

# A NEW OPTIONS THEORY FOR RISK MULTIPLIERS OF ATTORNEY'S FEES IN FEDERAL CIVIL RIGHTS LITIGATION

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*Given the importance of private enforcement of federal civil rights laws, Congress and the courts have attempted to encourage plaintiffs' attorneys to accept meritorious civil rights cases through fee shifting and risk multipliers. Recently, however, the Supreme Court has essentially prohibited the use of risk multipliers, thus undercompensating attorneys for the risk of losing civil rights actions and discouraging the filing of such cases. In this Article, Professor Huang develops a new options-based theory of calculating attorney's fees. Professor Huang argues that a lawsuit consists of a sequence of options to continue with the case rather than a once-and-for-all irreversible commitment, thus allowing an attorney to assess the plaintiff's probability of prevailing at trial at different stages in a lawsuit. His proposal is for courts to recognize this option feature of lawsuits and adjust the risk multiplier accordingly. Consequently, the size of the risk multiplier would more accurately reflect the risk of losing, thus providing attorneys with better incentives to bring meritorious civil rights actions. In developing his theory, Professor Huang surveys the history and caselaw on risk multipliers, applies a simple options approach to lawsuits, and discusses the effect of an options-based approach on attorneys' incentives to bring and settle civil rights actions. A mathematical Appendix formally models Professor Huang's options-based approach.*

I truly believe that no matter what you've done in your life, no matter how bad you perceive it to be, you can always change where you are—by looking to the future, and from that moment on being a different person.<sup>1</sup>

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<sup>1</sup> Madonna, Video Timeline (VH-1 television broadcast, Aug. 13, 1998).

## INTRODUCTION

Federal civil rights laws<sup>2</sup> are not only publicly enforced by federal agencies; they are also privately enforced by private practitioners.<sup>3</sup> Indeed, "[c]ut-backs on federal funding of legal services, restrictions on practice areas of legal services entities, and the financial difficulties of nonprofit law centers have increased more than ever the role private practitioners play in enforcement of civil rights legislation."<sup>4</sup> Given the importance of private practitioners, a fundamental question in civil rights practice is how to encourage attorneys to accept meritorious cases. To provide financial incentives for taking on civil rights litigation, Congress and many state legislatures have enacted numerous fee-shifting statutes which require that losing defendants pay for "reasonable" plaintiffs' attorney's fees.<sup>5</sup> However, as is often the case

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<sup>2</sup> In this article, the term "federal civil rights laws" includes both Reconstruction-era and modern civil rights statutes. For examples of the latter, see, e.g., Voting Rights Act of 1965, 42 U.S.C. § 1971 (1994); 42 U.S.C. §§ 1981-1983 (1994); Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000(e) (1994 & Supp. 1995); Americans with Disabilities Act of 1990, 42 U.S.C. § 3601 (1994).

<sup>3</sup> Professors Stewart Schwab and Theodore Eisenberg have found that most civil rights litigation is undertaken by solo practitioners and small private law firms. See Stewart J. Schwab & Theodore Eisenberg, *Explaining Constitutional Tort Litigation: The Influence of the Attorney Fees Statute and the Government as Defendant*, 73 *Cornell L. Rev.* 719, 768 n.178 (1988) (citing J. Casper, *Lawyers in Defense of Liberty: Lawyers Before the Supreme Court in Civil Liberties and Civil Rights Cases, 1957-66*, at 207 (1968) (unpublished Ph.D. dissertation, Yale University)). Professor Michael Selmi also presents empirical data on the importance of private representation in enforcing federal civil rights. See Michael Selmi, *The Value of the EEOC: Reexamining the Agency's Role in Employment Discrimination Law*, 57 *Ohio St. L.J.* 1, 22, 57 (1996).

<sup>4</sup> Julie Davies, *Federal Civil Rights Practice in the 1990s: The Dichotomy Between Reality and Theory*, 48 *Hastings L.J.* 197, 262-63 (1997) (arguing that Supreme Court decisions since 1976 harmfully reduce incentives for private attorneys to accept civil rights cases).

<sup>5</sup> Several federal civil rights statutes contain fee-shifting provisions. See, e.g., Age Discrimination in Employment Act of 1967, 29 U.S.C. § 626(b) (1994); Clean Water Act, 33 U.S.C. § 1369(b)(3) (1994); Civil Rights Attorney's Fees Awards Act of 1976, 42 U.S.C. § 1988(b) (1994); Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e-5(k) (1994); Fair Housing Act, 42 U.S.C. § 3613(c)(2) (1994); Americans with Disabilities Act, 42 U.S.C. § 12205 (1994). In addition, different states have their own state civil rights laws; California, for example, still allows courts discretion to award risk multipliers in areas like employment discrimination. See *Cal. Civ. Proc. Code* § 1021.5 (West 1980 & Supp. 1996).

Other federal statutes promoting the public interest also authorize fee-shifting. See Privacy Act of 1974, 5 U.S.C. § 552a(g)(2)(B), (g)(3)(B) (1994 & Supp. 1996); Government in the Sunshine Act, 5 U.S.C. § 552b(i) (1994 & Supp. 1996); Equal Access to Justice Act, 28 U.S.C. §§ 2412(b), (d) (1994); Clean Air Act, 42 U.S.C. § 7607(f) (1994); Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9659(f) (1994). Each issue of the *Attorney Fee Awards Reporter*, which is published bimonthly, includes an updated list of federal statutes authorizing the awarding of reasonable attorney's fees.

The options theory of litigation presented in this Article not only applies to civil rights actions, but also to public interest lawsuits generally. The Supreme Court has stated that

with legislative history and statutory interpretation, courts have disagreed over exactly what the word "reasonable" means. In turn, these disagreements have generated a great deal of litigation over statutory fee-shifting.<sup>6</sup> This Article develops a new theory of compensation for civil rights actions and suggests a way to understand and calculate "reasonable" attorney's fees in light of this theory.

Two particular features characterize the private enforcement of civil rights laws. First, plaintiffs may not be able to afford to pay their counsel. Many potential plaintiffs are poor or underemployed,<sup>7</sup> and the costs of litigation can be extraordinarily high.<sup>8</sup> One-way proplaintiff fee-shifting statutes have attempted to address this concern by requiring that losing defendants pay reasonable plaintiffs' attorney's fees.

Second, when plaintiffs' attorneys are only paid if plaintiffs prevail, those attorneys, and not the plaintiffs, bear the risk<sup>9</sup> of losing. To give plaintiffs' attorneys sufficient incentives to offset the risk of non-payment, courts in the past multiplied statutory attorney's fee awards by a factor that reflected the risk of losing. Traditionally, the risk multiplier was the reciprocal of the initial (that is, as viewed from the start of the lawsuit) probability of the plaintiff prevailing at trial.<sup>10</sup> However, a series of Supreme Court decisions in the 1980s essentially pro-

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its rulings on risk multipliers apply uniformly to all fee award statutes. See *City of Burlington v. Dague*, 505 U.S. 557, 562 (1992).

<sup>6</sup> Indeed, the number of attorney's fee cases on the Supreme Court's docket has increased significantly in the last decade. See Davies, *supra* note 4, at 209-10 & n.50 (citing Thomas D. Rowe, Jr., *The Supreme Court on Attorney Fee Awards, 1985 and 1986 Terms: Economics, Ethics, and Ex Ante Analysis*, 1 *Geo. J. Legal Ethics* 621, 632-36 (1988)).

<sup>7</sup> See Davies, *supra* note 4, at 200 (arguing that damages for discrimination against poor or underemployed are "too low to offer much compensation to an attorney in the event of a settlement").

<sup>8</sup> See *id.* at 246, 264 (citing expert fees, length of time in taking case to trial, defense strategies involving delay, and amount of resources channeled into collateral litigation as reasons for high cost of lawsuits).

<sup>9</sup> The term "risk" comes from an early Italian word "risicare" meaning "to dare." For a fascinating history of the role of risk in human society, see Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* 8 (1996).

<sup>10</sup> For more on such a traditional multiplier calculation, see Samuel R. Berger, *Court Awarded Attorneys' Fees: What Is "Reasonable"?*, 126 U. Pa. L. Rev. 281, 324-26 (1977) (discussing reasonableness of court-awarded attorney's fees); Marshall J. Breger, *Compensation Formulas for Court Awarded Attorney Fees*, 47 *Law & Contemp. Probs.* 249, 259 (1984) (analyzing alternative approaches to attorney compensation rates); William J. Lynk, *The Courts and the Plaintiff's Bar: Awarding the Attorney's Fee in Class-Action Litigation*, 23 *J. Legal Stud.* 185, 187 (1994) (discussing risk multiplier approach); see also Affidavit of Frank H. Easterbrook & Robert A. Sherwin at 2-3, *In re Burlington Northern, Inc., Employment Practices Litigation*, Nos. MDL 374, 78 C 269, 1985 WL 1808 (N.D. Ill. May 31, 1985) (on file with the *New York University Law Review*) (discussing factors affecting multiplier).

hibited the use of risk multipliers out of a concern that they encourage plaintiffs' attorneys to accept nonmeritorious civil rights lawsuits.<sup>11</sup>

This Article argues that it is difficult to determine whether a civil rights lawsuit is or should be considered meritorious by only considering the initial probability of the plaintiff prevailing at trial. In fact, many factors influence that initial probability, and that probability changes in response to discovery as the lawsuit proceeds. Drawing on this insight, and options theory generally,<sup>12</sup> this Article develops a new options theory of federal civil rights lawsuits. An options ap-

<sup>11</sup> See *infra* Part I (discussing Supreme Court treatment of risk multipliers).

<sup>12</sup> Financial (call) options provide their holders with the right, but not the obligation, to buy a certain amount of an underlying financial instrument, such as a stock, bond, commodity (such as corn, soybeans, wheat, or gold) futures contract, foreign currency, or index at a certain price on or before a certain date. The awarding of the 1997 Nobel Prize in economics to two financial economists, Robert Merton and Myron Scholes, for their path-breaking theoretical research about options is only the latest indication that options are an increasingly relevant economic tool. See, e.g., Michael M. Phillips, *Two U.S. Economists Win Nobel Prize: Merton and Scholes Share Award for Breakthrough in Pricing Stock Options*, *Wall St. J.*, Oct. 15, 1997, at A2. Not only are stock options now a \$148 billion industry, but also, "[i]f you have a mortgage, for example, you are an options trader: You have the option to pay off that mortgage at any time." David R. Henderson, *Message from Stockholm: Markets Work*, *Wall St. J.*, Oct. 15, 1997, at A22. For more about financial options, see generally Richard A. Brealey & Stewart C. Myers, *Principles of Corporate Finance* 557-88 (5th ed. 1996) (providing overview of financial options for corporate managers); George Crawford & Bidyut Sen, *Derivatives for Decision Makers: Strategic Management Issues* 16-21 (1996) (explaining how options work); Ronald J. Gilson & Bernard S. Black, *The Law and Finance of Corporate Acquisitions* 231-50 (2d ed. 1995) (providing options primer for corporate lawyers); Philippe Jorion, *Big Bets Gone Bad: Derivatives and Bankruptcy in Orange County* 38-57 (1995) (explaining role of derivatives and structured notes in collapse of Orange County Investment Pool); Robert W. Kolb, *Financial Derivatives* 73-122 (1996) (describing options markets); Roberta Romano, *A Thumbnail Sketch of Derivative Securities and Their Regulation*, 55 *Md. L. Rev.* 1, 40-46 (1996) (providing definition of options). Of course, the imminent collapse and recent bailout of Long-Term Capital Management (with Merton and Scholes as principals) suggests that "the elite of America's financial powerhouses—as well as a few dozen other global heavyweights, either didn't know about or were comfortable with the risks they were taking in their dealings in Long-Term Capital." *How a Big Hedge Fund Marketed Its Expertise and Shrouded Its Risks*, *Wall St. J.*, Sept. 25, 1998, at A1.

"Real options" refer to those that options managers have in capital investment projects, such as the option to abandon, to make follow-on investments, to wait (and learn) before investing, or to vary a firm's output or its production methods. See generally Brealey & Myers, *supra*, at 589-616 (providing an overview of real options for corporate managers); Avinash K. Dixit & Robert S. Pindyck, *Investment Under Uncertainty* 6-25 (1994) (describing options approach to investment); Lenos Trigeorgis, *Real Options* 1-4, 9-20, 121-50 (1996) (providing an overview of conceptual framework for real options in capital budgeting). Commonplace options include leasing (or renting) with an option to buy a car, a home, furniture, or appliances; the option to refinance a home loan at a lower interest rate by prepaying a mortgage; the option to switch consumer credit card purchases to a new card with special introductory low interest rates on balance transfers; and "pawn shop" or no-recourse margin loans in which borrowers have the option to walk away from their loans without repaying them, but in so doing forfeit the items pawned or their margin amounts (and whatever items were purchased on margin). An example of an option which

proach to litigation recognizes that a lawsuit consists of a sequence of options to continue with the case instead of a once-and-for-all irreversible commitment. This theory demonstrates that both the traditional and the current Supreme Court approaches to risk multipliers are incomplete. While the traditional multiplier overcompensates for the risk of losing and thus may induce "excessive" litigation, the Supreme Court's position undercompensates for the risk of losing and thus does not provide adequate incentives for civil rights actions. An options theory suggests that the size of the multiplier which exactly compensates for the risk of losing is between one and the reciprocal of the initial probability of the plaintiff prevailing. The policy implications of an options theory include the conclusion that Congress or the Supreme Court should again allow risk multipliers to augment statutory fee awards and that such multipliers should be set at less than the initial reciprocal of the probability of the plaintiff prevailing in the lawsuit.

The Article proceeds as follows. Part I chronicles the history and current status of the caselaw on risk multipliers. Part II presents a brief options tutorial for readers unfamiliar with options in general and the options approach to lawsuits in particular. It also applies the options theory of litigation to civil rights lawsuits, particularly to the option value of discovery in a lawsuit. Part III discusses the options approach to civil rights risk multipliers and plaintiffs' attorneys' incentives to settle lawsuits in the presence of risk multipliers. Part IV proposes public policy reforms regarding risk multipliers. Part V discusses other economic issues related to the determination of appropriate risk multipliers. These issues are related to proposed public policy reforms because different goals imply different reforms. A mathematical Appendix formally models the two key issues of interest, namely: (1) the incentives for plaintiffs' attorneys to accept lawsuits when there are risk multipliers; and (2) the appropriate levels of risk multipliers to compensate plaintiffs' attorneys for the risk of nonpayment.

## I

### THE HISTORY OF RISK MULTIPLIERS IN THE ASSESSMENT OF REASONABLE ATTORNEY'S FEES

The traditional method used by federal courts to compute multipliers to account for the risk of nonpayment was to apply a risk multiplier to the "lodestar method" of calculating attorney's fees. The

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may be familiar to budding lawyers is the option to accept an offer for permanent employment as an associate in a law firm after working at that firm as a summer associate.

lodestar method takes the product of an attorney's reasonable hourly rate and a reasonable number of hours spent on the case as the starting point for determining reasonable attorney's fees.<sup>13</sup> This lodestar was then enhanced by a risk multiplier if the lawsuit had a low initial probability of success.

Both the use of the lodestar as the starting point for the judicial determination of reasonable attorney's fees and the use of risk multipliers originated in the early 1970s.<sup>14</sup> For roughly a decade, awarding risk multipliers was standard judicial practice in public interest cases.<sup>15</sup> In *Hensley v. Eckerhart*,<sup>16</sup> for example, the Supreme Court held that lodestar fees were the starting point for determining fee awards in civil rights cases.<sup>17</sup> The concurring opinion explicitly stated that the lodestar was merely a starting point and that district courts should then undertake an inquiry that included "the pre-litigation likelihood that the claims which did in fact prevail would prevail."<sup>18</sup>

Nonetheless, in a subsequent decision, *Blum v. Stenson*,<sup>19</sup> the Supreme Court changed its approach and stated that upward adjustments in attorney's fees are rarely appropriate under the Civil Rights Attorney's Fees Awards Act of 1976.<sup>20</sup> The Court held that neither the novelty and complexity of the legal issues involved,<sup>21</sup> nor the special skill and experience of legal representation,<sup>22</sup> nor the results obtained in litigation<sup>23</sup> justified a multiplier, reasoning that all of these factors had already been taken into account in calculating the lodestar figure itself.<sup>24</sup> Although the Supreme Court did not hold that such an

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<sup>13</sup> See, e.g., *Hensley v. Eckerhart*, 461 U.S. 424, 433 (1983) ("The most useful starting point for determining the amount of a reasonable fee is the number of hours reasonably expended on the litigation multiplied by a reasonable hourly rate.").

<sup>14</sup> See, e.g., *Lindy Bros. Builders of Philadelphia v. American Radiator & Standard Sanitary Corp.*, 487 F.2d 161, 167-68 (3d Cir. 1976) (setting forth guidance for applying risk multipliers to lodestar); *Detroit v. Grinnell Corp.*, 495 F.2d 448, 471 (2d Cir. 1974) (establishing standards for calculating risk multipliers); *Johnson v. Georgia Highway Express, Inc.*, 488 F.2d 714, 717-19 (5th Cir. 1974) (providing list of twelve factors to guide courts' discretion to enhance lodestar figure).

<sup>15</sup> For the early history of risk multipliers, see John Leubsdorf, *The Contingency Factor in Attorney Fee Awards*, 90 Yale L.J. 473, 475-78 (1981).

<sup>16</sup> 461 U.S. 424 (1983).

<sup>17</sup> See *id.* at 433.

<sup>18</sup> *Id.* at 449 (Brennan, J., concurring).

<sup>19</sup> 465 U.S. 886 (1984).

<sup>20</sup> See *id.* at 897, 901.

<sup>21</sup> See *id.* at 898.

<sup>22</sup> See *id.* at 899-900.

<sup>23</sup> See *id.* at 900.

<sup>24</sup> See *id.* at 901.

upward adjustment was never legitimate, *Blum* was the first in a series of decisions which have all but rejected the use of a multiplier.<sup>25</sup>

The trend against risk multipliers continued in *Pennsylvania v. Delaware Valley Citizens' Council for Clean Air*,<sup>26</sup> in which the Court declined to award a multiplier for superior performance.<sup>27</sup> The Court stressed that the lodestar figure should be "more than a mere 'rough guess' or initial approximation of the final award to be made"; instead, the court stressed that the lodestar is presumably the reasonable fee.<sup>28</sup> While in *Delaware Valley* the Court was sharply divided and was unable to reach consensus regarding the permissibility of risk multipliers,<sup>29</sup> the Court finally held in *Burlington v. Dague*<sup>30</sup> that the lodestar amount may not be multiplied to offset the contingent risk of nonpayment in those cases where, by statute, the plaintiffs' attorney's fees come directly from the defendant's pocket.<sup>31</sup> The Court again considered a risk multiplier as duplicative of factors which should have already been internalized into the lodestar figure itself. In particular, the Court saw the risk of loss as depending primarily on the difficulty of the case, which is already reflected in either the hourly rate or the number of hours spent on a case.<sup>32</sup> The Court was afraid that a multiplier for a risk of nonrecovery would "provide attorneys with the same incentive to bring relatively meritless claims as relatively meritorious ones."<sup>33</sup> The Court saw risk multipliers as an unsuitable method for

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<sup>25</sup> See, e.g., *Blanchard v. Bergeron*, 489 U.S. 87, 94 (1989) (adopting "the lodestar approach as the centerpiece of attorney's fee awards," without any multiplier); see also *King v. Palmer*, 950 F.2d 771, 776 (D.C. Cir. 1991) (en banc) (noting that Supreme Court has been "steadily subsuming most other factors" into lodestar figure).

<sup>26</sup> 478 U.S. 546 (1986).

<sup>27</sup> See id. at 547.

<sup>28</sup> Id. at 564.

<sup>29</sup> Despite hearing a reargument specifically about risk multipliers in *Pennsylvania v. Delaware Valley Citizens' Council for Clean Air*, 483 U.S. 711 (1987), the Court was not able to reach consensus. Due to the lack of a majority opinion, the most important legacy of *Delaware Valley* was Justice O'Connor's concurring opinion, which agreed with the dissent that Congress intended to allow for risk multipliers in computing the reasonable attorney fees authorized by fee-shifting statutes. See id. at 731 (O'Connor, J., concurring); see also id. at 735-42 (Blackmun, J., dissenting). Justice O'Connor's concurring opinion formulated a market approach to risk multipliers, which simply meant that courts should compute risk multipliers that are not case specific, but instead are determined for a class of cases reflecting the particular market for that case. See id. at 733 (O'Connor, J., concurring); see also id. at 745-47 (Blackmun, J., dissenting).

<sup>30</sup> 505 U.S. 557 (1992).

<sup>31</sup> See id. at 565. Such fee-shifting cases differ from common fund cases in which the plaintiff's attorney's fee comes from the plaintiff's recovery.

<sup>32</sup> See id. at 562-63.

<sup>33</sup> Id. at 563. This particular fear has not been borne out by an empirical survey of civil rights practitioners in the 1990s. See Davies, *supra* note 4, at 250-51.

subsidizing attorneys for cases they had lost,<sup>34</sup> and commented that risk multipliers "would make the setting of fees more complex and arbitrary, hence more unpredictable, and hence more litigable."<sup>35</sup> Although the Court has not precluded an upward adjustment in a case of exceptional success,<sup>36</sup> it has ruled out the risk of nonpayment as qualifying for such rarity.

Despite this trend, in *Gomez v. Gates*,<sup>37</sup> a district court permitted a multiplier of 1.75 under California state civil rights law because unattractive plaintiffs made the case undesirable, not because of the low probability of success on the merits.<sup>38</sup> The case was a civil rights action that alleged excessive force by police against armed robbers, and the plaintiffs were admitted criminals.<sup>39</sup> This decision runs contrary to the reasoning in *Dague*, which would assume the undesirability of a plaintiff to be subsumed in the computation of the lodestar. If the undesirability of the plaintiff correlates with the initial probability of the plaintiff winning, however, then a higher lodestar with a multiplier of just one can effectively be equivalent to a nonadjusted lodestar with a multiplier greater than one. Because the calculation of attorney's fees in civil rights cases is still evolving in the courts,<sup>40</sup> the options methodology introduced in the next two Parts may be helpful in formulating a coherent system for this purpose.

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<sup>34</sup> See *Dague*, 505 U.S. at 565.

<sup>35</sup> *Id.* at 566.

<sup>36</sup> See *Hensley v. Eckhart*, 461 U.S. 424, 435 (1983). Note, however, that the Court has never specified what would make a case "exceptional."

<sup>37</sup> 804 F. Supp. 69 (C.D. Cal. 1992).

<sup>38</sup> See *id.* at 78-79.

<sup>39</sup> See *id.* at 71.

<sup>40</sup> In its most recent consideration of attorney's fees pursuant to the Civil Rights Attorney's Fees Awards Act of 1976, the same California district court noted that:

In its lodestar calculation, the Court starts from the premise that in determining a reasonable hourly rate the proper focus is not upon what an appropriate or customary hourly rate should be for the particular lawyer who has done the work, but rather upon the nature of the services rendered, and what a reasonable commercial client would pay by the hour for those services if the client were free to choose its own counsel.

*Gillen v. Gates*, 847 F. Supp. 1475, 1480 (C.D. Cal. 1994). It is unclear whether the *Dague* reasoning extends beyond statutory fee-shifting cases to common fund cases. A recent case suggesting this might be the case is *Berg v. Gackenbach* (In re Bolar), 800 F. Supp. 1091, 1095 (E.D.N.Y. 1992) (holding that limitations on multipliers in statutory fee-shifting cases extend fully to cases in equity).



## II AN OPTIONS TUTORIAL

### A. *Options in History and Life*

Options have a long and interesting history. Over 2,400 years ago, the philosopher Thales bought what might have been the first recorded option in Western history.<sup>41</sup> In responding to the perennial challenge (which academics often hear) of "If you're so smart, then why aren't you rich?" Thales applied his meteorological forecasting ability to predict a bumper olive crop one season. He then placed a series of deposits with olive press owners which provided him with exclusive use of those presses to make olive oil. Thus, he cornered the olive press market and became rich by charging monopoly prices on the rental of the olive presses.<sup>42</sup>

Three of the most illustrative and controversial examples of real options are marriage, suicide, and legal reform.<sup>43</sup> After all, "[m]arriage entails significant costs of courtship, and divorce has its own monetary and emotional costs. Happiness or misery within the marriage can be only imperfectly forecast in advance, and continues to fluctuate stochastically even after the event. Therefore waiting for a better match has an option value."<sup>44</sup> Similarly, "[s]uicides project the bleak present into an equally bleak future, ignoring uncertainty, and thereby ignoring the option value of life. Then religious or social proscriptions against suicide serve a useful function as measures to compensate for this failure of rationality."<sup>45</sup> Finally, "[a]t all times, people and politicians tend to believe that at last they have got it right; the balance of opinion that has just been reached will prevail forever.

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<sup>41</sup> See Crawford & Sen, *supra* note 12, at 7-10 (describing oldest references to derivatives).

<sup>42</sup> This may have been an early instance of the type of monopolization that is illegal under § 2 of the Sherman Act. See 15 U.S.C. § 2 (1994) (prohibiting any "person who shall monopolize . . . combine or conspire . . . to monopolize any part of the trade or commerce among the several States, or with foreign nations"). Another historical example of an options contract is from the book of Genesis, in which Jacob acquired the option to marry Rachel by working for seven years in her father Laban's fields. See Genesis 29: 18-21 (King James); see also William F. Sharpe, *Investments* 470 (3d ed. 1985) (describing biblical options). Unfortunately, Laban insisted that Jacob marry Leah because she was older than Rachel. Jacob did marry Leah. However, he also acquired a second option to marry Rachel by working for another seven years in Laban's fields. This was perhaps the first instance of a fraudulent option and certainly not the last example of how an option investment may involve unforeseen risks.

<sup>43</sup> See Dixit & Pindyck, *supra* note 12, at 24-25 (noting costs and risk aspects of marriage, suicide, and legal reform).

<sup>44</sup> *Id.* at 24.

<sup>45</sup> *Id.* at 24-25.

Therefore they will ignore future uncertainty and option values, and change the laws too frequently."<sup>46</sup>

Consider this hypothetical: Madonna is an entrepreneur who owns a sole proprietorship in the business of making vegetarian ham out of soybean meal. Madonna's profits depend on the price of her major input: soybean meal. Due to the variability of the price of soybean meal, Madonna buys a soybean meal call option, providing her with the right to buy 5000 bushels of soybean meal at \$10 per bushel at the end of six months. Exercising this option would cost Madonna \$50,000. The amount Madonna pays for this option is known as the option premium. Suppose Madonna's premium is \$5,000. In six months, if the market price of soybean meal exceeds \$10 per bushel, Madonna will exercise her option and purchase 5000 bushels of soybean meal at \$10 per bushel (below the market price). If the market price of soybean meal in six months is less than \$10 per bushel, Madonna will simply let her option expire and will be out just \$5,000 (her option premium).

### *B. Option Values of Lawsuits*

The simple but powerful observation that any lawsuit consists of a sequence of decisions underlies the option-pricing approach to the incentive to sue.<sup>47</sup> This approach, which views litigation from a multi-stage decision perspective, clearly underlies much of the recent schol-

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<sup>46</sup> Id. at 25.

<sup>47</sup> See Bradford Cornell, *The Incentive to Sue: An Option-Pricing Approach*, 19 J. Legal Stud. 173, 174 (1990) (introducing options approach to analyzing litigation investments). For other applications of options theories to legal rules and institutions, see also Ian Ayres & J.M. Balkin, *Legal Entitlements as Auctions: Property Rules, Liability Rules, and Beyond*, 106 Yale L.J. 703, 704 (1996) (citing recent articles deconstructing difference between liability rules and property rules in terms of different prices of options); Lucian Arye Bebchuk, *A New Approach to Corporate Reorganizations*, 101 Harv. L. Rev. 775 (same); William M. Landes, *Sequential Versus Unitary Trials: An Economic Analysis*, 22 J. Legal Stud. 99, 100 (1993) (arguing that sequential trials may decrease expected cost of litigation); Paul G. Mahoney, *Contract Remedies and Options Pricing*, 24 J. Legal Stud. 139, 143-44 (1995) (considering money damages for contract breach as an option); Frederick C. Dunbar et al., *Shareholder Litigation: Deterrent Value, Merits and Litigants' Options* (National Bureau of Econ. Research Working Paper No. 95-07-a, 1995) (analyzing shareholder class actions as options); Michael S. Knoll, *Put-Call Parity and the Development of the Modern Mortgage* (USC Law Center Working Paper No. 94-12, 1994) (analyzing mortgages as options); Lucian Arye Bebchuk, *The Options Approach to Corporate Reorganization* (March 1998) (unpublished manuscript, on file with the *New York University Law Review*) (applying options approach to the division of value in corporate reorganization); Jeff Strnad, *Taxes and Renewable Resources: The Impact on Exploration and Development* 5-10 (July 1996) (unpublished manuscript, on file with the *New York University Law Review*) (discussing impact of taxes on the options to drill for oil, to develop oil wells, and to begin oil production).

arly work applying options theory to lawsuits.<sup>48</sup> An options theory of litigation views a lawsuit like the soybean meal option considered above. Suppose that Madonna sells her vegetarian ham business so that she can attend law school and become a women's rights plaintiffs' attorney. Assuming that Madonna is a profit-maximizing individual, a simple decision rule will dictate which lawsuits she will accept. An options theory of the incentives for plaintiffs' attorneys to accept lawsuits explicitly models the series of options to continue a lawsuit, all of which must be exercised to avoid the defendant winning a default judgment. The typical model of litigation focuses on the incentives for the plaintiff to bring suit. However, as is the case with contingent fee arrangements,<sup>49</sup> class action suits,<sup>50</sup> and shareholder derivative suits,<sup>51</sup>

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<sup>48</sup> See C. Frederick Beckner, III & Steven C. Salop, *Issue Sequencing, Summary Disposition, and Optimal Legal Procedure* 8-25 (Apr. 18, 1995) (unpublished manuscript) (developing model of sequential legal procedure and determining optimal standards of summary disposition and optimal sequence of legal and factual issues which a court should analyze). Further, Professor Cornell's analysis extended an earlier literature in which litigation decisions were based solely on the present discounted value of costs and (expected) benefits. See Cornell, *supra* note 47, at 173. See generally John P. Gould, *The Economics of Legal Conflicts*, 2 J. Legal Stud. 279 (1973) (applying expected value approach to civil litigation); William M. Landes, *An Economic Analysis of the Courts*, 14 J.L. & Econ. 61 (1971) (applying expected value approach to criminal litigation); Richard A. Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. Legal Stud. 399 (1973) (applying expected value approach to civil and criminal litigation); Steven Shavell, *Suit, Settlement, and Trial: A Theoretical Analysis Under Alternative Methods for the Allocation of Legal Costs*, 11 J. Legal Stud. 55 (1982) (applying expected value approach to litigation under four legal systems). There have been several recent extensions of this literature. See Lucian Arye Bebchuk, *A New Theory Concerning the Credibility and Success of Threats to Sue*, 25 J. Legal Stud. 1 (1996) (developing model of credibility and success of threats to bring negative expected value suits); Lucian Arye Bebchuk, *On Divisibility and Credibility: The Effects of the Distribution of Litigation Costs over Time on the Credibility of Threats to Sue* (Harvard Law School, John M. Olin Center for Law, Economics, and Business Discussion Paper No. 190, 1996) (same); Dunbar et al., *supra* note 47, at 26-32 (applying options value perspective to plaintiffs' attorneys' approach to nuisance suits and securities litigation); Joseph A. Grundfest & Peter H. Huang, *Real Options and the Economic Analysis of Litigation: A Preliminary Inquiry*, 15, 17 (John M. Olin Program in Law and Economics Working Paper No. 131, 1996) (developing general real options theory of litigation).

<sup>49</sup> See James D. Dana, Jr. & Kathryn E. Spier, *Expertise and Contingent Fees: The Role of Asymmetric Information in Attorney Compensation*, 9 J.L. Econ. & Org. 349, 350 (1993) (discussing conflicts between incentives for clients and incentives for attorneys under contingency fee arrangements).

<sup>50</sup> See, e.g., John C. Coffee, Jr., *The Regulation of Entrepreneurial Litigation: Balancing Fairness and Efficiency in the Large Class Action*, 54 U. Chi. L. Rev. 877, 883 (1987) (discussing agency cost problem in large class actions); Jonathan R. Macey & Geoffrey P. Miller, *The Plaintiff Attorney's Role in Class Action and Derivative Litigation: Economic Analysis and Recommendations for Reform*, 58 U. Chi. L. Rev. 1, 41 (1991) (discussing incentive conflicts between representative plaintiffs and plaintiffs' attorneys in class actions).

<sup>51</sup> See A. F. Conard, *Winnowing Derivative Suits Through Attorney Fees*, 47 Law & Contemp. Probs. 269, 281-85 (1984) (discussing incentive conflicts in derivative suits).

the incentives for plaintiffs and plaintiffs' attorneys can diverge under a risk multiplier approach to fee awards.

Referring to our hypothetical, suppose that the risk multiplier for women's rights cases is 2 and Madonna's lodestar (the opportunity cost to file a women's rights suit and pursue it all the way to trial) is \$100,000. The traditional expected-value intuition underlying a plaintiffs' attorney's decision whether to accept a particular lawsuit is that she gives up \$100,000 by accepting this lawsuit, but has a probability ( $p$ ) of earning \$200,000, where  $p$  denotes the initial probability that the plaintiff will prevail at trial. Thus, under the traditional expected-value approach to litigation, Madonna's Expected Wealth (EW) from accepting a women's rights lawsuit is  $EW = \$200,000p - \$100,000$ .<sup>52</sup>

The value of  $p$  where EW equals zero,  $p^*$ , is Madonna's cutoff or threshold probability value for accepting a women's rights case. For the hypothetical values above, Madonna will accept a women's rights case when  $p$  equals at least  $1/2$ , or 50%. Madonna's decision rule is graphically depicted in Figure 1. A hypothetical distribution for  $p$  is represented by the downward sloping curve, and Madonna's cutoff  $p^*$  value is represented by the vertical line through  $p = p^*$ . Madonna will accept a women's rights case with  $p$  values to the right of and including  $p^*$  because her expected wealth from accepting such a lawsuit is nonnegative. Madonna will not accept a case with  $p$  values to the left of  $p^*$  because her expected fee award will not cover her opportunity cost of pursuing such a case to trial.

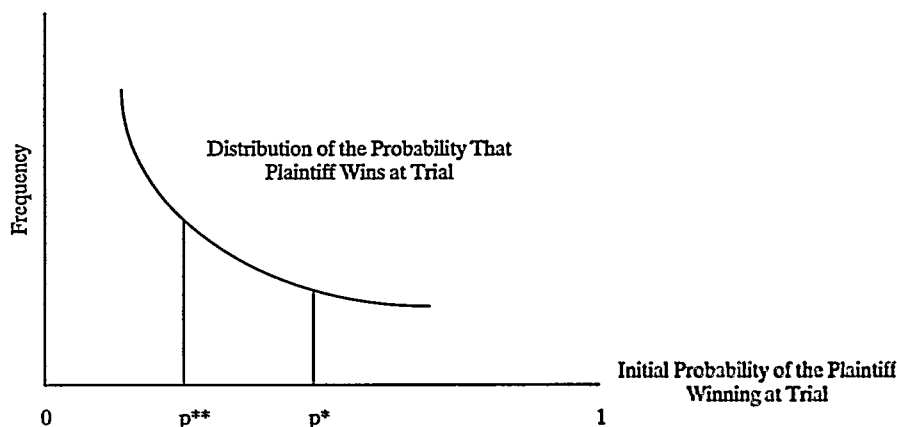
Notice that if the value of the judgment that a women's rights plaintiff can win at trial is positive and if the initial probability of her prevailing is positive, then a women's rights plaintiff will always want to initiate the lawsuit. This makes intuitive sense because the plaintiff in fee-shifting public interest litigation does not have to pay attorney's fees. Thus, the incentives of the public interest plaintiff and the public interest plaintiff's attorney differ because the attorney bears the risk of the plaintiff not winning at trial.<sup>53</sup>

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<sup>52</sup> An alternative way to calculate her expected wealth is to realize that there is a probability of  $p$  that she will receive net earnings of \$100,000, and there is a complementary probability of  $(1-p)$  that she will not get paid, meaning that she will receive net earnings of  $(-\$100,000)$ . Thus, her expected total wealth from undertaking this lawsuit is just the probability-weighted sum of her possible earnings, which is  $\$100,000p + (1-p)(-\$100,000)$ . This expression simplifies to  $\$200,000p - \$100,000$ .

<sup>53</sup> It might seem that a socially desirable policy would look to streamline the legal system by discouraging lawsuits in which the plaintiff initially has a low probability of winning at trial. However, a low initial probability of the plaintiff winning at trial does not necessarily mean that the case is meritless. The plaintiff may uncover favorable information through discovery, for example. Additionally, the socially optimal amount of public interest litigation should take into account the effects of possible lawsuits on the incentives of potential defendants to engage in activities that generate harm or injury. For a model of

FIGURE 1  
CUTOFF THRESHOLD PROBABILITY VALUES



Proposition 1:  $p^{**} < p^*$ , where

$p^*$ : Expected Value Probability Cutoff =  $1/M$

$p^{**}$ : Options Probability Cutoff =  $D/(ML-T)$

This traditional analysis, however, does not acknowledge the fact that a lawsuit actually involves a series of call options. Recall Madonna's soybean meal call option, where she had the right, but not the obligation, to buy 5000 bushels of soybean meal at \$10 per bushel. Madonna would let her option expire if the price of soybean meal at expiration is less than \$10 per bushel. Now that Madonna is a plaintiffs' attorney, her client has a litigation option. As long as the case survives the defense attorney's motions to dismiss, the plaintiff has the right, but not the obligation, to pursue the case to trial. If the plaintiff does not exercise this option to continue the case, then the defendant wins a default judgment.<sup>54</sup>

Although codes of professional responsibility and the norms of legal ethics dictate that the plaintiff owns the litigation option,<sup>55</sup> the decision whether or not to exercise the litigation option more realisti-

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these and other considerations in private litigation, see generally Steven Shavell, *The Fundamental Divergence Between the Private and Social Motive to Use the Legal System*, 26 *J. Legal. Stud.* 575 (1997).

<sup>54</sup> See Fed. R. Civ. P. 55(d).

<sup>55</sup> See Model Rules of Professional Conduct Rule 1.18(j) (1997) (stating that plaintiff's attorney "shall not acquire proprietary interest in the cause of action except for a reasonable contingent fee contract").

cally belongs to the public interest plaintiff's attorney.<sup>56</sup> As one commentator states:

[M]ost lawyers regard themselves as entrepreneurs and largely act accordingly. These lawyers regard what they are doing as earning a living or better. If a step on behalf of a client causes a decrease in the lawyer's income, this move predictably is regretted and, often, the lawyer attempts to avoid or frustrate such an action. If a step in litigation will increase income, then the average lawyer naturally is under an inducement to take such action and altruistic constraints, at best, will be in contention for the lawyer's loyalty but may not prevail. Consequently, the only apparent restraint on the lawyer's economic self-interest is client control over important moves in the representation. It might be believed that clients can regularly prevent their lawyers from taking steps that are not in the clients' interests but rather are dictated by lawyer self-interest in obtaining fees under fee-shifting arrangements. Client control, however, probably does not work effectively and, actually, is unlikely to occur in fee-shifting situations.<sup>57</sup>

Furthermore, the plaintiff's attorney (almost always) has more specialized legal knowledge, litigation experience, and effective control over case management than the plaintiff. As Professor Wolfram states:

The sources of lawyer power in the relationship are many and complex, but chiefly consist of information monopolies, better access to levers of effective power such as judges and court officials, and skill in negotiating with clients through threats, dire forecasts of probable alternative outcomes, and similar psychological pressures.<sup>58</sup>

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<sup>56</sup> See Charles W. Wolfram, *The Second Set of Players: Lawyers, Fee Shifting, and the Limits of Professional Discipline*, 47 *Law & Contemp. Probs.* 293, 296-97 (1984) ("Scholars who study the legal profession have been reporting for some time that lawyers regularly depart from the professional model of client control and make critical decisions on their own in . . . civil representations.").

<sup>57</sup> *Id.* at 295-96. The balance between attorney and plaintiff ownership of lawsuits is further complicated by the method of payment:

Concern for reputation aside, if the attorney were paid either a fixed fee or an hourly fee, then she would have little financial incentive to reveal to her client that the case had a low expected return. Instead, she might lead the plaintiff blindly into litigation regardless of the case's merit. When the attorney is paid a contingent fee, however, then she will act in her clients' interest and pursue only those cases with a sufficiently high expected return.

Dana & Spier, *supra* note 49, at 350.

<sup>58</sup> Wolfram, *supra* note 56, at 297. In addition, plaintiffs' attorneys have the option to withdraw from representing the plaintiff, although the exercise of this option requires court approval. See Model Code of Professional Responsibility DR 2-110 (1980); Model Rules of Professional Conduct Rule 1.16 (1997). Withdrawal is "something that is granted in the great majority of cases but that occasionally may be denied, especially if opposed by the client, or else granted with an unwelcome public tongue-lashing. Moreover, the attorney may want to avoid getting a reputation as someone who abandons clients in midcase."

For example, a plaintiffs' attorney may be able to convince the plaintiff not to exercise the option to continue the suit by framing the choice in a certain way.<sup>59</sup> These well-known moral hazard problems are exacerbated if the suit is a class action, as is often the case in public interest litigation. However, reliance by plaintiffs on their attorney's recommendations about whether to continue a suit may be socially desirable. Naturally, litigation options are not free to plaintiffs' attorneys, who must research the cases, write briefs, appear in court, and conduct discovery. A plaintiffs' attorney cares about the marginal or incremental costs incurred at each stage in the litigation process because these are the prices which she must pay to exercise her options to continue the suit. Madonna would recommend dropping the case at the first point in time at which future litigation costs exceed Madonna's expected fee award.

To illustrate the option value in litigation within the simplest possible framework, suppose that lawsuits can be divided into two periods: discovery and trial. Prior to the first period, the plaintiff has filed suit and initial motions, but has not yet engaged in any real discovery. Legal fees up to then are small enough in comparison to the sizable and irreversible amounts incurred by discovery that they can be assumed for simplicity to be zero. Madonna's first decision is whether to incur those discovery costs. Regardless of her choice, Madonna is not locked into proceeding with a trial merely because she decided to engage in discovery. In fact, discovery results in gathering information and updating the probability that the plaintiff may win at trial. For simplicity, assume that discovery completely resolved the uncertainty over the actual merits of a case. Thus, after discovery, both sides of a case will know that the probability of the plaintiff winning at trial is either zero or one.

Next, Madonna has to make her second choice, namely whether to incur the sizable and irreversible costs of trial, drop the case unilat-

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Geoffrey P. Miller, *Some Agency Problems in Settlement*, 16 *J. Legal Stud.* 189, 212 (1987).

<sup>59</sup> There are well-known "framing effects" that cognitive psychologists have discovered in human decisionmaking. See, e.g., Beth E. Meyerowitz & Shelly Chaiken, *The Effect of Message Framing on Breast Self-Examination: Attitudes, Intentions, and Behavior*, 52 *J. Personality & Soc. Psychol.* 500, 505-07 (1987) (finding in study of breast self-examinations that pamphlets describing positive effects of self-examinations are ineffective, while pamphlets stressing negative effects of failing to undertake self-examinations lead to behavioral change). For two recent applications of framing effects to the law, see generally Mark Kelman et al., *Context-Dependence in Legal Decision Making*, 25 *J. Legal Stud.* 287 (1996) (presenting experimental evidence of context dependence in legal judgments); Edward J. McCaffery et al., *Framing the Jury: Cognitive Perspectives on Pain and Suffering Awards*, 81 *Va. L. Rev.* 1341 (1995) (finding gain versus loss framing has large impact on size of nonpecuniary damage awards).

erally, or accept a bilaterally agreed upon settlement amount. The option value of litigation can be quite large, and leads to different values for the cutoff or threshold initial probability of the plaintiff winning at trial than if litigation is evaluated only by the expected value of the potential trial outcomes.

To be specific, suppose that total litigation costs of \$100,000 can be divided into two components: \$50,000 of discovery costs and \$50,000 of trial costs. Recall that Madonna will only pursue a case to trial if, after discovery, the probability of the plaintiff winning at trial is revealed to be one. Thus, Madonna's Revised Expected Wealth (REW) from an *ex ante* viewpoint for accepting a lawsuit with an initial probability of the plaintiff prevailing at trial of  $p$  is given by this expression:  $REW = p(\$200,000 - \$50,000) - \$50,000 = p(\$150,000) - \$50,000$ . The options-based threshold cutoff for the initial probability of the plaintiff winning,  $p^{**}$ , is determined by solving for  $p$  upon setting  $REW = 0$ . Thus,  $p^{**} = \$50,000/\$150,000 = 1/3 = 33.3\%$ . Recall that the traditional cutoff was  $p^* = 1/2$ , or 50%. Thus, the options-based cutoff is lower than the traditional expected-value-based cutoff, and Madonna is willing to accept more cases when the option value in lawsuits is taken into account.

The option value of litigation can be further illustrated by considering a case where the probability of the plaintiff winning at trial is  $p = 2/5 = 40\%$ . Madonna's traditional (that is, nonoption) Expected Wealth, EW, from such a case is  $(2/5)(\$200,000 - \$100,000) + (3/5)(-\$100,000) = (2/5)(\$100,000) + (3/5)(-\$100,000) = \$40,000 - \$60,000 = -\$20,000 < 0$ . Madonna would not accept such a case. This is confirmed by her decision rule to accept only those cases with  $p = p^* = 1/2 = 50\%$ . Madonna's Revised (taking into account options value) Expected Wealth, REW, from such a case is  $(2/5)(\$200,000 - \$50,000) - (\$50,000) = (2/5)(\$150,000) - (\$50,000) = \$60,000 - \$50,000$ , or  $\$10,000 > 0$ . Madonna would choose to accept such a case. This is confirmed by her decision rule to accept only those cases with  $p = p^{**} = 1/3 = 33.3\%$ . This example shows how an options-based perspective leads Madonna to accept some cases (namely all those cases with a probability of the plaintiff winning at trial between 33.3% and 50%) which she would not have accepted if she used an expected-value perspective which ignored the option value of litigation.

### III

#### AN OPTIONS APPROACH TO RISK MULTIPLIERS

Existing analyses of risk multipliers often focus on comparing the lodestar multiplier and the percentage-of-recovery methods of award-



ing attorney's fees.<sup>60</sup> These discussions implicitly view the plaintiffs' attorney as making one irreversible decision: to accept the case and proceed all the way to trial or to refuse the case. Litigation, however, is not a once-and-for all decision, involving instead a series of sequential decisions.<sup>61</sup> An options perspective on plaintiffs' attorney's incentives also provides insights into what values risk multipliers should have and how they vary with the initial probability of the plaintiff winning, the costs of discovery, and the costs of trial. These results are formally developed in the Appendix.

### A. *Options-Based Risk Multipliers*

Recall that the traditional expected-value based risk multiplier is simply the reciprocal of the initial probability of the plaintiffs prevailing.<sup>62</sup> Clearly, the traditional risk multiplier falls as  $p$  rises. In addition, there is a boundary condition on how large the multiplier,  $M^*$ , can be, assuming that it is feasible to determine the social value,  $V$ , of a case independent of the initial probability of the plaintiff winning. It is only socially optimal to litigate those cases with value  $V$  if  $pV > L$ , or  $V > L/p$ . Here,  $L$  is as defined in the Appendix, the opportunity cost to a plaintiffs' attorney of accepting this case, in other words, the lodestar figure. Thus,  $M^* = 1/p < V/L$  is the boundary condition the multiplier must satisfy. Intuitively, if the multiplier gets too large ( $M^* > V/L$ ), then plaintiffs' attorneys will bring suits even though it is socially undesirable to do so because the expected social value is less than the cost of litigation ( $pV < L$ , or  $L/p > V$ ). Notice that if  $J$  denotes the judgment which the plaintiff would win at trial, then  $J < V$

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<sup>60</sup> See, e.g., Lynk, *supra* note 10, at 187 (contrasting percentage-of-recovery agreements often made between plaintiffs and attorneys with lodestar formula ordinarily used by courts in awarding attorney's fees); William J. Lynk, *The Courts and the Market: An Economic Analysis of Contingent Fees in Class-Action Litigation*, 19 J. Legal Stud. 247, 256-59 (1990) (summarizing calculation of federal class action fee awards).

<sup>61</sup> See *supra* Part II.B (analyzing litigation as series of discrete stages).

<sup>62</sup> See *supra* note 10 and accompanying text. A similar damage multiplier that offsets the probability of nonenforcement has a long history. For various reasons why the damage multiplier should not be simply the reciprocal of the probability of enforcement, see John E. Calfee & Richard Craswell, *Some Effects of Uncertainty on Compliance with Legal Standards*, 70 Va. L. Rev. 965, 994-97 (1984) (arguing that strict relationship oversimplifies calculation); Richard Craswell, *Damage Multipliers in Market Relationships*, 25 J. Legal Stud. 463, 465-66, 468, 473 (1996) (arguing that other factors, such as risk aversion of defendant, need to be considered); Richard Craswell & John E. Calfee, *Deterrence and Uncertain Legal Standards*, 2 J.L. Econ. & Org. 279, 292-97 (1986) (showing that multiplier may be inappropriate even when enforcement costs are fixed or absent); Richard Craswell, *When is a Willful Breach 'Willful'? General vs. Specific Deterrence in Contract Remedies* 53-55 (May 11, 1996) (unpublished manuscript on file with *New York University Law Review*).

usually holds with public interest cases. Also, notice the plaintiff in public interest cases has an incentive to bring all cases with  $pJ > 0$ .

In terms of Madonna's numerical example,<sup>63</sup> if the average probability of winning at trial for a class of lawsuits is  $p = 1/2$ , then the traditional expected-value risk multiplier  $M^* = 1/p = 2$ . An options-based risk multiplier  $M^{**}$  is calculated by setting Madonna's Revised Expected Wealth (REW) equal to zero. Madonna's REW when the risk multiplier is  $M^{**}$  is given by this expression:  $REW = p(\$100,000M^{**} - \$50,000) - \$50,000$ . Setting this expression equal to zero results in  $M^{**} = [p(\$50,000) + \$50,000]/\$100,000p$ . Thus, if the average probability for a class of lawsuits is  $p = 1/2$ , then an options-based risk multiplier is expressed as follows:  $M^{**} = [(1/2) (\$50,000) + \$50,000]/(1/2) (\$100,000)$ , or  $\$75,000/\$50,000 = 3/2 = 1.50$ .

In the Appendix, the result that  $M^{**} > 1$  in general as long as  $p < 1$  is formally demonstrated. It makes intuitive sense that the options-based risk multiplier exceeds one for lawsuits where the initial probability of the plaintiff winning at trial is less than one; however, for a lawsuit where the plaintiff is initially certain to win, there is no need for a multiplier larger than one.

How does  $M^{**}$  compare with  $M^*$ ? Intuitively, the options-based risk multiplier falls because plaintiffs' attorneys only decide to spend  $T$  when there is no risk of nonpayment, where  $T$  is the part of the plaintiffs' attorney's litigation costs that would be incurred at trial. In other words, the risk multiplier falls when the option value of discovery is taken into account. Figure 2 depicts this result. In the Appendix, the result that  $M^{**} < M^*$  is formally demonstrated. This makes sense because in a two-stage options-based model, only the investment cost of discovery involves a risk of loss. The cost of trial is only incurred upon learning that the probability of the plaintiff winning at trial is one, so there is no risk of loss regarding trial costs which needs to be offset.

As with the traditional approach to risk multipliers, there is a boundary condition (which is derived in the Appendix) on how large  $M^{**}$  can become. Intuitively, if the multiplier gets too large, plaintiffs' attorneys will file lawsuits even though it is socially undesirable to do so because the expected social value is less than the expected cost of litigation.

### *B. Option Values for Settling Lawsuits*

The analysis derived in the Appendix and illustrated in Part II.B concluded that plaintiffs' attorneys have a greater incentive to accept

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<sup>63</sup> See *supra* Part II.B.

lawsuits than previously believed under an expected-value analysis. The formal reason for this result is that the option to continue a lawsuit after discovery resolves uncertainty concerning that lawsuit at a mere fraction of the cost of pursuing the lawsuit all the way to trial.<sup>64</sup> The analysis thus far has ignored the possibility of settlement.<sup>65</sup> This Part discusses an options approach to settlement and concludes that an options perspective increases or does not affect the settlement rate from that of an expected-value perspective. This result may be a cause for concern if settlement is undesirable.<sup>66</sup>

Although plaintiffs are statutorily entitled to recover attorney's fees if they settle instead of win at trial,<sup>67</sup> plaintiffs may waive these fee awards during negotiation.<sup>68</sup> Further, in *Marek v. Chesny*,<sup>69</sup> the

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<sup>64</sup> See *supra* Part II.B.

<sup>65</sup> For further analysis of economic approaches to settlement, see Andrew F. Daughety, Settlement, in *Encyclopedia of Law and Economics* (B. Bouckaert & G. DeGeest eds., forthcoming 1998) (surveying asymmetric information game-theoretic models of pretrial settlement); Geoffrey P. Miller, Settlement of Litigation: A Critical Retrospective, in *Reforming the Civil Justice System* 13, 14-19 (Larry Kramer ed., 1996) (reviewing law and economics literature on settlement and litigation in general).

<sup>66</sup> Two main arguments have been made against settlement. The first is based on concerns that justice requires the process of a public trial. See Albert W. Alschuler, *Mediation with a Mugger: The Shortage of Adjudicative Services and the Need for a Two-Tier Trial System in Civil Cases*, 99 Harv. L. Rev. 1808, 1820 (1986) (arguing that "Americans currently settle many of their disputes for the wrong reasons"); Jules Coleman & Charles Silver, *Justice in Settlements*, Soc. Phil. & Pol'y 102, 106-08 (1986) (arguing that settlements are undesirable because they may strain justice in our society); Owen M. Fiss, *Against Settlement*, 93 Yale L.J. 1073, 1075 (1984) (arguing that settlement is "a highly problematic technique for streamlining dockets"). The second set of arguments is based on economic concerns over judicial precedents being public goods, see Richard A. Posner, *The Federal Courts: Crisis and Reform* 10 (1985) (arguing that judicial precedents have significant external benefits as public goods), and efficiency concerns about the under-enforcement of laws, see Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. Legal Stud. 307, 323 (1994) (arguing that socially optimal system of regulation must internalize process of enforcement itself); A. Mitchell Polinsky & Daniel L. Rubinfeld, *The Deterrent Effects of Settlements and Trials*, 8 Int'l Rev. L. & Econ. 109, 110 (1988) (suggesting disparate effects of trials and settlements on deterrence). For a discussion of both the justice based and economic critiques of settlement, see generally Miller, *supra* note 65, at 21-25.

In addition, there are process concerns about settlement. See Frank Michelman, *Law's Republic*, 97 Yale L.J. 1493 (1988) (arguing that settlement prevents civic engagement and formation of community relationships); Judith Resnik et al., *Individuals within the Aggregate: Relationships, Representation, and Fees*, 71 N.Y.U. L. Rev. 296, 320 (1996) (expressing concerns about preventing victims and accused from publicly telling their respective stories); Eric Talley, *Liability-Based Fee-Shifting Rules and Settlement Mechanisms Under Incomplete Information*, 71 Chi.-Kent L. Rev. 461, 498 (1995) (arguing that "process" concerns make normative value of settlement questionable). All of these concerns apply to civil rights litigation, and indeed may be more important for civil rights than for private litigation.

<sup>67</sup> See, e.g., 42 U.S.C. § 1988 (1994).

<sup>68</sup> See *Evans v. Jeff D.*, 475 U.S. 717, 742-43 (1986) (holding that "District Court did not abuse its discretion in upholding a fee waiver"); *Moore v. National Ass'n of Sec. Dealers*,

Supreme Court construed Federal Rule of Civil Procedure 68<sup>70</sup> to mean that a civil rights plaintiff who rejects a settlement offer exceeding the amount later recovered at trial is not entitled to an award for attorney's fees incurred after the date of rejection of that offer.<sup>71</sup>

The implications of an options perspective on settlement depend on whether the plaintiff or the plaintiff's attorney is in charge of the settlement decision.<sup>72</sup> As with trial decisions generally,<sup>73</sup> the discussion here considers the situation in which the plaintiff's attorney is actually in control of the decision to settle,<sup>74</sup> even though legally and ethically, the plaintiff's attorney "shall abide by a client's decision whether to accept an offer of settlement of a matter."<sup>75</sup> In fact, "studies indicate that many lawyers give little deference to clients on such

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762 F.2d 1093, 1110 (D.C. Cir. 1985) (emphasizing voluntariness as prerequisite to fee waivers); Cynthia M. Culton, Comment, Voluntary Fee Waivers During Simultaneous Negotiation of Merits and Attorney's Fees in Title VII Class Actions: *Moore v. National Association of Securities Dealers, Inc.*, 7 U. Bridgeport L. Rev. 361, 370 (1986) (discussing policies of and problems created by fee waiver opinion in *Moore*).

<sup>69</sup> 473 U.S. 1 (1985).

<sup>70</sup> Fed. R. Civ. P. 68.

<sup>71</sup> See *Marek*, 473 U.S. at 10-11; Jean R. Sternlight, The Supreme Court's Denial of Reasonable Attorney's Fees to Prevailing Civil Rights Plaintiffs, 17 N.Y.U. Rev. L. & Soc. Change 535, 566-68 (1989-1990) (discussing *Marek*); see also David A. Anderson, Improving Settlement Devices: Rule 68 and Beyond, 23 J. Legal Stud. 225, 229 (1994) (analyzing bargaining game under Rule 68); Tai-Yeong Chung, Settlement of Litigation Under Rule 68: An Economic Analysis, 25 J. Legal Stud. 261, 265, 279-80 (1996) (analyzing incentives under Rule 68); Geoffrey P. Miller, An Economic Analysis of Rule 68, 15 J. Legal Stud. 93, 121-23 (1986) (discussing distributional and settlement effects of combining Rule 68 with fee-shifting statutes); Kathryn E. Spier, Pretrial Bargaining and the Design of Fee-Shifting Rules, 25 Rand J. Econ. 197, 200-02 (1994) (same).

<sup>72</sup> The effects of fee-shifting and settlement rules on the attorney-client relationship are well documented. See, e.g., John C. Coffee, Jr., Understanding the Plaintiff's Attorney: The Implications of Economic Theory for Private Enforcement of Law Through Class and Derivative Actions, 86 Colum. L. Rev. 669, 691, 717-19 (1986) (explaining how lodestar formula precipitates collusion between defendants and plaintiffs' attorneys because it decouples settlement figure and fee award); Grundfest & Huang, *supra* note 48, at 15, 17 (noting that settlement option can be decoupled into two separate options, an option based on merits and another based on litigation costs). Attorney's fee awards based on the lodestar figure mean that plaintiffs' attorneys share their clients' downside risk, but not their potential for upside gain of recovery from trial. See Coffee, *supra*, at 717-18. This option creates an incentive for plaintiffs' attorneys to accept settlements that plaintiffs would not accept themselves. For an analysis of the effects on settlement of alternative fee arrangements and allocations of settlement power between plaintiffs and plaintiffs' attorneys, see Miller, *supra* note 58, at 204-15.

<sup>73</sup> See *supra* notes 56-59 and accompanying text (discussing decision whether to go to trial in situations where plaintiffs' attorneys control that decision *de facto*).

<sup>74</sup> For an analysis of the situation in which the plaintiff is actually in control of the decision to settle, see Grundfest & Huang, *supra* note 48, at 17 (developing general real options model of litigation). Note that, in most cases, neither the plaintiff nor the plaintiff's attorney completely controls the settlement decision.

<sup>75</sup> Model Rules of Professional Conduct Rule 1.2(a) (1997).

critical matters as when to settle a case and how vigorously to contest it."<sup>76</sup> Plaintiffs' attorneys often have de facto control over the decision to settle, especially in shareholder derivative suits and class actions, where the named plaintiffs are mere figureheads.<sup>77</sup> Even in other types of lawsuits, plaintiffs' attorneys may effectively control the settlement decision because of their greater legal knowledge, familiarity with the lawsuit's progress, or time spent on the case. An example of the attempt to give plaintiffs more control over the settlement decision is the rule in some jurisdictions that lawyers are not permitted to discuss or negotiate the fee award as part of settlement negotiations in lawsuits which involve a court-awarded fee.<sup>78</sup> This rule, however, has been rejected by some courts,<sup>79</sup> and the analysis below considers the situation in which court-awarded fees are part of the settlement negotiations.

This section considers the possibility of settlement using the simple numerical example of Part II.B, where the plaintiff's attorney has control over the plaintiff's decision to settle and court-awarded fees are part of the settlement negotiations. Filing a suit and surviving a defendant's motion to dismiss<sup>80</sup> allows a plaintiff to engage in discovery. The process of discovery provides the plaintiff's attorney with an opportunity to conduct research and develop a case further if it looks promising (in terms of an expected judgment or a settlement), but to recommend that the plaintiff not continue with the case if it does not look promising. Assume that after discovery, there is common knowledge of the probability of the plaintiff prevailing at trial. Even though both sides know either that the probability of the plaintiff winning is zero or one, this information may not be verifiable to a third party, such as a court.

If both sides know after discovery that the probability of the plaintiff winning is zero, the plaintiff's attorney does not have a credible threat to go to trial, and the settlement is zero. However, suppose

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<sup>76</sup> Wolfram, *supra* note 56, at 297.

<sup>77</sup> Additionally, there is always the possibility of unethical plaintiffs' attorneys who fail to inform plaintiffs of defendants' settlement offers. Such unscrupulous conduct is hard for defendants' attorneys to detect because of the requirement that defendants' attorneys can only communicate with the plaintiff via the plaintiffs' attorneys. See Model Code of Professional Responsibility DR 7-104 (1980); Model Rules of Professional Conduct Rule 4.2 (1997).

<sup>78</sup> See *Prandini v. National Tea Co.*, 557 F.2d 1015, 1021 (3d Cir. 1977) ("Only after court approval of the damage settlement should discussion and negotiation of appropriate compensation for the attorneys begin.").

<sup>79</sup> See, e.g., *Folsom v. Butte County Ass'n of Gov'ts*, 652 P.2d 437, 446 (Cal. 1982) (rejecting bifurcation of fee and settlement discussions).

<sup>80</sup> See Fed. R. Civ. P. 12(b). Generally, modern liberal rules of pleading are designed to allow the survival of a fairly broad class of claims.

that after discovery, both sides know that the probability of the plaintiff winning is one. Then the plaintiff's attorney would receive a net award of  $ML-L$  or  $(M-1)L$  after spending an additional  $T$  after discovery.<sup>81</sup> A defendant would have to offer a settlement including at least  $(M-1)L-T$  in plaintiff's attorney's fees if the plaintiff's attorney is in control of the settlement decision. By making that settlement offer, the defendant would save  $J+D_i$ , where  $D_i$  is the defendant's cost of trial and, as before,  $J$  is the monetary judgment which the plaintiff is expected to win at trial. Thus, it is individually rational for a defendant in common-fund litigation to make a settlement offer in attorney's fees of at least  $(M-1)L-T$  if  $J+D_i > (M-1)L-T$ . Clearly, the smaller  $M$  is, the more likely this is to hold. Because  $M^{**} < M^*$ , a settlement offer is more likely when the risk multiplier is determined after taking into account the option to continue the case after discovery. In terms of the numerical example in Part II.B and above, the condition with a traditional risk multiplier is  $J+D_i > \$50,000$ , while the condition with an options-based risk multiplier is  $J+D_i > \$0$ , which clearly will always be met.

In fee-shifting cases, defendants save  $J+D_i+ML$  by settling, so that it is rational for individual defendants in such cases to make a settlement offer in attorney's fees of at least  $(M-1)L-T$  whenever  $J+D_i+ML > (M-1)L-T$ , or if  $J+D_i > -L-T$ , which is always larger than zero because  $L$  and  $T$  are larger than zero. While this might appear to be surprising, the intuition underlying this result is that the attorney's fee award of  $ML$  appears symmetrically as part of the mathematical expressions for both the lower and upper bounds of the settlement bargaining range between the defendant and the plaintiff's attorney.

The above analysis considered the settlement decision after discovery when the plaintiff's attorney had control over that decision. To consider that same decision before discovery requires a consideration of discovery costs. It is often true that discovery costs are asymmetric between plaintiff and defendant. When the plaintiff is an individual and the defendant is a corporation, for example, the defendant's cost of complying with the plaintiff's discovery requests for nonprivileged, relevant documents can be quite substantial.<sup>82</sup> There is clearly a potential for abusing the discovery process as the plaintiff enjoys the

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<sup>81</sup>  $(M-1)L > 0$  because  $M > 1$  as long as the initial probability the plaintiff would prevail was less than one.

<sup>82</sup> Under Fed. R. Civ. P. 26(b)(1), the scope of discovery is quite broad and includes information not admissible at trial, so long as the information requested "appears reasonably calculated to lead to the discovery of admissible evidence." *Id.*

benefits of discovery while the defendant bears the discovery costs.<sup>83</sup> Even if the discovery request generates benefits exceeding its costs, two different parties receive the benefits and bear the costs of discovery.<sup>84</sup> Thus, even when the discovery request is socially desirable (in the sense that its benefits exceed its costs), it provides a small plaintiff with an advantage over a large defendant akin to a model of negative expected-value suits.<sup>85</sup> Although both sides can make discovery requests, an individual plaintiff may not incur much cost in complying with discovery requests because she lacks "truckloads" of documents. On the other hand, a corporate defendant could bury a plaintiff under an avalanche of documents.<sup>86</sup> Regardless of the size of the discovery costs, they must be taken into account by both sides' attorneys in their litigation planning.

Internalizing these costs of discovery, the plaintiff's attorney realizes that after discovery she will be able to earn  $ML - T$  with an ex ante probability of  $p$  by spending  $D$  on discovery. The defendant would have to offer a settlement involving at least  $p(ML - T) - D$  in plaintiff's attorney's fees. By making that settlement offer, the defendant would save  $p(J + D_i) + D_d$ , where  $D_d$  is the defendant's cost of discovery. Thus, it is rational for the individual defendant in common fund litigation to make a settlement offer of at least  $p(ML - T) - D$  if  $p(J + D_i) + D_d > p(ML - T) - D$ . As with prediscovery settlement offers, this is more likely to hold the smaller  $M$  is, and, because  $M'' < M^*$ , it is more likely when the risk multiplier is determined after taking into account the plaintiff's attorney's option to continue the case after discovery. In terms of the numerical example above, the condition with a traditional risk multiplier is  $p(J + D_i) + D_d > p(\$150,000) - \$50,000$ , while the condition with an options-based risk multiplier is  $p(J + D_i) + D_d > p(\$100,000) - \$50,000$ .

In fee-shifting cases, defendants expect to save  $p(J + D_i) + D_d + pML$  by settling, so that it is individually rational for defendants in such cases to make a settlement offer in attorney's fees of at least

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<sup>83</sup> Fed. R. Civ. P. 26(b)(2)(iii) limits discovery to requests whereby compliance does not impose a burden that is likely to outweigh the benefits, while Fed. R. Civ. P. 26(g)(3) allows courts to impose appropriate sanctions for violations.

<sup>84</sup> For an in-depth analysis of the discovery game, see generally Robert D. Cooter & Daniel L. Rubinfeld, *An Economic Model of Legal Discovery*, 23 *J. Legal Stud.* 435, 438 (1994).

<sup>85</sup> See D. Rosenberg & S. Shavell, *A Model in Which Suits are Brought for Their Nuisance Value*, 5 *Int'l Rev. L. & Econ.* 3, 4-6 (1985) (explaining nuisance suits where defendant incurs substantial costs before plaintiff incurs any costs).

<sup>86</sup> The cost of complying with discovery requests is an example of how the litigation process can mirror the phenomenon known in the economics literature as raising rivals' costs. See, e.g., Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 *Yale L.J.* 209, 230-31 (1986).

$p(ML-T)-D$  whenever  $p(J+D_t)+D_d+pML > p(ML-T)-D$ , or if  $p(J+D_t)+D_d > -pT-D$ . This inequality is unaffected by the value of the multiplier  $M$  and always holds because its left-hand side is always positive, while its right-hand side is always negative. Thus, there will be immediate settlement, which is not surprising given knowledge about litigation costs and the initial probability of the plaintiff winning at trial. Notice that if the two sides' beliefs and expectations about the probability of the plaintiff winning at trial differ enough initially to satisfy the above inequality, but coincide after discovery, then both sides initially will engage in discovery instead of settling immediately. After discovery, the prior analysis of settlement then applies.

In conclusion, the likelihood of settlement is either unaffected (in fee-shifting cases) or greater (in common fund litigation) both before and after discovery once the option value of discovery is recognized than when that option value is ignored.

#### IV

#### PROPOSED AND POSSIBLE REFORMS

One of the principal findings of this Article, namely that an options perspective leads to a lower risk multiplier than the traditional multiplier, suggests three considerations in reforming the current system. First, calculating the precise risk multiplier, namely  $M^{**} = (D+pT)/pL$ , requires detailed knowledge about the specifics of a class of cases, namely discovery costs, trial costs, and the plaintiff's probability of winning at trial. Courts may not be equipped to determine the values of these parameters.<sup>87</sup> Second, the Supreme Court, perhaps for ideological reasons and certainly for reasons of administrative simplicity, moved in the right direction when it chose a value of only one for the risk multiplier, but it undoubtedly failed to choose an options-based risk multiplier value. Third, any reform of the current system must include the possibility of improving on a multiplier of one while keeping the informational burdens on courts low. One option is further empirical investigation to determine whether, in order to minimize social costs of error, we should choose a multiplier of 1.3, 1.4, or something else. Regardless of the number chosen, it should be a constant for the courts, at least for particular specialties within federal civil rights practice. The current diversity and complexity of federal civil rights practice suggest that the Supreme Court should break from its tradition of treating attorney's fees issues broadly, regardless of the

<sup>87</sup> See Herbert M. Kritzer, *Let's Make a Deal: Understanding the Negotiation Process in Ordinary Litigation* 58-59 (1991) (discussing empirical work documenting difficulty in quantifying value of litigation claims).



manifold varieties of federal civil rights practice.<sup>88</sup> Another possibility is to devise some rule of thumb or simple algorithm for courts or an administrative agency to use in setting multipliers. The formula derived in the Appendix of this Article could serve as an approximation for a more realistic (but also more informationally demanding) risk multiplier formula when there are more than two stages of litigation.

## V

### ECONOMIC ISSUES RELATED TO PUBLIC INTEREST RISK MULTIPLIERS

The options theory of civil rights risk multipliers extends the traditional expected-value approach to civil rights multipliers by taking seriously the simple observation that litigation is not instantaneous, but instead occurs over time.<sup>89</sup> As an extension of the traditional law and economics approach to litigation, the options-based approach to risk multipliers presented in this Article raises a host of other economic issues. This Part of the Article surveys these related economic issues, as they are important for deciding how to reform the law so that the private enforcement of federal civil rights, especially nonpecuniary rights, is a reality and not an illusory promise. In particular, this Part will consider the validity and robustness of a set of assumptions that generally underlie economic analyses of risk multipliers.

In order to construct an appropriate calculation of risk multipliers, one must first determine the purpose of attorney fee awards. In *Henry v. Webermeier*,<sup>90</sup> Judge Posner wrote that "the object of judicial fee determination is to simulate the results that would obtain if the lawyer were dealing with a paying client . . . ."<sup>91</sup> This perspective suggests an attempt on the part of the judiciary to mimic the market for lawyers who are paid regardless of whether they prevail. The apparent simplicity of this approach belies the many economic issues related to determining risk multipliers. For example, there is no comparable market to use as a benchmark because hourly rate billing is typically not contingent, while contingent fee arrangements typically

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<sup>88</sup> See Davies, *supra* note 4, at 263 (suggesting need for Congress and federal courts to narrow their focus when considering reforms).

<sup>89</sup> See *id.* at 261 ("Payment of an hourly rate following five to seven years of difficult litigation, and then only if one prevails, is not the equivalent of an hourly rate paid monthly regardless of the litigation outcome.").

<sup>90</sup> 738 F.2d 188 (7th Cir. 1984).

<sup>91</sup> *Id.* at 195. Professor Silver agrees, stating that "[f]ees equal to those that lawyers ordinarily receive from paying clients further the goal of enabling parties to secure counsel sufficiently well." Charles Silver, *Incoherence and Irrationality in the Law of Attorneys' Fees*, 12 *Rev. Litig.* 301, 310 (1993).

calculate fees as a percentage of the dollar amount recovered as opposed to hourly rates.

The policies advanced by fee-shifting can be divided into three categories: litigant incentives, equity, and externalities.<sup>92</sup> These same three concerns arise regarding the hypothetical market outcome that risk multipliers allegedly attempt to replicate. Professor Shavell has identified six issues that address these categories of concerns, all of which need to be internalized in a policy analysis of risk multiplier value.<sup>93</sup>

First, the risk multiplier should be the reciprocal of the probability of not losing a case, as opposed to the reciprocal of the initial probability of winning a case at trial.<sup>94</sup> The reciprocal figure should thus take settlement into account by adding the probability of settlement to the probability of winning a case.<sup>95</sup> Because litigation occurs in discrete stages and the probabilities of settlement or victory at trial vary over the lifetime of a case, a multiplier can be computed at each stage as the reciprocal of the probability at that stage of eventually winning or settling.<sup>96</sup> Such a sequence of multipliers can be approximated in practice by a suitably weighted average of the initial and final multipliers.<sup>97</sup> This Article applies the implications of the sequential nature of litigation to the valuation of risk multipliers and to the incentives for plaintiffs' attorneys to accept cases.<sup>98</sup>

Second, market rates already implicitly embody some risk of non-payment.<sup>99</sup> A multiplier which ignored this fact would include a double counting of the risk factor already subsumed in determining the reasonable hourly rate.<sup>100</sup> This moral hazard problem raises a more general issue, namely that attorneys endogenously choose effort levels. The traditional multiplier distorts that choice by directing more time into low probability cases than otherwise would be true. This effect is not necessarily socially undesirable because low

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<sup>92</sup> See generally Thomas D. Rowe, Jr., *The Legal Theory of Attorney Fee Shifting: A Critical Overview*, 1982 Duke L.J. 651, 652 (analyzing rationales for adopting fee shifting system).

<sup>93</sup> See Affidavit of Steven M. Shavell at 2-3, *In re Burlington Northern, Inc., Employment Practices Litigation*, Nos. MDL 374, 78 C 269, 1985 WL 1808 (N.D. Ill. May 31, 1985).

<sup>94</sup> See *id.* at 6.

<sup>95</sup> See *id.*

<sup>96</sup> See *id.* at 9-12.

<sup>97</sup> See *id.* at 11.

<sup>98</sup> See *supra* Part IV.

<sup>99</sup> See Affidavit of Shavell at 16-17, *In re Burlington* (Nos. MDL 374, 78 C 269).

<sup>100</sup> See *City of Burlington v. Dague*, 505 U.S. 557, 562-63 (1992) (relying heavily on this argument).

probability cases are not necessarily less meritorious ones.<sup>101</sup> Once again we have to ask whether the objective is merely to replicate what a nonexistent market would produce or whether we hope to encourage specific areas of civil rights litigation, even if that litigation may not succeed.<sup>102</sup>

Third, because attorneys are in effect fully insured, case-specific traditional multipliers would lead attorneys to take on any case, regardless of its merits.<sup>103</sup> Thus, a case-by-case traditional multiplier does not duplicate the outcome in a private litigation market, where clients weigh the merits of each case against its expected litigation costs.<sup>104</sup>

Fourth, there is the possibility of adverse selection.<sup>105</sup> Because lawyers probably differ in "quality" (meaning that the probability of winning at trial is not really fixed) and risk attitudes, the use of a risk multiplier may only attract those lawyers with less skill or lower degrees of risk aversion, while the absence of a risk multiplier may have the opposite effect.<sup>106</sup> Further, recent Supreme Court decisions erod-

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<sup>101</sup> See *supra* Part III (outlining benefits of encouraging attorneys to take high risk cases).

<sup>102</sup> There may be social benefits which exceed the private returns to individual litigants in civil rights litigation. These public goods include the resolution of statutory ambiguity, increased judicial experience, and the symbolic message that justice will prevail, which might deter other future violations. See *Kirchoff v. Flynn* 786 F.2d 320, 327 (7th Cir. 1986) ("Much civil rights litigation is designed to obtain injunctions or precedents. These may be exceptionally valuable but have no ready monetary equivalent."); see also James D. Kole, Comment, Nonpayment Risk Multipliers: Incentives or Windfalls?, 53 U. Chi. L. Rev. 1074, 1090 (1986) (arguing that fee arrangements can "give no indication of the appropriate fee in cases with primarily injunctive or precedent-creating motivations, which cannot be reduced to monetary terms" (citing *Kirchoff*, 786 F.2d at 328)).

<sup>103</sup> See *Dague*, 505 U.S. at 563 (noting this perverse incentive effect); Affidavit of Shavell at 18, *In re Burlington* (Nos. MDL 374, 78 C 269).

<sup>104</sup> One possibility is to compute traditional multipliers where the relevant probabilities are not particular to a given case, but instead are relevant to a general class of cases. This is the market approach to risk multipliers Justice O'Connor proposed in *Pennsylvania v. Delaware Valley Citizens' Council for Clean Air*, 483 U.S. 711, 731 (1987) (O'Connor, J., concurring); see also Leubsdorf, *supra* note 15, at 501-10 (arguing for "across-the-board" approach to risk multipliers). However, the question then becomes what the relevant set of cases should be: 1) all cases; 2) that particular attorney's historical portfolio of cases; 3) a broad category of cases (for example, civil rights cases); or 4) a more restricted classification of cases (for example, cases involving employment discrimination). In addition, if the multiplier is not based on the particular case in question, it will lead to overcompensation for all of the inframarginal cases, which involve probabilities of the plaintiff winning that exceed the threshold cutoff level.

<sup>105</sup> See Affidavit of Shavell at 17-19, *In re Burlington* (Nos. MDL 374, 78 C 269).

<sup>106</sup> It is unclear whether the objective is or should be to attract into civil rights litigation lawyers of any quality, lawyers of quality comparable to those involved in other areas of litigation, or only the "cream of the crop." See Charles Silver, Unloading the Lodestar: Toward a New Fee Award Procedure, 70 Tex. L. Rev. 865, 931 (1992) ("The law will

ing reasonable fee awards<sup>107</sup> have caused many attorneys to avoid civil rights cases out of financial considerations.<sup>108</sup> Such adverse selection also lessens the quality of lawyers involved in civil rights litigation.

Fifth, there are equity issues related to traditional multipliers. Under a risk multiplier regime, clearly liable defendants (cases with a value of  $p$  close to one) pay less in fee awards than defendants in close cases (those with a value of  $p$  close to 50%) who may not have wronged a plaintiff.<sup>109</sup> While advocates of the risk multiplier note the favorable equity effect on plaintiffs who otherwise would be unable to afford legal representation, the right to a fee award is an asset that is only valuable when used to hire lawyers.<sup>110</sup> As in other situations, income taxes and the welfare system may provide a cheaper way for society to achieve redistributive goals than legal rules chosen specifically because they shift wealth from rich to poor.<sup>111</sup>

Sixth, using a risk multiplier to encourage civil rights litigation assumes that civil rights lawyers are motivated by financial considerations.<sup>112</sup> However, civil rights attorneys often accept cases based on nonfinancial considerations, such as feeling empathy with their clients, seeking vindication of rights, and fighting for justice.<sup>113</sup> Further, at-

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continue to be a jumble unless and until the term 'competent counsel' is authoritatively defined.").

<sup>107</sup> See *supra* Part I (discussing Court's treatment of risk multiplier).

<sup>108</sup> See Davies, *supra* note 4, at 228-29 (relating one attorney's belief that *Dague* will have a "chilling effect on the practice of civil rights law" and will deter "'cutting edge' cases and, thus, slow development of the law" (discussing *City of Burlington v. Dague*, 505 U.S. 557 (1992))); Sternlight, *supra* note 71, at 584 ("[F]rom the perspective of the plaintiffs' civil rights attorneys, the lodestar is both insufficient and unobtainable.").

<sup>109</sup> See Affidavit of Shavell at 18-19, *In re Burlington* (Nos. MDL 374, 78 C 269). This is because, for example, the multiplier for cases with a value of  $p=1/2$  is two, while the multiplier for cases with a value of  $p=99/100$  is only 100/99, which is barely more than one and substantially less than two.

<sup>110</sup> See Silver, *supra* note 106, at 874.

<sup>111</sup> See Steven Shavell, A Note on Efficiency vs. Distributional Equity in Legal Rulemaking: Should Distributional Equity Matter Given Optimal Income Taxation?, 71 Am. Econ. Rev. 414 (1981). The traditional law and economics approach indicates that using taxes to redistribute income is less costly than using legal rules that shift wealth from the rich to the poor. This is because the former only distorts work incentives, while the latter also distorts the incentives to engage in activities which may lead to being sued.

<sup>112</sup> See Davies, *supra* note 4, at 251 ("The plaintiffs' attorneys interviewed repeatedly noted that their economic survival demands high selectivity and careful investigation before undertaking representation of a client.").

<sup>113</sup> See *id.* at 251-52 ("Employment lawyers, for example, volunteered the following motivations: commitment to bringing about positive organizational change, a belief that employment litigation is necessary to make organizations deal with the problems, and commitment to help people without power who are hurt by those with power." (citations omitted)). Davies also noted that "[a] prison conditions attorney said that despite small salaries, the attorneys in her office stay because they are committed to the type of work they do." *Id.* at 252 (citation omitted). For formal models of the implications of anger for the incentives of litigation participants to sue, settle, or go to trial, see Peter H. Huang &

torneys who choose public interest careers often do so to be able to act according to nonfinancial principles, to have a career that makes a difference, and to feel fulfilled by their work.<sup>114</sup>

Despite these considerations, financial incentives remain a factor for public interest attorneys. Though "[w]hat one hopes to get out of working is not all money nor understandable in monetary terms," Professor Radin notes, "[b]ecause this is a market society, most people must be paid for their work if they are to live."<sup>115</sup> Mimicking a market for private interest litigation, however, requires only that financial incentives matter to public interest attorneys, not that they dominate or preclude nonfinancial considerations. Increasing an attorney's lodestar fees through risk multipliers connects fee awards to a market, namely that for the attorney's services. Thus, the very process of apportioning plaintiffs' attorney's fees itself refers to an outside market process. Given the scarcity of legal resources (a greater problem for attorneys in civil rights practice than those in other areas of private practice), attorneys must choose which cases to accept; even the most devoted plaintiffs' attorney cannot accept every case. Encouraging civil rights litigation through risk multipliers not only increases the financial rewards but also legitimizes the psychological benefits of public interest litigation.

### CONCLUSION

This Article applies the simple but powerful observation that litigation is a sequence of options to provide a more accurate description of civil rights litigation than is assumed by traditional expected-value approaches. An options perspective leads to a number of new insights about plaintiffs' attorney's incentives in civil rights actions.

First, the threshold or cutoff value for the initial probability of the plaintiff prevailing at trial that is used by plaintiffs' attorneys for accepting cases falls once the option value of discovery is taken into account. Second, plaintiffs' attorneys will accept more suits under a traditional risk multiplier approach to attorney's fee awards than current nonoption approaches predict once the option value of discovery

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Ho-Mou Wu, *Emotional Responses in Litigation*, 12 *Int'l Rev. L. & Econ.* 31, 32 (1992) (demonstrating that plaintiffs may sue more and settle less when emotions are motivating factors).

<sup>114</sup> See Davies, *supra* note 4, at 251-52. For formal models of effects of shame and guilt on corruption and professional ethics, see generally Peter H. Huang & Ho-Mou Wu, *More Order Without More Law: A Theory of Social Norms and Organizational Cultures*, 10 *J.L. Econ. & Org.* 390 (1994).

<sup>115</sup> Margaret Jane Radin, *Contested Commodities* 104-05 (1996) (arguing that commodified and noncommodified exchanges pervade our market society and most individuals experience work as partially defining their identities).

is taken into account. Third, the value of the risk multiplier is less than when the option nature of litigation is not taken into account. Fourth, in the general case, the value of the risk multiplier lies between the Supreme Court's current view of only one (that is, no multiplier) and the traditional view of the reciprocal of the initial probability of the plaintiff winning (that is, a multiplier that is larger than one). Fifth, an options-based risk multiplier rises as either the initial probability of the plaintiff winning or the cost of trial (trial option strike price) falls and as the cost of discovery (trial option premium) rises. Sixth, if the plaintiffs' attorney controls the settlement decision, then the likelihood of settlement in common-fund litigation is greater before and after discovery than when the option value of discovery is ignored. Seventh, if the plaintiffs' attorney controls the settlement decision, the likelihood of settlement in fee-shifting cases is unaffected before and after discovery by taking into account the option value of discovery because there will be an immediate settlement assuming there is symmetric information between parties.

Finally, an options perspective also suggests numerous empirically testable hypotheses. These include the following propositions. Holding all other factors constant, plaintiffs' attorneys will accept more cases when discovery is less costly (lower trial option premium), and will accept more cases when trial is more costly (higher trial option strike price). Further, if a significant amount of discovery is required for parties to learn a common value for the probability of the plaintiff prevailing, then settlement will not occur until a substantial amount of time and resources are spent on the discovery process. If most civil rights lawsuits have a low probability of the plaintiff prevailing, then we should observe settlements that correlate with expected damages rather than with the probability of the plaintiffs prevailing. Finally, if discovery reveals that most lawsuits are stronger than originally thought when they are filed, then settlements will typically be higher the more time that had passed since the filing of the complaint.

The majority of this Article has focused on the details of the first issue, namely that litigation involves sequential decisionmaking, while taking into account plaintiffs' attorney's incentives and differing probabilities of the plaintiff winning at trial. The remaining issues are left for future inquiry.

## APPENDIX

The following variables are used to investigate the incentives for plaintiffs' attorneys to accept civil rights cases:<sup>116</sup>

- p = initial probability that the plaintiff wins at trial in a particular class of cases
- L = opportunity cost to a plaintiffs' attorney of accepting a case, namely, her lodestar figure
- M = risk multiplier ( $M > 1$ )
- EW = expected wealth to a plaintiffs' attorney from accepting a case

### A. *An Options Theory of Private Enforcement*

By definition, the expected wealth to the plaintiffs' attorney from accepting a certain case is computed by subtracting the opportunity cost of accepting the case from the product of three quantities: the probability of the plaintiff winning at trial, the risk multiplier, and the lodestar figure. In symbols:

$$(1) \quad EW = pML - L = (pM - 1)L$$

For any given values of L and M, the cutoff threshold initial probability for a suit to be undertaken by a plaintiffs' attorney is  $p^* = 1/M$ . This can also be determined by solving for p when setting  $EW = 0$ . However, the analysis thus far is incomplete because it fails to acknowledge the fact that the plaintiff's lawsuit is an option.

For simplicity, assume there are only two stages to the litigation process: discovery and trial. Then, the plaintiff's attorney's litigation costs can also be broken up into two components, one for discovery and one for trial:  $L = D + T$ . Any opportunity costs incurred before discovery here are assumed to be zero. The plaintiff's attorney has two decisions: first, whether to sink irreversible and significant resources D into discovery, and second, whether to sink irreversible and significant resources T into trial. Discovery provides an opportunity for the plaintiff's attorney to gather more and possibly significant information about the case.<sup>117</sup>

Suppose further that discovery resolves all of the uncertainty concerning a case's merits. This means that the plaintiff's attorney will

<sup>116</sup> Observe that the level of plaintiff's recovery does not appear in this analysis and may even be nonmonetary in nature if the plaintiff is, for example, seeking injunctive relief instead of damages.

<sup>117</sup> As Professor Donohue pointed out, "attorneys do not have an opinion about the probability of success of a client's case from the minute the client walks in the door. Research, fact-finding, and lengthy discovery are all prerequisites to the formulation of an opinion." John J. Donohue, III, *The Effects of Fee Shifting on the Settlement Rate: Theoretical Observations on Costs, Conflicts, and Contingency Fees*, 54 *Law & Contemp. Probs.* 195, 217 (1991).

know after discovery whether the probability of the plaintiff winning is zero or one. Clearly, the plaintiff's attorney will go to trial only if that posterior probability is one. The options-based intuition underlying a plaintiff's attorney's decision to accept a particular case is that she only gives up  $D$  by accepting the case due to the ability not to exercise the option to continue a case which discovery reveals will not prevail at trial. She has a probability  $p$  of earning  $ML$  as well as incurring the additional cost of  $T$  to exercise the option to continue a case that discovery reveals will prevail at trial. An alternative way to think about this is that, with a probability of  $p$ , she earns net earnings of  $(M-1)L$ , while with a complementary probability of  $(1-p)$  she does not get paid and she receives net earnings of  $(-D)$ . Her revised expected wealth from undertaking this case is just the probability-weighted sum of her possible earnings, which simplifies to equation (2) below.<sup>118</sup>

More formally, after expending  $D$  on discovery, the plaintiff's attorney's Revised Expected Wealth (from an *ex ante* viewpoint), REW, is calculated by subtracting the discovery cost from the difference between two terms, the first being the product of these three quantities: the initial probability of the plaintiff winning at trial, the risk multiplier, and the lodestar figure, and the second being the product of these two quantities: the initial probability of the plaintiff winning at trial and the opportunity cost of trial. In symbols:

$$(2) \text{ REW} = pML - pT - D \\ = p(M-1)T + ED, \text{ where "net" expected discovery costs}$$

$$(3) \text{ ED} = p[(M-1)D] + (1-p)(-D) = (pM-1)D$$

Notice that REW can be written as a function of EW:<sup>119</sup>

$$(4) \text{ REW} = \text{EW} + (1-p)T$$

Equation (4) means that the value of the litigation option is  $(1-p)T$ , which is positive because each of its components is positive. In particular, this option value increases with the cost of trial. This makes intuitive sense because when the litigation option to continue the suit is not exercised, the benefit to the plaintiffs' attorney is not incurring trial costs on a case that discovery has revealed will not prevail at trial. As trial costs increase, more is saved by not exercising the option to continue the suit. The litigation option value also decreases with the initial probability that the plaintiff wins. Again, this result makes intuitive sense because, *ex ante*, the option to continue the suit

<sup>118</sup> Revised expected net wealth =  $p[(M-1)L] + (1-p)(-D) = pML - pL - D + pD = pML - p(D+T) - D + pD = pML - pT - D$ .

<sup>119</sup>  $\text{REW} = p(M-1)T + (pM-1)D = pMT - pT + pMD - D = pM(D+T) - pT - D = pML - pT - D - T + T = pML - pT - L + T = pML - L - pT + T = \text{EW} + (1-p)T$ .



is more likely to be exercised the higher the initial probability that the plaintiff wins. Put another way, the *ex ante* likelihood that the option to continue the suit after discovery is worthless decreases as the initial probability that the plaintiff wins increases.

The new threshold cutoff for the initial probability of the plaintiff winning,  $p^{**}$ , is determined by solving for  $p$  when setting  $REW = 0$ .<sup>120</sup> Thus:<sup>121</sup>

$$(5) \quad p^{**} = D/(ML - T)$$

How does  $p^{**}$  compare with  $p^*$ ? Intuitively, the cutoff probability should fall when an options perspective is applied because plaintiffs' attorneys can spend  $D$ , a fraction of total litigation costs to learn for certain whether they will get paid. This fact means that when the option value of discovery is taken into account, a greater number of suits will be accepted by plaintiffs' attorneys than when the flexibility provided by the option to continue the suit after discovery is not taken into account. Analytically,  $p^* > p^{**}$  because  $M > 1$  and  $T > 0$ .<sup>122</sup> In words, the cutoff value for the initial probability of the plaintiff winning at trial decreases once the option value of discovery is taken into account.<sup>123</sup>

The next question is how  $p^{**}$  changes as  $M$  rises, all other things being equal. Intuitively, a higher risk multiplier increases the plaintiffs' attorney's expected wealth from accepting a case with any particular initial probability of the plaintiff winning at trial. This lowers the required initial probability of the plaintiff winning at trial for a case to be acceptable to plaintiffs' attorneys. Formally, the cutoff probability falls as  $M$  rises.<sup>124</sup> This conclusion indicates that higher risk multipliers lower the threshold cutoff for the initial probability of the plaintiff winning at trial, and thus lead to more suits being accepted by plaintiffs' attorneys. Of course, this might be socially desirable if there is no independent method besides the probability of the plaintiff winning at trial to decide which cases are worth bringing, as this measure may not adequately capture the social benefits of civil rights litigation.

<sup>120</sup> Using an equivalent expression for  $REW$ , this means solving for  $p$  when  $p(M-1)L = (1-p)D$ , or  $pD + p(M-1)L = D$ , or  $p[D + (M-1)L] = D$ , or  $p[D + (M-1)D + (M-1)T] = D$ , or  $p[MD + (M-1)T] = D$ , or  $p(MD + MT - T) = D$ , or  $p(ML - T) = D$ .

<sup>121</sup> Notice that  $p^{**} > 0$  because  $D > 0$  and  $(ML - T) > 0$ , which is true because  $ML = MD + MT > MT > T$  as  $M > 1$  and  $D > 0$ . Also, notice that  $p^{**} < 1$  because  $D < ML - T$ , or equivalently,  $D + T < ML = MD + MT = M(D + T)$  because  $M > 1$ . Thus,  $p^{**}$  is a bona fide probability that resides in the open interval  $(0, 1)$ .

<sup>122</sup>  $M > 1$  means that  $M - 1 > 0$ , and  $T > 0$  means that  $(M - 1)T > 0$ , or  $MT - T > 0$ , or  $MD + MT - T > MD$ , or  $ML - T > MD$ , or  $1/M > D/(ML - T)$ , or  $p^* > p^{**}$ .

<sup>123</sup> See *supra* Figure 1 for a depiction of this result.

<sup>124</sup> This relationship holds because  $\partial p^{**}/\partial M = -LD/(ML - T)^2 < 0$ .

A final pair of questions is, holding all other things equal, how  $p^{**}$  changes as  $D$  changes and how  $p^{**}$  changes as  $T$  changes. Intuitively, the lower the cost of discovery, the lower the premium of the option to go to trial by engaging in discovery, and the higher the demand for such an option. Intuitively, the higher the cost of trial, the higher the strike price for the option to go to trial, and the less valuable is the option to go to trial. Formally, all other things being equal, the threshold cutoff value for the initial probability of the plaintiff winning at trial falls as  $D$  falls<sup>125</sup> and falls as  $T$  rises.<sup>126</sup>

### B. Options Theory of Risk Multipliers

An options theory of plaintiffs' attorney's incentives solves for the risk multiplier by setting the expression in equation (2) for REW equal to zero. This results in  $pML - D - pT = 0$ , or  $pML = D + pT$ , or

$$(6) \quad M^{**} = (D + pT)/pL$$

An options theory of plaintiffs' attorney's incentives also provides insights about what values risk multipliers should have and how those values vary with the initial probability of the plaintiff winning, the costs of discovery, and the costs of trial. Notice that  $M^{**} > 1$  as long as  $p < 1$ .<sup>127</sup> Also, note that  $M^{**} < M^*$  because  $p < 1$ .<sup>128</sup> This fact becomes clearer by noting that  $M^{**}L = (D + pT)/p = D/p + T = M^*D + T$ . Thus, the options-based risk multiplier,  $M^{**}$ , can be viewed as applying the traditional risk multiplier to just the cost of discovery and not to the cost of trial.

Another way of comparing  $M^*$  to  $M^{**}$  is to note that the traditional expected-value risk multiplier of  $M^*$  is a special case of the options-based risk multiplier of  $M^{**}$  when litigation costs are front-ended into discovery costs and trial is costless. That is to say, when  $L = D$  or  $T = 0$ ,  $M^{**} = (D + pT)/pL$  becomes  $L/pL = 1/p = M^*$ . Note that the current Supreme Court position of no multiplier<sup>129</sup> (or, equivalently, a multiplier  $N = 1$ ) is also a special case of the options-based risk multiplier of  $M^{**}$  when litigation costs are back-ended into trial costs and discovery is costless. That is to say, when  $L = T$  or  $D = 0$ ,  $M^{**} = (D + pT)/pL$  becomes  $pL/pL = 1 = N$ .

Furthermore, notice that, holding all other things equal, the options-based risk multiplier falls as the initial probability of the plaintiff

<sup>125</sup> This relationship holds as  $\partial p^{**}/\partial D = [(M-1)T + MD - DM]/[(M-1)T + MD]^2 = (M-1)T/[(M-1)T + MD]^2 > 0$  as  $M > 1$ .

<sup>126</sup> This relationship holds because  $\partial p^{**}/\partial T = -(M-1)D/[(M-1)T + MD]^2 < 0$  as  $M > 1$ .

<sup>127</sup>  $M^{**} > 1$  is equivalent to  $(D + pT) > pL = pD + pT$ , or  $D > pD$ , or  $1 > p$ .

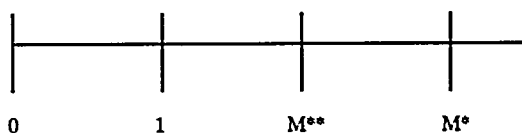
<sup>128</sup>  $p < 1$  means that  $(D + pT) < D + T$ , or  $(D + pT) < L$ , or  $(D + pT)/L < 1$ , or  $(D + pT)/pL < 1/p$ , or  $M^{**} < M^*$ .

<sup>129</sup> See *supra* notes 19-36 and accompanying text.

winning at trial rises,<sup>130</sup> and the options-based risk multiplier rises as the cost of discovery rises.<sup>131</sup> Finally, all other things being equal, the options-based risk multiplier falls as the cost of trial rises.<sup>132</sup>

Assuming that it is feasible to determine the social value,  $V$ , of a lawsuit independent of the initial probability of the plaintiff winning, there is a boundary condition on how large  $M^{**}$  can be. It is only socially optimal to litigate those cases with value  $V$  if  $pV > D + pT$ , or  $V > (D + pT)/p$ . Thus,  $M^{**} = (D + pT)/pL < V/L$  is the boundary condition that the options-based risk multiplier must satisfy. Although the boundary condition for  $M^{**}$  is the same as that for  $M^*$  (specifically, the value of the risk multiplier is less than  $V/L$ ), the range of risk multiplier values that satisfy the boundary condition is larger for options-based rather than traditional risk multipliers because  $M^{**} < M^*$ . Figure 2 illustrates this for any set of values of  $V$ ,  $L$ ,  $M^*$  and  $M^{**}$  if  $M^{**} < V/L < M^*$ .

FIGURE 2  
CIVIL RIGHTS RISK MULTIPLIERS



Proposition 2:  $M^{**} < M^*$ , where

$M^*$ : Expected Value Civil Rights Risk Multiplier =  $1/p$

$M^{**}$ : Options Civil Rights Risk Multiplier =  $(D + pT)/pL$

<sup>130</sup> This relationship holds because  $\partial M^{**}/\partial p = [pLT - (D + pT)L]/(p^2L) = -DL/(p^2L) = -D/(p^2) < 0$ .

<sup>131</sup> This relationship holds because  $\partial M^{**}/\partial D = [(pD + pT) - (D + pT)p]/pL^2 = [pT - p^2T]/pL^2 = (1 - p)T/L^2 > 0$  as  $p < 1$ .

<sup>132</sup> This relationship holds because  $\partial M^{**}/\partial T = [(pD + pT)p - (D + pT)p]/pL^2 = [p^2D - pD]/pL^2 = (p - 1)D/L^2 < 0$  as  $p < 1$ .