

The Economic Impact of Copyright

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Copyright law is often enacted and implemented with the purpose of incentivizing creation of new works for public use. In exchange for the creation of new works, the government gives the author a limited monopoly over that work for a finite period of time, after which point it can be used and enjoyed by the public. Since this debate is ultimately a debate over incentives, copyright policy discussions that address how to strike the appropriate balance between copyright protection and limitations and exceptions to copyright must in part look to economic analysis. Copyright should only be as strong as is actually necessary to incentivize the creation of works, and during the term of copyright limitations and exceptions to copyright should be used to serve the public interest.

This paper is a review of the literature examining the economic effects of copyright protection and copyright limitations and exceptions. In response to calls for ever-increasing copyright protection and term, this paper examines the costs of copyright protection to society and the benefits of limitations and exceptions.

Increasing Copyright Protection and Enforcement Does Not Always Lead to Economic Benefits

The Economic Importance of New Market Entrants

Copyright protection imposes economic and social costs on society. In return for the promise of new works, copyright protection prevents individuals and businesses from making new uses of existing works. In today's economy, this burden falls particularly on technology companies.

Innovative new technologies provide enormous social and economic benefits to society, but can meet resistance from incumbent intermediaries that control access to content. Technology that is seen by the dominant firms as “disruptive” is especially vulnerable to attempts to thwart or control its progress through copyright. For example, publishers initially fought the Xerox 914 photocopier in the 1950s and 1960s by bringing lawsuits against Xerox and other photocopier manufacturers.¹ The advent of cassette tapes in the 1970s similarly provoked cries that “hometaping is killing the music industry.” And today, peer-to-peer file sharing technology is often thought of as an illegal technology altogether, despite its crucial role in many legal initiatives. For example, the LionShare project at Penn State in the

¹ Cammaerts 10-11.

U.S. is a peer-to-peer file sharing system that enables university users to find academic content housed at other universities and institutions.²

The history of technological innovation and efforts to stifle or control that innovation through copyright demonstrate that policymakers must strike a balance between the interests of rights holders and the interests of consumers and companies that rely on legitimate uses of copyright-protected content.³ To that end, it is crucial that policymakers rely on evidence-based decision making. As Professor Ian Hargreaves explained, “[p]olicy should balance measurable economic objectives against social goals and potential benefits for rights holders against impacts on consumers and other interests. These concerns will be of particular importance in assessing future claims to extend rights or in determining desirable limits to rights.”⁴ As the Gowers Report—a study commissioned by the U.K. government to determine whether U.K. intellectual property laws struck the appropriate balance between incentivizing creation without limiting follow-on innovators—noted: “future increases, or decreases, to the length of copyright should certainly be dependent on economic evidence that such a change would be positive.”⁵ The necessity for evidence-based decision making is no less strong in the international setting as in the domestic setting.⁶

Copyright can become a barrier to innovation because rights holders are given a monopolistic right, and as a result third parties are unable to use that content for future innovation without permission of the original rights holder. Thus, copyright “can constrain third parties wishing to access or innovate on top of this protected knowledge or content, with potentially serious economic and social costs.”⁷

Recent studies suggest “technology spreads faster, and has bigger positive effects on productivity, in industries where there is more open competition and so more contestable markets—*i.e.* markets to which new entrants can gain ready access.”⁸ Recent evidence compiled by OECD shows “that in countries where there is more dynamism and contestability in markets, measured by the presence of more fast growing and shrinking firms, productivity growth is significantly higher. In countries where there are more static firms—neither growing nor shrinking—rates of productivity growth are lower.”⁹

² See Fisher and McGeeveran 13.

³ See Cammaerts 12.

⁴ Hargreaves 8.

⁵ Gowers 39.

⁶ See Hargreaves 21.

⁷ Hargreaves 11.

⁸ Hargreaves 17-18.

⁹ Hargreaves 17-18.

Decreased Investment in New Businesses

The costs that copyright laws impose on new businesses can influence the decisions of those who invest in these businesses. A major factor in the growth of the internet has been the new companies that fuel innovation—and which typically require startup capital to launch.¹⁰ This capital often comes from early-stage investors—“the angel investors and venture capital firms with the skills to support the growth of new businesses and the willingness to risk the money needed to help them grow.”¹¹

Venture capitalists in particular “have historically invested heavily in startups in various technology sectors, including software, electronics, and computers. A large percentage of the jobs created in these sectors can be attributed to these startups.”¹² It is worth noting here that angel investors and venture capitalists were early investors in some of today’s most successful businesses, including Apple, Cisco, Dell, eBay, Facebook, Google, Intel, and Microsoft.¹³

However, one recent study found that a majority of venture capitalists reported that the current regulatory environment in the U.S. has had a negative impact on innovation.¹⁴ The study concluded that “[t]he regulatory environment is just as important a driver of early-stage investment decisions as is the state of the economy, the degree of competition in the space, or even the expected return on investments.”¹⁵ Accordingly, when determining the extent of exclusive intellectual property rights or limitations and exceptions to those rights, governments should be sure to investigate the actual costs that those rights will impose on the economy.

On this point, the Hargreaves Report from the U.K. found that:

Innovation may be blocked and growth hampered when unduly rigid applications of copyright law enables rights holders to block potentially important new technologies. We have experienced this when the interests of rights owners have put them in conflict with developers of video recorders and web search engines. Research scientists, including medical researchers, are today being hampered from using computerised search and analysis techniques on data and text because copyright law can forbid or restrict such usage. As data farming becomes routine in systems across the economy, from the management of transport to the administration of public services, copyright issues become ever more important as potential obstacles. In these circumstances, copyright in its current form represents a barrier to innovation and economic opportunity.¹⁶

¹⁰ Matthew le Merle *et al.*, *The Impact of U.S. Internet Copyright Regulations on Early-Stage Investment: A Quantitative Study*, Booz & Co., 8 (2011).

¹¹ Matthew le Merle *et al.*, *The Impact of U.S. Internet Copyright Regulations on Early-Stage Investment: A Quantitative Study*, Booz & Co., 8 (2011).

¹² Le Merle 10.

¹³ Le Merle 9.

¹⁴ Le Merle 16.

¹⁵ Le Merle.

¹⁶ Hargreaves 43.

The Costs of Extended Copyright Terms

Overly long copyright terms can thwart future investment and innovation without creating a corresponding incentive to invest on the part of copyright owners.

For example, when the U.S. extended its copyright term by 20 years, from the life of the author plus 50 years to the life of the author plus 70 years, economic evidence gathered after the law was enacted revealed that the term extension had a negligible effect on investment decisions.¹⁷ This result is unsurprising; after all, from the perspective of investors “the term of protection in the USA had nearly the same present value as perpetual copyright term. As such, many economists suggest that increasing copyright term beyond 50 years does not provide additional incentives to invest, as monies earned so far in the future fail to impact on current spending decisions.”¹⁸

In comparison, before becoming a signatory to the Berne Convention, the U.S. required copyright owners to apply for and renew their copyright registrations. The costs of doing so were intended to be low enough to merely cover administrative costs and not deter copyright registration or renewal. Between 1923 and 1942, approximately 3,350,000 copyright registrations were filed.¹⁹ Approximately 13% of these copyrights were renewed.²⁰ Thus, if current U.S. law had applied between 1923 and 1942, 3.35 million works would have removed from public use in order to protect only 77,000 commercially viable works.²¹

For the music industry, evidence suggests “most sound recordings sell in the ten years after release.”²² Very few recordings continue to generate income, both from sales and royalty payments, for the entire copyright term in the U.S. or U.K. Thus extending the term of copyright “would only raise revenue for a small minority of sound recordings, keeping the vast majority locked up,”²³ because a copyright term extension would impact all recordings, not just the ones that continue to generate income for their owners.²⁴

For these reasons, a recent study in the U.K. concluded that the “[e]conomic evidence is clear that the likely deadweight loss to the economy exceeds any additional incentivising effect which might result from the extension of copyright term beyond its present levels.”²⁵ This is particularly true for retroactive copyright

¹⁷ Gowers 52 (citing economists brief filed in *Eldred v. Ashcroft*).

¹⁸ Gowers 52.

¹⁹ Gowers 52.

²⁰ Gowers 52.

²¹ Gowers 52.

²² Gowers 52.

²³ Gowers 52.

²⁴ Gowers 54.

²⁵ Handke C, *The Economics of Copyright and Digitisation: A Report on the Literature and the Need for Further Research*, Report for the UK Strategic Advisory Board for Intellectual Property Policy (2010), <http://www.ipo.gov.uk/ipresearcheconomics-201005.pdf>.

extensions, since it is impossible to use economic incentives to change past conduct. Recently, a U.K. government assessment found copyright term extension to be economically detrimental,²⁶ and a study with an international scope found copyright term extension to have no impact on the output of creative works.²⁷

The Harms of High Statutory Damages

High statutory damages for copyright infringement can deter investors from investing funds into businesses that rely upon copyright-protected content. At least one proposal for the TPP's intellectual property chapter proposes requiring signatory countries to implement a deterrence-level statutory damages regime. It is exactly these damages that increase the costs of regulatory uncertainty for technology and start-up investors.²⁸

One study by Booz & Company focused on the effect of copyright law on digital content intermediaries—namely, “websites, desktop or cloud software, digital forums, peer-to-peer software programs, and some internet-based physical distributors.”²⁹ These intermediaries, it must be pointed out, help content creators by allowing them to make, promote, and distribute their works to audiences more easily, and offering them several new options to reaching the marketplace without selling their copyrights to the traditional dominant distributors like publishers, record labels, or movie studios. An artist may still opt to partner with an incumbent intermediary, but these new services give the artist a choice and offer most efficient ways for content owners of all kind to distribute works.

This study found that 89% of venture capitalists interviewed said that “uncertain and potentially large damages made them uncomfortable with investing in DCIs [digital content intermediaries].”³⁰ 72% of investors surveyed said that “increased antipiracy regulations would deter them from investing specifically in DCIs that offer user-uploaded music or videos.”³¹

Costs of Licensing to Innovative New Services

As the scope and term of copyright are expanded and copyright grants more exclusive rights to copyright owners, the costs imposed on services that rely upon licensing will increase accordingly. Any addition to copyright protection and enforcement must consider the costs that those policies impose upon the companies that innovate at the edges of the traditional copyright industries.

These costs include the more obvious costs of royalty rates, monetary advances, equity stakes, exclusivity requirements, and alterations to the service

²⁶ IPO, *Impact Assessment of: Proposed Directive to extend the term of copyright protection for performers and sound recordings* (2010).

²⁷ Png I P L and Qiu-hong W, *Copyright Law and the Supply of Creative Work: Evidence from the Movies, Review of Economic Research on Copyright Issues* (2009).

²⁸ Le Merle 10.

²⁹ Le Merle 14.

³⁰ Le Merle 18.

³¹ Le Merle 22.

offered, but they also include the time and resources expended by the service to obtain licenses at all. For example, one very recent study conducted by Professor David Touve at Washington and Lee University found that interactive music services—which must negotiate directly with copyright owners under U.S. law—spend a median time of 18 months negotiating for a license.³² Approximately 15 of those months are spent negotiating with the major record labels and music publishers.³³

Costs for Libraries, Archives, and Cultural Preservation and Access

Current copyright provisions in U.S. law often prevent libraries and archives from preserving the copies of works, particularly when the copyright owner is not known or cannot be found. This ultimately weakens the ability of libraries and other cultural institutions to preserve the cultural heritage of our society and make that heritage accessible for future generations.

One study commissioned by the National Recording Preservation Board found that 10% or less of sound recordings from periods prior to World War II have been made available by rights holders.³⁴ For periods before 1920, the percentage is nearly zero.³⁵ Interestingly, this study also found that while only 14% of historical U.S. recordings dating from 1890 through 1964 have been made available in the U.S. by rights holders, an additional 22% of those recordings were made available on European releases.³⁶ The additional recordings available in Europe (often by non-rights holders) skew toward those older recordings that are no longer protected under copyright in Europe.³⁷ This indicates that even when rights holders have determined that there is not sufficient market interest in their works to incentivize them to release the titles, those works may still spark enough consumer demand that non-rights holders would be willing to release the works themselves.

Another report issued by the U.S. National Recording Preservation Board emphasized that “[l]ibraries, archives, and other public and privately funded institutions are finding it virtually impossible to reconcile their responsibility for preserving and making accessible culturally important sound recordings with their obligation to adhere to copyright laws.”³⁸ As the report explained:

³² David Touve, *Innovation at the Edge: Making Sense of Opportunity at the Boundary of Technology and Copyright* (June 2012), <http://davidtouve.files.wordpress.com/2012/06/david-touve-brief-innovation-at-the-edge.pdf>.

³³ *Id.*

³⁴ See Tim Brooks, *Survey of Reissues of U.S. Recordings*, Washington, DC: Council on Library and Information Resources and Library of Congress, 11-14 (2005), <http://www.clir.org/pubs/reports/pub133/summary.html>.

³⁵ *Id.*

³⁶ Bamberger and Brylawski 116.

³⁷ *Id.*

³⁸ Bamberger and Brylawski 7.

[E]lements of current copyright law are incompatible with best practices for digital preservation; copyright law and regulation do not provide libraries, archives, and museums with sufficient latitude to preserve and furnish copies of recordings for research and educational use; the lack of clarity in the law creates a threat of litigation that imposes a self-limiting atmosphere and prevents legitimate uses of sound recordings by cultural institutions to further their educational and research missions; the ability to provide wide access encourages the preservation of historically, culturally, and aesthetically significant audio materials; copyright considerations limiting access discourage private collectors from donating major collections to public institutions because of the perception that recordings held by institutions are less accessible than those in private hands; and the study of the nation's social and cultural history is adversely affected by the terms of protection provided sound recordings under current copyright law.³⁹

Additionally, this perception that preserved recordings will never be accessible to the public discourages owners of collections from donating to libraries and archives, and decreases the funding that those institutions receive.⁴⁰

Costs on Educational Uses

Digital education initiatives hold particular promises for lower costs and increased accessibility to education, both inside and outside of the traditional school walls. Digital education projects could include an online network of teachers, allowing them to share advice and classroom resources; incorporating new media into classroom teaching; extending educational dialogue through technologies like email, class blogs, or wikis; student authorship that incorporate video, audio, and web pages; and replacing physical textbooks with laptops and multimedia source material.⁴¹

The development of these new educational uses highlights both the importance of limitations and exceptions to copyright for education and the importance of flexibility in those limitations and exceptions. For example, the most straightforward educational use exception in U.S. copyright law⁴² could likely accommodate uses like using a powerpoint presentation incorporating third-party content in a classroom, but might not apply to a class web page, blog, or wiki, even if online use was restricted to teachers and students.⁴³ This provision also could not accommodate less traditional educational initiatives, including extracurricular activities, web-based or open source educational projects, or scholarship.⁴⁴ In more traditional scholarship, digital technology also enables more convenient access to materials; faster production of time-sensitive work; links to enable discussion with varying levels of detail; incorporation of digital media into academic products; and

³⁹ Bamberger and Brylawski 111.

⁴⁰ Bamberger and Brylawski 119.

⁴¹ Fisher and McGeeveran 11-12.

⁴² See 17 U.S.C. § 110(1).

⁴³ See Fisher and McGeeveran 44.

⁴⁴ See Fisher and McGeeveran 44.

easier collaborative discussion.⁴⁵ Although some of this activity may still be protected under the fair use doctrine,⁴⁶ there may be ambiguity about whether fair use extends to all of these activities and this uncertainty may discourage risk-adverse nonprofit educational organizations or institutions.

Impact on Developing Countries

The U.K. Hargreaves report noted that “for low income countries with a weak scientific and technological infrastructure, stronger IP protection has little effect on their own economic growth and may even hinder it – while having no significant effect on the likelihood of developed country industry seeking to sell goods there.”⁴⁷ Infrastructure, finance, and skills developments can be “much more important to investment decisions in low income countries than the effectiveness of the IP regime.”⁴⁸

The Commission on Intellectual Property Rights, commissioned by the Department for International Development, contended that ‘weak’ intellectual property is in the best interests of developing countries.⁴⁹ The economist Keith Maksus explains: “enforceable IP rights are neither necessary nor sufficient to establish robust inflows of technology.”⁵⁰

Indeed, the very history of development in some of today’s dominant economies “suggests that ‘weaker’ IP may be more suited to countries in development.”⁵¹

In its formative stages of development the USA sought to develop by appropriating technology from Europe. George Washington suggested legislation to encourage “the introduction of new and useful inventions from abroad”. Between 1790 and 1836 the USA restricted patents to residents, hardly an approach to incentivise foreign capital inflows and ensure free markets. When Switzerland industrialised in the 1880s it did so without a patent system, allowing it to benefit from innovations developed elsewhere. Ultimately patents were only introduced under pressure from trading partners. Similarly, between 1960 and 1980 Asian economies emphasised the importance of reverse engineering and imitation. When South Korea adopted patents in 1961 their term was limited to only 12 years and they were not available for foodstuffs, pharmaceuticals or chemicals. Perhaps most strikingly, Italy only introduced a patent system in 1978.⁵²

These studies demonstrate that a one-size-fits-all approach to copyright policy will not benefit all countries. “The factor common to successful low-cost models, our work suggests, is neither strong enforcement against pirates nor the

⁴⁵ Fisher and McGeeveran 12-13.

⁴⁶ See 17 U.S.C. § 107.

⁴⁷ Hargreaves 24.

⁴⁸ Hargreaves 24.

⁴⁹ See Fisher and McGeeveran 12-13.

⁵⁰ Gowers 59.

⁵¹ Gowers 59.

⁵² Gowers 59.

creative use of digital distribution, but rather the presence of firms that actively compete on price and services for local customers.”⁵³ This evidence emphasizes how important it is that each country determine the appropriate level of intellectual property protection for itself at this particular stage in its economic development.

The Economic Benefits of Limitations and Exceptions to Copyright

Even in the U.S., companies benefiting from limitations and exceptions to copyright law “generate substantial revenue, employ millions of workers, and represent one-sixth of total U.S. GDP.”⁵⁴ Examples of these companies include: “manufacturers of consumer devices that allow individual copying of copyrighted programming; educational institutions; software developers; and Internet search and web hosting providers.”⁵⁵ In the U.S. courts have relied upon fair use and other copyright limitations in upholding the legality of internet search engines and temporary copies that that facilitate interoperability between computer programs⁵⁶ and the development of web hosting services.⁵⁷

For example, the industry subsection “Internet Publishing and Broadcasting and Web Search Portals,” relies upon the non-copyrightability of facts,⁵⁸ the non-protection of ideas,⁵⁹ fair use,⁶⁰ exceptions for library uses,⁶¹ the first-sale doctrine,⁶² online service provider safe harbors,⁶³ limitations in copyright term,⁶⁴ and non-protection for U.S. government works⁶⁵ in the course of their business.⁶⁶ Decreasing the scope of these limitations and exceptions would therefore increase the burdens on the internet publishing, broadcasting, and search industry.

During the recent economic downturn in the U.S., technology companies relying upon fair use and other copyright limitations and exceptions remained relatively stable when measured by value added, while the remainder of the U.S. economy contracted. In the U.S. in 2008 and 2009, “fair use industries generated total revenue averaging \$4.6 trillion, a 35% increase over 2002 revenue of \$3.4

⁵³ Karaganis *et al.* ii.

⁵⁴ Rogers and Szamoszegi 5.

⁵⁵ Rogers and Szamoszegi 6.

⁵⁶ See *Sony v. Connectix*, 203 F.3d 596 (9th Cir. 2000); *Sega v. Accolade*, 977 F.2d 1510 (9th Cir. 1992); *Atari v. Nintendo*, 975 F.2d 832 (Fed. Cir. 1992).

⁵⁷ See 17 U.S.C. § 512(c) (providing safe harbors for entities that host third party content).

⁵⁸ 17 U.S.C. § 102(a).

⁵⁹ 17 U.S.C. § 102(b).

⁶⁰ 17 U.S.C. § 107.

⁶¹ 17 U.S.C. § 108.

⁶² 17 U.S.C. § 109.

⁶³ 17 U.S.C. § 512.

⁶⁴ 17 U.S.C. § 302-304.

⁶⁵ 17 U.S.C. § 105.

⁶⁶ See Rogers and Szamoszegi 13.

trillion. In percentage terms, the most significant growth over this seven year period occurred in Internet publishing and broadcasting and web search portals, electronic shopping and electronic auctions, and other financial investment activity.”⁶⁷

Additionally, in 2008 and 2009, the value added from fair use-related industries averaged \$2.4 trillion, approximately 17% of total U.S. current dollar GDP.⁶⁸ “Fair use industries also grew at a faster pace than the overall economy. The core fair use activities, which accounted for 9.2% of the [U.S.] economy in 2002, accounted for 19.7% of U.S. real economic growth from 2002 to 2009.”⁶⁹

“Employment in industries benefiting from fair use and related limitations and exceptions increased from 16.9 million in 2002 to 17.7 million in 2008.” This number decreased to 17 million during the U.S. economic recession. Nevertheless, “[a]bout one out of every eight workers in the United States is employed in an industry that benefits from these protections.”⁷⁰ Total payrolls for fair use industries rose from \$895 billion in 2002 to an average of more than \$1.2 trillion during 2008 and 2009.⁷¹

Companies dependent upon limitations and exceptions like fair use also promise significant productivity gains for a given economy. A country’s economic growth depends heavily on increased levels of productive inputs, such as labor and capital, and the productivity with which those inputs are used.⁷² Several reports have attributed the increase in productivity in the U.S. in the late 1990s to the information technology companies, and more recently, studies suggest that industries that rely on information technology companies are also increasing productivity.⁷³ Between 2002 and 2007, the productivity of U.S. fair use industries increased 38% to nearly \$137,000 per employee.⁷⁴ Productivity continued to rise to \$141,000 per employee in 2009, greatly exceeding the U.S. economy-wide average of \$108,000 per employee.⁷⁵

⁶⁷ Rogers and Szamosszegi 6.

⁶⁸ Rogers and Szamosszegi 6 (“Value added equals a firm’s total output minus its purchases of intermediate inputs and is the best measurement of an industry’s economic contribution to national GDP.”).

⁶⁹ Rogers and Szamosszegi 7.

⁷⁰ Rogers and Szamosszegi 7, 21-22.

⁷¹ Rogers and Szamosszegi 7.

⁷² Rogers and Szamosszegi 23.

⁷³ See Tarek M. Harchaoui, Faouzi Tarkhani & Bilkis Khanam, *Information Technology and Economic Growth in the Canadian and U.S. Private Economies*, Economic Growth in Canada and the United States in the Information Age (2004); Erik Brynjolfsson and Lorin M. Hitt, *Computing Productivity: Firm-Level Evidence*, MIT Sloan Working Paper No. 4210-01 (2003); *Economic Report of the President: 2002*, GPO, 58-60 (2002); J. Steven Landenfeld and Barabara M. Fraumeni, *Measuring the New Economy, Survey of Current Business*, 23-39 (2001); Dale W. Jorgenson and Kevin J. Stiroh, *Raising the Speed Limit: U.S. Economic Growth in the Information Age* (2000).

⁷⁴ Rogers and Szamosszegi 7 (Productivity here in defined as “the amount of goods and services that can be produced with a given number of inputs.” Productivity is thus crucial to the rise of living standards in an economy.)

⁷⁵ Rogers and Szamosszegi 7.

Finally, the ability of the fair use industries to create new innovative services by relying on limitations and exceptions to copyright in turn helps end users make new productive uses of technology. For example, when Internet search engines can rely upon fair use,⁷⁶ the search engine's technology benefits consumers and other companies by lowering information costs, because consumers can use those search engines to locate useful information and find other services to patronize. Without fair use and other limitations, search engines would face regulatory uncertainty and be less likely to enter the market or expand, which would stifle the education and commercial benefits of search engines.

Limitations and exceptions to copyright can also promote economically and socially valuable uses of orphan works when the copyright owner cannot be found. For orphan works, the cost of clearing rights is high, which burdens cultural institutions that work to provide access to abandoned works. For example, one Carnegie Mellon study estimated that obtaining permission to digitize and provide web-based access to one book cost about \$200.⁷⁷

But uses of orphan works do create concrete economic value:

For example, the film *It's a Wonderful Life* lost money in its first run and was ignored by its original copyright owners. When the owners failed to renew their copyright in 1970, it was broadcast on the Public Broadcasting Service channel in the USA. It is now a family classic, and worth millions in prime time advertising revenue. The book *The Secret Garden*, since copyright has expired, has been made into a movie, a musical, a cookbook, a CD-ROM version, and two sequels.⁷⁸

⁷⁶ See *Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701 (9th Cir. 2007); *Kelly v. Arriba Soft*, 336 F.3d 811 (9th Cir. 2003); *Field v. Google*, 412 F. Supp. 2d 1106 (D. Nev. 2006).

⁷⁷ Gowers.

⁷⁸ Gowers 70.

Conclusion

Recent studies confirm the economic importance of limitations and exceptions to copyright law, in addition to cautioning against overly burdensome copyright protection. Policymakers should consider this evidence when crafting their particular nation's copyright laws.

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The Economic Impact of Copyright

Annotated Bibliography

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This report explains the obstacles to sound recording preservation imposed by U.S. federal and state copyright law.

- Bart Cammaerts and Bingchun Meng, *Creative Destruction and Copyright Protection: Regulatory Responses to File-Sharing*, LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE (Mar. 2011), <http://blogs.lse.ac.uk/mediapolicyproject/2011/03/21/media-policy-project-policy-brief-1-creative-destruction-and-copyright-protection/>.

The report recommends that the government encourage the use of peer-to-peer technology to promote innovation, and warns that using intellectual property laws to suppress technological advances and protect incumbent business models will stifle innovation. The report notes that market offerings that allow consumers to access music legally and at a reasonable price is much more effective at decreasing infringement than implementing stronger copyright laws.

- William W. Fisher and William McGeveran, *The Digital Learning Challenge: Obstacles to Educational Uses of Copyrighted Material in the Digital Age*, Berkman Center for Internet & Society (2006), <http://cyber.law.harvard.edu/publications>.

This report details case studies evaluating the progress of digital education initiatives, and discusses the challenges to those initiatives posed by current U.S. copyright law.

- *Gowers Review of Intellectual Property*, HM Treasury (2006).

Commissioned by U.K. government to determine whether the U.K. intellectual property system was fit for the purpose of providing incentives for innovation, without unduly limiting access for consumers and follow-on innovators, in an era of globalization, digitization and increasing economic specialization.

- Ian Hargeaves, *Digital Opportunity: A Review of Intellectual Property and Growth* (2011)

This U.K. report reviews the current literature, both for and against stronger intellectual property protection, and makes recommendations to the U.K. government urging evidence-based decision making and specific solutions to several copyright debates.

- Joe Karaganis *et al.*, ***Media Piracy in Emerging Economies***, Social Science Research Council (2011), <http://piracy.ssrc.org>.

This report explains in detail the state of several emerging economies, and evaluate the role of intellectual property infringement in the development of each economy.

- Matthew le Merle *et al.*, ***The Impact of U.S. Internet Copyright Regulations on Early-Stage Investment: A Quantitative Study***, Booz & Co. (2011).

This study surveyed 200 angel investors to better understand how potential regulatory changes might affect investment behavior and interviewed more than 20 prominent venture capitalists to gain a more qualitative perspective on their views. It studied the impact of the current regulatory environment, with a focus on digital copyright laws and regulations, on early stage investment in digital content intermediaries. It notes that copyright is “particularly relevant to technology companies—an important area of focus for early-stage investors.” The report concludes that current U.S. regulations should not be changed to increase the liability exposure of end users or intermediaries. However, it does not address whether the current regulatory balance is ideal. The study was financed by Google Inc. and independently researched and written by Booz & Co.

- Felix Oberholzer-Gee, Harvard University, and Koleman Strumpf, University of Kansas, ***File Sharing and Copyright*** (2010).

This study examines the sales of various products and services in the music industry, and concludes that copyright infringement has not undermined incentives to create new works.

- Thomas Rogers and Andrew Szamoszszegi, ***Fair Use in the U.S. Economy: Economic Contributions of Industries Relying on Fair Use***, Capital Trade, Inc. (2011).

This study, commissioned by the Computer & Communications Industry Association, identifies and evaluates the economic impact of technology companies whose business models rely upon limitations and exceptions to copyright, most notably fair use.

- David Touve, ***Innovation at the Edge: Making Sense of Opportunity at the Boundary of Technology and Copyright*** (June 2012), <http://davidtouve.files.wordpress.com/2012/06/david-touve-brief-innovation-at-the-edge.pdf>.

This study is based on the results of interviews with actors in online music distribution, to determine the average time and effort required for digital music services to obtain licenses for copyrighted works.

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