COMMUNICATIONS' COPYRIGHT POLICY

MOLLY SHAFFER VAN HOUWELING*

* Acting Professor of Law, University of California, Berkeley (Boalt Hall). Thanks to Philip J. Weiser for his helpful comments and for inviting me to explore these ideas at the Silicon Flatirons Telecommunications Program's 2005 conference on "The Digital Broadband Migration: Rewriting the Telecom Act." Thanks to Tim Wu, whose work inspired this essay. *See* Tim Wu, *Copyright's Communications Policy*, 103 MICH. L. REV. 278 (2004). Wu explores copyright law's under-recognized role in regulating competition between rival disseminators of creative works. Here, I begin to explore the flip side of this relationship—the FCC's role in promoting creativity. *See generally* Jonathan Weinberg, *Digital TV, Copy Control, and Public Policy*, 20 CARDOZO ARTS & ENT. L.J. 277 (2002) (also exploring the intersection between copyright and communications policy). And thanks to Kenneth A. Bamberger, Julie E. Cohen, Susan Crawford, Alison A. Minea, Robert P. Merges, Howard A. Shelanski, Robert P. Van Houweling, Fred von Lohmann, and Jonathan L. Zittrain for their insightful comments.

INTRODUCTION

The legal treatment of technologies designed to prevent unauthorized uses of creative works—often referred to as "technological protection measures" (TPMs)—has been one of the most controversial issues in copyright policy over the past decade.[1] The Federal Communications Commission (FCC or Commission) boldly but futilely attempted to enter this fray with its 2003 "Broadcast Flag" Order, which aimed to require and regulate the deployment in consumer electronics equipment of technologies designed to control redistribution of broadcast digital television programming.[2]

The Court of Appeals for the District of Columbia Circuit recently invalidated the Order on jurisdictional grounds.[3] But despite the demise of the Broadcast Flag Order itself, this episode raises what is likely to be a recurring question: What role, if any, should the FCC play in regulating TPMs?[4] More broadly, should Communications meddle in copyright?

To many FCC critics, the answer is clearly *no*: the FCC has no proper role in the regulation of TPMs or in copyright policy more

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1. The role of technological protection of creative works has not captured the public's attention to the degree that some other recent copyright controversies have (especially those involving unauthorized distribution of copyrighted works using peer-to-peer technology). But the issue has attracted exhaustive treatment by copyright scholars. For a sampling, *see* JESSICA LITMAN, DIGITAL COPYRIGHT (2001); LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE (1999); Stefan Bechtold, *Digital Rights Management in the United States and Europe*, 52 AM. J. COMP. L. 323 (2004); Yochai Benkler, *An Unhurried View of Private Ordering in Information Transactions*, 53 VAND. L. REV. 2063 (2000); Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J.L. & TECH. 41 (2001); Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised*, 14 BERKELEY TECH. L. J. 519 (1999); Tom W. Bell, *Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright's Fair Use Doctrine*, 76 N.C.L. REV. 557 (1998); Julie E. Cohen, *Lochner in Cyberspace: The New Economic Orthodoxy of "Rights Management,"* 97 MICH. L. REV. 462 (1998); Margaret Jane Radin & R. Polk Wagner, *The Myth of Private Ordering: Rediscovering Legal Realism in Cyberspace*, 73 CHI.-KENT L. REV. 1295 (1998); Joel R. Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEX. L. REV. 553, 566-68 (1998).

2. Digital Broadcast Content Protection, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd. 23,550 (2003) [hereinafter Broadcast Flag Order].

3. American Library Ass'n v. FCC, 406 F.3d 689 (D.C. Cir. 2005).

4. Supporters of the broadcast flag approach hope it will be revived by congressional action. *See*, *e.g.*, Declan McCullagh, *Politicians Want to Raise Broadcast Flag*, ZDNET NEWS, Sept. 30, 2005, *at* http://news.zdnet.com/2100-9595_22-5886722.html (describing lobbying efforts by the Motion Picture Association of America); National Ass'n of Broadcasters President and CEO Edward O. Fritts's Statement in Response to "Broadcast Flag" Decision (May 6, 2005), *at* http://www.nab.org/Newsroom/PressRel/Statements/050605BroadcastFlag.htm ("We will work with Congress to authorize implementation of a broadcast flag that preserves the uniquely American system of free, local television.").

generally.[5] In this essay I take a more equivocal view. Although the Broadcast Flag Order was flawed—substantively as well as jurisdictionally—its failure does not necessarily suggest that the FCC cannot play a useful role in this area. Some regulation of TPMs may in fact be an important component of balanced copyright policy and the FCC has expertise that it might usefully contribute to this regulatory task.

Specifically, regulation may be justified to constrain TPMs that threaten the copyright balance by limiting behavior that copyright law privileges, especially in circumstances where market constraints on TPMs are weak. Although the Broadcast Flag Order was aimed primarily in the opposite direction—at imposing a TPM scheme that might otherwise not have existed—the Order also hinted at the idea that some overreaching TPMs should be proscribed. The FCC implemented this idea more fully in its little-noted 2003 "Plug and Play" Order, which regulated TPMs in a context—cable and satellite television—in which relying on the market to constrain TPMs is especially problematic.

I begin in Part I by describing TPMs and the FCC's failed attempt to mandate and regulate them in the Broadcast Flag Order. In Part II, I explain why, notwithstanding the failure of that Order, regulation of TPMs may sometimes be a necessary element of balanced copyright policy; in fact, elements of the Broadcast Flag Order and (more so) the Plug and Play Order illustrate the useful role that government can play in restraining TPMs that threaten the copyright balance, especially where market constraints on TPMs are ineffective. In Part III, I explain how the FCC's expertise is relevant to the task of assessing TPMs and the market conditions in which they arise, and to regulating TPMs where regulation is warranted. Part IV returns to the specifics of the Broadcast Flag Order, suggesting how a revised order could guard the copyright balance in yet another way.

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5. *See*, *e.g.*, Petitioner's Opening Brief at 20, American Library Ass'n, 406 F.3d 689 (No. 04-1037), *available at* http://www.publicknowledge.org/pdf/bf_filing_100404.pdf (describing copyright law as "a domain clearly not [the FCC's] own"); *cf.* Declan McCullagh & Milana Homsi, *Leave DRM Alone: A Survey of Legislative Proposals Relating to Digital Rights Management Technology and Their Problems*, 2005 MICH. ST. L. REV. 317 (arguing against any government regulation of TPMs). *But see* John M. Williamson, *Rights Management in Digital Media Content: Case for FCC Intervention in the Standardization Process*, 3 J. TELECOMM. & HIGH TECH. L. 309 (2005) (arguing that the FCC should intervene in the TPM standard-setting process); Chad Woodford, Comment, *Trusted Computing or Big Brother? Putting the Rights Back in Digital Rights Management*, 75 U. COLO. L. REV. 253, 291-300 (2004) (proposing that Congress authorize the FCC to regulate TPMs).

I. TECHNOLOGICAL PROTECTION AND THE BROADCAST FLAG ORDER

A. Copyright, Technological Protection Measures, and Anti-Circumvention Law

Copyright law proscribes certain unauthorized uses of creative works. It prohibits, for example, the unauthorized reproduction of a book until 70 years after the death of its author.[6] This prohibition is enforced ex post—through lawsuits against alleged infringers.[7] But use of creative works can be controlled ex ante as well, by technologies that constrain user behavior.

The content industry has worked with technologists to develop such tools as encryption methods and other types of TPMs designed to control use of creative works. For example, the motion picture industry has adopted the Content Scrambling System (CSS), a TPM that involves encrypting movie files and licensing decryption technology only to manufacturers of DVD players that do not permit the files to be copied.[8] Content industry representatives claim that CSS and other TPMs are important components of their efforts to prevent copyright infringement.[9]

The Clinton administration endorsed emerging TPM efforts in its 1995 report on Intellectual Property and the National Information Infrastructure.[10] Congress reinforced TPMs by prohibiting

6. 17 U.S.C. § 102 (2005) (subject matter of copyright); 17 U.S.C. § 106 (2005) (copyright holders' exclusive rights); 17 U.S.C. § 302 (2005) (duration of copyrights).

7. 17 U.S.C. § 501 (2005).

8. CSS (and its ultimate circumvention) is described in more detail in Universal City Studios, Inc. v. Reimerdes, 111 F.Supp.2d 294 (S.D.N.Y. 2000).

9. *See, e.g.*, Motion Picture Association of America, *Anti-Piracy*, *at* http://www.mpaa.org/anti-piracy/ (last visited July 21, 2005) ("Copy protection benefits consumers as well as the industry because without these safeguards, the industry would not be able to release their high-quality digital content for fear of widespread and rampant piracy. . . . The motion picture industry has pursued those who distribute devices that break copy protection in any format. While no technology has yet proven foolproof, the industry continues to implement protection technologies which raise the threshold of difficulty and expense for the pirate and therefore help reduce piracy."); Associated Press, *Recording Industry: CD-Burning a Bigger Problem than File-Sharing*, SAN JOSE MERCURY NEWS (Aug. 13, 2005), *available at* http://www.mercurynews.com/mld/mercurynews/news/local/states/california/northern_california/12371578.htm (quoting Recording Industry Association of American chief executive Mitch Bainwol's prediction that copy protection technology "is an answer to the problem" of CD-burning "that clearly the marketplace is going to see more of").

10. INFORMATION INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING

circumvention of certain technological controls (and provision of tools that make circumvention possible) in the Digital Millennium Copyright Act of 1998 (DMCA).[11]

Critics object to TPMs and to the government's efforts to bolster them. One complaint is that TPMs do not necessarily respect the limits that are built into copyright law. The exclusive rights that the Copyright Act gives to copyright holders[12] are deliberately constrained in a variety of ways: copyrights eventually expire and works become part of the public domain[13]; the scope of copyright protection is limited to a work's "expression" and does not extend to any underlying "idea, procedure, process, system, method of operation, concept, principle, or discovery"[14]; and some unauthorized uses are excused as "fair use."[15] The Supreme Court has explained that these limits preserve a crucial balance within copyright—between encouraging the production of creative works and ensuring their broad availability, and between encouraging one generation of creators and leaving open expressive opportunities for the next.[16] The Court has described fair use as a "guarantee of breathing space within the confines of copyright,"[17] and the idea/expression dichotomy as "the means by which copyright advances the progress of science and art"[18] and as "'the essence of copyright.'"[19] TPMs, by contrast, can constrain behavior in ways that do not reflect this careful balance. Technology that prevents copying of DVDs, for example, can be applied to works that are in the public domain.[20] TPMs can also prevent uses (like reverse engineering) that are necessary to reveal a copyrighted work's unprotected elements,[21] or that are otherwise

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GROUP ON INTELLECTUAL PROPERTY RIGHTS (1995), *available at* http://www.uspto.gov/web/offices/com/doc/ipnii.

11. The relevant provisions are codified at 17 U.S.C. §§ 1201-1205 (1999).

12. Those exclusive rights, which include, inter alia, reproduction and public distribution of copyrighted works, are enumerated at 17 U.S.C. § 106 (2005).

13. 17 U.S.C. §§ 302-305 (2005).

14. 17 U.S.C. § 102 (2005).

15. 17 U.S.C. § 107 (2005).

16. *See, e.g.*, Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975) ("The limited scope of the copyright holder's statutory monopoly, like the limited copyright duration required by the Constitution, reflects a balance of competing claims upon the public interest: Creative work is to be encouraged and rewarded, but private motivation must ultimately serve the cause of promoting broad public availability of literature, music, and the other arts.").

17. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 579 (1994).

18. Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc., 499 U.S. 340, 350 (1991).

19. *Id.* at 349, (quoting Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 589 (1985) (Brennan, J., dissenting)).

20. *See generally* Pamela Samuelson, *Mapping the Digital Public Domain: Threats and Opportunities*, 66 LAW & CONTEMP. PROBS. 147, 160-61 (2003).

21. *See generally* Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of*

privileged as fair uses.[22] A common criticism of the DMCA is that it can operate to reinforce even these TPMs that constrain non-infringing behavior.[23]

Meanwhile, some content producers complain that the law does not yet do enough to support their technological protection efforts. Some technological protection techniques will not work without the affirmative cooperation of consumer electronics manufacturers. For example, schemes in which a publisher merely labels content with digital "do not copy" tags do not work unless copying equipment is built to recognize and comply with such tags.[24] But consumer electronics manufacturers are often reluctant to take on the expense, complexity, and risk of consumer dissatisfaction involved in building TPM-compliant equipment.[25] So content industry representatives like the Motion Picture Association of America have lobbied Congress to require the manufacturers' cooperation.[26] With a few narrow exceptions, Congress has thus far declined to require equipment manufacturers to adopt TPMs.[27] The FCC stepped into this breach with its 2003 Broadcast Flag Order.[28]

B. The Broadcast Flag Order

The Broadcast Flag Order is part of the FCC's effort to speed the transition to digital television (DTV). DTV promises a host of advantages over traditional analog television, not least of which is its

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Reverse Engineering, 111 YALE L.J. 1575, 1608-13, 1642-45 (2002).

22. *See generally* Burk & Cohen, *supra* note 1, at 49-51.

23. *See*, *e.g.*, Samuelson, *supra* note 20, at 160-61.

24. *See generally* Mike Godwin, *Harry Potter and the Prisoners of the DTV Transition* (Dec. 18, 2003), *at* http://www.publicknowledge.org/news/analysis/harrypotter (explaining why "[w]ithout government regulation and oversight, of course, the marking solution can't work").

25. *See*, *e.g.*, Drew Clark & Bara Vaida, *Digital Divide: Hollywood Versus Silicon Valley*, NAT'L JOURNAL, Sept. 7, 2002, at 2532 (describing disagreement within the consumer electronics industry about whether to corporate with content-industry TPM schemes). *See generally* Williamson, *supra* note 5, at 354-55.

26. *See* Mike Musgrove, *Hollings Proposes Copyright Defense*, WASH. POST, Mar. 22, 2002, at E03 (describing lobbying efforts).

27. In 2002, Senator Hollings introduced a bill that would require that digital media devices include content security technologies. Consumer Broadband and Digital Television Promotion Act, S. 2048, 107th Cong. § 5 (2002). To date, the bill has not been enacted. The two narrow areas in which Congress has mandated the adoption of TPMs are the Audio Home Recording Act's imposition of the Serial Copy Management System, 17 U.S.C. § 1002(a) and the Digital Millennium Copyright Act's requirement of automatic gain control copy control technology for analog video cassette recorders, 17 U.S.C. § 1201(k).

28. *See* Broadcast Flag Order, *supra* note 2.

thrifty use of electromagnetic spectrum.[29] Once analog broadcasting is entirely replaced by DTV, a wide swath of spectrum will be freed up for other uses.[30]

The full transition to DTV cannot proceed until television viewers have the equipment necessary to receive it—that is, new digital television receivers or analog receivers equipped with conversion technology.[31] But some consumers will of course be reluctant to purchase new equipment until there is desirable programming broadcast via DTV.

The Broadcast Flag Order expressed the FCC's concern that this programming would not be forthcoming because "the potential threat of mass indiscriminate redistribution will deter content owners from making high value digital content available through broadcasting outlets absent some content protection mechanism."[32] In other words, the FCC worries that broadcasters may not broadcast anything worth watching in DTV because of fears that viewers will post it on the Internet.[33] That kind of "mass indiscriminate redistribution" is a threat, according to the FCC, because "digital media can be easily copied and distributed with little or no degradation in quality," and because redistribution of these perfect copies could undermine authorized secondary markets for the programming (syndication, DVD sales, etc.).[34]

To address that perceived threat, the Order required (as of July 2005) that all devices capable of receiving broadcast DTV signals include pre-approved technology that would limit the redistribution—but not the copying—of any DTV programming whose broadcast signal included a special bit of data (the Broadcast Flag).[35] In August 2004, the FCC approved thirteen technologies as compliant with the Broadcast

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29. *See generally* Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service*, Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry*, 10 FCC Rcd. 10,540, 10,541 ¶ 4 (1995); FCC, Media Bureau Staff Report Concerning Over-the-Air Broadcast Television Viewers, ¶ 2 (Feb. 28, 2005), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-257073A1.pdf.

30. These transition issues are discussed in more detail in Susan P. Crawford, *The Biology of the Broadcast Flag*, 25 HASTINGS COMM. & ENT. L. J. 603, 608-09 (2003).

31. *See* 47 U.S.C. § 309(j)(14)(B)(iii) (2005) (authorizing the FCC to allow an extension of the deadline for ending analog broadcasts in markets in which 15-percent or more of the television households cannot receive digital television).

32. Broadcast Flag Order, *supra* note 2, at 23,552, ¶ 4.

33. Critics of the Broadcast Flag Order noted that there was in fact a significant amount of DTV broadcast programming available even before the Order took effect. *See* Petitioner's Opening Brief, *supra* note 5, at 14.

34. Broadcast Flag Order, *supra* note 2, at 23,552-3, ¶¶ 4, 6.

35. *See* Broadcast Flag Order, *supra* note 2, at 23,570, ¶ 40; *id.* at 23,576, ¶ 57. *See generally* STUART MINOR BENJAMIN ET AL., 2004 CUMULATIVE SUPPLEMENT TO TELECOMMUNICATIONS LAW AND POLICY 148-49 (2004).

Flag regime.[36]

A group of organizations, including the American Library Association, challenged the Broadcast Flag Order before the United States Court of Appeals for the District of Columbia. The petitioners argued that the Order was outside of the FCC's statutory authority,[37] that the FCC's conclusions in the Order were arbitrary and capricious because redistribution of DTV programming via the Internet was not a realistic threat and even if it were the Order would not stop it,[38] and that "the broadcast flag regime impermissibly conflicts with copyright law."[39] The court agreed that the FCC lacked statutory authority to promulgate the broadcast flag rules; it did not reach the petitioners' other arguments. Judge Edwards' opinion explains that "all relevant materials concerning the FCC's jurisdiction—including the words of the Communications Act of 1934, its legislative history, subsequent legislation, relevant case law, and Commission practice—confirm that the FCC has no authority to regulate consumer electronic devices that can be used for receipt of wire or radio communication when those devices are not engaged in the process of radio or wire transmission."[40]

In the wake of the Court of Appeals decision, supporters of the Broadcast Flag Order have lobbied Congress, so far without success, to give the FCC the authority that the court held it lacks.[41] Meanwhile, opponents have argued that, even apart from the jurisdictional problems with the Broadcast Flag Order, the FCC does not have a useful role to play in TPM policy. It should not mandate compliance with any TPM scheme; it should not regulate the types of TPM schemes that can be adopted; it should just stay out.[42] I am not so sure that the FCC should never make TPM policy. Under some circumstances, failure to regulate TPMs may harm the interests of consumers, creativity, and competition. The FCC has expertise that is relevant to identifying those circumstances, and to protecting those interests.

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36. Digital Output Protection Technology and Recording Method Certifications, *Order*, 19 FCC Rcd. 15,876, 15,879, ¶ 4 (2004) [hereinafter Certifications Order].

37. *See* Petitioner's Opening Brief , *supra* note 5, at 21-43.

38. *See id.* at 50-56.

39. *See id.* at 43-50.

40. *American Library Ass'n* 406 F.3d at 708.

41. *See* McCullagh, *supra* note 4; Michael Grebb, *Broadcast Flag at Half Mast?*, WIRED ONLINE, (June 1, 2005), *at* http://www.wired.com/news/technology/0,1282,67712,00.html; Eric A. Taub, *After Ruling, Broadcasters May Seek Congress's Help in HDTV Anti-Piracy Effort*, N.Y. TIMES, May 9, 2005, at C2.

42. *See, e.g.* Petitioner's Opening Brief, *supra* note 5, at 20. (describing copyright law as "a domain clearly not [the FCC's] own"); *cf.* McCullagh & Homsi, *supra* note 5 (arguing against any regulation of TPMs).

II. THE CASE FOR TPM REGULATION

A. Regulation may preserve the copyright balance.

The deployment of TPMs does not necessarily depend on government intervention. A number of TPMs have been adopted without any mandate from the government; several were developed and deployed prior to enactment of the anti-circumvention provisions of the DMCA. For example, CSS, the encryption method that the motion picture industry uses to control access to DVDs, predates the DMCA.[43] Of course, CSS was vulnerable to circumvention (and indeed was circumvented even after the deterrence of the DMCA was in place).[44] But many people do not have the knowledge and/or audacity to circumvent TPMs, or to acquire and use tools that would do the circumventing for them,[45] or to navigate the "darknets" where illegally unlocked content circulates.[46] TPMs can therefore constrain some people's behavior even in the absence of reinforcement like the DMCA or the Broadcast Flag Order. These constraints can extend beyond copyright infringement to uses of creative works that would be considered non-infringing under copyright law. This possibility is troubling given that the wisdom and constitutionality of copyright has repeatedly been held to depend on its preservation of these uses.[47]

In light of technology's potential to constrain even non-infringing behavior, a laissez faire attitude toward TPMs may not be the best way to preserve the balance that has long been understood as essential to good copyright policy.[48] This is an application of Lawrence Lessig's well-known argument about the power of code. Lessig contends both that technological code has the power to constrain more powerfully than legal code, and that the dangers posed by overreaching technological

43. *See* Universal City Studios, Inc. v. Corley, 273 F.3d 429, 436-37 (2nd Cir. 2001).

44. *See generally id.*

45. *See* Burk & Cohen, *supra* note 1, at 82 ("Even the most user-friendly circumvention technologies will require some threshold level of technological competence.")

46. *But see* Fred von Lohmann, *Measuring the Digital Millennium Copyright Act Against the Darknet: Implications for the Regulation of Technological Protection Measures*, 24 LOY. L.A. ENT. L. REV. 635, 642 (2004) (arguing that "the use of digital rights management and other TPMs to control unauthorized reproduction and distribution of digital content is largely a waste of time and resources" because one sophisticated circumventer can overcome a TPM and make the unlocked work available to everyone).

47. *See supra* notes 17-19 and accompanying text.

48. *See generally* Julie E. Cohen, *DRM and Privacy*, 18 BERKELEY TECH. L.J. 575, 613-17 (2003). *But see* Crawford, *supra* note 30, at 649 ("There is nothing wrong with the content industry building gates around its own content, which is what private DRM systems are.")

constraints may justify governmental intervention.[49]

To date, however, most of the United States government's interventions related to TPMs have not taken the form of TPM limitations designed to preserve non-infringing uses. Instead, they have been TPM reinforcements like the DMCA, which is controversial in part because of its potential to bolster even those private TPM efforts that constrain non-infringing behavior.[50]

The main thrust of the Broadcast Flag Order went even farther in the direction of TPM reinforcement. Unlike the DMCA, which aimed to limit circumvention of voluntarily imposed TPMs, the Broadcast Flag Order was the government's first major attempt to require the adoption of TPMs.[51] But the Broadcast Flag Order also contained the kernel of another type of TPM regulation, aimed not at bolstering TPMs, but at limiting them in order to preserve the copyright balance.

Specifically, the Broadcast Flag Order said that the flag was to be used only to prevent redistribution of digital broadcasts, not mere copying.[52] The Order explained the importance of this limitation in

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49. *See* LESSIG, *supra* note 1, at 220 ("When government steps aside, it is not as if nothing takes its place. Paradise does not prevail. It's not as if private interests have no interests, as if private interests don't have ends they will then pursue. To push the antigovernment button is not to teleport us to Eden. When the interests of government are gone, other interests take their place."); *see also* Reidenberg, *supra* note 1, at 583-93 (describing the relationship between law and technological constraints). *See generally* Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1, 6 (2004) ("Increasingly, freedom of speech will depend on the design of the technological infrastructure that supports the system of free expression and secures widespread democratic participation. Institutional limitations of courts will prevent them from reaching the most important questions about how that infrastructure is designed and implemented. Safeguarding freedom of speech will increasingly fall to legislature, administrative agencies, and technologists.").

50. *See generally* Burk & Cohen, *supra* note 1, at 53-54 ("The use of technology to block public access to public domain elements of managed content and/or to block fair uses of such content is equivalent to the unauthorized fencing of public lands. Unlike nineteenth-century fence-cutting laws, however, the anti-circumvention provisions [of the DMCA] do nothing to ensure that the public continues to enjoy the 'easements' or 'rights of way' that copyright holders have no legitimate right to withdraw from public access.").

51. There are two minor TPM mandates that predated the Broadcast Flag Order: the Audio Home Recording Act's imposition of the Serial Copy Management System, 17 U.S.C. § 1002(a) (2005); and the Digital Millennium Copyright Act's requirement of automatic gain control copy control technology for analog video cassette recorders, 17 U.S.C. § 1201(k) (2005); *cf.* 17 U.S.C. 1201(c)(3) (2005) (clarifying that the DMCA's anti-circumvention and anti-tool provisions do not require consumer electronics equipment to take affirmative steps to enable TPM schemes).

52. Broadcast Flag Order, *supra* note 2, at 23,569, ¶ 38 ("We clarify here and in Part 73 of the Commission's rules that to the extent broadcasters wish to use the ATSC flag to protect unencrypted DTV broadcasts, they may do so provided they do not transmit the optional additional bits provided for in ATSC A/65B. We believe that this approach is commensurate

terms of preserving valuable uses of broadcast programming: "[C]onsumers will continue to have the ability to make copies of broadcast content, including news and public interest programming."[53] The Order did not make it entirely clear how this purported limitation on the degree of permissible TPM constraint would be enforced. And, as it turned out, the FCC later approved as compliant with the flag regime some technologies that limited copying, explaining that the technologies "were developed prior to adoption of the *Broadcast Flag Order*" and therefore "carry with them certain legacy attributes that, while less than ideal from a broadcast flag perspective, may have been appropriate or necessary at the time and in the context that they were developed."[54] But the Commission insisted that the approval of this first round of technologies "should not be interpreted as precedent supporting the future adoption of technologies that impose copy restrictions on digital broadcast television content," and that "[the Commission] will consider such restrictions as a factor weighing strongly against the technology's approval."[55]

The Broadcast Flag Order thus gives us a glimmer of the idea, albeit imperfectly implemented, that government should sometimes make TPM policy that limits TPMs in order to preserve the non-infringing uses of creative works that TPMs might otherwise constrain. In a related context, the FCC has more forcefully limited the ways in which TPMs can be used to constrain consumer behavior.

In September 2003, the FCC issued its Plug and Play Order, which aims primarily to facilitate compatibility between digital cable television infrastructure and competitively-supplied hardware.[56] But along with

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with the encoding rules adopted in our recent *Digital Cable Compatibility Order and FNPRM* which prohibit MVPDs from encoding unencrypted broadcast content for copy control purposes."); *see also id.* at 23,555, ¶ 9 ("[W]e wish to reemphasize that our action herein in no way limits or prevents consumers from making copies of digital broadcast television content."); *id.* at 23,555, ¶ 10 ("We also wish to clarify our intent that the express goal of a redistribution control system for digital broadcast television be to prevent the indiscriminate redistribution of such content over the Internet or through similar means. This goal will not . . . interfere with or preclude consumers from copying broadcast programming and using or redistributing it within the home or similar personal environment as consistent with copyright law . . . .").

53. *Id.* at 23,569, ¶ 38.

54. Certifications Order, *supra* note 36, at 15,910, ¶ 76; *see also* Petitioner's Opening Brief, *supra* note 5, at 47-48.

55. Certifications Order, *supra* note 36, at 15,910, ¶ 77.

56. Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Compatibility Between Cable Systems and Consumer Electronics Equipment, Second *Report and Order and Second Further Notice of Proposed Rulemaking,* 18 FCC Rcd. 20,885 (2003) [hereinafter Plug and Play Order].

adopting industry-negotiated standards for interoperability between cable systems and consumer equipment (digital television receivers, for example), the Order adopts rules designed to limit the reach of TPMs.

The Plug and Play Order is an outgrowth of a Communications Act provision requiring the FCC to adopt regulations to ensure the competitive retail availability of equipment used to access the services of multichannel video programming distributors (MVPDs),[57] a category that includes primarily cable and direct broadcast satellite (DBS) operators. The idea is that consumers should be able to get access to cable and DBS without buying set-top boxes or other navigation equipment from their MVPDs. In its initial 1998 Navigation Devices Order,[58] the FCC required MVPDs to separate out the security functions of navigation devices from their other functions and to supply modular security components that could be plugged into televisions and other competitively-supplied navigation devices.[59] It also required MVPDs to provide any interface information necessary for equipment manufacturers to make navigation devices that would work with the MVPD systems.[60] Consumers could thus use competitively-supplied navigation equipment, while the MVPDs retained control (via the modular security components they supplied) over security measures necessary to prevent unauthorized access to their systems.[61]

In the wake of the Navigation Devices Order, cable companies offered modular security components and developed interface specifications. But they only offered the technological keys necessary to unlock their digital cable programming to equipment manufacturers who agreed to a license (the "DFAST" license) that would require the manufacturers to make their navigation devices compliant with the cable operators' specified TPM schemes.[62] Circuit City and others argued to the FCC that the DFAST license violated the Navigation Devices

57. 47 U.S.C. § 549(a) (2005).

58. Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, *Report and Order*, 13 FCC Rcd. 14,775 (1998).

59. *Id.* at 14,793-94, ¶ 49.

60. *Id.* at 14,787-88, ¶ 34.

61. *See generally* BENJAMIN ET AL., *supra* note 35, at 147 ("The idea is to separate the market for 'multichannel video programming'—think cable and satellite television—from the market for the hardware that supports it. Thus, if the Commission is successful, it will soon become common for consumers to purchase cable service from their local cable franchisee while purchasing, say, a combined VCR/set-top box from some unrelated competitive firm."); Weinberg, *supra* note *, at 287-88.

62. *See* Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, *Further Notice of Proposed Rulemaking and Declaratory Ruling*, 15 FCC Rcd. 18,199, 18,209-10, ¶ 27 (2000) [hereinafter Declaratory Ruling]. *See generally* Weinberg, *supra* note *, at 288.

Order.[63]

In a 2000 Order, the FCC rejected the challenge to the DFAST license, declaring that cable companies' practice of requiring navigation device manufacturers to adopt TPM schemes in order to get access to cable programming was not inconsistent with the Navigation Devices Order per se.[64] The 2000 order left open the possibility, however, that specific TPM schemes might be unacceptable.[65]

The 2003 Plug and Play Order revisited the TPM issue by imposing "encoding rules" that limit the reach of TPMs that may be embedded in navigation devices.[66] The encoding rules specify caps on the level of constraint that may be imposed on various types of MVPD programming.[67] For example, no copy restrictions are permitted for content that is also broadcast for free over the air.[68] "Down resolution" of unencrypted broadcast television is banned.[69] Consumers must be permitted to make at least a single generation copy of subscription television programming.[70] And an especially controversial type of TPM known as "selectable output control" is banned altogether.[71] The Order explains:

> [E]nacting limits on the amount of copy protection that may be applied to different categories of programming strikes a measured balance between the desire of content providers and MVPDs to prevent the unauthorized redistribution or copying of content distributed by MVPDs and the preservation of consumer expectations regarding the time shifting of programming for home viewing and other permitted uses of such material.[72]

The FCC is thus regulating TPMs in a way that limits their reach in order to preserve certain consumer uses that TPMs might otherwise prohibit. Although it claims in the Order not to be engaged in copyright

63. *See* Declatory Ruling, *supra* note 62 at 18,205-06, ¶ 18.

64. *Id.* at 18,210-11, ¶¶ 28-29.

65. *Id.* at 18,211, ¶ 29. *See generally* Weinberg, *supra* note *, at 287-94 (describing the 2000 order and arguing that the FCC "should have recognized that restrictions on program copying and redistribution implicate important policy issues within its jurisdiction").

66. Plug and Play Order, *supra* note 56, at 20,904-18, ¶ 42-74.

67. Although the controversy over the DFAST license involved only cable operators, the encoding rules apply both to cable operators and to other MVPDs.

68. Plug and Play Order, *supra* note 56, at 20,914, ¶ 65.

69. *Id.* at 20,912-13, ¶¶ 62-64.

70. *Id.* at 20,914, ¶ 65.

71. *Id.* at 20,910-12, ¶¶ 58-61.

72. *Id.* at 20,891, ¶ 11.

policy-making,[73] the FCC's reference to "time shifting of programming for home viewing" is clearly a nod to the Supreme Court's determination in *Sony Corp. of America v. Universal City Studios* that time shifting is fair use.[74] Indeed, the FCC acknowledges that "the line separating communications law and copyright law is not always a clear one"[75] and promises to be "sensitive to this intricate and complex issue."[76]

The Plug and Play Order demonstrates, to an even greater extent than the Broadcast Flag Order, how regulation of TPMs can be used to limit the degree to which technological measures constrain consumer behavior. To the extent that preservation of certain consumer freedoms is important to maintaining the copyright balance, these limits on TPMs may be justified. On the other hand, the market may itself shape deployment of TPMs in a way that preserves consumer freedoms without imposing the administrative costs, uncertainty, and potential chilling of innovation that can accompany regulation.[77] Both the Motion Picture Association of America[78] and some consumer groups[79] argued against the Plug and Play Order's encoding rules on the ground that deployment of TPMs for digital cable should be left to the market and not regulated by the FCC. But there are reasons to doubt that market forces will always temper socially detrimental TPMs.

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73. *Id.* at 20,908-09, ¶ 54.

74. 464 U.S. 417, 447-55 (1984).

75. Plug and Play Order, *supra* note 56, at 20,908-09, ¶ 54.

76. *Id.* at 20,909, ¶ 54.

77. *See* Crawford, *supra* note 30, at 651 & n.127.

78. Comments of the Motion Picture Association of America, Inc., Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Compatibility Between Cable Systems and Consumer Electronics Equipment, at 7 (Mar. 28, 2003), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513783768 [hereinafter MPAA comments] (arguing that "private arrangements make FCC regulation of content protection in this instance unwarranted and would substitute regulation for the give and take operation of the marketplace, thus stifling innovation").

79. Comments of Public Knowledge and Consumers Union, Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Compatibility Between Cable Systems and Consumer Electronics Equipment, at 9 (Mar. 28, 2003), *available at* http://www.publicknowledge.org/pdf/pap_fnprm_comments_pkcu.pdf ("[T]he Commission should refrain from endorsing a set of encoding rules or any copy-protection technology that entails a particular set of encoding rules."). *But see* Reply Comments of the Electronic Frontier Foundation, Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, at 2 (April 28, 2003), *available at* http://www.eff.org/IP/Video/HDTV/20030430-fcc-reply.pdf [hereinafter EFF Reply comments] ("[T]he Commission cannot abandon the public to unilaterally imposed access and use restrictions dictated to the [multichannel video programming distributor] marketplace by a motion picture industry oligopoly.").

B. Regulation may be necessary where market constraints are weak.

Some observers of recent developments in TPM deployment and policy argue that TPMs are best regulated by market forces.[80] If making back-up copies of CDs is important to consumers, this logic goes, they will not buy copy-proof CDs and the market will respond with less constraining TPMs.[81] Some market optimists point to the variety of TPM schemes available for online music as an example of these market forces at work.[82] They also point to consumer resistance to, and subsequent content industry abandonment of, particularly rigid TPM schemes.[83] But the market optimists have not established that the conditions necessary for market discipline of socially detrimental TPMs exist across all content industries.[84]

The prospect of restrictive TPMs insufficiently constrained by competitive forces appears especially relevant to the FCC's Plug and Play Order. The extent and implications of concentration in the MVPD industry are contested issues that I do not intend to resolve here.[85] But suffice it to say that where over seventy percent of MVPD subscribers in the United States receive their service via cable,[86] very few locations are served by multiple cable providers,[87] the upfront costs of the DBS alternative are prohibitively high for some consumers,[88] and long-term

80. *See*, *e.g.*, McCullagh & Homsi, *supra* note 5.

81. *See generally* CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES 97-102 (1999) (concluding that "[c]opy protection schemes impose costs on users and are highly vulnerable to competitive forces").

82. *See*, *e.g.*, Michael A. Einhorn, *Digitization and its Discontents: Digital Rights Management, Access Protection, and Free Markets*, 51 J. COPYRIGHT SOC'Y U.S.A. 279, 279-91 (2004).

83. *See*, *e.g.*, R. Polk Wagner, *Information Wants to be Free: Intellectual Property and the Mythologies of Control*, 103 COLUM. L. REV. 995, 1015 (2003). *See generally* John A. Rothchild, *Economic Analysis of Technological Protection Measures*, 84 OR. L. REV. (forthcoming 2005) (manuscript at 49-53, *available at* http://ssrn.com/abstract=742864) (describing failed TPM efforts).

84. *See*, *e.g.*, Crawford, *supra* note 30, at 651 & n.127 (acknowledging that "the assumption of a competitive market for DRM systems is an optimistic one"). *See generally* Rothchild, *supra* note 83.

85. For a snapshot of industry conditions, see Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eleventh Annual Report, 20 FCC Rcd. 2755, 2828, ¶ 136 (2005) (identifying DBS as "the major wireless MVPD technology that is available to subscribers nationwide" and observing that "few consumers . . . have a second wireline alternative, such as an overbuild cable system"); *see also id.* at 2829, ¶ 137 ("Most consumers may choose between over-the-air broadcast, one cable provider, at least two DBS providers, and, in limited cases, an overbuilder or other delivery technology.").

86. *See id.* at 2759, ¶ 7.

87. *See id.* at 2828, ¶ 136.

88. *See* MARK COOPER, MEDIA OWNERSHIP AND DEMOCRACY IN THE DIGITAL INFORMATION AGE 140 (2003), *available at* http://cyberlaw.stanford.edu/blogs/cooper/

contracts and other switching costs may cause subscribers to stick with an MVPD despite frustration with its policies,[89] it is not necessarily the case that consumer dissatisfaction with TPM policies will be communicated clearly through their subscription behavior.

Even if we imagine that the MVPD market is competitive enough to encourage cable and DBS operators to offer consumer-friendly TPM choices, the MVPDs face a countervailing pressure: they are competing with each other as buyers in the market for popular television programming. In that marketplace, the operator who is willing to impose TPMs that are most useful to programming providers (and not necessarily to consumers) is at a competitive advantage. As the National Cable & Telecommunications Association explained in comments to the FCC, "[cable operators] could not unilaterally abandon [restrictive TPMs] without disadvantaging themselves in competing against DBS for program acquisition."[90] Thus, instead of constraining the imposition of TPMs, the interaction between the MVPD and programming markets can have the opposite effect: encouraging the adoption of restrictive TPMs that are favored by the content industry but that do not necessarily satisfy consumers or serve the public interest.

Indeed, the tension between consumer expectations and content owner demands explains the otherwise mysterious position cable companies took in the Plug and Play proceeding: they asked the FCC to impose encoding rules upon their industry (and, of course, upon their competitor DBS providers).[91] Only if all of the MVPDs' hands were tied by the FCC could they safely resist the content industry's demands that their programs be wrapped with restrictive TPMs. Without FCC regulation, the MVPDs' ability to respond to consumer dissatisfaction with restrictive TPMs would have been limited by their need to please sellers of "must have" programming by promising those content owners restrictive TPM terms. It therefore seems likely that the TPMs regulated by the Plug and Play order are less restrictive, more consistent with the intentionally limited protections granted by copyright law, and

archives/mediabooke.pdf.

89. *See generally* Joseph Farrell & Paul Klemperer, *Coordination and Lock-in: Competition with Switching Costs and Network Effects Part II* (Dec. 2004) (preliminary draft), *available at* http://www.paulklemperer.org.

90. Comments of the National Cable & Telecommunications Association, Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Compatibility Between Cable Systems and Consumer Electronics Equipment, at 15 (March 28, 2003), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513783773 [hereinafter NCTA comments]; *see also* EFF Reply Comments, *supra* note 79, at 3-4.

91. *See* NCTA Comments, *supra* note 90, at 13.

also closer to consumer preferences than the market-regulated alternatives would have been.[92]

This description of the market situation leading up to adoption of the Plug and Play Order demonstrates a more general point. The degree to which TPMs will be voluntarily constrained depends on market conditions. Sometimes the market will do little to constrain TPMs and the alternative to government regulation is voluntary adoption of restrictive TPMs that dissatisfy consumers and upset the copyright balance.

A final note on market constraints: the relationship between TPMs and market conditions is dynamic; TPMs can reinforce market power. For example, if a content publisher or technologist with a large market share deploys a proprietary TPM with which its competitors cannot interoperate, it may hurt their ability to compete and further limit the competitive pressures on the incumbent's TPM choices.[93]

C. Regulation may be necessary to serve non-market values.

There is a final reason not to rely on markets alone to constrain

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92. *See* EFF Reply Comments, *supra* note 79, at 8. ("[I]n the absence of 'encoding rules' to set a ceiling for all MVPDs on the use of content protection restrictions, this anti-consumer technology infrastructure would be used by content owners to undermine innovation and frustrate legitimate consumer expectations."); Comments of the Home Recording Rights Coalition, Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Compatibility Between Cable Systems and Consumer Electronics Equipment, at 2 (Mar. 28, 2003), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513783843 ("The alternative is a reversion to the standoff in which individual MVPDs, anxious to secure content, have felt compelled to impose one-sided license terms on competitive entrants."); Joint Reply Comments of the Consumer Electronics Association and the Consumer Electronics Retailers Coalition, Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Compatibility Between Cable Systems and Consumer Electronics Equipment, at 8 (April 28, 2003), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514082231 ("These Encoding Rules are entirely for the purpose, and of the effect, of limiting and tempering the consequences for manufacturers and consumers of the Compliance and Robustness rules in MVPD device licenses, which are largely dictated by content providers.").

93. *See, e.g.*, Fred von Lohmann, *FairPlay: Another Anticompetitive Use of DRM*, Deep Links (May 25, 2004), *at* http://www.eff.org/deeplinks/archives/001557.php. Music files downloaded from Apple's iTunes music store are protected by a TPM that does not interoperate with portable music players other than Apple's iPod. And iPods do not in turn interoperate with the TPM used by some competing online music stores. *See* Digital Media Project, *iTunes: How Copyright, Contract, and Technology Shape the Business of Digital Media--A Case Study* 44-48 (rev. version, 2004), *available at* http://cyber.law.harvard.edu/media/uploads/81/iTunesWhitePaper0604.pdf; *see also* Hilary Rosen, *Steve Jobs, Let My Music Go*, Huffington Post (May 9, 2005), *at* http://www.huffingtonpost.com/theblog/archive/2005/05/steve-jobs-let-.html. *See generally* Rothchild, *supra* note 83, at 17.

TPMs. The limits built into copyright—with which TPMs can interfere—may be justified by concerns that are not well-addressed even by competitive markets.[94] For example, a fair use parody may have expressive value that is not reflected in its creator's willingness to pay for permission to make it because some of the value spills over to society as a whole, or because the creator is a poorly-financed amateur who is unlikely successfully to translate the value of his parody into money.[95] The social value of such a use is unlikely to be reflected in consumers' willingness to pay extra for works that are unencumbered by fair-use-inhibiting TPMs.

III. THE FCC'S INSTITUTIONAL ADVANTAGES

Given the potential for voluntary industry adoption of restrictive and incompatible TPMs, it is possible that government regulation that specifies what consumer behaviors TPMs may and may not limit might sometimes be justified. But why should the FCC have anything to do with it? In theory, TPM regulation could be done by Congress, without help from an administrative agency. Or Congress could deputize the Copyright Office (within the Library of Congress) to work out the details. I do not mean to suggest that the FCC should be single-handedly responsible for TPM policy. But the Commission does have some institutional advantages that make it well-equipped to at least contribute to the task.[96]

First, consider that Congress has tried, to a very limited extent, to do detailed regulation of TPMs. Section 1201(k) of the DMCA requires analog video recorders to adopt a specific copy control technology.[97] It also specifies that the technology may only be used to prevent consumer copying of pay-per-view television programming or prerecorded video cassettes, or serial copying (that is, copying a copy) of subscription

94. *See generally* Cohen, *supra* note 1, at 539 ("Creative and informational works affect individual and social self-determination in a variety of ways, many of which are not registered, much less measured, by markets."); 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, 1631 (1982) ("When defendant's use contributes something of importance to public knowledge, political debate, or human health, it may be difficult to state the social worth of that contribution as a dollar figure.").

95. *See generally* Molly Shaffer Van Houweling, *Distributive Values in Copyright*, 83 TEX. L. REV. 1535 (2005).

96. *See generally* Williamson, *supra* note 5, at 359-77 (praising the Broadcast Flag and Plug and Play orders and offering them as examples of the FCC's expertise at TPM standard-setting); Woodford, *supra* note 5, at 291-300 (proposing that Congress authorize the FCC to regulate TPMs and arguing that the FCC has relevant technical and policy expertise).

97. 17 U.S.C. § 1201(k)(1) (2005).

television programming.[98] It may not be used, for example, to prevent copying of free broadcast television programming.

Section 1201(k) thus shares the feature I have highlighted in the Broadcast Flag and Plug and Play orders: it limits the imposition of a TPM (even as it requires equipment manufacturers to adopt it). It ensures that everyone in the industry can rely on technological protection, while it protects against the voluntary adoption of technological measures that would impose especially onerous constraints on end-user behavior. Unfortunately, Congress in 1201(k) applied this rule only to one quickly obsolete technology (analog video recorders), and did so by insisting on the use of a single copy-control system offered by Macrovision Corporation—raising concerns about fairness and competition.[99]

The Broadcast Flag Order, by contrast, seemed to envision an open-ended certification process, whereby new technologies for recognizing and responding to the flag could be approved over time (although the Order requested further comment on the precise mechanism for that certification).[100] Many observers worried initially that only technology backed by the motion picture industry would be favored by this process.[101] But the FCC approved thirteen technologies in its interim certification process (and declined none), including technology that was actively opposed by the MPAA.[102]

Congress cannot manage this type of ongoing technology

98. 17 U.S.C. § 1201(k)(2) (2005).

99. *See* 3 NIMMER ON COPYRIGHT § 12A.07[D][2] (2005).

100. *See* Broadcast Flag Order, *supra* note 2, at 23,578-79, ¶¶ 61-64.

101. *See*, *e.g.*, Crawford, *supra* note 30, at 615.

102. Certifications Order, *supra* note 36, at 15,879, ¶ 4 (approving technologies); Opposition to the Application of TiVo for Interim Authorization of TiVoGuard by the Motion Picture Association of America, Inc., et al., Digital Output Protection Technology and Recording Method Certification, TiVoGuard Digital Output Protection Technology (Apr. 3, 2004), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516086818.; Motion Picture Association of America, Inc., et al, Legal and Policy Issues Raised by TiVoGuard (July 16, 2004), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516284434. Although all of the proposed technologies were ultimately approved, the process may nonetheless have been shaped by content owner objections. The Center for Democracy and Technology observes in a recent report that "the process did chill some technologies—because in advance of the decision, a number of applicants scaled back the capabilities of their technologies as requested by opponents." Center for Democracy & Technology, *Broadcast Flag Authorization Legislation: Key Considerations for Congress* 4 (Sept. 2005), *available at* http://www.cdt.org/copyright/20050822BroadcastFlag.pdf; *see also* Center for Democracy & Technology, *Lessons of the FCC Broadcast Flag Process: Background for the Legislative Debate* (Sept. 2005), *available at* http://www.cdt.org/copyright/20050919flaglessons.pdf (analyzing and critiquing approval process in detail).

certification process itself—hence the troubling 1201(k) alternative of selecting one single TPM product. The Copyright Office, upon which Congress relies to work out many details of copyright policy, has little or no experience certifying equipment for compliance with technical standards.[103] The FCC, by contrast, has experience and capacity for assessing electronics equipment on an ongoing basis, often in conjunction with private standards organizations. For example, the Commission's Part 68 rules establish a process for certifying equipment that attaches to the public telephone network (phones, fax machines, etc.).[104] The Part 68 certification process has evolved over time, and is now managed by private standards bodies within a framework established by FCC rules and subject to appeals to the FCC.[105]

Relatedly, the FCC is accustomed to assessing and reassessing data about industry conditions and practices, and to changing policy in response to that data. To be sure, Congress amends the Copyright Act quite frequently—but almost always in the direction of increased protection for copyright holders. The more agile FCC, by contrast, has a record of experimenting with copyright-related regulations and sometimes abandoning them in light of changed conditions.[106]

Furthermore, the FCC has its own substantive expertise relevant to copyright policy. First, the agency knows the television and radio industries. This knowledge could usefully augment congressional copyright law-making that often imposes uniform rules on industries whose various incentive and cost structures might justify more specialized treatment.[107]

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103. *See generally* U.S. Copyright Office, *United States Copyright Office: A Brief Introduction and History*, *at* http://www.copyright.gov/circs/circ1a.html; Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87, 137-38 (2004) (describing the Copyright Office's limited role and noting that the Office "lacks the economic and technological expertise that would make it an even more effective source for informed copyright policy").

104. 47 C.F.R. pt. 68; *see also* FCC, *Part 68 Frequently Asked Questions*, *available at* http://www.fcc.gov/wcb/iatd/part68faqs.pdf [hereinafter Part 68 FAQ].

105. 2000 Biennial Regulatory Review of Part 68 of the Commission's Rules and Regulations, *Report and Order*, 15 FCC Rcd. 24,944 (2000); *see also* Part 68 FAQ, *supra* note 104.

106. *See generally* United Video v. FCC, 890 F.2d 1173, 1176-78 (D.C. Cir. 1989) (describing ebb and flow of FCC policy protecting broadcasters' exclusive rights to present syndicated programming); STUART M. BENJAMIN ET AL., TELECOMMUNICATIONS LAW AND POLICY 446 (2001) (describing many repealed, and some reinstated, FCC rules "designed to balance cable operators', broadcasters', and copyright holders' respective rights"); Weinberg, *supra* note *, at 278-84 (describing FCC involvement in copyright policy).

107. The Copyright Act does have some industry-specific features, most notably relating to musical works and sound recordings. *See*, *e.g.*, 17 U.S.C. §§ 114, 115 (2005). And there are entire sui generis regimes for semiconductors, 17 U.S.C. § 901 (2005) et seq., and boat hulls, 17 U.S.C. 1301 et seq. But many fundamental features (the basic subject matter

Second, the FCC is charged with promoting universal access to fundamental communication services[108]—a goal that is consistent with copyright law's often professed, but difficult to achieve, goal of assuring that creative works and creative opportunities are widely disseminated.[109]

Third, the FCC has historically played a role not only in ensuring access to channels of communication, but also in encouraging the production and diversity of programming to be delivered via those channels[110]—just the kind of creativity that copyright is also designed to promote.

Fourth, and perhaps most importantly: the degree to which TPMs must be regulated in order to preserve the copyright balance depends on competitive conditions in the markets in which the TPMs operate, which in turn depends in part on whether competing TPM schemes interoperate with each other.[111] The FCC is frequently called upon to assess the competitive position of industry in order to determine whether intervention is necessary to limit one company or sector's control over consumers and/or competitors.[112] It is also frequently called upon to

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requirement, duration, fair use, etc.) are uniform across industries—although courts sometimes interpret these provisions in industry-specific ways. *See generally* Stacey L. Dogan & Joseph P. Liu, *Copyright Law and Subject Matter Specificity: The Case of Computer Software*, 61 N.Y.U. ANN. SURV. AM. L. 203 (2005); Michael W. Carroll, *One for All: The Problem of Uniformity Cost in Intellectual Property Law* (draft manuscript, on file with author). *Cf.* Jonathan Zittrain, *The Un-Microsoft Un-Remedy: Law Can Prevent the Problem That It Can't Patch Later*, 31 CONN. L. REV. 1361, 1372-73 (1999) (decrying the inappropriateness of a 95-year duration for computer software copyrights).

108. *See, e.g.*, Federal Commc'ns Comm'n, *A New Federal Communications Commission for the 21st Century* (1999), *available at* http://www.fcc.gov/Reports/fcc21.html ("Our fourth goal is to ensure that all Americans—no matter where they live, what they look like, what their age, or what special needs they have—should have access to new technologies created by the communications revolution."). *See generally* Jerry Hausman & Howard Shelanski, *Economic Welfare and Telecommunications Regulation: The E-Rate Policy for Universal-Service Subsidies*, 16 YALE J. ON REG. 19, 21-26 (1999) (describing the development of "the modern meaning of 'universal services,'" which "refers to the policy that fundamental communications services should be available to everyone on 'fair' terms, even if some customers must be served below cost").

109. *See generally* Van Houweling, *supra* note 95 (drawing parallel between universal service efforts in communications policy and the distributive goals of copyright).

110. *See*, *e.g.*, *United Video,* 890 F.2d at 1181 (discussing FCC's efforts to increase supply of television programming from diverse sources).

111. *See supra* note 93 and accompanying text.

112. *E.g.*, 47 U.S.C. § 160 (2005) (providing for regulatory forbearance in competitive telecommunications markets); 47 U.S.C. § 271 (2005) (providing that a regional bell operating company may provide long distance service originating in its region only after satisfying the FCC of various pro-competitive conditions within its local market). *See generally* BENJAMIN ET AL., *supra* note 106, at 289-324 (describing FCC attempts to assess and foster competition in broadcasting). Several commentators have suggested that the FCC focus even more heavily on identifying instances of abuse of market power that call for regulation (as opposed to

determine whether lack of voluntary interoperability justifies government imposed or facilitated standardization.[113] The FCC therefore seems uniquely qualified to perform the kind of analysis necessary to determine whether regulation of TPMs is justified within a given market.

The FCC's critics will surely respond that while the Commission has experience with technology certification, copyright policy making, standardization, etc., it often performs these tasks poorly: it gets bogged down in bureaucratic red tape, captured by the industries it regulates, overwhelmed by complex technology, and so on. With regard to TPM policy-making, skeptics are especially concerned that bureaucratic ineptitude and capture could stifle innovation and creativity and create barriers to entry. I share these concerns to some extent. But I also worry that unregulated TPMs could stifle innovation and creativity and create barriers to entry. The companies that deploy TPMs are not committed to ensuring an accessible communications system, or promoting new and diverse programming, or providing universal service, or fostering competition, or preserving the copyright balance. The FCC is at least cognizant of these issues, even if it does not always succeed perfectly in addressing them.

IV. THE BROADCAST FLAG REVISITED

What I have said so far suggests that the government might be justified, under some circumstances, in intervening to constrain and/or standardize TPMs, and that the FCC may be relatively well situated to identify those circumstances and impose the necessary regulations. In the Plug and Play context, for example, voluntary TPMs were being deployed even without government intervention. And it seems likely that the scheme the FCC put in place guarantees more consumer freedoms than the voluntary alternative would have. As I explained above, the voluntary scheme was not subject to normal competitive constraints (even assuming these exist in the MVPD market) because MVPDs' desire to compete by using consumer-friendly TPMs was tempered by their need to satisfy content producers who insisted on restrictive TPMs. The FCC recognized this situation and intervened to fulfill consumer expectations and, tacitly, to preserve the copyright balance.

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presuming abuse and regulating preemptively). *See*, *e.g.*, The Progress & Freedom Found., Proposal of the Regulatory Framework Working Group, *Digital Age Communications Act* (June 2005), *available at* http://www.pff.org/issues-pubs/other/050617regframework.pdf.

113. *See generally* JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, DIGITAL CROSSROADS 385-406 (2005) (describing various FCC experiences with standard-setting).

In the broadcast flag context, by contrast, it seems unlikely that the mandated broadcast flag rules would have been less restrictive than the voluntary alternative. The voluntary TPM schemes that arose in the MVPD context rely (as does CSS and other voluntary schemes) upon encryption.[114] The protected content is distributed in encrypted form, and can be decrypted only under the terms of the TPM scheme. This type of TPM can be imposed unilaterally by content publishers, backed up by the anti-circumvention provisions of the DMCA. By encrypting their content and making it impossible (legally) to access it without their key, they can dictate the terms by which the content is accessed (including specifying what limitations are imposed on copying and redistribution).

Unlike MVPD transmissions, broadcast signals are transmitted "in the clear"; that is, they are not encrypted when sent over the airwaves. Adopting an "encryption at the source" TPM scheme for digital broadcast television (a solution suggested by some critics of the Broadcast Flag Order[115]) would be controversial and difficult.[116] It is not clear that encryption for the purpose of limiting copying and/or redistribution would be consistent with broadcasters' public interest obligations. Furthermore, encrypted programming could not be unlocked by existing digital television receivers—which would punish the early adopters who have heeded the FCC's plea to move to DTV and might hurt broadcasters who rely on viewership to support their advertising revenues.[117]

Without encryption, consumer electronics manufacturers do not have the same technological imperative to cooperate with TPM schemes that they have in the MVPD context. They do not need to bargain with content owners or broadcasters over the keys to the content because it is broadcast in the clear.[118] So it seems unlikely that a restrictive TPM

114. *See* Declaratory Ruling, *supra* note 62, at 18,209-10, ¶ 27; *see generally* Bechtold, *supra* note 1, at 326-31 (discussing encryption-based TPMs); Rothchild, *supra* note 83, at 5-8 (same).

115. *See, e.g.* Crawford, *supra* note 30, at 606.

116. *See generally* Clark & Vaida, *supra* note 25 ("Technology companies argue that encryption can provide the anti-piracy solution for television signals, just as it has for DVDs, cable, and satellite systems. But few in Washington view that scenario as politically viable: The United States has a strong tradition of transmitting television unscrambled and available to everyone.").

117. *See generally* Broadcast Flag Order, *supra* note 2, at 23,560-61, ¶¶ 23-24 (describing transition problems that would be caused by encryption of DTV broadcasts at the source).

118. *See* Press Release, Final Report of the Co-Chairs of the Broadcast Protection Discussion Subgroup to the Copy Protection Technical Working Group, (June 3, 2002), *available at* http://www.mpaa.org/Press/Broadcast_Flag_BPDG.htm.

scheme would have been universally adopted for broadcast DTV without government intervention.[119] Unlike the Plug and Play Order, the Broadcast Flag Order probably did not avoid a more restrictive alternative. It imposed a TPM scheme where one otherwise would not have existed, albeit with a nod to some consumer freedoms.

Of course, the primary argument the FCC used to justify the Broadcast Flag Order was that without it the risk of massive redistribution of DTV programming would deter content owners from making their best content available via digital broadcasts. As opponents of the Order pointed out, however, that fear seemed premature (given the difficulty of redistributing DTV programming) and perhaps totally unfounded (given the amount of DTV content now available even without the protection of the broadcast flag).[120] I tend to agree that the FCC's speculation about the risk of infringement was insufficient to justify imposing a TPM scheme that would not otherwise have existed.

On the other hand, it is possible that a technology certification process like that contemplated by the Broadcast Flag Order could encourage innovation by giving agency imprimatur to consumer electronics equipment that might otherwise be stifled by the threat of secondary liability for copyright infringement. Indeed, part of the MPAA's opposition to the approval of TiVoGuard (one of the thirteen broadcast flag technologies approved by the FCC in 2004) was its fear that the FCC's approval could lend legitimacy to technology that might otherwise be suppressed by copyright owner disapproval. The group argued to the FCC that "[t]he harm to be considered . . . is not just that stemming from the millions of TiVo users, but from the users of other, similar, technologies as well, and the potential legitimization of technologies that operate in the absence of authorization from the copyright owners."[121] For those who favor technological innovation unconstrained by the demands of copyright owners, there are clear benefits from this "legitimization" of technology that might otherwise be chilled by the threat of copyright infringement lawsuits.

Of course, the Broadcast Flag Order's certification process did not formally insulate TiVo from copyright liability. But compliance with such a regulatory scheme could surely help to demonstrate that a technology is not being deployed "with the object of promoting its use to

119. *See* MPAA Comments, *supra* note 78, at 7 n.11 (distinguishing the plug and play situation "from that of digital broadcast television, where no private content protection solution is possible").

120. Petitioner's Opening Brief, *supra* note 5, at 51-54.

121. Legal and Policy Issues Raised by TivoGuard, *supra* note 102.

infringe copyright," one standard for secondary liability according to the Supreme Court's recent decision in *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster*.[122] Looking forward, if Congress grants the FCC authority to regulate along the lines of the Broadcast Flag Order, it could do so in a way that does create a formal safe harbor from copyright liability for those technologies that comply with specified TPM schemes.[123]

CONCLUSION

For those concerned with preserving the balance that has long been considered central to wise copyright policy-making, the practical impact of governmental TPM regulation depends on the complex interaction of the regulation with voluntary TPM measures and with the risks and incentives faced by technology developers and content creators. If industry might adopt restrictive TPMs in the absence of a government mandate (as it was doing in the Plug and Play context), then detailed regulations that endorse but also limit TPMs might be better than the unregulated alternative. And if copyright holders can use the threat of lawsuits to pressure electronics manufacturers into limiting product features, then a regulatory process that lends legitimacy and gives safe harbor to those features—as a revised Broadcast Flag Order could—might encourage more innovation than it inhibited.

In light of this complex interaction, the FCC may have a constructive role to play in digital copyright policy—especially when it comes to imposing limitations on restrictive TPMs that are unlikely to be disciplined by market forces. Both the Broadcast Flag Order and, even more so, the Plug and Play Order demonstrate the FCC's willingness to limit TPMs in an attempt to preserve consumer freedoms that have played an important part in balanced copyright policy.

As we move beyond the invalidated Broadcast Flag Order, we should keep in mind the possibility that the FCC can usefully contribute to good TPM policymaking. That said, I hope that any successor to the Broadcast Flag Order is crafted with more care than the first one was. The Broadcast Flag Order imposed a TPM scheme where one otherwise might not have arisen, without offering a compelling explanation for its necessity and effectiveness. And while the certification process created by the Order may have usefully legitimized some otherwise controversial technologies, it did not create the kind of safe harbor that might reliably

122. 125 S.Ct. 2764, 2780 (2005).

123. The notion of a safe harbor from secondary liability is already part of the Copyright Act. 17 U.S.C. § 512 specifies actions that Internet Service Providers can take to avoid secondary liability for materials transmitted though or residing on their systems.

incubate technological innovation.

The Broadcast Flag Order was a failure. But its failure should not prevent us from thinking creatively about the FCC's potential to regulate technological protection measures in the public interest. Preservation of the public's rights under copyright law may in some cases require more regulation, not less. And the FCC may be the right agency to take up that task, if only it acknowledges and takes seriously the intersection between Communications and copyright.