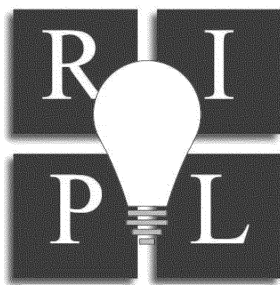


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MANAGING PEER-TO-PEER TRAFFIC IN MAINLAND CHINA AND HONG KONG

KE STEVEN WAN

ABSTRACT

For over a decade, copyright infringement using peer-to-peer (“P2P”) file sharing has plagued the content industries. Response came in the form of massive lawsuits against file sharers and the use of technologies including digital rights management and technical protection measures. However, illegal P2P file sharing is still rampant. Increasingly, internet service providers (“ISPs”) have begun to monitor network traffic with deep packet inspection. Under the Digital Millennium Copyright Act (“DMCA”), ISPs are usually only responsible for their own direct copyright infringing acts. To mitigate potential liability, some ISPs have agreed to partner with copyright owners to serve warnings to subscribers before the ISP suspends a subscriber’s internet access. While these agreements may result in greater copyright enforcement and a corresponding decrease in illegal file sharing, ISPs acting as “copyright cops” raises many legal and social concerns.

The legislation on ISP liability in mainland China and Hong Kong mirrors section 512 of the DMCA. Considering that ISPs in mainland China are state-owned while those in Hong Kong are not, this article examines whether it is desirable to impose a duty to filter packet content for illegal file sharing on ISPs in mainland China and Hong Kong, and whether other technologies such as the notice-and-notice procedure and the joint use of digital fingerprinting and digital watermarking may more efficiently reduce illegal file sharing.

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KE STEVEN WAN*

INTRODUCTION

For over a decade, copyright infringement using peer-to-peer (“P2P”) file sharing has plagued the content industries (the music, motion picture, and more recently the gaming industries).¹ P2P file sharing allows individual users to swap files such as music, movies, and games stored on their computers.² The content industry responded in a number of ways, from massive lawsuits against both consumers and commercial file sharers to the use of technologies such as digital rights management (“DRM”) and technical protection measure (“TPM”) that restrict the ability of the consumer to use copyrighted works in ways that are legal but unlicensed.³ The content industry has experienced both judicial and legislative victories in the United States, from the court holdings in the *Napster*⁴ and *Grokster*⁵ cases to the enactment by the United States Congress of the Higher Education Opportunity Act (“HEOA”).⁶ However, none of these formal legal approaches are totally satisfactory because illegal P2P file sharing is still rampant.⁷ Increasingly, internet service providers

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¹ See Ben Depoorter et al., *Copyright Backlash*, 84 S. CAL. L. REV. 1251, 1259 (2011) (stating that due to an increase in the number of online copyright infringements, the entertainment industry redirected its focus from targeting developers of software applications that ‘facilitated’ online copyright infringements to individual users of file-sharing technologies).

² See *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 919–20 (2005) (stating that software products “allow computer users to share electronic files through peer-to-peer networks, so called because users’ computers communicate directly with each other, not through central servers”). See also *id.* at 920 (stating that peer-to-peer networks “can be used to share any type of digital file, they have prominently been employed . . . in sharing copyrighted music and video files without authorization.”).

³ See Olufunmilayo B. Arewa, *Youtube, UGC, and Digital Music: Competing Business and Cultural Models in the Internet Age*, 104 NW. U. L. REV. 431, 443 (2010) (“The recording industry has dealt with the digital threat in a number of ways, including using digital rights management (DRM) and technological protection measures (TPM) to control uses of content . . . intended to prevent unauthorized use of digital works and play a role in DRM systems.”).

⁴ See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1011 (9th Cir. 2001) (affirming a preliminary injunction that enjoined Napster “from engaging in, or facilitating others in copying, downloading, uploading, transmitting, or distributing plaintiffs’ copyrighted musical compositions and sound recordings, protected by either federal or state law, without express permission of the rights owner.”).

⁵ See *Metro-Goldwyn*, 545 U.S. at 941 (holding 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).

⁶ Higher Education Opportunity Act, Pub. L. No. 110-315, 122 Stat. 3078 (2008).

⁷ See Cameron Stracher, *Behind The Headlines: Your Local Library May Have a New Name-Google*, 8 PRIVACY & DATA SECURITY L.J. 1, 2 (2006) (stating that the law will struggle to keep up with new technology, and that the music industry may have won the battles in *Napster* and

(“ISPs”) have begun to monitor network traffic with deep packet inspection (“DPI”).⁸ DPI is able to inspect “every byte of every packet that passes through the DPI device. That means packet headers, types of applications, and [unless encrypted] actual packet content.”⁹ The use of DPI by ISPs may result in ISPs losing their safe harbor immunity for the copyright infringing acts of their subscribers.¹⁰ Under the Digital Millennium Copyright Act (“DMCA”), ISPs are usually only responsible for their own direct copyright infringing acts, and are immune from third-party liability under theories of contributory or vicarious liability for the subscribers’ acts of direct copyright infringement.¹¹ To mitigate potential liability, some ISPs have agreed to partner with copyright owners to serve warnings to subscribers before the ISP suspends a subscriber’s internet access under a graduated response system.¹² While these agreements may result in greater copyright enforcement and a corresponding decrease in illegal file sharing, ISPs acting as “copyright cops” on behalf of copyright owners raises many legal and social concerns.¹³

The legislation on ISP liability in mainland China and Hong Kong mirrors section 512 of the DMCA.¹⁴ This article will examine whether it is desirable to

Grokster, but they may still be losing the war; lawsuits may be ineffective in fighting the tide of innovation). See also Stan J. Liebowitz, *File Sharing: Creative Destruction or Just Plain Destruction?*, 49 J.L. & ECON. 1, 13 (2006) (stating that the RIAA lawsuits caused a temporary diminution of file-sharing activity, but this activity has since increased by noting that “[f]ile-sharing activity appeared to be higher in 2005 than it had been prior to the lawsuits, although there is no complete agreement on this claim.”).

⁸ Andrea N. Person, *Behavioral Advertisement Regulation: How the Negative Perception of Deep Packet Inspection Technology May Be Limiting the Online Experience*, 62 FED. COMM. L.J. 435, 438 (2010) (“Deep Packet Inspection technology provides Internet service providers (ISPs) with the ability to collect all Internet communications made by a consumer. Depending on how the technology is deployed, it may monitor[], analyze[], and potentially manipulate[] Internet traffic.”) (internal quotations omitted).

⁹ *Id.* at 438. “When DPI technology is deployed, it first collects the information that consumers view online. To do this, DPI collects packets. On the internet, packets combine to create online communications such as Web browsing, e[-]mail, [V]oice-over-I[n]ternet P[rotocol] (VoIP) phone calls, peer-to-peer ([P2P]) file transfers, [and] online gaming, among others.” *Id.*

¹⁰ See Peter K. Yu, *The Graduated Response*, 62 FLA. L. REV. 1373, 1392 (2010) (“If ISPs were to fully investigate the potential infringing activities, the costs of such investigation could be prohibitive. They might also lose the safe harbor protection the current law extends to them.”).

¹¹ See 17 U.S.C. § 512 (2006). See also *Hendrickson v. Amazon.com, Inc.*, 298 F. Supp. 2d 914, 916 (C.D. Cal. 2003) (stating that the safe harbor affirmative defense against a claim of vicarious copyright infringement may apply to an ISP if it can establish: (1) that it had no actual knowledge of the infringement, (2) that it did not have a direct financial benefit from the infringement; and (3) that after notification it did not remove the infringing material).

¹² See Yu, *supra* note 10, at 1374.

[T]he graduated response system provides an alternative enforcement mechanism, through which ISPs can take a wide variety of actions after giving users two warnings about their potentially illegal online file-sharing activities. These actions include, among others, suspension and termination of service, capping of bandwidth, and blocking of sites, portals, and protocols.

Id.

¹³ See also *id.* at 1391–92 (outlining the drawbacks of a graduated response system).

¹⁴ Ke Steven Wan, *Internet Service Providers’ Vicarious Liability Versus Regulation of Copyright Infringement in China*, 2011 U. ILL. J.L. TECH. & POL’Y, 375, 379 (2011) (“The Chinese

impose a duty to filter packet content for illegal file sharing on ISPs in mainland China and Hong Kong, and whether other technologies such as the notice-and-notice procedure and the joint use of digital fingerprinting and digital watermarking may more efficiently reduce illegal file sharing. Digital watermarking and digital fingerprinting are different yet complementary technologies.¹⁵ A digital watermark is data embedded into a digital file that identifies the copyright owner of the file, the purchaser or downloader of the file, and any other aspects related to the use of the file.¹⁶ Digital fingerprinting does not embed data into the file. Instead, it analyzes the content of the file, extracts significant characteristic components (“fingerprints”) and then seeks a match in a database based on those fingerprints.¹⁷

This article offers two considerations for the analysis of P2P file sharing. First, this article explores whether a modified system could have a significant impact in mainland China. P2P infringement is rampant in China.¹⁸ Currently, Chinese courts and agencies have focused their copyright infringement enforcement efforts on hosting services and search engine services; courts have yet to heavily combat individual consumer-subscriber copyright infringement in China.¹⁹ There are equitable concerns about imposing direct liability on subscribers. It might be inappropriate to design a legal system where only a small fraction of wrongdoers are penalized and suffer extremely harsh penalties.²⁰ Extreme civil or criminal penalties

government adopted legislation that provides ISPs with “safe harbors” from damages caused by the misconduct of their subscribers.”).

¹⁵ Hiram Meléndez-Juarbe, *DRM Interoperability*, 15 B.U. J. SCI. & TECH. L. 181, 193–94 (2009); Lauren G. Gallo, *The (Im)Possibility of “Standard Technical Measures” for UGC Websites*, 34 COLUM. J.L. & ARTS 283, 285 n.16 (2011) (“Major right holders such as Viacom, Inc. argue that watermarking should supplement fingerprinting technology, enabling right holders to automatically identify their content, and negating the need for a notice-and-takedown system altogether . . . [h]owever, watermarking is not currently implemented on as wide a scale as fingerprinting.”); Lindsee Gendron, *A Safer Harbor*, 36 OHIO N.U. L. REV. 619, 633 (2010) (“This new technology will focus on watermarking, but will supplement it with audio fingerprinting to catch anything that watermarking may miss.”).

¹⁶ Matt Williams, *Congress Should Amend the Copyright Act to Protect Transactional Watermarks*, 23 BERKELEY TECH. L.J. 1367, 1381 (2008).

¹⁷ See *id.* at 1370 n.15.

¹⁸ INT’L INTELL. PROP. ALLIANCE, 2011 SPECIAL 301 REPORT ON COPYRIGHT PROTECTION AND ENFORCEMENT 58 (Feb. 15, 2011) [hereinafter IIPA REPORT: PRC], available at <http://www.iipa.com/rbc/2011/2011SPEC301PRC.pdf>.

¹⁹ See Trudy S. Martin, *Vicarious and Contributory Liability for Internet Host Providers: Combating Copyright Infringement in the United States, Russia, and China*, 27 WIS. INT’L L.J. 363, 399 (2009).

Chinese courts recognize that, if internet service providers (ISPs) infringe on copyrights through internet use, or if they use the internet to help others carry out an infringing activity . . . the courts [can] use the copyright law and may make a finding of collective responsibility for the infringement. Under Chinese copyright law, ISPs that know of and fail to abate copyright infringing activity will be subject to liability alongside the infringing user.

Id. at 399 (internal quotation marks omitted).

²⁰ See Doug Lichtman & Eric Posner, *Holding Internet Service Providers Accountable*, 14 SUP. CT. ECON. REV. 221, 234 n.36 (2006); Douglas Lichtman & William Landes, *Indirect Liability for Copyright Infringement: An Economic Perspective*, 16 HARV. J.L. & TECH. 395, 408 (2003); see also Susan Freiwald, *Comparative Institutional Analysis in Cyberspace: The Case of Intermediary*

may distort legitimate uses of the Internet and have a chilling effect on the development of technology and new business models.²¹

However, major ISPs in mainland China are state-owned.²² Even if they are shareholding companies, a court may still be reluctant to make the ISPs pay damages because of the association with the government.²³ The local government may reach an agreement with the state-owned ISPs that the local government will compensate copyright owners, and the state-owned ISPs will compensate the local government by investing more in developing the area. The local government has a strong incentive to lower the amount of compensation and instruct the courts what actions to take.²⁴ In South Korea, government agencies, rather than ISPs, determine the disconnection issues.²⁵ This article examines whether the Korean graduated response system is applicable to China.

Second, a major goal of this article is to influence the legislation in Hong Kong. Almost half (44.5 percent) of the Hong Kong residents supported a graduated response system to prevent online copyright infringement, while only 23.7 percent believed that a graduated response system would not be an effective approach.²⁶ The Hong Kong Special Administrative Region's ("HKSAR") "Proposals" paper rejected the statutory graduated response system as a way to deal with repeat infringers, but offered no alternative.²⁷ To solve the P2P filesharing issue, a so-called notice-and-notice procedure was introduced.²⁸ This procedure dictates that, an ISP must pass the copyright owner's notice to its subscribers.²⁹ The notice-and-notice procedure ensures that the court makes the final decision regarding copyright infringement issues but has received scant attention as an alternative to the graduated response system.³⁰

This Article proceeds in three parts. Part I reviews the P2P cases in mainland China and examines the desirability of the Korean graduated response system. Part

Liability for Defamation, 14 HARV. J.L. & TECH. 569, 630 (2001) ("The consistency problem plagues all court determinations but takes on special significance for cyberspace rules.").

²¹ See Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193, 1206 (1985) ("If there is a risk either of accidental violation of the criminal law or of legal error, an expected penalty will induce innocent people to forgo socially desirable activities at the borderline of criminal activity.").

²² See Jongpil Chung, *Comparing Online Activities in China and South Korea*, 48 ASIAN SURVEY 727, 731-32 (2008) (stating that the Chinese government exerts rigorous internet censorship and is able to filter content and block access to Internet sites in order to control what people read, see, and hear).

²³ See Wan, *supra* note 14, at 397-98 (noting the close link between the internet and government in China).

²⁴ *Id.* at 399.

²⁵ See Yu, *supra* note 10, at 748 (stating that South Korea has adopted the graduated response system).

²⁶ Eamonn Fode, *Hong Kong Residents in Favour of Graduated Response*, MUSIC WEEK (May 6, 2010) <http://www.musicweek.com/story.asp?storyCode=1041052§ioncode=1>.

²⁷ INT'L INTELL. PROP. ALLIANCE, 2011 SPECIAL 301 REPORT ON COPYRIGHT PROTECTION AND ENFORCEMENT 390 (Feb. 18, 2010) [hereinafter IIPA REPORT: HONG KONG], *available at* <http://www.iipa.com/rbc/2010/2010SPEC301HONGKONG.pdf>.

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

II reviews the P2P cases in Hong Kong and analyzes the desirability of the notice-and-notice procedure. Part III concludes.

I. P2P FILE SHARING IN MAINLAND CHINA

Deterrence theory requires lawmakers to hold wrongdoers liable for infringement.³¹ Direct liability may fail to act as a deterrent when wrongdoing is expensive for the victim to detect or for the government to prosecute.³² The conditions of the Internet make it very difficult to penalize individual wrongdoers.³³ The relative anonymity of Internet subscribers makes the detection of wrongdoers very costly.³⁴ Even if caught, infringers often turn out to be judgment-proof individuals, who lack sufficient assets to pay damages.³⁵ Some people might argue that criminal liability could be a substitute.³⁶ However, it may not be cost-effective to impose criminal liability, especially imprisonment, on infringers.³⁷ The cost of

³¹ See Assaf Hamdani, *Who's Liable for Cyberwrongs?*, 87 CORNELL L. REV. 901, 910 (2002) ("Deterrence theory seeks to impose on wrongdoers the social cost of their wrongdoing."); see also Robin Andrews, *Copyright Infringement and the Internet: An Economic Analysis of Crime*, 11 B.U. J. SCI. & TECH. L. 256, 261–62 (2005) ("Deterrence theory suggests that criminal law should be designed to prevent crime ex ante, instead of merely seeking to punish ex post, under the assumption that potential criminals will choose their course of action based on the expected consequences.").

³² See Hamdani, *supra* note 31, at 910.

³³ See *id.* at 910–11 (stating that infringers are often teenagers or college students who lack the means to pay damages, which makes it "impossible to impose [judgments] upon copyright-infringing Internet users to full optimal penalties dictated by deterrence considerations.").

³⁴ See *id.* at 910.

³⁵ See Ian C. Ballon, *Pinning the Blame in Cyberspace: Towards a Coherent Theory for Imposing Vicarious Copyright, Trademark and Tort Liability for Conduct Occurring over the Internet*, 18 HASTINGS COMM. & ENT. L.J. 729, 734–35 (1996) (noting that college students, who may not have the resources to pay large judgments, were sued by the government in many of the most notorious Internet criminal prosecutions); Michael B. Rutner, *The ASCAP Licensing Model and the Internet: A Potential Solution to High-Tech Copyright Infringement*, 39 B.C. L. REV. 1061, 1070 (noting that most copyright infringers are individuals who "do not have enough assets to make legal action worthwhile"). See, e.g., *United States v. LaMacchia*, 871 F. Supp. 535 (D. Mass. 1994) (involving an M.I.T. student); *United States v. Morris*, 928 F.2d 504 (2d Cir. 1991), cert. denied, 502 U.S. 817 (1991) (involving a Cornell graduate student); *United States v. Baker*, 890 F. Supp. 1375 (E.D. Mich. 1995) (involving a University of Michigan student).

³⁶ See Andrews, *supra* note 31, at 257 ("As policymakers increasingly see piracy as a criminal act, they naturally look to criminal theories for assistance in their counterefforts.").

³⁷ See Aaron Rappaport, *Litigation over Prison Medical Services*, 7 HASTINGS RACE & POVERTY L.J. 261, 282 (2010) ("[I]n many cases we have overstated the benefits of prison, while ignoring its enormous fiscal and human costs."); see also Andrews, *supra* note 31, at 262–63 (discussing the economic costs of crime and law enforcement); Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 179–80 (1968) (discussing resource allocation and how much punishment should be used to enforce different kinds of legislation). It is also unfair to impose harsher punishment on innocent violation of copyright law than medical malpractice. See Geraldine Szott Moehr, *The Crime of Copyright Infringement: An Inquiry Based on Morality, Harm, and Criminal Theory*, 83 B.U. L. REV. 731, 747–52 (2003) (discussing the rationale for treating conduct as criminal); LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* 199–202 (Penguin Press 2004). There are other

imprisonment includes the prosecutorial cost, the wages of guards, buildings, and food.³⁸ Unlike in the case of civil damages, nobody gets what the prisoner loses.³⁹ Besides, extreme criminal penalties may distort legitimate use of the internet and have a chilling effect on technology development.⁴⁰ Hence, it is sometimes impossible to impose direct liability on wrongdoers.⁴¹ Expanding liability to third parties is a solution to deal with the under-deterrence of internet subscribers.⁴² In the context of online copyright infringement, manufacturers of computers, developers of internet browsers, and makers of modems are all candidates for the imposition of third-party liability.⁴³ Lawmakers should only expand liability, however, to those parties who are in a good position to deter misconduct cost-effectively.⁴⁴

One commentator defines the cheapest cost avoider as the party who can avoid the accident at the lowest overall cost.⁴⁵ Guido Calabresi and Jon Hirschoff define the cheapest cost avoider as the party who “is in the best position to make the cost-benefit analysis between accident costs and accident avoidance costs and to act on that decision once it is made.”⁴⁶ The party who is in the best position to make the cost-benefit analysis is not necessarily the one that acts upon it.⁴⁷ The cheapest cost avoider test has been traditionally applied to product manufacturers.⁴⁸ Judges only

equitable concerns as well. A legal system where only a small fraction of wrongdoers are penalized and suffer extremely harsh penalties is unjust. *See* Lichtman & Posner, *supra* note 20, at 234 n.36; *see also* Lichtman & Landes, *supra* note 20, at 408 (discussing different forms of indirect liability); Freiwald, *supra* note 20, at 596–99 (discussing intermediary liability in defamation cases).

³⁸ Becker, *supra* note 37, at 180; Sara Sun Beale, *Solutions: Is Corporate Criminal Liability Unique?*, 44 AM. CRIM. L. REV. 1503, 1512 (2007).

³⁹ *See also* Posner, *supra* note 21, at 1201 (noting that tort law, with compensatory and punitive damages, is insufficient to address criminal offenses, which explains the development of separate criminal proceedings seeking to restrain liberty).

⁴⁰ *Id.* at 1206 (“If there is a risk either of accidental violation of the criminal law or of legal error, an expected penalty will induce innocent people to forgo socially desirable activities at the borderline of criminal activity.”).

⁴¹ *See* Hamdani, *supra* note 31, at 910–11.

⁴² *See* Reinier H. Kraakman, *Corporate Liability Strategies and the Costs of Legal Controls*, 93 YALE L.J. 857, 888–96 (1984) (noting that third-party liability is necessary to address the failure of direct liability).

⁴³ *See* Alfred C. Yen, *Internet Service Provider Liability for Subscriber Copyright Infringement, Enterprise Liability, and the First Amendment*, 88 GEO. L.J. 1833, 1864 (2000) (noting that nearly all information technology providers could be held liable).

⁴⁴ *See* Reinier H. Kraakman, *Gatekeepers: The Anatomy of a Third-Party Enforcement Strategy*, 2 J.L. ECON. & ORG. 53, 100–01 (1986) (proposing a four-part test for the desirability of gatekeeper liability).

⁴⁵ Stephen G. Gilles, *Negligence, Strict Liability, and the Cheapest Cost-Avoider*, 78 VA. L. REV. 1291, 1307–08 (1992).

⁴⁶ Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 YALE L. J. 1055, 1060 (1970); *see also* Richard W. Wright, *The Principles of Product Liability*, 26 REV. LITIG. 1067, 1099 (2007) (analyzing why product manufacturers are the cheapest cost avoider).

⁴⁷ Calabresi & Hirschoff, *supra* note 46, at 1060 n.19.

⁴⁸ *See* GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* 136 (Yale Univ. 1970) (applying the cheapest cost avoider test to car manufacturers); *see also* Thomas C. Galligan, Jr., *Strict Liability in Action: The Truncated Learned Hand Formula*, 52 LA. L. REV. 323, 344 (1991); David G. Owen, *Rethinking the Policies of Strict Product Liability*, 33 VAND. L. REV. 681, 711–12 (1980) (emphasizing a willingness to assume manufacturers are to blame for product accidents).

need to decide the cheapest cost avoider between the injurer and the victim.⁴⁹ In online copyright infringement, however, courts need to determine the cheapest cost avoider among the copyright owner, the direct infringer, and the ISP.⁵⁰

If copyright owners can determine the cheapest cost avoider, should courts let them “bribe” the ISP—the cheapest cost avoider—to prevent infringement? “Whenever accident costs exceed the cheapest cost avoider’s prevention costs, [the party bearing] accident costs will bargain with the cheapest cost avoider to prevent the accident.”⁵¹ Regardless of the initial allocation of liability, market forces will ensure that the cheapest cost avoider bears the prevention costs in the absence of transaction costs.⁵² Legal rules do not affect the efficient outcome in a perfect market without transaction costs because voluntary transactions of rational individuals will make the best use of resources.⁵³ “[G]overnment intervention is considered economically undesirable” in a perfect market.⁵⁴ In the case of copyright infringement, if copyright owners have a right to enjoin the third-party, they can sell the right.⁵⁵ If the third-party has the right to sell products or services with impunity, it can sell the right.⁵⁶ The party who values the right to infringe more will buy it from the other if necessary.⁵⁷ Transaction costs, however, may disrupt the negotiation and transaction between parties.⁵⁸

The market may incur two types of transaction costs. First, the search for the cheapest cost avoider may incur transaction costs;⁵⁹ second, the cheapest cost avoider

⁴⁹ Calabresi & Hirschhoff, *supra* note 46, at 1060–61.

⁵⁰ See Brandon Brown, *Fortifying the Safe Harbors: Reevaluating the DMCA in a Web 2.0 World*, 23 BERKELEY TECH. L.J. 437, 463 (2008) (noting that Congress took the concept of cost avoidance into consideration while debating the DMCA).

⁵¹ See Richard D. Cunningham, *Apportionment Between Partmakers and Assemblers in Strict Liability*, 49 U. CHI. L. REV. 544, 549–50 (1982); see also Guido Calabresi, *Transaction Costs, Resource Allocation and Liability Rules*, 11 J.L. & ECON. 67, 67 (1968) (analyzing the Coase Theorem and arguing that it is as equally valid in the long term as it is in the short term); see generally Harold Demsetz, *The Exchange and Enforcement of Property Rights*, 7 J.L. & ECON. 11, 12–26 (1964) (discussing the Coase Theorem and the role of governments and markets in economic life); Harold Demsetz, *When Does the Rule of Liability Matter?*, 1 J. LEGAL STUD. 13, 13–28 (1972) (discussing the Coase Theorem and analyzing how legal liabilities will affect the allocation of resources).

⁵² See generally R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 42–44 (1960) (articulating what is currently known as the Coase Theorem).

⁵³ Marianne M. Jennings & Stephen Happel, *The Post-Enron Era for Stakeholder Theory: A New Look at Corporate Governance and the Coase Theorem*, 54 MERCER L. REV. 873, 910–11 (2003); Mark MacCarthy, *What Payment Intermediaries Are Doing About Online Liability and Why It Matters*, 25 BERKELEY TECH. L.J. 1037, 1047–51 (2010); See ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS*, 82–96 (Pearson/Addison Wesley, 2d ed. 1997); Coase, *supra* note 52, at 5–6; Alfred C. Yen, *A Preliminary Economic Analysis of Napster: Internet Technology, Copyright Liability, and the Possibility of Coasean Bargaining*, 26 U. DAYTON L. REV. 247, 264–65 (2001).

⁵⁴ Yen, *supra* note 53, at 258–59.

⁵⁵ Cf. Jennings & Happel, *supra* note 53, at 911 (applying the Coase Theorem to copyright law).

⁵⁶ *Id.*

⁵⁷ Yen, *supra* note 53, at 264–65.

⁵⁸ *Id.*

⁵⁹ See CALABRESI, *supra* note 48, at 136–38 (explaining the affect that transaction costs have on the search for the cheapest cost avoider).

may charge a premium in exchange for bearing the prevention costs.⁶⁰ Depending on the parties' bargaining power, the premium can be as high as their differences in prevention costs.⁶¹ Due to ISPs' market power, they are highly likely to charge a significant premium.⁶² The failure to reach an enforcement agreement after years of negotiations between copyright owners and ISPs suggests that the premiums charged by ISPs exceed the amount that copyright owners are willing to pay.⁶³ Because the transaction costs may be higher than the administrative costs of judicial allocation of accident costs, it is more desirable for lawmakers to impose liability on the ISP.⁶⁴

The economic literature regarding primary wrongdoing assumes that it is desirable to make wrongdoers "internalize the social cost of their wrongdoing."⁶⁵ The reason is that, even if they cannot prevent wrongdoing, they can reduce their activity level.⁶⁶ For third parties, however, the scale of their activity "should not be adjusted to the social cost of wrongdoing."⁶⁷ The goal of third-party liability is to deter wrongdoing rather than scale down the activity level.⁶⁸ Commentators argue that deterrence, rather than fairness, should be the justification for vicarious liability.⁶⁹ A commentator supports indirect liability:

[I]ndirect liability need not be conceived merely as a second-best solution to a discrete set of problems with direct liability. When some easily identifiable third party is better positioned to monitor and control the behavior of the primary wrongdoer than a court or other government

⁶⁰ See Cunningham, *supra* note 51, at 549–51; Harold Demsetz, *Wealth Distribution and the Ownership of Rights*, 1 J. LEGAL STUD. 223, 224–27 (1972) (explaining that insurance companies charge premiums in exchange for taking on risk).

⁶¹ Cunningham, *supra* note 51, at 550 ("Depending on the parties' relative bargaining positions, th[e] premium can range anywhere from just above zero to just below the difference between their prevention costs . . .").

⁶² Wan, *supra* note 14, at 385.

⁶³ *Id.*

⁶⁴ *Id.* (explaining that in "many situations" the costs of judicial intervention are less than the costs associated with "private attempts to find the cheapest cost avoider.").

⁶⁵ Hamdani, *supra* note 31, at 912.

⁶⁶ *Id.*

⁶⁷ See *id.*; see also Alan O. Sykes, *The Boundaries of Vicarious Liability: An Economic Analysis of the Scope of Employment Rule and Related Legal Doctrines*, 101 HARV. L. REV. 563, 573 (1988).

By measuring those incremental costs with reference to the social costs that would otherwise arise if the resources used by the enterprise were unemployed, a resulting competitive equilibrium will tend to generate an efficient allocation of resources among alternative enterprises and alternative (nonenterprise) uses for the resources (such as leisure).

Id.

⁶⁸ Hamdani, *supra* note 31, at 912.

⁶⁹ Gary T. Schwartz, *The Hidden and Fundamental Issue of Employer Vicarious Liability*, 69 S. CAL. L. REV. 1739, 1754, 1763–64 (1996); Ke Steven Wan, *Monopolistic Gatekeepers' Vicarious Liability For Copyright Infringement*, 23 REGENT U. L. REV. 65, 87–92 (2010) (exploring the rationales for vicarious liability such as deterrence and corrective justice). There are equity counterarguments, however. Some argue that ISPs should not be held vicariously liable merely because they are in a good position to prevent online copyright infringement. Alfred C. Yen, *Third Party Copyright Liability After Grokster*, 91 MINN. L. REV. 184, 213 (2006).

regulator, indirect liability will be more efficient than even perfectly functioning direct liability.⁷⁰

Indirect liability is desirable when the third-party can detect and deter misconduct at low costs.⁷¹ Commentators list examples of precautions an ISP can take. An ISP can detect subscribers' suspicious patterns of Internet use, such as "a continuous stream of communications from a home user or the repeated appearance of identical computer code attached to a large number of outgoing email messages."⁷² An ISP can also keep a record of subscribers' activities for a period of time so that infringers can be discovered.⁷³ In addition, an ISP can alert other ISPs or customers about suspicious changes in traffic patterns so that they can locate the source of the threat or avoid the harm.⁷⁴ Because ISPs can control the content on their networks and potentially deter misconduct at acceptable costs, this article will assume that ISP liability is desirable.

P2P infringement is rampant in China.⁷⁵ Currently, Chinese courts and agencies have focused their copyright infringement enforcement efforts on hosting services and search engine services; courts have yet to heavily combat individual consumer-subscriber copyright infringement in China. *Shanghai Push Sound Music & Entm't. Co. v. Kuro*⁷⁶ was the first case to hold a P2P operator liable for users' copyright infringement in China.⁷⁷ Similar to Napster, Kuro allowed users to share MP3 files at twenty Chinese yuan (\$2.56 USD) per month.⁷⁸ It maintained a music classification and ranking list on its website, although the contents of the MP3 files were kept in users' computers.⁷⁹ The court found that Kuro prepared the music list so that users could have easy access to the music.⁸⁰ In addition, the software showed "nobody is sharing the music at the moment" when users tried to download certain music files.⁸¹ Thus, the music list was not compiled utilizing the users' public folders.⁸² The court held that Kuro induced the unauthorized sharing of music and should be found jointly liable for user's copyright infringement.⁸³ Kuro was ordered

⁷⁰ Daryl J. Levinson, *Aimster and Optimal Targeting*, 120 HARV. L. REV. 1148, 1154 (2007).

⁷¹ Lichtman & Posner, *supra* note 37, at 236–37.

⁷² *Id.* at 237.

⁷³ *Id.*

⁷⁴ *Id.* at 238.

⁷⁵ IIPA REPORT: PRC, *supra* note 18, at 61.

⁷⁶ *Shanghai Push Sound Music & Entm't. Co., Ltd. v. Beijing Fashion Co., (2005) Er Zhong Min Chu Zi No. 13739 (Beijing No. 2 Intermediate Court, Dec. 19, 2006).*

⁷⁷ *Id.*; Jessie Ho, *Kuro Case Sets P2P Precedent in China*, BILLBOARD (Jan. 3, 2007), <http://www.billboard.com/news/kuro-case-sets-p2p-precedent-in-china-1003527087.story#/news/kuro-case-sets-p2p-precedent-in-china-1003527087.story>; Qian Wong, *The New Right of Communication Through the Information Network in the People's Republic of China*, in COPYRIGHT LAW, DIGITAL CONTENT AND THE INTERNET IN THE ASIA-PACIFIC 15 (Sydney Univ. Press 2008).

⁷⁸ Ho, *supra* note 77; Wong, *supra* note 77, at 14–15.

⁷⁹ *Shanghai Push Sound Music & Entm't.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.*

to pay 200,000 Chinese yuan in damages.⁸⁴ In fact, *Kuro* was not the first case involving a P2P operator in China.⁸⁵ The Guangzhou Intermediate Court held a P2P operator liable under direct liability in 2006.⁸⁶ The court in *Kuro* was the first to find a P2P operator's secondary liability for copyright infringement.⁸⁷

*Beijing Ciwen Movie & TV Prod. Co., Ltd. v. Beijing Zhenglejie Tech. Co., Ltd.*⁸⁸ similarly held the P2P operator Zhenglejie liable for infringing the copyright of movies.⁸⁹ Ciwen alleged that Zhenglejie induced the sharing of the movie "Seven Swords" via its P2P software.⁹⁰ Zhenglejie set up a column called "Popular Movie Download-Top 30" on www.pp365.com, where "Seven Swords" was on the top of its list.⁹¹ The court held that Zhenglejie's inducement could be found in the "Popular Movie Download-Top 30" column, where users could have easy access to the movie rather than search for the key words "Seven Swords."⁹²

In *Guangzhou Zoke Culture Dev. Co. v. Guangzhou Shulian Software Dev. Co.*,⁹³ Shulian set up a platform to allow users to transmit files among themselves through the POCO software.⁹⁴ POCO was used to share photos and information on fine dining as well as online communication, in addition to the dissemination of movies.⁹⁵ Thus, developing POCO itself does not constitute copyright infringement.⁹⁶ However, Shulian established a program called "Movie Exchange Column" to enable users to provide download links and upload movie posters and plot descriptions.⁹⁷ The court ruled that Shulian induced the unauthorized download of movies and was ordered to pay 50,000 Chinese yuan in damages, although it put copyright notices on its website.⁹⁸

While the graduated response system is increasingly popular,⁹⁹ the reality is that the war on P2P is essentially about the control over content uses rather than the

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ Beijing Ciwen Studio Inc. v. Guangzhou Shulian Software Tech. Inc. (Guangzhou Intermediate Court).

⁸⁷ *Shanghai Push Sound Music & Entm't.*

⁸⁸ Beijing Ciwen Movie & TV Prod. Co., v. Beijing Zhenglejie Tech. Co.. (海民初字第21822号).

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ Guangzhou Zoke Culture Dev. Co. vs. Guangzhou Shulian Software Dev. Co., (2006) 沪一中民五(知)初字第384号.

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ Greg Sandoval, *Top ISPs Agree to Become Copyright Cops*, CNET NEWS (July 17, 2011), http://news.cnet.com/8301-31001_3-20077492-261/top-isps-agree-to-become-copyright-cops/?tag=mncol;4n (noting that U.S. ISPs agreed to implement the graduated response system); Adrian Strain & Alex Jacob, *IFPI Publishes Digital Music Report 2011*, IFPI (Jan. 20, 2011), http://www.ifpi.org/content/section_resources/dmr2011.html (noting that France, South Korea, U.K., Ireland, Taiwan, Chile have adopted the graduated response system.); Yu, *supra* note 10, at 1376-77.

goal of additional revenue.¹⁰⁰ The graduated response system fails to promote copyright goals of stimulating creation because it will aggravate the misuse of the notice-and-takedown procedure and strengthen the content industry's control over consumer uses of content.¹⁰¹ The notice-and-takedown procedure requires an ISP to expeditiously remove or block access to infringing materials upon notices from copyright owners.¹⁰² In addition, Michael Geist notes that the cost of one notification can be a minimum of \$11.73 (for larger ISPs) to a maximum of \$32.73 Canadian dollars (for smaller ISPs).¹⁰³ This may place small ISPs at a competitive disadvantage.¹⁰⁴ The U.K. government estimated that as much as 500 million pounds would be spent on the graduated response system over the next ten years.¹⁰⁵ In contrast, digital fingerprinting and digital watermarking enable conduit ISPs to deter P2P infringement neutrally and cost-effectively, and should be given more attention.¹⁰⁶

Digital fingerprinting and digital watermarking enable ISPs to deter P2P infringement without directly targeting and penalizing wrongdoers and may provide promising insight into the P2P issue.¹⁰⁷ Moreover, unlike government sponsored regulatory enforcement mechanisms, digital fingerprinting and digital watermarking do not impose additional burdens on government bureaucracies and once implemented by an ISP are automated and self-enforcing.¹⁰⁸ Network management of illicit copyrighted content reduces congestion and avoids additional costs of upgrading the infrastructure.¹⁰⁹ It is estimated that up to seventy percent of

In addition to France, similar laws and policies have been adopted, considered, or rejected by Australia, Germany, Hong Kong, the Netherlands, New Zealand, South Korea, Sweden, Taiwan, and the United Kingdom. Thus far, proposals for the development of a graduated response system have been rejected by Germany, Hong Kong, Spain, and Sweden as well as the European Parliament.

Id.

¹⁰⁰ Lital Helman, *When Your Recording Agency Turns into an Agency Problem: The True Nature of Peer-To-Peer Debate*, 50 IDEA 49, 51 (2009).

¹⁰¹ Yu, *supra* note 10, at 1390–1403.

¹⁰² 17 U.S.C. § 512(c) (2006).

¹⁰³ PAUL CHWELOS, INTERNET SERVICE PROVIDERS REPORT 1 (Jan. 20, 2006).

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

¹⁰⁶ Lindsee Gendron, *A Safer Harbor*, 36 OHIO N.U. L. REV. 619, 619 (2010) (“The competition that already exists in this market makes the introduction of the filtering requirement economically feasible.”).

¹⁰⁷ David Kravets, *DRM is Dead, but Watermarks Rise from Its Ashes*, WIRED (Jan. 11, 2008), http://www.wired.com/print/entertainment/music/news/2008/01/sony_music (“[W]atermarking is likely to produce fresh, empirical data that copyright material is ping-ponging across peer-to-peer sites - data the industry would use in its ongoing bid to tighten copyright controls, and to browbeat internet service providers to implement large-scale copyright-filtering operations.”).

¹⁰⁸ T.J. McIntyre & Colin Scott, *Internet Filtering: Rhetoric, Legitimacy, Accountability and Responsibility*, in REGULATING TECHNOLOGIES 2 (R. Brownsword and K. Yeung eds., 2008) (“Once the technology is developed and deployed no further human intervention is required, unless and until users find ways to circumvent the intended controls.”).

¹⁰⁹ GEORGE OU, MANAGING BROADBAND NETWORKS: A POLICYMAKER'S GUIDE 7 (Internet Info. Tech. & Innovation Found 2008), available at http://www.itif.org/files/Network_Management.pdf. See Paul Ohm, *The Rise and Fall of Invasive ISP Surveillance*, 2009 U. ILL. L. REV. 1417, 1425 (2009) (noting the effect of bandwidth increases on infrastructure).

broadband bandwidth is consumed by music, movies, games, and similar unproductive downloads.¹¹⁰ However, digital fingerprinting and digital watermarking may force ISPs to bear the filtering cost and increase the price of their services, resulting in a potential change in subscribers' behavior.¹¹¹ Of course, it is possible that a decrease in illicit uses of an ISP's services may result in sufficient cost savings that these savings will off-set the additional costs of monitoring web traffic.¹¹²

Youku, China's leading video sharing website, is a pioneer in implementing the digital fingerprinting technology to prevent copyright infringement.¹¹³ In addition to Youku's own copyright screening system, videos uploaded onto Youku will be simultaneously checked against the VideoDNA Database ("VDDB") developed by Vobile, a leading international provider of fingerprinting technology.¹¹⁴ Vobile's technology can "identify copyrighted content even in cases where uploaders have deliberately tampered with the video or audio to reduce identifiability."¹¹⁵

Major ISPs in China are state-owned, however.¹¹⁶ It is doubtful whether copyright owners can receive adequate damages from state-owned ISPs.¹¹⁷ For example, China National Petroleum Corp ("CNOP") caused the huge oil spill in the major northern Chinese port Dalian on July 16, 2010.¹¹⁸ After months of negotiation, the local government reached an agreement with CNOP that the local government

¹¹⁰ MANAGING PEER-TO-PEER TRAFFIC WITH CISCO SERVICE CONTROL TECHNOLOGY, CISCO SYS. 1 (Feb. 2005), available at http://www.cisco.com/en/US/prod/collateral/ps7045/ps6129/ps6133/ps6150/prod_white_paper0900aecd8023500d.html.

¹¹¹ Mehan Jayasuriya et al., *Forcing The Net Through A Sieve: Why Copyright Filtering Is Not A Viable Solution For U.S. ISPs*, in BROADBAND & CABLE INDUSTRY LAW 2010, at 221, 232 (PLI Pats., Copyrights, Trademarks, & Literary Prop. Course, Handbook Ser. No. 221, 2010), available at WL, 993 PLI/Pat 221. ("The costs associated with filtering--most notably, the purchasing and maintenance of filtering hardware and software--are likely to be passed on to consumers, decreasing the affordability of broadband services.")

¹¹² Yu, *supra* note 10, at 1376-77 ("Furthermore, while ISPs still have a strong interest in increasing their market share, their economic bottom line, along with the high resource and administrative costs and the concerns over network congestion, may eventually force them to take action to boot some illegal file-sharers off their network.")

¹¹³ *Youku Upgrades Fingerprinting System for Tougher Copyright Protection Measures*, PR NEWSWIRE (Mar. 7, 2011), <http://www.prnewswire.com/news-releases/youku-upgrades-fingerprinting-system-for-tougher-copyright-protection-measures-117513508.html>.

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ Lyombe Eko et al., *Google this: The Great Firewall of China, The It Wheel of India, Google Inc., and Internet Regulation*, 15 J. INTERNET L. 3, 4-5 (2011) ("Over the years, China has established an Internet law regime that regulates the content and activities of Internet Service Providers, Internet Content Providers, and Chinese citizens on the Net. The result is that the Chinese government is the effective gateway to the Internet in its national territory.")

¹¹⁷ State owned ISPs remain deferential to regulatory and security authorities. See Jonathan Ansfeld, *Amendment Tightens Law on State Secrets in China*, N.Y. TIMES, at A9 (Apr. 29, 2010) ("Many of China's communications and Internet service providers are already state-owned entities, and they rarely defy orders to intercept content."); but see JAMES M. ZIMMERMAN, CHINA LAW DESKBOOK: A LEGAL GUIDE FOR FOREIGN-INVESTED ENTERPRISES 670-72 (Am. Bar Ass'n 2005).

¹¹⁸ Michael Wines & Keith Bradsher, *Workers Question China's Account of Oil Spill*, N.Y. TIMES, at 6A (Aug. 4, 2010).

would compensate the victims and CNOP would compensate the local government by investing more in the area.¹¹⁹ The local government had a strong incentive to lower the amount of compensation and instructed the court what they should do, as long as CNOP's investment would boost the local GDP, which in turn would help local officials' promotion chances.¹²⁰ The same might happen in a case involving state-owned ISPs such as China Telecom. If the local government mediates for the ISP, it is unclear whether copyright owners can obtain adequate damages from the local government.¹²¹ In the above P2P infringement cases, the amount of damages ranges from 50,000 to 200,000 Chinese yuan.¹²² If the amount is not significant enough, the ISP may simply treat it as the licensing fee and infringe copyright again.

The Korean graduated response system might be an alternative solution for mainland China. The Korean Copyright Commission¹²³ ("KCC") and the Ministry of Culture, Sports and Tourism¹²⁴ ("MCST"), rather than an ISP, decide whether to suspend a subscriber's internet access.¹²⁵ MCST is empowered to issue correction orders to an ISP, requiring it to remove infringing content, issue warnings to the subscriber or even suspend his account.¹²⁶ Before MCST takes any action, the matter must be reviewed by the KCC, and the ISP and the subscriber may submit their statements.¹²⁷ Once the MCST issue the order, the ISP must act in five to ten days.¹²⁸ Otherwise, a fine up to ten million won (approximately \$9000 USD) may be imposed.¹²⁹ The email service of the suspended account, however, will not be

¹¹⁹ See Chen Aizhu, *China Dalian Oil Spill Cleaned 9 Days After the Accident*, REUTERS (July 26, 2010), <http://www.reuters.com/article/2010/07/26/us-dalian-spill-idUSTRE66P18U20100726>; 中海油造就了谁的困境? (July 26, 2011), http://ny.china.com.cn/2011-07/26/content_4359507_2.htm; *China's CNPC to Invest in City Hit by Oil Spill*, PHYSORG (Jan. 4, 2011), <http://www.physorg.com/news/2011-01-china-cnpc-invest-city-oil.html>.

¹²⁰ But see *Prosecutors Looking at Dalian Oil Spill Case* CHINA DAILY (Nov. 25, 2011), http://www.chinadaily.com.cn/china/2011-11/25/content_14158840.htm.

¹²¹ Jeffrey W. Berkman, *Intellectual Property Rights in the P.R.C.: Impediments to Protection and the Need for the Rule of Law*, 15 UCLA PAC. BASIN L.J. 1, 20 (1996).

An obvious conflict of interest therefore arises when the local government is more interested in protecting profitable, although illegitimate, local businesses than expending resources to shut them down. Even the best intentions of local departments may not be sufficient if they lack the financial resources and personnel to initiate enforcement efforts.

Id.

¹²² Shanghai Push Sound Music and Entm't. Co. v. Kuro, (2005)二中民初字第13739号; Guangzhou Zoke Culture Dev. Co. vs. Guangzhou Shulian Software Dev. Co., (2006)沪一中民五(知)初字第384号.

¹²³ Jeojakkwonbeop [Korean Copyright Act], Act No. 9785, July 31, 2009, arts. 112, 133 (S. Kor.).

¹²⁴ *Id.* arts. 112-2, 133.

¹²⁵ *Id.* art. 133.

¹²⁶ *Id.* art. 133-2; Sun-Young Moon & Daeup Kim, *The "Three Strikes" Policy in Korean Copyright Act 2009: Safe or Out?*, 6 WASH. J. L. TECH. & ARTS 171, 171 (2011).

¹²⁷ Korean Copyright Act, art. 133-2. Moon & Kim, *supra* note 126, at 172.

¹²⁸ Korean Copyright Act, art. 133-3(2).

¹²⁹ *Id.* art. 142(2)(3).

affected.¹³⁰ The suspended subscriber may also access the internet through other ISPs.¹³¹

KCC is authorized to grant to an ISP self-regulating correction recommendations, including removal of infringing content, issuance of warnings to the subscriber and suspension of a repeat infringer's account.¹³² KCC may request MCST to issue coercive correction orders if the ISP fails to comply with the recommendations.¹³³ The practice in the past two years indicated almost one hundred percent compliance by ISPs.¹³⁴ Thirty-one subscribers' accounts have been suspended for less than one month pursuant to KCC's recommendations.¹³⁵

The Korean approach might work in mainland China, where administrative protection is parallel to judicial protection.¹³⁶ The National Copyright Administration and the Copyright Administration at the local level have authority to deter piracy.¹³⁷ Like Korea, lawmakers can authorize two agencies to determine the issue of copyright infringement to prevent the abuse of power in mainland China.

II. P2P FILE SHARING IN HONG KONG

Almost half (44.5 percent) of the Hong Kong residents supported a graduated response system to prevent online copyright infringement, while only 23.7 percent believed that a graduated response system would not be an effective approach.¹³⁸ The HKSAR Administration's "Proposals" paper rejected the statutory graduated response system as a way to deal with repeat infringers, but offered no alternative.¹³⁹

¹³⁰ *Id.* art. 133-2(2)(1).

¹³¹ *Id.*

¹³² *Id.*

¹³³ *Id.* art. 133-2(3).

¹³⁴ *Facts and Figures on Copyright Three-Strike Rule in Korea*, HEESOB'S IP BLOG (Oct. 24, 2010, 3:20 PM) <http://hurips.blogspot.com>.

¹³⁵ *Id.*

¹³⁶ Ke Steven Wan, *Internet Service Providers' Vicarious Liability Versus Regulation of Copyright Infringement in China*, 2011 U. ILL. J.L. TECH. & POL'Y 375, 399 (2011); See Lina Wang, *Intellectual Property Protection in China*, 36 INT'L INFO. & LIBR. REV. 253, 258 (2004).

China has devoted much manpower, materials, and financial resources to intellectual property protection and mobilized various institutions to carry out acts of cracking down on counterfeiting and burglary copyright As a system, intellectual property protection includes the legislative protection, administrative protection, juridical protection, protection of collective managerial organization of intellectual property, technical protection, and the self-relief of the intellectual property owner. The protection in these six aspects is interpenetrated and interwoven, forming a stereoscopic line of defense of socially comprehensive harnessing.

Id.

¹³⁷ See Wang, *supra* note 136, at 258.

¹³⁸ Eamonn Forde, *Hong Kong Residents in Favor of Graduated Response*, MUSICWEEK (May 6, 2010), <http://www.musicweek.com/story.asp?storyCode=1041052§ioncode=1>.

¹³⁹ LEGISLATIVE COUNCIL PANEL ON COMMERCE AND INDUSTRY, PROPOSALS FOR STRENGTHENING COPYRIGHT PROTECT IN THE DIGITAL ENVIRONMENT 5-6 (Nov. 2009), available at http://www.cedb.gov.hk/citb/ehhtml/pdf/consultation/Panel_Paper_Digital_Eng_Full.pdf; IIPA REPORT: HONG KONG, *supra* note 27, at 389.

To solve the P2P filesharing issue, a so-called notice-and-notice procedure was introduced in a voluntary Code of Practice agreed by the content industry and ISPs.¹⁴⁰ It provided the notice-and-notice procedure and the notice-and-takedown procedure for ISPs to follow.¹⁴¹ An ISP is advised to pass the copyright owner's notice to its subscribers.¹⁴² Despite the lack of penalties after a series of warnings, the notice-and-notice procedure should be able to deter most infringers because of the threat of lawsuits.¹⁴³

Copyright owners may intend to shift the cost of deterring egregious infringers to ISPs through the graduated response system.¹⁴⁴ Under the notice-and-notice procedure, the copyright owner will have to deter egregious infringers through litigation and bear the litigation cost.¹⁴⁵ The notice-and-notice procedure may be more expensive for copyright owners than the graduated response system, but the former ensures that the court makes the final decision following due process.¹⁴⁶ In terms of the time spent, it may take longer to disconnect an egregious infringer

¹⁴⁰ HONG KONG COMMERCE & ECON. DEV. BUREAU, DRAFT: COPYRIGHT PROTECTION IN THE DIGITAL ENVIRONMENT, CODE OF PRACTICE FOR SERVICE PROVIDERS 6–9 (2009), available at http://www.cedb.gov.hk/citb/doc/en/Draft_Code_of_Practice_Eng_final.pdf.

¹⁴¹ *Id.*; Hong Kong Copyright (Amendment) Bill 2011, Div. IIIA, cl. 45, sec. 88B (2011) (introducing safe harbor provisions, affording ISPs immunity for subscribers' copyright infringement).

¹⁴² *Id.* at sec. 88D.

¹⁴³ See David Carnoy, *Verizon Ends Service of Alleged Illegal Downloaders*, CNET NEWS (Jan. 20, 2010), http://news.cnet.com/8301-1023_3-10437176-93.html (“[The Verizon representative] also noted that . . . issuing warning letters is proving to be effective.”); Greg Sandoval, *AT&T Exec: ISP Will Never Terminate Service on RIAA's Word*, CNET NEWS (Mar. 25, 2009), http://news.cnet.com/8301-1023_3-10204514-93.html (“[An AT&T vice president] said the notices worked. The company saw very few repeat offenders.”); Broder Kleinschmidt, *An International Comparison of ISP's Liabilities for Unlawful Third Party Content*, 18 INT'L J.L. & INFO. TECH. 332, 351 (2010) (“The notice-and-notice regime in fact seems to be effective . . . [eighty to ninety percent] of complaints are resolved after the first notice and there are relatively few repeat complaints about the same content and the same user as at least one of CAIP's larger members has found.”); see generally Michael Geist, *The Effectiveness of Notice and Notice* (Feb. 15, 2007), <http://www.michaelgeist.ca/content/view/1705/125/>; but see IIPA REPORT: HONG KONG, *supra* note 27, at 390 (noting that the lack of penalties after a series of warnings will not deter repeat infringers).

¹⁴⁴ See Yu, *supra* note 10, at 1382–83 (discussing how the graduated response system is more cost effective than the traditional method of enforcing copyrights through litigation).

¹⁴⁵ *Id.*

¹⁴⁶ Jason Rudkin-Binks & Stephanie Melbourne, *The New “Three Strikes” Regime for Copyright Enforcement in New Zealand—Requiring ISPs to Step Up to the Fight*, 20 ENT. L.R. 146, 149 (2009).

The primary advantage of this [notice-and-notice] procedure is that it leaves the ISP as a mere go-between and places any legal decision making and interpretation of copyright legislation rightly in the hands of the courts. The removal of infringing material would only take place on judicial order after due consideration of the various interests involved in the dispute. Secondly, it confines the conflict between the copyright owner and the alleged infringer, leaving those parties to bear the costs of any legal proceedings. Thirdly, instead of blocking access to an entire website merely on allegations of copyright breach, it takes a less aggressive approach by passing the complaint to the alleged offender, thus not inhibiting freedom of expression.

Id.

under the notice-and-notice procedure than under the graduated response system because the disconnection issue will have to be decided by a court under the former procedure.¹⁴⁷ Because the egregious infringer's misconduct is usually unambiguous, the court may grant the copyright owner a preliminary injunction and develop expedited procedure to hear the cases.

*Cinepoly Records v. Hong Kong Broadband Network*¹⁴⁸ was the first lawsuit brought by the music industry in Hong Kong concerning the disclosure of alleged P2P infringers.¹⁴⁹ Twenty-two alleged infringers uploaded music files via the P2P software WinMX.¹⁵⁰ When the plaintiff asked the ISPs to disclose the infringers' identities, three of the four ISPs said that only a court order would allow them to disclose the infringers' identities due to the ISPs' commitment under the Hong Kong Personal Data Protection (Privacy) Ordinance.¹⁵¹ The fourth ISP, i-Cable Communications, said that they would appeal against the ruling even if the plaintiff obtained a court order.¹⁵² Unable to identify the anonymous alleged infringers, the plaintiff requested a Norwich Pharmacal order to discover their identities.¹⁵³ Three conditions must be met to issue a Norwich Pharmacal order: (1) "there must be some serious tortious or wrongful activities;"¹⁵⁴ (2) "the applicant must bona fide believe that the alleged wrongdoer is infringing their rights;"¹⁵⁵ and (3) "the innocent party against whom disclosure is sought has become involved in these activities and thereby facilitating them."¹⁵⁶ Because the third party facilitates the wrongdoing, it is under a moral obligation to disclose the direct infringer's identity.¹⁵⁷

The ISPs refused to disclose the infringers' identities because of the Personal Data Protection (Privacy) Ordinance ("PDPO").¹⁵⁸ A number of exemptions in the PDPO, however, allow the access to personal data, including the prevention of "unlawful or seriously improper conduct".¹⁵⁹ The court held that copyright infringement should fall within the meaning of unlawful conduct.¹⁶⁰ In addition, the

¹⁴⁷ See Michael Boardman, *Digital Copyright Protection and Graduated Response: A Global Perspective*, 33 LOY. L.A. INT'L & COMP. L. REV. 223, 253–54 (2011).

¹⁴⁸ *Cinepoly Records Co. v. Hong Kong Broadband Network Ltd*, 1 H.K.L.R.D. 255 (HC (HK)); HKCFI84; HCMP002487/2005 (Jan. 26, 2006).

¹⁴⁹ *Id.*

¹⁵⁰ *Id.* at 260.

¹⁵¹ *Id.* at 271.

¹⁵² *Id.* at 275; Wan Ting Low, *Tackling Online Copyright Infringement in Hong Kong*, 17 ENT. L. REV. 122, 124 (2006).

¹⁵³ *Cinepoly Records Co.*, 1 H.K.L.R.D. at 255; Low, *supra* note 152, at 124; see Melody Yiu, *A New Prescription for Disclosure: Reformulating the Rules for the Norwich Order*, 65 U.T. FAC. L. REV. 41, 44–47 (2007); Peter Devonshire, *Freezing Orders, Disappearing Assets and the Problem of Enjoining Non-parties*, 118 L.Q. REV. 124, 145 (2002).

¹⁵⁴ See Jojo Mo, *Cinepoly Records Co. v Hong Kong Broadband Network Ltd*, 2009 E.I.P.R. 48, 48–49 (2009).

¹⁵⁵ *Id.* at 49.

¹⁵⁶ *Id.*

¹⁵⁷ Yiu, *supra* note 153, at 60. When applying the mere witness rule, Lord Reid divided witnesses into two categories: bystanders and facilitators. *Id.* at 48. Mere bystanders are immune to discovery. *Id.*

¹⁵⁸ *Cinepoly Records*, 1 H.K.L.R.D. at 258.

¹⁵⁹ Personal Data Protection Ordinance, (1995) Cap. 486 § 58 (H.K.).

¹⁶⁰ *Cinepoly Records*, 1 H.K.L.R.D. at 268.

court held that a Norwich Pharmacal order is an equitable relief and could not be a breach of the duty of confidentiality in the subscribers' agreement.¹⁶¹ Thus, the court ordered the ISPs to disclose the names, addresses and identity card numbers of twenty-two alleged infringers.¹⁶²

*Chan Nai Ming v. HKSAR*¹⁶³ was the first case in the world to impose criminal sanctions on a P2P infringer.¹⁶⁴ The defendant, Chan Nai Ming, shared three movies using a P2P network.¹⁶⁵ The defendant argued that an infringing electronic copy cannot be distributed without transferring its physical storage device to a recipient of distribution.¹⁶⁶ The court rejected his argument, holding that use of a physical storage device was not an essential condition for the transfer or "distribution" of an electronic copy.¹⁶⁷ Furthermore, there were no factual or legal reasons for "distribution" of electronic copies to be confined to the physical transfer of storage devices.¹⁶⁸ The court also found that "[d]istribution' in its ordinary meaning is clearly capable of encompassing a process in which the distributor first takes necessary steps to make the item available and the recipient then takes steps of his own to obtain it."¹⁶⁹ Here, the defendant took all the necessary steps to make the movies available by keeping his computer connected to the Internet and continuing to run the BitTorrent software to ensure that entire copies of the movies would be transferred to the downloaders.¹⁷⁰ The use of an automated process does not make the defendant a passive participant.¹⁷¹ He was convicted and sentenced to three months' imprisonment.¹⁷²

III. CONCLUSION

This article has examined how P2P file sharing greatly facilitates the distribution of knowledge, yet brings new challenges to copyright law enforcement. The battle against illegal P2P file sharing is likely to continue for some time due to its unique structure and potential benefits. Copyright owners have sought to hold the P2P software developer liable and introduced the graduated response system to disconnect individual users. None of these formal legal approaches are close to

¹⁶¹ *Id.* at 273; Mo, *supra* note 154, at 49.

¹⁶² *Cinepoly Records*, 1 H.K.L.R.D. at 275; Low, *supra* note 152, at 123; Mo, *supra* note 154, at 49.

¹⁶³ *Chan Nai Ming v. HKSAR*, [2007] 3 H.K.C. 255 (C.F.A.).

¹⁶⁴ See Steven Gething, *Criminal Infringement of Copyright: The Big Crook Case*, in *COPYRIGHT LAW, DIGITAL CONTENT AND THE INTERNET IN THE ASIA-PACIFIC* 365, 365 (Brian Fitzgerald et al. eds., 2008).

¹⁶⁵ See *Chan Nai Ming*, 3 H.K.C. at § A.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.* § E.3.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* § F.1.

¹⁷⁰ *Id.* § D.

¹⁷¹ *Id.* § F.1.

¹⁷² *Id.* § E.3.

satisfactory, however, because illegal P2P file sharing is still rampant.¹⁷³ Because major ISPs in mainland China are state-owned, the court may lower the amount of damages. The government may be more apt to determine the disconnection issues. The Korean approach might work in mainland China because administrative protection has played a significant role in mainland China. Finally, this article explored how the notice-and-notice procedures used in Hong Kong seem to be more appealing than the graduated response system and provide optimism for future procedural improvements.

¹⁷³ Xiaoqing Feng & Frank Xianfeng Huang, *International Standards and Local Elements: New Developments of Copyright Law in China*, 49 J. COPYRIGHT SOC'Y U.S.A. 917, 940 (2002).