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Plaintiffs exploiting Plaintiffs

Alexander Stremitzer*

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*Alexander Stremitzer: University of Bonn, Wirtschaftspolitische Abteilung, Adenauerallee 24-42, 53113 Bonn, Germany; alexander.stremitzer@uni-bonn.de.

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Speaker: Prof. Dr. Urs Schweizer · Department of Economics · University of Bonn · D-53113 Bonn,
Phone: +49(228) 73 9220 · Fax: +49 (228) 73 9221

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Alexander Stremitzer*
University of Bonn

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Abstract

We consider a model of a single defendant and N plaintiffs where the total cost of litigation is fixed on the part of the plaintiffs and shared among the members of a suing coalition. By settling and dropping out of the coalition, a plaintiff therefore creates a negative externality on the other plaintiffs. It was shown in Che and Spier (2007) that failure to internalize this externality can often be exploited by the defendant. However, if plaintiffs make sequential take-it-or-leave-it settlement offers, we can show that they will actually be exploited by one of their fellow plaintiffs rather than by the defendant. Moreover, if litigation is a public good as is the case in shareholder derivative suits, parties may fail to reach a settlement even having complete information. This may explain why we observe derivative suits in the US but not in Europe.

Keywords: litigation, settlement, bargaining, contracting with externalities, derivative suits, public goods

JEL-Classification: K41, C7, H4

1 Introduction

We consider a model of a single defendant and N plaintiffs where the total cost of litigation is fixed on the plaintiffs' part. If costs are shared among the members of a suing coaliton, a plaintiff's settlement decision creates a negative externality on the other plaintiffs. Che and Spier (2007) show that under various bargaining set-ups, failure to internalize this externality can be exploited by the defendant. Compared to the benchmark case without

*Mailing address: University of Bonn, Wirtschaftspolitische Abteilung, Adenauerallee 24-42, 53113 Bonn, Germany; alexander.stremitzer@uni-bonn.de. I would like to thank Patrick Schmitz and Urs Schweizer for helpful comments on earlier drafts of this paper. I would also like to thank the German Science Foundation for financial support through SFB/TR 15 "Governance and the Efficiency of Economic Systems".

externalities, this leads to a redistribution in favour of the defendant and dilutes the defendant's incentives to take precaution.

Specifically, if the defendant makes simultaneous take-it-or-leave-it offers to plaintiffs, the unique coalition proof Nash equilibrium involves a divide and conquer strategy (Segal (2003)). In order to understand the intuition of the argument, consider the following numerical example: Assume that there are only two plaintiffs ($N = 2$). If the suit goes to trial, they will jointly collect damages of $D = 6$. Further assume that the cost of litigation is fixed for both the plaintiffs ($C_P = 4$) and the defendant ($C_D > 0$). In the benchmark case, plaintiffs will therefore jointly collect damages of 2 ($D - C_P = 2$). If both plaintiffs go to trial, each will get a payoff of 1 ($D/N - C_P/N = 1$) However, if only one plaintiff brings suit, his payoff will be negative ($D/N - C_P = -1$). Hence, if one of the plaintiffs settles, the other plaintiff no longer has a credible threat to sue. It is easy to see that the defendant can then settle with both plaintiffs by making a settlement offer of 1 to the settling plaintiff and 0 to the other. Total plaintiff recovery will therefore be less than in the benchmark ($1 < 2$).

Che and Spier (2007) show that if the defendant approaches the plaintiffs sequentially, their exploitation will be even worse. Indeed, as A knows that if he rejects, B will accept, he will therefore accept a settlement offer of (a little more than) 0. Consequently, plaintiff B will also get payoff 0 since, on his own, he has no credible threat to sue. Even more surprisingly, also in the case where plaintiffs make *simultaneous* take-it-or-leave-it settlement offers to the defendant, a race to the bottom pushes total plaintiff recovery down to 0.

In Section 2 we will show that these results are reversed in a setting where the plaintiffs make *sequential* take-it-or-leave-it settlement offers to the defendant. Total plaintiff recovery will be as in the benchmark. Yet, some plaintiffs can extract higher settlement payments than others. This is because there exists a plaintiff whose role is pivotal to the settlement process. By accepting *his* offer to settle out of court, the defendant can make absolutely sure that there will be no trial. Hence, the claims of all subsequent plaintiffs are up for grabs as they no longer have a credible threat to sue. This, however, does not benefit the defendant. Indeed, the pivotal plaintiff, by making a take-it-or-leave-it offer, can skim off the whole exploitation benefit for himself. As for the plaintiffs who settle before the pivotal plaintiff, it can be shown that they are able to extract the value of their claims. Interestingly, however, the plaintiff who gets the most is normally an intermediate plaintiff. Hence, there is no general first-mover advantage.[1]

Moreover, we show in Section 3 that if litigation is a public good, parties will often resort to litigation. This is interesting as failure to reach settlement is normally explained by citing asymmetric information (e.g. Bebchuk, 1984; Nalebuff, 1987; Spier, 1992; Reinganum and Wilde, 1986; Schweizer, 1989) or overoptimism (e.g. Gould, 1973; Loewenstein et al., 1993; Bar-Gill, 2006). One prominent example of litigation as a public good is the case of shareholder derivative suits. These are suits brought by shareholders against a company's directors for breach of fiduciary duty. As the claim is technically a claim of the company, damages are paid to the corporate coffers rather than directly to shareholders. Hence, suing constitutes a public good as every shareholder benefits according to his share in the company's capital, irrespective of whether he has sued or not.

Grechenig and Sekyra (2007) have pointed to the fact that shareholder derivative suits are not observed in Europe while they are rather common in the US (Romano, 1991). In their model, the manager's decision to misappropriate funds is hidden action. As stealing is assumed to be costly, the damage caused to the company exceeds the private benefit managers derive from their wrongdoing. If all shareholders were allowed to sue, as in the US, their combined claims would equal damages caused to the company. Therefore, the manager would find it impossible to settle with them and still keep a profit for himself. In such a setting there exists an equilibrium in mixed strategies where the manager occasionally steals and the shareholders bring suit only some of the time.[2] Yet, many European jurisdictions prevent minority shareholders from suing by requiring them to hold a minimum amount of shares (typically 5 or 10%). Hence, in equilibrium,

[1]Except in the case where $m = N = 2$, where the first plaintiff is pivotal.

[2]If shareholders sued all the time, the manager would be effectively deterred from stealing. However, this cannot be an equilibrium, as the shareholders would not expend resources to monitor the manager and to bring suit, knowing that the manager is perfectly honest. On the other hand, not suing at all cannot be an equilibrium either, because then the shareholders know that they will be expropriated by a dishonest manager.

the manager can misappropriate funds, settle with blockholders and make a profit at the expense of minority shareholders. In such a scenario, no suits occur. As we will explain in Section 4, our model offers an alternative explanation as to why there are no derivative suits in Europe which will still hold true even if percentage limits are completely abandoned. Indeed, it predicts that litigation can be avoided if there exists a dominant shareholder who wields veto power in the sense that all remaining plaintiffs together would not have a credible threat to sue because they would find it too expensive. While it will not often be the case, even in Europe, that the dominance of a single shareholder is such that he can veto litigation alone, it is realistic to assume that a relatively small joint group of blockholders is indeed in such a position (e.g. La Porta; Lopez-de-Silanes and A. Shleifer, 1999). As collusion among them is much easier to organize than in the dispersed shareholder structure of the US, the likely outcome is that there be settlements out of court in Europe while claims will proceed to court in the US. Interestingly, the model also implies that, although minority shareholders do worse in Europe, the cost of litigation will generally be lower yet achieving the same level of deterrence. Whereas the results of Grechenig and Sekyra (2007) crucially depend on the director-defendant having most of the bargaining power, our explanation of the absence of shareholder derivative suits in Europe assumes that all the bargaining power lies with plaintiffs. In this sense the two models can be considered as complementary.

2 Sequential TIOLI offers by plaintiffs

Observing differential treatment of plaintiffs does not necessarily mean that they are exploited by the defendant. As we will show in this section, it might as well be that they are exploited by one of their fellow plaintiffs. We consider N plaintiffs, who all have a claim of D/N against a single defendant. For simplicity assume that a plaintiff going to trial is certain to win. Furthermore, cost of litigation is fixed for both the plaintiffs ($C_P > 0$) and the defendant ($C_D > 0$). In period $n \in \{1, ..., i, ...N\}$, plaintiff n makes a take-it-or-leave-it offer a_n to the defendant, which the latter either accepts or rejects. If he accepts, the plaintiff receives a_n from the defendant. If he rejects, the plaintiff can go to trial in period $N + 1$ together with all the other rejected plaintiffs. With s rejected plaintiffs, payoffs from going to trial are:

$$\Pi = D/N - C_P/s \tag{1}$$

for each member of the suing coalition and

$$-\left(sD/N + C_D\right) \tag{2}$$

for the defendant.[3] Let m be the minimum number of plaintiffs for which $\Pi \geq 0$, i.e. only a coalition of at least m plaintiffs has a credible threat to sue. We can then prove the following proposition:

Proposition 1 *If there are N plaintiffs, plaintiffs $n \in \{1, ..., i, ..., N-m\}$ settle for D/N, pivotal plaintiff $N-m+1$ gets more $(mD/N+C_D)$, exploiting the $m-1$ remaining plaintiffs who get nothing. Total plaintiff recovery is as in the case without externalities. The defendant's incentives to take precaution are undiluted.*

Proof. We will first prove that if there are N plaintiffs making take-it-or-leave-it offers to plaintiffs, parties will always settle out of court. Assume to the contrary that there will be litigation in equilibrium. This implies that there must exist a plaintiff $k \geq m$ who observes that $m-1$ offers before him were rejected and makes an offer a_k which is rejected. Assume that $k = N$. If the offer of plaintiff N is rejected, there will be a trial in period $N+1$. Hence, the plaintiff's payoff will be

$$D/N - C_P/m \tag{3}$$

and the defendant has to pay $mD/N + C_D$.[4] We will now check if it is worthwhile for the plaintiff to deviate by making an offer a_N which is accepted. As the plaintiff has all the bargaining power he will make an offer such that the defendant becomes indifferent between accepting and rejecting:

$$a_N = mD/N + C_D. \tag{4}$$

[3] This setting is identical to Che and Spier (2007), except for the assumption of sequential TIOLI offers by plaintiffs.

[4] Note that the plaintiff has already settled with N-m plaintiffs, which reduces his damage payment.

As this clearly exceeds the plaintiff's payoff as member of a suing coalition (3), he will deviate such that $k = N$ cannot occur in equilibrium.

Next assume that $k = N - 1$. If the offer a_{N-1} of plaintiff $N - 1$ is rejected, there will be a trial in period $N + 1$. Given the certainty of trial, the defendant will settle for D/N with plaintiff N. Adding the liability he faces in court and the cost of litigation, he pays:

$$(m + 1)D/N + C_D. \tag{5}$$

If the offer of plaintiff $N - 1$ is accepted, plaintiff N will settle for $mD/N + C_D$, just as we have already shown (4). Therefore, the defendant will accept offer a_{N-1}:

$$a_{N-1} + a_N = (m + 1)\, D/N + C_D \iff a_{N-1} = D/N. \tag{6}$$

As D/N is higher than the plaintiff's payoff as a member of a suing coalition (3), he will deviate such that $k = N - 1$ cannot occur in equilibrium. Working backwards and arguing inductively, one can see that all plaintiffs $k \geq m$ make a settlement offer which is accepted. Hence, there will never be litigation.

In the next step, we will prove that $m - 1$ plaintiffs will receive a zero payoff. Given that the case always settles, the number of offers rejected must be less than m. Hence, there must be at least $N - (m - 1)$ plaintiffs who settle. This implies that there exists a plaintiff j who observes that $N - m$ plaintiffs before him have settled and makes an offer which is accepted. Once this offer is accepted, it is clear that there will be no trial. Therefore, any plaintiff who was rejected so far will receive a zero payoff. The same holds true for any subsequent plaintiff as any positive settlement offer will be rejected. This establishes that, in equilibrium, there will be $m - 1$ plaintiffs, who receive zero payoff.

Finally, we will see that it will always be the last $m - 1$ plaintiffs who receive a zero payoff. Assume that the first $m-1$ offers are rejected. Then not a single of the subsequent offers may be rejected if a trial is to be avoided. Indeed we have already shown that in this case, all plaintiffs $n \in \{m, ..., i, ..., N - 1\}$ settle for D/N, and plaintiff N settles for $mD/N + C_D$. However, it is clear that this cannot be a Nash equilibrium. If only one of the first $N - (m - 1)$ plaintiffs gets a zero payoff, he can benefit by undercutting subsequent plaintiffs. ■

The reason plaintiff $N - m + 1$ is in the position to exploit subsequent plaintiffs is his pivotal role in the settlement process. By accepting his offer, the defendant can make absolutely sure there will be no trial. Hence, all subsequent plaintiffs are deprived of a credible threat to sue. As for the plaintiffs who settled before, it is true that their decisions put the pivotal plaintiff into his strong bargaining position in the first place. Yet, at the time when the defendant negotiates with the pivotal plaintiff, the decisions of those plaintiffs who have previously settled have already been made. Therefore, no prior plaintiff can skim off part of the exploitation benefit. It is interesting to note that the plaintiff who extracts the most is an intermediate plaintiff.[5] Hence, there is no general first-mover advantage.

3 Derivative Suits

If a company's director breaches his fiduciary duties, he can become liable. In this case, shareholders or groups of shareholders may sue him on behalf of the company (derivative suit). However, as the claim is technically a claim on behalf the company, damages are paid to the corporate coffers rather than directly to shareholders. Hence, suing constitutes a public good as every shareholder benefits relative to his share of the company's capital, irrespective of whether he has sued or not. Moreover, the defendant-director can only "bribe" plaintiffs not to sue. In fact, as the claim belongs to the company, no single shareholder can dispose of the claim itself. Therefore, "settlement" does not reduce total liability if the case goes to trial.

We consider N shareholder-plaintiffs who can sue on behalf of the company for a total amount of D against a single defendant-director. Cost of litigation is fixed on both the plaintiffs' ($C_P > 0$) and the defendant's side ($C_D > 0$). We allow for plaintiffs to hold different shares in the capital of the company. This requires some adaptations compared to the model in section 2: In period $n \in J = \{1, ..., i, ...N\}$, plaintiff n, holding a share of χ_n, makes a take-it-or-leave-it offer a_n to the defendant, which the latter can either accept or reject. If he accepts, the plaintiff receives a_n from the defendant. If he rejects, the plaintiff can go to trial in period $N + 1$ together with other rejected plaintiffs. With

[5] Except in the case where $m = N = 2$, where the first plaintiff is pivotal.

suing plaintiffs representing a share of σ in the company's capital and assuming that plaintiffs share litigation costs according to their relative holdings, the payoff from going to trial for plaintiff n is:

$$\Pi_n = \chi_n (D - C_P/\sigma) \tag{7}$$

if he participates in the suit. If not, because he has either settled or decides to freeride, his payoff will be $\hat{\Pi}_n = \chi_n D$. The defendant's payoff in the event of trial is $-(D + C_D)$. Note that unlike the above, the defendant-director's liability is not reduced by any of the prior settlement agreements. We define μ as the minimum share of the capital that a suing coalition must collectively represent in order to have a credible threat to sue:

$$\mu \equiv \inf[\sigma \,|\Pi > 0] \tag{8}$$

and derive the following proposition:

Proposition 2 *If plaintiffs cannot dispose of their claims but only of their right to sue, cases will go to trial if no single plaintiff can veto litigation ($\chi_n < 1 - \mu$ for all $n \in J$). As litigation is costly, total plaintiff recovery will be less than in the benchmark, but the defendant's incentives remain undiluted. However, if there exists at least one plaintiff who can wield veto power ($\chi_n > 1 - \mu$), the defendant settles for $D + C_D$ with the first such plaintiff, while all other plaintiffs receive a zero payoff. Total plaintiff recovery is as in the benchmark.*

Proof. We first show that there will always be litigation if $\chi_n < 1 - \mu$ for all $n \in J$. Suppose the opposite is true. In order to avoid litigation, the defendant must settle with plaintiffs representing more than $1 - \mu$ of shares. This implies, that there must exist a pivotal plaintiff k who 1) by settling *can* raise the share above $1 - \mu$ and 2) makes an offer which is *accepted* by the defendant. Therefore, the difference between the amount of settlement which is required in order to avoid litigation, and the amount of prior settlement which plaintiff k observes when making his offer, must be less than the share of plaintiff k:

$$1 - \mu - \sum_{n=1}^{k-1} \chi_n \lambda_n \leq \chi_k, \tag{9}$$

where λ_n indicates whether plaintiff n settled ($\lambda_n = 1$) or not ($\lambda_n = 0$). As in the previous assumption, it holds that $\chi_k < 1 - \mu$, there must also exist a plaintiff $j < k$ who knows that by settling he will make plaintiff k pivotal:

$$1 - \mu - \sum_{n=1}^{j} \chi_n \lambda_n \leq \chi_k < 1 - \mu - \sum_{n=1}^{j-1} \chi_n \lambda_n. \tag{10}$$

Suppose $k = N$ is the pivotal plaintiff and let a_N be his settlement offer to the defendant. The defendant knows that if he rejects the offer, the coalition will go to trial, and he has to pay $D + C_D$ to the company.[6] Hence, plaintiff N makes an offer of

$$a_N = D + C_D \tag{11}$$

(maybe a penny less) which is accepted by the defendant. Note, that any equilibrium strategy by the defendant involving the acceptance of settlement offers must necessarily be better than rejecting all settlement offers and going to trial:

$$\sum_{n=1}^{N} a_n \lambda_n \leq D + C_D. \tag{12}$$

Inserting (11) into (12) we get:

$$\sum_{n=1}^{N-1} a_n \lambda_n + D + C_D \leq D + C_D \implies \sum_{n=1}^{N-1} a_n \lambda_n = 0 \tag{13}$$

which means that none of the accepted prior settlement offers may have been positive. This cannot occur in equilibrium. Indeed, we will see that plaintiff j who makes plaintiff N pivotal will always have an incentive to deviate by making an offer $a_j > 0$. Suppose that j is the plaintiff who directly precedes the pivotal plaintiff, $j = N - 1$. He can either make an offer of $a_{N-1} = 0$ which is accepted or an offer of $a_{N-1} > 0$, which is rejected. If he is rejected, the potential coalition of suing plaintiffs will represent a share of:

$$\sigma = 1 - \sum_{n=1}^{N-2} \chi_n \lambda_n - \chi_N \lambda_N. \tag{14}$$

Inserting $j = N - 1$ into (10) we get:

$$1 - \mu - \sum_{n=1}^{N-1} \chi_n \lambda_n \leq \chi_N < 1 - \mu - \sum_{n=1}^{N-2} \chi_n \lambda_n. \tag{15}$$

[6] Although there may be some freeriding, it will not prevent litigation. Given the strategy of all other plaintiffs, the marginal plaintiff who ensures that the suing coalition represents at least a share of μ will do worse by defecting from the coalition. Hence, defecting will not be part of a Nash equilibrium. This is a common feature of settings where the provision of the public good constitutes a binary decision.

Making use of the second inequality in (15) we can see that

$$\sigma > \mu - (1 - \lambda_N)\chi_N \geq \mu. \tag{16}$$

Therefore, the coalition will go to trial and plaintiff $N-1$ gets a payoff of $\chi_{N-1}(D - C_P/\sigma) > \chi_{N-1}(D - C_P/\mu)$ which is positive by the definition of μ. Hence, plaintiff j deviates. It follows that $j \neq N-1$ which implies that:

$$\chi_N < 1 - \mu - \sum_{n=1}^{N-1} \chi_n \lambda_n. \tag{17}$$

Next suppose that $j = N-2$. Once again, he can either make an offer of $a_{N-2} = 0$, which is accepted, or an offer of $a_{N-2} > 0$, which is rejected. If he is rejected ($\lambda_{N-2} = 0$), the potential coalition of suing plaintiffs in period $N+1$ will represent a share of:

$$\sigma = 1 - \sum_{n=1}^{N-3} \chi_n \lambda_n - \chi_{N-1}\lambda_{N-1} - \chi_N \lambda_N \geq 1 - \sum_{n=1}^{N-1} \chi_n \lambda_n - \chi_N. \tag{18}$$

Making use of (17) we can see that $\sigma > \mu$. Therefore, the coalition will go to trial and plaintiff $N-2$ gets a payoff of $\chi_{N-2}(D - C_P/\sigma) > \chi_{N-2}(D - C_P/\mu)$ which is positive by definition of μ. Hence, plaintiff j deviates. It follows that $j \neq N-2$. Working backwards we can make the argument that each plaintiff $n < N$ either is not in the position to make plaintiff N pivotal or makes a positive settlement offer which is then rejected. Therefore plaintiff N cannot be pivotal.

Next suppose that plaintiff $k = N-1$ is pivotal. If he settles, there will be no litigation. Hence, his offer of $a_{N-1} = D + C_D$ is accepted, while the offers of all subsequent plaintiffs $n \in \{k, ..., i, ..., N\}$ will be rejected. But then there must exist a plaintiff $j < N-1$ who makes plaintiff $N-1$ pivotal. Using the same argument as before, we see that only offer $a_j = 0$ will be accepted. Yet, as plaintiff j will derive a positive payoff from litigation, he will ask for $a_j > 0$ such that $k \neq N-1$. Working backwards we will eventually come to the hypothesis that $k = \bar{k}$ is the pivotal plaintiff, where

$$\bar{k} = \sup\left\{ k \,\middle|\, \sum_{n=1}^{k} \chi_n < 1 - \mu \right\}. \tag{19}$$

Yet, he cannot be pivotal as, even if he settles, there will not be enough settlements in order to avoid litigation.

The logic of the argument fails, however, if there exists at least one veto wielding plaintiff $\chi_k > 1 - \mu$. This can be seen from expression (9). The first such plaintiff will be pivotal regardless of what the other plaintiffs do. He will settle for $D + C_D$ exploiting all other plaintiffs. ■

The intuition of the proof is that no plaintiff wants to build the bridge for any subsequent plaintiff to be pivotal. Hence, there will never be enough plaintiffs who settle in order to avoid litigation. The logic of the argument fails, however, if there exists a veto wielding plaintiff. He is the one who can guarantee that there will be no trial all by himself, regardless of whether prior plaintiffs settled or not.

4 No Derivative Suits in Europe

The model might explain the empirical phenomenon that derivative suits are rather widespread in the US while absent in Europe (Grechenig and Sekyra, 2007; Romano, 1991). Indeed, it predicts that litigation can be avoided if there exists a dominant shareholder who wields veto power in the sense that all remaining plaintiffs together would not exhibit a credible threat to sue because they should find it too expensive. This plaintiff will extract the whole damage payment and the director-defendant's cost of litigation, leaving nothing to minority shareholders. While it will not often be the case, even in Europe, that the dominance of a single shareholder is such that he can veto litigation alone, it is realistic for a relatively small group of blockholders jointly to be in such a position (e.g. La Porta; Lopez-de-Silanes and A. Shleifer, 1999). As collusion among them is much easier to organize than in the dispersed shareholder structure of the US, the likely outcome is that there will be settlements out of court in Europe, while claims will proceed to court in the US. Interestingly, the model also implies that although minority shareholders do worse in Europe, the cost of litigation will generally be lower, yet achieving the same level of deterrence. Whereas the results of Grechenig and Sekyra (2007) crucially depend on the director-defendant holding most of the bargaining power, our explanation of the absence of shareholder derivative suits in Europe assumes that all the bargaining power lies with the plaintiffs. In this sense, the two models can be considered as complementary.[7]

5 Conclusion

We considered a setting where the decision of plaintiffs to settle creates a negative externality on other plaintiffs. Che and Spier (2007) have shown that failure to internalize this externality can often be exploited by the defendant. Yet, observing differential treatment of plaintiffs does not necessarily mean that they are exploited by the defendant. If plaintiffs make sequential take-it-or-leave-it offers, we have shown that there exists a pivotal plaintiff who expropriates some of his fellow plaintiffs. Moreover, if litigation is a public good, like in the case of derivative suits, parties may fail to settle even under complete information. Finally, the effect offers a theoretical explanation for why we observe derivative suits in the US but not in Europe.

[7] Grechenig and Sekyra (2007) argue that the plaintiff is at a disadvantage in settlement negotiations as he will eventually have to decide whether to accept the defendant's offer or to bring suit. Therefore, the defendant has the power to make a take-it-or-leave-it offer. We find this argument unconvincing as it ignores the possibility of reaching a settlement after a suit is brought. Indeed, bringing suit has little immediate consequences and parties may well reach a settlement later as litigation cost start to pile up.

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