

PRELIMINARY DRAFT

Two Models of Pleading

William H.J. Hubbard*

whubbard@uchicago.edu

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Abstract

This paper develops two game-theoretic models of litigation, pleading, and settlement. The first model explores the timing of settlement and the strategic use of pleading by plaintiffs with negative-expected-value claims in a full-information environment. The second model explores the timing of settlement and strategic use of pleading in an environment with private information held either by plaintiffs or defendants. In each model, a key feature is the plaintiff's choice of the amount of (costly) factual detail to include in the complaint. These models show that, even in the absence of *any* pleading standard, low-merit cases tend not to be filed, and filed complaints sometimes or always include detailed factual allegations. In this way, these models shed light not only on the way in which pleading interacts with the larger process of settlement and litigation, but helps explain the numerous empirical studies that indicate that the higher "plausibility" standard for federal pleading announced by the *Twombly* and *Iqbal* cases has had little effect on the rates at which federal lawsuits are dismissed.

1 Introduction

There is no doubt that as a matter of pleading doctrine, *Twombly* and *Iqbal* have introduced a regime of "plausibility" pleading to replace the prior regime labeled "notice" pleading. Many observers have hypothesized that *Twombly*

*William H.J. Hubbard is an Assistant Professor of Law at the University of Chicago Law School. I am grateful for comments from Douglas Baird, Scott Baker, Emily Buss, and participants at the Law & Economics Colloquium at Northwestern University School of Law.

and *Iqbal* will lead to more motions to dismiss being filed, a larger share of motions to dismiss being granted, and fewer lawsuits being filed in the first place.

For this reason, scholars have both attacked and defended *Twombly* and *Iqbal*. On the one hand, if we are concerned about low-merit lawsuits extracting settlements from defendants, then more dismissals after *Twombly* and *Iqbal* may be a good thing. On the other hand, *Twombly* and *Iqbal* may hurt plaintiffs in cases where the defendant is in sole possession of the facts that would establish the plaintiff's case. Plausibility pleading may especially hurt plaintiffs alleging employment discrimination, who may have particular difficulty pleading specific facts about the defendant's motives. In this way, the argument goes, *Twombly* and *Iqbal* create a "paradox of pleading" where "civil rights plaintiffs . . . cannot state a claim because they do not have access to documents or witnesses they believe exist; and they cannot get access to those documents or witnesses without stating a claim" (Kilaru 2010, p. 927).

Both of these arguments deserve study, for they imply different directions for procedural reforms. The primary purpose of this paper, therefore, is to make sense of these arguments when pleading is placed in the larger context of litigation and settlement. For example, while it may seem obvious that requiring "plausibility" will screen out weak lawsuits, this ignores the possibility that other features of the litigation system, including the strategic decisions of plaintiffs to settle or abandon claims without filing suit, may mean that weak lawsuits are not filed in the first place, regardless of the pleading standard. By the same token, it may be the case that even in the absence of plausibility pleading, uninformed parties have disincentives to bring claims against defendants who hold private information about liability. If so, the effects of *Twombly* and *Iqbal* may be very different than assumed.

Nor is this idle speculation, for a fair amount of empirical data suggests that *Twombly* and *Iqbal* may have impacted at most a small share of all cases. An empirically grounded understanding of pleading before and after *Twombly* and *Iqbal* requires making sense of facts such as the following:

There was little (if any) change in the rate at which motions to dismiss were granted before Twombly and after Iqbal. A small literature has emerged that has attempted to measure the effects of *Twombly* and *Iqbal* on the rates at which federal courts dismiss cases. Both simple comparisons of observed dismissal rates and more sophisticated efforts at controlling for endogenous changes in the composition of cases after *Twombly* and *Iqbal* almost uniformly find no statistically significant effect of these cases on the tendency of courts to dismiss cases. Hubbard (2013) surveys the literature on *Twombly* and conducts an original analysis that controls for selection effects, finding a very precise zero for the effect of *Twombly*. For studies on *Iqbal*, see Cecil et al. (2011a, 2011b); Hatamyar Moore (2012); Brescia (2012).¹ The one exception to these

¹These studies tend to find a rise in dismissals without prejudice, but no change in

findings of no significant effect is Gelbach (2012), who uses a unique model to accounts for selection effects on the composition of cases with litigated motions to dismiss. He generates a lower bound on the number of cases “affected” by *Twombly* and *Iqbal* that represents approximately 1 percent of cases.²

Motions to dismiss are filed in about 6 percent of cases, both before and after Twombly and Iqbal, and granted about half the time. Cecil et al. (2011a) report that a massive study of federal court records by the Federal Judicial Center (FJC) finds that, even after *Iqbal*, motions to dismiss are filed in 6.2 percent of all cases and 9.0 percent of employment discrimination cases. Cecil et al. (2011a) find that fewer than half of motions to dismiss are granted with prejudice, even after *Iqbal*. This suggest that fewer than 3 percent of all cases, and fewer than 5 percent of employment discrimination cases, are dismissed for failure to state a claim. Indeed, a case is more likely to *settle before discovery* than to be dismissed for failure to state a claim.

Employment lawyers report little effect of Twombly and Iqbal on the cases they file. A study commissioned by the National Employment Lawyers Association (NELA), an organization of attorneys who represent plaintiffs in employment litigation, casts doubt on the extent of the effect of *Twombly* and *Iqbal*. Hamburg and Koski (2010) surveyed members of NELA during October and November 2009—two and a half years after *Twombly* and about six month after *Iqbal*. They find that some respondents are including more factual allegations in their employment discrimination complaints in the wake of *Twombly* but only 7.2 percent of the respondents who filed employment cases since *Twombly* have had a complaint dismissed under *Twombly* or *Iqbal*. In other words, at the time of the survey, 92.8 percent of the surveyed plaintiffs attorney had *never* had a complaint dismissed under *Twombly* or *Iqbal*.

Most filed complaints contain highly detailed pleadings, both before and after Twombly and Iqbal. During the era of notice pleading, it was the regular practice of attorneys to file detailed complaints. Marcus (1986) and Fairman (2003) document the persistence of “fact pleading” by courts and litigants despite decades of practice under the notice pleading standard.³ Surveys of practitioners, too, confirm this pattern. A number of respondents to the NELA survey on the effect of *Twombly* and *Iqbal* gave the same answer: “I have always drafted detailed complaints” (Hamburg and Koski 2010, p. 64).

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dismissals with prejudice.

²According to the FJC data he cites, MTDs were filed in 5 percent of cases in the post-*Iqbal* sample period, and he estimates a lower bound of 21.5 percent of these filings “affected” by *Twombly* and *Iqbal*.

³Indeed, courts would on occasion chastise litigants for putting *too much* detail in their complaints. See *Am. Nurses’ Ass’n v. Illinois*, 783 F.2d 716, 724 (7th Cir. 1986) (“The pleading of facts is well illustrated by the present case. The complaint is twenty pages long and has a hundred page appendix.”); *Decker v. Massey-Ferguson, Ltd.*, 681 F.2d 111, 114 (2d Cir. 1982) (noting the “prolix and discursive 69 page complaint”).

Ideally, a theory of pleading should account for facts such as these as well as allow one to assess the merits of the arguments for and against *Twombly* and *Iqbal*. To this end, this paper introduces two simple models of pleading, settlement, and litigation. Existing models of pleading—and most of the discourse about pleading in general—tend to treat the content of pleadings as fixed by pleading rules. In the models I present here, the plaintiff chooses how much detail to include in the complaint. The complaint takes into account the cost of investigating and collecting facts about the case and drafting the complaint, as well as the strategic benefits of detailed pleading. Each of these models corresponds to one vision of the scenario in which *Twombly* and *Iqbal* may have an effect: clearly frivolous lawsuits that are brought merely to extract a settlement from the defendant (what I will call the “Frivolous Lawsuits” view), and potentially meritorious cases where the defendant has private information about liability (what I will call the “Paradox of Pleading” view).

These models build upon canonical models of litigation and settlement such as Bebchuk (1984), Rosenberg and Shavell (1985), Reinganum and Wilde (1986), and Bebchuk (1996), and as well as a costly signaling model framework familiar from the education context. See Spence (1973). While existing models of litigation and settlement have great conceptual force, they suffer from an inability to map onto observed patterns of litigation. For example, the Bebchuk (1984) and Reinganum and Wilde (1986) models of asymmetric information rely on the assumption that settlement only occurs prior to litigation, while the Rosenberg and Shavell (1985) and Bebchuk (1996) models of negative-expected-value (NEV) litigation predict that all “frivolous” claims that involve a credible threat to sue will settle prior to a lawsuit being filed. It is well understood, however, that these models abstract away from the following observations:

Many disputes settle without a lawsuit, and most litigated disputes are settled as well. While this fact is uncontroversial, it poses a challenge to the basic models of litigation and settlement, which impose only a single period for settlement, assuming either that only filed cases settle, or that only un-filed cases settle.

Of the disputes that settle during litigation, most settle early in litigation, and the largest number of settlements occur immediately after a complaint is filed, and before any discovery is conducted. Boyd and Hoffman (2012) describe the patterns of settlement that occur during litigation, and find that about one-third of the filed lawsuits in their sample settled without any litigation activity occurring. Figure 1 shows the distribution of settled cases in federal court by the duration of the case at time of settlement; most settlement occurs early in litigation. These facts, too, are a challenge to the basic models of litigation and settlement: Why, if parties disagree enough to go to court, are they so often willing to settle *after* going to court, but without conducting

any discovery?

Claims of “abusive” or “frivolous” litigation by practitioners revolve around accounts of filed lawsuits that are frivolous. The prevalence of “frivolous” litigation—and even what “frivolous” means—is disputed, and evidence is scarce. But the *claim* that courts and defendants are beset by frivolous lawsuits is ubiquitous. This stands in tension with the models described above, which predict that, in equilibrium, the lowest-merit cases settle out of court.

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To be clear, this takes nothing away from these models, which do not attempt to explain these particular features of observed reality. Rather, the claim of this paper is that by incorporating pleading into models of litigation and settlement, one can show that these models are capable of generating predictions consistent with *both* the commonly recognized patterns of litigation and settlement (including claims about the incidence of “frivolous” lawsuits) and the empirical data specific to pleading practice and the effects of *Twombly* and *Iqbal*.

Just as the arguments about *Twombly* and *Iqbal* imply two models of pleading, existing scholarship on litigation and settlement employs two basic frameworks for theoretical models: full information games and asymmetric information games. Notably, the “Full Information” framework corresponds to the Frivolous Lawsuits view of pleading, while the “Asymmetric Information” framework strongly parallels the Paradox of Pleading view.

I take advantage of this fact to develop two models of pleading, settlement, and litigation, each of which incorporates the fact that the plaintiff, in drafting his complaint, has control over the amount of factual detail to plead. These models not only allow one to explain in a parsimonious way observed patterns of settlement and litigation, but also to explain much of the empirical data that has come to light in the wake of *Twombly* and *Iqbal*. Further, the simple models in this paper allow one to clarify, and in some cases critique, existing normative arguments about the wisdom or folly of plausibility pleading.

The first model represents litigation as a sequential, full information game in the spirit of Rosenberg and Shavell (1985) and Bebchuk (1996). The focus of this game is the possibility that a plaintiff with a low-merit suit will nonetheless be able to obtain a large settlement by credibly threatening to impose large litigation costs on the defendant. Concern about the “in terrorem” effect of litigation costs on settlement value was expressly cited by the majority in *Twombly* as motivation for requiring plausible pleadings. See 550 U.S. at 546.

The details of this model appear in Part 4, but the intuition for the model is quite simple: The “Frivolous Lawsuits” view rests on the notion that defendants will be induced to settle frivolous lawsuits by the specter of high

discovery costs. But in order for the plaintiff's threat to impose those discovery costs to be credible, the plaintiff must not himself be deterred from litigating by his own discovery costs. How, then, can a plaintiff make the threat to litigate credible? One way is for the plaintiff to "front-load" much of his discovery costs, by engaging in a thorough pre-complaint investigation by identifying and collecting documents and witnesses, conducting legal research, and developing litigation strategy. By sinking all of these costs before the lawsuit even begins, the plaintiff will face little additional cost when responding to discovery from the defendant. Thus, the plaintiff can credibly threaten to impose burdensome discovery demands on the defendant, undeterred by the prospect of his own discovery costs.

Pleading is part of this account because a factually and legally detailed complaint is the strongest signal that a plaintiff can send that he has front-loaded the costs of legal and factual investigation. In this way, pleading can serve as a means for making credible the threat to impose high discovery costs on the defendant. Thus, even in the absence of a plausibility pleading standard, a plaintiff bringing a low-merit case has incentive to provide detailed and costly pleadings. This reasoning suggests that, even with respect to low-merit litigation, *Twombly* and *Iqbal* may have less dramatic of an effect than otherwise anticipated.

The second model is an asymmetric information model in which one or both parties have private information. I begin by considering the scenario in which only the plaintiff has private information. In some cases, it would seem quite natural to expect that the plaintiff has more knowledge about the strength of his claim than the defendant. For example, a personal injury claimant may have a very clear idea of the extent of his own injuries, but prior to the discovery process may have no difficulty concealing that information from the defendant.

I then consider the situation in which the defendant has private information. For many observers, it is this scenario that is most relevant to their critique of plausibility pleading. One can easily imagine a claim of employment discrimination, in which the plaintiff alleges intentional discrimination by the defendant. The defendant's motivations for firing the plaintiff may be well known to the defendant but entirely concealed from the plaintiff. I thus examine more closely the notion that, because of information asymmetries that favor defendants, plausibility pleading discourages lawsuits that would otherwise be filed.

While I elaborate on this model in Part 5, I can state the basic intuition for this model here. Even in the presence of asymmetric information held by the defendant, a plaintiff with no specific facts tending to show that he has a claim will rarely file a lawsuit, regardless of the pleading standard. The reason is that such a lawsuit will not be worth bringing—it is hard to imagine that a potential plaintiff who has *no* facts supporting his claim has a likelihood of

prevailing on the merits that would justify the high cost of litigation in federal court.⁴ Further, since settling a case is less costly than litigating a case, a plaintiff who *does* have facts supporting his claim will want to communicate the strength of his case through his complaint. While detailed pleadings are costly (and, in the absence of plausibility pleading, not legally required), they are an effective way of *signaling* the strength of a case and facilitating early settlement.⁵

Notably, both of these models generate similar predictions: that even under no pleading standard at all, one nonetheless observes a pattern in which the lowest merit cases are not filed, and the cases that are filed sometimes or even always contain detailed factual allegations. This prediction is consistent with the lukewarm results of empirical studies on the effect *Twombly* and *Iqbal*, as well as the longstanding empirical regularity of detailed pleading practice long before *Twombly*.

These results also cast doubt on how plausibility pleading can generate the paradox of pleading. Except in what would appear to be unusual circumstances, the lawsuits that arguably would be discouraged by the paradox of pleading are in fact lawsuits that would not be filed under any pleading regime. In short, in most cases pleading standards do not serve any gatekeeping function of all; that function is performed by plaintiffs' attorneys, who quite sensibly ration their time and resources to claims with at least plausible merit.

Nonetheless, these models indicate that for a small subset of cases—low merit, high stakes, expensive to litigate—a more demanding pleading standard may be quite desirable. On the other hand, in cases involving asymmetric information, *Twombly* and *Iqbal* may adversely affect the settlement possibilities for some weaker, but not frivolous, cases. Thus, despite the long-standing tradition of transubstantivity under the Federal Rules and the insistence in *Iqbal* that plausibility pleading applies to all cases, it seems more sensible to treat plausibility pleading as commanding greater scrutiny of factual allegations primarily in contexts like those presented by the *Twombly* and *Iqbal* cases themselves.

In Part 2, I provide a brief overview of the Full Information and Asymmetric Information frameworks and describe some of the canonical models within each. Part 3 provides a short refresher on *Twombly* and *Iqbal* and describes the two primary perspectives on their effects. I then present my models of pleading. Part 4 presents the full information model of pleading. Part 5 presents the asymmetric information model, first by considering private information

⁴A rule of thumb for litigation in federal court is that a party should be prepared to spend \$100,000 to litigate his case.

⁵The idea of pleadings as a signal has been long recognized in the profession: “A well-written, detailed complaint announces that the plaintiff is serious about the litigation and will be a formidable opponent” (Mansfield 2011).

held by plaintiffs, then by considering private information held by defendants, and finally by discussing the interaction of pleading and settlement in an environment of two-sided private information. Part 6 concludes.

2 Two Approaches to Settlement and Litigation

A large game-theoretic literature explores why some parties to disputes resolve their differences through settlement, while other parties contest their dispute through litigation and trial. This literature has its origins in a non-game-theoretic literature on litigation and settlement, beginning with Landes (1971) and reaching its fullest expression in Priest and Klein (1984). This literature models parties to litigation as rational agents who weigh the potential gains from litigation against the costs of litigation in determining whether to bring a claim, and if so, whether to settle or go to trial.

The most basic question that any model of litigation and settlement must answer is “Why do some disputes settle and some not?” To paint in broad strokes, this literature gave the following two-part answer: First, if a potential plaintiff has a claim for which the expected award (i.e., the judgment he would receive discounted by his probability of winning the judgment) is less than the cost of litigating the claim in court, the claim will be neither settled nor litigated. It is a negative-expected-value (NEV) claim, and the claimant will simply abandon it. Second, a potential plaintiff with a positive-expected-value (PEV) claim will file a lawsuit, and if litigation is costly, the parties will settle (thereby saving litigation costs) unless the parties have divergent beliefs about how they are likely to fare at trial. If each side is relatively optimistic about its chances at trial, the defendant may not be willing to offer an amount in settlement large enough for the plaintiff to accept, notwithstanding the cost savings from settlement.⁶ In this way, “divergent expectations” explains the fact that some filed lawsuits settle while others go to trial.

A vast game-theoretic literature has emerged on litigation and settlement, partly in response to shortcomings of the answer the divergent expectations literature gave to the question, “Why do some disputes settle and some not?” This game-theoretic literature can be organized into two basic approaches, each of which responds to a major shortcoming of the divergent expectations approach. I will call these two basic approaches the Full Information approach and the Asymmetric Information approach.

⁶See Shavell (1982) for an example of the canonical suit-and-settlement model, in which the plaintiff’s decision to sue is followed by a single opportunity for settlement.

2.1 Full Information Models

The Full Information approach arose out of the inability of the Divergent Expectations models to explain the existence of NEV litigation. Although empirical evidence is scarce, anecdotal evidence from practitioners suggests that NEV lawsuits may be a meaningful share of all litigation. “Frivolous” lawsuits (which would be a subset of all NEV lawsuits) are claimed to be a major concern for potential defendants, especially large corporations and the government. A series of papers beginning with Rosenberg and Shavell (1985) have developed models in which both parties are fully informed, including about the weakness of the plaintiff’s claim, but the plaintiff is nonetheless able to extract a positive settlement by taking advantage of the defendant’s costs of defending the suit.

The logic of Rosenberg and Shavell (1985) is straightforward. If it is costly for a defendant to respond to the plaintiff’s complaint, then the defendant will be willing to settle with a plaintiff for any amount less than the cost of responding to the plaintiff’s complaint, *even if the plaintiff’s claim is wholly meritless*. Because of this, the (potential) plaintiff has a credible threat to sue, so long as the cost of filing the complaint is less than the amount of the settlement the plaintiff would be able to extract. Given a credible threat, the solution to the game is that the parties immediately settle, without litigation.

The empirical relevance of this result has been questioned by Bone (2008–2009), who argues that a nuisance settlement can amount to no more than the cost of answering the complaint. As Bone notes in earlier work, because “answering is seldom more costly than filing, the model predicts that few frivolous plaintiffs will find it worthwhile to sue” Bone (2003, p.150).

Bebchuk (1996) provides a more sophisticated, but essentially similar, approach to the same question. Bebhuk considers the possibility that litigation is divided into stages and the costs of litigation are divided among these stages. In each stage, one (perhaps randomly chosen) party has the opportunity to propose a settlement, which the other party can accept or reject. In this model, even if a lawsuit taken as a whole is NEV, if the costs are split sufficiently among the stages of litigation, it is possible that, *relative to the costs of litigating the very last stage*, the plaintiff’s claim is PEV.⁷ Thus, the plaintiff has a credible threat to go to trial at the last stage of litigation, and the defendant will be willing to settle the case then. If the plaintiff has sufficient bargaining power, this settlement will be large enough that in the second-to-last stage of litigation, the plaintiff will also have a credible threat to move forward, thereby making the defendant willing to settle in that stage as well. By backwards induction, one sees that the plaintiff has a credible threat to sue in the first period, and the parties will settle immediately.

⁷Note that this requires that the plaintiff’s claim have some merit; a meritless claim will always be NEV.

Bebchuk’s model as been criticized by Schwartz and Wickelgren (2009a), who claim that in a more general (and realistic) version of an alternating-offer bargaining game, in which an indefinite number of offers and counter-offers can be made, the plaintiff will not be able to extract a settlement during litigation large enough to make the initial threat to sue credible.

Even setting aside the criticisms from Bone and Schwartz and Wickelgren, one can raise additional questions about these models. First, it is unclear how the stages of these models map onto the stages of actual litigation. To what extent can the parties control the timing and order of litigation costs? Do features of civil procedure permit the strategies identified in these (highly abstracted) models? Creating a correspondence between the models and practice is a natural next step, which my full information model below attempts to make.

Second, the most essential flaw of these canonical models is that they set out to account for the existence of NEV *lawsuits*, but they predict that NEV claims will be settled *before a suit is filed*. Thus, the central motivation for these models—the alleged phenomenon of frivolous litigation—remains unexplained by these models.

Below, I present a Full Information model that addresses some of the questions that could be raised about this approach. First, it shows how, in a full information setting, lawsuits may be filed in equilibrium. Second, it addresses the question of whether frivolous lawsuits can settle for more than the (trivial) cost of filing an answer. Third, it addresses Schwartz and Wickelgren (2009a) and shows that, in an environment that plausibly models reality, a plaintiff with a NEV claim may be able to obtain a positive settlement even when both parties are able to make an arbitrary number of offers and counter-offers.

2.2 Asymmetric Information Models

The Asymmetric Information approach responds to a different gap in the Divergent Expectations approach: the parties’ divergent expectations about the value of the lawsuit are private information, and yet this approach does not address how the parties will use the private information. Will they sincerely reveal their private information, or use it in a way that prevents settlement? While the Divergent Expectations approach provided persuasive intuition for why some cases should settle and other go to trial, it left unanswered the questions of how settlement occurs in an environment with private information.

Beginning with Bebchuk (1984) and Reinganum and Wilde (1986), game-theoretic models have incorporated the strategic use of private information held by one or both parties in order to explain why some suits settle and others go to trial. Bebchuk (1984) is the seminal “screening” model. Imagine that the defendant has private information about the strength of her case—it can be strong (the defendant is a “high type” with a high chance of winning) or

it can be weak (the defendant is a “low type” with a low chance of winning). The plaintiff makes a single, take-it-or-leave-it settlement demand and goes to trial if the defendant rejects it. The screening strategy is to demand a large settlement, one that represents the maximum amount that the low type defendant is willing to accept. The low types accept this settlement offer, while the high types reject the offer in favor of trial. (Although trial is expensive, high types expect to pay much less in damages than the settlement amount.) In this way, the plaintiff’s demand “screens” out the low types, and we observe a mixture of settlement and litigation in equilibrium.

Reinganum and Wilde (1986) present the seminal “signaling” model.⁸ In this model, the party with private information makes a single take-it-or-leave-it offer and, if the other party rejects it, litigation ensues. If, say, the defendant has private information, then in equilibrium, high types offer small settlements and low types offer more generous settlements, and plaintiffs always accept the generous settlements while accepting the small settlement only with a probability less than one.⁹ The defendant’s settlement offer is a “costless signal” of the defendant’s type, and these offers induce a mixture of settlement and litigation.

Just as the Full Information models have been criticized for making restrictive assumptions, the Asymmetric Information models admittedly rely on highly restrictive conditions. Both Bebchuk (1984) and Reinganum and Wilde (1986) examine only one-sided information asymmetry in which the settlement process is exogenously fixed to involve a single settlement proposal by a single party. Most subsequent models of asymmetric information likewise retain these characteristics. See, e.g., Hylton (2002).

Some later models, however, have addressed variations that relax some of these restrictions, but often at the cost of much greater technical complexity. I note only a few here, to highlight those developments most relevant to the project of this paper.

Separation and renegotiation. A central pattern in the literature is that, for tractability, most models assume a single opportunity for settlement with no possibility of renegotiation. As Miceli (1999) puts it, “The need to assume that contracts will not be renegotiated is a characteristic of all asymmetric

⁸I will herein refer to this as “costless signaling” to distinguish their mechanism, which is a settlement offer by the party with private information, from the mechanism I describe below, which is a costly signal separate from the settlement offer itself. Of course, the settlement proposal by the party with private information is costly in the sense that in equilibrium, choosing a given proposal involves a trade-off between size of the settlement and the likelihood that it is accepted. I call the proposal “costless” because there is no cost inherent in the making of the proposal.

⁹This is the result of the incentive compatibility conditions for equilibrium. While the settlement amount reveals the defendant’s type, the plaintiff cannot accept the small settlement offer with a high probability, or else the low-type defendants will find it profitable to mimic the high types by offering small settlements as well.

information models, because the informed party's choice of a contract reveals information to the uninformed party." Nonetheless, some models introduce multiple periods of bargaining (see Spier (1992), Rickman (1999)).

Incorporating civil procedure. As Hause (1989) points out, models of asymmetric information generally fail to account for the reality of pretrial procedure, in which the discovery process exists *precisely* in order to eliminate asymmetries of information between the parties.¹⁰ Thus, it is most plausible to treat models of asymmetric information that involve the choice between "settlement" and "trial" as in fact representing a choice between "settlement" and "lawsuit." While some papers, such as Spier (1992), are explicit in characterizing themselves as models of pre-suit settlement, this is in tension with the approach of other models. For example, Daughety and Reinganum (1993) assume that parties can serve interrogatories to reveal *whether* the other side has private information but cannot serve interrogatories or conduct depositions to reveal the *content* of the private information.

A sensible step in the development of models of settlement and litigation, therefore, is to structure the game in a way that better represents the key features of litigation process that may affect the strategic interactions between the parties. A number of papers have taken this step, focusing on the extent to which discovery affects litigation and settlement in an environment in which one of the parties enters litigation with private information. Schwartz and Wickelgren (2009b) present a model in which plaintiffs have private information about whether their suits are NEV. The availability of discovery reduces the willingness of the defendant to offer settlements that plaintiffs with NEV claims would accept; discovery is costly, but less costly than litigation through trial, and can reveal the quality of a plaintiff's suit. Schwartz and Wickelgren (2009b) also provide a review of the related literature, which spans back to Shavell (1989).

Costly Signaling. Finally, models of costless signaling leave unaddressed the possibility of "costly signaling" in the litigation context. By "costly signaling," I refer to actions other than the making of a settlement proposal that, precisely because they are costly to undertake, allow a party with private information to credibly communicate her type to the uninformed party. The canonical model of costly signaling is presented by Spence (1973). The Spence signaling model has the premise that education has no effect upon the productivity of a worker, but that more able workers simply find schooling easier to complete. If worker ability is unobservable, high-ability workers can signal their ability to employers by attaining high education levels; they achieve separation from low-ability workers because the latter find attaining equal levels of education too costly relative to the wage premium that high-ability workers earn.

¹⁰"The rules of pretrial discovery limit the empirical importance of the kind of asymmetry that these articles [Bebchuk (1984) and Reinganum and Wilde (1986)] assume." Hause (1989).

Building on this large and fruitful literature, I present below an Asymmetric Information model that addresses some of the questions raised by this literature: First, it employs the mechanism of costly signaling in the litigation context, and shows its relevance to pleading practice. Second, it shows why, in an asymmetric information setting, some parties may settle without a lawsuit, while other parties may settle after a case is filed, but before discovery.

3 Two Views of Pleading

3.1 *Twombly* and *Iqbal*

Civil actions in federal court begin with the filing of a complaint by the plaintiff. Federal Rule of Civil Procedure (“Rule”) 8(a) governs the content of a complaint: “A pleading that states a claim for relief must contain . . . a short and plain statement of the claim showing that the pleader is entitled to relief.” Once a plaintiff files a complaint, the defendant can file a motion to dismiss for “failure to state a claim upon which relief can be granted” under Rule 12(b)(6).

For decades, courts had cited *Conley v. Gibson* (355 U.S. 41, 45-46 [1957]), for “the accepted rule that a complaint should not be dismissed for failure to state a claim unless it appears beyond doubt that the plaintiff can prove no set of facts in support of his claim which would entitle him to relief.” On its face, this statement seems to imply that a complaint would survive a motion to dismiss so long as the plaintiff did not plead facts that contradicted his legal claim. While perhaps never interpreted quite so literally, *Conley* reflected a liberal approach to the principle of “notice pleading” embodied by the Federal Rules.

The Supreme Court appeared to take pleading doctrine in a new direction with *Bell Atlantic Corp. v. Twombly* (550 U.S. 544 [2007]). The plaintiffs, on behalf of themselves and a proposed class, had sued the “Baby Bells”—the four Incumbent Local Exchange Carriers (ILECs) that controlled nearly all local telephone service in the United States—alleging a class-action claim of conspiracy in violation of the Sherman Act. Their complaint alleged that the ILECs had engaged in “parallel conduct” to thwart competition and raise prices for local phone and high-speed internet service. The factual allegations in support of this claim were essentially the parallel conduct of each ILEC in resisting entry by new, competing carriers into its market area, and in not attempting entry into its neighbors’ markets. (544 U.S. at 549-551.)

The Court began by holding that allegations of parallel conduct, even if taken to be true, would not establish a claim under the Sherman Act. It then turned to the question whether the complaint should therefore be dismissed. In doing so, the Court announced the “retirement” of *Conley*’s famous “no set

of facts” dictum. (544 U.S. at 563.) In its place, the Court required that a complaint plead facts “plausibly suggesting (not merely consistent with)” the plaintiff’s legal claim. (544 U.S. at 557.) It concluded: “we do not require heightened fact pleading of specifics, but only enough facts to state a claim to relief that is plausible on its face. Because the plaintiffs here have not nudged their claims across the line from conceivable to plausible, their complaint must be dismissed.” (544 U.S. at 570.)

The Supreme Court itself would reaffirm *Twombly* almost exactly two years later. On May 18, 2009, it decided *Ashcroft v. Iqbal* (129 S. Ct. 1937 [2009]), which presented a civil rights claim brought by an Arab Muslim detained by the FBI in the aftermath of September 11, 2001. The Court elaborated on *Twombly*, saying, “Two working principles underlie our decision in *Twombly*. First, the tenet that a court must accept as true all of the allegations contained in a complaint is inapplicable to legal conclusions. Threadbare recitals of the elements of a cause of action, supported by mere conclusory statements, do not suffice. . . . Second, only a complaint that states a plausible claim for relief survives a motion to dismiss.” (Id. at 1949-50.)

The Court also noted that *Twombly* was not limited to antitrust cases, but rather “expounded the pleading standard for all civil actions.” (Id. at 1953 (internal quotation marks omitted).) This confirmed the conclusion that both courts and academics had already reached about the scope of *Twombly*: it applied to all cases. See Bone (2009, p. 881); Hatamyar (2010, p. 555); Redish and Epstein (2008, p. 26).

As Richard Epstein has noted, “Without question, *Bell Atlantic v. Twombly*[] ranks as one of the most controversial decisions of the United States Supreme Court in recent years.” (Epstein 2009, p. 2.) Many scholars assumed that *Twombly* and *Iqbal* would cause many more cases to be dismissed, but whether this expected effect was desirable has been hotly debated. This debate has been complicated by the emergence of empirical evidence suggesting that the effects of *Twombly* and *Iqbal* have been more modest than anticipated.¹¹

Broadly speaking, there are two views of the relationship between plausibility pleading and the role it plays in screening out cases from court. In many ways, these two views parallel the two approaches to modeling litigation and settlement as a “game.” Indeed, proponents of each view indirectly invoke the Full Information and Asymmetric Information models of litigation and settlement. Both of these views, however, have to contend with the lukewarm evidence that *Twombly* and *Iqbal* have had a significant effect at all. I briefly describe these two views next.¹²

¹¹See Part 1 for a discussion of this evidence.

¹²Note that this paper does not study an alternate hypothesis about the effect of *Twombly* and *Iqbal*: that rather than (necessarily) raising the bar for pleading, they simply increased uncertainty about what judges would require from pleadings, and thus led to more costly pleading practice and a greater risk of arbitrary dismissals at the pleading stage. Nonetheless, the analysis herein suggests that if before *Twombly* there was already a high level of

3.2 The Frivolous Lawsuits View

In deploying the plausibility standard to dismiss the claims in *Twombly* and *Iqbal*, the Supreme Court made little secret that it was motivated by concerns about weak cases being brought against defendants who were vulnerable because their costs of defense were so high. The very language of “plausibility” implies an attempt to weed out cases unlikely to succeed, and with respect to litigation costs, the Court in *Twombly* devoted more space in its opinion to documenting the enormous costs of defending an antitrust case than it did interpreting the text of Rule 8 or the long line of precedent on pleading standards. The issue of costs in *Iqbal* is less explicit, but the fact that the petitioners before the Supreme Court were John Ashcroft, former Attorney General of the United States, and Robert Mueller III, former Director of the FBI, loomed over the entire decision.

While the *Twombly* Court’s concern with frivolous litigation seems to mesh with the Full Information approach, this link is problematic. After all, the Full Information approach has never incorporated pleading into its models. There is no formal theory of what effect, if any, changes in pleading standards would have on NEV litigation. Worse, the canonical Full Information models do not even predict that NEV claims will be filed as lawsuits.¹³

Thus, to make sense of this view of *Twombly* (and possibly *Iqbal*) requires incorporating pleading into the Full Information approach. One objective of this paper is to do so. As I will show, such a model improves upon the existing Full Information models by resolving some of their unanswered questions, such as why meritless cases would ever be filed rather than settled or dropped, but it provides only mixed support for the intuition that higher pleading standards will have an effect on the filing of meritless cases.

3.3 The Paradox of Pleading View

The greatest concerns raised about plausibility pleading have been about its effect on civil rights, and especially employment discrimination, plaintiffs. Reiner (2010) and others note the historical importance of federal courts to civil rights claimants, as well as the particular difficulty that individuals with claims such as employment discrimination will have pleading specific facts about the defendant’s motives. Some argue that the need to plead facts establishing a “plausible” claim will often prove an “impossible” (Kilaru 2010, p. 924) or “insurmountable” (Schnapper 2009; Wasserman 2010, p. 178) barrier for civil

pre-lawsuit screening of cases by plaintiffs’ attorneys coupled with a high level of factual detail in pleadings, then the adverse effects of this greater uncertainty would be blunted relative to a scenario in which there was little screening or factual detail pre-*Twombly*.

¹³I should note, however, that one could argue that even if, in equilibrium, no “frivolous” lawsuits are filed, a higher pleading standard can eliminate a credible threat to sue, thereby solving the problem of frivolous suits without affecting filed cases.

rights plaintiffs. The concern here is one of asymmetric information: only the defendant knows the defendant's motives. While discovery is a mechanism for revealing this private information, a plaintiff cannot obtain discovery without first surviving a motion to dismiss. But if this lack of information means that the plaintiff cannot plead a "plausible" claim, then the complaint will be dismissed and the case will never see discovery. This bind has been called a "catch-22" and the "paradox of pleading."

Although this view of *Twombly* and *Iqbal* as screening out the potentially meritorious claims of uninformed plaintiffs invokes the terminology of Asymmetrical Information models, no attempt has been made to determine whether such models would predict such a catch-22. Indeed, just as with the Full Information approach, Asymmetrical Information models have not yet incorporated pleading into the litigation environment, and thus existing models do not bear directly on the potential negative consequences of *Twombly* and *Iqbal*.

Here again, to make sense of this view requires incorporating pleading into the Asymmetric Information approach, which this paper does. As I will show, my model adds to the existing Asymmetric Information models by resolving some of their unanswered questions, such as how real-life procedural features facilitate effective signaling in an environment with information asymmetry and in which more than one period of bargaining is possible. And as above, my analysis provides only mixed support for the intuition that *Twombly* and *Iqbal* create a catch-22 for plaintiffs facing defendants with private information.

4 A Full Information Model of Pleading

I begin with a full information model that incorporates endogenously determined costs of pleading into the model, to reflect the fact that the plaintiff has control over how much to invest in pre-complaint investigation and factual detail in the complaint.

I do not, however, require the possibility of a motion to dismiss for failure to state a claim. Instead, the model begins by assuming that a filed complaint will *never* be dismissed. My focus is on the extent to which low-merit cases are (or are not) screened out by the deliberate, strategic behavior of potential litigants, even in the absence of *any* gatekeeping function of the courts at the pleading stage. One could also treat this absence of any risk of dismissal as a rough approximation of the idealized conception of "notice pleading."¹⁴ I then consider the extent to which a requirement that the factual allegations

¹⁴Or at least an aspiration of the drafters of the Federal Rules. In proceedings on the Federal Rules of Civil Procedure in 1938, Charles E. Clark, primary architect of the rules, noted that the English Equity Rules of 1912 abolished the demurrer and remarked that in the Federal Rules, "We don't go as far as the English rules, which I personally think we should eventually." Clark (1938 p. 240).

of a complaint state a “plausible” claim may affect litigation and settlement in this model.

My model also accounts, in a simplified way, for the possibility of multiple rounds of settlement offers and counter-offers. In doing so, I resolve the disagreement between Bebchuk (1996) and Schwartz and Wickelgren (2009a). A notable result that emerges from this synthesis is that my full information model predicts that in equilibrium, not all claims will settle pre-litigation. Instead, some frivolous claims will become frivolous *lawsuits* before being settled.

4.1 Outline of the Model

The goal of this model is to represent the basic dynamics of pleading and settlement in a way that is both reasonably realistic and analytically tractable. This model is set up as follows: a potential plaintiff has a claim against a potential defendant. The amount at stake and the strength of the claim (plaintiff’s likelihood of winning in court) are known to both parties, as are the parties’ costs of litigation. While this model applies to all claims, whether PEV or NEV, the interesting cases for our purposes involve NEV claims, and the discussion below will assume a NEV claim.

While the total cost of litigating a case to judgment is assumed to be fixed (for simplicity), the plaintiff’s cost of filing a complaint is not. The cost of filing a complaint includes both the filing fee charged by the court and the cost of preparing the complaint. While the filing fee is a fixed (and small) amount, the plaintiff can choose how much to spend on the complaint; a long, detailed complaint that reflects thorough preparation for litigation will cost more than a bare-bones complaint that describes the plaintiff’s claim in a cursory manner. Importantly, much of the work that a plaintiff would have to do later in the litigation can be done before filing—collecting and organizing evidence, conducting legal research, drafting memoranda, organizing a litigation team, and so on.

In this model, settlement is possible either before or after suit is filed. Before suit is filed, the parties incur no litigation costs, but alternate in having the opportunity to make an offer, which the other can either accept or reject. The only cost that this period of negotiation imposes is due to the fact that parties discount the future relative to the present; thus, a settlement dollar today is worth more to the plaintiff than a settlement dollar tomorrow.

In any given period in which litigation has not yet commenced, the plaintiff chooses whether or not to file a complaint. If the plaintiff files suit, then the settlement environment changes. After the suit is filed, each party continues to take turns making offers, but they now incur some share of litigation costs each period. The final opportunity for settlement is on the eve of trial. Trial is the final period, in which the parties incur the share of litigation costs that are trial costs and then judgment is awarded. (Recall that because this is a

full-information model, the expected judgment is common knowledge.)

What is the solution to this model? I present a rough outline here, omitting nuances and qualifications that will be made explicit during the formal treatment of the model.

The first question to consider is whether the plaintiff has a credible threat to sue, given that his claim is NEV. If he has no credible threat to sue, the defendant will never agree to a positive settlement amount, and the plaintiff will abandon the claim. As Bebchuk (1996) argues, even if the plaintiff's claim is NEV, if the costs of litigation are divided up among multiple periods, the plaintiff has a credible threat to sue so long as the expected judgment is greater than the *per-period* cost of litigation. The reason is that in the final period before trial, all that is required for the plaintiff to credibly threaten to go to trial is that the final period's cost of litigation is less than the expected judgment. If the plaintiff can obtain a favorable settlement in the final period before trial, then the plaintiff has a credible threat to continue from the penultimate period before trial—and so on, working backwards all the way to the initial period.

But in some low-merit cases, the expected judgment at trial is very small, and the plaintiff's expected judgment may not even exceed the cost of a single period of litigation. Here is where pleading comes in. By investing heavily in pre-complaint investigation, the plaintiff is able to sink the costs of discovery that he otherwise would have to bear after filing. Conditional on having sunk these costs, the plaintiff's expected judgment is large enough relative to the *remaining* costs of litigation that he now has a credible threat to sue. By voluntarily undertaking highly detailed pleadings, the plaintiff can make these sunk costs observable to the defendant, thereby making credible the threat to continue litigating through to trial.

For a truly “frivolous” claim, there is no credible threat to go to trial, because the case will never get past summary judgment. For such a claim, the final opportunity for settlement is the last period before summary judgment (at which point the defendant is guaranteed to prevail, and thus the plaintiff is guaranteed to drop the case when the case reaches the summary judgment stage). The only way that the plaintiff can credibly threaten to pursue litigation to the period *preceding* summary judgment is if litigating that period is costless to the plaintiff but costly to the defendant. If so, then in the penultimate period before summary judgment, the plaintiff can extract a settlement up to the litigation cost of the last period before summary judgment. (The reader may note that this subgame is exactly the Rosenberg and Shavell (1985) model.) From there, backwards induction reveals that the plaintiff has a credible threat to sue, even though he is *certain* to lose at summary judgment. But the key to this strategy is eliminating the cost of discovery in the period preceding summary judgment, and credibly demonstrating this fact to the defendant. Once again, heavy pre-suit preparation and detailed pleading

serve this purpose.

Thus, a plaintiff who sinks litigation costs and then files a detailed complaint may be able to obtain positive settlement from the defendant, despite having a NEV claim. The only question that remains is, *Why would any complaints would be filed in equilibrium, since the parties know that the plaintiff has a credible threat to sue, and settling without filing is less costly for everyone?*

The answer is that the dynamics of settlement before filing are very different than after filing. Before filing, neither party incurs litigation costs if they fail to settle. The plaintiff nonetheless wants to settle, because future payments are discounted. But, as Schwartz and Wickelgren (2009a) and Spier (1992) have pointed out, the defendant wants to delay, and for the same reason: paying a dollar tomorrow is better than paying a dollar today. The defendant can only gain through delay, and therefore the defendant's optimal negotiation strategy pre-filing may be to refuse every settlement offer from the plaintiff, solely for the purpose of delay. The equilibrium strategy in this situation is thus an inefficient one: in the first period, the plaintiff files a costly, detailed complaint, and in the second period the parties settle.

With this intuition in mind, I now turn to the formal model.

4.2 Formal Model

There is a dispute between a (potential) plaintiff P and (potential) defendant D .¹⁵ The potential monetary judgment at stake is J , and both plaintiff and defendant know that plaintiff has probability of winning at trial equal to π . The expected judgment is thus πJ . Plaintiff's total cost of litigation is C_P and defendant's total cost of litigation is C_D .

Crucially, one component of the total cost of litigation for the plaintiff is the cost of filing F , which reflects the plaintiff's cost of drafting the complaint, as well as the plaintiff's investment in pre-complaint investigation and informal discovery. Above some nominal filing fee $\bar{F} \approx 0$, the plaintiff has control over whether to devote resources to factual investigation in the pre-complaint stage of the dispute, rather than spending those resources (and developing those facts) later in the case. The plaintiff's cost of litigation after pleading is thus reduced by the cost of pleading.¹⁶ Past models, such as Rosenberg and Shavell

¹⁵For brevity, I omit "potential" in describing plaintiffs and defendants herein, even when describing pre-litigation behavior.

¹⁶Note that I am abstracting away from the fact that the costs of gathering a given set of facts may be much higher in the pre-litigation setting than in the discovery setting, given that fewer procedural devices are available to the plaintiff in this situation. Note, though, that in the frivolous litigation context, it is not clear that the plaintiff's investigation costs are higher pre-litigation, given that there is (by construction) nothing to find. In the asymmetric information setting, it should be noted that one should expect a more realistic valuation of pre-litigation investigation costs to make separation through costly signaling *more* feasible, as it makes it much more costly for plaintiffs without facts in hand to mimic plaintiffs with

(1985), have treated F as an exogenous constant. A key change in this first model is allowing plaintiff to choose F .

For reasons that will become important later, note that F in turn determines the amount of factual detail (or legal detail, for that matter) in the complaint. Call the detail of the allegations A , where allegation detail A is a strictly increasing function $A(F)$ of the cost of filing F , where $A(\bar{F}) = 0$.¹⁷ While I assume that F is not directly observable by the defendant, $A(F)$ is observable, and thus the defendant will know F .

The game is divided into an indefinite number of periods, beginning with Period 0. The parties share a common per-period discount factor $\delta < 1$. Each period, the plaintiff first decides whether to file suit or not. Next, one party makes a settlement proposal, which the other party may accept or reject. If a proposal is accepted, the game ends. The parties alternate making settlement proposals across periods.¹⁸ If the plaintiff files suit, he files a complaint with pleading detail $A(F)$ at cost F . Once the plaintiff files a complaint, unless the parties settle, the lawsuit continues for n periods. During each of the n periods in which the parties do not settle, party i bears per-period litigation costs of c_i . Define C_{it} for party i who reaches the t th period of litigation, such that

$$C_{it} = \sum_{k=1}^t \delta^k c_i \tag{1}$$

Thus, $C_i \equiv C_{in}$. Because costs the plaintiff expends at filing are costs that he would have to incur later anyway, F offsets the per-period litigation costs by F/n .¹⁹

During litigation, the parties continue alternating settlement proposals. The n th period is trial, during which there is no opportunity for settlement; instead, judgment is awarded.

If the parties settle for S_1 in period τ and before a lawsuit is filed, the payoffs are $(\delta^\tau S_1, -\delta^\tau S_1)$. If the parties settle after filing (for S_2), the plaintiff's payoff is reduced by the (discounted) cost of filing and litigation until settlement; the defendant's payoff is reduced by the defendant's costs of litigation

facts in hand.

¹⁷Strictly speaking, the detail in the complaint is merely bounded above by $A(F)$, as the plaintiff can always withhold from the complaint the details collected in the course of his pre-complaint investigation. Because, however, the plaintiff can only increase his ability to obtain a settlement by fully revealing F (remember, this is a full-information game, so the defendant already knows the strength of the case), I treat F as determining the extent of detail actually included in the complaint.

¹⁸It does not affect any essential aspect of the analysis who goes first. Equilibrium settlement values will vary slightly with who proposes first.

¹⁹Because $\bar{F} \approx 0$, I ignore it here in the interests of simplifying notation that is already cluttered.

until settlement. Before and after filing, the plaintiff always has the option to drop the suit by offering or accepting a settlement of zero.

If a complaint is filed in period τ and the plaintiff neither drops the case nor obtains a settlement, the case goes to trial after n periods of litigation. The parties' payoffs are $(\delta^\tau(\delta^n \pi J - C_P), -\delta^\tau(\delta^n \pi J + C_D))$. Figure 2 illustrates the model.

The model is solved by backward induction. The plaintiff will drop the suit in the final period if $\pi J < c_P - F/n$. If plaintiff drops the suit, then defendant's payoff is 0, which she prefers to any positive settlement payment. Thus, the defendant refuses to settle for any amount $S_2 > 0$ during litigation. Given this, plaintiff will not file suit. Because the plaintiff has no credible threat to sue, $S_1 > 0$ is rejected in Period 1 as well.

In short, if $\pi J < c_P - F/n$, the equilibrium outcome is $S_1 = 0$, and the parties' payoffs are $(0, 0)$. A necessary condition for a positive settlement is thus

$$c_P - \frac{F}{n} \leq \pi J. \quad (2)$$

Next, note that, conditional on this inequality being met, the plaintiff makes himself (weakly) worse off by increasing F .²⁰ Thus, if a plaintiff files suit, he will choose the smallest F consistent with expression (2) and the requirement that $F \geq \bar{F}$.²¹

$$F = \max\{(c_P - \pi J)n, \bar{F}\}. \quad (3)$$

When F satisfies Equation (3), the plaintiff will choose to litigate rather than drop the case in the penultimate period (and all earlier periods). Given this, the settlement game is solved back to the first period of litigation, in which the parties will settle for approximately

$$S_2^* = \pi J + \frac{1}{2}(C_D - C_P + F) \quad (4)$$

for $\delta \approx 1$.

If this settlement yields the plaintiff a positive payoff, then the threat to file suit is credible. If not, then the plaintiff will not sue, and the outcome is $S_1 = 0$. If the threat to sue is credible, the question that remains is whether

²⁰Setting F above this point means incurring costs that the plaintiff could otherwise not have to pay, because for any F that satisfies expression (2), the case settles before litigation costs are incurred.

²¹Note that for any PEV claim ($\pi J - C_P \geq 0$), the plaintiff's threat to litigate is always credible. Thus, plaintiffs with PEV claims and plaintiffs for whom $\pi J - c_P \geq -\bar{F}$ will choose $F^{PEV} = \bar{F}$.

the plaintiff will file suit or negotiate a settlement without filing suit.

At this point it is worth noting that filing in this model is inefficient, because the cost of filing is a real social cost. Given that this is a full-information model, one might expect the typical, efficient result that settlement will occur in Period 0 without suit being filed. Although settlement without filing is socially optimal, it is not in all cases privately optimal for the defendant to settle in the absence of filing.²² Within this model, however, If the plaintiff never files a lawsuit, then the defendant is better off refusing to settle for any positive amount in every period. As noted above, discounting of future payments means that delaying payment of a settlement will always benefit the defendant.²³

Given this fact, the choice the plaintiff faces is between filing suit immediately in Period 0 or offering a settlement in Period 0 and then filing suit in Period 1 if the offer is rejected. A plaintiff who files immediately in Period 0 will receive payoff $S_2^* - F$. A plaintiff who does not file in Period 0 will employ a strategy in which he offers $S_1 = \delta S_2^*$ in Period 0 and files suit at the end of Period 0 if the defendant rejects the offer. This settlement demand S_1 is the largest amount that the defendant would accept, given the alternative of being sued and then settling for S_2^* in the next period.

Filing in Period 0 is optimal if

$$S_2^* - F \geq \delta S_2^* \tag{5}$$

or

²²To be clear, I am not claiming that settlements of threatened frivolous suits are in reality “socially optimal”! But within the narrow context of the model, a pre-suit settlement is a costless transfer, and thus Pareto optimal.

²³This discussion should make clear how Schwartz and Wickelgren (2009a) can be reconciled with Bebchuk (1996), despite their seemingly conflicting claims. Citing the alternating-offer, split-the-dollar model of Rubinstein (1982), Schwartz and Wickelgren argue that the “outside option” of refusing settlement and pursuing litigation will have no effect on the equilibrium settlement amount, and thus the threat to pursue trial can never be credible in a NEV suit. This is true when both the “dollar” (the litigation costs the parties save through settlement) and the outside option shrink at equal rates over time (due to a discount factor that applies equally to both). In this case, if the outside option is inferior to the equilibrium settlement amount in the game without an outside option, then the constraint it imposes on bargaining is neither binding in the initial period nor in subsequent periods. This model seems a fair description of pre-filing settlement. But if the “dollar” is shrinking faster than the outside option, then in later periods the outside option becomes a binding constraint on bargaining, and backward induction carries this effect forward to the initial-period equilibrium settlement. In this case, the plaintiff gets the value of the outside option and the parties split the surplus. This latter approach seems a better description of settlement negotiations post-filing, because the “dollar” (litigation costs) is shrinking faster than the outside option (the expected judgment). The remaining litigation costs are shrinking at a rate reflecting both the consumption of costs as litigation is conducted and the discount factor, while the expected judgment is shrinking only at the rate implied by the discount factor. For this reason, I have designed my model accordingly.

$$F \leq \frac{1 - \delta}{1 + \delta}(2\pi J + C_P + C_D) \quad (6)$$

In sum, investment in costly and detailed pleading allows *some* plaintiffs with NEV claims that are so weak that $\pi J < c_P$ nonetheless to obtain positive settlements. By spending $F^{NEV} = C_P - n\pi J$, a plaintiff with a NEV claim can credibly commit to go to trial if settlement negotiations break down, because the plaintiff has already sunk the costs of discovery that otherwise would discourage him from pursuing trial. Thus, the “nuisance value” that a NEV claim can extract from a defendant in a sequential, full-information model is not merely the cost to the defendant of answering the complaint—which, as Bone (2003) points out, is rarely more than the cost of filing the complaint—but a share of the defendant’s *total* cost of defending the suit and the expected judgment.²⁴

Even so, it is important to recognize that some NEV claims do not have positive settlement value. For a NEV claimant to have a credible threat to go to trial, the plaintiff must spend $F^{NEV} = C_P - \pi J$ on pleading. Given the settlement S_2^* that he can obtain, the plaintiff’s payoff given settlement S_2^* is

$$S_2^* - F^{NEV} = \frac{3}{2}\pi J + \frac{1}{2}C_D - C_P \quad (7)$$

The plaintiff will choose $F^{NEV} = C_P - \pi J$ only if the post-filing settlement payoff is positive:

$$\frac{3}{2}\pi J + \frac{1}{2}C_D - C_P \geq 0. \quad (8)$$

If it is, then the plaintiff’s threat to sue is credible, and the parties settle. But the inequality in Expression 8 will not always hold, and this expression reveals something about the claims that will and will not be worth litigating. All else equal, cases with less merit (i.e., lower π) are less likely to have positive settlement value. Thus, even in a regime in which *no* complaints are dismissed, we should expect at least some low-merit claims to be screened out endogenously (i.e., have zero settlement value).

This may be true even when the defendant’s cost of defending the suit is higher than the plaintiff’s cost of litigation. Instead, the asymmetry in litigation costs must be sufficiently severe to overcome the inherent deterrent to NEV litigation created by the need to sink litigation costs. A plaintiff with a frivolous lawsuit can only obtain a positive settlement if the defendant’s total

²⁴Note, however, that because the parties split the surplus, the defendant is also settling for a share of the plaintiff’s total litigation costs. Only if the defendant’s litigation costs exceed the plaintiff’s litigation costs will this lead to net transfer of surplus to the plaintiff. Nonetheless, given the context in which claims of “frivolous” lawsuits arise, it is at least plausible that defendant’s costs are higher in this scenario.

litigation costs are twice the size of the plaintiff's.²⁵

Finally, and perhaps counter-intuitively, even in a full information setting, some lawsuits will be filed. Expression (6) indicates that if F is sufficiently small—which is likely to be the case for PEV claims—or if C_D is sufficiently large relative to C_P , then the equilibrium strategy for the plaintiff is to file a complaint and then settle. Of course, given that $(1 - \delta)$ is likely to be very small, Expression (6) indicates that for most parameter values, NEV claims will settle without filing, if at all. Nonetheless, it is worth noting that it is precisely the class of cases like *Twombly*, where the defendant's litigation costs vastly outweigh the plaintiff's costs, that this model predicts “frivolous” claims will be filed in equilibrium.

4.3 Discussion

What conclusions can one draw from this model? First, note that cases of the lowest merit will be more likely to have zero settlement value as there is no credible threat to sue. Thus, even in the absence of *any* pleading standard, weaker cases will tend not to be filed (or settled). This suggests that at least in most contexts, notice pleading may be adequate to address the concerns about frivolous lawsuits that tend to motivate arguments for higher pleading standards and more gatekeeping by judges.

Second, the fact that NEV claims may have positive settlement value is, as a normative matter, ambiguous; the American Rule means that many high-merit claims are still NEV cases, and thus it is possible that the strategic use of costly pleading is normatively desirable for some NEV claims. As such, it is not obvious *a priori* that the equilibrium in this model in which there is no pleading standard and NEV cases sometimes settle for positive amounts is undesirable.

Third, if *Twombly* and *Iqbal* merely impose a requirement of greater factual detail (rather than favorable, probative facts), they are likely to be counter-productive, because the weakest NEV suits will contain the *most* detailed pleadings! In other words, *Twombly* and *Iqbal* run the risk of having no effect on the cases that, in the Frivolous Lawsuits view of pleading, they are intended

²⁵The reader may wonder how a plaintiff with a meritless claim can expend costs on detailed pleading. It is worth noting that the model does not require that the details of the complaint, if true, tend to prove plaintiff's case; that would be plausibility pleading. Instead, the model only requires that the details in the complaint reflect the expenditure of effort that otherwise would have to occur after the complaint was filed. In this respect, documenting a failed investigation works as well as documenting a successful one! If this sounds far-fetched, it may be. But I submit that, at least to the eyes of seven Supreme Court justices, this is exactly what the complaint in *Twombly* did. See Consolidated Amended Class Action Complaint, *Twombly v. Bell Atlantic Corp.*, No. 02 CIV 10220 (S.D.N.Y. filed April 14, 2003) (This complaint was 29 pages long, with 94 of 96 numbered paragraphs “based upon . . . the investigation of counsel.”)

to combat. At the same time, a standard demanding high levels of pleading detail imposes costs on plaintiffs with stronger cases, who previously had to incur only the costs of notice pleading.²⁶

On the other hand, if *Twombly* and *Iqbal* are implemented in a way that reliably screens based on “plausible” merit rather than mere quantity of factual detail, then the full information model suggests that *Twombly* and *Iqbal* may have beneficial effects. The very weakest cases should have no chance of surviving a motion to dismiss, at which point the game for the plaintiff with a low-merit claim reduces to the Rosenberg and Shavell (1985) model, and the plaintiff can settle for at most the defendant’s costs of filing a motion to dismiss.

Fourth, examining the conditions under which a plaintiff can credibly threaten to bring a NEV suit tend to confirm intuitions about the types of disputes in which “abusive” settlements are likely to occur in the absence of a pleading standard, but which “plausibility pleading” may prevent. I take it as given that cases with $\pi \approx 0$ are “frivolous” and should, as a normative matter, have zero settlement value. Given this, some gatekeeping at the pleading stage may be desirable when litigation costs are sufficiently disproportionate that a “frivolous” claim has positive settlement value. In this respect, I find it notable that the majority in *Twombly* seemed at pains to emphasize the unusual and uniquely burdensome scale of litigation costs for the defendants in that case. A case-specific application of plausibility pleading flies in the face of the transsubstantive design of the Federal Rules, as subsequent cases (most notably *Iqbal*) made clear. Yet this model suggests that a more tailored approach may be desirable: to create an exception to notice pleading in cases with exceptionally asymmetric costs.

I now turn to the role of asymmetric information in pleading.

5 An Asymmetric Information Model of Pleading

I now introduce a model of pleading under asymmetric information. I begin with a model in which only plaintiffs hold private information. I then consider private information held by defendants. Because the intuition of this model is straightforward, but the formal treatment is cumbersome, I relegate the formal model to the Model Appendix. Here, I present an outline of each version of the model. I then present a conjecture characterizing what I believe a solution to the two-sided private information version of the model would look like (a future draft of this paper will attempt to formalize and prove this conjecture).

²⁶It is worth noting, however, that this pattern only obtains in the full information setting. It does not continue to hold in the asymmetric information model below.

5.1 Private Information Held by Plaintiffs

Some plaintiffs have stronger cases than others, but the strength of a given plaintiff’s case may not be observable to the defendant. For simplicity, I assume here that there are two types of claims, “weak” and “strong.” (I will refer to plaintiffs with weak cases as “low types” and plaintiffs with strong cases as “high types.”) Thus, all plaintiffs have the incentive to claim to have a strong case when they approach the defendant and make a settlement offer in advance of litigation. The defendant, however, understands that not all plaintiffs in fact have strong cases, and thus must negotiate settlements accordingly.

Below, I present a model of pleading in the presence of asymmetric information in which *costly signaling* is the key mechanism for overcoming the information asymmetry. I show that pleading can play a key role in explaining how defendants can offer—and plaintiffs can accept—both high and low settlements in equilibrium. This model, like Bebchuk (1984) and Reinganum and Wilde (1986), explains why we see filed cases in equilibrium, but my model also explains the otherwise surprising phenomenon that many lawsuits settle soon after filing, before discovery or even an answer from the defendant.

The central feature of this model is once again that plaintiffs can control how much they spend on pleading. Whether the plaintiff’s costs translate into a factually rich and legally persuasive complaint depends, however, on how strong the plaintiff’s case is. For plaintiffs with a strong case (high types), they can easily bring favorable facts and law to bear, while plaintiffs with weaker cases (low types) cannot. Thus, it costs a low type much more to draft a detailed complaint than it costs a high type to do so. Knowing this, high types will invest heavily in detailed complaints, knowing that low types cannot afford to duplicate their level of detail. Consequently, a defendant knows that if she refuses to settle pre-complaint, she can discover the strength of the plaintiff’s case by looking at the level of detail in his complaint. The defendant therefore is willing to offer a generous settlement to a plaintiff who files a detailed complaint, but otherwise she will offer only a settlement just large enough to induce a low type to settle. This model predicts that low types will settle with the defendant without filing suit (possibly for $S_1 = 0$), while high types will settle (for higher amounts) only after the filing of a detailed complaint.²⁷ For details, see the Model Appendix.

Note what this model predicts: in the absence of *any* pleading standard, weak claims (the claims of the low types) are not filed, and complaints in filed lawsuits are pleaded in detail. Thus, in an environment characterized by asymmetric information in which the plaintiff holds private information and the parties have the opportunity to settle, detailed pleadings may serve as a means of costly signaling that allows plaintiffs with stronger cases to credibly

²⁷Low types settle before filing in order to save the cost of filing, since they gain nothing from the signaling opportunity it creates.

reveal their type to the defendant and obtain more generous settlements. If so, then we should expect to observe a pattern of litigation and settlement in which some subset of disputes settle (or are abandoned) without a complaint ever being filed, while another subset of disputes become filed lawsuits with detailed pleadings. Further, the filing of a lawsuit will often precipitate settlement, even without any further action taken in court. As discussed above in Part 1, this is a fair description of observed practice.²⁸

Further, we might expect an increase in the pleading standard from notice pleading to plausibility pleading to have little or no observable effect on filed cases, precisely because plaintiffs have an independent reason to plead with detail: the desire to signal the strength of their case.²⁹

5.2 Private Information Held by Defendant

Now consider the possibility of private information in the hands of the defendant. This possibility appears quite plausible in the context, for example, of employment discrimination claims, where the discriminatory intent or lack thereof is a fact that may be known to the defendant but not the plaintiff. It is the concern with exactly this sort of asymmetric information that has led scholars to argue that *Twombly* and *Iqbal* have created the “paradox of pleading.” Unlike in the two models presented above, in a scenario in which defendants hold private information, plaintiffs may simply be unable to plead detailed facts. Thus, the concern that requiring pleading of facts will discourage cases that would otherwise be filed is most acute in this context.

It is not clear, though, that even in this context plausibility pleading will discourage many lawsuits. To see why, it is again valuable to consider the incentives and strategies available to plaintiffs and defendants.

As an initial matter, I argue that the asymmetric information problem in this scenario is not merely the mirror image of the earlier asymmetric infor-

²⁸The only empirical patterns this model seems not to address are the fact that some cases nonetheless go to trial, and in some contexts we seem to see relatively high rates of defendant success at summary judgment and trial. This latter pattern is more consistent with private information held by the defendant. As I describe in Part 5.3 below, these patterns may be consistent with a model of costly signaling of plaintiff’s private information followed by screening for defendant’s private information.

²⁹Nonetheless, it is possible that for some classes of cases the new pleading standard creates a binding constraint on pleading detail for high types. If a higher pleading standard A^{TwIq} means that in order to file a lawsuit (and survive a motion to dismiss) a high type must instead pay a minimum cost $A_H^{-1}(A^{TwIq}) = F^{TwIq} > F_H$, this will either drive high types out of litigation (which would seem to be counterproductive) or lead to wasteful pleading, as more resources are spent on pleading to maintain the same separating equilibrium. Counterintuitively, however, this social cost will be borne by both plaintiffs and defendants; the higher cost of separating high types leads to lower surplus from settlement post-filing. As the parties divide the surplus in settlement, both plaintiffs and defendants are harmed by the higher standard.

mation problem. When plaintiffs hold private information, the low types have an incentive to mimic the high types, but the high types have a low-cost way to signal their type: precisely because their claims are stronger, it is relatively easy for them to generate detailed pleadings identifying favorable facts. When defendants have private information, once again the low types (the ones likely to be liable) have an incentive to mimic the high types. For signaling to work, the high types must be able to provide evidence of their lack of culpability at a lower cost than the low types. The problem is that this is often proven by the *absence* of (inculpatory) evidence, and of course it is equally easy for low types to show a lack of evidence as it is for high types. This is the problem of “proving a negative,” so to speak. To distinguish themselves, high types would have to collect and document *the entire universe of discoverable evidence* to show that there is in fact no “smoking gun” evidence being withheld. Such an undertaking, however, essentially duplicates the entire cost of litigation (or at least discovery), which defeats the purpose of seeking settlement in the first place.

If so, then a costly signaling equilibrium is infeasible. The alternative possibilities for separating the weak cases from the strong cases are a screening equilibrium or a (costless) signaling equilibrium. For simplicity, I will focus on screening; the analysis under costless signaling is essentially similar. As Bebchuk (1984) describes, so long as all plaintiffs have PEV claims, then plaintiffs can offer a high settlement that both the plaintiff and a low type will accept. The high types reject the offer and go trial. As discussed above, this equilibrium depends on the commitment of the plaintiff not to make a follow-up settlement offer to high types, and it depends on the plaintiff’s claims being PEV even if the defendant is a high type. The latter condition is essential for the screening equilibrium, because the rejection of a settlement offer by a high type reveals the strength of the plaintiff’s claim. If a claim against a high-type defendant is NEV, plaintiffs will abandon their claims if their settlement offer is rejected—but this implies that low types will want to mimic high types and refuse settlement in order to induce plaintiffs to drop their cases.³⁰

If some claims are NEV, the minimum condition for *any* litigation or settlement is that a plaintiff’s claim is PEV in expectation—i.e., the average claim is PEV. If this condition is not met, then by mimicking high types and refusing settlement, low types will completely eliminate separation, leaving all plaintiffs with claims that are NEV in expectation. Plaintiffs will therefore abandon their claims.

In the Bebchuk (1984) model, each potential plaintiff knows the distribution of case strength across all plaintiffs, but has no information specific to his own case (while the defendant knows his exact likelihood of winning at

³⁰This last point refined by Nalebuff (1987); the conditions under which a screening equilibrium break down when some claims are NEV turns out to be fairly subtle. But the logic of the model is unaffected by these refinements, and for simplicity of exposition I focus on the Bebchuk (1984) model.

trial). This seems to describe the “paradox of pleading” scenario: the plaintiffs have no specific facts, but the defendants do. Yet, if all plaintiffs are equally, completely ignorant of the strength of their cases, it is a serious question whether *any* litigation or settlement can occur, given the requirement that claims be PEV in the absence of an case-specific facts. Indeed, in the context of employment discrimination suits, it is hard to see how a group of uniformly uninformed plaintiffs could obtain settlements. Take, for example, the set of minority individuals who have suffered adverse employment actions in the last year. We know that some of these actions were taken for entirely legitimate reasons. Other actions were taken on the basis of discriminatory animus. But if no plaintiff has any facts setting his case apart from the others, what is the calculation that he, or his attorney, must make?

The plaintiff will be willing to sue if his suit is PEV:

$$\pi_0 J \geq C_P \tag{9}$$

Here, π_0 is the average likelihood of prevailing in this population of potential plaintiffs. In other words, if every minority worker who suffered an adverse employment action in a given year filed suit and litigated through to a trial verdict, the fraction who would win on their claims of intentional discrimination would be π_0 .³¹ Unfortunately, no one knows what this number is. Is it 1 percent? 10 percent? 50 percent?

What is important is what π_0 would have to be in order for plaintiffs to have PEV suits in this scenario. Employment discrimination claims tend not to be high-stakes by federal court standards; but I will assign a robust potential judgment of \$500,000 to the typical plaintiff in this scenario. This corresponds to the 75th percentile for stakes for employment discrimination cases in the study reported in Lee and Willging (2009). The 75th percentile for the costs of litigating to trial (for the plaintiff) in Lee and Willging (2009) is \$122,500. Given these numbers, we see that for the case to have PEV, it must be the case that

$$\pi_0(\$500,000) \geq \$122,500 \quad \rightarrow \quad \pi_0 \geq 0.245 \tag{10}$$

In other words, in order for such a claim to be PEV, at least 24.5 percent of all adverse employment actions against this group of workers were motivated by discriminatory animus. The π_0 implied by the median numbers in Lee and Willging is even higher. Median costs are only \$44,000, but median stakes are only \$108,750, implying a requirement that $\pi_0 \geq 0.405$.

While π_0 is unobserved, I will assume for the remainder of this discussion

³¹Of course, one can bring disparate impact, rather than disparate treatment, claims. But the “paradox of pleading” is about disparate treatment claims. Presumably the disparate impact of an employment policy is not private information of the defendant.

that such a high value for this prior probability is doubtful. If so, and plaintiffs are uniformly uninformed about the strength of their individual cases, it would be hard to explain how any cases would be filed, let alone explain the 20,000 employment discrimination cases per year filed in federal court. But of course in reality, the plaintiff often has many probative, case-specific facts on hand. In some cases, the plaintiff knows that he was a hard-working employee who received positive evaluations from other supervisors. In some cases, the plaintiff knows that he was replaced by a worker who was not a member of his protected class. In some cases, the plaintiff heard discriminatory epithets from his supervisors.

Define $\pi(x)$ to be the posterior probability of prevailing at trial as a function of the case-specific facts known the plaintiff. Call $x = H$ when facts favorable to the plaintiff's claim (like positive evaluations) are present and $x = L$ when there are no such facts. While it may be implausible to think that $\pi_0 > 0.245$, it seems entirely reasonable to assume that $\pi(H) > 0.245$. Thus, plaintiffs have no incentive to behave as a mass of equally uninformed individuals, whose claims are on the whole NEV and thus who cannot credibly threaten to sue. Instead a plaintiff with information specific to his case will use that information to modify his priors—and for the reasons already given in the version of the model with private information held by the plaintiff, he will want to make these facts observable to the defendant, so that the defendant understands that the threat of a lawsuit is real.

Also, note that $\pi(H) > \pi_0 > \pi(L)$. Thus, if a plaintiff with likelihood of success π_0 has no credible threat to sue, a plaintiff with π_L has a hopeless case. And crucially, nowhere in this model is there any pleading standard. Irrespective of the pleading standard, plaintiffs who cannot deploy *specific factual allegations* to make their legal claims plausible will neither obtain settlements nor file lawsuits.³²

This calls into question the prevalence of the “paradox of pleading” in practice, despite its status as orthodoxy in the debates on *Twombly* and *Iqbal*.³³ If plaintiffs—or at least their attorneys—will not file implausible cases even in the absence of any pleading standard, it is unclear how a plausibility pleading standard has any effect on plaintiffs who have no facts probative of the

³²One may be skeptical that individual plaintiffs who have, for example, lost their jobs, will make their litigation decisions using such a dispassionate cost-benefit framework. But there is little doubt that their *attorneys* will do so. Most plaintiffs' attorneys in fields such as employment discrimination work on a contingency fee basis, and thus bear the full cost of litigation regardless of the outcome of the case. A plaintiffs' attorney must offset the entire cost of litigating every case with a fraction of the judgments in the successful cases. For this reason, the plaintiff's attorney has a strong incentive to consider the expected value of a lawsuit.

³³Miller notes, “The problem was widely recognized at the Duke Conference [on civil litigation, May 10-11, 2010, sponsored by the Civil Rules Advisory Committee to the Judicial Conference] and no opposition was voiced to the need for solving the information-asymmetry problem.” Miller (2010) at 105 n. 404.

defendant's state of mind.

Further, this analysis of the litigation decision in the presence of private information held by the defendant once again suggests that even in the absence of a pleading standard, complaints in filed lawsuits will contain detailed factual allegations.

In sum, a plaintiff with no probative information about the strength of his case is unlikely to have a credible threat to sue because his claim, almost by definition, is NEV, and plaintiffs with stronger claims have an incentive to signal this fact to the defendant. The ensuing separation among plaintiffs means that every defendant, regardless of type, will refuse settlement of these NEV claims. There is no credible threat to sue—the exception being, of course, under the conditions explored in the Full Information model above.

Once the plaintiffs with PEV claims have separated themselves from those with NEV claims, it is then possible for the plaintiffs to attempt to ferret out the high-type defendants from the low-type defendants. This is essentially a model of two-sided private information, to which I turn now.

5.3 Two-Sided Private Information

The preceding discussion showed how the model of one-sided private information held by plaintiff becomes an integral part of the analysis of cases where the defendant has private information. An examination of possible equilibria in a model of two-sided private information with costly signaling through pleading yields a slightly revised, and more modest, version of the paradox of pleading. If the pleading standard is set sufficiently high that PEV claims may fail to meet the standard, an undesirable equilibrium emerges in which part of the separating equilibrium breaks down and leads to the abandonment of PEV claims, or the pooling of strong cases with weak ones—a result that is clearly inefficient from an *ex ante* perspective. Thus, while a cautious application of the plausibility standard by courts is likely to have little effect on cases with asymmetric information, an overzealous application of the requirement for specific, probative facts could have adverse effects on civil justice.

The two-sided private information model has the following structure: There are plaintiffs with strong cases (high types), plaintiffs with weak but PEV cases (low types), and plaintiffs with NEV cases (NEV types). Note, however, that a low-type or NEV-type plaintiff may actually have a high probability of prevailing in litigation; the defendant may have private information that she is liable. Given the information available to these types in the initial period, however, their expected likelihood of prevailing is low.

There are defendants with strong cases (high types) and weak cases (low types). As with plaintiffs, a high-type defendant may in fact have a low chance of prevailing at trial, but, given her private information (and the fact that

she cannot observe the plaintiff's type), her expected likelihood of prevailing is high. A high-type plaintiff against a low-type defendant has the highest likelihood of success at trial. NEV types will never go to trial; among those plaintiffs who have a credible threat to go to trial, a low-type plaintiff against a high-type defendant has the lowest likelihood of success at trial.

The plaintiff can file a complaint at any time. Until then, the parties have an opportunity to settle without a filed lawsuit. When the plaintiff files suit, he chooses how detailed a pleading to file. More detailed pleadings are more costly, and adding detail is more costly for low-type plaintiffs than high-type plaintiffs. Detail is most costly for NEV types.

As noted above, in order for *any* litigation or settlement to occur in the setting in which defendants have private information about liability, plaintiffs must have a credible threat to sue, and only plaintiffs in possession of case-specific facts establishing the (relative) strength of their claims have such a credible threat. Thus, when conditions are such that settlement is not possible when there is pooling between plaintiffs with and without PEV claims, plaintiffs with PEV claims must separate themselves from the mass of other potential plaintiffs.

This makes costly signaling through pleading extremely valuable. Because it is a credible signal that is independent of a settlement proposal, it allows plaintiffs to clearly signal their type, while retaining the settlement process as a mechanism for distinguishing between high- and low-type defendants. Thus, we expect to observe an equilibrium in which plaintiffs obtain full separation through pleading. NEV types do not file; they abandon their claims. Low-type plaintiffs file moderately detailed complaints, while high-type plaintiffs file highly detailed complaints.³⁴

The post-filing environment now has two, independent subgames, one for high-type plaintiffs and one for low-type plaintiffs. Each subgame involves only one-sided private information, and thus any number of models of settlement under one-sided private information could apply. As noted above in Part 5.2, the simplest involves the plaintiff giving a screening offer to the defendant.³⁵ The plaintiff makes a high settlement demand representing the highest settlement that a low-type defendant would be willing to pay, given that she knows the plaintiff's type. A low-type defendant accepts the proposal, while a high-type defendant refuses, and the parties continue to litigate.³⁶

³⁴Low-type plaintiffs cannot file bare-bones complaints because NEV types could then profitably mimic them in order to obtain the low-type settlement.

³⁵As Daughety and Reinganum (1993) argue, signaling by the informed party is more efficient than screening by the uninformed party, and thus may be more likely to emerge in an environment of open-ended settlement negotiation. Because the results under screening and signaling are qualitatively similar, and the screening equilibrium is simpler to describe, I present screening here.

³⁶The result of this process of costly signaling followed by screening is that the very weakest plaintiffs are sorted out of settlement and litigation altogether, while the defendants

Once again, we see that in an environment with no pleading standard, weaker cases are not filed, and the complaints that are filed contain detailed allegations indicating the strength of the plaintiff’s case. Further, we observe that some claims are settled prior to litigation (the plaintiffs with NEV claims), some claims are settled soon after a complaint is filed, and without any further litigation (the claims against low-type defendants), and some claims are filed and litigated (the claims against high-type defendants).

Now consider the possibility of a “plausibility” pleading standard. Such a standard should have no effect on the outcomes in this model, because every complaint that is filed already contains sufficient factual detail to demonstrate that has PEV.

Concerns about the effects of heightened pleading only arise if one were to set the pleading standard so high that low-type plaintiffs—who have sufficient private information to make their claims PEV—would nonetheless see their complaints being dismissed, given their equilibrium level of pleading detail under the lower pleading standard. This will lead to one of three outcomes, none of which is socially desirable:

First, low-type plaintiffs could increase their level of pleading detail to meet the new standard. This is socially wasteful, because higher pleading detail is a real cost. It may also require high-type plaintiffs to increase their pleading detail in order to maintain separation, which would be an additional social cost.

Second, low-type plaintiffs may find that their claims are now NEV. Thus, they lose a credible threat to sue and abandon their claims.

Third, the high standard could induce pooling in one of two ways. The first scenario involves low-type plaintiffs increasing their pleading detail to meet the new standard. If it is too costly for high-type plaintiffs to increase their pleading detail in order to maintain separation, there will instead be pooling, in which all plaintiffs plead the minimum required under the new pleading standard.³⁷ The loss of separation raises the costs of negotiating settlements post-filing, leading to an inefficiently high level of litigation relative to settlement.

The second scenario involves low-types *not* changing their pleading detail, but filing anyway. They do so in order to signal their type to defendants and

with the weaker cases are sorted out of litigation through the settlement process. Given that both high- and low- type plaintiffs, but only high-type defendants remain, one might expect that this process of settlement and litigation will result in observed rates of summary and trial judgments that favor defendants. This result of the screening process mirrors the result in the Bebchuk (1984) model, which predicts that defendants will have relatively high success rates at summary judgment and trial when they enter the litigation with private information.

³⁷Surprisingly, this means that it is possible that the average level of pleading detail in filed lawsuits could *fall* in response to a higher pleading standard!

induce a settlement in lieu of a motion to dismiss. The strategy is that the plaintiff has a credible threat to sue, because the plaintiff could file an amended complaint with more detail, but the plaintiff wants to avoid the steep increment in cost that would entail. Thus, the plaintiff is willing to accept a much lower settlement in order to avoid having to file an amended complaint that would survive a motion to dismiss. If the cost of the amended complaint is great enough, the plaintiff will prefer to settle with all defendants, rather than only low-type defendants, and thus the plaintiff induces pooling by making an offer that high-type defendants would accept. This form of pooling harms *ex ante* efficiency, as low-type defendants pay only a high-type settlement amount.

6 Conclusion

This paper presents two models of pleading, each of which represents a logical extension of existing frameworks for modeling litigation and settlement. By incorporating pleading into canonical models of litigation and settlement, I can improve on the predictive power of these models, which previously did not account for the observed mix of pre-filing settlement, post-filing settlement, and trial that characterizes civil practice.³⁸

Conversely, by applying these established, game-theoretical approaches to the problem of pleading, I am able to explain the empirical patterns of pleading practice that would otherwise appear to be at odds with both the pre-*Twombly* doctrine of liberal notice pleading and the notion that *Twombly* and *Iqbal* raised the bar for factual detail in pleadings. The conclusion one can draw from these models is that notwithstanding the pleading standard set by the Supreme Court, there are forces independent of the pleading standard that drive parties to abandon weaker cases without filing them, and to plead detailed facts when filing a lawsuit.

Plausibility pleading, to the extent that it has beneficial effects, is best targeted to a small (but potentially very expensive) set of cases—cases much like *Twombly* itself. While the claims that *Twombly* and *Iqbal* have devastated employment discrimination and other types of cases by creating a “paradox of pleading” may be overblown, these models of pleading suggest that an unduly aggressive approach to “plausibility” could induce such inefficient equilibrium in cases involving two-sided private information. Perhaps counterintuitively, the harmful effects in such cases could extend not only to those plaintiffs with weaker cases, but plaintiffs with stronger cases and defendants as well.

³⁸Of course, the models in this paper are hardly the only models capable of accounting for these patterns. My only claim is that these model can do so in a particularly parsimonious way that also explains observed patterns of pleading practice, something that past models have not attempted to do.

7 Model Appendix

[INCOMPLETE]

To formalize the model of one-sided private information held by plaintiffs, take a dispute between a plaintiff and a defendant, in which the plaintiff may be one of two types, H and L , but his type is unobserved by the defendant. Plaintiff types differ in two ways. First, high types have cases with higher merit and thus higher settlement value. If J is the monetary judgment at stake and a plaintiff of type i has probability of winning π_i , then the expected judgment for each type is $\pi_i J$, with $\pi_H J > \pi_L J$. Second, high types find it less costly to collect additional facts or law to include in their pleadings. If $A_i(F_i)$ is the detail of a complaint's allegations as a function of filing expenditures F_i for type i , then $A_H(\bar{F}) = A_L(\bar{F}) = 0$ and $A'_L(F) > A'_H(F) > 0$ for all F . Defending the lawsuit through trial costs the defendant C_D . Litigation through trial costs C_i for a plaintiff of type i , with $C_L \geq C_H$.³⁹

In Period 1, the defendant offers the plaintiff a settlement S_1 . If he accepts, the game ends and the payoffs are $(S_1, -S_1)$. If not, then in Period 2, the plaintiff chooses F_i and files a complaint with detail level $A = A_i(F_i)$, after which the defendant offers the plaintiff a settlement $S_2(A)$.⁴⁰ To capture the possibility that the defendant does not hold all of the bargaining power, I assume that the plaintiff captures a fraction $\alpha \in [0, 1]$ of the surplus generated by settlement.⁴¹ If the plaintiff accepts, then the payoffs are $(S_2(A_i(F_i)) - F_i, -S_2(A_i(F_i)))$. If not, then in Period 3 the parties go to trial and the payoffs are $(\pi_i J - C_i, -\pi_i J - C_D)$.

Define $p_i(A)$ to be the probability that a plaintiff of type i chooses pleading level $A = A_i(F_i)$. Define $r_{ij}(S)$ to be the probability that plaintiff of type i accepts settlement offer S in period j . Define $\beta_0(i)$ to be the defendant's prior belief of the probability that a plaintiff is of type i , and define $\beta(i|A)$ to be the defendant's posterior belief of the probability that a plaintiff is of type i given observed pleading detail level A . A perfect Bayesian equilibrium (PBE) is a settlement offer schedule $\{S_1, S_2(A)\}$ from the defendant, a set of (possibly mixed) strategies $\{p_i(A), r_{ij}(S)\}$ for the plaintiff's types i and periods j , and conditional beliefs $\beta(i|A)$ of the defendant such that

1. The making, acceptance, and rejection of settlement offers in any period

³⁹The costs for defendant might depend on the plaintiff type as well. But since presumably it is easier for the defendant to defend against a weak case, adding this layer of complexity only reinforces the results below.

⁴⁰Note that this model becomes somewhat more complicated if in Period 1 it is the plaintiff that is allowed to make the offer, as this introduces the possibility of signaling through the offer itself. Structuring the model this way, however, would not change the basic features of the results presented below. [Note: I may explore the relationship between costless and costly signaling in a later draft.]

⁴¹Again, this assumption reduces the significance of to whom the model assigns the power to make a take-it-or-leave-it offer in any given period.

are consistent with each party maximizing expected payoffs.

2. All pleading costs F observed with positive probability in equilibrium must maximize the plaintiff's expected payoffs.

3. The defendant's posterior beliefs $\beta(i|A)$ must satisfy Bayes' Rule:

$$\beta(i|A) = \frac{p_i(A)\beta_0(i)}{\sum_{i=L,H} \beta_0(i)p_i(A)} \quad (11)$$

whenever $p_i(A) > 0$ for at least one type. There are no restrictions on beliefs when $p_i(A) = 0$ for both types.⁴²

Based on these conditions, we can identify the following PBE:

Settlement offers and responses. The defendant offers $S_1 = \pi_L J + \alpha C_D - (1 - \alpha)C_L$ if the low-type plaintiff has a credible threat to sue and $S_1 = 0$ otherwise. High types reject S_1 (i.e., $r_{H1}(S_1) = 0$) and low types accept (i.e., $r_{L1}(S_1) = 1$). The defendant offers $S_2(A) = \pi_H J + \alpha C_D - (1 - \alpha)(C_H - F_H)$ for all $A \geq A^*$ and $S_2(A) = 0$ for all $A \neq A^*$; A^* and F_H are defined below. High types' responses in Period 2 are $r_{H2}(S_2) = 1$ for all $S_2 \geq S_2(A^*)$ and $r_{H2}(S_2) = 0$ otherwise. Low types' responses in Period 2 are $r_{L2}(S_2) = 1$ for all $S_2 \geq S_1$ and $r_{L2}(S_2) = 0$ otherwise.

Pleading strategy. A low type plaintiff employs strategy $p_L(0) = 1$ and $p_L(A) = 0$ for all $A_L(F) \neq A_L(\bar{F}) = 0$. A high type plaintiff employs strategy $p_H(A^*) = 1$ and $p_H(A) = 0$ for all $A \neq A^* = A_H(F_H)$ where F_H is defined by $S_2(A^*) - A_L^{-1}(A^*) = S_1$. In other words, define F^* by $A^* = A_L(F^*)$, such that F^* is the cost that a low type plaintiff would have to expend on pleading in order to generate a pleading as detailed as the high type's equilibrium pleading. Then we can rewrite the expression defining F_H as

$$S_2(A^*) - F^* = S_1 \quad (12)$$

The left-hand side of Equation (12) represents the payoff to a low type from mimicking a high type by pleading a high level of detail in order to obtain the high-type settlement in Period 2. The right-hand side is the payoff to a low type from foregoing costly pleading and settling Period 1. Setting these two values equal to each other ensures that low types cannot profitably deviate in equilibrium.⁴³

Posterior beliefs. The beliefs in this equilibrium are $\beta(H|A) = 1$ for all $A \geq A^*$ and $\beta(H|A) = 0$ for all $A < A^*$.

⁴²In defining equilibrium concepts in this model, including PBE and least-cost separating equilibrium, I follow the approach to the Spence (1973) model provided by Bolton and Dewatripont (2005).

⁴³Put another way, Equation (12) represents the (binding) incentive compatibility constraint in this model.

In this equilibrium, low types can do no better than accepting the settlement offered in Period 1, and thus the defendant settles with a low type without a complaint being filed. High types reject the settlement offered in Period 1, file complaints with factual detail A^* , and then settle with the defendant in period 2 for $S_2(A^*)$. This equilibrium is illustrated in Figure 3.

While there are many PBEs that one may propose, I will focus on the equilibrium described above, as it has several intuitively appealing properties. This equilibrium is the “least-cost separating equilibrium,” the unique, pure-strategy, separating equilibrium that minimizes the social cost of costly signaling. It is also the only PBE in this model that also satisfies the Cho-Kreps Intuitive Criterion (Cho and Kreps 1987). In intuitive terms, the Intuitive Criterion applies the following logic to this model:

First, note that in any separating equilibrium, the defendant is better off settling in Period 1 with a given type rather than in Period 2, because pleading is costly, and the parties can share the costs saved by settling earlier. Thus, in a proposed separating equilibrium in which the defendant settles with the low types in Period 2, the defendant can profitably deviate by offering a slightly lower settlement in Period 1, which the low types will accept.

Second, given that the low types will settle in Period 1, the high types will never plead with detail greater than A^* , because A^* is sufficient to guarantee separation and any higher level of pleading detail is a cost that cannot be recouped in settlement.

Third, a pooling (or semi-pooling) equilibrium is not stable. In any pooling PBE with pooling pleading level F^{pool} (which could be zero), high types will have an incentive to deviate by choosing $F_H > F^{pool}$ in order to reveal their type and obtain a higher settlement.

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Figures

Figure 1: Distribution of Case Duration at Settlement, Federal Civil Cases Filed 2002–2006

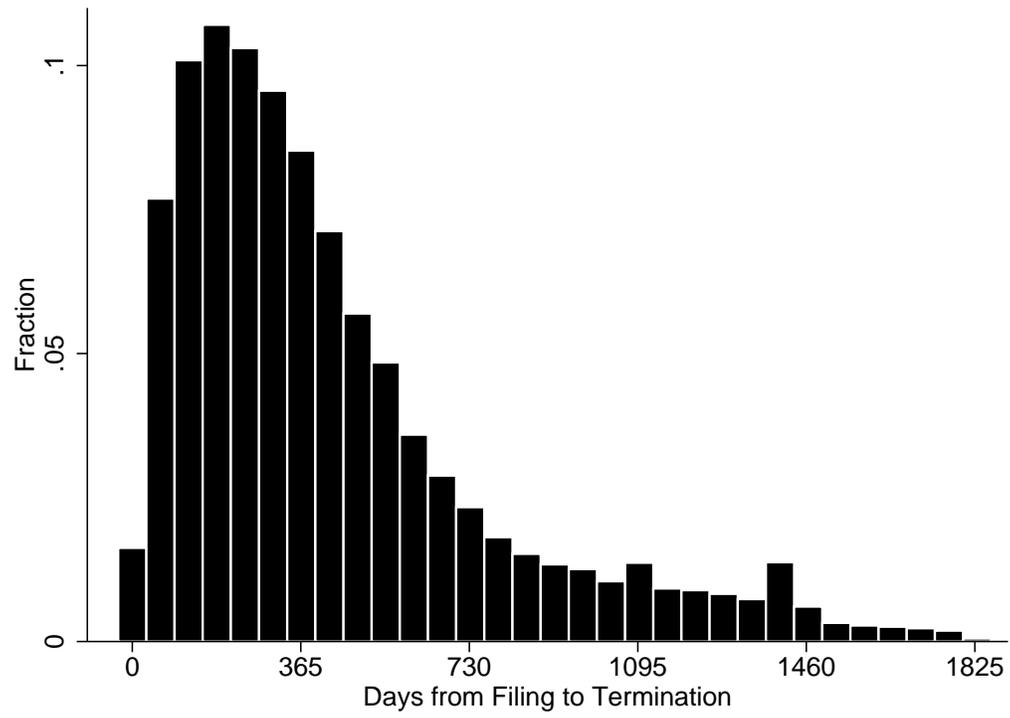


Figure 2: Model with Full Information

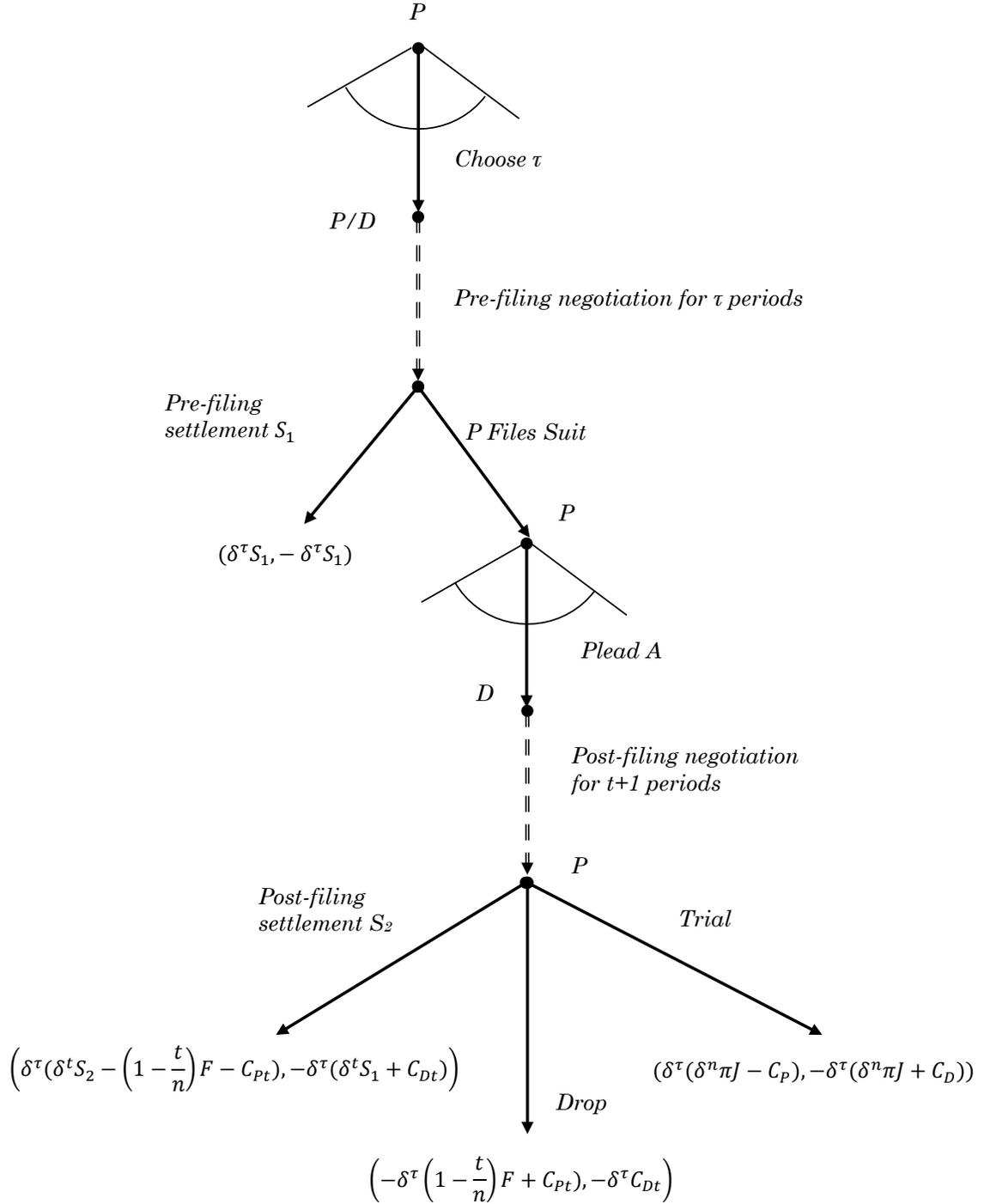


Figure 3: Separating Equilibrium with Costly Signaling

