyright, some original works of authorship, whether books, music, or movies, will be produced. For some works, revenue from complementary markets, such as computer and videogame hardware sales or live performance of music, plays, or athletic events, will ensure the existence of

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[17] William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 326-27 (1989).

[18] *See* Stephen Breyer, *The Uneasy Case for Copyright – A Study of Copyright in Books, Photocopies, and Computer Programs,* 84 Harv. L. Rev. 281, 299-308 (1970) (discussing various techniques a publisher or author could use to recoup their investment without copyright).

[19] *See* GLYNN LUNNEY, COPYRIGHT'S EXCESS: MONEY AND MUSIC IN THE US RECORDING INDUSTRY 75, 81 (2018).

associated original works.[20] For others, an author may be paid directly for their original work of authorship, rather than indirectly through sales of copyright-regulated copies. Thus, even without copyright, lawyers will write briefs, advertising agencies will prepare jingles, and scientists will publish grant-supported research. For still other works, financial remuneration may not be a central issue. The best-selling book of all time is the bible, and God, as far as I'm aware, has not yet filed the associated copyright registration.[21]

Nevertheless, and despite all that, the story of the copying competitor has proven remarkably persuasive, both within copyright and outside of it. For example, when the Associated Press sued the International News Service for the wholesale copying of AP news stories, the Court made up the doctrine of misappropriation to provide a basis for enjoining INS's behavior.[22] If INS could freely copy published AP stories "for purposes of profit in competition with the news-gatherer, it would render publication profitless, or so little profitable as in effect to cut off the service by rendering the cost prohibitive in comparison with the return."[23] In short, the Court reasoned, if the Court did not enjoin the copying at issue, soon there would be no news gathering at all.

In the same way, for hundreds of years, the central limit on copyright has remained equally unchanged. Copyright raises the price of books, music, and other copyrighted works.[24] That higher price simultaneously provides the incentive to create additional original works and limits access to existing works. 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 it 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.[25]

Or as Professors Landes and Posner more recently explained:

> 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

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[20] *See* Glynn S. Lunney, Jr., *Copyright and the 1%*, 23 STAN. TECH. L. REV. 1, 11 (2020).
[21] Best-selling book, GUINNESS WORLD RECORDS, https://www.guinnessworldrecords.com/world-records/best-selling-book-of-non-fiction
[22] *See* International News Service v. Associated Press, 248 U.S. 215 (1918).
[23] *Id.* at 241.
[24] For estimates of how much copyright raises the prices of books, *see* Glynn S. Lunney, Jr., *The Copyright Tax*, 68 J. COPYRIGHT SOC'Y 117, 140-51 (2021) (estimating that copyright causes the price of popular novels to be between five and six dollars higher in the analog market and over nine dollars higher in the digital market).
[25] Thomas Babington Macaulay, A Speech Delivered in the House of Commons (February 5, 1841), in 8 THE WORKS OF LORD MACAULAY 195, 199 (LADY TREVELYAN ED., 1875) (available at http://yarchive.net/macaulay/copyright.html).

> of providing incentives to create the work in the first place. Striking the correct balance between access and incentives is the central problem in copyright law.[26]

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 when we balance incentives and access appropriately, when we have neither too little nor too much copyright, will copyright be just right – or at least, that's the conventional wisdom.[27]

While, as we shall see, neither Macaulay, nor Landes and Posner, phrase the incentives-access balance correctly,[28] even imprecisely phrased, the incentives-access balance recognizes that copyright imposes costs as well as benefits. The very thing that copyright does to encourage the production of more original works of authorship – prohibit unauthorized copying so a work's author can charge more for authorized copies – also limits access to the work. Some consumers who could afford a copy's price if set to marginal cost will be unable to afford a copyright-regulated copy's higher price. As a result, copyright creates deadweight loss. Similarly, if copyright prohibits a use absent the copyright owner's permission, the costs of negotiating such a license will sometimes exceed the expected value from the licensed use. As a result, licensing markets will sometimes fail. And copyright will effectively bar follow-on uses that society would value. Because copyright imposes these and other social cost, too much copyright can be a bad thing. Indeed, too much copyright can be every bit as bad, from a social welfare perspective, as too little copyright.

While we have not historically had the data necessary to strike the appropriate balance, the incentives-access approach at least recognizes that copyright has costs, and in that recognition, necessarily suggests the copyright should have limits. At some point, more copyright – whether more in the sense of broader exclusive rights, that last for a longer time, or that are enforced through ever more draconian remedies – becomes too much copyright. Of course, the history of copyright is one of unmitigated expansion across all of these dimensions: broader scope, longer term, more draconian remedies. In that sense, the limits that the incentives-access paradigm might impose on copyright have proven more theoretical than real. Nonetheless, the incentives-access paradigm provides

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[26] Landes & Posner, *supra* note 17, at 328.

[27] In its report accompanying the comprehensive revision of the Copyright Act in 1909, the Judiciary Committee of the House of Representatives adopted this balance as the relevant guide:

> The enactment of copyright legislation by Congress under the terms of the Constitution is not based upon any natural right that the author has in his writings ... but upon the ground that the welfare of the public will be served and progress of science and useful arts will be promoted by securing to authors for limited periods the exclusive rights to their writings.
>
> In enacting a copyright law Congress must consider ... two questions: First, how much will the legislation stimulate the producer and so benefit the public, and, second, how much will the monopoly granted be detrimental to the public? The granting of such exclusive rights, under the proper terms and conditions, confers a benefit upon the public that outweighs the evils of the temporary monopoly.

H.R. REP. No. 2222, at 7 (1909).

[28] *See infra* note 47.

at least a framework that recognizes that copyright imposes costs, and thus should potentially have limits. In contrast, Blaisdell, in his study, postulated only benefits from copyright. He neither articulated nor acknowledged any offsetting costs and hence suggested no need for limits. With Blaisdell's approach, more copyright is always better. To an examination of his approach, we now turn.

II. COPYRIGHT, GDP, AND JOBS: THE MACROECONOMIC TURN

When the Senate Subcommittee on Patents, Trademarks, and Copyrights turned to Blaisdell for a study on the economic basis of copyright, Blaisdell eschewed the traditional incentives-access paradigm and instead focused on the economic importance of the industries copyright regulates.[29] In doing so, he switched from a microeconomic approach to a macroeconomic approach to justify copyright. Where a microeconomic approach focuses on choices individual actors make, a macroeconomic approach focuses on the economy as a whole.[30] Thus, rather than focus on whether a particular competitor would, absent copyright, copy a popular book, and if so, whether a particular consumer would buy the lower priced unauthorized copy, and if so, whether those decisions would lead a particular author or publisher to fail to earn a return sufficient to cover their costs, and if so, whether that would persuade that author or publisher not to publish a particular book in the first place, Blaisdell focused on the contribution of the industries copyright regulates to the national income.[31] As with the copying competitor story, Blaisdell's story is one of consequences, not natural rights. Thus, it remains a fundamentally economic story. But by focusing on copyright's effect on the economy as a whole, rather than on the publication of a particular book, Blaisdell's story is a macroeconomic story, rather than a microeconomic story.

And it is a remarkably simple story: Copyright creates wealth. To tell this story, Blaisdell began his study with four questions:

> Of what quantitative importance in the total economy of the United States are the industries that depend upon the exploitation of copyrightable material? What parts of the economy are dependent upon such material? Some measure of size is required; what logical measure is appropriate to indicate the size-importance of the copyright industries? How does the size-importance of the copyright industries compare with that of other industries?[32]

He then proceeds to answer these questions. First, he defined "copyright industries" as those that "exploit copyrightable material for purposes of profit."[33] Second, to measure these industries' size or importance, Blaisdell used "the contribution which [the copyright

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[29] *See* Blaisdell, *supra* note 8, at 25-32.
[30] *See*, *e.g.*, Olivier Jean Blanchard and Stanley Fischer, Lectures on Macroeconomics 1 (1989) ("Underlying the existence of macroeconomics as a separate field of study are the phenomena of economywide movements in output, unemployment, and inflation.").
[31] Blaisdell, *supra* note 8, at 27.
[32] Blaisdell, *supra* note 8, at 27.
[33] *Id.*

industries] make to the national income."[34] Given these answers, Blaisdell then identified twenty-one industries that exploit copyright-regulated material for purposes of profit.[35] In his study, these included both traditional copyright owners, such as book publishers, and associated retail outlets, such as book stores.[36] Having identified these copyright industries, Blaisdell calculated the contributions of each of these industries to the national income in 1954 and then summed them up. These contributions ranged from retail music stores at the low end, with an estimated contribution to national income of $22 million (in 1954 dollars), to newspaper publishing at the high end, with an estimated contribution of $1,500 million (also in 1954 dollars).[37] Altogether, Blaisdell calculated that these copyright industries contributed "an estimated $6.1 billion to the total national income of $299.7 billion,"[38] or roughly 2 percent of the U.S. national income in 1954.

As I stated in the introduction, the IIPA and later the WIPO have embraced and extended Blaisdell's methodology. In the most recent iteration, the IIPA's 2024 report estimated that the core copyright industries contributed $1,810.25 billion (in 2023 dollars) to the United States' gross domestic product (or "GDP") of $23,315.10 billion.[39] In other words, the copyright industries' share of national income or GDP has increased from roughly 2 percent in 1954 to 7.66 percent in 2023. The IIPA also extended Blaisdell's approach and estimated the number of jobs, the salaries for those jobs, and the trade surplus associated with the industries whose products copyright regulates.[40]

Perhaps out of some lingering or residual concern for honesty, Blaisdell was careful in his study not to claim expressly a causal link between the existence of copyright and the contribution of the copyright industries to the national income. Although the causal claim seems implicit and necessary to his framework, in the end, Blaisdell simply stated two potentially unrelated facts. First, copyright regulates most closely the products of certain industries, and second those industries contribute a certain dollar value to the national income or GDP. Nowhere in his study does Blaisdell expressly state that the first fact causes the second. Even the IIPA has been careful not to make the causal claim expressly.

Yet, politicians have shown no similar hesitation.[41] While Blaisdell and later, the IIPA and WIPO, may have merely laid out isolated facts, like a couple of dots, politicians have had no trouble connecting them. In the hands of politicians, the statements that: (i) we have copyright; and (ii) the industries whose product copyright most closely regulates generate a certain share of national income or GDP; becomes copyright generates wealth.[42] In the hands of politicians, the statements that: (i) we have copyright; and (ii) the copyright industries employ a certain number of people; becomes copyright generates

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[34] *Id.*
[35] *Id.* at 28.
[36] *Id.*
[37] *Id.* at 27-28.
[38] *Id.* at 27.
[39] International Intellectual Property Alliance, Copyright Industries in the U.S. Economy: 2024 Report 1 (2025).
[40] *Id.* at 1-2.
[41] *See*, *e.g.*, Whitehouse, *supra* note 14.
[42] *Id.*

jobs. In the hands of politicians, the statements that: (i) we have copyright; and (ii) a trade surplus in copyright regulated products; becomes copyright improves our balance of trade.

Even implicitly suggesting causation, as Blaisdell did, when all you've shown is correlation is a mistake a careful economist should not make for precisely that reason. Readers not trained as economist are too quick to mistake correlation for causation. We have copyright. Certain industries sell or otherwise generate revenue from products that copyright regulates. Those industries generate a certain share of national income or GDP (or jobs or a trade surplus). That does not mean, however, that copyright is responsible for that GDP contribution.

The key question on this causation issue is what marginal difference does copyright make. And of particular importance, if Congress were, for example, to shorten or lengthen the duration of copyright, or narrow or expand its regulatory scope, or increase or decrease the remedies for infringement, would these numbers change? Neither Blaisdell nor the follow-on IIPA and WIPO studies attempt to answer that question. Yet, that is precisely the sort of guidance for which the Senate Subcommittee commissioned Blaisdell's study.[43]

As far as his study goes, Blaisdell makes no attempt to show that copyright, in whatever form, makes any marginal difference to these numbers. And there's good reason for concern. Blaisdell's methodology mixes together as copyright industries: (i) industries for which copyright regulation likely plays a central role in extracting revenue; and (ii) industries for which copyright is technically available but likely not a central consideration. Blaisdell's top three industries are, in order of their contribution to national income: (1) newspaper publishing; (2) motion pictures; and (3) advertising. While Blaisdell places all three in the same category, implicitly suggesting that copyright is equally important to all three, the three industries' reliance on, and need for, copyright differs substantially. The existence of copyright alone does not guarantee, for example, that newspapers will continue to contribute to the national income in the way that Blaisdell estimated they did in 1954. To the contrary, even though copyright has continued to regulate newspaper publishing, revenue for the industry fell from roughly $89 billion in 2000, adjusted for inflation, to less than $20 billion in 2020.[44] Similarly, despite copyright regulation, employment in the industry fell from 416,921 in 2000 to 89,147 in 2020.[45] Blaisdell's analysis suggests that the existence of copyright regulation is the reason for these industries' contribution to national income. Yet, plainly it is not.

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[43] *Id.*

[44] Congressional Research Services, *Stop the Presses? Newspapers in the Digital Age*, May 24, 2023 at 3-4 (available at https://www.congress.gov/crs-product/R47018#:~:text=As%20Figure%202%20indicates%2C%20in,overall%20decline%20in%20industry%20revenues.).

[45] Bureau of Labor Statistics, *Industries with employment decreases from 2000 to 2024*, Sept. 19, 2025 (showing employment for newspapers declined from 416,921 in 2000 to 89,147 in 2024) (available at https://www.bls.gov/opub/ted/2025/industries-with-employment-decreases-from-2000-to-2024.htm#:~:text=Selected%20detailed%20industries%20with%20employment%20decreases%2C%20private,Direct%20mail%20advertising%20Automatic%20environmental%20control%20manufacturing).

When the IIPA and WIPO followed in Blaisdell's footsteps, they made a similar mistake. The primary reason for the sharp jump in the copyright industries' contribution to the national income or GDP, from Blaisdell's 2 percent in 1954 to the IIPA's 5.8 percent in 1989 was the addition of the computer software industry. Yet, as with newspapers and advertising, it is not clear what marginal difference the existence of copyright makes to that industry. Most commercial software relies on a mixture of technical protection measures, such as encryption, trade secret, and contract to limit unauthorized use and copying. Copyright, while technically available, is not usually a central component of the business model.

In the end, however, Blaisdell's analysis suffers from a more serious and ultimately fatal flaw. Even if we overlook Blaisdell's, and the IIPA's, eliding correlation and causation, and even if we could more carefully determine the marginal difference having any given copyright regime would make to these macroeconomic numbers, even so, such a study would prove nothing. For example, even, assuming for the sake of argument, that we could show that extending copyright's duration by an additional twenty years would increase the copyright industries' contribution to the GDP by $1 billion, that empirical finding would not justify the copyright term extension until we consider what we would have to give up elsewhere to achieve that increased contribution.

In economics, there's always a trade-off. Enacting statutes does not create wealth from nothing.[46] At best, statutory enactments draw or take resources from one area of the economy and push them to another. Thus, before we can know whether our hypothetical term extension increases or decreases net welfare (or GDP as a proxy for welfare), we need to know not only what we gain in the copyright industries from the copyright extension, the additional $1 billion in GDP, but what we lose elsewhere in the economy to provide the necessary resources, whether capital or labor or both, for the copyright industries to generate that additional $1 billion.

This is the key insight of Frederic Bastiat's Broken Window Fallacy.[47] 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 – we might conclude that the government should hire children to go around breaking windows in order to increase GDP and the employment of glaziers in the economy. However, 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 gain to the GDP or 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.

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[46] *See* Glynn S. Lunney, Jr., *Copyright's Mercantilist Turn*, 42 Florida State L. Rev. 95, 136-38 (2015).

[47] Frederick Bastiat, *That Which Is Seen and that Which Is Not Seen*, *in* Essays on Political Economy 72 (David A. Wells trans., 1877) (1850). For a more complete discussion of this argument, *see* Lunney, *supra* note 46, at 136-38.

Bastiat's caution applies directly to our hypothetical term extension. Even if we knew that a copyright term extension would increase the copyright industries' contribution to the GDP by $1 billion, that increase does not come from nothing. Rather, it comes from higher prices for copyright-regulated prices.[48] These higher prices force consumers to spend more of their budget on the copyright-regulated products, leaving less for them to spend on everything else. Just as breaking windows does not create wealth, but only appears to do so, by shifting resources from elsewhere in the economy towards repairing windows, so too copyright. It increases the GDP associated with the copyright industries by pulling resources that would otherwise have been spent on and used productively elsewhere in the economy into the copyright sector. Before we can know whether the proposed term extension would yield a net gain or a net loss for society, we would need to know what we lose elsewhere in the economy to generate that $1 billion in GDP from the copyright industries.

Unless we know both what we gain in the copyright industries and what we lose elsewhere in the economy, to paraphrase Machlup, no competent and unbiased economist on the basis of current knowledge, could possibly state with certainty that the U.S. GDP would be lower, or that the unemployment rate would be higher, or that our trade deficit would be larger but for the proposed term extension or for the existence of copyright *vel non*. Without copyright, the economy would certainly be different. Some industries would rise; others would fall. But, on the whole, whether social welfare, or any of these subsidiary proxies, would be higher or lower is impossible to know.

Macroeconomics is tricky that way. Even seemingly straightforward intuitions can prove exactly wrong. Consider a simple example. You're a government official, just after World War I. At the time, farming employs roughly 30 million Americans (out of a population of 100 million)[49] and creates roughly 15 percent of the GDP.[50] A visitor from the future appears to you and reveals a stark truth: Unless the government does something, over the next hundred years, the farming sector will shrink dramatically, providing fewer than one million jobs and contributing less than 1 percent of GDP by the

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[48] *See* Lunney, *The Copyright Tax*, *supra* note 24, at 149-50 (estimating that copyright causes the price of popular novels to be between five and six dollars higher in the analog market and over nine dollars higher in the digital market).

[49] *See*, *e.g.*, Vera J. Banks & Judith Z. Kalbacher, *The Changing U.S. Farm Population,* Rural Development Perspectives, Mar. 1980, at 43 (available at https://ageconsearch.umn.edu/record/310121/?v=pdf) ("When first counted in the 1920 Census, the 32 million farm people accounted for nearly a third of the total population of 106 million.").

[50] *See*, *e.g.*, Philip G. Pardey & Julian M. Alston, *The Drivers of U.S. Agricultural Productivity Growth*, at 8 (Table 1 shows agriculture's share of GDP dropping from 15.8 percent in 1910-1920 to 1.0 percent in 2000-2007 and farm labor share fell from 27.4 percent to 1.4 percent over the same period) (available at chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.kansascityfed.org/documents/7107/the-drivers-of-us-agricultural-productivity-growth.pdf).

turn of the 21st century.[51] You are faced with two choices: (i) Act to prevent this; or (ii) Don't Act and let it happen. Which should you choose?

If we accept Blaisdell's reasoning, then acting seems the logical choice. Otherwise, we lose 29 million jobs and 14 percent of our GDP. If anything, Blaisdell's analysis suggests the government should do everything it can to increase the farming sector's vitality and importance. Yet, that would be exactly the wrong choice. Indeed, government action seeking to stop the shrinking of the farm sector would run directly counter to the very course of human history. The history of civilization began precisely when people no longer needed to spend one hundred percent of their available time feeding themselves. And the growth of civilization tracks almost precisely the falling share of our time that we need to devote to feeding ourselves. The construction of the Great Pyramids in Egypt, the cathedrals in Europe, the Taj Mahal, and the Apollo moon landings all reflect a populace that no longer needs to spend every second of every day working to feed themselves.

In the United States, the loss of farm sector jobs and the reduced share of farming's contribution to GDP that have occurred since World War I made possible the economy that we have today – an economy that produces a standard of living unmatched in human history.[52] As technology and agricultural sciences advanced, we needed fewer workers in the farm sector to feed the rest of us. Those jobs "lost" in the farm sector did not represent a social welfare loss. To the contrary, they freed up workers for other jobs, other roles, initially, in our industrialized, and, later, our service-based economy. If 30 percent of our population was still working to feed the rest of us, as it was in 1920, instead of less than 1 percent, as it is today, we would be a much poorer society and much worse off than we are today.

The same holds true for the copyright industries. Copyright legislation that makes the macroeconomic numbers that Blaisdell and the IIPA tout go up could nevertheless make society worse off. To illustrate, let us assume that Congress is considering a move from an existing copyright regime to a new more expansive copyright regime for original songs. The existing regime prohibits a very narrow range of copying, perhaps only exact or mechanical duplication of the entire work, for a very short period of time, such as one year, and provides limited remedies for infringement, perhaps, like other tort claims, awarding damages only for proven losses. Because of the limited restrictions on copying, authorized copies must compete with lower priced unauthorized copies that are readily available in the market, and as a result, music under the first copyright regime is not terribly expensive. In contrast, the proposed expansion in copyright would provide some combination of broader restrictions on copying, that last longer, and that are enforced

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[51] *See*, *e.g.*, Economic Research Service, U.S. Department of Agriculture, *Ag and Food Sectors in the Economy*, Jan. 8, 2025 (noting that the output of farms contributed "about 0.8 percent of U.S. GDP" in 2023 and direct on-farm employment about 1.2 percent of U.S. employment). (available at https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy#:~:text=The%20U.S.%20agriculture%20sector%20extends,assistance%20far%20outpaces%20other%20programs.).

[52] *See, e.g.*, J. Bradford DeLong, Slouching towards Utopia: An Economic History of the Twentieth Century 10-11 (2022) (estimating that the average per capita income in 2010 is "8.8 times what it was in 1870").

through more generous remedies, such as statutory damages. Under the proposed expansion, authorized copies would face less competition from unauthorized copies in the market, and as a result, music under this copyright regime would become more expensive.

So long as the copyright expansion increases prices, Blaisdell's numbers go up. As in the broken window fallacy, the higher prices that more extensive copyright regulation imposes redirect consumer spending from other industries into the music industry, and thereby generate higher revenue for the music industry. That higher revenue yields a larger GDP contribution from the music industry, as well as more employment in the music industry and higher salaries for its employees. At the same time, however, it leaves consumers with less to spend elsewhere in the economy, reducing revenue for and employment in every other sector of the economy.

For the proposed expansion to increase social welfare for the economy as a whole, three conditions must be satisfied. First, higher revenue from the music sector must increase original music output. This is the incentive condition. If copyright or an expansion to copyright merely forces consumers to pay more for music they would have gotten in any event, then, in Macaulay's words, it has become mere monopolistic evil and should be abolished. Second, that marginal increase in music output must generate additional social value that exceeds the social value lost due to reduced access to music that has been or would have been produced under the existing copyright regime ("non-marginal" works). This is the access condition. The copyright expansion increases prices not only for the marginal additional songs it may encourage, but for all music, both marginal and non-marginal. Thus, we must account for the social welfare lost due to the higher prices that broader copyright imposes on the non-marginal works. Third, if the proposed expansion generates a net social welfare gain from music, that net gain must exceed the welfare lost from reduced output elsewhere in the economy as resources are shifted from being used productively elsewhere in the economy into the music industry. This is the general equilibrium condition. The enactment of copyright demonstrates that we don't trust the economy's prices, on their own, to allocate resources to their highest valued use. Yet, the music sector of the economy is not the only sector that fails to satisfy the assumptions of the perfect competition model. Virtually all sectors of the economy do. As a result, just as we cannot trust market prices to allocate enough resources to the music industry in the absence of government intervention, such as copyright regulation, too much or the wrong sort of government intervention can shift too many resources into the copyright industries. If we cannot and do not trust market prices alone, in the absence of copyright, to allocate resources to their highest valued use, then we must account expressly for the value lost as copyright regulation takes resources from other sectors of the economy.[53]

If all three of these conditions are satisfied, then the proposed copyright expansion is desirable. If any of them is not, then the proposed expansion would reduce social welfare and should not be enacted. In other words, if the proposed copyright expansion fails to generate additional original works, then it fails the incentive condition and is undesirable.

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[53] This is the point I make more broadly in my first article on the economic analysis of copyright. *See* Glynn S. Lunney, Jr., *Reexamining Copyright's Incentives-Access Paradigm,* 49 VAND. L. REV. 483 (1996).

Or if the incentive condition is satisfied, but the marginal social value of the additional music is less than the marginal social loss from reduced access to the non-marginal music, then the proposed expansion fails the access condition and is undesirable. Or if both the incentives and access conditions are satisfied, but the net gain in social welfare associated with additional music is outweighed by the welfare losses from reduced output elsewhere in the economy, as resources, such as labor and capital, are shifted from other sectors of the economy into the music industry, then the proposed expansion fails the general equilibrium condition and again, is undesirable.

The problem with the macroeconomic numbers Blaisdell, the IIPA, and WIPO tout, is that those numbers do nothing to help us distinguish between a proposed expansion of copyright that satisfies these three conditions and one that does not. To the contrary, so long as expanded copyright regulation causes associated prices in the regulated industries to increase, then the macroeconomic numbers Blaisdell and his sycophants cite will go up even if all three conditions fail. Higher prices for copyright-regulated products force consumers to spend more of their budget on those products. That leads to a higher GDP share for those industries, more employment in those industries, and higher salaries for those industries. The three conditions – whether those higher prices lead to increased creative output, the value of which exceeds both the value of the access lost to non-marginal works of authorship and the value lost from reduced output elsewhere in the economy – are not even addressed. Even where copyright fails all three conditions, and copyright is monopolistic evil and should be abolished, still so long as it increases the prices of its regulated products, the macroeconomic numbers Blaisdell, the IIPA, and WIPO tout will all go up nonetheless.

Indeed, as these studies stand, while Blaisdell states expressly that the copyright industries contributed "more than mining or banking or the electric and gas utilities; they contributed slightly less than the automobile manufacturing industry or railroad transportation,"[54] he fails to explain entirely why the copyright industries, but not these others, deserve a government subsidy of the type that copyright regulation provides.[55] After all, creating jobs and increasing the GDP are easy. Just re-create the Civilian Conservation Corps ("CCC") of the Depression era, make it a private entity, and have the federal government fund the private entity using deficit financing.[56] Boom, jobs and GDP. The question is what, if anything, does the public receive in return. If the answer is nothing, or nothing worth the cost of the program – if the employees of the private CCC, for example, are put to work counting blades of grass in a field, then such a program would reduce social welfare and be undesirable despite its creation of jobs and boost to the GDP.

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[54] Blaisdell, *supra* note 8, at 27.

[55] For the argument that copyright is akin to a government subsidy, *see* Lunney, *supra* note 19.

[56] Using deficit financing, rather than current tax revenues, generates a GDP bump today, as a result of the spending on the program, but delays the GDP reduction from taxing citizens to pay for the program until some point in the future.

It's the same with copyright. Enacting or expanding copyright increases the associated prices of copyright-regulated products.[57] Just like deficit-government spending, that creates jobs and increases GDP for the regulated industries.[58] But again, the question is what, if anything, does the public receive in return. Copyright or a proposed expansion of copyright is desirable only if the public receives something in return and that something outweighs the costs. If the higher prices merely lead to more assistants in the copyright industries fetching protein shakes and tofu (or counting blades of grass), I think that we would all agree that copyright, or more copyright, is not welfare-enhancing for society as a whole. On this point, while Blaisdell, the IIPA, and WIPO refuse to tie their analyses to the incentives-access paradigm, and pretend their macroeconomic numbers justify copyright independently of it, their analyses implicitly rely on the intuitions and beliefs driven by the paradigm and the copying competitor story to explain both: (i) why the copyright industries but not the mining or railroad industries deserve a special government subsidy of the sort copyright provides; and (ii) why more revenue for and more jobs in the copyright industries are desirable. But let's make that connection express: For the macroeconomic numbers that Blaisdell, the IIPA, and WIPO all tout to reflect desirable, welfare-producing economic activity and not mere grass-blade counting, copyright or more copyright must satisfy our three welfare-determining conditions. First, it must satisfy the incentive condition: By raising the prices of the regulated products, copyright must increase the output of the copyright industries, i.e. lead to more books, movies, or music. Second, it must satisfy the access condition: The marginal social value of that additional output must exceed the marginal social loss that the higher prices bring by reducing access to non-marginal output. Third, it must satisfy the general equilibrium condition: The net gain in social value must exceed the marginal social loss from reduced output in every other sector of the economy as more resources are shifted into the copyright industries.

Unfortunately, Blaisdell, the IIPA, and WIPO pretend that the macroeconomic numbers going up, on their own, justifies copyright. That is simply wrong. As long as copyright regulation increases the prices of the associated goods, the macroeconomic numbers go up. They go up even if the incentive condition fails and the higher prices fail to generate increased output in the copyright industries. They go up even if the access condition fails and the welfare losses from lost access exceed any welfare gains from increased output. They go up even if the general equilibrium condition fails and the net welfare gains in the markets for copyright-regulated products are outweighed by welfare losses associated with reduced output everywhere else in the economy, as more resources are shifted into the copyright industries.

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[57] *See* Lunney, *The Copyright Tax*, *supra* note 24, at 149-50 (estimating that copyright causes the price of popular novels to be between five and six dollars higher in the analog market and over nine dollars higher in the digital market).

[58] The usual method of calculating GDP is the expenditure method. Increased private or government spending on given products or services increases the GDP associated with those products or services. *See* Bureau of Economic Affairs, The Expenditure Approach to Measuring GDP, June 3, 2025 (available at https://www.bea.gov/news/blog/2025-06-03/expenditures-approach-measuring-gdp).

Increased creative output does not come from nothing nor does it come from waving copyright like a magic wand. It requires resources, labor and capital. Copyright attracts those resources into the copyright industries by increasing the prices of the products it regulates. Yet, those same higher prices also both: (i) reduce access to non-marginal works of authorship; and (ii) takes resources that would otherwise be used productively elsewhere in the economy. Those are the real costs of copyright, and we must account for them. The numbers Blaisdell, the IIPA, and WIPO tout do not.

As a result, Blaisdell's analysis, as well as the later, follow-on analyses by the IIPA and WIPO, are irrelevant to a discussion of optimal copyright policy. Without a showing that the three welfare-determining conditions are satisfied, we cannot be sure that the jobs and GDP contribution associated with copyright add any more value than a government-funded, private CCC filled with employees counting blades of grass. The macroeconomic numbers Blaisdell touts simply fail to address the relevant issues.

If I haven't persuaded you yet, let's use Blaisdell's approach and attempt to balance what we have gained in terms of increased GDP contribution from the copyright industries, as a result of having copyright, against what we may have lost in every other sector of the economy. One way to do that is to consider how the economy as a whole has performed as copyright drew more resources into the copyright industries and left fewer resources for the rest of the economy. The question we seek to answer is whether a larger GDP share for the copyright industries led to higher or lower GDP for the economy as a whole. Or as law and economics scholars like to phrase the question, has a larger copyright sector increased the size of the metaphorical pie? When we turn to the performance of the economy as a whole, and the size of the economic pie, nothing matters more, over the long term, than real economic growth. Real economic growth can take a poor country where people are struggling to pay for day-to-day necessities and make it a rich country. Real economic growth can take a top-rate world power and make it an also-ran, or take an also-ran and make it a world power. As Robert Lucas, who won the Nobel prize for his work on economic growth, famously wrote:

> Is there some action a government of India could take that would lead the Indian economy to grow like Indonesia's or Egypt's? If so, what, exactly? If not, what is it about the 'nature of India' that makes it so? The consequences for human welfare involved in questions like these are simply staggering: Once one starts to think about them, it is hard to think about anything else.[59]

In the light of the importance of real economic growth to social welfare, let's follow Blaisdell's approach and see what macroeconomic facts we can cite regarding the growth of the copyright industries and the rate of real economic growth in the United States. To undertake this approach, we begin with the Federal Reserves' estimates of quarterly real economic growth per capita in the United States since 1948.[60] Figure 1 presents the data.

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[59] Robert E. Lucas, Jr., *On the Mechanics of Economic Development*, 22 J. Monetary Econ 3 (1988).

[60] Federal Reserve Bank of St. Louis, Real gross domestic product per capita (available at https://fred.stlouisfed.org/series/A939RX0Q048SBEA#:~:text=Observations,1949%2D10%2D01%20End).

Figure 1. Quarterly rates of real economic growth per capita in the United States: 1948-2024[61]

As Figure 1 reveals, real world macroeconomic data is messy. The numbers are continually bouncing up and down as a result of exogenous shocks and economic cycles.[62] To remove this messiness, I estimated the long-term trend or the average real economic growth rate over time by regressing the quarterly data against time. Figure 2 presents the results.

[61] *Id.*

[62] Rather than reflect the genius of the President or his economic advisors, quarters with unusually high real economic growth rates usually follow year-earlier quarters with very poor economic performance. Thus, the 11.5 percent year-over-year real growth rate in the third quarter of the 1950, under President Truman, followed a -3.2 percent year-over-year real growth rate in the third quarter of 1949. Similarly, the 12.2 percent year-over-year real growth rate in the second quarter of 2021, under President Biden, followed a -7.8 percent year-over-year real growth rate in the second quarter of 2020. And the high growth rates under President Reagan in 1983-1984 followed the negative growth rates for 1982. In each case, the high returns average out with the earlier low returns to keep the average real growth rate in line with the long-term trend.

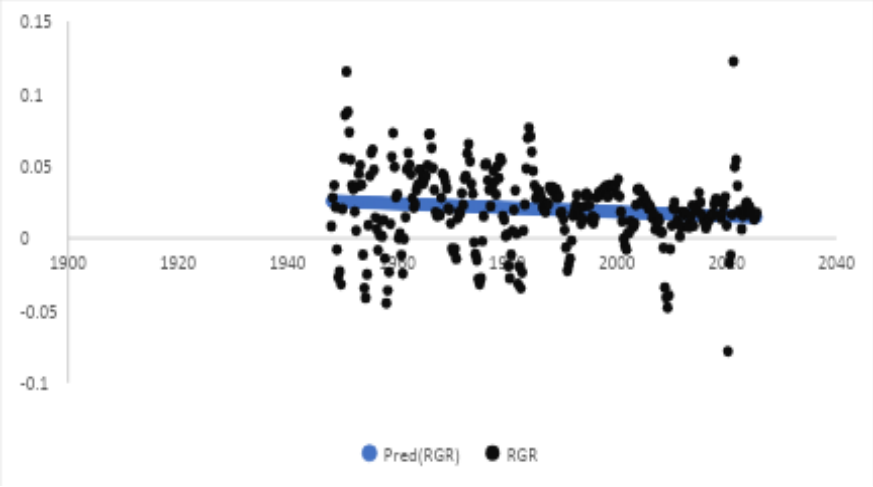

Figure 2. Actual and trend average quarterly rates of real economic growth per capita in the United States: 1948-2024[63]

As Figure 2 shows, while the actual quarterly growth data bounces around, the long-term average trend in real economic growth is negative. Since the end of World War II, real economic growth per capita in the United States has been, on average, slowing.

If we compare that long-term trend against the numbers that Blaisdell and the IIPA tout for the copyright industries, we find that as the contribution of the copyright industries to national income or GDP have gone up in the United States, the rate of real economic growth has declined. Indeed, if we regress the long-term trend in real economic growth for the United States against the GDP contribution of the copyright industries, we find a negative correlation (-0.17824, $p<0.0001$).[64] All else constant, for every 1 percentage point increase in the GDP share of the copyright industries, the real economic growth rate for the United States fell by 0.17 percentage points. Figure 3 shows the long-term trend in the real economic growth rate data plotted against the GDP share of the copyright industries, as calculated by the Blaisdell and the IIPA, and the associated negative correlation.

[63] Federal Reserve Bank of St. Louis, *supra* note 60.
[64] Regression results available from the author on request.

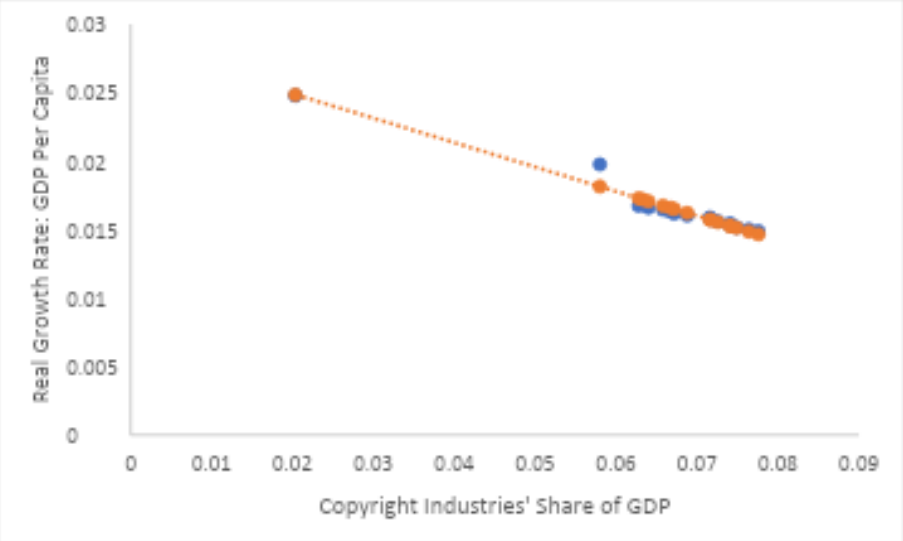

Figure 3. GDP share of the copyright industries versus long-term real economic growth in the United States[65]

As Figure 3 shows, as the copyright industries' share of GDP in the United States has increased, the rate of real economic growth in the United States has declined. According to the regression, for every 1 percentage point increase in the GDP share of the copyright industries, the real economic growth rate for the United States fell by 0.17 percentage points. As a result, the 5.66 percentage point increase in the GDP share of the copyright industries from 1954 to 2023 was associated with a 1.02 percentage point decrease in annual real economic growth. As the copyright industries grew in importance, from a 2 percent share of national income in 1954 to a 7.66 percent share in 2023, the real economic growth rate for the United States fell from 2.5 percent to 1.5 percent.

Over the long run, such a decrease in real economic growth rates has substantially diminished the size of the economic pie. If I were Blaisdell or the IIPA, and wanted to phrase the true factual association most provocatively, I would assert that, as the size of the copyright industries grew since 1954, real economic growth slowed. Had real economic growth not slowed, per capita GDP today would be $100,000, instead of $70,000.[66] I could go further and even elide the distinction between correlation and causation, and assert that but for copyright, the average American would have an additional $30,000 in their pockets today to spend as they see fit.[67] Moreover, the decline in real economic growth rates not only reduced the income of the average American, it

[65] Regression results available from the author upon request.

[66] Per capita GDP was $17,636 in 1954. If the real economic growth rate had remained at 2.4794 percent, as it was then, then per capita GDP in 2025 would have been $100,368.40.

[67] This is the difference between what the per capita income actually was in 2025, $70,000, and what it would have been, $100,368.40, if growth rates had remained at 2.48%.

also reduced the country's GDP as a whole proportionally. Had real economic growth not slowed with the growth of the copyright industries, the U.S. GDP would be substantially higher: $42 trillion in 2025 instead of only $30 trillion.[68] With such a high GDP, China would not be the threat it is today; the government would have proportionally more tax revenue to spend on all the wonderful things it does for us and could easily meet its current budget without the need to run the large deficits it's running today. In short, for increasing the economic pie, over the long term, nothing matters more than real economic growth. If less copyright and a smaller contribution from the copyright industries to GDP is the price we have to pay to achieve significantly higher real economic growth and a much larger economic pie, it is a price that we should gladly pay.

Of course, I long ago chose truth over influence. So as an honest person and an honest economist, I will tell you that while these numbers and the associated negative correlation are absolutely and literally true as far as they go, they, just like Blaisdell's numbers, are also meaningless to a discussion of optimal copyright policy. It is true that there is a negative correlation between the GDP share of the copyright industries and the long-term trend in real economic growth rates. Yet, correlation is not causation. In this case, as with Blaisdell's numbers, both GDP share and real economic growth rates are moving in response to underlying trends in macroeconomics. As GDP per capita increases beyond subsistence, an increasingly smaller share of the average individual's income goes to cost-based necessities, such as food, and an increasingly larger share goes to value-based luxuries, such as copyright-regulated works of authorship.[69] Similarly, as GDP per capita increases, real economic growth rates tend to slow.[70] Thus, as the average American's per capita GDP increased since World War II, the average American spent more on copyright-regulated works of authorship, and real economic growth rates declined, not because one caused the other, but because both were driven by the underlying increase in per capita GDP.

Yet, I offer this example to show just how easy it is to use true macroeconomic data to suggest a false conclusion.[71] Although the macroeconomic data establishes a negative correlation between the GDP share of the copyright industries and real economic growth rates in the United States, that macroeconomic data is as irrelevant to a discussion of optimal copyright policy as are Blaisdell's and the IIPA's macroeconomic numbers more generally. These macroeconomic numbers are driven by underlying macroeconomic

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[68] The same growth equation as in *supra* note 67 but using the real GDP of $5.3 trillion in 1954, rather than per capita income, as the base.

[69] For example, the Bureau of Labor Statistics has estimated that the percent of the average worker's income spent on food and clothing fell by 73.985 percent over the last century from 66.5 percent in 1901 to 17.3 percent in 2002-2003. Bureau of Labor Statistics, 100 Years of U.S. Consumer Spending: Data for the Nation, New York City, and Boston 6, 63 (2006). In contrast, the Bureau of Labor Statistics has estimated that the percent of the average worker's income spent on entertainment increased by 292.3 percent over the same period, from 1.3 percent in 1901 to 5.1 percent in 2002-2003. *Id.*

[70] For the foundational work on macroeconomic growth, showing convergence – the tendency of poorer countries to catch up to richer countries contingent on similar growth in human capital, see Paul M. Romer, *Increasing Returns and Long-Run Economic Growth*, 94 J. Pol. Econ. 1002 (1986); Lucas, *supra* note 59.

[71] As Mark Twain famously said, "There are lies, there are damn lies, and then there are statistics."

considerations, not copyright. As a result, these macroeconomic numbers tell us nothing about whether society is better off with the copyright law we have, or whether society would be better off with broader copyright, narrower copyright, or no copyright at all.

So, what then, can economics really tell us about optimal copyright? As we shall see in the next section, surprisingly little.

III. THE ECONOMICS OF COPYRIGHT: MORE QUESTIONS THAN ANSWERS

Economics can approach the welfare implications of having copyright, or from having broader or narrower copyright, from two perspectives: (i) theoretical; or (ii) empirical. Unfortunately, neither approach yields definitive answers, at least not with certainty. However, both provide evidence that may guide future efforts at copyright reform.

A. Copyright in Economic Theory

Whether copyright is likely to prove welfare enhancing and hence desirable from the perspective of economic theory depends entirely on the assumptions we make in creating our economic model. To be clear, all economic models require assumptions that simplify. In that sense, no economic model accurately reflects real-world market conditions. That is not the point that I am making, however. The point is that by making different simplifying assumptions, different economic models, none of which perfectly reflect real-world market conditions, yield different conclusions regarding the need for and desirability of copyright.[72]

For example, the traditional incentives-access model builds on the copying competitor story and can demonstrate mathematically that the market will produce fewer original works of authorship than the theoretically optimum.[73] Government intervention, such as copyright regulation, can bring output closer to the theoretical ideal, but we must still balance the incentive effect – whether, and if so, the extent to which, the higher prices copyright regulation brings to the associated markets will lead to additional regulated products at the margins, and if so, what additional social value those works generate – against the access effect – the lost social value from reduced access to non-marginal works due to the same higher prices.[74]

Economists build this model on a number of underlying assumptions. Again, relying on assumptions is not the problem. To make the math work, assumptions are essential for economic models. The problem is that if we change the assumptions, the conclusions no longer follow. For example, the traditional incentives-access model assumes that all

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[72] For further exploration of these economic models, *see* GLYNN LUNNEY, COPYRIGHT'S EXCESS: MONEY AND MUSIC IN THE US RECORDING INDUSTRY 11-58 (2018).

[73] *See* LUNNEY, *supra* note 19, at 13-16.

[74] Here's the mistake Machlup and Landes & Posner make in describing the incentives-access balance. We do not balance incentives and access for a specific work, as their wording seems to suggest. Instead, in adopting or expanding copyright, we balance the social welfare gains for one set of works, the additional works that the incentives that the adoption or expansion generates may yield, against the welfare losses for a different set of works, the reduced access to works that have been or would have been products even without the adoption or expansion at issue.

markets in the economy other than those for copyright-regulated products are complete (i.e. have no externalities) and are perfectly competitive.[75] If we acknowledge that other markets are imperfect as well, as they most certainly all, then we can no longer show even the most basic point that the market will underproduce original works of authorship in the absence of copyright regulation. In such a second-best world, economic theory becomes entirely indeterminate as to these sort of ultimate welfare conclusions.[76]

Alternatively, we might attempt to design a model that reflects the winner-takes-all nature of the markets for most copyright-regulated products. Focusing on that aspect of copyright-regulated markets, we might end up with Alfred Marshall's superstar model.[77] As I have explained elsewhere, the essential assumption of the superstar model is:

> Given a choice between listening to their favorite artist or song, or to their second favorite, consumers listen to their favorite, even if their preference is only slight.[78]

If that assumption is true, then the entrance of a new superstar has two effects. First, they take the existing demand away from the previous superstar (the "displacement" effect). Second, they may also expand the existing demand to reflect consumers' slight preference for the new superstar over the previous superstar (the "expansion" effect). Under such assumptions:

> the superstar's private return is a function of the size of the market as a whole, both the expansion in demand and the displacement of the preexisting demand. Yet, the marginal social value the superstar creates is a function only of the slight expansion in the overall market demand. In such a case, the private return for the new superstar typically exceeds, often by several orders of magnitude, the marginal social value the new superstar creates.[79]

Because the marginal private return so sharply exceeds marginal social value, these assumptions lead to the opposite conclusion of the incentives-access model. Rather than underproduce original works of authorship in the absence of copyright regulation, as the traditional incentives-access model concludes, the superstar model demonstrates, using the same mathematical logic, that there will be an overinvestment in and overproduction of such works as everyone strives to become the next superstar.[80] Rather than a government intervention, such as copyright regulation, to increase investment in these markets, we need a windfall profit tax on superstars to bring the marginal private return

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[75] *See* LUNNEY, *supra* note 19, at 37-38.
[76] *See* Lipsey & Lancaster, *supra* note 4.
[77] *See* ALFRED MARSHALL, PRINCIPLES OF MICROECONOMICS 728 (1890) (introducing the superstar model, but suggesting, given the technology of the day, that it did not apply to singers); Sherwin Rosen, *The Economics of Superstars*, 71 AM. ECON. REV. 845 (1981); Alan Krueger, *The Economics of Real Superstars: The Market for Rock Concerts in the Material World*, 23 J. LABOR ECON. 1 (2005).
[78] Lunney, *Copyright and the 1%, supra* note 20.
[79] *Id.* at 30-31.
[80] *Id.*

for superstars in line with the marginal social value they create and to reduce the overinvestment in becoming the next superstar that would otherwise occur.[81]

In choosing between these models, we can debate which assumptions seem the most plausible on the basis of common experience – an approach that Machlup derides as "casual empiricism."[82] In the end, however, as I've said before:

> The point here is not to cherry-pick a model that happens to support our own individual preconceptions, but to note the weaknesses of models alone as a basis for policy intervention. Models have value precisely to the extent that their conclusions have been tested and verified in the real world.[83]

Unfortunately, the available empirical evidence does not directly answer the ultimate welfare question whether society, as a whole, is better off with no, some, or more copyright regulation. Nevertheless, we do have empirical evidence on some of the subsidiary questions that provide insight into that ultimate question, and to that empirical evidence we now turn.

B. The Empirical Evidence on Copyright

Although not conclusive, the available empirical evidence tends, on balance, to suggest that society would be better off with "less" copyright than we have today, where "less" means a copyright regime with fewer or narrower exclusive rights, that are subject to more limitations and exceptions, that last a shorter time, and that are enforced through a more limited set of remedies.[84] Not all of the studies point universally in that direction, however.[85] And none of the empirical studies address either the general equilibrium condition – how to balance the value of additional production from the copyright industries against what is lost elsewhere in the economy – or the ultimate welfare question – whether society is better or worse off with copyright as it is today, or would be better off still with narrower or broader copyright. Nevertheless, a number of studies address what might be thought of as the incentives condition; others address the access costs associated with copyright regulation.

One point on which the empirical evidence agrees, however, is that most markets for copyright-regulated products tend to be, if not literally winner takes all, then winner takes most. For music, the top ten percent of albums capture 98.5 percent of sales.[86] On the popular videogame platform, Steam, the top ten percent of the games capture 89.28 percent of the players.[87] Of the domestic box office for theatrical releases, the top ten

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[81] *See* LUNNEY, *supra* note 19, at 36-37.
[82] Machlup, *supra* note 6, at 62.
[83] LUNNEY, *supra* note 19, at 39.
[84] *See infra* note 94.
[85] *See infra* note 93.
[86] BUZZANGLE MUSIC, 2018 YEAR-END REPORT: U.S. MUSIC INDUSTRY CONSUMPTION 31, 34 (2019), at https://www.buzzanglemusic.com/buzzangle-music-2018-report-on-music-consumption) (providing data that shows that the top 10% of albums captured over 98.5% of sales and showing that the top 10% of music videos received 87.1% of the total music video streams).
[87] Lunney, *Copyright and the 1%*, *supra* note 20, at 44.

percent of the films captured 75.5% of the revenue.[88] For literary authors in the United Kingdom, seventy percent of the royalty income flowed to the top ten percent of authors.[89]

The highly skewed nature of demand in the markets for copyright-regulated products suggest two things regarding copyright. First, it suggests that the superstar model, rather than the incentives-access model, more accurately reflects the nature of the associated real-world markets. That in turn suggests that the conclusion of the superstar model is more likely to be accurate than the conclusions of the incentives-access model. While not conclusive, the greater alignment between the assumptions of the superstar model and reality tends to suggest that there will not be an underinvestment in, nor underproduction of, original works of authorship, but an overinvestment in, and overproduction of, such works as individuals vie to become the next superstar. Rather than enacting or broadening copyright to increase private returns in the market for copyright-regulated products, government should enact a windfall profit tax on superstars to reduce private returns in copyright-regulated markets. Second, even if we remain committed to the incentives-access model, the highly skewed demand in the associated markets – where a veritable handful at the top take the vast majority of copyright's direct benefits – makes copyright an inefficient mechanism for encouraging additional creative output at the margins of profitability. If the artist at the margins of profitability needs just one more dollar to bring forth their work, then an efficient government intervention would ensure that artist one more dollar. It would not also pay thousands of dollars to non-marginal artists who don't need any additional incentives. Any such money would simply be wasted. Unfortunately, that is precisely what copyright does. Because copyright regulates uniformly, whether a work is at the margins of profitability or already vastly profitable, to pay that marginal artist one more dollar for their marginal work, copyright also pays all of the non-marginal and already profitable works additional money as well. This uniformity then plays out in markets where demand is highly skewed. Where the most popular, and already vastly profitable, song on Spotify generates a billion streams, our song at the margins of profitability may generate only fifteen thousand.[90] As a result, because copyright regulates both songs uniformly, to generate one more dollar in incentives for the marginal song, copyright must also generate $66,667 in additional and unnecessary incentives for the most popular song.[91] Because the most popular song is already vastly profitable, the $66,667 in additional incentives are wasted relative to the desired incentive effect. Yet, they generate welfare losses as the higher prices necessary to generate these additional incentives reduce access to the song. In these winner-takes-most markets,

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[88] For the data on which this calculation is based, see *Domestic Box Office for 2019*, BOX OFFICE MOJO (Oct. 7, 2019), https://www.boxofficemojo.com/yearly/chart/?page=1&view=releasedate&view2=domestic&yr=2019&p=.htm ((domestic grosses).

[89] *See* Martin Kretschmer, Andres Azqueta Gavaldon, Jaakko Miettinen, and Sukhpreet Singh, UK Authors' Earnings and Contracts 2018: A Survey of 50,000 Writers 19 (2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3389685.

[90] LUNNEY, *supra* note 19, at 21.

[91] *Id.*

copyright generates very little in the way of incentives for the marginal work, yet imposes substantial lost access costs by over-incentivizing the most popular works.

When we turn from this issue to the empirical studies that address whether the additional incentives that copyright regulation provides lead to more and better copyright-regulated products, the evidence is mixed. All of the studies attempt to distinguish mere correlation – the United States has vibrant copyright industries and also has copyright – from causation – the United States has vibrant copyright industries because it has copyright. To do so, all of the studies focus on some form of exogenous shock. Some focus on a legal shock, such as the initial enactment of copyright. Most focus on a technological shock, such as the introduction of VCR or file sharing. But in either case, these exogenous shocks sharply increase or decrease, or are hoped to increase or decrease, the extent of unauthorized copying present in a regulated industry. As mentioned, while the studies employ similar frameworks, their results are mixed. On the one hand, two studies, one of 18th century Italian opera and one of the Bollywood film industry from 1985-2000, offer some evidence that the enactment of copyright or more effective enforcement of copyright increased creative output.[92] On the other, a half dozen or so studies focused on the music industry following the introduction of file sharing in 2000 and found no evidence that less effective enforcement of copyright reduced creative output.[93] Indeed, some of these studies found that as file sharing increased and music industry revenue declined, creative output in the music industry increased in both quantity and quality.[94]

None of these studies are perfect. All involve real world situations, not controlled and randomized trials. As a result, in each of the studies, there's more going on than just the enactment of copyright or the rise of a technology that enables easier unauthorized copying. And it is difficult to account for all of the possibilities that may be influencing creative output. In the end, however, taken as a whole, they cast considerable doubt on the notion that more copyright incentives will always and everywhere increase creative output. Accepting the studies at face value, we might conclude that copyright may sometimes increase creative output in some industries, in some historical situations, but

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[92] Michela Giorcelli & Petra Moser, *Copyrights and Creativity: Evidence from Italian Opera in the Napoleonic Era*, 128 J. Pol. Econ. 4163 (2020); Rahul Telang & Joel Waldfogel, *Piracy and new product creation: A Bollywood story*, 43 Information Econ. & Pol'y 1 (2018).

[93] Lunney, *supra* note 19; Joel Waldfogel, Digital Renaissance: What Data and Economics Tell Us About the Future of Popular Culture (2018); Christian Handke, *Digital Copying and the Supply of Sound Recordings*, 24 Info. Econ. & Pol'y 15 (2012); Glynn S. Lunney, Jr., *Copyright, Incentives, and Popular Music Composition*, 22 Rev. Econ. Res. Copyright Issues 33 (2025); Glynn S. Lunney, Jr., *Empirical Copyright: A Case Study of File Sharing, Sales Revenue, and Music Output*, 24 Supreme Court Econ. Rev. 261 (2016); Joel Waldfogel, *Copyright Protection, Technological Change, and the Quality of New Products: Evidence from Recorded Music Since Napster*, 55 J.L. & Econ. 715 (2012); Joel Waldfogel, *Music Piracy and Its Effects on Demand, Supply, and Welfare*, 12 Innovation Pol'y & Econ. 91 (2012).

[94] *See*, *e.g.*, Lunney, *supra* note 19, at 154 (finding that for the time period from 1962-2015, "more revenue in one year was, in most of the regressions, associated with less or worse music" in the next); Lunney, *Incentives and Popular Music Composition*, *supra* note 93, at 71 (for the time period from 1963-2022, finding that "[i]ncentives either have no statistically significant correlation, or, in most of the regressions, a statistically significant and negative correlation, with music output")

not in others. Maybe movies need copyright, but maybe music does not. Or we can point out the imperfections in the studies with which we don't agree.

For myself, I find the studies of the modern music industry in the wake of file sharing to be the most persuasive. I freely admit that may be because some of those studies are mine. The studies concern a current issue and thus are more likely to be relevant to contemporary policy debates than whether opera production increased following Napoleon's conquest of Italy in the late 18th century. Moreover, recorded music fits our copying competitor story much better than live opera performances. With file sharing, to obtain an unauthorized copy of a recorded song, a consumer need only push a button to obtain a near-identical copy at almost no cost. In contrast, copying and then offering a competing version of a live opera performance is not so quick or easy. Even after you copy the original composition, you still need to hire an orchestra and opera singers, have rehearsals, and find a venue to put on the competing live performance. That takes time and money. In the end, even without copyright, it seems unlikely that a copying competitor will be able to offer a competing live performance of any given opera so quickly and at such a lower price that enough consumers will wait and then switch to the unauthorized copy so as to deny the original author and producer the financial return necessary to release the opera in the first place. In addition, for the studies of the contemporary music industry, we have better evidence on every issue. We have better evidence of the amount of file sharing that occurred. We have better evidence on how that unauthorized copying affected sales of recorded music. We have better evidence on the role complementary products, such as live performance, may have played in overall industry revenue.[95] We have better measures of music output, in terms of both quantity and quality. Thus, it's not just a preference for my own work that leads me to find their findings more persuasive, at least, I hope that it's not.

With respect to access, the empirical studies pretty uniformly establish that copyright reduces access compared to a market without or with less effective copyright. While file

[95] The role of complementary products as a funding mechanism is the reason I am not fully persuaded by the Bollywood film study. As the authors' note, their exogenous shock is the introduction of the VCR in India in 1985, making unauthorized copying easier and effective copyright enforcement more difficult. *See* Telang & Waldfogel, *supra* note 92, at 4. Rather than compare movie production before 1985 to movie production after 1985, they also posit a second exogenous shock in 2000, specifically "stronger IP enforcement and the development of new markets at home – in new multiplexes and at home . . . ." *Id.* The problem is the development of new multiplexes is not a copyright-based shock but a complementary goods shock. Investors built shopping malls and needed more and better films to attract consumers to those malls. With or without copyright, these investors recouped the money for these films not solely through ticket and concession sales at the theaters, where copyright might play a role, but through sales of products at the adjacent malls, where copyright does not. Without an ability to sort the role of copyright and the role of complementary products in funding films, it becomes very hard to identify whether copyright was a causal factor. While music also has the complementary market for live performances, we have specific data that details the size and growth of that revenue stream, and hence, know that it was not enough to outweigh the lost revenue from reduced sales of recorded music. *See* Lunney, *supra* note 19, at 77 (noting that the $2.8 billion in increased concert revenue from 1999 to 2013 was not enough to counteract the $13 billion in reduced sales revenue over the same period).

sharing, for example, meant that music producers were paid less for their music, it vastly expanded access to the music that was produced. It expanded access directly. Consumers who could not otherwise afford the price of a copyright-regulated CD could readily afford free.[96] It also expanded access indirectly. The competitive pressure file sharing placed on music industry revenue gave Steve Jobs the leverage he needed to break the album and persuade music producers to allow iTunes to sell individual singles for 99 cents.[97] A few years later, that same competitive pressure enabled music streaming services to obtain the licenses they needed to operate.[98] As I testified to Congress, "file sharing put music in the hands of more Americans than any invention since the phonograph."[99]

As I stated, these studies are not conclusive and do not attempt to address the overall welfare conclusion directly. Yet, for me, they work hand-in-hand to suggest that less copyright than we currently have would likely increase overall social welfare. The winner-takes-most nature of these markets makes it unlikely that too few copyright-regulated products will be produced in the first place. It also makes copyright an inefficient mechanism for redressing any underproduction of these products that may otherwise occur. Too much of the extra revenue copyright generates goes to the superstars, overpaying them for their contributions to social welfare and generating associated deadweight and other welfare losses. Too little goes to the products at the margins of profitability which represent the potential welfare gain from copyright regulation. As a result, the winner-takes-most nature of copyright-regulated markets makes it unlikely that the incentive-based welfare gains will outweigh the access-based welfare losses. Moreover, the empirical studies demonstrate undeniable welfare losses from the higher prices and reduced access that copyright regulations impose. In contrast, the evidence that those same higher prices lead to increased output in the associated copyright-regulated products is, at best, mixed.

In the face of strong evidence of access-based welfare losses and only weak evidence of incentives-based welfare gains, on balance, then, copyright seems like a net loss for society as a whole. Of course, like much of government regulation, it undeniably pads the pockets of a special interest group – the copyright regulated industries. It raises prices and increases the revenue for the copyright-regulated industries. By doing so, it makes Blaisdell's macroeconomic numbers go up. But to the extent that it does so without increasing those industries' associated output, as the evidence seems to suggest, copyright restrictions force consumers to pay more for the same books, movies, and music that they would have gotten in any event. At that point, copyright becomes not social good, but monopolistic evil. That leads me to conclude that society would be better off with less copyright than we have today.

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[96] *See* LUNNEY, *supra* note 19, at 78-79 (estimating that file sharing may have increased music distribution from a peak of one billion authorized physical albums sold in 1999 to over twelve billion unauthorized electronic copies in 2013).

[97] *See* LUNNEY, *supra* note 19, at 74-76.

[98] *See* Lunney, *Copyright and the 1%*, *supra* note 20, at 21.

[99] *The Scope of Copyright Protection*, Hearing Before the Subcommittee on Courts, Intellectual Property, and the Internet, of the Committee on the Judiciary, House of Representatives, 113th Cong., 2d Sess., Serial 113-81, at 34 (Jan. 14, 2014); *see also* LUNNEY, *supra* note 19, at 78-79 (estimating that file sharing may have more than doubled the distribution of music by 2002 and may have increased the distribution of music by a factor of ten by 2010).

CONCLUSION: SKEPTICISM OF ECONOMIC CLAIMS ABOUT COPYRIGHT

In the end, however, Machlup remains as right today, as he was seventy years ago. Just as no economist, then or now, "could possibly state with certainty that the patent system, as it now operates, confers a net benefit or a net loss upon society," so too the copyright system.[100] Yet, where I part ways with Machlup is on whether certainty is the relevant standard. If Congress could not act absent certainty as to the ultimate welfare implications of its actions, then Congress could not act.

If we put to one side the irrelevant macroeconomic numbers that Blaisdell and the IIPA tout, there are the three real questions that we must answer to design an optimal copyright regime. First, will more copyright lead to more or better copyright-regulated products? If so, what marginal social value will those additional products generate? This is the first question because it's a strictly necessary threshold. If the higher prices that copyright regulation, or any given increment of copyright regulation, impose do not lead to more or better works and an associated increase in social welfare, then copyright, or that increment of copyright regulation, serves no public purpose and should be abolished. Second, what are the welfare losses from reduced access as a result of those same copyright-imposed higher prices? Do the welfare gains from additional copyright-regulated products outweigh the welfare losses from reduced access to the non-marginal copyright-regulated products for any given increment of copyright protection? Third, and finally, if copyright or more copyright yields a net increase in social welfare associated with copyright-regulated products, does that net gain exceed the welfare losses from reduced output in every other sector of the economy? Copyright does not generate wealth from nothing. At any given point,[101] to produce more books or more movies or more music requires more labor and capital for the copyright industries, and that leaves less labor and capital to produce goods and services in the rest of the economy.

While I cannot be certain of the answers to any of these three questions, I believe the available empirical evidence is sufficient to conclude that society would be better off with less copyright than we have today. That evidence is particularly persuasive with respect to music, where the exogenous technological shock of file sharing gave us a clear view of a counterfactual world with radically reduced copyright regulation. And that counterfactual world looked much better off. There was more and better music, for which consumers paid far less and to which consumers had much easier and wider access. True, artists and record labels, composers and music publishers were paid less for each song, but that is not a welfare loss. That reduced revenue for the music industry did not

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[100] Machlup, *supra* note 6, at 79. To be completely fair, Machlup does suggest, a few paragraphs later, that an economist or team of economists might be able to gather enough data to suggest whether particular reforms will prove welfare enhancing, even if they are unable to answer the all-or-nothing question as to whether society would be better off with the existing patent regime or no patent regime at all. *Id.* at 80.

[101] Of course, over time, as technology changes, fewer resources may be required to satisfy society's demand for original works, just as fewer farmers are required today to feed us than were required a century ago.

disappear from the economy. It was instead a wealth transfer. With the rise of file sharing and the decline in the *de facto* degree of copyright regulation, copyright could no longer force consumers to spend more of their money of music. Instead, file sharing and the associated decline in copyright regulation allowed more of their money to remain in consumers' pockets to be spent elsewhere in the economy, just as Bastiat long ago recognized.

As for the macroeconomic numbers that Blaisdell and the IIPA tout, they are irrelevant. If someone insists on focusing on the macroeconomic size or importance of the copyright industries as a justification for copyright, just remind them that as the contribution of the copyright industries to GDP has grown, real economic growth rates in the United States have fallen. Apparently, what's good for the copyright industries has been bad for everyone else. Had real economic growth rates not fallen, had they remained where they were when the copyright industries' contribution to the national income or GDP was smaller, the United States would have a much higher GDP and the average American a much higher income than they do today. In short, copyright makes us poor. After all, if one side in the copyright debate is going to cite true macroeconomic statistics to support false conclusions, the other side should feel free to do so as well.