

TIVO AND THE INCENTIVE/DISSEMINATION CONFLICT: THE ECONOMICS OF EXTENDING *BETAMAX* TO PERSONAL VIDEO RECORDERS

I. INTRODUCTION

Proprietary rights in intellectual property are an issue of growing concern with each major technological advancement. Protection for those proprietary rights can be found in the United States Constitution: “The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹ Intellectual property law can be divided into three distinct categories of copyrights, patents and trademarks, each protecting a different subject matter and each working toward a different social goal.² Copyright laws are specifically designed to protect expressive works and to provide incentives for authors to create such works.³ These incentives include the possibility of remuneration that “prompts authors to produce and distribute work, thereby serving the public interest in the advancement and dissemination of science and art.”⁴ Each major innovation invites Congress and the courts to reexamine whether copyright protection should be afforded.⁵

The issue of copyright infringement with respect to recording devices was first considered by the Supreme Court in 1984 in *Sony Corp. of America v. Universal City Studios, Inc.* (“*Betamax*”).⁶ In *Betamax*, the

1. U.S. CONST. art. I, § 8, cl. 8.

2. Gideon Parchomovsky & Peter Siegelman, *Towards an Integrated Theory of Intellectual Property*, 88 VA. L. REV. 1455, 1465 (2002). This Note will focus strictly on the copyright aspect of intellectual property law.

3. *Id.* at 1465-66. Trademark law protects information about the source of goods and products, while patent law protects functional products, processes, and designs. *Id.* at 1465. In order to be protected by copyright law, works must be “original, minimally creative, and fixed in a tangible medium of expression.” *Id.*

Information is a non-rival or public good, meaning once the good is provided to one, it costs nothing extra for any other person to consume the good. HARVEY S. ROSEN, PUBLIC FINANCE 61 (5th ed. 1999). See *infra* notes 120-27 and accompanying text for an in-depth explanation of public goods.

4. Ben Depoorter & Francesco Parisi, *Fair Use and Copyright Protection: A Price Theory Explanation*, 21 INT’L REV. L. & ECON. 453, 454 (2002). Copyright law is “intended definitely to grant valuable, enforceable rights to authors, publishers, etc., without burdensome requirements; to afford greater encouragement to the protection of literary [or artistic] works of lasting benefit to the world.” *Mazer v. Stein*, 347 U.S. 201, 219 (1954) (internal quotation marks and citations omitted).

5. Kenneth W. Dam, *Intellectual Property in an Age of Software and Biotechnology*, in CHICAGO LECTURES IN LAW AND ECONOMICS 113 (Eric A. Posner ed., 2000).

6. 464 U.S. 417 (1984) [hereinafter *Betamax*].

Court held that sale of Betamax video tape recorders (“VTRs”), which could be used by consumers to tape copyrighted programs, was not contributory copyright infringement by the producers of the VTRs.⁷ Most significantly, the practice of time-shifting, or recording a program to view it at a later time, only to erase that program soon after, was ruled to be a legitimate and fair use of the VTR.⁸

Aside from the Court’s sound intellectual property analysis, its decision was correct under neoclassical economic theory.⁹ The copyright owner, Universal, benefited from the advertisers’ willingness to pay more for the larger audience, which was now able to watch programs shown at otherwise inconvenient times as a result of such time-shifting.¹⁰ This reasoning, however, assumes that time-shifting results merely in postponed, rather than eliminated, viewing of commercials.¹¹

Over the years since the development of the original VTR, TiVo and SonicBlue, makers of Replay TV, have each developed new recording devices called Personal Video Recorders (PVRs) that erase commercials before the viewer sees them.¹² The ability of viewers to record television programs without the accompanying advertisements now renders incorrect

7. *Id.* at 438-42. The divided Court based its decision on the fair use exception to the 1976 Copyright Act, stating that because Betamax was “capable of commercially significant noninfringing uses,” Sony’s sale of the device did not constitute contributory copyright infringement. *Id.* at 442, 456. *See also* 17 U.S.C. § 107 (2000).

8. *Betamax*, 464 U.S. at 442. *See infra* notes 76–77 and accompanying text for a discussion of the Court’s analysis of authorized and unauthorized time-shifting, both of which were found by the Court to fall under the fair use exception.

9. *See generally* EJAN MACKAAY, *ECONOMICS OF INFORMATION AND LAW* 16 (1982). Economics is generally concerned with scarcity, or the limits on the available means to influence society’s welfare. *Id.* Two important assumptions characterize, in part, the neoclassical model. *Id.* at 17. First, the model assumes that individuals are always able to judge their own welfare, and therefore rules out systems such as dictatorships in which some members decide what is best for others. *Id.* Second, the model assumes that individuals’ judgments are rational, or not dependent on the welfare of others and rules out non-rationalities, such as jealousy. *Id.* In reality, individuals’ intentions to act rationally are limited by cognitive bounds on their ability to do so. CHARLES R.T. O’KELLEY & ROBERT B. THOMPSON, *CORPORATIONS AND OTHER BUSINESS ASSOCIATIONS: CASES AND MATERIALS* 7 (3d ed. 1999). *See* MARK SEIDENFELD, *MICROECONOMIC PREDICATES TO LAW AND ECONOMICS* 5 (1996) for examples of typical assumptions that define rational individuals. One criterion for comparing the outcomes of different economic models is the notion of Pareto efficiency, a goal which is usually desirable but not always attainable. HAL R. VARIAN, *INTERMEDIATE MICROECONOMICS: A MODERN APPROACH* 15 (5th ed. 1999). Pareto efficiency, also known as “Pareto improvement” or “Pareto superiority”, is present when at least one person involved in the transaction is made better off, and more importantly, no one is made worse off. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 14 (5th ed. 1998).

10. POSNER, *supra* note 9, at 48.

11. *See generally id.*

12. Amy Harmon, *Skip-the-Ads Has Madison Ave. Upset*, N.Y. TIMES, May 23, 2002, at A1. *See also* Suzanne Kantra Kirschner, *Personal Digital Video Recorders*, POPULAR SCIENCE, Mar. 2000, at 83 for further explanation of the mechanics behind PVRs.

the assumption that time-shifting results only in postponed viewing of commercials.¹³

In October 2001, major network television studios, including ABC, NBC, CBS, Disney, and Paramount Pictures (the “studios”), collectively filed a lawsuit in California Federal District Court against SonicBlue for copyright infringement.¹⁴ The studios argued that the current version of Replay TV “would deprive them of revenue and reduce their incentive to create programming.”¹⁵ The studios complained that SonicBlue’s commercial-skipping and file-sharing features amounted to contributory copyright infringement,¹⁶ a claim similar to the one originally set forth in the *Betamax* case.¹⁷ In order to prevent the court from applying the Supreme Court’s *Betamax* ruling, the studios must prove that ReplayTV is fundamentally different from the VTR.¹⁸

Part II of this Note will examine the history of *Betamax*, as well as describe the differences between the VTR technology at issue in *Betamax* and more recent PVR technology. Using economic theory, Part III of this Note will address the Court’s holding in *Betamax*. Part IV of this Note will explain the ramifications of extending the *Betamax* holding to technology such as TiVo and ReplayTV. Finally, Part V of this Note will explain why, should the issue face the Court again, it should decline to extend the *Betamax* holding to the recent lawsuit against SonicBlue, and instead impose a compulsory license or per-unit tax on the monthly fee that customers already pay for PVR service.

13. See Harmon, *supra* note 12, at A1. Owners of PVRs see fewer than half of the commercials they saw before purchasing the PVR. *Id.* In addition, twenty percent of people who own TiVos or ReplayTVs admit to never watching any commercials. *Id.* (citing survey from NextResearch, Memphis, Tenn.).

14. Laurie J. Flynn, *Networks See Threat in New Video Recorder*, N.Y. TIMES, Nov. 5, 2001, at C4. At a related press conference, former Turner Broadcasting Chairman and CEO, Jamie Kellner, stated: “[Skipping commercials is] theft. Your contract with your network when you get the show is you’re going to watch the spots. Otherwise you couldn’t get the show on an ad-supported basis. Any time you skip a commercial . . . you’re actually stealing the programming.” Chris Sprigman, *Are Personal Video Recorders, Such As ReplayTV and TiVo, Copyright-Infringement Devices?: A Lawsuit Raising the Question May Force SonicBlue to Spy on PVR Users*, available at http://writ.news.findlaw.com/commentary/20020509_sprigman.html. See also *Paramount Pictures Corp. v. ReplayTV & SonicBlue Complaint* (Oct. 30, 2001), available at http://www.eff.org/IP/Video/Paramount_v_ReplayTV/20011031_complaint.html (Oct. 30, 2001) [hereinafter *Paramount Pictures Corp.*] for the actual complaint filed by the studios.

15. Flynn, *supra* note 14, at C4.

16. *Paramount Pictures Corp.* *supra* note 14.

17. *Universal City Studios, Inc. v. Sony Corp. of America*, 480 F. Supp. 429, 432 (D.C. Cal. 1979), *rev’d*, 659 F.2d 963 (9th Cir. 1981), *reaff’d*, 464 U.S. 417 (1984).

18. Flynn, *supra* note 14, at C4.

II. HISTORY

A. VTR Technology: Betamax

When the studios first sued Sony in 1979, the company's Betamax VTR cost between \$875 and \$1000.¹⁹ For a user to record programs off-air and play them back on a regular television set, he or she needed three components: a videotape recorder, a tuner, and a radio frequency ("RF") adapter.²⁰ All three of these devices were found in the Betamax.²¹ Because only those three components were necessary, aspiring persons could assemble their own machine to allow off-air recording and on-television play back without purchasing the Betamax.²² The sophistication of the Betamax tuner and RF adapter also allowed users to record one show while viewing another, or to record a show while not viewing television at all.²³ Recording away from home was made even easier by a timer, which could be automatically activated at a time specified by the owner.²⁴

In addition, the Betamax VTR contained two additional features: pause and fast-forward capability.²⁵ The pause feature, when used while recording, allowed a viewer to omit any segment he or she did not want included on the final recording.²⁶ Betamax's fast-forward capability allowed a viewer to skip a segment he or she did not want to watch, although the practice was subject to some guessing on the part of the viewer.²⁷ Finally, the Betamax VTR could record video camera signals,

19. *Universal City Studios*, 480 F. Supp. at 435.

20. *Id.*

21. *Id.* All three components were necessary for the process to work. *Id.* The tuner received radio frequency signals broadcast over the public airwaves and converted them from RF to video and audio signals. *Id.* The signals were then recorded on the magnetic tape of the videotape recorder. *Id.* In order to play the recording back on a regular television, the RF adapter was needed to change the audio and video signals back to RF signals. *Id.*

22. *Id.* As early as 1965, Sony manufactured and sold videotape recorders, with and without built-in RF adapters and tuners. *Id.* In addition, Sony and other manufacturers sold all three components separately, allowing persons simply to purchase all three components and build their own VTR. *Id.*

23. *Id.* Because the tuner and RF adapter were not dependent on the television set, it could record programs on one channel while the television was airing another, or while the television was off. *Id.*

24. *Id.* The timer made the practice of time-shifting easier. John Cirace, *When Does Complete Copying of Copyrighted Works for Purposes Other Than for Profit or Sale Constitute Fair Use? An Economic Analysis of the Sony Betamax and Williams & Wilkins Cases*, 28 ST. LOUIS U. L.J. 647, 668 (1984).

25. *Universal City Studios*, 480 F. Supp. at 435.

26. *Id.* Of course, the viewer would have to be present and actively viewing in order to determine when to use and stop using the pause feature. *Id.*

27. *Id.* at 435-36.

giving people the capability to watch home videos made using personal video cameras.²⁸

B. *The Betamax Case*

1. *The District Court's Ruling*

In *Universal City Studios, Inc. v. Sony Corp. of America*,²⁹ Universal Studios and Walt Disney Productions sued Sony in federal district court,³⁰ seeking injunctive and other relief for copyright infringement.³¹ Universal alleged that because individuals were using Betamax VTRs to record copyrighted works,³² Sony's manufacture of the devices constituted contributory copyright infringement³³ under the Copyright Act of 1976.³⁴ Among the studios' greatest concerns were the consequences of time-shifting, a practice by which viewers record a program to view it at a later time, and subsequently erase it.³⁵ The studios predicted that VTR owners

28. *Id.* at 436. *See also* Cirace, *supra* note 24, at 668. This use clearly did not constitute a copyright infringement. *Id.*

29. *Id.* at 429.

30. The district court's jurisdiction arose under 28 U.S.C. § 1331, which allows federal courts "original jurisdiction of all civil actions arising under the . . . laws . . . of the United States." 28 U.S.C. § 1331 (2000). The studios alleged a violation of the Copyright Act of 1976. *Universal City Studios*, 480 F. Supp. at 432; *See also infra* note 34.

31. *Universal City Studios*, 480 F. Supp. at 432. In addition to suing Sony for its manufacture of VTRs, the studios also sued several retail stores, an advertising agency, and an individual. *Id.* The retail stores were sued on the theory that they made several copies while demonstrating VTRs to customers. *Id.* at 432. The advertising agency promoted the Betamax product by encouraging buyers to "record favorite shows" and "build a library" without warning that recording copyrighted shows was copyright infringement. *Id.* at 436.

32. One of these individuals, William Griffiths, was also a named party in the studios' suit. *Id.* at 432.

33. *Id.* at 441-42. The studios alleged that Sony was vicariously liable not only for the manufacture of the Betamax VTRs, but also for the distribution, advertisement, and sale of the devices. *Id.*

34. 17 U.S.C. § 106 (2000) ("Section 106"). The relevant portion of the statute states: "Subject to sections 107 through 121, the owner of a copyright under this title has the exclusive rights to do and to authorize any of the following: (1) to reproduce the copyrighted work in copies . . ." *Id.* at § 106(1). The federal court's subject matter jurisdiction was premised on the Copyright Act of 1976. *See supra* note 30. The Copyright Act of 1976 replaced the Copyright Act of 1909, referred to as the "New Act" and the "Old Act" respectively by the Supreme Court in *Betamax*. *Universal City Studios*, 480 F. Supp. at 442. According to the court, the case would have been resolved in favor of Sony regardless of whether the Old or New Act was applied because home-use copying is fair use under both acts. *Id.* *See also infra* notes 42, 45 & 79 and accompanying text for further discussion of fair use.

35. *Universal City Studios*, 480 F. Supp. at 466. The studios foresaw four specific negative consequences of time-shifting:

- (1) a decrease in the size of a live audience at the time of telecast; (2) a loss to live television or other [studio]-sponsored entertainment at the time of viewing the copy; (3) a loss to the rerun audience; and (4) a loss to theater or film exhibition of the same program.

would use either the pause feature to delete the commercials during recording or the fast-forward feature to pass commercials during their viewing of the taped material.³⁶ This alteration of viewer behavior, the studios feared, would cause advertisers to pay less for advertising space.³⁷ The studios predicted that the greatest harm would result from home-use recording,³⁸ and accordingly asked the court to enjoin Sony from further copyright infringement.³⁹

Analyzing the legislative intent of the Copyright Act of 1976,⁴⁰ with a focus on home-use recording,⁴¹ the court found that home-use recording

Id. The court responded to each of the studio's arguments by declaring: (1) Nielsen Ratings had developed technology to measure when a VTR was recording a program, thus allowing VTR owners to be measured as part of the live audience; (2) the plaintiffs provided no evidence to support the assumption that VTR owners view recordings when they would otherwise be watching live television or going to a theater, resulting in time-shifting rearranging, not replacing, hours viewers would be watching television; (3) the plaintiffs offered no evidence to show that the only viewers who watched reruns were people who had never before seen the program, and in fact, marketing practices at the time showed that copyright holders were able to command high rates for rights to reruns; and (4) the expense of maintaining a library plus the advantages of purchasing and/or renting prerecorded recordings outweighed the benefits to librarying movies on television, specifically because prerecorded videos were not edited for television and contained no commercials. *Id.* at 466-67.

36. *Id.* at 468. See *infra* note 40 and accompanying text for a discussion of the district court's response to the studios' arguments.

37. *Id.*

38. See *Universal City Studios*, 480 F. Supp. at 465. The court defined "home-use recording" as "the operation of the [recording device] in a private home to record a program for subsequent home viewing." *Id.* at 442. The court specifically examined four examples of home-use recording: (1) recording programs off-air but never viewing the copies; (2) time-shifting, recording programs off-air, viewing, and later erasing the copy; (3) librarying, or recording programs and saving the copy for multiple viewings; and (4) avoiding commercials either by using the pause feature during recording or by fast-forwarding during playback. *Id.* at 465.

39. *Id.* at 443.

40. *Id.* at 443-46. Legislative history clearly showed that the Copyright Act of 1976 was not intended to prohibit recording for private home use. See H. REP. NO. 92-487, at 7 (1971), reprinted in 1971 U.S.C.C.A.N. 1566, 1572. For example, a House Report regarding the New Act stated:

[I]t is not the intention of the Committee to restrain the home recording, from broadcasts or from tapes or records, of recorded performances, where the home recording is for private use and with no purpose of reproducing or otherwise capitalizing commercially on it. This practice is common and unrestrained today, and the record producers and performers would be in no different position from that of owners of copyright in recorded musical compositions over the past 20 years.

Id. In addition, concerns about the enforceability of prohibiting home-use recording surfaced in later House Subcommittee hearings, in which the Assistant Register of Copyrights stated that she did "not see anybody going into anyone's home and preventing [home-use recording], or forcing legislation that would engineer a piece of equipment not to allow home taping," although she conceded the problem of "unauthorized video recordings finding their way into the market." *Prohibiting Piracy of Sound Recordings Hearing Before the Subcomm. No. 3 on the Judiciary*, 92d Cong. 22-23 (1971) (statement of Barbara Ringer, Assistant Register of Copyrights).

41. *Universal City Studios*, 480 F. Supp. at 442. The court first considered the issue of home-use recording because the plaintiffs alleged that it was the source of the greatest harm. *Id.*

constituted fair use under section 107 of the Copyright Act of 1976, 17 U.S.C. § 107 (“Section 107”),⁴² and therefore was not copyright infringement.⁴³ Although technically forbidden by copyright law, a fair use (e.g., reproduction of copyrighted works for news reporting, teaching, or research) is not considered copyright infringement.⁴⁴ The applicability of fair use has been analyzed using four factor: harm, the nature of the material, purpose of use, and substantiality.⁴⁵ The district court analyzed each factor,⁴⁶ and found that although “Betamax and other technological advances [would] undoubtedly change the industry and introduce new considerations into plaintiff’s marketing considerations,”⁴⁷ the harm

42. *Id.* at 446. Courts have described “fair use” as creating “a privilege in others than the owner of a copyright to use the copyrighted material in a reasonable manner without his consent, notwithstanding the monopoly granted to the owner.” *Id.* (quoting *Rosemont Enters., Inc. v. Random House, Inc.*, 366 F.2d 303, 306 (2d Cir. 1966) quoting BALL, COPYRIGHT AND LITERACY PROPERTY 260 (1966)). The Supreme Court has defined “fair use” as a privilege “to use the copyrighted material in a reasonable manner without [the copyright owner’s] consent.” *Harper & Row Publishers, Inc. v. Nations Enters.*, 471 U.S. 539, 549 (1985) (quoting H. Ball, *Law of Copyright and Literary Property* 260 (1944)). “[C]ertain unauthorized but ‘fair’ uses of copyrighted material do not constitute copyright infringement.” See *Ass’n of Am. Med. Colls. v. Cuomo*, 928 F.2d 519, 523 (2d Cir. 1991) (internal citations omitted). Ultimately, the doctrine of fair use was codified by Congress in the Copyright Act of 1976, 17 U.S.C. § 107 (2000). For the text of § 107, see *infra* note 45 and accompanying text.

43. *Universal City Studios*, 480 F. Supp. at 456.

44. *Depoorter & Parisi*, *supra* note 4, at 455. See *infra* note 45 and accompanying text for factors considered in determining what constitutes a fair use.

45. 17 U.S.C. § 107. The statute states, in relevant part:

[T]he fair use of a copyrighted work . . . is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—

- (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.

Id. One concern regarding the statute is that the list of factors is neither exclusive nor required, and offers no guidance as to the relative weight of each factor. 3 MELVILLE B. NIMMER AND DAVID NIMMER, *NIMMER ON COPYRIGHT* § 13.05(A), at 13-151 to -154 (2003).

46. See generally *Universal City Studios*, 480 F. Supp. at 452-55. See *infra* note 52 and accompanying text for a more detailed analysis of the court’s substantiality analysis. Other courts have performed similarly detailed analyses of the four factors listed in section 107. See, e.g., *Basic Books, Inc. v. Kinko’s Graphics Corp.*, 758 F. Supp. 1522, 1530-35 (S.D.N.Y. 1991); *Harper & Row Publishers*, 471 U.S. at 560-69. See generally Michael G. Anderson & Paul F. Brown, *The Economics Behind Copyright Fair Use: A Principled and Predictable Body of Law*, 24 LOY. U. CHI. L.J. 143 (1993) for an in-depth analysis of the *Kinko’s* decision. See also *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578-94 (1994) (considering the four factors of Section 107 in holding that commercial character of song parody did not create presumption against fair use).

47. *Universal City Studios*, 480 F. Supp. at 452.

suffered by the studios was not outcome-determinative.⁴⁸ Specifically to the nature of the recorded material, the court reasoned that characterization of television as “entertainment” rather than “scientific” or “educational” did not automatically constitute copyright infringement through unauthorized recording.⁴⁹ Moreover, the court acknowledged a significant difference between copyright holders who receive payment directly from users and television studios and broadcasters who are paid according to advertising revenue.⁵⁰ In addition, the court supported the facilitation of disseminating public information as a legitimate purpose for non-commercial home-use recording of television programs.⁵¹ Finally, although home-use recording usually involves recording an entire program, the substantiality of the recording, when balanced with the other three factors, did not convince the court that home-use recording constituted copyright infringement.⁵² The district court concluded, *inter*

48. *Id.* See also *Williams & Wilkins Co. v. U.S.*, 487 F.2d 1345, 1359 (1973), *aff'd by an equally divided Court*, 420 U.S. 376 (1975) (holding that photocopying of medical journals by a medical research organization did not constitute copyright infringement, because the plaintiff “failed to prove its assumption of economic detriment, in the past or potentially for the future”).

49. *Universal City Studios*, 480 F. Supp. at 452-53.

50. *Id.* at 453. The district court found that copyright owners in the television industry are distinct from other copyright holders who receive payment directly from their viewers or readers, stating:

[H]olders of copyrights for television programs are not paid directly by those who ultimately enjoy the publication of the material—that is, the television viewers—but by advertisers who use the drawing power of the copyrighted material to promote their goods and services. Such advertisers typically pay the broadcasters a fee for each transmission of an advertisement based on an estimate of the expected number and characteristics of the viewers who will watch the program. While, as members of the general public, the viewers indirectly pay for the privilege of viewing copyrighted material through increased prices for the goods and services of the advertisers, they are not involved in a direct economic relationship with the copyright holders or their licensees.

Id. at 453 (quoting *Teleprompter Corp. v. Columbia Broad. Sys., Inc.*, 415 U.S. 394, 411-12 (1974)). The district court similarly considered the studios’ fears that the VTR’s pause and fast-forward features would alter viewer behavior, decreasing advertisers’ willingness to pay for advertising. *Universal City Studios*, 480 F. Supp. at 468. The district court, however, noted that in order to delete the commercials while recording, viewers have to watch them. *Id.* In addition, using the fast-forward feature to skip commercials while viewing may prove to be too tedious a task for most recordings. *Id.* The court found that ninety-two percent of recorded programs were recorded with commercials and only twenty-five percent of VTR owners fast-forwarded through them. *Id.*

51. *Id.* at 452-54. The district court looked at the purpose of recordings, asking whether the material is “used for criticism, research or other independent work.” *Id.* at 453. The court determined the purpose of home-use was to increase viewer access to broadcasted materials, which was “consistent with the First Amendment policy of providing the fullest possible access to information through the public airwaves.” *Id.* at 454 (citing *Columbia Broad. Sys., Inc. v. Democratic Nat’l Comm.*, 412 U.S. 94, 102 (1973)). Again, the court noted the infeasibility of enforcing a prohibition of home-use recording. *Id.*

52. *Id.* at 454. In general, the fair use defense is more likely to be available the less substantial the taking from the copyrighted work. *Id.* The court found that although home-use recording usually

alia, that both VTR owners and copyright holders derive benefits from the time-shifting ability of the device.⁵³ So finding, the district court entered judgment for Sony.⁵⁴

2. *The Court of Appeal's Ruling*

On appeal, the Ninth Circuit Court of Appeals reversed the district court's judgment and held Sony liable for contributory copyright infringement.⁵⁵ Specifically, the Ninth Circuit ruled that the fair use doctrine did not sanction home-use recording with VTRs.⁵⁶ The court engaged in an analysis similar to that of the district court of the four factors listed in section 107.⁵⁷ Ultimately, the judges decided that manufacture of VTR devices did not constitute fair use regarding each factor.⁵⁸ According to the Ninth Circuit, the district court relied on

involved recording the entire work, the fair use defense was not necessarily defeated, depending on the balance between all four factors. *Id.*

53. *Id.* at 467. Use of VTRs to time-shift results in a benefit to the studios, broadcasters, and advertisers, in that the VTR allows for more people to view broadcasts. *Id.* But see Midge M. Hyman, *The Socialization of Copyright: The Increased Use of Compulsory Licenses*, 4 CARDOZO ARTS & ENT. L.J. 105, 130 (1985) (arguing that although a VTR "presents a smorgasbord of options to the viewer, it is poison to the copyright owner whose work is continuously being exploited without compensation for the copying of his creation").

54. *Universal City Studios*, 480 F. Supp. at 456. Finding that home-use recording did not constitute copyright infringement, the district court concluded that even if infringement did occur, plaintiffs offered "no concrete evidence to suggest that the Betamax will change the studios' financial picture." *Id.* at 469.

55. *Universal City Studios, Inc. v. Sony Corp. of America*, 659 F.2d 963, 977 (9th Cir. 1981) [hereinafter *Universal II*].

56. *Id.* at 971. *Compare Williams & Wilkins Co.*, 487 F.2d 1345, 1354 (1973) (finding that medical science would suffer serious harm if copying medical and scientific journals constituted copyright infringement) with *Universal II*, 659 F.2d at 971 (stating that no comparable harm to society existed in prohibiting home-use videorecording).

57. *Universal II*, 659 F.2d at 972-74. See *supra* note 45 and text accompanying for a description of the four factors of section 107.

58. *Id.* at 972-74. See *supra* note 45 and accompanying text for the relevant text of section 107.

The court of appeals disagreed with the district court's analysis of harm to the studios. *Id.* at 973. See *supra* note 48 and accompanying text. The court of appeals determined that the district court was both overly strict in its requirement of the studios' showing of actual harm and not sympathetic to the difficulty of proving harm from infringement. *Universal II*, 659 F.2d at 974. The circuit court's analysis of the second factor—the nature of the protected works—served as an inquiry of whether increased access to the works "would serve the public interest in the free dissemination of information." *Id.* at 972 (quoting *Rosemont Enters., Inc. v. Random House, Inc.*, 366 F.2d 303, 307 (2d Civ. 1966)). See also *supra* notes 49 and 50 and accompanying text. The court stated that the defense of fair use is less likely to be available to those copying entertainment. *Universal II*, 659 F.2d at 972.

Analyzing the purpose of the home-use recordings, the court noted that the recording of entertainment programs for convenience did not fall within the non-profit educational use protected by section 107, emphasizing that "[t]he fact that the 'infringing' activity takes places in the homes does not warrant a blanket exemption from any liability." *Id.* (emphasis in originals). See also *supra* note 51

“distortions” in *Williams & Wilkins Co. v. U.S.*⁵⁹ to justify its application of the fair use doctrine.⁶⁰ The *Williams & Wilkins* Court treated copies made for intrinsic or “ordinary” purposes as falling within the scope of fair use.⁶¹ The Ninth Circuit disagreed, stating that fair use should deal only with cases in which a “second author” uses the work of a “first author,” not cases that involved merely ordinary use.⁶² The court posited that ordinary use, such as photocopying and videorecording, should not fall within common law fair use, but instead should be specifically exempted by Congress.⁶³ Disagreeing completely with the district court, the Ninth Circuit remanded the case to the district court for the determination of the appropriate relief.⁶⁴ In so doing, however, the Ninth Circuit suggested that a compulsory license, or continuing royalties, may be an appropriate remedy if great public injury would result from an injunction.⁶⁵ Although

and accompanying text for a discussion of the district court’s analysis of the same factor.

Finally, the court of appeals focused on the substantiality of the recording. *Universal II*, 659 F.2d at 973. See also *supra* note 52 and accompanying text. The court stated that appropriation of the property interest of a copyright holder without his consent is impermissible, relying on its own opinion in a prior case: “While other factors in the fair use calculus may not be sufficient by themselves to preclude the fair use defense, this and other courts have accepted the traditional American rule that excessive copying precludes fair use.” *Universal II*, 659 F.2d at 973 (quoting *Walt Disney Productions v. Air Pirates*, 581 F.2d 751, 758 (9th Cir. 1978)).

59. 487 F.2d at 1359. The Ninth Circuit described *Williams & Wilkins Co.* as “appropriately regarded as the ‘Dred Scott decision of copyright law.’” *Universal II*, 659 F.2d at 970 (internal citations omitted). See *infra* note 60 and accompanying text for a description of the “distortions” listed by the Ninth Circuit.

60. *Id.* at 970. The court considered that the district court’s application of the doctrine “stretch[ed] fair use beyond recognition and undermin[e]d our traditional reliance on the economic incentives provided to authors by the copyright scheme.” *Id.* The “distortions” to which the court of appeals pointed included the district court’s extension of the doctrine to apply to “ordinary use.” 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, 1652 (1982).

61. *Williams & Wilkins*, 487 F.2d at 1350-53.

62. *Universal II*, 659 F.2d at 970 (quoting LEON SELTZER, EXEMPTIONS AND FAIR USE IN COPYRIGHT: THE EXCLUSIVE RIGHTS TENSIONS IN THE 1976 COPYRIGHT ACT 24 (1978)).

63. *Id.* at 971. See also Gordon, *supra* note 60, at 1652.

64. *Universal II*, 659 F.2d at 976. The court of appeals gave the district court latitude in deciding whether statutory damages under 17 U.S.C. § 504(c) were appropriate, but urged the district court to reconsider permanent injunctive relief against the infringers, and also suggested that a continuing royalty (a compulsory license) may be appropriate. *Id.* See *infra* note 65 for cases after *Universal II* was overturned in which the Ninth Circuit has continued to treat continuing royalties as an appropriate remedy.

65. *Universal II*, 659 F.2d at 976. When great public injury could result from a complete injunction, the Ninth Circuit opined that a continuing royalty “very well may be an acceptable resolution in this context.” *Id.*

When determining the appropriate remedy for copyright infringement, the Ninth Circuit consistently looks to whether a complete injunction will result in great public injury. See, e.g., *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1028-29 (9th Cir. 2001) (holding that compulsory licensing was not appropriate because no great public injury would result from a complete injunction from distribution of copyrighted works); *Abend v. MCA, Inc.* 863 F.2d 1465, 1479 (9th Cir. 1988)

the Ninth Circuit's ruling was eventually overturned,⁶⁶ the Supreme Court stopped at the issue of liability, and therefore did not approach the issue of appropriate remedy.⁶⁷ As a result, the Ninth Circuit's determination that continuing royalties may be an appropriate remedy for copyright infringement under certain circumstances is still good law.⁶⁸

3. *The Supreme Court*

a. *The Majority*

In 1984, Sony appealed to the United States Supreme Court in *Sony Corp. of America v. Universal City Studios, Inc.*⁶⁹ In reversing the Ninth Circuit's decision, the Court emphasized that the primary use of VTRs is time-shifting, by which viewers record a program to view it at a later time, before finally erasing it.⁷⁰ The Court noted that the studios offered no evidence to show that Betamax owners had decreased their television viewing.⁷¹ On the contrary, evidence showed that the practice of time-shifting actually enlarged the viewing audience.⁷² The Supreme Court considered the issue of whether the VTR was capable of "commercially

(holding that a complete injunction preventing the re-release of a film to theaters against the wishes of the copyright holder of the original story, and thus depriving society of the chance to see the film, would result in great injustice).

66. *Betamax*, 464 U.S. 417, 456 (1984).

67. *Id.*

68. After *Universal II*, in response the Supreme Court's *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151 (1975), Congress proposed the Home Recording Act of 1983. Hyman, *supra* note 53, at 132. Under the Home Recording Act, individuals recording a copyrighted work for private use would be exempt from liability. *Id.* In exchange for the fair use exception, manufacturers of blank tapes and VTRs would be required to pay a royalty to the copyright owners. *Id.* Various problems, such as the difficulty of setting accurate royalty rates that reflected the VTR market, kept the legislation from passing, but a colorable argument still exists that a compulsory licensing scheme would reduce transaction costs such as identification, information, and time costs. *Id.* at 132, 134-35. In addition, private negotiations between copyright holders and users would be encouraged because the licensing scheme would balance the comparative bargaining powers of each party. *Id.* at 133-35.

69. *Betamax*, 464 U.S. at 423.

70. *Id.* at 423. Generally, time-shifting is practiced by viewers unable to watch programs when they are shown because they are not at home, are otherwise occupied, or are watching another program at the same time. *Id.*

71. *Id.* at 424.

72. *Id.* at 421. See William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUDIES 325, 331 (1989) (proposing that authors may derive substantially more benefits from publication than from mere royalties).

A parallel situation in which the copyright holder derives benefits from what would otherwise be termed "copyright infringement" is found in book reviews. See, e.g., *Ty, Inc. v. Publ'ns Int'l Ltd.*, 292 F.3d 512, 518-19 (7th Cir. 2002). See *infra* note 139 and accompanying text for a further explanation of how consumer demand for copyrighted books is actually increased by the publication of book reviews.

significant non-infringing uses,”⁷³ a category in which time-shifting is included.⁷⁴ Focusing on time-shifting and the fair use doctrine, the Court found that the studios did not prove that the use of VTRs to record copyrighted programs impaired the commercial value of the copyrights or created any likelihood of future harm.⁷⁵ Among the permitted uses of the VTR considered by the Court were both authorized⁷⁶ and unauthorized⁷⁷ time-shifting for private use in homes.⁷⁸ Like both the district court and the Ninth Circuit, the Court considered the harm, the nature of the material, purpose of use, and substantiality.⁷⁹ The Court ultimately determined that the prohibition of non-infringing uses would result in a restriction of access to public ideas without any comparable benefit.⁸⁰ Accordingly, the Court held that Sony’s marketing of the Betamax was not

73. *Betamax*, 464 U.S. at 442.

74. *Id.* In so concluding, the Court declined to explore whether each possible VTR use constituted infringement, instead focusing only on whether a “significant number of them would be non-infringing.” *Id.* In fact, the Court declined to discuss quantitatively the precise amount of use that is commercially significant. *Id.* Most significant to the Court was the fact that even unauthorized private, non-commercial home-use time-shifting was non-infringing. *Id.*

75. *Id.* at 421, 456.

76. *See generally id.* at 443-47. Evidence presented regarding authorized uses included programs that could be recorded without objection from the copyright holder, such as sports events or religious and educational programs. *Id.* at 424, 444. Representatives from professional baseball, basketball, football and hockey testified before the Court that they did not object to home-use recording of televised games. *Id.* at 444.

77. *See generally id.* at 447-55. “Even unauthorized uses of a copyrighted work are not necessarily infringing. An unlicensed use of the copyright is not an infringement unless it conflicts with one of the specific exclusive rights conferred by the copyright statute.” *Id.* at 447 (citing *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 154-55 (1975)). In order to determine whether the copying in the *Betamax* case constituted infringement, the Court analyzed the four factors of Section 107. *Betamax*, 464 U.S. at 448-51.

78. *Id.* at 442. Nevertheless, the Court found that home-use recording for purposes of time-shifting, but not librarying, constituted fair use. *See id.* at 449. *See also* ROBERT COOTER & THOMAS ULEN, *LAW & ECONOMICS* 135 (3d ed. 2000).

79. *Betamax*, 464 U.S. at 448-51. Focusing most intently on harm to the copyright holder, the Court recognized that, although the purpose of copyright protection is to encourage creative efforts, an unauthorized use that results in no harm to the copyright holder does not need to be prohibited in order to encourage such efforts. *Id.* at 450.

The Supreme Court also referred to the district court’s determination that home-use recording was in accordance with the First Amendment policy of full dissemination of public information in its opinions. *Id.* at 425-26. This decision has been seen as representative of the tension between the first amendment and copyright law. *See* Richard K. Berger, Comment, *Betamax Meets the Supreme Court: A Judicial Disappointment*, 20 NEW ENG. L. REV. 285, 307-08 (1985) (predicting that “[b]alancing copyright against the first amendment will produce an erosion of copyright itself”). Berger further argues that although copyright protection gives authors incentives to create, the first amendment will “snatch away” the benefit by denying authors the right to control his or her own work, making copyright “nothing more than a broken promise.” *Id.* at 308-09. *See id.* at 307-08 n.224 for cases in which courts have attempted to square the first amendment with copyright protection.

80. *Betamax*, 464 U.S. at 450-51.

contributory copyright infringement, and reversed the decision of the Ninth Circuit.⁸¹

b. The Dissent

Four justices, however, disagreed with the majority.⁸² First, the dissent, unlike both the district court and the majority, found no implied exemption in the Copyright Act of 1976 for home-use recordings.⁸³ Based on this finding,⁸⁴ the dissent analyzed the issue in the context of the fair use doctrine.⁸⁵ Defending the application of the doctrine in specific circumstances,⁸⁶ Justice Blackmun explained the difference between the “scholar,” or productive user, and the “ordinary user.”⁸⁷ For example, the dissent considered the two risks of the copyright system: reducing authors’ incentives to create by depriving them of their monopolies, and reducing other authors’ incentives to create by granting one author a complete monopoly.⁸⁸ These considerations led to the conclusion that home-use

81. *Id.* at 456.

82. *Id.* at 457-500 (Blackmun, J., dissenting). Justice Blackmun penned the dissenting opinion, in which Justices Marshall, Powell, and Rehnquist joined. *Id.* at 457.

83. *Id.* at 475. Blackmun first examined section 106 to determine whether Sony’s actions constituted violation of the Copyright Act of 1976. *Id.* at 468-69, 474.

84. *Id.* at 475. Justice Blackmun recognized that the legislative history considered by the district court was in fact history of the 1971 Amendment to the “Old Act,” the Copyright Act of 1909, which in fact specifically addressed the problem of commercial piracy of sound recordings. *Id.* at 470. Unlike House committee reports on the 1971 amendment to the Old Act, reports on the 1976 act contained no exception for home-use recording. *See generally id.* at 470-74.

85. *Id.* at 475.

86. *Id.* at 477-79. Blackmun provided one example where strict copyright enforcement would inhibit creative progress: “the researcher or scholar whose own work depends on the ability to refer to and to quote the work of prior scholars.” *Id.* at 477.

87. *Id.*

Where the ordinary user decides that the owner’s price is too high, and forgoes use of the work, only the individual is the loser. When the scholar forgoes the use of a prior work, not only does his own work suffer, but the public is deprived of his contribution to knowledge. The scholar’s work, in other words, produces external benefits from which everyone profits. In such a case, the fair use doctrine acts as a form of subsidy—albeit at the first author’s expense—to permit the second author to make limited use of the first author’s work for the public good.

Id. at 477-78. *See also* Gordon, *supra* note 60, at 1630-32 for further discussion of the effect of externalities on the market for new technology. *See also infra* notes 154-60 and accompanying text discussing market externalities.

88. *Betamax*, 464 U.S. at 479. Blackmun pointed to the words of Lord Mansfield in *Sayre v. Moore*:

[W]e must take care to guard against two extremes equally prejudicial; the one, that men of ability, who have employed their time for the service of the community, may not be deprived of their just merits, and the reward of their ingenuity and labour; the other, that the world may not be deprived of improvements, nor the progress of the arts be retarded.

videorecording was an ordinary, rather than a productive, use of the copyrighted programs because no public benefit justified limiting the rights given to copyright holders under section 106.⁸⁹ Finally, Blackmun analyzed time-shifting in the context of the four factors of the statute discussed by each lower court.⁹⁰ With respect to harm, Blackmun argued that the majority failed to consider the effect of time-shifting on the new post-VTR market.⁹¹ The new market consisting of persons purchasing VTRs to time-shift produced a benefit that should have been conferred on the studios, but instead was going to Sony.⁹² According to Blackmun, the studios could prove harm by showing that copyright value would increase if they were compensated for each copy used to time-shift.⁹³ Accordingly, the dissent concluded that time-shifting was not fair use under section 107.⁹⁴

As to the appropriate remedy, the dissent concurred with the Ninth Circuit's determination that "continuing royalties" would be an appropriate means of balancing equities.⁹⁵ Furthermore, Blackmun stated that other nations imposed compensatory royalties on manufacturers of devices used to infringe copyrights.⁹⁶ Finally, Blackmun implied that the majority was not staying true to traditional copyright principles, and suggested that Court might be attempting to "avoid difficult problems by refusing to apply the law."⁹⁷

Id. at 479-80 n.33 (quoting *Sayre v. Moore* as set forth in *Cary v. Longman*, 1 East 361 n.(b), 102 Eng. Rep. 139, 140 n.(b) (K.B. 1785)). The common law fair use doctrine developed as a result of the courts' conflict in balancing the two extremes. Vincent F. Aiello, Note, *Educating Sony: Requiem for a "Fair Use"*, 22 CAL. W. L. REV. 159, 159 (1985).

89. *Betamax*, 464 U.S. at 480. Blackmun did, however, recognize the application of the fair use doctrine in truly de minimis cases, for example, photocopying a newspaper clipping to send to another, or pinning a quotation on a bulletin board. *Id.* at 481-82. In such cases, although the unproductive use provided no public benefit, neither did limiting the use. *Id.*

90. *Id.* at 496-99.

91. *Id.* at 497-98. According to Blackmun, the majority mistakenly focused on the effect of time-shifting in the present market. *Id.* Indeed, the market that should have been considered included persons who purchased VTRs specifically to time-shift. *Id.* at 498.

In addition to harm, Blackmun discussed the other three factors of section 107: purpose of use, nature of the copyrighted work, and substantiality of the portion. *Id.* at 496-97.

92. *Id.* at 498. Sony received the benefit through *Betamax* sales. *Id.*

93. *Id.*

94. *Id.* at 499.

95. *Id.*

96. *Id.* at 499 n.51 (citing Austria and Germany as examples of European countries that impose royalties as penalties for copyright infringement).

97. *Id.* at 500. Blackmun stated there "can be no really satisfactory solution to the problem presented here, until Congress acts" to amend the copyright laws to apply to situations such as the one faced in *Betamax*. *Id.* (quoting *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 167 (1976) (Burger, Chief J., dissenting)).

C. PVR Technology (TiVo, ReplayTV) Compared with VTR Technology

Like the VTR, the personal video recorder (PVR),⁹⁸ such as TiVo or ReplayTV, can also be used for time-shifting.⁹⁹ PVRs, however, drastically differ from VTRs in certain critical respects. Differences include the use of digital hard drives (computer memory) instead of videotape,¹⁰⁰ the ease of such use,¹⁰¹ the ability to connect to the internet,¹⁰² ability to skip commercials,¹⁰³ and an unprecedented control over real-time television.¹⁰⁴ The biggest concerns to advertisers is the PVR viewers' ability to skip commercials.¹⁰⁵ ReplayTV provides owners with two methods to omit commercials: "Commercial Advance" and "Quick Skip."¹⁰⁶ "Quick Skip" can be used to jump manually over unwanted commercials in thirty second increments.¹⁰⁷ In contrast, "Commercial Advance" allows owners to skip commercials completely during playback.¹⁰⁸ As a result of the increasing ease of this new technology, one in five people who own a PVR say they never watch any commercials.¹⁰⁹ This statistic shows a significant change from the ninety-six percent of

98. James Poniewozik, *Here Come PVRs: Is Network Doomed?*, TIME, Sept. 27, 1999, at 62. PVRs can also be called "digital video recorders" (DVRs) or "personal TV." *Id.*

99. Matthew W. Bower, Note, *Replaying the Betamax Case for the New Digital VCRs: Introducing TiVo to Fair Use*, 20 CARDOZO ARTS & ENT. L.J. 417, 422-23 (2002).

100. *Id.* at 422.

101. *See id.*

102. Sonic Blue: ReplayTV 4500 Features, available at http://www.sonicblue.com/video/replaytv/replaytv_4000_features.asp. [hereinafter "Repay TV 4500 Features"] With this built-in Internet technology, one ReplayTV owner can send and receive recorded programs to another. *Id.* In addition, a ReplayTV owner with more than one device in the household can record a program on one PVR, while watching it on any other PVR in the house. *Id.* See also Laurie J. Flynn, *supra* note 14, at C4.

103. Bower, *supra* note 99, at 423. Viewers' ability to omit commercials has led to warnings that PVRs such as TiVo and ReplayTV are the "Trojan horse that will end network television and TV advertising, and even mass culture itself." Rob Walker, *Who's Afraid of TiVo? The Myth of Destructive Extrapolation*, FORTUNE, Oct. 16, 2000, at 396.

104. Bower, *supra* note 99, at 422-23. PVR owners watching live television can pause the program they are watching, leave the room, and return to where they left off, at their convenience. *Id.* In addition, owners are able to create their own instant replays because the PVR is constantly recording. *Id.* "The sports fan is no longer at the mercy of some network executive who prefers to show a replay of Minnesota receiver Randy Moss's touchdown after the commercial break." *Id.* (citing Michael Lewis, *Boom Box*, N.Y. TIMES, Aug. 13, 2000, § 6 (Magazine), at 6).

105. Bower, *supra* note 99, at 423.

106. ReplayTV 4500 Features, *supra* note 102,

107. *Id.*

108. *Id.* Although actual results vary by quality of television reception and nature of the program, studies showed that approximately ninety-six percent of commercials were eliminated. *Id.*

109. Harmon, *supra* note 12, at A1.

Betamax users who recorded commercials even though the device had the capability to pause and fast-forward through them.¹¹⁰

While the cost of ReplayTV ranges from \$300 and \$1000 per unit,¹¹¹ a TiVo unit only costs between \$199 and \$299 for the unit.¹¹² Aside from the TiVo unit, however, users must pay either a \$12.95 monthly or a \$249 lifetime fee.¹¹³ The monthly fee charged by TiVo provides for services including the “Season Pass,” which automatically finds and records every episode of a specified television show all season long, even taking into account schedule changes;¹¹⁴ the “Wish List,” which finds and records programs featuring the viewer’s favorite actor, director, team, or topic;¹¹⁵ “Smart Recording,” which, based on viewer preferences and program history, suggests other programs to record;¹¹⁶ and “Showcases,” original TiVo entertainment.¹¹⁷

III. ECONOMIC ANALYSIS

A. Basic Economic Principles Underlying Intellectual Property Protection

Copyright law is predicated on economic principles.¹¹⁸ Economic theory can therefore be used to explain certain phenomena that occur in the intellectual property context. For example, innovation is information, a “public goods” problem arises with these products (PVRs) as television programs are costly to produce but are easy to copy.¹¹⁹ A public good can

110. *Id.* See *supra* note 50 and accompanying text for the district court findings in *Universal City Studios* findings of the percentage of people who watched commercials in 1979.

111. ReplayTV 4500 Features, *supra* note 102.

112. Buy TiVo, available at <http://www.tivo.com/2.0.asp>. [hereinafter “Buy TiVo”]. *Id.*

113. See also Christine Y. Chen, *TiVo is Smart TV (But Brains Aren’t Everything)*, FORTUNE, Mar. 19, 2001, at 124, 128 (stating that evidence exists that electronic devices do not usually gain mass appeal until their cost is less than \$300). Chen suggested that TiVo would have to lower its price drastically (then \$399) before it could gain mass appeal. *Id.* Certain TiVo models now fall under the \$300 line. Buy TiVo, *supra*.

114. TiVo Service, *supra* note 113.

115. *Id.* Similarly, PVRs have a built-in channel guide, allowing the user to record a show without even knowing when and on what channel it is being shown. Lev Grossman, *Play it Again, Lev*, TIME, Nov. 20, 2000, at 160.

116. TiVo Service, *supra* note 113.

117. *Id.*

118. Berger, *supra* note 79, at 285. Proof of copyright’s economic basis is found in the *Betamax* holding, in which the majority stated that “[c]opyright ‘is intended to motivate the creative activity of authors and inventors by the provision of a special reward’” *Id.* at 285 n.4 (quoting *Betamax*, 464 U.S. 417, 429 (1984) (emphasis added)). Copyright law is based on the American system of economic-based rights, as opposed to the European system of moral rights. *Id.*

119. Dam, *supra* note 5, at 114. Expressive works contain information, the “quintessential public good.” Parchomovsky & Siegelman, *supra* note 2, at 1466-67. As with all public goods, the original

be defined by two characteristics: non-rivalry in consumption and non-excludability of benefits.¹²⁰ The public goods problem begins when copiers are able to copy works without incurring the initial costs of producing them.¹²¹ Unauthorized production of the information drives down the market price to equal the cost of copying.¹²² The cost of producing the work generally consists of the author's time and effort, in addition to the publisher's costs of solicitation, editing, and typesetting.¹²³ Usually, these publisher's costs are referred to as the "cost of expression."¹²⁴ Allowing works to be copied at little or no cost results in competition.¹²⁵ As a result, the author is neither able to receive the benefits of his or her labor nor recoup his or her costs in producing the work.¹²⁶ The author is also discouraged from future innovations for fear of lost profits.¹²⁷

On the other hand, the practice of pricing copies at the author's marginal cost of expression may discourage others from copying.¹²⁸ Such a situation ultimately discourages authors from creating works because

cost of producing the work is high, while the cost of reproducing the work is low. Landes & Posner, *supra* note 72, at 326. See *infra* notes 119-32 and accompanying text for a more detailed explanation of the public goods problem.

120. Parchomovsky & Siegelman, *supra* note 2, at 1467 n.42 (citing RICHARD CORNES & TODD SANDLER, *THE THEORY OF EXTERNALITIES, PUBLIC GOODS, AND CLUB GOODS* 6-7 (1986)). Non-rivalry is present when consumption by one person does not diminish consumption opportunities available to another. *Id.* Non-excludability of benefits of a good is present when people who have not paid for the good cannot be prevented from enjoying its benefits.*Id.*; See also *infra* note 148 and accompanying text.

121. Parchomovsky & Siegelman, *supra* note 2, at 1467.

122. *Id.*

123. Landes & Posner, *supra* note 72, at 326-27.

124. *Id.* Landes and Posner explained the economics behind the decision to create new works:

For a new work to be created, the expected return—typically, and we shall assume exclusively, from the sale of copies—must exceed the expected cost. [Assuming a negatively sloped demand curve, t]he creator will make copies up to the point where the marginal cost of one more copy equals its expected marginal revenue. The resulting difference between price and marginal cost, summed over the number of copies sold, will generate revenues to offset the cost of expression. Since the decision to create the work must be made before the demand for copies is known, the work will be created only if the difference between expected revenues and the cost of making copies equals or exceeds the cost of expression. If we assume that the cost of creating (equivalent) works differs among authors, the number of works created will increase until the returns from the last work created just covers the (increasing) cost of expression.

Id. at 327-28.

125. Dam, *supra* note 5, at 114.

126. *Id.* at 114-15.

127. *Id.* at 115. Motives other than profit such as prestige, other non-monetary returns, and monetary returns from being first to market may drive an author to create works. *Id.* Loss of these "gains" may also discourage an author from producing works. *Id.*

128. Landes & Posner, *supra* note 72, at 326.

total revenues do not sufficiently cover costs.¹²⁹ The non-excludable nature of public information therefore implies such works will be under-produced by the market.¹³⁰ Copyright protection attempts to strike a balance between providing authors with the incentives to create, and allowing dissemination of works.¹³¹ Efficiency in this balance is achieved by maximizing the difference between the benefits from the creation of new works, the sum of the losses from limited access, and the costs of administering the protective measures.¹³²

In addition, society benefits when innovation occurs over time, rather than all at once.¹³³ This principle thus necessitates that intellectual property protection not be too strict because access to past work is very important in the development of new innovation.¹³⁴

B. *The Economics of Fair Use*

As explained above, the fair use doctrine allows certain unauthorized copying of a copyrighted work without deeming the copier an infringer.¹³⁵ The doctrine is especially important in the high transaction costs case, where the costs of voluntary exchange are so high that they prohibit an otherwise efficient exchange.¹³⁶ Transaction costs are typically described as the “cost of exchange.”¹³⁷ High-transaction cost cases, in which the

129. *Id.*

130. Parchomovsky & Siegelman, *supra* note 2, at 1467 n.42. *See also supra* notes 121-30 and accompanying text for further analysis of underproduction of public goods.

131. Landes & Posner, *supra* note 72, at 326. Similar problems surface, however, even if copyright protection is put into place. Gordon, *supra* note 60, at 1629. If transaction costs between the holder of the copyright and the intended copier become prohibitive, a socially useful transfer of right may not occur if the copyright is enforced. *Id.* Enforcement of the copyright holder’s right thus eliminates use of the work. *Id.* The result is a lose-lose situation: the copyright holder receives no income for disseminating his or her work, and society is deprived of the benefit of the work. *Id.*

132. Landes & Posner, *supra* note 72, at 326.

133. Dam, *supra* note 5, at 115.

134. *Id.*

135. 17 U.S.C. § 107 (2000).

136. Landes & Posner, *supra* note 72, at 357. *See also infra* note 138 and accompanying text for a discussion on the effect of prohibitively high transaction costs.

137. COOTER & ULEN, *supra* note 78, at 87. For example, user A might be willing to pay copyright holder B a sum that B would be willing to accept to allow A’s use, but negotiation is prohibitive. Landes & Posner, *supra* note 72, at 357.

Transaction costs are divided into three categories: search costs, finding someone to buy what you are selling or sell what you are buying; bargaining costs, negotiation and drafting of an agreement; and enforcement costs, monitoring performance and punishing violations of the agreement. COOTER & ULEN, *supra* note 78, at 87-88. Several factors determine whether transaction costs will be high or low, including: the uniqueness of the good, public versus private information in negotiations, clarity of each party’s rights, number of parties, anticipation of contingencies, and unreasonable hostility. *Id.* at 88-89. *See also* MACKAAY, *supra* note 9, at 52 (listing geographical dispersion as an additional factor in

benefits of the use exceed the costs of production, should be decided in accordance with the fair use doctrine.¹³⁸ Additional examples of fair uses include book reviews¹³⁹ and parodies.¹⁴⁰ Fair use issues also arise when courts are left to decide whether a work is either infringing on or is merely “substantially similar” to an already-copyrighted work.¹⁴¹ In so doing, the courts are actually deciding that the work is either a “productive” or a “reproductive” use.¹⁴² In general, the fair use defense is more likely to be available for a productive use than for a reproductive use.¹⁴³

determining transaction costs).

138. Landes & Posner, *supra* note 72, at 358. In some high-transaction-cost cases, the “costs of enforcement against a diffuse group of individuals may outweigh anticipated receipts.” Gordon, *supra* note 60, at 1629. In such cases, some value-maximizing transactions do not occur if the copyright is enforced, because users will simply stop using the work, the owner will derive no income from it, and society will lose the benefit of dissemination of new information. *Id.* See *infra* note 153 and accompanying text. The notion that high-transaction-cost cases should be afforded the fair use privilege is subject to three important qualifications, which bolster the argument that the fair use doctrine should be construed narrowly. Landes & Posner, *supra* note 72, at 357-58. First, either ex post damages or compulsory licensing may be a better way than fair use to avoid high transaction costs, because they allow the copyright owner to reap the benefits of his or her creation. *Id.* Second, application of fair use as a default in high transaction cost cases might diminish incentives to develop market mechanisms that would reduce transaction costs, as well as make negotiations between copyright holders and users more feasible. *Id.* at 358. Finally, even if transaction costs between copyright owners and users are prohibitive, the work might be valuable enough that the user will simply buy the entire work. *Id.*

139. Landes & Posner, *supra* note 72, at 358-59. See *Ty, Inc. v. Publ’ns Int’l Ltd.*, 292 F.3d 512, 517 (7th Cir. 2002) (stating that book reviews “that quote from (‘copy’) the books being reviewed increase the demand for copyrighted works; to deem such copying infringement would therefore be perverse”). Allowing a copyright owner of a book to control which book reviewers were allowed to review the book would amount to giving him or her control over public criticism of the work. *Id.* The credibility of book reviews would drastically hurt all copyright owners, not just owners of the copyrights of the worst books. *Id.* at 517. Consumers would no longer be able to rely on book reviews to guide them on which books to buy. *Id.* Book reviews, however, are not automatically protected by the fair use doctrine. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 581 (1994) (declaring that a book review “may or may not be fair use”). If a court determines that the reviewer stands to profit from the exploitation of the copyrighted work without paying the price, or intends to supplant the copyright holder’s right of first publication by quoting so much of the book as to serve as a substitute of the book, then the fair use defense will fail. See *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 562 (1985); *Ty*, 292 F.3d at 517.

140. *Campbell*, 510 U.S. at 594; Landes & Posner, *supra* note 72, at 359-60.

141. Landes & Posner, *supra* note 72, at 360. An example of such a work is non-critical parody, or “burlesque.” *Id.* See also *Ty*, 292 F.2d at 518 (distinguishing between parody, which usually falls under fair use, and burlesque, which does not). A burlesque is simply a humorous, non-ridiculing version of the original work, and may act as a substitute for the original. *Ty*, 292 F.2d at 518.

142. Landes & Posner, *supra* note 72, at 360.

143. *Id.* Copyright holders are given the exclusive right to make derivative works from their original works, and burlesque is characterized as derivative work. *Id.* One method of distinguishing between infringing burlesque and non-infringing parody is to ask whether the work fulfills the demand for the original work, and if it might siphon revenues from the original. *Id.*

C. *The Economics of Betamax*

1. *The Incentive/Dissemination Conflict*

An individual's financial incentive for the creation of original works often conflicts with the societal goals regarding the dissemination of knowledge.¹⁴⁴ Both Congress and the courts have attempted to provide artists and authors with remuneration for use of their work.¹⁴⁵ The authors' desire for compensation, as well as the government's desire to protect that compensation, conflict directly with the ultimate goal of disseminating knowledge throughout society.¹⁴⁶ Information, including television programming, is a public good.¹⁴⁷ Consumption of a public good by one does not preclude consumption by another.¹⁴⁸ Because it is a public good, free riding becomes a concern.¹⁴⁹ The marginal cost of additional television viewers is zero, as it costs no more for the information to be sent to one million television sets than to just one.¹⁵⁰ Economists generally believe that to be efficient, public goods should be disseminated without charge in order to prevent problems associated with public goods and free riding.¹⁵¹ The conflict between incentive and dissemination occurs to its

144. Cirace, *supra* note 24, at 650. Most expressive works, including books, music, and television programs, build on earlier copyrighted works. POSNER, *supra* note 9, at 47. The greater the scope of the copyright laws, the higher the cost to all users of creating subsequent works built on the earlier work. *Id.* Thus, although the copyright holder reaps increased benefits in terms of expected revenues from the licensing of his own copyrights, his own costs of creating subsequent works also increases. *Id.* The competing interests also offer a compelling reason why copyrights should not be perpetual. The durational limitation on copyrights for works created after January 1, 1978 is currently the author's life plus seventy years. 17 U.S.C. § 302 (2002). If owners were given perpetual copyrights, the cost of creating subsequent works would increase at a higher rate, because earlier works would be neither in the public domain nor available for use in the creation of new works without having to purchase a license from the copyright holder. POSNER, *supra* note 9, at 47.

145. Cirace, *supra* note 24, at 650 (citing B. KAPLAN, AN UNHURRIED VIEW OF COPYRIGHT 1-38 (1966) for a historical overview of copyright legislation). *See also* Mazer v. Stein, 347 U.S. 201 (1954) for an example of the early common law approach to copyright protection.

146. Cirace, *supra* note 24, at 650-51. This incentive/dissemination conflict is related to the idea of externalities. *Id.* at 651. *See infra* note 149 and accompanying text for an explanation of why the fact that information is a public good leads to concerns about free riding and other market imperfections.

147. ROSEN, *supra* note 3, at 61; Parchomovsky & Siegelman, *supra* note 2, at 1466-67.

148. Cirace, *supra* note 24, at 657. In other words, the good is necessarily provided in the same amount to all the affected customers. VARIAN, *supra* note 9, at 618.

149. *Id.* at 622-30. Free riding occurs when each person has an incentive to pay as little as possible for the use of a good, because he or she is relying on another person to purchase the entire good. *Id.* at 622. Public goods are especially prone to free riders because all can enjoy them, even if only one purchases them. *Id.*

150. *See generally id.*

151. Cirace, *supra* note 24, at 657. *See also* ROSEN, *supra* note 3, at 69-70 for, an argument that efficiency requires the government to use its coercive power to force everybody to pay for public

extreme in the case of television programming.¹⁵² This situation results from the fact that the provision of zero benefits leaves the author with no incentive to create.¹⁵³

2. Externalities

The incentive/dissemination conflict is amplified with the existence of externalities. An externality has been described as “a divergence between private and social cost that occurs ‘when some activity of party A imposes a cost or confers a benefit on party B for which party A is not charged or compensated by (or through) the price system.’”¹⁵⁴ For example, certain uses of copyrighted works, such as scholarship, impose an external benefit on society in the form of increased knowledge, an educated population, and advances in knowledge.¹⁵⁵ The externality, however, impedes market facilitation of these kinds of socially beneficial transactions.¹⁵⁶ Producers and disseminators of the knowledge thus receive less income than the total social benefit would warrant.¹⁵⁷ A reduced incentive to create work, even socially desirable work, results from the imbalance between benefit and income.¹⁵⁸ In *Betamax*, the dissent suggested that an award of continuing royalties might have been an appropriate remedy.¹⁵⁹ The problem with imposing such a tax on VTR devices was that it would encourage overproduction of works (such as TV movies and specials) and would lead

goods. If possible, government provision of public goods would avoid the free rider problem while ensuring optimal provision of public goods. *Id.* at 69.

152. *See infra*, Part III.C.2.

153. *See generally* Cirace, *supra* note 24, at 657-58.

154. *Id.* at 673 (quoting A. PIGOU, *THE ECONOMICS OF WELFARE* 105 (4th ed. 1932)). Externalities can be either positive (“external benefits”) or negative (“external costs”), depending on the effect to the third party. *See* VARIAN, *supra* note 9, at 40-42.

155. Gordon, *supra* note 60, at 1630.

156. *Id.* *See also* Parchomovsky & Siegelman, *supra* note 2, at 1466-67 (explaining that authors have less incentive to create many socially beneficial inventions because they entail large expenditures and high risk that are not recovered due to the low price of unauthorized copying).

157. Gordon, *supra* note 60, at 1630-31.

158. *Id.* *See also* Cirace, *supra* note 24, at 657.

159. *Betamax*, 464 U.S. 417, 499 (Blackmun, J., dissenting) (1984) (agreeing with the Ninth Circuit’s contention that awarding continuing royalties may be appropriate). The Ninth Circuit stated:

In [circumstances where an injunction would substantially injure the public interest as well as the defendant’s], the property owner may be awarded . . . a reasonable royalty for the further use of his property. The courts might well conclude that [the copying practices] involve just such a public interest, so that a judicially created compulsory license as a substitute for injunctive relief could be found appropriate.

Universal II, 659 F.2d 963, 976 n.18 (9th Cir. 1982) (quoting 3 NIMMER, *supra* note 45, at § 13.05[E][4][e] at 13-91).

to an overcompensation of the studios and inefficiency.¹⁶⁰ The same analysis does not apply to PVR technology, however, because the greater control viewers have in content and temporal matters necessarily leads to a much greater external benefit, resulting in a significantly reduced incentive for television studios to continue producing television programs.¹⁶¹

IV. PROPOSAL

The externalities suffered by the television companies are much greater if TV shows can now be taped without commercials. The increase in the number of people who use PVR devices to watch television shows skews advertising and marketing views of television, especially in “primetime.”¹⁶² Advertisers could be unwilling to pay fully for primetime advertising space if more viewers stop watching commercials. An increase in the cost of traditional advertising space may result in advertisers developing new methods of advertising or focuses, such as product placement within TV shows. In addition, this skewed view can lead to another problem: the underproduction of works and under-compensation to the studios.¹⁶³

One possible solution would be a compulsory license or per-unit tax.¹⁶⁴ Instead of imposing a tax on each videotape, a tax would be added to the monthly charges, and would then go back to the TV studios. The Ninth Circuit has entertained the notion that certain “special circumstances” exist in which compulsory licenses or “continuing royalties” are desirable, as suggested by Blackmun in his *Betamax* dissent.¹⁶⁵ Because the *Betamax*

160. Cirace, *supra* note 24, at 675-79. The Coase Theorem, which helped to found the economic analysis of law and won its inventor the Nobel Prize in economics, explains property distribution. COOTER & ULEN, *supra* note 78, at 82-87. The Coase Theorem states that the efficient amount of a good involved in an externality is independent of the distribution of property rights. VARIAN, *supra* note 9, at 574. In other words, the initial assignment of a property rights will not affect the ultimate use of the property, assuming transaction costs are zero. POSNER, *supra* note 9, at 8 (citing Ronald H. Coase, *The Problem of Social Cost*, 3 J. LAW & ECON. 1 (1960)). One general exception to the Coase theorem is the high transactions costs case. Cirace, *supra* note 24, at 675. See also *supra* note 137 and accompanying text for an explanation of the high transaction costs case.

161. See generally Gordon, *supra* note 60, at 1630-31.

162. Bower, *supra* note 99, at 441. Primetime is consistently the most important time offered to advertisers. *Id.* (citing Michael Lewis, *supra* note 104, at 36).

163. See *supra* notes 122-30 and accompanying text for a more detailed explanation of the underproduction of goods in this context.

164. A compulsory license scheme mandates that an intended user of copyrighted work obtain a license from the copyright holder. Hyman, *supra* note 53, at 107.

165. See *Abend v. MCA, Inc.*, 863 F.2d 1465, 1479 (9th Cir. 1988). In *Abend*, the Ninth Circuit determined that an injunction prohibiting the owners of a film from exhibiting it could cause “great injustice,” and that a “continuing royalty would constitute an acceptable resolution for infringement

court reversed the Ninth Circuit's *Universal II* holding on the liability issue, and refused to speak to the remedy issue, the Ninth Circuit's contention that continuing royalties are appropriate in certain cases is still valid law.¹⁶⁶

A compulsory license scheme resembles an implied contract between a copyright holder and a user in that it allows the user unlimited use of the product in return for a fee or royalty, or a promise to pay the fee at a later date.¹⁶⁷ In essence, the monthly tax would be payment for permission to use the copyright. A tax may compensate for the externalities and result in an efficient balance of production and advertising. Such a tax places the burden on consumers. If consumers are willing to bear the cost for the added service, then the transaction is efficient. Commentators have noted that compulsory licensing is appropriate either when “technology has created new uses for which the author’s exclusive rights have not been clearly established . . . [or] when technology has made old licensing methods for established rights ponderous or inefficient.”¹⁶⁸ Arguably, the major advances in recording technology offered by both TiVo and ReplayTV constitute either, if not both, of the aforementioned categories.

If the Supreme Court is faced with the issue whether manufacture and use of PVRs to record television programs constitutes copyright infringement, it should decline to extend the *Betamax* holding, and instead hold that use of PVRs to record copyrighted shows constitutes copyright infringement. In addition, the Court should grant the studios relief analogous to the relief which Blackmun saw fit in 1984: a compulsory license, or a per-unit tax.

V. CONCLUSION

After *Betamax*, makers and distributors of video tape recorders gained the freedom to continue designing and manufacturing improved devices for recording television programs and watching those programs at a later

caused by in-home taping of television programs by VCR—‘time-shifting.’” *Id.*

166. See generally *Abend*, 863 F.2d 1479. The *Betamax* court concluded its opinion with the determination that Sony’s sale of VTRs did not constitute contributory copyright infringement, and did not approach the issue of appropriate remedy. *Betamax*, 464 U.S. 417, 456 (1984).

167. Hyman, *supra* note 53, at 107. Four statutory provisions imposing compulsory licenses to protect jukeboxes, public broadcasting, cable television, and copyrighted music include 17 U.S.C. § 116 (2000); 17 U.S.C. § 118 (2000); 17 U.S.C. § 111 (2000); and 17 U.S.C. § 115 (2000). See also Hyman, *supra* note 53, at 108-09.

168. Hyman, *supra* note 53, at 108 (quoting Robert Stephen Lee, *An Economic Analysis of Compulsory Licensing in Copyright Law*, 5 W. NEW ENG. L. REV. 203, 209) (1982).

time.¹⁶⁹ Mechanical limitations to the VTR, however, allowed television studios to benefit from the VTR's capabilities because although more people were using the device to time-shift, they could not completely avoid watching the commercials within the recorded television shows.¹⁷⁰ As a result, the studios realized greater potential for advertising revenue,¹⁷¹ and thus were not harmed sufficiently to warrant the relief they wanted from the Supreme Court.¹⁷² Recording devices have advanced to the point, however, where complete elimination of the commercial advertisements is not only possible, but also easy.¹⁷³

In light of such advancing technologies, yet taking into account the economic rationale behind the *Betamax* line of cases, it would be economically inefficient to extend the *Betamax* holding, and the fair use doctrine, to apply to PVRs.¹⁷⁴ First, the public goods problem is exacerbated by the fact that television programs are becoming easier to copy, but more costly to produce.¹⁷⁵ Second, the incentive/dissemination conflict is more intrusive in the case of PVRs; producers' incentives to create television programs and studios' incentives to air them decrease due to the possibly substantial decrease in advertising revenue, which results from the PVR's ability to allow people to skip commercials.¹⁷⁶ This problem was absent from the time-shifting context of the *Betamax* case.¹⁷⁷ As a result of the decrease in advertising revenue, the external benefits imposed on the viewers of copyrighted works are beginning to outweigh the benefits realized by the producers of television programs.¹⁷⁸ The combination of the public goods problem, the incentive/dissemination conflict, and the externalities could result in substantial revenue loss for television studios, decreased resources with which to produce shows, and overall decreased quality in television programming.¹⁷⁹ The ability of viewers to eliminate completely commercials is a change that the Supreme Court in 1984, based on its rationale in *Betamax*, failed to anticipate in its

169. For example, TiVo and SonicBlue have continued to develop digital video recording devices. See *supra* Part II.C.

170. See *supra* note 70 and accompanying text.

171. See *supra* note 71 and accompanying text.

172. See *supra* note 81 and accompanying text.

173. See *supra* Part II.C.

174. See *supra* Part III.C.

175. See *supra* notes 119, 147-50 and accompanying text.

176. See *supra* Part III.C.

177. See *supra* Part II.B.3.

178. See *supra* Part III.C.

179. See *supra* Part III.C.

holding.¹⁸⁰ The dissent, suggesting that an award of continuing royalties would be appropriate relief for the injured television studios,¹⁸¹ better reflects the rationale needed in the current state of technological advances. A compulsory license, therefore, or a per-unit tax on either the price of a PVR device or the monthly service fee, is an appropriate and socially desirable remedy to ensure the continued high quality of television programming.

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180. *See supra* note 91 and accompanying text.

181. *See supra* Part II.B.3.b.

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