

## Medimmune v. Genentech: A Game-Theoretic Analysis of the Supreme Court's Continued Assault on the Patentee

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**Medimmune v. Genentech: A Game-Theoretic Analysis  
of the Supreme Court’s Continued Assault on the  
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## ABSTRACT

In 2007, the Supreme Court decided *MedImmune v. Genentech*. This decision changed the landscape of the patent licensing field by holding that a licensee in good standing may challenge the validity of a patent in a declaratory judgment action. By adding to the cost of entering a license agreement, *MedImmune* erodes one characteristic of a patent from which it derives its worth—the patent’s ability to be licensed. Unfortunately, this has decreased the incentive to innovate by decreasing the value of a patent. This Comment seeks to illustrate, using a game theoretic model, how *MedImmune* will increase litigation against patent licensors, which in turn will increase the risk of entering a license agreement and decrease the value of a patent.

## INTRODUCTION

In 1982, with the Federal Courts Improvement Act, Congress created the Court of Appeals for the Federal Circuit. The Federal Circuit was created, in part, as a response to the Supreme Court’s neglect of the patent field.<sup>1</sup> Thus, one can say it was designed to give life to patent law by serving as an expert, specialized court that provides competency and unity to national patent law. Initially, the Supreme Court’s withdrawal became even more evident after the creation of the Federal Circuit. This caused one author to declare in 2001 that the “Federal Circuit . . . has become the de facto supreme court of patents.”<sup>2</sup>

Things changed in 2001.<sup>3</sup> The Supreme Court began to grant certiorari to an exceedingly larger amount of patent cases. In the nineteen years of the Federal Circuit’s life before 2001, the Supreme Court granted certiorari to only eleven patent cases (an average of .58 cases per term), which addressed substantive issues of patent law. From 2001 to 2011, almost half the time, the Supreme Court will have decided twelve substantive patent cases (an average of 1.3 cases per term).<sup>4</sup> These decisions have been largely considered anti-

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1. One academic observed that “[p]atents do not bulk large in the present business of the Supreme Court,” and the Court had “relegated the resolution of patent controversies to the lower levels of the federal judiciary.” Philip B. Kurland, *The Supreme Court and Patents and Monopolies* xii (1975).

2. Mark D. Janis, *Patent Law in the Age of the Invisible Supreme Court*, 2001 U. ILL. L. REV. 387, 387 (2001).

3. Scholars often cite the decision in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) as the decision that marked the Supreme Court’s return to patent law. See, e.g., John F. Duffy, *The Festo Decision and the Return to the Supreme Court to the Bar of Patents*, 2002 SUP. CT. REV. 273 (2002).

4. *Id.*; Three cases have been granted certiorari for next term: *Microsoft Corp. v. i4i L.P.*, No. 10-290, 2010 WL 3392402 (U.S., Nov. 29, 2010); *Bd. of Trs. of the Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc.*, No. 09-1159, 2010 WL 1180644 (U.S., November 01, 2010); *Tech Appliances, Inc. v. SEB S.A.*, No. 10-6, 2010 WL 2629783 (U.S., Oct. 12, 2010). Notably, this will tie

patentee.<sup>5</sup> Therefore, one could say that if the Federal Circuit gives life to the patentee, the Supreme Court is where the patentee goes to die.

Part of this trend was the Supreme Court's decision in *MedImmune Inc. v. Genentech, Inc.*,<sup>6</sup> which, in an eight-to-one decision, made it easier for patent licensees to challenge the validity of a patent it is licensing.<sup>7</sup> The Court held that a licensee does not have to break the license agreement and risk being assessed breach of contract damages before filing a declaratory judgment action.<sup>8</sup> It reasoned that an Article III controversy exists, with regards to a declaratory judgment action, when "the facts alleged, under all the circumstances, show there is a substantial controversy between the parties having adverse legal interest, of sufficient immediacy and reality to warrant the issuance of a declaratory judgment."<sup>9</sup> Previously, the Court of Appeals for the Federal Circuit had articulated a more stringent standard for declaratory judgment actions involving patent claims: whether there was a reasonable apprehension of suit (RAS).<sup>10</sup> Under the RAS test, there must be (1) action(s) by the patent holder, which gives rise to a reasonable apprehension of an infringement suit against the declaratory judgment plaintiffs; and (2) action(s) by the declaratory judgment plaintiff that could constitute infringement. In sum, the Supreme Court stomped out the RAS doctrine in favor of a lesser standard.

The purpose of this Comment will be to examine the effects of *MedImmune* on both the patentee and licensee by deploying a game theoretic model. By doing so, this Comment seeks to shed light on when and how *MedImmune* affects the relationship of a licensee and a patentee by analyzing the landscape of the parties' respective strategic concerns.

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2007 as the term with the most patent law cases decided since the creation of the Federal Circuit.

5. See, e.g., *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) (raised the standard of inventiveness); *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) (limited a patentee's ability to see injunctive relief); *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007) (limited the geographic reach of infringement liability); *Quanta Computer, Inc. v. LG Elecs., Inc.* 128 S. Ct. 2109 (2008) (expanded scope of exhaustion doctrine); *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005) (expanded experimental use defense); *MedImmune v. Genentech*, 549 U.S. 118 (2007) (lowering the standard for declaratory judgment standing).

6. *MedImmune v. Genentech*, 549 U.S. 118 (2007).

7. *Id.* at 137.

8. *Id.*

9. *Id.* at 127 (quoting *Maryland Casualty Co. v. Pacific Coal & Oil Co.*, 312 U.S. 270, 273 (1941)).

10. See, e.g., *Gen-Probe Inc. v. Vysis, Inc.*, 359 F.3d 1376 (Fed. Cir. 2004); *Cordis Corp. v. Medtronic, Inc.*, 780 F.2d 991 (Fed. Cir. 1985); *C.R. Bard, Inc. v. Schwartz*, 716 F.2d 874, 879–80 (Fed. Cir. 1983).

## I. BACKGROUND

This Section will examine the necessary background case law to identify the strategic concerns that now affect both patentees and licensees. First, the Federal Circuit's Reasonable Apprehension standard will be cursorily discussed. Second, the Supreme Court's dismantling of this standard in *MedImmune v. Genentech* will be examined. Finally, the Federal Circuit's response to *MedImmune* will be analyzed.

*A. The Federal Circuit's Reasonable Apprehension Standard*

The Declaratory Judgment Act does not create federal jurisdiction.<sup>11</sup> Subject matter jurisdiction must exist first because of a federal question or diversity.<sup>12</sup> In addition to having subject matter jurisdiction, the courts have required an actual controversy to exist between the parties.<sup>13</sup>

In a declaratory judgment action the plaintiff has the burden of proof in establishing that an actual controversy exists as a matter of law.<sup>14</sup> For patents, the plaintiff must meet a two-part standard by showing "(1) an explicit threat or other action by the patentee, which creates a reasonable apprehension on the part of the declaratory plaintiff that it will face an infringement suit, and (2) present activity which could constitute infringement or concrete steps taken with the intent to conduct such activity."<sup>15</sup> The first prong looks to the conduct of the plaintiff, the alleged infringer; while the second prong looks at the conduct of the defendant, the patentee.<sup>16</sup>

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11. *Aetna Life Ins. Co. v. Haworth*, 300 U.S. 227, 240 (1937).

The Declaratory Judgment Act of 1934, in its limitation to "cases of actual controversy," manifestly has regard to the constitutional provision and is operative only in respect to controversies which are such in the constitutional sense. The word "actual" is one of emphasis rather than of definition. Thus the operation of the Declaratory Judgment Act is procedural only. In providing remedies and defining procedure in relation to cases and controversies in the constitutional sense the Congress is acting within its delegated power over the jurisdiction of the federal courts which the Congress is authorized to establish.

*Id.*

12. *Id.*

13. Interpretive case law of the Declaratory Judgment Act is seemingly wary of giving the Act independent procedural teeth because of the courts' reluctance to give advisory opinions. Michael Weinstein, *The Fate of the Federal Circuit's "Reasonable Apprehension" Standard in Patent Suits For Declaratory Judgment Following MedImmune, Inc. v. Genentech, Inc.*, 127 S.Ct. 764 (2007), 76 U. CIN. L. REV. 681, 683 (2008).

14. *Shell Oil Co. v. Amoco Corp.*, 970 F.2d 885, 888 (Fed. Cir. 1992).

15. *BP Chems. Ltd. v. Union Carbide Corp.*, 4 F.3d 975, 978 (Fed. Cir. 1993).

16. *Id.*

The first prong is a safeguard against courts making advisory opinions.<sup>17</sup> It analyzes whether the plaintiff is either engaged in conduct that may amount to infringement or is taking meaningful and preparatory steps to what will likely constitute infringing actions.<sup>18</sup> To satisfy this standard, courts look to how imminent the infringing actions are,<sup>19</sup> and whether this infringing conduct is sufficiently definite to constitute infringement.<sup>20</sup>

The second prong inquires whether the plaintiff, the accused infringer, reasonably believes the patentee will initiate suit.<sup>21</sup> This is an objective standard; the subjective belief of the plaintiff is insufficient.<sup>22</sup>

Courts have relied on several factors when evaluating whether a plaintiff is in reasonable apprehension of a suit: the patentee's litigation history,<sup>23</sup> the

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17. See *Arrowhead Indus. Water, Inc. v. Ecolochem, Inc.*, 846 F.2d 731 (Fed. Cir. 1988); *Wembley, Inc. v. Superba Cravats, Inc.*, 315 F.2d 87, 90 (2d Cir. 1963).

18. *Int'l Harvester Co. v. Deere & Co.*, 623 F.2d 1207, 1210 (7th Cir. 1980).

19. *Sierra Applied Scis., Inc. v. Advanced Energy Indus.*, 363 F.3d 1361, 1378 (2004).

20. See *Id.* "This approach is proper: The greater the variability of the subject of a declaratory-judgment suit, particularly as to its potentially infringing features, the greater the chance that the court's judgment will be purely advisory, detached from the eventual, actual content of that subject—in short, detached from eventual reality." *Id.*

Our concern is not that the [product at issue] will never be produced, but rather that because of the relatively early stage of its development, the design which is before us now may not be the design which is ultimately produced and marketed. For a decision in a case such as this to be anything other than an advisory opinion, the plaintiff must establish that the product presented to the court is the same product which will be produced if a declaration of noninfringement is obtained.

*Int'l Harvester Co.*, 623 F.2d at 1216; accord *Infinitech, Inc. v. Vitrophaage, Inc.*, 847 F. Supp. 332, 336 (N.D. Ill. 1994).

21. *Phillips Plastics Corp. v. Kato Hatsujou Kabushiki Kaisha*, 57 F.3d 1051, 1053 (Fed. Cir. 2005).

The purpose of the declaratory action is to permit a threatened party to resolve its potential liability, but only when the relationship has progressed to an actual controversy, as required by Article III of the Constitution. Although access to declaratory procedures in patent cases does not necessarily require an explicit threat of suit, to create an actual controversy there must be more than ongoing license negotiations. There must be action by the patent holder sufficient to create an objectively reasonable apprehension that suit will be brought against the declaratory plaintiff.

*Id.*

22. "The 'reasonable apprehension of suit' test requires more than the nervous state of mind of a possible infringer; it requires that the objective circumstances support such an apprehension" *Id.* at 1053–54; accord *Indium Corp. v. Semi-Alloys, Inc.*, 781 F.2d 879, 883 (Fed. Cir. 1985).

23. *Arrowhead Indus. Water, Inc.*, 846 F.2d 731, 737 (Fed. Cir. 1988).

relationship between the parties,<sup>24</sup> and the contact and negotiations between parties with regards to the patent at issue.<sup>25</sup> If express threats of suit are present, this is obviously a truncated analysis; however, absent explicit threats the court will evaluate the “totality of the circumstances” when deciding if the plaintiff was in reasonable apprehension of a suit.<sup>26</sup>

*B. MedImmune, Inc. v. Genentech, Inc.*

*MedImmune, Inc. v. Genentech, Inc.* was a battle among biotechnology titans. Genentech was one of the pioneers in the field and focused its development on upstream genetic information.<sup>27</sup> MedImmune, the licensee, was the developer of medicines used to treat a variety of diseases.<sup>28</sup>

In 1997, the parties entered into license agreements involving two sets of advances by Genentech.<sup>29</sup> One agreement was for an advancement that was covered by a patent that had issued prior to the license; the other was the subject of a pending patent application.<sup>30</sup> When a patent issued on the pending application, Genentech sent MedImmune a letter claiming that the new patent covered Synagis, a drug that accounted for 80% of MedImmune’s revenue.<sup>31</sup>

MedImmune was in a tough position. To MedImmune, the letter was clearly a threat to terminate the license and sue for infringement unless a more beneficial agreement to Genentech could be reached. MedImmune, however, believed the patent was invalid and unenforceable, and thus, not infringed.<sup>32</sup> As a result, MedImmune was faced with either maintaining the status quo,

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24. *Studex Corp. v. Blomdahl Medical Innovation AB*, 355 F. Supp. 2d 3, 8 (D.D.C. 2004).

25. *EMC Corp. v. Norand Corp.*, 89 F.3d 807, 811 (Fed. Cir. 1996).

26. *Spectronics Corp. v. H.B. Fuller Co.*, 940 F.2d 631, 634 (Fed. Cir. 1991) (citing *Maryland Casualty Co. v. Pacific Coal & Oil Co.*, 312 U.S. 270, 272 (1941)).

27. Although primarily engaged in the same business, Genentech is now a subsidiary of Roche, Inc. Being founded on the heels of the discovery of recombinant DNA technology, Genentech is considered the “founder of the biotechnology industry.” Before being acquired by Roche, Inc., Genentech’s stock symbol was “DNA.” See Genentech “About Us” Page, <http://www.gene.com/gene/about> (last visited Feb. 22, 2011); Genentech “History” Page, <http://www.gene.com/gene/about/corporate/history> (last visited Feb. 22, 2011).

28. Today, MedImmune is an LLC, and a wholly owned subsidiary of AstraZeneca. MedImmune “About Us” Page, [http://www.medimmune.com/about\\_us.aspx](http://www.medimmune.com/about_us.aspx) (last visited Feb. 22, 2011). MedImmune, LLC has been the recipient of several governmental contracts for the manufacture of the novel H1N1 FluMist. Vandana Sinha, *MedImmune Gets Second H1N1 Flu Contract*, WASHINGTON BUSINESS JOURNAL, Jul. 13, 2009, <http://washington.bizjournals.com/washington/stories/2009/07/13/daily21.html>.

29. *MedImmune v. Genentech*, 549 U.S. 118, 121 (2007).

30. *Id.*

31. *Id.* at 121–22.

32. *Id.*

which would result in Genentech terminating the license and suing for infringement thereby exposing MedImmune to treble damages, attorney's fees, and the loss of most of its business, or challenging the patent through a declaratory judgment action.<sup>33</sup> At the time, the latter required MedImmune to break the license agreement themselves and suffer breach of contract damages; otherwise, an Article III case or controversy would not be present.<sup>34</sup>

Attempting to pave new ground, MedImmune chose a third option—paying the license fees and bringing a declaratory judgment action to determine the rights and legal relations of the parties.<sup>35</sup> This failed in the lower courts when, sticking to the *Gen-Probe* holding, dismissed the suit. The Federal Circuit affirmed.<sup>36</sup> It was concluded that MedImmune was a licensee in good standing, and accordingly, was not in reasonable apprehension of suit (RAS).<sup>37</sup> Thus, the matter was not justiciable.<sup>38</sup>

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33. Since this Comment will use a game theoretic framework to analyze strategic concerns, it is of probative value to outline, in detail, exactly what MedImmune's options (and risks associated with these options) were: (1) Do nothing—this would in all likelihood cause Genentech to terminate the license and sue for infringement, which would subject MedImmune to treble damages, attorney's fees, and the loss of its primary source of business but would also subject Genentech's patent to judicial scrutiny because MedImmune would surely claim it was invalid as a defense; (2) preemptively terminate the license and stop manufacturing Synagis—MedImmune had the right, under the license agreement, to terminate the agreement with six months notice, while avoiding treble damages and attorney's fees, MedImmune would still lose its primary source of business; (3) challenge the validity of the patent through a declaratory judgment action—at the time, this would cause MedImmune to suffer breach of contract damages and force it to go through costly patent litigation. *See Id.* In option (1), MedImmune is risking the most; however, they may also gain the most by obtaining a judgment that the Genentech patent is invalid. In option two, MedImmune is risking very little as the way of damages; however, is conceding its primary source of business. MedImmune also has nothing to gain besides cutting their losses in option (2). In option (3), MedImmune can gain the reward in option (1) but is risking less—only breach of contract damages and the cost of litigation as opposed to treble damages, MedImmune's attorney's fees, and litigation costs. (This will be graphically represented later in the Comment.)

34. U.S. CONST. art. III; Declaratory Judgment Act, 28 U.S.C. § 2201(a) (2006); *see, e.g., Gen-Probe Inc. v. Vysis, Inc.*, 359 F.3d 1376, 1379 (Fed. Cir. 2004).

35. 28 U.S.C. § 2201(a).

In a case of actual controversy within its jurisdiction . . . any court of the United States, upon the filing of an appropriate pleading, may declare the rights and other legal relations of any interested party seeking such declaration, whether or not further relief is or could be sought. Any such declaration shall have the force and effect of a final judgment or decree and shall be reviewable as such.

*Id.*

36. *MedImmune, Inc. v. Genentech*, No. CV 03-2567, 2004 WL 3770589 (C.D. Cal.); *MedImmune, Inc. v. Genentech*, 427 F.3d 958 (Fed. Cir. 2005).

37. *MedImmune*, 427 F.3d at 964.

38. *Id.*

Upon review, the U.S. Supreme Court reversed.<sup>39</sup> Justice Scalia, speaking for the majority, rejected the Federal Circuit's RAS test.<sup>40</sup> The Court reasoned that the purpose of the Declaratory Judgment Act was to prevent the plaintiff from having to "bet the farm."<sup>41</sup> In other words, the mere fact that MedImmune was faced with a choice—risk the business or abandon the rights under the license—was sufficient to create Article III jurisdiction.<sup>42</sup>

Overturning the second prong to the reasonable apprehension of suit test changes the field patent litigants play on drastically. Now, the standard is whether there is a "substantial controversy."<sup>43</sup> When determining whether a substantial controversy exists, a court should be guided by all the circumstances.<sup>44</sup> This seems analogous to the previous "totality of the circumstances" analysis.<sup>45</sup>

The effects of this new, lowered standard are still somewhat unknown. The Federal Circuit is still getting its legs underneath it. However, there have been decisions since *MedImmune*, which do shed light on how the Federal Circuit will interpret the new standard. The next section of this Comment will briefly discuss these developments. This will allow for a more accurate framing of the strategic concerns to assist in the analysis.

### C. Federal Circuit's Response to *MedImmune*

Since the Supreme Court's dismantling of the RAS test in *MedImmune*, the Federal Circuit has decided several cases interpreting *MedImmune*. Most notably, the Federal Circuit's decision in *SanDisk Corp. v. STMicroelectronics, Inc.*<sup>46</sup> and *Teva Pharmaceuticals USA, Inc. v. Novartis*

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39. *MedImmune v. Genentech*, 549 U.S. 118, 137 (2007).

40. *See id.* at 132 n.11. The Court concluded that the "RAS" test could not be reconciled with its decision in *Altvater v. Freeman*, 319 U.S. 359 (1943), which it concluded was still good law despite being distinguished by *Gen-Probe. Id.*

41. *Id.* at 129.

42. *Id.* Seemingly, this would be no choice at all for MedImmune since the patent in question would have covered a drug that accounted for eighty percent of MedImmune's business. One could argue that this fact was a driving factor for the Court's analysis. In other words, since MedImmune did not have any choice but a lawsuit of some flavor, they were in what would be an equivalent state to "reasonable apprehension of suit." *See, e.g., Weinstein, supra* note 13, at 698.

In *MedImmune*, the Court was presented with a particularly egregious fact situation; had MedImmune breached the license agreement to challenge the patent, it may have been enjoined from producing a product that represented more than 80% of its revenue and sales. The Court noted that a party should not have to 'bet the farm' before seeking declaratory judgment.

*Id.* (citation omitted)

43. *MedImmune*, 549 U.S. at 138.

44. *Id.*

45. *Maryland Casualty Co. v. Pacific Coal & Oil Co.*, 312 U.S. 270, 272 (1941).

46. *SanDisk Corp v. STMicroelectronics, Inc.*, 480 F.3d 1372 (Fed. Cir. 2007).

*Pharmaceutical Corp.*<sup>47</sup> are illustrative of the Federal Circuit's response.

1. *SanDisk Corp. v. STMicroelectronics, Inc.*

SanDisk is a manufacturer of flash memory storage, and ST was a newcomer to the flash memory market.<sup>48</sup> As a result, ST approached SanDisk in attempt to secure a cross-licensing agreement.<sup>49</sup> During negotiations, both ST and SanDisk provided each other with an infringement analysis of their respective patents sought to be licensed; however, each party maintained that they had no intention to file suit. Despite these assurances, SanDisk filed suit claiming that ST was infringing its patents.<sup>50</sup> Incident to this, SanDisk sought declaratory judgment declaring the invalidity and non-infringement of the ST patents.<sup>51</sup> The district court dismissed upon ST's motion for lack of subject matter jurisdiction because it concluded that SanDisk was not in reasonable apprehension of suit.<sup>52</sup>

Upon review and in light of *MedImmune*, the Federal Circuit vacated the district court's dismissal. The court concluded that it has subject matter jurisdiction for a declaratory judgment action when the plaintiff disputes a defendant's claim of right, and failure to recognize this claim would cause the plaintiff to risk treble damages.<sup>53</sup> The court reasoned that an explicit threat of litigation is not a prerequisite for subject matter jurisdiction in a declaratory judgment action.<sup>54</sup> The mere fact that ST committed acts that demonstrated its belief that SanDisk was infringing on ST's patents was sufficient for

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47. *Teva. Pharm. USA, Inc. v. Novartis Pharm. Corp.*, 482 F.3d 1330 (Fed. Cir. 2007).

48. *SanDisk Corp.*, 480 F.3d at 1374.

49. *Id.*

50. *Id.* at 1375–76.

51. *Id.*

52. *SanDisk Corp v. STMicroelectronics, Inc.*, No. C 04-04379 JF, 2005 U.S. Dist LEXIS 44870, \*16 (N.D. Cal. 2005).

53. *SanDisk Corp.*, 480 F.3d at 1374.

As the Supreme Court noted, “the declaratory judgment procedure is an alternative to pursuit of the arguably illegal activity.” The Supreme Court clarified that, although a declaratory judgment plaintiff may eliminate an “imminent threat of harm by simply not doing what he claimed the right to do[,] . . . [t]hat did not preclude subject-matter jurisdiction [where] the threat-eliminating behavior was effectively coerced.” “The dilemma posed by that coercion-putting the challenger to the choice between abandoning his rights or risking prosecution-is a dilemma that it was the very purpose of the Declaratory Judgment Act to ameliorate.”

*Id.* (quoting *MedImmune, Inc. v. Genentech.*, 127 S. Ct. 764, 773 (2007)) (internal citations omitted).

54. *Id.* at 1381.

jurisdiction.<sup>55</sup>

2. Teva Pharmaceuticals USA, Inc. v. Novartis Pharmaceutical Corp.

A New Drug Application for Famvir®, a herpes treatment drug, was held by Novartis.<sup>56</sup> Novartis listed one patent related to the ingredient composition and four patents covering the methods of therapeutic use in the Orange Book.<sup>57</sup> Notably, the composition patent was set to expire approximately five years before the patents covering the methods.<sup>58</sup> Teva, in an attempt to create a generic version of Famvir®, submitted an Abbreviated New Drug Application (ANDA) to the Food and Drug Administration (FDA) certifying that its generic version did not infringe on any of the patents held by Novartis, or in the alternative, the patents were invalid.<sup>59</sup>

In response to Teva's ANDA, Novartis sued Teva for infringement of the composition patent.<sup>60</sup> Teva brought a separate declaratory judgment action seeking the court to declare the method patents invalid.<sup>61</sup> Applying the RAS test, the district court held that it lacked subject matter jurisdiction over the declaratory judgment action.<sup>62</sup>

Looking at the totality of the circumstances, the Federal Circuit reversed.<sup>63</sup> It reasoned that by listing all five patents in the Orange Book, Novartis claimed the right to file a patent infringement suit against any potential infringer.<sup>64</sup> This, coupled with Teva's certification of non-

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55. *Id.* at 1381–82. (holding only that where a patentee asserts rights under a patent based on certain identified ongoing or planned activity of another party, and where that party contends that it has the right to engage in the accused activity without license, an Article III case or controversy will arise and the party need not risk a suit for infringement by engaging in the identified activity before seeking a declaration of its legal rights.). It is of note that Judge Bryson, in a concurring opinion, agreed that the court reached the right decision in light of *MedImmune*; however, Judge Bryson voiced his concerns that the license negotiations in *SanDisk* were run-of-the-mill and that *MedImmune*'s broadening allows for a declaratory judgment action in “virtually any case in which the recipient of an invitation to take a patent license elects to dispute the need for a license and then to sue the patentee.” *Id.* at 1385 (Bryson, J., concurring).

56. *Teva Pharm. USA, Inc. v. Novartis Pharm. Corp.*, 482 F.3d 1330, 1334 (Fed. Cir. 2007).

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.* at 1334–35.

61. *Teva Pharm. USA, Inc. v. Novartis Pharm. Corp.*, No. 05-2881 JLL, 2005 U.S. Dist. LEXIS 38649 (D.N.J. Dec. 12, 2005).

62. *Id.* at \*2–3.

63. *Teva*, 482 F.3d at 1340.

64. *Id.* at 1341–42. The majority looked at the totality of the circumstance; however, it is unknown whether the mere listing of the patents in the Orange Book would alone to give rise to subject matter jurisdiction. *Id.* Judge Friedman, in a concurring opinion, concluded that listing in the Orange Book would be sufficient as long as Teva certified that it was not infringing on any patents in

infringement and invalidity, gave Novartis the right to sue.<sup>65</sup> The court stated “[i]t logically follows that if [submitting an ANDA] creates a justiciable controversy for one party, the same action should create a justiciable declaratory judgment controversy for the opposing party.”<sup>66</sup>

## II. MODEL

### A. Introduction

One of the most powerful uses of game theory is its use of comparing legal regimes.<sup>67</sup> This is precisely what this Comment aims to do: compare the pre-*MedImmune* and post-*MedImmune* regimes. Specifically, this Comment will create a model to analyze the strategic behavior of the patentee and a licensee in a patent license situation. To complete this analysis, three steps will have to be undertaken: (1) identify the *players* in the game; (2) identify and analyze the *strategies* available to each player; and (3) create *payoffs* for all the combinations of various strategies.<sup>68</sup> After identifying these aspects of the model, a normal-form game will be constructed. This game is appropriate when two players are interacting and must decide their respective strategies without knowing what the other player’s strategy is going to be.<sup>69</sup> However, before this is done, it is of use to go over the assumptions of a game theoretic model. Doing so will hopefully address inevitable criticisms of the model, without necessarily satisfying the critics.

### B. Assumptions

Game theory finds its foundational roots in classical economics and rational choice theory; accordingly, the assumptions of rational choice and classical economics attach.<sup>70</sup> Many authors are critical of game theory because of these very assumptions.<sup>71</sup>

Rationality brings to the table with it two assumptions.<sup>72</sup> A decision

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its ANDA. *Id.* at 1346–47 (Friedman, J., concurring).

65. *Id.* at 1341–43.

66. *Id.* at 1342.

67. See, e.g., Daniel Orr, *The Superiority of Comparative Negligence: Another Vote*, 20 J. LEGAL STUD. 119 (1991).

68. This procedural break down of game theory is presented in DOUGLAS G. BAIRD ET AL., *GAME THEORY AND THE LAW* 8 (1994).

69. The game utilized in this Comment is commonly referred to as the prisoner’s dilemma, and was first discovered in 1950 by RAND scientists. WILLIAM POUNDSTONE, *PRISONER’S DILEMMA* 8 (1992).

70. See Baird et. al, *supra* note 68, at 46.

71. *Id.* at 47.

72. See generally JOHN VON NEUMANN AND OSKAR MORGENSTERN, *THEORY OF GAMES*

maker, or player, in a game-theoretic model is said to be rational because each player is assumed to be in pursuit of increasing his or her utility and each player is assumed to have stable preferences.<sup>73</sup>

First, utility is maximized in a game-theoretic model by maximizing one's payoffs. For the purposes of this Comment, maximizing the payoff is equivalent to maximizing monetary payoff. This is not always the case, however. For the sake of simplicity, it is assumed that a dollar translates into an equal amount of payoff for each company player in this Comment.<sup>74</sup>

Second, each player is assumed to have consistent preferences that is the rank ordering of the payoffs for a given strategies.<sup>75</sup> If player A prefers  $x$  to  $y$  and  $y$  to  $z$ , it follows that player A must prefer  $x$  to  $z$ .<sup>76</sup>

### C. The Players

There are two main players in the model presented in this Comment: the patentee, who is often the declaratory judgment defendant in cases where the validity or enforceability of a patent is being tested, and the licensee, who is the declaratory judgment plaintiff challenging the validity or enforceability of the patentee's patent.<sup>77</sup> In sum, the parties to a declaratory judgment suit are reversed from that of a conventional suit.<sup>78</sup>

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AND ECONOMIC BEHAVIOR (1947).

73. ROGER B. MYERSON, GAME THEORY ANALYSIS OF CONFLICT 3-4 (1997). In real life situations, the assumption of rationality will not always be satisfied. Nevertheless, this assumption is central to game theory. As Myerson said:

we should be suspicious of theories and predications that are not consistent with this assumption. If a theory predicts that some individuals will be systematically fooled or led into making costly mistakes, than this theory will tend to lose its validity when the individuals learn . . . to better understand the situation.

*Id.* at 5.

74. Maximizing utility does not always equate to maximizing monetary payoffs because it is difficult to measure utility in currency. For example, an individual may get more value from an increased monetary payoff when he or she is poor than if he or she is rich. Accordingly, for individuals, measuring utility as a function of monetary payoff may be non-linear or heteroskedastic. This is less true of corporations, who seek to maximize payoff of shareholders. See generally John W. Pratt, *Risk Aversion in the Small and in the Large*, 32 ECONOMETRICA 122 (1964).

75. JOHN MAYNARD SMITH, EVOLUTION AND THE THEORY OF GAMES 15 (1982).

76. *Id.*

77. See, e.g., *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118 (2007); *SanDisk Corp v. STMicroelectronics, Inc.*, 480 F.3d 1372 (Fed. Cir. 2007); *Teva. Pharm. USA, Inc. v. Novartis Pharm. Corp.*, 482 F.3d. 1330 (Fed. Cir. 2007); *Gen-Probe Inc. v. Vysis, Inc.* 359 F.3d 1376, 1379 (Fed. Cir. 2004).

78. *Maryland Casualty Co. v. Pac. Coal & Oil Co.*, 312 U.S. 270, 273 (1941).

In the game-theoretic model presented, it will be assumed that the patentee and the licensee are already parties to a license agreement. There are many strategies that a patentee or a licensee may undertake when negotiating a license.<sup>79</sup> These strategies would needlessly complicate this model, and accordingly, are not addressed.

#### D. Strategies and Pay-Offs

The strategies and the associated payoffs for each strategy are central to any normal form game.<sup>80</sup> Here, each player will have two different strategies available to them: “Do Nothing” and “Challenge.” While the strategies will be named the same for each player, the Challenge strategy for each player is very different. The following subsections discuss the strategies in more detail and explain their payoffs for both the pre-*MedImmune* and post-*MedImmune* legal regimes.

Before examining any strategy in depth, it is important to layout some background information of the game. As discussed earlier, the patentee and the licensee already have a license. Since this model is examining monetary gains and losses, any value realized by the patentee or licensee outside the license agreement is ignored. In other words, the cost of the license to the licensee and the revenue this generates for the patentee are constant terms; the actual value of the license to each party is irrelevant. Accordingly, the cost of the license or its gains, respectively are the starting point for each party’s payoff. Every payoff is a function of these constants. It will be assumed that the remainder of the license will cost the licensee one hundred (100) units, and accordingly, the patentee will gain one hundred (100) units for the remainder of the license.<sup>81</sup>

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79. See, e.g., Rochelle Cooper Dreyfuss & Lawrence S. Pope, *Dethroning Lear? Incentives to Innovate After MedImmune*, 24 BERKLEY TECH L.J. 971, 991–1005 (2009) (discussing approaches to licensing in light of *MedImmune*).

80. Baird et al., *supra* note 68, at 8.

81. One hundred (100) was arbitrarily selected. However, any number can be used because the rest of the payoffs are a function of this number. While the results may differ with a different number, the model can be replicated with any number. This model will introduce variance in the form of the probability of patent validity and enforceability, not the terms of the license agreement. Again, this would be incident to the negotiation of the license not the status quo of a given license agreement and is outside the scope of this Comment. It is likely that one of the criticisms of this piece or any other piece using game theory is that it assumes too much. True, the numbers are somewhat arbitrary; however, it must not be forgotten that this model is an abstraction of reality and it is not without its limitations:

A model is a simplification of, and approximation to, some aspect of the world. Models are never literally “true” or “false,” although good models abstract only the “right” feature of reality they represent . . . . Any meaningful rules admit of

Finally, reexamination is not an available option. This Comment seeks to illustrate the costs associated with the potential of increased litigation as a result of *MedImmune*. Thus, it is assumed that reexamination is not available or is not a prudent strategic avenue to take by the patentee or the licensee.<sup>82</sup>

## 1. Patentee

### *a. Do Nothing*

The Do Nothing (DN) strategy is the simplest strategy available to the patentee. This occurs when the patentee, in a license agreement, elects to maintain the status quo. If the validity or enforceability of the patent goes unchallenged, the patentee collects its royalties for the license, and eventually the license expires. As a result, the payoff for both the pre-*MedImmune* and post-*MedImmune* legal regime is positive one hundred (+100) if the licensee does not Challenge:

$$\text{Patentee (DN, DN)} = 100.$$

This payoff gets more complicated if the licensee decides to Challenge through the Declaratory Judgment Act. First, the patentee will have to pay money to defend the validity or enforceability of a patent. In this model, the cost to defend a declaratory judgment suit will be half the remaining value of the license, or negative fifty units (-50).<sup>83</sup> This is added to the gains or losses that are potentially derived from a declaratory judgment suit initiated by the licensee. Pre-*MedImmune*, the licensee would have to break the license agreement and risk breach of contract damages. Post-*MedImmune* this is not the case; the licensee can Challenge in a declaratory judgment action without risking breach of contract damages. Here, the patentee will not be seeking

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exceptions, but we can ask that exceptions be justified explicitly, that their implications for the reliability of research be assessed, and that the uncertainty of conclusions be reported. We seek not dogma, but disciplined thought.

GARY KING ET AL., DESIGNING SOCIAL INQUIRY 47 (1994).

82. It can be said, however, that litigants are increasingly using *ex parte* and *inter partes* reexamination as an avenue to challenge patent validity. In 2007, the USPTO experienced a record number of reexamination requests. Reexamination, however, is often used in conjunction with litigation. For example, reexamination can be used to stay the litigation or overturn the litigation results. Paul Morgan & Bruce Stoner, *Reexamination vs. Litigation—Making Intelligent Decisions in Challenging Patent Validity*, 86 J. PAT. & TRADEMARK OFF. SOC'Y 441 (2004). Thus, depending on a given case, reexamination may be an additional cost that a patentee or licensee may strategically decide to take on. In any regard, this cumbersome topic will not be discussed in this Comment.

83. Negative fifty (-50) again seems arbitrary, however, it allows for consistent testing of both the licensee's and patentee's strategies. Since it is assumed that the licensee is rational, the licensee would not initiate a declaratory judgment suit that would cost it more than the remaining cost of the license. The costs are assumed to be the same for each party in the suit. This, again, is for the sake of simplicity.

infringement damages because this is the DN strategy.<sup>84</sup> As a result, the payoff for the patentee pre-*MedImmune* would be:

$$\text{Patentee (DN, Challenge)}^{85} = -50 + ((1 - \Theta) * 100 - (\Theta * 100)).^{86}$$

Post-*MedImmune* would render a different payoff because the patentee would no longer be able to realize gains in utility as a result of breach of contract damages:

$$\text{Patentee (DN, Challenge)} = -50 - ((1 - \Theta) * 100).^{87}$$

### b. Challenge

When the patentee Challenges and the licensee Does Nothing, the patentee is seeking to “lock-in” the validity and enforceability of the license. This may be done through a consent decree.<sup>88</sup> In a consent decree the players, who have reached a license agreement, would subject themselves to a patent infringement or declaratory judgment suit.<sup>89</sup> Subsequent to initiating the suit, the players would settle and the license agreement would become part of a consent decree terminating the suit.<sup>90</sup> This would prevent the validity of the underlying patent from being Challenged because of *res judicata*.<sup>91</sup>

The resulting payoff for the patentee would be a function of the cost of litigation, which would be reduced because of the cooperative nature, and the financial gains that can be realized by eliminating the need to set aside capital

84. See the “Challenge” strategy *infra* Part II(D)(1)(b).

85. The patentee’s payoff is a function of the patentee’s strategy and the licensee’s strategy. Thus: Patentee (Patentee’s strategy, Licensee’s strategy).

86. By convention,  $\Theta$  is the probability that the patent will be declared invalid. Since this is a percentage, it is multiplied by one hundred, the cost of the patent, to produce a utility amount.  $1 - \Theta$  is the probability the patent will be declared valid. Again, this is multiplied by one hundred (100) to receive a utility amount. For example, if the probability the patent is going to be declared invalid is 0.00 then the formula would resolve to:

$$\text{Patentee (DN, Challenge)} = -50 + ((1 - 0.0) * 100) - 0.0 * 100.$$

$$\text{Patentee (DN, Challenge)} = 50$$

In other words, the patentee would be guaranteed get the benefit of the bargain (100) minus any costs in litigation.

87. It is assumed, as it is in all these payoffs, that the license ceases to exist after litigation. This may not always be the case; the declaratory judgment plaintiff may choose to continue to pay royalties and use the patented technology; however, this is outside the scope of this Comment.

88. Dreyfuss & Pope, *supra* note 79, at 13

89. *Id.* It does not matter who initiates the suit. *Id.*

90. *Id.*

91. *Id.*; see also *Am. Equip. Corp. v. Wikomi Mfg.*, 630 F.2d 544, 548 (7th Cir. 1980). It is not known for sure if court will uphold these “sweetheart deals.” *Id.* However, courts have upheld them in the past, even in the face of Hatch Waxman antitrust challenges. See *In re Tamoxifen Citrate Antitrust Litig.*, 466 F.3d 187, 203 (2d Cir. 2006); *Schering-Plough Corp. v. F.T.C.*, 402 F.3d 1056, 1075 (11th Cir. 2005); *Valley Drug Co. v. Geneva Pharm., Inc.*, 344 F.3d 1294, 1304 (11th Cir. 2003).

to potentially defend against a declaratory judgment suit:

$$\text{Patentee (Challenge, DN)} = (100 - 25) + 35$$

$$\text{Patentee (Challenge, DN)} = 110.^{92}$$

These payoffs would be the same in both the pre-*MedImmune* and post-*MedImmune* regimes.

If both the licensee and the patentee elect the Challenge strategy, the payoff for the patentee would potentially increase over the Challenge strategy when the licensee elects to Do Nothing. This would be the case when there is both an infringement suit initiated by the patentee and a declaratory judgment action initiated by the licensee. The total cost of litigation would not be double the cost of litigating the declaratory judgment action alone because it is likely that many aspects of the litigation would be duplicative.<sup>93</sup> However, pre-*MedImmune*, a win by the patentee would subject the licensee to treble damages for willful infringement:<sup>94</sup>

$$\text{Patentee (Challenge, Challenge)} = -65 + ((1 - \Theta) * 100 - \Theta * 100) * 3.^{95}$$

Post-*MedImmune*, the payoff for the patentee would be the same notwithstanding the treble damages:

$$\text{Patentee (Challenge, Challenge)} = -65 + ((1 - \Theta) * 100 - \Theta * 100).$$

## 2. Licensee

Now that the payoffs for the patentee have been discussed in their

92. This payoff merely demonstrates that the benefit to a patentee would have to outweigh cost of litigation for the strategy to be a legitimate and rational choice. Intrinsic rationality, that is rationality within a given strategy, is assumed. Again, one hundred (100) is the amount of utility left remaining on the license agreement, twenty-five (25) is the reduced cost of the cooperative litigation, and thirty-five (35) is the utility benefit that is realized from elimination of the threat of suit.

93. Throughout this analysis I give great weight to the cost of litigation. This, however, is not without cause. An American Intellectual Property Law Association (AIPLA) survey stated the median litigation costs from the commencement of the suit to the conclusion of discovery as \$1.25 million, and “[i]nclusive all costs” as \$2.5 million. See AMERICAN INTELLECTUAL PROPERTY LAW ASSOCIATION, REPORT ON THE ECONOMIC SURVEY 25 (2007). For suits with less than a million at stake, the median litigation costs were \$600,000. *Id.* For suits with more than \$25 million at stake, median costs were \$5 million. *Id.* Thus, it is not unusual for litigation costs to be between one-fifth and three-fifths of the value of the patent. This does not take into account the value of the perception that a given company is willing and able to enforce their patents.

94. “The rule that a plaintiff must destroy a large building, bet the farm, or (as here) risk treble damages and the loss of 80 percent of its business, before seeking a declaration of its actively contested legal rights finds no support in Article III.” *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 134 (2007); 35 U.S.C. § 284 (2006).

95. The negative sixty-five (-65) represents the increased (but not doubled) cost of litigation of two suit, infringement and declaratory judgment. The rest of the formula is the same as the payoff for Patentee (Do Nothing, Challenge) except the inclusion of three (3), which is a multiplier for triple damages. The damages, which would be tripled, are “a reasonable royalty for the use made of the invention.” 35 U.S.C. § 284. The license agreement value represents this reasonable royalty.

entirety, this Comment can now turn to the payoffs for the licensee. Since the licensee is in a license agreement and paying royalties on this agreement, the payoff is representative of what the licensee can save in the event of a successful Challenge to the validity of the patent. Again, there likely are gains in utility outside this; however, it is outside the scope of this Comment.

*a. Do Nothing*

If both the licensee and patentee maintain the status quo and Do Nothing, the licensee will have a payoff of negative one hundred (-100) in both the pre-*MedImmune* and post-*MedImmune* regime:

$$\text{Licensee (DN, DN)} = -100.$$

If the licensee were to Do Nothing, while the patentee Challenged, this would be equivalent to the consent decree discussed in the previous section. Accordingly, the licensee would have additional losses because of litigation costs; however, not spending money in preparation for future litigation would save the licensee some money:

$$\text{Licensee (DN, Challenge)} = (-100 - 25) + 35$$

$$\text{Licensee (DN, Challenge)} = -90.$$

*b. Challenge*

When a licensee Challenges the validity or enforceability of the patent, he or she seeks to gain the right to use the technology without paying royalties. Consequently, pre-*MedImmune*, the payoff for choosing the Challenge strategy can be represented as the cost of litigation plus the probability the license is invalid multiplied by the remaining value of the license agreement:

$$\text{Licensee (Challenge, DN)} = -50 + (\Theta * 100 - (1 - \Theta) * 100).^{96}$$

Post-*MedImmune*, the licensee would not have to risk breach of contract damages:

$$\text{Licensee (Challenge, DN)} = -50 + (\Theta * 100).$$

In a pre-*MedImmune* regime, a similar payoff, with the inclusion of increased litigation costs and the possibility of treble damages, would occur if both the patentee and the licensee chose the Challenge strategy:

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96. Notwithstanding the litigation costs, this is the inverse of the (Challenge, DN) function of the patentee. For example, if the probability the patent is invalid is 1.0 (100%):

$$\text{Licensee (Challenge, DN)} = -50 + (1.0 * 100 - (1 - 1.0) * 100)$$

$$\text{Licensee (Challenge, DN)} = -50$$

In other words, the patentee would be guaranteed the benefit of the bargain (100) minus any costs of litigation.

*Licensee (Challenge, Challenge) = -65 + (\Theta \* 100 - (((1-\Theta)\*100) \*3)).*

Again, post-*MedImmune* the licensee would not be subject to treble damages:

*Licensee (Challenge, Challenge) = -65 + (\Theta \* 100 - (1-\Theta)\*100).*

*E. Bi-Matrix*

Now that the payoffs are determined, they can be represented in a bi-matrix for more efficient analysis as shown below in Figures 1 and 2.<sup>97</sup>

Figure 1: Pre-MedImmune

Licensee	Do Nothing	Patentee	Challenge
Do Nothing	{-100, +100}		{-90, +110}
Challenge	{-50 + $\{\Theta * 100\} - \{1-\Theta\}*100\}$ , -50 + $\{\{1-\Theta\}*100\} - \{\Theta * 100\}\}$ }		{-65 + $\{\Theta*100-\{\{1-\Theta\}*100\}*3\}$ }, -65 + $\{\{\{1-\Theta\}*100\}*3\} - \{\Theta*100\}\}$ }

Figure 2: Post-MedImmune

Licensee	Do Nothing	Patentee	Challenge
Do Nothing	{-100, +100}		{-90, +110}
Challenge	{-50 + $\{\Theta * 100\}$ , -50 + $\{\{1-\Theta\} * 100\}\}$ }		{-65 + $\{\Theta * 100 - \{1-\Theta\}*100\}$ }, -65 + $\{\{1-\Theta\}*100 - \Theta * 100\}\}$ }

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97. By convention the first number in a set is the payoff for the licensee and the second number in the set is the payoff for the patentee.

### III. ANALYSIS

#### A. Probability of Invalidity is Zero Percent

Figure 3: Pre-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(-150; 50)	(-365; 235)

Figure 4: Post-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(-50; 50)	(-165; 35)

Under both pre-*MedImmune* and post-*MedImmune* regimes,<sup>98</sup> when the probability of invalidity is zero, the dominant strategy for the licensee is to Do Nothing, while the dominant strategy for the patentee would be to Challenge as displayed in Figures 3 and 4. In other words, when there is no question about the validity of the patent, it makes sense to take this off the table and enter into a consent decree. More practically, and not illustrated by this model, both parties would likely fulfill their end of the license bargain.

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98. According to the model, challenging would be the licensee's best strategy if the patentee were to "Do Nothing," and the patentee's best strategy would be "Do Nothing" if the licensee decided to also "Do Nothing" (as there is a payoff of 110). However, it is unlikely in reality that a licensee would challenge a license if he or she knew there was no chance of winning because the relationship between the licensee and patentee would be damaged for only a small potential gain.

*B. Probability of Invalidity is Ten Percent*

Figure 5: Pre-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(-130; 30)	(-325; 195)

Figure 6: Post-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(-40; 40)	(-145; 15)

Under the pre-*MedImmune* regime, when the probability of invalidity is ten, the dominant strategy for the licensee is to Do Nothing, while the dominant strategy for the patentee would be to Challenge as depicted in Figures 5. In other words, when there is little or no question about the validity of the patent, it makes sense to take the possibility of litigation off the table and enter into a consent decree.

Contrastingly, under the post-*MedImmune* regime, choosing the Challenge strategy becomes more appealing to the licensee as depicted in Figure 6. For example, if the patentee is adverse to litigation and not likely to seek an infringement suit, the licensee's payoff would be maximized at negative forty. However, it is still likely that the two parties will enter into a consent decree.

C. Probability of Invalidity is Fifty Percent

Figure 7: Pre-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(-50; -50)	(-165; 35)

Figure 8: Post-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(0; 0)	(-65; -65)

Under the pre-*MedImmune* regime, when the probability of invalidity is fifty, it would still be prudent for both parties to enter a consent decree as depicted in Figure 7. This is because the Do Nothing strategy of the patentee is dominated. In other words, no matter what strategy the licensee chooses, the patentee would maximize its payoff if it chooses to Challenge. Accordingly, the licensee can predict the patentee would choose to Challenge, and accordingly, will choose the strategy of Do Nothing to maximize its payoff.

It is a different story under the post-*MedImmune* regime depicted in Figure 8. Here, the dominant strategy for the licensee is to Challenge. Regardless of what strategy the patentee chooses, the licensee's payoff is maximized by choosing to Challenge. As a result, the patentee will maximize its payoff by choosing to Do Nothing.

*D. Probability of Invalidity is Seventy-five Percent*

Figure 9: Pre-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(0; -100)	(-65; -65)

Figure 10: Post-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(25; -25)	(-15; -115)

When the probability of invalidity is seventy-five, it would be best for both players to choose the Challenge strategy under the pre-*MedImmune* regime as depicted in Figure 9. Regardless of the strategy the patentee chooses, the licensee would be wise to choose the Challenge strategy because the payoffs are always greater than the corresponding Do Nothing payoffs. For that reason, the patentee can predict with certainty that the licensee will Challenge and that it should also Challenge.

Under the post-*MedImmune* regime depicted in Figure 10, the licensee's dominant strategy is to Challenge. Again, this guarantees maximization of its payoff. Therefore, the patentee should Do Nothing, or in other words, save litigation costs.

*E. Probability of Invalidity is One-hundred Percent*

Figure 11: Pre-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(50; -150)	(35; -165)

Figure 12: Post-MedImmune

Licensee	Patentee	
	Do Nothing	Challenge
Do Nothing	(-100; 100)	(-90; 110)
Challenge	(50; -50)	(35; -165)

Under both the pre-*MedImmune* and post-*MedImmune* regimes depicted in Figures 11 and 12, when it is certain the patent is invalid, it is prudent for the licensee to Challenge the patent. Hence, the best option for the patentee would be to minimize costs by choosing the Do Nothing strategy.

*F. Summary of the Model*

The difference between the pre- and post-*MedImmune* regimes is illustrated at the fifty percent invalidity level. In the pre-*MedImmune* regime the patentee is theoretically safe from a declaratory judgment action. The post-*MedImmune* regime is different, however. *MedImmune* made it rational for a licensee to haul the patentee to court for a declaratory judgment action when there is even a fifty percent chance the patent will be declared invalid. The same can be said for any greater percentage. It is conceded that this model has its limitations. However, it is illustrative of a greater point: that *MedImmune* is a shift of power to the licensee and a roll back of the nearly forty-year-old case law articulated in *Lear v. Adkins*.<sup>99</sup>

CONCLUSION

As illustrated by this model, the Supreme Court continued its assault on

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99. 395 U.S. 653, 673 (1969). Notably, the Court did not expressly repudiate *Lear*. *Id.* Instead, it merely differentiated the facts. *Id.* at 769. This leaves open the possibility of equitable defenses and policy arguments. *MedImmune v. Genentech*, 549 U.S. 118, 136 (2007).

the patentee in *MedImmune*. *MedImmune* is one of numerous recent cases where the Supreme Court has assaulted the Federal Circuit and patentees. *MedImmune*, however, represents a particularly salient departure from previous Federal Circuit jurisprudence.

The elimination of the reasonable apprehension of suit test lowers the bar for bringing a declaratory judgment action and allows a licensee to remain in good standing while attacking the validity of a patent. This creates a gross imbalance. The relative bargaining position of the parties changes immensely, and it is now almost of no consequence for a licensee to Challenge the validity of the patent. Practically, this adds to the costs of entering into any license agreement, and thus creates a disincentive to do so. Since many patentees seek patent protection for the sole purpose of being able to market their technology through licensing, this has a trickledown effect of curbing innovation. Simply put, the overhead cost associated with licensing a patent is now greater because of the imbalance of power between patentees and licensees, which decreases the value of a patent sought to be licensed. Unfortunately, *MedImmune* is just one of many recent Supreme Court decisions that follow the disturbing trend of weakening patents and repressing innovation.

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\* 2011, J.D. Candidate, Marquette University Law School; 2011, M.S. Candidate, Political Science, University of Wisconsin-Milwaukee; 2007, B.S., Computer Science & Political Science, *magna cum laude*, Northern Illinois University. This Comment is dedicated to all in the teaching profession. Although undervalued and underappreciated, educators tirelessly strive to enlighten and inspire. It is this knowledge and inspiration to which I owe all my accomplishments. I also would like to thank my family and friends for their steadfast support.