

## The Unfinished Business of Assessing the Costs of Illegal Downloading

Copyright law protects the creators of original works. Under the law, the creators become the holders of an exclusive right to reproduce, distribute, perform, display, license, and prepare derivative works based on the copyrighted work. Copyright may stay with the author or be licensed to a company that then distributes the copyrighted work to members of the public who lawfully acquire the right to hold a copy of the material. A fee (the money paid to buy a DVD, a book, or software) is often charged to the public, making copyright protection a profit-generating mechanism for copyright holders. Financial exploitation of copyright is an idea that is central to understanding why copyright laws exist and how they have evolved. The advent of the Internet has certainly had a tremendous impact on the way in which we think about the economic motives behind securing copyright protection. Several new tools, including peer-to-peer software and torrents, have in fact enabled Internet users to obtain access to copyrighted materials without the need to purchase a digital and physical copy of the work. The electronic duplication and illegal distribution (or sharing) of digital files, whether music or movies, games, or business software is commonly referred to as digital piracy.[1] Its effects are the focus of this essay, which focuses on a specific question: how much does illegal downloading cost to society? In this essay, we argue that, although many have tried to quantify the cost of illegal downloading, the real costs cannot be measured. We reach this conclusion based on a review of published studies on the costs of illegal downloading that shows these studies are characterized by problematic assumptions, incomplete calculations, and unconvincing results.

Illegal downloading is certainly a widespread practice. In 2009, the International Federation of the Phonographic Industry (IFPI) estimated that "around 95 per cent of new music tracks are downloaded without payment to rights holders." [2] Studies allegedly show that this widespread practice has caused great harm to creative industries and to national economies. Some go even further and quantify the costs of illegal downloading. Some estimate that in 2002 U.S. businesses lost "\$200-\$250 billion to counterfeiting on an annual basis." [3] In 2005, the magnitude of counterfeit and pirated goods in international trade was estimated to be up to \$200 billion. This estimate was later updated to \$250 billion based on 2005–2007 world trade data. [4] In 2008, TERA Consultants estimated that physical and digital piracy caused in the UK, France, Germany, Italy and Spain, a collective retail loss in revenue exceeding 15 billion dollars and the loss of "more than 185,000 jobs." [5]

These data come from heterogeneous sources—respectively the FBI, the Organization for Economic Cooperation and Development (OECD), and the Business Action to Stop Counterfeiting and Piracy (BASCAP), an initiative of the International Chamber of Commerce—that, along with other sources, all agree that digital piracy is harmful and that its costs can be determined. This conclusion seems to be confirmed by study after study. In 2012, Michael Smith and Rahul Telang reviewed the academic literature in economics, marketing, and information systems on piracy's impact on sales of media products and concluded that "while some papers in the literature find no evidence of harm, the vast majority of the literature (particularly the literature published in top peer reviewed journals) finds evidence that piracy harms media sales." [6] While we can intuitively agree that illegal downloading may result in revenue losses for various creative industries, can we accurately determine the costs of illegal downloading precisely? In this essay, we challenge the dominant model of calculating the costs of illegal downloading: we identify problems with the sources of data and with the assumptions that are used to calculate the costs as well as problems with the failure to incorporate in the calculations the positive economic effects of illegal downloading.

The first problem relates to the sources of data. The majority of published data on the costs of illegal downloading originate from the industry. Some are directly published by the industry, its trade associations, and lobbying firms. Some

come indirectly from the industry as research that is paid for by the industry. This is the case with consulting firms and academic research.[7] While the industry's imprint on data does not in itself invalidate the data, it certainly raises a red flag. In some cases, when red flags are followed by careful assessment of the quality of the data, the limitations of existing data come to the surface. This is the case with the review conducted by the Government Accountability Office (GAO), the audit, evaluation, and investigative arm of the U.S. Congress. In 2010, the GAO reported that as of 2010 three estimates of the costs of piracy had been provided by U.S. agencies. Just one of them applied to digital piracy—the 2002 FBI estimate quoted at the beginning of this essay. Upon review of the underlying data, GAO concluded that this estimate "cannot be substantiated or traced back to an underlying data source or methodology." [8] GAO also indicated that although the FBI data and similar reports are unreliable, the figures in them "continue to be referenced by various industry and government sources as evidence of the significance of the counterfeiting and piracy problem to the U.S. economy." [9]

The second problem relates to the methods and assumptions deployed to calculate the costs of illegal downloading. Ideally, this evidence should be grounded on controlled experiments—that is, comparing "real life" purchasing decisions of those who take advantage of digital piracy and those who only access copyrighted materials legally. The illegal nature of the behavior to be measured, however, makes controlled experiments almost impossible to run. In fact, in 2012 Smith and Telang reported that "there are no papers in the literature that we are aware of that use controlled experiments to study piracy." [10] In the absence of controlled experiments, we are left with studies that rely on a series of assumptions of how Internet users would behave if unable to secure copies of copyrighted materials illegally.

The most problematic of these assumptions is the substitution rate. This is the rate at which users would purchase legal copies if pirated copies were not available. Clearly, this number is crucial to build estimates of losses because if illegal downloaders were not interested in purchasing the legal version in the event a pirated copy was not available, the loss for the industry would be zero. However, there is no reliable way to measure the substitution rate. The BASCAP study reports that published studies adopt ranges that vary from 10% to 30%. In 2005, Felix Oberholzer-Gee and Koleman Strumpf reported that 80% of illegal downloaders "claimed they bought at least one album because they sampled it first on a file-sharing network." [11]

Another limitation of the substitution rate is that it assumes that consumers have unlimited power to spend. In other words, the assumption is that illegal downloaders have the financial capacity to purchase legal copies of any illegally downloaded material. This is simply not true. In fact, an illegal download cannot be substituted by a purchase of a legal copy in all instances. Furthermore, if illegal downloaders converted all downloads into purchases, they would have less money to spend on other products or services sold by creative industries. Tickets to live concerts are a typical example. Revenues from tours are for many artists their main source of income, even before illegal downloading became possible (as suggested by artists like Lyle Lovett and 30 Seconds to Mars, who respectively sold 4.6 million and 2 million records but never made a dime from album sales). [12] In 2011, as the cost of buying tickets rose 13.6% in a year, "total ticket sales throughout the world declined by 2.1 percent, resulting in 19.4 million [tickets] sold for the 50 biggest tours during the first half of 2011." [13] A telephone survey with 5,000 adults conducted by Rasmussen Reports in 2010 revealed that 70% of the respondents indicated that tickets "are priced too high" and that they were "not willing to spend more than . . . \$50." [14] This shows that music fans' disposable income for entertainment is limited and that, in the absence of illegal downloading, fans would not rush to the store to buy a CD.

To correct the substitution rate problem, economists Brett Danaher and Joel Waldfogel compared the effects of pre-release and post-release sharing of pirated movies on BitTorrent on ticket sales. Based on data coming from a survey of weekend box-office returns for the top 10 movies in 17 different countries over the course of three years, they found that post-BitTorrent films made less money than pre-BitTorrent movies. "The longer the lag, the more they lost." This is a laudable, methodological attempt to address some of the problems with data on the effects of piracy. Yet, the study still leaves open the door for criticism and uncertainty. The results are biased by the fact that "people turn to online piracy when that is the only way they can view the content." If movies were to be released earlier, users would likely go to the movie theater. The number of pirate copies downloaded on BitTorrent would be lower and revenues higher. Yet,

Hollywood insists on waiting weeks after the U.S. premiere before releasing a movie overseas. If there is evidence that early release of exactly the same movie would generate higher revenues, why isn't the movie industry changing its business model? Release lag certainly has its reasons: it allows for more time for marketing, simultaneous premieres would prevent movie stars from appearing at each national premiere, it builds expectations in foreign markets, and it allows for adjustments of the distribution strategy based on the success or failure in the United States. Yet, in the face of the piracy enabling effect of release lag, blaming "evil" users is too simplistic. The point is not that the evidence is lacking but rather that the evidence cannot lead to the firm conclusion that illegal downloading causes the kinds of alleged harms described in the literature. In other word, calculating the costs of illegal downloading is impossible. This is confirmed by the GAO, which in 2010 indicated most experts consulted by the office "observed that it is difficult, if not impossible, to quantify the economy-wide impacts." [15]

A final limitation of current projections of the costs of illegal downloading is the failure to account for its benefits. First, illegal downloading had the unintended consequence of launching the market of legal digital music downloads. "As file-sharing eroded the effective price of music for a large group of consumers," Oberholzer-Gee and Strumpf point out, "demand for mp3-players soared, allowing Apple to benefit from consumers' increased willingness-to-pay for its line of product." Apple's online music store, iTunes, has become the number one music retailer in the world, reaching the staggering 15 billion downloads in 2011 and pushing the sales of hardware (iPod and now iPhones) needed to enjoy digital music. [16] More broadly, illegal downloading fosters some degree of creativity that an unbalanced enforcement of copyright law would trump. Excessive copyright protection curtails creativity as it prevents artists from using, re-using, incorporating, adding, or referring to copyright materials in their creations. Creators would thus be the collateral damages of copyright wars, as argued by Lawrence Lessig in his 2008 book *Remix: Making Art and Commerce Thrive in the Hybrid Economy*. [17] Lessig argues that cultural production has shifted away from reading and writing. Knowledge and manipulation of multi-media technologies are essential tools of current forms of "literacy." In today's world, since so many creative activities require us to copy the works, either digitally on a computer or recreating songs on our own instruments, excessive copyright protection curtails creativity. [18] Some of those illegal downloads that are blamed for the billions of dollars of losses in the "creative industry" are indeed enabling forms of creativity that lie outside the reach of mainstream industry. This is certainly a benefit of illegal downloading. Over-broad protection against unauthorized copying has costs that are hardly justifiable, Lessig concludes. Some unintended benefits of illegal downloading and the loss of creativity caused by overboard enforcement of copyright laws must be incorporated in economic models aiming to calculate the costs of illegal downloading.

In conclusion, what is left of the original claim that illegal downloads costs millions, if not billions, of dollars every year to creative industries? Our analysis showed that the picture is rather blurred and that, even if we assume that illegal downloading is harmful to creative industries, its costs are far from being demonstrated. Indeed, estimating them seems to be a daunting task with unconvincing results. The methods used to determine these costs rely on problematic assumptions, and resulting calculations are far from credible. Furthermore, these calculations fail to consider the benefits of illegal downloading. The take-home lesson is that the debate over digital piracy is far from being settled. The complexity of the problem defeats simplistic calculations of the harms inflicted by digital piracy and invites us to look for solutions that move away from over-broad copyright protection and the inherent labeling as criminal an entire generation of young Internet users, a policy path that may have significant drawbacks in the long run.

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#### Notes:

[1] Matthew Butler, "Conflicting Value of Digital Music Piracy" in *Encyclopedia of Information Ethics and Security*, ed. Marian Quigley (Information Science Reference, 2008), 96.

[2] IFPI, "Digital Music Report 2009: New Business Models for a Changing Environment" (London: IFPI, 2009).

[3] United States Government Accountability Office, "Observations on Efforts to Quantify the Economic Effects of

Counterfeit and Pirated Goods" (Washington, D.C.: GAO, 2010), 18.

[4] OECD, "Magnitude of Counterfeiting and Piracy of Tangible Products—November 2009 Update" (Paris: OECD, 2009).

[5] TERA Consultants, "Building a Digital Economy: The Importance of Saving Jobs in the EU's Creative Industries" (Paris, 2010), 5.

[6] Michael D. Smith and Rahul Telang, "Assessing the Academic Literature Regarding the Impact of Media Piracy on Sales" (August 19, 2012). Available at Social Science Network: <http://ssrn.com/abstract=2132153>.

[7] Ibid.

[8] See note 3 above.

[9] Ibid, 19.

[10] See note 6 above.

[11] Felix Oberholzer-Gee and Koleman Strumpf, "The Effect of File Sharing on Record Sales: An Empirical Analysis," in *Working Paper* (Harvard Business School and the University of North Carolina at Chapel Hill., 2005).

[12] Mike Masnick, "EMI/Virgin Records Sues Platinum Selling Band For \$30 Million . . . Despite Not Paying Them A Dime In Royalties," *Tech Dirt*, August 21, 2008. <http://www.techdirt.com/articles/20080820/0204472040.shtml>; Masnick, "Lyle Lovett: Albums Sold? 4.6 Million. Money Made From Album Sales? \$0," *Tech Dirt*, July 11, 2008. <http://www.techdirt.com/articles/20080711/1439371651.shtml>.

[13] Jay Smith, "Concert Year 2011 (So Far)," *Pollstar*, July 8, 2011. [http://www.pollstar.com/news\\_article.aspx?ID=773926](http://www.pollstar.com/news_article.aspx?ID=773926).

[14] Jay Smith, "Many Think Concert Ticket Prices Too High," *Pollstar*, July 26, 2010. [http://www.pollstar.com/news\\_article.aspx?ID=733357](http://www.pollstar.com/news_article.aspx?ID=733357).

[15] See note 8 above.

[16] Paul Resnikoff, "Apple Has Now Sold 15 Billion iTunes Songs . . ." *Digital Music News*, June 6, 2001. <http://www.digitalmusicnews.com/stories/060611itunes15>.

[17] Lawrence Lessig, *Remix: Making Art and Commerce Thrive in the Hybrid Economy* (New York: Penguin Press, 2008).

[18] Ibid, 18.

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