

FAIR USE AS INNOVATION POLICY

By Fred von Lohmann[†]

I. INTRODUCTION

Courts and legal scholars have long sung the praises of the fair use doctrine in American copyright law. By permitting unauthorized uses of copyrighted works that would otherwise be unlawful, the fair use doctrine has been understood to resolve market failures,¹ facilitate the social values of a just and democratic society,² reconcile (or fail to reconcile) copyright and the First Amendment,³ accommodate established patterns of social practice,⁴ and allow creators to build on the works of their predecessors.⁵

But despite the extensive scholarly attention devoted to the doctrine, there has been a notable dearth of commentary and judicial precedent addressing the most widespread and common fair use activity of the past four decades: private, non-transformative, personal-use copying. For every unauthorized copy made by a “transformative” or “productive” user—a parodist, pundit, researcher, critic, or “remixer,”—certainly thousands are

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1. See, e.g., Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and its Predecessors*, 82 COLUM. L. REV. 1600 (1982).

2. See, e.g., Neil Weinstock Netanel, *Copyright and a Democratic Civil Society*, 106 YALE L.J. 283 (1996); William W. Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV. 1659 (1988).

3. See, e.g., *Eldred v. Ashcroft*, 537 U.S. 186, 219 (2003) (noting that copyright law’s idea/expression dichotomy and fair use provide First Amendment accommodations balancing the public’s interests with authors’ interests); Rebecca Tushnet, *Copy This Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*, 114 YALE L.J. 535 (2004).

4. See, e.g., Michael J. Madison, *A Pattern-Oriented Approach to Fair Use*, 45 WM. & MARY L. REV. 1525 (2004).

5. See, e.g., Pierre N. Leval, *Toward a Fair Use Standard*, 103 HARV. L. REV. 1105, 1109-10 (1990).

made by “home tapers,” iPod owners, and TiVo subscribers. In the absence of any statutory copyright exception approving private, non-transformative copying, all of these copies must qualify as fair uses, or else be deemed infringing.⁶ Yet most courts and copyright scholars have focused their attentions almost entirely on the former category of “transformative” fair use activities, rather than the vastly more common non-transformative copying.⁷

This Article seeks to fill this scholarly lacuna by arguing that fair use, insofar as it represents legal tolerance for private copying, plays an important and underappreciated role in U.S. technology and innovation policy, particularly in that it draws investment to technologies that are complementary goods to copyrighted works.

Part II briefly catalogs recent trends in private copying technologies, suggesting that copyright law cannot continue to ignore this category of activity. Part III then sketches the contours of the debate about the role of fair use in U.S. innovation policy.

Part IV sets out a justification for removing this private copying activity from the reach of copyright law—doing so creates incentives for investment in complementary technologies that enhance the value of copyrighted works. This Part also addresses two potential objections. First, responding to those who favor private ordering built on strong copyrights, it introduces recent research regarding persistent market failures that can interfere with the ability of copyright industries to recognize their own

6. See 17 U.S.C. § 106(1) (2000) (granting exclusive right of reproduction to copyright owner). *But see* Jessica Litman, *Lawful Personal Use*, 85 TEX. L. REV. 1871, 1895-1903 (2007) (acknowledging this view as the “standard paradigm,” while noting the poor doctrinal fit between fair use and personal copying) [hereinafter Litman, *Lawful Personal Use*]; Jessica Litman, *Creative Reading*, 70 LAW & CONTEMP. PROBS. 175, 180-81 (2007) (criticizing the view that “every use of a copyrighted work is either licensed, subject to a statutory exemption, or infringing”) [hereinafter Litman, *Creative Reading*].

7. See Tushnet, *supra* note 3, at 555-60. A recent spate of scholarship has attempted to fit private copying more comfortably into copyright jurisprudence and policy. See, e.g., Julie E. Cohen, *The Place of the User in Copyright Law*, 74 FORDHAM L. REV. 347, 349-53 (2005); Tushnet, *supra* note 3, at 540; Joseph P. Liu, *Copyright Law's Theory of the Consumer*, 44 B.C. L. REV. 397 (2003). However, while each of these efforts attempts to redeem some aspect of private copying, each ultimately shies away from “pure” private copying (i.e., non-transformative copying undertaken for convenience). Scholarly justifications aimed specifically at this category of uses have been rare. See Litman, *Lawful Personal Use*, *supra* note 6, at 1903, 1918 (suggesting that private copying should fall outside the exclusive rights of the copyright owner); Raymond Shih Ray Ku, *Consumers and Creative Destruction: Fair Use Beyond Market Failure*, 18 BERKELEY TECH. L.J. 539, 572-73 (2003) (justifying private copying as a fair use where it results in “creative destruction”).

self-interest when considering disruptive innovations. Second, responding to those who worry that unfettered disruptive innovation may undermine the incentives that form the foundation of copyright law, this Part argues the advantages of an ex post, rather than ex ante, approach to regulating “dangerous” innovations.

Part V turns to another reason why copyright law should embrace private copying as a fair use. Although critics of private copying may contend that the creation of new markets for complementary technologies unjustly enriches innovators at the expense of copyright holders, the actual economic picture may not be so inequitable. Basic economic principles suggest that technology innovators generally are not able to appropriate the entire value of the private copies made with their technologies. Instead, consumers who make private copies likely retain this surplus value themselves. This outcome serves copyright’s purposes by increasing access to, and the value of, copyrighted works to the public at large.

Part VI explores several implications that flow from this view of fair use as an important component of both the nation’s copyright and innovation policies.

II. THE RISE OF PRIVATE COPYING TECHNOLOGIES

Modern American copyright law has no satisfactory explanation for private, non-transformative copying. In the words of Professor Julie Cohen, private copying has long been “the copyright system’s dirty little secret,” a subject that points up the inconvenient mismatch between the real world and the niceties of copyright jurisprudence.⁸ In recent years, however, the rapid proliferation of private copying technologies has made it harder than ever to sweep this issue under the copyright carpet.

Private copying is not new. Beginning in the 1970s with the advent of the video cassette recorder (VCR), photocopier, and audio cassette recorder, millions of American consumers have had the power to reproduce copyrighted works cheaply for their private use.⁹ But the rapid recent pro-

8. See Cohen, *supra* note 7, at 352; Litman, *Creative Reading*, *supra* note 6, at 177 (“Fair use is much too busy protecting *The Wind Done Gone* and trying to figure out what to do with Google Book Search to be able to support the copyright interests of millions of everyday readers, listeners, and viewers.”).

9. See generally OFFICE OF TECH. ASSESSMENT, U.S. CONG., OTA-CIT-422, COPYRIGHT AND HOME COPYING: TECHNOLOGY CHALLENGES THE LAW 3 (1989) (reporting finding from 1988 survey that 4 in 10 Americans over the age of ten had taped recorded music in the past year); JAMES LARDNER, FAST FORWARD: HOLLYWOOD, THE JAPANESE, AND THE ONSLAUGHT OF THE VCR 9 (1987) (30 million VCRs in the U.S. as of 1987).

liferation of new devices, widely accepted and perceived as “legitimate,” whose primary purpose is the private reproduction and manipulation of copyrighted works without the express authorization of copyright owners, is striking.

Recent developments in the area of digital music technologies exemplify this explosion of private copying. As of December 2007, Apple Computer had sold more than 141 million of its iconic iPod music players worldwide, with 22 million sold in the 2007 holiday season alone.¹⁰ And the iPod is only the tip of the digital music iceberg. Surveys suggest that 32% of American households own an MP3 player;¹¹ one in twenty Americans over the age of 12 owns two or more.¹² In addition, untold millions of CD and DVD burners have been sold as standard equipment in personal computers and are frequently used to “burn” music to recordable CDs and DVDs.

Traditional copyright law doctrines, however, do not easily accommodate all of the unauthorized digital copies that fuel these devices.¹³ Copyright law reserves the exclusive right to make reproductions to the copy-

10. Wikipedia keeps an up-to-date tally of iPod sales totals, drawn from quarterly press releases issued by Apple Inc. See Wikipedia, Image:Ipod Sales.svg, http://en.wikipedia.org/wiki/Image:Ipod_sales.svg (last visited Feb. 20, 2008) (summarizing iPod sales since 2002).

11. See Antone Gonsalves, *Americans Spend \$1,200 a Year on Tech Gadgets*, INFORMATIONWEEK, Apr. 27, 2007, <http://www.informationweek.com/news/showArticle.jhtml?articleID=199202277>.

12. Press Release, Ipsos Research, Portable MP3 Ownership Reaches New High: One in Five Americans Aged 12 and Older Owns a Portable MP3 Player (June 29, 2006), available at <http://www.ipsosna.com/news/pressrelease.cfm?id=3124>.

13. Although Apple and others also sell content for download, this content accounts for a small proportion of the content stored on iPods. See Steve Jobs, CEO, Apple Inc., *Thoughts on Music*, (Feb. 7, 2007), <http://www.apple.com/hotnews/thoughtsonmusic> (asserting that downloads purchased from Apple’s iTunes Store account for less than 3% of the music on an average iPod). Other surveys put the number of tracks purchased from authorized download sites somewhat higher, finding that 44% of the songs on an iPod are copied from the owner’s own CDs, as compared to 25% from authorized music download sites. An additional 6% are copied from CDs borrowed from others, and 19% from unauthorized peer-to-peer networks. See Candace Lombardi, *What’s On Your iPod?*, CNET NEWS.COM, June 30, 2006, http://news.com.com/Whats-on-your-iPod/2100-1027_3-6090042.html.

The Recording Industry Association of America (RIAA) has stated that its members have no objection to the copying of music CDs for personal use. See, e.g., RIAA, *For Students Doing Reports*, <http://riaa.com/faq.php> (last visited on Feb. 20, 2008). It is not clear whether these statements constitute an express authorization sufficient to bar a subsequent infringement action by RIAA member companies, but, in any event, neither the RIAA nor its member companies speak for all owners of musical works and sound recordings.

right owner.¹⁴ Accordingly, the millions of Americans who routinely make copies of copyrighted music on their MP3 players are running afoul of this exclusive right unless some copyright exception can be found to shelter their copying activities. The fair use doctrine supplies the only plausible candidate.¹⁵

The millions of Americans who have become accustomed to using digital video recorders (DVRs) to record television programming for later viewing (“time-shifting”) depend on the same legal defense to excuse their conduct. The pioneer of this product category, TiVo, now counts more than 4.3 million TV viewers among its subscribers.¹⁶ But TiVo is just the tip of the “time-shifting” iceberg—American DVR owners are estimated at 17.6 million and the number of total TV “time-shifters” (including those who still use VCRs) at 43 million.¹⁷ Whether the “time-shifting” activities of these Americans qualify as fair use, however, remains the subject of some dispute. The motion picture studios have argued in litigation over the ReplayTV DVR that some kinds of digital time-shifting go too far and exceed the bounds of fair use.¹⁸ Consequently, the fair use questions at the digital “time-shifting” frontier seem not to be fully resolved, despite the Supreme Court’s landmark 1984 ruling in *Sony Corp. of America v. Universal City Studios, Inc.*,¹⁹ approving time-shifting in the analog VCR context.

14. See 17 U.S.C. § 106(1) (2000).

15. The Audio Home Recording Act (AHRA) provides immunity from suit for the noncommercial copying of music onto certain kinds of media. See 17 U.S.C. § 1008 (2000). The statute, however, does not apply to MP3 players, or to hard drives in personal computers. See *Recording Indus. Assoc. of Am. v. Diamond Multimedia Sys., Inc.*, 180 F.3d 1072 (9th Cir. 1999). None of the other exceptions set forth in §§ 108-123 of the Copyright Act reach this activity. *But see* Litman, *Creative Reading*, *supra* note 6, at 181 (urging a statutory reading of the Copyright Act that excludes private uses of copyrighted works).

16. See May Wong, *TiVo to Debut a Lower-Priced HD DVR*, ASSOCIATED PRESS, July 24, 2007, available at WestLaw, 7/24/07 APWIRES 04:13:14.

17. See Jacqui Cheng, *Report: DVR Adoption to Surge Past 50 Percent by 2010*, ARS TECHNICA, July 19, 2007, <http://arstechnica.com/news.ars/post/20070719-report-dvr-adoption-to-surge-past-50-percent-by-2010.html>; Lorne Manly, *The Future of the 30-Second Spot*, N.Y. TIMES, Mar. 27, 2005, § 3 (Sunday Business), at 1.

18. See Cohen, *supra* note 7, at 356-57; Complaint at 7-8, *Paramount Pictures Corp. v. ReplayTV Inc. and Sonicblue Inc.*, No. 01-09358, (C.D. Cal. Oct. 13, 2001). For more background, visit EFF, *Newmark, et al. v. Turner Broadcasting System, Inc. et al.*, http://www.eff.org/IP/Video/Newmark_v_Turner (last visited Feb. 22, 2008) (EFF case archive of documents relating to *Newmark v. Turner Broadcasting System, Inc.* and *Paramount Pictures v. ReplayTV*, including complaint filed by movie studios against ReplayTV).

19. 464 U.S. 417 (1984).

Do the private copies made by iPod and TiVo owners fall within the scope of the fair use doctrine? Without litigation leading to reported federal court rulings, the question is extremely difficult to answer.²⁰ Fair use generally requires a notoriously murky case-by-case legal inquiry that calls on federal judges to apply a statutorily prescribed, but indeterminate,²¹ four-factor balancing test.²² Commentators and lawyers can come to a variety of different conclusions by applying the statutory fair use factors to hypothetical iPod and TiVo users. The lack of legal cases brought against users of MP3 players and DVRs suggests that copyright owners are generally not eager to sue run-of-the-mill consumers for uses that consumers perceive as legitimate, perhaps due to fear of adverse judicial results, and the surfeit of targets perceived as more blameworthy (like those caught downloading from peer-to-peer file-sharing networks).

But not all makers of digital technologies are willing to wait for the courts to provide the fair use answers. Instead, they are rushing to introduce new “time-shifting” devices to the market, such as the “inno,” designed to receive and record XM satellite radio broadcasts for later listening.²³ Others are introducing new “space-shifting” technologies, like the

20. *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984), involved a copyright challenge to the first commercial VCR, Sony’s Betamax. The Supreme Court ultimately recognized that time-shifting of free broadcast television constituted a fair use. Other than this ruling, relatively few decisions have explored whether private, non-transformative copying of music or video content constitutes fair use. See *BMG Music v. Gonzalez*, 430 F.3d 888 (7th Cir. 2005) (holding that downloading copies from a “peer-to-peer” file-sharing network is not fair use); *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001) (same); *cf.* *Recording Indus. Assoc. of Am. v. Diamond Multimedia Sys., Inc.*, 180 F.3d 1072, 1079 (9th Cir. 1999) (discussing the Audio Home Recording Act’s limited statutory exception for private, noncommercial copying of analog and certain digital audio recordings).

21. See Madison, *supra* note 4, at 1587-88 (criticizing the trend toward case-by-case analysis in fair use jurisprudence, insofar as it fails to clarify legal status of social practices generally); Leval, *supra* note 5, at 1106-07 (“Earlier decisions provide little basis for predicting later ones. Reversals and divided courts are commonplace.”); 2 PAUL GOLDSTEIN, COPYRIGHT § 12.1 (2d ed. 2005) (“No doctrine in copyright is less determinate than fair use.”).

22. See 17 U.S.C. § 107, which sets out four nonexclusive factors a court is to consider in deciding whether the fair use doctrine applies:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.

23. See *Atlantic Recording Corp. v. XM Satellite Radio, Inc.*, 81 U.S.P.Q.2d 1407,

new “TiVoToGo” feature that allows TiVo owners to transfer their recorded programs to personal computers for later playback.²⁴ A new generation of digital “space-shifting” products, such as the Sling Media “Slingbox,” promises to make *any* audio or video source in your living room available remotely by transmitting the material to you, wherever you may be, over the Internet.²⁵

These, as well as a host of other emerging digital technologies,²⁶ are helping consumers to get more from the copyrighted music and video that they have already purchased. In fact, a substantial portion of the value of each of these technologies likely stems from their ability to unlock new value for consumers in copyrighted works. In other words, each new technology depends upon, but also increases, the value of the consumer’s existing investment in music and video.

For example, the value of an iPod to a music fan increases with the size of her existing CD collection: without a preexisting stock of music with which to fill the iPod, the device would be far less attractive. But the iPod also makes an existing CD collection more valuable, as its owner can now carry her collection into new environments and enjoy it in new ways. The same is true for DVRs. The more television programming a consumer has access to, the more valuable a DVR will be. Having a DVR increases the value to the consumer of whatever broadcast, cable, or satellite programming package the consumer is already paying for.

In the real world, then, new private copying technologies are unlocking new opportunities for consumers and copyright owners alike. They are also resulting in billions of dollars in revenues for the innovators who are bringing them to market. It is high time to develop a theory that reconciles this activity with the principles of copyright law.

1409 n.2 (S.D.N.Y. 2006).

24. See Jonathan Skillings, *TiVo Goes Mobile with New Free Service*, CNET NEWS.COM, Jan. 3, 2005, http://news.com/TiVo-goes-mobile-with-new-free-service/2100-1041_3-5510240.html.

25. See Sling Media, <http://www.slingmedia.com/go/about> (last visited Mar. 23, 2008).

26. Whole-home audio and video systems, many of which rely on copying or transmitting copyrighted works over home networks, are becoming popular. See Sonos Digital Music System, <http://www.sonos.com> (last visited Feb. 22, 2008); Kaleidescape System, <http://www.kaleidescape.com> (last visited Feb. 22, 2008). Hand-held personal video players are also increasingly common, led by video-capable members of Apple’s iPod family of products.

III. FAIR USE AS INNOVATION POLICY

In light of these recent technological developments, the fair use doctrine appears to be playing an important, if largely unremarked, role as part of U.S. innovation policy.²⁷ As discussed in Part II, technology vendors seem to have relied on the fair use doctrine for some time to shelter a variety of private, noncommercial copying of copyrighted works—at least to the extent that no other doctrine in U.S. copyright law appears to protect their customers from infringement liability.²⁸

If technology vendors indeed depend on fair use to make their products viable, then copyrighted works (at least the private copying of them) may be acting as a reservoir of incentive for technology innovators, attracting investment to technologies that enable private copying. Fair uses in effect serve as part of the “startup capital” on which innovators draw to breathe life into their fledgling technologies.²⁹

To put the matter more bluntly, there would be no iPod if Apple could not count on copyright law to permit iPod buyers to copy their existing CD collections.³⁰ Similarly, there would be no TiVo but for the ability of consumers to copy programming from broadcast, cable, and satellite television. Both the VCR and analog cassette recorder had the same genesis—when these devices were launched, only by indulging in private copying of existing television broadcasts or LP records could the consumer actually find anything to play on the devices.

On this view, the fair use doctrine has been an unsung hero in the tale

27. This conception of fair use builds on Professor Tim Wu’s more general recognition that copyright law expresses not only “authorship policy,” but also a “communications policy” regulating competition and innovation. See Timothy Wu, *Copyright’s Communications Policy*, 103 MICH. L. REV. 278, 279-90 (2004); see also Robin A. Moore, Note: *Fair Use and Innovation Policy*, 82 N.Y.U. L. REV. 944 (2007).

28. But see Jeff Leeds, *Microsoft Strikes Deal for Music*, N.Y. TIMES, Nov. 9, 2006, at C1 (reporting that Universal Music Group successfully demands a per-unit license fee for Microsoft’s “Zune” digital music player as a condition of making its music available in Microsoft’s accompanying online music store).

29. For this turn of phrase, I acknowledge my debt to U.S. Supreme Court Justice Anthony Kennedy, who coined the term in a slightly different context during the March 29, 2005 oral argument in *Grokster*. See Transcript of Oral Argument, *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005) (No. 04-480), 2005 U.S. TRANS LEXIS 27.

30. There were no “authorized music stores” from which iPod owners could download tracks when the iPod was launched. Until the launch of Apple’s own iTunes Music Store, authorized online music services did not support the transfer to MP3 players of music purchased through those services. See John Borland, *Apple’s Music: Evolution, Not Revolution*, CNET NEWS.COM, Apr. 29, 2003, http://netscape.com.com/Apples+music+Evolution,+not+revolution/2100-1027_3-998675.html.

of America's innovation economy, encouraging investment and creating new markets for technology companies.³¹ But is this a proper role for the fair use doctrine to play? Should fair use be appropriately regarded part of our nation's innovation policy?

Rightsholders are likely to object that fair use provides an unspoken subsidy from copyright owners to technology innovators.³² After all, copyright owners go uncompensated for all the private copying that makes these new technologies attractive. Why, they may ask, should the copyright industries be singled out to subsidize the technology sector in this way?

A variety of responses to this concern of rightsholders may be imagined. First, if the goal of policy-making is to maximize overall societal welfare—that is, to ensure that any subsidy to innovation generates more social benefit (e.g., in the form of new jobs, shareholder value, or additional economic activity) than the harm it causes to copyright industries (e.g., in lost jobs or forgone creativity)—then perhaps fair use protection of private copying is the welfare-maximizing arrangement.³³ There are certainly indications that Apple's iPod, for example, has unleashed a remarkable amount of new economic activity. Apple's stock valuation has increased seven-fold since the iPod's introduction in 2001, with much of that increase stemming directly from the iPod's success.³⁴ In addition, iPod sales alone totaled more than \$13 billion over the product's first five years.³⁵ The MP3 player boom has also spawned new ancillary markets, including an MP3-player-accessories market measured at \$2 billion in

31. See Tim Wu, *Intellectual Property, Innovation, and Decentralized Decisions*, 92 VA. L. REV. 123, 143-45 (2006) (arguing that copyright should encourage not only investment, but also decentralized market structures in order to maximize socially beneficial innovation).

32. See, e.g., STEVEN LEVY, *THE PERFECT THING* 169 (2006) (“[Sony CEO] Howard Stringer complained to me that since the iPod wouldn't exist without the songs sold by labels like Sony, Apple should share its iPod profits with the recording industry.”).

33. This is the approach taken by Professor Tim Wu, who argues that intellectual property rights may result in less than the socially optimal quantity of innovation. Implicit in his argument is an emphasis on maximizing total economic activity and social welfare, rather than incentives to rightsholders. See Wu, *supra* note 31, at 139.

34. See LEVY, *supra* note 32, at 4.

35. Apple sold 67 million iPods over the product's first five years. See Wikipedia, *supra* note 10. Assuming an average sale price of \$200 (iPods were priced between \$49 and \$299), total revenues from these sales would exceed \$13.4 billion. See Apple Store, <http://store.apple.com> (last visited Mar. 23, 2008). *BusinessWeek* has estimated iPod revenues in the first five years to be around \$14 billion. See Arik Hesseldahl, *The Apple iPod Turns Five*, BUSINESSWEEK, Oct. 23, 2006, http://www.businessweek.com/technology/content/oct2006/tc20061021_515771.htm.

2006.³⁶

In contrast, the retail value of physical units shipped annually by the major record labels has, over the same period, fallen from \$12.9 billion in 2001 to \$9 billion in 2006.³⁷ Although it may be difficult to determine what portion of that decline can be attributed to the kind of private copying enabled by the iPod (as distinguished from other technologies, such as peer-to-peer (P2P) file sharing, or non-technology-related market changes), the iPod seems to have generated more new economic activity than piracy-related harms.

A second response to the concern that “fair use as startup capital” slights rightsholders is that copyright law has never given copyright owners complete control over their works, and thus that there is no “subsidy” to technology innovators at all. Copyright law strives to strike a balance between creating *adequate* (not maximal) incentives for the creation and distribution of expressive works, while also ensuring widespread public access to and enjoyment of such works.³⁸ In light of these competing goals, perhaps new private uses of copyrighted works should properly fall outside the bounds of the copyright owners’ exclusive rights, at least until some evidence is offered suggesting meaningful harm to the creation and distribution of creative works.³⁹ At a minimum, perhaps the copyright industries should bear the burden of demonstrating a significant erosion of relevant incentives for creation before the windfall is reassigned in their

36. See Mintel, MP3 Player Accessories - US - June 2006, http://oxygen.mintel.com/sinatra/oxygen/search_results/show&/display/id=177104 (last visited Apr. 23, 2008) (summary of a market research report) (reporting that market research shows that U.S. market for MP3 accessories grew from \$50 million in 2001 to \$2 billion in 2006); Damon Darlin, *The iPod Ecosystem: Add-Ons Have Become a Billion Dollar Bonanza*, N.Y. TIMES., Feb. 3, 2006, at C1 (at least \$1 is spent on accessories for every \$3 spent on iPods, according to industry analysts).

37. See RIAA, 2006 Year-End Shipment Statistics, <http://riaa.com/keystatistics.php> (follow “2006 U.S. Manufacturers’ Unit Shipments and Value Chart” hyperlink) (last visited Feb. 22, 2008) (total retail dollar value of physical units shipped by RIAA members).

38. See Brett M. Frischmann & Mark A. Lemley, *Spillovers*, 107 COLUM. L. REV. 257, 276 (2007) (“[I]nventors do not need to capture the full social value of their inventions in order to have sufficient incentive to create. Society needs merely to give them enough incentive to cover the fixed costs of creation that their imitators will not face.”); Glynn S. Lunney, *Fair Use and Market Failure: Sony Revisited*, 82 B.U. L. REV. 975, 1017 (2002).

39. See Lunney, *supra* note 38, at 1023. As mentioned above, there is no evidence that the decline in unit sales by the record industry is the result of personal-use copying, as distinguished from the public copying that occurs on peer-to-peer file-sharing networks. This Article attempts to explain why personal-use copying, which is almost certainly far more common than public file sharing, should be viewed as a fair use.

favor.⁴⁰

But at least two additional reasons may better explain, from the perspective of copyright policy itself, why the incentive in favor of innovators generated by private copying makes good sense.

First, by encouraging technologists to invest in innovations that reproduce copyrighted works, the fair use doctrine may ultimately benefit copyright owners themselves, at least to the extent new technologies prove to enhance the value of copyrighted works. In this way, the fair use doctrine sets private copying beyond a copyright owner's reach to encourage the development of new technologies that will "grow the pie" for both existing and *future* copyright owners.⁴¹ As will be discussed further in Part IV, this approach responds to certain market failures that would otherwise result in underinvestment in particular kinds of complementary technological innovation.

Second, innovators are not unfairly enriched under this view of fair use as "startup capital." Basic economics suggests that, in a competitive market, a producer's price is driven inexorably toward the marginal cost of production. Because the value of fair uses is not part of the marginal cost of production for a technology vendor, the vendor will have a difficult time appropriating any of the value of those fair uses. Instead, as discussed in Part V, this consumer surplus ends up flowing to the public at large, thereby serving the welfare-maximizing goals of copyright by reducing the monopoly inefficiencies that accompany the copyright system.

IV. INNOVATION AND COPYRIGHT: COMPLEMENTARY ECONOMICS

This Part begins by examining several private copying technologies that have developed, or might in the future develop, complementary economic relationships with copyrighted works. It then anticipates two objections that might be raised against this view of fair use.

A. Lessons in Complementary Economics

The VCR experience teaches the happy lesson of the complementary relationship that can arise between private copying technology and copyrighted works. As has been extensively documented, the motion picture

40. PAUL GOLDSTEIN, *INTELLECTUAL PROPERTY* 19 (2007) (noting abortive effort by Representative Kastenmeier to require those proposing expansion of copyright law to establish that the proposal would increase aggregate public welfare).

41. Others have described this as a "spillover" or positive externality. See Frischmann & Lemley, *supra* note 38, at 285.

industry greeted the introduction of the first home VCR with dismay, fearing that it would encourage consumers to make and “library” copies of movies and television shows recorded from broadcast and cable television, thereby reducing the demand for future syndication of these features.⁴² Hollywood and broadcasters also worried that “commercial-skipping” would result in sagging advertising revenues. This led the head of the Motion Picture Association of America (MPAA), Jack Valenti, to opine in 1982 that “the VCR is to the American film producer and the American public as the Boston strangler is to the woman home alone.”⁴³

Of course, these dire predictions did not come to pass. Once the VCR had established a beachhead in the American living room, movie studios discovered that they could capitalize on it, allowing consumers to rent and purchase movies and television series. The VCR made possible the home video market, a market which today generates more than double the revenues collected at the box office—at a time when box office admissions have also shown strong growth.⁴⁴ In the end, the VCR and copyrighted films proved to be what economists would term “complementary” products—increasing demand for one results in increasing demand for the other.

Of course, it was not the “record button”—that is, the private copying function—of the VCR that ultimately became the crucial feature that enabled the home video market. But at its debut, the VCR depended on the “record button” to win its beachhead in the American living room. When the VCR first appeared on the market, prerecorded tapes were not available for sale; a consumer had to engage in unauthorized private copying (and perhaps trading tapes with other VCR owners⁴⁵) if she were to have anything to watch on her new Betamax. The ready availability of material for off-the-air recording served as the “bait” that persuaded American con-

42. See generally LARDNER, *supra* note 9; Jessica Litman, *The Story of Sony v. Universal Studios: Mary Poppins Meets the Boston Strangler*, in *INTELLECTUAL PROPERTY STORIES* 358, 366-67 (Jane C. Ginsburg & Rochelle Cooper Dreyfuss eds., 2005).

43. See *Home Recording of Copyrighted Works: Hearing on H.R. 4783, H.R. 4794, H.R. 4808, H.R. 5250, H.R. 5488, and H.R. 5705 Before the Subcomm. on Courts, Civil Liberties and the Admin. of Justice of the H. Comm. on the Judiciary*, 97th Cong. 8 (1982) (statement of Testimony of Jack Valenti, President, Motion Picture Association of America), available at <http://cryptome.org/hrcw-hear.htm>.

44. See HAROLD L. VOGEL, *ENTERTAINMENT INDUSTRY ECONOMICS: A GUIDE FOR FINANCIAL ANALYSIS*, 84 tbl.3.4, 91-92 tbl.3.8 & 3.9 (7th ed. 2007); Jennifer Netherby & Scott Hettrick, *DVD Deluge in 03 Fires up \$22.2 Billion Year; VB Research: Disc Spending up 40%; WHV, Buena Vista Tight at Top*, VIDEO BUSINESS, Jan. 9, 2004, at 1.

45. See LARDNER, *supra* note 9, at 106-07 (describing the classifieds in *Videophile* magazine as a “trusting place” for Betamax owners seeking to trade recordings).

sumers to make the (initially) large investment in a new technology. In other words, the fair use of time-shifting, in effect, provided part of the “startup capital” for Sony’s Betamax. And the VCR’s beachhead in the living room ultimately came to benefit both copyright owners and the technology sector.

The story of the MP3 player may well follow a similar arc. Although sales of MP3 players like the iPod have thus far principally depended on the fair use copying of music fans’ existing CD collections, the technology is beginning to support new market opportunities. For example, just as VCR technology gave rise to direct-to-video works, the availability of MP3 players has created a new market for podcasts. Additionally, the widespread deployment of portable digital music players appears to be a factor in the popularity of new digital download services, including most prominently Apple’s iTunes Store, which now sells more than five million songs each day.⁴⁶ Digital downloads have come to represent a bright spot for the otherwise ailing recording industry.⁴⁷

Furthermore, these new portable music players may also expand demand by making music a more central and prevalent part of a music fan’s daily life. In the words of one music critic:

The truly remarkable thing about the digitalization of music, and the emergence of the computer as my playback device of choice, is that it has made me a more active listener and a more empowered consumer than ever before. I am exposed to more new music now, via the Internet, than previously, and I enjoy better, easier, more serendipitous access to my old music. A random shuffle of my iTunes library is a swirling kaleidoscopic tour of my personal history, a constant delight.⁴⁸

As digital music technologies (whose genesis and continuing popularity depend on private copying) continue to expand the places where music fans may conveniently enjoy and access their private music collections, it

46. See Steve Jobs, CEO, Apple Inc., Keynote Address at MacWorld 2007 (Jan. 9, 2007), available at <http://blog.seattlepi.nwsourc.com/microsoft/library/applekeynote.html>; Rob Griffiths, *Six Months to 1 Billion*, MACWORLD (Playlist Blog), July 31, 2007, <http://www.macworld.com/article/59230/2007/07/3billionsongs.html>.

47. Ethan Smith, *Sales of Music, Long in Decline, Plunge Sharply*, WALL ST. J., Mar. 21, 2007, at A1. As mentioned earlier, to the extent the industry has been ailing, there is no evidence tying that decline to personal-use copying (as distinguished from peer-to-peer file sharing, for example).

48. Andrew Leonard, *Music Rules*, SALON, Mar. 30, 2005, <http://dir.salon.com/story/tech/feature/2005/03/30/grokster/index.html>.

stands to reason that total demand for music will increase.⁴⁹ Moreover, the rapid spread of portable music players has also created markets for other kinds of audio expression, such as podcasts and audio books.⁵⁰

DVRs are also in the process of creating new markets for copyrighted works. For example, some advertisers and broadcasters are exploring the possibilities that DVRs offer for creating more carefully targeted advertising based on information collected from DVR users.⁵¹ Others have combined DVRs and broadband internet connections to enable direct delivery of video programming over the internet.⁵² To the extent the DVR becomes a new platform for content delivery into the home, it may create new market opportunities, and value, for copyright owners. For example, DVRs could provide a new distribution mechanism for Internet video hosting sites like YouTube, allowing amateur and short video creators to reach new audiences.

In short, to the extent that new private copying technologies prove to be complements for copyrighted works, copyright owners themselves should welcome a conception of fair use that encourages this sort of innovation. Of course, it will be difficult, perhaps impossible, to predict whether and to what degree any *particular* technology will exhibit this complementary character. But the history of the VCR indicates that the returns to rightsholders from private copying technologies can be great. This, in turn, suggests that copyright policy should consider allowing fair uses to fuel investments in a potentially wider array of technologies in hopes of maximizing the chances that some may lead to big payoffs.

Two objections to this account of fair use as innovation policy may

49. Whether the music industry will succeed in its efforts to wean consumers from unauthorized to authorized sources for music remains to be seen. As a result, the jury is still out on whether the MP3 player ultimately proves to be a complementary product for owners of music copyrights. But to the extent these portable music players have increased the demand for music, they have created opportunities for new markets that would otherwise not have existed.

50. See Posting of Duncan Riley to TechCrunch, Podcasts Taking Off (Again): eMarketer, <http://www.techcrunch.com/2008/02/04/podcasts-taking-off-again-emarketer> (Feb. 4, 2008) (stating that in 2007, podcasts attracted an audience in the United States of 18.5 million and advertising worth \$165 million).

51. See Maria Aspan, *TiVo Shifts to Help Companies It Once Threatened*, N.Y. TIMES, Dec. 10, 2007, at C4 (describing agreement between NBC and TiVo to “provide second-by-second viewership data and demographic ratings information collected from a sample of 20,000 TiVo subscribers”); Press Release, TiVo, TiVo Launches New Interactive Advertising Technology (July 18, 2005), available at <http://www.tivo.com/abouttivo/pressroom/pressreleases/2005/pr2005-07-18.html>; Manly, *supra* note 17.

52. See, e.g., Amazon.com, Unbox Video Downloads, <http://amazon.com/unbox> (last visited Feb. 22, 2008).

readily be anticipated. First, why prefer the judicial solution of fair use to a market solution built on private ordering? If innovative new technologies are such a boon to the copyright industries, those same industries should be willing to voluntarily authorize certain free uses of their works in order to attract technology investment. As will be discussed in the next Section, however, imperfections in the market make this unlikely for disruptive innovations.

A second objection can be simply put: what if an innovation is not complementary to copyright, but instead undermines copyright's incentives for creators? To answer this objection, consider *when* copyright law should attempt to protect rightsholders' incentives—before an innovation has been introduced (*ex ante*) or after an innovation's effects on incentives are manifest (*ex post*). As will be argued in Section III.C, an *ex post* approach may be preferable in an environment where the impact of any particular innovation may be difficult to predict on an *ex ante* basis. In other words, fair use should permit many private copying seeds to be sown, leaving to legislators the task of weeding the garden of dangerous innovations.⁵³

B. The Private Ordering Objection

Generally speaking, copyright law creates property interests to encourage creators, distributors, and the public to engage in a series of market transactions that will result in the creation and distribution of, and wide public access to, creative works. In some cases, however, market failures may prevent this mechanism from efficiently maximizing social welfare, either because imperfect market conditions hamper efficient transactions or because society seeks to support non-monetary values that the market does not protect. Fair use has been understood as an important mechanism for adjusting copyright's default exclusive rights regime to take account of these market failures.⁵⁴

Where private copying is concerned, market failures may preclude an efficient market outcome for a variety of reasons. Some commentators suggest that enforcement of copyright law in private copying circumstances might compromise important privacy interests, while others sug-

53. The metaphor of the “beneficent gardener” is borrowed from Professor Wu. *See* Wu, *supra* note 27, at 332.

54. *See* Gordon, *supra* note 1, at 1614-15; Wendy J. Gordon, *Excuse and Justification in the Law of Fair Use: Transaction Costs have Always Been Only Part of the Story*, 50 J. COPYRIGHT SOC'Y U.S. 149, 164 (2003) (defining “market failure” broadly to refer to circumstances where bad results will follow from adhering to copyright's default rule of owner deference) [hereinafter Gordon, *Excuse and Justification*].

gest that such enforcement activities would impinge on conceptions of personal property.⁵⁵ In addition, there is the ever-present challenge of transaction costs—whether consumers and copyright owners could practically strike bargains for the myriad private copies made by millions of fans for ever-changing purposes.⁵⁶

A consideration of the role of private copying as an incentive for innovation, however, suggests an additional reason to doubt that private ordering in the marketplace will generate sufficient incentives for innovation. Recent scholarship has observed that established, successful firms often suffer from a persistent inability to capitalize on certain kinds of innovation that may revolutionize the marketplace but do not have predictably high profit margins. Harvard Business School Professor Clayton Christensen has described this as the “innovator’s dilemma.”⁵⁷

Professor Christensen’s analysis begins by identifying two different sorts of innovation.⁵⁸ On the one hand, “sustaining innovations” improve product performance along dimensions that mainstream customers have traditionally valued. These innovations can be incremental or radical in nature; their hallmark is the ability to satisfy existing customers and drive up profit margins for the established companies that develop and deploy them. Unsurprisingly, established companies generally dominate the world of sustaining innovation—their cost structures and processes are designed to respond to the needs of their existing customers (particularly the high-

55. See Jessica Litman, *Reforming Information Law in Copyright’s Image*, 22 U. DAYTON L. REV. 587, 614-17 (1997) (discussing the intersection of copyright and privacy); Julie Cohen, *A Right To Read Anonymously: A Closer Look at “Copyright Management” In Cyberspace*, 28 CONN. L. REV. 981, 1038-39 (1996) (discussing the interplay of copyright, technical protection measures, and anonymity); Joseph P. Liu, *Owning Digital Copies: Copyright Law and the Incidents of Copy Ownership*, 42 WM. & MARY L. REV. 1245, 1294 (2001) (discussing the privileges that copyright accords to the owners of copies).

56. See Gordon, *supra* note 1, at 1628-29. But see Robert P. Merges, *Compulsory Licensing vs. the Three “Golden Oldies”: Property Rights, Contracts and Markets* (Cato Inst., Policy Analysis No. 508, 2004), available at <http://www.cato.org/pubs/pas/pa508.pdf> (suggesting that voluntary collective licensing can frequently surmount transaction costs where enforcement is otherwise difficult).

57. See CLAYTON M. CHRISTENSEN & MICHAEL E. RAYNOR, *THE INNOVATOR’S SOLUTION: CREATING AND SUSTAINING SUCCESSFUL GROWTH* (2003); CLAYTON CHRISTENSEN, *THE INNOVATOR’S DILEMMA: WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL* (1997); see also Wu, *supra* note 31, at 140-41 (citing Professor Christensen’s research in concluding that incumbents may not always pursue efficient licensing strategies).

58. See CHRISTENSEN, *supra* note 57, at xiv-xvii, 9-18; CHRISTENSEN & RAYNOR, *supra* note 57, at 32-49.

end customers seeking the very best product performance).

“Disruptive innovations,” in contrast, frequently result in worse performance for most existing customers, although they offer improvements in simplicity, convenience, and cost to a few fringe customers. Disruptive innovations, moreover, often yield initially lower profit margins for the firms that introduce them. However, by focusing on low-end or new markets, these innovations frequently begin a cycle of improvement that ultimately supplants existing products and thereby topples leading firms.⁵⁹

For example, Christensen observes that in the hard disk drive industry, increasing the storage capacity of hard disks in a particular enclosure size (e.g., 5.25 inch) represented a sustaining innovation, as this change served the needs of existing customers.⁶⁰ Incumbent firms led the way in this sort of innovation. However, when new enclosure sizes were introduced and commercialized (e.g., the 3.5 inch disk drive), incumbent firms found themselves unable to succeed and were displaced by new market entrants.

1. Systemic Obstacles to Disruptive Innovation

Professor Christensen’s research suggests that incumbent, established firms are generally unable to deploy or respond to disruptive innovations. Ironically, many of the very characteristics that guarantee their success as incumbents create the disabilities that prevent them from recognizing the opportunities presented by disruptive technologies. A variety of both internal and external forces conspire to make established firms either reject investments in disruptive innovations or mis-invest by treating them as sustaining innovations.⁶¹

Consider the plight of the manager at an established firm in a mature industry seeking to redirect scarce firm resources to invest in a disruptive innovation.⁶² The market opportunity, at least in its initial stages, is likely

59. See CHRISTENSEN, *supra* note 57, at 42-48; CHRISTENSEN & RAYNOR, *supra* note 57, at 34-35.

60. See CHRISTENSEN, *supra* note 57, at 10-23.

61. Wendy Gordon has recognized that “managerial discretion” could result in market failures insofar as it can result in “the potential licensor’s potential inability to know even a good deal when it comes along.” See Gordon, *Excuse and Justification*, *supra* note 54, at 181-82. She lays this market failure at the feet of “all those agency problems that may make managers in complex corporations sometimes arrive at decisions that are less value-maximizing than they could be.” *Id.* at 182. As discussed later in this Section, Professor Christensen’s research suggests that the market failure may be rooted in more than merely agency problems—there may also be structural constraints, irrespective of the quality of the manager, that impede a firm’s ability to recognize a “good deal” when it involves disruptive innovations.

62. See CHRISTENSEN, *supra* note 57, at 42-43 (“[D]isruptive projects stalled when

to be smaller than the firm's established markets and yield lower margins.⁶³ Market opportunities that are small in relation to existing revenues, in turn, are relatively unattractive, because they do not sustain the kind of overall growth needed to satisfy capital markets.⁶⁴ For example, a \$40 million company needs to find \$8 million in new revenues to grow at a 20% rate, while a \$4 billion company needs to find \$800 million in new sales.⁶⁵ An \$8 million opportunity will likely look unattractive to the \$4 billion company, as it does not significantly contribute to the desired growth targets.⁶⁶ Lower margins, in addition, are also unattractive to a firm with an existing cost structure dependent on higher margin opportunities.⁶⁷ As a result, the larger a company becomes, the more difficult it becomes to invest in an emerging, low-margin market as a growth opportunity.⁶⁸ In essence, disruptive innovations will likely be "not big enough to be interesting" to established firms.⁶⁹

This difficulty is compounded by the overall uncertainty that characterizes disruptive innovations. Because these innovations depend on new customers and markets, quantifying the size of the market or estimating likely financial returns is generally impossible.⁷⁰ Imagine again our manager at an established incumbent firm, saddled with the task of persuading senior management to allocate resources to an opportunity that cannot be quantified or analyzed. All the while, other managers are pushing sustaining innovations that promise quantifiable results based on well-understood

it came to allocating scarce resources among competing product and technology development proposals Sustaining projects addressing the need of the firms' most powerful customers . . . almost always preempted resources from disruptive technologies with small markets and poorly defined customer needs."); *id.* at 77, 82-84.

63. See *id.* at xvii, 43-47 (noting lower initial margins for disruptive innovations in disk drives), 89 (lower initial margins for disruptive minimill innovation in steel), 108-17 (lower initial margins in personal computers, discount retailing, and inkjet printers, all disruptive innovations); CHRISTENSEN & RAYNOR, *supra* note 57, at 190.

64. See CHRISTENSEN, *supra* note 57, at xx-xxi, 125, 132-38; CHRISTENSEN & RAYNOR, *supra* note 57, at 187.

65. See CHRISTENSEN & RAYNOR, *supra* note 57, at 187.

66. See *id.*

67. See CHRISTENSEN, *supra* note 57, at 37-38, 77-93; CHRISTENSEN & RAYNOR, *supra* note 57, at 186, 217-18.

68. See CHRISTENSEN, *supra* note 57, at 86, 125-42; CHRISTENSEN & RAYNOR, *supra* note 57, at 187, 218; see also RICHARD N. FOSTER, INNOVATION: THE ATTACKER'S ADVANTAGE 110 (1986).

69. CHRISTENSEN & RAYNOR, *supra* note 57, at 218.

70. See CHRISTENSEN, *supra* note 57, at xxi-xxii, 147-62, 209; FOSTER, *supra* note 68, at 141 (quoting an RCA executive defending vacuum tubes and rejecting investment in solid state technologies based on uncertainties of that market).

market opportunities.⁷¹

Unfortunately, the best mechanism for grabbing the attention of senior management—framing a disruptive innovation as a critical threat to the existing business—will often yield precisely the wrong response, known as “threat-induced rigidity.”⁷² The threat framing may elicit the required resource commitment, but the established firm frequently devotes the resources to protecting existing customers and markets, rather than discovering the new opportunities created by disruptive innovation.⁷³ For example, in the late 1990s, newspapers responded to the threat posed by the Internet to their businesses by investing heavily in defensive efforts to reproduce their traditional print content online, relying on their traditional ad-supported business model.⁷⁴ In the meantime, sites like Craigslist and Google News discovered new opportunities, like online classifieds and news aggregation, respectively, made possible by the disruptive medium.

Even were our hypothetical manager able to persuade senior management to invest in a disruptive technology, and able to avoid a threat-induced rigidity response, she would likely face other intractable internal obstacles. Customer-facing salespeople, for example, are likely to resist pushing the new product, insofar as it fails to meet the needs of the firm’s best customers and yields lower margins than established offerings.⁷⁵ The firm’s engineers, moreover, are likely to treat the innovation as a sustaining one, attempting to integrate it into products intended to address the needs of existing customers, rather than focusing on unfamiliar new customers in emerging, uncertain, lower-margin markets.⁷⁶

71. CHRISTENSEN & RAYNOR, *supra* note 57, at 10-11.

72. See Clark Gilbert & Joseph L. Bower, *Disruptive Change: When Trying Harder is Part of the Problem*, HARV. BUS. REV., May 2002, at 95; CHRISTENSEN & RAYNOR, *supra* note 57, at 112-16.

73. See CHRISTENSEN & RAYNOR, *supra* note 57, at 112-13; FOSTER, *supra* note 68, at 108, 135 (noting tendency of incumbents threatened by innovation to protect existing businesses even in the face of diminishing returns); Clark G. Gilbert, *Beyond Resource Allocation: How Definition and Impetus Interact to Shape Strategic Outcomes*, in FROM RESOURCE ALLOCATION TO STRATEGY 269-95 (Joseph L. Bower & Clark G. Gilbert eds., 2005) (describing threat-induced rigidity responses to innovation in the newspaper and photographic industries).

74. See Gilbert & Bower, *supra* note 72, at 98-99.

75. See CHRISTENSEN & RAYNOR, *supra* note 57, at 89-90, 106; CHRISTENSEN, *supra* note 57, at 198-99 (making the same point with respect to the incentives of retailers and distributors that an incumbent must rely upon). Providing additional incentives to salespeople to sweeten the deal, however, simply takes their eye off the real ball, creating a risk that existing customers will go underserved. See CHRISTENSEN & RAYNOR, *supra* note 57, at 119.

76. See CHRISTENSEN, *supra* note 57, at 68-71 (describing the way the engineers at

External factors will also work against our hypothetical manager. As Professor Christensen's research recognizes, successful firms are necessarily embedded in existing "value networks" comprised of suppliers, distributors, retailers, and end users.⁷⁷ All of these elements together comprise the market context that accounts for an established firm's success.⁷⁸ The existing value network can be expected to greet sustaining innovations warmly, namely because these innovations please the existing high-value customers and yield higher margins. The same value network, however, frequently will hinder or reject outright a disruptive innovation (which does not serve existing customers and yields lower sales and margins in the initial phases).⁷⁹ Because of these realities, Professor Christensen concludes that disruptive innovations require disruptive channels, which in turn often require finding and building new value networks.⁸⁰

To the extent disruptive innovations require the creation of new value networks, they present yet another quandary for market-leading incumbents: even if our hypothetical manager can persuade senior management that the disruptive innovation will "grow the pie" for the industry as a whole, the established incumbent cannot be certain it will remain the leader in the reconfigured industry. Consider a concrete hypothetical: Universal Music Group is the largest of the existing record labels, accounting for more than 31% of all album sales in 2006.⁸¹ A disruptive innovation that doubled the size of the music industry would be of little comfort to UMG if its share of the new, reorganized market plummeted to 10%.⁸²

So our hypothetical manager is left arguing for a resource commitment

incumbent excavator companies attempted to adapt innovations to serve existing customers, rather than developing products for new markets opened by hydraulics); CHRISTENSEN & RAYNOR, *supra* note 57, at 103-04 (describing the way that incumbent vacuum tube makers vainly attempted to adapt transistors for existing markets, rather than focusing on new markets, such as transistor radios, made possible by low power consumption of transistors).

77. See CHRISTENSEN, *supra* note 57, at 29-56.

78. *Id.* at 31-32.

79. See *id.* at 18-19 (rejection of smaller disk drives by customers of incumbents), 64-71 (rejection of hydraulic backhoes by customers of incumbents), 153-56 (rejection of smaller motorcycles by Harley-Davidson dealers), 209; CHRISTENSEN & RAYNOR, *supra* note 57, at 90, 117-19.

80. See CHRISTENSEN, *supra* note 57, at 55; CHRISTENSEN & RAYNOR, *supra* note 57, at 106-07, 116-21.

81. Music Indus. News Network, *2006 U.S. Music Purchases Exceed 1 Billion Sales*, MUSIC DISH, Jan. 14, 2007, <http://www.musicdish.com/mag/?id=11577>.

82. See RICHARD N. FOSTER & SARAH KAPLAN, *CREATIVE DESTRUCTION* 70 (2001) (describing the reluctance of vested interests at firms to change business models without guarantee of better results).

that will serve an unknowable (but initially small) market, yield lower margins, alienate existing distributors, confuse the sales force, and potentially leave the best existing customers to be picked off by competitors. Once the disruptive innovation is unleashed, moreover, there can be no assurance that it will preserve the market share that the incumbent previously enjoyed. Based on these realities, Professor Christensen concludes, “An organization cannot disrupt itself. It can only implement technologies in ways that sustain its profit or business model.”⁸³

However, this does not suggest that disruptive innovations are impossible. Rather, the persistent institutional resistance of established market leaders to disruptive innovations suggests that *new market entrants* are best positioned to develop and deploy them.⁸⁴ New entrants are neither hobbled by the “not big enough to be interesting” dilemma, nor by the uncertainty of the opportunity (they have no better existing business with which to compare it), nor by a legacy cost structure that resists moving to lower margin products, nor by fear of losing a dominant position in the existing market.⁸⁵ New market entrants are not embedded in an existing value network that will resist their new products. These characteristics give new entrants an “attacker’s advantage” relative to incumbents when bringing disruptive innovations to market.⁸⁶ Case studies confirm that when disruptive innovations arrive, it is generally new market entrants that introduce them.⁸⁷

2. *Intentional Blocking of Disruptive Innovations by Market Incumbents*

In many competitive markets, disruptive innovation is simply a fact of life for established firms. They have no way to prevent disruptive innovation, and thus have no choice but to develop, as best they can, strategies to

83. See CHRISTENSEN & RAYNOR, *supra* note 57, at 274.

84. See CHRISTENSEN, *supra* note 57, at 24, 71-72, 210.

85. CHRISTENSEN & RAYNOR, *supra* note 57, at 114 (noting that entrants see disruptive innovations as “pure opportunity”); see *id.* at 46 (describing the asymmetry with which the incumbent and new entrant view the opportunities created by disruptive innovation).

86. See CHRISTENSEN, *supra* note 57, at 55 (“[T]he essence of the attacker’s advantage is in the ease with which entrants, relative to incumbents, can identify and make strategic commitments to attack and develop emerging market applications, or value networks.”); see generally FOSTER, *supra* note 68, at 139-64.

87. See CHRISTENSEN, *supra* note 57, at 22 (1.8 inch disk drives), 68-72 (hydraulic backhoes), 87-93 (steel minimill technology), 108-17 (personal computers, discount retailing, inkjet printing); see also Michael L. Tushman & Philip Anderson, *Technological Discontinuities and Organizational Environments*, 31 ADMIN. SCI. Q. 439, 460-61 (1986) (surveying histories of cement and microcomputer industries).

recognize and nurture disruptive innovation themselves.⁸⁸ But where intellectual property rights are at stake, influential market incumbents may be able to use their legal entitlements to block disruptive innovations.

Industry participants who have an ability to influence the entry conditions of their markets may have both the incentive and ability to block disruptive innovation in order to protect their existing markets.⁸⁹ Established craft guilds in Europe, for example, repeatedly resorted to protests, violence, political influence, and regulatory incursions to block the adoption of a variety of disruptive innovations, sometimes for decades at a time.⁹⁰ This was true even though the innovation in question ultimately “grew the pie” for the industry in question and increased overall societal wealth.

Similarly, established firms in modern economies will likely attempt to block disruptive innovation when they can.⁹¹ Where the contemporary U.S. copyright industries are concerned, copyright law offers one mechanism that market incumbents can use to discourage or prevent disruptive innovation by new market entrants.⁹²

88. Given the challenges detailed above and the case studies set out in Professor Christensen’s work, it appears that many established firms fail in this effort. Those that succeed, moreover, frequently do so by creating independent business units that seek out their own opportunities, sometimes at the expense of the parent company’s existing businesses. See CHRISTENSEN, *supra* note 57, at 115-17 (discussing Hewlett-Packard’s competing laser and inkjet printer units).

89. In this context, “threat-induced rigidity” may not be the problem that it is for firms that are unable to influence entry conditions. Framing a disruptive innovation as a threat, in fact, may be exactly what is required to obtain the resource commitment (such as lobbying for new legislation, or bringing a strategic lawsuit) necessary to eliminate or block the disruptive innovator. See Wu, *supra* note 27, at 345-48 (summarizing litigation and legislative efforts by Hollywood in response to the VCR).

90. See JOEL MOKYR, *THE LEVER OF RICHES* 178-79, 258-61 (1990). Craft guilds were not alone in their resort to non-market mechanisms to block disruptive innovation. Scribes in the 15th century, for example, succeeded in delaying the introduction of printing into Paris for twenty years. Textile workers in the 18th and 19th centuries rioted repeatedly and vandalized machinery that they felt threatened their economic interests. See JOEL MOKYR, *THE GIFTS OF ATHENA* 258-75 (2002) [hereinafter MOKYR, *THE GIFTS OF ATHENA*]; FOSTER, *supra* note 68, at 257-58.

91. This is one respect in which Professor Christensen’s research is incomplete. See Wu, *supra* note 31, at 139 (describing the ways in which copyright owners have used the copyright law to block or delay market entry); Wu, *supra* note 27, at 292-95 (same).

92. Professor Randal Picker has recognized that copyright law often acts as “entry policy” for technology markets touching on copyrighted works. See Randal C. Picker, *Copyright as Entry Policy: The Case of Digital Distribution*, 47 *ANTITRUST BULL.* 423 (2002). Although his intuition is to hold technology vendors responsible for any harms their innovations may impose on copyright owners’ incentives, he admits that in some cases, initially disruptive technologies can ultimately redound to the benefit of society at large. He does not, however, discern a mechanism for separating these “good” innova-

The story of Sony's Betamax VCR is one example of this strategy. Upon its introduction in 1976, the Betamax VCR was a disruptive innovation from the point of view of the established movie studios. The technology would profoundly alter the market for motion pictures. The product, however, was ill-suited to the needs of the studios' existing high-margin customers—theatrical exhibitors and television networks—and thus did not fit into the value networks in which the studios were then embedded. Instead, the VCR's success depended on the creation of a new market—home video.

Initially, the new market was small (and subject to capture by the nascent home video rental industry).⁹³ The response by the movie industry exemplified the sort of “threat-induced rigidity” described above—a commitment of resources to protect existing customers and value networks against the innovation. Two of the largest movie studios responded to the Betamax by invoking copyright law to block it. They sued Sony, arguing that the private copying enabled by the Betamax constituted an infringement for which Sony should be held secondarily liable.⁹⁴ The Supreme Court ultimately rejected this argument, holding that private copying of TV broadcasts for time-shifting purposes constituted a fair use beyond the reach of copyright.⁹⁵ The VCR subsequently remade the movie industry, paving the way for the DVD market by creating new value networks that included new customers, such as video rental giants like Blockbuster and “sell-through” retail distributors like Best Buy and Wal-Mart.⁹⁶ Because the technology proved to be a complement to copyrighted works, the VCR ultimately “grew the pie” for the industry, while simultaneously creating a large new market for video recording technologies.

Had they prevailed in their lawsuit against Sony, the movie studios would have had the legal right to block the VCR from the market. Whether the studios would have blocked the VCR, perhaps to ensure a market for the playback-only format, “Discovision,” that was then under

tions from the “bad” on an ex ante basis. *Id.* at 47. This Article is meant to sketch one possible response to the dilemma framed by Professor Picker.

93. See Aljean Harnetz, *Hollywood Thriving on Video Cassette Boom*, N.Y. TIMES, May 7, 1984, at A1 (noting that videocassette revenues accounted for only 8% of average film revenues in 1982, increasing to 13% in 1984). By 1996, in contrast, home video accounted for 57% of movie studio domestic revenues, more than twice the figure represented by domestic box office receipts. See Peter M. Nichols, *Home Video*, N.Y. TIMES, July 12, 1996, at B14.

94. See *supra* sources cited note 42.

95. See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).

96. See Jon Gertner, *Box Office in a Box*, N.Y. TIMES, Nov. 14, 2004, § 6 (Magazine), at 104 (describing new opportunities created by DVD).

development,⁹⁷ or instead would have merely insisted on design changes to the VCR and a running royalty,⁹⁸ is impossible to know. But to the extent the VCR constituted a disruptive innovation, Professor Christensen's research suggests that the movie studios would likely have been unwilling and unable to successfully develop and deploy the technology, at least as compared to a new market entrant like Sony.⁹⁹

To sum up, Professor Christensen's research suggests that a persistent market failure interferes with the development and deployment of disruptive innovations by established firms. In the copyright industries context, giving copyright owners control over private copying and the technologies used to copy will likely result in an underproduction of disruptive, and socially beneficial, innovations. Explicitly embracing private copying as a fair use may be one way to ameliorate this problem of underproduction of disruptive innovations.

C. The Dangerous Innovation Objection

This brings us to the second objection: what if the investments drawn to private copying technologies result in the wrong kinds of innovation?¹⁰⁰ What if the innovation proves not to be complementary with respect to copyrighted works? What if, instead, it is not only a "disruptive" innovation, but also a "dangerous" (from a copyright policy point of view) innovation that undermines the incentive effects on which copyright law is premised?

97. See LARDNER, *supra* note 9, at 28-36 (discussing development of Discovision).

98. During the proceedings in *Sony*, the movie studios suggested that the Betamax be modified such that copyright owners could "flag" individual broadcasts to block recording. See *id.* at 119. Shortly after the movie studios' appellate victory in *Sony*, the studios agreed to pursue legislation that would have added a levy onto VCRs and blank cassettes. See *id.* at 203-17.

99. This is not to say that copyright owners are inherently against *any* innovation—the market failure described above applies only to *disruptive* innovations. Where *sustaining* innovations are at issue, incumbents have strong market incentives to develop them. Once the VCR had established a home video market, thereby planting the movie studios in a new set of value networks, the DVD player was just the sort of *sustaining* innovation that catered to these existing value networks. Hence, it is unsurprising that the movie studios were able to collaborate with technology vendors to bring this product and disc format successfully to market. See TARLETON GILLESPIE, WIRED SHUT 167-70 (2007) (describing the development of the DVD format).

100. There is little risk that the incentive provided by recognizing private copying as a fair use will result in the usurpation of sustaining innovations by new entrants. As Professor Christensen's research illustrates, the same internal and external factors that act as constraints on incumbents with respect to disruptive innovations instead act as advantages over new entrants with respect to sustaining innovations. See CHRISTENSEN & RAYNOR, *supra* note 57, at 34-35.

The risk is a real one. It is often impossible to predict how disruptive innovations will ultimately be used or how they will alter existing markets.¹⁰¹ Therefore, some disruptive innovations, even those limited to private copying, could undermine, rather than reinforce, necessary incentives for copyright owners. Certainly, many copyright owners point to peer-to-peer (P2P) file-sharing software as one example of private copying technology run rampant.¹⁰²

At the same time, any policy that is serious about encouraging disruptive innovation must recognize that decentralized markets characterized by low barriers to entry and a diversity of approaches are the most fertile ground for innovation and economic growth.¹⁰³ This willingness to sow many seeds is particularly imperative where the relevant technologies are in a period of rapid change and where disruptive innovation is desired.¹⁰⁴

Accordingly, a sensible copyright policy should sow many different seeds in the innovation garden in order to maximize the likelihood that useful and unexpected crops will germinate, yet also have a mechanism to pull the weeds that, if left untended, could threaten to overwhelm the garden. This metaphor itself suggests the solution—a permissive *ex ante* approach to private copying technologies, expressed through a robust fair use defense for private copying, coupled with a willingness to regulate “dangerous” innovations on an *ex post* basis.

In fact, this approach to copyright policy is essentially exemplified by the *de facto* operation of U.S. copyright policy for most of the last thirty years. The Supreme Court’s opinion in *Sony* set down a marker favoring the treatment of private copying as a fair use. This basic tenet went largely unchallenged for some time, emboldening technology vendors to create an ever-growing number of private copying technologies. Until the passage of the DMCA in 1998, Congress typically regulated particular technologies already in the market,¹⁰⁵ rather than granting copyright owners *ex ante* powers over the practice of private copying.

This *de facto* “innovate broadly first, regulate narrowly later” approach has a variety of virtues. First and foremost, it is often impossible to predict

101. See CHRISTENSEN, *supra* note 57, at 147-62.

102. See Wu, *supra* note 27, at 361-63 (describing the conflict over P2P file sharing and opining that “P2P networks are a particularly harmful form of online distribution, at least as measured by the potential loss of revenues to creators”).

103. See Wu, *supra* note 31, at 125-31; Wu, *supra* note 27, at 331-32; MOKYR, THE GIFTS OF ATHENA, *supra* note 90, at 239.

104. See Wu, *supra* note 31, at 130-31.

105. See, e.g., 47 U.S.C. § 553 (2000) (cable TV descramblers); 17 U.S.C. §§ 1001-10 (2000) (digital audio recorders); 17 U.S.C. § 1201(k) (2000) (analog VCRs).

which innovations will be socially beneficial and which will be dangerous. Technology developers, investors, copyright owners, and consumers alike often cannot accurately predict how new technologies will be used and how they may affect existing markets and behaviors.¹⁰⁶ Courts are, if anything, even more poorly positioned to predict, *ex ante*, the long-term impact that a disruptive innovation will have on copyright owners' incentives.¹⁰⁷

The dynamic nature of markets as they develop in response to innovation further compounds the difficulty in predicting the ultimate uses for disruptive technologies.¹⁰⁸ In several instances, new markets formed only after disruptive technologies forced copyright owners to adjust their behavior, triggering the complementary relationship between the products. For example, when Betamax launched, the major movie studios refused to issue their films on prerecorded cassettes, thereby occluding the prospects for the rental and sell-through markets for films.¹⁰⁹ Only after the movie studios began releasing prerecorded videocassettes could one discern the complementary relationship between the VCR and copyrighted films. Similarly, early iPod owners had no authorized sources for major label music until the debut of the iTunes Store, some eighteen months after the music player's introduction. The potential economic complementarities between these products became more apparent only after the belated launch of authorized download services. And even now, what new markets the iPod and its descendants might enable in the future remain difficult to predict.

This inability of market participants and the courts to predict accurately which nascent technologies are "dangerous" supports an approach that plants many seeds and affords them some time to germinate before courts or legislatures are called on to decide their fate. A system of permissive *ex ante* fair use doctrines, combined with *ex post* legislative examination, is better suited to the task of regulating the copyright land-

106. See CHRISTENSEN, *supra* note 57, at 147-62. The VCR itself is a signal example of this—neither the movie industry nor Sony understood the ultimate impact that the Betamax would have on their businesses or consumer behaviors.

107. See *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 958-59 (2005) (Breyer, J., concurring) (noting limits of judicial expertise when evaluating new technologies and markets); Wu, *supra* note 27, at 349 (describing institutional shortcomings of judges when asked to act as gatekeepers of market entry).

108. See *Grokster*, 545 U.S. at 958-59 (Breyer, J., concurring) (defending the holding of *Sony*, noting that, "as the VCR example makes clear, a product's market can evolve dramatically over time").

109. See LARDNER, *supra* note 9, at 168-86 (detailing the genesis of the prerecorded cassette industry).

scape.

An ex post legislative approach to containing disruptive innovations that prove to be “dangerous” also delivers the issue to the branch of government with the better institutional competence to address it.¹¹⁰ Courts applying general principles of copyright infringement in a litigation context are ill-equipped to undertake industry-wide fact-finding regarding future market conditions. Moreover, copyright law leaves a court with precious little remedial flexibility. Copyright’s mandatory statutory damages regime, in particular, often turns cases involving private copying into all-or-nothing showdowns for technology vendors.¹¹¹ An adverse ruling on infringement will frequently be tantamount to handing over the keys to the business to the prevailing plaintiff.¹¹²

Congress, while perhaps not an ideal democratic decision-maker in all copyright contexts,¹¹³ is better positioned to undertake the relevant sort of fact-finding and has far more discretion in fashioning a nuanced approach. In fact, since the Supreme Court decided *Sony*, Congress has amended the Copyright Act no fewer than seven times to address specific new technologies.¹¹⁴ Congress alone has the full array of policy levers at its dis-

110. According to the Supreme Court, “Congress has the constitutional authority and the institutional ability to accommodate fully the varied permutations of competing interests that are inevitably implicated by such new technology.” *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 431 (1984); *accord Grokster*, 545 U.S. at 965 (Breyer, J., concurring).

111. See 17 U.S.C. § 504(c) (2000) (prevailing plaintiffs are entitled to a statutory damages award of between \$750 and \$30,000 per work infringed). The statutory damages remedy operates as another form of “market failure” in this arena, as it untethers the damages that an innovator would have to pay from any consideration of the magnitude of the actual harm suffered by copyright owners. Thus, even if a new private copying technology were to cause \$1,000 of harm to copyright owners, while generating \$1,100 of social value, to the extent that a statutory damages award would exceed \$1,100, it would eliminate the innovator’s incentive to invest. See Picker, *supra* note 92, at 444-45.

112. One vivid example involves the fate of MP3.com, which was forced into bankruptcy by a statutory damages award of \$25,000 per CD it copied after losing a copyright infringement action. See *UMG Recordings, Inc. v. MP3.com, Inc.*, No. 00 Civ. 472 (JSR), 2000 WL 1262568 at *6 (S.D.N.Y. Sept. 6, 2000) (imposing statutory damages of \$25,000 per CD); Amy Harmon, *Deal Settles Suit Against MP3.com*, N.Y. TIMES, Nov. 15, 2000, at C1 (total damages assessed against the company amounted to \$167 million).

113. See JESSICA LITMAN, DIGITAL COPYRIGHT 22-34 (2001) (describing copyright law as a legislative exercise by vested industry insiders to divide up the spoils taken from outsiders, including the public).

114. See Satellite Home Viewer Act of 1988, Pub. L. No. 100-667, 102 Stat. 3949 (codified as amended at 17 U.S.C. § 111, 119 (2000)) (establishing compulsory licenses for satellite television broadcasters); Audio Home Recording Act of 1992, Pub. L. 102-563, 106 Stat. 4237 (codified as amended at 17 U.S.C. §§ 1001-1010 (2000)) (adopting

positional. In accommodating copyright law to new technologies, for example, Congress has sometimes employed compulsory licensing,¹¹⁵ sometimes imposed limited technology mandates,¹¹⁶ sometimes modified copyright's remedial scheme,¹¹⁷ and sometimes let the market function without intervention.¹¹⁸ This array of policy options is simply not available to the courts applying general infringement principles. Moreover, Congress has been able to act incrementally on an industry-by-industry and technology-by-technology basis.¹¹⁹ This approach is not available to courts interpreting general fair use and secondary liability principles that apply to all copyrights and technologies.¹²⁰

Furthermore, although copyright scholars have underscored the public choice difficulties that plague copyright policy-making on Capitol Hill, those difficulties are at relatively low ebb when the copyright and technol-

levy and technology mandates for digital audio recording); Digital Performance Rights in Sound Recordings Act of 1995, Pub. L. 104-39, 109 Stat. 336 (codified as amended at 17 U.S.C. §§ 106, 114, 115 (2000)) (creating new public performance rights, and accompanying compulsory licenses, for digital transmission of sound recordings); No Electronic Theft Act of 1997, Pub. L. 105-147, 111 Stat. 2678 (codified as amended at 17 U.S.C. § 506(a) (2000)) (expanding scope of criminal copyright infringement in response to increase in noncommercial digital infringements); Digital Millennium Copyright Act of 1998, Pub. L. 105-304, 112 Stat. 2860 (codified as amended at 17 U.S.C. §§ 512, 1201-1205, 1301-1332, 4001 (2000)) (creating new protections for rightsholders that employ technical protection measures on digital works); Small Webcaster Settlement Act of 2002, Pub. L. 107-321, 116 Stat. 2780 (codified as amended at 17 U.S.C.A. § 114 (2006)) (adjusting compulsory license rates for small webcasters); Technology, Education, and Copyright Harmonization Act of 2002, Pub. L. 107-273, 116 Stat. 1758 (codified as amended 17 U.S.C.A. §§ 110, 112 (2006)) (expanding copyright exceptions for educational and library users to facilitate distance learning over the Internet).

115. See 17 U.S.C. §§ 111 (cable TV), 114 (webcasting), 115 (sound recordings), 119 (satellite television broadcasting) (2000).

116. See 17 U.S.C. §§ 1002 (digital audio recorders), 1201(k) (analog VCRs) (2000).

117. See 17 U.S.C. §§ 512 (safe harbors for online service providers), 506(a)(2) (imposing criminal liability on noncommercial infringers) (2000).

118. See LARDNER, *supra* note 9, at 284-301 (detailing Congressional rejection of blank video tape levy).

119. See 17 U.S.C. §§ 112 (compulsory license limited to new recordings of musical works), 1002 (technology mandate reaching only certain digital audio recorders), 1201(k) (technology mandate reaching only analog VCRs) (2000).

120. The Digital Millennium Copyright Act of 1998, Pub. L. 105-304, 112 Stat. 2860 (codified as amended at 17 U.S.C. §§ 512, 1201-1205, 1301-1332, 4001 (2000)) is a good example of what Congress can do that courts cannot. The DMCA enacted a nuanced mix of limitations on liability and compulsory licenses for different Internet businesses. See, e.g., 17 U.S.C. §§ 512 (damages safe harbors for online service providers), 114(d)(2) (compulsory licenses for webcasters) (2000). Even were these policies within the power of the courts to craft, it would have taken decades and dozens of cases to achieve the same result via judicial action.

ogy industries are the chief antagonists. Both industries are able to deploy concentrated resources in an effort to influence the democratic process.¹²¹ Certainly, these two industries are more evenly matched than are consumers or public interest advocates when pitted against the copyright industries.

Perhaps most importantly, whatever the shortcomings of legislative action, the Constitution assigns the responsibility for copyright to Congress.¹²² Accordingly, the ex post legislative approach also contributes to certainty and finality, as Congress inevitably has the last word on copyright matters. In contrast, judicial resolutions, short of constitutional questions, are always subject to legislative revision.¹²³

V. MARGINAL COSTS AND CONSUMER SURPLUS

Market forces alone might not efficiently yield the optimal degree of disruptive innovation where private copying technologies are concerned for yet another reason: the technology companies that create these technologies are probably unable to efficiently capture the full consumer surplus spawned by their innovations.

In many new digital technology markets, while the fair use of copyrighted works *may fuel demand* for the products, technology innovators *may not successfully appropriate the value* of those fair uses. Basic economic theory posits that, in a competitive market, a producer's price is driven inexorably toward the marginal cost of production. Because the value of fair uses is not part of the marginal cost of production for a technology vendor, one should expect that the vendor will have a difficult time appropriating any of the value of those fair uses.¹²⁴

121. See, e.g., Katie Dean, *Senate Shelves Induce Review*, WIRED, Oct. 7, 2004, <http://www.wired.com/politics/law/news/2004/10/65255>; Wu, *supra* note 27, at 344 (concluding that in the years after 1976, "the political conflicts between the technologists and the incumbent copyright disseminators have, in general, made for a fairer fight").

122. See U.S. CONST. art. 1, § 8, cl. 8; *Eldred v. Ashcroft*, 537 U.S. 186, 212 (2003) ("We have also stressed . . . that it is generally for Congress, not the courts, to decide how best to pursue the Copyright Clause's objectives.").

123. See Wu, *supra* note 27, at 301-03 (describing legislative overturning of *White-Smith Music Publishing Co. v. Apollo Co.*, 209 U.S. 1 (1908)); *id.* at 317-23 (describing legislative overturning of *Fortnightly Co. v. United Artists Television, Inc.*, 392 U.S. 390 (1968)).

124. I owe this insight to Professor Paul Goldstein, who made much the same observation in the context of infringing uses, lamenting that the surplus value of such uses cannot be effectively captured by either the technology vendor or the copyright owner. See 12:6 PAUL GOLDSTEIN, COPYRIGHT § 12.1 (2007). It is not clear why this is such a lamentable outcome, as the surplus value would appear to be captured by the consumer,

The VCR provides an instructive illustration. If the marginal costs to produce a VCR were \$100, but the value to the consumer of the private copying made possible by the VCR were \$200, the VCR vendor in a competitive market would be unable to charge more than \$100. If the VCR vendor attempted to appropriate the full \$200 value of the VCR, its competitors would undercut its price, driving the market price toward the \$100 figure.

Of course, lead time, patents, trade secrets, branding, and other factors may make the competition less than perfect, thereby allowing a technology vendor to appropriate some surplus value attributable to fair uses. Most fair use technologies, however, appear to trend toward competitive markets over time.¹²⁵ Market competition among makers of VCRs, for example, appears to be very nearly perfect today, even if Sony had some early advantages over its competitors.¹²⁶

If this account is correct, then where is the surplus copyright value going? It appears that consumers are enjoying it. This is not necessarily a bad thing. To the extent that some of the new value created by new technologies is a windfall, increasing the value of works already purchased by consumers, leaving that value with consumers seems reasonable. Moreover, if fair use copying of the kind that fuels technologies like the iPod and TiVo diverts some portion of the value of copyrighted works back into the pockets of the public, this should reduce the societal deadweight loss otherwise ascribable to the monopoly pricing power enjoyed by copyright owners.¹²⁷

Of course, if this logic is taken too far, the incentive-creating mechanism at the heart of copyright would be set to naught. But the kinds of private copying made possible by most fair-use-enabling technologies seem

who thereby drains a portion of the deadweight loss otherwise ascribable to the monopoly pricing power enjoyed by the copyright owner. To the extent the infringing (or fair) uses do not eliminate the incentive to continue creating, the partial elimination of deadweight loss should tend to increase overall social welfare.

125. See Moore, *supra* note 27, at 972 (“[I]nnovators creating new markets for copyrighted works have rarely maintained a sustainable monopoly . . .”).

126. Even in the portable digital music player market, where Apple has enjoyed a commanding market lead over its competitors thanks to its iPod family of products, Apple is likely to face increasingly stiff competition from other companies. See David Pogue, *A Music Player that Needs Seasoning*, N.Y. TIMES, Apr. 19, 2007, at C1 (reviewing the SanDisk Sansa Connect, a digital music player designed to compete with the iPod).

127. See Wu, *supra* note 31, at 131-32 (describing traditional view of deadweight loss arising from monopoly pricing power of copyright owners); Lunney, *supra* note 38, at 1026-29 (describing how P2P file sharing may reduce societal deadweight loss).

unlikely to entirely eliminate copyright industry incentives.¹²⁸ In fact, as the prior discussion makes clear, many private copying technologies may have *increased* the value of copyrighted works to consumers. So, if the iPod in part encourages consumers to buy more CDs (or music downloads), society as a whole should be made better off if the iPod also simultaneously manages to drain off some of the deadweight loss otherwise ascribed to the legal protection of copyright.¹²⁹

At least two consequences flow from the observation that technology innovators may not be able to fully appropriate the value of the private copying their technologies enable. First, any surplus value derived from private copying that stays with consumers may mitigate any perceived unfairness to copyright owners. In other words, if the technology sector is not pocketing the surplus value inherent in the new fair uses they enable, then copyright industries effectively do not “subsidize” the technology sector. Instead, the surplus value principally enriches members of the public. This outcome may, in fact, serve at least one goal of the copyright system—stimulating wide distribution and access to creative works—while fostering technological innovation.

Second, this inability of technology innovators to appropriate the value of private copying suggests a further reason to doubt whether market mechanisms can efficiently manage the introduction of complementary technological innovations. Because technology innovators cannot consistently capture the value of the private copying they enable, they are unable to offer this value to copyright owners in the form of licensing fees, a standard market solution, unless copyright law puts copyright owners in a position to demand licensing fees from all market participants.¹³⁰ Even if copyright law reached private copying (and hence private copying tech-

128. Of course, the answer might be very different for distribution technologies, but the argument here limits itself to a consideration of fair use and private reproduction technologies.

129. The precise interplay between the two questions discussed herein—the complementary economics of, and ultimate disposition of consumer surplus created by, disruptive innovations—will often be difficult to predict. At least where the VCR was concerned, the two appeared to be largely independent economic effects—the value of fair use “time shifting” was appropriated almost entirely by the public, while the complementary economics unleashed by the home video market made possible by the playback function of the VCR went to the motion picture industry. Where the iPod is concerned, the interrelationship may prove to be more complex. It is likely too soon to say whether the iPod will simply make consumers happier with the CDs they already own or would have purchased anyway, or whether it will also lead to large numbers of new and different sales of music (or other audio content, such as podcasts and audio books) being made.

130. See Picker, *supra* note 92, at 445 (noting that if innovators cannot appropriate the full social value created by their product, they may not have incentive to build it).

nologies) through licensing fees, it is not clear that incumbent rightsholders would be willing to set an efficient price, given their inherent bias against disruptive innovations and the difficulty of anticipating the ultimate uses for such innovations.¹³¹

In sum, absent some mechanism to internalize the value of private copying, technology vendors will not be able to cut rightsholders in on that value. And, if copyright law were to give rightsholders exclusive control over private copying, Professor Christensen's research suggests that the rightsholders themselves would not be able to realize the full social value of the disruptive innovations that private copying could support. Treating private copying as a fair use resolves this conundrum by attracting investment in potentially complementary technologies, while leaving to Congress the task of tailoring regulations to particular technologies on an ex post basis.¹³²

VI. IMPLICATIONS FOR FAIR USE

As described earlier, U.S. copyright law has treated private, personal-use copying as a de facto non-infringing use since at least the 1970s, tolerating and facilitating the introduction of an impressive array of private copying technologies. Given the dearth of rulings or statutes addressing private, personal-use copying, however, some uncertainty has attached to such copying's de facto non-infringing status. Recent contrary legislative and jurisprudential developments, moreover, have made it important to validate and endorse the de facto arrangement, recognizing the important role that this "innovate first, regulate later" model has played in U.S. innovation policy. Copyright owners, technology companies, and the public have all enjoyed the benefits of this policy, despite the fact that it has not been expressly articulated by the courts or legislators.¹³³

131. Of course, Congress may be in a better position to solve the pricing question once the best uses of a new technology become evident, whether by imposing restrictions on the specific technology in question, or by imposing a compulsory license so as to force the internalization of costs to all manufacturers. As described above, this points up the superiority of an ex post approach to the problem of disruptive innovations in private copying technologies.

132. Professors Frischmann and Lemley posit a similar general rationale for fair use as a mechanism for sustaining socially beneficial "spillovers" whose value would not be captured in a transactional property system. *See* Frischmann & Lemley, *supra* note 38, at 288 ("Fair use deems lawful some uses that yield benefits to third parties, not because the transaction costs between the copyright owner and user are necessarily high, but rather to sustain the flow of spillovers to third parties.").

133. Interestingly, this view of copyright's role in fostering innovation was taken up at length by Justice Breyer in his concurrence in *Grokster* in connection with secondary

In recent years, however, the copyright industries have been urging the courts and Congress to adopt legal norms that would undermine this model. In particular, the legal protections granted to “technical protection measures” by the DMCA have already substantially eroded the private copying freedoms previously taken for granted by both innovators and their customers.¹³⁴ For example, thanks to the encryption system used on major motion picture DVD releases, combined with the prohibition on unauthorized circumvention embodied in the DMCA, several courts have issued rulings that effectively ban trafficking in DVD copying software. These rulings may imperil the private digital copying of DVDs, not only by banning DVD copying tools but by implying that the act of copying itself violates the law.¹³⁵ The Copyright Office, for its part, has opined that, absent a regulatory exception, private copying of encrypted DVDs violates the DMCA.¹³⁶ As a result, far less disruptive innovation has been attracted to the DVD market than to the CD market. What disruptive innovation has sought to germinate has been chilled by aggressive litigation.¹³⁷

Another important consequence of this view of fair use is the elevation of “non-transformative” or “consumptive” uses of copyrighted works in the jurisprudence of fair use. Until the Supreme Court’s ruling in *Sony*, for example, some courts viewed non-transformative copying as presumptively unfair.¹³⁸ Leading commentators, meanwhile, have sung the praises

liability. *See* Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 949-66 (2005). There has not yet been a similar judicial recognition of the role that fair use plays in innovation policy.

134. *See* 17 U.S.C. § 1201 (2000).

135. *See, e.g.*, Universal City Studios, Inc. v. Corley, 273 F.3d 429, 452-53 (2d Cir. 2001) (in holding that DMCA banned trafficking in software capable of decrypting DVDs, finding that DVD encryption is an “access control” within the meaning of the DMCA); Paramount Pictures Corp. v. 321 Studios, No. 03-CV-8970 (RO), 2004 WL 402756 (S.D.N.Y. Mar. 3, 2004) (same); 321 Studios v. Metro Goldwyn Mayer Studios, Inc., 307 F. Supp. 2d 1095 (N.D. Cal. 2004) (same).

136. *See* Memorandum from Marybeth Peters, Register of Copyrights to James H. Billington, Librarian of Congress, Recommendation of the Register of Copyrights in RM-2005-11, 12 at 80-83 (Nov. 17, 2006), available at http://www.copyright.gov/1201/docs/1201_recommendation.pdf.

137. *See, e.g.*, Transcript of Proceedings, DVD Copy Control Ass’n, Inc. v. Kaleidescape, Inc., No. 1-04-CV031829 (Cal. Super. Ct. Mar. 29, 2007), available at <http://www.kaleidescape.com/files/legal/DVDCCA-vs-Kaleidescape-Statement-of-Decision.pdf> (vendor of luxury DVD “digital jukebox” sued despite obtaining relevant licenses); 321 Studios, 307 F. Supp. 2d at 1095 (summary judgment against leading vendor of software for making back-up copies of DVDs); *Corley*, 273 F.3d at 452-53 (holding that distribution of DVD copying software, even if used to enable owners to play DVDs on Linux computers, is prohibited by the DMCA).

138. *See, e.g.*, Universal City Studios, Inc. v. Sony Corp. of Am., 659 F.2d 963, 970-

of transformativeness as the touchstone of fair use.¹³⁹ If private, non-transformative copying is part of a mechanism that encourages innovation that ultimately improves the lot of copyright owners, however, this “second-class status” for non-transformative copying must finally be cast aside.¹⁴⁰ After all, it is the private, non-transformative copying made by millions of VCR, iPod, and TiVo owners that has fueled economic growth in both the technology and copyright sectors. Consumer uses are no less “fair” than the transformative copying of artists or researchers—they simply serve a different fair use purpose.

In addition, this view of fair use as a component of innovation policy suggests that courts and policy-makers must strive to make fair use something on which innovators may more easily rely, without having to worry about expensive and uncertain post hoc litigation. In this connection, the “staple article of commerce” doctrine announced in *Sony* may play an important part in securing “breathing room” for innovators.¹⁴¹ In that case, the Supreme Court held that a technology vendor is not liable for secondary copyright infringement so long as the technology in question is “capable of substantial noninfringing uses.”¹⁴² This rule gives innovators a bit of breathing room—they need not prove that *every* use would qualify as a fair use, nor even that the *primary* use would qualify as fair, so long as they can point to *some* significant fair use for the technology.¹⁴³

This insight also should guide courts in tempering the inducement doctrine announced by the Supreme Court in *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.* The Court there held that “one who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties.”¹⁴⁴ In other

72 (9th Cir. 1982) (utilizing “productive use” distinction to rule against home time-shifting as a fair use), *rev’d*, 464 U.S. 417 (1984).

139. *See, e.g.*, Leval, *supra* note 5, at 1111.

140. *See* Tushnet, *supra* note 3, at 557-60 (lamenting the way that the emphasis on “transformativeness” in fair use cases has made non-transformative private copying inherently suspect); Cohen, *The Place of the User in Copyright Law*, *supra* note 7, at 349-53 (describing the ways in which dominant copyright law narratives fail to include users in the treatment of private copying).

141. *See* Wu, *Copyright’s Communications Policy*, *supra* note 27, at 348-50 (in discussing the staple article of commerce doctrine, favoring a “lenient version of the *Sony* rule” in order to foster market entry and innovation).

142. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984).

143. *See* *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 957-58 (2005) (Breyer, J., concurring).

144. *Id.*

words, in the wake of that ruling, innovators must not only prove the existence of a substantial non-infringing use for their technology, but now must also prove that none of the uses that they actively encourage, through advertising for example, are infringing.

In many private copying contexts, however, disruptive innovators will proudly and actively advertise uses that they believe to be fair. Should subsequent litigation prove these beliefs to have been mistaken, innovators could face ruinous liability as inducers. The prospect of massive statutory damages for miscalculation of the outcome of a fair use determination could chill a wide range of innovations that enable private copying. To avoid this, courts should craft doctrines to limit inducement's scope and limit the liability of innovators who reasonably, but mistakenly, believed that their advertised uses fell within the bounds of fair use.

Policy-makers should also consider ways to untangle the fair use doctrine from the prohibitively expensive mechanism of case-by-case secondary liability litigation.¹⁴⁵ If private copying is an important mechanism for fostering innovation, then it would be unwise to reserve that mechanism only for large companies with capacious litigation war chests,¹⁴⁶ especially since they tend to be the incumbent firms who may themselves resist beneficial disruptive innovations. One possibility might be to recognize certain private copies as presumptively fair, or to reaffirm the Supreme Court's shifting of the burden of demonstrating harm in noncommercial use cases to the copyright owner.¹⁴⁷ Another option might be to eliminate statutory damages in secondary liability cases,¹⁴⁸ which would leave copyright owners free to litigate when they could prove concrete harm, but would reduce their incentives to sue in close cases.¹⁴⁹ Yet another alternative might be for courts to recognize that innovation that en-

145. When courts have addressed private, non-transformative copying, it has often been in the context of secondary liability suits brought against technology companies, rather than in contexts involving end users. *See Sony*, 464 U.S. at 417; *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001); *Paramount Pictures Corp. v. ReplayTV, Inc.*, No. CV 01-9358FMC(EX), 2002 WL 1315811 (C.D. Cal. Apr. 29, 2002).

146. To take one reported example, defending the lawsuit against the ReplayTV cost more than \$1 million per month in legal fees. *See Benny Evangelista, Piracy Suits Chill Valley, Moves Peril Profits, Techies Say*, S.F. CHRON., Feb. 20, 2003, at B1.

147. *See Sony*, 464 U.S. at 451.

148. *See Freedom and Innovation Revitalizing U.S. Entrepreneurship Act of 2007 (FAIR USE)*, H.R. 1201, 110th Cong. (2007). (remitting statutory damages in secondary infringement cases except in cases where "no reasonable person could have believed such conduct to be lawful").

149. Fred von Lohmann, *Remedying 'Grokster'*, LAW.COM, July 25, 2005, <http://www.law.com/jsp/article.jsp?id=1122023112436>.

ables new private uses of copyright works has risen to the level of a “pattern” deserving of recognition in our fair use jurisprudence.¹⁵⁰

VII. CONCLUSION

This Article began from the observation that a number of popular digital technologies amass a good portion of their value by depending on the legality of private copying that can only be excused under the fair use doctrine, at least under U.S. copyright law. From this observation grows the corollary that the fair use doctrine may well be playing an increasingly critical role in U.S. innovation policy—effectively providing the “startup capital” for a wide range of innovators and encouraging investments in technologies that can draw on and increase the value to consumers of copyrighted goods. The balance of the Article suggests that this view of fair use need not and ought not be viewed as anathema to copyright policy, but rather as a sensible response to market failures that might otherwise result in underinvestment in certain kinds of socially desirable disruptive innovations.

More consumers are engaged in more fair use than ever before. Rather than view that development with alarm, both innovators and copyright owners should not only welcome the development, but begin to work together to ensure that the fair use doctrine continues to encourage innovation in ways that dovetail with the overall goals of copyright policy.

150. See Madison, *supra* note 4, at 1671-77.