An Offensive Weapon?: An Empirical Analysis of the 'Sword' of State Sovereign Immunity in State-Owned Patents

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AN OFFENSIVE WEAPON?: AN EMPIRICAL ANALYSIS OF THE "SWORD" OF STATE SOVEREIGN IMMUNITY IN STATE-OWNED PATENTS

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In 1999, the Supreme Court invoked state sovereign immunity to strike down provisions in the patent and trademark laws purporting to hold states liable for the infringement of these intellectual properties. These decisions ignited a series of criticisms, including allegations that sovereign immunity gives states an unfair advantage in the exercise of state-owned patent rights. In particular, critics alleged two unfair advantages to state patentees. First, they alleged that states would favorably manipulate litigation. Second, they alleged that states would use their immunity from challenge to obtain broad patents or force private parties into licensing arrangements.

An empirical study focusing on a sample of private and public universities, however, indicates that these allegations may not be completely true. State universities, as patentees, do not appear to be more successful litigants than their private counterparts. Similarly, state universities do not appear to be aggressively collecting weak patents. Nonetheless, there is empirical evidence indicating that state universities are increasingly aggressive licensors of their patents.

Critics of state sovereign immunity suggest that such aggressive licensing practices force private parties to choose between ruinous damages suits and expensive license agreements, thereby raising the overall cost of innovation. In order to resolve this problem, both market and legal solutions have been suggested. A survey of these solutions reveals that a new legislative rule requiring states to opt in to the federal patent system by waiving their immunity to declaratory judgment actions is most likely to adequately resolve the problems created by aggressive state patent licensing.

INTRODUCTION

In 1999, the Supreme Court invoked sovereign immunity in a pair of cases, Florida Prepaid1 and College Savings,2 to strike down provisions in the patent and trademark laws which purported to hold states liable for the infringement of these intellectual properties. These decisions ignited a

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series of criticisms by legislators, judges, and academics alike. Critics feared these decisions would give states license to infringe private intellectual property with impunity, allowing them to “reap the benefits of the patent system without being exposed to liability for infringement.” Critics also suggested that states could expand their immunity to achieve advantages never envisioned by the original drafters of the Constitution or of the Eleventh Amendment. Altogether, these vocal critics of the


7. Petition for a Writ of Certiorari at 21, Biomedical Patent Mgmt. Corp. v. Cal. Dep’t of Health Servs., 129 S. Ct. 895 (2009) (No. 07-956) [hereinafter BPMC Petition] (“[T]he original drafters of the Constitution and the states would not have embraced California’s exploitive interpretation, which has little to do with sovereignty . . . .”).
Court’s decisions alleged that sovereign immunity gave states both a “shield,” or defensive leverage, as well as a “sword,” or offensive leverage.8

In particular, they alleged two unfair offensive advantages held by state patentees. First, states can manipulate litigation already underway. That is, “[s]tate agencies [can] invoke federal jurisdiction [as plaintiffs] in patent litigation and claim Eleventh Amendment immunity [as defendants] in similar patent litigation.”9 Second, states can prevent declaratory judgment actions seeking to invalidate a state-owned patent, or a license on a state-owned patent. Despite allegations suggesting that several large judgments and settlements in favor of states are a result of the unfair advantages conferred by sovereign immunity,10 “no comprehensive study has been done” to determine whether states unfairly wield their immunity.11

This Note tests the assertion that state sovereign immunity undermines the intellectual property regime by providing states with a patent sword. Part I of this Note provides an overview of the debate regarding state sovereign immunity and its application in patent law. Part II outlines and presents an empirical study testing the theory that sovereign immunity confers an affirmative advantage to states. Specifically, Part II compares public universities—which are state institutions—to private universities to determine to what extent, if any, states may exhibit an offensive patent advantage. The data indicate that public universities, vis-à-vis their private counterparts, do not manipulate litigation favorably and do not patent aggressively, but may use their immunity to become aggressive patent licensors. Finally, Part III suggests potential rationales for the empirical results and evaluates strategies for overriding Florida Prepaid. In light of the results of the study, this Note concludes that new legislation

8. Id. at 3 (“California’s effort to invoke sovereign immunity selectively in this case is part of a larger scheme to use the federal courts as both a sword and shield.” (emphasis added)). For detail on how state patentees may use their immunity as a sword, see infra Part I.C.


10. See, e.g., Peter Lattman, Critics Take Aim at California’s Patent Shield, Wall St. J., Nov. 13, 2007, at B1 (“As a plaintiff alleging patent infringement, the [University of California system] has settled a claim against Genentech Inc. for $200 million, secured a payment of $185 million from Monsanto Co., and won a $30 million settlement from Microsoft Corp.”); see also BPMC Petition, supra note 7, at 2 (“While they embrace federal jurisdiction when it helps them . . . , states simultaneously avoid federal jurisdiction when they themselves are faced with claims of patent infringement; in those circumstances, they assert sovereign immunity under the Eleventh Amendment.”).

would be the most effective fix for the negative effects suggested by the empirical study.

I. STATE SOVEREIGN IMMUNITY AND STATE-OWNED PATENTS

This Part examines the background relevant to state sovereign immunity as applied to patent law. In particular, section A briefly presents the historical underpinnings of state sovereign immunity. Sections B and C examine how these precedents have transitioned into a controversial doctrine as applied in patent and intellectual property law.

A. Underpinnings of State Sovereign Immunity

State sovereign immunity has been defined as a “state’s immunity from being sued in federal court by the state’s own citizens.”12 This clear definition, however, belies the subtlety of immunity doctrine, which has evolved from preconstitutional origins to recent key decisions marking the bounds of sovereign immunity.

1. Early Understandings of State Sovereign Immunity. — State sovereign immunity finds its roots in the preconstitutional era.13 Prior to the ratification of the Constitution, Alexander Hamilton stated that “[i]t is inherent in the nature of sovereignty, not to be amenable to the suit of an individual without [the state’s] consent.”14

Shortly thereafter, however, the Supreme Court proved to hold a starkly different view. In Chisholm v. Georgia, the Supreme Court held that Article III, which confers jurisdiction to federal courts in suits “between a State and Citizens of another State,”15 indicated a textual commitment to

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14. The Federalist No. 81, at 450 (Alexander Hamilton) (George Sade ed., 2006) (emphasis omitted). Hamilton shared this view with many of his Founding contemporaries, who also believed that the Constitution did not create a federal judiciary capable of adjudicating cases involving states. During Virginia’s ratification convention, Patrick Henry expressed a fear that Article III allows “cognizance of controversies between a state and citizens of another state.” 5 The Debates in the Several State Conventions on the Adoption of the Federal Constitution 543 (Jonathan Elliot ed., 2d ed. 1891) [hereinafter Constitution Debates]. In response, James Madison asserted that “[i]t is not in the power of individuals to call any State into court.” Id. at 533. Similarly, John Marshall stated that “no gentleman will think that a state will be called at the bar of the federal court.” Id. at 555. Statements coming out of other state conventions expressed similar sentiments. In its statement ratifying the Constitution, Rhode Island clarified its understanding that the judicial power of the United States does “not extend to . . . any suit by any person against a state.” 1 Constitution Debates, supra, at 336. New York made a similar statement, suggesting that “the judicial power of the United States . . . does not . . . authorize any suit by any person against a state.” Id. at 329.
abrogating the sovereign immunity of the individual states.\textsuperscript{16} That is, \textit{Chisholm} held that the Constitution expressly eliminated the sovereign immunity of the states, subjecting them to suit in federal court. In response to the surprising decision,\textsuperscript{17} the Eleventh Amendment was quickly ratified to provide that "[t]he Judicial power of the United States shall not be construed to extend to any suit . . . prosecuted against one of the United States by Citizens of another State."\textsuperscript{18}

Even after the ratification of the Eleventh Amendment, the Court was reluctant to find that states held an expansive immunity from suit\textsuperscript{19} until its seminal 1890 decision in \textit{Hans v. Louisiana}.\textsuperscript{20} In \textit{Hans}, the Court held that a state could not be brought into federal court by its own citizen, despite the limited text of the Eleventh Amendment.\textsuperscript{21}

\textsuperscript{16} Chisholm v. Georgia, 2 U.S. (2 Dall.) 419, 420 (1793) ("[T]he Constitution vests a jurisdiction in the Supreme Court over a State, as a defendant, at the suit of a private citizen of another State."). The opinion stated that "the words, unqualified, strongly tended at least to subject States as defendants." Id. at 421.

\textsuperscript{17} Seminole Tribe v. Florida, 517 U.S. 44, 69 (1996) (noting \textit{Chisholm} was received with "shock of surprise" (quoting Monaco v. Mississippi, 292 U.S. 313, 325 (1934))). But see id. at 106 n.5 (Souter, J., dissenting) (stating \textit{Monaco}'s suggestion that \textit{Chisholm} was received with "shock of surprise" is an "erroneous assertion"); John J. Gibbons, The Eleventh Amendment and State Sovereign Immunity: A Reinterpretation, 83 Colum. L. Rev. 1889, 1927 (1983) ("[C]ontrary to the position of the profound shock school, the Second Congress did not regard \textit{Chisholm v. Georgia} as a matter of great moment."). Despite Justice Souter’s and Professor Gibbons’s suggestions to the contrary, the prevailing view seems to be that \textit{Chisholm} was in fact a surprise and a matter of great moment. See, e.g., Richard H. Fallon, Jr., et al., Hart and Wechsler’s The Federal Courts and the Federal System 871 (6th ed. 2009) [hereinafter Hart & Wechsler] (noting decision "provoked a strongly adverse reaction").

\textsuperscript{18} U.S. Const. amend. XI.

\textsuperscript{19} See, e.g., Osborn v. Bank of the U.S., 22 U.S. (9 Wheat.) 738, 857 (1824) (holding "the 11th amendment . . . is, of necessity, limited" to only suits where a state is an explicit defendant); Cohens v. Virginia, 19 U.S. (6 Wheat.) 264, 395–96 (1821) (holding state may not assert immunity from federal constitutional review in appeal to decisions in criminal action which it initiated). According to one text, only one case filed between the ratification of the Eleventh Amendment and the Civil War, Ex Parte Madrazzo, 32 U.S. (7 Pet.) 627, 632 (1833), was dismissed by the Court on sovereign immunity grounds. Hart & Wechsler, supra note 17, at 872–73. But see Hollingsworth v. Virginia, 3 U.S. (3 Dall.) 378, 382 (1798) (compelling dismissal of suit filed before ratification of Eleventh Amendment, but which was still active through ratification process).

\textsuperscript{20} 134 U.S. 1 (1890).

\textsuperscript{21} Id. at 10–11. 20. The petitioner in \textit{Hans}, a citizen of Louisiana, "contend[ed] that he . . . [was] not embarrassed by the obstacle of the Eleventh Amendment, inasmuch as that amendment only prohibits suits against a State which are brought by the citizens of another State." Id. at 10. Hans argued that the Amendment’s text was limited to suits "prosecuted against one of the United States by citizens of another State," U.S. Const. amend. XI (emphasis added), and because he was a citizen of the same state, he should be free to sue. 134 U.S. at 11. The Court agreed that "the amendment does so read," but was concerned about the "anomalous result" where a "State may be sued in the federal courts by its own citizens, though it cannot be sued for a like cause of action by the citizens of other States." Id. at 10.
The Court thus adopted an alternative view of the Eleventh Amendment, determining that the plan of the original Constitution—before the ratification of the Eleventh Amendment—did not conceive of a federal judiciary having jurisdiction over a suit against a sovereign state.22 Thus, the Court held that the Eleventh Amendment was enacted only to remedy the error of Chisholm, and did not alter a fundamental background principle of state sovereign immunity inherent in the Constitution.23 This understanding of the Eleventh Amendment has given later courts greater latitude to apply state sovereign immunity.24

2. State Sovereign Immunity in the Twentieth Century. — Although the Court has applied Hans consistently in the years following its decision, it has interpreted the background principle of immunity in ways that have both limited25 and expanded different aspects of protection of the states and their instrumentalities. In particular, the Court has focused on the

22. 134 U.S. at 12–16. The Court began its analysis with Hamilton’s “profound remarks” that “[i]t is inherent in the nature of sovereignty not to be amenable to the suit of an individual without its consent.” Id. at 12–13 (emphasis omitted) (quoting The Federalist No. 81 (Alexander Hamilton)). The Court noted that Hamilton’s views were shared by many founding contemporaries, including Henry, Mason, Madison, and Marshall. Id. at 14; see also supra note 14 (discussing views of Hamilton and other Founders). The Court concluded that the views of these Founders were “sensible and just.” 134 U.S. at 14. The Court also drew from Justice Iredell’s dissent in Chisholm. Based on Iredell’s “exhaustive examination of the old law,” the Court found that “in every case since” Chisholm, the sovereign had not been haled into court. Id. at 16. The Court accordingly concluded that “[t]he suability of a state, without its consent, was a thing unknown to the law.” Id. The Court stated that “the cognizance of suits and actions unknown to the law . . . was not contemplated by the Constitution when establishing the judicial power of the United States.” Id. at 15.

23. In looking beyond the narrow text of the Eleventh Amendment, Hans v. Louisiana has been widely understood to stand for the proposition that the Eleventh Amendment is a restoration of the originally contemplated constitutional structure. Hart & Wechsler, supra note 17, at 878–80.


25. Outside of the limitations on immunity discussed in this subsection, the Court has recognized several other limitations to state sovereign immunity. First, Ex parte Young articulated a standard by which private individuals may, despite the Eleventh Amendment, prevent state officials from engaging in unconstitutional or illegal behavior. Ex parte Young, 299 U.S. 123, 168 (1908) (making distinction between suit against state and suit against state official “to prevent his enforcing an unconstitutional enactment”). Second, the Court has declined to hold that actions initiated by the United States or by a coequal sovereign state are barred by the Eleventh Amendment. Monaco v. Mississippi, 292 U.S. 313, 328–29 (1934) (holding that providing a federal forum for states to resolve disputes is “essential to the peace of the Union” and Founders envisioned suits initiated by United States as “inherent in the constitutional plan”). Lastly, the Court declared that immunity does not extend to local governments. Lincoln Cnty. v. Luning, 133 U.S. 529, 530 (1890) (“The Eleventh Amendment limits the jurisdiction only as to suits against a State. . . . In this respect [a county] is a part of the State only in [a] remote sense . . . .”). For a general discussion regarding the “exceptions” to Hans, see Hart & Wechsler, supra note 17, at 884–85.
states’ ability to waive their immunity and on Congress’s ability to abrogate state immunity.

a. Waiver of State Sovereign Immunity. — The Court has recognized two forms of waiver: an explicit statutory waiver and waiver by litigation conduct. The Court eventually settled upon a narrow theory of statutory waiver, requiring a state to use “the most express language” to waive its immunity,26 and noting that the “test for determining whether a State has waived its immunity from federal-court jurisdiction is a stringent one.”27 Thus, the Court has eliminated the possibility of any implied waiver,28 thereby strictly limiting the manner by which a state may waive its immunity.29

The Court has also long recognized the ability of a state to waive immunity “by litigation conduct.”30 Although the Court also applies a strict test to such waivers,31 it has consistently held that “where a state

29. Nonetheless, the Court continues to find that states may waive their immunity through the acceptance of a number of congressional conditions, including through Congress’s exercise of its spending power and through the congressional approval of interstate agreements. E.g., South Dakota v. Dole, 483 U.S. 203, 210 (1987) (finding “[t]he offer of benefits to a state by the United States dependent upon cooperation by the state with federal plans” is no “violation of the State’s sovereignty” (quoting Oklahoma v. Civil Serv. Comm’n, 330 U.S. 127, 143–44 (1947))); Petty v. Tenn.-Mo. Bridge Comm’n, 359 U.S. 275, 280 (1959) (noting Congress can approve “sue-and-be-sued clause in a compact under conditions that make it clear that the States accepting it waived any immunity from suit”).
31. See, e.g., Fla. Dep’t of Health & Rehabilitative Servs. v. Fla. Nursing Home Ass’n, 450 U.S. 147, 149–50 (1981) (finding state declaration to “sue and be sued” insufficient to find federal court jurisdiction); Kennecott Copper Corp. v. State Tax Comm’n, 327 U.S. 573, 577–80 (1946) (finding state’s intention to be sued “in any court of competent jurisdiction” insufficient to find federal court jurisdiction); Smith v. Reeves, 178 U.S. 436, 441–45 (1900) (finding state does not consent to federal court jurisdiction simply by consenting to jurisdiction in its own state courts).
voluntarily becomes a party to a cause,” its immunity is waived.\textsuperscript{32} In \textit{Lapides v. Board of Regents of the University System of Georgia}, the Court held that a state’s “affirmative litigation conduct,” including voluntary removal to federal court, is “sufficient to waive” its immunity.\textsuperscript{33}

In deciding \textit{Lapides}, the Court determined it would be anomalous to allow a state “(1) to invoke federal jurisdiction . . . and [then] (2) to claim Eleventh Amendment immunity.”\textsuperscript{34} Justice Breyer’s majority opinion states that “rule[s] governing voluntary invocations of federal jurisdiction” developed in order to avoid “problems of inconsistency and unfairness,” and that the drafters of the amendment “would [not] intend to create that unfairness.”\textsuperscript{35} \textit{Lapides} thus rests on the idea that, although a bar on suing states is inherent in the Constitution, the advocates for state immunity did not intend for a state or an arm of the state to wield its immunity “to achieve unfair tactical advantages.”\textsuperscript{36}

b. \textit{Abrogation of State Sovereign Immunity}. — The Court has conceded that, under some limited circumstances, Congress possesses the ability to abrogate state immunity.\textsuperscript{37} However, recent jurisprudence has imposed strict limits on Congress’s powers of abrogation. In particular, the Court’s 1996 decision in \textit{Seminole Tribe v. Florida}\textsuperscript{38} expressly held that Congress could not abrogate state immunity through the exercise of an Article I power.\textsuperscript{39} \textit{Seminole Tribe} held that, despite “Congress’ clear intent to abrogate the States’ sovereign immunity, the Indian Commerce Clause does not grant Congress that power, and therefore [Congress] cannot grant jurisdiction over a State that does not consent.”\textsuperscript{40} Thus, “[e]ven when the Constitution vests in Congress complete lawmaking authority over a particular area, the Eleventh Amendment prevents congressional authorization of suits by private parties against unconsenting States.”\textsuperscript{41} In so holding, the Court invoked \textit{Hans}’s background principle of immunity,\textsuperscript{42} stating that “the Eleventh Amendment is not so ephemeral as to

\begin{itemize}
  \item \textsuperscript{32} Gunter, 200 U.S. at 284.
  \item \textsuperscript{33} \textit{Lapides}, 535 U.S. at 624.
  \item Id. at 619.
  \item Id. at 622.
  \item Id. at 621.
  \item In \textit{Fitzpatrick v. Bitzer}, 427 U.S. 445 (1976), the Court held that Congress could “provide for private suits against States” if it is “‘appropriate legislation’ for the purpose of enforcing the provisions of the Fourteenth Amendment.” Id. at 456.
  \item The Court first faced this question seven years earlier, in Pennsylvania v. Union Gas Co., 491 U.S. 1 (1989), overruled by \textit{Seminole Tribe}, 517 U.S. at 47. In \textit{Union Gas}, Justice Brennan’s plurality opinion stated that, in ratifying the Constitution, the states gave Congress the power to abrogate state immunity through the exercise of an Article I power. Id. at 20. This, however, was overruled in \textit{Seminole Tribe}, 517 U.S. at 47. \textit{Seminole Tribe}’s holding, however, did not impact the rule articulated in \textit{Fitzpatrick}. See supra note 37.
  \item \textit{Seminole Tribe}, 517 U.S. at 47.
  \item Id. at 72.
  \item Hans v. Louisiana, 134 U.S. 1, 14–16 (1890); see also supra notes 20–23 and accompanying text (describing \textit{Hans}).
\end{itemize}
dissipate when the subject of the suit is an area . . . under the exclusive control of the Federal Government." 43

Three years after the Court decided Seminole Tribe, the Court issued three successive decisions that expanded the scope of the protections of state sovereign immunity. Two decisions in particular—Florida Prepaid 44 and College Savings 45—have proven to be lightning rods for discussion regarding the application of state sovereign immunity in intellectual property.

c. State Sovereign Immunity and Intellectual Property. — The Florida Prepaid decisions 46 addressed provisions in the Trademark Remedy Clarification Act (TRCA) 47 and the Patent and Plant Variety Remedy Clarification Act (PPVRCA) 48 which were each enacted to hold states liable for intellectual property infringement. These statutes, along with the Copyright Remedy Clarification Act (CRCA) 49 were enacted in response to the 1990 Federal Circuit decision in Chew v. California. 50 In Chew, the Federal Circuit found that the Patent Act did not possess the "requisite unmistakable language of congressional intent necessary to abrogate Eleventh Amendment immunity." 51 Thus, states were "immune from suit for patent infringement under the patent statute by reason of the Eleventh Amendment." 52

Congress responded swiftly to Chew. Congress determined that allowing states to remain immune from suit "cuts against [the Intellectual Property clause] of the U.S. Constitution," 53 because it creates an immunity "beyond the scope of the protection the founding fathers intended

43. Seminole Tribe, 517 U.S. at 72.
46. This Note will refer to both decisions collectively as the "Florida Prepaid decisions." When referring to a specific decision, this Note will refer to it as either Florida Prepaid (527 U.S. 627) or College Savings (527 U.S. 666).
50. 893 F.2d 331 (Fed. Cir. 1990).
51. Id. at 334. Chew was decided in the period of time between Union Gas and Seminole Tribe. See supra note 39 and accompanying text. Thus, the Federal Circuit believed that Congress could abrogate immunity through the exercise of an Article I power. Nonetheless, the Federal Circuit found that the statute did not possess the requisite "unequivocal and textual" evidence of intent to abrogate. Chew, 893 F.2d at 334 (quoting Dellmuth v. Muth, 491 U.S. 223, 230 (1989)).
52. 893 F.2d at 336.
to impart," and because it “effectively discourages future innovati[ons].” Thus, Congress, believing it held the power to abrogate state immunity, passed the CRCA, the TRCA, and the PPVRCA “to clarify that states are monetarily liable” for the infringement of intellectual property rights. These bills amended existing laws to explicitly provide that liability extends to “any state acting in its official capacity.”

The *Florida Prepaid* decisions examined whether Congress had lawfully enacted these statutes. Relying on *Seminole Tribe*, the Court held that Congress could not have enacted the PPVRCA or the TRCA pursuant to an Article I power. The Court also rejected any alternative theory of abrogation or waiver. In sum, the Court determined that provisions in the PPVRCA and TRCA purporting to hold states liable for the infringement of intellectual property were unconstitutional.

Following the *Florida Prepaid* decisions, the states were immune from suits alleging that they had violated the intellectual property rights of private citizens. Despite Congress’s attempt to explicitly abrogate state immunity in the context of trademark, copyright, and patent law, the
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Supreme Court held that the principle of state sovereign immunity embodied in the Constitution could not be overcome by the TRCA and the PPVRCA.

B. State Sovereign Immunity as a Patent Shield

Traditionally, sovereign immunity has shielded states from appearing in federal court as defendants. The Florida Prepaid decisions restored this immunity from suit in intellectual property contexts. However, critics suggest that these decisions give states license to infringe private patent rights by ensuring that they cannot be held liable for such infringement. That is, sovereign immunity shields states from patent liability.

As discussed above, in the Court’s view, the original plan of the Constitution embodied a background principle of state immunity. This view of state sovereign immunity informed the Florida Prepaid decisions. In authoring the decision in College Savings, Justice Scalia suggested that the view that Congress ought to be able to provide a check on the states “den[ied] federalism utterly.” Instead, Justice Scalia stated that the “constitutional role of the States sets them apart,” affording them special protections to ensure the integrity of federalism. Thus, states are immune from federal lawsuits because such suits are an “evil” against which the Eleventh Amendment protects.

Examples abound of states successfully using their immunity to shield themselves from patent lawsuits. In Xechem, for instance, the plaintiff challenged a state university’s ownership claim to a patent that had allegedly been codeveloped by a Xechem scientist and a university researcher. Applying the holding of Florida Prepaid, the Federal Circuit dismissed the suit on the grounds that Xechem could not adequately show “waiver or abrogation of [the] state’s Eleventh Amendment immunity.”

61. E.g., Hans v. Louisiana, 134 U.S. 1, 17 (1890). Nonetheless, no intellectual property case had ever been dismissed on state sovereign immunity grounds in nearly two hundred years of intellectual property jurisprudence. Todd Garvey & Brian T. Yeh, Cong. Research Serv., RL 34593, Infringement of Intellectual Property Rights and State Sovereign Immunity 6 (2008). The first intellectual property case dismissed on such grounds was Wihtol v. Crow, 309 F.2d 777 (8th Cir. 1962), where a federal district court in Iowa dismissed a copyright action against a school board for lack of subject matter jurisdiction. Garvey & Yeh, supra, at 6.
62. See supra notes 22–23 and accompanying text.
63. College Savings, 527 U.S. at 690.
64. Id. at 685 (quoting Welch v. Texas Dep’t of Highways & Pub. Transp., 483 U.S. 468, 477 (1987)) (internal quotation marks omitted).
65. Id.
67. Id. at 1332. Further, the court found that state sovereign immunity applied even in situations where the state defendant “is not a necessary party” to the action. Id. at 1331–32. Under Federal Circuit precedent, Xechem argued that the action could proceed without the university and over the objections of the state. The Federal Circuit reasoned
Xechem is not only notable for being an application and extension of the Florida Prepaid decisions, but also for Judge Newman’s separate opinion. Although Judge Newman noted that Xechem had other options for pursuing its action against the university, she expressed a concern for an “increasing urgency, as the states enter the private competitive arena governed by the laws of intellectual property, to establish fair relationships and just recourse.”

Opponents of the Florida Prepaid decisions allege that the immunity conferred, rather than establish fair relationships, created gross inequities. In the patent context, critics suggest that sovereign immunity allows states to infringe federally protected intellectual property with impunity, giving them a license to act lawlessly. Further, they argue that immunity gives states strong leverage when negotiating licenses for private intellectual property.

Congress, in trying to craft a legislative override to the Florida Prepaid decisions, has heard testimony describing numerous examples of states infringing private intellectual property and refusing to negotiate for their use. Further, a 2001 report by the General Accounting Office (GAO) identified at least fifty-eight lawsuits alleging the unauthorized use of protected intellectual property by states. This report also collected evidence that, of ninety-nine responding state universities, nearly two-thirds had been accused of infringement at least once without a lawsuit being
filed. Despite this evidence, no new legislation creating patent liability for states has been enacted since the PPVRCA was struck down.75

C. State Sovereign Immunity as a Patent Sword

States are not only able to use their immunity as a shield to protect against litigation, but also as a sword, gaining important advantages in the patent marketplace. Critics of state sovereign immunity suggest this effect of the Court’s Eleventh Amendment jurisprudence is offensive to the Founders’ views of federalism.76 They also suggest that this offensive, rather than defensive, use of state immunity confers unfair and unjustified commercial advantages. Generally, these advantages take two primary forms: first, as the ability to favorably manipulate litigation already in progress, and second, as the ability to prevent declaratory judgments declaring state patents invalid or not infringed.

1. Favorable Manipulation of Litigation. — Opponents of sovereign immunity suggest that “[s]tate agencies that invoke federal jurisdiction [as plaintiffs] in patent litigation and claim Eleventh Amendment immunity [as defendants] in similar patent litigation are acting inconsistently. These agencies’ inconsistent actions lead to seriously unfair results in patent litigation.”77 There is some anecdotal evidence to support this claim.78

74. Id. (noting of ninety-nine responses, thirty-five had not faced any accusations); see also id. at 58 (showing table of results).


77. Dernik, supra note 9, at 147 (emphasis added).

78. Besides the case history presented in this subsection, this claim has also been made with respect to other forms of immunity, such as tribal immunity. See Katherine Florey, Indian Country’s Borders: Territoriality, Immunity, and the Construction of Tribal Sovereignty 34 (2009) (unpublished manuscript), at http://works.bepress.com/katherine_florey/3 (on file with the Columbia Law Review) (“Selective waivers of immunity . . . permit claims against [tribes] to be heard on their own terms.”).
In *Tegic Communications Corp. v. Board of Regents of the University of Texas System*, for example, the Federal Circuit dismissed a suit filed against Texas on sovereign immunity grounds. Prior to the suit filed by Tegic, the University of Texas filed infringement actions against Tegic’s customers in a federal court in Texas. In light of the University’s suit, Tegic filed its own declaratory judgment action, distinct from the University’s pending action, in a federal district court in Washington. The Washington court dismissed Tegic’s suit for lack of jurisdiction under the Eleventh Amendment. The Federal Circuit affirmed, relying on Supreme Court precedent “confirm[ing] the applicability of Eleventh Amendment immunity to suits pertaining to violations of federal patent and trademark laws.” Despite Tegic’s protestations that upholding dismissal would give the state an “unfair litigation advantage,” the Court held *Lapides* inapplicable because Tegic could intervene in the University’s original action. Thus, the state patentee was able to litigate its patent under circumstances—and in the forum—of its own choosing.

Similarly, in *Biomedical Patent Management Corp. v. California Department of Health Services*, the Federal Circuit ruled that “participation in one lawsuit did not amount to a waiver of immunity in a separate lawsuit,” even where both suits pertained to the same patent. In 1997, California intervened in a lawsuit against Biomedical Patent Management Corporation (BPMC), seeking, in part, a declaratory judgment stating that it had not infringed a BPMC-owned patent. BPMC responded with a motion to dismiss for improper venue, which the court granted. After BPMC filed a subsequent suit in a proper venue, California responded by asserting sovereign immunity. Before any decision was issued, BPMC voluntarily dismissed its suit, pending a Supreme Court ruling in the *Florida Prepaid* cases. Just over seven years later, BPMC refiled its law-

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79. 458 F.3d 1335 (Fed. Cir. 2006).
80. Id. at 1337.
81. See infra note 113 and accompanying text (describing value of declaratory judgments in patent context).
83. Id. at *1 (granting motion to dismiss for “lack of subject matter jurisdiction because [defendant] is entitled to immunity under the Eleventh Amendment”).
84. *Tegic*, 458 F.3d at 1340.
85. Id. at 1344 (citing *Lapides* v. Bd. of Regents of the Univ. Sys. of Ga., 535 U.S. 615, 620 (2002)).
86. Id. (“[T]o the extent that Tegic’s interests may be impaired by the Texas litigation, Tegic may seek to intervene in that litigation.”).
87. 505 F.3d 1328, 1339 (Fed. Cir. 2007).
88. Id. at 1331 (describing 1997 lawsuit).
89. Id.
90. Id. at 1331–32.
91. Id. (describing subsequent lawsuit initiated by BPMC).
suit.\textsuperscript{92} California, again, asserted immunity.\textsuperscript{93} Despite being “troubled by the University of California’s ability to reap the benefits of the patent system without being exposed to liability for infringement,” the district court dismissed the suit.\textsuperscript{94} As in \textit{Tegic}, the Federal Circuit affirmed,\textsuperscript{95} holding \textit{Lapides} inapplicable to BPMC’s separate suit. Specifically, it ruled that this new litigation was distinct from the original 1997 lawsuit, and \textit{Lapides} did not “involve the effect of waiver of immunity in one case on a State’s ability to later assert immunity in a \textit{separate} case.”\textsuperscript{96}

In both \textit{Tegic} and \textit{BPMC}, the state agent avoided litigating a suit related to an action to which it had voluntarily become a party. In its petition to the Supreme Court, BPMC complained that this result allows states “to litigate a matter in the court of its choosing or not at all.”\textsuperscript{97} Thus, sovereign immunity, in the intellectual property context, gives a state more control over the forum of its litigation as well as over parallel and subsequent actions related to its litigation. These advantages may be critical, as “[v]enue is often a vitally important matter” in patent litigation.\textsuperscript{98} In establishing the Federal Circuit, which centralized the vast majority of patent appeals, Congress noted that “[p]atent litigation long has been . . . characterized by undue forum-shopping.”\textsuperscript{99} Thus, “[i]n light of the importance of venue and other waivable procedural guarantees, there surely is potential for a state to secure a litigation advantage through the selective, and inconsistent, assertion of Eleventh Amendment immunity.”\textsuperscript{100}

Critics of the operation of state sovereign immunity in patent law suggest that states “favor selective use of immunity to achieve litigation advantages.”\textsuperscript{101} In support of this claim, critics point to large, high profile judgments and settlements that state universities have extracted from private defendants. California, for example, has been accused of bran-
dishing its immunity and manipulating the legal system to its advantage, thereby extracting over $900 million from 2000 to 2006,\textsuperscript{102} including several judgments in excess of $100 million.\textsuperscript{103} Such extreme success, they suggest, is indicative of the states’ ability to control the mechanics of federal courts.\textsuperscript{104} However, there is little evidence to show this success follows from the potential litigation advantages enjoyed by states.

In fact, states have not been universally successful in using their immunity to favorably manipulate litigation. In \textit{Vas-Cath v. University of Missouri}, the state university initiated a proceeding within the United States Patent and Trademark Office (USPTO) to determine “priority . . . between competing applicants for patent on the same invention.”\textsuperscript{105} The USPTO granted ownership of the patent to the University of Missouri. Vas-Cath appealed the administrative decision, but the district court dismissed that appeal on sovereign immunity grounds.\textsuperscript{106} The Federal Circuit reversed.\textsuperscript{107} Applying Lapides, the Federal Circuit determined that although a state cannot waive its immunity by merely participating in the federal patent system,\textsuperscript{108} Missouri waived its immunity by commencing the administrative proceeding. The court noted that the USPTO procedure “can indeed be characterized as a lawsuit.”\textsuperscript{109} Thus, because Missouri initially “submit[ted] its rights for judicial determination,”\textsuperscript{110} the court determined it would be unfair to allow the state to “retain the fruits of [the original administrative] action and bar the losing party from its statutory right of review.”\textsuperscript{111} The court noted that such “selective use
of immunity to achieve litigation advantages”\(^\text{112}\) was denounced by the Supreme Court in *Lapides*.

Thus, although critics contend that state sovereign immunity operates to provide states with the opportunity to manipulate the federal judiciary to litigate their own patents only under favorable circumstances, this has not been universally true. As described above, some case law indicates that the rule in *Lapides* prevents states from engaging in such unfair litigation conduct. However, other cases suggest that states are able to successfully exert control over key mechanics of federal courts through an exercise of their immunity. This inconsistency suggests that a more detailed examination of the impact of state sovereign immunity on state-initiated patent litigation is warranted.

2. *Overbroad Patent Rights.* — In addition to the ability to exert greater control over patent litigation, states may also be able to use their sovereign immunity to claim overbroad patent rights. Specifically, states can use their immunity to prevent private parties from obtaining declaratory judgments holding that a state-owned patent is either invalid or not infringed. Thus, state patentees may be able to claim weak patents and extract licensing revenue where such patents or licenses would otherwise be subject to a court challenge.

Generally, declaratory judgment actions “serve an important role in the intellectual property system”: They allow parties to challenge the validity of a patent, to affirm that they are not infringing a patent, and to correct ownership over a patent.\(^\text{113}\) However, these important actions are unavailable against state entities. As the Federal Circuit ruled in *Tegic*, sovereign immunity protection extends beyond actions seeking damages, to include declaratory judgment actions.\(^\text{114}\) The court noted that “[t]o determine immunity under the Eleventh Amendment it is necessary to look to the substantive charge, not to the procedure for obtaining relief.”\(^\text{115}\) Accordingly, it was irrelevant that Tegic sought only a “declaration of legal rights and relations,” instead of damages or other relief.\(^\text{116}\) Thus, states may be able to use their immunity to prevent private parties from seeking judgments declaring state-owned patents invalid or not infringed, or to correct the ownership of a patent.

\(^{112}\) *Vas-Cath*, 473 F.3d at 1383 (quoting *Lapides*, 535 U.S. at 620) (internal quotation marks omitted).


\(^{114}\) See supra text accompanying notes 79–86.

\(^{115}\) *Tegic Commc’ns Corp. v. Bd. of Regents of the Univ. of Tex. Sys.*, 458 F.3d 1335, 1342 (Fed. Cir. 2006).

\(^{116}\) Id.
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The inability to use declaratory judgment actions against states may allow those states to assert broader patent rights and extract higher rents from patent licenses. Commentators argue that where an immune “state university does not have to worry about being sued for a declaration of patent invalidity, it might be more inclined to stretch the limits of patent by seeking excessively broad patents over basic research results.” This inclination yields a “greater number of excessively broad or otherwise erroneously granted patents held by state universities.” Other critics of sovereign immunity suggest that “states can unfairly claim a property right in a patent case, threaten to file an infringement action to enforce it, and deter others from taking legal actions.” Further, such broad patent rights may increase the costs associated with innovation, by forcing more licensing of state-owned patents, even of those that a court might otherwise hold invalid. The Chamber of Commerce forcefully made this argument, contending that state patent owners can “exploit[ ] the in terrorem effect of a threatened damages suit to exact licensing agreements from private parties, secure in the knowledge that those parties cannot challenge the validity of the State’s patent.” States may therefore lay claim to weak patents and use immunity to demand licenses for these patents.

Thus, the Federal Circuit’s decision in Tegic, which stated that Eleventh Amendment immunity depended on “the substantive charge” rather than “the procedure for obtaining relief,” may have encouraged states to file for weak and excessively broad patent rights and to license such rights aggressively, knowing they are immune from challenge. Despite the theoretical arguments put forth by critics of the Florida Prepaid and Tegic decisions, there is little evidence to support the claim that states actually do file for weak patents, or that they exploit their weak patents to extract licensing agreements.

117. Bone, supra note 11, at 1509 (discussing strategy of “seeking excessively broad patents”). Professor Bone suggests that this is especially so because the patent examination process appears to be “skewed in the direction of patent grants.” Id; see also Polse, supra note 100, at 526 (stating “universities now actively accumulate patents”).

118. Bone, supra note 11, at 1509.


120. Bone, supra note 11, at 1509–10; see also Christopher R. Leslie, Patents of Damocles, 83 Ind. L.J. 133, 156 (2008) (“[L]icensing . . . imposes costs on competitors that they would not incur in a competitive market unhindered by fraudulently procured patents.”); Polse, supra note 100, at 526 (stating universities “vigorously court potential licensees”).

121. Chamber of Commerce Brief, supra note 71, at 10; see also Leslie, supra note 120, at 148, 154–55 (suggesting “[a]ggressive patentees tout their previous victories in patent infringement litigation” and that “[t]he cost of a license can be considerably less than the damages for infringement discounted by the probability of being held liable”).

122. Tegic Comm’ns Corp. v. Bd. of Regents of the Univ. of Tex. Sys., 458 F.3d 1335, 1342 (Fed. Cir. 2006).
Altogether, critics of the Florida Prepaid decisions have suggested that state sovereign immunity provides states not only with a shield from unwanted patent litigation, but also with a sword that confers significant advantages in litigation and in the patent marketplace. Specifically, these critics suggest that states can favorably manipulate patent litigation and that they can prevent private parties from obtaining declarations that a state-owned patent is invalid or not infringed. The case law, however, provides only scattered evidence in support of these theories.

II. Empirical Analysis of the Sword Effect

Part I described the arguments put forth by critics of the Florida Prepaid decisions suggesting that states use their sovereign immunity as a sword. Part II draws upon various data sets to examine these arguments empirically. Specifically, section A outlines the empirical methodology used in this Note. Section B presents the results of the analysis, which appear to indicate that states do not manipulate litigation and do not patent aggressively, but may use their immunity to license their patents aggressively.

A. Methodology

Critics of the Florida Prepaid decisions argue that state sovereign immunity gives states and state entities an offensive patent advantage, providing them with the ability to favorably manipulate litigation, and making their patents immune from declaratory judgment challenges. However, evidence supporting these contentions is sparse. Although there is some case law to suggest that states may be able to influence key aspects of patent litigation they affirmatively initiate, there is also evidence suggesting that Lapides prevents states from engaging in the “selective use of ‘immunity’ to achieve litigation advantages.” Evidence supporting the notion that states, through immunity, extract high rents from weak patents is also lacking. Nonetheless, each argument suggesting offensive advantages from sovereign immunity has specific implications that may be tested empirically.

First, the claim that states are able to gain an unfair “litigation advantage through the selective, and inconsistent, assertion of Eleventh Amendment immunity” is a testable assertion. If states are able to gain an advantage in litigation, then state entities should win more patent infringement lawsuits than similarly situated private institutions.

123. See supra Part I.C.
125. BPMC Petition, supra note 7, at 15.
The second claim is that states can use their immunity to extract higher-than-expected licensing revenue from their patents. Specifically, states may be “inclined to stretch the limits of patent by seeking excessively broad patents over basic research results”127 or they may “unfairly claim a property right in a patent.”128 Further, states may threaten to sue private parties in order to force them to agree to a patent license, knowing that their patent is not challengeable.129 Each of these claims can also be tested. If states are more inclined to patent basic research, then at least two effects should result. First, if the incentive for states to patent is higher, then states should be more aggressive patentees.130 Second, if states seek patents on basic research, then state-initiated applications should be weaker. Additionally, if states are inclined to force private parties into licensing agreements, then states should be more successful than their private counterparts at licensing their patents.

Thus, the two alleged sword effects may be tested through four specific anticipated effects. First, state entities should be more successful litigants than their private counterparts. Second, state patentees should be more aggressive than their private counterparts. Third, states should be more inclined than their private counterparts to file for weak patents. Fourth, states should be more aggressive licensors of their patents.

The careful selection and analysis of relevant data sets provides for an empirical examination of each of these effects. In particular, this Note focuses on public and private universities. This particular focus on universities is certainly limited in scope and may introduce some selection effects, because universities are not necessarily representative of all state agencies.131 On the other hand, many state agencies, such as those that provide public services, have no private counterpart. Further, “U.S. universities and colleges carry out the majority of basic research activity.”132 Thus, while a data set of universities may introduce some selection effects, such a sample ensures that state agencies are compared against similarly situated private institutions and focuses on the most relevant state and private agents, thereby mitigating the risk of potential confounds.

127. Bone, supra note 11, at 1509 (discussing strategy of “seeking excessively broad patents”). For additional discussion of this effect, see supra notes 117–118 and accompanying text.

128. Delrahim, supra note 119.

129. Chamber of Commerce Brief, supra note 71, at 6.

130. Cf. Leslie, supra note 120, at 167–71 (suggesting where “the expected benefits of fraud outweigh the costs, . . . firms . . . will rationally commit fraud in their patent applications”).

131. See, e.g., Menell, supra note 113, at 1433–34 (noting differences between state universities and other state agencies).

In order to test differences in litigation success rates between public and private universities, this Note relies on data from the Intellectual Property Litigation Clearinghouse (IPLC) at Stanford Law School, which provides comprehensive patent litigation data after 1999, the year of the *Florida Prepaid* decisions.\(^{133}\) Thus, it is possible to compare the successes of state universities and private universities after 1999 to determine whether public institutions are able to favorably manipulate litigation.

This approach, however, has some limits. Specifically, using a sample of cases that reach the litigation stage necessarily produces some selection effects because such disputes are likely to differ from most normal disputes.\(^{134}\) Additionally, this Note’s litigation study is limited to only those suits initiated by a state or private university: That is, those suits where the university is a defendant are not included in the data set.\(^{135}\) This is because state universities have an inherent advantage in defending, and winning, those suits: their immunity.\(^{136}\) Thus, a study which included such suits would conflate effects resulting directly from immunity with those that result from control over “venue and other waivable procedural guarantees.”\(^{137}\) However, even considering these limitations on the sample, a study of these cases may help determine whether states use immunity to gain litigation advantages.

There is also data to compare the aggressiveness of state and private entities as patentees and as licensors of their patents. Since 1996, the Association of University Technology Managers (AUTM) has conducted annual surveys of state and private universities collecting data regarding patent and licensing activity.\(^{138}\) Again, however, this data has some limits. The AUTM survey is based on voluntary participation and thus does not carry a consistent set of universities from year-to-year, and may have self-

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134. See Steven Shavell, Extensions of the Basic Theory, in *Foundations of Economic Analysis of Law* 419, 433 (2004) (noting selection effects in litigated cases because “the cases that go to trial are not a random sample”).

135. This is a necessarily incomplete data set. The *BPMC* case, described supra notes 87–96 and accompanying text, for example, is held out as an example of a state “secur[ing] a litigation advantage through the selective, and inconsistent, assertion of Eleventh Amendment immunity.” *BPMC* Petition, supra note 7, at 15. The decision which eventually resolved the matter resulted from a lawsuit filed by *BPMC*, a nonstate entity, and in which the state entity was the defendant. The original lawsuit, however, was not one filed by or initiated by California; rather, California intervened in an existing lawsuit. Such a lawsuit would not be included here. Nonetheless, this incompleteness may be preferable to alternative negative effects that would result from including all lawsuits involving the sample of universities. See infra text accompanying notes 136–137.

136. See supra Part I.B (describing use of state sovereign immunity as a shield from litigation).

137. *BPMC* Petition, supra note 7, at 15.

selection bias problems. Nonetheless, the AUTM survey appears to be the most complete collection of university patenting and licensing activity. Thus, this data provides an avenue to compare such activity at state and private universities.

Finally, it is possible to measure the extent to which states have an added incentive to file for weaker patents. A patent applicant must provide references to the information and technology contributing to the development of the innovation covered by the patent application. Such references are known as prior art citations. Patents that include more such citations are generally more valuable, while patents with fewer such citations are considered weaker. Thus, by relying on data provided by the United States Patent and Trademark Office (USPTO) regarding the prior art citations of patents issued to private and state universities, it is possible to determine whether states are more likely to seek weak patents.

In sum, the extent of the two alleged sword effects may be measured through an examination of litigation success, patenting activity, patent strength, and licensing activity. The data required to complete this study are available through the IPLC, AUTM, and the USPTO. It is important to emphasize that a study of this data does not provide any direct answers. The results presented below are only circumstantial evidence of a correlation between the exercise of state sovereign immunity and of state-owned patent rights. Despite the limitations on this empirical study—including the particular reliance on a sample limited to universities—the methodology outlined in this section suggests a useful tool for examining the extent to which states wield their immunity as a sword.

B. Results and Analysis

This section presents the results of the empirical study outlined above. In particular, it measures the actual effect of the two alleged sword effects. 

139. See John R. Allison & Emerson H. Tiller, The Business Method Patent Myth, 18 Berkeley Tech. L.J. 987, 1036–39 (2003) (describing "empirical support for the existence of a relationship between the number of prior art references and patent value, as well as the intuitive appeal of an argument that such a relationship exists"); Dietmar Harhoff et al., Citations, Family Size, Opposition and the Value of Patent Rights, 32 Res. Pol'y 1345, 1345 (2003) (finding relationship between prior art citations and patent value); see also Bhaven N. Sampat, When Do Applicants Search for Prior Art?, 53 J.L. & Econ. 399, 412–415 (describing empirical finding that patent "applicants systematically contribute a higher share of prior art reference . . . for their more important inventions" to protect against validity challenges). “The theory behind the relationship of prior art references and value is that the more citations that are considered during prosecution by the examiner, the less likely it is that some prior art exists that will invalidate the patent.” John R. Allison et al., Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents, 158 U. Pa. L. Rev. 1, 15 n.31 (2009). But, “[b]ecause lawyers know this, the value relationship may reflect not only the strength of patents that cite a lot of prior art, but also efforts by applicants to ‘bulletproof’ patents they expect to litigate by citing a great deal of art.” Id. That is, patent applicants may attempt to bolster the perceived value of their patents, or protect them from challenge, by merely citing a lot of prior art. 

140. Supra Part II.A (outlining methodology).
sword effects by examining whether state entities are (1) more successful litigants; (2) more aggressive patentees; (3) more likely to file weak patents; and (4) more aggressive patent licensors. The data presented below indicate that while these arguments are theoretically plausible, states do not actually manipulate litigation favorably nor do they patent aggressively. Nonetheless, states may use their immunity to aggressively license their patents.

1. Favorable Manipulation of Litigation. — The first alleged sword effect is that states are able to gain “a litigation advantage through the selective, and inconsistent, assertion of Eleventh Amendment immunity.”141 By comparing the success rates of state universities and comparable private universities, it is possible to determine whether state immunity actually confers such a litigation advantage.142 Table 1 presents data of the litigation filed by a sample of public and private universities.143

<table>
<thead>
<tr>
<th></th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lawsuits Filed</strong></td>
<td>149</td>
<td>161</td>
<td>310</td>
</tr>
<tr>
<td><strong>Pending</strong></td>
<td>26</td>
<td>35</td>
<td>61</td>
</tr>
<tr>
<td><strong>Procedurally Ended</strong></td>
<td>19</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td><strong>Settled</strong></td>
<td>80</td>
<td>80</td>
<td>160</td>
</tr>
<tr>
<td><strong>Plaintiff (Win)</strong></td>
<td>12</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td><strong>Defendant (Loss)</strong></td>
<td>12</td>
<td>16</td>
<td>28</td>
</tr>
</tbody>
</table>

Table 1 demonstrates that the sample of universities have filed a total of 310 lawsuits.144 Of these, sixty-one lawsuits, or 19.7%, are still pending. Additionally, thirty-eight lawsuits ended procedurally, either by transfer, consolidation, or perpetual stay.145 Further, slightly over half of these lawsuits settled. Significantly, this number does not vary appreciably

141. BPMC Petition, supra note 7, at 15.
142. But see supra note 134 and accompanying text (noting potential selection effect).
143. The sample of universities used corresponds to the sample of universities in the AUTM data. This list is available in Appendix A. Litigation data on each university was collected from the IPLC and is current through February 2010. See supra note 133 and accompanying text (describing IPLC). For a detailed empirical discussion on university patent litigation, see generally Scott Shane & Deepak Somaya, The Effects of Patent Litigation on University Licensing Efforts, 65 J. Econ. Behav. & Org. 739 (2007).
144. The same is also true for Table 6. Thus, all of the Tables presented in this Part rely on data collected from the same set of universities, available in Appendix A.
145. A very few number of lawsuits, six in total, were perpetually stayed. This appears to have occurred because of parallel bankruptcy proceedings.
across public or private universities; that is, the percentage of lawsuits settled stays roughly the same regardless of whether the suit is filed by a public or a private university.

Table 2: Public and Private University Patent Litigation—Lawsuits Settled or Adjudged

<table>
<thead>
<tr>
<th></th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Lawsuits Settled</td>
<td>104</td>
<td>100.0%</td>
<td>107</td>
</tr>
<tr>
<td>or Adjudged</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Settled</td>
<td>80</td>
<td>76.9%</td>
<td>80</td>
</tr>
<tr>
<td>Plaintiff (Win)</td>
<td>12</td>
<td>11.5%</td>
<td>11</td>
</tr>
<tr>
<td>Defendant (Loss)</td>
<td>12</td>
<td>11.5%</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 2 looks more closely at the sample of lawsuits settled or adjudged. Again, the share of suits settled by the parties is practically the same across public and private universities. Although settlement terms are generally confidential, making it difficult to draw any significant inferences from the settled lawsuits, it is important to note that public universities do not enjoy an advantage over private universities in reaching a settlement with alleged infringers.

Further, examining the rates of success across public and private universities reveals that public universities do not appear to enjoy an advantage in reaching a favorable judgment. As demonstrated in Table 2, public universities successfully litigated their patents in twelve instances, or 11.5% of all lawsuits adjudged or settled. Similarly, private universities were successful in 10.3% of lawsuits adjudged or settled. Thus, Table 2 shows that public and private universities appear to be equally likely to win a favorable judgment when affirmatively litigating their own patents. Despite claims that the state’s ability to “decide to litigate a matter in the court of its choosing or not at all” lead[s] to seriously unfair results in patent litigation, these data appear to demonstrate that public universities enjoy no notable offensive litigation advantage.

146. Some lawsuits were also concluded by a consent decree. Where the terms of the decree were available, those lawsuits were deemed “adjudged,” and the winner of the suit determined by those terms.

147. It is also important to note that the win rate of those cases which reach decision may not be comparable to the win rate among settled cases. See Shavell, supra note 134, at 433 (“[T]he cases that go to trial may be very different from the population of cases that settle, so that generalizing from trial cases is difficult and may be misleading.”).

148. BPMC Petition, supra note 7, at 12. In the BPMC case, the initial action was filed by California in an improper venue. After the action was dismissed, BPMC refiled its counterclaims in a proper venue. In response to BPMC’s complaint in the second action, California asserted its immunity. Id. at 6–7.

149. Dernik, supra note 9, at 147.

150. But see supra note 134 and accompanying text (noting potential selection effect). Further, it is possible that the merits of cases brought by states are generally substantially weaker than those of cases brought by private plaintiffs. If this is the case,
2. Overbroad Patent Rights. — In addition to being able to favorably manipulate litigation, commentators suggest that the unavailability of declaratory judgment actions allows states to claim property rights in—and demand licensing revenue from—weak patents. Testing this assertion requires determining whether state entities patent more aggressively, whether they lay claim to weak innovations, and whether they license more aggressively.

A patentee’s aggressiveness may be measured by the number of patent applications filed. Thus, by measuring the relative number of patents applied for by public and private universities, both before and after the Florida Prepaid decisions, it is possible to determine the extent to which sovereign immunity creates an affirmative incentive to patent.151

<table>
<thead>
<tr>
<th>TABLE 3: AVERAGE PATENT APPLICATION RATE (PER YEAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public (Mean)</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>1996–1999</td>
</tr>
<tr>
<td>2000–2007</td>
</tr>
<tr>
<td>Percent Change</td>
</tr>
</tbody>
</table>

Table 3 indicates that, on average, public universities increased their patenting activity after the Florida Prepaid decisions by almost seventy-eight percent. However, some of this increase can be attributed to a general increase in research and development activity at universities.152 Accordingly, the important measure is the extent to which the increase at public universities outpaces the increase at private universities. Any increase at public universities greater than that at private universities may be attributable to the added incentive created by the Florida Prepaid decisions. Table 3 reveals that growth at private universities has actually been higher than that at public universities. This result is the opposite of that which would be expected if there were a sovereign immunity sword effect.

Controlling for research expenditures and for disclosures, an alternate measure of inventive activity instituted by the Bayh-Dole Act,153 confirms this result.

then state performance on par with that of private performance would be indicative of a state advantage. However, there does not appear to be any data indicating that state-initiated patent litigation is consistently weaker on the merits than privately-initiated litigation. 151. See supra note 130 and accompanying text (explaining states will be more aggressive patentees if they have higher incentives). 152. See National Science Board, supra note 132, at 5-7, 5-51 to 5-54 (noting number of patents issued to academic institutions quadrupled from 1988 to 2003, but has since leveled off). 153. A disclosure is a filing by a university researcher required by the Bayh-Dole Act. That Act states that recipients of federal funding are entitled to apply for patents in inventions resulting from such funding, but only if the recipient first discloses the discovered invention to the federal agency providing funding. 35 U.S.C. § 202(c)(1)
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Table 4: Average Patent Applications per Million Research Dollars (per Year)

<table>
<thead>
<tr>
<th></th>
<th>Public (Mean)</th>
<th>Private (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996–1999</td>
<td>0.172</td>
<td>0.202</td>
</tr>
<tr>
<td>2000–2007</td>
<td>0.214</td>
<td>0.267</td>
</tr>
<tr>
<td>Percent Change</td>
<td>24.34%</td>
<td>32.02%</td>
</tr>
</tbody>
</table>

Table 5: Average Patent Applications per Disclosure (per Year)

<table>
<thead>
<tr>
<th></th>
<th>Public (Mean)</th>
<th>Private (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996–1999</td>
<td>0.397</td>
<td>0.444</td>
</tr>
<tr>
<td>2000–2007</td>
<td>0.537</td>
<td>0.635</td>
</tr>
<tr>
<td>Percent Change</td>
<td>35.17%</td>
<td>43.08%</td>
</tr>
</tbody>
</table>

As demonstrated by Tables 4 and 5, private universities file more patent applications than their public counterparts and, significantly, have seen a bigger boost in the rate at which they file since the Florida Prepaid decisions. Table 4 indicates that, before the Florida Prepaid decisions, public universities would file for 0.172 patents for every one million dollars spent in research, or, stated more intuitively, each patent application filed by a public university required an investment of about $5.8 million of research. Private universities, however, would file for 0.202 patents out of every one million dollars spent; that is, they required just less than five million dollars of research per patent application. This disparity has only grown since the Florida Prepaid decisions: Public universities now file for an average of 0.214 patents per million dollars spent, a growth of 24%, while private universities now apply for 32% more patents per million dollars spent.

Similarly, an examination of the number of disclosures converted to patent applications indicates that private universities tend to be more aggressive than state universities. Before the Florida Prepaid decisions, public universities would file 0.397 patent applications for each disclosure received; that is, they would only file an application once out of every 2.5 disclosures received. Since those decisions, public universities have improved on that conversion rate by roughly 35%. Private universities, however, have increased their disclosure to application conversion rate from 0.444 to 0.635, a 43% increase. Thus, the data indicate that, since the Florida Prepaid decisions, public universities have not become more aggressive patentees than their private counterparts.154

(2006). Thus, a contractor or university researcher will typically file a disclosure and may then later decide to file a patent application.

154. However, it is possible that private universities are responding to a perceived threat from state universities. That is, private universities are quick to apply for a patent,
However, it is still possible that the patents applied for by public universities are weaker than those filed for by private universities. That is, public universities may be more inclined to seek “patents over basic research results.”

One important way to measure the extent to which applicants attempt to file for weak patents is to examine the prior art citations in the patent applications. Generally, where patents are strong, the citations provided in the application are robust. By measuring the change in citations, it is possible to measure the incentive to file for weak patents created by the Florida Prepaid decisions.

**Table 6: Share of Applicant-Provided Prior Art (Per Patent)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Public (Mean)</th>
<th>Private (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987–1999</td>
<td>0.704</td>
<td>0.712</td>
</tr>
<tr>
<td>2000–2007</td>
<td>0.703</td>
<td>0.719</td>
</tr>
<tr>
<td>Percent Change</td>
<td>−0.14%</td>
<td>0.98%</td>
</tr>
</tbody>
</table>

Table 6 indicates that the Florida Prepaid decisions had no effect on the incentive to file patents over basic research results. By relying on a sample of 20,578 patents applied for between 1987 and 2007, it is clear that, on average, the share of applicant-provided art was between 70% and 72% regardless of whether the applicant was a public or private university, and regardless of whether the application was filed before or after the Florida Prepaid decisions. Thus, the Florida Prepaid decisions appear to have had no impact on the inclination by state universities to file for weaker patents.

The final element of the claim that states use their immunity to assert overbroad patent rights is the suggestion that states use the threat of an infringement lawsuit to extract licensing agreements from private parties, knowing that these private parties cannot seek a declaration stating that they do not infringe the state-owned patent. This can be measured through an examination of the number of licenses executed by state and private entities, as reported in the AUTM survey.

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155. Bone, supra note 11, at 1509 (discussing strategy of “seeking excessively broad patents”). For further discussion of this effect, see supra note 117.

156. See supra note 139 and accompanying text (describing relationship between prior art citations and patent strength).

157. All of the patents in the sample were granted between 2001 and 2007. Roughly one quarter of these patents were applied for before the Florida Prepaid decisions. For information on the universities included in the sample, see supra note 143.
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Table 7: Average Number of Patent Licenses Executed (per Year)

<table>
<thead>
<tr>
<th>Period</th>
<th>Public (Mean)</th>
<th>Private (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000–2007</td>
<td>24.133</td>
<td>27.349</td>
</tr>
<tr>
<td>Percent Change</td>
<td>26.63%</td>
<td>7.10%</td>
</tr>
</tbody>
</table>

Table 7 suggests that the Florida Prepaid decisions may have given public universities a new advantage in seeking to license their patents. That is, after a public university has been issued a patent, it may have an advantage in seeking to license that patent. Between the pre- and post-Florida Prepaid periods, private universities only saw an increase of 7% in the number of patent licenses executed: a statistically insignificant increase. 158 Public universities, however, saw a much more significant increase: The number of patent licenses executed jumped by more than 26%. This rise in licensing activity is statistically significant. 159 This result is confirmed by an examination of all active licenses by public and private universities.

Table 8: Total Active Patent Licenses (per Year)

<table>
<thead>
<tr>
<th>Period</th>
<th>Public (Mean)</th>
<th>Private (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996–1999</td>
<td>80.527</td>
<td>135.465</td>
</tr>
<tr>
<td>2000–2007</td>
<td>125.228</td>
<td>189.766</td>
</tr>
<tr>
<td>Percent Change</td>
<td>55.51%</td>
<td>40.08%</td>
</tr>
</tbody>
</table>

Table 8 demonstrates that, in a given year before the Florida Prepaid decisions, public universities had an average of nearly eighty-one active licenses. After the decisions, however, that number increased by over 55%, to 125 active licenses per year. 160 Private universities, however, only saw an increase in active licenses of 40%. 161 Thus Table 7 and Table 8 appear to indicate that, after the Florida Prepaid decisions, public universi-

158. See infra note 159.
159. For public universities, the post-Florida Prepaid licensing activity is significantly greater (in a statistical sense) than the pre-Florida Prepaid licensing activity. For private universities, the difference between the number of licenses executed before and after the Florida Prepaid decisions is not statistically significant. However, the difference between these differences is not statistically significant. Nonetheless, statistical significance may not be the most appropriate or useful criterion, especially because the data reflected in Table 7 are based on the entire population of AUTM data, rather than a random sample. See, e.g., Stephen T. Ziliak & Deidre N. McCloskey, The Cult of Statistical Significance 1–2 (2008) (arguing that overreliance on statistical significance “has been an exceptionally bad idea”).
160. Infra note 161.
161. For both public and private universities, the difference between the total active licenses before and after Florida Prepaid is statistically significant. As noted above, however, statistical significance may not be the most appropriate or useful measure in this context because the data reflected in Table 8 are based upon the entire population of AUTM data, rather than a random sample. See Ziliak & McCloskey, supra note 159, at 1–2.
ties have had more success at raising the frequency with which they license their patents.162

In total, the empirical analysis of the second sword effect shows mixed results. Notably, state entities do not appear to have gained any offensive litigation advantage, nor have they become more aggressive patentees in the wake of the Florida Prepaid decisions. Nevertheless, it is possible that states have become more aggressive licensors of their patents.

III. IMPLICATIONS FROM THE EMPIRICAL ANALYSIS

Although critics of state sovereign immunity suggest that states abuse their immunity in order to favorably manipulate litigation and to extract licensing agreements for weak patents, Part II of this Note presents evidence suggesting that states do not appear to favorably manipulate litigation nor engage in aggressive patenting behavior. Nonetheless, in the wake of the Florida Prepaid decisions, state entities have become more aggressive licensors of their patents. Part III of this Note considers the implications of these findings. Specifically, it considers possible rationales for the empirical results and their further implications for attempts to overrule the Florida Prepaid decisions.

A. Explaining the Empirical Results

Despite vigorous arguments from critics of state sovereign immunity, the empirical evidence presented in this Note provides only limited support for the theory that states wield an immunity sword. As noted in Part II, an examination of lawsuits initiated by public and private universities indicates that public universities are not able to manipulate litigation to attain favorable judgments.163 Further, public universities are not more aggressive patentees, nor are they more inclined to file for patents over basic research.164 A closer examination of each of these results suggests why this might be the case.

1. Explaining the Litigation Results. — There are at least two potential reasons why, if the empirical study is accurate, states do not brandish their immunity to gain litigation advantages. First, the existing safety valves built into sovereign immunity doctrine may curb the potential for abuse. Second, external institutional constraints on state actors sheath the sword of sovereign immunity.

162. It is, however, also possible that private universities are more likely than public universities to monetize their patents through some mechanism other than licensing, such as through the creation of privately-owned corporations, or through the outright sale of the patent. If this is true, then this fact may account for the results described in Tables 7 and 8.

163. See supra Tables 1 & 2 (presenting data indicating public universities are not more successful patent plaintiffs than private universities).

164. See supra Tables 3–6 (presenting data indicating public universities are not more aggressive patentees than private universities).
The Federal Circuit has relied on *Lapides* to rule that state entities that voluntarily submit to federal patent jurisdiction, even in an administrative proceeding, may not claim immunity in a subsequent appeal or suit. In *Vas-Cath*, the Federal Circuit ruled that the University of Missouri could not use immunity to block Vas-Cath from exercising a statutory right of appeal to an administrative decision. The Federal Circuit has issued similar rulings in other cases, such as *University of New Mexico v. Knight*, holding that where a state entity initiates litigation, it has consented to adjudication of all compulsory counterclaims and appeals thereof. These rules help to explain the results demonstrated in Tables 1 and 2 above. Although the Federal Circuit has been reluctant to extend this rule to cases involving two separate lawsuits, its current application of *Lapides* may prevent states from abusing immunity to achieve favorable litigation outcomes.

In addition to this legal limitation on the exercise of state sovereign immunity, commentators have suggested that institutional constraints may inhibit the ability of states to infringe freely on private patent rights. These arguments suggesting that state sovereign immunity may not be a perfect shield from litigation also undermine the notion that immunity can be used as a sword. In particular, political restraints limit the ability of states to use their immunity offensively. Broadly, “intellectual property owners have tremendous political clout,” as “high-technology companies and their trade associations have become deeply involved in lobbying and financing political campaigns.” Such organizations may be able to lobby state officials to refrain from engaging in abusive litigation behavior, or work with legislators to pass state laws waiving state immunity in certain causes of action or for specific state agencies. They may also be able to focus their efforts directly on specific

166. *Vas-Cath, Inc. v. Curators of Univ. of Mo.*, 473 F.3d 1376, 1385 (Fed. Cir. 2007). For a fuller discussion of the case, see supra notes 105–112 and accompanying text.
167. *Regents of Univ. of N.M. v. Knight*, 321 F.3d 1111, 1126 (Fed. Cir. 2003) (“[W]hen a state files suit in federal court to enforce its claims to certain patents, the state shall be considered to have consented to have litigated in the same forum all compulsory counterclaims.”).
168. See supra notes 79–96 and accompanying text (discussing *Tegic* and *BPMC* cases).
170. Menell, supra note 113, at 1403 (noting “legal, market, social, and political constraints” on state infringement of private patent rights).
171. Id. at 1438–39 (footnotes omitted).
state agencies, such as state universities, by concentrating on the officials “that oversee and fund those entities.”

Thus, the political influence exercised by patent-minded industries and organizations may curb the extent to which states unfairly exercise their own immunity as patentees.

2. Explaining the Patenting Results. — Just as there are potential legal and political rationales that explain the findings regarding state-initiated patent litigation, there are similar legal and social rationales that explain the results demonstrating that states are not more aggressive patentees and are not more inclined to seek weak and potentially invalid patents.

Several commentaries on the *Florida Prepaid* decisions have noted that the inability to sue states for damages is “no big deal” because of the availability of alternative remedies. Such remedies include available state avenues for relief. In particular, private parties may be able to sue the state in a local court under common law causes of action, such as unjust enrichment. If a private party is able to bring such an alternative action in state court, that state court could also rule on the validity of the patent. Additionally, most, but not all, states have “enacted some form of sovereign immunity waiver,” making them subject to such adjudication in a state court or tribunal. This could serve to deter those states from aggressively patenting and from claiming patents in basic research.

Further, the distinctive characteristics of state bureaucracies suggest that they are unlikely to engage in behavior that may be viewed as potentially abusive. As Professor Menell notes, “state entities are unlikely to...”

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174. E.g., Woolhandler, supra note 5, at 920.
177. McEwen et al., supra note 172, at 202. It is possible for a state to waive immunity in state court without waiving immunity in federal court. For a detailed state-by-state analysis of sovereign immunity waivers, see id. at 205–559.
adopt policies encouraging . . . infringement of federal intellectual property rights.”

Similarly, state entities are probably unlikely to adopt policies condoning the patenting of basic research. Additionally, state employees “cannot expect to profit in any significant way” from infringement because they “do not have equity stakes in their operations.” That is, because state employees’ salaries and job performance probably do not rest on the number of patents they obtain, they are unlikely to engage in aggressive patenting behavior. Rather, state employees are “disinclined to violate the law,” even if violations of those laws are without remedy, because such violations might “jeopardize their job security.”

Thus, although the incentives at the state or institutional level align to promote offensive uses of immunity, incentives at the personal level suggest that state employees would refrain from engaging in such activity. Altogether, bureaucratic and political constraints on the exercise of immunity, combined with legal risks posed to state patentees, help explain the data showing that states do not wield their immunity as a patent sword.

B. Solutions for Sovereign Immunity in Intellectual Property

Although a combination of legal and social factors has curbed the extent to which states use their immunity as an offensive weapon, there is nevertheless evidence indicating that sovereign immunity has caused states to become aggressive patent licensors. Critics of immunity protection contend that state institutions have gained this advantage as a result of College Savings. Specifically, such critics allege that the new ag-

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179. But see Polse, supra note 100, at 526 (“State university systems . . . are now revising their patent and technology transfer policies to encourage their faculty to patent more inventions.”). However, there is no indication that the new policies encourage researchers to patent “basic research results.” Bone, supra note 11, at 1509.

180. Menell, supra note 113, at 1433. But see id. at 1433–34 (noting a lesser effect on state university researchers because such researchers have private incentives to commercialize their research). Nonetheless, the “traditional focus upon academic recognition and basic scientific breakthroughs” may “minimize[ ] the risk” posed by state university researchers. Id. at 1435. Thus, although some state researchers may be incentivized by the number of patents they obtain, there are also likely to be other, more important incentives mitigating the effect of the potential for the abuse of state sovereign immunity. For additional detail on the impact of immunity on university researchers, see generally Gary Pulsinelli, Freedom to Explore: Using the Eleventh Amendment to Liberate Researchers at State Universities from Liability for Intellectual Property Infringements, 82 Wash. L. Rev. 275 (2007) (proposing state university researchers should have absolute immunity from infringement lawsuits).

181. Menell, supra note 113, at 1432–33. But see Bone, supra note 11, at 1499 (“It is not enough to suppose that state actors are just more law-abiding than the average citizen.”).

182. See supra Part III.A (describing legal and social factors which may have curbed extent to which states use their immunity as offensive weapon).

183. See supra Tables 7 & 8 and accompanying text.

184. See supra Part I.C.2 (describing potential offensive advantages).
gressive licensing activity results from the state using the threat of litigation to “brandish[] a Damoclean threat with a sheathed sword.” When presented with a demand to license a state-owned patent, potential licensees are faced with the “in terrorem choice between . . . potential liability for patent infringement and abandonment of their enterprises.” Thus, private entities are forced to pay licensing fees on state-owned patents that they may not be infringing, or that may not even be valid. These new transaction costs increase the cost of innovation.

As a result, there have been several attempts to solve this problem by creating new avenues of relief against state entities. Some commentators have suggested that market remedies will curb abusive licensing behavior by state entities. Others have preferred a legal solution, either through a further extension of Lapides, or through the enactment of new legislation. In light of the results of the present empirical study, a viable solution must directly address the problem of aggressive state licensing, must be clearly enforceable against a state or state entity, and must alleviate the in terrorem effect of a potential damages suit. A closer examination of each of these proposals reveals that a legislative enactment is most preferable.

1. Market Solution. — Some advocates have suggested that a market solution can ensure that states do not wield their immunity offensively. Specifically, they suggest that private parties may be able to bargain for a waiver of sovereign immunity in their license agreements. Such waiv-
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ers would be linked to, and could thus invalidate, state licensing activity. Unfortunately, such waivers are not universally available against all state entities. Further, they are unlikely to be a sufficient safeguard against abuses by states because they are difficult to procure.

The Federal Circuit has upheld contractual waivers of immunity. Specifically, the court held that a provision providing for “jurisdiction in the appropriate State or Federal Courts” was a “clear and unambiguous” waiver of immunity. Thus, licensees of state-owned patents could extract promises from the states to submit to federal jurisdiction. Such a promise would extend not only to the terms of the license, but also to the validity of the underlying patent. Thus, a contractual waiver of immunity could address the problem of aggressive licensing.

However, state entities are not always authorized to enter into contracts that waive their immunity. A state university, for example, may only enter into a contractual waiver if the state legislature has delegated the authority to waive immunity. Thus, contracting state entities may be incapable of waiving immunity by contract, even in the unlikely scenario where they are willing to do so. Accordingly, a solution that relies upon contractual waivers would leave important gaps in the enforceability of such waivers against state entities.

Further, such a market solution is unsatisfactory because it does not truly mitigate the effects of a threatened damages suit. The ability of the states’); see also Christina Bohannan, Beyond Abrogation of Sovereign Immunity: State Waivers, Private Contracts, and Federal Incentives, 77 N.Y.U. L. Rev. 273, 292–303 (2002) (detailing case law regarding contractual waivers of immunity).


195. See MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 137 (2007) (holding licensee may bring declaratory judgment action to test validity of licensed patent without first breaking agreement). Thus, a party who successfully negotiates for a waiver of immunity may be able to challenge the validity of the patent underlying the agreement effecting the waiver. However, there does not appear to be any case law which tests the MedImmune holding in a sovereign immunity context.

196. Bone, supra note 11, at 1491 (noting “effectiveness of waiver depend[s] on the particular state’s statutes”); Menell, supra note 113, at 1437 (stating “key determinant[ ] will be “extent to which state law limits the terms of such contracts”). Importantly, however, a litigant does not bear the burden of proving that the state entity had the authority to waive. Baum, 503 F.3d at 1372.

197. See, e.g., Negotiating Prohibited Contract Clauses, Univ. of N.C., Charlotte, at http://legal.uncc.edu/prohibitedclauses.html (on file with the Columbia Law Review) (last updated Jan. 16, 2009) (“[C]lauses requiring the University to consent to litigation . . . are prohibited under N.C. Gen. Stat. 22B-3.”). But see Bone, supra note 11, at 1491 n.82 (noting Massachusetts statutory law and California case law conferring authority to waive immunity).
licensee to obtain such a waiver would depend on “the respective bargain-
ing power of the parties.”¹⁹⁸ However, where states use their immunity to extract licensing agreements, the licensee is in no position to bargain for waiver of that immunity.¹⁹⁹ That is, if a state has trapped a licensee between a potential damages suit and a patent license, the state would be unlikely to release the trap by allowing the licensee to bargain for a waiver of immunity. Thus, in situations where states are aggressively li-
censing their patents, waiver is unlikely to be forthcoming.

2. Judicial Solution. — As an alternative to a market-based contract solution, some parties have advocated for a judicial solution. Specifically, they suggest extending the rule of Lapides, stating that courts should find waiver of immunity where a state has “regularly and voluntarily invok[ed] federal jurisdiction.”²⁰⁰ The advocates for this solution suggest that it al-
lows licensees to challenge only those state entities who use the fear of litigation to aggressively license their patents, thereby blunting the ability of those states to force private parties into expensive licensing agreements.²⁰¹

However, such a rule suffers from several key defects. First, it does not address aggressive state licensing. Second, such a rule sets an ambigu-
ous standard. It is thus not clearly enforceable against the states and thereby fails to alleviate the interrotem effect of a potential damages suit. Finally, even if such a rule is desirable, it seems unlikely to be forthcoming.

A new rule broadly extending Lapides fails to directly address the problem of aggressive state licensing. The problem created by aggressive licensing is that potentially invalid patents are not subject to challenge by licensees, thereby raising the cost of innovative activity.²⁰² This problem need not turn on the frequency with which states litigate their patents.²⁰³ It is possible that a nonlitigious state entity is able to rely on the unavaila-
bility of declaratory judgment actions to impose expensive and invalid licensing agreements on private parties.²⁰⁴ Thus, a solution providing patent licensees direct relief against their licensors is preferable.

¹⁹⁹. But see id. (suggesting “industry-university research agreements” can give private entities “concentrated leverage for insisting upon protection from infringement”).
²⁰⁰. BPMC Petition, supra note 7, at 20–22.
²⁰¹. Chamber of Commerce Brief, supra note 71, at 8–10; see also Leslie, supra note 120, at 148–51 (criticizing court doctrine failing to give weight to public threats of litigation).
²⁰². See supra notes 182–188 and accompanying text (describing cost imposed on innovative activity).
²⁰³. Some have alleged that immunity also creates a problem whereby states “purposely cultivate[ ] a reputation for litigiousness.” BPMC Petition, supra note 7, at 4–5, 22–24. However, the empirical data presented in this Note seem to indicate that this is not the case. See supra Part II.B.1.
²⁰⁴. Conversely, it is possible that a litigious state is merely zealously guarding its valid property rights. But see Leslie, supra note 120, at 148 (suggesting “[a]ggressive patentees tout their previous victories in patent infringement litigation”).
Second, it is unclear how such an extension of Lapides would be applied. Advocates for a new judicial standard suggest that waiver should be found where states “regularly and voluntarily invoked federal jurisdiction.”205 However, regular invocation of federal jurisdiction, as proposed here, remains undefined. That is, “it is not clear at what point a State would be deemed to have voluntarily participated in enough federal court patent suits to have waived its Eleventh Amendment immunity.”206 This ambiguity requires potential licensees to continue to account for the possibility of being unable to challenge the underlying patent and of facing ruinous liability. Thus, the rule does little to mitigate the fear of a potential damages lawsuit.

Finally, even if such a rule could be an effective solution to the problem of aggressive licensing, it is highly unlikely that courts are open to creating a new rule of waiver. The Federal Circuit has already declined multiple opportunities to extend the Lapides rule even narrowly.207 Moreover, the Supreme Court’s denial of certiorari in BPMC208 is a further indication that a judicially crafted waiver of state immunity is unlikely to be a viable option.209

3. Legislative Solution. — Finally, some have championed a legislative override of the Florida Prepaid decisions. Specifically, they advocate for a new law which requires states to “opt-in” to the federal system of intellectual property by waiving their immunity to any action which “seek[s] a declaration with respect to a Federal intellectual property right.”210 Such a solution provides three key advantages. First, it directly addresses the problem posed by aggressive state licensing. Second, such a solution should withstand constitutional scrutiny, thereby making it enforceable against the states. Finally, this solution provides a clear signal of waiver of immunity, thereby alleviating the interrorem effect of a damages suit.

A legislative solution which requires state patent owners to submit to jurisdiction in actions “seeking a declaration with respect to a Federal intellectual property right”211 would directly address the sword effect confirmed by this empirical study: aggressive state licensing. Under such a

205. BPMC Petition, supra note 7, at 20–22, R
207. See supra notes 79–96 and accompanying text (discussing Tegic and BPMC cases); see also Markopoulos, supra note 169, at 1, 10–15 (suggesting that existing extensions of Lapides may be unconstitutional). R
208. 129 S. Ct. 895 (denying petition for writ of certiorari). R
210. IPPRA 1999, supra note 75. R
211. Id.
regime, states must waive their immunity from federal jurisdiction in patent suits in order to accept federal patent rights.\textsuperscript{212} Thus, requiring states to submit to federal jurisdiction enables licensees to challenge the patents underlying the licenses they purchase from states.\textsuperscript{213}

Further, a legislative opt-in solution is likely constitutional. In \textit{South Dakota v. Dole}, the Supreme Court held that an exercise of the Spending Clause\textsuperscript{214} to provide an “offer of benefits to a state . . . dependent upon cooperation by th[at] state” does not violate state sovereignty.\textsuperscript{215} In considering legislative overrides to the \textit{Florida Prepaid} decisions, Congress heard significant testimony suggesting that a similar opt-in arrangement would withstand scrutiny. Specifically, witnesses testified that “a provision that would prospectively strip a State’s intellectual property of protection unless that State waived its sovereign immunity . . . is both constitutional and effective.”\textsuperscript{216}

\textsuperscript{212} E.g., id. ("A State opts into the Federal intellectual property system by . . . agree[ing] to waive sovereign immunity from suit in Federal court . . . ."); 2000 House Hearings, supra note 3, at 34 (statement of Mark A. Lemley, Professor, Boalt Hall School of Law, University of California at Berkeley) ("Under [IPPRA 1999] . . . a state that wished to take advantage of the benefits of the federal intellectual property system . . . would have to waive its immunity . . . ."); see also IPPRA 2003 Hearings, supra note 3, at 6 (statement of Marybeth Peters, Register of Copyrights, Copyright Office of the United States) (stating bill "grant[s] the benefit of fully-enforceable intellectual property rights only to those States that waive.").

\textsuperscript{213} There is a risk, however, that some states will not waive their immunity under the proposed legislative scheme. See 2000 House Hearings, supra note 3, at 56 (statement of Mark A. Lemley, Professor, Boalt Hall School of Law, University of California at Berkeley) (noting “a number of States might actually decide not to waive their immunity”); id. at 27 (statement of Marybeth Peters, Register of Copyrights, Copyright Office of the United States) (“It is far from a foregone conclusion that States will uniformly waive their immunity . . . .”). This may leave a gap in the ability of licensees to challenge patents owned by nonwaiving states and granted prior to the enactment of the new legislative scheme.

\textsuperscript{214} U.S. Const. art. I, § 8, cl. 1.


\textsuperscript{216} 2000 House Hearings, supra note 3, at 27 (statement of Marybeth Peters, Register of Copyrights, Copyright Office of the United States); see also IPPRA 2003 Hearings, supra note 3, at 11–12 (statement of Marybeth Peters, Register of Copyrights, Copyright Office of the United States) ("We feel confident that the bill is within Congress’ constitutional authority."); 2000 House Hearings, supra note 3, at 34 (statement of Mark A. Lemley, Professor, Boalt Hall School of Law, University of California at Berkeley) ("A similar waiver . . . passed constitutional muster in \textit{South Dakota v. Dole}."); Bohannan, supra note 193, at 310 ("[W]hen states . . . waive their immunity in exchange for federal benefits, those waivers should be enforced."); Meltzer, supra note 189, at 1385 ("Congress should be able to . . . mak[e] states eligible recipients [of federal intellectual property rights], but only if they waive their sovereign immunity."); Polse, supra note 100, at 535 (suggesting Congress should be able to condition grant of rights on waiver); Coyle, supra note 209, at 22 (paraphrasing Paul Bender, Professor of Law at Arizona State University, as saying that “‘tempting’ the states into waiving their immunity . . . is the better and constitutional approach”); supra note 29 (noting Court has found States may waive immunity by accepting a congressional condition). But see Childers, supra note 75, at 1113 (suggesting
Finally, the very existence of a state-owned patent serves as a clear signal to a potential licensee that the state has waived its immunity with respect to federal intellectual property rights. This reduces the overall cost of licensing activity. When there are only ambiguous signals regarding waiver of immunity, as is the case in alternate solutions, private parties must still account for the potential of being unable to challenge the patent. Thus, they may face ruinous liability. However, where, such as here, the state has clearly signaled its waiver of immunity, a private actor can rationally choose between a license to a patent believed valid and a challenge to a patent believed invalid. Thus, the opt-in solution serves a useful signaling function.

This opt-in solution was vociferously championed in the years following the Florida Prepaid decisions. However, although Congress is currently considering major patent reform, this solution is not currently part of any existing proposals. As private industry renews efforts to override the Florida Prepaid decisions, it should lobby for a legislative opt-in solution. Such a solution, which conditions the grant of federal patent rights on a waiver of immunity, directly addresses the problem of aggressive licensing behavior, is likely to withstand constitutional scrutiny and be fully enforceable against the state, and mitigates the fear of a threatened damages suit by providing a clear signal of waiver.

CONCLUSION

Over a decade ago, the Supreme Court issued the Florida Prepaid decisions. In continuing a trend in state sovereign immunity that began with Hans, the Court struck down provisions in the patent and trademark laws holding states liable for infringements, generating a cascade of controversy which persists today. Among the criticisms of the Florida Prepaid decisions is the allegation that sovereign immunity gives states an unfair advantage in the exercise of state-owned patent rights.

opt-in regime might "give rise to an unconstitutional condition"); Paik, supra note 209, at 920 ("[T]he Spending Clause is a suboptimal way of addressing the problem.").

217. See supra Part III.B.1–2 (describing market and judicial solutions).

218. See supra note 75 (noting various congressional attempts to overturn Florida Prepaid decisions).


An empirical study of these alleged effects, however, indicates that the states have not completely unsheathed their patent sword. State universities, as patentees, do not appear to be more successful litigants than their private counterparts. Similarly, state universities do not appear to be aggressively collecting weak patents. A combination of legal and social factors seems to keep the states in check. In particular, rules that subject states to suit—either in state court or in federal court via waiver by litigation conduct—constrain offensive uses of state immunity. Additionally, bureaucratic and political checks on states and state officials help ensure that they do not stretch the bounds of their immunity.

Despite these constraints on the states’ exercise of a patent sword, empirical evidence reveals that states are increasingly aggressive licensors of their patents. Critics of state sovereign immunity suggest that state institutions have forced private parties to choose between ruinous damages suits or expensive license agreements. Thus, private entities are forced to pay licensing fees on state-owned patents, raising the overall cost of innovation. In order to resolve this problem, both market and legal solutions have been suggested. A survey of these solutions reveals that a new legislative rule that requires states to opt in to the federal patent system by waiving their immunity to declaratory judgment actions is most likely to adequately resolve the problems created by aggressive state patent licensing.
### Appendix A: List of Universities

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<thead>
<tr>
<th>University</th>
<th>University</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albert Einstein College of Medicine</td>
<td>North Carolina A&amp;T State University</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Allegheny University of the Health Sciences</td>
<td>North Carolina State University</td>
<td>University of Minnesota</td>
</tr>
<tr>
<td>Arizona State University</td>
<td>North Dakota State University</td>
<td>University of Mississippi</td>
</tr>
<tr>
<td>Auburn University</td>
<td>Northeastern University</td>
<td>University of Missouri</td>
</tr>
<tr>
<td>Ball State University</td>
<td>Northern Illinois University</td>
<td>University of Montana</td>
</tr>
<tr>
<td>Baylor College of Medicine</td>
<td>Northwestern University</td>
<td>University of Nebraska</td>
</tr>
<tr>
<td>Boston University</td>
<td>The Ohio State University</td>
<td>University of Nevada, Reno</td>
</tr>
<tr>
<td>Bowling Green State University</td>
<td>Ohio University</td>
<td>University of Nevada, Las Vegas</td>
</tr>
<tr>
<td>Brandeis University</td>
<td>Oklahoma State University</td>
<td>University of New Hampshire</td>
</tr>
<tr>
<td>Brigham Young University</td>
<td>Old Dominion University</td>
<td>University of New Mexico</td>
</tr>
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<td>Brown University</td>
<td>Oregon Health &amp; Science University</td>
<td>University of New Orleans</td>
</tr>
<tr>
<td>California Institute of Technology</td>
<td>Oregon State University</td>
<td>University of North Carolina, Greensboro</td>
</tr>
<tr>
<td>California State Polytechnic University</td>
<td>Penn State University</td>
<td>University of North Carolina, Chapel Hill</td>
</tr>
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<td>Carnegie Mellon University</td>
<td>Portland State University</td>
<td>University of North Carolina, Charlotte</td>
</tr>
<tr>
<td>Case Western Reserve University</td>
<td>Princeton University</td>
<td>University of North Dakota</td>
</tr>
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