[*] The views expressed are those of the authors and Policy Studies' staff and do not necessarily reflect the views of the Commission or any individual Commissioner.

unlawful when engaged in by a firm seeking to obtain or maintain monopoly power.[5] Sometimes the anticompetitive conduct is employed to acquire monopoly power, exposing consumers to the price, output, and innovation effects that can result from monopoly. Sometimes the anticompetitive conduct is employed to maintain a monopoly position, preventing rivals from entering or effectively competing with the monopolist, and thereby prolonging consumers' exposure to the potentially harmful effects of monopoly.

This paper provides an overview of section 2 and its application to single-firm conduct, highlighting major features of section 2 enforcement activity and central policy issues facing courts and enforcers. Section I describes the elements of the primary section 2 offenses—monopolization and attempted monopolization—and the role of section 2 in antitrust enforcement. Section II describes the methods of section 2 enforcement, tracing the historical development of federal enforcement and surveying recent enforcement activity, both governmental and private. Section III provides a brief thematic overview of section 2 jurisprudence, and Section IV describes the economic theories and tools that have played an important role in section 2 analysis. Finally, Section V identifies certain recurring policy issues that were addressed at the recent Federal Trade Commission/Department of Justice Hearings on Section 2 of the Sherman Act: Single-Firm Conduct as Related to Competition [hereinafter "the hearings"]—the effort to develop clear and administrable rules and the consideration of error costs in designing rules.

I. The Structure and Scope of Section 2

The Supreme Court has described the Sherman Act as "the Magna Carta of free enterprise,"[6] and emphasized that it is directed "not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself."[7] The Act's far-reaching objectives are achieved through two substantive provisions of broad coverage.

Section 1 of the Sherman Act prohibits any "contract, combination . . ., or conspiracy, in restraint of trade."[8] This prohibition applies only to agreements between firms and is primarily aimed at preventing injury to competition from collusion—arrangements designed to eliminate competition among competitors to their mutual benefit. Combating collusion has long "supplied the core of federal antitrust enforcement"[9] cases, in part because, as the Supreme Court has

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5 HOVENKAMP, *supra* note 2, § 6.1, at 269.

6 United States v. Topco Assocs., Inc. 405 U.S. 596, 610 (1972).

7 Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 458 (1993).

8 15 U.S.C. § 1 (2007).

9 William E. Kovacic, *The Modern Evolution of U.S. Competition Policy Enforcement Norms*, 71 ANTITRUST L J. 377, 415 (2003) (noting the "primacy" of section 1

enforcement).

[10] Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752, 768–69 (1984).

monopolization as mitigating the "risk that the antitrust laws will dampen the competitive zeal of a single aggressive entrepreneur").

[16] The "conspiracy to monopolize" offense addresses monopoly power acquired through concerted action and therefore is largely outside the scope of this paper.

[17] United States v. Grinnell Corp., 384 U.S. 563, 570–71 (1966).

[18] *See generally*

[23] *See* 1 ABA S

[29] *See* 15 U.S.C. § 4 (2007).

[30] *See id.* § 15a. Although section 2 authorizes criminal remedies, the Justice Department has not sought criminal relief in a section 2 case for many years.

[31] *Id.* § 45(b).

[32] *Id.* § 45(b), (*l*).

[33] *Id.* § 53(b).

[34] *See* FTC v. Mylan Labs., 62 F. Supp. 2d 25, 36–37 (D.D.C. 1999), *revised and reaffirmed in pertinent part*, 99 F. Supp. 2d 1, 4–5 (D.D.C. 1999); Federal Trade Commission, Policy Statement on Monetary Equitable Remedies in Competition Cases, 68 Fed. Reg. 45,820 (Aug. 4, 2003), *available at* http://www.ftc.gov/os/2003/07/disgorgementfrn.htm.

[35] *See* 15 U.S.C. § 15(a in pec07).

[36] *Id.* § 15c.

[37] *Id.*

Comm'n 1–4 (June 2, 2006), http://govinfo.library.unt.edu/amc/public_studies_fr28902/remedies_pdf/060602_Caffery_Persky_Gustafson_Remedies.pdf (listing private actions); *In re* K-Dur Antitrust Litigation, 338 F. Supp. 2d 517 (D.N.J. 2004).

[43] Prior research has shown that a significant portion of private antitrust cases follow from government actions, but that most follow-on cases are those alleging horizontal price-fixing. *See* Thomas E. Kauper & Edward A. Snyder, *Private Antitrust Cases that Follow on Government Cases, in* PRIVATE ANTITRUST LITIGATION 329, 333 tbl.7.1, 338 tbl.7.3, 339 (Lawrence J. White ed., 1988).

[44] *See* Sherman Act Section 2 Joint Hearing: Remedies Hr'g Tr. 104, Mar. 29, 2006 [hereinafter Mar. 29 Hr'g Tr.] (Page) (citing reports that Microsoft settlement payments totaled close to $9 billion); Sherman Act Section 2 Joint Hearing: Concluding Session Hr'g Tr. 151, May 8, 2007 [hereinafter May 8 Hr'g Tr.] (Rule) (suggesting that Microsoft's settlement payments may exceed $10 billion).

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[48] *See*

[56] Probably the most important of these was the "Cellophane Case," United States v. E.I. duPont de Nemours & Co., 351 U.S. 377 (1956), in which the Court rejected the Government's proposed relevant market, confined to cellophane, in favor of a broader market encompassing all flexible packaging materials.

[57] GAVIL ET AL., *supra* note 13, at 604.

[58] *See* Kovacic, *supra* note 9, at 450 (noting that "criticism persisted in the 1960s and culminated in the recommendation of the Neal Commission in 1969 that Congress and the enforcement agencies adopt a new norm that promoted enforcement to attack abusive conduct by dominant firms and, in many instances, to deconcentrate major sectors of the economy").

[59] *Id.* Among those challenged were "the world's leading computer producer (IBM), the world's leading producer of photocopiers (Xerox), the world's largest telephone system (AT&T), the world's two leading producers of tires (Firestone and Goodyear), the eight largest petroleum refiners, [and] the four largest suppliers of breakfast cereal. The DOJ and the FTC sued them all." *Id.*

[60] *Id.* at 451.

[61] *Id.* Probably the most important of these was the decree accepted by AT&T. *See infra*

"shared monopolies" were largely discredited, as respected authorities began to question the structuralist assumptions[64] that had guided antitrust policy and to challenge the economic basis for attacking concentrated industries.[65]

By this time, the "pro-market, and largely anti-interventionist" views of the Chicago School[66] were increasingly reflected in the Agencies' enforcement policies. During the 1980s, the Justice Department entered a landmark consent decree that dismantled the AT&T monopoly[67] but voluntarily dismissed its 13-year case against IBM.[68] Between 1981 and early 1989, the Agencies between them filed four new cases, but, "[that was] the smallest number of government dominant firm cases initiated in any comparable period since passage of the Sherman Act in 1890."[69]

The 1990s saw a limited increased level of enforcement.[70] However, unlike their campaign against concentrated industries in the 1960s and 1970s, the Agencies in the 1990s adopted a far more targeted approach focused on conduct rather than market structure. The Justice Department secured a consent decree against Microsoft's exclusive dealing practices in 1995,[71] and filed a more expansive case in 1999, alleging that Microsoft had maintained its monopoly through a wide variety of exclusionary practices.[72] It also filed a predatory pricing

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64 *See generally* HERBERT HOVENKAMP, THE ANTITRUST ENTERPRISE 35–37 (2005) (summarizing the development of the traditional "structuralist" view, which posited that the structure of a market essentially dictates the conduct of market participants, which in turn dictates performance). *See also infra* Section IV.A.

65 Kovacic, *supra* note 9, at 458.

66 HOVENKAMP, *supra* note 64, at 32.

67 *See* United States v. AT&T, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom*. Maryland v. United States, 460 U.S. 1001 (1983).

68 *See In re* IBM Corp., 687 F.2d 591 (2d Cir. 1982) (affirming dismissal of Government's case).

69 Kovacic, *supra* note 9, at 453.

70 *Id.* at 459.

71 *See* United States v. Microsoft Corp., 56 F.3d 1448 (D.C. Cir. 1995).

72 United States v. Microsoft Corp., 97 F. Supp. 2d 59 (D.D.C. 2000), *aff'd, rev'd, and remanded in part*, 253 F.3d 34 (D.C. Cir. 2001) (finding Microsoft liable for monopolization).

case against American Airlines in 1993,[73] and an exclusive dealing case against Dentsply in 1999.[74] The FTC sued Intel, challenging its refusal to deal with certain firms that refused to license their technologies to Intel, resulting in a consent decree.[75]

2. Recent Enforcement: 2000–2008

In the last eight years, the Justice Department completed litigating the section 2 cases it had initiated in the previous decade. It won conduct remedies against both Microsoft[76] and Dentsply[77] but brought no new section 2 cases.

The Federal Trade Commission brought two new cases based on section 2 theories that alleged that firms had deceived standard-setting bodies regarding patent positions or patent enforcement intentions, thereby improperly inducing adoption of standards covered by the patents.[78] The Commission also initiated enforcement actions based, at least in part, on section 2 theories, challenging efforts by a number of branded pharmaceutical companies to prevent generic companies from introducing products that would compete with patent-protected drugs.[79]

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73 United States v. AMR Corp., 140 F. Supp. 2d 1141 (D. Kan. 2001), *aff'd*, 335 F.3d 1109 (10th Cir. 2003) (granting summary judgment for defendant).

74 United States v. Dentsply Int'l, Inc., 277 F. Supp. 2d 387 (D. Del. 2003), *rev'd*, 399 F.3d 181, 197 (3d Cir. 2005) (holding that exclusivity policy of dominant manufacturer of artificial teeth violated section 2).

75 *In re* Intel Corp., 128 F.T.C. 213 (1999).

76 *See* United States v. Microsoft Corp., 231 F. Supp. 2d 144 (D.D.C. 2002), *aff'd sub nom.* Massachusetts v. Microsoft Corp., 373 F.3d 1199 (D.C. Cir. 2004).

77 *See* United States v. Dentsply Int'l., Inc., No. 99-005(SLR), 2006 WL 2612167 (D. Del. Apr. 26, 2006).

78 *See In re* Rambus Inc., No. 9302, 2006-2 Trade Cas. (CCH) ¶ 75364 (F.T.C. Aug. 2, 2006), *vacated sub nom.* Rambus Inc. v. FTC, 522 F.3d 456 (D.C. Cir. 2008); *In re* Union Oil Co. of Cal., 138 F.T.C. 1 (2004).

79 *See* FTC v. Cephalon, Inc., No. 1:08-CV-244 (D.D.C. Feb. 13, 2008) (complaint); *In re* Bristol-Myers Squibb Co., 135 F.T.C. 444 (2003) (consent order); *In re* Biovail Corp., 134 F.T.C. 407 (2002) (consent order); FTC v. Mylan Labs., 62 F. Supp. 2d 25 (D.D.C. 1999), *revised and reaffirmed in pertinent part*, 99 F. Supp. 2d 1 (D.D.C. 1999); *In re* Schering-Plough Corp., 136 F.T.C. 956 (2003) (finding violation), *rev'd sub nom.* Schering-Plough Corp. v. FTC, 402 F.3d 1056 (11th Cir. 2005); *In re* Hoechst Marion Roussel, Inc., 131 F.T.C. 924 (2001) (consent order); *In re* Abbott Labs., No. C-3945 (F.T.C. May 22, 2000), *available at* http://www.ftc.gov/os/2000/05/c3945.do.htm (consent order). Some of these enforcement actions proceeded primarily on section 1

bases, *see, e.g. Schering*, 136 F.T.C. at 1057–58 (Commission opinion finding it unnecessary to reach section 2 theories), but all relied, at least in part, on section 2 principles in their complaints.

[80] *See In re* Valassis Commc'ns, Inc., No. C-4160 (F.T.C. Apr. 19, 2006) (consent order resolving a challenge to an alleged invitation to collude), *available at* http://www.ftc.gov/os/caselist/0510008/

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fell back toward historical trends,[83] a pattern similar, though not identical, to the swings in federal actions.[84] Hearing panelists emphasized that in the monopolization context it is private treble damage suits, rather than government enforcement actions, that are the focal point of business attention.[85] Despite the importance of private actions in section 2 enforcement, there is very limited aggregate information about them.

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83 *See* Ginsburg & Brannon, *supra* note 82, at 31–33, 32 fig.1.

84 *See id.* at 36 fig.2.

85 *See, e.g.*, Sherman Act Section 2 Joint Hearing: Section 2 Policy Issues Hr'g Tr. 45, May 1, 2007 [hereinafter May 1 Hr'g Tr.] (Willig) (declaring that "the real force . . . behind your clients paying attention to your counseling is . . . the massive treble damages in all the follow-on cases"); *id*. at 46 (Jacobson) (same).

86 Information was limited to what could be gleaned from published opinions at the time of the review. Some of the recorded judicial resolutions may be subject to subsequent appeal or further judicial resolution of the section 2 claims. Moreover, the review did not include information on resolution by settlement.

percent). These seven theories collectively arose in more than three-quarters of all cases surveyed. Five types of pricing conduct collectively arose in another fourteen percent of cases.[87] The remaining theories of liability either accounted for relatively few cases,[88] or largely involved conduct not typically addressed under section 2.[89] Moreover, the survey indicates that individual actions seldom focus on more than a few theories of section 2 liability; in the vast majority of cases, the plaintiff asserted only one or two theories.

Plaintiffs won a favorable judicial ruling on at least one section 2 claim in just two percent of all cases, all by trial verdicts. Defendants obtained favorable judicial resolution in over 60 percent of all cases. In nearly 60 percent of all cases, defendants were able to eliminate all section 2 claims on pretrial motions (*i.e.*, motions for dismissal or for summary judgment).[90] Plaintiffs, however, successfully opposed defendants' preliminary motions in a significant minority of cases, with some of plaintiffs' claims surviving close to half of the motions to dismiss and more than a quarter of defendants' summary judgment motions.

The results regarding judicial resolutions are intriguing, but subject to differing interpretations. The paucity of judgments for plaintiffs suggests that false positives in the sense of incorrect final rulings of liability likely are relatively infrequent. Taken in isolation, this could suggest that any undue influence of private section 2 enforcement on the conduct of dominant firms is limited. However, plaintiffs may also affect dominant-firm conduct by obtaining favorable settlements,[91] and the standards that courts apply in deciding preliminary motions could have significant bearing on these results. In nearly 40 percent of the cases

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87 These cases included predatory pricing (six percent of all cases surveyed), bundled discounting (five percent), single-product loyalty discounts (two percent), price squeezes (two percent), and predatory bidding/buying (one percent). (Some cases involved allegations of multiple forms of pricing conduct.)

88 Technological tying, other claims based on product design, and sham litigation together arose in only seven percent of all cases. Monopoly leveraging, alleged in eight percent of the cases, typically was based on conduct implicating one of the other theories identified above—usually refusals to deal or tying.

89 In eight percent of the cases, plaintiffs challenged mergers and acquisitions, which are most commonly addressed under section 7 of the Clayton Act. A substantial number of cases involved allegations of concerted activity generally challenged under section 1 of the Sherman Act, such as price fixing and group boycotts.

90 Defendants prevailed at trial on all still-extant section 2 claims in another four percent of the cases.

91 *See* Sherman Act Section 2 Joint Hearing: Academic Testimony Hr'g Tr. 74, Jan. 31, 2007 [hereinafter Jan. 31 Hr'g Tr.] (Shelanski) (stating "you get a lot of hidden false positives through settlement, particularly in the private cases").

reviewed, the survey did not uncover a judicial resolution of all of plaintiffs' section 2 claims. A number of these cases may have been settled,[92] but a survey of judicial opinions could not collect data that permit conclusions on this issue. Further research might fruitfully focus on the frequency, nature, and effects of section 2 settlements.

III. The Courts' Section 2 Jurisprudence: A Thematic Overview

Section 2's brief language offers little guidance in identifying prohibited conduct.[93] Rather than defining its central concept—"monopolize"—the statute leaves that task to the courts. Their analysis has evolved over time, reflecting changes in business practices and market characteristics and the evolution of economic thinking.

Generally, the trend has been towards shrinking the scope of section 2 liability, and giving dominant firms more leeway in pricing, product development, and other business strategies.[94] This shrinkage has occurred virtually across the spectrum of section 2 offenses, as economic thinking and legal learning has cast doubt on the more interventionist approach of earlier years. An understanding of this evolution provides a foundation for approaching today's section 2 debates and places consideration of further guidance in a useful context.

A. Early Section 2 Jurisprudence

Early section 2 jurisprudence tended to read section 2 expansively. One of the earliest monopolization cases, *Standard Oil*, established that monopoly power alone was not sufficient to constitute a violation; some type of inappropriate conduct was also required.[95] However, the

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92 Available evidence suggests that settlement of private antitrust litigation is common. *See generally* Salop & White, *supra* note 82, at 10–11 (reporting that a survey of antitrust actions whose final disposition was known revealed that between 71 and 89 percent of the cases were settled); Sherman Act Section 2 Joint Hearing: Loyalty Discounts Hr'g Tr. 135, Nov. 29, 2006 (Crane) ("cases either are dismissed on summary judgment or a motion to dismiss or [defendants] have to settle, . . . because defendants cannot take the risk of going to trial").

93 *See, e.g.*, Thomas E. Kauper, *Section 2 of the Sherman Act: The Search for Standards*, 93 GEO. L.J. 1623, 1623 (2005) ("Over its 114-year history, Section 2 of the Sherman Act has been a source of puzzlement to lawyers, judges and scholars, a puzzlement derived in large part from the statute's extraordinary brevity.") (footnote omitted).

94 *See* Kovacic, *supra* note 47, at 1, 3.

95 *See* Standard Oil Co. of N.J. v. United States, 221 U.S. 1, 62 (1911) (ruling that the Sherman Act does not include "any direct prohibition against monopoly in the concrete").

[102] *See generally infra* Section III.B.

[103] *See* William Kolasky, *Reinvigorating Antitrust Enforcement in the United States: A Proposal*, ANTITRUST, Spring 2008, at 85, 86 (noting that the Rehnquist and Roberts

[108] *See Trinko*

[114] Grimm, *supra* note 20 (quoting

[118] For a description of this paradigm, see F.M. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE ch. 1 (Houghton Mifflin Co., 2d ed. 1980) (1970).

[119] *Id.* at 276–95.

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[125] *See* HOVENKAMP, *supra* note 64, at 33.

[126] *See, e.g.*, BORK, *supra* note 124, at 137–44, 163–97; Richard A. Posner, *Oligopoly and the Antitrust Laws: A Suggested Approach*, 21 STAN. L. REV. 1562, 1596–97 (1969); Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 933 (1979) (explaining that the "orthodox Chicago position" was that "only explicit price-fixing and very large horizontal mergers (mergers to monopoly) were worthy of serious concern"); HOVENKAMP, *supra* note 64, at 32 ("Chicago School writers also believed that many of the practices identified in the case law and literature as 'exclusionary' in fact reflected aggressive competition or innovation.").

[127] *See, e.g.*, Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 2–3 (1984).

[128] *See* Harold Demsetz, *Two Systems of Belief About Monopoly*, in INDUSTRIAL CONCENTRATION: THE NEW LEARNING 164, 183 (HARVEY J. GOLDSCHIDT, H. MICHAEL MANN & J. FRED WESTON, eds. 1974); Timothy J. Muris, *Improving the Economic Foundations of Competition Policy*, 12 GEO. MASON L. REV. 1, 9 (2003) ("For many antitrust lawyers and industrial organization economists, the debate turned at the 1973 Airlie House conference memorialized in Industrial Concentration: The New Learning, ...[which] showed that the SCP paradigm had theoretical flaws and lacked empirical support.")

[129] *See* Kovacic, *supra*

[131] *Id*.

[132] HOVENKAMP, *supra* note 64, at 38 ("The post-Chicago economics literature argues that certain market structures and types of collaborative activity are more likely to be anticompetitive than Chicago School antitrust writers imagined."). For further discussion of post-Chicago views, *see generally* Jonathan B. Baker, *Recent Developments in Economics That Challenge Chicago School Views*, 58 ANTITRUST L.J. 645 (1989), and Herbert Hovenkamp, *Post-Chicago Antitrust: A Review and Critique*, 2001 COLUM. BUS. L. REV. 257 (2001).

[133] *See generally*, Patrick Rey & Jean Tirole,

concepts drawn from decision theory in conducting antitrust analysis. Decision theory explicitly accounts for the fact that courts will err in implementing any standard. It seeks to maximize the net benefits of antitrust enforcement by minimizing the sum of expected costs from false positives (condemning procompetitive conduct) and false negatives (failing to condemn anticompetitive conduct), focusing on the probability of such errors and the magnitude of resulting harms.[142]

In evaluating possible standards, this approach considers not just their impact on parties to the litigation, but also how the standards will influence other actors in similar circumstances. Thus, the cost of false positives includes the deterrence of procompetitive conduct by firms who fear litigation due to an overly inclusive or vague decision.[143] Similarly, the cost of false negatives includes the loss to competition and consumers inflicted by anticompetitive conduct that is not deterred.[144] In addition, decision theory considers enforcement costs—the expenses

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448 (2005) (applying decision theory to the design of section 2 standards); Michael L. Katz & Howard A. Shelanski, *Merger Analysis and the Treatment of Uncertainty: Should We Expect Better?*, 74 ANTITRUST L.J. 537 (2007) (applying decision theory to the design of merger enforcement); C. Frederick Beckner III & Steven C. Salop, *Decision Theory and Antitrust Rules*, 67 ANTITRUST L.J. 41, 41–42 (1999) (applying decision theory to joint ventures and other horizontal restraints); *cf.* Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257, 272 (1974) (applying a decision-theoretic approach to legal rulemaking generally).

142 *See, e.g.*, Popofsky, *supra* note 141, at 449 ("The optimal legal test minimizes the sum of expected error and legal process costs because that legal test can be expected to minimize deviations from optimal deterrence."); Ken Heyer, *A World of Uncertainty: Economics and the Globalization of Antitrust*, 72 ANTITRUST L.J. 375, 381–82 (2004).

143 *See* Dennis W. Carlton, *Does Antitrust Need to be Modernized?*, 21 J. ECON. PERSPECTIVES, Summer 2007, at 155, 159–160 (observing that "the cost of errors must include not only the cost of mistakes on the firms involved in a particular case, but also the effect of setting a legal precedent that will cause other firms to adjust their behavior inefficiently"); *see also* Sherman Act Section 2 Joint Hearing: Business Testimony Hr'g Tr. 170, Feb. 13, 2007 [hereinafter Feb. 13 Hr'g Tr.] (Wark) (in-house counsel reporting that his client had altered its conduct "based not on what we thought was illegal, but on what we feared others might argue is illegal" and that "in these circumstances competition has likely been compromised").

144 *See, e.g.*, Andrew I. Gavil, *Exclusionary Distribution Strategies by Dominant Firms: Striking a Better Balance*, 72 ANTITRUST L.J. 3, 5 (2004) (expressing concern that tolerant section 2 liability standards may "lead to 'false negatives' and under-deterrence with uncertain, but very likely substantial adverse consequences"); May 1 Hr'g Tr. at 34–35 (Jacobson) (stating that "the harm inflicted on the economy by unlawful monopolization is very, very severe and much longer lasting than cartels").

145 *See*

false negatives, while a

[152] *See* Feb. 13 Hr'g Tr. at 46 (Stern) (in-house counsel stressing that "it is important to have clear, administrable, and objective rules"); *id.* at 94 (Sheller) (in-house counsel noting the desirability of clear rules that paint "brighter lines for the client"); *id*. at 126 (Heather) ("Firms do want to obey the rules of the road, but discerning and applying those rules is becoming increasingly difficult."); *id*. at 146–47 (Sewell) (quoting Assistant Attorney General Thomas O. Barnett for the proposition that "antitrust rules in the unilateral conduct area must set forth 'clear, objective standards that businesses can follow and that are also administrable for enforcers, courts, and juries'"); *id*. at 163–64, 170–71 (Wark); Jan. 30 Hr'g Tr. at 12–13, 37 (Heiner).

[153] May 1 Hr'g. Tr. at 20–21 (Elhauge).

[154] LePage's, Inc. v. 3M, 324 F.3d 141 (3d Cir. 2003); *see* Feb. 13 Hr'g Tr. at 38–40 (Sheller) (declaring that there is "no coherent standard with which to evaluate bundled pricing under the *LePage's* decision"); *id* at 63–64 (Stern) (identifying "a real need for clarity" in the bundled discounts area); *id.* at 117 (Balto); Jan. 30 Hr'g Tr. at 91–92. (Skitol) (charging that bundled discounting law has "been a tangled mess in particular ever since the *LePage's* decision").

[155] *See, e.g.*, Feb. 13 Hr'g Tr. at 82–83 (Stern) (expressing satisfaction with the guidance available in the United States regarding monopoly power thresholds and predatory pricing); *id.* at 83 (Sheller) (finding sufficient clarity in the United States regarding exclusive dealing, predatory pricing, and thresholds for monopoly power).

[156] *See, e.g.*, Herbert Hovenkamp, *Exclusion and the Sherman Act*, 72 U. CHI. L. REV. 147, 147–48 ("[T]he scope and meaning of exclusionary conduct under the Sherman Act remain poorly defined.").

[157] Jan. 30 Hr'g Tr. at 97 (Heiner); *cf.* Feb. 13 Hr'g Tr. at 95 (Stern) (cautioning that if "clear rules" are not "thoughtful," they "can do more harm than good").

[158] *See* Feb. 13 Hr'g Tr. at 13–14, 16–17, 92–93 (Balto) (cautioning against analyzing exclusionary conduct with "simple," "bright-line" rules); *see also* Jan. 30 Hr'g Tr. at 150 (Haglund).

[159] *See, e.g.*, May 8 Hr'g Tr. at 15-16 (Pitofsky); May 1 Hr'g Tr. at 16–17, 57–61, 103-04 (Kolasky); Jan. 30 Hr'g Tr. at 150 (Haglund) (arguing that "the amazing factual variability" of markets and industries makes rule-of-reason analysis appropriate).

[160] *See, e.g.*, May 1 Hr'g Tr. at 74 (Kolasky); *id.* at 61 (Jacobson); May 8 Hr'g Tr. at 24 (Creighton). These themes are developed at greater length in Grimm, *supra* note 20.

[161] *See* Popofsky, *supra* note 141, at 437 ("the few clear guideposts in Section 2 case law demonstrate that courts properly apply different Section 2 legal tests to different conduct").

[162] 2 AREEDA & HOVENKAMP, *supra* note 2, ¶ 310c7, at 208 (3d ed. 2007) (quoting

[166] *See* Feb. 13 Hr'g Tr. at 92–93 (Balto) (suggesting that the various activities challenged in the *Microsoft* case might appear legal under a clear rule, but that "if you put all of the types of conduct together, you could see why the conduct was really problematic"); Daniel A. Crane, *Rules Versus Standards in Antitrust Adjudication*, 64 WASH. & LEE L. REV. 49, 70–71 (noting that when multiple practices are alleged, some courts "reason[] that no single rule can exonerate the defendant since the legality of each practice depends upon its interaction with other practices").

[167] *See, e.g.*

Second, they argue that the harm caused by such errors is generally greater than that caused by false negatives. Treble damages and attorneys fees enhance any chilling of procompetitive conduct that may follow from an erroneous condemnation.[172] Moreover, as discussed above, over-deterrence can be especially costly, given that the types of single-firm conduct subject to challenge, such as price cutting, frequently have procompetitive ends. Finally, they argue that false positives, perpetuated by the force of *stare decisis*, will be more durable, while the monopoly power created by false negatives "is self-destructive" since it "eventually attract[s] entry."[173]

However, others challenge the claim that false positives generally pose the more significant concern.[174] First, some commentators question whether false positives are particularly likely.[175] They argue that courts are not prone to err on the side of false positives,[176] and, if anything, are likely to err in the other direction.[177] In addition, the required showing of

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172 *See, e.g.*, Feb. 13 Hr'g Tr. at 169 (Wark) ("Given the punitive nature of the antitrust laws and the inevitability of private class action litigation, including the prospect of treble damages, defending ourselves in that situation, irrespective of the courage of our convictions, is high-stakes poker indeed.").

173 *See, e.g.*, Easterbrook, *supra* note 127, at 3 ("[J]udicial errors that tolerate baleful practices are self-correcting, while erroneous condemnations are not."); Sept. 26 Hr'g Tr. at 58 (Winston) ("it's important to keep in mind the self-correcting nature of markets" in analyzing section 2 issues).

174 *See, e.g.*, Andrew I. Gavil, *Antitrust Bookends: The 2006 Supreme Court Term in Historical Context*, 22 ANTITRUST, Fall 2007, at 21, 25 (2007) (describing "the absence of empirical support for the continued assertion that [false positives] are frequent and consequential").

175 *See, e.g.*, Sherman Act Section 2 Joint Hearing: Refusals to Deal Hr'g Tr. 23, July 18, 2006 (Pitofsky) ("[T]here have been mistakes that have been made, but the idea that there's just constant false positives, I don't know where that's coming from."); Jan. 31 Hr'g Tr. at 36 (Edlin) (suggesting that "modern example[s]" of false positives are "pretty scarce").

176 *See, e.g.*, May 1 Hr'g Tr. at 88 (Kolasky) ("[W]hy do we think [the courts] will do any worse job resolving the uncertainty in Section 2 cases, . . . [including] the potential chilling effect of false positives, than they do in Section 1 cases?").

177 *See, e.g.*, Peter C. Carstensen, *False Positives in Identifying Liability for Exclusionary Conduct: Conceptual Error, Business Reality, and* Aspen, 2008 WIS. L. REV. 295, 315 (2008); (concluding that "there is no reason to think that [courts] have any proclivity to err on the side of . . . false positives" in complex antitrust litigation, and suggesting that "there is a strong bias against finding problems even if the evidence might support such a

monopoly power (or the dangerous probability of achieving such power) significantly circumscribes the reach of section 2.[178] Moreover, a number of panelists and commentators emphasize that the risk of false positives has been dramatically reduced by three decades of judicial reform resulting in "more rigorous burdens of pleading, production, and proof."[179] Indeed, some warn that "if anything, we are now in greater danger of false negatives."[180]

Second, some contend that the cost of false negatives may be greater than the cost of false positives.[181] They argue that the burdens imposed by monopolies are large and that failing to deter the unlawful acquisition or maintenance of monopoly power can harm consumers severely.[182] In contrast, some commentators argue, the cost of false positives is low, because well-counseled firms can achieve efficiencies at low cost while generally avoiding "serious antitrust concerns."[183] Furthermore, some argue that false negatives are more durable than false positives; they urge that the effects of false positives may be more ephemeral than some have

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conclusion").

178 *See, e.g.*, Feb. 13 Hr'g Tr. at 52 (Stern) (describing the market power requirement as providing business with a "pretty helpful screen").

179 Gavil, supra note 174, at 25; *see also* May 1 Hr'g Tr. at 44 (Elhauge) (stating that "current Section 2 law . . . is already constrained by the fear of over-deterrence because of private litigation"); *see supra* section III.B.

180 Kolasky, *supra* note 103, at 86–87; *see also* Gavil, *supra* note 174, at 22 ("An urgent question now facing antitrust is whether this thirty-year reconstruction effort has reached the point of overcorrection, resulting in false negatives becoming the problem that false positives once were.").

181 See, e.g., Carstensen, *supra* note 177, at 321 ("A false negative is more likely to have a significant, durable economic effect than a false positive.").

182 *See, e.g.*, *id*. at 304–07; May 1 Hr'g Tr. at 28–29 (Baker) ("[E]xclusion can be as harmful as collusion." "I would start with a big endorsement of Section 2 and its importance."); *id*. at 34–35 (Jacobson) (arguing that "if one goes back through history and looks at the conduct that has had long-term deleterious effects on consumers, we will focus on single-firm conduct a good deal more than we will focus on collusion"); *cf*. *id*. at 46–48 (Kolasky) (stating that although he views collusion as a more significant concern than exclusion, it is important that enforcers "prosecute monopolization cases vigorously, not just often").

183 Carstensen, *supra* note 177, at 318; *see also* Gavil, *supra* note 144, at 41 (if dominant firms "are truly more efficient than their rivals, . . . they will have many potent tools available for the competitive struggle" and will not require arguably exclusionary distribution strategies); May 1 Hr'g Tr. at 87 (Jacobson).

claimed[184] and that dominant firms frequently will be able to retain their market power in the face of market forces such as new entry.[185]

This debate reflects both the potential promise of decision theory as an analytical framework and its current limits as a calibrated toolke sgh92 Tc-.00rt

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184 May 1 Hr'g Tr. at 88–89 (Jacobson); *id*. (Krattenmaker).

185 *See, e.g.*, Gavil, *supra* note 144, at 40 ("Before embracing the 'self-correcting market' narrative, therefore, it is essential to ask: What firm will undertake—and what investor will seriously support—entry into a market occupied by a dominant firm that has already demonstrated its penchant for entry-deterring strategies . . . ."); *cf.* May 1 Hr'g Tr. at 147–48 (Baker) (opining that the defendants in recent government cases had market power that was "durable and would not have eroded absent government action"); Mar. 29 Hr'g Tr. at 65 (Lao) (suggesting that high-tech markets may not self-correct easily in the face of network externalities).

186 *The Current State of Economics Underlying Section 2: Comments of Michael Katz and Michael Salinger*, ANTITRUST SOURCE, Dec. 2006, at 1, 2, *available at* http://www.abanet.org/antitrust/at-source/06/12/Dec06-BrownBag.pdf (Salinger) ("[n]o one seriously supposes that we can objectively measure all of the[] factors" that decision theory suggests are important to the design of section 2 enforcement).

187 May 8 Hr'g Tr. at 118 (Pitofsky).

188 *See generally* Popofsky, *supra* note 141, at 448–53 (describing how the Supreme Court has developed rules based on general assessments of the likely magnitude of false positives and false negatives).

189 Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 226 (1993).

addressed in a companion working paper.[190]

[190] *See generally* Grimm, *supra* note 20.

APPENDIX: METHODOLOGY FOR THE STUDIES OF STATE AND PRIVATE SECTION 2 ENFORCEMENT ACTIONS

1. State Enforcement Actions

The researchers studied the State Antitrust Litigation Database maintained by the National Association of Attorneys General (NAAG). Information on state enforcement actions is reported by states and made available by NAAG as an online database.[1] Although NAAG's

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[1] *See* Nat'l Ass'n Att'ys Gen. (*NAAG*), State Antitrust Litigation Database, http://www.naag.org/antitrust/search (last visited Sept. 2007).

[2] NAAG describes the database as a "work in progress." *Id.*

one state participated.

Type(s) of offense. Table 1 reports on the type of offense—

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[3] Neither of the two cases identified as challenging a "conspiracy to monopolize" was based on a section 2 theory.

[4] The initial Westlaw search was specified as follows:

> ((OP(((PREDATOR!) (ATTEMPT! /3 MONOP!)) /P ((("15 U.S.C." "15 U.S.C.A.") +3 ("SS 1 AND 2" "SS 1, 2" "S 2")) (SHERMAN /6 ("S 2" "SS 1, 2" "SS 1 AND 2" "SECTION 2" "SECTIONS 1 AND 2" "SEC. 2")))) (HE((PREDATOR! /3 PRIC!) (ATTEMPT! /3 MONOP!) (("15 U.S.C." "15 U.S.C.A.") +3 ("SS 1 AND 2" "SS 1, 2" "S 2")) (SHERMAN /6 ("S 2" "SS1, 2" "SS 1 AND 2" "SECTION 2" "SECTIONS 1 AND 2" "SEC. 2"))) & OP((PREDATOR! EXCLU! MONOPOL!) /P ((("15 U.S.C." "15 U.S.C.A.") +3 ("SS 1 AND 2" "SS 1, 2" "S 2")) (SHERMAN /6 ("S 2" "SS 1, 2" "SS 1 AND 2" "SECTION 2" "SECTIONS 1 AND 2" "SEC. 2")))))) 29TVII 29TVIII 29TX(d) 265k12(1.3)) and da(aft 1/1/2000) and da(bef 7/1/2007).

antitrust plaintiffs and defendants, and frequently was covered by multiple opinions.[5] Cases that were consolidated through the MDL process were treated as a single case. A second search was then performed to identify all opinions within the date range that used variations of the word "monopolize" and that were not captured by the initial search.[6] The second search captured 698 additional opinions, from which 113 additional section 2 actions were identified. Seven more cases were identified through a subsequent review of case digests prepared by the Unilateral Conduct Committee of the Antitrust Section of the ABA (most of which had not been published in Westlaw when the initial review was undertaken).[7] Thus the study identified a total of 539 private actions in which section 2 claims were asserted.

The study included only those cases that resulted in an opinion captured by the Westlaw searches. In particular, it did not seek to identify all cases involving complaints raising a section 2 claim.[8] For example, if a complaint was filed during the period of study, but did not result in a judicial opinion during that period, the case would not be covered. Similarly, if a case resulted in an opinion that was not retrieved by either of the searches (*e.g.*, because the opinion discussed matters other than the section 2 claim), the case was not covered by the survey.

The researchers collected information for each of the 539 private enforcement actions identified.[9] The information was limited to that available in the judicial opinions. In particular, information on settlements was not separately compiled. In some cases, the judicial opinions provided little information on the section 2 claim. This was often true when the opinions were limited to procedural issues, such as discovery.

The aggregate results for all 539 private enforcement actions covered by the review are reported in Tables 2 and 3, including information on the following topics:

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5 For example, one dispute may have resulted in several district court opinions on preliminary issues (*e.g.*, discovery or class action certification), district court opinions on dispositive motions, and/or appellate decisions.

6 The second search identified all opinions in the date range that contained "monopoliz!", but that did not contain the terms in the original search set forth in note 4. This captured opinions using, *e.g.*, the words monopolize, monopolizing, and monopolization.

7 *See* Unilateral Conduct Committee of the Antitrust Section of the ABA, E-Bulletins, http://www.abanet.org/antitrust/at-committees/at-s2/ebulletins.shtml.

8 A search of the docket sheets of two jurisdictions (the federal district courts for the District of Columbia and the Northern District of California) during the relevant period revealed over 700 complaints that were categorized as "anti-trust" cases.

9 In many cases, the opinions arose out of actions filed before January 2000. Researchers reviewed the "full history" of the opinions as reported in Westlaw to find additional opinions with information about the case.

1. *Plaintiff's business relationship with the defendant(s).* The review collected information on whether the section 2 plaintiff's relationship with the defendant(s) was as a buyer, distributor, supplier, or competitor (or some "other" relationship).[10] Table 2 reports the results. Buyers included plaintiffs who were end users of a product, service, or technology supplied by defendants, either as final consumers or as businesses that supplied a different product or service. Distributors included sellers/resellers of products or services that they purchased or otherwise obtained from the defendants. Suppliers included businesses providing products or services to defendants. Competitors included businesses that competed with the defendant or were potential competitors of the defendant (*e.g.*, were attempting to enter the market). The "other" category covered a variety of situations, including where plaintiff and defendant provided complementary products or services; where the defendant was a patentee asserting a patent but did not compete directly with the plaintiff; or where the relationship was unclear. In some cases, there were multiple types of business relationships. In each case, the conduct was categorized based on the information available in the opinions, and the primary effort was to identify the principal relationship(s) relating to the section 2 claims.

2. *Type(s) of offense.* Table 2 reports the type(s) of section 2 offenses asserted by plaintiff—*i.e.*, monopolization, attempted monopolization, or conspiracy to monopolize. Frequently an opinion discussed more than one type of offense. When there was no specific discussion of the type of offense, the category "monopolization" was applied.

3. *Other federal antitrust laws asserted.* Table 2 reports whether the plaintiff asserted claims under other federal antitrust laws—primarily section 1 of the Sherman Act—in addition to claims based on section 2.

4. *Theories of liability asserted*. Table 2 reports the theories of section 2 liability asserted, as well as the context in which the claim arose, based on the court's characterization of plaintiff's claims. Eighteen different categories of conduct were used to describe the alleged misconduct: two refusal-to-deal categories (unilateral refusals to deal with rivals and refusals to deal with non-rivals),[11] exclusive dealing, tying, single-product loyalty discounts, bundled discounting, technological tying, other product

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[10] In all cases, the party asserting the section 2 claim was treated as the section 2 plaintiff, including those instances in which the section 2 claim was a counterclaim asserted by the nominal defendant.

[11] Ten subcategories of the two refusals to deal categories were identified: hospital privileges, medical industry, sports association, intellectual property, telecom/cable, energy systems, aftermarkets, coercing others not to deal, termination of dealings, and other.

patent), mergers and acquisitions, monopoly leveraging, business torts, and other.[12] Table 2 also reports data regarding two specific contexts in which defendant's conduct sometimes arose: IP licensing/asserting IP rights and standard setting.[13] Finally, in some cases plaintiff's section 2 allegations included more than one type of conduct. Table 2 reports information on the portion of cases in which multiple types of conduct were alleged.

5. *Judicial resolution of the section 2 claims*. The research reviewed the opinions for information on judicial resolution of the section 2 claims at both the district court and appellate court levels, and on remand. The review did not collect information on private settlements. Some of the private actions reviewed were ongoing at the end of the study period on June 30, 2007, and later activity may have provided judicial resolution or modified recorded results. The study; however does not reflect judicial actions that occurred subsequent to June 2008.

In some cases, the court or jury rendered a "split" resolution of defendant's pretrial dispositive motion or at trial, with defendant prevailing on only some of the section 2 claims. Similarly, some appeals resulted in partial reversals of grants of defendant's dispositive pretrial motions. Because at least some of plaintiff's section 2 claims survived these decisions, they are not treated as rulings in which defendant prevailed. Instances in which defendant sought preliminary disposition on only some of plaintiff's claims are also treated as split resolutions.

Table 3 reports information on the judicial resolutions of the cases surveyed. The following explains the manner in which these data were compiled:

- Of the 539 cases reviewed, 344 (64 percent) were found to have a judicial resolution of all of plaintiff's section 2 claims. Of these, 335 cases were decided for defendants, and nine were decided for plaintiffs.

  < Plaintiffs prevailed on at least one section 2 claim in nine of the cases reviewed (less than 2 percent of the total), all through verdicts at trial.[14]

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[12] The "other" category was further divided into eight subcategories: group boycott, price-fixing/market allocation conspiracy, discrimination in price or terms of dealing, action by a government entity, price or capacity manipulation, regulated industry, unknown, and other.

[13] For example, a case that involved a refusal to license intellectual property would be categorized as a refusal to deal and would also be listed as arising in the IP licensing context.

[14] Verdicts for plaintiff (nine) were calculated by combining the 14 verdicts plaintiff won at trial with the four split verdicts (where plaintiff prevailed on at least one section 2 claim), and deducting the two verdicts overturned in their entirety on post-trial motion and seven verdicts overturned in their entirety on appeal. Because some jury verdicts may not have

< Defendants prevailed on the section 2 claims in 335 of the 539 cases reviewed (62 percent).[15] This included 22 verdicts or directed verdicts (4 percent of all cases).[16] Defendants eliminated all of plaintiffs' section 2 claims on pretrial motion in 313 cases (58 percent), including 171 grants of motions to dismiss (nearly one-third of all cases) and 142 grants of summary judgment motions (over one-quarter of all cases).[17]

< Courts rendered verdicts in about 6 percent of all cases; ruled on motions to

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been reflected in published opinions, researchers reviewed case digests prepared by the ABA Antitrust Section's Unilateral Conduct Committee as a second source of information.

[15] In contrast, the Georgetown study found that defendants obtained a favorable final judicial resolution in less than ten percent of all private antitrust cases filed. *See* Steven C. Salop & Lawrence J. White, *Private Antitrust Litigation: An Introduction and Framework, in* PRIVATE ANTITRUST LITIGATION 10 tbl.1.9 (Lawrence J. White ed., 1988). The Georgetown study collected information regarding all antitrust complaints filed in five federal districts.

[16] Verdicts for defendants (22 cases) were calculated by combining the 12 verdicts awarded to defendants at trial with the ten verdicts obtained through post-trial motions or on remand after appeal.

[17] Defendant wins on motions to dismiss and motions for summary judgment (171 cases and 142 cases, respectively) were calculated by combining grants of motions to dismiss and summary judgment motions (185 and 144, respectively), deducting reversals or partial reversals on appeal (sixteen and six, respectively), and adding grants of motions after appeal (two and four, respectively). ("Split" judgments on defendant's pretrial motions, where at least some of plaintiff's section 2 claims survived, were not counted as victories for defendant.)

[18] In five percent of the cases, the available opinions addressed non-dispositive, preliminary, procedural matters or related non-antitrust claims (mainly IP claims). In the other three percent of the cases, it appeared that a procedural ruling (*e.g.*, denial of class certification) or private resolution (*e.g.*, settlement) may have effectively terminated the matter without any substantive decision on the section 2 claims. As a result, the survey results may slightly understate the portion of cases in which there were judicial resolutions bearing on the merits of the section 2 claims.

< Despite defendants' success, in nearly 40 percent of the cases reviewed, at least some of plaintiffs' section 2 claims had no identifiable judicial resolution within the study period.[19] The substantial number of unresolved claims was largely attributable to plaintiffs' success in opposing defendants' preliminary motions in a significant minority of cases. In particular, some of plaintiffs' claims survived 142 of defendants' 313 motions to dismiss (45 percent) and 53 of the defendants' 196 motions for summary judgment (27 percent).

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[19] As noted above, research did not seek to determine whether cases had been resolved through settlement without any judicial opinion or to account for judicial resolutions after the end of the study period.

Table 1
State Unilateral Conduct Enforcement Actions, Jan. 2000-June 2007

	Case Name	Parens Patriae action	Proprietary interest	Law enforcer	Multiple states	Monopolization	Attempted Monopolization	Conspiracy to Monopolize	Federal Court Actions	Unilateral Refusals to Deal with Rivals	Business Torts	Other
Li3	In re Cardizem CD Antitrust Litigation, 99-MD-1278 (E.D. Mich. Jan. 29, 2003), 332 F.3d 896 (6th Cir. 2003)	x			x	x			x	x		
4	In re Relafen Antitrust Litigation	x			x	x			x	x		
5	In re K-Dur Litigation, Civil Action No. 01-1652 (D.N.J.)	x			x	x			x	x		
6	In re Casella Waste Systems, Inc. No. 296-5-02 (Superior Court of Vermont, Washington Cty, May 22, 2002)		x						x	x		
7	In the Matter of GlaxoSmithKline, PLC (Augmentin)			x					x	x		
8	In the Matter of Medical Transportation Management, Inc.			x					x	x		
9	Maryland v. SmithKline Beecham Corp., No. 2:06-CV-01298-JP (E.D. Pa Mar. 27, 2006)			x					x	x		
10	New York v. Microsoft Corp., 97 F. Supp. 2d 59 (D.D.C. 2000)			x					x	x		
11	West Viriginia ex rel. McGraw v. Microsoft Corp.			x					x	x		
12	Ohio, et al, v. Bristol-Myers Squibb Co., et al. (D.D.C. 2002)			x					x	x		
13	Utah v. Gemstone Properties, Inc., (Case No. 2004-001-0364)			x					x	x		
14	W... v. ... et al.			x					x	x		
	Totals	3	1	11	3	3	0	0	14	14	0	0

Table 2