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## TABLE OF CONTENTS

### ARTICLES

IN SEARCH OF INSTITUTIONAL IDENTITY: THE FEDERAL CIRCUIT COMES OF AGE .....	787
By Rochelle Cooper Dreyfuss	
FAIR USE AS INNOVATION POLICY .....	829
By Fred von Lohmann	
ENFORCING TRIPS: CHALLENGES OF ADJUCATING MINIMUM STANDARDS AGREEMENTS .....	867
By Yoshifumi Fukunaga	
THE RADIO AND THE INTERNET.....	933
By Susan P. Crawford	

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# IN SEARCH OF INSTITUTIONAL IDENTITY: THE FEDERAL CIRCUIT COMES OF AGE

By Rochelle Cooper Dreyfuss<sup>†</sup>

## TABLE OF CONTENTS

I. INTRODUCTION.....	787
II. IDENTIFYING THE PROBLEM.....	792
III. THE PROBLEMS OF INSTITUTIONAL DESIGN AND PROPOSALS FOR REFORM.....	800
A. INSTITUTIONAL DESIGN.....	801
1. <i>The Federal Circuit and the District Courts</i> .....	802
a) The Problem.....	802
b) Solutions.....	804
2. <i>The Federal Circuit and the Supreme Court</i> .....	806
a) The Problem.....	806
b) Solutions.....	810
B. THE KARMA OF THE COURTHOUSE.....	814
1. <i>The Problem</i> .....	815
2. <i>Solutions</i> .....	823
IV. CONCLUSION.....	827

## I. INTRODUCTION

The establishment of the Federal Circuit was greeted with both hope and anxiety. Prior to its formation, the explosive growth in federal litigation was slowing the administration of justice.<sup>1</sup> In addition, dispersed adjudication of patent disputes—coupled with the extreme variability of pat-

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<sup>†</sup> Professor of Law, New York University School of Law. I would like to thank Oscar Chase for his advice, Katherine Strandburg for her comments, the participants in the Berkeley Center for Law and Technology 2007 Federal Circuit Roundtable for their insights, Melissa Feeney Wasserman for her wonderful research assistance, and the Filomen D'Agostino and Max E. Greenberg Research Fund for its financial support.

1. *See generally* Commission on Revision of the Federal Court Appellate System, Structure and Internal Procedures: Recommendations for Change, *reprinted in* 67 F.R.D. 195, 219-21 (1975).

ent decisions within the regional circuits—was impairing patent value.<sup>2</sup> It was thought that if patent appeals were channeled to a single court, the federal docket would be more manageable and the quality of decisions in patent disputes would improve.<sup>3</sup> At the same time, however, it was argued that concentrating patent litigation in a “specialized” (in fact, centralized<sup>4</sup>) forum would favor repeat players and special interests, produce tunnel vision, and foster laws and practices far removed from the mainstream.<sup>5</sup>

The Federal Circuit is now a quarter-century old and has proved to be a success in many important ways.<sup>6</sup> The court freed regional circuit judges from the complexity of patent appeals.<sup>7</sup> For patent law, forum shopping—

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2. See Pauline Newman, *The Sixth Abraham L. Pomeranz Lecture: Commentary on the Paper by Professor Dreyfuss*, 61 BROOK. L. REV. 53, 55-56 (1995).

3. As Judge Markey, who was to become the Federal Circuit’s first Chief Judge, put it: “[I]f I am doing brain surgery every day, day in and day out, chances are very good that I will do your brain surgery much quicker, or a number of them, than someone who does brain surgery once every couple of years.” *Court of Appeals for the Federal Circuit: Hearings Before the Subcomm. on Courts, Civil Liberties and the Administration of Justice of the H. Comm. on the Judiciary*, 97th Cong., 42-43 (1981) [hereinafter *Hearings*] (statement of the Honorable Howard T. Markey, C.J., Court of Customs and Patent Appeals).

4. Although the court is generally referred to as specialized and that convention is maintained in this Article, the court is in reality a forum where adjudication is centralized. It was established to hear virtually all patent appeals, but it was given other categories of cases as well to avoid overspecialization. See Daniel J. Meador, *Glimpses of the Federal Circuit’s Birth*, IPL NEWSL. (ABA Sec. of Intell. Prop. Law, Chicago, Ill.), Summer 2007, at 1, available at <http://www.abanet.org/intelprop/newsletter/IPLSummer07.pdf>. However, the court’s other judicial business is not as significant to the economy as patent cases. Nor does it provide the court with a particularly comprehensive view of the federal docket. See 28 U.S.C. § 1295(a)(3) (2000) (giving the court authority over appeals from the International Trade Commission, the Merit System Protection Board, and appeals involving other particularized areas of federal law). Accordingly, it is not surprising that the literature would refer to the court as specialized.

5. See generally Rochelle Cooper Dreyfuss, *The Federal Circuit: A Continuing Experiment in Specialization*, 54 CASE W. RES. L. REV. 769 (2004) [hereinafter Dreyfuss, *Continuing Experiment*]; Rochelle Cooper Dreyfuss, *Specialized Adjudication*, 1990 BYU L. REV. 377 [hereinafter Dreyfuss, *Specialized Adjudication*]; Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1 (1989) [hereinafter Dreyfuss, *Case Study*].

6. See, e.g., Donald R. Dunner, *A Retrospective of the Federal Circuit’s First 25 Years*, IPL NEWSL. (ABA Sec. of Intell. Prop. Law, Chicago, Ill.), Summer 2007, at 1, available at <http://www.abanet.org/intelprop/newsletter/IPLSummer07.pdf> (expressing the views of practitioners that a specialized patent court has been successful).

7. At the hearings on the formation of the Federal Circuit, it was opined that patents were “the most unattractive thing about being a Federal judge.” *Hearings, supra* note 3, at 46 (statement of Rep. Sawyer).

at least at the appellate level—is now barely possible.<sup>8</sup> Procedural developments, such as the *Markman* hearing, have brought down litigation costs, at least for a time.<sup>9</sup> Patent law is not only more uniform across the nation, it is also considerably more determinate in that it is easier to predict outcomes.<sup>10</sup>

Nonetheless, observers of the patent system have voiced increasingly vociferous complaints about the state of patent jurisprudence, and by extension about the Federal Circuit. In two studies, the National Academies suggested that the standard for nonobviousness is too low, that the utility requirement is under-enforced, that doctrinal changes have inhibited follow-on invention, and that subjective elements in patent doctrine (willfulness, inequitable conduct, and best mode) increase costs and discourage inventors from conducting library research.<sup>11</sup> Along the same lines, the Federal Trade Commission (FTC) warned that the proliferation of “questionable” patents (i.e., patents on insufficiently inventive contributions) creates thickets of rights that are hard and expensive to clear, endanger competition, and ultimately impede scientific progress.<sup>12</sup> Joined by the

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8. See Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889, 932-34, 937 (2001) (suggesting, however, that there is now forum shopping at the district court level). Because of *Christianson v. Colt Industries Operating Corp.*, 486 U.S. 800 (1988), and *Holmes Group, Inc. v. Vornado Air Circulation Systems, Inc.*, 535 U.S. 826 (2002), it is possible to frame cases involving patent law issues in ways that makes the entire case appealable to a regional circuit. However, this method of forum shopping does not seem heavily utilized.

9. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996) (holding that claim interpretation is an issue for the judge, not the jury). See JEAN O. LANJOUW & MARK SCHANKERMAN, *Enforcement of Patent Rights in the United States*, in PATENTS IN THE KNOWLEDGE-BASED ECONOMY 145 (Wesley M. Cohen & Stephen A. Merrill eds., 2003); see also John R. Allison & Mark A. Lemley, *The (Unnoticed) Demise of the Doctrine of Equivalents*, 59 STAN. L. REV. 955 (2007) (suggesting that *Markman* led to a reduction in claims based on the doctrine of equivalents, which would also reduce costs). But see JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK (2008) (suggesting that the costs of litigation are beginning to overtake the monetary rewards of the patent system).

10. See *infra* text accompanying notes 27-30.

11. NAT'L RESEARCH COUNCIL, A PATENT SYSTEM FOR THE 21ST CENTURY, (Stephen A. Merrill et al. eds., 2004) [hereinafter PATENT SYSTEM]; NAT'L RESEARCH COUNCIL, REAPING THE BENEFITS OF GENOMIC AND PROTEOMIC RESEARCH: INTELLECTUAL PROPERTY RIGHTS, INNOVATION, AND PUBLIC HEALTH (Stephen A. Merrill & Anne-Marie Mazza eds., 2006).

12. FED. TRADE COMM'N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY (2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>.

Department of Justice, the FTC also criticized the way the Federal Circuit handles cases at the interface between patent and antitrust law.<sup>13</sup>

Other critiques come from the academy. Economists suggest that the patent system is at a point where it is undermining innovation.<sup>14</sup> Legal analysts are dissatisfied with both substantive and procedural aspects of the court's decisionmaking. For example, many observers believe that the court's approach to evaluating the capacity of ordinary artisans for purposes of deciding such issues as nonobviousness and the adequacy of disclosure creates a poor fit between patent doctrine and particular technological pursuits.<sup>15</sup> On procedural issues, some say that the court is making a mistake by deferring too little to the district courts' decisions on claim construction;<sup>16</sup> another commentator suggests that the court's mistake lies in deferring too much.<sup>17</sup> Various scholars have questioned the court's position on applying U.S. patent law to foreign activities.<sup>18</sup> Finally, there are

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13. U.S. DEP'T OF JUSTICE & FEDERAL TRADE COMM'N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION (2007), available at <http://www.ftc.gov/reports/innovation/P040101PromotingInnovationandCompetitionrpt0704.pdf>.

14. See *infra* text accompanying notes 31-33.

15. See, e.g., Rebecca S. Eisenberg, *Obvious to Whom? Evaluating Inventions from the Perspective of PHOSITA*, 19 BERKELEY TECH. L.J. 885, 888 (2004) (concerned that the Federal Circuit "excludes from consideration the judgment, intuition and tacit knowledge of ordinary practitioners in the field that cannot be documented in the written record"); Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1650 (2003) [hereinafter Burk & Lemley, *Policy Levers*] (noting that "if the court is trying to apply the PHOSITA standard neutrally, it is not doing a very good job"); Dan Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?* 17 BERKELEY TECH. L.J. 1155, 1157 (2002) (arguing that the PHOSITA standard "provides needed flexibility for patent law" but that the Federal Circuit "has not applied that standard properly in either the biotechnology or computer software fields").

16. This critique is largely aimed at the de novo review accorded claim construction under *Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d 1448, 1451, 1456 (Fed. Cir. 1998). See, e.g., Kimberley A. Moore, *Markman Eight Years Later: Is Claim Construction More Predictable?*, 9 LEWIS & CLARK L. REV. 231, 231 n.2 (2005).

17. Jeffrey A. Lefstin, *Claim Construction, Appeal, and the Predictability of Interpretive Regimes*, 61 U. MIAMI L. REV. 1033 (2007); see also Michael Risch, *The Failure of Public Notice in Patent Prosecution*, 21 HARV. J.L. & TECH. 179 (2007) (suggesting that the problem lies in the differences between PTO and court approaches to claim construction).

18. See, e.g., Melissa Feeney Wasserman, *Divided Infringement: Expanding the Extraterritorial Scope of Patent Law*, 82 N.Y.U. L. REV. 281 (2007); Katherine E. White, *The Recent Expansion of Extraterritoriality in Patent Infringement Cases*, 2007 UCLA J. L. & TECH. 2; Mark A. Lemley et al., *Divided Infringement Claims*, 6 SEDONA CONF. J. 117 (2005); Rochelle C. Dreyfuss, *Resolving Patent Disputes in a Global Economy*, in

those who are frustrated by the quality of decisions. Formalistic case-parsing, refusals to consider policy arguments, and reluctance to revise positions once taken are, it is said, particularly inappropriate in a court established for the express purpose of orchestrating the development of patent jurisprudence.<sup>19</sup>

Perhaps most damning, the Supreme Court's unprecedented activity in the patent arena indicates that it too is concerned about the Federal Circuit's performance. Indeed, because the Supreme Court has either reversed or vacated virtually all the Federal Circuit patent decisions that it has recently reviewed, "dissatisfied" may be a more accurate description of its attitude.<sup>20</sup> Congress, along with many practitioners and members of the creative community, appear to agree with that assessment: a project to reform the system statutorily has been underway for several years. Significantly, the change on which there is the most agreement is to shift some responsibility for determining patent validity from the courts to the United States Patent and Trademark Office (PTO).<sup>21</sup>

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PATENT LAW AND THEORY: A HANDBOOK OF CONTEMPORARY RESEARCH (Toshiko Takemaka and Rainer Moufang eds., forthcoming 2008).

19. See, e.g., Craig Allen Nard, *Toward a Cautious Approach to Obeisance: The Role of Scholarship in Federal Circuit Patent Law Jurisprudence*, 39 HOUS. L. REV. 667 (2002); Dreyfuss, *Continuing Experiment*, *supra* note 5.

20. In a two-year period, the Supreme Court considered seven patent cases. See *MedImmune, Inc. v. Genentech, Inc.*, 127 S. Ct. 764 (2007) (reversing Federal Circuit); *eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) (vacating the Federal Circuit's decision); *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006) (same); *Lab. Corp. of Am. v. Metabolite Labs., Inc.*, 548 U.S. 124 (2006) (writ of certiorari dismissed as improvidently granted; dissent by Justice Breyer indicating he would have reversed); *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005) (vacating the Federal Circuit's decision); *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007) (reversing Federal Circuit); *Microsoft Corp. v. AT&T Corp.*, 127 S. Ct. 1746 (2007) (same). Going back to 2002, there were two more decisions. See *Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826 (2002) (vacating the Federal Circuit's decision); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) (same). The last time a Federal Circuit patent case was affirmed was in 2001. See *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124 (2001). Since this article was written, the Federal Circuit endured another reversal in *Quanta Computer, Inc. v. LG Electronics, Inc.*, No. 06-937, 2008 WL 2329719 (U.S. June 9, 2008).

21. Reform bills include the Patent Reform Act of 2005, H.R. 2795, 109th Cong. (2005); the Patents Depend on Quality Act of 2006, H.R. 5096, 109th Cong. (2006); and H.R. 5418, 109th Cong. (2006). The 2007 proposals of the 110th Cong. include S. 1145, S. 3923, and H.R. 1908. In 2005, the House considered in committee two other proposals, which were never introduced as amendments or bills. Amendment in the Nature of a Substitute to H.R. 2795, Offered by Rep. Smith of Texas (July 26, 2005), available at [http://www.aipla.org/Content/ContentGroups/Legislative\\_Action/109th\\_Congress/House1/chairsub-smittx\\_022\\_xml.PDF](http://www.aipla.org/Content/ContentGroups/Legislative_Action/109th_Congress/House1/chairsub-smittx_022_xml.PDF); A Coalition for 21st Century Patent Law Reform: Balanced

This Article discusses the proposals that have been made for improving the Federal Circuit's performance. Because the court's reception is mixed, I begin by identifying the nature of the problem in Part II, and move on to consider its sources: externally, in the difficulties that the judicial system has encountered in dealing with specialization at the appellate level of the judicial hierarchy, and internally, in the defensive culture spawned by the court's earliest judges. I end both pessimistically and optimistically. The Federal Circuit now appears to be well entrenched; it is unlikely that the structure of the patent judiciary will be modified in any way that would improve matters significantly. On the other hand, now that the court is established, it is no longer required to prove its bona fides. It has the luxury to step back, introspectively assess its role in patent law-making, and develop new norms and fresh approaches to crafting its decisions. I set out a variety of actions that the legislature, the courts, and the bar could undertake to hasten that process.

## II. IDENTIFYING THE PROBLEM

Of course, one possibility is that there is no problem at all. Early critiques of the Federal Circuit were based on anecdotal evidence. Now that empiricists have become interested in patent adjudication, observers need to consider the "hard evidence" before they rush to the conclusion that something is wrong. Unfortunately, however, the hard evidence tends to point in different directions, and the studies in some ways do not stand up to scrutiny.

In retrospect, the early attempts to measure the Federal Circuit's work product were fairly naïve. On one side were studies arguing that because the court decided roughly as many cases for the patent holder as it did for the infringer, it was not biased, and must therefore be doing a fine job.<sup>22</sup>

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Initiatives to Advance Quality and Provide Litigation Reforms (September 1, 2005), available at [http://www.fr.com/news/2005-09-14\\_Coalition\\_Draft.pdf](http://www.fr.com/news/2005-09-14_Coalition_Draft.pdf). Most of these bills include an opposition procedure which would permit *inter partes* validity challenges in the PTO. See John E. Calfee & Claude Barfield, *Congress's Patent Mistakes*, WALL ST. J., Oct. 29, 2007, at A18, available at [http://www.aei.org/publications/pubID.27031\\_filter.economic/pub\\_detail.asp](http://www.aei.org/publications/pubID.27031_filter.economic/pub_detail.asp) (suggesting that the opposition procedure is one of the few "useful and innovative" reforms in the bills).

22. See, e.g., Donald R. Dunner, Introduction, *The United States Court of Appeals for the Federal Circuit—The First Three Years*, 13 AIPLA Q.J. 185 (1985). Another approach was to count the issues on which patentees win or lose. See Dunner, *supra* note 6, at 10 (concluding that the court's pro- and anti-patent holdings are balanced). See also Donald R. Dunner, *A Retrospective of the Federal Circuit's First 25 Years*, 17 FED. CIR. B.J. 127, 129 (2007); Donald R. Dunner, J. Michael Jakes, & Jeffrey D. Karceski, *A Statistical Look at the Federal Circuit's Patent Decisions: 1982-1994*, 5 FED. CIR. B.J. 151,

Studies of this type are inconclusive, however, because they ignore selection effects—the tendency of parties who think they will lose to drop their appeals. On the other side were studies arguing that the growth in patent litigation—or the Federal Circuit’s failure to diminish the need to go to court—demonstrated how badly the court was faring.<sup>23</sup> The increase in judicial business should not necessarily be taken as a sign of failure. To the contrary, it may well demonstrate success: if the court makes patent law more stable, patents increase in value; if patents become more valuable, innovation becomes a more attractive investment and more innovators will choose to rely on patents to protect their competitive positions. The upsurge in patenting translates into an expansion of the base from which litigation emerges.<sup>24</sup> Furthermore, as John Duffy has noted, “[l]itigators seek the ambiguous; that is what they litigate. . . . Lawyers direct their cases toward the flaws, ambiguities and difficult areas in the law. . . we should not necessarily think that the [Federal Circuit] is a failure merely because litigation continues to abound.”<sup>25</sup>

Recent empirical work is considerably more sophisticated, and yet the evidence on the court still appears to cut both ways. For example, although the law on nonobviousness had been the subject of much hand-wringing at the time of the court’s founding,<sup>26</sup> a recent study by Lee Petherbridge and R. Polk Wagner shows that doctrinal developments have made decisions on this issue quite predictable.<sup>27</sup> Similarly, Jeffrey Lefstin has demonstrated that, at least until 2002, indeterminacy regarding other major patent law issues, such as infringement, validity, and inequitable conduct, declined.<sup>28</sup> Indeed, Lefstin suggests that even claim construction, which an-

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156-57 (1995). Such studies fail to take into account the possibly differential impact of the holdings on the pro- and anti-patent sides.

23. For data on appeals in the Federal Circuit, see ADMINISTRATIVE OFFICE OF THE UNITED STATES COURTS, JUDICIAL BUSINESS OF THE UNITED STATES COURTS, *available at* <http://www.uscourts.gov/judbususc/judbus.html> (Table B-8).

24. Dreyfuss, *Case Study*, *supra* note 5, at 23-24. For data on patent filings, see WIPO REPORT, STATISTICS ON WORLDWIDE PATENT ACTIVITIES 11 (2007).

25. John F. Duffy, Comment, *Experiments After the Federal Circuit*, 54 CASE W. RES. L. REV. 803, 805 (2004).

26. Dreyfuss, *Case Study*, *supra* note 5, at 8-11; *see also* Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CALIF. L. REV. 803, 812-16 (1988) (analyzing uncertain role of secondary factors in determining nonobviousness).

27. Lee Petherbridge & R. Polk Wagner, *The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness*, 85 TEX. L. REV. 2051 (2007). Whether the court’s position is correct is another issue.

28. Jeffrey A. Lefstin, *The Measure of Doubt: Dissent, Indeterminacy, and Interpretation at the Federal Circuit*, 58 HASTINGS L.J. 1025 (2007).

ecdotal evidence suggests remains unpredictable, is well within the range of indeterminacy associated with other issues and is no different from the indeterminacy of contract interpretation in other circuits.<sup>29</sup> According to John Allison and Mark Lemley, the judges of the Federal Circuit have, in large part, coalesced around particular interpretations of patentability law and display few ideological differences.<sup>30</sup>

At the same time, however, work by economists Adam Jaffe and Josh Lerner suggests that the patent system is in trouble: the standard of nonobviousness is now so low, new technologies spawn thickets of patent rights on marginal improvements.<sup>31</sup> The cost of clearing and interpreting these “low quality” patents imposes a heavy tax on invention and discourages entry into innovative enterprises.<sup>32</sup> Similarly, Mike Meurer and Jim Bessen argue that the increasing need to acquire patents for defensive purposes, along with the concomitant rise in litigation, have raised costs to the point where there are fields in which the cost of patenting now outweighs the benefits.<sup>33</sup> As noted earlier, these conclusions are in line with the perceptions of legal scholars, the National Academies, the Federal Trade Commission, the Department of Justice, and (apparently) the Supreme Court.<sup>34</sup>

Once again, it is possible the studies are flawed. For example, Jaffe and Lerner never define what they mean by a “low quality” patent. Instead, their claim that the standard of patentability is too low is based on anecdotes about specific patents (including a patent on a peanut butter and jelly sandwich) that are commercially irrelevant and thus not the appropriate focus of PTO attention, on comparisons of the number of U.S. patents with the output of patent offices in countries with crucially different systems, and on a study of citation rates that examines a technology where prior art is notoriously difficult to find.<sup>35</sup> As to Meurer and Bessen’s pessimistic assessment of the cost to benefit ratio, their results appear to be heavily field-dependent.<sup>36</sup> Furthermore, their work measures the cost of

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29. Lefstin, *supra* note 17.

30. John R. Allison & Mark A. Lemley, *How Federal Circuit Judges Vote in Patent Validity Cases*, 10 FED. CIR. B.J. 435 (2001).

31. ADAM B. JAFFE & JOSH LERNER, *INNOVATION AND ITS DISCONTENTS* 35 (2004).

32. *Id.*

33. BESSEN & MEURER, *supra* note 9 (studying the software sector).

34. *See supra* text accompanying notes 11-13.

35. *See* Rochelle C. Dreyfuss, *Pathological Patenting: The PTO as Cause or Cure*, 104 MICH. L. REV. 1559 (2006).

36. For example, their figures show that the benefits of patenting far outweigh cost in the chemical and pharmaceutical sectors. BESSEN & MEURER, *supra* note 9. There is also a question on how these authors determine which patents are in the software sector,

patent litigation by studying changes in stock prices. Thus, it deals only with publicly traded firms and does not shed light on the value of patents to small firms or independent inventors.

By the same token, the studies showing the stability of the law suffer from a baseline problem. They rely on comparisons with regional circuits, but fail to consider whether more should be expected of a specialized court. After all, the Federal Circuit sees almost every appellate patent case; the regional circuits do not usually entertain disputes in any one field with enough regularity to comprehend all of the law's subtleties or to fine-tune it.<sup>37</sup> More important, the consumers of patent law are likely more sensitive to intra-circuit variation than are consumers of other federal law. Because the Evarts Act permits appellate courts to interpret federal law independently,<sup>38</sup> and because many federal cases have state law components, inter-circuit variation is necessarily high. Since consumers of regional law will often not know in which circuit they will be litigating or how conflicts-of-law issues will be resolved, they must take these large inter-circuit variations into account in their planning; intra-circuit differences are unlikely to have much salience in their calculations. In contrast, patent litigants know their cases will be heard by the Federal Circuit and could plan accurately if the law were actually determinate.<sup>39</sup>

But even if these studies are taken at face value, there may be less inconsistency than initially appears. The commentators who argue that the

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where they find their most troubling results. For a very different analysis of this sector, see John R. Allison et al., *Software Patents, Incumbents, and Entry*, 85 TEX. L. REV. 1579 (2007).

37. Judge Rader has something of a contrary review. He suggests that Federal Circuit law appears less stable than regional circuit law because the Federal Circuit encounters issues of patent law with greater frequency than the regional circuits encounter the issues they adjudicate. He suggests that if change were computed as a function of the number of times an issue is decided, Federal Circuit law would look no less stable than regional circuit law. Randall R. Rader, *The United States Court of Appeals for the Federal Circuit: The Promise and Perils of a Court of Limited Jurisdiction*, 5 MARQ. INTELL. PROP. L. REV. 1, 4 (2001). Presumably, however, case law developments are not random. Successive decisions should begin to converge on a single approach—with more opportunities to consider an issue, stability should be achieved more quickly. And if underlying facts or policies change, the Federal Circuit should be in a better position than regional circuits to adapt the law. Unfortunately, the Circuit appears rather resistant to considering new facts. See, e.g., *infra* note 78 (on failure to make the law responsive to changing facts).

38. Judiciary (Circuit Courts of Appeals) Act of 1891, ch. 517, 26 Stat. 826.

39. Lefstin makes a related argument, suggesting that claim construction should be more predictable than contract interpretation because contracts are often drafted by laymen whereas patents are drafted by professionals. Lefstin, *supra* note 28, at 1092.

Federal Circuit is doing well largely focus on the question whether the law is *precise* and *uniform*.<sup>40</sup> In contrast, those who remain concerned about the court's decisions are mostly worried about whether the law is *accurate* and of high *quality*. As I explained in earlier work, these characteristics are all important, but they are all different.<sup>41</sup> *Precise* means "reproducible—[whether] the law [is] articulated in a way that permits the PTO, lower courts, and practitioners to apply it with greater ease."<sup>42</sup> *Uniform* means whether the law is the same across the nation. In contrast, *accurate* means correct—"whether the law . . . is . . . responsive to the philosophy of the Patent Act, to national competition policies, and to the needs of researchers and technology users."<sup>43</sup> Accuracy, in turn, depends on *quality*—law that is cohesive in that the elements work together to further overall policies, and decisions that are explicated in a manner that makes the policy goals the court understands the law to be achieving both transparent and persuasive.<sup>44</sup> Empirical evidence that the Federal Circuit has coalesced on particular positions says something about the development of precision.<sup>45</sup> The court's near-total control over patent law necessarily produces uniformity,<sup>46</sup> but attaining these characteristics says nothing about whether the law is accurate or the decisions are of high quality.

One thing that the Federal Circuit experience does show is that, although uniformity can be achieved procedurally, the lawmaking required for precision and the lawmaking required for accuracy can work at cross purposes. Nonobviousness doctrine is a good example. Prior to the Su-

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40. For precision, see *supra* text accompanying notes 27-30. For uniformity, see Moore, *supra* note 8; Dunner, *supra* note 6; Craig Allen Nard & John F. Duffy, *Rethinking Patent Law's Uniformity Principle*, 101 NW. U. L. REV. 1619 (2007).

41. Dreyfuss, *Case Study*, *supra* note 5, at 5.

42. *Id.*

43. *Id.*

44. See also Stephen J. Choi et al., *Professionals or Politicians: The Uncertain Case for an Elected Rather than Appointed Judiciary* (Univ. of Chicago Law & Economics, Olin Working Paper No. 357, 2007), available at <http://ssrn.com/abstract=1008989> (high quality decisions "explain to the parties why they won or lost, but much more important, they provide guidance to future judges who face similar cases, and to people and businesses who want to avoid litigation in the first place"). Quality is a notoriously difficult characteristic to assess objectively. A common approach is to measure how often a court's decisions are cited by other courts. See *id.*; William M. Landes, et al., *Judicial Influence: A Citation Analysis of Federal Courts of Appeals Judges*, 27 J. LEGAL STUD. 271 (1998). The Federal Circuit does very badly on this index, but the statistics are not very useful because such a small part of its jurisdiction is concurrent with that of other courts. See *id.* at 303.

45. See *supra* text accompanying note 30.

46. See, e.g., Richard Linn, *The Future Role of the United States Court of Appeals for the Federal Circuit Now that It Has Turned 21*, 53 AM. U. L. REV. 731, 735 (2004).

preme Court's decision in *KSR International Co. v. Teleflex Inc.*,<sup>47</sup> the Federal Circuit required district courts to consider such matters as whether the patent being challenged enjoyed commercial success and, if the challenge involved more than one reference, whether there was a teaching, suggestion, or motivation to combine them.<sup>48</sup> Both of these considerations are likely to make decisions on nonobviousness more precise. If judges are required to stop and think about commercial success, they are less likely to use 20/20 hindsight (largely based on perceptions of their own technological abilities), to decide that "anyone could have done that." Similarly, if they must identify a specific reason to combine references, they are less likely to "cut and paste" pieces of references according to their own notions about how things fit together. However, the requirement of a specific teaching means that decisionmakers cannot easily rely on the background knowledge and common sense possessed by those in the field because commonly known information is often not codified and is thus hard to retrieve.<sup>49</sup> Further, the emphasis on commercial success means that patents will be especially likely to be upheld when many people are relying on the technology. In short, while these requirements make the law more precise (by reducing subjective decisions), they also make it less accurate (by upholding patents on information already in the possession of the field in cases where the cost to the system is particularly high).

Issues at the infringement stage can be viewed in an analogous fashion. In a series of opinions, the Federal Circuit sharply reduced the scope of the doctrine of equivalents.<sup>50</sup> Since this doctrine permits the patentee to claim more than what is literally described in the patent, application of the doctrine is resource-intensive and unpredictable. Accordingly, eliminating it makes the law more precise. Nonetheless, the doctrine is arguably important for fast-moving technologies, where modest improvements could otherwise undermine patent value; it may also be significant in immature technologies, where patentees lack enough understanding to draft adequate

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47. 127 S. Ct. 1727 (2007).

48. *See, e.g., Vandenberg v. Dairy Equip. Co.*, 740 F.2d 1560, 1566-67 (Fed. Cir. 1984) (describing secondary considerations, such as commercial success, as a "fourth factual inquiry under *Graham*"); *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999) (teaching, suggestion, or motivation test used to reverse the rejection of a patent on a jack o'lantern made out of an orange garbage bag).

49. *See, e.g., In re Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002) ("[Case law] did not hold that common knowledge and common sense are a substitute for evidence, but only that they may be applied.").

50. *See, e.g., London v. Carson Pirie Scott & Co.*, 946 F.2d 1534 (Fed. Cir. 1991).

claims.<sup>51</sup> Similarly, the Federal Circuit made the law more precise by cutting back on the common law experimental use defense, which relied on fairly subjective criteria to determine when unauthorized use of a patent is permissible.<sup>52</sup> But as Judge Newman pointed out in dissent, eliminating this doctrine also undermines the value of the disclosure requirement in patent law and is “ill-suited to today’s research-founded, technology-based economy.”<sup>53</sup> As to remedies, the court favors simple rules that can be applied predictably (automatic injunctions,<sup>54</sup> monetary relief calculated on the basis of the entire value of the invention<sup>55</sup>). However, that approach arguably breeds patent trolls and supports their opportunistic practices.<sup>56</sup>

The Supreme Court’s reversals and vacatur of Federal Circuit opinions can be taken as striking a different balance between precision and accuracy. In *KSR*, the Court took the Federal Circuit’s point about avoiding subjective decisionmaking, for example when it agreed that “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”<sup>57</sup> However, it essentially ruled in favor of accuracy:

The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. . . . Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining pre-

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51. For a full discussion of this issue in the software context, see Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CALIF. L. REV. 1 (2001).

52. *Madey v. Duke Univ.*, 307 F.3d 1351, 1362 (Fed. Cir. 2002); *see also Embrex, Inc. v. Serv. Eng’g Corp.*, 216 F.3d 1343 (Fed. Cir. 2000).

53. *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F.3d 860, 873 (Fed. Cir. 2003) (Newman, J., dissenting in part).

54. *See, e.g., MercExchange, L.L.C. v. eBay, Inc.*, 401 F.3d 1323 (Fed. Cir. 2005), *rev’d* 547 U.S. 388 (2006).

55. *See, e.g., Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538 (Fed. Cir. 1995).

56. *See, e.g., H.R. REP. NO. 110-314*, at 26 (2007) (discussing “royalty stacking” and the problem of unreasonable royalties granted in litigation); Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809 (2007); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991 (2007).

57. *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007).

vously known elements, deprive prior inventions of their value or utility.<sup>58</sup>

Similarly, the Supreme Court chose to retain the doctrine of equivalents. Noting that “the nature of language makes it impossible to capture the essence of a thing in a patent application,” it held that the uncertainty produced is “the price of ensuring the appropriate incentives for innovation.”<sup>59</sup> While the Court has yet to reach the issue of the scope of the common law experimental use defense, its opinion in *Merck KGaA v. Integra Lifesciences I, Ltd.*, which expanded a statutory experimentation defense, suggests that the Court leans toward accuracy on this issue as well.<sup>60</sup> Moreover, in *eBay v. MercExchange*, the Court explicitly endorsed a rule of discretion for determining whether to grant injunctive relief.<sup>61</sup> Indeed, in a concurrence, Justice Kennedy elaborated on the importance of considering the circumstances of individual cases:

When the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest. In addition injunctive relief may have different consequences for the burgeoning number of patents over business methods, which were not of much economic and legal significance in earlier times. The potential vagueness and suspect validity of some of these patents may affect the calculus under the four-factor test.<sup>62</sup>

Finally, although the Supreme Court has not recently entertained questions on monetary relief, Congress has considered an apportionment rule that would limit damages to the value of the invention.<sup>63</sup> Tellingly, the

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58. *Id.*

59. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731-32 (2002); *see also* *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997).

60. *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005).

61. *eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006).

62. *Id.* at 396-97 (Kennedy, J., concurring).

63. For example, Section 6 of the Patent Reform Act of 2005, H.R. 2795, 109th Cong. (2005), provided that when damages are set at a reasonable royalty, the court should consider “the portion of the realizable profit that should be credited to the inventive contribution as distinguished from other features of the combination, the manufacturing process, business risks, or significant features or improvements added by the infringer.” Section 7 limited awards of injunctive relief. Section 5 of the Patent Reform Act of 2007, H.R. 1908, 110th Cong. (2007), limits reasonable royalties to the incremental value of the invention over the prior art.

Chief Judge of the Federal Circuit, Paul Michel, is actively opposed to this provision on the ground that it will foster uncertainty.<sup>64</sup>

To sum up, the problems with the Federal Circuit appear to be largely related to the question of accuracy. As to the other important criteria, uniformity is, in a sense, an automatic byproduct of centralization, and in many areas precision has been vastly improved.<sup>65</sup> The dichotomy in achievement may signify that the court is simply not considering whether the law is developing in a manner that reflects policies that meet the needs of the creative sector and further federal interests in promoting technological progress. Alternatively, it may be that the court is weighing precision against accuracy, but reaches a balance that differs radically from the one mandated by the Supreme Court and preferred by many observers and congressional reformers.

### III. THE PROBLEMS OF INSTITUTIONAL DESIGN AND PROPOSALS FOR REFORM

It is plausible to argue that if accuracy is the problem, the solution is the one Congress is currently pursuing: statutory reform.<sup>66</sup> Relying exclusively on Congress is, however, a highly impractical approach for the long term. The need for reform stems, in large part, from developments in the science sector, including increasingly close connections between fundamental and applied research (which strains the patentability requirements and puts pressure on the experimental use defense), increasing participation by universities (which tends to move patents upstream), reorganization of the research sector (which influences both patenting and licensing behavior), the accelerating speed of innovation (which drives use of the doctrine of equivalents), and changes in the ratio between patents and products (which affects the possibility for opportunistic behavior and should, therefore, shape remedies law).<sup>67</sup> The complexity, frequency, and

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64. Letter from Chief Judge Paul Michel, Chief Judge, United States Court of Appeals for the Fed. Circuit, to Senator Patrick Leahy, Chairman, Senate Judiciary Comm. & Senator Arlen Specter, Member, Senate Judiciary Comm. (June 13, 2007), available at [http://www.intellectualpropertylawblog.com/Michel%20letter%20to%20Senators%206-13-07\(1\).pdf](http://www.intellectualpropertylawblog.com/Michel%20letter%20to%20Senators%206-13-07(1).pdf).

65. As suggested earlier, there are observers who continue to regard claim construction as an exception. See Risch, *supra* note 17.

66. See, e.g., Petherbridge & Wagner, *supra* note 27, at 2101.

67. See Rochelle Dreyfuss, *Protecting the Public Domain of Science: Has the Time for an Experimental Use Defense Arrived?*, 46 ARIZ. L. REV. 457, 462-66 (2004); Graeme B. Dinwoodie & Rochelle C. Dreyfuss, *Diversifying Without Discriminating: Complying with the Mandates of the TRIPS Agreement*, 13 MICH. TELECOMM. & TECH. L. REV. 445, 445-46 (2007).

pace of these changes far outstrip Congress's capacity to legislate.<sup>68</sup> The current round of reform is, after all, the first major legislative reconsideration of patent law in over a half-century. In that time, whole new sciences—biotechnology, nanotechnology, information technology (IT)—were invented.

Many of the changes required are also sector-specific. Congress not only lacks the expertise necessary to craft the particularized provisions that are arguably needed, but recent attempts at reform show that rent seeking by particular technological interests thwarts the adoption of sound rules.<sup>69</sup> Besides, the Patent Act bears some resemblance to the Sherman Act: it has always depended on common law elaboration. And as Dan Burk and Mark Lemley point out, it was drafted with policy levers that could facilitate flexible and responsive application.<sup>70</sup> Not only is there irony in tying a body of law aimed at fostering progress to the glacial pace of legislative action, the congressional approach would seem to fly in the face of the 1982 decision to fix the perceived problems in patent law by “experimenting” with a specialized court rather than by revising the 1952 Act.<sup>71</sup>

Two problems with the Federal Circuit experiment may, however, explain why the court focuses so heavily on precision (and uniformity), the reasons it deemphasizes accuracy, and how it chose the techniques that it uses to achieve precision. One problem is related to institutional design; the other might be called the karma of the courthouse. Each suggests a menu of opportunities for reform.

### A. Institutional Design

From the Federal Circuit's inception, commentators have debated the proper positioning of a specialized court within the judicial hierarchy. There are two components to this problem. Considerable attention has been paid to the first, the relationship between the Federal Circuit and the

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68. See Nard & Duffy, *supra* note 40, at 1639.

69. See, e.g., JAFFE & LERNER, *supra* note 32, at 160. *But see* Peter S. Menell, *A Method for Reforming the Patent System*, 13 MICH. TELECOMM. & TECH. L. REV. 487 (2007) (suggesting the problems are not insoluble).

70. See Burk & Lemley, *Policy Levers*, *supra* note 15, at 1579.

71. See, e.g., Giles Sutherland Rich, *My Favorite Things*, 35 IDEA 1, 6 (1994) (noting the court was called an experiment). This is not to say that congressional intervention is never needed. No court, for example, could conform U.S. law to international practice by changing the priority rule, 35 U.S.C. § 102(g), from first-to-invent to first-to-file, or switching from § 102(a)'s relative novelty standard to an absolute novelty standard.

district courts.<sup>72</sup> Less well recognized is the problematic relationship between the Federal Circuit and the Supreme Court.

1. *The Federal Circuit and the District Courts*

a) The Problem

The crucial difficulty confronting the Federal Circuit is that it has been put in charge of patent law, but it cannot easily make full use of the expertise that it presumably develops from repeated exposure to patent cases. That expertise, after all, lies primarily in fact finding—in a capacity to comprehend complex technologies and the import of the prior art, and to assess the relationship between the claims in the patent, the prior art, and the device or practice alleged to infringe. Yet under federal law, when the court sees a technical mistake, its hands are tied by the “clearly erroneous” standard of review.<sup>73</sup>

In its early years, the Federal Circuit made the most of its expertise by ignoring the clearly-erroneous standard and by construing key issues as questions of law (or mixed questions of fact and law), which it then reviewed on a de novo standard.<sup>74</sup> The second strategy has been somewhat effective—indeed, in *Markman v. Westview Instruments*, the Supreme Court utilized a similar approach. By categorizing claim construction as an issue of law, the Court could take it away from the jury.<sup>75</sup> However, the Supreme Court brought the first strategy to a halt in *Dennison Manufacturing Co. v. Panduit Corp.*<sup>76</sup> Significantly, that was a case in which the Federal Circuit was attempting to cabin the use of hindsight in nonobviousness determinations by reversing invalidations of patents that were, in the court’s expert view, unsupported by the evidence. Nonetheless, the Supreme Court held that because nonobviousness is predicated on a series of factual findings, trial court decisions can be reversed only when they are clearly erroneous.

Since not every factual issue can be persuasively recast as a question of law, the Federal Circuit responded to *Dennison* by changing its focus. Instead of scrutinizing substantive outcomes, it began to insist on particular analytical approaches—for example, for nonobviousness, on the use of the “teaching, suggestion or motivation” test in addition to mandatory at-

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72. See, e.g., Linn, *supra* note 46; Arti K. Rai, *Engaging Facts and Policy: A Multi-Institutional Approach to Patent System Reform*, 103 COLUM. L. REV. 1035 (2003); Dreyfuss, *Case Study*, *supra* note 5.

73. FED. R. CIV. P. 52(a).

74. See Dreyfuss, *Case Study*, *supra* note 5, at 46-52.

75. 517 U.S. 370 (1996).

76. 475 U.S. 809 (1986) (per curiam).

tention to secondary considerations (such as commercial success); for claim construction, it has experimented with rigid interpretative methodologies and specific forms of evidence.<sup>77</sup> These requirements certainly satisfy the court's obligation to make the law *precise*. However, as *KSR* suggests, the rigidity of these rules gives trial courts insufficient room to respond to individual circumstances; the law becomes less *accurate*.<sup>78</sup>

Quality also suffers. Thus, one might have thought that quality decisions—that is, opinions that set out the policies the court is trying to achieve, discuss alternative approaches, and delineate why the chosen position was considered the best suited to attain the court's objectives—would bridge the gap between accuracy and precision. The elaboration of policy would make the law more comprehensible, and thus easier to apply reproducibly.<sup>79</sup> At the same time, clarification and transparency would promote coherence—the development of legal doctrines that work well together. Instead, because the Federal Circuit puts its emphasis on the district court's analytical approach, the impact of its decisions is obscured. In some situations, the result is overkill. For example, the Federal Circuit has narrowed patent scope in three different ways, through its interpretation of the doctrine of equivalents, enablement, and written description—all without any real discussion of what these restrictions have done to patent value.<sup>80</sup> In other circumstances, the court takes positions that work at cross purposes. For instance, the law on inequitable conduct and willful infringement promotes library research—but it also discourages it.<sup>81</sup> Obscuring policy also makes it difficult for practitioners to know when the court is changing direction and when it is not. As a result, the court winds up frustrated by appeals built around minor changes in the wording of par-

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77. See, e.g., *Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576 (Fed. Cir. 1996). See generally R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105 (2004). To be sure, some of this ended with the en banc opinion in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), but the greater flexibility supplied by *Phillips* arguably decreased the court's control over claim construction.

78. Another example of the way that an emphasis on analytics detracts from accuracy is the standard of skill the court uses for the ordinary bioengineer, which has remained the same despite rapid advances in the technology for sequencing DNA and in understanding the vocabulary of the nucleotides. See, e.g., Helen M. Berman & Rochelle C. Dreyfuss, *Reflections on the Science and Law of Structural Biology, Genomics, and Drug Development*, 53 U.C.L.A. L. REV. 871 (2006).

79. See Choi et al., *supra* note 44.

80. See *supra* text accompanying notes 50-52; Berman & Dreyfuss, *supra* note 78, at 897-98.

81. See PATENT SYSTEM, *supra* note 11, at 119.

ticular holdings.<sup>82</sup> The bottom line, in other words, is exactly the one that the empiricists have found: less indeterminacy but a jurisprudence that is insufficiently attentive to national interests.<sup>83</sup>

b) Solutions

There are several ways to reconfigure the system to avoid the need for rules that produce precision but reduce accuracy and quality. One approach is to create specialized trial courts with sufficient expertise to make correct—rather than not clearly erroneous—factual findings. With confidence that the lower courts have the technological capacity to follow its policies, the Federal Circuit would no longer need to straightjacket their decisionmaking. Two levels of specialized courts would, however, likely produce law that is substantially out of the mainstream. As two recent Supreme Court cases suggest, this is already something of a problem.<sup>84</sup>

Another idea would be to abolish the Federal Circuit and reconstitute it as a trial court. This approach would facilitate the use of expertise in fact finding. It would also end the problem of district court forum shopping, which the deferential clearly-erroneous standard of review fosters.<sup>85</sup> But this strategy would have other consequences. If there were only one trial court, litigants would be forced to travel. In theory, there is nothing wrong

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82. See, e.g., Glenn A. Archer, *Conflicts and the Federal Circuit*, 29 J. MARSHALL L. REV. 835, 837 (1996) (citing as an example *In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995), where “both parties [thought] there was a conflict when the judges [did] not.”); see also Haldane Robert Mayer, *Reflections on the Twentieth Anniversary of the Court of Appeals for the Federal Circuit*, 52 AM. U. L. REV. 761, 767 (2003) (“Too many opinions in well-trod areas of the law contribute to uncertainty and instability.”).

83. Jay Thomas has a different explanation for what he calls the court’s “formalist turn.” He attributes it to “strong signals” from the Supreme Court’s decision in *Pfaff v. Wells Electronics*, 525 U.S. 55 (1998), which substituted a rule for a standard the Federal Circuit developed for determining when an invention was “on sale” for purposes of 35 U.S.C. § 102(b) (the on sale bar). John R. Thomas, *Formalism at the Federal Circuit*, 52 AM. U. L. REV. 771, 780-81 (2003). The formalist trend may have accelerated with the Supreme Court’s approval of (or, perhaps, reliance on) the same technique for controlling the lower courts, but at least with respect to nonobviousness, the Federal Circuit appears to have begun to use it much earlier. Either way the effect is the same; rigidity/formalism produces what Thomas calls “certainty,” but not “sound innovation policy.” *Id.* at 810.

84. *MedImmune, Inc. v. Genentech, Inc.*, 127 S. Ct. 764, 772-73 (2007) (suggesting that the Federal Circuit’s rule on when a licensee can bring a declaratory judgment action was out of step with the law in nonpatent cases); *eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) (“These familiar principles [of equity] apply with equal force to disputes arising under the Patent Act.”). See generally S. Jay Plager, *Foreword: The Price of Popularity: The Court of Appeals for the Federal Circuit 2007*, 56 AM. U. L. REV. 751, 755 (2007).

85. See Moore, *supra* note 8.

with a national personal jurisdiction rule for disputes involving national law. But in practice, Congress has found good reasons to use this approach sparingly.<sup>86</sup> Furthermore, if appeals were to a single regional circuit, such as the D.C. Circuit, the dual-specialization problem would persist.

Multiple trial courts would solve these problems. Although maintaining a series of dedicated patent trial courts would be prohibitively expensive, then-Professor (now Judge) Kimberly Moore suggested an approach that would minimize the cost. After demonstrating that there is already de facto specialization—that a small number of district courts account for the adjudication of most patent cases—she proposed changing the venue statute to turn current practice into a de jure regime. If patent litigation were concentrated in a limited number of district courts, each court could acquire a degree of expertise in patent matters without sacrificing its generalist perspective.<sup>87</sup> And if the courts were chosen carefully, no litigant would be required to travel very far. This idea would, however, be complicated to implement. Questions would arise as to whether a particular case had enough of a patent dimension to fall within the new venue rule. Cases that included state law issues would be difficult for district courts outside the relevant state to adjudicate.

Nonetheless, Moore's proposal has focused attention on district court forum shopping issues and has led Congress to consider tighter restrictions on venue choice in patent cases. Under the proposed rule, forum shopping among district courts would be reduced.<sup>88</sup> Ironically, however, de facto specialization will likely disappear, along with the benefits it produces. More helpful is a proposed experiment in which each of the large districts would appoint specific members of its bench to hear all its patent cases.<sup>89</sup> These judges would become specialized, yet the parties would enjoy all of the advantages of local adjudication. It remains unclear, however, whether enough judges would agree to have their dockets changed in this way, how reallocating the patent docket would affect other cases, and whether any of the quasi-patent judges would acquire enough expertise to improve the accuracy of factual decisions.

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86. *See, e.g.*, FED. R. CIV. P. 4(k) (establishing personal jurisdiction over a defendant only if they were served within 100 miles from where the summons was issued) & advisory committee's note (1993 amendment).

87. Moore, *supra* note 8, at 934-36.

88. *See, e.g.*, Patent Reform Act of 2007, H.R. 1908, 110th Cong. § 11 (2007); H.R. REP. NO. 110-314, at 39-40 (2007).

89. H.R. 34, 110th Cong. (2007); H.R. 5418, 109th Cong. (2006). In the current proposal, this is envisioned as a pilot program that would sunset in ten years unless reenacted.

Because cases within the district court are unlikely to be reallocated or to achieve the desired results, a better approach is to focus harder on the relationship between the Federal Circuit and the district courts, and on the effects that *Dennison* and the clearly-erroneous standard generate. If the Federal Circuit were permitted to review district court determinations with more flexibility, it could drop its rigid analytical rules, revise its determinations about which issues require de novo review and on which the district courts deserve deference, and promote precision by elaborating on the reasons underlying decisions. Whether it would do so is considered below.<sup>90</sup> With such changes, the balance between precision and accuracy would shift in the preferred direction. While this approach might require an exception to the Federal Rules of Civil Procedure, it should not be surprising that a novel appeals process would demand revision of the rules governing the litigation process.

## 2. *The Federal Circuit and the Supreme Court*

### a) The Problem

The Federal Circuit's problematic relationship with the district courts partially explains the salience of precision; its difficult relationship with the Supreme Court helps explicate the slighting of accuracy.

At first blush, it might seem that if Congress is not able to keep patent law responsive to new circumstances (new technologies, products, players, and organizations), then the Supreme Court would take on that role. Paradoxically, however, the presence of the Federal Circuit makes the Supreme Court's task more difficult. For the Supreme Court to fulfill its responsibility to shape patent law, it must first hear enough cases to develop its own expertise and to impose its views effectively. Second, because of resource constraints, it must choose those cases carefully so that its efforts are directed at the issues that require its consideration.<sup>91</sup>

With patent law, neither of these conditions is fulfilled. Because uniformity was created by establishing the Federal Circuit, the Supreme Court is under little pressure to solve intercircuit conflicts for multistate actors. As a result, in the quarter-century of the Federal Circuit's existence, the Supreme Court has granted certiorari in only twenty-odd patent disputes.<sup>92</sup> Aside from the last two years, when six cases were decided,

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90. See *infra* Section III.A.2.

91. See generally Nard & Duffy, *supra* note 40; Dreyfuss, *Continuing Experiment*, *supra* note 5.

92. See sources cited *supra* note 20; see also *Unitherm Food Systems, Inc. v. Swift-Eckrich, Inc.*, 546 U.S. 394 (2006); *Nelson v. Adams USA, Inc.*, 529 U.S. 460 (2000);

that is barely enough attention to exert any real influence on patent jurisprudence.<sup>93</sup> To the contrary, the sparseness of review has allowed issues to fester. On matters such as the patentability of software and business methods, the Court's failure to consider Federal Circuit rulings has fostered reliance interests that potentially make revision of Federal Circuit law more difficult to accomplish.<sup>94</sup>

Nor is it easy for the parties. In most areas of law, parties seeking the Supreme Court's attention rely on circuit splits to signal the issues that are ripe for review. That strategy is largely unavailing in patent law because the decision to concentrate disputes in the Federal Circuit means that the likelihood of circuit splits approaches zero.<sup>95</sup> Instead, the parties must argue that certiorari is justified because a Federal Circuit decision conflicts with Supreme Court precedent or with regional circuit decisions handed down before the Federal Circuit was created. Because the Court takes so few cases, and because regional courts have been out of the patent business for so long, the cases that must be relied upon are largely outdated;

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Florida Prepaid Postsecondary Educ. Expense Bd. v. College Savs. Bank, 527 U.S. 627 (1999); Dickinson v. Zurko, 527 U.S. 150 (1999); Pfaff v. Wells Elecs., Inc., 525 U.S. 55 (1998); Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17 (1997); Cardinal Chemical Co. v. Morton Int'l, Inc., 508 U.S. 83 (1993); Eli Lilly and Co. v. Medtronic, Inc., 496 U.S. 661 (1990); Christianson v. Colt Indus. Operating Corp., 486 U.S. 800 (1988); Dennison Mfg. Co. v. Pduuit Corp., 475 U.S. 809 (1986).

The number of "patent" cases is somewhat indeterminate. Some of the above, like *Cardinal* and *Unitherm*, did not involve patent issues. Other cases could arguably be included: in one case, *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989), the Court reviewed a patent law issue that the Federal Circuit had decided, but certiorari was granted on a case arising from a different court; in another, *Asgrow Seed Co. v. Winterboer*, 513 U.S. 179 (1995), the Court reviewed a question arising under the Plant Variety Protection Act of 1970, 7 U.S.C. § 2541 (2000), which is closely related to patent protection, and in a third, *United States v. Hohri*, 482 U.S. 64 (1987), the Court reviewed an important issue affecting the Federal Circuit's power in patent cases, but not in a dispute that involved patent law. In addition, in *Laboratory Corp. of America v. Metabolite Laboratories, Inc.*, 548 U.S. 124 (2006), an important patent issue was dismissed but a strong substantive dissent was filed.

93. *But see* John F. Duffy, *The Festo Decision and the Return of the Supreme Court to the Bar of Patents*, 2002 SUP. CT. REV. 273, 314 (suggesting this is enough review).

94. For example, *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), was decided in 1998; it took the Supreme Court until 2006 to notice there might be a problem with the court's expansive scope of patentable subject matter, and even then, it dismissed a case on the issue because the issue was not raised below. *See* *Lab. Corp. of Am. v. Metabolite Labs., Inc.*, 548 U.S. 124 (2006).

95. *Bonito Boats*, which involved the relationship between patent and trade secrecy law, is the rare exception. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989).

many articulate rules that no one would want reinstated.<sup>96</sup> Finally, there is the issue of expertise. Although the Supreme Court takes too few cases in most areas of federal law to become expert, it can normally rely on the experience gained from seeing how the differing rules of the regional circuits play out. But because of the Federal Circuit, there is no occasion for differing rules in patent law.

Given these difficulties, it might be expected that the Supreme Court would defer to the Federal Circuit's expert judgment on issues of law. (Or, to put things another way, one might have thought that the Federal Circuit's unique placement in the judicial hierarchy was intended to reduce the need for Supreme Court attention.) But in fact, the Supreme Court's treatment of the Federal Circuit is somewhat bewildering. On the one hand, it often acts shocked when the court deviates from precedent—even in cases where the Court itself seems to understand that the precedent was dysfunctional.<sup>97</sup> Certainly, it betrays no indication that the Federal Circuit was established to exercise near-final authority over patent jurisprudence. On the other hand, the Supreme Court occasionally appears impatient with the court for not reading the tea leaves and changing the law to conform to decisions on related issues.<sup>98</sup>

Of course, there are good reasons for the Supreme Court to refuse to defer to the Federal Circuit (or to act irritated by it): even without exploring substance, there is cause to be skeptical about the court's output. Partly, the problem is situational: like the Supreme Court, the Federal Circuit is unable to learn from the way differing doctrines play out on different circuits. Furthermore, because lawyers prefer to avoid annoying the judges by relying on positions the court has already rejected, it is difficult for the court to correct errors once they occur.<sup>99</sup> In part, however, the

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96. A good example is *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007), where the Federal Circuit's nonobviousness jurisprudence was said to conflict with *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969), and *Sak-raid v. Ag Pro, Inc.*, 425 U.S. 273 (1976). However, those cases announced a "synergy" requirement for combination patents which has long been considered unworkable. Cf. *Sarkisian v. Winn-Proof Corp.*, 688 F.2d 647 (9th Cir. 1982) (en banc) (trying to make sense of the requirements for combination patents).

97. In *KSR*, for example, the Court mentioned the word "synergy" exactly once and then proceeded to recharacterize the precedential decisions while criticizing the Federal Circuit for deviating from them. *KSR Int'l Co.*, 127 S. Ct. at 1740-41.

98. See, e.g., *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006). The Court cited the "vast majority of academic literature," *id.* at 43 n.4, "the virtual consensus among economists," *id.* at 45, and the actions of various administrative agencies, *id.*, to show that there is no longer a working assumption that patents confer market power.

99. See Dreyfuss, *supra* note 35, at 1570 (calling this the "repeat-player disadvantage"). Nard and Duffy also point to the problem of annoying the court by petitioning for

problem may relate to the way the court's opinions are crafted: the Federal Circuit tends to favor a kind of formalism that is more characteristic of legal thinking in the nineteenth century than in the twenty-first.<sup>100</sup> Thus, opinions rarely provide insight into the goals the court sees the law as achieving; "policy discussions" take the form of incantations of standard justifications for statutory terms.<sup>101</sup> Instead, the court focuses on parsing precedent and on dictionary definitions.<sup>102</sup> As Judge Alan Lourie recently put it, "[N]ot once have we had a discussion as to what direction the law should take. . . . We have just applied precedent as best we could determine it to the cases that have come before us."<sup>103</sup> The court, in short, fails to instill confidence in its decisions because it rarely tests the accuracy of its positions by trying to explain them.<sup>104</sup>

As with the Federal Circuit's district court problem, the appellate structure provides something of an explanation for the situation. Thus, Craig Nard and John Duffy argue that the court is not inspired to write better decisions because it lacks an audience. Without jurisdictional overlap, there are no sister courts that the Federal Circuit needs to persuade, and the Supreme Court intervenes so irregularly that there is also little incentive to write for the consumption of the Justices. In effect, the Court does not defer because the Federal Circuit's opinions are not very persuasive, but the Federal Circuit does not write persuasive opinions because the Supreme Court is so nondeferential.

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certiorari. They note that the PTO—the quintessential repeat player at the Federal Circuit—has never sought certiorari to review a Federal Circuit decision on patent law. Nard & Duffy, *supra* note 40, at 1641 n.79.

100. See, e.g., MORTON J. HORWITZ, *THE TRANSFORMATION OF AMERICAN LAW, 1870-1960*, at 131 (1992) (arguing that Oliver Wendell Holmes's article, *Privilege, Malice and Intent*, 8 HARV. L. REV. 1 (1894), marked "the beginning of modernism in American legal thought" and "the demise of the late-nineteenth-century system of legal formalism").

101. For example, on the doctrine of equivalents, the court dutifully acknowledged the notice function of patents. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 576 (Fed. Cir. 2000) (en banc). But as Judge Newman suggests in her separate opinion in that case, the court did not consider the economic and practical effect of narrowing the scope of the claims. *Id.* at 630-42 (Newman, J., dissenting in part).

102. See, e.g., *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007); *infra* note 106.

103. Alan D. Lourie, *A View from the Court*, 75 PAT., TRADEMARK & COPYRIGHT J. (BNA) 22 (2007).

104. See DAVID E. KLEIN, *MAKING LAW IN THE UNITED STATES COURTS OF APPEAL*, at 100-02 (2002) (interview studies of circuit judges suggest that they are heavily influenced by how well decisions are reasoned). As academics know well, the real test of a new proposition is whether it can be written up.

That said, it should be noted that to a small extent, both tribunals are learning to cope. Starting with its en banc decision in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*,<sup>105</sup> the judges on the Federal Circuit have become quite adept at writing dissents signaling the need for Supreme Court attention.<sup>106</sup> And as Nard and Duffy note, the Supreme Court tends to write decisions that leave implementation issues to the expertise of the Federal Circuit.<sup>107</sup> But these efforts are of limited significance. Signaling for Supreme Court review can only work a few times before collegial sentiments within the appellate court fray or the interest of the Court wanes. Leaving implementation to the Federal Circuit runs into the problems the court has supervising the district courts.

b) Solutions

Nard and Duffy suggest that the Federal Circuit/Supreme Court situation could be remedied by giving at least one other sitting circuit court authority to hear patent cases; forum shopping would be avoided by random assignment of district court cases to the relevant appellate courts. This change, the authors say, would not only give the court an incentive to write better opinions, it would also generate better signals of the need for Supreme Court attention.<sup>108</sup> Justice Stevens has expressed a similar view, albeit with respect to a different question, as to the Federal Circuit's appellate jurisdiction: under *Holmes Group, Inc. v. Vornado Air Circulation Systems, Inc.*, the Federal Circuit has jurisdiction only over appeals that raise a patent issue on the face of a well-pleaded complaint. Thus, patent issues that appear in the defense are now diverted to the regional circuits, where they will create the same opportunity for dialogue.<sup>109</sup>

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105. 234 F.3d 558 (Fed. Cir. 2000) (various dissents).

106. *Id.* at 619-42 (various dissents). *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F.3d 860, 872 (Fed. Cir. 2003) (Newman, J., dissenting in part) provides another example. *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007) may become another instance of this phenomenon. In this case on whether a digital watermark is patentable subject matter, the majority decision is an exercise in parsing statutes and looking up words in dictionaries. *Id.* Judge Linn's partial dissent begins with the observation that the case requires the court to apply centuries-old language to a product of the electronics age and moves on to a fascinating discussion of legislative intent and lessons drawn from the history of adapting patent law to new technologies. *Id.* at 1358 (Linn, J., dissenting).

107. Nard & Duffy, *supra* note 40, at 1639 & n.71.

108. *Id.* at 1640.

109. 535 U.S. 826, 839 (2002) (Stevens, J. concurring) ("An occasional conflict in decisions may be useful in identifying questions that merit this Court's attention. Moreover, occasional decisions by courts with broader jurisdiction will provide an antidote to the risk that the specialized court may develop an institutional bias.").

While Nard and Duffy's idea is certainly innovative, it sacrifices the one clear benefit of concentrating patent appeals—national uniformity. The authors suggest that uniformity is overrated, but some of their rhetoric appears to conflate uniformity and precision. They are right that the system is now tilted too far in favor of precision, but practitioners, and presumably their clients, hugely value uniformity.<sup>110</sup> Furthermore, Nard and Duffy's solution may produce fewer splits and less dialogue than they expect, for it may be difficult for the non-specialized courts to resist saving resources by simply adopting the Federal Circuit's law based on its presumed expertise, rather than because they are persuaded the Federal Circuit's views are accurate. Indeed, after *Vornado* was decided but before it became evident that it would not add very many patent cases to the regional dockets, commentators suggested that the regional courts take exactly that deferential approach.<sup>111</sup>

Furthermore, even if the other courts acted independently, there may not be enough new voices to make a significant difference. In other areas of the law, major changes are often associated with so-called "entrepreneurial judges" who excel at developing new rules.<sup>112</sup> However, these jurists are few and far between. The participation of one or two additional benches in the dialogue over patent law cannot duplicate the other circuits' ability to draw on the entire range of the federal judiciary. Worse, if the Nard and Duffy strategy were successful and the other appellate courts struck a different balance between precision and accuracy, district courts would be required to apply different rules to similar facts, depending on which court was slated to hear the appeal. Trial courts potentially faced an analogous situation regarding the nonpatent issues in the cases allocated to the Federal Circuit for review. Significantly, the Federal Circuit declined to interpret nonpatent issues independently, as the Evarts Act permits, and instead simplified matters for the district courts by deferring to their regional circuit's law.<sup>113</sup>

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110. See, e.g., Dunner, *supra* note 6.

111. See, e.g., Larry D. Thompson, Jr., *Adrift on a Sea of Uncertainty: Preserving Uniformity in Patent Law Post-Vornado Through Deference to the Federal Circuit*, 92 GEO. L.J. 523 (2004). See also KLEIN, *supra* note 104, at 104, 136-37 (in technical areas, some judges claim to follow the opinions of jurists they regard as having special expertise).

112. See KLEIN, *supra* note 104, at 40-61 (discussing entrepreneurial lawmaking).

113. *Atari, Inc. v. JS & A Group.*, 747 F.2d 1422, 1439 (Fed. Cir. 1984) (en banc). Unfortunately, that approach creates problems of its own. See Dreyfuss, *Case Study*, *supra* note 5, at 38-41 (discussing, among other issues, the indeterminacy of line drawing between "patent" and "nonpatent" issues). Admittedly, cases before the Federal Trade

Finally, it is difficult to see how the absence of dialogue could be the whole story. First, there are few allegations that the D.C. Circuit behaves this way, even in the areas where it has exclusive authority. Second, if the Federal Circuit's entire docket is considered, there is considerably more overlap with other circuits than is generally recognized, as well as greater intervention by the Supreme Court.<sup>114</sup> Third, rather than regard academic critique with suspicion,<sup>115</sup> the court could be using scholarship as a substitute sounding board. Similarly, the Supreme Court could be using amicus briefs as substitute signals of importance.<sup>116</sup> Besides, the court already has a strong incentive to explicate its decisions: as noted earlier, it could reduce the number of appeals that are based on no more than changes in the wording of its opinions.<sup>117</sup>

Another way to achieve accuracy would be to give rule-making authority to the PTO. Congress often relies on the expertise of administrative agencies to keep the laws they oversee responsive to changing needs; under *Chevron U.S.A. Inc. v. Natural Resources Defense Council*, courts are required to defer to appropriately developed agency interpretations.<sup>118</sup> Presently, the Supreme Court requires deference to PTO findings of fact in cases where a patent is denied.<sup>119</sup> Furthermore, the PTO has taken on a rule-making role by promulgating guidelines on utility and new continuation rules.<sup>120</sup>

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Commission can be appealed to any circuit, 15 U.S.C. § 45(c) (2000), and thus raise something of the same problems, albeit within the Commission.

114. For example, one of the judges noted that in a six-month period, he heard cases involving products liability, contract actions, tax issues, and trademark cases, as well as many cases raising administrative law issues. S. Jay Plager, Introduction, *The United States Courts of Appeals, the Federal Circuit, and the Non-Regional Subject Matter Concept: Reflections on the Search for a Model*, 39 AM. U. L. REV. 853, 860-61 (1990); Arthur J. Gajarsa & Lawrence P. Cogswell, III, *Foreword: The Federal Circuit and the Supreme Court*, 55 AM. U. L. REV. 821, 834-38 (2006) (summarizing the areas of concurrent appellate jurisdiction). There is even some overlap in the patent docket. *See supra* note 95; *see also* Plager, *supra* note 84, at 755 (noting that of the cases on which certiorari was granted, more than two-thirds did not involve patent law).

115. *See generally* Nard, *supra* note 19 (discussing the role of scholarship in Federal Circuit jurisprudence); Dreyfuss, *Continuing Experiment*, *supra* note 5 (analyzing the Federal Circuit's consideration of extra-judicial materials).

116. *See* KLEIN, *supra* note 104, at 121 (suggesting this use of amicus briefs).

117. *See supra* text accompanying note 82.

118. *Chevron U.S.A. Inc. v. Natural Resources Def. Council*, 467 U.S. 837 (1984). *See also* *Skidmore v. Swift & Co.*, 323 U.S. 143 (1940).

119. *Dickinson v. Zurko*, 527 U.S. 150 (1999).

120. *See, e.g.*, Judges Panel of the Malcolm Baldrige National Quality Award, 60 Fed. Reg. 36263 (July 14, 1995) (utility guidelines); Changes to Practice for Continuing Applications, Requests for Continued Examination Practice, and Applications Containing

Commentators who have considered this approach for patent law largely reject it.<sup>121</sup> The PTO was established before the Administrative Procedure Act was enacted; it has never been given rule-making authority; and it is chronically underfunded.<sup>122</sup> Further, it is not staffed with the economists, scientists, and other experts that would be needed to perform rule-making responsibilities effectively. As Arti Rai notes, deference to patent denials presents a unique situation that should not be generalized to other issues, such as decisions on whether to uphold a patent grant.<sup>123</sup> For its part, the Federal Circuit has approved, rather than deferred to, the utility guidelines,<sup>124</sup> and the fate of the continuation rules remains uncertain.<sup>125</sup> Furthermore, if the PTO's rule-making authority were made commensurate with its expertise, then some issues in patent law, such as prosecution issues, would be within the PTO's authority, while other issues, such as those that arise in enforcement actions, would be within the jurisdiction of the Federal Circuit. The result is likely to be law that is incoherent. At a minimum, there would be a significant loss in flexibility. For example, economists suggest that optimizing innovation incentives among generations of innovators requires a careful adjustment between the height of the inventive step and the scope of the patent.<sup>126</sup> If the PTO were to have authority over one of these issues and the Federal Circuit over the other, it would be impossible to develop an ideal regime.

Given the paucity of alternatives, the better approach, again, may be to work with the structure that is already in place. If the Supreme Court were

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Patentably Indistinct Claims, 71 Fed. Reg. 48 (Jan. 3, 2006) (to be codified at 37 C.F.R. pt. 1).

121. See, e.g., Nard & Duffy, *supra* note 40; Rai, *supra* note 72.

122. See, e.g., Dale L. Carlson & Robert A. Migliorini, *Past as Prologue for Patent Reform: Experience in Japan With Oppositions Suggests an Alternative Approach for the U.S.*, 88 J. PAT. & TRADEMARK OFF. SOC'Y 101, 115-16 (2006).

123. Arti K. Rai, *Allocating Power over Fact-Finding in the Patent System*, 19 BERKELEY TECH. L.J. 907 (2004).

124. *In re Fisher*, 421 F.3d 1365 (Fed. Cir. 2005). Rai notes that the Federal Circuit has also resisted *Zurko*. Rai, *supra* note 72, at 1055.

125. H.R. 1908, 110th Cong. § 14 (2007) would make clear that the PTO has authority to promulgate rules governing conduct within the Office, but does not grant broader rule-making power. See also H.R. REP. NO. 110-314, at 45 (2007). The issue, however, is whether the effect of continuation rules is confined to conduct within the Office. See *Tafas v. Dudas*, No. 1:07CV846, 2008 WL 859467 (E.D. Va. Apr. 1, 2008) (holding the rules beyond the scope of the PTO's current rule-making authority). See generally Laxman Sahasrabudde, *Is the PTO Authorized to Promulgate the Proposed Rule Change to the Continuation Practice?*, 22 BERKELEY TECH. L.J. 193 (2007).

126. See, e.g., Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991).

to reconsider *Dennison*, the Federal Circuit's need for rigidity might abate, allowing it to develop substantive rules that are accurate, rather than procedural rules that induce precision without achieving quality. (Whether it would do so is discussed in the next Section.) If decisions were more accurate and better reasoned, the Supreme Court could drop its insistence that the Federal Circuit follow long-outdated precedents and recognize its unique role in shaping patent jurisprudence. And if the Federal Circuit expected the Supreme Court to defer, it could shift its talents from writing attention-seeking dissents to drafting illuminating opinions.

## B. The Karma of the Courthouse

The prior Section examined the impact of institutional design and suggested that the skewed balance between precision and accuracy may stem from the Federal Circuit's placement within the judicial hierarchy. But as then-Professor Moore said in another context, fault could also "lie[] with the Federal Circuit itself."<sup>127</sup> In fact, there are features of the court's history and its judges' experiences that help explain the court's behavior.<sup>128</sup>

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127. Moore, *supra* note 16, at 247.

128. The literature on the determinants of judicial behavior is extensive. The study by J. Woodford Howard Jr. is among the best known. J. WOODFORD HOWARD, JR., COURTS OF APPEAL IN THE FEDERAL JUDICIAL SYSTEM 225 (1981). See also KLEIN, *supra* note 104; Frank B. Cross, *Decisionmaking in the U.S. Circuit Courts of Appeal*, 91 CALIF. L. REV. 1457 (2003); Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717 (1997); James L. Gibson, *From Simplicity to Complexity: The Development of Theory in the Study of Judicial Behavior*, 5 POL. BEHAV. 7 (1983) [hereinafter Gibson, *Judicial Behavior*]; see also James L. Gibson, *Judges' Role Orientations, Attitudes and Decisions: An Interactive Model*, 72 AM. POL. SCI. REV. 911 (1978). Several judges have contributed thoughtful pieces as well. See Dennis Jacobs, Chief Judge, United States Court of Appeals for the Second Circuit, *The Secret Life of Judges*, Address at the 2006 John F. Sonnett Memorial Lecture held at Fordham University School of Law, in 75 FORDHAM L. REV. 2855 (2007); Harry T. Edwards, *Collegiality and Decision Making on the D.C. Circuit*, 84 VA. L. REV. 1335, 1365 (1998); Stephen Reinhardt, *Judicial Speech and the Open Judiciary*, 28 LOY. L.A. L. REV. 805 (1995); FRANK M. COFFIN, ON APPEAL: COURTS, LAWYERING, AND JUDGING (1993); Richard A. Posner, *What Do Judges and Justices Maximize (The Same Thing as Everybody Else Does)*, 3 SUP. CT. ECON. REV. 1 (1993). Several Federal Circuit judges have written specifically about the business of the Federal Circuit. See, e.g., Archer, *supra* note 82; Gajarsa, *supra* note 114; Linn, *supra* note 46; Richard Linn, *Effective Appellate Practice Before the Federal Circuit*, 2 J. MARSHALL REV. INTELL. PROP. L. 1 (2002); Mayer, *supra* note 82; Newman, *supra* note 2; Plager, *supra* notes 84 & 114; Rader, *supra* note 37; Howard T. Markey, *The Court of Appeals for the Federal Circuit: Challenge and Opportunity*, 34 AM. U. L. REV. 595 (1985) [hereinafter Markey, *Challenge*]; Howard T. Markey, *The State of the Court*, 38 AM. U. L. REV. 1093 (1989) [hereinafter Markey, *State*]; Howard T. Markey, *The Federal Circuit and Congressional Intent*, 2 FED. CIR. B.J. 303 (1992) [hereinafter Markey, *Intent*].

### 1. *The Problem*

The history of the Federal Circuit and the concerns surrounding its creation clearly play a crucial role in the court's jurisprudence, especially in its tendency to emphasize precision at the expense of accuracy. As noted at the outset, when the Federal Circuit was created, specialization was regarded with suspicion. It had been tried before with limited success. Some of the earlier tribunals were created to be transitory (an example is the aptly named Temporary Emergency Court of Appeals), but lingered on for many years; others were slated for permanent status, but were abolished rather quickly.<sup>129</sup> The Commerce Court, for instance, stirred up such strong public opposition that it was disbanded after only three years of operation.<sup>130</sup>

The first judges of the Federal Circuit must have been extremely aware of their court's "experimental" status and anxious to avoid the fate of the Commerce Court. They read the legislative history of the court's founding with care and worked hard to stay faithful to the goals Congress sought to accomplish. These they essentially classified as the production of uniformity and precision.<sup>131</sup> As the court's first Chief Judge, Howard Markey, put it: "[t]he challenge to the court and its bar is to create and maintain a uniform, reliable, predictable, nationally-applicable body of law."<sup>132</sup> In successive speeches, he repeated that refrain,<sup>133</sup> and judges who have joined the court echo it as well. "We are," according to current Chief Judge Paul Michel, "very conscious of our role as a nationwide court, and the need of practitioners in the industry and law firms everywhere for maximum predictive power."<sup>134</sup>

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129. On the Commerce Court and other attempts at specialization, see generally Dreyfuss, *Specialized Adjudication*, *supra* note 5.

130. *Id.*

131. See, e.g., Rich, *supra* note 71, at 10 (noting that to achieve the goal of stability, the court's first act was to adopt the law of its predecessor courts, the Court of Customs and Patent Appeals and the Court of Claims, as binding precedent); Newman, *supra* note 2, at 53; see also Meador, *supra* note 4, at 15. The recollections of Professor Meador and Judge Newman are particularly significant because they were key figures in the court's creation.

132. Markey, *Challenge*, *supra* note 128, at 595.

133. Markey, *State*, *supra* note 128, at 1094 ("Every court doubtlessly seeks to issue the best decision it can in each case. Our court, however, was created to establish greater uniformity . . ."); Markey, *Intent*, *supra* note 128 (noting that the Federal Circuit had fulfilled Congress's intent and had not exceeded its mandate).

134. See Paul Michel, *Judicial Constellations: Guiding Principles as Navigational Aids*, 54 CASE W. RES. L. REV. 757, 764 (2004); see also Rader, *supra* note 37, at 3 ("The Federal Circuit . . . has accomplished a great mission in bringing uniformity, predictability, and enforceability to law.").

Emphasizing precision promotes public acceptability in other ways as well. *Dennison* may have led to a skewed relationship between precision and accuracy, but attempts to refute the decision would have required the court to spotlight its unique status and demand special treatment—exactly the kind of attention the early court likely sought to avoid. Besides, as between focusing on accuracy and analytical methods for making the law more precise, precision has an important benefit: it is a bit like apple pie in that it may be fattening, but when it is served, no one criticizes the chef. Precision makes planning and advising easier for everyone. In contrast, refinements made to substantive law are sure to have a negative impact on some constituency.

Of course, the early court could not avoid legal doctrine entirely. But even here, its desire to cement public acceptance explains a great deal about its jurisprudence. Thus, while commentators may be right that the court has decided as many issues in favor of patent holders as in favor of technology users,<sup>135</sup> the innovative industries may not be the court's primary audience. According to recent scholarship, judges tend to internalize the expectations of the bar far more than they consider the expectations of other members of the public.<sup>136</sup> On that metric, the court has done very well indeed. As noted above, precision and uniformity are very much appreciated by the bar. On procedure, the court's refusal to grant interlocutory review on *Markman* hearings prolongs cases—and can raise fees.<sup>137</sup> Its unwillingness to look beyond the individual case to overarching problems, along with its admonitions to stick to the record when writing briefs, to base arguments on precedent, and to avoid footnotes,<sup>138</sup> makes it easier for counsel to prepare their cases and reduces the competitive advantage

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135. See *supra* note 22 and accompanying text.

136. See, e.g., Cross, *supra* note 128, at 1460, 1462; Jacobs, *supra* note 128; see also Benjamin H. Barton, *Do Judges Systematically Favor the Interests of the Legal Profession?* (Univ. of Tenn. Legal Studies Research Paper No. 1, 2007), available at <http://ssrn.com/abstract=976478>; Adam Liptak, *With the Bench Cozied Up to the Bar, the Lawyers Can't Lose*, N.Y. TIMES, Aug. 27, 2007, at A10; cf. Jonathan R. Macey & Geoffrey P. Miller, *Toward an Interest-Group Theory of Delaware Corporate Law*, 65 TEX. L. REV. 469 (1987) (explaining elements of Delaware corporate law as responding to the interests of Delaware lawyers).

137. See H.R. REP. NO. 110-314, at 40-41 (2007) (granting interlocutory claim construction appeals at the discretion of the district court in order to shorten litigation and reduce cost).

138. See, e.g., Linn, *supra* note 128; Michel, *supra* note 134, at 765; see also Lourie, *supra* note 103 (suggesting that footnotes "might not be read").

of the smartest attorneys. Not surprisingly, mediocre lawyering produces mediocre decisionmaking.<sup>139</sup>

The same analysis applies to the substantive positions the court has adopted. The doctrine of equivalents is an example. For the industry, reducing the force of the doctrine is something of a wash. Eliminating it clarifies the metes and bounds of claims and thus lowers the cost of interpretation and planning.<sup>140</sup> But at the same time, inventors must apply for—and be wary of—more patents. The real beneficiaries of the court's work are attorneys—the patent prosecutors who earn fees from applying for the new patents prompted by narrowing the doctrine of equivalents, as well as the lawyers who search for these patents and write freedom-to-operate opinions about them. Lowering the standard of nonobviousness and expanding the scope of patentable subject matter similarly promote the interests of the bar. Now that the creative sector has been thoroughly “patentized,” there is even more work for patent attorneys to do.<sup>141</sup>

The court's focus on public acceptance may also help to explain its formalism, which is not only ahistoric, but also appears to conflict with the congressional goal of establishing a central source of patent jurisprudence. After all, “just appl[ying] precedent” (as Judge Lourie stated<sup>142</sup>) and “not hav[ing] meetings to discuss whether we are going to rein in the doctrine of equivalents” (as Judge Michel once claimed<sup>143</sup>) are hardly recipes for honing the law or adapting it to new circumstances. The problem here may be that the court is trying too hard not to appear ideological. At first blush, the tension between ideological preferences and neutral decisionmaking, which is an important trope in the literature on judicial behavior,<sup>144</sup> may seem less problematic for the Federal Circuit than for other courts because standard ideological differences, such as Republican/Democrat or conser-

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139. This is especially true because there are judges who believe it inappropriate to conduct independent research. *See, e.g., Michel, supra* note 134, at 765 (“We are not supposed to go fishing for extraneous sources unbeknownst to the lawyers who tried the case.”).

140. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 576 (Fed. Cir. 2000) (en banc).

141. For discussions of patentable subject matter, see, for example, *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998) (holding that software and business methods are patentable).

142. Lourie, *supra* note 103.

143. Michel, *supra* note 134, at 764-65.

144. *See* sources cited *supra* note 128.

vative/liberal, appear to map poorly onto patent law.<sup>145</sup> One could favor strong patents out of a belief in the sanctity of property, because one considered taking another's intellectual labor as slavery, or because one saw patents as important corporate assets or as tools that help individuals finance startups. Significantly, the 1952 Patent Act engendered virtually no debate,<sup>146</sup> the decision to establish the court was nonpartisan,<sup>147</sup> and the Federal Circuit has been as vulnerable to reversal in an opinion penned by a Republican appointee as by a Democrat appointee.<sup>148</sup>

In fact, however, recent empirical work by Matthew Sag and coauthors suggests that, at least at the Supreme Court level, this view is incorrect and that ideology and outcomes in intellectual property cases are correlated.<sup>149</sup> If the same holds true for the Federal Circuit, then the judges may be straining to persuade the public that they are not voting their preferences. Thus, they think they can avoid criticism by sticking to precedent parsing and by claiming (again, in Judge Michel's words), that "[w]e really do not have an agenda; actually, it would be very difficult and undesirable to have an agenda."<sup>150</sup> Furthermore, even if the judges are not worried about

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145. See generally Kimberly A. Moore, *Are District Judges Equipped to Resolve Patent Cases?*, 15 HARV. J.L. & TECH. 1, 27 (2001) (finding no difference in how Republicans and Democrats construe patent claims).

146. See Giles S. Rich, *Address to the American Inn of Court*, 76 J. PAT. & TRADE-MARK OFF. SOC'Y 320, 329 (1994) ("You think that Congress enacted the Patent Act of 1952. Congress as a whole didn't know a thing about the Patent Act of 1952. Most of them had never heard of it. Why? Because it was put on a consent calendar. It was a codification of the law. It wasn't controversial.")

147. Meador, *supra* note 4, at 17.

148. The line-ups in the recent cases are good examples. See, e.g., *MedImmune, Inc. v. Genentech, Inc.*, 127 S. Ct. 764 (2007) (Scalia opinion; Thomas dissent); *eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) (Thomas opinion, Ginsburg and Scalia concurrence, Kennedy, Stevens, Souter, and Breyer concurrence); *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006) (Stevens); *Lab. Corp. of Am. v. Metabolite Labs., Inc.*, 548 U.S. 124 (2006) (Breyer dissent from dismissal of cert.); *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005) (Scalia); *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007) (Kennedy); *Microsoft Corp. v. AT&T Corp.*, 127 S. Ct. 1746 (2007) (Ginsburg opinion, Alito concurrence, Stevens dissent).

149. Matthew Sag et al., *The Effect of Judicial Ideology in Intellectual Property Cases* (July 2, 2007), available at <http://ssrn.com/abstract=997963>. Admittedly, there is some inconsistency between Moore's study, see *supra* note 145, and projections based on Sag's. However, the two researchers used different statistical methodologies. Furthermore, Moore looked only at claim construction; Sag counted all of the intellectual property cases considered by the Supreme Court. It could also be the case that by bending over backwards to avoid ideology, the Federal Circuit's decisions are—in fact—nonideological (but nonetheless suffer from a failure to elucidate policy).

150. Michel, *supra* note 134, at 764-65.

the views of the “attitudinal school” of political science,<sup>151</sup> they may be concerned about appearing overly patent-friendly. For example, in the speech by Judge Lourie quoted above, he also made a point of saying, “I don’t think we are pro-patent,” and claiming that the court has never had a discussion on “whether we should be pro-patent or not.”<sup>152</sup> Of course, noble as these goals may be, submerging—or ignoring—policy may not be the best way to achieve either neutrality or public acceptability. Even if it is appropriate to avoid ideology (or to avoid, as an ideology, the very idea that patents promote innovation), there are still many neutral questions on how to facilitate their use that the court ought to be deciding. Avoiding an “agenda” does not make adjudication more neutral, it just makes the law less accurate.<sup>153</sup>

In addition to looking to the history of the court to explain its performance, it is also possible that the appointment process has produced judges with experiences different from those of regional jurists, and that these experiences shape the court’s output in an anomalous way.<sup>154</sup> The federal judiciary as a whole attracts judges from a diversity of backgrounds. Thus, the regional appellate benches include people with a rich assortment of talents and interests. Many practiced law. To Judge Posner, their decision to take a pay cut to ascend the bench presents economists with a challenge. He suggests that these judges are substituting another form of gratification for monetary compensation: they enjoy solving puzzles, and their new position allows them to resolve the legal inconsistencies and discontinuities that frustrated them as lawyers.<sup>155</sup> Other jurists spent their professional lives in academia, where they were acculturated to (or, perhaps, self-selected into) a tradition of teaching and scholarship—in other words, their experience lies in exploring and explicating doctrine, policy, and the-

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151. *See, e.g.*, JEFFREY A. SEGAL & HAROLD J. SPAETH, *THE SUPREME COURT AND THE ATTITUDINAL MODEL* (1993).

152. Lourie, *supra* note 103.

153. For example, the doctrine of equivalents issue—which Judge Michel claims is never discussed—raises the question whether innovation is best promoted by narrow patents that can be invented around or by fuzzy patents that promote “leapfrogging.” *See, e.g.*, *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 640-41 (Fed. Cir. 2000) (Newman, J., dissenting in part). Focusing on the issue might help the court strike a better balance between notice and reward, and alleviate the problems it has had with over-reliance on the doctrine. *See supra* note 50 and accompanying text.

154. For a discussion of the impact of prior experience on judicial performance, see Howard, *supra* note 128; KLEIN, *supra* note 104; Cross, *supra* note 128; Gibson, *Judicial Behavior*, *supra* note 128.

155. Posner, *supra* note 128.

ory.<sup>156</sup> Some appointments come from the ranks of the trial courts. Having had the experience of trying to make sense of appellate law in order to apply it accurately, these judges appreciate the importance of high quality decisions.<sup>157</sup>

The Federal Circuit's bench is composed quite differently from other Circuits. Because Congress has sought to prevent over-specialization, and because the court has power over several areas other than patent law, less than a third of the judges currently serving have substantial patent law experience.<sup>158</sup> Since the court was initially staffed from the Court of Customs and Patent Appeals (CCPA), some of the early judges did have a background in patents. However, that court's patent jurisdiction was limited to reviewing the PTO. Accordingly, the CCPA judges' most recent experiences were directed only at questions of patentability and not at issues concerning infringement or licensing.<sup>159</sup> As a result, there are few judges who have served on the Federal Circuit who came to the bench aware of problems in patent law and both eager and knowledgeable enough to figure out how to fix them. It should then be no surprise that, beyond early cases on validity issues like nonobviousness,<sup>160</sup> none of the judges has taken an entrepreneurial interest in patent law. Nor should it be startling that the court consigns accuracy to a backburner while concentrating on precision and precedent parsing, which appear to promote stability and at the very least give the judges an opportunity to learn the law.

Judges who do not begin with an interest in working through the problems in patent law can also be expected to prefer doctrines that will lead to easier, quicker, and faster decisions over resolutions that safeguard accuracy.<sup>161</sup> And indeed, there are Federal Circuit decisions that appear heavily motivated by these considerations. One example is the court's position, prior to the Supreme Court's *Festo* decision, on the relationship between claim amendments and prosecution history estoppel, which would have

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156. See Howard, *supra* note 128, at 131 (demonstrating that appellate judges from academia are among the most likely to rank writing reasoned decisions as a top priority in their judicial role).

157. See *id.* (demonstrating that trial judges form the other group likely to rank reasoned decisions as a high priority).

158. At present, four judges have substantial patent experience (Judges Linn, Lourie, Moore, and Newman). Judge Gajarsa was a patent lawyer for a brief time. See Dunner, *supra* note 6, at 11 n.6.

159. Dreyfuss, *Case Study*, *supra* note 5, at 13.

160. *Id.* at 14-17.

161. KLEIN, *supra* note 104, at 11 (suggesting that judges tend to balance speed against the values of sound decisionmaking and furthering the policies underlying the law).

significantly reduced the number of cases requiring analysis under the doctrine of equivalents.<sup>162</sup> Another is its approach to multinational infringement cases, where it was willing to find that foreign activity infringed U.S. patent rights, but refused to streamline patent disputes by permitting the assertion of foreign claims in U.S. courts.<sup>163</sup> Applying U.S. law to foreign activity is certainly straightforward, but—as the Supreme Court held in its reversal of the Federal Circuit opinion—it violates the general rule against extraterritorial application of U.S. patent law.<sup>164</sup> In contrast, and despite what the Federal Circuit said in its opinion, consolidating foreign and domestic claims is likely permissible as a matter of international law, but it would clearly lead to some very difficult cases. Judge Michel's opposition to apportionment of damages appears to be similarly animated by concerns over the difficulty of making the required calculations.<sup>165</sup>

By the same token, there are very few judges who came to the Federal Circuit from academia; indeed, only one who regularly taught or wrote about patent law, and she joined the court so recently that her presence has yet to be felt.<sup>166</sup> The absence of academics may account not only for the contours of the court's output; it can also help to explain the court's low regard for scholarship and its unwillingness to use scholarship as an alternative sounding board. Finally, the Federal Circuit's only trial court judges came from the CCPA and the Court of Claims.<sup>167</sup> Both courts had narrow jurisdictions, presenting few of the issues with which the regional district courts struggle. Their judges may therefore have come to the court with less of an appreciation for the need to fashion a cohesive jurisprudence.

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162. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 576 (Fed. Cir. 2000) (en banc) (holding that amendments to claims generally give rise to prosecution history estoppel and block use of the doctrine of equivalents).

163. *Compare* *AT&T Corp. v. Microsoft Corp.*, 414 F.3d 1366 (Fed. Cir. 2005) (applying U.S. law extraterritorially) *with* *Voda v. Cordis Corp.*, 476 F.3d 887 (Fed. Cir. 2007) (holding, in reliance on an implausible interpretation of the Paris Convention, that a trial court that accepted jurisdiction over a foreign patent claim abused its discretion under 28 U.S.C. § 1367).

164. *Microsoft Corp. v. AT&T Corp.*, 127 S. Ct. 1746 (2007).

165. Michel Letter, *supra* note 64.

166. Only Plager and Moore were academics; Plager's scholarship was in administrative law; Moore was appointed in 2006. A few judges teach as adjuncts. *See* United States Court of Appeals for the Federal Circuit, Judicial Biographies, <http://www.fedcir.gov/judgbios.html> (last modified Apr. 11, 2007). The experience of the adjunct professors is not, however, likely to lead to a greater interest in writing because publication is not required of adjuncts.

167. Of the current judges, Mayer and Rader were the only former trial court judges; both came from the Court of Claims. *See id.*

What the Federal Circuit does appear to have is an unusually high percentage of judges with a legislative background. Three of the judges on the current court worked for Congress,<sup>168</sup> and Giles Rich, one of the first judges, helped draft the 1952 Patent Act.<sup>169</sup> To these jurists, the idea of using their judicial position to improve the accuracy of the law may appear to inappropriately trench on the power of the legislature. Judge Rich's opinion in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*<sup>170</sup> is especially illuminating. In order to decide whether software and business methods should be considered patentable subject matter, Judge Rich might have considered whether inventors of software or business methods require patents to spur their ingenuity. He might also have noted how well these fields were faring without patents, pondered the absence of patent rights over business methods and software in economies comparable to that of the United States, and reflected on the problems the trial judge had foreseen in granting patents on business methods.<sup>171</sup> Instead, he parsed the traditional common law limitations on patentable subject matter and rejected them, holding it "improper to read limitations into § 101 on the subject matter that may be patented where the legislative history indicates that Congress clearly did not intend such limitations."<sup>172</sup> Much ink has since been spilled on the wisdom of that decision. Congress has already added one new provision to deal with the problems *State Street* has caused and is considering another;<sup>173</sup> the Supreme Court has signaled interest in the issue.<sup>174</sup> Even the Federal Circuit appears to be having second thoughts.<sup>175</sup>

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168. Judges Michel, Rader, and Prost worked in Congress. In addition, Judge Plager worked for the OMB. *See id.*

169. *See* Giles S. Rich, *Why and How Section 103 Came to Be*, 14 FED. CIR. B.J. 181 (2005); Rich, *supra* note 146.

170. 149 F.3d 1368 (Fed. Cir. 1998).

171. *See* *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 927 F. Supp. 502, 516 (D. Mass. 1996) (Saris, J.); *see generally* Rochelle Cooper Dreyfuss, *State Street or Easy Street: Is Patenting Business Methods Good for Business*, in *US INTELLECTUAL PROPERTY LAW AND POLICY 1* (Hugh Hansen ed., 2006).

172. *State St. Bank & Trust Co.*, 149 F.3d at 1373.

173. 35 U.S.C. § 273 (2000) protects prior users of patented business methods. Current reform proposals would eliminate patents on tax planning strategies. *See, e.g.*, H.R. 1908, 110th Cong. § 10 (2007).

174. *Lab. Corp. of Am. v. Metabolite Labs., Inc.*, 548 U.S. 124, 124 (2006) (Breyer, J., dissenting from dismissal of certiorari).

175. *See In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007); *In re Bilski*, 2008 WL 417680 (Fed. Cir. Feb. 15, 2008) (granting an en banc hearing to consider the question of "[w]hether it is appropriate to reconsider *State Street* . . .")

## 2. Solutions

If this analysis of the Federal Circuit is apt, then the prescription for improvement may not be very dramatic. In some sense, the trick is patience. After all, the court is very young—in its entire history, it has had only one complete turnover of judges.<sup>176</sup> The first-generation jurists were right to establish the bona fides of the court and avoid attention. But the court is now fully established. There is little support for suggestions to disband it or to recreate it as a trial court. In fact, Congress has expanded its authority over the years.<sup>177</sup> Thus, there is no longer a need for the court to take defensive positions or to maintain a low profile. Now that the court is mature, it is time to press its position as a tribunal with special expertise and to fulfill its role as the near-final authority in patent matters.<sup>178</sup>

Unfortunately, however, as the Mets, Red Sox, and Cubs have learned, bad karma can be enduringly bad karma.<sup>179</sup> It may be particularly difficult for subsequent appointees to internalize the change in the court's status. Because their mentors were all imbued with the need to build public support, new judges are inculcated with the same role orientation. Thus, just as it is said to take three generations to assimilate to a new country, it could take a third generation of jurists to assimilate the Federal Circuit to the general norms of the federal judiciary rather than to the unique needs of the Markey court. But it could take even longer. A newcomer who wants to buck the court's emphasis will often wind up in dissent. Thorough opinions (and dissents) take more time to write, and the others on the court may have little tolerance for delay.<sup>180</sup> Peer pressure to conform to existing approaches can be very strong and long-lasting.

But exogenous forces can be brought to bear to help the maturation process along. Patent law is now a popular course and the interest has

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176. Mayer, *supra* note 82, at 761-62.

177. *See, e.g.*, Federal Courts Administration Act of 1992, Pub. L. No. 102-572, § 102(b), 106 Stat. 4506, 4506 (1992) (giving the Federal Circuit additional power, including the jurisdiction formerly exercised by the Temporary Emergency Court of Appeals).

178. *Cf.* J.H.H. Weiler, *The Rule of Lawyers and the Ethos of Diplomats*, 35 J. WORLD TRADE 191, 204 (2001) (suggesting that a reasonable time must pass before the "World Trade Court" (the Appellate Body of the WTO) is judged so that it has time to work out the right balance between "external" and "internal" legitimacy).

179. *Cf.* Larry Brooks, *Bad Karma at Shea*, N.Y. POST, Aug. 13, 2007, at 83, available at [http://www.nypost.com/seven/08132007/sports/mets/bad\\_karma\\_at\\_shea\\_mets\\_larry\\_brooks.htm](http://www.nypost.com/seven/08132007/sports/mets/bad_karma_at_shea_mets_larry_brooks.htm) (discussing the karma in the Mets' clubhouse).

180. *See supra* text accompanying notes 161-165.

spread to upscale law schools.<sup>181</sup> With an increasingly sophisticated bar, briefing should change, with or without the court's approval, and reinforce inclinations of the newer judges to push the court towards more accurate and higher quality decisionmaking. Of course, some practitioners will try to protect the status quo: after all, they have already put in the time to learn the current rules and have found success operating under them. But as newcomers enter the profession and others see the pitfalls in trying to change patent law legislatively, the bar may find the courage to ignore the court's admonitions and write the kind of briefs that lead to well-crafted legal doctrine.

Congress could also foster changes to the court's sensibilities. First and foremost, it must pay careful attention to the appointment process. With increasing demands for a patent professoriate, the population of patent scholars has also grown, leading to a larger cohort of academics from which to choose the next generation of judges. Similarly, there is now a cadre of practitioners whose experience is largely before the Federal Circuit: Congress would do well to consider appointments from this group, for they likely would have an appetite for solving the problems in the Federal Circuit's jurisprudence. Even more important is an elevation from a regional district court. Harold Wegner points out that the special residency requirement for serving on the Federal Circuit may pose an obstacle to such an appointment.<sup>182</sup> Accordingly, he would have Congress repeal the requirement. That approach may, however, be less helpful than Wegner predicts. The goal, after all, is to change the culture of the Federal Circuit. A judge who commutes to the court for hearings is unlikely to exert much of an influence over the judges who see one another in chambers on a daily basis.

Congress could effectuate an even more dramatic change by revising the Federal Rules of Civil Procedure to give the Federal Circuit more power to review facts or power to decide when to review facts. As we saw, if the court were relieved of the need to supervise the district court's fact finding procedurally, it could concentrate harder on substance and develop new ways to execute its role in reviewing factual questions and, espe-

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181. For example, U.S. News and World Report now rates UC Berkeley, Stanford, and George Washington as the top three law schools in intellectual property. These schools are rated 8th, 2nd, and 22nd overall. *See* AMERICA'S BEST GRADUATE SCHOOLS 44 (2008 ed.).

182. *See* 28 U.S.C. § 44(c) (2000) (“[E]ach circuit judge of the Federal judicial circuit . . . shall reside within fifty miles of the District of Columbia.”); Posting of Harold Wegner, wegner@foley.com, to undisclosed recipients (Mar. 12, 2007 09:56:51 EST) (on file with author).

cially, mixed questions of fact and law, such as nonobviousness and claim construction.

The Supreme Court could also influence the court's norms. The recent flurry of cases should alert the Federal Circuit to the need to improve accuracy. But it is equally likely that bad karma will prevail. In fact, there are ways in which the Federal Circuit appears somewhat defiant of Supreme Court intervention. For example, the Federal Circuit accepted the Court's reinstatement of the doctrine of equivalents so grudgingly that certiorari was granted on a second doctrine-of-equivalents case;<sup>183</sup> even now, it is unclear that the Federal Circuit supports its use.<sup>184</sup> The same fate may befall *KSR*, for some of the Federal Circuit judges are suggesting that the effect of the Supreme Court's decision, which was clearly meant to change nonobviousness law, will be "far less than you might think."<sup>185</sup> Accordingly, if the Supreme Court is serious about prodding the court to develop new norms of decisionmaking, it will likely have to decide a few more cases and write sharply worded opinions that clearly state what it sees as the problems and how it thinks the court should go about correcting them.<sup>186</sup>

In addition, the Supreme Court might strengthen the Federal Circuit's capacity to do a better job with accuracy by helping it attract more academically oriented, as opposed to practitioner-oriented, law clerks. So far, only one Federal Circuit clerk has later served as a Supreme Court clerk. Because Federal Circuit judges are not regarded within the academy as "feeders," students aspiring to an academic career do not always apply. Were the Supreme Court to take a few Federal Circuit clerks, the status of the position would change and more academically oriented clerks might apply. If the judges on the Federal Circuit hired these clerks,<sup>187</sup> the court

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183. See *Warner-Jenkinson Co., v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002).

184. Allison & Lemley, *supra* note 9, at 967, 970-71.

185. See Posting of Michael Factor to The IP Factor, Judge Rader Fights Back, Calling for the Federal Circuit to Define Patent Law, <http://blog.ipfactor.co.il/2007/05/31/judge-rader-fights-back-calling-for-the-federal-circuit-to-define-patent-law/> (May 31, 2007 19:12:00 GMT+2); Posting of Dennis Crouch to Patently-O, More Patently-O Tid-Bits, [http://www.patentlyo.com/patent/2007/05/more\\_patentlyo\\_.html](http://www.patentlyo.com/patent/2007/05/more_patentlyo_.html) (May 22, 2007); see also *High Court's Patent Rulings on Obviousness Was Not Paradigm Shift, Judges Agree*, 74 PAT., TRADEMARK & COPYRIGHT J. (BNA) 690 (Oct. 12, 2007) (quoting Chief Judge Michel as saying that "not much has changed" after *KSR*).

186. Cf. Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions, 1978-2005*, 156 U. PA. L. REV. 549 (2007), available at <http://ssrn.com/abstract=998421> (demonstrating the difficulties lower courts have discerning Supreme Court positions).

187. Whether the Federal Circuit is interested in academically oriented clerks is, of course, a different issue.

would be in a better position to understand the culture of scholarship and it might become less suspicious of the academic literature. Recruitment of Federal Circuit judges might also improve, for potential judges may currently see the difference in the clerkship pool as a reason to prefer a regional circuit appointment. The Supreme Court would also benefit from the practice, for the clerks with Federal Circuit experience could help the Court appreciate the unique problems the Federal Circuit encounters.

A Chief Judge sympathetic to the issues could also make a big difference.<sup>188</sup> Chief Judge Michel, for example, has made it a practice to invite district court judges to sit on the Federal Circuit by designation, where they can provide the court with their perspective on the implementability of circuit law.<sup>189</sup> The scope of their influence may be limited, however, for visiting district judges, like newcomers, may be diffident about asserting their views.<sup>190</sup> It is therefore also desirable for members of the Federal Circuit to sit by designation on district courts and regional circuits, where they could see the impact of Federal Circuit decisions first-hand and watch a different judicial culture in operation. Because statutory authority to designate judges for visits turns on whether the “business of that court so requires,”<sup>191</sup> it may be difficult to engineer the importation of judges to the court at the same time that the court is exporting its judges to other benches. Nonetheless, Chief Judge Michel has apparently managed that task as well.<sup>192</sup>

Other steps could also be taken. New York University’s Dwight D. Opperman Institute of Judicial Administration runs a program for newly

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188. The rumor that the Federal Circuit used quirks in the Chief Judge rule, 28 U.S.C. § 45 (2000) (which disqualifies judges over age 64 from becoming a chief judge, but allows a chief judge to serve until the age of 70), to deny one judge the chief judgeship attests to the role that the Chief Judge can play.

189. See generally Richard B. Saphire & Michael E. Solimine, *Diluting Justice on Appeal? An Examination of the Use of District Court Judges Sitting by Designation on the United States Courts of Appeals*, 28 U. MICH. J.L. REFORM 351 (1995) (discussing pros and cons of using designated judges).

190. For problems with relying on judges sitting by designation, see Dreyfuss, *Continuing Experiment*, *supra* note 5, at 795-96; Saphire & Solimine, *supra* note 189, at 370-83.

191. See, e.g., 28 U.S.C. § 292 (2000).

192. For example, Judge Lourie recently sat on a regional circuit, *United States v. Brito*, 238 Fed. Appx. 857 (3d Cir. 2007), and Judge Denise Cote, from the Southern District of New York, sat on the Federal Circuit, *Digeo, Inc. v. Audible, Inc.*, 505 F.3d 1362 (Fed. Cir. 2007). Judge Rader has sat by designation as a district judge. E.g., *Loral Fairchild Corp. v. Victor Co. of Japan*, 911 F. Supp. 76 (E.D.N.Y. 1996); *Ristvedt-Johnson, Inc. v. Brandt, Inc.*, 805 F. Supp. 549 (N.D. Ill. 1992).

appointed appellate judges.<sup>193</sup> Among other things, the program helps judges reflect on their new roles and acculturates them to the traditions of the bench.<sup>194</sup> Many circuits use this program, but the Federal Circuit does not appear to have done so. Perhaps the court is using a similar program elsewhere, but if it is not, then it might be worthwhile to send judges for this sort of training to see whether it would foster new norms. In addition, regional circuits have occasionally convened task forces to help the judges consider troublesome issues. For example, Professor Stephen Burbank studied the use of Rule 11 for the Third Circuit,<sup>195</sup> and Professor Judith Resnick examined gender bias for the Ninth Circuit.<sup>196</sup> The Federal Circuit might consider such an appointment to help it ponder its changing institutional identity and transition from the mindset of an experiment to a full-fledged court, charged with primary responsibility over patent law.

#### IV. CONCLUSION

In its quarter-century of operation, the Federal Circuit has made great strides in improving the adjudication of federal patent disputes. On the whole, however, its contributions lie on the side of making patent law more determinate. It has done less well in using its expertise to keep patent law responsive to changing technological facts and emerging national interests. One explanation for the dichotomy is related to the court's position within the judicial hierarchy; as an appellate court, its power over fact-finding is constrained. As a tribunal with centralized authority over patent law, it lacks incentives to write persuasively.

Although a variety of changes have been proposed to improve the court's performance, time may be the real cure for its perceived ills. The Federal Circuit is only two generations old. Now that its credibility is solidified, it can be more proactive about developing procedural law that makes good use of its expertise. It can also shift its focus from meeting Congress's short-term uniformity and predictability objectives to assuming its role as the near-final authority in patent jurisprudence, responsible for crafting law that is responsive to the needs of the creative community and the users of knowledge products.

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193. See NYU School of Law, Institute of Judicial Administration: Programs, <http://www.law.nyu.edu/institutes/judicial/programs/2004/new/> (last visited Mar. 9, 2008).

194. Judge Coffin's book, *ON APPEAL*, exemplifies the kind of work that new judges do in this environment. See COFFIN, *supra* note 128.

195. STEPHEN B. BURBANK, *RULE 11 IN TRANSITION: THE REPORT OF THE THIRD CIRCUIT TASK FORCE ON FEDERAL RULE OF CIVIL PROCEDURE 11* (1989).

196. Judith Resnick, *Gender Bias: From Classes to Courts*, 45 *STAN. L. REV.* 2195 (1993) (describing the Ninth Circuit Gender Bias Task Force).

Several steps can be taken to help the maturation process along. Foremost is appointing judges whose careers demonstrate an interest in writing and “displaying analytical prowess,” who would derive pleasure from playing the “‘game’ of judging.”<sup>197</sup> The next generation of jurists should, in other words, include lawyers who practiced before the Federal Circuit, who come to the bench knowing where the doctrinal and policy problems lie, and who are eager to take a hand in ironing them out. The appointment of district court judges with experience applying Federal Circuit law is also imperative. As the court changes, practitioners could consider more policy-oriented briefing. In addition, the Supreme Court has to decide whether the Federal Circuit is fish or fowl—just one more appellate court or a tribunal with a unique role in shaping patent law. If the former, it ought to make more explicit the direction that patent law should take. If the latter, it needs to reshape procedural law to take that role into account. Ultimately, however, it is up to the Federal Circuit judges themselves to fashion a court that is the premier expositor of patent jurisprudence.

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197. Posner, *supra* note 128, at 19, 28.

# FAIR USE AS INNOVATION POLICY

By Fred von Lohmann<sup>†</sup>

## TABLE OF CONTENTS

I. INTRODUCTION .....	829
II. THE RISE OF PRIVATE COPYING TECHNOLOGIES.....	832
III. FAIR USE AS INNOVATION POLICY.....	836
IV. INNOVATION AND COPYRIGHT: COMPLEMENTARY ECONOMICS .....	840
A. LESSONS IN COMPLEMENTARY ECONOMICS .....	840
B. THE PRIVATE ORDERING OBJECTION .....	844
1. <i>Systemic Obstacles to Disruptive Innovation</i> .....	845
2. <i>Intentional Blocking of Disruptive Innovations by Market Incumbents</i> .....	850
C. THE DANGEROUS INNOVATION OBJECTION .....	853
V. MARGINAL COSTS AND CONSUMER SURPLUS .....	858
VI. IMPLICATIONS FOR FAIR USE .....	861
VII. CONCLUSION .....	864

## I. INTRODUCTION

Courts and legal scholars have long sung the praises of the fair use doctrine in American copyright law. By permitting unauthorized uses of copyrighted works that would otherwise be unlawful, the fair use doctrine has been understood to resolve market failures,<sup>1</sup> facilitate the social values

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1. See, e.g., Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Eco-*

of a just and democratic society,<sup>2</sup> reconcile (or fail to reconcile) copyright and the First Amendment,<sup>3</sup> accommodate established patterns of social practice,<sup>4</sup> and allow creators to build on the works of their predecessors.<sup>5</sup>

But despite the extensive scholarly attention devoted to the doctrine, there has been a notable dearth of commentary and judicial precedent addressing the most widespread and common fair use activity of the past four decades: private, non-transformative, personal-use copying. For every unauthorized copy made by a “transformative” or “productive” user—a parodist, pundit, researcher, critic, or “remixer,”—certainly thousands are made by “home tapers,” iPod owners, and TiVo subscribers. In the absence of any statutory copyright exception approving private, non-transformative copying, all of these copies must qualify as fair uses, or else be deemed infringing.<sup>6</sup> Yet most courts and copyright scholars have focused their attentions almost entirely on the former category of “transformative” fair use activities, rather than the vastly more common non-transformative copying.<sup>7</sup>

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*conomic Analysis of the Betamax Case and its Predecessors*, 82 COLUM. L. REV. 1600 (1982).

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

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

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

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

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

7. See Tushnet, *supra* note 3, at 555-60. A recent spate of scholarship has attempted to fit private copying more comfortably into copyright jurisprudence and policy. See, e.g., Julie E. Cohen, *The Place of the User in Copyright Law*, 74 FORDHAM L. REV. 347, 349-53 (2005); Tushnet, *supra* note 3, at 540; Joseph P. Liu, *Copyright Law’s Theory of the Consumer*, 44 B.C. L. REV. 397 (2003). However, while each of these efforts attempts to redeem some aspect of private copying, each ultimately shies away from “pure” private copying (i.e., non-transformative copying undertaken for convenience). Scholarly justifications aimed specifically at this category of uses have been rare. See

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

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

Part IV sets out a justification for removing this private copying activity from the reach of copyright law—doing so creates incentives for investment in complementary technologies that enhance the value of copyrighted works. This Part also addresses two potential objections. First, responding to those who favor private ordering built on strong copyrights, it introduces recent research regarding persistent market failures that can interfere with the ability of copyright industries to recognize their own self-interest when considering disruptive innovations. Second, responding to those who worry that unfettered disruptive innovation may undermine the incentives that form the foundation of copyright law, this Part argues the advantages of an *ex post*, rather than *ex ante*, approach to regulating “dangerous” innovations.

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

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

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Litman, *Lawful Personal Use*, *supra* note 6, at 1903, 1918 (suggesting that private copying should fall outside the exclusive rights of the copyright owner); Raymond Shih Ray Ku, *Consumers and Creative Destruction: Fair Use Beyond Market Failure*, 18 BERKELEY TECH. L.J. 539, 572-73 (2003) (justifying private copying as a fair use where it results in “creative destruction”).

## II. THE RISE OF PRIVATE COPYING TECHNOLOGIES

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

Private copying is not new. Beginning in the 1970s with the advent of the video cassette recorder (VCR), photocopier, and audio cassette recorder, millions of American consumers have had the power to reproduce copyrighted works cheaply for their private use.<sup>9</sup> But the rapid recent proliferation of new devices, widely accepted and perceived as “legitimate,” whose primary purpose is the private reproduction and manipulation of copyrighted works without the express authorization of copyright owners, is striking.

Recent developments in the area of digital music technologies exemplify this explosion of private copying. As of December 2007, Apple Computer had sold more than 152 million of its iconic iPod music players worldwide, with 22 million sold in the 2007 holiday season alone.<sup>10</sup> And the iPod is only the tip of the digital music iceberg. Surveys suggest that 32% of American households own an MP3 player;<sup>11</sup> one in twenty Americans over the age of 12 owns two or more.<sup>12</sup> In addition, untold millions of

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

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

10. Wikipedia keeps an up-to-date tally of iPod sales totals, drawn from quarterly press releases issued by Apple. See Wikipedia, Image:Ipod Sales.svg, [http://en.wikipedia.org/wiki/Image:Ipod\\_sales.svg](http://en.wikipedia.org/wiki/Image:Ipod_sales.svg) (last visited Jun. 19, 2008) (summarizing iPod sales since 2002).

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

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

CD and DVD burners have been sold as standard equipment in personal computers and are frequently used to “burn” music to recordable CDs and DVDs.

Traditional copyright law doctrines, however, do not easily accommodate all of the unauthorized digital copies that fuel these devices.<sup>13</sup> Copyright law reserves the exclusive right to make reproductions to the copyright owner.<sup>14</sup> Accordingly, the millions of Americans who routinely make copies of copyrighted music on their MP3 players are running afoul of this exclusive right unless some copyright exception can be found to shelter their copying activities. The fair use doctrine supplies the only plausible candidate.<sup>15</sup>

The millions of Americans who have become accustomed to using digital video recorders (DVRs) to record television programming for later viewing (“time-shifting”) depend on the same legal defense to excuse their conduct. The pioneer of this product category, TiVo, now counts more than 4.3 million TV viewers among its subscribers.<sup>16</sup> But TiVo is just the

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

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

14. *See* 17 U.S.C. § 106(1) (2000).

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

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

tip of the “time-shifting” iceberg—American DVR owners are estimated at 17.6 million and the number of total TV “time-shifters” (including those who still use VCRs) at 43 million.<sup>17</sup>

Whether the “time-shifting” activities of these Americans qualify as fair use, however, remains the subject of some dispute. The motion picture studios have argued in litigation over the ReplayTV DVR that some kinds of digital time-shifting go too far and exceed the bounds of fair use.<sup>18</sup> Consequently, the fair use questions at the digital “time-shifting” frontier seem not to be fully resolved, despite the Supreme Court’s landmark 1984 ruling in *Sony Corp. of America v. Universal City Studios, Inc.*,<sup>19</sup> approving time-shifting in the analog VCR context.

Do the private copies made by iPod and TiVo owners fall within the scope of the fair use doctrine? Without litigation leading to reported federal court rulings, the question is extremely difficult to answer.<sup>20</sup> Fair use generally requires a notoriously murky case-by-case legal inquiry that calls on federal judges to apply a statutorily prescribed, but indeterminate,<sup>21</sup> four-factor balancing test.<sup>22</sup> Commentators and lawyers can come

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

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

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

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

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

to a variety of different conclusions by applying the statutory fair use factors to hypothetical iPod and TiVo users. The lack of legal cases brought against users of MP3 players and DVRs, however, suggests that copyright owners are generally not eager to sue run-of-the-mill consumers for uses that consumers perceive as legitimate, perhaps due to fear of adverse judicial results, and the surfeit of targets perceived as more blameworthy (like those caught downloading from peer-to-peer file-sharing networks).

But not all makers of digital technologies are willing to wait for the courts to provide the fair use answers. Instead, they are rushing to introduce new “time-shifting” devices to the market, such as the “inno,” designed to receive and record XM satellite radio broadcasts for later listening.<sup>23</sup> Others are introducing new “space-shifting” technologies, like the new “TiVoToGo” feature that allows TiVo owners to transfer their recorded programs to personal computers and portable media players for later playback.<sup>24</sup> A new generation of digital “space-shifting” products, such as the Sling Media “Slingbox,” promises to make *any* audio or video source in your living room available remotely by transmitting the material to you, wherever you may be, over the Internet.<sup>25</sup>

These, as well as a host of other emerging digital technologies,<sup>26</sup> are helping consumers to get more from the copyrighted music and video that they have already purchased. In fact, a substantial portion of the value of

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nate than fair use.”).

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

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

23. See *Atlantic Recording Corp. v. XM Satellite Radio, Inc.*, 81 U.S.P.Q.2d 1407, 1409 n.2 (S.D.N.Y. 2006).

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

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

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

each of these technologies likely stems from their ability to unlock new value for consumers in copyrighted works. In other words, each new technology depends upon, but also increases, the value of the consumer's existing investment in music and video.

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

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

### III. FAIR USE AS INNOVATION POLICY

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

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

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

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

breathe life into their fledgling technologies.<sup>29</sup>

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

On this view, the fair use doctrine has been an unsung hero in the tale of America's innovation economy, encouraging investment and creating new markets for technology companies.<sup>31</sup> But is this a proper role for the fair use doctrine to play? Should fair use be appropriately regarded part of our nation's innovation policy?

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

A variety of responses to this concern of rightsholders may be imagined. First, if the goal of policy-making is to maximize overall societal welfare—that is, to ensure that any subsidy to innovation generates more social benefit (e.g., in the form of new jobs, shareholder value, or additional economic activity) than the harm it causes to copyright industries

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

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

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

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

(e.g., in lost jobs or forgone creativity)—then perhaps fair use protection of private copying is the welfare-maximizing arrangement.<sup>33</sup> There are certainly indications that Apple's iPod, for example, has unleashed a remarkable amount of new economic activity. Apple's stock valuation has increased seven-fold since the iPod's introduction in 2001, with much of that increase stemming directly from the iPod's success.<sup>34</sup> In addition, iPod sales alone totaled more than \$13 billion over the product's first five years.<sup>35</sup> The MP3 player boom has also spawned new ancillary markets, including an MP3-player-accessories market measured at \$2 billion in 2006.<sup>36</sup>

In contrast, the retail value of physical units shipped annually by the major record labels has, over the same period, fallen from \$12.9 billion in 2001 to \$9 billion in 2006.<sup>37</sup> Although it may be difficult to determine what portion of that decline can be attributed to the kind of private copying enabled by the iPod (as distinguished from other technologies, such as peer-to-peer file sharing, or non-technology-related market changes), the iPod seems to have generated more new economic activity than piracy-related harms.

A second response to the concern that "fair use as startup capital" slights rightsholders is that copyright law has never given copyright owners complete control over their works, and thus that there is no "subsidy"

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

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

35. Apple sold 67 million iPods over the product's first five years. *See* Wikipedia, *supra* note 10. Assuming an average sale price of \$200 (iPods were priced between \$49 and \$299), total revenues from these sales would exceed \$13.4 billion. *See* Apple Store, <http://store.apple.com> (last visited Mar. 23, 2008). *BusinessWeek* has estimated iPod revenues in the first five years to be around \$14 billion. *See* Arik Hesseldahl, *The Apple iPod Turns Five*, BUSINESSWEEK, Oct. 23, 2006, [http://www.businessweek.com/technology/content/oct2006/tc20061021\\_515771.htm](http://www.businessweek.com/technology/content/oct2006/tc20061021_515771.htm).

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

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

to technology innovators at all. Copyright law strives to strike a balance between creating *adequate* (not maximal) incentives for the creation and distribution of expressive works, while also ensuring widespread public access to and enjoyment of such works.<sup>38</sup> In light of these competing goals, perhaps new private uses of copyrighted works should properly fall outside the bounds of the copyright owners' exclusive rights, at least until some evidence is offered suggesting meaningful harm to the creation and distribution of creative works.<sup>39</sup> At a minimum, perhaps the copyright industries should bear the burden of demonstrating a significant erosion of relevant incentives for creation before the windfall is reassigned in their favor.<sup>40</sup>

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

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

Second, innovators are not unfairly enriched under this view of fair use as "startup capital." Basic economics suggests that, in a competitive mar-

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

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

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

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

ket, a producer's price is driven inexorably toward the marginal cost of production. Because the value of fair uses is not part of the marginal cost of production for a technology vendor, the vendor will have a difficult time appropriating any of the value of those fair uses. Instead, as discussed in Part V, this consumer surplus ends up flowing to the public at large, thereby serving the welfare-maximizing goals of copyright by reducing the monopoly inefficiencies that accompany the copyright system.

#### IV. INNOVATION AND COPYRIGHT: COMPLEMENTARY ECONOMICS

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

##### A. Lessons in Complementary Economics

The VCR experience teaches the happy lesson of the complementary relationship that can arise between private copying technology and copyrighted works. As has been extensively documented, the motion picture industry greeted the introduction of the first home VCR with dismay, fearing that it would encourage consumers to make and "library" copies of movies and television shows recorded from broadcast and cable television, thereby reducing the demand for future syndication of these features.<sup>42</sup> Hollywood and broadcasters also worried that "commercial-skipping" would result in sagging advertising revenues. This led the head of the Motion Picture Association of America (MPAA), Jack Valenti, to opine in 1982 that "the VCR is to the American film producer and the American public as the Boston strangler is to the woman home alone."<sup>43</sup>

Of course, these dire predictions did not come to pass. Once the VCR had established a beachhead in the American living room, movie studios discovered that they could capitalize on it, allowing consumers to rent and purchase movies and television series. The VCR made possible the home video market, a market which today generates more than double the reve-

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

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

nues collected at the box office—at a time when box office admissions have also shown strong growth.<sup>44</sup> In the end, the VCR and copyrighted films proved to be what economists would term “complementary” products—increasing demand for one results in increasing demand for the other.

Of course, it was not the “record button”—that is, the private copying function—of the VCR that ultimately became the crucial feature that enabled the home video market. But at its debut, the VCR depended on the “record button” to win its beachhead in the American living room. When the VCR first appeared on the market, prerecorded tapes were not available for sale; a consumer had to engage in unauthorized private copying (and perhaps trading tapes with other VCR owners<sup>45</sup>) if she were to have anything to watch on her new Betamax. The ready availability of material for off-the-air recording served as the “bait” that persuaded American consumers to make the (initially) large investment in a new technology. In other words, the fair use of time-shifting, in effect, provided part of the “startup capital” for Sony’s Betamax. And the VCR’s beachhead in the living room ultimately came to benefit both copyright owners and the technology sector.

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

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

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

46. See Steve Jobs, CEO, Apple Inc., Keynote Address at MacWorld 2007 (Jan. 9, 2007), available at <http://blog.seattlepi.nwsnsource.com/microsoft/library/applekeynote.html>; Rob Griffiths, *Six Months to 1 Billion*, MACWORLD (Playlist Blog), July 31, 2007, <http://www.macworld.com/article/59230/2007/07/3billionsongs.html>; Tom Krazit, *Apple Confirms Leaked Data: iTunes Tops The Charts*, CNET News.com, Apr. 3, 2008, [http://news.cnet.com/8301-13579\\_3-9910714-37.html](http://news.cnet.com/8301-13579_3-9910714-37.html).

otherwise ailing recording industry.<sup>47</sup>

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

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

As digital music technologies (whose genesis and continuing popularity depend on private copying) continue to expand the places where music fans may conveniently enjoy and access their private music collections, it stands to reason that total demand for music will increase.<sup>49</sup> Moreover, the rapid spread of portable music players has also created markets for other kinds of audio expression, such as podcasts and audio books.<sup>50</sup>

DVRs are also in the process of creating new markets for copyrighted works. For example, some advertisers and broadcasters are exploring the possibilities that DVRs offer for creating more carefully targeted advertising based on information collected from DVR users.<sup>51</sup> Others have com-

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

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

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

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

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

bined DVRs and broadband internet connections to enable direct delivery of video programming over the internet.<sup>52</sup> To the extent the DVR becomes a new platform for content delivery into the home, it may create new market opportunities, and value, for copyright owners. For example, DVRs could provide a new distribution mechanism for Internet video hosting sites like YouTube, allowing amateur and short video creators to reach new audiences.

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

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

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

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abouttivo/pressroom/pressreleases/2005/pr2005-07-18.html; Manly, *supra* note 17.

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

53. The metaphor of the “beneficent gardener” is borrowed from Professor Wu. See

## B. The Private Ordering Objection

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

Where private copying is concerned, market failures may preclude an efficient market outcome for a variety of reasons. Some commentators suggest that enforcement of copyright law in private copying circumstances might compromise important privacy interests, while others suggest that such enforcement activities would impinge on conceptions of personal property.<sup>55</sup> In addition, there is the ever-present challenge of transaction costs—whether consumers and copyright owners could practically strike bargains for the myriad private copies made by millions of fans for ever-changing purposes.<sup>56</sup>

A consideration of the role of private copying as an incentive for innovation, however, suggests an additional reason to doubt that private ordering in the marketplace will generate sufficient incentives for innovation. Recent scholarship has observed that established, successful firms often

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Wu, *supra* note 27, at 332.

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

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

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

suffer from a persistent inability to capitalize on certain kinds of innovation that may revolutionize the marketplace but do not have predictably high profit margins. Harvard Business School Professor Clayton Christensen has described this as the “innovator’s dilemma.”<sup>57</sup>

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

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

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

### 1. *Systemic Obstacles to Disruptive Innovation*

Professor Christensen’s research suggests that incumbent, established

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

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

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

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

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

Consider the plight of the manager at an established firm in a mature industry seeking to redirect scarce firm resources to invest in a disruptive innovation.<sup>62</sup> The market opportunity, at least in its initial stages, is likely to be smaller than the firm's established markets and yield lower margins.<sup>63</sup> Market opportunities that are small in relation to existing revenues, in turn, are relatively unattractive, because they do not sustain the kind of overall growth needed to satisfy capital markets.<sup>64</sup> For example, a \$40 million company needs to find \$8 million in new revenues to grow at a 20% rate, while a \$4 billion company needs to find \$800 million in new sales.<sup>65</sup> An \$8 million opportunity will likely look unattractive to the \$4 billion company, as it does not significantly contribute to the desired growth targets.<sup>66</sup> Lower margins, in addition, are also unattractive to a firm with an existing cost structure dependent on higher margin opportunities.<sup>67</sup> As a

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

62. See CHRISTENSEN, *supra* note 57, at 42-43 ("[D]isruptive projects stalled when it came to allocating scarce resources among competing product and technology development proposals . . . Sustaining projects addressing the need of the firms' most powerful customers . . . almost always preempted resources from disruptive technologies with small markets and poorly defined customer needs."); *id.* at 77, 82-84.

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

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

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

66. See *id.*

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

result, the larger a company becomes, the more difficult it becomes to invest in an emerging, low-margin market as a growth opportunity.<sup>68</sup> In essence, disruptive innovations will likely be “not big enough to be interesting” to established firms.<sup>69</sup>

This difficulty is compounded by the overall uncertainty that characterizes disruptive innovations. Because these innovations depend on new customers and markets, quantifying the size of the market or estimating likely financial returns is generally impossible.<sup>70</sup> Imagine again our manager at an established incumbent firm, saddled with the task of persuading senior management to allocate resources to an opportunity that cannot be quantified or analyzed. All the while, other managers are pushing sustaining innovations that promise quantifiable results based on well-understood market opportunities.<sup>71</sup>

Unfortunately, the best mechanism for grabbing the attention of senior management—framing a disruptive innovation as a critical threat to the existing business—will often yield precisely the wrong response, known as “threat-induced rigidity.”<sup>72</sup> The threat framing may elicit the required resource commitment, but the established firm frequently devotes the resources to protecting existing customers and markets, rather than discovering the new opportunities created by disruptive innovation.<sup>73</sup> For example, in the late 1990s, newspapers responded to the threat posed by the Internet to their businesses by investing heavily in defensive efforts to reproduce their traditional print content online, relying on their traditional ad-

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*supra* note 57, at 186, 217-18.

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

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

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

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

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

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

supported business model.<sup>74</sup> In the meantime, sites like Craigslist and Google News discovered new opportunities, like online classifieds and news aggregation, made possible by the disruptive medium.

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

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

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

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

76. See CHRISTENSEN, *supra* note 57, at 68-71 (describing the way the engineers at incumbent excavator companies attempted to adapt innovations to serve existing customers, rather than developing products for new markets opened by hydraulics); CHRISTENSEN & RAYNOR, *supra* note 57, at 103-04 (describing the way that incumbent vacuum tube makers vainly attempted to adapt transistors for existing markets, rather than focusing on new markets, such as transistor radios, made possible by the low power consumption of transistors).

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

78. *Id.* at 31-32.

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

that disruptive innovations require disruptive channels, which in turn often require finding and building new value networks.<sup>80</sup>

To the extent disruptive innovations require the creation of new value networks, they present yet another quandary for market-leading incumbents: even if our hypothetical manager can persuade senior management that the disruptive innovation will “grow the pie” for the industry as a whole, the established incumbent cannot be certain it will remain the leader in the reconfigured industry. Consider a concrete hypothetical: Universal Music Group is the largest of the existing record labels, accounting for more than 31% of all album sales in 2006.<sup>81</sup> A disruptive innovation that doubled the size of the music industry would be of little comfort to UMG if its share of the new, reorganized market plummeted to 10%.<sup>82</sup>

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

However, this does not suggest that disruptive innovations are impossible. Rather, the persistent institutional resistance of established market leaders to disruptive innovations suggests that *new market entrants* are best positioned to develop and deploy them.<sup>84</sup> New entrants are neither hobbled by the “not big enough to be interesting” dilemma, nor by the uncertainty of the opportunity (they have no better existing business with which to compare it), nor by a legacy cost structure that resists moving to lower margin products, nor by fear of losing a dominant position in the existing market.<sup>85</sup> New market entrants are not embedded in an existing

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note 57, at 90, 117-19.

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

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

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

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

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

85. CHRISTENSEN & RAYNOR, *supra* note 57, at 114 (noting that entrants see disruptive innovations as “pure opportunity”); see *id.* at 46 (describing the asymmetry with

value network that will resist their new products. These characteristics give new entrants an “attacker’s advantage” relative to incumbents when bringing disruptive innovations to market.<sup>86</sup> Case studies confirm that when disruptive innovations arrive, it is generally new market entrants that introduce them.<sup>87</sup>

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

In many competitive markets, disruptive innovation is simply a fact of life for established firms. They have no way to prevent disruptive innovation, and thus have no choice but to develop, as best they can, strategies to recognize and nurture disruptive innovation themselves.<sup>88</sup> But where intellectual property rights are at stake, influential market incumbents may be able to use their legal entitlements to block disruptive innovations.

Industry participants who have an ability to influence the entry conditions of their markets may have both the incentive and ability to block disruptive innovation in order to protect their existing markets.<sup>89</sup> Established craft guilds in Europe, for example, repeatedly resorted to protests, violence, political influence, and regulatory incursions to block the adoption of a variety of disruptive innovations, sometimes for decades at a time.<sup>90</sup>

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which the incumbent and new entrant view the opportunities created by disruptive innovation).

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

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

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

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

90. See JOEL MOKYR, *THE LEVER OF RICHES* 178-79, 258-61 (1990). Craft guilds

This was true even though the innovation in question ultimately “grew the pie” for the industry in question and increased overall societal wealth.

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

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

Initially, the new market was small (and subject to capture by the nascent home video rental industry).<sup>93</sup> The response by the movie industry exemplified the sort of “threat-induced rigidity” described above—a commitment of resources to protect existing customers and value networks

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

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

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

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

against the innovation. Two of the largest movie studios responded to the Betamax by invoking copyright law to block it. They sued Sony, arguing that the private copying enabled by the Betamax constituted an infringement for which Sony should be held secondarily liable.<sup>94</sup> The Supreme Court ultimately rejected this argument, holding that private copying of TV broadcasts for time-shifting purposes constituted a fair use beyond the reach of copyright.<sup>95</sup> The VCR subsequently remade the movie industry, paving the way for the DVD market by creating new value networks that included new customers, such as video rental giants like Blockbuster and “sell-through” retail distributors like Best Buy and Wal-Mart.<sup>96</sup> Because the technology proved to be a complement to copyrighted works, the VCR ultimately “grew the pie” for the industry, while simultaneously creating a large new market for video recording technologies.

Had they prevailed in their lawsuit against Sony, the movie studios would have had the legal right to block the VCR from the market. Whether the studios would have blocked the VCR, perhaps to ensure a market for the playback-only format, “Discovision,” that was then under development,<sup>97</sup> or instead would have merely insisted on design changes to the VCR and a running royalty,<sup>98</sup> is impossible to know. But to the extent the VCR constituted a disruptive innovation, Professor Christensen’s research suggests that the movie studios would likely have been unwilling and unable to successfully develop and deploy the technology, at least as compared to a new market entrant like Sony.<sup>99</sup>

To sum up, Professor Christensen’s research suggests that a persistent

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94. See *supra* sources cited note 42.

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

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

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

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

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

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

### C. The Dangerous Innovation Objection

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

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

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

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

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

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

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

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

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

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

This *de facto* “innovate broadly first, regulate narrowly later” approach has a variety of virtues. First and foremost, it is often impossible to predict which innovations will be socially beneficial and which will be dangerous. Technology developers, investors, copyright owners, and consumers alike often cannot accurately predict how new technologies will be used and how they may affect existing markets and behaviors.<sup>106</sup> Courts are, if anything, even more poorly positioned to predict, *ex ante*, the long-term impact that a disruptive innovation will have on copyright owners’ incentives.<sup>107</sup>

The dynamic nature of markets as they develop in response to innovation further compounds the difficulty in predicting the ultimate uses for disruptive technologies.<sup>108</sup> In several instances, new markets formed only after disruptive technologies forced copyright owners to adjust their be-

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

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

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

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

havior, triggering the complementary relationship between the products. For example, when Betamax launched, the major movie studios refused to issue their films on prerecorded cassettes, thereby occluding the prospects for the rental and sell-through markets for films.<sup>109</sup> Only after the movie studios began releasing prerecorded videocassettes could one discern the complementary relationship between the VCR and copyrighted films. Similarly, early iPod owners had no authorized sources for major label music until the debut of the iTunes Store, some eighteen months after the music player's introduction. The potential economic complementarities between these products became more apparent only after the belated launch of authorized download services. And even now, what new markets the iPod and its descendants might enable in the future remain difficult to predict.

This inability of market participants and the courts to predict accurately which nascent technologies are "dangerous" supports an approach that plants many seeds and affords them some time to germinate before courts or legislatures are called on to decide their fate. In other words, copyright law should embrace a permissive *ex ante* application of the fair use doctrine, combined with *ex post* legislative examination.

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

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

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

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

infringement will frequently be tantamount to handing over the keys to the business to the prevailing plaintiff.<sup>112</sup>

Congress, while perhaps not an ideal democratic decision-maker in all copyright contexts,<sup>113</sup> is better positioned to undertake the relevant sort of fact-finding and has far more discretion in fashioning a nuanced approach. In fact, since the Supreme Court decided *Sony*, Congress has amended the Copyright Act no fewer than seven times to address specific new technologies.<sup>114</sup> Congress alone has the full array of policy levers at its disposal. In accommodating copyright law to new technologies, for example, Congress has sometimes employed compulsory licensing,<sup>115</sup> sometimes imposed limited technology mandates,<sup>116</sup> sometimes modified copyright's remedial scheme,<sup>117</sup> and sometimes let the market function without inter-

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eliminate the innovator's incentive to invest. *See* Picker, *supra* note 92, at 444-45.

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

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

114. *See* Satellite Home Viewer Act of 1988, Pub. L. No. 100-667, 102 Stat. 3949 (codified as amended at 17 U.S.C. § 111, 119 (2000)) (establishing compulsory licenses for satellite television broadcasters); Audio Home Recording Act of 1992, Pub. L. 102-563, 106 Stat. 4237 (codified as amended at 17 U.S.C. §§ 1001-1010 (2000)) (adopting levy and technology mandates for digital audio recording); Digital Performance Rights in Sound Recordings Act of 1995, Pub. L. 104-39, 109 Stat. 336 (codified as amended at 17 U.S.C. §§ 106, 114, 115 (2000)) (creating new public performance rights, and accompanying compulsory licenses, for digital transmission of sound recordings); No Electronic Theft Act of 1997, Pub. L. 105-147, 111 Stat. 2678 (codified as amended at 17 U.S.C. § 506(a) (2000)) (expanding scope of criminal copyright infringement in response to increase in noncommercial digital infringements); Digital Millennium Copyright Act of 1998, Pub. L. 105-304, 112 Stat. 2860 (codified as amended at 17 U.S.C. §§ 512, 1201-1205, 1301-1332, 4001 (2000)) (creating new protections for rightsholders that employ technical protection measures on digital works); Small Webcaster Settlement Act of 2002, Pub. L. 107-321, 116 Stat. 2780 (codified as amended at 17 U.S.C.A. § 114 (2006)) (adjusting compulsory license rates for small webcasters); Technology, Education, and Copyright Harmonization Act of 2002, Pub. L. 107-273, 116 Stat. 1758 (codified as amended 17 U.S.C.A. §§ 110, 112 (2006)) (expanding copyright exceptions for educational and library users to facilitate distance learning over the Internet).

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

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

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

vention.<sup>118</sup> This array of policy options is simply not available to the courts applying general infringement principles. Moreover, Congress has been able to act incrementally on an industry-by-industry and technology-by-technology basis.<sup>119</sup> This approach is not available to courts interpreting general fair use and secondary liability principles that apply to all copyrights and technologies.<sup>120</sup>

Furthermore, although copyright scholars have underscored the public choice difficulties that plague copyright policy-making on Capitol Hill, those difficulties are at relatively low ebb when the copyright and technology industries are the chief antagonists. Both industries are able to deploy concentrated resources in an effort to influence the democratic process.<sup>121</sup> Certainly, these two industries are more evenly matched than are consumers or public interest advocates when pitted against the copyright industries.

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

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

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

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

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

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

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

## V. MARGINAL COSTS AND CONSUMER SURPLUS

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

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

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

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

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124. I owe this insight to Professor Paul Goldstein, who made much the same observation in the context of infringing uses, lamenting that the surplus value of such uses cannot be effectively captured by either the technology vendor or the copyright owner. *See* 12:6 PAUL GOLDSTEIN, COPYRIGHT § 12.1 (2007). It is not clear why this is such a lamentable outcome, as the surplus value would appear to be captured by the consumer, who thereby drains a portion of the deadweight loss otherwise ascribable to the monopoly pricing power enjoyed by the copyright owner. To the extent the infringing (or fair) uses do not eliminate the incentive to continue creating, the partial elimination of deadweight loss should tend to increase overall social welfare.

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

126. Even in the portable digital music player market, where Apple has enjoyed a commanding market lead over its competitors thanks to its iPod family of products, Apple is likely to face increasingly stiff competition from other companies. *See* David

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

Of course, if this logic is taken too far, the incentive-creating mechanism at the heart of copyright would be set to naught. But the kinds of private copying made possible by most fair-use-enabling technologies seem unlikely to entirely eliminate copyright industry incentives.<sup>128</sup> In fact, as the prior discussion makes clear, many private copying technologies may have *increased* the value of copyrighted works to consumers. So, if the iPod in part encourages consumers to buy more CDs (or music downloads), society as a whole should be made better off if the iPod also simultaneously manages to drain off some of the deadweight loss otherwise ascribed to the legal protection of copyright.<sup>129</sup>

At least two consequences flow from the observation that technology innovators may not be able to fully appropriate the value of the private

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Pogue, *A Music Player that Needs Seasoning*, N.Y. TIMES, Apr. 19, 2007, at C1 (reviewing the SanDisk Sansa Connect, a digital music player designed to compete with the iPod).

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

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

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

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

Second, this inability of technology innovators to appropriate the value of private copying suggests a further reason to doubt whether market mechanisms can efficiently manage the introduction of complementary technological innovations. Because technology innovators cannot consistently capture the value of the private copying they enable, they are unable to offer this value to copyright owners in the form of licensing fees, a standard market solution, unless copyright law puts copyright owners in a position to demand licensing fees from all market participants.<sup>130</sup> Even if copyright law reached private copying (and hence private copying technologies) through licensing fees, it is not clear that incumbent rightsholders would be willing to set an efficient price, given their inherent bias against disruptive innovations and the difficulty of anticipating the ultimate uses for such innovations.<sup>131</sup>

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

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

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

132. Professors Frischmann and Lemley posit a similar general rationale for fair use

## VI. IMPLICATIONS FOR FAIR USE

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

In recent years, however, the copyright industries have been urging the courts and Congress to adopt legal norms that would undermine this model. In particular, the legal protections granted to "technical protection measures" by the DMCA have already substantially eroded the private copying freedoms previously taken for granted by both innovators and their customers.<sup>134</sup> For example, thanks to the encryption system used on major motion picture DVD releases, combined with the prohibition on unauthorized circumvention embodied in the DMCA, several courts have issued rulings that effectively ban trafficking in DVD copying software. These rulings may imperil the private digital copying of DVDs, not only by banning DVD copying tools but by implying that the act of copying itself violates the law.<sup>135</sup> The Copyright Office, for its part, has opined

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

133. Interestingly, this view of copyright's role in fostering innovation was taken up at length by Justice Breyer in his concurrence in *Grokster* in connection with secondary liability. *See* Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 949-66 (2005). There has not yet been a similar judicial recognition of the role that fair use plays in innovation policy.

134. *See* 17 U.S.C. § 1201 (2000).

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

that, absent a regulatory exception, private copying of encrypted DVDs violates the DMCA.<sup>136</sup> As a result, far less disruptive innovation has been attracted to the DVD market than to the CD market. What disruptive innovation has sought to germinate has been chilled by aggressive litigation.<sup>137</sup>

Another important consequence of this view of fair use is the elevation of “non-transformative” or “consumptive” uses of copyrighted works in the jurisprudence of fair use. Until the Supreme Court’s ruling in *Sony*, for example, some courts viewed non-transformative copying as presumptively unfair.<sup>138</sup> Leading commentators, meanwhile, have sung the praises of transformativeness as the touchstone of fair use.<sup>139</sup> If private, non-transformative copying is part of a mechanism that encourages innovation that ultimately improves the lot of copyright owners, however, this “second-class status” for non-transformative copying must finally be cast aside.<sup>140</sup> After all, it is the private, non-transformative copying made by millions of VCR, iPod, and TiVo owners that has fueled economic growth in both the technology and copyright sectors. Consumer uses are no less “fair” than the transformative copying of artists or researchers—they simply serve a different fair use purpose.

In addition, this view of fair use as a component of innovation policy suggests that courts and policy-makers must strive to make fair use something on which innovators may more easily rely, without having to worry about expensive and uncertain post hoc litigation. In this connection, the

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

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

138. See, e.g., *Universal City Studios, Inc. v. Sony Corp. of Am.*, 659 F.2d 963, 970-72 (9th Cir. 1982) (utilizing “productive use” distinction to rule against home time-shifting as a fair use), *rev'd*, 464 U.S. 417 (1984).

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

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

“staple article of commerce” doctrine announced in *Sony* may play an important part in securing “breathing room” for innovators.<sup>141</sup> In that case, the Supreme Court held that a technology vendor is not liable for secondary copyright infringement so long as the technology in question is “capable of substantial noninfringing uses.”<sup>142</sup> This rule gives innovators a bit of breathing room—they need not prove that *every* use would qualify as a fair use, nor even that the *primary* use would qualify as fair, so long as they can point to *some* significant fair use for the technology.<sup>143</sup>

This insight also should guide courts in tempering the inducement doctrine announced by the Supreme Court in *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.* The Court there held that “one who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties.”<sup>144</sup> In other words, in the wake of that ruling, innovators must not only prove the existence of a substantial non-infringing use for their technology, but now must also prove that none of the uses that they actively encourage, through advertising for example, are infringing.

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

Policy-makers should also consider ways to untangle the fair use doctrine from the prohibitively expensive mechanism of case-by-case secondary liability litigation.<sup>145</sup> If private copying is an important mechanism

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

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

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

144. *Id.*

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

for fostering innovation, then it would be unwise to reserve that mechanism only for large companies with capacious litigation war chests,<sup>146</sup> especially since they tend to be the incumbent firms who may themselves resist beneficial disruptive innovations. One possibility might be to recognize certain private copies as presumptively fair, or to reaffirm the Supreme Court's shifting of the burden of demonstrating harm in noncommercial use cases to the copyright owner.<sup>147</sup> Another option might be to eliminate statutory damages in secondary liability cases,<sup>148</sup> which would leave copyright owners free to litigate when they could prove concrete harm, but would reduce their incentives to sue in close cases.<sup>149</sup> Yet another alternative might be for courts to recognize that innovation that enables new private uses of copyright works has risen to the level of a "pattern" deserving of recognition in our fair use jurisprudence.<sup>150</sup>

## VII. CONCLUSION

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

More consumers are engaged in more fair use than ever before. Rather than view that development with alarm, both innovators and copyright

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

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

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

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

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

owners should not only welcome the development, but begin to work together to ensure that the fair use doctrine continues to encourage innovation in ways that dovetail with the overall goals of copyright policy.

# ENFORCING TRIPS: CHALLENGES OF ADJUDICATING MINIMUM STANDARDS AGREEMENTS

By Yoshifumi Fukunaga<sup>†</sup>

## TABLE OF CONTENTS

I. INTRODUCTION.....	868
II. BACKGROUND: INTERNATIONAL NEGOTIATION AND THE CONTENT OF TRIPS.....	870
A. THE DEFECTS OF THE WIPO REGIME.....	871
B. THE STRATEGIES OF THE DEVELOPED COUNTRIES IN ADVOCATING TRIPS.....	874
C. DID THE DEVELOPED NATIONS ACHIEVE THEIR GOALS WITH THE TRIPS AGREEMENT?.....	876
III. HISTORY OF TRIPS DISPUTES.....	879
A. THE FIRST FIVE YEARS (1996-2000).....	879
B. AFTER FIVE YEARS (2001-PRESENT).....	883
C. COMPARISON OF TRENDS IN TRIPS DISPUTES WITH OVERALL TRENDS IN ALL DISPUTES BEFORE THE WTO.....	886
IV. DECLINE IN THE USE OF THE DISPUTE SETTLEMENT MECHANISM.....	888
A. THE THREE CATEGORIES OF TRIPS CLAIMS.....	889
B. COUNCIL FOR TRIPS.....	891
1. <i>Function of the Council for TRIPS</i> .....	891
2. <i>Unique Characteristics of the Council for TRIPS</i> .....	895
C. DIFFICULTY OF THE DSM IN RESOLVING CLAIMS ON THE APPLICATION OF STATUTES AND CLAIMS ON THE INEFFECTIVENESS OF DOMESTIC REMEDIES.....	900
1. <i>Challenges for Claims Relating to the Application of             Statutes</i> .....	901

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2.	<i>Challenges for Claims Regarding the Ineffectiveness of Domestic Remedies</i> .....	906
a)	Cases in the EC and Greece.....	906
b)	Potential Challenges for Claims Regarding the Ineffectiveness of Domestic Remedies .....	907
V.	<b>IP PROTECTION AND ENFORCEMENT IN CHINA</b> .....	911
A.	THE FUNCTION OF THE COUNCIL FOR TRIPS IN THE CASE .....	911
B.	CONTEXT OF THE CASE.....	913
C.	FEATURES OF THE CLAIMS OF THE UNITED STATES .....	914
1.	<i>Avoidance of Claims Relating to the Application of Statutes</i> .....	914
2.	<i>Avoidance of Claims Regarding the Ineffectiveness of Domestic Remedies</i> .....	917
VI.	<b>ISSUES REGARDING DISPUTES AGAINST DEVELOPING COUNTRIES</b> .....	919
A.	WHY DO RELATIVELY FEW TRIPS DISPUTES TARGET DEVELOPING COUNTRIES?.....	919
B.	DIFFERING VALUATIONS OF IP PROTECTION BETWEEN DEVELOPED AND DEVELOPING COUNTRIES .....	922
C.	WHY DEVELOPING COUNTRIES DO NOT SHARE DEVELOPED COUNTRIES' VALUATION OF IP .....	924
D.	WHY DEVELOPED NATIONS TEND NOT TO SUE DEVELOPING NATIONS .....	927
VII.	<b>CONCLUSION</b> .....	930

## I. INTRODUCTION

The key question in this Article is whether the dispute settlement mechanism (DSM) of the World Trade Organization (WTO) is an effective means of resolving disputes arising under a minimum standards agreement, specifically the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).<sup>1</sup> Unlike the other agreements enforced through the WTO, the TRIPS Agreement requires member nations to adopt policies for IP protection that meet certain minimum standards.<sup>2</sup> This Article seeks to explain why unique trends have emerged in WTO dispute resolution in matters specifically involving the TRIPS

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1. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994) [hereinafter TRIPS Agreement].

2. BERNARD M. HOEKMAN & MICHEL M. KOSTECKI, THE POLITICAL ECONOMY OF THE WORLD TRADING SYSTEM 274 (Oxford Univ. Press, 2d ed. 2001).

Agreement that are not shared by the larger genus of trade disputes in general.

In the Uruguay Round of General Agreement on Tariffs and Trade (GATT) negotiations, which resulted in the establishment of the WTO, the developed countries selected the WTO regime over the preexisting World Intellectual Property Organization (WIPO) as a more desirable forum through which to address international disputes over intellectual property (IP). The developed countries favored the GATT/WTO because of the perceived benefit of litigating disputes under the WTO DSM, which they considered “strong” in comparison to the DSM of the WIPO.<sup>3</sup> In light of this evident desire for stronger international IP enforcement, it is puzzling that the use of the WTO DSM to address TRIPS disputes has been dramatically declining: in contrast to the successful record of the first five years of adjudication (1996-2000), only three TRIPS disputes have been brought to the WTO DSM since 2001.<sup>4</sup> Of these three disputes, only one involved a dispute against a developing country, even though the transitional period (a “grace period” granted to developing countries to give them a gentler path to compliance with the TRIPS standards) expired in January 2000. This Article investigates the basis for this decline, and whether the WTO DSM mechanism actually succeeds in fostering compliance with international minimum IP protection standards.

What factors limit the effectiveness of the WTO DSM at encouraging compliance? Answering this question is critical for assessing the success of the TRIPS Agreement as a whole. Without an effective DSM to police violations, the minimum standards ideals articulated in the Agreement are of little practical use to IP-producing countries. Exploring the shortcomings of the WTO DSM also lends insight into the strategy of the United States in its current TRIPS complaint against China.<sup>5</sup>

In Part II of this Article, I provide background on the TRIPS Agreement and briefly explain the developed countries’ strategy in choosing the WTO over the WIPO as the preferred forum for international IP adjudication. In Part III, I evaluate the settlement record of TRIPS disputes and

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3. See Frank Emmert, *Intellectual Property in the Uruguay Round—Negotiating Strategies of the Western Industrialized Countries*, 11 MICH. J. INT’L L. 1317, 1344-47 (1990). See also JAYASHREE WATAL, *INTELLECTUAL PROPERTY RIGHTS IN THE WTO AND DEVELOPING COUNTRIES* 58 (Kluwer Law Int’l, 2001) (giving a brief history of the negotiation on DSM in the TRIPS context).

4. Kara Leitner & Simon Lester, *WTO Dispute Settlement 1995-2006—A Statistical Analysis*, 10 J. INT’L ECON. L. 171, tbl.5 (2007).

5. See Request for Consultation by the United States, *China—Measures Affecting the Protection and Enforcement of Intellectual Property Rights*, WT/DS362/1 (Apr. 10, 2007).

identify trends in the resolution of IP disputes that are unlike trends in general trade disputes. In Part IV, I suggest two complementary explanations for the infrequent use of the DSM in IP disputes. First, the Council for Trade-Related Aspects of Intellectual Property Rights (Council for TRIPS), which monitors compliance with the Agreement, may have preempted disputes over the content of statutes by providing early review of members' domestic legislation.<sup>6</sup> Second, countries may have been deterred from using the WTO DSM because of its inability to resolve claims which do not focus on statutory language, but instead pertain to the application of statutes or the ineffectiveness of domestic remedies. In Part V, I use the conclusions from my analysis of trends in TRIPS disputes to evaluate the strategy currently being employed by the United States in its TRIPS litigation against China. This strategy, I argue, shows that the United States implicitly recognizes the enormous challenges involved in successfully resolving TRIPS disputes concerning the application of statutes or the ineffectiveness of domestic remedies, and consequently seeks to avoid these types of claims. In Part VI, I present another possible factor behind the reduction in TRIPS disputes. I argue that the huge disparity between the developed countries and developing countries in their views on desirable IP rules helps to explain the reduction in number of disputes, as heavy-handed policing of IP complaints by wealthy nations against developing countries could breed political resentment and serve to undermine the WTO system. Part VII concludes the Article by providing policy implications.

## II. BACKGROUND: INTERNATIONAL NEGOTIATION AND THE CONTENT OF TRIPS

In the 1980s, U.S. industrial interests advocated introducing a new IP treaty because of the defects of the existing WIPO regime.<sup>7</sup> Their preferred forum for policing the new agreement was the international trade regime of the GATT<sup>8</sup>/WTO.<sup>9</sup> The motivation for granting the

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6. WATAL, *supra* note 3, at 50-57, 84.

7. Emmert, *supra* note 3, at 1339-54.

8. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. pt. 5, 55 U.N.T.S. 194 [hereinafter GATT].

9. See, Emmert, *supra* note 3, at 1339-54. See WORLD TRADE ORG., UNDERSTANDING THE WTO (2007), available at [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/understanding\\_e.pdf](http://www.wto.org/english/thewto_e/whatis_e/tif_e/understanding_e.pdf) (last visited Apr. 28, 2008) (explaining how the WTO was created during the Uruguay Round of GATT negotiations). I call the new regime the "GATT/WTO regime" in this Part, because at the time of the negotiations it was not yet known as the "WTO."

GATT/WTO regime authority over IP matters was the perceived strength of the WTO DSM.<sup>10</sup> An effective DSM was vital to ensuring that the desired intensification of international minimum standards requirements would be effective. Whether the WTO DSM succeeds at enforcing the minimum IP protections mandated by the TRIPS Agreement is therefore the key inquiry in any assessment of the impact of the treaty. This Part evaluates the defects of the WIPO regime, the strategies adopted by the developed countries in their pursuit of a new agreement, and their achievement in establishing TRIPS.

#### A. The Defects of the WIPO Regime<sup>11</sup>

International IP protection has a long history. Multilateral international IP conventions had already existed for more than a century when the TRIPS Agreement was negotiated in the GATT Uruguay Round.<sup>12</sup> The WIPO, which was formed in 1967 as a specialized international organization, had a mandate to administer IP matters under the United Nations.<sup>13</sup> The WIPO regime, however, had several defects that made it unpalatable to developed-world business interests.

The first problem was the relatively low level of minimum standards set in the conventions that the WIPO was charged with enforcing. Although these conventions did specify certain minimum standards, the contracting parties were given broad discretion as to the level of IP protec-

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10. See Emmert, *supra* note 3, at 1342-43; see also Karen D. Lee & Silke von Lewinski, *The Settlement of International Disputes in the Field of Intellectual Property*, in FROM GATT TO TRIPS—THE AGREEMENT ON TRADE-RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS 278, 285-86 (Friedrich-Karl Beier & Gerhard Schrickler eds., 1996); Peter K. Yu, *Currents and Crosscurrents in the International Intellectual Property Regime*, 38 LOY. L.A. L. REV. 323, 354-55 (2004) (emphasizing the importance of the lack of effective dispute enforcement mechanism as a motivation of developed countries to move for the TRIPS negotiation).

11. See generally Emmert, *supra* note 3, at 1339-44 (discussing the defects of the WIPO regime).

12. E.g., Paris Convention for the Protection of Industrial Property, as last revised at the Stockholm Revision Conference, July 14, 1967, 21 U.S.T. 1583, 828 U.N.T.S. 305 [hereinafter Paris Convention] (originally signed in 1883).

13. See World Intellectual Prop. Org., Treaties and Contracting Parties: General Information, <http://www.wipo.int/treaties/en/general> (last visited Apr. 22, 2007) (describing the history of the WIPO). The WIPO's predecessor, the United International Bureaux for the Protection of Intellectual Property, was established in 1893 by merging two separate international bureaus. The WIPO became a specialized agency of the United Nations (UN) in 1974 with a mandate to administer IP matters, including enforcing the Paris Convention for the Protection of Industrial Property and the Berne Convention for the Protection of Literary and Artistic Works. *Id.*

tions to enact.<sup>14</sup> For example, a country could completely exclude pharmaceutical products from patentability or limit the duration of patent terms to a mere seven years.<sup>15</sup> In addition, the governing conventions of the WIPO regime, particularly the Paris Convention for the Protection of Industrial Property (Paris Convention)<sup>16</sup> and the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention),<sup>17</sup> required member nations to enact only limited enforcement procedures.<sup>18</sup> For example, these conventions did not even require the exclusion or seizure of counterfeit products at national borders.<sup>19</sup> Although the drafters of the treaty may have hoped that the fundamental principle of national treatment would ensure that member nations were incentivized to protect the IP rights of foreign nationals, in practice national treatment failed to create the uniformly high levels of protection desired by businesses in developed countries.<sup>20</sup> National treatment requires a signatory country to provide the same IP protection to foreigners as it does to its own nationals.<sup>21</sup> However, this principle was of little use to foreigners if a state with broad discretion did not provide adequate treatment for its own nationals.<sup>22</sup>

A second shortcoming of the WIPO was that the membership of WIPO conventions was limited and major sources of infringing goods (particularly India, Singapore, and South Korea) were excluded.<sup>23</sup> Furthermore, since not all signatories of the conventions had ratified all of the amendments, it was “difficult to determine the exact obligations between two member states.”<sup>24</sup>

Finally, the WIPO regime did not provide an effective dispute resolution system.<sup>25</sup> For example, although the Paris Convention did provide a

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14. Emmert, *supra* note 3, at 1340-41.

15. *Id.* at 1341-42.

16. Paris Convention, *supra* note 12.

17. Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, as last revised at Paris, July 24, 1971, S. TREATY DOC. NO. 99-27, 1161 U.N.T.S. 3 (1986) [hereinafter Berne Convention].

18. Emmert, *supra* note 3, at 1342.

19. Paris Convention, *supra* note 12, at art. 9(1) (establishing an obligation of on-border enforcement). However, Article 9(6) provides a broad exception, by stating that in case these remedies are not available under the domestic laws of the country in question, they must be replaced by such remedies as are available. *Id.* at art. 9(6).

20. See Emmert, *supra* note 3, at 1341.

21. Paris Convention, *supra* note 12, at art. 2.

22. Emmert, *supra* note 3, at 1341.

23. *Id.* at 1339-40.

24. *Id.* at 1337.

25. *Id.* at 1342-43.

procedure for dispute settlement,<sup>26</sup> this procedure was never used in practice.<sup>27</sup> A large problem was that the jurisdiction of the International Court of Justice (ICJ) was noncompulsory.<sup>28</sup> Article 28(2) provides that “[e]ach country may . . . declare that it does not consider itself bound by the provisions of [Article 28(1)].”<sup>29</sup> As a result, “the majority of the member states of the convention never accepted the compulsory jurisdiction of the ICJ . . . in IP matters.”<sup>30</sup> Moreover, “patent disputes were considered to be too trivial to bring before the ICJ.”<sup>31</sup>

The defects in the WIPO regime pushed the developed countries to lobby for a more effective international IP protection scheme.<sup>32</sup> The developed countries considered two options: either amending the Conventions within the WIPO regime or developing a new agreement within the GATT/WTO regime.<sup>33</sup> Until the early 1980s, they negotiated with the developing countries mainly within the WIPO regime.<sup>34</sup> Their lack of success in these negotiations, together with the advantages posed by the GATT system, led them to push for a new IP treaty within the GATT/WTO regime: the TRIPS Agreement.<sup>35</sup>

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26. Paris Convention, *supra* note 12, at art. 28; Berne Convention, *supra* note 17, at art. 33.

27. Emmert, *supra* note 3, at 1342-43.

28. *Id.* at 1343.

29. Paris Convention, *supra* note 12, at art. 28(2).

30. Emmert, *supra* note 3, at 1343.

31. *Id.*

32. Yu, *supra* note 10, at 361 (noting the process was led by the United States and later joined by other developed countries).

33. *See id.* at 362 (discussing “GATTability,” or “whether countries should include IP issues in the GATT”). Members questioned whether the GATT/WTO regime was the proper forum for international IP enforcement. Some considered the WIPO to be a more suitable forum for enforcing international IP rights. *See id.* at 360.

34. *Id.* at 357. Developed countries could not even maintain the previous levels of minimum standards due to the opposition of developing countries. *See* Emmert, *supra* note 3, at 1343-44. The United States and the European Communities also submitted several proposals in the GATT Tokyo Round (1973-1979) instead of the WIPO, but no agreement was reached. *See* Yu, *supra* note 10, at 356-57. The scope of the proposal was narrow compared to the TRIPS Agreement as it focused only on the on-border measures against trademark piracy. *See* Revised Proposal by the United States & European Economic Community, *Agreement on Measures to Discourage the Importation of Counterfeit Goods*, L/4817 (July 31, 1979) (GATT Communication), available at [http://www.wto.org/gatt\\_docs/English/SULPDF/90960212.pdf](http://www.wto.org/gatt_docs/English/SULPDF/90960212.pdf) (last visited Apr. 22, 2008).

35. *See* Emmert, *supra* note 3, at 1339-54.

## B. The Strategies of the Developed Countries in Advocating TRIPS<sup>36</sup>

By the early 1980s, the United States, which led the overall TRIPS negotiation, had concluded that it would be easier to write a single “completely new treaty” than to negotiate amendments of the existing Conventions.<sup>37</sup> Since the Conventions had a long history, it would have been difficult to obtain consensus on their interpretation.<sup>38</sup> In addition, the Conventions were “limited to specific aspects of [IP],” and thus the developed nations were apprehensive that “certain new aspects and technologies [might] fall into the gaps in these treaties.”<sup>39</sup>

In addition, the developed countries were concerned about the voting system in the WIPO.<sup>40</sup> In the WIPO, as in the United Nations generally, developed countries, developing countries, and socialist countries had customarily voted as unified blocs, even though the individual interests of bloc members may have diverged on particular issues.<sup>41</sup> Since most IP rights—particularly patents—were and are held by parties in developed countries, strengthened international IP rules appeared to benefit the developed countries while imposing costs on the other countries.<sup>42</sup> Given the WIPO membership’s tendency to vote in blocs, as well as the numerical reality that the developed countries were outnumbered by the developing countries, it would have been difficult for the developed nations to convince the other voting groups to adopt new rules within the WIPO regime.<sup>43</sup> In contrast to the WIPO, the members of the GATT regime had not historically formed UN-style voting blocs.<sup>44</sup> The possibility therefore existed within the GATT/WTO regime of negotiating a “package deal” compromise in which the developed countries would obtain IP protection by tailoring other trade agreements to suit the developing countries’ inter-

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36. See generally Emmert, *supra* note 3 (discussing the advantages of GATT/WTO regime); 1 CHARAN DEVEREAUX ET AL., CASE STUDIES IN US TRADE NEGOTIATION 37-76 (2006) (discussing the negotiation strategies of developed countries).

37. Emmert, *supra* note 3, at 1345.

38. *Id.*

39. *Id.* For example, it was hard to decide whether software should be protected under copyright or patent. See *id.* at 1329-30.

40. *Id.* at 1343.

41. *Id.* at 1345-46.

42. *Id.* at 1368 (pointing out that the situation was different in the more advanced Newly Industrialized Countries).

43. *Id.* at 1345-46. Indeed, in the 1980s the developed nations tried unsuccessfully to strengthen the minimum standards requirement of the Paris Convention. See *id.* at 1343-44.

44. *Id.* at 1345-46.

ests.<sup>45</sup> As a result, the developed countries concluded that the Uruguay Round of GATT offered a better forum in which to promulgate a new international agreement on IP protection.<sup>46</sup> The developed countries could and did negotiate to provide countervailing benefits to developing countries (favorable terms in WTO agreements on agriculture and textiles) in exchange for the desired minimum IP standards.<sup>47</sup>

Another advantage of the GATT/WTO regime over the WIPO was that the WTO enjoyed broader membership than the WIPO.<sup>48</sup> Several key countries, such as India, South Korea, and Singapore, had not signed the fundamental WIPO conventions but were all GATT members.<sup>49</sup>

Finally, and most importantly for the purposes of this Article, the strong DSM of the GATT/WTO provided a crucial enforcement mechanism that the WIPO sorely lacked. As discussed in Section A, the DSM under the WIPO was so weak that not a single case had been adjudicated within that regime. The GATT DSM, although criticized for its perceived drawbacks (discussed below), unquestionably functioned more effectively than that of the WIPO, as indeed it had frequently been used by members to resolve trade disputes. Even stronger evidence of the effectiveness of the GATT/WTO regime was that nearly all disputes brought to the GATT had been successfully settled.<sup>50</sup> In addition, a number of improvements to the GATT DSM, including the establishment of a panel and strict timeframes for adjudication, were already adopted by April 1989,<sup>51</sup> when the contracting parties agreed to start negotiations on substantive issues of IP

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45. *See id.* at 1345.

46. *See id.* at 1345-47.

47. Emmert, *supra* note 3, at 1345-46; DEVEREAUX ET AL., *supra* note 36, at 112 (emphasizing the linkages “among the issues of IP, textiles, agriculture, and light manufacturing products”).

48. *Id.*

49. *Id.* at 1339-40. India and Singapore were not signatories to the Paris Convention. The Republic of Korea and Singapore were not signatories to the Berne Convention. On the other hand, all three of them were signatories to the GATT. *See* WTO, The 128 Countries that Had Signed GATT by 1994, [http://www.wto.org/English/thewto\\_e/gattmem\\_e.htm](http://www.wto.org/English/thewto_e/gattmem_e.htm) (last visited Mar. 19, 2008).

50. Emmert, *supra* note 3, at 1346.

51. GATT Secretariat, *Decision of 12 April 1989 on Improvements to the GATT Dispute Settlement Rules and Procedures*, L/6489 (Apr. 12, 1989); *see also* THOMAS A. ZIMMERMANN, *NEGOTIATING THE REVIEW OF THE WTO DISPUTE SETTLEMENT UNDERSTANDING* 52-55 (2006).

protection. Further improvements to the GATT DSM were under negotiation in the Uruguay Round concurrently with the TRIPS Agreement.<sup>52</sup>

The formulation of the TRIPS Agreement was not an entirely smooth process. While the developed countries preferred the GATT/WTO to the WIPO as the forum for developing new international IP protection rules,<sup>53</sup> the developing countries questioned the appropriateness of this forum during the negotiations.<sup>54</sup> They opposed the idea of strengthening IP protection and insisted that if IP should be protected,<sup>55</sup> the WIPO was the appropriate forum because it specialized in IP subject matter. As a result of these conflicting preferences, the ministers failed to come to a consensus about the propriety of TRIPS before the end of 1988.<sup>56</sup>

However, in April 1989, the contracting countries agreed to put the institutional issue aside and started negotiations on substantive rules.<sup>57</sup> Once Canada proposed the creation of a new trade organization, the WTO, in which member states could not pick and choose the trade rules they wished to enact, the suitability of the GATT/WTO was no longer an issue because developing countries were seriously concerned about being excluded from the new trading system.<sup>58</sup> Ultimately, the TRIPS Agreement was signed at the Marrakesh Ministerial Meeting in April 1994, as part of a package deal with the other Uruguay Round Agreements, and it came into force in January 1995.

### C. Did the Developed Nations Achieve Their Goals with the TRIPS Agreement?

In many respects, the signing of the TRIPS Agreement vindicated the anti-WIPO strategy of the developed nations. The successful and universally satisfactory adoption of the TRIPS Agreement itself suggested that the developed countries were correct in their perception that the negotiat-

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52. Emmert, *supra* note 3, at 1346-47. The Uruguay Round achieved as a result many improvements of the GATT DSM. See generally Lee & von Lewinski, *supra* note 10, 278-328.

53. See, Emmert, *supra* note 3, at 1339-54.

54. *Id.* at 1372.

55. *Id.*

56. GATT Secretariat, *Trade Negotiation Committee Meeting at Ministerial Meeting*, MTN.TNC/7(MIN) (Dec. 9, 1988).

57. Trade Negotiations Committee, *Trade Negotiations Committee Meeting at Level of High Officials*, at 9, MTN.TNC/9 (Apr. 11, 1989) (“[T]he outcome of the negotiations is not prejudged and . . . these negotiations are without prejudice to the views of participants concerning the institutional aspects of the international implementation of the results of the negotiations . . . [and] negotiations on this subject shall continue in the Uruguay Round. . .”).

58. Yu, *supra* note 10, at 362.

ing procedures, voting system, and package-deal compromises of the GATT/WTO regime offered benefits over the WIPO system.

More importantly, from the perspective of the developed nations the substantive terms of the TRIPS Agreement were a major improvement over the previously existing international IP accords. While referring to many provisions of the Paris Convention and Berne Convention (among other WIPO conventions),<sup>59</sup> the TRIPS Agreement provided additional and more stringent “minimum standards.” For example, Article 27.1 of the Agreement prohibits discrimination in level of protection based on technology sector<sup>60</sup> and thus, unlike the largely discretionary WIPO conventions, obliges WTO members to protect IP in pharmaceutical products. Similarly, WTO members can no longer exclude chemical “products” or the processes used to manufacture those products from patentable subject matter.<sup>61</sup> Additionally, Article 33 of the Agreement provides that the minimum duration of patent protection must be “a period of twenty years counted from the filing date.”<sup>62</sup> Therefore, members cannot fulfill their obligations under the TRIPS Agreement by providing 17-year patent terms, as they could under the WIPO conventions. These reforms addressed key complaints of developed countries against the ineffective international IP regimes of the pre-TRIPS era.

Another of the WIPO drawbacks addressed by the TRIPS Agreement was the lack of mandatory enforcement requirements. Part III of the Agreement provides standards for the enforcement of IP rights. Part III requires member countries to provide civil and administrative procedures, provisional measures, and criminal procedures to ensure IP protection, which neither of the two key WIPO conventions, the Paris Convention and the Berne Convention, mandated.<sup>63</sup> In addition, the Agreement imposed upon signatories the obligation to have customs procedures that “enable a right holder . . . to lodge an application . . . for the suspension by the customs authorities of the release into free circulation of such goods.”<sup>64</sup> While the Paris Convention also provided such a requirement, it was undermined

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59. In addition to the Paris Convention and the Berne Convention, the Agreement refers to the “Rome Convention” (the International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations) and the Treaty on Intellectual Property in Respect of Integrated Circuits. TRIPS Agreement, *supra* note 1, at art. 1.3.

60. *Id.* at art. 27.1.

61. *Id.*

62. *Id.* at art. 33.

63. See Thomas Dreier, *TRIPS and the Enforcement of Intellectual Property Rights*, in *FROM GATT TO TRIPS*, *supra* note 10, at 248-277

64. TRIPS Agreement, *supra* note 1, at art. 51.

by exceptions: in the event that border seizures were not made available, they had to be replaced by (1) “prohibition of importation or by seizure inside the country,”<sup>65</sup> or (2) “the actions and remedies available in such cases to nationals under the law of such country.”<sup>66</sup> Of course, such a far-reaching exception swallows the rule.

A third weakness of the WIPO addressed by the TRIPS Agreement was the limited membership of the governing conventions. As noted above, the membership of the WTO included nonsignatories of the Berne and Paris Conventions. Because all the WTO members were required to sign the TRIPS Agreement as a part of the package deal of Uruguay Round treaties (including the key sources of counterfeit goods such as India, South Korea, Singapore, and many developing countries), the Agreement successfully addressed one of the primary complaints of the developed nations against the WIPO.<sup>67</sup>

Finally, and of particular significance to the subject of this article, the TRIPS Agreement provides a much stronger DSM than the WIPO regime. The Preamble of the Agreement emphasizes “the importance of reducing tensions by reaching strengthened commitments to resolve disputes on trade-related intellectual property issues through multilateral procedures.”<sup>68</sup> Article 64 of the Agreement provides that the WTO DSM has compulsory jurisdiction over TRIPS disputes.<sup>69</sup> In addition, the new WTO DSM (negotiated concurrently with the TRIPS Agreement) overcame many of the perceived weaknesses of the GATT DSM. For example, the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU), which governs the WTO DSM, eliminated the right of individual parties to block the establishment of panels or the adoption of a report.<sup>70</sup>

Clearly, the GATT/WTO regime presents numerous advantages over prior attempts at international IP protection, at least on paper. Professor Reichman described the TRIPS regime as “the most ambitious

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65. Paris Convention, *supra* note 12, at art. 9(5).

66. *Id.* at art. 9(6).

67. See Emmert, *supra* note 3, at 1339-40 (discussing the limited membership of the WIPO); *Id.* at 1345 (discussing WTO’s advantage of extended membership and “the possibility of creating a package deal”).

68. TRIPS Agreement, *supra* note 1, at pmb1.

69. *Id.* at art. 64.

70. Understanding on Rules and Procedures Governing the Settlement of Disputes, arts. 6, 16, 17, Apr. 15 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 U.N.T.S. 401, 33 I.L.M. 1226 (1994) [hereinafter DSU].

international intellectual property convention ever attempted.”<sup>71</sup> However, a question remains: whether and to what extent the WTO DSM functions in practice to police adherence to the TRIPS Agreement. If members can successfully enforce the new IP protection rules through the DSM, the goal of the negotiations has been fully achieved. On the other hand, if the DSM does not work as anticipated and nations cannot compel the cooperation of fellow members in the shared task of IP protection, the “improved” IP rules and broader membership of the WTO might be of little value to the developed nations. It is well-accepted that the new DSM has been successful in resolving non-IP-related trade disputes.<sup>72</sup> However, there remain questions regarding the effectiveness of the WTO DSM in the TRIPS context. Specifically, the use of the WTO DSM to resolve TRIPS disputes has fallen, while its use to resolve general trade disputes continues unabated. This Article investigates this critical issue.

### III. HISTORY OF TRIPS DISPUTES

The short history of TRIPS disputes reveals several curious trends that are notably different from the patterns in the larger genre of non-TRIPS trade disputes. Thus far, twenty-six disputes on TRIPS have been taken into the WTO DSM and most of them have been resolved.<sup>73</sup> While TRIPS disputes have from the Agreement’s inception been relatively small in number, they declined sharply after 2001, a dramatic decrease not mirrored in the larger category of trade disputes in general.<sup>74</sup> Also curious is the small number of complaints levied against developing countries.<sup>75</sup> What explains these unique trends? This Part outlines the history of DSM disputes involving TRIPS and compares it with the overall dispute trends, while Parts IV and VI discuss possible explanations for the precipitous decline in TRIPS disputes since 2001.

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71. J.H. Reichman, *Compliance with the TRIPS Agreement: Introduction to a Scholarly Debate*, 29 VAND. J. TRANSNAT'L L. 363, 366 (1996).

72. ZIMMERMANN, *supra* note 51, at 78-79.

73. See World Trade Org., Chronological List of Disputes Cases, [http://www.wto.org/english/tratop\\_e/dispu\\_e/dispu\\_status\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/dispu_status_e.htm) (last visited Mar. 19, 2008) (showing specific issues involved in each case in the respective case page); see also Leitner & Lester, *supra* note 4, at 171 tbl.5 (illustrating the overall trends of the dispute settlement in the WTO).

74. Leitner & Lester, *supra* note 4, at 171.

75. See World Trade Org., *supra* note 73.

### A. The First Five Years (1996-2000)

The TRIPS Agreement came into force in January 1995. However, TRIPS did not become fully effective until January 1996 because the Agreement provided for a one-year transitional period for all members.<sup>76</sup>

The first dispute was taken before the WTO in February 1996, when the United States requested consultations with Japan,<sup>77</sup> claiming insufficient protection of intellectual property in sound recordings.<sup>78</sup> The European Communities (EC) joined the dispute as a third party and subsequently filed a separate dispute over similar issues.<sup>79</sup> These disputes were settled after a year, when Japan amended its Copyright Law in January 1997.<sup>80</sup>

The first case decided by the Panel involved a developing country, India, which was the target of a patent complaint by the United States.<sup>81</sup> The United States argued that India's patent application procedures were inconsistent with the Agreement (Articles 27, 65, and 70) because India allegedly did not establish so-called "mailbox filing procedures," which would preserve novelty and priority for applications of product patents for pharmaceutical and agricultural chemical inventions during the transitional periods (Article 70.8(a)) and the exclusive marketing rights in such products (Article 70.9).<sup>82</sup> The Panel held for the United States, and the Appellate Body upheld the Panel's decision in most parts.<sup>83</sup> Subsequently,

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76. TRIPS Agreement, *supra* note 1, at art. 65.1.

77. Under WTO rules, a request for consultation is a prerequisite to panel procedure. *See* DSU, *supra* note 70, at art. 4.7.

78. World Trade Org., Dispute Settlement: Dispute DS28 Japan—Measures Concerning Sound Recordings, [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds28\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds28_e.htm) (last visited Apr. 28, 2008).

79. This dispute was labeled *Japan—Measures Concerning Sound Recordings* (DS42). *See* World Trade Org., Dispute Settlement: Dispute DS42: Japan—Measures Concerning Sound Recordings, [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds42\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds42_e.htm) (last visited Apr. 28, 2008).

80. Notification of Mutually Agreed Solution, *Japan—Measures Concerning Sound Recordings*, WT/DS28/4 (Feb. 5, 1997).

81. The dispute was labeled *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products* (DS50). *See* World Trade Org., Dispute Settlement: Dispute DS50, India—Patent Protection for Pharmaceutical and Agricultural Chemical Products, [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds50\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds50_e.htm) (last visited Apr. 28, 2008).

82. *See* Request for Consultations by the United States, *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products*, WT/DS50/1 (July 9, 1996).

83. Appellate Body, *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products—Report of the Appellate Body*, WT/DS50/AB/R (Dec. 19, 1997) (*adopted* Jan. 16, 1998).

India implemented a new law to comply with the recommendations of the Report.<sup>84</sup>

In the first five years of TRIPS enforcement, there were twenty-three disputes, and the dispute settlement institutions decided six cases.<sup>85</sup> The types of claims brought before the WTO varied considerably.<sup>86</sup> First, the disputes covered all three kinds of treaty obligations: most-favored-nation treatment, national treatment,<sup>87</sup> and minimum standards. Moreover, the minimum standards claims covered copyrights (Part II.1 of the Agreement),<sup>88</sup> trademarks (Part II.2),<sup>89</sup> geographical identifications (Part II.3),<sup>90</sup> and patents (Part II.5).<sup>91</sup> Some of those claims related to certain provisions of the Paris Convention and Berne Convention to which the TRIPS Agreement referred. Notably absent from the disputes adjudicated by the WTO were claims involving industrial designs (Part II.4 of the Agreement), layout-designs of integrated circuits (Part II.6), and trade secrets (Part II.7). Lastly, many of the disputes brought before the WTO concerned the enforcement provisions (Part III) of the Agreement.<sup>92</sup>

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84. World Trade Org., Dispute Settlement: Dispute DS50: India—Patent Protection for Pharmaceutical and Agricultural Chemical Products (DS50), [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds50\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds50_e.htm) (last visited Mar. 6, 2008).

85. Katarina Nedeljković, WTO Intellectual Property Dispute Settlement 29-111 (2002) (unpublished manuscript, on file with the Harvard Law School Library).

86. *Id.*

87. For example, in the dispute *US—Section 211 Omnibus Appropriations Act of 1998* (DS176), the EC claimed the violation of the Agreement in both most-favored-nation treatment and national treatment. See World Trade Org., Dispute Settlement: Dispute 176: United States—Section 211 Omnibus Appropriations Act of 1998 (DS176), [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds176\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds176_e.htm) (last visited Apr. 28, 2008).

88. For example, the dispute *Japan—Measures Concerning Sound Recordings* (DS28). See World Trade Org., *supra* note 78.

89. For example, the dispute *European Communities—Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs* (DS174). See World Trade Org., Dispute Settlement: Dispute 174: European Communities—Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs (DS174), [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds174\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds174_e.htm) (last visited Apr. 28, 2008).

90. *Id.*

91. For example, the dispute *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products* (DS50). See World Trade Org., *supra* note 81.

92. For example, the dispute *Denmark—Measures Affecting the Enforcement of Intellectual Property Rights* (DS83). See World Trade Org., Dispute Settlement: Dispute 83: Denmark—Measures Affecting the Enforcement of Intellectual Property Rights (DS83), [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds83\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds83_e.htm) (last visited Apr. 28, 2008).

In all twenty-three disputes initiated in the first five years, the complainants were developed countries. The respondents included both developed and developing countries.<sup>93</sup> The claims against the developing countries involved both transitional and general obligations<sup>94</sup> (developing countries were only subject to limited obligations for a four-year transitional period, which ended January 1, 2000).<sup>95</sup> During the transitional period, developing countries were challenged for violating transitional obligations, such as Article 70.8,<sup>96</sup> as well as for breaching general obligations not subject to transitional exceptions, such as national treatment.<sup>97</sup> Upon the expiration of the transitional period in the year 2000, developing countries became subject to most claims under the general provisions,<sup>98</sup> and, unsurprisingly, two disputes which involved such claims were immediately taken into the DSM.<sup>99</sup> Similarly, the United States immediately amended its claims in a preexisting dispute against Argentina to include claims that the latter nation was not subject to during the transitional period.<sup>100</sup>

Most disputes brought before the WTO DSM have been resolved, either by decision or settlement. Many disputes were settled under mutually agreed solutions, without adjudication before a WTO Panel. Five early cases were settled in this way by the end of 2000, and eight disputes were subsequently settled by 2002.<sup>101</sup> In disputes that could not be resolved under the consultation processes, the DSM offered timely adjudication. Indeed, out of eight early disputes that proceeded to the WTO Panel procedure, the Dispute Settlement Body (DSB) had adopted reports on six by the end of 2000.<sup>102</sup> In five of these six cases, the complainant countries

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93. See World Trade Org., *supra* note 73.

94. *Id.*

95. TRIPS Agreement, *supra* note 1, at art. 65.2.

96. For example, the dispute *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products* (DS50). See World Trade Org., *supra* note 73.

97. For example, the dispute *Indonesia—Certain Measures Affecting the Automobile Industry* (DS64). See World Trade Org., *supra* note 73.

98. TRIPS Agreement, *supra* note 1, at art. 65.4 (allowing developing countries to delay the application of pharmaceutical patents, under certain conditions, for additional transitional period of five years).

99. These disputes were *Argentina—Certain Measures on the Protection of Patents and Test Data* (DS196) and *Brazil—Measures Affecting Patent Protection* (DS199). See World Trade Org., *supra* note 73.

100. The preexisting dispute was *Argentina—Patent Protection for Pharmaceuticals and Test Data Protection for Agricultural Chemicals* (DS171). See World Trade Org., *supra* note 73.

101. See World Trade Org., *supra* note 73.

102. *Id.*

won in at least one claim of TRIPS inconsistency.<sup>103</sup> In the other case, *Indonesia—Auto*,<sup>104</sup> where the TRIPS claim was not the major focus of the dispute, the complainant lost its TRIPS claim but won the other claims. Therefore, in most early cases, the complainant countries achieved their goals by taking the dispute to the DSM, through either settlement or litigation.

The pattern of successful resolution exhibited in the history of the earliest TRIPS disputes makes the later decline in use of the DSM all the more mysterious. Just after the entry into force of the TRIPS regime, Professors Rochelle Dreyfuss and Andreas Lowenfeld predicted that “because the thrust of the TRIPS initiative was to induce developing countries to move toward effective protection of intellectual property, one may expect that much of the WTO litigation in this area will be between developed countries as complainants and developing countries as respondents.”<sup>105</sup> The pattern of early TRIPS disputes clearly vindicated this prediction, although, as discussed below, this early pattern proved transitory. In light of the successes of the first five years of TRIPS dispute settlements, Professor Sue Ann Mota anticipated that “many more disputes involving TRIPS will be taken to and decided by the WTO's [Dispute Settlement Body], especially since complainants have prevailed in the disputes taken thus far.”<sup>106</sup> In addition, scholars expected the expiration of the transitional period for developing countries to accelerate the use of the DSM. For example, in 2002, international IP practitioner Katarina Nedeljković anticipated seeing “more IP disputes involving developing countries upon the expiration of these transitional periods.”<sup>107</sup> Furthermore, scholars such as Mota predicted that the transition from disputes focusing on “bringing members' laws into conformity with TRIPS” to disputes centered on “enforcement issues in member countries”<sup>108</sup> would lead to the increased use of the DSM in the subsequent era.<sup>109</sup> However, as I will now relate, these seemingly reasonable predictions failed to come true.

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103. See Sue Ann Mota, *TRIPS—Five Years of Disputes at the WTO*, 17 ARIZ. J. INT'L & COMP. L. 533, 552 (2000). Note that Mota did not mention the *Indonesia—Auto* case.

104. The full name of the dispute is *Indonesia—Certain Measures Affecting the Automobile Industry* (DS64). See World Trade Org., *supra* note 73.

105. Rochelle Cooper Dreyfuss & Andreas F. Lowenfeld, *Two Achievements of the Uruguay Round: Putting TRIPS and Dispute Settlement Together*, 37 VA. J. INT'L L. 275, 282 (1997).

106. Mota, *supra* note 103, at 534.

107. Nedeljković, *supra* note 85, at 144.

108. Mota, *supra* note 103, at 553.

109. *Id.*

## B. After Five Years (2001-present)

Astonishingly, only three cases have been initiated since 2001, despite the precedent of successful outcomes during the first five years of the adjudication of TRIPS disputes.

In January 2001, in *United States—US Patents Code*, Brazil requested consultations with the United States concerning the provisions of the U.S. Patents Code.<sup>110</sup> This was the first case where a developing country took the role of complainant in a TRIPS dispute, although it is worth noting that this dispute was a counterclaim against a prior complaint by the United States against Brazil.<sup>111</sup> This case has not yet been resolved.<sup>112</sup>

In April 2003, in *EC—Trademarks and Geographical Indications*, Australia requested consultations with the EC concerning the protection of trademarks as well as the registration and protection of geographical indications for foodstuffs and agricultural products in the EC.<sup>113</sup> This case, however, was not a *new* case since the allegations overlap with the former case against the EC initiated by the United States.<sup>114</sup> This case was soon litigated before the WTO DSM in a single-panel procedure along with the case brought by the United States, and the Panel held for the complainants in 2005.<sup>115</sup>

No consultations were requested for nearly four years after Australia brought *United States—US Patents Code*, until April 2007, when the United States requested consultations with China on IPR protection and enforcement.<sup>116</sup> This recent case will be analyzed in detail in Part V, be-

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110. Request for Consultations by Brazil, *United States—US Patent Code*, WT/DS224/1 (Feb. 7, 2001).

111. See Nedeljković, *supra* note 85, at 70. *United States—US Patent Code* was a counterclaim to *Brazil—Measures Affecting Patent Protection* (DS199).

112. The United States and Brazil settled in the earlier case (*Brazil—Patents*). See Notification of Mutually Agreed Solution, *Brazil—Measures Affecting Patent Protection*, WT/DS199/4 (Jul. 19, 2001). In the mutually agreed solution, the United States explicitly stated that it expected Brazil not to proceed in the latter case (*United States—US Patent Code*). In other words, the United States meant to settle both cases concurrently. However, Brazil did not agree to such an all-encompassing settlement because India had also joined the case. See Nedeljković, *supra* note 85, at 70.

113. Request for Consultations by Australia, *European Communities—Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs*, WT/DS/290/1 (Apr. 17, 2003).

114. World Trade Org., *supra* note 89. The DSB established a single panel to adjudicate DS174 and DS290.

115. *Id.*

116. Request for Consultations by the United States, *China—Measures Affecting the Protection and Enforcement of Intellectual Property Rights*, WT/DS362/1 (Apr. 16, 2007).

cause it well reflects the factors that likely led to the recent decline in TRIPS cases, and furthermore suggests that the developed countries may now be adopting new and more sensitive approaches to TRIPS disputes.

Some disputes which started in the first five years, however, were only resolved in the subsequent era. Eight pre-2000 TRIPS disputes were settled after 2001.<sup>117</sup> For example, one dispute originating in 2000 was resolved in 2002, when the DSB adopted the Report of the Appellate Body on *US—Section 211 Appropriations Act*.<sup>118</sup> Similarly, in *EC—Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs*, a dispute in which the United States requested consultations in 1999, the Panel was not established until 2003, and the DSB only adopted a Report in 2005.<sup>119</sup> In total, ten existing disputes were resolved between early 2001 and spring 2008.

At the time of this Article's publication, three disputes originating in the period 1996–2001 have yet to be resolved: *EC—Patent Protection for Pharmaceutical and Agricultural Chemical Products*, *United States—Section 337 of the Tariff Act of 1930 and Amendments thereto*, and *United States—US Patents Code*.

In addition to these three remaining disputes, one dispute which was adjudicated before the DSB awaits compliance by the losing party: *US—Section 110(5) of US Copyright Act*. The European Community argued that the U. S. Copyright Act did not fulfill the copyright protection minimum standards because it includes the so-called “business” and “homestyle” exemptions to infringement of the exclusive performance right. The Panel Report, which the DSB subsequently adopted in July 2000, held that the business exemption was inconsistent with the TRIPS Agreement.<sup>120</sup> The United States, however, subsequently failed to implement the changes required by the WTO's decision. After subsequent negotiations, both parties notified the DSB of a mutually satisfactory temporary

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117. See World Trade Org., *supra* note 73.

118. World Trade Org., *supra* note 87. Reports of the Panel and Appellate Body are finalized when the DSM adopts them. DSU, *supra* note 70, at arts. 16, 17.14.

119. World Trade Org., Settlement Dispute DS290: European Communities—Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs, [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds290\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds290_e.htm) (last visited Mar. 6, 2008).

120. Panel Report, *United States—Section 110(5) of the US Copyright Act*, WT/DS160/R (June 15, 2000) (adopted Jul. 27, 2000). Specifically, the Panel determined that the “business exemption” of the U.S. Copyright Act was inconsistent with Article 13 of the Agreement and thus inconsistent with Articles 11bis(1)(iii) and 11(1)(ii) of the Berne Convention as incorporated into the TRIPS Agreement by Article 9.1 of the Agreement.

arrangement: the United States would pay a lump sum of \$3.3 million to compensate for the nullification or impairment of the benefits the EC was entitled to under the Agreement.<sup>121</sup> While the temporary arrangement expired on December 20, 2004, the United States has still not amended its Copyright Act.<sup>122</sup> Therefore, despite “winning” the DSB adjudicatory proceeding, the EC has not achieved a satisfactory resolution of the dispute.

In summary, while many TRIPS disputes were successfully settled or adjudicated in the first five years after the entry into force of the Agreement—and indeed, only a handful of the first batch of disputes remain unresolved—the number of TRIPS disputes originating in the years after 2001 declined precipitously. As discussed in the next Section, this counterintuitive decline stands in stark contrast to the pattern in general trade disputes.

### C. Comparison of Trends in TRIPS Disputes with Overall Trends in All Disputes Before the WTO

Among the 373 total disputes that have been brought before the WTO, a mere 26 involved one or more TRIPS claim.<sup>123</sup> The share of TRIPS disputes on the WTO docket is thus only 7%. As noted above, only nine TRIPS cases have been decided by the Panel or Appellate Body.<sup>124</sup> In almost all of these cases (89%), the complainants won on at least one of their TRIPS claims (the only exception being *Indonesia—Autos*). Although this success rate for complainants seems overwhelmingly high, it is not actually a significant deviation from the success rate in all trade disputes. Indeed, in all WTO disputes “[t]he percentage of adopted reports in which at least one violation was found is 85%.”<sup>125</sup> Such a high success rate encourages members to sue each other when an inconsistency with treaty obligations is found.

While the trend in TRIPS success rates largely mirrors that of trade disputes in general, the trend in the number of disputes brought before the Panel is strikingly different. According to one study, “[t]he number of [total WTO] disputes tends to go up and down from year to year, often without a clear reason for either the increase or the decrease in the number of

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121. Notification of a Mutually Satisfactory Temporary Arrangement, *United States—Section 110(5) of the US Copyright Act*, at 2, WT/DS160/23 (June 26, 2003).

122. Status Report by the United States, *United States—Section 110(5) of the US Copyright Act*, WT/DS160/24/Add.39 (Mar. 4, 2008).

123. Leitner & Lester, *supra* note 4, at tbl.5.

124. *See* World Trade Org., *supra* note 73.

125. PETER VAN DEN BOSSCHE, *THE LAW AND POLICY OF THE WORLD TRADE ORGANIZATION: TEXT, CASES AND MATERIALS* 289 (2005). This data pertains to the period from January 1995 to September 2004.

disputes.”<sup>126</sup> In contrast, the number of TRIPS disputes has consistently decreased over time.<sup>127</sup> As noted above, while there were twenty-three disputes from 1996 to 2000, there have been only three cases brought since 2001.<sup>128</sup> Thus the number of TRIPS cases is clearly not fluctuating, but is instead declining, in dramatic contrast to the general trend in WTO trade disputes.<sup>129</sup> Why, if the rate of success is as high as 89%, have prospective complainants turned to the DSM so rarely since 2001?

The complainants in TRIPS cases are almost exclusively developed countries. Indeed, such nations (primarily the United States, the EU, Australia, and Canada) were complainants in 25 out of the 26 disputes.<sup>130</sup> The only exception is *US—Patent Code*, where Brazil sued the United States as a counterclaim.<sup>131</sup> The overall trends in WTO trade disputes are similarly unbalanced, although not nearly so pronounced: developed countries were complainants in the majority of cases. According to one study, “[i]n 61 per cent of all disputes, high-income countries, such as the United States and the European Communities, were the complainant.”<sup>132</sup> It is relatively simple to explain why nearly all IP-related cases are brought by developed countries. There is a striking asymmetry in the possession of IP between developed and developing countries. Most IP is held by businesses in developed countries. Thus, developed countries are more interested in IP protection than their emerging-economy counterparts.

Interestingly, in many cases the respondents were developed countries as well. Out of the 26 TRIPS disputes, developed countries were respondents in 18.<sup>133</sup> Developing countries, namely Argentina, Brazil, India, Indonesia, Pakistan, and finally China, were respondents in a mere 8 disputes.<sup>134</sup> In other words, 69% of TRIPS disputes related to the allegedly noncompliant measures of developed countries. This number is only slightly larger than the equivalent statistic in WTO disputes, where “[s]ixty-two per cent of all disputes . . . relate to measures of developed

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126. *Id.* at 284.

127. Leitner & Lester, *supra* note 4, at 171 tbl.5. The number of complaints about trade in services and sanitary and phytosanitary measures also has declined in recent years. *Id.*

128. *Id.*

129. VAN DEN BOSSCHE, *supra* note 125, at 18.

130. *See* World Trade Org., *supra* note 73.

131. *See id.*

132. VAN DEN BOSSCHE, *supra* note 125, at 285. This data pertains to the period from 1995 to 2003.

133. *See* World Trade Org., *supra* note 73.

134. *Id.*

country Members.”<sup>135</sup> However, in the context of IP disputes, the predominance of developed countries as respondents raises an interesting question. It seems only logical that developing countries, rather than developed ones, ought to be the disproportionate targets of TRIPS complaints because developing countries have (comparatively speaking) a reduced incentive to vigorously protect intellectual property.<sup>136</sup> Why then do complainants sue developing countries less frequently than developed ones?

The developed countries thought they could resolve international IP disputes more effectively through the WTO than through the WIPO because of the stronger judicial powers of the WTO DSM.<sup>137</sup> However, the trends outlined above raise critical questions with respect to this line of reasoning. What characteristics of TRIPS or of IP have led to the disparity in use of the WTO DSM in IP and non-IP cases? Does the DSM work differently in the TRIPS context than it does in the general context? I examine these questions in the following Parts.

#### IV. DECLINE IN THE USE OF THE DISPUTE SETTLEMENT MECHANISM

As discussed above, the use of the DSM to resolve IP disputes has declined since 2001,<sup>138</sup> despite both the high success rate of complainants and the expiration of the transitional period for developing countries in 2000. What explains this surprising and incommensurate decrease in TRIPS disputes compared to WTO disputes in general?

It is tempting to try to explain this decline as a result of the early spike of successful settlements and decisions, which might have effectively convinced nations to comply with their TRIPS obligations by demonstrating the power of the WTO DSM.<sup>139</sup> It seems reasonable that some disputes that would otherwise have been brought before the WTO would have been settled without a hearing because the system proved so effective; respondent nations saw the benefits in compromising in advance of an adversarial proceeding in which their defeat was practically guaranteed. Supporting this hypothesis is the fact that more than half of the disputes concern-

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135. VAN DEN BOSSCHE, *supra* note 125, at 286.

136. Dreyfuss & Lowenfeld, *supra* note 105, at 282.

137. See Emmert, *supra* note 3, at 1342-43.

138. Leitner & Lester, *supra* note 4, at tbl.5 (2007).

139. ZIMMERMANN, *supra* note 51, at 85 (citing Robert E. Hudec, *The New WTO Dispute Settlement Procedure: An Overview of the First Three Years*, 8 MINN. J. GLOBAL TRADE 1, 25-27 (1999)).

ing TRIPS were settled within the consultation process through a mutually agreed solution.<sup>140</sup> However, in contrast to what this line of reasoning would lead us to expect, even the number of these settled-before-adjudication cases is declining. Perhaps, however, this decline can also be explained as a byproduct of the DSM's effectiveness—most countries have elected to avert disputes by unilaterally deciding to comply with their TRIPS obligations even before the consultation process.<sup>141</sup> Unfortunately, there is no evidence to support or refute this theory.<sup>142</sup> Additionally, because the strength and effectiveness of the DSM affects both IP and non-IP trade disputes, it is hard to see how any hypothesis based upon the strength of the DSM can explain the unique trends in the TRIPS disputes. What, then, are the real factors behind this decline?

In this Part, after separating TRIPS claims into three helpful categories, I provide two complementary explanations for the decline in the use of the DSM. First, I argue that the Council for TRIPS, which monitors compliance with the Agreement, may have removed many grounds for disputes over the content of statutes. Second, I suggest that the difficulty of resolving claims concerning the application of statutes and the ineffectiveness of domestic remedies may have deterred countries from using the DSM to address these categories of complaints.

#### A. The Three Categories of TRIPS Claims

TRIPS disputes fall into three categories based upon the type of violation that forms the basis of the complaint: statute, application, and ineffectiveness of domestic remedies. Professors Dreyfuss and Lowenfeld have argued that:

[T]he distinctions between ideas and applications may provide a way to avoid complying with the obligations of the TRIPS Agreement. Legislation can appear to be conforming, but lack all bite. Thus, it is almost inevitable that disputes will arise over the question whether a state that has adopted conforming legislation has nonetheless failed to provide meaningful protection to innovators.<sup>143</sup>

Dreyfuss and Lowenfeld have made a useful distinction between claims based upon nonconforming statutes and those based upon the inef-

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140. See World Trade Org., *supra* note 73.

141. ZIMMERMANN, *supra* note 51, at 85 (discussing the function of the DSM in general, without focusing on the TRIPS disputes).

142. *Id.*

143. Dreyfuss & Lowenfeld, *supra* note 105, at 283.

fective application of facially conforming statutes. Dividing TRIPS disputes into such categories allows us to explain the decline in each type of dispute separately, which, as shall become apparent, is a crucial analytical tool. Put simply, different factors affect the willingness of complainants to bring what I shall term “statute claims” and what I deem “application claims.” Statute claims concern a country’s failure to meet treaty obligations in its legislation, regulations, or administrative guidelines, which provide general rules as opposed to case-specific applications of the rules. In some country, these guidelines could be issued by the judicial branch as is the case in the U.S.-China dispute discussed below.<sup>144</sup> On the other hand, application claims concern the ineffective implementation, which is case-specific, of such broadly defined “statutes.” For example, a country which extends IP protection for computer programs and thus facially fulfills the minimum standards requirement of Article 10 of the Agreement may still fail to provide effective IP protection for software because of case-specific court decisions that do not protect programs.<sup>145</sup> In the example, the country’s statute is consistent with the Agreement but the application of the statute violates Article 10 of the Agreement.

In addition to these two categories of claims, I would like to propose a third category, which I shall refer to as a “claim concerning the ineffectiveness of domestic remedies.”<sup>146</sup> Some provisions of the TRIPS Agreement seem to set an obligation to achieve a certain level of success at IP protection. For example, Article 61 of the Agreement arguably requires members to provide criminal punishment *with sufficient deterrent effects*.<sup>147</sup> Thus, a country (Country A) may challenge the ineffectiveness of domestic remedies by citing the measurable level of infringement in another country (Country B) as proof of its claim that Country B’s punishments do not provide sufficient deterrence to infringers. In such a claim, Country B’s statutes could be facially consistent with Article 61, even going so far as to impose imprisonment on copyright infringers, and could still violate the Article if such statutes, even though zealously and efficiently applied, do not serve as measurably effective deterrents. In other

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144. See *infra* Part V.

145. Dreyfuss and Lowenfeld used this example. Dreyfuss & Lowenfeld, *supra* note 105, at 283-85.

146. Bradford L. Smith, *Enforcing TRIPS Part III in WTO Dispute Settlement*, in 6 INTERNATIONAL INTELLECTUAL PROPERTY LAW & POLICY ch. 46 (Hugh C. Hansen et al. eds., 1996). Smith did not use the same specific terminology to refer to this category of claim. Although Smith focused on Article 41 in his discussion, I use Article 61 because the requirement is more specific and this is a potential issue in the U.S.-China dispute, as discussed below in Part V.

147. TRIPS Agreement, *supra* note 1, at art. 61.

words, this category of complaints challenges statutes that are superficially consistent with the Agreement and that are applied enthusiastically but that fail to actually deter infringers.

It should be noted that this category of claims is different from the so-called “non-violation complaint.” Non-violation complaints involve a claim that a member nullifies or impairs the legitimately expected benefit of another member as a byproduct of an action that *does not itself violate* the WTO rules.<sup>148</sup> On the other hand, a claim on ineffectiveness of domestic remedies assumes that a member *violates* the TRIPS Agreement because it does not fulfill the requirement to provide a successful deterrent through its domestic remedies.

## B. Council for TRIPS

This Section begins with an overview of the Council for TRIPS. It then compares the Council for TRIPS with other councils in the WTO before concluding that the Council, while likely a factor in the reduced use of the DSM to resolve disputes over statute claims, cannot account fully for the decline in use of the DSM, because the Council has no impact on application or ineffectiveness of deterrence claims.

### 1. *Function of the Council for TRIPS*

Article IV (5) of the Agreement Establishing the World Trade Organization<sup>149</sup> establishes the Council for TRIPS.<sup>150</sup> The primary function of the Council is to receive notification of exceptions and attempts to comply with relevant provisions of the Agreement, not to resolve disputes brought by members.<sup>151</sup> For example, members must put forth their national IP laws and regulations for the Council’s review, to assist the Council in its assessment of the Agreement’s operation.<sup>152</sup>

The Council also functions as a negotiating body. For example, the TRIPS agreement specifies that one of the tasks of the Council is to lead

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148. World Trade Org., Dispute Settlement System Training Module, ch. 4.2, at 2, [http://www.wto.org/english/tratop\\_e/dispu\\_e/disp\\_settlement\\_cbt\\_e/c4s2p2\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/disp_settlement_cbt_e/c4s2p2_e.htm) (last visited Mar. 9, 2008); *see also* World Trade Org., TRIPS Issues: ‘Non-violation’ complaints (Article 64.2), [http://www.wto.org/english/tratop\\_e/trips\\_e/nonviolation\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/nonviolation_e.htm) (last visited Mar. 9, 2008) (explaining that non-violation complaints cannot be brought in TRIPS disputes).

149. Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, 1867 U.N.T.S. 154, 33 I.L.M. 1144 (1994) [hereinafter Marrakesh Agreement].

150. *Id.* at art. IV (5).

151. *Id.*

152. TRIPS Agreement, *supra* note 1, at art. 63.2. Articles 1, 3 and 4 also impose notification requirements. *See id.* at arts. 1, 3, 4.

negotiation “concerning the establishment of a multilateral system of notification and registration of geographical indications for wines.”<sup>153</sup> This negotiating function of the Council has proven to be a crucial source of adaptability in the subsequent development of the TRIPS rules. For example, after vigorous discussion in the Council, the WTO General Council in 2003 adopted a decision that temporarily allows pharmaceutical products manufactured through compulsory licensing to be exported to developing countries that lack sufficient manufacturing capacity.<sup>154</sup> This responsiveness of the Council to the concerns of developing countries about the “threat” posed by international IPR protection to public health exemplifies the benefits of flexibility and sound policy created by the Council.

Another significant power given to the Council under the TRIPS agreement is the discretion to extend the transitional period for the least-developed countries.<sup>155</sup> The Council has exercised its discretion by extending this transitional period until July 1, 2013.<sup>156</sup>

Finally, and most importantly, the Council serves as a monitoring body.<sup>157</sup> Article 68 of the Agreement provides that “[t]he Council for TRIPS shall monitor the operation of this Agreement and, in particular, Members’ compliance with their obligations hereunder.”<sup>158</sup> Based on this provision, the Council has reviewed the domestic laws and regulations of most members.<sup>159</sup> From 1996 to 1997, the Council focused on monitoring the developed countries.<sup>160</sup> In July 1996, it reviewed the legislation of developed-country members in the area of copyright and related rights, and in November 1996, it reviewed the areas of trademarks, geographical indications, and industrial designs.<sup>161</sup> In May 1997, the Council started reviewing legislation in the areas of patents, layout-designs of integrated circuits, undisclosed information, and the control of anticompetitive prac-

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153. *Id.* at art. 23.4.

154. World Trade Org., *Implementation of Paragraph 6 of the Doha Declaration on the TRIPS Agreement and Public Health*, WT/L/540 (Sept. 1, 2003).

155. TRIPS Agreement, *supra* note 1, at art. 66.1.

156. Council for TRIPS, *Extension of the Transition Period under Article 66.1 for Least-Developed Country Members*, IP/C/40 (Nov. 29, 2005).

157. *See generally* WATAL, *supra* note 3, 50-57.

158. TRIPS Agreement, *supra* note 1, at art. 68.

159. World Trade Org., TRIPS: Review of the Implementing Legislation, [http://www.wto.org/english/tratop\\_e/trips\\_e/intel8\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/intel8_e.htm) (last visited Mar. 9, 2008).

160. *Id.*

161. *Id.*

tices in contractual licenses. In November 1997, the Council began reviewing the area of enforcement.<sup>162</sup>

In addition to these formal monitoring processes, beginning in 1997 the Council also provided informal consultation with “individual members whose legislation had not been subject to the review exercise of that time, but whose legislation would have been brought in conformity with the TRIPS Agreement in advance.”<sup>163</sup> After the transitional periods for developing countries (Article 65.2) and former socialist countries (65.3) ended on January 1, 2000, the Council started reviews of the laws and regulations of these countries.<sup>164</sup> In addition to the normal process of review for most countries, the Council has undertaken the sixth annual transitional review of China based on section 18 of the Protocol on the Accession of the People’s Republic of China.<sup>165</sup> China is subject to the annual review until 2009;<sup>166</sup> this is still an important issue at the Council.<sup>167</sup>

The main subject of Council review is the text of members’ domestic laws and regulations. The application of these statutes is also investigated, but only to a limited extent. The Council inquires not only into each member’s satisfaction of its obligation to establish civil and administrative procedures and remedies to protect IP, but also looks into the effectiveness of these procedures, and specifically investigates “the actual duration of [enforcement] proceedings and their cost.”<sup>168</sup> Proposals from the EC to expand the duties of the Council to include “carefully examin[ing the] compliance of Members with the enforcement provisions of TRIPS”<sup>169</sup> faced strong opposition from developing countries.<sup>170</sup> As a result, the Council does not itself investigate these matters, but has provided opportunities for

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162. Council for TRIPS, *Annual Report (1997) of the Council for TRIPS*, at 3-4, IP/C/12 (Nov. 28, 1997).

163. *Id.* at 4.

164. Council for TRIPS, *Annual Report (2000) of the Council for TRIPS*, at 2-3, IP/C/22 (Dec. 6, 2000).

165. See Council for TRIPS, *Section 18 of the Protocol on the Accession of the People’s Republic of China—Report to the General Council by the Chair*, IP/C/47 (Dec. 7, 2007).

166. World Trade Org., *Protocol on the Accession of the People’s Republic of China*, at 11, WT/L/432 (Nov. 23, 2001).

167. Council for TRIPS, *Annual Report (2006) of the Council for TRIPS*, at 2, IP/C/44 (Dec. 4, 2006).

168. Council for TRIPS, *Checklist of Issues on Enforcement*, at 2, IP/C/5 (Nov. 30, 1995).

169. Communication from the European Communities, *Enforcement of Intellectual Property Rights*, IP/C/W/448 (June 9, 2005).

170. Council for TRIPS, *Minutes of Meeting on 14-15 June 2005*, IP/C/M/48 (Sept. 15, 2005).

member nations to share the information and experience of their customs authorities related to enforcement.<sup>171</sup>

The monitoring role of the Council for TRIPS might explain the reduction in the use of the DSM to resolve IP disputes. The Council's effectiveness as a monitoring body might be working to preempt potential disputes well before they would reach the DSM. The Council's review process reveals and addresses inconsistencies in each member's domestic laws and regulations, allowing for corrective action before these noncompliances can serve as the subject of disputes. The procedures for Council review provide for written questions and replies prior to the review meeting, during the course of the meeting, and in subsequent meetings.<sup>172</sup> Thus the review process also provides members the opportunity to gather information,<sup>173</sup> which might be used to prepare for and perhaps to resolve disputes before they reach the adversarial phase.<sup>174</sup> This information-gathering benefit works along with Article 63.3 of the Agreement, which requires each member to supply information in response to a written request from another member as to its national laws, regulations, final judicial decisions, and administrative rulings of general application.<sup>175</sup>

Since the monitoring process in the Council is multilateral, each nation is subject to pressure from all the other members. While such uniform pressure can be expected to encourage compliance, it can also make it difficult to reach a compromise, as the open conversation of a multilateral forum presents negotiating challenges not present in typical bilateral diplomacy. Thus, in some matters bilateral negotiation may have an advantage over the multilateral monitoring process. However, in instances where bilateral negotiation is unsuccessful, the multilateral monitoring process can complement negotiation and facilitate successful resolution. Compared to adjudication before the DSM, the Council's monitoring process is less adversarial and thus is less likely to offend the respondent country. Therefore, while the Council's monitoring process functions dif-

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171. Council for TRIPS, *Minutes of Meeting on 14-15 June 2006*, IP/C/M/51 (Sept. 20, 2006).

172. See World Trade Org., *supra* note 159; WATAL, *supra* note 3, at 57.

173. WATAL, *supra* note 3, at 57; Rufus Yerxa, Deputy Dir. Gen., World Trade Org., Address at the Third Global Congress on Combating Counterfeiting and Piracy (Jan. 30, 2007), available at <http://www.ccapcongress.net/archives/Geneva/Files/Yerxa.pdf> (draft of speaking points). Yerxa also mentions the domestic "contact points" as required by Article 69 and the Trade Policy Review Process as tools of information gathering. See *id.*

174. This process does not necessarily work properly because members tend to submit large volumes of information and the Council has only limited resources. See Smith, *supra* note 146, at 46-52; WATAL, *supra* note 3, at 53-54.

175. See WATAL, *supra* note 3, at 53-54; Smith, *supra* note 146, at 46-52.

ferently from bilateral negotiation and DSM, the monitoring process may help resolve disputes.<sup>176</sup>

## 2. *Unique Characteristics of the Council for TRIPS*

To evaluate the role that the Council for TRIPS may have played in the peculiar reduction in TRIPS disputes, it is necessary to compare the Council to other similar WTO sub-councils. Surely if the Council for TRIPS bears some responsibility for the reduction in TRIPS disputes, it must function differently than its sister WTO councils, as general trade disputes have become no less prevalent in recent years. It was not unprecedented for the TRIPS Agreement to have provided for a special Council of its own in addition to the General Council of the WTO. Article IV (5) of the Marrakesh Agreement establishes not only the Council for TRIPS, but also the Council for Trade in Goods (sister council overseeing the GATT), and the Council for Trade in Services (sister council responsible for the GATS).<sup>177</sup>

The most important function of the Council for Trade in Services is fostering negotiation.<sup>178</sup> After 1995, members have agreed upon several agreements addressing market sectors such as financial services and telecommunications. In addition, as provided for in Article XIX of the GATS Agreement, members started the Negotiation of Specific Commitments in 2000.<sup>179</sup>

Another role of the Council is to receive notification of new laws under the relevant provisions of the GATS Agreement. Members have the obligation to promptly, and at least annually, inform the Council of the introduction of any new laws, as well as of any changes to existing laws, regulations, or administrative guidelines. However, the decision to comply with this obligation is subject to each member's evaluation of whether the new law in question will "significantly affect trade in services covered by its specific commitments" in the GATS Agreement.<sup>180</sup> Unlike the Council for TRIPS, the Council for Trade in Services does not have the authority

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176. See WATAL, *supra* note 3, at 50-57.

177. General Agreement on Trade in Services, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1B, 1869 U.N.T.S. 183, 33 I.L.M. 1167 (1994) [hereinafter GATS].

178. World Trade Org., The Services Council, Its Committees and Other Subsidiary Bodies: The Committee on Specific Commitments, [http://www.wto.org/english/tratop\\_e/serv\\_e/s\\_coun\\_e.htm#specificcommitments](http://www.wto.org/english/tratop_e/serv_e/s_coun_e.htm#specificcommitments) (last visited Mar. 9, 2008).

179. Council for Trade in Services, *Report of the Meeting Held on 25 February 2000*, S/CSS/M/1(Apr. 12, 2000).

180. GATS, *supra* note 177, at art. III:3.

to “monitor” members’ compliance.<sup>181</sup> Negotiations of further liberalization are carried out in several committees under the Council for Trade in Services.

Unlike the Council for Trade in Services, and more akin to the Council for TRIPS, the Council for Trade in Goods (through its committees) plays a role in monitoring compliance with several sub-agreements. For example, under Article 13.1 of the Agreement on Technical Barriers to Trade (TBT Agreement),<sup>182</sup> the Council for Trade in Goods is empowered to empanel a Committee on Technical Barriers (TBT Committee) to monitor compliance with the terms of the Agreement. Much like its sister councils, the Council for Trade in Goods (through its committees) also serves a review function, as Article 15.2 of the Agreement provides that “[e]ach Member shall, promptly . . . inform the Committee of measures in existence or taken to ensure the implementation and administration of this Agreement. Any changes of such measures thereafter shall also be notified to the Committee.”<sup>183</sup> As of October 2006, “a total of 108 Members have submitted at least one such Statement.”<sup>184</sup>

Another GATT Committee, the Committee on Anti-Dumping Practices, also holds monitoring and review duties akin to those of the Council for TRIPS. The Committee on Anti-Dumping Practices was established by the Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade of 1994 (the “Anti-Dumping Agreement”).<sup>185</sup> Members have the obligation to report to the Committee “all preliminary or final anti-dumping actions taken. Such reports shall be available in the Secretariat for inspection by other Members.”<sup>186</sup> Furthermore, the Committee “shall afford Members the opportunity of consulting on any matters relating to the operation of the Agreement or the furtherance of its objec-

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181. See TRIPS Agreement, *supra* note 1, at art. 68; GATS, *supra* note 177, at art. XXIV.

182. Agreement on Technical Barriers to Trade, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, World Trade Organization, 1868 U.N.T.S. 120.

183. *Id.* at art. 15.2.

184. Comm. on Technical Barriers to Trade, *Statements on Implementation and Administration of the Agreement under Article 15.2*, at 1, G/TBT/GEN/1/Rev.4 (Oct. 27, 2006).

185. Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994, art. 16.1, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1868 U.N.T.S. 201 [hereinafter Anti-Dumping Agreement].

186. *Id.* at art. 16.4.

tives.”<sup>187</sup> Therefore, the monitoring function of the Committee on Anti-Dumping Practices may be expected to serve to resolve disputes in a similar manner to the monitoring role of the Council for TRIPS.

I have previously discussed how the Council for TRIPS may function as a monitoring body and thus resolve disputes in advance.<sup>188</sup> However, this monitoring council is not unique to the Council for TRIPS, as a similar function is served by several GATT committees. Thus it would seem that the Council for TRIPS cannot by itself explain the notable reduction in TRIPS disputes in the new millennium. However, because the monitoring function of the Council works particularly well in the TRIPS context, as I will now show, it does help explain, at least in part, the peculiar decline in TRIPS disputes after 2001.

The primary duty the TRIPS Agreement imposes upon member nations is to enact minimum standards for IP protection. Member states must implement legislation meeting the standards specified in the Agreement by the specified dates, which differ for the three categories of members: developed, developing, or least-developed.<sup>189</sup> It is important to monitor members' compliance with minimum standards obligations through an inexpensive peer review mechanism rather than solely through the relatively costly DSM.<sup>190</sup> Monitoring is more easily achieved by imposing a burden of self-reporting and notification on members. Significantly, the Council for TRIPS can monitor compliance more efficiently than its sister councils since the number of laws to review is comparatively small, usually consisting of a few relevant IP laws such as a Patent Act. It is not nearly as easy for the Council for Trade in Goods and the Council for Trade in Services to monitor all legislation relevant to members' obligations to enact laws which do not have a discriminatory effect on trade. The number of laws that might have an effect on trade is huge, ranging from customs laws and tax laws to agricultural laws. For such obligations, the peer review mechanism may work only if the reporting and notification obligations are clear and are fully complied with. In contrast to the GATT and GATS, under the TRIPS Agreement the reporting obligations are specific enough and the number of laws to be reviewed is small enough that the Council is able to perform its task effectively. It is thus possible that the superior monitoring effectiveness of the Council for TRIPS, compared to the Councils for Trade in Goods and Trade in Services, may explain the

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187. *Id.* at art. 16.1.

188. *See* WATAL, *supra* note 3, at 50-57.

189. TRIPS Agreement, *supra* note 1, at arts. 65, 66.

190. *See* Reichman, *supra* note 71, at 369.

reduction in TRIPS disputes despite the continued prevalence of trade disputes in general.

However, the effectiveness of the Council cannot fully explain the decline in TRIPS disputes because the review mechanism cannot sufficiently resolve all kinds of disputes. In particular, the review process cannot fully monitor members' compliance with the nondiscrimination obligations imposed by the TRIPS Agreement. The Agreement involves not only minimum standards provisions but also nondiscrimination provisions, as it obligates members to afford national treatment to the citizens of other members<sup>191</sup> and requires members to extend most-favored-nation benefits to all other WTO members.<sup>192</sup> While Council review of the fundamental IP laws of member states might help them to find some inconsistencies with the Agreement's nondiscrimination provisions, many provisions which violate the nondiscrimination obligations will occur in laws that members do not report to the TRIPS Council and thus are not reviewed as part of the monitoring process.<sup>193</sup> For example, Section 211 of the United States' Omnibus Appropriations Act of 1998,<sup>194</sup> which the Appellate Body deemed to violate the national treatment and most-favored-nation obligations,<sup>195</sup> was general budget legislation, which of course the Council for TRIPS did not cover in its review, since it was not nominally an IP law. In sum, the review process of the Council cannot resolve disputes related to the Agreement's nondiscrimination requirements.

Another shortcoming of the Council for TRIPS is that it has no authority to resolve disputes which require interpretation of the TRIPS Agreement.<sup>196</sup> For example, the issue in *Canada—Term of Patent Protection* was whether a 17-year-from-issuance term of patent protection violates Article 33 of the Agreement, which requires a 20-year-from-application-date term of protection, in the specific situation where it takes longer than three years on average for the Patent Office to issue patents after application.<sup>197</sup> When the parties interpret the TRIPS Agreement differently, only

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191. TRIPS Agreement, *supra* note 1, at art. 3.

192. *Id.* at art. 4.

193. The Council for TRIPS provided three specific measures to demonstrate compliance with the requirements of national treatment and most-favored-nation treatment. *See* WATAL, *supra* note 3, at 52.

194. Omnibus Appropriations Act of 1998, Pub. L. No. 105-277 (1998).

195. Report of the Appellate Body, *United States—Section 211 Omnibus Appropriations Act of 1998*, WT/DS176/AB/R (Jan. 2, 2002).

196. The Council has interpretative authority only on a consensus basis. Thus it is ineffective if two members have conflicting views. *See* WATAL, *supra* note 3, at 49.

197. Panel Report, *Canada—Term of Patent Protection*, WT/DS170/AB/R (Sept. 18, 2000) (*adopted* Oct. 12, 2000).

the dispute settlement institutions, and not the Council, can resolve the matter.<sup>198</sup> The Council's inability to adjudicate differing interpretations of TRIPS obligations is another reason why its relative success as a monitoring body cannot fully explain the recent dearth of TRIPS disputes.

Similarly, the Council's review mechanism cannot resolve disputes when a member intentionally violates some provisions of the Agreement for a reason such as domestic politics. Although the Council review process reveals the inconsistency of some domestic laws and regulations, the Council does not determine or declare violations.<sup>199</sup> By contrast, the dispute settlement institutions declare violations, which might result in sanctions.<sup>200</sup> In addition, because only the DSB has the power to authorize retaliation, members need to go through the DSM to take retaliatory measures.<sup>201</sup> Clearly the monitoring effectiveness of the TRIPS Council cannot explain the reduction in disputes involving the knowing violation of treaty obligations.

Additionally, although the review mechanism works to preempt disputes over the language of statutes, it might not work well to address claims related to the application of statutes or the ineffectiveness of domestic remedies. The monitoring function of the Council mostly focuses on the implementing legislation and thus most disputes on the application of statutes or the ineffectiveness of domestic remedies are left for the DSM to resolve. Yet, as I will reveal in depth in the following section, the DSM is ineffective at dealing with such disputes. Coupled with the success of the Council at monitoring statutory compliance, the insufficiency of the DSM for addressing application and situation claims largely explains its decreasing use to resolve IP disputes.

In conclusion, the monitoring function of the Council for TRIPS helps to explain in part the decline in use of the DSM. The Council for TRIPS works well to preempt certain types of disputes without using the DSM.<sup>202</sup> The Council is largely able to resolve member nations' failures to meet their minimum standards obligations as well as their nondiscrimination obligations so long as their measures implementing these obligations appear in the IP laws or other relevant laws subject to review by the Council. However, because of its limited function, the monitoring power of the Council cannot completely explain the dramatic decline of the cases after

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198. See WATAL, *supra* note 3, at 49.

199. *Id.*

200. DSU, *supra* note 70, at art. 3.2.

201. *Id.* at art. 22.2.

202. See WATAL, *supra* note 3, at 50-57.

2001.<sup>203</sup> A more complete explanation of this phenomenon requires some investigation into the challenges faced by the DSM in resolving certain categories of disputes.

**C. Difficulty of the DSM in Resolving Claims on the Application of Statutes and Claims on the Ineffectiveness of Domestic Remedies**

Most TRIPS disputes, thus far, have dealt with statute claims. In these cases, the complainants claimed that the respondents' legislation lacked certain provisions that were necessary to comply with the TRIPS Agreement. Only a few cases have involved application claims, or claims concerning the ineffectiveness of domestic remedies. However, needless to say, would-be complainants are generally concerned not only about statutes but also about the application and effectiveness of these laws. If TRIPS merely forced uniformity in statute language without concurrently requiring actual application of the minimum standards provisions and effective deterrence, then the benefits of the Agreement would be easily nullified.

Most disputes on statutes are likely to be resolved after the first several years, either through the review mechanism in the Council or through the adjudication of the DSM, because the obligations are relatively clear. With the help of the dispute settlement institutions to interpret statutes, it is relatively easy to detect statutory inconsistencies with obligations under the Agreement. Therefore, any current or prospective dispute is likely to arise due to failure to apply otherwise compliant statutes or insufficiently deterrent penalties, rather than due to statutory shortcomings. The primary issues in TRIPS disputes have thus largely shifted from statutes to the application of statutes and/or the ineffectiveness of domestic remedies.<sup>204</sup>

Successful international IP protection requires the proactive cooperation of all world governments. IP will never be appropriately protected without concerted conduct—which is the very reason that the WTO members elected to adopt a uniform minimum standards requirement to be shared by the entire world. However, effective IP protection requires more than just a measure of statutory uniformity—it requires affirmative measures by world governments to provide necessary IP-related services, such as the examination of patent applications. Even with express language providing for a patent system in a country's statutes, effective IP protection would hinge upon the country's ability and willingness to apply these

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203. Leitner & Lester, *supra* note 4, at 133 tbl.5.1.

204. This shift perhaps has yet to occur for some developing countries.

statutes—for example, by implementing an effective examination system. Similarly, governments need to devote sufficient resources to customs agencies to effectively enforce border regulations. Without such investments in IP enforcement, pirated and counterfeited goods will easily pass over the borders. A country violates its obligations under the TRIPS Agreement when it fails to effectively apply its IP laws, for example by failing to devote adequate resources to customs enforcement. This is in sharp contrast with the nondiscrimination provisions of the other WTO Trade Agreements, under which governments have no duty to take affirmative measures.<sup>205</sup> Therefore, the application of domestic laws is more important in the TRIPS context than it is under the other WTO Trade Agreements.

As I will now relate, there are significant challenges in resolving application claims within the WTO DSM. Similar problems make it difficult for the DSM to address claims concerning the ineffectiveness of domestic remedies. Thanks to the success of the Council for TRIPS at preempting disputes over statutes, future TRIPS disputes can be expected to center around application or ineffective deterrence issues. If it is indeed the case that forthcoming disputes will focus on nonstatutory complaints, as it appears to be, then the difficulties that the DSM has in resolving these sorts of issues would help explain the decline in the use of the DSM. The next Section uses a single case before the DSB involving an application claim as an example to elucidate some of the challenges in resolving such claims.

### 1. *Challenges for Claims Related to the Application of Statutes*

Only one case thus far has explicitly involved a claim regarding the application of statutes: *Canada—Patent Protection of Pharmaceutical Products*.

On December 19, 1997, the EC requested consultations with Canada alleging inadequate protection of pharmaceuticals by Canada under the Canadian Patent Act.<sup>206</sup> The EC alleged that Canada's legislation was not compatible with its obligations under the TRIPS Agreement, because it did not provide for the full protection of patented pharmaceutical inventions for the entire duration of the term of protection as required by Articles 27.1, 28, and 33 of the TRIPS Agreement.<sup>207</sup>

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205. See DEVEREAUX ET AL., *supra* note 36, at 37-38.

206. World Trade Org., Dispute Settlement: DS114 Canada—Patent Protection of Pharmaceutical Products, [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds114\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds114_e.htm) (last visited Apr. 26, 2007).

207. *Id.*

The case focused primarily on two provisions of the Canadian Patent Act—the so-called “regulatory review” and “stockpiling” exceptions. The regulatory review exception, provided for in Section 55.2(1) of the Act, allows for the manufacturing of patented products, including pharmaceuticals, without the consent of the patent holder during the six months prior to the expiration of the twenty-year patent term. The purpose of the exception is to allow for a supply of generic drugs to be available at the moment that the patent on a pharmaceutical expires. The EC argued that this exception was inconsistent with Article 28.1 of the TRIPS Agreement.<sup>208</sup> The EC also complained that the stockpiling exception (Section 55.2(2)), which allows stockpiling of pharmaceutical products during the same six-month period, was inconsistent with Articles 28.1 and 33.<sup>209</sup> The Panel found inconsistency in the stockpiling exception but not in the regulatory review exception.<sup>210</sup>

Additionally, the EC maintained that Canada’s Patent Act was inconsistent with Article 27.1 of the Agreement because the two exceptions, *as applied*, affected only pharmaceutical inventions.<sup>211</sup> The statute, however, did not involve any language which implied that pharmaceuticals were to be less protected than any other products (the statutory language would apply the exceptions to *all* products, *including* pharmaceuticals), and so was facially compliant with the provisions of the TRIPS Agreement prohibiting different levels of protection in different fields of technology.<sup>212</sup> The EC, relying upon the legislative history of the Act, contended that the provision was designed for pharmaceutical products alone, and so, as applied, reduced the term of protection of those products without similarly affecting other technologies.<sup>213</sup> In other words, this claim questioned the application, and not the language, of the Patent Act. However, the Panel relied upon the Canadian government’s own interpretation of its Patent Act. Because the Canadian government insisted that it would apply the provision not only to pharmaceutical inventions but also to other technologies despite the legislative history, the Panel ruled in favor of Canada,

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208. Panel Report, *Canada—Patent Protection of Pharmaceutical Products*, ¶ 4.4, WT/DS114/R (Mar. 17, 2000) (adopted Apr. 7, 2000).

209. *Id.* ¶ 4.2.

210. *Id.* ¶ 8.1.

211. *Id.* ¶ 4.3, 4.5.

212. *Id.* ¶ 4.5. (The EC admitted that “Section 55.2(1) of the Canadian Patent Act did not mention expressly pharmaceuticals or medicines.”)

213. *Id.* ¶ 4.3, 4.5.

holding that no evidence supported a claim of technological discrimination.<sup>214</sup>

From this example, we can see the difficulties in resolving application noncompliance disputes in the DSM. First, it takes time to see how the application will unfold, meaning that a complainant has to wait until some harm is suffered before filing a complaint, despite an indication (in the legislative history, for example) that a statute will be applied in a way that violates the Agreement. In *Canada—Pharmaceutical Patents*, the EC based one of its arguments on legislative history but failed in that claim because it could not provide actual evidence that the law was presently being applied in contravention of the Agreement, only that it could be expected to be so applied in the future.<sup>215</sup> The outcome of this case suggests that to succeed, a future complainant in the position of the EC would have to provide evidence that Canadian courts did not in actuality apply the exception to other technology sectors. While little harm could come to a complainant as a result of this evidentiary requirement,<sup>216</sup> it nevertheless likely deters would-be complainants from bringing application complaints before the DSM.

The second challenge for complainant countries is the interpretative authority of respondent countries over their own domestic laws and regulations. In *Canada—Pharmaceutical Patents*, absent any evidence of Canada's actual discrimination in applying its laws, the Panel deferred to the respondent country's own interpretation of its statute.<sup>217</sup> However, this is not always the case. In *India—Patents (US)*, India contended it should be given interpretative authority over its laws,<sup>218</sup> but the Appellate Body rejected this argument.<sup>219</sup> The dispute settlement institutions distinguished these cases by the nature of the statutes at issue.<sup>220</sup> Specifically, the Indian rules in question were mandatory and did not leave any discretion to authorities, while the Canadian rules were discretionary.<sup>221</sup>

The third challenge is found in the implementation process of the report—complainant countries cannot immediately ascertain whether the

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214. *Id.* ¶ 7.105.

215. *Id.*

216. Once there is a judicial decision applying the law discriminatorily, the DSM could act to prevent harm. Before such a decision, presumably no injury is being suffered; if it were, the injured party would surely sue and compel such a decision.

217. *Id.* ¶ 7.94-7.104.

218. Appellate Body Report, *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products*, ¶ 9, WT/DS50/AB/R (Dec. 19, 1997).

219. *Id.* ¶ 64-71.

220. Nedeljković, *supra* note 85, at 116.

221. *Id.*

losing party's remedial measures will result in compliance. Once the DSB adopts a report, the losing party has to take measures to comply with the rules. How can the losing party prove its compliance? It is the application of the rule that violates the Agreement. There is no violation in the statutes. Logically, a respondent country would need to show compliance with an application decision through a new set of practices. If judicial application is at issue, the respondent country needs to show a change in application through new judicial decisions in subsequent cases, which may not be issued for some time. If administrative application is at issue, the respondent country needs to wait for the next such opportunity to apply its laws. Since governments usually do not initiate suits or administrative procedures, the losing governments must wait for private entities to initiate such procedures.<sup>222</sup> If it is the administrative response of the government at issue, for example, in some matter relating to the patent examination process, the losing government needs to wait until some private third party takes the initiative (files a patent application, for example) in order to demonstrate its compliance with the DSB report. If the regulatory conduct of the administrative branch is deemed inconsistent, the government may need to show its compliance by no longer taking the challenged measures against certain sectors. All of these are very hard to prove for the losing party. Therefore, the only effective immediate proof for a member is to show its "intent" to comply by amending laws, regulations, or guidelines even though such intent is logically irrelevant to an "as applied" violation.

A non-TRIPS case illustrates the difficulties complainant countries encounter in enforcing new applications by the losing parties. In compliance with the decision of the Panel, established on Article 21.5 of the DSU, the Canadian government changed some words in the documentation of a subsidy program.<sup>223</sup> Brazil, the complainant country, was not satisfied with this solution and proceeded to the arbitration panel. The arbitration panel, however, decided for Canada.<sup>224</sup> If this example foreshadows the way the DSB will adjudge TRIPS complaints alleging continued noncompliance in application, then a respondent country can fulfill its obligation to comply with recommendations relatively easily (by, for example, changing a few words in statutes, publishing a press release, or otherwise showing its intent to change its application). If the complainant country is not satisfied

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222. This is not the case if the member governments are required to initiate certain actions, such as criminal prosecutions.

223. Appellate Body Report, *Canada—Measures Affecting the Export of Civilian Aircraft—Recourse by Brazil to Article 21.5 of the DSU*, ¶ 34, WT/DS70/AB/RW (Jul. 21, 2000).

224. *Id.* ¶ 53.

with the “new application,” then it needs to wait and see how the statute is actually applied, go through another possibly protracted period of gathering evidence, and then go through the lengthy dispute settlement procedures all over again.

There are two additional challenges when the application of *enforcement statutes* (the sufficiency of criminal prosecution, for example) is at issue. First, the dispute settlement institutions face difficulties in making an illegality determination. Although the Agreement requires members to have minimum rules of enforcement, it does not specify what the precise minimum level of enforcement should be. According to Article 61, members must provide criminal procedures and penalties for willful copyright piracy on a commercial scale.<sup>225</sup> However, each member has discretion in determining the amount of resources to devote to pursuing criminal prosecutions. If a complainant claims that the respondent’s enforcement of its criminal procedures or penalties is insufficient and thus violates the Agreement, many issues arise which the dispute settlement institutions are poorly situated to address. Where exactly is the line to be drawn between compliance and noncompliance? How many police officers are sufficient? How often should they patrol? How often should they prosecute the suspects? In short, the dispute settlement institutions are likely to face challenges in a dispute involving enforcement statutes that they are ill-suited to resolve.

A second challenge lies in the recommendation process. The dispute settlement institutions may find difficulties in specifying concrete remedies that will fulfill the delinquent member’s enforcement obligations. When a WTO dispute settlement institution concludes that a measure is inconsistent with a covered agreement, it must recommend that a respondent country bring the inconsistent measure into conformity with WTO rules.<sup>226</sup> Furthermore, a dispute settlement institution may specifically suggest ways to implement the recommendation.<sup>227</sup> If a member’s criminal prosecution is deemed insufficient, should a panel suggest that the member increase the number of police officers it employs? Should it recommend that the country increase the number of prosecutors? Or suggest it add patrols? Is it more important to increase the enforcement potential of the local governments or that of the central government? The respondent government, however, best knows what measures are likely to result in increased prosecutions. Thus, the dispute settlement institutions are not

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225. TRIPS Agreement, *supra* note 1, at art. 61.

226. DSU, *supra* note 70, at art. 19.1.

227. *Id.*

properly positioned to decide the best means of assuring effective enforcement. This may not seem particularly problematic since the dispute settlement institutions do not necessarily make policy suggestions.<sup>228</sup> However, it relates to another challenge: when the losing party takes a measure which it believes sufficient to bring it into effective compliance, the complainant may wish to return to the arbitration panel to determine whether the measure indeed complies with the recommendation.<sup>229</sup> The arbitration panel will once again face the same difficulties it faced in making its original decision on complying measures.

In short, potential complainant countries may find it difficult to win disputes regarding the application of statutes and meet with further difficulty in enforcing any decision they may win. These difficulties might effectively discourage them from using the DSM.

## 2. *Challenges for Claims Regarding the Ineffectiveness of Domestic Remedies*

One of the most significant achievements of the TRIPS Agreement compared to the pre-TRIPS era is the creation of enforcement provisions. Part III of the Agreement requires member states to implement civil and administrative procedures (Article 42-49), provisional measures (Article 50), border measures (Article 51-60), and criminal procedures (Article 61) to protect IP. However, when the dispute concerns an insufficient reduction in measurable levels of infringement—in other words, ineffective deterrence—the dispute settlement institutions face further difficulties in successfully resolving the matter.

### a) Cases in the EC and Greece

Two cases have included claims on the ineffectiveness of domestic remedies:<sup>230</sup> *EC—Enforcement of Intellectual Property Rights for Motion Pictures and Television Programs* and *Greece—Enforcement of Intellectual Property Rights for Motion Pictures and Television Programs*. These two cases are actually one dispute since the United States requested consultation with the EC as a community and Greece as a nation. The United States contended that Greece did not provide effective remedies against

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228. *See id.* (permitting but not requiring the Appellate Body to suggest policies by which members can implement its recommendations).

229. DSU, *supra* note 70, at art. 21.5 (providing such a procedure).

230. Two other cases mainly deal with enforcement provisions of the TRIPS Agreement: *Denmark—Measures Affecting the Enforcement of Intellectual Property Rights* (DS83) and *Sweden—Measures Affecting the Enforcement of Intellectual Property Rights* (DS86). *See* World Trade Org., *supra* note 73. However, the claims in these cases focused on statutory issues and are thus irrelevant for the purposes of my analysis here.

copyright infringement (evinced by the many television stations regularly broadcasting copyrighted works without licenses), thus violating Articles 41 and 61 of the Agreement.<sup>231</sup> These cases are unique since the United States did not allege a lack of required provisions in the Greek copyright legislation, or even the improper application of these statutes. Instead, the United States alleged that the “situation” itself—the failure to actually deter infringement—was a violation of the Agreement. In response to the dispute, the Greek government introduced new legislation to strengthen the domestic enforcement mechanism, which led to the closure of four television stations.<sup>232</sup> As a result, in 2000, both countries notified the DSM that they had reached a mutually agreed solution.<sup>233</sup> It should be noted that the solution also explicitly referred to the effective reduction of the actual piracy level in Greece.<sup>234</sup> Although these particular cases were settled before adjudication, if the parties had proceeded to the Panel, the United States might have faced many challenges, as further discussed in the remainder of this Section.

b) Potential Challenges for Claims Regarding the Ineffectiveness of Domestic Remedies

Claims of insufficient deterrence present numerous difficulties for the dispute settlement institutions. First, and most importantly, it is not entirely clear whether the enforcement provisions of the TRIPS Agreement even provide a legal basis to challenge the ineffectiveness of domestic remedies in other countries.

Bradford Smith, the General Counsel of Microsoft Corporation, has argued that Article 41 “almost certainly [requires] that enforcement procedures under Part III [of the TRIPS Agreement] must permit ‘effective action against infringement’ and ‘constitute a deterrent to further infringement.’”<sup>235</sup> Smith understood this requirement as “performance standards”

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231. Request for Consultations by the United States, *European Communities—Enforcement of Intellectual Property Rights for Motion Pictures and Television Programs*, WT/DS124/1 (Apr. 30, 1998).

232. Notification of Mutually Agreed Solution, *European Communities—Enforcement of Intellectual Property Rights for Motion Pictures and Television Programs*, WT/DS124/2 (Mar. 26, 2001); Notification of Mutually Agreed Solution, *Greece—Enforcement of Intellectual Property Rights for Motion Pictures and Television Programs*, WT/DS125/2 (Mar. 26, 2001).

233. Notification of Mutually Agreed Solution, *Greece—Enforcement of Intellectual Property Rights for Motion Pictures and Television Programs*, WT/DS125/2 (Mar. 26, 2001).

234. *Id.*

235. Smith, *supra* note 146, at 46-5.

and further argued that such standards apply to Articles 43, 45, 50, and 61.<sup>236</sup> The United States, in fact, made the same argument in *Greece—Enforcement of IPR for Motion Pictures and Television Programs*, based upon Article 61.<sup>237</sup>

On the other hand, Professor Carlos Correa interprets the relevant provisions narrowly.<sup>238</sup> According to Correa, the obligation under the first sentence of Article 41.1, which requires “remedies which constitute a deterrent to further infringement,”<sup>239</sup> “should be deemed to be complied with if a Member provides for provisional injunctions, compensation of damages, and seizure as mandated by the Agreement.”<sup>240</sup> In interpreting the “deterrent” requirement of Article 61, Correa argues that members have considerable discretion.<sup>241</sup>

Another challenge concerns the proof of facts. Even if the interpretation of the United States is deemed correct, it still takes time and money to gather sufficient information to prove that a country’s enforcement measures and penalties fail to deter infringers. If the violators are not large operations, such as big television companies, it is not easy to gather information about their conduct.

Moreover, even if a complainant country successfully gathers information, the dispute settlement institution may find it difficult to determine the illegality of the situation because the Agreement does not provide any baseline from which to make such a determination. If 90% of broadcasting companies infringe copyrights, the country most likely violates the obligation. If the infringement rate is only 0.1%, copyright owners are expected to appeal to the civil procedures within the country rather than the WTO DSM. However, what if the number is 5%, 10%, or 30%? The dispute settlement institutions must draw a line somewhere. Yet, it is highly difficult to do so, not only because of the likely disagreement between nations as to the acceptable level of infringement, but also because a bright-line rule

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236. *Id.* at 46-9.

237. Request for Consultations by the United States, *Greece—Enforcement of Intellectual Property Rights for Motion Pictures and Television Programs*, WT/DS125/1 (May 7, 1998). Article 61 of the TRIPS Agreement is more specific than the general provision of Article 41. Article 61 seems to require that criminal procedures and penalties for copyright infringement actually provide “a deterrent.” See TRIPS Agreement, *supra* note 1, at art. 61.

238. CARLOS CORREA, TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS: A COMMENTARY ON THE TRIPS AGREEMENT 409-46 (2007).

239. TRIPS Agreement, *supra* note 1, at art. 41.1.

240. CORREA, *supra* note 238, at 411-12.

241. *Id.* at 448-50.

would effectively create safety zones, up to which level of infringement members would be free from charges of TRIPS inconsistency.<sup>242</sup>

The dispute settlement institutions also face difficulties in the recommendation process that hinder their ability to adequately resolve ineffective deterrence disputes.<sup>243</sup> As a matter of general public international law, each sovereign nation, even if it has an obligation under an international treaty to achieve a certain level of effective deterrence, has broad discretion in how it chooses to achieve this situation (unless it has agreed to the contrary). The TRIPS Agreement requires relatively concrete actions by members. The minimum standards provisions of the Agreement require members to take affirmative measures and thus invest their limited resources in IP protection. However, members have broad discretion on precisely what measures to take in fulfillment of their treaty obligations, and how best to spend their resources to achieve compliance. Indeed, Article 1 of the Agreement stipulates that “Members shall be free to determine the appropriate method of implementing the provisions of this Agreement within their own legal system and practice.”<sup>244</sup> In addition, among the enforcement provisions, Article 41.5 of the Agreement provides that “[n]othing in this Part creates any obligation with respect to the distribution of resources as between enforcement of intellectual property rights and the enforcement of law in general.”<sup>245</sup> Because of the discretion given to member governments, the dispute settlement institutions cannot specify the precise concrete measure that the respondent countries ought to take to comply with their effective deterrence responsibilities under the Agreement.<sup>246</sup> By contrast, in a dispute over statutory language the dispute settlement institutions *can* specify the appropriate measure to be taken: reforming the statute.

If statutory language is at issue, it is easy to concretely recommend the expected measure because the dispute settlement institution can point out the precise language that fails to satisfy treaty obligations. If the application of a law is at issue, the dispute settlement institutions can still concretely recommend changing the application in similar future situations or litigation. The difficulty with the application claim exists in the *enforce-*

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242. In this regard, Smith suggested comparing the piracy rate of respondent country with that of “similarly-situated countries.” See Smith, *supra* note 146, at 46-5.

243. *Id.* at 46-6.

244. TRIPS Agreement, *supra* note 1, at art. 1.

245. *Id.* at art. 41.

246. Smith, *supra* note 146, at 46-6. (“Panels are unlikely to dictate the specific corrective actions that members must take to bring their regimes up to snuff. This will be left to the members themselves.”)

ment of this recommendation, not the recommendation itself. Most probably, the losing party would know what measure to take to comply with the panel decisions in these cases. On the other hand, in disputes about effectiveness of domestic remedies, even the respondent country might not know how best to achieve the required level of deterrence. Therefore, this difficulty is unique to claims regarding the ineffectiveness of domestic remedies.

The retaliation option granted to aggrieved complainants presents challenges as well, since it is difficult to determine when deterrence has become effective and retaliatory measures should be rescinded. Even if the losing country consents to strengthening its domestic remedies to achieve the desirable level of IP protection, it may take a considerable amount of time for such measures to serve as a deterrent in the society. In *Greece—Enforcement of IPR for Motion Pictures and Television Programs*, the new legislation and its application were effective because the number of companies involved was limited (only television companies), and also because we would expect that the Greek government had administrative supervisory authority over them. By contrast, if the relevant entities are numerous and the government does not have such supervisory authority, it might take a considerable amount of time before all entities change their actual conduct. In such a situation, should the complainant country continue using retaliatory measures against the respondent, who has committed to “try” to improve the situation, until the situation ultimately changes—perhaps even as long as a decade later? Should the WTO allow the winning party to do so? On the other hand, if the complainant country stops the retaliatory measure immediately after the respondent commits to implement some new measures, the complainant country may find only little progress after a few years. In such case, the complainant country needs to go through the lengthy and costly DSM processes all over again in order to gain approval for new retaliation. Therefore, it is questionable whether the use of retaliatory measures works well for claims regarding ineffectiveness of domestic remedies.

It is quite possible that potential complainant countries have elected not to sue other members at this time because they are waiting to see whether the laws and regulations of a contemplated adversary are applied appropriately, and whether they actually serve as a deterrent. Or it is possible that the potential complainant countries have simply needed the time to gather sufficient information to prove a *de facto* inconsistency with responsibilities under the Agreement. Lastly, potential complainant countries may find too onerous the hurdles and challenges of pursuing application and ineffective deterrence claims and thus refrain from suing over

such issues. As we may reasonably assume that most potential cases today are either application or insufficient deterrence disputes, these difficulties are undoubtedly the cause of much of the decline in the use of DSM to resolve TRIPS disputes. The next Part illuminates how these difficulties have shaped the strategy of the United States in its dispute with China.

## V. IP PROTECTION AND ENFORCEMENT IN CHINA<sup>247</sup>

The United States requested consultations with China on IP protection and enforcement in April 2007.<sup>248</sup> It is noteworthy that the United States has elected to focus its claims on the insufficiency of China's IP statutes, as opposed to alleging ineffective application of these statutes or insufficient deterrence from domestic remedies. Such a strategy likely reflects the challenges presented by these latter two categories of claims, as revealed above. This Part, after reviewing the function of the Council in the case, examines the U.S. strategy in light of my explanation of the decline in TRIPS cases in the recent past. I will show that the tactics adopted by the United States reflect an implicit understanding of, and a remarkable degree of sensitivity to, the strengths and shortcomings of the WTO DSM that contributed to its decline in use.

### A. The Function of the Council for TRIPS in the Case

The Council for TRIPS was unable to resolve the current dispute even though China is subject to the Council's review procedure, and despite the fact that China's commitment to IP protection has been an important issue before the Council in recent years.<sup>249</sup>

The United States' chosen strategy seems to put more emphasis on bilateral negotiation than the peer review mechanism of the Council. To facilitate such negotiation, the United States and China formed the Joint Commission on Commerce and Trade (JCCT), and created the IPR Working Group to specifically address IP matters.<sup>250</sup> According to the United

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247. I use the dispute with China as a case study through which to analyze the attitudes of the United States and other developed countries towards TRIPS disputes, as well as to further investigate the trends in TRIPS disputes. I intend this analysis to be dispassionate.

248. Request for Consultations by the United States, *supra* note 116.

249. Council for TRIPS, *supra* note 167, at 2.

250. 2007 OFFICE OF THE U.S. TRADE REPRESENTATIVE SPECIAL 301 REPORT 18, available at [http://www.ustr.gov/assets/Document\\_Library/Reports\\_Publications/2007/2007\\_Special\\_301\\_Review/asset\\_upload\\_file230\\_11122.pdf](http://www.ustr.gov/assets/Document_Library/Reports_Publications/2007/2007_Special_301_Review/asset_upload_file230_11122.pdf) (last visited Apr. 28, 2008); OFFICE OF THE U.S. TRADE REPRESENTATIVE, TRADE FACTS: THE U.S.-CHINA JCCT: OUTCOMES ON MAJOR U.S. TRADE CONCERNS 77 (2004) [hereinafter JCCT TRADE

States, the two governments have agreed upon several measures, including cooperation to combat pirated goods displayed at trade fairs in China.<sup>251</sup> Such agreements or commitments also have the potential for resolving the dispute without using the DSM. The United States understands that the bilateral negotiation and the WTO DSM serve complementary purposes<sup>252</sup> and still considers bilateral negotiation as a possible means for settling the disputes.<sup>253</sup> Notably, however, the United States did not mention the multilateral forum, the Council for TRIPS, as a potential factor in resolving the matter.

Nonetheless, the Council may still be enhancing the dispute resolution process in this dispute because the United States uses the forum to gather relevant information from China. Most notably, in October 2005, the United States submitted, along with Switzerland and Japan, a request to China under Article 63.3 of the TRIPS Agreement seeking more transparency on IP infringement levels and enforcement activities in China.<sup>254</sup>

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FACTS], *available at* [http://www.ustr.gov/assets/Document\\_Library/Fact\\_Sheets/2004/asset\\_upload\\_file225\\_5834.pdf](http://www.ustr.gov/assets/Document_Library/Fact_Sheets/2004/asset_upload_file225_5834.pdf) (last visited Apr. 28, 2008) (outlining the creation of the IPR Working Groups at the April 2004 JCCT meeting).

251. 2006 OFFICE OF THE U.S. TRADE REPRESENTATIVE REPORT TO CONGRESS ON CHINA'S WTO COMPLIANCE 6-7, *available at* [http://www.ustr.gov/assets/Document\\_Library/Reports\\_Publications/2006/asset\\_upload\\_file688\\_10223.pdf](http://www.ustr.gov/assets/Document_Library/Reports_Publications/2006/asset_upload_file688_10223.pdf) (last visited Apr. 28, 2008).

252. Press Release, Office of the U.S. Trade Representative, WTO Case Challenging Weaknesses in China's Legal Regime for Protection and Enforcement of Copyrights and Trademarks 3 (Apr. 9, 2007), *available at* [http://www.ustr.gov/assets/Document\\_Library/Fact\\_Sheets/2007/asset\\_upload\\_file908\\_11061.pdf](http://www.ustr.gov/assets/Document_Library/Fact_Sheets/2007/asset_upload_file908_11061.pdf) (last visited Apr. 28, 2008) ("Dispute settlement and cooperative efforts complement one another in important ways. When cooperative efforts do not solve a particular problem, access to WTO dispute settlement provides a neutral forum to assist in resolving the specific disagreement and allows productive bilateral discussions to continue on other issues.").

253. Press Release, U.S. Trade Representative, United States Files WTO Cases Against China Over Deficiencies in China's Intellectual Property Rights Laws and Market Access Barriers to Copyright-Based Industries (Apr. 9, 2007), *available at* [http://www.ustr.gov/Document\\_Library/Press\\_Releases/2007/April/United\\_States\\_Files\\_WTO\\_Cases\\_Against\\_China\\_Over\\_Deficiencies\\_in\\_Chinas\\_Intellectual\\_Property\\_Rights\\_Laws\\_Market\\_Access\\_Barr.html](http://www.ustr.gov/Document_Library/Press_Releases/2007/April/United_States_Files_WTO_Cases_Against_China_Over_Deficiencies_in_Chinas_Intellectual_Property_Rights_Laws_Market_Access_Barr.html) (last visited Apr. 28, 2008).

254. The Office of the U.S. Trade Representative maintained that "China has since provided only limited information in response, hampering the United States' ability to evaluate whether China is taking all necessary steps to address the rampant IPR infringement found throughout China" in its report to the Congress. So, the information gathering function is limited. JCCT TRADE FACTS, *supra* note 250, at 71.

## B. Context of the Case

The United States has long been concerned about IP protection and the enforcement of IP laws in China.<sup>255</sup> China was listed on the Priority Watch List of the United States Trade Representative's (USTR) 2006 "Special 301 Report"<sup>256</sup>, and "continues to be one of the [Bush] Administration's top priorities."<sup>257</sup> The United States' biggest concern is the continued prevalence of counterfeiting and piracy in China. The position of the USTR is that "[d]espite anti-piracy campaigns in China and an increasing number of IPR cases in Chinese courts, overall piracy and counterfeiting levels in China remained unacceptably high in 2005."<sup>258</sup> For this reason, according to the Report, the United States will "continue heightened scrutiny of China" and "step[] up consideration of [WTO] dispute settlement options."<sup>259</sup>

The United States finally requested consultations with China on April 10, 2007.<sup>260</sup> The DSB established a Panel for the TRIPS case on September 25, 2007.<sup>261</sup>

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255. See DEVEREAUX ET AL., *supra* note 36, at 241-300. In the 1990s, IP protection was one of the key issues in the U.S.-China negotiation on China's accession to the WTO. See *id.*

256. 2006 OFFICE OF THE U.S. TRADE REPRESENTATIVE SPECIAL 301 REPORT, *available at* [http://www.ustr.gov/assets/Document\\_Library/Reports\\_Publications/2006/2006\\_Special\\_301\\_Review/asset\\_upload\\_file473\\_9336.pdf](http://www.ustr.gov/assets/Document_Library/Reports_Publications/2006/2006_Special_301_Review/asset_upload_file473_9336.pdf) (last visited Apr. 28, 2008).

257. *Id.* at 1. Although thirteen countries are listed on the Priority Watch List, only China and Russia were mentioned in the Executive Summary. More than half the volume was spent describing China. Russia has not joined the WTO and is not subject to obligations under TRIPS.

258. *Id.* at 17.

259. *Id.* The Report also mentioned that the United States will consider all options, including, but not limited to, initiation of dispute settlement consultations for the other twelve countries.

260. Request for Consultations by the United States, *supra* note 116. The United States also requested consultations over other relevant issues on the same date: *China—Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products* (DS363). However, since the claims in the latter case question the consistency of measures with the Accession Protocol, the GATT Agreement of 1947, and the GATS Agreement, that case is outside the scope of this Article.

261. World Trade Org., DSB Establishes a Panel on China's Protection of IPR and a Compliance Panel to Review US Implementation in "Zeroing" Case (Sept. 25, 2007), [http://www.wto.org/english/news\\_e/news07\\_e/dsb\\_25sep07\\_e.htm](http://www.wto.org/english/news_e/news07_e/dsb_25sep07_e.htm) (last visited Jan. 8, 2008).

### C. Features of the Claims of the United States

*China—IPR Protection and Enforcement* involves three claims and one potential claim.<sup>262</sup> After sorting these claims into my three claim categories, it becomes apparent that the United States has elected to focus on statute claims, rather than application claims or insufficient deterrence claims. The United States probably avoided the latter two categories out of recognition of the challenges posed by them.

#### 1. Avoidance of Claims Relating to the Application of Statutes

The first claim regards the criminal thresholds that must be met in order for certain acts of trademark counterfeiting and copyright piracy to be subject to criminal procedures and penalties.<sup>263</sup> The Criminal Law of China stipulates certain acts of trademark counterfeiting and copyright piracy that may be subject to criminal procedures and penalties; however, due to ambiguity in the statutory language, the Supreme People's Court and the Supreme People's Procuratorate issued two interpretations, one in 2004<sup>264</sup> and one in 2007, which set criminal thresholds that must be met in order to start criminal prosecutions of copyright piracy and trademark counterfeiting.<sup>265</sup> It should be noted that these *interpretations* in fact work as guidelines within the government and are *not court judgments* on specific cases. The United States contends that these high thresholds are “a major reason for the lack of an effective criminal deterrent.”<sup>266</sup> The United States argues that because counterfeiting on a commercial scale fails to

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262. I term this fourth issue a “potential claim” since the United States explicitly distinguished the fourth issue from the other three. Press Release, U.S. Trade Representative, *supra* note 253 (“Beyond these three problems, an additional IPR enforcement issue *may* exist, concerning the scope of China’s criminal law with respect to copyright piracy.”) (emphasis added).

263. Request for Consultations by the United States, *supra* note 116.

264. Interpretation by the Supreme People's Court and the Supreme People's Procuratorate on Several Issues of Concrete Application of Law in Handling Criminal Cases of Infringing Intellectual Property, SUP. PEOPLE'S CT. GAZ. (Sup. People's Ct., Dec. 22, 2004), available at <http://www.chinaiprlaw.cn/file/200412213867.html>, translated at <http://www.chinaiprlaw.com/english/laws/laws20.htm> (P.R.C.).

265. The Interpretation by the Supreme People's Court and the Supreme People's Procuratorate on Several Issues of Concrete Application of Law in Handling Criminal Cases of Infringing Intellectual Property, SUP. PEOPLE'S CT. GAZ. (Sup. People's Ct., Apr. 5, 2007), available at <http://www.chinaiprlaw.cn/file/2007040710737.html> (P.R.C.); Press Release, People's Republic of China, New Interpretation Issued to Enhance Criminal Protection of IP (Apr. 10, 2007), available at [http://english.ipr.gov.cn/ipr/en/info/Article.jsp?a\\_no=67882&col\\_no=934&dir=200704](http://english.ipr.gov.cn/ipr/en/info/Article.jsp?a_no=67882&col_no=934&dir=200704).

266. 2007 OFFICE OF THE U.S. TRADE REPRESENTATIVE SPECIAL 301 REPORT, *supra* note 250, at 19.

meet the thresholds and is thus not subject to criminal procedures and penalties, China does not comply with Articles 41.1 and 61 of the Agreement.<sup>267</sup>

This first claim is ostensibly a claim on statutes because it questions the consistency of black-letter rules. By so framing its complaint, the United States carefully avoided sounding a claim on the application of the statute. In reality, the basis for the complaint involves both statutes and their application, and the United States could have elected to press the claim in either category. The United States, however, strategically chose to pursue it in the WTO DSM as a statute claim, although it is concurrently pursuing the application and insufficient deterrence facets of the dispute through bilateral diplomacy. The United States believes that one major factor behind China's poor IP enforcement is "China's chronic underutilization of deterrent criminal remedies."<sup>268</sup> Therefore, through the JCCT, the United States requested China to increase the number of criminal prosecutions for IP violations relative to the total number of IP administrative cases.<sup>269</sup> Legal obstacles including the quantitative thresholds at issue in the dispute are only one aspect of the problem. The other aspect of the problem is the lack of aggressive prosecution on the part of the Chinese government.<sup>270</sup> Thus, the United States could have chosen to claim that China violates the TRIPS Agreement because it does not apply its enforcement rules sufficiently. Significantly, however, the United States chose to focus its claim before the WTO DSM on statutes, not their application.

The second claim relates to customs enforcement. The United States argues that under the hierarchy created by Chinese regulations and administrative "implementing measures," "the Customs authorities often are required to allow seized goods back into the channels of commerce."<sup>271</sup> Therefore, these regulations and measures are allegedly inconsistent with Articles 46 and 59 of the Agreement.<sup>272</sup>

The United States also decided to frame this second claim as a statute claim: the issue is whether the black-letter rules are consistent with the Agreement. Though it could have pursued this issue through an application claim (whether China is in violation of the TRIPS Agreement because

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267. Request for Consultations by the United States, *supra* note 116, at 2.

268. 2007 OFFICE OF THE U.S. TRADE REPRESENTATIVE SPECIAL 301 REPORT, *supra* note 250, at 19.

269. *Id.*

270. *Id.*

271. Press Release, Office of the U.S. Trade Representative, *supra* note 252, at 2.

272. Request for Consultations by the United States, *supra* note 116, at 3.

it did not destroy confiscated goods in the concrete cases where the Agreement requires members to do so) the United States elected to focus on the inadequacy of China's regulations.

The third claim concerns the protection and enforcement of copyright and related rights. The United States claims:

China's copyright law denies copyright protection to imported works waiting for approval to enter the Chinese market. . . . During the review period . . . , unauthorized persons are able to put copies of works on the market without infringing copyright and thus without incurring civil or criminal copyright liability.<sup>273</sup>

Therefore, the United States alleges, China's relevant measures are inconsistent with Articles 3.1, 9.1, 14, and 41.1 of the Agreement.<sup>274</sup>

This claim is a claim on statutes as well because the laws, administrative regulations, and procedures at issue are all statutes. The application of these statutes was not challenged. The United States did not claim that, for example, a Chinese court denied copyright protection for a work in a specific case.

The United States asserts a fourth matter as a potential claim.<sup>275</sup> The United States is concerned about the scope of the Criminal Law on piracy, specifically whether (1) unauthorized reproduction without unauthorized distribution and (2) unauthorized distribution without unauthorized reproduction are subject to criminal procedures and penalties.<sup>276</sup> This relates to Articles 41.1 and 61 of the TRIPS Agreement. In this potential claim, the United States also questions the scope of black-letter law, and not the specific application of it.

That the United States crafted all of its claims to be complaints on statutes suggests that it recognized the challenges of prevailing with claims regarding the application of statutes or ineffective deterrence. By tailoring its claims in this manner, the United States avoided having to wait and see China's application of its laws before taking its case to the DSM. For example, the United States does not now have to provide evidence that Chinese customs released counterfeited products into commercial channels even though the cases are not "exceptional" as allowed in

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273. Press Release, Office of the U.S. Trade Representative, *supra* note 252, at 2.

274. Request for Consultations by the United States, *supra* note 116, at 5.

275. Under WTO rules, a party should raise an issue at the consultation phase in order to litigate it in the subsequent panel procedure. This is probably the reason why the United States included this "potential claim." See QI ZHANG, CONSULTATION WITHIN WTO DISPUTE SETTLEMENT 197-99 (2007).

276. Request for Consultations by the United States, *supra* note 116, at 6.

Articles 46 and 59 of the Agreement.<sup>277</sup> By using statute claims and not application claims, the United States also avoids implicating the self-interpretation of Chinese law by the Chinese government (which has the authority to interpret its own laws in any rational manner and to which the dispute settlement institution would probably defer).

By choosing to frame its complaints as statute claims, the United States also avoided a second set of challenges posed by application claims related to the burden of proof. If the United States had challenged the sufficiency of China's application of its statutes, it would have been required to provide facts proving the inadequacy of enforcement (such as China's low prosecution rate). The United States has an option to seek detailed information from China under Article 63.3 of the TRIPS Agreement, an option it has exercised in the past—in October 2005, for example.<sup>278</sup> However, this right to request information under TRIPS does not mean that the United States will be able to obtain all the information it needs to prove an application or insufficient deterrence complaint. The USTR has admitted its inability to collect the necessary level of information, noting in its 2006 Report that “[t]he United States does not consider . . . that China has provided a full response to the October 2005 Article 63.3 request.”<sup>279</sup> The challenge of obtaining sufficient proof to support an application claim likely shaped the strategy adopted by the United States.

A final challenge that likely influenced the decision to avoid articulating the complaint as one regarding application is the difficulty of evaluating the implementation of the panel decision. Even if the United States were to win the case, China could simply issue an official statement showing its intention to strengthen enforcement or to change its application appropriately and argue that these purely symbolic measures bring it into compliance with the recommendations of the panel. If China were to do so, it would be quite difficult for the United States to refute it.

## 2. *Avoidance of Claims Regarding the Ineffectiveness of Domestic Remedies*

The United States could have included, but did not include, a claim based on China's failure to achieve an adequate measure of deterrence of infringement. Needless to say, the United States is concerned not only with the text of China's statutes or the government's application of them,

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277. TRIPS Agreement, *supra* note 1, arts. 46, 59.

278. See Council for TRIPS, *Request for Information Pursuant to Article 63.3 of the TRIPS Agreement*, IP/C/W/461 (Nov. 14, 2005).

279. 2006 OFFICE OF THE U.S. TRADE REPRESENTATIVE SPECIAL 301 REPORT, *supra* note 256, at 24.

but also with the actual level of IP protection. In a press release announcing the initiation of *China—IPR Protection and Enforcement*, the United States revealed its concerns over the current piracy situation, stating that “U.S. industry in 2006 continued to estimate that levels of piracy in China across all lines of copyright business range between 85 and 93 percent . . . .”<sup>280</sup> The United States chose not to pursue a claim that this extraordinarily high level of infringement suggests that China’s enforcement techniques or punitive strategies are not sufficiently deterrent, and that the country is thus in violation of its duty under the Agreement to stem willful counterfeiting and piracy on commercial scales, even though both its statutes and its application of them are superficially consistent with the requirements of the TRIPS Agreement.

The United States’ careful avoidance of claims based on the inadequate deterrence of domestic remedies in China likely also reflects appreciation of the challenges posed by such claims. As discussed in Part IV, the dispute settlement institutions have not yet accepted such claims, because all prior cases raising such claims were settled without a panel decision. There is thus the risk that the dispute settlement institutions would not accept claims of inadequate deterrence. Additionally, since China is in a better position to gather facts relating to matters within its own borders, the United States may face difficulties in proving claims related to the adequacy of deterrence. For example, the United States might be able to successfully establish that the piracy level of copyright business in China is 90%, but doing so would be far more time-consuming and expensive than it would be for China itself, as the Chinese government has many more sources of information on the activities of its citizens than does the United States.

The United States was undoubtedly aware of the challenges that a claim of inadequate deterrence would present to the dispute settlement institutions. Since the Agreement does not provide a baseline to determine the sufficiency of deterrence (e.g., “counterfeits within the country dominate more than 50% of the market”), the dispute settlement institutions are likely to be unable to objectively determine whether IP infringements are duly deterred. In addition, it is hard for the dispute settlement institutions to specify the measures China must take to comply with the decision, since China has broad discretion as to how to implement its treaty obligations.

Finally, even if the United States were to win the case, there still would remain a challenge in the implementation phase. If the decision of

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280. Press Release, Office of the U.S. Trade Representative, *supra* note 252, at 3.

the Article 21.5 Appellate Body in *Canada—Civil Aircraft* applies, China can fulfill its obligation to comply relatively easily, by modifying some language in the relevant legislation or the judicial interpretation to show its intention to comply with the panel report.

## VI. ISSUES REGARDING DISPUTES AGAINST DEVELOPING COUNTRIES

The disparity between developed countries and developing countries regarding their views on the appropriate level of IP protection may explain the rare use of the DSM against developing countries. Developed countries should be sensitive to the risk of potential opposition that the use of the DSM against developing countries may bring about and ought to consider refraining from using it. In this Part, after explaining the disparities between developed and developing countries with regard to IP matters, I argue that developed countries should take such disparities into account in a variety of stages in the dispute settlement process.

### A. Why Do Relatively Few TRIPS Disputes Target Developing Countries?

At the inception of the TRIPS Agreement, Professors Dreyfuss and Lowenfeld anticipated that “much of the WTO litigation in [the] area [of IP] will be between developed countries as complainants and developing countries as respondents,” since “the thrust of the TRIPS initiative was to induce developing countries to move toward effective protection of intellectual property.”<sup>281</sup> Indeed, there have been several disputes in which a developed country claimed that a developing country violated its TRIPS obligations.<sup>282</sup> However, a developed country was the respondent in eighteen cases, whereas a developing country was the respondent in only eight cases.<sup>283</sup> It is hard to imagine that this relative restraint in suing developing countries is due to all developing countries having already met all their obligations under the TRIPS Agreement.<sup>284</sup> Thus, there needs to be more inquiry into the reasons behind the unexpectedly small proportion of TRIPS disputes that target developing countries.

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281. Dreyfuss & Lowenfeld, *supra* note 105, at 282.

282. For example, the dispute *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products*. See World Trade Org., *supra* note 73.

283. See World Trade Org., *supra* note 73.

284. See, e.g., ORG. FOR ECON. COOPERATION & DEV., THE ECONOMIC IMPACT OF COUNTERFEITING AND PIRACY: EXECUTIVE SUMMARY (2007), available at <http://www.oecd.org/dataoecd/13/12/38707619.pdf> (last visited Mar. 9, 2008). The OECD has estimated the size of the piracy market as up to 200 billion US dollars. *Id.* at 4.

The first, and most obvious, possible explanation relates to the transitional period for developing countries. Article 65.2 of TRIPS provided developing countries with a four-year transitional period (which ended January 1, 2000) in which to meet their obligations (with the exceptions of national treatment,<sup>285</sup> most-favored-nation treatment,<sup>286</sup> and the obligation not to weaken IP protection during the transitional period<sup>287</sup>). In addition, there was an additional five-year transitional period in which developing countries were expected to fulfill their obligations “to extend product patent protection” to new technology areas.<sup>288</sup> Article 65.3 grants the same transitional period to countries which are “in the process of transformation from a centrally-planned into a market, free-enterprise economy.”<sup>289</sup> During these transitional periods, for example, a developing country did not have to provide 20-year protection of inventions, so long as the country did not change “its laws, regulations and practice[s]” in a way which made them less consistent with the provisions of TRIPS.<sup>290</sup> Furthermore, Article 66.1 of TRIPS provided for a ten-year transitional period for the least-developed countries (that was to last until January 1, 2006),<sup>291</sup> which has been subsequently extended for an additional seven and a half years (until July 1, 2013).<sup>292</sup>

Undoubtedly as a result of the leeway granted during the transitional periods, developing countries were sued in the DSM in only a few cases until the end of 1999.<sup>293</sup> Four disputes concerned pharmaceutical product patents and agricultural chemical patents: *Pakistan—Patent Protection for Pharmaceutical and Agricultural Chemical Products*,<sup>294</sup> *India—Patents* (one complaint initiated by the United States and the other by the EC);<sup>295</sup> and *Argentina—Patent Protection for Pharmaceuticals and Test Data*

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285. TRIPS Agreement, *supra* note 1, at art. 3.

286. *Id.* at art. 4.

287. *Id.* at art. 65.5.

288. *Id.* at art. 65.4.

289. *Id.* at art. 65.3.

290. *See id.* at art. 65.5.

291. *Id.* at art. 66.1.

292. Council for TRIPS, *supra* note 156.

293. *See* World Trade Org., *supra* note 73. There have been no cases against the least-developed countries. *See id.*

294. *See* Request for Consultations by the United States, *Pakistan—Patent Protection for Pharmaceutical and Agricultural Chemical Products*, WT/DS36/1 (Apr. 30, 1996).

295. *See* Request for Consultations by the United States, *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products*, WT/DS50/1 (July 2, 1996); Request for Consultations by the European Communities, *India—Patent Protection for Pharmaceutical and Agricultural Chemical Products*, WT/DS79/1 (Apr. 28, 1997).

*Protection for Agricultural Chemicals*.<sup>296</sup> Although there was a nine-year transitional period to extend product patent protection to new technology areas involving pharmaceuticals, Article 70 obliges members to immediately establish a particular patent filing system for such products<sup>297</sup> (so-called “mailbox filing”), and to grant exclusive marketing rights for five years after the product receives marketing approval in the territory of that member or until a product patent is granted or rejected, whichever period is shorter.<sup>298</sup> Another dispute which was taken into the WTO DSM during the transitional period, *Indonesia—Auto*, concerned the national treatment clause, which applies to all member states without regard to level of development.<sup>299</sup>

Just after the transitional period ended in January 2000, two more disputes involving developing countries appeared before the DSM: *Argentina—Certain Measures on the Protection of Patents and Test Data*; and *Brazil—Patents*. Consultations were requested for both disputes in 2000, and the parties subsequently settled both by mutually agreed solutions.<sup>300</sup> Finally, China was sued by the United States as discussed in detail in Part V.<sup>301</sup> These three cases involved claims that the respondents violated obligations which were not exempted by their transitional status.

In short, there have been a remarkably small number of disputes against developing countries, not only during the transitional period but also once developing countries became subject to general obligations in 2000. Therefore, although the transitional period helps explain the rather small number of disputes in the first four years of the Agreement, it cannot

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296. See Request for Consultations by the United States, *Argentina—Patent Protection for Pharmaceuticals and Test Data Protection for Agricultural Chemicals*, WT/DS/171/1 (May 6, 1999).

297. TRIPS Agreement, *supra* note 1, at art. 70.8(a).

298. *Id.* at art. 70.9.

299. World Trade Org., Dispute Settlement: Dispute DS59: Indonesia—Certain Measures Affecting the Automobile Industry, [http://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds59\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds59_e.htm) (last visited Apr. 28, 2008).

300. Notification of Mutually Agreed Solution, *Argentina—Certain Measures on the Protection of Patents and Test Data*, WT/DS196/4 (June 20, 2002); Notification of Mutually Agreed Solution, *Brazil—Measures Affecting Patent Protection*, WT/DS199/4 (July 19, 2001).

301. Whether China is a developed or developing country within the WTO regime is debatable. According to the *Protocol on the Accession of the People's Republic of China*, China waived many differential treatments which developing countries enjoy. World Trade Org., *Protocol on the Accession of the People's Republic of China*, WT/L/432 (Nov. 23, 2001). However, in this Article, I describe China as a developing country because I am writing about the political impact rather than application of specific provisions.

explain why there have been only four cases that target developing countries since the expiration of the transitional period. Of course, some factors mentioned in Part IV undoubtedly affect this result, particularly the monitoring function of the Council for TRIPS (which likely preempts many disputes over the contents of statutes) and the difficulties faced by the WTO dispute settlement institutions in resolving claims involving the application of statutes and ineffective domestic remedies. However, when one considers the pre-TRIPS desire amongst developed countries to pressure developing nations to more stringently protect IP, as well as the anticipated heavy use of the WTO to resolve disputes against such nations by scholars such as Dreyfuss and Lowenfeld, it seems evident that there must be additional factors contributing to the surprising rareness of suits against developing countries.

One possible such factor is the economic inefficiency of most disputes against developing nations. Perhaps developed countries do not sue developing countries as frequently as anticipated because the economic reward is often too small to make it worth spending the time and money to litigate before the WTO. This explanation works for small economies such as the least-developed countries. However, it cannot be a plausible explanation for all developing countries because one of the primary motivations of the developed countries in the Uruguay Round of GATT negotiations was to realize IP protection in the developing world. In addition, some emerging economies are even bigger than the economies of many developed countries.<sup>302</sup> Therefore, economic efficiency can explain the situation only to a minor extent. A more likely explanation, which I will now discuss in detail, is that the large disparity in attitudes between developed countries and developing countries regarding the appropriate level of IP protection, coupled with the potential diplomatic repercussions from vigorous litigation targeting the developing world, might dissuade the developed countries from pursuing adversarial resolutions to IP disputes.

## **B. Differing Valuations of IP Protection Between Developed and Developing Countries**

Developed countries and developing countries have historically differed in their attitudes towards the desirability of stringent IP protection. At first, the original members of the Paris Convention were mostly European industrial countries, reflecting the early unwillingness of developing

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302. For example, the Chinese economy is bigger than the German economy. See International Monetary Fund, *World Economic Outlook: Housing and the Business Cycle*, at 45, tbl. 1.2, available at <http://www.imf.org/external/pubs/ft/weo/2008/01/pdf/text.pdf> (last visited Apr. 28, 2008).

nations to participate in international IP accords. Within the WIPO regime, developing countries had opposed strengthening IP protections.<sup>303</sup> Even in the 1980s and 1990s, during the Uruguay Round, the developing countries opposed strengthening IP protection, and a package deal was needed to win their support for the TRIPS agreement.<sup>304</sup>

Although all WTO members, including the developing countries, signed the TRIPS Agreement, there is still a huge difference in opinion between the members concerning the desirable level of IP protection. A particular source of disagreement is the extent to which IP protection should accommodate other values such as public health and biological diversity.<sup>305</sup> Developing countries have tried to clarify the relationship between IP and public health considerations, soften their relevant IP protection obligations, or even modify the TRIPS Agreement itself, both within and outside the WTO regime.<sup>306</sup> Professor Lawrence Helfer argued that:

[T]he post-TRIPs era has seen the emergence of . . . regime shifting, . . . by weaker developing countries that are increasingly dissatisfied with many provisions in TRIPs (or its omission of other issues) and are actively seeking out ways to recalibrate or supplement the treaty by relocating IP lawmaking initiatives to other international venues.<sup>307</sup>

The difference of opinion between developed and developing nations appears particularly pronounced in discussions about the balance between IP protection and public health. Developing countries are apprehensive that implementing the TRIPS Agreement could result in higher prices for medicines, which would make lifesaving drugs essentially unavailable to people in those countries who are in urgent need of them. The World Health Organization (WHO) started to discuss this conflict between IP protection and public health “only after the TRIPS Agreement entered into force and expanded states’ obligations to protect pharmaceutical patents.”<sup>308</sup> Developing countries, however, did not try to change the overall

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303. See Emmert, *supra* note 3, at 1343-44.

304. See *id.*

305. See generally Laurence R. Helfer, *Mediating Interactions in an Expanding International Intellectual Property Regime*, 36 CASE W. RES. J. INT’L L. 123 (2004) [hereinafter Helfer, *Mediating Interactions*]; Laurence R. Helfer, *Regime Shifting: The TRIPS Agreement and New Dynamics of International Intellectual Property Lawmaking*, 29 YALE J. INT’L L. 1 (2004) [hereinafter Helfer, *Regime Shifting*].

306. Helfer, *Regime Shifting*, *supra* note 305, at 27-63.

307. Helfer, *Mediating Interaction*, *supra* note 305, at 126.

308. Helfer, *Regime Shifting*, *supra* note 305, at 42.

TRIPS regime.<sup>309</sup> Rather, they elected to use the WHO “as a venue for advocating the use of flexibilities already embedded within TRIPs.”<sup>310</sup> As a result of such advocacy, the WTO adopted in 2001 the *Declaration on the TRIPS Agreement and Public Health*, which reaffirmed the members’ rights to protect public health.<sup>311</sup> As a further signal of its sensitivity to public health concerns, the General Council of the WTO allowed, in 2003, the temporary waiver of the obligations stipulated in Article 31(f) and (h) of the Agreement under certain circumstances, and hence removed limitations on exports under compulsory licenses to countries that cannot manufacture necessary pharmaceuticals themselves.<sup>312</sup>

In summary, developing countries have long advocated against the implementation of strong IP treaties and the enforcement of such treaties, and have succeeded to some extent both in the WTO and in other intergovernmental organizations in tempering such agreements. In the following section, I explain the background of the difference of opinion.

### C. Why Developing Countries do not Share Developed Countries’ Valuation of IP

IP law is based on a typical market failure: the failure of individuals to internalize positive economic externalities. In the absence of IP protection, once an invention becomes public non-inventors can use it at only a small marginal cost. Without government intervention, there would thus be an underproduction of innovation. Setting property rights on inventions provides such incentives. At the same time, IP laws promote others’ innovation by publishing the contents of inventions and preventing duplicate investments in the same technologies. International IP treaties, such as the TRIPS Agreement, function as the basic rules to promote innovation at the global level.

However, implementing IP protection can be particularly costly to the developing world. First, there are economic costs.<sup>313</sup> Developing countries will now need to pay fair license fees to rights holders. Since most IP, especially patents, originates within the developed countries, the international IP treaties result in the transfer of material wealth from developing

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309. *Id.* at 45.

310. *Id.*

311. Ministerial Conference, *Declaration on the TRIPS Agreement and Public Health*, WT/MIN(01)/DEC/2 (Nov. 20, 2001) (adopted Nov. 14, 2001).

312. General Council, *Implementation of Paragraph 6 of the Doha Declaration on the TRIPS Agreement and Public Health*, WT/L/540 (Sept. 2, 2003).

313. WORLD BANK, *GLOBAL ECONOMIC PROSPECTS AND THE DEVELOPING COUNTRIES* 2002, at 136-39 (2001).

countries to developed countries as a whole. The World Bank estimated, for example, that the United States would gain a net inflow of \$19.1 billion per year and China would experience a net outflow of \$5.1 billion per year if the TRIPS Agreement were fully enforced.<sup>314</sup> This transfer does not necessarily occur in every kind of IP. For example, trademarks have little to do with innovation or the technological sophistication of countries. Therefore, even if some transfers occur, the amount of money that could be expected to change hands is smaller than that implicated in the sale of patented products. In addition, since developing countries would be promoting domestic innovation by implementing IP laws, the long-term inflow and outflow is not clear. However, at least in the short term, developing countries would need to bear significant economic costs.<sup>315</sup>

Second, there are administrative costs. The Agreement sets affirmative obligations for member states' administrative and judicial branches. It requires member states to allocate specific administrative resources to a certain area, IP protection, no matter how high or low a priority those states put on it compared to other areas.<sup>316</sup> The administrative costs "include upgrading offices for registering and examining patents and trademarks, and for accepting deposits of plant materials; training examiners, judges, and lawyers; improving courts to manage intellectual property litigation; and training customs officers and undertaking border and domestic enforcement actions."<sup>317</sup>

These administrative costs could be significant, especially for countries with extremely scarce administrative resources, either in terms of fiscal budgets or trained personnel.<sup>318</sup> However, some measures could compensate for much of the administrative costs. First, intellectual property offices may charge fees to defray their costs,<sup>319</sup> since the Agreement allows members to collect fees as long as they are not discriminatory and the cost is not so high that it unreasonably impairs the opportunity to seek and obtain protection.<sup>320</sup> In addition, developing countries can "petition for technical and financial assistance from industrial countries and from the [WIPO] and the WTO."<sup>321</sup> Finally, developing countries can rely on

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314. *Id.* at 137. It is worth noting that not all developed countries gain from implementing the TRIPS Agreement in this sense. For example, according to the same estimates, New Zealand would experience a loss of \$2.2 billion. *Id.* at 133 tbl.5.1.

315. *Id.* at 136.

316. *Id.*

317. *Id.*

318. *Id.*

319. *Id.*

320. *See, e.g.*, TRIPS Agreement, *supra* note 1, at art. 25.

321. WORLD BANK, *supra* note 313, at 136.

the examination results of foreign patent offices.<sup>322</sup> For example, under the Patent Cooperation Treaty,<sup>323</sup> which is one treaty under the WIPO regime, the International Searching Authority, a certified patent office, establishes international search reports. In other words, it conducts quasi-examinations in advance so that other patent offices can refer to the reports to reduce the burden of duplicative prior art searches.<sup>324</sup> This international application system is not unique for patents.<sup>325</sup> In addition, some countries, such as Singapore, use so-called “modified substantive examinations” where the patent office uses the results of a foreign patent office’s examination and simplifies its own examination if the foreign offices have been pre-approved as competing offices by pertinent regulations and the applicants submit the results of the foreign examinations.<sup>326</sup> Therefore, even though the administrative costs could be significant, they could be lessened to some extent by other measures.<sup>327</sup>

The third type of costs for developing countries could be labeled “social costs.” These costs include the impairment of public health and reduction in standards of living that could result from the suppression of piracy. WTO Members must be sensitive to their TRIPS obligations when they make any new laws or policies, even if these might merely collaterally affect (but do not directly target) IP. For example, a country which, prior to TRIPS, could have achieved through legislation a public health goal without any obligation to consider the effect of the new law on the sufficient protection of IP might now be prevented from pursuing such a goal because of the TRIPS Agreement.

The text of the TRIPS Agreement, however, does show some sensitivity to values other than innovation. The Preamble mentions that members recognize “the underlying public policy objectives of national systems for

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322. *Id.*

323. Patent Cooperation Treaty, art. 16, June 19, 1970, 28 U.S.T. 7645, 1160 U.N.T.S. 231, 9 I.L.M. 978 (1970).

324. *Id.*

325. There are similar regimes of international cooperation in trademark and industrial design. *See, e.g.*, Madrid Agreement Concerning the International Registration of Marks, Apr. 14, 1891, as last revised at Stockholm on July 14, 1967 and amended on September 28, 1979, 828 U.N.T.S. 163; Hague Agreement Concerning the International Registration of Industrial Designs and Models, June 2, 1934, 205 L.N.T.S. 179, as amended at The Hague, Nov. 28, 1960.

326. Patents Act, ch. 221, § 29 (Sing.) (providing for such a procedure). Rule 41 of the Patents Rules (Chapter 221, Sections 42, 110, and 115) lists that the patent offices prescribed shall be those of Australia, Canada, Japan, New Zealand, Republic of Korea, the United Kingdom, the United States, and the European Patent Office.

327. Usually, there is no registration requirement for copyrights. The administrative costs of copyrights are much smaller on this point.

the protection of intellectual property, *including developmental and technological objectives*” (emphasis added) and “*the special needs of the least-developed country Members* in respect of maximum flexibility in the domestic implementation of laws and regulations in order to enable them to create a sound and viable technological base” (emphasis added). Article 8 of the Agreement explicitly allows members to adopt measures to protect public health, provided that those measures are consistent with the Agreement.<sup>328</sup> Article 31 allows compulsory licensing of patents under certain circumstances.<sup>329</sup> If such provisions are not sufficient, the WTO allows for a modification of the Agreement or a temporary waiver of obligations.<sup>330</sup>

Of course, it is worth noting that there are reasons for even developing countries to favor IP protection. Strong IP protection can benefit developing countries considerably.<sup>331</sup> First, it promotes domestic innovation, however small and minor such developing-world inventions might be.<sup>332</sup> Moreover, “[t]he cumulative impacts of these small inventions can be critical for growth in knowledge and productive activity.”<sup>333</sup> In addition, a developing country can reduce production costs and raise productivity because it can utilize the high-quality products of foreign countries, some of which can be imported only with appropriate IP protection.<sup>334</sup> Finally, strong IP protection attracts foreign direct investments, which most developing countries need in order to achieve economic expansion.<sup>335</sup>

In short, a variety of costs, including economic costs, administrative costs, and social costs, explain the developing countries’ opposition to stronger IP protection. While these costs could be recovered or balanced, to some extent, with the benefits of IP protection, the developing world has historically opposed strengthening international IP obligations.

#### **D. Why Developed Nations Tend not to Sue Developing Nations**

The public policy/humanitarian basis for the difference of opinion over the value of IP makes targeting developing nations politically complicated,

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328. TRIPS Agreement, *supra* note 1, at art. 8.

329. *Id.* at art. 31.

330. Marrakesh Agreement, *supra* note 149, art. X. Indeed, as discussed above, a waiver was adopted in the IP context in 2003. See General Council, *Implementation of Paragraph 6 of the Doha Declaration on the TRIPS Agreement and Public Health*, WT/L/540 (Sept. 2, 2003).

331. WORLD BANK, *supra* note 313, at 134-35.

332. *Id.* at 134.

333. *Id.*

334. *Id.* at 132.

335. *Id.* at 133-34.

but it cannot wholly account for the developed nations' reluctance to pursue international adjudication of their IP disputes. Because the TRIPS treaty was part of a package deal, for which the developing nations received countervailing benefits in other trade treaties in exchange for their assistance in IP matters, the developed countries should be perfectly comfortable with insisting on IP protection that they effectively "paid for" through concessions in other treaties. Even if the costs of IP protection outweigh the benefits for a particular country, this does not justify non-compliance. The TRIPS Agreement is one part of a large package of trade treaties that resulted from the Uruguay Round.<sup>336</sup> Therefore, it is inappropriate to see the TRIPS Agreement as one independent treaty.<sup>337</sup> The developed countries are not free to ignore their responsibilities under the similarly asymmetrical Agreement on Agriculture<sup>338</sup> simply because that treaty benefits developing countries while presenting only costs to the developed nations. In the same vein, even if developing countries are on the whole adversely impacted by TRIPS, while developed countries enjoy most of the benefits of IP protection, the developing countries still ought to fulfill their obligations.

Why then, do developed countries refrain from suing developing countries for noncompliance with TRIPS obligations? Dreyfuss and Lowenfeld have suggested that "[t]here are . . . significant reasons to refrain from taking so hard a line"<sup>339</sup> because the impact of the TRIPS Agreement on developing countries was not comprehensively considered at the Uruguay Round of negotiations and developing countries did not truly have any choice in ratifying the TRIPS Agreement.<sup>340</sup> Dreyfuss further argued, in a different article, that attempts by the developed countries to take too hard a line on IP issues had the potential to "backfire, spurring developing nations towards resistance (or even exit from the WTO) rather than moving them to compliance."<sup>341</sup> In short, the developed countries may refrain from

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336. World Trade Org., Frequently Asked Questions about TRIPS in the WTO, [http://www.wto.org/english/tratop\\_e/trips\\_e/tripfq\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/tripfq_e.htm) (last visited Mar. 6, 2008).

337. See, e.g., Frederick M. Abbott, Commentary, *The International Intellectual Property Order Enters the 21st Century*, 29 VAND. J. TRANSNAT'L L. 471, 472 (1996).

338. Agreement on Agriculture, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 410.

339. Dreyfuss & Lowenfeld, *supra* note 105, at 302.

340. *Id.*

341. Rochelle Cooper Dreyfuss, Commentary, *Coming of Age with TRIPS: A Comment on J.H. Reichman, The TRIPS Agreement Comes of Age: Conflict or Cooperation with the Developing Countries?*, 33 CASE W. RES. J. INT'L L. 179, 179-80 (2001) (citing J.H. Reichman, *The TRIPS Agreement Comes of Age: Conflict or Cooperation with the Developing Countries?*, 32 CASE W. RES. J. INT'L L. 441 (2000)).

suing the developing countries simply in order to avoid their resistance, and to maintain their engagement with international cooperative bodies.

In addition, one of the most significant challenges which the WTO faces today is bridging the divide between developed and developing nations, as the choice of name for the current negotiation round, “Doha Development Agenda,” evinces. IP protection is a sector where the developed world and the developing world have particularly disparate motivations. For this very reason, developed countries must strategically consider how and to what extent to enforce the TRIPS Agreement with a “strong” WTO judicial system. Even though the DSM is effective at achieving enforcement, certain issues are better solved by tactful political negotiation rather than heavy-handed judicial determination. Professor Peter van den Bossche has argued that:

“[t]o preserve the effectiveness and efficiency of the WTO dispute settlement system, Members will need to improve the ability of the political institutions of the WTO to address the major issues confronting the multilateral trading system.”<sup>342</sup>

Also, Professor J. H. Reichman argued specifically that in the IP context:

“[O]verly litigious climate that produced a stream of controversial decisions on the limits of intellectual property protection would convince most states that they had lost too much sovereignty in this area, and it would undermine confidence in and loyalty to the WTO process.”<sup>343</sup>

Thus, if the developed world relies too heavily on the DSM to achieve IP protection in the developing countries, it may undermine the WTO regime itself. The developed countries’ reluctance to use the DSM against developing nations is probably a wise decision.

Developed countries should also be sensitive to the fact that developing countries will be less opposed to the regulation of some areas of IP than others. In particular, the potential repercussions from the opposition of developing countries are extremely serious in the area of pharmaceutical inventions.<sup>344</sup> Opposition can be expected to be less intense if the is-

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342. VAN DEN BOSSCHE, *supra* note 125, at 299.

343. Reichman, *supra* note 341, at 462-63.

344. Five cases against developing countries concern pharmaceutical patents, all of which were initiated before the *Declaration on the TRIPS Agreement and Public Health* was adopted in 2001. *Pakistan—Patent Protection for Pharmaceutical and Agricultural Chemical Products* (DS36); *India—Patent Protection for Pharmaceutical and Agricul-*

sues have little to do with people's lives and development, as with trademark infringement or copyright piracy.<sup>345</sup>

Sensitivity to the fragility and importance of the WTO system explains not only the developed countries' careful decisions as to whether to initiate disputes, but also their litigation tactics at all stages of the process: what kinds of claims to involve, whether or not to settle in the earlier phases after consultations, whether or not to request the establishment of a DSM panel, and whether or not to take retaliatory measures if they win in an adjudication before the DSM. At any of these stages, there is a possibility that developed countries would choose claims on statutes, as opposed to claims on application of statutes or those on ineffective domestic remedies, because the requirements of statute claims are relatively clear and thus are likely to be less offensive.

## VII. CONCLUSION

Compared to the WIPO regime, the WTO provides the better DSM to foster compliance with international minimum IP protection standards. However, there are still significant challenges in adjudicating IP disputes before the WTO. The DSM does not necessarily work well for resolving claims concerning the application of statutes and ineffectiveness of domestic remedies. These types of claims pose difficult challenges relating to several steps of dispute settlement: interpretation of rules, proof of inconsistency, interpretative authority of the sovereign country, illegality determination, suggestion of specific measures, and retaliatory measures. These challenges are especially critical if the matter relates to the enforcement provisions. In addition, developed countries may have refrained from suing developing countries, due to the wide disparity between the developed and developing worlds regarding the level of desirable IP protection. Finally, the Council for TRIPS, although not a part of the DSM, probably functions through its monitoring capacity to resolve some disputes before they escalate to litigation.

The immediate lesson for developed countries is that they should carefully craft their claims to focus on the language of statutes, even if their main concerns relate to the application of statutes or to ineffective deter-

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*tural Chemical Products* (DS50 & DS79); *Argentina—Patent Protection for Pharmaceuticals and Test Data Protection for Agricultural Chemicals* (DS171); and *Argentina—Certain Measures on the Protection of Patents and Test Data* (DS196). See World Trade Org., *supra* note 73.

345. The current U.S.-China dispute focuses on trademark and copyright issues and does not deal with pharmaceutical patents.

rence. This is exactly the strategy pursued by the United States in its current dispute with China. One policy option is to renegotiate the Agreement to include more stringent minimum standards, requiring a minimum level of actual deterrence or acceptable threshold levels of actual infringement. However, this is not a viable option at the moment, as it may result in the opposition of developing countries and—disastrously—the weakening of their commitment to the WTO system in general. Another policy option that might improve the current system would be to expand the Council's monitoring function to actively address application issues (particularly those regarding enforcement provisions) and to address the actual level of IP infringement in member countries. Finally, policy makers in developed countries should keep in mind the lessons of a decade of experience resolving disputes under the TRIPS Agreement when negotiating future minimum standards agreements on non-IP issues (such as environmental protection or labor standards), namely that the supposedly “strong” DSM of the WTO may face unanticipated challenges adjudicating disputes related to these agreements.

# THE RADIO AND THE INTERNET

By Susan P. Crawford<sup>†</sup>

## TABLE OF CONTENTS

I. INTRODUCTION .....	934
II. EARLY RADIO REGULATION.....	943
III. CONVERGENCE AND (LACK OF) COMPETITION .....	947
A. MODELS OF INTERNET ACCESS: HISTORY .....	947
B. WIRELESS CARRIERS .....	952
C. THE INTERNET MODEL .....	953
D. NATURE OF THE MARKETPLACE.....	956
E. RISKS OF THE INTERNET MODEL .....	960
IV. THE 700 MHZ AUCTION .....	961
A. THE STORY BEHIND THE AUCTION.....	961
1. <i>The Broadcasters and Their Spectrum</i> .....	961
2. <i>The Subject of the Auction</i> .....	963
3. <i>The Statutory Scheme and the Band Plan</i> .....	965
B. KEY PERSPECTIVES.....	969
1. <i>FCC: The Purpose of the Auction</i> .....	969
2. <i>Congress's Budgetary Needs</i> .....	973
3. <i>Access Entrants' Needs</i> .....	974
4. <i>Incumbents' Needs</i> .....	979
V. THE COMMISSION RESPONDS .....	983
A. THE 700 MHZ AUCTION RULES.....	983
1. <i>C Block Locking and Blocking Rules</i> .....	983
2. <i>No Wholesale Access</i> .....	984
3. <i>Anonymous Bidding</i> .....	985
4. <i>Package Bidding</i> .....	986
5. <i>Reserve Prices</i> .....	987
6. <i>Public Safety Network</i> .....	987
B. THE RESPONSE.....	990

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C. COMPARISON TO 1920S SPECTRUM POLICY .....	991
VI. SPECTRUM AND THE PUBLIC INTEREST .....	994
A. THE PUBLIC INTEREST IN SPECTRUM AUCTIONS.....	995
B. ONWARD: WHITE SPACES.....	1000
VII. CONCLUSION .....	1006

## I. INTRODUCTION

During the summer of 2007, a brawl erupted at the Federal Communications Commission (FCC) and in Congress over what rules should apply to an auction of licenses to use a narrow swath of electromagnetic spectrum. The auction, which took place in January 2008, allocated commercial wireless licenses for spectrum in the 700 MHz band that is being vacated as a result of the nation's transition to digital television. This spectrum was considered highly valuable "beachfront property" because it allows for the transmission of signals through objects and over long distances (and thus requires a fraction of the number of cellular towers that are necessary for the use of higher frequencies). Indeed, because the auction was likely to reap \$20 billion in revenue for the U.S. Treasury, congressional interest was high. All of the current players in the communications industry were involved in the fight, making strong arguments about the conditions under which this spectrum should be licensed. The size of the spectrum licenses (local, regional, or national?), the business model of the licensee (wholesale, open access or retail, discriminatory access?), and the obligations of the licensee to public safety officials (build a network for public safety, or make some services available at a low price?) were subjects of extensive commentary.

Reports about this auction (the "700 MHz auction"), which was probably the last competitive auction for a substantial amount of spectrum for the next few decades,<sup>1</sup> prompted a vigorous debate in the press and the blogosphere about the goals and expectations of U.S. communications policy. Opponents of license conditions typically focused on the revenue to be gathered through the auction, and argued that any limitation on what could be done by licensees would diminish the market value of these li-

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1. At the open Commission meeting during which the 700 MHz auction rules were announced, Commissioner McDowell described the proceeding as the "auction of the century." *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, 22 F.C.C.R. 15289, 15571 (Aug. 10, 2007) (second report and order) [hereinafter Second Report and Order] (statement of Commissioner Robert M. McDowell, dissenting in part). The 700 MHz auction took place because digital television was forcing the release of spectrum; no other large auctions of spectrum are currently planned. *See generally infra* Part IV.

censes.<sup>2</sup> Defenders of license conditions made different points. Many argued that the market for wireless highspeed Internet access<sup>3</sup> was highly concentrated, and that license conditions requiring licensees to make transport services available on an open<sup>4</sup> wholesale basis could spark additional competition.<sup>5</sup> For example, the *Los Angeles Times* said in an edito-

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2. See, e.g., Letter from Robert W. Quinn, Jr., AT&T, to Marlene H. Dortch, Sec'y, FCC (July 12, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150) (on file with author) (stating that "open access" conditions on auction would "deprive taxpayers of billions of dollars"); see also Kim Hart, *FCC Majority Backs Open-Access Plan for Airwaves*, WASH. POST, July 25, 2007, at D2 (noting Republican congressional representatives are unhappy with conditions on licenses because of possibly adverse effect on auction revenues).

3. The FCC defines "broadband" as anything over 200 Kbps; I use the term "high-speed" to describe the same range of speeds. The word "broadband" is loaded with associations that are used to answer policy questions rather than add precision. See Susan P. Crawford, *What Is Broadband Good For?* (May 17, 2007) (unpublished manuscript, on file with author) (explaining difference between "broadband" and "highspeed access").

4. Comments of Consumer Federation of America, Consumers Union, & Free Press, *In re* Broadband Industry Practices, WC Docket No. 07-52, at 140 (Fed. Commc'ns Comm'n June 15, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519529519](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519529519) [hereinafter CFA Comments]. The Consumer Federation of America (CFA) and their co-signers of the Comment to the FCC stated that:

Open access simply means that the licensee sells access to the network on a wholesale basis at commercial rates. Any number of ISPs that choose to do so may come and buy bandwidth and compete for customers. Everyone shares the same transmitter and connectivity; they compete on customer service and price . . . . [An open access] network is neutral towards the devices and applications running on the network. Provided they do not harm the network, any innovative piece of software or hardware a company can dream up may connect to the network and sell to consumers.

*Id.* at 136.

5. A group calling itself the Public Interest Spectrum Coalition (PISC) argued that the FCC should designate 30 MHz of the 60 MHz available for commercial auction in the 700 MHz proceeding for "open access" wholesale use. See Ex Parte Comments of Public Interest Spectrum Coalition, *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150, at 5 (Fed. Commc'ns Comm'n Apr. 5, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519108262](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519108262) [hereinafter Comments of PISC]. See also Ex Parte Reply Comments of Public Interest Spectrum Coalition, *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150 (Fed. Commc'ns Comm'n July 6, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519540425](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519540425) [hereinafter Reply Comments of PISC]. PISC consists of the Consumer Federation of America, Consumers Union, Free Press, Media Access Project, New America Foundation, and Public Knowledge.

rial that “the point isn’t to raise the most money for the Treasury, it’s to generate the broadest public benefit from these valuable public airwaves. . . . The FCC should . . . require winning bidders to provide wholesale access to their networks.”<sup>6</sup> Others argued that the most important element of the auction should be a requirement that the winner build a national public safety network.<sup>7</sup> Still others maintained that the auction should be focused on facilitating the development of new uses for wireless spectrum, including the introduction of new devices and new models of dynamic spectrum allocation.<sup>8</sup> Google’s stated intent to bid \$4.6 billion for a portion of the spectrum, if and only if the terms of the winner’s license were written in the way Google wanted, made front-page headlines.<sup>9</sup>

The airwaves may be the most valuable natural resource that the government perceives itself as managing.<sup>10</sup> Both the FCC and Congress are

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6. Editorial, *Frequencies for Sale*, L.A. TIMES, July 12, 2007, at A22.

7. Mark Fowler, Op-Ed., *Wireless Nation: FCC’s Chance for a Great Network*, WASH. TIMES, July 5, 2007, at A15. Fowler, a former FCC Chairman, was a founding partner in Frontline Wireless, a company led by former FCC Chairman Reed Hundt, which was one of “the most vocal advocates” of such a public safety network. Kim Hart, *How to Sell the Airwaves?: FCC Must Choose Between Competing Network Visions*, WASH. POST, July 13, 2007, at D1 (“Fundamentally, the FCC will have to decide how it can drive wireless innovation and economic growth and if it’s important to achieve a national public safety network. One has enormous economic implications for investors, and the other is important for policy.” (quoting Blair Levin, an analyst with Stifel Nicolaus)).

8. Letter from Richard S. Whitt, Wash. Telecom & Media Counsel, Google Inc., to Marlene H. Dortch, Sec’y, FCC (May 21, 2007) [hereinafter Google May 21 Letter] (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150) (on file with author).

9. Miguel Helft & Stephen Labaton, *Google Pushes for Rules to Aid Wireless Plans*, N.Y. TIMES, July 21, 2007, at A1. AT&T quickly responded, with Jim Cicconi, AT&T Senior Executive Vice President, External and Legislative Affairs, saying “Google is demanding the Government stack the deck in its favor, limit competing bids, and effectively force wireless carriers to alter their business models to Google’s liking.” Posting of Om Malik to Gigaom, AT&T Responds to Google Bid, <http://gigaom.com/2007/07/20/att-responds-to-google-wireless-bid/#more-9856> (July 20, 2007).

10. LINDA K. MOORE, CONG. RES. SERV., SPECTRUM MANAGEMENT: AUCTIONS 2 (2007) (“Spectrum is considered to be a natural resource . . .”); J.H. SNIDER, NEW AM. FOUND., AN EXPLANATION OF THE CITIZEN’S GUIDE TO THE AIRWAVES (2003), available at <http://www.newamerica.net/files/airwaves.pdf> (assessing value of spectrum and comparing spectrum value to value of other economic goods); see also *id.* at 15 (“[Spectrum is] the most valuable natural resource of the information age.” (quoting William Safire, *Spectrum Squatters*, N.Y. TIMES, Oct. 9, 2000, at A21)); J.H. SNIDER, NEW AM. FOUND., THE ART OF SPECTRUM LOBBYING: AMERICA’S \$480 BILLION SPECTRUM GIVEAWAY, HOW IT HAPPENED, AND HOW TO PREVENT IT FROM RECURRING 38 (2007), available at [http://www.newamerica.net/files/art\\_of\\_spectrum\\_lobbying.pdf](http://www.newamerica.net/files/art_of_spectrum_lobbying.pdf) [hereinafter SNIDER, ART OF SPECTRUM LOBBYING] (suggesting that the management of spectrum assets be integrated into systems for managing other natural resources and made more visible).

confronted with multiple demands in this area, including: (1) Congress's own budgetary needs; (2) the demands of existing communications companies;<sup>11</sup> and (3) the demands of would-be new entrants. The debate over the rules to be applied to the 700 MHz auction provides a useful case study of the role of the regulator in confronting the current central problem in communications regulation. That central problem is this: What is the "public interest" to be served by telecommunications regulation at a time when all formerly separate communication technologies (telephone, broadcast, cable, satellite) are converging into packet-switched, Internet Protocol (IP)-based online media? What problem should the FCC be trying to solve?

During the 1920s, the FCC's predecessor, the Federal Radio Commission, swept hundreds of thousands of amateur radio enthusiasts and other small operators into spectrum Siberia in order to placate large commercial operators, and claimed to be protecting the "public interest" by doing so.<sup>12</sup> The FRC apparently saw itself as able to dictate rules for use of spectrum that would be welcomed by the large commercial operators, despite concerns about the consequences of those rules. The FCC remains interested in protecting traditional communications stakeholders, but the Commission's role as an institution has changed substantially since the 1920s. It is now attempting to position itself as a rule-creator in the converged ecosystem of communications, and its task has become much more complex.<sup>13</sup> Satisfying one well-organized set of well-established companies (in the 700 MHz auction setting, the incumbent wireless carriers) will not necessarily create benefits for the FCC's role that outweigh the burdens of being attacked by all the other players.

This changed institutional role has been prompted by several key developments. First, the Commission recognizes that the technological landscape has changed dramatically. The Internet is the Black Swan of communications: a wildly unexpected event that is having an enormous effect on the world.<sup>14</sup> Access to the Internet is now extremely important to social

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11. Existing telecommunications companies contribute heavily to candidates and lobby extensively. According to the Center for Responsive Politics, the telephone utilities industry, which includes both wireline and wireless telecommunications companies, has contributed \$110 million to federal candidates from 1990-2008 and spent \$381 million on lobbying from 1998-2007. See Open Secrets, Industry Totals: Telephone Utilities, <http://opensecrets.org/industries/indus.asp?Ind=B08> (last visited Apr. 16, 2008); Open Secrets, Lobbying Spending Database, <http://www.opensecrets.org/lobbyists> (last visited Apr. 16, 2008).

12. See *infra* Part II.

13. See *infra* Section V.C.

14. NASSIM TALEB, *THE BLACK SWAN* (2007); see JOHN B. HERRIGAN, PEW INTER-

welfare.<sup>15</sup> Internet access, like clean water and electricity, provides a substrate for innumerable valuable developments, including economic growth, collaborative production, generation of new scalable ideas, and democracy—to name just a few. The economic and social effects of the Internet ethos of openness and flexibility are nudging the Commission to act differently.<sup>16</sup> Second, the Commission is paying attention to Congress, as it must. Congress, in turn, is paying more attention to communications issues, and has held key hearings questioning the FCC's approach to spectrum policy.<sup>17</sup> (At the same time, Congress has been anxious for the U.S. Treasury to receive the funds from the 700 MHz auction that it has been expecting for many years.)<sup>18</sup> Third, the FCC's own bureaucratic imperatives mandate that it retain and expand its role in the converged era. The Commission cannot risk alienating the entire (well-funded) online policy world by obviously favoring wireless carrier incumbents over online companies.

Yet the Commission's vision of the "public interest" remains incoherent, and the Commission still appears to believe that it is best for dominant private wireless carriers (the high-power radio broadcasters of our day) to be able to dictate in detail how the airwaves are used. Indeed, FCC Chairman Martin's rhetoric during the summer of 2007 about the importance of the Internet ethos of "choice"<sup>19</sup> did not result in auction rules that would necessarily have made such choices available. Although the Chairman pushed for limited "edge"-related rules (requiring that devices not be "locked" to the winning licensee's spectrum, and that consumers be al-

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NET & AM. LIFE PROJECT, BROADBAND: WHAT'S ALL THE FUSS ABOUT (2007), available at <http://www.pewinternet.org/pdfs/BroadBand%20Fuss.pdf>.

15. See, e.g., ORG. FOR ECON. CO-OPERATION & DEV. [OECD], OECD COMMUNICATIONS OUTLOOK (2007), available at <http://213.253.134.43/oecd/pdfs/browseit/9307021E.pdf>. ("Increasing emphasis is being placed on broadband as an important infrastructure for economic growth and social development"); Joelle Tessler, *Re-Examining Broadband Using a Democratic Lens*, CONG. Q. WKLY., July 30, 2007 ("Broadband is no longer a luxury item. . . . It is an essential component of a strong America in an information age." (quoting Senator Daniel Inouye)).

16. See *infra* Section V.A.1.

17. See, e.g., *Wireless Innovation and Consumer Protection and the Internet: Hearing Before the Subcomm. on Telecomm. of the H. Comm. on Energy and Commerce*, 110th Cong. (2007), available at [http://energycommerce.house.gov/cmte\\_mtg/110-ti-hrg.071107.ConsumerProtection.shtml](http://energycommerce.house.gov/cmte_mtg/110-ti-hrg.071107.ConsumerProtection.shtml) (the July 11, 2007 "iPhone hearing").

18. See *infra* Section IV.B.2.

19. See, e.g., Frank Rose, *It's Silicon Valley vs. Telcos in Battle for Wireless Spectrum*, WIRED, May 16, 2007, [http://www.wired.com/techbiz/media/news/2007/05/uhf\\_spectrum](http://www.wired.com/techbiz/media/news/2007/05/uhf_spectrum) (quoting Chairman Martin: "It is important to use the upcoming auction to make sure there are more than just two competitors.").

lowed to use online applications without being blocked), the idea that licensees would be required to offer access on a wholesale, open-access basis—a proxy for common carriage<sup>20</sup> and the “Internet model” of Internet access—was abandoned.<sup>21</sup> Because the two dominant wireless carriers in this country, AT&T and Verizon Wireless,<sup>22</sup> already held the key spec-

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20. See *infra* Section III.A. Title II of the Telecommunications Act of 1996 defines common carriers (in a circular fashion) as companies “engaged as a common carrier for hire, in interstate or foreign communication by wire or radio of interstate or foreign radio transmission of energy.” Telecommunications Act of 1996, Pub. L. No. 104-104 (codified at 47 U.S.C. 153(10) (2000)). A common carrier is a company that “makes a public offering to provide [communications facilities] whereby all members of the public who choose to employ such facilities may communicate or transmit intelligence of their own design and choosing.” FCC v. Midwest Video Corp., 440 U.S. 689, 701 (1979). 47 U.S.C. § 202(a) prohibits common carriers from engaging in unjust or unreasonable discrimination, including making or giving any undue or unreasonable preference, or imposing any undue or unreasonable prejudice or disadvantage, on any person, class of persons or locality. “Common carriage” is an ancient concept. In a nutshell, common carriage principles “guarantee that no customer seeking service upon reasonable demand, willing and able to pay the established price, however set, would be denied lawful use of the service or would otherwise be discriminated against.” Eli Noam, *Beyond Liberalization II: The Impending Doom of Common Carriage* (Mar. 15, 1994) (unpublished manuscript, on file with the Columbia University Working Papers Server Project), available at <http://www.columbia.edu/dlc/wp/citi/citinoam11.html>. Mandating that the auction winner (1) not discriminate against providers using its facilities to provide competing Internet access services; and (2) not discriminate against any particular use of its network would have been the modern-day equivalent of common carriage.

21. See *infra* Part IV. Wholesale, open-access licensees would have been required to build out the wireless network, own and operate cell sites and other equipment, and provide neutral, nondiscriminatory access to the Internet backbone. Simon Wilkie, *Open Access for the 700 MHz Auction: Wholesale Access Licensing Promotes Competition and Could Increase License Revenue*, NEW AM. FOUND. ISSUE BRIEF No. 21 (July 2007), available at <http://www.newamerica.net/files/openaccess700mhz.pdf>.

Some commentators also proposed a “no-retail” rule, which would constrain the licensee from offering any retail services whatsoever to end users; the licensee would be limited to providing basic transport to retail service providers on a nondiscriminatory basis. See Comments of Frontline Wireless, *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150 at 17-18 (Fed. Commc’ns Comm’n May 23, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519415226](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519415226).

22. AT&T and Verizon Wireless are the No. 1 and No. 2 wireless carriers in the country. See Marguerite Reardon, *Verizon and AT&T Compete for Wireless Subscribers*, CNET NEWS.COM, July 30, 2007, [http://www.news.com/8301-10784\\_3-9751805-7.html](http://www.news.com/8301-10784_3-9751805-7.html). The two companies “do not compete at all in the residential phone market.” *Id.* AT&T has about 70 million wireless subscribers and Verizon Wireless has about 64 million (as of Dec. 2007), of a total of 250 million subscribers nationwide. These two carriers together account for more than half the wireless subscriptions in the country and are the top spectrum-holders. Larry Avila, *A Wireless Nation*, THE POST CRESCENT (Appleton,

trum assets that are used for wireless access to the Internet, were committed to the “cellphone model” of Internet access,<sup>23</sup> and were likely to win (and did in fact win) the large-scale commercial licenses that were auctioned in the 700 MHz proceeding,<sup>24</sup> there is no real opportunity for any experimentation with the Internet model for wireless highspeed Internet access. The Commission appears to see its institutional task as balancing the political interests of self-described key stakeholders, and apparently thought that by providing minor concessions to online policy voices it could resolve their concerns without troubling Verizon and AT&T unduly.<sup>25</sup>

This Article provides a snapshot of communications policy in the U.S. at a particularly interesting time. But it has a larger normative point to make. The Commission needs to solve its “public interest” problem. It needs to recognize that the communications ecosystem of which it is a part is increasingly adopting the Internet ethos of open, no-permission-needed, neutral transport—pushed by a variety of events, including both the advent of a huge variety of mobile web devices (like the Amazon Kindle) and the creation of the Open Handset Alliance, a multinational group of manufacturers and service providers planning to promote Google's open-access “Android” platform<sup>26</sup>—but is being held back by the actions, spectrum control, and market power of the dominant wireless carriers, who are committed to beating back the idea of common carriage, or neutral trans-

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Wis.), Dec. 16, 2007, at 1E; *see also* Memorandum from Frontline Wireless, L.L.C. to Antitrust Div., U.S. Dep't. of Justice, 2007 Telecommunications Symposium—Voice, Video and Broadband: The Changing Competitive Landscape and Its Impact on Consumers (Nov. 13, 2007), *available at* <http://149.101.1.32/atr/public/workshops/telecom2007/submissions/227840.pdf>.

23. *See infra* Section IV.B.4. As Section V.A.1 notes, following the release of the auction rules both Verizon and AT&T made gestures toward openness that have very little substance.

24. Grant Gross, *Verizon Wireless Wins Large Chunk of 700 MHz Spectrum*, IDG NEWS SERV., Mar. 20, 2008, [http://www.infoworld.com/article/08/03/20/Verizon-Wireless-wins-large-chunk-700MHz-spectrum\\_1.html](http://www.infoworld.com/article/08/03/20/Verizon-Wireless-wins-large-chunk-700MHz-spectrum_1.html); Posting of Chris Ziegler to Engadget, *FCC Releases 700 MHz Details, Verizon, AT&T Big Winners*, <http://www.engadget.com/2008/03/20/fcc-releases-700mhz-auction-details-verizon-atandt-big-winners> (Mar. 20, 2008) (Verizon won the 22-MHz C Block save in Alaska, Puerto Rico and the Gulf of Mexico, bidding \$4.7 billion; AT&T won much of the B Block; together, Verizon and AT&T accounted for about \$16 billion of the approximately \$19 billion bid in the entire auction).

25. *See infra* Part V.

26. *See* Dana Gardner, *Android: Changing the Mobile Game*, LINUXINSIDER, Dec. 28, 2007, <http://www.linuxinsider.com/story/60957.html>; Brad Reed, *Mobile Internet Will Open Wide in 2008, IDC Says*, MACWORLD, Dec. 7, 2007, <http://www.macworld.co.uk/ipod-itunes/news/index.cfm?newsid=19877>.

port, at any cost.<sup>27</sup> These carriers have no interest in cannibalizing their current vertically integrated retail revenue streams. The Commission is (so far) acting to assist these carriers in their quest to avoid the Internet model of access, even as marketplace realities point in the opposite direction.

But the Commission should choose spectrum policy actions by weighing the benefits of facilitating long-term improved open highspeed Internet access against the short-term incentives of these particular incumbents. These incumbents have every incentive to pursue short-term economic goals that are not necessarily consistent with long-term improved Internet access.<sup>28</sup> The problem with the cellphone model of Internet access, given the market realities that prevail today, is that it establishes a few gatekeepers with ample market power to decide which online activities will be successful and which will not. These gatekeepers have every reason to favor their own online content over that of other actors. The cellphone model may favor the short-term interests of these dominant incumbents, but will not result over the long term in either an innovative environment for Internet use or improved Internet access for underserved populations—because it avoids direct competition in the provision of Internet access.<sup>29</sup> Tying this normative point back to the events of 2007-08, a wish to maximize overall improved open highspeed Internet access might have triggered the adoption of 700 MHz auction rules that limited the involvement of oligopolist<sup>30</sup> incumbents and mandated open, wholesale provision of access. Wholesale provision of access was the key to direct competition for Internet access; indeed, wholesale open access was the only way to make this spectrum allocation into a truly competitive proof-of-concept market for Internet access, online applications, and devices for online use.

This normative scaffolding should be helpful when the Commission faces its next spectrum policy decision in the so-called “white spaces” proceeding, in which the Commission will be reallocating unused televi-

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27. See *infra* Section IV.B.4.

28. See *Net Neutrality and Free Speech on the Internet: Hearing Before the H. Comm. on the Judiciary*, 110th Cong. (2008) (prepared statement of Susan Crawford, Visiting Assoc. Professor of Law, Yale Law Sch.), available at <http://judiciary.house.gov/media/pdfs/Crawford080311.pdf> (making this argument).

29. More open broadband policies in other countries have prompted those countries to experience greater competition, lower prices, better service, and higher penetration of highspeed Internet access. See Comments of PISC, *supra* note 5, at 3, 7 (citing WIRELINE COMPETITION BUREAU, FCC, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF JUNE 30, 2006 (2007), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-270128A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf)).

30. Wilkie, *supra* note 21 (describing oligopolistic marketplace).

sion broadcasting spectrum.<sup>31</sup> In that proceeding, there will be a different incumbent (television broadcasters rather than telephone companies), but the same basic set of policy questions will be presented: Whose welfare, that of incumbents or that of the general public, should be taken into account? A future Commission can avoid another bare-knuckled political brawl by making clear that it intends to support highspeed, open, competitive, mobile Internet access as its top priority, and that it understands that creating unlicensed portions of the white spaces spectrum can further this goal. Given advances in transmission and reception technology, there is no real “scarcity” of white spaces spectrum, and thus no particular reason to proptertize it; at the same time, we have a great need to experiment with unproptertized uses of spectrum for highspeed Internet access. The “public interest” calculations of the 1920s, which favored the private property interests of large commercial broadcast entities above all other goals, need to be adjusted. The institutional changes the FCC has undergone have put it in a position to make these adjustments.

This Article contributes to an extensive debate about the desirability of proptertizing spectrum.<sup>32</sup> For the purposes of the 700 MHz auction, the question of proptertization was answered by Congress; the FCC was required to auction off this spectrum, and the only open questions concerned the details of the auction rules. However, proptertization of the white spaces spectrum is still an open issue. Unlicensed uses of the white spaces spectrum could allow for the experimentation with the Internet model of Internet access (in essence, common carriage, or separation between transport and content) that arguably was not permitted by the rules for the 700 MHz auction.

This Article proceeds in seven parts. Part II describes the institutional role of the FCC’s predecessor agency in early radio regulation. Part III provides the competitive context for the 700 MHz auction, and Part IV presents the auction perspectives of the major players. Part V analyzes the Commission’s response to those interests during the summer of 2007, and compares its institutional response to the 1920s spectrum policy contests. Part VI takes on the inherently normative and highly contested question of the “public interest” that the future Commission should serve. In light of the central role Internet access to converged communications will play in our collective future, we will need to move beyond the 100-year-old political assumptions and 40-year-old technical assumptions that currently shape telecommunications regulation. The FCC as an institution has al-

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31. *See infra* Section VI.B.

32. *See infra* note 306.

ready begun to make this move, but has a long road to travel yet. Part VII discusses how the white spaces proceeding will provide another test case of its maturity.

## II. EARLY RADIO REGULATION

At the conclusion of the Commission's work during the summer of 2007 on the 700 MHz auction rules, the FCC emerged with a negotiated arrangement that was generally believed to serve the interests of Verizon and AT&T, companies that together control more than 50% of the market for wireless subscribers.<sup>33</sup> There is nothing new under the sun. The Commission, like its predecessors, has often been interested in supporting well-financed incumbents.

Between 1906, when the crystal detector first became widely available, and 1912, when the first Radio Act was passed, hundreds of thousands of amateurs learned how to use radio equipment and were enthusiastically communicating across the "ether."<sup>34</sup> Indeed, radio had its own "rich web of cultural practices and ideas" long before regulators arrived.<sup>35</sup> But amateurs and new entrants were shoved aside by early regulators, in favor of established large commercial interests and the military, on at least three separate occasions.

Access to the "ether" was at first unrestricted: anyone with inexpensive homemade radio equipment could set himself up to transmit and receive signals.<sup>36</sup> The amateur dominated the air as of 1910:

Hundreds of schoolboys in every part of the country have taken to this most popular scientific fad, and, by copying the instruments used at the regular stations and constructing apparatus out of all kinds of electrical junk, have built wireless equipments that in some cases approach the naval stations in efficiency.<sup>37</sup>

Indeed, by 1914 the amateurs had successfully tested a coast-to-coast relay network.<sup>38</sup> But by then their place in the spectrum hierarchy had been completely changed.

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33. *See infra* Section V.B.

34. SUSAN J. DOUGLAS, *INVENTING AMERICAN BROADCASTING 1899-1922*, 195, 198 (1987).

35. *Id.* at xv.

36. *Id.* at xxvii.

37. *Id.* at 195 (quoting Robert A. Morton, *The Amateur Wireless Operator*, *OUTLOOK*, Jan. 15, 1910, at 131).

38. *Id.* at 206.

The Radio Act of 1912<sup>39</sup> established a number of key principles: all broadcasters would need a license from the Secretary of Commerce, no one could broadcast without a license, and spectrum would be allocated to particular uses.<sup>40</sup> Essentially, the Act established that “some communication was more important than others,” and made clear that the federal government would make these decisions.<sup>41</sup> What established communications merit in 1912 was “capital investment or military defense.”<sup>42</sup> In particular, the Act instructed amateurs that they could no longer roam frequencies transmitting at will. Rather, they could listen in anywhere they liked, but could transmit only on very shortwave frequencies and at low power.<sup>43</sup> In effect, the amateurs were consigned to oblivion because these shortwaves were considered technologically unusable at the time.<sup>44</sup>

A few years later, in 1923, Secretary of Commerce Herbert Hoover re-allocated most spectrum use in one fell swoop, without statutory authority.<sup>45</sup> Major commercial stations received favorable, high-power assign-

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39. Act of Aug. 13, 1912, ch. 287, 37 Stat. 302 (1912) (repealed by Radio Act of 1927, ch. 169, 44 Stat. 1162 (1927)). The enactment of the Radio Act was prompted by the Titanic disaster, “when ‘chaos in the spectrum’ was said to have confused a potential rescue ship ‘so it missed the calls of help from the sinking luxury liner.’” JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS: AMERICAN TELECOMMUNICATIONS POLICY IN THE INTERNET* 232 (2005).

40. THOMAS G. KRATTENMAKER & LUCAS A. POWE, *REGULATING BROADCAST PROGRAMMING* 6 (1994).

41. *Id.*

42. DOUGLAS, *supra* note 34, at 237. As discussed below, the 1912 Act “favored the Navy by awarding it a dominant position in the electromagnetic spectrum and by specifically protecting its stations from interference by private companies.” PHILIP T. ROSEN, *THE MODERN STENTORS: RADIO BROADCASTERS AND THE FEDERAL GOVERNMENT, 1920-1934* (1980). Major corporations made investments in technology, to the extent that “after 1912, it was [several large-scale] corporations, not individuals, who controlled continuous wave technology.” DOUGLAS, *supra* note 34, at 255.

43. DOUGLAS, *supra* note 34, at 234.

44. See KRATTENMAKER & POWE, *supra* note 40 at 6; DOUGLAS, *supra* note 34, at 316; ROSEN, *supra* note 42, at 21 (noting the Act “relegated amateur use to frequencies above 1500 kHz, which at the time were considered unusable.”).

45. Herbert Hoover, Secretary of Commerce from 1921 to 1928, called for strong federal regulation of the airwaves as early as 1922, and was “a staunch and unceasing advocate of strong federal regulation for broadcasting.” Daniel E. Garvey, *Secretary Hoover and the Quest for Broadcast Regulation*, 3 *JOURNALISM HIST.* 67 (1976). For a description of Hoover’s personal role in early radio regulation, and particularly his willingness to act without statutory authority, see ROSEN, *supra* note 42, at 57. Rosen writes:

He assigned channels, although the Radio Act of 1912 neither made nor authorized any distribution of frequencies to individual stations. He placed commercial operators in the band from 187.5 to 500 kHz, although both domestic and international law protected the government

ments, while many nonprofit stations “emerged with severely truncated frequency rights.”<sup>46</sup>

Hoover had stated early on that “it becomes of primary public interest to say who is to do the broadcasting, under what circumstances, and with what type of material,” thus linking radio regulation to the “public interest.”<sup>47</sup> He was “somewhat less favorably inclined” to the words “convenience and necessity,”<sup>48</sup> which the 1927 Congress used in creating the governing statute for a Federal Radio Commission that would be independent of Hoover’s control.<sup>49</sup>

In 1927-28, the newly formed, not well-funded Federal Radio Commission (FRC) needed to decide what “public interest, convenience, or necessity” meant. The FRC, shaped by several Hoover-run radio confer-

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reservation. He reallocated channels, although the same laws specified wavelengths for certain groups of radio users.

*Id.* Hoover has been described as the “political champion of major radio broadcasters.” Thomas W. Hazlett, *The Rationality of U.S. Regulation of the Broadcast Spectrum*, 33 J.L. & ECON. 133, 152 (1990).

46. Hazlett, *supra* note 45, at 157. Hoover assigned the most-preferred and least-congested wavelengths to the high-power stations, while consigning the low-power stations to the one wavelength that was already overcrowded; AT&T, GE, and Westinghouse owned high-power stations while universities, churches, and labor unions owned low-power stations. DOUGLAS, *supra* note 34, at 316; Hazlett, *supra* note 45, at 146; ROSEN, *supra* note 42, at 57.

47. Garvey, *supra* note 45, at 67 (citing Herbert Hoover, Sec’y of Commerce, Speech to the first National Radio Conference: Value of Radio Phones (Feb. 27, 1922), in BOSTON EVENING TRANSCRIPT, May 4, 1922, at 5).

48. According to Daniel E. Garvey, Hoover wrote:

[T]here is growing demand for the limitation of the number of stations in a given area, and that such a limitation would be based on the service needs of the community, just as public utilities are generally limited by the rule of public convenience and necessity. Again this enters a dangerous field of recognizing monopoly and implied censorship.

Garvey, *supra* note 45, at 70 (citing Letter from Herbert Hoover, Sec’y of Commerce, to Wallace H. White, Congressman). Hoover shied away from the public-utility phrasing, preferring such terms as “public service to the listener.” *Id.*

49. The 1927 Radio Act provided that the new Commission shall, “as public convenience, interest, or necessity requires” classify radio stations, prescribe the nature of the service, assign bands of frequencies or wavelengths, determine the power, time, and location of stations, and regulate the kind of apparatus to be used. Radio Act of 1927, ch. 169, § 4, 44 Stat. 1162 (1927) (absorbed into the Communication Act of 1934). The 1927 Act’s provisions were absorbed into the 1934 Act, and these core provisions are still with us, largely intact. Communication Act of 1934, ch. 652, 48 Stat. 1064 (later codified as 47 U.S.C § 151 et seq); ROSEN, *supra* note 42, at 105 (“While the standard of public interest, convenience, and necessity lacked direct precedent in any federal law, its interpretation constituted the fundamental requirement for securing a permit for many years to come.”).

ences<sup>50</sup> and seven years of Department of Commerce control of spectrum, decided that applicants with “superior technical equipment, adequate financial resources, skilled personnel, and the ability to provide continuous service” should be given preference.<sup>51</sup> In effect, the FRC found that priority and market success were the appropriate measures of the “public interest.”<sup>52</sup> The new Radio Commission decided that the “public interest” would favor licensees that were serving the general public rather than any narrower interest. “Using this logic, it labeled facilities operated by colleges and universities, religious institutions, and city and state governments ‘propaganda stations.’ . . . By such special interpretation of already ambiguous [public interest, convenience, and necessity] guidelines, the FRC favored the corporate giants.”<sup>53</sup>

In November 1928, in an echo of Hoover’s 1923 steps, the Radio Commission changed the assignments of 94% of all broadcasting stations as part of a comprehensive reallocation scheme.<sup>54</sup> One of the commissioners later reflected: “We had to make some moves in a rather high-handed way . . . We took a lot of hearsay and I fear we did a lot of injustices.”<sup>55</sup> The FRC rewarded with further free spectrum applicants who had already held large assignments of spectrum and had achieved financial success in operating stations.<sup>56</sup> Thomas Hazlett has pointed out that this implementation of a “right of user” or “priority-in-use” method for assigning licenses was a shrewd political move that shored up support for the FRC among the large companies whose support the FRC felt it needed.<sup>57</sup> Susan Douglas argues that the federal government’s “preferential treatment toward the technologically most powerful (and richest) commercial stations, and

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50. See Yochai Benkler, *Overcoming Agoraphobia: Building the Commons of the Digitally Networked Environment*, 11 HARV. J.L. & TECH. 287, 299 (1998); see also Hazlett, *supra* note 45, at 152, 154 (“The Commission favored applications with superior technical equipment, adequate finances, experienced personnel, and the ability to operate without interruption. These were Hoover’s policies, and they favored established commercial broadcasters.”). The annual Washington Radio Conferences organized by Hoover from 1922 to 1925 were an expression of these policies and comforted the large commercial broadcasters that Hoover had their interests at heart. DOUGLAS, *supra* note 34, at 315. These conferences were “organized to recommend possible legislative solutions to Congress after examining the problems confronting radio users.” ROSEN, *supra* note 42, at 39.

51. ROSEN, *supra* note 42, at 133.

52. Hazlett, *supra* note 45, at 157; ROSEN, *supra* note 42, at 133.

53. ROSEN, *supra* note 42, at 133-34.

54. See *id.* at 134; KRATTENMAKER & POWE., *supra* note 40, at 21; see also General Order 40, Minutes, 11 September 1928, NARG 173, FCC, reel 1.1.

55. KRATTENMAKER & POWE, *supra* note 40, at 21.

56. *Id.* at 22.

57. Hazlett, *supra* note 45, at 168.

regulatory marginalization of smaller, noncommercial stations, persisted through the Radio Act of 1927 and the Communications Act of 1934.”<sup>58</sup> While speaking in terms of the public interest, the Radio Commission chose to further the ends of well-financed incumbents.<sup>59</sup>

It is striking how little spectrum policy has changed.

### III. CONVERGENCE AND (LACK OF) COMPETITION

The stakes for the 700 MHz auction were high. We are at an inflection point in communications history. Although all earlier communications modalities (cable, broadcast, telephone) are collapsing into one—packet-switched online communications—the existing communications incumbents have sufficient market power to keep their desired business models in place. This Part describes the “Internet” model of communications (open, nondiscriminatory, allowing for innovation at the edge of the network) and contrasts it with the “Cellphone” model (controlled network, manager able to charge for and discriminate with respect to particular communications).

#### A. Models of Internet Access: History

The 700 MHz auction occurred at a particularly interesting time in communications history. Traditional telephone use is shrinking and the cultural sway of broadcasters is diminishing, while Internet use and cell-phone use are growing quickly.<sup>60</sup> Although the telecommunications industry has long been divided up into different silos (cable, broadcast, telephony, data), all of these segments are arguably converging into one packet-switched<sup>61</sup> communications realm.<sup>62</sup> Highspeed packetized communica-

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58. DOUGLAS, *supra* note 34, at 316.

59. Hazlett, *supra* note 45, at 158.

60. *See generally* OECD, *supra* note 15. Informa, a market research firm, found that “global revenues from fixed-line voice calls were around \$600 billion in 2005, and data revenues were \$202 billion. By 2010 . . . fixed-line calls will account for less than half of operators’ revenues in the developed world. Instead, their new core product will be broadband Internet access.” JIM KOHLENBERGER, UNIVERSAL AFFORDABLE BROADBAND FOR ALL AMERICANS 11 (Benton Found. 2007). A late-2007 Deloitte & Touche report found that usage of cell phones as entertainment devices increased by 50% over just eight months of 2007—from 24% of U.S. consumers to 36%. Gail Schiller, *Americans More Wired: Survey*, REUTERS, Dec. 28, 2007, <http://www.reuters.com/article/industryNews/idUSN2844258220071231> (reporting results of Deloitte & Touch “State of the Media Democracy” survey). About 62% of 13-to-24-year-olds use their cell phones as entertainment devices, and 47% of consumers 25-to-41-years-old. *Id.* About 45% of those surveyed said they were creating their own public online content through editing photos, videos, or music. *Id.*

61. Kevin Werbach, *Supercommons: Toward a Unified Theory of Wireless Commu-*

tions are becoming the key communications medium.<sup>63</sup> The central question is which *model* of packetized communications will prevail: will we converge on a set of proprietary, walled-garden networks, in which the network provider acts as a gatekeeper by deciding which communications (in terms of content, application used, protocol used, how expensive they are) move easily across its network and onto the (authorized) handsets of users (the cellphone model), or will we converge on the Internet model, in which the network provider makes available an interconnected, nondiscriminatory, commodity transport service (essentially, a utility connectivity product) on which competitive communications travel that can be introduced without the knowledge or permission of the network provider and can be accessed via any handset?

The birth of the “Internet model” (perhaps counterintuitively for many readers) relied heavily on extensive government intervention requiring that telephone companies provide services on a “common carriage” basis.<sup>64</sup> Until very recently, the telephone companies (“telcos”) were required to provide telecommunications services on this basis, which meant that they could not discriminate against anyone wishing either to connect to their network or to use their facilities to compete with them.<sup>65</sup> Starting in the 1960s, the telcos were also required to permit competitors to attach de-

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*nication*, 82 TEX. L. REV. 863, 869 n.21 (2004) (“Packet-switching means that information is split into small data ‘packets,’ which are routed independently through the networks and reassembled on the receiving end. This contrasts with the ‘circuit-switched’ model of the telephone network, which holds open a dedicated channel for each call.”).

62. See generally RICHARD D. TAYLOR, TIME FOR CHANGE: TRANSFORMING FUNDING FOR BROADBAND UNIVERSAL SERVICE (Benton Found. 2007) (arguing that soon voice, video, and all other communications will be delivered over IP networks); see also Press Release, Int’l Telecomms. Union, ITU Announces First Global Set of Standards for IPTV (Dec. 18, 2007), available at [http://www.itu.int/newsroom/press\\_releases/2007/40.html](http://www.itu.int/newsroom/press_releases/2007/40.html) (“A combination of voice, Internet and video services over a single broadband link and from a single provider is foreseen as the ultimate goal of the broadband revolution.”).

63. OECD, *supra* note 15, at 19.

64. The next three paragraphs are based on Susan P. Crawford, *Network Rules*, 70 LAW & CONTEMP. PROBS. 51 (2007).

65. See generally ITHIEL DE SOLA POOL, TECHNOLOGIES OF FREEDOM 75-79 (1983) (discussing history of common carriage in the United States); JoAnne Holman & Michael A. McGregor, *The Internet as Commons: The Issue of Access*, 10 COMM. L. & POL’Y 267, 279-80 (2005) (relating that as early as ICC regulations created pursuant to the Interstate Commerce Act of 1897, regulations have classified the telephone industry as a public utility and a common carrier). Internet access providers were classified as common carriers until 2005, when the Supreme Court ruled in *Brand X* that they instead may be regulated as “information services” providers. Nat’l Cable & Telecomms. Ass’n. v. Brand X Internet Servs., 545 U.S. 967 (2005).

vices to these networks, as long as the devices were certified not to cause harm to the network.<sup>66</sup> This open network made growth of the Internet possible in the U.S. because consumers could get flat-rate, dial-up Internet access and attach modems to telephone connections that allowed their computers to act like phones. By contrast, both cable and wireless companies have been permitted (largely) to act as private, vertically integrated networks without a great deal of FCC regulation.<sup>67</sup>

Although telephone companies were initially unenthusiastic about acting as Internet service providers (ISPs) and connecting their subscribers to the Internet, they prospered when subscribers bought extra lines to allow them to go online through other ISPs. The phone companies prospered again when subscribers bought their proprietary DSL services, enabling Internet access at even higher speeds (one to two Mbps).<sup>68</sup> The explosive growth of the Internet took these phone companies by surprise, however, and they became unhappy with requirements to provide flat-rate, open access to online resources. Their dissatisfaction increased when use of online voice services (VoIP) began to undermine their traditional telephone revenues.

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66. See Kevin Werbach, *The Federal Computer Commission*, 84 N.C. L. REV. 1, 18-19 (2005) (describing *Carterfone* history and Part 68 rules); Jason Oxman, *The FCC and the Unregulation of the Internet* (Office of Plans & Policy, FCC, Working Paper No. 31, 1999), available at [http://www.fcc.gov/Bureaus/OPP/working\\_papers/oppwp31.pdf](http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp31.pdf).

67. See, e.g., 47 U.S.C. § 541(c)-(d) (2000) (cable systems not subject to regulation as common carriers; states may not regulate cable systems when they provide communications services other than cable services).

68. Both dial-up and digital subscriber line (DSL) access run across traditional telephone copper wires. See CISCO SYSTEMS, *Digital Subscriber Line*, in INTERNETWORKING TECHNOLOGY HANDBOOK, at 21-1, [http://www.cisco.com/univercd/cc/td/doc/cisintwk/ito\\_doc/dsl.pdf](http://www.cisco.com/univercd/cc/td/doc/cisintwk/ito_doc/dsl.pdf). DSL is a modem technology that converts existing copper telephone lines into two-way highspeed data conduits. *Id.* See also ANGELE A. GILROY & LENNARD G. KRUGER, CONG. RES. SERV., BROADBAND INTERNET REGULATION AND ACCESS: BACKGROUND AND ISSUES 2 (2007). This technology only works within about three miles of a central office facility. *Id.* at 2. DSL devotes certain frequencies on traditional copper phone lines to data transmission and is faster than dial-up because (in part) it does not need to go through a circuit switch but instead goes directly to the packet-switched network. Each end of the phone line must have a DSL modem, which will transmit and receive all data (without conversion) as a digital signal. GOV'T ACCOUNTABILITY OFFICE, PUBL'N NO. GAO-06-426, TELECOMMUNICATIONS: BROADBAND DEPLOYMENT IS EXTENSIVE THROUGHOUT THE UNITED STATES, BUT IT IS DIFFICULT TO ASSESS THE EXTENT OF DEPLOYMENT GAPS IN RURAL AREAS 22 (2006), available at <http://www.gao.gov/new.items/d06426.pdf>. DSL speeds in the United States are about 1.5 to 3 Mbps (about 50 to 100 times the speed of a 28 Kbps dial-up modem), while ADSL speeds may reach 8 Mbps. *Id.* at 8. The FCC defines highspeed Internet access as anything over 200 Kbps, which is alarmingly slow. FCC, What Is Broadband? (Apr. 11, 2007), <http://www.fcc.gov/cgb/broadband.html>.

The telcos initially made strong “level playing field” arguments against cable modem<sup>69</sup> providers, arguing strenuously that cable companies providing Internet access should be subject to the same common carriage and other burdens under which the telcos were operating.<sup>70</sup> But as of March 2002, the cable companies had obtained from the FCC the promise that the highspeed Internet access service they provided would not be regulated as a “telecommunications service” by the FCC—so neither common carriage (nondiscrimination) nor “open access”/“unbundling” obligations would be imposed on them.<sup>71</sup> Between 2002 and 2005 the telcos switched gears and fought hard to remove their own regulatory obligations, pointing out that new investment in fiber networks<sup>72</sup> would be

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69. Highspeed Internet access service provided by cable companies is called “cable modem” service. Cable modem service, which competes directly with DSL, uses home cable network pipes (hybrid fiber coaxial networks) that are connected to ethernet network cards inside computers. Cable facilities are connected via highspeed links directly to the Internet.

70. *See, e.g., MSOs Sued on Open Access*, TELEVISION DIGEST, Nov. 1, 1999 (describing suit by Bell company GTE against cable modem service provider and quoting GTE executive William Barr as saying “You shouldn't let the person who owns the driveway dictate where people go.”); BOB JACOBSON, BROADBAND-CABLE: THE OPEN-ACCESS DEBATE (1999), <http://www.netaction.org/broadband/cable/cable.pdf> (cable-industry-side white paper describing Bell arguments) (“Led by regional monopolies like SBC Communications and GTE, the local telephone companies are asking policy makers to impose onerous carriage conditions on cable broadband service.”).

71. *See generally In re Inquiry Concerning Appropriate Regulation of High-Speed Access to the Internet over Cable and Other Facilities*, 17 F.C.C.R. 4798 (Mar. 14, 2002) (holding that cable companies are not subject to common-carriage obligations). “Open access” and “unbundling” mean roughly the same thing, as a practical matter. The 1996 Telecommunications Act directed incumbent local telephony carriers to unbundle elements of their networks for lease to providers of competitive local exchange services at FCC-mandated wholesale rates. This allowed multiple ISPs to offer service and defeat the telco monopoly. Since the Act came into force twelve years ago, the FCC has been mired in litigation over what precisely their unbundling rules are—which elements have to be unbundled, and at what prices. *See AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999). (vacating and remanding key unbundling rules from Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, 61 Fed. Reg. 45,476 (Aug. 29, 1996) (to be codified at 47 C.F.R. pts. 1, 20, 51, 90 )); *U.S. Telecomm. Ass'n v. FCC*, 290 F.3d 415 (D.C. Cir. 2002) (remanding the FCC's new network elements rules, announced at 65 Fed. Reg. 2367, and its new rules for sharing the local loop, announced at 65 Fed. Reg. 1331); Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, 68 Fed. Reg. 52,276 (Sept. 2, 2003) (to be codified at 47 C.F.R. pt. 51 ) (final rule) (setting out more rules).

72. “Optical fiber cable, already used by businesses as high speed links for long distance voice and data traffic, has tremendous data capacity, with transmission speeds dramatically higher than what is offered by cable modem or DSL broadband technology.”). GILROY, *supra* note 68, at 3.

stunted if they did not have control over their networks similar to that of the cable companies. As of February 2003, the FCC made clear that neither common carriage nor unbundling requirements would be imposed on new fiber to the home (FTTH) installations by the telcos, and in October 2004 the Commission eliminated these obligations for fiber to the curb (FTTC) projects.<sup>73</sup> Immediately following the summer 2005 decision in *National Cable & Telecommunications Association v. Brand X Internet Services*,<sup>74</sup> which deferred to the FCC's determination that cable modem services were not subject to common carriage or unbundling obligations, the telephone companies demanded that DSL services be similarly released from any requirement to connect to all ISPs or carry all services without discrimination. In August 2005, they achieved this goal with the issuance of the FCC's Wireline DSL order.<sup>75</sup> Thus, network operators providing DSL, fiber, and cable packetized communications have over the last few years obtained regulatory approval allowing them to provide the managed, cellphone model of packetized communications (non-common-carriage), whether in connection with selling their own content (*e.g.*, subscription cable channels) or selling access to the Internet. All major providers of Internet access in this country are vertically integrated, providing retail online "services" as well as transport.<sup>76</sup>

As the distinctions between previously separate communications networks disappear, what might have seemed like a request for an exception from a general rule ("we want new private highspeed networks not to be treated like traditional telephone networks") may actually be a complete shift ("no network access used for communications should be subject to nondiscrimination rules"). Public pressure has kept DSL, fiber, and cable Internet access providers from blocking many Internet communications,

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73. Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, 68 Fed. Reg. at 52,279; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, 69 Fed. Reg. 77,950, 77,952 (Dec. 29, 2004) (to be codified at 47 C.F.R. pt. 51).

74. *Nat'l Cable & Telecomm. Ass'n. v. Brand X Internet Servs.*, 545 U.S. 967 (2005).

75. Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, 70 Fed. Reg. 60,222, 60,223-25 (Oct. 17, 2005) (to be codified at 47 C.F.R. pts. 51, 63, 64) (classifying wireline broadband Internet access service (DSL) as an information service under the Communications Act, and thus no longer subject to common-carrier regulations under Title II of the Act).

76. See *Net Neutrality and Free Speech on the Internet: Hearing Before the H. Comm. on the Judiciary*, 110th Cong. (2008) (prepared statement of Caroline Fredrickson, ACLU Washington Legislative Office), available at <http://judiciary.house.gov/media/pdfs/Fredrickson080311.pdf> (describing history of net neutrality and relevant regulatory changes).

although there have been some instances of degradation and interference.<sup>77</sup>

## B. Wireless Carriers

The wireless carriers have *always* had the cellphone model, and have had no compunctions about using their control over their authorized handsets to limit users' Internet activities and exact 40 to 50 percent of applications developers' revenues for access to these users.<sup>78</sup> Wireless companies to date have been very careful about what they let cellphone subscribers do online.<sup>79</sup> Access to online applications (like map services and e-mail) and the ability to use a device of one's own choice are both sharply limited by wireless carriers.<sup>80</sup> A phone sold in a Verizon store will work only on

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77. For example, in August 2007, during the live Lollapalooza Webcast of the Seattle band Pearl Jam, AT&T muted lead singer Eddie Vedder just as he began to sing a lyric attacking President Bush. Nate Anderson, *Pearl Jam Censored By AT&T, Calls for a Neutral 'Net*, ARS TECHNICA, Aug. 9, 2007, <http://arstechnica.com/news.ars/post/20070809-pearl-jam-censored-by-att-calls-for-a-neutral-net.html>. In October 2007, an Associated Press investigation demonstrated that Comcast was throttling or blocking peer-to-peer file-sharing programs like BitTorrent, Gnutella, and Lotus Notes. Chris Soghoian, *Comcast To Face Lawsuits Over BitTorrent Filtering*, CNET NEWS.COM, Oct. 23, 2007, [http://www.news.com/8301-10784\\_3-9802410-7.html](http://www.news.com/8301-10784_3-9802410-7.html). See also PETER ECKERSLEY, FRED VON LOHMANN & SETH SCHOEN, ELEC. FRONTIER FOUND., *PACKET FORGERY BY ISPS: A REPORT ON THE COMCAST AFFAIR* (2007), [http://www.eff.org/files/eff\\_comcast\\_report2.pdf](http://www.eff.org/files/eff_comcast_report2.pdf) (explaining why what Comcast did amounted to blocking of these applications). Comcast takes the position that its blocking is reasonable network management. *Id.*

78. *The 700 MHz Auction: Public Safety and Competition: Hearing Before the S. Comm. on Commerce, Science and Transportation*, 110th Cong. (2007) (prepared statement of Amol R. Sarva, Wireless Founders Coalition for Innovation), available at [http://commerce.senate.gov/public/\\_files/Testimony\\_AmolSarva\\_SarvaWrittenStatement0.pdf](http://commerce.senate.gov/public/_files/Testimony_AmolSarva_SarvaWrittenStatement0.pdf), at 8-9 (describing barriers created by incumbent wireless companies to new devices or services that entrepreneurs wish to introduce); Wilkie, *supra* note 21, at 2 (describing history of wireless companies' control over their networks and current market realities).

79. See S. DEREK TURNER, FREE PRESS, 'SHOOTING THE MESSENGER' MYTH VS. REALITY: U.S. BROADBAND POLICY AND INTERNATIONAL BROADBAND RANKINGS 25 (2007) ("[T]he offerings from [wireless providers] are slow, expensive, and extremely restrictive, making them unattractive as a true competitor to the current duopoly."). All of the major mobile carriers are vertically integrated, acting as retail providers of content and application as well as transport providers.

80. See Tim Wu, *Wireless Net Neutrality: Cellular Carterfone and Consumer Choice in Mobile Broadband* (New Am. Found. Working Paper No. 17, 2007), available at [http://www.newamerica.net/files/WorkingPaper17\\_WirelessNetNeutrality\\_Wu.pdf](http://www.newamerica.net/files/WorkingPaper17_WirelessNetNeutrality_Wu.pdf). Until the FCC's 1968 seminal *Carterfone* decision, which allowed non-AT&T equipment to be connected to the telephone network, consumers were not free to buy and use devices of their own choice for telephone communications. *In re Use of the Carterfone Device in Message Toll Tel. Serv.*, 13 F.C.C.2d 420 (1968). *Carterfone* led to the broad use of the modem, and arguably the birth of the commercial Internet. See Oxman, *supra* note 66. But this open attachment regime has not to date applied to the wireless world. See

the Verizon network. The incumbents also often require two-year contracts with heavy termination penalties.<sup>81</sup>

### C. The Internet Model

Meanwhile, however, the Internet model is gathering steam in terms of user preferences and visible economic benefits for society. The Internet (as it is currently architected) is indifferent to the nature of the packets that use its protocols; it is the first communications medium that allows separation of “content” from “transport.”<sup>82</sup> Although the “highway” metaphor for the Internet is both overused and misdescriptive in some ways, it is a useful one in the following sense: just as a highway does not act differently based on the brand of car using it, the Internet does not now transport packets differently based on the content (voice, video, data) of those packets.

By contrast to (1) the cellphone world, in which a decade of “walled gardens” of innovation and content have given us nothing more advanced than expensive ringtones, and (2) the traditional telephone network, in which more than a hundred years of control have given us nothing more

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Jessica E. Vascellaro, *A Fight Over What You Can Do on a Cellphone*, WALL ST. J., June 14, 2007, at A1; Marguerite Reardon, *Unlock the Cell Phone? It's A High-Stakes Debate*, CNET NEWS.COM, July 16, 2007, [http://www.news.com/Unlock-the-cell-phone-Its-a-high-stakes-debate/2100-1039\\_3-6196718.html](http://www.news.com/Unlock-the-cell-phone-Its-a-high-stakes-debate/2100-1039_3-6196718.html); Kim Hart, *FCC to Rule on Wireless Auction: Lobbying Intense As Google Seeks To Open Market*, WASH. POST, July 30, 2007, at A1 (“Currently, the major U.S. wireless carriers, including AT&T and Verizon Wireless, largely decide which Web sites, music-download services and search engines their customers can access on their cellphones. . . . [W]ireless companies determin[e] which cell-phones will receive their services: AT&T, for example, is the only carrier available to users of Apple's iPhone.”); see also Letter from Wireless Founders Coalition for Innovation, to Marlene H. Dortch, Sec’y, FCC (June 7, 2007) (ex parte communication regarding *In re Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands*, WT Docket No. 06-150), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519520321](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519520321). In general, “incumbent wireless carriers . . . routinely choke bandwidth to users, cripple features, and control the user experience” in order to protect their broadband offerings. Comments of PISC, *supra* note 5, at 12. For example, Apple’s iPhone comes with a two-year contract with AT&T, which is the exclusive carrier for the iPhone until 2009. The iPhone may not be used on any networks other than AT&T’s.

81. *Wireless Innovation and Consumer Protection: Hearing Before the Subcomm. on Telecomm. and the Internet of the H. Comm. On Energy and Commerce*, 110th Cong. (2007) (prepared statement of Christopher Murray, Senior Counsel, Consumers Union), available at [http://energycommerce.house.gov/cmte\\_mtgs/110-ti-hrg.071107.Murray-Testimony.pdf](http://energycommerce.house.gov/cmte_mtgs/110-ti-hrg.071107.Murray-Testimony.pdf) (describing locked phones that cannot be switched between service providers, and two-year contracts with heavy penalties).

82. Telephone networks are optimized for voice services; cable and broadcast networks are optimized for one-way broadcasts. See generally Crawford, *supra* note 64.

advanced than voicemail and conference calls, the interactive Internet has provided the impetus for startlingly quick and sweeping innovation. It is the first medium we have that separates form-of-transport from form-of-communication, removing the tie that made telephone networks optimized for voice, broadcast networks optimized for television broadcasts, and cable networks optimized for cable shows. Users are greatly attracted to the interactive and social resources available online.

Entrepreneurs are launching new Internet ventures that can attract capital from investors. But investors need to be willing to run the risk that DSL, fiber, and cable network providers will pull the rug out from under these new ventures by, for example, slowing, charging differentially for, or otherwise degrading the availability of applications that the network provider views as competing with its own services—no law prevents such activity on the part of network providers.<sup>83</sup>

At the same time, the U.S. is falling behind the rest of the world in highspeed Internet penetration at a rapid clip.<sup>84</sup> As of November 2007, the U.S. ranked 15th among the countries of the world in highspeed Internet penetration (number of subscribers per hundred people) and 21st for high-speed access price.<sup>85</sup> Although speeds of 100 megabits per second are common in Denmark, Japan, Romania, Iceland, Slovenia, Dubai, Kuwait, and in cities in Europe, we in the U.S. pay more than people in those countries and cities for less-than-2.5 megabits per second speeds.<sup>86</sup> According to the Wall Street Journal, “[t]he U.S. is ranked 25th in broadband penetration, behind countries including South Korea, where penetration is 89%, and Canada, where it is 63%.”<sup>87</sup> By contrast, in 2001 an OECD study

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83. This has long been an issue prompted by price-discriminating monopolistic offerors of infrastructure businesses. See Andrew Odlyzko, Network Neutrality, Search Neutrality, and the Never-Ending Conflict Between Efficiency and Fairness in Markets, at 9 (Jan. 8, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=1095350> (noting with respect to 19th century railroads that “[t]he setting where a monopoly infrastructure business, in pursuit of its own ends, could take arbitrary steps that would ruin one business and make another succeed, were regarded as inimical to a really free market”).

84. Steven Levy, *True or False: U.S.’s Broadband Penetration is Lower Than Even Estonia’s*, NEWSWEEK, July 2, 2007, available at <http://www.msnbc.msn.com/id/19389299/site/newsweek>. Many argue that the U.S. highspeed Internet access market is slumbering because of anticompetitive behavior by telco and cable incumbents.

85. Website Optimization L.L.C., November 2007 Bandwidth Report (Nov. 19, 2007), <http://www.websiteoptimization.com/bw/0711>.

86. KOHLENBERGER, *supra* note 60, at 3.

87. Jessica E. Vascellaro, *Is High-Speed Internet Growth Slowing? As Dial-Up Upgrade Level Off, Operators Offer New Services*, WALL ST. J., Aug. 9, 2007, at B3.

found that the U.S. was fourth in broadband penetration.<sup>88</sup> In America, the price of Internet access is high and speeds are slow. The network providers argue that if they are permitted to “manage” their networks (the cell-phone model of access), charging differently for particular uses and being able to make exclusive deals of various kinds, they will be able to charge users perfectly at rates the users are willing to pay. Wall Street will also be pleased by price discrimination abilities, the providers claim, and thus the providers will attract greater investment. They also claim that this investment will then enable them to invest more in infrastructure, which will in turn result in greater penetration of highspeed Internet access in this country.<sup>89</sup> At the same time, users are generally happier with flat rates (the Internet model of access) rather than differential pricing (think voice calls);<sup>90</sup> competition driven by “Internet model” access mandates has pushed highspeed Internet access penetration and economic growth forward in other countries; and we have very little (if any) actual empirical evidence to support the network providers’ claims that building Internet infrastructure will be too expensive unless they are permitted to discriminate.<sup>91</sup>

Nothing goes away, and these private operators (wireline and wireless) will operate “walled gardens” of content for some time that have no real connection to the Internet (as we understand “the Internet” today). The issue is, however, whether these same actors in their roles as providers of

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88. DIRECTORATE FOR SCI., TECH. & INDUS., ORG. FOR ECON. CO-OPERATION & DEV., PUBL’N NO. DSTI/ICCP/TISP(2001)2/FINAL, THE DEVELOPMENT OF BROADBAND ACCESS IN OECD COUNTRIES (2001), *available at* <http://oecd.org/dataoecd/48/33/2475737.pdf>.

89. *See, e.g.*, Comments of Hands Off the Internet, *In re* Broadband Industry Practices, WC Docket. No. 07-52, at 9-13 (Fed. Comm’n Feb. 13, 2008), *available at* [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519841089](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519841089) (making these arguments).

90. *See* Odlyzko, *supra* note 83, at 13 (“Yet more circumstantial evidence that non-discriminatory communications systems should be viable comes from the wireline voice network. That is still the big revenue producer on the wireline side, but operates in an exemplary net neutral fashion, and is, to an increasing extent, paid for by flat fees. . .”).

91. *Id.* at 14 (“Thus if the operators [ ] feel that they need additional revenues [beyond flat fees], they should present some detailed data to support their case. Unfortunately such data has not been available, and the whole net neutrality debate has been carried out in vague and unquantified terms.”). Indeed, it may be cheaper to run a best-effort network, and install more fiber, than to impose a cellphone-like charging model on that network. *See* William Lehr, Economic Case for Dedicated Unlicensed Spectrum Below 3GHz (May 17, 2004) (unpublished manuscript), *available at* [http://itc.mit.edu/itel/docs/2004/wlehr\\_unlicensed\\_doc.pdf](http://itc.mit.edu/itel/docs/2004/wlehr_unlicensed_doc.pdf) (“[I]t may continue to be cheaper to over-provision capacity than to implement a pricing mechanism to induce more efficient utilization at the margin.”).

highspeed access to the Internet have sufficient market power to force users into the cellphone model for Internet access (as well as for the providers' own proprietary content). As more Internet use becomes mobile, this question becomes more focused: on wireless networks, where the cellphone model already operates, will that model become the primary environment for Internet access? Will the dominant wireless carriers have sufficient market power to mandate that users' use of the Internet be "managed" in ways that serve the carriers' bottom lines, no matter what the user might prefer?

#### **D. Nature of the Marketplace**

In a competitive market for highspeed Internet access, the price for such access would likely be driven down as access became an indistinguishable commodity, available from a number of sources, and some access would likely be nondiscriminatory. But in the U.S., the wireline market for highspeed Internet access is highly concentrated, and all of the major providers are committed to being able to discriminate in the provision of that access.

Cable and DSL providers control 96% of all residential highspeed Internet access connections in the U.S., and "[i]n nearly every single locality where these two platforms are available, there is just one company providing cable and just one providing DSL."<sup>92</sup> Rural highspeed Internet access is particularly hard to come by.<sup>93</sup> Thus, regional dominant duopoly providers have a tight hold on residential Internet access. Satellite accounts for less than 0.5% of all highspeed Internet access, as does fixed wireless, and mobile wireless accounts for about 2.5% of all highspeed residential connections.<sup>94</sup>

Verizon Wireless and AT&T are the dominant providers of mobile wireless services in most areas of the country. Accidents of history, combined with multiple mergers and the path of cellphone diffusion in this country, have led to this state of affairs.

First, the history. The commercial wireless industry in this country began in 1981 when the FCC issued two free cellular licenses in the 800

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92. See TURNER, *supra* note 79, at 19; Tessler, *supra* note 15 ("A survey by the Communications Workers of America recently found that median download speeds in the United States stand at 1.9 megabits per second, considerably slower than in other developed countries, particularly those in Asia and Scandinavia.").

93. JOHN B. HARRIGAN & AARON SMITH, PEW INTERNET & AM. LIFE PROJECT, HOME BROADBAND ADOPTION 2007 (2007), available at [http://www.pewinternet.org/pdfs/PIP\\_Broadband%202007.pdf](http://www.pewinternet.org/pdfs/PIP_Broadband%202007.pdf) (only 47% of American adults have a highspeed Internet connection at home; only 31% of rural Americans have broadband at home).

94. Comments of PISC, *supra* note 5, at 3.

MHz range for each “cellular marketing area” (or “CMA”) in the country.<sup>95</sup> There are 734 CMAs in the U.S., and this regulatory limitation to relatively small geographic areas for the licenses (and to only two competitors for each geographic area) meant that cellular technology remained expensive and not widely used.<sup>96</sup> But the operators that were handed these early free “beachfront” 800 MHz licenses retained them, and now (through mergers and sheer staying power) Verizon Wireless and AT&T have most of them.<sup>97</sup>

In this country, most of the people who want a cellphone for voice use have already bought one. In contrast to the market of the 1990s, when carriers were grabbing customers who had never had a cellphone before, the 2007-2008 market is saturated.<sup>98</sup> Now users are on their third or fourth phone and their second or third carrier. The most important service attribute for these experienced cellphone users is coverage—the availability of reliable signals.<sup>99</sup> Verizon Wireless and AT&T offer the best nationwide coverage because they held onto those “beachfront” 800 MHz licenses and snapped up smaller carriers.<sup>100</sup> As a result, Verizon Wireless and AT&T experience both much lower “churn” (dropped subscriptions) and much higher rates of “net adds” (new subscriptions) than the third-largest car-

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95. Ted Hearn, *Guarding the Beachfront*, MULTICHANNEL NEWS, June 18, 2007, available at <http://www.multichannel.com/article/CA6452620.html>; Gregory L. Rosston & Andrzej Skrzypacz, *The FCC's 700 MHz Auction*, SIEPR POLICY BRIEF, Dec. 2007, available at [http://siepr.stanford.edu/papers/briefs/policybrief\\_dec07.pdf](http://siepr.stanford.edu/papers/briefs/policybrief_dec07.pdf)

96. See Memorandum from Frontline Wireless, L.L.C. to Antitrust Div., Dep't. of Justice, *supra* note 22, at 3.

97. See Rosston & Skrzypacz, *supra* note 95. For example, AT&T recently announced that it was buying previously auctioned 700 MHz spectrum from Aloha at a price of \$2.5 billion—12 MHz of spectrum covering almost three-quarters of the area of the United States. Grant Gross, *AT&T Buys High-Speed Wireless Spectrum*, MACWORLD, Oct. 9, 2007, <http://www.macworld.com/article/60437/2007/10/att.html>. This move by AT&T solidifies its spectrum holdings and prevents its competitors (as well as any new entrants) from obtaining this spectrum. Additionally, in just the last six months of 2007, AT&T (Dobson) and Verizon (Rural Cellular/Unicell) each agreed to acquire one of the few remaining independent cellular service providers. Narayan Bhat, *AT&T Completes Acquisition of Easterbrooke*, TMCNET, Jan. 4, 2008, <http://internetcommunications.tmcnet.com/topics/broadband-mobile/articles/17660-att-completes-acquisition-easterbrooke.htm>.

98. Over 250 million Americans now own a cellphone, for a penetration rate of 82.4%. See MERRILL LYNCH, US TELECOM SERVICES INDUSTRY OVERVIEW: US WIRELESS MATRIX 3Q07 (2007); Posting of Mark Hachman to Gearlog, U.S. Cell-Phone Penetration Tops 82 Percent, [http://www.gearlog.com/2007/11/us\\_cellphone\\_penetration\\_tops.php](http://www.gearlog.com/2007/11/us_cellphone_penetration_tops.php) (Nov. 13, 2007).

99. See Rosston & Skrzypacz, *supra* note 95, at 2.

100. *Id.*

rier, Sprint.<sup>101</sup> Indeed, Sprint is rapidly losing customers.<sup>102</sup> The enormous barriers to entry involved in providing nationwide service, their vast spectrum holdings, and the substantial economies of scale of wireless service generally, make Verizon Wireless and AT&T almost unbeatable oligopolists.<sup>103</sup>

When it comes to highspeed Internet access, current wireless offerings from Verizon Wireless and AT&T do not compete directly in terms of speed or cost with the dominant wireline (DSL, fiber, and cable) transport offerings—which explains why 96% of all residential highspeed Internet access connections are sold by regionally dominant DSL or cable companies.<sup>104</sup> Existing (pre-auction) wireless highspeed Internet access connections cost at least twice as much as a DSL or cable connection, and operate at only a fraction of the speed.<sup>105</sup> Residential highspeed Internet access subscribers simply do not cancel their subscriptions in order to sign up for

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101. See Blair Levin, Rebecca Arbogast & David Kaut, *What is the Black Swan of Telecom? (Hint: It's Not the iPhone)*, WASH. TELECOM, MEDIA & TECH INSIDER (Stifel, Nicolaus & Company, Balt., Md.), June 29, 2007. Levin et al. state:

[T]he power of the two dominant wireless networks, Verizon Wireless and AT&T is growing. They already have about 51% of the subscribers and their share of net customer additions is even larger, 64%. Further, they have just started bundling their wireless services with their other services—a marketing opportunity that their major competitors, Sprint and T-Mobile don't have.

*Id.* See also Peter Cramton, Andrzej Skrzypacz & Robert Wilson, *Summary: Revenues in the 700 MHz Auction* (June 27, 2007) (unpublished manuscript), available at <http://www.cramton.umd.edu/papers2005-2009/cramton-skrzypacz-wilson-e-block-plan-increases-revenues.pdf> (economist report filed on behalf of Frontline) (finding that Verizon and AT&T had far higher revenues per minute and a much higher number of new subscribers in the fourth quarter of 2006 than their two high-frequency nationwide competitors, Sprint and T-Mobile). See also Memorandum from Frontline Wireless, L.L.C. to Antitrust Div., Dep't. of Justice, *supra* note 22, at 3 (describing market power of Verizon and AT&T).

102. Steve Lohr, *With Sprint's Client Erosion, Fears of Wireless Slowdown*, NY TIMES, Jan. 19, 2008, at C1.

103. See Neil Netanel, *Temptations of the Walled Garden: Digital Rights Management and Mobile Phone Carriers*, 6 J. TELECOMM. & HIGH TECH. L. 77, 96 n.86 (2007) (citing Eli M. Noam, *Fundamental Instability: Why Telecom is Becoming a Cyclical and Oligopolistic Industry*, 18 INFO. ECON. & POL'Y 272 (2006)).

104. WORKING PARTY ON COMM'N INFRASTRUCTURES & SERVS. POLICY, OECD, DEVELOPMENTS IN FIBRE TECHNOLOGIES AND INVESTMENT (2008), available at <http://www.oecd.org/dataoecd/49/8/40390735.pdf> (“The current range of wireless networks is not capable of offering high bandwidth connectivity, comparable to wired networks.”); Comments of PISC, *supra* note 5, at 5 (DSL and cable modem hold 96% of the residential highspeed access market).

105. Comments of PISC, *supra* note 5, at 3-4.

wireless highspeed access via handsets, because these services are not (currently) substitutable.

At the same time, the dominant existing national wireless carriers, AT&T and Verizon, (1) are controlled by *the same* incumbent actors that control DSL access through regional monopolies across the country<sup>106</sup> and (2) offer wireless services as part of packages that tie together traditional phone services, Internet Protocol Television (IPTV) access, and Internet access.<sup>107</sup> In a nutshell, the leaders in mobile wireless are owned by the same companies who control the DSL marketplace and are, like their corporate parents, choosing to avoid direct competition for highspeed Internet access by bundling three or four services together (voice, video, data) and differentiating their offerings based on their voice or video elements.<sup>108</sup> Given this situation, in which 96% of residential wireline highspeed Internet access is provided by regionally dominant DSL or cable companies, and wireless communications are largely provided by two oligopolist

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106. See Alex Goldman, *Top 23 U.S. ISPs By Subscriber: Q3, 2007*, ISP-PLANET, <http://www.isp-planet.com/research/rankings/usa.html> (overall market shares of AT&T and Verizon 18.2% and 8.1%, respectively); YUANZHE (MICHAEL) CAI & JAMES KUAI, PARKS ASSOCS., NORTH AMERICAN BROADBAND UPDATE (2008), available at <http://www.parksassociates.com/research/reports/tocs/2008/broadband-update.htm> (broadband market share of AT&T at 21% and Verizon at 13%); S. DEREK TURNER, BROADBAND REALITY CHECK II: THE TRUTH BEHIND AMERICA'S DIGITAL DECLINE (2006), <http://www.freepress.net/files/bbrc2-final.pdf> (describing regional duopolies controlled by cable and telephone providers). Leichtman Research, as of March 2008, says that these companies have the following numbers of DSL subscribers: AT&T 14,156,000; Verizon 8,235,000; Qwest 2,611,000; Embarq 1,277,000; Windstream 871,400; CenturyTel 555,000; Citizens 523,845. All of these are the local incumbent in their territory, and none has significant out-of-territory subscriber counts. Press Release, Leichtman Research Group, Over 8.5 Million Added Broadband from Top Cable and Telephone Companies in 2007 (Mar. 3, 2008), available at <http://www.leichtmanresearch.com/press/030308release.pdf>.

107. Todd Spangler, *Verizon Debuts Quadruple Play*, MULTICHANNEL NEWS, Jan. 30, 2007, <http://www.multichannel.com/article/CA6411417.html> (Verizon offering bundle of phone, Internet, TV, and wireless).

108. See, e.g., Posting of DC Truth to Gigaom, Competition Has a Different Meaning in the US, <http://gigaom.com/2007/07/12/competition-has-a-different-meaning-in-the-us/#comments> (July 12, 2007 12:23 PT) ("Cox and AT&T may appear to be competing, but they don't compete head-to-head on the Internet product, instead focusing on service bundles."); see also James S. Granelli, *Phone Bills Are Moving Back Up; Companies Increasingly Are Steering Customers to Bundled Services as a Way to Boost Revenue*, L.A. TIMES, Jan. 28, 2007, at C1. The situation is different in Asia and Europe, where "mobile wireless" providers (particularly in Asia and Europe) have begun offering high-speed transport to the Internet on their cellphone networks. See OECD, *supra* note 15 ("An OECD study in 2006 found that nearly 30% of mobile operators offered a flat-rate third-generation (3G) data connection.")

players who are in turn owned by wireline companies, the dominant providers of Internet access services in this country, both wireline and wireless, have ample market power to nudge users towards the proprietary, cellphone, managed model of packetized highspeed communications. These carriers, just like all makers of potentially commodified information goods, have substantial incentives to both lock their customers in with high switching costs and to differentiate their informational offerings from those of other companies running across their network.<sup>109</sup> They obviously also have great incentives to avoid cannibalizing their own wireline high-speed Internet access market dominance.

### E. Risks of the Internet Model

The Internet model poses difficulties for the network operators (including wireless carriers) who now provide Internet access. Network operators do not want to be in the position of providing highspeed Internet access to users on a commodity basis. They do not want to be forced into the position of providing neutral highways to the Internet, because their own charged-for, “optimized” services will suffer by competitive comparison.<sup>110</sup> Their basic move is to tie use of their pipes, wires, and spectrum to use of particular charged-for services, like IPTV, cable shows, and proprietary Voice over Internet Protocol (VoIP) applications for which their networks are optimized, and to charge separately for those particular services.<sup>111</sup> All of these network operators are emphasizing their vertically integrated offerings, including streaming video, music, web browsing, gaming, and other similar activities.

The wireless carriers are understandably anxious to avoid any hint of common carriage regulation, on the theory that it will undermine their ability to monetize their networks. They lock in their customers by giving steep (or complete) discounts on handset purchases, requiring that only their authorized handsets be used on their networks, and then bundling these handsets with subscriptions to cellular service.<sup>112</sup> In the wireless world innovation is much slower because carriers pick and choose among

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109. See Netanel, *supra* note 103, at 78-79; Wilkie, *supra* note 21, at 2 (summarizing economics literature regarding the “incentives of vertically integrated providers to engage in anticompetitive conduct”).

110. See Susan P. Crawford, *The Internet and the Project of Communications Law*, 55 UCLA L. REV. 359, 395-398 (2007) (describing carrier arguments).

111. See, e.g., Trish Reed, *Phone, Internet, TV, Wireless...Comparing Bundled Services*, EZINE ARTICLES, Feb. 17, 2007, <http://ezinearticles.com/?Phone,-Internet,-TV,-Wireless...Comparing-Bundled-Services&id=458373>.

112. *Id.* (citing *In re Bundling of Cellular Customer Premises Equip. & Cellular Serv.*, 7 F.C.C.R. 4028 ¶ 1 (1992)).

the Internet applications that will be accessible over authorized handsets.<sup>113</sup>

The desires of network operators to vertically integrate their offerings and provide for different treatment of different services (thus keeping non-“optimized” services moving at slow speeds) would not raise legal or business issues in a competitive marketplace. In such a market, some carrier or network operator would emerge who would be willing to provide non-prioritized, commoditized—Internet model—transport services. Such a market, however, does not yet exist here. The cellphone model of Internet access appears destined to prevail because of the market power of the dominant providers of Internet access and their (to date) successful defeat of regulation or legislation that would nudge them into Internet-model behavior.

#### IV. THE 700 MHZ AUCTION

The 700 MHz auction was designed to sell off licenses to valuable beachfront spectrum that television broadcasters have been forced to relinquish. The auction was born in controversy and created enormous controversy in every corner of the U.S. communications industry. This Part explains the story behind the auction, describes the changed technical and business background against which current spectrum policy is operating, and briefly outlines the positions of key players.

##### A. The Story Behind the Auction

###### 1. *The Broadcasters and Their Spectrum*

In the 1980s, large commercial television broadcasters faced two enemies: cable systems and two-way radios. Cable systems were siphoning off the audience for television broadcasts, and manufacturers of two-way radios were pointing out to the FCC that the broadcasters were not using much of their allocated spectrum.<sup>114</sup> The broadcasters came up with the bright idea of demanding *even more* spectrum in order to provide “high definition” digital television to their audience.<sup>115</sup> Congress went along with this notion, and decided in the early 1990s to allow every television station to apply for a second channel for temporary use in the transition to high definition digital transmissions.<sup>116</sup> Congress also determined that

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113. See Wu, *supra* note 80.

114. JOEL BRINKLEY, *DEFINING VISION: THE BATTLE FOR THE FUTURE OF TELEVISION 6-8* (1997).

115. *Id.* at 10.

116. Every television broadcaster was given a second 6 MHz spectrum license. The

when the transition was complete this second channel would be auctioned off.<sup>117</sup> For the last fifteen years or so, Congress has been counting on the billions of dollars that will be generated from this auction.<sup>118</sup>

Although this story sounds simple, there have been many painful delays along the way. Broadcasters were delighted to fend off the anticipated loss of “their” spectrum to land mobile operators, but they were less pleased when they realized they would have to buy expensive equipment in order to provide digital television transmissions. The date of the digital transition has been extended again and again, as the broadcasters argued that not all consumers were ready to lose access to over-the-air analog television transmissions.<sup>119</sup>

In early 2006, Congress passed the Digital Television Transition and Public Safety Act, which sets a hard date for the digital transition—February 19, 2009, chosen in part because it falls after the Super Bowl is over—and provides that some of the revenues from the auction of spectrum will be used to fund coupons for digital-to-analog converter boxes.<sup>120</sup> On that day in February 2009, if there are no further delays, analog television transmissions will cease and all television broadcasting will be digital. The broadcasters are obligated to “clear the band” and release the 108 MHz of spectrum (the temporary channels they were allocated to accom-

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Commission and Congress expected that broadcasters would offer both analog and digital transmissions during a transition period. Then, when enough consumers were receiving digital signals, the plan was that the broadcasters would cede their analog frequencies and move to enhanced digital programming. *See* Notice of Proposed Rulemaking, *In re* Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186, FCC 04-113, ¶ 4 (Fed. Comm’n Comm’n May 25, 2004), *available at* [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-04-113A1.doc](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-113A1.doc) [hereinafter White Spaces NPRM].

117. *Id.* The broadcasters have been forced off channels 52 to 69, which correspond to 698-806 MHz—hence the nickname “700 MHz auction.”

118. BRINKLEY, *supra* note 114, at 321.

119. Although the initial deadline for giving back the analog spectrum was 2006, Congress modified the deadline to allow television stations to use both analog and digital transmissions until there was 85% penetration of digital signals in households in their markets. *It’s Crunch Time for Congress on DTV Transition*, TELECOM POLICY REPORT, May 30, 2005 (describing sequence of events). This very uncertain standard triggered several extensions of the auction.

120. The auction must begin by January 28, 2008, money must be deposited in the Treasury by June 30, 2008, and analog transmissions must cease on February 19, 2009. *See* Report and Order and Further Notice of Proposed Rulemaking, *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150, FCC 07-72, ¶ 2 (Fed. Comm’n Comm’n Apr. 27, 2007), *available at* [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-07-72A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-07-72A1.pdf) [hereinafter Further Notice of Proposed Rulemaking]. This schedule, and the February 19 date in particular, is often referred to as the “digital transition,” or the “DTV transition.”

plish the digital transition) by that date.

Thus, after more than twenty years of tumultuous debate over how and when to reclaim this broadcasting spectrum, the auction went forward in January 2008, resulting in key large wins by Verizon and AT&T.<sup>121</sup> There remain key uncertainties: will the broadcasters actually vacate the airwaves by February 2009? Will consumers be ready for the digital television transition?<sup>122</sup> Will a disappointed player sue to enjoin the implementation of the auction's results?

## 2. *The Subject of the Auction*

The spectrum that will be returned, and was therefore auctioned off, is between channels 52 and 69—previously the “ultra high frequency” television area. There was great interest in this spectrum in part because of its characteristics. Radio waves at lower frequencies like these are generally thought to propagate better, across greater distances.<sup>123</sup> In particular, the

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121. See *supra* text accompanying note 24.

122. The digital transition has been spurred on by the digital tuner rule, which requires all new televisions to include the capability of receiving digital broadcasts. See Werbach, *supra* note 66, at 58-60 (describing digital tuner mandate). But many Americans (perhaps 70 million) still have analog television sets; if the owners of these sets are not subscribers to cable or satellite systems, the sets will cease to receive any television broadcasts on February 19, 2009. See David Hatch, *Media Expert Predicts Digital ‘Train Wreck’*, TELECOM DAILY, July 19, 2007 (noting objections to “poorly-funded outreach effort” to consumers about converters). As J. H. Snider points out, however, “[t]he vast majority of TV sets are used primarily for purposes other than watching TV terrestrially over-the-air.” SNIDER, ART OF SPECTRUM LOBBYING, *supra* note 10, at 26.

123. The claim that any one frequency is “better” than another for propagation purposes has been strenuously attacked on technical grounds. See Posting of David P. Reed, dpreed@reed.com, to arch-econ@cookreport.com (June 29, 2007) (on file with author). Reed stated that:

[W]hat people call problems with propagation at 5.8 GHz are really results of receiver and system design choices: small antennas, high-data rate service, wideband modulation, very low power limits. what people call the strengths of 700 MHz are really the results of receiver and system design choices: large antennas way up high on towers, low data rate services, narrowband modulations, very high power limits.

*Id.* The claim that 700 MHz is inherently “better,” however, unquestionably reflects the current received wisdom (even if it is incorrect). See, e.g., Report and Order and Further Notice of Proposed Rulemaking, *In re* Serv. Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, FCC 07-72 (Fed. Commc’ns Comm’n Apr. 27, 2007) (statement of Comm’r Deborah Tate), available at [http://fjallfoss.fcc.gov/edocs\\_public/attachmatch/FCC-07-72A5.pdf](http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-07-72A5.pdf). Tate stated:

The inherent propagation characteristics of the 700 MHz band could make it less expensive to construct new networks covering larger geographic areas, making it ideal for expanding the availability of broadband in rural areas. At the same time, the band potentially provides bet-

700 MHz band is generally considered to be ideal for services that need to cover a large area that may include trees and walls, and is more likely to work for transmission services in adverse weather conditions.<sup>124</sup> Current cell phone and Wi-Fi services cover much smaller areas and rely on line-of-sight transmissions. This 700 MHz spectrum might therefore be able to support long-range provision of wireless highspeed Internet access (1) in areas where faster “wired” DSL or cable Internet access is not available, or (2) for personal, portable wireless uses.<sup>125</sup> It might be able to do this while requiring far less capital expenditure for the building of transmission towers than higher frequency bands.<sup>126</sup> Until this auction, the spectrum was available only for analog television broadcasts; now it is being earmarked for broadly defined wireless “Commercial Mobile Radio Services” (CMRS) uses.<sup>127</sup>

There was enormous, front-page-story interest in this 700 MHz spectrum because nearly all the usable radio-frequency spectrum has been fully allocated by the FCC.<sup>128</sup> Wide ranges of frequencies are assigned to the military, broadcasters, emergency services, and other users. Even though these frequencies may not be in use, they are unavailable for new uses.<sup>129</sup> The FCC has also imposed restrictions on *how* particular frequencies may

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ter in-building coverage than higher frequencies, which not only would facilitate the provision of advanced services in urban areas but also could help improve 911 access and location system performance.

*Id.*

124. Blair Levin, Rebecca Arbogast & David Kaut, *700 MHz: A Pivotal Auction*, WASH. TELECOM, MEDIA & TECH INSIDER (Stifel, Nicolaus & Company, Balt., Md.), Mar. 2, 2007.

125. *See infra* Section IV.A.1 (describing limitations of 700 MHz spectrum).

126. Kanchana Wanichkorn & Marvin Sirbu, *The Role of Fixed Wireless Access Networks in the Deployment of Broadband Services and Competition in Local Telecommunications Markets*, Telecommunications Policy Research Conference, 2002, at 23, available at <http://intel.si.umich.edu/tprc/papers/2002/86/FixedWirelessNetworks.zip> (system operating at 2.6GHz would need twice as many cell sites as system operating at 700 MHz).

127. *See* Second Report and Order, *supra* note 1, ¶1 (“This spectrum currently is occupied by television broadcasters in TV Channels 52-69. It is being made available for wireless services, including public safety and commercial services, as a result of the digital television (‘DTV’) transition.”).

128. GENERAL ACCOUNTING OFFICE, PUBL’N NO. GAO-02-906, BETTER COORDINATION AND ENHANCED ACCOUNTABILITY NEEDED TO IMPROVE SPECTRUM MANAGEMENT (2002), available at <http://www.gao.gov/new.items/d02906.pdf>.

129. *See* Shared Spectrum Co., Spectrum Occupancy Measurements, <http://www.sharedspectrum.com/measurements> (study showing that actual spectrum utilization in any given geographic area averages only 5% of total available spectrum).

be used, in addition to *who* may use it.<sup>130</sup> Thus, spectrum is scarce as a practical matter.<sup>131</sup> The 700 MHz auction was widely described as the last great auction of spectrum for the foreseeable future.<sup>132</sup> Because the ten-year licenses granted by the FCC are perpetual as a practical matter, the stakes were high.<sup>133</sup> This auction was thus a central policy moment for the United States and a useful case study for telecommunications policy generally.

### 3. *The Statutory Scheme and the Band Plan*

Section 301 of the 1934 Telecommunications Act states that the federal government controls the electromagnetic spectrum in this country.<sup>134</sup>

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130. This method of allocating spectrum is often referred to as the “command and control” model, under which the Commission “allocates and assigns frequencies to limited categories of spectrum users for specific government-defined uses. Service rules for the band specify eligibility and service restrictions, power limits, build-out requirements, and other rules.” SPECTRUM POLICY TASK FORCE, FED. COMM’NS COMM’N, REPORT OF THE SPECTRUM RIGHTS AND RESPONSIBILITIES WORKING GROUP (2002), *available at* [hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-228542A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-228542A1.pdf) [hereinafter SPTF-RR].

131. Many have argued that making more spectrum available on an unlicensed basis and relying on “smart” devices to isolate particular transmissions could solve most perceived scarcity problems, and that in fact no real scarcity exists. *See, e.g.*, Yochai Benkler, *Some Economics of Wireless Communications*, 16 HARV. J.L. & TECH. 25 (2002) [hereinafter Benkler, *Wireless Communications*]; Benkler, *supra* note 50; David Weinberger, *The Myth of Interference*, SALON, Mar. 12, 2003, <http://dir.salon.com/story/tech/feature/2003/03/12/spectrum/index.html> (quoting David Reed saying that “There’s no scarcity of spectrum any more than there’s a scarcity of the color green.”). Because Congress has decided that this 700 MHz spectrum must be auctioned off, dedicating it to unlicensed use is not an option. The argument that more spectrum should be made available on an unlicensed basis remains relevant, however, in the context of the white spaces proceeding described *infra* in Section VI.B. In a larger sense, as Benkler notes, “cumulative institutional choices [have] caused spectrum scarcity, rather than responded to it,” and these choices can be changed in the context of the white spaces. Benkler, *supra* note 50, at 300.

132. *See, e.g.*, Levin et al., *supra* note 124.

133. *See* MOORE, *supra* note 10, at 7 (“Even though licenses must be renewed periodically, it is generally understood that license winners will be able to keep the license perpetually, as long as they comply with FCC service rules.”); *see also* Eli Noam, *Spectrum Auctions: Yesterday’s Heresy, Today’s Orthodoxy, Tomorrow’s Anachronism. Taking the Next Step to Open Spectrum Access*, 41 J.L. & ECON. 765, 785 (1998).

134. 47 U.S.C. § 301 (2000); Robert Matheson & Adele Morris, *The Technical Basis for Spectrum Rights* (2007) (unpublished manuscript, on file with author) (“The term ‘spectrum’ is used colloquially to mean several things, including a given frequency, a frequency band, or a set of rights to access a set of frequencies at a given time and location.”).

For the purposes of this Article, “spectrum” is shorthand for “rights to use particular frequencies.”

The government is to permit “the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority.”<sup>135</sup> The resulting license is for long-term usage and does not establish an ownership right, but as a practical matter it is permanent.<sup>136</sup> In 1983, Congress inserted into the 1934 Act the statement that it is the policy of the United States “to encourage the provision of new technologies and services to the public,” and that anyone who opposes a new technology or service will have the burden of demonstrating that the proposal is inconsistent with the public interest.<sup>137</sup>

Spectrum was initially handed out through comparative hearings, with their “heavy-handed political influence peddling”<sup>138</sup> and “socially wasteful and politically charged” atmosphere.<sup>139</sup> The next step was towards lotteries, for which hopeful and deluded applicants overloaded the floors of the FCC with paper while well-connected Americans received windfalls.<sup>140</sup> After a flurry of Clinton Administration interest in auctioning spectrum, Congress amended Title III of the 1934 Act in 1993 to authorize the Commission to assign licenses through competitive bidding.<sup>141</sup> Auctions

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135. 47 U.S.C. § 301 (2000).

136. *See supra* note 133. The licenses at issue in the 700 MHz auction are nominally for ten-year terms, terminating on February 17, 2019. Second Report and Order, *supra* note 1, ¶ 35.

137. 47 U.S.C. § 157(a) (2000); *see also* 47 U.S.C. § 303 (2000) (if “the public convenience, interest, or necessity requires[, the Commission] shall . . . (r) . . . prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this chapter”). The Commission cites *Schurz Communications, Inc. v. FCC* for the proposition that the “Communications Act invests [the] Commission with ‘enormous discretion’ in promulgating licensee obligations that the agency determines will serve the public interest.” Second Report and Order, *supra* note 1, ¶ 207 n.470 (citing *Schurz Comm’ns, Inc. v. FCC*, 982 F.2d 1043, 1048 (7th Cir. 1992)).

138. Nicholas W. Allard, *The New Spectrum Auction Law*, 18 SETON HALL LEGIS. J. 13 (1993). Comparative hearings were used between 1927 and 1984.

139. Thomas W. Hazlett, *Assigning Property Rights to Radio Spectrum Users: Why Did FCC License Auctions Take 67 Years?*, 41 J.L. & ECON. 529, 530 (1998).

140. *See* Allard, *supra* note 138, at 26. Lotteries were used between 1984 and 1994 to assign cellular licenses. Hazlett, *supra* note 139, at 533. Hazlett asserts that “public interest” considerations faded when licenses were adopted, because “[t]here were no program content issues at stake.” *Id.* at 560; *see* SNIDER, ART OF SPECTRUM LOBBYING, *supra* note 10 (documenting outrage over lotteries). For a description of the history of the auction requirement, *see* NUECHTERLEIN & WEISER, *supra* note 39, at 242-51.

141. Omnibus Budget Reconciliation Act of 1993 (OBRA 1993), Pub. L. No. 103-66, § 6002, 107 Stat. 312, 387-92 (codified as amended at 47 U.S.C. § 309(j)). In the Balanced Budget Act of 1997, Congress expanded the Commission’s auction authority, provided for the transfer of additional spectrum from federal government use and granted the Commission explicit authority to allocate electromagnetic spectrum so as to provide flexibility of use. Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251

are said to move spectrum quickly to the players that value these resources most highly and to create rational certainty and investment incentives, and were adopted to reduce budget deficits.<sup>142</sup> Indeed, Congress has *required* the FCC to use auctions if, among other things, the service to be provided using the spectrum involves the sale of communications services to subscribers.<sup>143</sup> Initial Congressional auction authority was explicitly linked to Personal Communications Services (PCS) allocations, accompanied by heady claims of supplanting existing communications modalities.<sup>144</sup>

The Commission's job is to determine "whether the public interest, convenience, and necessity will be served by the granting" of particular licenses pursuant to auction.<sup>145</sup> Over the years, the Commission has considered any number of "public interest" factors, and has been assailed for its ad hoc, band-by-band approach to spectrum policy.<sup>146</sup> In the auction setting, however, Congress did provide guidelines for the "public interest" standard for competitive bidding for licenses, instructing the FCC to promote economic opportunity, competition, and development and deployment of new technologies; to avoid excessive concentration of licenses and spread licenses among a wide variety of applicants; and to promote efficient and intensive use of spectrum.<sup>147</sup>

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(1997). *See also In re Implementation of Section 309(j) of the Commc'ns Act*, 9 F.C.C.R. 2348 (1994).

142. *See* Noam, *supra* note 133, at 771.

143. *See* Peter Passell, *Economic Scene; Auctioning Off The Airwaves Will Be a Formidable Undertaking*, N.Y. TIMES, Apr. 7, 1994, at D2 (quoting former FCC official saying that "[a]n auction is bound to be better than the alternatives' of giving away licenses by lottery or awarding them to the best lobbyists").

144. *See* Hazlett, *supra* note 139, at 560-61 (noting that PCS was to be licensed as a competitor to existing cellular services and "was anticipated to be of substantial social value."); *see also* Edmund L. Andrews, *America Unplugged: Entering a Wireless Era—A Special Report; F.C.C. Clearing Airwaves For Phones of the Future*, N.Y. TIMES, Sept. 20, 1993, at A1. Andrews reported that:

Using the digital electronics of computers, the new 'personal communications services' will be capable of sending data, images and perhaps even video to an expanding family of nomadic computing devices—palm-size computers, electronic notepads and what some people call mutant devices that combine the features of a telephone, computer and pager. . . "This will shake the foundations of the entire telecommunications industry," remarked Alfred C. Sikes, who served as the chairman of the F.C.C. under President George Bush. . . .

*Id.*

145. 47 U.S.C. § 309(a) (2000).

146. SPTF-RR, *supra* note 130, at 8.

147. 47 U.S.C. § 309(j)(3)(A)-(B) (2000). Among the objectives of Section 309(j) of the Act are "the development and rapid deployment of new technologies, products, and

In connection with the 700 MHz auction, Congress had allocated 24 MHz of the available formerly analog-broadcast spectrum for “public safety” uses.<sup>148</sup> The rest of the spectrum in this 700 MHz chunk had been statutorily allocated for broadly defined “commercial wireless” uses.<sup>149</sup> Congress has not said what the geographic scope of these commercial licenses should be, so the FCC had discretion to decide which licenses should be national in scope and which should be of other sizes—regional, cellular market area, etc.<sup>150</sup> The FCC also had discretion to set other rules about buildout requirements (how much area a licensee’s network must cover), “open access” requirements, wholesale versus retail operations, and cooperation (or not) with public safety officials by commercial operators.<sup>151</sup>

The statute states that the absolute auction revenue to be received may not be the basis of a Commission finding that the public interest has been served.<sup>152</sup> The Commission has said that it understands this provision to mean that “[r]adio spectrum is a public resource of the United States that Congress has authorized and directed the Commission to manage in the public interest,” with the Commission’s “most basic spectrum-management power [being] to assign spectrum to achieve public interest benefits other than monetary recovery.”<sup>153</sup>

In connection with adopting the specific 700 MHz auction rules that are the subject of this Article, the Commission established the “band plan” for the spectrum to be auctioned—the number of MHz for each block and

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services for the benefit of the public, including those residing in rural areas;” “promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women;” and the “efficient and intensive use of the electromagnetic spectrum.” *Id.*

148. See Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 § 3004 (codified as amended at 47 U.S.C. § 337(a) (2000)).

149. 47 U.S.C. § 309(j)(14)(C)(i)(II) (2000).

150. A few abbreviations used by the Commission for the geographic size of licenses: REAG means “regional economic area grouping” (there are only 12 of them); MEA means “major economic area” (there are 52 of them); EA means “economic area” (there are 176 of them); CMA means “cellular market area” (there are 734 of them). Further Notice of Proposed Rulemaking, *supra* note 120, ¶ 18.

151. 47 U.S.C. § 309(j)(3) (2000 & Supp. IV).

152. 47 U.S.C. § 309(j)(7)(A) (2000).

153. SNIDER, ART OF SPECTRUM LOBBYING, *supra* note 10, at 12 (citing *In re Improving Public Safety Comm’ns in the 800 MHz Band*, 19 F.C.C.R. 14969, ¶ 85 (Aug. 6, 2004)).

the geographic extent of the licenses to be awarded for each block.<sup>154</sup> As shown in Table 1, the 700 MHz band is divided into two categories—the lower 700 MHz band and the upper 700 MHz band. This Article focuses on the “service rules” for two of the upper band blocks: the upper band “C” block, in which two nationwide paired blocks of 11 MHz each were auctioned off in very large geographic areas—12 licenses, each covering a “Regional Economic Area Grouping”—and the upper band “D” block, in which a single nationwide license was to be auctioned off accompanied by an obligation to construct a public safety network.

Band	Frequency Block	Bandwidth	Geographic Area Type	Number of Licenses
Lower 700 MHz	A	12 MHz	EA	176
Lower 700 MHz	B	12 MHz	CMA	734
Lower 700 MHz	E	6 MHz	EA	176
Upper 700 MHz	C	22 MHz	REAG	12
Upper 700 MHz	D	10 MHz	Nationwide	1
Auction Total		62 MHz		1,099

**Table 1:** EA—“Economic Area”; CMA—“Cellular Market Area”; REAG—Regional Economic Grouping”

The Lower 700 MHz band commercial licenses were set up in small geographic areas and designed to facilitate the entry of smaller businesses into local competition in wireless provision. The C and D commercial blocks in the upper band were the focus of attention because they made possible the entry of a nationwide competitor.

## B. Key Perspectives

This Section describes the positions of the FCC, Congress, the incumbent spectrum holders (Verizon Wireless and AT&T), and new spectrum entrants (including, most prominently, Google) with respect to the auction of the Upper Band C block.

### 1. FCC: The Purpose of the Auction

What did the FCC think was the purpose of the 700 MHz auction? The FCC’s rhetoric suggested that the Commission actually believed that the

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154. Second Report and Order, *supra* note 1, ¶ 4 (setting out band plan).

auction could provide an opportunity for competitive choice in the market for highspeed Internet access—thus facilitating greater highspeed access penetration, higher speeds, and lower prices. For example, Chairman Kevin Martin said that the auction “presents the single most important opportunity” for the U.S. to facilitate the deployment of a third choice (sometimes called the “third pipe”), in addition to cable and DSL networks, for highspeed Internet access.<sup>155</sup> He repeatedly maintained that improving highspeed access to the Internet was a key priority for the Commission.<sup>156</sup>

It was not clear how a competitive nationwide “third pipe” could have emerged from the auction, however, given the data limits for the limited spectrum made available in a single block in the 700 MHz auction. High-speed Internet access using the two 11-MHz blocks of 700 MHz spectrum being auctioned off as “Block C” would not be very highspeed, and Block C was the largest block being auctioned.<sup>157</sup>

It was true, however, that the favorable propagation characteristics of this spectrum (long distances, penetration through foliage and building walls) could have been very useful in making cost-effective last-mile

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155. Notice of Proposed Rulemaking, *In re* Development of Nationwide Broadband Data, WC Docket No. 07-38, FCC 07-17 (April 16, 2007) (statement of Kevin J. Martin, Chairman), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-07-17A4.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-07-17A4.pdf).

156. See, e.g., *id.* at 49 (promoting broadband deployment and penetration is one of his highest priorities); *Oversight of the Federal Communications Commission: Hearing Before the Subcomm. on Telecomm. and the Internet of the S. Comm. on Commerce, Science and Transportation*, 110th Cong. (2007) (statement of Kevin J. Martin, Chairman, FCC) (broadband deployment and penetration is a critical link to economic growth), available at [http://commerce.senate.gov/public/\\_files/MartinSenateTestimony121307final.pdf](http://commerce.senate.gov/public/_files/MartinSenateTestimony121307final.pdf), at 3.

157. STEVE METHLEY, PUBL’N NO. SES-2006-9, WIRELESS LAST MILE FINAL REPORT (2006), available at <http://www.ofcom.org.uk/research/technology/research/ese/lastmile> (follow “Wireless Last Mile Final Report” hyperlinks). One can transmit approximately two bits of information (or less) per each Hertz. So 11 MHz (the amount available in each Block C regional license) would provide about 15 Mbps of capacity, which is spread over a cell. The actual speed experienced by a customer in that cell, however, will be approximately 2 Mbps for downloads, and probably less. That is approximately the speed of DSL or cable service now. As DSL and cable providers “eventually increase speeds to 5-10 Mbps of throughput for each user, that wireless service will not be a true competitor. It will be a reasonable broadband experience for a wireless device used for limited applications, but it will not be a substitute for a residential wireline connection.” See Posting of John to Lafayette Pro Fiber Blog, Cheap Wi-Fi Is Too Slow, <http://lafayetteprofiber.com/Blog/2007/06/cheap-wi-fi-too-slow.html> (June 19, 2007). Cf. Second Report and Order, *supra* note 1, ¶ 77 (stating that standards groups do not expect highspeed data rates with less than a 20MHz block).

Internet access available to rural areas underserved by wireline or wireless Internet access providers. This 700 MHz band (Upper Band Block C) of spectrum could have provided wireless Internet access at less expense (given the lower numbers of towers needed) than existing wireless services, in areas to which DSL and/or cable modem access had not yet been extended—with the added advantage of mobility. For rural areas, this could have been a way around the DSL/cable bottleneck.

Nonetheless, the Commission's broad rhetoric continued, with Chairman Martin in particular apparently anxious to talk about the possible merits of a "third pipe" wireless solution stemming from the auction. The reason? To the extent that the U.S. has a policy direction for facilitating the continued penetration of highspeed Internet access, it has been focused on supporting the idea that competition between the two existing dominant platforms—cable and DSL providers—will generate a competitive marketplace. Chairman Martin was extending the logic of this policy direction to include a third option—wireless—on the assumption that the presence of a third actor would make a difference. His stated hope was that the operation of market forces would obviate the need for regulation.<sup>158</sup>

This "intermodal" approach (facilitating competition between platforms) to encouraging broadband penetration differs from the policies of many other countries. In the UK, for example, British Telecom has been required to set up a separate organization (Openreach) which sells wholesale transport services to independent ISPs.<sup>159</sup> Broadband speeds have

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158. Verizon and AT&T are also implementing fiber-optic communications networks, and Verizon in particular has made substantial progress in this direction. But Verizon's fiber-optic network (FiOS), which delivers speeds of up to 20 Mbps, is available to only about 8.5 million homes and businesses in 16 states, out of approximately 110 million households nationwide, a penetration rate of less than 10%. The actual number of FiOS subscribers is far lower. See Press Release, Verizon, Verizon Continues to Dramatically Raise Broadband Upload Speeds in FiOS Internet Service Areas (Nov. 20, 2007), available at <http://newscenter.verizon.com/press-releases/verizon/2007/verizon-continues-to.html>; U.S. Census Bureau, USA QuickFacts from the US Census Bureau, <http://quickfacts.census.gov/qfd/states/00000.html> (Data as of 2000). The much-touted FiOS network so far reaches only 515,000 homes (instead of the 12 million originally projected for 2000), offers usually only five-Mbps service, and costs about the same as 100Mbps service available in Korea. Tessler, *supra* note 15. Five-Mbps speed is not enough to "reliably deliver high-definition video online." *Id.* AT&T only has 51,000 IPTV customers, although it claimed it would have 18 million by 2007. E-mail from Bruce Kushnick, Chairman of Teletruth.org, to author (Aug. 1, 2007, 04:22) (on file with author).

159. Press Release, Office of Commc'ns [Ofcom], Ofcom Accepts Undertakings From Board of BT Group plc on Operational Separation (Sept. 22, 2005), available at [http://www.ofcom.org.uk/media/news/2005/09/nr\\_20050922](http://www.ofcom.org.uk/media/news/2005/09/nr_20050922) (describing access structure

doubled, and the number of highspeed Internet access subscriptions has climbed sharply.<sup>160</sup> In France, France Telecom was forced to open up its network to rival operators. That encouraged competitors to rent access to France Telecom's wires and start offering competing broadband services. And that, in turn, encouraged France Telecom to improve its own prices and services. Now France is "one of the world's most wired nations."<sup>161</sup> Japan's government required the largest phone company in Japan to open up its wires to competitive Internet access providers.<sup>162</sup> The ensuing competition drove that company (Nippon Telegraph and Telephone) to implement its own highspeed Internet access plans and install optical fiber networks nationwide. At the moment, access speeds in Japan are up to 17 times faster than those in the US.<sup>163</sup> Similarly, in Korea, extensive government involvement in policy-setting, investment, and loan programs has led to the fastest and most prevalent Internet access in the world.<sup>164</sup>

In the U.S., adding (slow) "wireless" to "DSL" and "cable" will not substantially change the competitive picture for highspeed Internet access. First, the reality is that the "intermodal" approach has been a failure in this country. Because both sets of existing Internet access providers—DSL and cable—are resisting commodification by selling bundles of proprietary services (to which Internet access is an add-on), they are not directly competing to offer "naked" highspeed Internet access.<sup>165</sup> Both sets of providers object to any requirement that they sell wholesale, nondiscriminatory transport to competitive retail providers of Internet access.<sup>166</sup> Both sets of providers want to be able to extract all possible consumer surplus out of their cables and wires by charging differentially for favored uses of their

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to be operated by BT in the United Kingdom).

160. Sarah Laitner, *Reding Drops a Broadband Bombshell*, FINANCIAL TIMES, Aug. 30, 2007, at 6.

161. Jennifer L. Schenker, *Vive la High-Speed Internet!*, BUSINESSWEEK, July 18, 2007, [http://www.businessweek.com/globalbiz/content/jul2007/gb20070718\\_387052.htm](http://www.businessweek.com/globalbiz/content/jul2007/gb20070718_387052.htm).

162. Nobuo Ikeda, *How the 'Japanese Miracle' of Broadband Came About*, GLOCOM PLATFORM, Dec. 24, 2003, available at [http://www.glocom.org/special\\_topics/colloquium/20031224\\_ikeda\\_how/](http://www.glocom.org/special_topics/colloquium/20031224_ikeda_how/).

163. Blaine Harden, *Japan's Warp-Speed Ride to Internet Future*, WASH. POST, Aug. 29, 2007, at A02.

164. Posting of Karl to Broadband Reports.com, South Korea Wants to Stay Broadband King, <http://www.dslreports.com/shownews/South-Korea-Wants-To-Stay-Broadband-King-87926> (Sept. 27, 2007).

165. See text accompanying notes 106-108 (describing Verizon bundled services.)

166. See Ted Hearn, *Court Agrees with FCC on DSL Deregulation*, MULTICHANNEL NEWS, Oct. 16, 2007, <http://www.multichannel.com/article/CA6491979.html> (noting that deregulation of telcos provides parity with cable companies).

networks.<sup>167</sup> Second, the addition of a drip of wireless Internet connectivity, even if provided by a new nationwide entrant, will not threaten the dominance of DSL and cable or encourage the penetration of high-speed Internet access services through competition. Indeed, the comparatively slow wireless Internet connectivity made possible through the auction of two 11-MHz blocks cannot compete with DSL and cable speeds in areas where wireline Internet access is already available.

But the idea of “intermodal” competition fits with the Commission’s generally deregulatory stance.<sup>168</sup> The Commission gave the appearance of facilitating such competition through its approach to the 700 MHz auction. Even though the emergence of a real “third pipe” through the workings of the auction was highly unlikely, the Commission’s rhetoric suggested that that was what they had wanted all along.

## 2. *Congress’s Budgetary Needs*

In creating the rules for the 700 MHz auction, the Commission was responding to a Congressional mandate and continuing Congressional pressure. Congress’s plan was that the auctioned spectrum would go to the highest bidder, with the resulting auction proceeds subsidizing both digital converter boxes for consumers and a national public safety wireless network.<sup>169</sup> In addition, over \$7 billion from the auction revenues will go towards deficit reduction.<sup>170</sup> The Congressional Budget Office estimated that the commercial license of 60 MHz of spectrum in the 700 MHz auction will bring in \$10-\$15 billion,<sup>171</sup> and other estimates ranged even

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167. See, e.g., Susan P. Crawford, *supra* note 110; see also Jon Leibowitz, Comm’r, FTC, Concurring Statement Regarding the Staff Report Broadband Connectivity Competition Policy, available at <http://www.ftc.gov/speeches/leibowitz/V070000statement.pdf>. Commissioner Leibowitz cautioned:

There is a real reason to fear that, without additional protections, some broadband companies may have strong financial incentives to restrict access to content and applications. . . . There is little agreement over whether antitrust, with its requirements for *ex post* case by case analysis, is capable of fully and in a timely fashion *resolving* many of the concerns that have animated the net neutrality debate.

*Id.* at 1-3.

168. See, e.g., Jim Hu, *New FCC Chairman Bullish on Deregulation*, CNET NEWS.COM, Apr. 5, 2005, [http://www.news.com/New-FCC-chairman-bullish-on-deregulation/2100-1034\\_3-5655643.html](http://www.news.com/New-FCC-chairman-bullish-on-deregulation/2100-1034_3-5655643.html).

169. See Implementation of Section 309(j) of the Communications Act—Competitive Bidding, PP Docket No. 93-253, Second Report and Order, 9 F.C.C.R. 2348 (1994).

170. Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 21 (codified as amended at 47 U.S.C. § 309).

171. John Dunbar, *Auction May Not Be a Boon for Consumers*, ASSOCIATED PRESS, July 30, 2007, available at WestLaw, 7/30/07 APWIRE 22:07:29.

higher.<sup>172</sup> Even though the Iraq and Afghanistan wars cost \$16 billion a month,<sup>173</sup> Congress is always interested in publicizing its abilities to find additional sources of funds—no matter how insignificant. Two Commission staff members anonymously told the *Washington Post* that “[e]nsuring that the deep-pocketed carriers pay top dollar for the spectrum is a high priority for FCC commissioners because the auction proceeds have already been allocated by Congress.”<sup>174</sup> Notwithstanding its statutory admonition against equating the “public interest” with “revenues received,”<sup>175</sup> Congress was deeply interested in getting the most money it could out of this auction. In the event, the final auction revenue amounted to approximately \$19 billion—with more than 84% of it coming from Verizon and AT&T as winners of large blocks of spectrum.<sup>176</sup>

### 3. Access Entrants’ Needs

For new entrants into the wireless Internet access industry, the mere presence of Verizon Wireless and AT&T as bidders for upper band blocks C and D posed substantial problems. For Verizon and AT&T, the argument went, the value of keeping other bidders from winning this spectrum would exceed the spectrum’s market value. Economists have suggested that incumbents in such a situation will be willing to pay “whatever it takes” to win the auction, because their top priority is blocking new en-

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172. See, e.g., Posting of Harold Feld to Wetmachine, 700 MHz Endgame: Has AT&T Asked Bush To Put Thumb on Scale?, <http://www.wetmachine.com/totf/item/850> (July 13, 2007) (mentioning a projection of \$20 billion in revenue).

173. See Bill Adair, *The Iraq War, for \$100 A Month*, POLITIFACT.COM, Apr. 1, 2008, <http://www.politifact.com/truth-o-meter/article/2008/apr/01/iraq-war-100-month/> (confirming Obama claim that Iraq war costs \$100/household/month, or \$16 billion).

174. Kim Hart, *How to Sell the Airwaves*, WASH. POST, July 13, 2007 (citing “two commission staff members who spoke on the condition of anonymity because they are not authorized to speak publicly on the matter.”); see also Kim Hart, *FCC Majority Backs Open-Access Plan for Airwaves*, WASH. POST, July 25, 2007 (noting that Republican legislators “say the auction should be free of conditions—in part because rules could reduce the revenue it generates, which is expected to be about \$15 billion.”); Grant Gross, *Republican Lawmakers Protest Spectrum Plan*, INFOWORLD, July 24, 2007, [http://www.infoworld.com/article/07/07/24/Republican-lawmakers-protest-spectrum-plan\\_1.html](http://www.infoworld.com/article/07/07/24/Republican-lawmakers-protest-spectrum-plan_1.html) (“Congress has already spent that [spectrum auction] money,” said Representative Charles Gonzalez, a Texas Democrat.) FCC Chairman Martin’s own Top Ten Predictions for the 700 MHz Auction, jokingly presented at the December 2007 Chairman’s Dinner, included the following entry: “#6. Congress will spend the auction receipts 10 times over before we cash the [winning bidders’] checks.” Blair Levin, *Washington Telecom, Media & Tech Insider 2007 Awards*, Dec. 21, 2007, at 6.

175. See 47 U.S.C. 309(j)(7) (2000).

176. Posting of Kim Randolph to BIA Perspectives, Auction 73 Results—700 MHz Spectrum, available at <http://blog.bia.com/bia/?p=24> (Mar. 28, 2008).

trants rather than paying the market price for spectrum.<sup>177</sup> The stakes were particularly high for Verizon and AT&T in the 700 MHz auction because the central choice between models for Internet access was in play; a new nationwide entrant that was successful in providing the Internet model of Internet access (nondiscriminatory, commoditized transport) would provide a competitive proof of concept that might be embraced by users—thus undermining the incumbents' business plans. The foreclosure value from these incumbents' perspectives for the 700 MHz spectrum was therefore arguably even higher than it might have been in another, non-nationwide spectrum auction.<sup>178</sup>

Accordingly, prospective access entrants argued for bidding credits for designated entities and entrepreneur bidders,<sup>179</sup> blind bidding,<sup>180</sup> spectrum caps,<sup>181</sup> the exclusion of large wireless incumbents from the auction en-

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177. Gregory Rose, *Spectrum Auction Breakdown: How Incumbents Manipulate FCC Auction Rules to Block Broadband Competition* 16 (New Am. Found., Working Paper No. 18, 2007) (noting that, in prior auction, "the major incumbents were apparently willing to pay a significant premium for engaging in [a] blocking bidding strategy: on average, they paid 2.5 times more for the spectrum which they acquired than bidders who did not engage in this strategy").

178. "Foreclosure value" is the loss of an incumbent's oligopoly rents were an entrant to win that license. Cramton et al., *supra* note 101, at 3.

179. See Comments of Frontline Wireless, LLC, *In re* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, at 67 (Fed. Comm'ns Comm'n May 23, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519415226](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519415226). The FCC provides that "designated entities" may obtain bidding credits in auction settings. 47 C.F.R. § 1.2110(b)(3)(iv)(A) (2007); see Catherine J.K. Sandoval, Director, Office of Commc'ns Business Opportunities, FCC, Statement Regarding Closing of PCS Entrepreneurs' Block Auction (May 6, 1996), available at <http://www.fcc.gov/Bureaus/OCBO/ocbospch.wp> ("Congress authorized the use of installment payments to allow bidders to pay for their licenses over time, bidding credits and other provisions to lower the capital access barriers which keep many small businesses from competing."); see also Noam, *supra* note 133 at 777 n.32 ("[T]he discount in the narrowband spectrum auction to designated entities was up to 40%, plus a preferential payment schedule.").

180. Media Access Project published studies on the Advanced Wireless Services (AWS) auction completed in 2006 alleging that incumbent wireless companies used collusive bidding to exclude new entrants and manipulate the process. See Gregory Rose, Tacit Collusion in the AWS-1 Auction: The Signaling Problem (Apr. 20, 2007), [http://www.mediaaccess.org/file\\_download/181](http://www.mediaaccess.org/file_download/181) [hereinafter Rose, Tacit Collusion]; Gregory Rose, How Incumbents Blocked New Entrants In The AWS-1 Auction: Lessons for the Future (Apr. 20, 2007), [http://www.mediaaccess.org/file\\_download/180](http://www.mediaaccess.org/file_download/180) [hereinafter Rose, How Incumbents Blocked]; see also Rose, *supra* note 177 at 4 ("[B]idders have used [non-anonymous] auction rules to engage in behaviors which hamper competition and reduce the efficiency of the resulting allocations, and which threaten the revenue maximization.").

181. See, e.g., Reply Comments of PISC, *supra* note 5, at 13-20 (arguing for caps on

tirely,<sup>182</sup> and combinatorial bidding,<sup>183</sup> all rules that would have limited the ability of Verizon Wireless and AT&T to dominate the auction.

Additionally, both device and applications developers argued that the vertically integrated incumbents had both (1) every reason to discriminate against equipment and applications developers in favor of the incumbents' services and (2) the market power to implement this discrimination.<sup>184</sup> Under the current wireless carriers' oligopolistic dominion, it is nearly impossible to market a wireless phone or mobile device without the permission of the existing carriers, or have a wireless application succeed for use on an existing network without the permission of that carrier.<sup>185</sup> Several prospective entrants argued that the upper band C and D Blocks should be licensed on the condition that the winner's transport services be made available on a wholesale basis.<sup>186</sup>

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the amount of spectrum that could be acquired by incumbents through the auction).

182. *Id.* at 18.

183. Any new entrant seeking to create a new national wireless broadband network from the license of Upper Band Block C would face the substantial risk of buying up eleven of twelve geographic regions, only to be blocked from buying the twelfth by a determined incumbent whose foreclosure value exceeded its market valuation of the remaining regional license. For this reason, a coalition of new entrants of various kinds called the "4G Coalition" (Google, Echostar, DirecTV, Skype, Intel, and Yahoo!) promoted the idea of package or combinatorial bidding. The Coalition argued that package bidding would be simple: a bidder would bid for all regions as a package, and would drop out if unable to obtain one of them. This would avoid the problem of a single incumbent making one market very expensive in order to block the creation of a national network. *See* Comments of the Coalition for 4G in America, *In re* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, at 8-9 (Fed. Commc'ns Comm'n May 23, 2007) (on file with author). Verizon Wireless, for its part, claimed that package bidding would be very complicated, particularly given the limited time before the auction had to be held. *See* Reply Comments of Verizon Wireless, *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150, at 3 (Fed. Commc'ns Comm'n June 4, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519516267](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519516267).

184. *See, e.g., The 700 MHz Auction: Public Safety and Competition: Hearing Before the S. Comm. on Commerce, Science and Transportation*, 110th Cong (2007) (statement of Amol R. Sarva, Wireless Founders Coalition for Innovation), available at [http://commerce.senate.gov/public/\\_files/Testimony\\_AmolSarva\\_SarvaWrittenStatement0.pdf](http://commerce.senate.gov/public/_files/Testimony_AmolSarva_SarvaWrittenStatement0.pdf).

185. *See infra* note 239 for a description of Verizon/AT&T press releases about commitment to openness in the wake of the release of the 700 MHz auction rules. These press releases did not represent a move towards true openness, because these companies continued to reserve a great deal of discretion in permitting devices and applications to use "their" networks.

186. *See, e.g.,* Letter from Richard Whitt, Wash. Telecom and Media Counsel, Google, Inc., to Marlene H. Dortch, Sec'y, Fed. Commc'ns Comm'n, *In re* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150 (July 9,

In particular, Google played a key role in the 2007 auction-rule brawl by promoting the Internet model of access. Google stated bluntly that it did not want to have to rely on the incumbent carriers' permission in order to reach its customers, and suggested that winning bidders for a portion of the auctioned spectrum should be required to provide four key forms of openness: (1) consumers should be able to download and use any software application;<sup>187</sup> (2) consumers should be able to use any handheld device;<sup>188</sup> (3) resellers and ISPs should be able to acquire services on a wholesale, nondiscriminatory basis;<sup>189</sup> and (4) interconnection of other networks at technically feasible points should be available on a nondiscriminatory basis.<sup>190</sup>

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2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519548049](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519548049); Reply Comments of PISC, *supra* note 5, at 3 ("Significant demand exists for an open network that can provide spectrum wholesale, so that wireless innovators can provide customers with new services that the existing oligopoly refuses to provide.").

187. This condition is often referred to colloquially as "no blocking."

188. This condition is often referred to colloquially as "no locking."

189. Google May 21 Letter, *supra* note 8 (providing further detail by Google). Google also suggested that the winner of a portion of the 700 MHz auctioned spectrum should be required to act as a wholesale provider, running auctions for access to spectrum on an as-needed basis through an online clearinghouse. Devices equipped to act "smart" could be part of such a dynamic, real-time auction for spectrum. Google told the FCC that "[w]hile dynamic auctions can take many forms, the central concept is to utilize intelligent devices to resolve spectrum access contention." *Id.* at 3. "[N]ew, smart technologies can sense the spectrum environment and . . . have the agility to dynamically adapt or adjust their operations. . . . [S]oftware-defined radios can improve utilization, through more efficient access, of the radio spectrum without detriment to existing spectrum users." SPTF-RR, *supra* note 130, at 14. Contention over spectrum would be resolved by the wholesale provider or by the user's device itself using spectrum-sensing techniques, and power transmission limits would be capped by the user's device through adherence to rules imposed by the wholesale provider. Google May 21 Letter, *supra* note 8. The user's device would be tied to a nominal airwaves registration fee that would grant the user the ability to gain unlimited use of available spectrum at specified power levels. This opportunistic use of spectrum, managed by way of the Internet by a central auction clearinghouse, would likely have been a substantial improvement over the current command-and-control spectrum regime. This is similar to the spot auction that Google holds for search terms. Every query using the Google search engine triggers a real-time auction to determine the market price of a particular advertisement linked to a particular search term. Users do not see this auction, but it drives a more efficient and more tightly-focused market for advertising. One law of spectrum use is that "relatively deprived users are virtually forced to innovate spectrum-economizing, spectrum-developing technology." DOUGLAS, *supra* note 34, at 238 n.68 (quoting HARVEY J. LEVIN, *THE INVISIBLE RESOURCE* 9, 18 (1971)). Google's dynamic auction suggestion certainly fits this category.

190. See *supra* notes 20-21 (explaining forms of openness); Letter of Richard Whitt to Marlene H. Dortch, *supra* note 186 (describing desired openness); Blair Levin et al.,

Google signaled before the auction that it believed that unless the licenses were conditioned on openness, “the existing national wireless carriers [were] likely to prevail in the bidding process,”<sup>191</sup> because the foreclosure value of such a victory to an incumbent would exceed anyone else’s market value for the same spectrum. Then, Google threw down the gauntlet, telling the Commission that it was willing to bid \$4.6 billion (the likely reserve price) for 700 MHz spectrum that would be licensed in large, regional areas, *if and only if* the Commission agreed to condition the license to be “open” along all four of the key vectors (applications, devices, wholesale access, interconnection).<sup>192</sup>

The Google plan as a whole was aimed at having an enormously disruptive effect on current incumbent wireless Internet access models because it suggested that the Internet model, rather than the cellphone model, should be the construct for Internet access in the future. Public interest

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*supra* note 101; Kim Hart, *FCC to Rule on Wireless Auction: Lobbying Intense As Google Seeks To Open Market*, WASH. POST, July 30, 2007, at A1 (describing Google requests). Google was also likely interested in bolstering users’ upload speeds, because that would increase the amount of content available for Google to search and aggregate. *See also* CFA Comments, *supra* note 4, at 88 (“The so-called ‘third-pipe’ satellite and 3G mobile wireless products sold by Verizon and AT&T offer upload speeds that are in some cases incapable of originating even low-quality VoIP data. At these levels of upload speed, users have no hope of originating high-quality video.”).

191. Posting of Richard Whitt to Google Public Policy Blog, *The Promise of Open Platforms in the Upcoming Spectrum Auction*, <http://googlepublicpolicy.blogspot.com/2007/07/promise-of-open-platforms-in-upcoming.html> (July 10, 2007).

192. Letter from Eric Schmidt, Google Inc., to Kevin Martin, Chairman, FCC (July 20, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150), *available at* [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519559297](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519559297) (“[S]hould the Commission expressly adopt the four license conditions requested in our July 9th letter—with specific, enforceable, and enduring rules—Google intends to commit a minimum of \$4.6 billion to bidding in the upcoming auction.”). Why did Google do this? After all, if it won an *unconditioned* license it could have implemented all of these openness rules without the Commission’s permission. But asking that openness be mandated served the dual purpose of (1) depressing the amount that the telcos or other players would bid for the spectrum while assuring the Commission that its reserve price would be met, and (2) putting the telcos in the uncomfortable position of having to commit even *more* money in advance of the auction in order to credibly object to Google’s suggestion. It was also highly unlikely that the FCC would accede to Google’s request for license limitations, so Google had little to lose. On a meta level, Google was interested in shifting the ability to monetize online user activity away from the network operators and to the application layer actors—such as Google itself. From the user’s perspective, Google’s approach had the potential to unleash great value in the form of unfettered communications. *See* Crawford, *supra* note 110, at 405-406 (arguing that separating transport from content will spur economic growth).

groups strongly backed the Google approach.<sup>193</sup>

#### 4. *Incumbents' Needs*

Again, only Verizon Wireless and AT&T had the spectrum holdings necessary to provide nationwide wireless coverage in a cost-effective manner as of late 2007. Their control of existing under-1GHz spectrum, where lower frequencies make possible more resilient communications that rely on far less investment in infrastructure, has granted these two players the benefit of protection from competition, in the form of substantial barriers to entry.<sup>194</sup> For the purposes of this Article, these two players are the almost unbeatable wireless incumbents.<sup>195</sup> They are controlled, in turn, by companies that are almost unbeatable regionally dominant DSL players.<sup>196</sup>

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193. See Posting of Kim Maynard to Public Knowledge Policy Blog, Public Interest Groups and High-Tech Companies United Behind Four Principles of Open Access in the Upcoming 700 MHz Auction, <http://www.publicknowledge.org/node/1104> (July 18, 2007).

194. See Memorandum from Frontline Wireless, L.L.C. to Antitrust Div., Dep't. of Justice, *supra* note 22, at 3. Lower-frequency 700 MHz transmissions can travel three to four times the distance and cover ten times the area of, say, 2.5GHz communications (where Sprint has substantial spectrum holdings).

195. Timothy Hay, *Incumbents to Sweep US Spectrum Auction, Analysts Say*, DOW JONES NEWSWIRES, Jan. 18, 2008, available at <http://www.cellular-news.com/story/28705.php>; see also Memorandum from Frontline Wireless, L.L.C. to Antitrust Div., Dep't. of Justice, *supra* note 22, at 1 (noting that Verizon Wireless and AT&T "have separated themselves from the other purported national carriers," which are "falling further behind the industry giants every month as their plans to introduce cutting-edge services using higher frequency spectrum founder on the crushing economics of nationwide buildout."); Letter from Gerard Waldron, Frontline Wireless LLC, to Marlene H. Dortch, Sec'y, FCC (June 22, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519534453](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519534453). Verizon (\$22.6 billion operating cash flow) and AT&T (\$17.8 billion operating cash flow) combined have 64% of the net additions to wireless subscriptions and 120 million subscribers. *Id.* at 3. Even before the auction, AT&T controlled 75 MHz of below-1GHz spectrum and Verizon controlled 60 MHz. *Id.* These holdings dwarfed the 22 MHz that might have been required to be provided on a "wholesale access" basis if the Google proposal for the Upper Band C Block had been adopted by the Commission.

196. These legacy incumbents on the wireline side have, of course, every reason both to resist the entry of new wireless competitors and to keep the cellphone model of Internet access intact. See Posting of Harold Feld to Wetmachine, 700 MHz PreGame Show: Reading the Tea Leaves on Verizon and AT&T's Last Moves, <http://www.wetmachine.com/item/958> (Dec. 7, 2007). Feld observed:

Until AT&T absorbed BellSouth (and thus assumed 100% ownership of Cingular) and Verizon assimilated control of its wireless unit, wireless carriers acted primarily as wireless carriers. They had similar inter-

It is fair to say that both the wireless and wireline incumbents share the view that the deregulatory policies put in place by the FCC, and, in particular, the regulator's blessing of the cellphone model for highspeed Internet access, are appropriate. Verizon noted that it is investing billions in highspeed fiber optic connections that can deliver its bundled packages of voice, video, and data, and argued that any form of open access requirements would burden the wireless industry unnecessarily as well as diminish the value of the affected spectrum, to the detriment of the public interest.<sup>197</sup> AT&T argued that the market is fiercely competitive and that it should be allowed to continue to innovate without the limitations of any rules.<sup>198</sup> CTIA, the wireless carriers' trade association, claimed that the wireless industry provides great benefits to the U.S. economy, through investments in the construction and operation of wireless networks, and argued that these investments have only been possible because of the flexibility that wireless licensees have had.<sup>199</sup>

The incumbents tried to persuade the FCC that auction revenues would

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ests, competed against each other, and generally behaved as a unified class. That has changed in the last year or so. The total integration of AT&T Wireless and Verizon Wireless means that the unified corporate entity is now seeing the wireless aspect as tied to its wireline interests. This impacts behavior. For one thing . . . it means that the telcos will evaluate their actions in this auction on the basis of their overall strategy for wireline and wireless, not merely on the basis of what looks good for their wireless business alone.

*Id.*

197. Tessler, *supra* note 15 (“Verizon expects to spend nearly \$23 billion by decade's end to reach more than 18 million houses with its FiOS fiber-optic network.”); Letter from John T. Scott III, Verizon, to Marlene H. Dortch, Sec'y, FCC (July 24, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519560209](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519560209).

198. Letter from Robert W. Quinn, Jr. to Marlene H. Dortch, *supra* note 2 (“As Chairman Martin has observed—and as many others have echoed—‘wireless is the poster child for competition.’”); Letter from Robert W. Quinn, Jr., AT&T, to Marlene H. Dortch, Secretary, FCC (July 2, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519538883](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519538883) (“AT&T believes that the Commission should continue to allow market forces, and not regulatory fiat, to shape the development of telecommunications services.”).

199. Letter from Christopher Guttman-McCabe, CTIA, to Marlene H. Dortch, Sec'y, FCC (June 29, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519537846](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519537846).

be decreased if license conditions were applied.<sup>200</sup> Even though the “open access” rules proposed by Google and others would have applied only to a portion of the spectrum available for auction, and Verizon Wireless and AT&T already had very large spectrum holdings, they fought fiercely against any change to the status quo auction regime in connection with the rules to be applied to the Upper Band C block.<sup>201</sup> The incumbents resisted any change to bidding credit/anonymous bidding/combinatorial bidding rules that had been used in the past.<sup>202</sup> Verizon also resisted the imposition of any geography-based buildout requirements on the winning bidder.<sup>203</sup>

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200. See Letter from Christopher Guttman-McCabe, CTIA, to Marlene H. Dortch, Sec’y, FCC (Apr. 20, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519307855](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519307855) (“Ultimately, the [proposed license limitations] so devalues the spectrum that it jeopardizes auction proceeds already earmarked for worthy projects including public safety interoperability.”); Letter from Robert W. Quinn, Jr. to Marlene H. Dortch, *supra* note 2 (“Google’s approach is fatally at odds with the basic purpose of auctioning spectrum. The Commission’s charge here is to identify—and to award spectrum to—precisely those companies that Google seeks to exclude from the auction: the companies that value the spectrum most and that will put it to its most efficient use.”); Reply Comments of Verizon Wireless, *supra* note 183, at 18 (“Similarly, auction rules that disadvantage incumbent providers to the benefit of potential new entrants are inappropriate and ultimately harmful. . . . Fundamentally, auctioned spectrum should go to the party that values the spectrum most highly and will therefore put that spectrum to its highest and best use.”).

201. Letter from Gerard Waldron, Frontline Wireless L.L.C., to Marlene H. Dortch, Sec’y, FCC (June 28, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519537319](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519537319) (“Verizon and AT&T have an incentive to forestall entry in the 700 MHz band. . . . [T]he incumbent’s license valuation is its economic value plus the foreclosure value, which is the loss of incumbent’s oligopoly rents were an entrant to win that license.”).

202. See, e.g., Letter from U.S. Cellular Corp., to Marlene H. Dortch, Sec’y, FCC (July 10, 2007) (ex parte communication attaching a presentation and regarding *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands) (on file with author) (opposing packaged bidding and anonymous auctions); Reply Comments of Verizon Wireless, *supra* note 183 (same).

203. Reply Comments of Verizon Wireless, *supra* note 183. While the FCC had suggested that winners be obligated to create networks that would serve 75% of the region of the license area within eight years (or forfeit the spectrum), Verizon complained that this obligation to cover sparsely populated areas would place a capital drain on them. Verizon argued instead for population-based buildout requirements, noting that 88% of the population of the U.S. lives in 8% of the country. *Id.* J.H. Snider points out that spectrum lobbyists always promise to quickly build out telecommunications facilities and then do not do so—and the FCC does not effectively enforce these promises. SNIDER, ART OF SPECTRUM LOBBYING, *supra* note 10, at 39; see also Fiona Morgan, *What Happens When Telecom Companies Write State Legislation, Check Your Wallet*, INDEP. WKLY., July 14, 2007 (noting that neither AT&T nor Verizon has any immediate plans to roll out fiber

Fundamentally, the incumbents argued that only they could improve the nation's broadband penetration and that any license conditions that diminished their involvement in the auction would inevitably also injure high-speed Internet access nationwide.<sup>204</sup>

Initially, Verizon, AT&T, and the Cellular Telecommunications Industry Association (CTIA), which represents the incumbent wireless players, claimed that *any* form of open access license limitations, including no-locking and no-blocking rules as well as no-retail and wholesale reselling rules, would reduce revenue and endanger public safety.<sup>205</sup> The incumbents argued that to the extent they engaged in locking and blocking practices, such practices were reasonable measures to protect the integrity and efficiency of wireless networks.<sup>206</sup> Just before the 700 MHz auction rules were released by the Commission, both Verizon and AT&T suddenly changed their strong positions and agreed to the idea of limited no-locking and no-blocking provisions.<sup>207</sup> But the Internet model of Internet access,

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services in North Carolina) ("No private company is rushing to provide those sparsely populated communities with any kind of communications service, because the infrastructure is expensive to install. That makes it hard for rural communities to adapt to a post-tobacco, post-textile, post-furniture economy.").

204. Letter from Robert W. Quinn, Jr. to Marlene H. Dortch, *supra* note 2 ("There can be no serious dispute that existing wireless providers, having already invested billions in deploying 3G wireless broadband networks, are best situated to utilize the 700 MHz band to further that deployment.").

205. *See supra* notes 187-188 (defining "no blocking" and "no locking" with reference to Google's July 2007 correspondence with the FCC); *see, e.g.*, Letter from Robert W. Quinn, Jr. to Marlene H. Dortch, *supra* note 2 ("[T]he handset and application certification processes that Google's proposal would foreclose are vitally important to ensuring the efficient utilization and the security of the wireless network."); Comments of CTIA—The Wireless Association, *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150, at 23 (Fed. Comm'n May 23, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519415111](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519415111) ("[T]he record unmistakably shows that exposing wireless networks to untested mobile handsets and applications would degrade network performance, create harmful interference, prevent carrier compliance with important social policy obligations, and open networks to greater security threats."). Republican legislators agreed. Kim Hart, *FCC Majority Backs Open-Access Plan for Airwaves*, WASH. POST, July 25, 2007, at D2 (noting Republican congressional representatives were unhappy with any possible conditions on license).

206. *E.g.*, Letter from Christopher Guttman-McCabe, CTIA, to Marlene H. Dortch, Sec'y, FCC (June 29, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519537846](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519537846).

207. *See* Letter from Robert W. Quinn to Marlene H. Dortch, Sec'y, FCC, at 2 (July 20, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762

including wholesale provision of such access, remained off the table.<sup>208</sup> Even though the incumbents could simply have priced wholesale access at a high level, and thus discouraged anyone from using it, avoiding the precedent of such a requirement—and retaining the cellphone model of access—was their central goal.

## V. THE COMMISSION RESPONDS

On August 10, 2007, the FCC released its rules for the 700 MHz auction.<sup>209</sup> Somewhat surprisingly, the Commission imposed several conditions that it argued were intended to facilitate the entry of new competition and the emergence of the mythical “third pipe.” Yet the deal embodied in the rules, taken as a whole, is strikingly consistent with the vision of the “public interest” that has been adhered to by communications regulators since radio regulation first began. Given the dominance of the existing wireless carriers, their willingness to pay whatever it takes to avoid new entrants and any hint of a “common carriage” model of Internet access, and the inadequacy of the proposed rules to change their current practices, the proposed rules will have the effect of freezing in place the cellphone model for mobile Internet access—even though users and non-communications businesses would likely prefer the Internet model.

### A. The 700 MHz Auction Rules

#### 1. C Block Locking and Blocking Rules

For the upper band C Block, the FCC mandated that any winning licensee have in place “no-locking” and “no-blocking” provisions conditioning its use of this spectrum:<sup>210</sup>

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& 777-792 MHz Bands, WT Docket No. 06-150) (on file with author); Letter from John T. Scott III, Verizon, to Marlene H. Dortch, Sec’y, FCC (July 24, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519560209](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519560209).

208. See Leslie Cauley, *AT&T Backs Proposed Rules for Spectrum Auctions*, USA TODAY, July 19, 2007, at 3B (noting that Martin had gone out on a limb and forced Verizon and AT&T to support limited “open platform” rules in exchange for avoiding the precedent of a much more restrictive wholesale access requirement).

209. Second Report and Order, *supra* note 1.

210. *Id.* ¶ 202 (“To promote innovation in this spectrum band from the outset, we find it is reasonable to impose certain conditions on the C Block [22 MHz of spectrum licensed on a REAG basis (12 regions)] . . . to provide open platforms for devices and applications.”); see *id.* ¶ 205 (rejecting the “argument that mandatory wholesale and other broad regulatory models are necessary at this time to provide incentives for new entry and innovation”).

Licensees offering service on spectrum subject to this section shall not deny, limit, or restrict the ability of their customers to use the devices and applications of their choice on the licensee's C Block network, except:

- (1) Insofar as such use would not be compliant with published technical standards reasonably necessary for the management or protection of the licensee's network, or
- (2) As required to comply with statute or applicable government regulation.<sup>211</sup>

The no-locking, no-blocking requirements were hedged in by substantial limitations: the winning licensee *would* be able to lock and block devices and applications as long as they could show that their actions were related to "reasonable network management and protection," or "compliance with applicable regulatory requirements."<sup>212</sup> The license winner would not be required to adhere to open-platform requirements on its other spectrum bands, would be allowed to continue to use its own (non-standardized) certification standards and processes to approve uses of devices and applications on their networks, would be allowed to protect the "safety and integrity" of their networks against non-carrier applications and devices, and would be permitted to restrict use of its network to devices "compatible with [the carrier's] network control features."<sup>213</sup> Additionally, carriers would have the ability to deny interconnection to handsets and applications that were unable to provide location information via the carrier's E911 system (a system that is controlled by the carrier itself).<sup>214</sup> In other words, as long as the discrimination could be shown to be connected (however indirectly) to some vision of "network management," it would be permitted.<sup>215</sup> These exceptions arguably provided Verizon, the winner of the C Block auction, with ample slow-roll capability. It will likely be very difficult for non-carrier application providers and device manufacturers to work through the incumbent's certification processes.

## 2. *No Wholesale Access*

Importantly, the key condition that would have made it possible for new entrants to provide highspeed Internet access in competition with incumbents was rejected by the Commission. In the view of public interest

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211. *Id.* ¶ 230.

212. *Id.* ¶ 222.

213. *Id.* ¶ 223.

214. *See generally* Susan P. Crawford, *The Ambulance, the Squad Car, and the Internet*, 21 BERKELEY TECH. L. J. 873 (2006) (analyzing E911 rulemaking).

215. Second Report and Order, *supra* note 1, ¶ 223.

groups, Google, Frontline, a gaggle of economists, Commrs. Copps and Adelstein, several other countries, and 250,000 Americans, that key condition was mandating wholesale open access.<sup>216</sup> The Commission took the view that the wireless *voice* market was “effectively competitive” and that therefore no government intervention to require resale or wholesale provision was necessary.<sup>217</sup> At the same time, the Commission avoided the question of whether the wireless *highspeed Internet access* market, or the highspeed Internet access market as a whole, was sufficiently competitive.<sup>218</sup>

Chairman Martin made clear that although he would be “troubled” if just one incumbent ended up with a large portion of the radio spectrum made available in this auction, the limited no-locking, no-blocking conditions he had negotiated would go “some way to ‘ameliorate’ his concerns were one company to acquire a significant portion of [the spectrum].”<sup>219</sup> Thus, even if these extraordinarily limited openness conditions had zero effect on competition for highspeed Internet access or on the facilitation of innovation in devices and applications, and resulted only in the grant of another license to a vertically integrated incumbent, the Chairman would be content.

### 3. *Anonymous Bidding*

The Commission decided to use “blind” (anonymous) bidding for the 700 MHz auction.<sup>220</sup> Prior auctions featured open bidding, which allowed

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216. See *supra* Section III.A. In Commissioner Copps’s words, “by declining to impose a wholesale requirement on the 22 MHz C-block, the Commission misses an important opportunity to bring a robust and badly-needed third broadband pipe into American homes.” Second Report and Order, *supra* note 1 (Copps, Comm’r, concurring in part, dissenting in part). See also John Dunbar, *Questions Raised over Broadband Plan*, ASSOCIATED PRESS, July 12, 2007, available at WestLaw, 7/12/07 APWIRES 23:35:53 (reporting that although happy with the move to free devices from carrier control, Gene Kimmelman of Consumers Union said the agency was wasting the “best opportunity in modern history to jump-start Internet competition and bring new players to challenge the dominant telephone and cable companies”).

217. Second Report and Order, *supra* note 1, at ¶ 200 (citing *In re* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, 21 F.C.C.R. 10947 (Sept. 29, 2006)); Eleventh Report, 21 F.C.C.R. 10947, 10950 ¶¶ 2-3 (2006) (Eleventh Annual Commercial Mobile Radio Services (CMRS) Competition Report).

218. Second Report and Order, *supra* note 1, ¶ 201 & n.462 (“[T]he competitive characteristics of the wireless voice market may not be the same as those of the wireless broadband market”).

219. *FCC’s Martin Says Auction Rules Will Benefit Competition*, CELLULAR-NEWS, July 11, 2007, <http://www.cellular-news.com/story/24878.php>.

220. Second Report and Order, *supra* note 1, ¶¶ 274-280 (“Based on the current record, we conclude that the public interest will be served if the upcoming auction of 700

bidders to know the names of their competitors and (allegedly) collude to exclude particular third parties by making a competitive package of spectrum licenses expensive.<sup>221</sup> This decision to use blind bidding was a victory for new entrants and public interest groups. The fact that the “foreclosure value” to individual incumbents of the upper band C and D block likely exceeds the market value of these blocks lessens the importance of this decision; the threat that incumbents will make these licenses unrealistically expensive will deter bidding by new entrants.<sup>222</sup> Nonetheless, this “anonymous bidding” step by the Commission was viewed as undermining the incumbents’ power to dominate the auction.

#### 4. *Package Bidding*

In another victory for new entrants, the Commission adopted “package bidding” for the upper band C block:<sup>223</sup>

With package bidding, a bidder may place an all-or-nothing bid on multiple licenses, and thereby avoid the risk of winning less than all the licenses needed to justify its bid. For example, a bidder whose business plan is premised on realizing economies of scale may need to win a large number of licenses in order to justify the bid that it would make if it could win all of them. The risk of winning less than all the licenses needed to support the amount of the aggregate bid is sometimes known as the “exposure problem.”<sup>224</sup>

Package bidding is particularly helpful for a new entrant that is seeking to put together nationwide coverage and does not want to be caught with a set of less-than-nationwide licenses. Absent this rule, a new entrant might be blocked by competitors over a single license that was essential to its business model.

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MHz Band licenses for which we establish service rules today is conducted using anonymous bidding procedures . . .”).

221. See Rose, *Tacit Collusion*, *supra* note 180; Rose, *How Incumbents Blocked*, *supra* note 180; Rose, *supra* note 177, at 3 (noting that, in prior auctions, major incumbents tacitly or explicitly “bid as a coalition against every attempt . . . targeted bidders make to acquire licenses”). The FCC asserted that there were methodological shortcomings in these studies, and that their shortcomings meant that the studies “do not demonstrate that incumbents engaged in retaliatory and blocking bidding behavior.” Second Report and Order, *supra* note 1, n.644.

222. See Rosston & Skrzypacz, *supra* note 95, at 2.

223. Second Report and Order, *supra* note 1, ¶¶ 287-292.

224. *Id.*

### 5. *Reserve Prices*

The Commission's establishment of limited no-locking, no-blocking rules governing the upper band C block was accompanied by a novel escape clause: if the licensed block, as a whole, failed to sell for at least \$4.6 billion, it would be reaucted in smaller chunks to the same bidders without any conditions applied.<sup>225</sup> The FCC, by setting an aggressive "reserve price" for this spectrum block, was trying to comfort both Congress and the incumbents.<sup>226</sup> If limits on the licenses' use had generated lower-than-expected revenues for the Treasury, the limits would have been abandoned.

This move created interesting incentives for the incumbents and for Google. For the incumbents, it would be useful to hold back in the first auction in the expectation that the second time around they would be able to obtain the spectrum without any limitations (or any threat to the cell-phone model of Internet access). Or they could proceed to win the spectrum and work around the limited openness conditions imposed by the Commission. For Google and other new entrants, it would be useful to ensure that the reserve price was met in the first auction so that the limitations would stay in place (and the Internet model of Internet access would be encouraged). Overall, the "reserve price" tactic allowed the Commission to equivocate as to the desirability of any openness limitations at all—in effect putting these modest limitations up for purchase.

### 6. *Public Safety Network*

The FCC paired the upper band D block (a single 10 MHz nationwide license) with 10MHz of public safety spectrum located next to the D block. It also conditioned the D block license on an obligation to negotiate

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225. *Id.* ¶ 299. Commissioner Copps disagreed with this "reserve price" approach, saying:

The procedure in this Order carries chilling risk to the success of the auction. If some of these blocks do not fetch the bid prices stipulated, perhaps because of gaming of the worst sort, they will be re-aucted with weaker build-out requirements. If the 22 MHz [C] block, where we hope for *Carterfone* open access principles, fails to elicit a \$4.6 billion bid, it will be re-aucted without *Carterfone* open access. In the end, all of this micro-managing virtually hands industry the pen to write the auction rules and to constrict all the opportunities this spectrum held forth. The end result could be: same old, same old. What a pity that would be!

*Id.* ¶ 298 (statement of Comm'r. Copps).

226. See Rosston & Skrzypacz, *supra* note 95, at 4 ("The FCC set very aggressive reserve prices, close to the expected value of the spectrum. Such high reserve prices are unprecedented in FCC auctions . . .").

with public safety representatives towards the construction, by the D block licensee, of a nationwide public safety network.<sup>227</sup> The idea is that a robust, dedicated public safety network will be built to the specifications of the public safety community. In exchange, the commercial licensee of the D Block will be permitted to use the public safety spectrum (in addition, of course, to the D Block spectrum) when it is not otherwise needed. Absent this private participation, funding for a shared public safety network was unavailable.<sup>228</sup>

Frontline Wireless, a privately held company headed by former FCC Chairman Reed Hundt,<sup>229</sup> had submitted a proposal along the lines eventually adopted by the FCC for the upper band D block.<sup>230</sup> In the event of an emergency, Frontline proposed that public safety would have immediate, preemptive use of the entire network.<sup>231</sup> Frontline won a substantial victory when the FCC decided to allow the D Block licensee to obtain “des-

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227. Second Report and Order, *supra* note 1, ¶¶ 365-66, 383. This is an elaborate plan with many opportunities for tangles along the way:

The single nationwide 10-megahertz D Block commercial license will be awarded to a winning bidder only after it enters into a Commission-approved Network Sharing Agreement (“NSA”) with the Public Safety Broadband Licensee . . . ‘the Commission will oversee the negotiation of the NSA, and will play an active role in the resolution of any disputes among the relevant parties . . . both resulting from the negotiations and once the parties are operating under the terms of the NSA.’

Order, *In re* Waiver of Section 1.2110(b)(3)(iv)(A) of the Commission’s Rules for the Upper 700 MHz Band D Block License, FCC 07-197, ¶ 2 (Nov. 15, 2007), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-07-197A1.doc](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-07-197A1.doc).

228. See *The 700 MHz Auction: Public Safety and Competition Issues: Hearing Before the S. Comm. on Commerce, Science and Transportation*, 110th Cong. (2007) (statement of Wanda McCarley, Ass’n of Public-Safety Commc’ns Officials-Int’l and Nat’l Public Safety Telecomms. Council), available at <http://www.apointl.org/news/2007/McCarleyJune14TestimonySenate.pdf>, at 4-5. McCarley stated:

Our support for [ ] a public-private partnership flows from our realization that there is simply no other viable method to pay for a national broadband network that will meet public safety requirements. . . . [M]ost agencies around the country will not have similar funding available to build their own broadband networks, and there is no way to pool funds beyond state or regional systems.

*Id.*

229. Reed Hundt was the first chairman of the FCC to conduct spectrum auctions. Reed Hundt, Reed Hundt Biography, <http://www.reedhundt.com/biography.html> (last visited June 11, 2008).

230. Letter from Jonathan D. Blake, Frontline Wireless, to Marlene H. Dortch, Sec’y, FCC (July 3, 2007) (ex parte communication regarding *In re* Serv. Rules for the 698-746, 747-762 & 777-792 MHz Bands, WT Docket No. 06-150) (on file with author).

231. *Id.*

ignated entity” small business bidding credits even if the licensee planned to operate on a wholesale basis.<sup>232</sup> Frontline dropped out before the auction, however, apparently unable to convince investors of the certainty of the enterprise.<sup>233</sup>

The reserve price for the D Block was not met in the 700 MHz auction.<sup>234</sup> If the D Block is eventually auctioned off successfully, this will be a fascinating experiment in public-private partnership. The fact that commercial uses will be secondary to emergency public uses in the combined spectrum will undoubtedly lead to some complex issues. What will the trigger be for public preemption of private uses? Will private users understand this preemption? How will this preemption affect private users’ willingness to pay for services provided by this licensee? How will the Commission play the role of champion and protector of public safety, as well as licensor of commercial spectrum? Will Congress establish some sort of congressionally chartered corporate structure to govern this shared public safety network?<sup>235</sup> But these questions are for another article to explore, not this one.

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232. 47 CFR Section 1.2110(b)(3)(iv)(A) (2007) provides that:

An applicant or licensee that would otherwise be eligible for designated entity benefits under this section . . . shall be ineligible for such benefits if the applicant or licensee has an impermissible material relationship. An applicant or licensee has an impermissible material relationship when it has arrangements with one or more entities for the lease or resale (including under a wholesale agreement) of, on a cumulative basis, more than 50 percent of the spectrum capacity of any one of the applicant's or licensee's licenses.

Frontline took the position that this rule was aimed at preventing sham small businesses that were merely fronts for established incumbents from taking advantage of bidding credits. The Commission eventually agreed, ruling that eligible bidders for Block D that qualify as small businesses under existing rules will be entitled to a bidding credit (a reduction in the amount due on the winning bid) of between 15% and 25%, depending on the bidder’s annual revenue, even if the bidder planned to offer services on a wholesale basis. Order, *In re* Waiver of Section 1.2110(b)(3)(iv)(A) of the Commission’s Rules for the Upper 700 MHz Band D Block License, FCC 07-197 (Nov. 15, 2007), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-07-197A1.doc](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-07-197A1.doc).

233. See Blair Levin, Rebecca Arbogast & David Kaut, *Frontline Out: Limited Chance of New Entrant Winning in Auction Even Lower*, WASH. TELECOMM., MEDIA & TECH. INSIDER (Stifel, Nicolaus & Company, Balt., Md.), Jan. 8, 2008.

234. Chole Albanesius, *FCC, Congress Spar Over Public Safety Spectrum*, PCMAG.COM, April 15, 2008, <http://www.pcmag.com/article2/0,2817,2284009,00.asp>.

235. See LINDA K. MOORE, CONG. RES. SERV., PUBLIC-PRIVATE PARTNERSHIP FOR A PUBLIC SAFETY NETWORK: GOVERNANCE AND POLICY 17-18 (2007) (suggesting such a structure).

## B. The Response

Reaction to the proposed upper band C block rules was swift. Commentators predicted that without the strictures of wholesale access, and with exception-riddled openness requirements, incumbents would avoid any effect on their businesses.<sup>236</sup> Consumer advocates worried that the Commission had done nothing to affect the concentrated market for high-speed Internet access.<sup>237</sup> CTIA, the wireless carriers' trade association, expressed its pleasure at most of the proposed rules, while noting its concern that conditions had been applied to a portion of the auction, saying, "We remain committed to the principle that wireless consumers and American taxpayers are best served when such a valuable commodity is auctioned in a fair and competitive manner with no strings attached . . . ."<sup>238</sup>

But most commentators missed the larger import of the C block rules. Although the Commission had gone far to placate consumer advocates and new entrants (by, for example, adopting anonymous and package bidding), it had not limited the participation of the dominant wireless carriers or the centrality of the cellphone model of Internet access in any substantial way. The Internet model of access, or "common carriage" and unbundling obligations, was off the table. The Commission's weak no-locking, no-blocking rules did not undermine the carriers' existing business practices, and indeed were (facially) swiftly implemented by the incumbents before the auction began. In November 2007, Verizon Wireless issued press releases claiming that it was opening up its wireless network to any device

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236. Testimony of Jason Devitt, Co-Founder and CEO of SkyDeck, FCC Open Meeting, July 31, 2007, *available at* <http://www.fcc.gov/realaudio/mt073107.ram>; *see also* Posting of Michael Arrington to TechCrunch, FCC Fails to Mark Its Place in History, *available at* <http://www.techcrunch.com/2007/07/31/fcc-fails-to-mark-their-place-in-history> (July 31, 2007).

237. *See* Ben Scott, *Who Owns the Airwaves?*, GUARDIAN, Aug. 1, 2007, (Comment Is Free blog), *available at* [http://commentisfree.guardian.co.uk/ben\\_scott/2007/08/public\\_airwaves\\_earmarked\\_for.html](http://commentisfree.guardian.co.uk/ben_scott/2007/08/public_airwaves_earmarked_for.html). Scott remarked:

[T]he FCC ignored the broadband problem and gave us unlocked mobile phones to carry between different wireless networks. This decision represents a small step forward for the first issue of consumer choice in mobile phones, but a large step backward for the larger need for genuine broadband competition that could bring the benefits of the Internet to all Americans.

*Id.*

238. Posting of Peter Suci to MobileCrunch, CTIA Responds to Latest Rules for 700 MHz Auction, <http://mobilecrunch.com/2007/08/01/ctia-responds-to-latest-rules-for-700-mhz-auction> (Aug. 1, 2007).

and any application, and AT&T quickly followed suit.<sup>239</sup> These feints towards “openness” were largely meaningless: Verizon Wireless insisted on retaining the ability (1) to privately<sup>240</sup> “certify” applications and devices for use on its network (a process during which a great deal of mischief is possible, as we know from the pre-*Carterfone* days),<sup>241</sup> (2) to sell the heavily subsidized handsets of its partners in its retail stores (which will make it unlikely for competing, full-price handsets to be popular), and (3) to prioritize its proprietary or charged-for content over “ordinary” Internet traffic. The cellphone model of Internet access continued to triumph, with occasional public-relations nods towards the ethos of open Internet access.

### C. Comparison to 1920s Spectrum Policy

At the conclusion of the Commission’s work, during the summer of 2007, on the 700 MHz auction rules, the FCC emerged from the brawl with a negotiated arrangement that largely served incumbents’ interests.

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239. Press Release, Verizon, Verizon Wireless to Introduce “Any Apps, Any Device” Option for Customers in 2008 (Nov. 27, 2007), available at <http://news.vzw.com/news/2007/11/pr2007-11-27.html>; Posting of Om Malik to Gigaom, AT&T, Verizon . . . We are All Open, <http://gigaom.com/2007/12/06/att-verizon-t-mobilewe-are-all-open> (Dec. 6, 2007); Posting of Ryan Block to Engadget, AT&T Claims Completely Open Network, Too—“The Most Open,” Even!, <http://www.engadget.com/2007/12/06/atandt-claims-completely-open-network-too-the-most-open-eve> (Dec. 6, 2007) (noting that USA Today was taken in by AT&T’s announcement).

240. See Tim O’Reilly, Op-Ed., *Static on the Dream Phone*, N.Y. Times, Dec. 15, 2007, at 23. AT&T’s quick follow-on assertion that it had “flung open its network” was similarly baseless; applications that need to use AT&T’s network have to have a “prior business relationship” with AT&T, and GSM phones from other networks have long functioned on the AT&T network. See Leslie Cauley, *AT&T Flings Cellphone Network Wide Open*, USA TODAY, Dec. 5, 2007, <http://www.usatoday.com/money/industries/telecom/2007-12-05-att-N.htm>; Posting of Bryan Gardiner to Wired Blogs, <http://blog.wired.com/business/2007/12/how-to-jump-on.html> (Dec. 6, 2007, 7:11:39 PM); Posting of Jason Chen to Gizmodo, USA Today Falls for AT&T Openness Spin, <http://gizmodo.com/gadgets/cellphones/usa-today-falls-for-att-openness-spin-331028.php> (Dec. 6, 2007).

241. See Wu, *supra* note 80, at 8 (describing AT&T resistance to “foreign attachments” on the basis that they would threaten the quality of service to be provided over its network). *Carterfone* was the 1968 FCC case that struck down AT&T’s private limitations on “foreign attachments” and rejected the argument that “control over all equipment on the network was necessary for the telephone system to function properly.” *Id.*; see also *In re Use of the Carterfone Device in Message Toll Tel. Serv.*, 13 F.C.C.2d 420 (June 26, 1968). In February 2007, Skype filed a petition with the FCC asking that the *Carterfone* rules be applied to the wireless industry. See Skype Commc’ns S.A.R.L. Petition to Confirm a Consumer’s Right to Use Internet Communications Software and Attach Devices to Wireless Networks, RM-11391 (Feb. 20, 2007), available at [http://download.skype.com/share/skype\\_fcc\\_200702.pdf](http://download.skype.com/share/skype_fcc_200702.pdf). As of the preparation of this Article in January 2008, the FCC had not acted in response to this petition.

The incumbents avoided the disruptive effect of a precedent-setting wholesale requirement that would have mandated that they open their networks to competition and to the Internet model (common carriage, unbundling) of Internet access. Even though some limited “openness” requirements were imposed on block C, these requirements would be avoidable and litigable and were well worth the tradeoff. Because of the foreclosure value of this spectrum to the incumbents, and the almost insurmountable barriers to entry that the incumbents had erected against new competitors, this was an auction in which the incumbents were likely to win all, or virtually all, of the licensed spectrum.<sup>242</sup>

How did this deal compare to 1920s spectrum decisions? The comparison is not simple. During the 1920s, Secretary Hoover (without statutory authority) and the Federal Radio Commission (with statutory authority) assigned and reallocated spectrum on a bold scale, favoring applicants whose “capital investment” and existing spectrum use suggested that they would be successful in using additional spectrum. Hoover, the “political champion of major broadcasters,”<sup>243</sup> as well as the Federal Radio Commission, used their powers to give preference to corporate giants who already held large assignments of spectrum.<sup>244</sup> Hoover and the commercial broadcasters acted together to shape the transmission marketplace by regulatory force. Radio was new, it was being used mostly for entertainment, and other stakeholder interests were not powerful enough to be heard. Even though amateurs and nonprofits had made wide use of radio spectrum before these reallocations, their voices are not part of the historical record of these 1920s decisions. Accordingly, the Federal Radio Commission could act in a “rather high-handed way.”<sup>245</sup> In the 1920s, Hoover and the FRC were asserting themselves as the masters of the airwaves, creating a role for federal regulation and thrusting all other interests aside; having the large commercial broadcasters approve of their activities was arguably essential to the very survival of federal communications regulation.

The FCC’s institutional position in the spectrum policy world is now arguably different. Rather than asserting itself as the master of a relatively new domain, it now operates within an elaborate ecosystem of existing uses, user preferences, and policy imperatives. It serves several masters,

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242. See *supra* Section IV.B.4; see also Memorandum from Frontline Wireless, L.L.C. to Antitrust Div., Dep’t. of Justice, *supra* note 22, at 3 (noting that barriers to entry include pre-auction below-1GHz spectrum holdings of Verizon Wireless and AT&T, and fixed costs of building out infrastructure to service nationwide network).

243. Hazlett, *supra* note 45, at 152.

244. KRATTENMAKER & POWE, *supra* note 40.

245. *Id.* at 21.

including Congress and public perception of its relevance and authority.

At the same time, the separate communications silos that the FCC has regulated in the past are all converging. Broadcast has been swallowed up by cable, and cable services are indistinguishable in many ways from telephone services. Cable and telephone providers are also selling Internet access. Radio is moving online. Indeed, the Internet could ultimately be the converged form of all of these communications modalities.

The role of the FCC itself is therefore in flux. It is attempting to assert itself as the key rule-maker for converged packet-switched communications, while continuing to please the providers of its traditional regulated services, Congress, and (at least to some limited extent) the public. The FCC's own bureaucratic imperatives mandate that it retain and expand its role in the converged era. At Congress's urging,<sup>246</sup> and under public pressure, the Commission is being forced to recognize the potential and actual economic and social effects of the Internet ethos of openness and flexibility, and is acting differently as a result. It cannot ignore the benefits of open Internet access and the marketplace successes that are dependent on the Internet model of that access. It cannot ignore the effect of Internet communications on its traditional constituents, including broadcasters and telephone companies. The idea that a key block of spectrum would be auctioned off with limited no-locking, no-blocking conditions would have been unthinkable even a year before the 700 MHz auction rules were released, but now is part of the zeitgeist of the converged era.

Yet the 700 MHz auction rules, as a whole, *protected* the wireless incumbents against the inroads of the Internet and the Internet model of access. By rejecting the notion that the market for highspeed Internet access was sufficiently concentrated to require the imposition of a wholesale mandate, the Commission acted to shield incumbents from any real disruption of their business plans. The watered-down, riddled-with-exceptions no-locking/no-blocking rules had scarcely any impact on the incumbents' operations, and indeed were gleefully embraced by these actors for public relations purposes before the auction began. The Commis-

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246. For example, a key July 11, 2007 hearing in front of a House subcommittee explored the promise and problems of the wireless industry, and focused media attention on the wireless carriers' success in crippling innovation in devices and applications. Chairman Markey urged the FCC to "foster innovation in the upcoming auction," and Rep. Pickering said that the auction provided an opportunity to create a wholesale marketplace for access. *Wireless Innovation and Consumer Protection and the Internet: Hearing Before the Subcomm. on Telecomm. of the H. Comm. on Energy and Commerce*, 110th Cong. (2007), available at [http://energycommerce.house.gov/cmte\\_mtgs/110-ti-hrg.071107.ConsumerProtection.shtml](http://energycommerce.house.gov/cmte_mtgs/110-ti-hrg.071107.ConsumerProtection.shtml).

sion's actions in this arena are in sharp contrast to policy steps taken in other concentrated communications marketplaces around the world.<sup>247</sup> While providing some concessions to new entrants and online policy voices (anonymous and package bidding, no-locking/no-blocking mandate), the Commission sought to avoid unduly troubling Verizon Wireless and AT&T—even as the global marketplace moved towards open platforms for communications. As an institution, the Commission is still—as it was in the 1920s—fundamentally in the business of remaining popular with large regulated incumbents that already have extensive spectrum holdings.

## VI. SPECTRUM AND THE PUBLIC INTEREST

Chairman Martin frequently invoked the importance of the “public interest” in setting the rules for the 700 MHz auction, noting that it was not the same as “what one company advocates.”<sup>248</sup> The Commission's *Second Report and Order*, setting forth the 700 MHz rules, mentioned the “public interest” at several key junctures. The Commission maintained that “it *would not* serve the public interest to mandate broader [openness] requirements, such as a wholesale requirement for the un auctioned 700 MHz spectrum,”<sup>249</sup> that providing for a large block (as requested by both the incumbents and Google) “*serves* the public interest,”<sup>250</sup> that “restricting eligibility for licenses [through spectrum caps and the exclusion of incumbents] without adequate justification could *harm* the public interest,”<sup>251</sup> and, finally, that “[t]he use of competitive bidding to assign licenses . . . *serves the public interest* by assigning licenses to the parties *that value the licenses the most*.”<sup>252</sup>

Nothing about the choices made by the Commission in the 700 MHz auction was inevitable, and taken together these choices present a useful case study of telecommunications policy in the 21st century. With the 700 MHz rules, the political economy of spectrum auctions seemed to be functioning well; no one party was either entirely irritated or entirely satisfied.<sup>253</sup> But what *was* the “public interest” in this auction? What question

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247. See *supra* Section IV.B.1.

248. John Markoff & Matt Richtel, *F.C.C. Hands Google a Partial Victory*, N.Y. TIMES, Aug. 1, 2007, at C3 (quoting Martin saying that “[t]he Commission needs to decide what is in the public interest, not what one company advocates.”).

249. Second Report and Order, *supra* note 1, ¶ 7 (emphasis added).

250. *Id.* ¶ 80 (emphasis added).

251. *Id.* ¶ 259 (emphasis added).

252. *Id.* (emphasis added).

253. See SNIDER, ART OF SPECTRUM LOBBYING, *supra* note 10, at 22 (describing the

was the Commission trying to answer? What should we as a nation do with spectrum policy?

### A. The Public Interest in Spectrum Auctions

The hope for spectrum auctions generally had been that they would usher in an entirely new telecommunications sector, unlike the cellular telephone market, in which consumers would have “access to an array of voice, data, and video communications services regardless of where a subscriber may be located.”<sup>254</sup> Along these lines, the 700 MHz auction was initially envisioned as the key opportunity to encourage improved Internet access for Americans. The *Second Report and Order* itself stated that “[r]apid deployment and ubiquitous availability of broadband services across the country are among the Commission’s most critical policy objectives.”<sup>255</sup> This fit with numerous Bush Administration announcements during the period from 2000-2007 in which President Bush and other officials stated that universal highspeed Internet access by 2007 was a key priority.<sup>256</sup> The FCC’s stated belief was that “[w]ireless service is becoming an increasingly important platform for broadband access” and the 700 MHz auction would help facilitate the growth of this platform.<sup>257</sup>

In the estimates of some commentators, the auction rules established by the Commission at the beginning of August 2007 did not create the opportunity for competition to the incumbent regional duopoly (DSL and cable) providers of highspeed Internet access.<sup>258</sup> The wireless incumbents, who are themselves controlled by the DSL incumbents, will likely use this 700 MHz spectrum to offer packaged video and audio content to handheld devices that they certify in accordance with the limited no-locking, no-blocking rules established by the Commission. This kind of service will

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“political economy of an FCC license” and pointing out that the “big payoff” for a spectrum lobbyist comes in the license modification phase, after a license has been awarded). We can expect that the incumbents will seek modifications even of the very light *Carterfone* requirements set forth in the 700 MHz *Second Report and Order*.

254. Allard, *supra* note 138, at 17 n.14.

255. *Second Report and Order*, *supra* note 1, ¶ 196.

256. See Mike Allen, *Bush Sets Internet Access Goal*, WASH. POST, Mar. 27, 2004, at A04 (reporting that Bush endorsed the goal of universal broadband access by 2007); see also Declan McCullagh, *Bush: Broadband for the People by 2007*, ZDNET, Apr. 26, 2004, [http://news.zdnet.com/2100-3513\\_22-5200196.html](http://news.zdnet.com/2100-3513_22-5200196.html).

257. *Second Report and Order*, *supra* note 1, ¶ 197.

258. See Molly Peterson, *FCC Chief May Fall Short of Wireless Market Shakeup*, BLOOMBERG, Aug. 3, 2007, <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a.GC2KLzdRSY> (“The biggest question mark is: will this auction produce any new entrants into either the wireless market or the broadband market?’ said [analyst Blair] Levin. . . . ‘I don’t think it will.’”)

not introduce competition into the market for highspeed Internet access or increase the penetration of highspeed Internet access in this country.<sup>259</sup> They were likely to win the auction,<sup>260</sup> and they did indeed win.<sup>261</sup> Verizon Wireless won all the C Block licenses needed for a nationwide footprint, and spent \$9.63 billion in total, while AT&T paid \$6.64 billion for B Block licenses.<sup>262</sup> Together, AT&T and Verizon accounted for \$16.3 billion of the \$19.6 billion collected in the auction as a whole.<sup>263</sup>

But even if the wireless incumbents had not won the auction, a national, competitive “third pipe” to the Internet was still an impossible goal given the narrowness of the bandwidth allocated to the upper band C Block, and thus the relatively slow data rates (in comparison to DSL and cable connections) that users could expect from that spectrum.<sup>264</sup> What, then, could the public interest element of this auction have been?

One answer, or set of answers, lies in the statutory language of the Telecommunications Act. Among the objectives of Section 309(j) of the Act are “the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas” and the “efficient and intensive use of the electromagnetic spectrum.”<sup>265</sup> Other public policies arguably include assisting the international competitiveness of the United States and forwarding the role of wireless technology in economic growth.<sup>266</sup> All of these objectives could have been forwarded by imposing a wholesale access mandate for the upper band C Block. Such a mandate could have encouraged competition in open wireless access to the Internet; even if a nationwide “third

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259. See CFA Comments, *supra* note 4, at 134.

260. See *supra* Section IV.B.4.

261. Marguerite Reardon, *Verizon Wins “Open Access” Licenses in FCC Auction*, CNET NEWS, Mar. 20, 2008, [http://news.cnet.com/8301-10784\\_3-9899829-7.html](http://news.cnet.com/8301-10784_3-9899829-7.html); Glenn Chapman, *Verizon, AT&T Win FCC Auction, Google Wins Open Spectrum*, AGENCE FRANCE PRESSE, Mar. 20, 2008, available at Westlaw, 3/20/08 AGFRP 23:35:00.

262. See *supra* note 24; see also Blair Levin, Rebecca Arbogast & David Kaut, *FCC Announces Winning Bidders; Verizon, AT&T Bid 16B for Lion's Share*, WASH. TELECOM, MEDIA & TECH INSIDER (Stifel, Nicolaus & Company, Balt., Md.), March 20, 2008.

263. Levin et al., *supra* note 262.

264. Sprint's recent announcement of a joint venture with Clearwire, funded by Google and others, to use the WiMAX protocol over Sprint and Clearwire's licensed spectrum, may change this landscape—but there are many uncertainties in this arrangement and in the use of the protocol itself. See, e.g., Cecilia Kang and Kim Hart, *Clearwire, Sprint Nextel Set Course for WiMax*, WASH. POST, May 8, 2008, at D01 (May 8, 2008).

265. 47 U.S.C. § 309(j)(3) (2000 & Supp. IV).

266. MOORE, *supra* note 10, at 18.

pipe” was not possible, the forced availability of a platform that was neutral towards devices and applications running on the network would have encouraged competition in those devices and applications. Wholesale, open availability of spectrum in rural areas could have provided a way around the bottleneck of scarce wired highspeed Internet connections, thus making new ways of making a living available to those areas. Experimentation in different forms of nondiscriminatory Internet access would likely have also led to helpful investments in complementary communications equipment. A further step could have been to exclude the wireless under-1GHz incumbents, Verizon Wireless and AT&T, from the auction altogether—or at the least to impose spectrum caps on these actors.<sup>267</sup> The risk that these vertically integrated incumbents will use this spectrum to continue to discriminate against their rivals is very high. These steps would have made possible a proof-of-concept experiment with the Internet access model using this 22-MHz-wide block, and would have provided a needed last-mile assist to rural areas that are inadequately served by DSL and cable providers.<sup>268</sup>

A wireless experiment with the precedent of the Internet access model, which separates transport from content and allows new applications to be introduced without the permission of the transport gatekeeper, would likely be revelatory. We might have found that commodity transport providers can make enough money to survive without charging for use of particular applications and devices under the cellphone model of Internet access. We might have found that spectrum can be used much more efficiently through spot-auctions—auctions for access to spectrum on an as-needed basis through an online clearinghouse.<sup>269</sup> We might have found that devices equipped to act “smart” would have emerged to be connected to this dynamic, real-time auction for spectrum.<sup>270</sup> This opportunistic use of spectrum, managed by way of the Internet by a central auction clearinghouse, would likely have been a substantial improvement over the current command-and-control cellphone model of Internet access.<sup>271</sup> Finally, we might have found that increasing the availability of open wireless Internet access increases Internet access generally, given the competitive pressures created by easily available (even if slow) wireless access.

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267. The FCC has in the past imposed spectrum caps, prohibiting wireless incumbents in the PCS auction from purchasing licenses in areas in which their combined holdings would exceed 45 MHz. Wilkie, *supra* note 21, at 1.

268. *See supra* Section IV.B.3.

269. *See infra* Section VI.B.

270. *Id.*

271. *Id.*

While all of this experimentation might have been deeply destabilizing for the wireless carriers' business plans, encouraging increased access to the Internet should now be a central public policy goal.<sup>272</sup> The link between experimentation and increased access is clear: the results of such experimentation may make it possible for hybrid wireless/fiber systems to be stitched together in imaginative ways that will avoid the current last-mile wireline bottleneck. Even a minor increase in U.S. broadband penetration will have large positive impacts on the U.S. economy.<sup>273</sup> Both mainstream mass media and academic commentators have been persuaded that increased highspeed Internet access is in the public interest.<sup>274</sup> Tom Friedman's "flat world" is upon us, and a key element of American competitiveness will be improved highspeed Internet access.<sup>275</sup> American policy statements often acknowledge this fact, with Rep. Rick Boucher saying that "[e]nsuring that the United States has a robust broadband infrastructure . . . is as important today as building the electrical grid was a century ago."<sup>276</sup>

In sum, there are several potential public interest goals for spectrum auctions in the age of converging Internet communication, including increasing competition, encouraging development of new technologies, encouraging efficient use of the spectrum, and economic growth. Chairman Martin focused on the only one of these that was impossible given the data

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272. I explored these ideas in Crawford, *supra* note 110.

273. See generally TURNER, *supra* note 79; see also Robert Crandall, William Lehr & Robert Litan, *The Effects of Broadband Deployment on Output and Employment: A Cross-sectional Analysis of U.S. Data*, BROOKINGS INSTITUTION ISSUES IN ECON. POL'Y, June 2007, available at [http://www.brookings.edu/~media/Files/rc/reports/2007/06labor\\_crandall/200706litan.pdf](http://www.brookings.edu/~media/Files/rc/reports/2007/06labor_crandall/200706litan.pdf) (estimating that a one-digit increase in the U.S.'s per capita broadband penetration equates to an additional 300,000 jobs).

274. See, e.g., *Moyers On America: The Net At Risk* (PBS television broadcast Oct. 2006), transcript available at [http://www.pbs.org/moyers/moyersonamerica/print/netatrisk\\_transcript\\_print.html](http://www.pbs.org/moyers/moyersonamerica/print/netatrisk_transcript_print.html); OECD, *supra* note 15 (U.S. has fallen to 15th place in broadband penetration among the 30 member nations; annual U.S. penetration growth ranked 20th out of 30; semi-annual growth 24th out of 30); TURNER, *supra* note 79 ("Each spot the United States slips [in broadband penetration rankings] represents billions in lost producer and consumer surplus, and potentially millions of real jobs lost to overseas workers.").

275. THOMAS L. FRIEDMAN, *THE WORLD IS FLAT: A BRIEF HISTORY OF THE TWENTY-FIRST CENTURY* (2005) ("[I]t is our ability to constantly innovate new products, services and companies that has been the source of America's horn of plenty and steadily widening middle class for the last two centuries."); see generally REED HUNDT, *IN CHINA'S SHADOW: THE CRISIS OF AMERICAN ENTREPRENEURSHIP* (2006) (arguing that U.S. needs to reform its legal, technological, and leadership architecture in order to renew American cultural commitment to entrepreneurship).

276. Tessler, *supra* note 15.

rate limitations of the 22 MHz C Block: competition in the form of a “third pipe.” The other public interest goals would have been served by different auction rules that treated the C Block as more of an experimental space. Given the predilections and incentives of the current carriers, the only possibility for experiment lay in mandating wholesale open access.

The idea of treating highspeed Internet access as a utility would have been anathema to Herbert Hoover. He was anxious about the terms “public convenience and necessity” being added to the 1927 Act, which had traditionally been used in connection with public utilities.<sup>277</sup> But the reality is that we have a highly concentrated, slow-to-innovate set of Internet access providers serving us, at a time when highspeed access to the Internet is effectively an essential facility. The public interest, as expressed in the Telecommunication Act’s instructions to the FCC, arguably dictates that we experiment with wholesale and other mandates that facilitate the Internet model of access.<sup>278</sup>

The next such opportunity is upon us: white spaces. When the DTV transition described in this Article is complete, channels 2 through 51 will remain allocated for television transmission. Few of the nation’s television markets actually use 49 channels. Indeed, some use only half that number.<sup>279</sup> The “white spaces” are these unused television channels, which amount to approximately 300 MHz of frequencies. According to Blair Levin, “[e]stimates vary, but most of the population (between 73% and 97%) lives in areas with access to 24 MHz or more of white space. Rural areas in particular, have a great deal of white space as they generally have fewer television broadcasters.”<sup>280</sup> Rules for the “white spaces” are now on the Commission’s agenda.<sup>281</sup> The fight over who should be allowed to use

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277. See *supra* note 48.

278. Another key moment for the public interest will come when the FCC decides to act (or not) in response to the Skype Petition, described *supra* in note 241.

279. See Dibya Sarkar, *Vacant Airwaves Spur TV-Tech Turf Battle*, ASSOCIATED PRESS, Apr. 7, 2008, available at Westlaw, 4/7/08 APWIRE 19:24:54.

280. Blair Levin, Rebecca Arbogast & David Kaut, *Tech Drive To Use Broadcast White Spaces Hits Bump*, WASH. TELECOM, MEDIA & TECH INSIDER (Stifel, Nicolaus & Company, Balt., Md), Aug. 3, 2007.

281. *Oversight of the Federal Communications Commission: Hearing before the Subcomm. on Telecomm. and the Internet of the H. Comm. on Energy and Commerce*, 110th Cong. (2007) (prepared statement of Robert M McDowell, Comm’r, Fed. Commc’ns Comm’n), available at [http://energycommerce.house.gov/cmtte\\_mtgs/110-ti-hrg.072407.McDowell-testimony.pdf](http://energycommerce.house.gov/cmtte_mtgs/110-ti-hrg.072407.McDowell-testimony.pdf) (“[T]he Chairman intends that the Commission finalize rules [for the white spaces] this fall.”); see also Public Notice, FCC, Office of Engineering and Technology Announces Projected Schedule for Proceeding on Unlicensed Operation in the TV Broadcast Band (Sept. 11, 2006), available at [http://fjallfoss.fcc.gov/edocs\\_public/attachmatch/DA-06-1813A1.pdf](http://fjallfoss.fcc.gov/edocs_public/attachmatch/DA-06-1813A1.pdf) (projecting release

the white spaces, and under what conditions, is just beginning.

## B. Onward: White Spaces

Rather than being sold at auction to the highest bidder, unlicensed spectrum is usable by anyone with wireless equipment that has been certified by the FCC for unlicensed frequencies.<sup>282</sup> A key advantage of unlicensed spectrum is that experiments in new technology can be carried out without asking the permission of spectrum licensees. To date, we have made very little spectrum available for unlicensed use and experimentation.<sup>283</sup> The FCC has the discretion to decide whether the digital television “white spaces” may be used on an unlicensed basis.<sup>284</sup> Its own Spectrum Policy Task Force recommended in 2002 that such a step be taken.<sup>285</sup> Indeed, in trying to stave off an auction rule in the 700 MHz proceeding that would have dedicated non-built-out spectrum to unlicensed uses, Verizon affirmatively argued that the Commission would be opening up the white spaces on an unlicensed basis—thus making such a rule for the 700 MHz auction unnecessary.<sup>286</sup>

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of Second Report and Order in October 2007). No rules were issued for the white spaces during the fall of 2007.

282. Kenneth Carter, Ahmed Lahjouji & Neal McNeil, *Unlicensed and Unshackled: A Joint OSP-OET White Paper on Unlicensed Devices and Their Regulatory Issues 4-5* (FCC, OSP Working Paper Series No. 39), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-234741A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-234741A1.pdf).

283. According to the White Spaces Coalition, comprising Dell, Google, Hewlett-Packard, Intel, Microsoft, and Philips, “of the ‘beachfront’ spectrum below 2 GHz, only 26 MHz is available for unlicensed broadband use, as opposed to 1,974 MHz for federal or licensed use. Indeed, there is absolutely no unlicensed spectrum available for wireless broadband in the spectrum below 900 MHz . . . .” Reply Comments of Dell, Inc., Google, Inc., Hewlett-Packard Co., Intel Corp., Microsoft Corp., & Philips Elecs. N. Am. Corp., *In re Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186, at 30 (Fed. Comm’n Comm’n Mar. 2, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518909731](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518909731).

284. See *supra* text accompanying notes 279-280 (describing the television white spaces); Jon Van, *TV Group Sees Dark Time If White Space Opened Up*, CHICAGO TRIBUNE, Dec. 26, 2007, at C1 (“Called ‘white space,’ over-the-air channels like 6 and 8 in Chicago are left vacant to prevent signals broadcast on Channels 5, 7, and 9 from interfering with one another.”). In most of the country, most of the TV spectrum is not being used. See *supra* note 279.

285. SPTF-RR, *supra* note 130, at 54-63. The Spectrum Policy Task Force recommended continuing to rely primarily on licensed spectrum, but also advocated “co-existence between licensed and unlicensed.” William Lehr, Economic Case for Dedicated Unlicensed Spectrum Below 3GHz 14 (May 17, 2004) (unpublished manuscript), available at [http://itc.mit.edu/itel/docs/2004/wlehr\\_unlicensed\\_doc.pdf](http://itc.mit.edu/itel/docs/2004/wlehr_unlicensed_doc.pdf).

286. Verizon argued in the 700 MHz proceeding that it would not make sense to make a license winner’s failure to “build out” its network trigger an FCC order turning

Beginning in 2004, the FCC asked for comments on uses of the white spaces, itself suggesting that broad unlicensed uses of these white spaces would be appropriate.<sup>287</sup> The Commission recognized that the “significant growth of and consumer demand for unlicensed wireless broadband applications” supported opening up the white spaces for broad ranges of unlicensed use.<sup>288</sup> Two years later, the FCC backtracked somewhat from its earlier wholehearted endorsements of unlicensed uses of the white spaces, saying (1) that, at the most, only “fixed” (non-portable) unlicensed uses should be allowed, and, even more disconcertingly, (2) that it is not confident any unlicensed uses are appropriate in the white spaces.<sup>289</sup> The FCC is concerned about the possibility of interference among the transmissions of various users of the white spaces.<sup>290</sup>

The television white spaces are arguably even more important as a

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the purchased spectrum over to unlicensed uses. “As a threshold matter, abundant spectrum already is available for unlicensed services in the 2.4 [Wi-Fi] and 5 GHz bands. Moreover, the Commission likely will make additional spectrum available for unlicensed services as a result of the TV white spaces proceeding.” Reply Comments of Verizon Wireless, *supra* note 183, at 16.

287. See Unlicensed Operation in the TV Broadcast Bands, 19 F.C.C.R. 10018 (proposed May 25, 2004) (“[W]e propose to allow unlicensed radio transmitters to operate in the broadcast television spectrum at locations where that spectrum is not being used.”). This proceeding is still pending.

288. White Spaces NPRM, *supra* note 116, ¶ 7.

289. See Unlicensed Operation in the TV Broadcast Bands, 19 F.C.C.R. 10018; First Report and Order and Further Notice of Proposed Rulemaking, ET Docket Nos. 04-186, 02-380, FCC 06-156, Oct. 2006, at ¶ 18 [hereinafter FNPRM] (concluding that portable devices “generally pose a greater risk of harmful interference to authorized operations than fixed devices” and “[w]hile we continue to focus on devices operating on an unlicensed basis, we also ask whether such devices should instead operate on a licensed or hybrid basis”). The National Association of Broadcasters supports this position. See Letter from Nat’l Ass’n of Broadcasters to Marlene H. Dortch, Sec’y, FCC (July 26, 2007) (ex parte communication regarding ET Docket No. 04-186) (on file with author); Reply Comments of MSTV & NAB, *In re* Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186 (Fed. Commc’ns Comm’n May 15, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519411508](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519411508) (“[A]t a minimum, the Commission must . . . (3) prohibit all personal/portable devices from operating within the spectrum. Without these protections, television viewers will experience harmful interference which will severely and unacceptably disrupt DTV services.”).

290. According to Benkler, “interference is a degradation of the fidelity of reception, caused by transmissions from different sources that are detectable by a receiver, which the receiver cannot sufficiently differentiate to be able to translate into intelligible information.” Benkler, *supra* note 50, at 322. Interference is manifested at the receiver and is a contingent property of that receiver; a perfectly “smart” receiver, capable of detecting all possible modulated signals, would never experience interference.

spectrum policy matter than the 700 MHz spectrum, because there is much more bandwidth available: almost 300 MHz of spectrum will be available at the conclusion of the digital television transition.<sup>291</sup> It will be in “swiss cheese” (non-contiguous) form, but there will be a great deal of it.<sup>292</sup> Using white space spectrum as a way to provide “last-mile” connectivity to wired Internet access nodes would be especially valuable in rural areas where those wired nodes are scarce and there is a great deal of vacant TV spectrum.<sup>293</sup>

Unlicensed spectrum is already used to provide highspeed but short-distance wireless access (Wi-Fi) to local area networks, with enormous success.<sup>294</sup> The explosion of Wi-Fi surprised almost everyone. Manufacturers raced to provide certified equipment for hotspots and users quickly became accustomed to finding opportunistic wireless connections in stores and airports. Use of Wi-Fi “created a multi-billion dollar industry at a time when most telecommunications businesses were in a downturn, almost indisputably creating substantially greater value than if the band had been allocated for exclusive use.”<sup>295</sup> But the short range of current Wi-Fi, and its limitations to low-power devices, have constrained its use for non-urban settings. Making unlicensed longer-range uses of wireless access widely available would likely lead to a similarly explosive narrative, creating uses where none were possible in the past and creating markets for new devices.

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291. See MICHAEL CALABRESE, NEW AM. FOUND. & BEN SCOTT, FREE PRESS, MEASURING THE TV “WHITE SPACE” AVAILABLE FOR UNLICENSED WIRELESS BROADBAND (2006), [http://www.newamerica.net/publications/policy/measuring\\_tv\\_white\\_space\\_available\\_for\\_unlicensed\\_wireless\\_broadband](http://www.newamerica.net/publications/policy/measuring_tv_white_space_available_for_unlicensed_wireless_broadband) (mapping available white space in sample TV markets).

292. *Id.* The “swiss cheese,” noncontiguous nature of the white spaces also counsels against auctioning off licenses to them; these would be “junky” licenses, but useful unlicensed areas.

293. See Jon Van, *TV Group Sees Dark Time If White Space Opened Up*, CHICAGO TRIBUNE, Dec. 26, 2007, at C1. (quoting Brian Peters, Information Technology Industry Council).

294. Werbach, *supra* note 61, at 958-59. The salient difference between unlicensed and licensed spectrum uses is that unlicensed devices are not legally protected from interference and must operate so as not to interfere with licensed uses. Regulation of unlicensed devices therefore is provided in the form of specifications governing equipment design and use.

295. Reply Comments of Dell Inc., Google, Inc., the Hewlett-Packard Co., Microsoft Corp., and Philips Electronics North America Corp., at 23 (Mar. 2, 2007) (citing Kevin Werbach, Former Counsel for New Tech. Policy, FCC, Remarks at the Stanford University Spectrum Policy: Property or Commons Conference (Mar. 1, 2003), *available at* [http://werbach.com/docs/spectrum\\_conf\\_comments.html](http://werbach.com/docs/spectrum_conf_comments.html)).

If the white spaces were made available on an unlicensed basis for use by opportunistic, “smart,” higher-power mobile devices, entrepreneurial engineers will likely think of ways to use this wealth of spectrum to provide longer-range mobile connections to whatever fiber installations are nearest. This would make ubiquitous last-mile highspeed Internet access (particularly in rural areas unreached by the incumbents) possible, and would allow for innovative mobile Internet connections uncontrolled by the incumbents.<sup>296</sup> Free Press takes the position that “[u]sing these white spaces, the wireless broadband industry could deliver Internet access to every American household at high speeds and low prices—for as little as \$10 a month . . . .”<sup>297</sup> Cooperative neighborhood mesh networks could use the white spaces to share a single fiber connection to the Internet with hundreds of people.<sup>298</sup>

Interference remains a key issue. The television broadcasters view portable unlicensed uses of the white spaces as threats to their digital television signals.<sup>299</sup> They have launched a large public relations effort aimed at consumers and legislators, arguing that any portable, unlicensed use of the white spaces will create chaos for television programming.<sup>300</sup> Pre-

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296. According to Blair Levin, “Some have suggested that the white spaces could even provide the necessary spectrum for a last-hundred-foot solution for delivering broadband.” Blair Levin, Rebecca Arbogast & David Kaut, *Tech Drive To Use Broadcast White Spaces Hits Bump*, WASH. TELECOMM., MEDIA & TECH. INSIDER, Aug. 3, 2007.

297. MICHAEL CALABRESE, NEW AM. FOUND. & BEN SCOTT, FREE PRESS, MEASURING THE TV “WHITE SPACE” AVAILABLE FOR UNLICENSED WIRELESS BROADBAND (2005), available at [http://www.freepress.net/docs/whitespace\\_analysis.pdf](http://www.freepress.net/docs/whitespace_analysis.pdf).

298. Comments of Dell, Inc., Google, Inc., The Hewlett-Packard Co., Intel Corp., Microsoft Corp., & Philips Elecs. N. Am. Corp., *In re* Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186, at 30 (Fed. Commc’ns Comm’n Jan. 31, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518724310](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518724310).

299. *Id.* The broadcasters are assisted in this regard by wireless microphone manufacturers who also claim that their services will be interfered with, even though “the vast majority of wireless [microphone] systems are unlicensed and operate illegally.” See Letter from White Spaces Coalition to Marlene H. Dortch, Sec’y, FCC (July 16, 2007) (ex parte communication regarding *In re* Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519557961](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519557961); see also Ex Parte Comments of Shure Inc., *In re* Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186, at 8 (Fed. Commc’ns Comm’n July 26, 2007), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519560808](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519560808) (“Shure strongly opposes the view of a few parties that wireless microphone uses are trivial and invalid. Undoubtedly, the millions of Americans who demand high-quality audio in news, entertainment, sports, movies, music, theater, religious, political, educational, corporate, and other contexts would agree.”)

300. See Van, *supra* note 293 (quoting Dennis Wharton of NAB that “[i]f we [broad-

dictably, the broadcasters also invoke “public safety” as a reason to avoid any possible interference with television transmissions.<sup>301</sup>

The central questions to be addressed by the Commission are: are there portable devices that can operate opportunistically, on an unlicensed basis within the white spaces, without unduly interfering with digital television signals? What is the right measure of “undue” interference in an era in which television’s importance is rapidly diminishing?<sup>302</sup> The Commission has not to date made any findings on these key questions and is continuing to test portable devices submitted by Microsoft, Philips, and Google for their sensitivity to incumbent signals.<sup>303</sup> These companies take the view that improved spectrum sensing by smart devices will avoid any interference with digital television transmissions.<sup>304</sup> The broadcasters, portable microphone companies, mega-churches, sports leagues, and (now) cable companies take the view that the *potential* for any interference by portable wireless devices with their transmissions must be avoided at all costs, and that only fixed, licensed wireless uses should be permitted. But because fixed-location devices will be too expensive to be widely used and will therefore never be manufactured in large numbers, Google and others argue that such a limitation will stifle the marketplace.<sup>305</sup> Also, consumers

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casters] are right, implications for devastating TV are very real”).

301. Letter from National Association of Broadcasters to Kevin J. Martin, Chairman, FCC (July 27, 2007) (communication regarding *In re* Unlicensed Operation in the TV Broadcast Bands, ET Docket No. 04-186), *available at* [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6519607853](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519607853) (“Any significant interference is an unacceptable outcome from a public safety perspective—as the backbone of the public warning it is imperative that Emergency Alert System warnings and live news coverage are ensured robust reception.”).

302. As Ellen Goodman has pointed out, these are key inquiries on which spectrum policy will be built. *See* Ellen P. Goodman, *Spectrum Rights in the Telecosm to Come*, 41 SAN DIEGO L. REV. 269, 288 (2004).

303. Press Release, FCC, The Office of Engineering and Technology Announces the Release of Reports of Initial Measurements on TV White Space Devices (July 31, 2007), *available at* [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-07-3457A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-3457A1.pdf).

304. *See* Mark A. Sturza & Farzad Ghazvinian, *Can Cognitive Radio Technology Operating in the TV White Spaces Completely Protect Licensed TV Broadcasting?* 1-2 (New Am. Found. Wireless Future Program, Working Paper No. 16, 2007), *available at* [http://www.newamerica.net/files/WorkingPaper16\\_WhiteSpaceSensing\\_Sturza.pdf](http://www.newamerica.net/files/WorkingPaper16_WhiteSpaceSensing_Sturza.pdf) (arguing that spectrum sensing and cognitive radio can protect existing broadcasters from interference).

305. Blair Levin, Rebecca Arbogast & David Kaut, *Tech Drive To Use Broadcast White Spaces Hits Bump*, WASH. TELECOMM., MEDIA & TECH. INSIDER, Aug. 3, 2007. During 2007, Senator Kerry proposed legislation that would require the FCC to allow for portable as well as fixed unlicensed uses of the white spaces. Wireless Innovation Act of 2007, S. 234, 110th Cong. (2007) (requiring the Commission to establish certification

obviously cannot communicate over a *wired* network while driving or riding in a vehicle, which gives mobile devices using wireless connections a key advantage. The fight over the use of personal, portable devices using unlicensed spectrum in the white spaces is just beginning.

The strong public interest in highspeed Internet access and general technological exploration points clearly towards granting permission for portable unlicensed uses of the white spaces. In a sense, we will have two case studies to choose from: the 700 MHz auction rule experience, which is likely to do nothing for increased highspeed Internet access, and the Wi-Fi experience, which has triggered an explosion of innovation in devices and uses of spectrum for Internet access.

The underlying question is one that has been the subject of a great deal of scholarly inquiry over the last ten years, beginning with work by Yochai Benkler: should we always propertize spectrum?<sup>306</sup> The argument in favor of propertizing spectrum is that the existence of interference makes spectrum scarce and therefore makes propertizing it sensible.<sup>307</sup> We assume that, given the possibility of interference, allowing transmitters

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standards for both fixed and portable unlicensed devices in the white spaces). An identical companion bill, Wireless Innovation Act of 2007, H.R. 1597, 110th Cong. (2007), was introduced in the House by Representatives Jay Inslee and Nathan Deal.

306. Benkler, *supra* note 50 (suggesting unlicensed use of spectrum subject to simple “rules of the road,” similar to TCP/IP protocol); Benkler, *Some Economics of Wireless Communications*, *supra* note 131; *see also* Noam *supra* note 133, at 768; Comments of David P. Reed, *In re* Spectrum Policy Task Force Report, ET Docket 02-135 (July 10, 2002), available at [http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6513202407](http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513202407). Benkler, in turn, was responding to calls for complete propertization of spectrum through the auction mechanism. *See, e.g.*, Gregory L. Rosston & Jeffrey S. Steinberg, *Using Market-Based Spectrum Policy to Promote the Public Interest*, 50 FED. COMM. L.J. 87 (1997). For a more recent expression of this view, *see* Thomas W. Hazlett & Matthew L. Spitzer, *Advanced Wireless Technologies and Public Policy*, 59 S. CAL. L. REV. 3 (2006). Ronald Coase made the first argument that spectrum should be treated like any other form of property. Ronald Coase, *The Federal Communications Commission*, 2 J.L. & ECON. 1 (1959). Responding to Benkler, Stuart Minor Benjamin has argued that efficiency considerations favor private ownership of spectrum. Stuart Minor Benjamin, *Spectrum Abundance and the Choice Between Private and Public Control*, 78 N.Y.U. L. REV. 2007 (2003). Kevin Werbach has argued in favor of the commons approach but with a focus on wireless equipment usage rights. Werbach, *supra* note 61. The unlicensed position arguably achieved its high-water mark (in terms of FCC policy) in the 2002 Spectrum Policy Task Force report, which suggested that unlicensed use should be treated as an approach whose merits are equal to licensed use. *See* SPTF-RR, *supra* note 130, at 35-37. In the six years since then, the FCC has apparently forgotten its own arguments as to the good reasons to leave some spectrum unlicensed.

307. *See* Arthur S. De Vany et al., *A Property System for Market Allocation of the Electromagnetic Spectrum: A Legal-Economic-Engineering Study*, 21 STAN. L. REV. 1499 (1969).

exclusive property rights against such interference will encourage bargaining among transmitters that will result in having spectrum used for its highest and best purpose.

But if users have portable wireless devices that can sense and avoid legacy signals—and thus avoid interference altogether—the important questions change. Instead of allocating spectrum among a small number of well-funded actors who are willing to pay the most to (presumably) put the economic good of spectrum to its highest and best use, we can focus our attention on defining the “rules of the road” that will best allow users with relatively low-cost, interference-avoiding equipment to cooperate with one another. This user-owned-devices-taking-advantage-of-available-spectrum business model is a challenge to the business models of incumbent spectrum holders—who rely on “owned” spectrum and infrastructure being used for a fee by subscribers.

The upside potential of devices using unlicensed television white spaces spectrum to improve Internet access in this country, particularly in rural areas where the cost of laying fiber is prohibitive, is enormous.<sup>308</sup> We are operating in a context in which scarcity is clearly a regulatory artifact,<sup>309</sup> in which incentives to invent and invest in spectrum-efficient technology would be greater for unlicensed than licensed spectrum, and in which interference is no longer the problem it used to be. At the very least, we should allow experimentation in the manufacture of opportunistic devices that are capable of using white spaces spectrum without causing interference, and this will only happen if some portion of the white spaces is allowed to be used on an unlicensed basis by portable devices. There will still be plenty of licensed spectrum on the books.

## VII. CONCLUSION

It is now a wireless world. The radio is becoming the Internet, and the Internet is becoming the radio. Many people see a future characterized by open, opportunistic access, explosive innovation, and a wide choice of devices. The wireless industry in America is, however, controlled by heavy-handed cellular carriers. The history of the development of the 700 MHz

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308. As several scholars have pointed out, the case for dedicated unlicensed spectrum includes multiple economic benefits in addition to assistance with Internet access. Availability of unlicensed spectrum will promote innovation in and investment in wireless services (including devices and applications), and encourage the development of new business models for access. *See, e.g.,* Benkler, *Some Economics of Wireless Communications*, *supra* note 131, at 25; Lehr, *supra* note 285.

309. *See* Comments of David Reed, *In re* Spectrum Policy Task Force Report, ET Docket 02-135, at 2-10 (Fed. Commc’ns Comm’n July 15, 2002) (on file with author).

auction rules makes it clear that these cellphone model incumbents would do almost anything to hang onto their market power and avoid the Internet model of online access, including feinting towards “no-locking, no-blocking” rules in order to avoid the greater evil of wholesale mandates. These incumbents were ably assisted by the Commission. Congress had attempted to give substance to the “public interest” standard in its auction-related statutory language, which emphasized new entrants and competition. But in creating the rules for the 700 MHz auction, the Commission (while giving lip service to these statutory exhortations) returned to the early, pre-comparative hearing days of the Federal Radio Commission. It found that deep-pocketed incumbent access to exclusive rights in spectrum should not be limited in any serious way.

Now we are facing another FCC proceeding—the television white spaces—and another chance to get the public interest right. The Commission needs to solve its “public interest” problem. We must recognize that protecting one-way, broadcast television will not assist job growth, economic growth, or any other broadly socially beneficial growth for the United States. Internet access, on the other hand, has enormous potential to facilitate these developments. The FCC needs to recognize that the communications ecosystem of which it is a part is increasingly adopting the Internet ethos of open, no-permission-needed, neutral transport but is being held back by the actions of incumbents wedded to their own business models. The Commission should not be assisting these incumbents.

This is a moment for substantial U.S. telecommunications policy reflection. Both the FCC and Congress need to take steps to liberate swaths of spectrum from licensing and the control of incumbents in order to serve future Internet access needs. Mobile, unlicensed devices that make Internet access available even in remote locations will be crucial. For the 21st century, innovation and creativity are our comparative advantage. If we get this wrong, the consequences will be severe.