DEPARTMENT OF ECONOMICS AND FINANCE WORKING PAPER SERIES: *August 2007*

Anticompetitive Litigation and Antitrust Liability

CHRISTOPHER C. KLEIN [*/]
Middle Tennessee State University

Abstract

The U.S. Supreme Court held that litigation for anticompetitive ends ("sham litigation") must be "baseless" in order to face antitrust liability. The filing of such suits continues apace, as does the legal commentators' debate, but economic analysis has lagged. Here, a game theoretic model is constructed in which plaintiffs file suit to achieve collateral gains and defendants may countersue for damages under the Sherman Act. In equilibrium, settlement fails and all suits are litigated, but the threat of countersuit deters low-expected-value plaintiffs. As the legal standard for sham litigation approaches "baselessness," this deterrence effect is weakened and litigation may increase.

Key words: antitrust, sham litigation, countersuit

JEL category: K21, L41

*Christopher C. Klein Associate Professor, Economics and Finance Department, Middle Tennessee State University, Murfreesboro, TN 37132, USA, phone: 615-904-8570, fax: 615-898-5045, e-mail: cklein@mtsu.edu

I. Introduction

Sham litigation has become the common legal term for the act of pursuing a lawsuit in order to achieve an anticompetitive goal.[1]/ In 1993, the U.S. Supreme Court held that for sham litigation to face antitrust liability it "...must constitute the pursuit of claims so baseless that no reasonable litigant could realistically expect to secure favorable relief."[2]/ This opinion repudiated the economic cost-benefit definition of sham litigation proffered by the Seventh Circuit in favor of a "baselessness" standard for antitrust liability.[3]/ The cost-benefit approach recognized that all winnable litigation is not brought "...because the stakes, discounted by the probability of winning would be too low to repay the costs." [4]/ Thus, economic sham litigation occurs "...when his (the predator's) purpose is not to win a favorable judgement against a competitor but to harass him, and deter others, by the process itself - regardless of outcome - of litigating." [5]/ The Court's opinion also rejected its own previous reasoning, which indicated that a sham could occur if claims were filed with or without probable cause.[6]/

The Court's evident attempt to settle the legal controversy over the definition of sham litigation for antitrust purposes and, perhaps, to reduce the volume of antitrust suits seeking relief against such suits, apparently has done neither. The discussion among legal commentators merely shifted topics: the correctness and consistency of the Court's decision; whether baselessness applied to the case of multiple alleged sham lawsuits or "pattern litigation"; and whether fraud or misrepresentation in bringing suit invoked antitrust liability (Andrews, 2003; Davis, 2002; Getzoff, 1996; Lao, 2003; Noah, 1995; Perrine, 1995; Steinman and Fitzpatrick, 2001; Wofford, 2003). A search of the case law for citations to *California Motor Transport* (1972), the Supreme Court's last sham litigation decision prior to 1993, yielded decisions in 402 cases rendered in the 14 years prior to 1986 (Klein 1990) and decisions in 425 cases for the seventeen-year period from 1986 through 2003. *Professional Real Estate Investors* (1993), the source of the "baselessness" finding, has been cited in decisions involving 231 cases in barely ten years.

This continuing flow of cases, however, is counter to expectations. If baseless suits impose minimal expected costs on defendants, then they should also produce minimal gains for plaintiffs. Thus one would expect few such suits to be brought. If antitrust countersuits can only succeed against such baseless suits, then few such countersuits could be brought. Yet, the preliminary analysis of case citations suggests that antitrust countersuits on claims of sham litigation have continued at a relatively stable pace over an extended period of time.

To gain insight into the possible causes of this conundrum, this article builds a game theoretic model of trial and settlement behavior in which defendants may file countersuits claiming that the plaintiff's suit is improper. A plaintiff may be liable for treble damages under the Sherman Act if the original suit seeks not to win on the merits, but to use the adjudicative process to attain an anticompetitive collateral goal. This is sham litigation.[7]/ If improper litigation does not seek anticompetitive gains that violate the antitrust laws, a defendant still may seek damages under the tort of abuse of process or malicious prosecution by claiming that the plaintiff used the court process as a threat or club to obtain an unrelated goal. Defendants also may request Rule 11 sanctions against plaintiff attorneys for bringing improper suits. The model developed here is applicable to any litigation meeting these criteria when defendants may take counter-actions.

I also assume that the plaintiff has the advantage of knowing the goal of the original suit, which is unknown to the defendant at the time of the countersuit decision. The full information case, while not as trivial as for legitimate suits, obscures interesting aspects of countersuits, such as the deterrence of both sham and legitimate suits with the threat of countersuit.[8] Daughety and Reinganum (1993) demonstrate that one may analyze all possible information configurations, but at the cost of much complexity. For these reasons, I choose to analyze the most reasonable asymmetry in this context: that plaintiffs know the motivation for their suits, while defendants do not.

The paper uses the framework and language of economic sham litigation to focus the analysis. Sham litigation may involve entry deterring as well as predatory strategies on the part of the plaintiff, and may take place in the courts or in adjudicative proceedings before regulatory bodies. For example, if the financing of a new project requires a firm to be free of all pending litigation, a rival may file a series of suits to frustrate its competitor's expansion. A firm may support a certain pollution control technology before a regulatory body, because that technology raises its rival's costs relative to its own. If entry requires certification or approval by a government agency, incumbent firms may band together to oppose all applications for new certificates, regardless of their merits. The targets of these acts may file countersuits seeking treble damages on the claim that the initial acts were sham litigation in violation of the Sherman Act.

In this world of collateral goals, suits and countersuits, the plaintiff's decision to bring suit is informed not just by the expected value of winning in court, but also by the expectation of indirect rewards from changes in the defendant's behavior outside the courtroom. Conversely, the defendant's decision to make a settlement offer or proceed to trial is complicated by the deterrent value of countersuits as well as the potential damage award. The plaintiff, however, knows whether her suit is motivated by a legitimate quest for a favorable judgement or by a scheme to influence the non-court behavior of the defendant, or both. This implies that the plaintiff may file suit and go to trial not only when the net expected value of trying the suit, ignoring the collateral gain, is negative, but even when the probability of winning the suit is zero. Similarly, the deterrent effect of countersuits may induce a defendant to file a counterclaim even when his net expected loss on the counterclaim alone is positive. The research question concerns *changes* in the frequency of sham litigation and countersuits when the legal standard for winning a countersuit *changes*.

This situation contrasts in several interesting ways with previously analyzed cases of trial and settlement under imperfect information. [9]/ The models of P'ng (1983), Bebchuk (1984) and Nalebuff (1987), for example, assume that the defendant knows his own guilt or lack of it, while the plaintiff's information is incomplete. This is characteristic of criminal trials. Articles by Katz (1990) and Bebchuk (1988) examine the incentives for bringing nuisance suits - non-positive expected value suits which seek to obtain a positive settlement from the defendant under the threat of court costs. The plaintiff is assumed to know whether her suit is "legitimate" or not and the defendant must respond knowing only that some suits with negative expected values may be brought in an attempt to extort a settlement. Shavell (1989), Meurer (1989), and Wang, Kim, and Yi (1994) consider settlement behavior when plaintiffs have information advantages. Reinganum and Daughety (1993) develop a settlement model that encompasses all four possible informational configurations between a plaintiff and a defendant. Polinsky and Rubinfeld (1996) develop a model with similar deterrent effects to those derived here in a general system of awards and penalties. A number of recent articles examine informational externalities in litigation and settlement (Daughety and Reinganum, 2002; Spier, 2002, 2003), usually involving multiple suits and/or multiple plaintiffs. None of these analyze both collateral gains for plaintiffs and countersuits by defendants.

In Section II, the sub-game perfect equilibria for a continuum of plaintiff types are derived. Plaintiffs' initial suits are motivated by the sum of expected court awards and expected collateral gains. These collateral gains may be direct wealth transfers (simple rents) or monopoly rents derived from anticompetitive effects in a market in which the plaintiff and the defendant interact.[10]/ The defendant, knowing only the distribution of legitimate and sham suits, either makes a settlement offer acceptable to the plaintiff to end the litigation, or goes to trial. The defendant also chooses the probability of countersuit.

The most unusual results are driven by the externalities of collateral gains and losses, and the deterrent effect on plaintiffs of defendants filing counter-claims. Defendants never make positive settlement offers, because "too many" plaintiffs accept. Defendants also never accept settlements, because plaintiffs settlement demands are "too high". Consequently, all suits and countersuits end in trial, in part because the deterrent effect of countersuits limits the number of suits initially filed to a litigious subset. This suggests that if countersuits are observed, as in Klein (1989, 1990), they comprise an unbiased sample of the conditional distribution of all possible sham suits, given that a countersuit is brought.

Section III discusses the implications for the legal definition of sham litigation and the effect of the English Rule for the allocation of trial costs. It is shown that more restrictive legal standards for defining sham litigation, such as the “baselessness” requirement, generally increase total litigation and that the English Rule prevents the deterrence of legitimate suits by threat of countersuit. Nevertheless, the social welfare implications are ambiguous, given the unknown magnitudes of deadweight losses generated by anticompetitive behavior. Section IV concludes.

To avoid semantic difficulties, an initial suit with non-positive expected value in the absence of any collateral gain is called a "sham suit". Conversely, a "legitimate suit" has positive expected value from success on the merits alone. The defendant's suit seeking treble damages under the Sherman Act on a claim of sham litigation is called "the countersuit." All proofs are in the Appendix.

II. The Model

The interaction of risk-neutral plaintiffs and defendants is modeled as a game in the extensive form shown in Figure 1. The plaintiff initially decides to sue or do nothing at node P1, at the upper left in the figure. If the plaintiff sues, the defendant is uncertain as to the nature of the suit and this is reflected in the branches labeled legitimate suit and sham suit. To conserve space, the ensuing nodes are shown only for the sham branch. Hence, for every node shown (after D1) there is a corresponding node under the legitimate suit branch. The plaintiff's information set at each node is a singleton, but the defendant's information set is always a pair including the corresponding nodes under each of these two branches. Subsequent references to a single node for the defendant should be taken as referring to the information set containing that node.

A legitimate suit is defined to have positive net expected value absent any collateral gain, or $wA - C > 0$, where w is the probability of winning at trial, A is the expected court award, and C is the expected cost of litigation. A "sham suit" has non-positive net expected value absent the collateral gain, $wA - C \leq 0$. Profit maximization requires that plaintiffs only bring suits, either legitimate or sham, with positive net expected values, including any collateral gain, $V > 0$, $V + wA - C > 0$. [11]/

Following a plaintiff's decision to sue, the defendant makes a settlement offer S. S is defined such that a positive value reflects a payment by the defendant to the plaintiff. A negative value for S reflects a payment by the plaintiff to the defendant. $S = 0$ designates no payment.

The plaintiff either accepts the offer and the game ends, or rejects it and gives the defendant the opportunity to file a countersuit at D2. The plaintiff then makes a settlement offer at P3, which the defendant may accept to end the game, or reject to go to trial.

The sub-game perfect equilibrium concept is used to identify the equilibria for this game. For the players' strategies to comprise an equilibrium, each player's beliefs and strategies at each information set must be optimal starting from there, given the strategies of the other players (strategic rationality). This concept simplifies the identification of equilibria by eliminating from the set of possible equilibria those strategies that are never optimal under any set of beliefs consistent with the set-up of the game.

Consider a continuum of plaintiff types distinguished by the probability that they will prevail at trial, w, and receive a known monetary award, A. Legitimate plaintiffs have a probability of "winning", w_l, such that the expected court award exceeds the trial costs: $w_l A - C_1 > 0$, where C_1 is the cost of litigating the original suit, and $w_l > C_1/A$. [12]/ A sham suit has a non-positive expected value from trial alone: $w_s A - C_1 < 0$, or $w_s < C_1/A$. The distribution of collateral gains is assumed independent of plaintiff type, such that each plaintiff has the same expected value for the collateral gain from suit, V. [13]/ The plaintiff also knows the cost of defending against a countersuit, C_2.

The defendant must choose a settlement offer, given that a plaintiff files suit, and the probability, b, that he countersues if the offer is rejected. The defendant cannot distinguish sham suits from legitimate suits, but he does know the distribution of plaintiff types, f(w). This is the only information assymetry in the model; all other aspects of the game are common knowledge to both plaintiffs and defendants. The costs of defending against the original suit, D_1, and of litigating a countersuit, D_2, and the expected value of the external costs (lost profits or rents) indirectly imposed upon the defendant through the trial process, Y, are also known. These "collateral losses" are the source of the damage award tY in a successful countersuit, where t is the damage multiplier. [14]/ The plaintiff's true type is assumed to be revealed in the litigation of a countersuit.

Let f(w) be the frequency distribution of plaintiff types and F(w) the corresponding cumulative frequency:

(1) $$\int_0^w f(w)dw = F(w)$$

The maximum frequency of legitimate suits, for which $w > C_1/A$, is simply $F(1) - F(C_1/A)$ and the maximum frequency of sham suits, where $w < C_1/A$, is $F(C_1/A)$. [15]/ These are the maximum frequencies because the defendant's ability to file a countersuit may deter some suits. Given the probability of facing a countersuit, b, the frequencies of sham and legitimate suits actually filed are derived from the plaintiffs' expected net rewards from litigation at the beginning of the game. For legitimate plaintiffs,

(2) $$E_l = b[w_lA - C_1 - C_2 + V] + (1-b)[w_lA - C_1 + V]$$

$$= w_lA - C_1 + V - bC_2$$

and for sham plaintiffs,

(3) $$E_s = w_sA - C_1 + V - b[C_2 + tY] .$$

Note that the presence of the collateral gain, V, implies that plaintiffs find it profitable to bring suit when the probability of winning is zero, if V is large enough to offset the expected costs and the expected damage award.

Now set (2) and (3) equal to zero. This implies minimum critical values for the probabilities of winning, w_l^* and w_s^*, below which the initial suits are not filed:

(4) $$w_l^* = \{C_1 + bC_2 - V\}/A$$

(5) $$w_s^* = \{C_1 + b(C_2 + tY) - V\}/A$$

where $w_l^* < w_s^*$. Clearly, if $w_s^* > C_1/A$, then the expected costs of the countersuit outweigh the collateral gain and all sham suits are deterred. No legitimate suits are deterred unless the minimum critical value $w_l^* > C_1/A$. Moreover, if f(w) is positive and continuous on [0, 1), then any b > 0 for which $w_s^* > 0$ will deter some suits.[16]/ This leads directly to the following proposition.

Proposition 1:

Given a frequency distribution of plaintiff types, f(w), that is positive and continuous on (0, 1), the number of initial suits deterred for any countersuit probability b, $0 < b \leq 1$, is:

a) 0, if $w_l^* < w_s^* \leq 0$.

b) $F(w_s^*)$, if $0 < w_s^* \leq C_1/A$.

c) $F(C_1/A)$, if $w_l^* \leq C_1/A < w_s^*$.

d) $F(w_l^*)$, if $C_1/A < w_l^*$.

Proposition 1 implies that all sham suits are deterred before any legitimate suits are deterred. Furthermore, the following relations for the number of sham and legitimate suits filed, N_s and N_l, can also be derived.

(6) $$N_s = \begin{cases} F(C_1/A), & w_s^* \leq 0 \\ F(C_1/A) - F(w_s^*), & 0 < w_s^* < C_1/A \\ 0, & C_1/A \leq w_s^* . \end{cases}$$

$$F(1) - F(C_1/A), \qquad w_l^* \leq C_1/A$$

$$(7) \quad N_l = \begin{cases} F(1) - F(w_l^*), & C_1/A < w_l^* < 1 \\ 0 , & 1 \leq w_l^* . \end{cases}$$

Similarly, let W_s and W_l represent the expected number of winning sham and legitimate suits:

$$(8) \qquad W_s = \int_{Is}^{C1/A} wf(w)dw \quad , \quad W_l = \int_{Il}^{1} wf(w)dw \ ,$$

where the lower limits of integration are $I_s = \max[0, w_s^*]$ and $I_l = \max[C_1/A, w_l^*]$.

Now consider the defendant's expected loss from litigation:

$$(9) \qquad L = \frac{(W_s + W_l)A + (N_s + N_l)(D_1 + Y + bD_2) - bN_s tY}{F(1)}$$

$$= WA + P(D_1 + Y) + b(PD_2 - P_s tY) .$$

If a defendant goes to trial he expects to lose his cost of defense, D_1, and the collateral loss, Y, in $P = (N_l+N_s)/F(1)$ proportion of suits, and the expected value of the court awards to successful plaintiffs, $WA = [(W_s + W_l)/F(1)]A$. If he files a countersuit, he incurs trial costs D_2, and wins damages tY with probability $P_s = N_s/F(1)$.

Similarly, the plaintiffs anticipate the defendants' choice of b and choose to bring suit only if the expected value is positive:

$$(10) \qquad E_l = w_l A - C_1 + V - bC_2 > 0$$

$$(11) \qquad E_s = w_s A - C_1 + V - b[C_2 + tY] > 0$$

for legitimate and sham plaintiffs, respectively.

The equilibria of this game can be discovered by reasoning backwards, beginning with the defendant's choice at nodes D3. The naive strategy for the defendant is to accept all settlement offers that do not exceed his expected loss at trial. Plaintiffs, however, can anticipate this strategy and offer settlements at P3 that are the minimum of the defendant's expected loss or their expected gain. Defendants following the naive strategy, then, end up settling with plaintiffs whose probabilities of winning (and the defendants' expected losses) are low and litigating against those plaintiffs with high probabilities of winning, resulting in high losses for the defendants at trial. The naive defendant pays low-loss plaintiffs his expected value of trying all cases <u>and</u> suffers his actual losses from high-loss trials.[17]/ The defendants' best strategy, therefore, is to reject settlement offers at D3, go to trial, and receive on average his expected loss from trial. [18]/

By a similar argument, defendants will never make positive settlement offers at D1. Only low win-probability/low-loss plaintiffs settle for an amount equal to the defendant's expected loss from trial, leaving the defendant to litigate only the high-loss trials.[19]/ Consequently, the defendant is better off litigating than settling. [20]/

The only viable strategies, then, are those that lead to the left-hand nodes P3 in figure 1. We have established that defendants should always reject settlement offers at D3, following offers by plaintiffs equal to the greater of their individual expected gain or the defendant's expected loss from trying all suits. Plaintiffs bringing suit consistent with (10) or (11) will always reject non-positive settlements in the absence of a filed countersuit. Thus, we are left with the defendant's choice of b at the left-hand nodes D2.

The defendant chooses that value of b, b*, that minimizes his expected loss, L. Starting the game at D2, however, limits the defendant to either suing, b = 1, or not suing, b = 0. In sub-game perfect equilibrium the strategy chosen at D2 starting from there must be the same as that chosen by starting at any other node or information set. Thus, differentiating L with respect to b yields:

(12) $L' = W'A + D_2 - P_s tY - bP_s' tY$

which is evaluated only at b = 1. [21]/ If (12) is negative for b = 1, the defendant always sues. If (12) is positive for b =1, the defendant chooses b = 0. Mixed or randomized strategies only make sense starting at D2, if the defendant is indifferent to the value of b. That is, if the value of (12) is zero for b = 1.

The characteristics of the sub-game perfect equilibria of this game are described in the following propositions.

Proposition 2:

Given a continuous distribution of plaintiff types, f(w), and values for the court award (A), court costs (C_1, C_2, D_1, D_2), collateral gains and losses (V,Y), and the countersuit damage multiplier (t), there exist subgame perfect equilibria, in which all suits and countersuits end in trial, characterized by the defendant's choice of b*:

. A. Defendants always choose

1) b*=1 if countersuits are strictly profitable ($W'A + D_2 - P_s tY - bP_s' tY < 0$ at b=1), or

2) b*=0 if countersuits are strictly not profitable ($W'A + D_2 - P_s tY - bP_s' tY > 0$ at b=1);

B. Defendant's are indifferent to, and may choose, any strategy ($0 \leq b^* \leq 1$), including mixed or radomized strategies ($0 < b^* < 1$), only if the profitability of countersuits is zero ($W'A + D_2 - P_s tY - bP_s' tY = 0$) evaluated at b = 1.

Proposition 3:

The possible equilibria are of three types, corresponding to the deterrent patterns a, b, and d in Proposition 1:

a) Suits cannot be deterred: b* = 1 if countersuits are profitable ($D_2 - P_s tY < 0$); b* = 0 otherwise;

b) Some or all sham suits are deterred; no legitimate suits are deterred: $0 < b^* \leq 1$;

c) All sham suits are deterred, but defendants always choose b* = 0; contradictory strategies cannot be an equilibrium.

d) Either: (i) defendant chooses $0 < b^* < 1$ and all suits are deterred by $b^* < 1$; or

(ii) defendant chooses b* = 1 and all sham suits and some but not all legitimate suits are deterred.

Proposition 2 essentially eliminates mixed strategies, except when the expected loss from filing a countersuit (b = 1) is exactly zero at information set D2. If strictly risk averse actors choose inaction when action yields the same expected value, then mixed strategies are never chosen. In this case, the defendant either sues every time or does not sue every time.

Pretrial settlements never occur in the model, because defendants cannot trust plaintiffs to offer to settle for their expected gain at trial. This suggests that observations of countersuits, as in Klein (1990), generate an unbiased sample of filed suits, because all suits are tried. Nevertheless, we can speculate that risk averse defendants, and less perfect plaintiff information on the determinants of b*, could lead to settlements in actuality. A model incorporating these elements would be complex.

Note that defendants may choose b* = 1 when the defendant's net expected loss from trying both the plaintiff's suit and his countersuit is positive. The countersuit only need be sufficiently profitable to offset the deterrent effect W'A. We expect that W' and P_S' are small relative to W and P_S, such that deterrent effects lead to randomized countersuit strategies only in cases of countersuits with low direct values (D_2 - P_StY small negative). Similarly, the actual influence of deterrent effects on bringing suit is probably small, although this is an empirical question.

Since all sham suits can be deterred by values of b* which deter no legitimate suits, the results suggest that nuisance suits, negative expected value suits filed only to extort a settlement, are deterred by the possibility of countersuits and defendants' refusal to make or accept positive settlement offers. [22]/

These results have interesting implications for the legal community's struggle to define sham litigation, to which we now turn.

III. Policy Implications for Sham Litigation

The Supreme Court has agreed with those legal commentators advocating the requirement of "baselessness" or "frivolousness" of claims in order for plaintiffs to face sham litigation liability under the Sherman Act. [23]/ In contrast, those with a knack for economic analysis - Klein (1989) and Judges Posner and Easterbrook [24]/ - have argued for an explicit or implicit cost benefit analysis for defining sham acts. If an act is motivated by an anticompetitive collateral gain, then it may face countersuit liability. [25]/ All agree that the collateral benefits must stem from an anticompetitve effect achieved through an adjudicative proceeding.[26]/

Nevertheless, the various possible standards for defining sham litigation may be viewed as identifying legitimate suits by different minimum probabilities of winning at trial. The baselessness standard, for example, might require a showing of w = 0 in order for a countersuit to succeed, whereas the cost-benefit standard requires $w < C_1/A$. Proposition 4 follows from the evaluation of these standards using the model of section II.

Proposition 4:

As the legal minimum probability of success on the merits, w_m, declines below C_1/A, $0 \leq w_m < C_1/A$, the number of initial suits deterred does not increase and the number of initial suits brought does not decrease. Consequently, the number of countersuits brought cannot increase.

As the legal standard for antitrust liability moves closer to baselessness, the number of initial suits deterred remains constant or declines. The more limited standards for defining sham litigation lead to as many or more initial suits than do the wider definitions of sham. In this case, making more acts legal potentially leads to an increase in litigation.

The social welfare effects of such a change in legal standards are ambiguous in general. Consider the extreme cases. First, for some suit distributions, no change in litigation frequency occurs and, thus, no change in welfare occurs. When litigation frequency is affected in the extreme, then both legitimate and sham suits rise, while countersuits decline. Whether net litigation costs are saved is unclear, depending on the relative costs of the litigation types and their initial frequency distributions. Further, the increase in economically sham litigation produces increased deadweight losses from the facilitated anticompetitive effects, which may be offset by the external benefits of legitimate litigation. Empirical work to quantify the magnitudes of these effects would be especially useful here.

Nevertheless, the presence of deadweight losses from sham litigation may appear to imply that a broad definition of sham litigation (high w_m) may be socially preferred to a narrower definition (low w_m), because these losses are minimized. Such a broad definition of sham litigation, however, also may deter legitimate suits. This raises the question of whether there exists a policy or rule under which only the sham suits are deterred. Such a rule in combination with a high w_m is more likely to improve social welfare by eliminating deadweight losses. One candidate is the English Rule for the allocation of court costs. [27]/

Under the English Rule the loser pays the court costs, whereas the American Rule used above requires each party to pay its own court costs. Applying the English Rule to the equations for w_s* and w_l* yields

(15) $w_{le}^* = \{C_1 - V\}/A$

(16) $w_{se}^* = \{C_1 + b(tY + C_2 + D_2) - V\}/A$.

Legitimate plaintiffs no longer bear their cost of defense against countersuits, C_2, and sham plaintiffs must now pay the defendants' cost of litigating countersuits, D_2. As a result, w_{le}^* is no longer a function of b and defendants can no longer deter legitimate suits.

Since w_{se}^* is larger for any value of b under the Englsh Rule, and its slope with respect to b is steeper than under the American Rule, the defendant has no reason to choose a larger b than will deter all sham suits. Under the English Rule, max b_e for $w_{se}^* = w_m$ in (16) is $b_e^* = (V + w_mA - C_1)/(tY + C_2 + D_2)$, which is less than $(V + w_mA - C_1)/(tY + C_2) = b^*$ for $w_s^* = w_m$ in (5) under the American Rule. The English Rule, then, results in a lower probability of countersuit and no more sham suits than in the set of equilibria under the American Rule. Inspection of Proposition 3 shows that this set is comprised of equilibria of type 3(b). [28]/

These results are stated as a proposition.

Proposition 5:

Under the English rule for the allocation of court costs, legitimate suits cannot be deterred and the number of sham suits deterred at any given value of b is at least as great, or greater than, the number deterred under the American rule. In all equilibria of type 3(b), the English Rule produces as many or fewer sham suits and a lower of probability of countersuit than does the American Rule.

The English Rule can lead to socially preferred outcomes in that no legitimate suits are deterred, the frequency of sham suits does not rise, and the probability of countersuit is reduced. This occurs with certainty, however, only when some legitimate suits are deterred in equilibrium under the American Rule. This implies that the English Rule is most beneficial when a chilling effect on legitimate suits is perceived. Nevertheless, if the values of V and Y are such that all defendants and plaintiffs find litigation profitable, as in equilibria 3(a) with $b^* = 1$, then all plaintiffs sue, all defendants countersue, and all suits go to trial regardless of the court cost allocation rule.

IV. Conclusion

When suits may be legitimate or sham and defendants can countersue for damages from sham suits, the resulting equilibria are of three basic types. If countersuits have no deterrent value, defendants either always or never countersue. If suits can be deterred, defendants countersue at least part of the time and either some or all sham suits are deterred, or all sham suits and at least some legitimate suits are deterred. Pre-trial settlements do not occur.

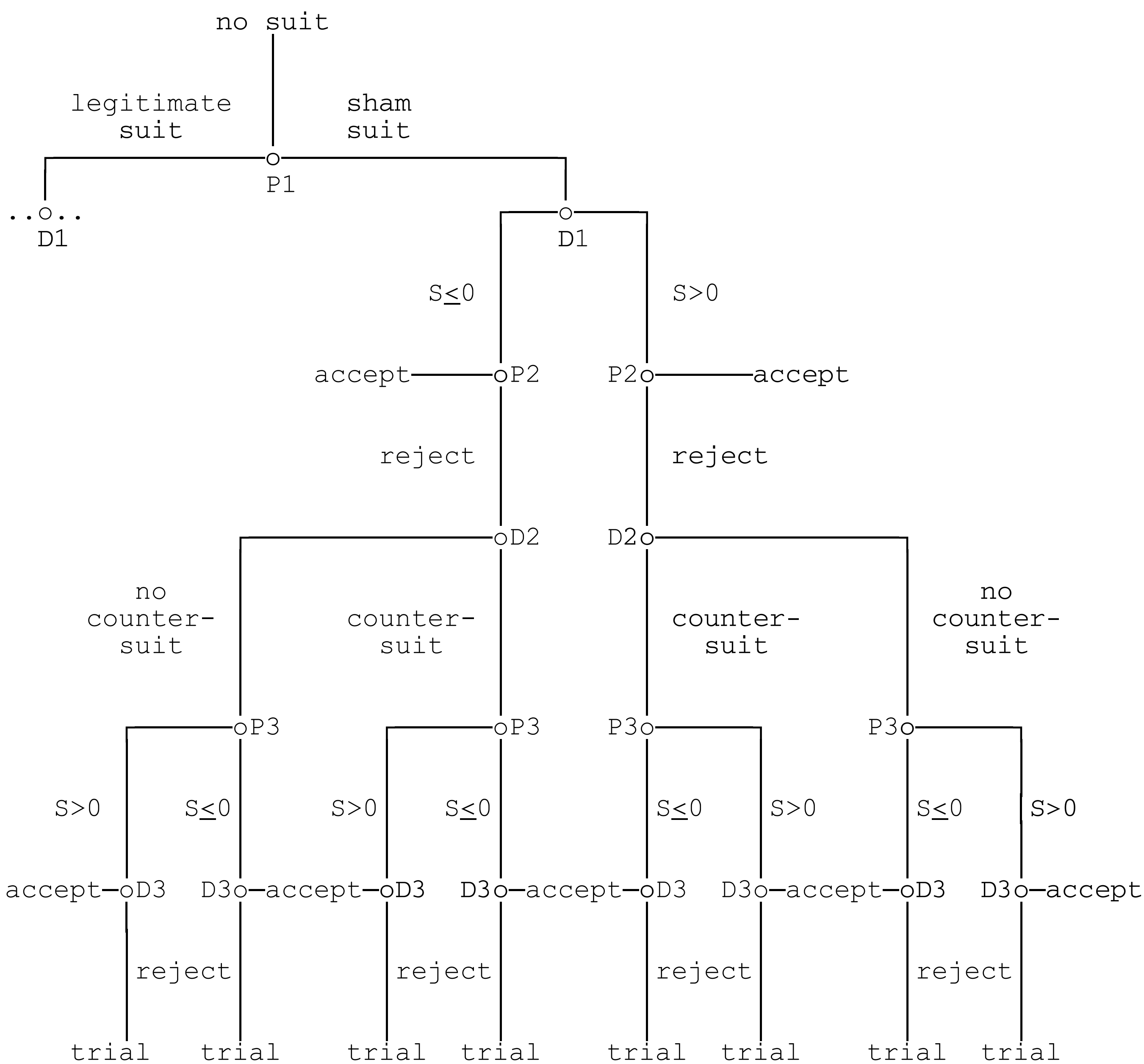
Furthermore, broader definitions of illegal litigation tend to reduce the total frequency of litigation by increasing the deterrent effects of countersuits. These broader definitions may also produce a chilling effect on legitimate litigation. The English rule for the allocation of court costs, however, neutralizes this effect on legitimate litigation. Thus, broader standards for defining illegal suits in conjunction with the English rule for allocating court costs may minimize both the frequency of illegal suits and the probability of countersuit, without affecting the frequency of legitimate suits.

Unfortunately, the Supreme Court has chosen to avoid a chilling effect on legitimate suits by enforcing "baselessness" as a requirement for suits to face countersuit liability. This also minimizes the desirable chilling effect on suits motivated by collateral anticompetitive, abusive, or malicious gains. The likely result is an unnecessary maximization of litigation of these types. The analysis conducted here and the frequency of citations to sham litigation decisions are both consistent with this outcome.

Nevertheless, the "baselessness" requirement only applies to cases involving a single allegedly sham proceeding, due to the limited circumstances of the case before the Court. The subsequent attention to multiple suits or "pattern litigation" in the legal literature stems from the limited scope of the Court's decision. Moreover, the shift in the legal literature toward the effect of fraud and misrepresentation on sham litigation is illuminated. If one seeks to successfully achieve an anticompetitive goal by bringing a suit that has no chance of winning on its true merits, then fraudulent or misrepresented evidence may be the only means to sustain such a suit. On the other hand, defendants seeking to countersue may raise the fraud issue to justify the necessary claim that the plaintiff's suit is baseless. If countersuits focused on the economics of the initial suit, such claims would be less likely.

The obvious next step is empirical research to determine the frequency of sham litigation, the characteristics of the countersuit claims and, ideally, the potential magnitude of welfare effects from such litigation. Appropriate policy analysis is blind without such information. Fortunately, much of the evidence is available in court records that can be analyzed as in Klein (1989, 1990). Improved information will lead to superior judgments on the appropriateness of current policy.

<u>FIGURE 1</u>



no suit
legitimate suit
sham suit
P1
D1
D1
S≤0
S>0
accept
P2
P2
accept
reject
reject
D2
D2
no counter-suit
counter-suit
counter-suit
no counter-suit
P3
P3
P3
P3
S>0
S≤0
S>0
S≤0
S≤0
S>0
S≤0
S>0
accept
D3
D3
accept
D3
D3
accept
D3
D3
accept
D3
D3
accept
reject
reject
reject
reject
trial
trial
trial
trial
trial
trial
trial
trial

APPENDIX

TABLE 1(a)

Full Information Case
Expected Gains (Plaintiff) and Losses (Defendant)
$w_S \leq C_1/A = w_M < w_l$

	No Countersuit	Countersuit
Legitimate Suit	$G_P = w_1A - C_1 > 0$	$G_P = w_1A - C_1 - C_2 > 0$
$V = 0$	$L_D = w_lA + D_1 > 0$	$L_D = w_1A + D_1 + D_2 > 0$
Legitimate Suit	$G_P = w_1A + V - C_1 > 0$	$G_P = w_1A + V - C_1 - C_2 > 0$
$V > 0$	$L_D = w_lA + D_1 > 0$	$L_D = w_1A + D_1 + D_2 > 0$
Sham Suit	$G_P = w_SA + V - C_1 > 0$	$G_P = w_SA + V - C_1 - C_2 - tY > 0$
$V > 0$	$L_D = w_SA + D_1 > 0$	$L_D = w_SA + D_1 + D_2 - tY < w_SA + D_1$

TABLE 1(b)

Full Information Case
Expected Gains (Plaintiff) and Losses (Defendant)
$w_M < C_1/A$

	No Countersuit	Countersuit
Sham Suit	$G_P = w_S A + V - C_1 > 0$	$G_P = w_S A + V - C_1 - C_2 > 0$
$w_M < w_S < C_1/A$	$L_D = w_S A + D_1 > 0$	$L_D = w_S A + D_1 + D_2 > 0$
Sham Suit	$G_P = w_S A + V - C_1 > 0$	$G_P = w_S A + V - C_1 - C_2 - tY > 0$
$w_S \leq w_M < C_1/A$	$L_D = w_S A + D_1 > 0$	$L_D = w_S A + D_1 + D_2 - tY < w_S A + D_1$

TABLE 2

Settlement Ranges and Outcomes
Full Information Case
$w_S \le C_1/A < w_l$

	No Countersuit	Countersuit
Legitimate Suit	$w_1A - C_1 < w_lA + D_1$	Countersuits are not filed
$V = 0$	$G_P < L_D$ All Settle	
Legitimate Suit	$V - C_1 \le D_1$ Settle	Countersuits are not filed
$V > 0$	$V - C_1 > D_1$ Trial	
Sham Suit	$V - C_1 \le D_1$ Settle	$V - C_1 - C_2 \le D_1 + D_2$ Settle
$V > 0$	$V - C_1 > D_1$ Trial	$V - C_1 - C_2 > D_1 + D_2$ Trial

PROOF OF PROPOSITION 1: Follows directly from discussion in the text. The continuity of f(w) over (0,1) is necessary for result (b) only. Q.E.D.

PROOF OF PROPOSITION 2: The discussion in the text establishes that defendants always choose non-positive settlement offers at D1, and that settlements are always rejected at P2 and D3. The potential equilibria are characterized by the defendant's choice of b*, $0 \le b^* \le 1$, at D2. This is determined by the value of equation (12), evaluated at b=1. Strictly positive or negative values of equation (12) result in the "corner solutions" b* = 0 or b* = 1, respectively. If the value of equation (12) is zero, multiple mixed equilibria are possible as defendants are indifferent to $0 \le b^* \le 1$. Plaintiffs anticipate the defendant's choice of b*, since all the relevant information is common knowledge, and decide to bring suit at P1 according to equations (10) and (11). Q.E.D.

PROOF OF PROPOSITION 3: These sets of equilibria relate to the deterrence patterns established in Proposition 1. The proof proceeds by deriving the values of b* that are compatible with each of the four deterrence cases in Proposition 1:

(a): $w_l^* < w_s^* \le 0$ implies:

$w_l^* = (C_1 + bC_2 - V)/A \le 0$ and $b^* \le (V-C_1)/C_2 > 0$ since $V \ge C_1 + bC_2$;

$w_s^* = (C_1 + b(C_2 + tY) - V)/A \le 0$ and $b^* \le (V-C_1)/(C_2 + tY) > 0$ since $V \ge C_1 + b(C_2 + tY)$; and W_s', W_l', N_s', N_l', W', $P_s' = 0$.

From (12), $L' = D_2 - P_s tY$, where $L' > 0$ implies b* = 0 and $L' < 0$ implies b* = 1. In this case, if $(V-C_1)/(tY+C_2) \ge 1$ then b* is determined by the sign of L', but if $\{(V-C_1)/(tY+C_2)\} < 1$, b* = 0. The plaintiff's suit cannot be deterred, so the defendant will always countersue if countersuits are "profitable"; otherwise no countersuits are brought.

(b): $0 < w_s^* \leq C_1/A$ implies:

$w_s^* = (C_1 + b(C_2 + tY) - V)/A \leq C_1/A$ and $b^* \leq V/(tY+C_2) > 0$ since $V > b(C_2 + tY)$.

Then, for $W = [(W_l+W_s)/(N_l+N_s)]$, we have

$$W' = [(W_l'+W_s')/(N_l+N_s)]-[(W_l+W_s)/(N_l+N_s)^2](N_l'+N_s'),$$

where $W_l' = -w_l^* f(w_l^*)$, $W_s' = -w_s^* f(w_s^*)$, $N_l' = -f(w_l^*)$, $N_s' = -f(w_s^*)$ imply:

$$W' = [(W-w_l^*)f(w_l^*) + (W-w_s^*)f(w_s^*)]/(N_l+N_s).$$

Since $0 < w_s^* \leq C_1/A$ implies $f(w_l^*) \geq 0$, $f(w_s^*) > 0$, and by definition $w_l^* < w_s^* < W < 1$, then $W'>0$ and

$$P_s' = N_s'/(N_l+N_s) - [N_s/(N_l+N_s)^2](N_l'+N_s') = -(1-P_s)f(w_s^*)/(N_l+N_s) < 0.$$

Some or all sham suits are deterred, no legitimate suits are deterred,

and from (12) either

$$W'A + D_2 - P_s tY - bP_s' tY < 0 \Rightarrow b^* = 0 \text{ , or}$$

$$0 \leq W'A + D_2 - P_s tY - bP_s' tY \Rightarrow 0 < b^* \leq \min [1, V/(tY+C_2)].$$

(c): $w_l^* < C_1/A \leq w_s^*$ implies $V/(tY+C_2) < b^* < V/C_2$ and W', P_s', $P_s = 0$, so from (12) $L' = D_2 > 0 \Rightarrow b^* = 0$. This case never occurs in equilibrium, since the strategies of the defendant and plaintiff are incompatible. No sham suits are brought, since $C_1/A \leq w_s^*$, but the defendant always chooses $b^* = 0$, because no legitimate suits can be deterred, $W' = 0$, and the filing of a countersuit only incurs cost for the defendant with no expectation of reward. Hence the contradiction: if the defendant brings no countersuits, no sham suits are deterred.

(d): $C_1/A < w_l^*$ implies that the cost of defending against a countersuit is greater than the collateral gain, $0 \leq V/C_2 < b^*$, and P_s', $P_s = 0$; $W' \geq 0$. Then the defendant chooses b^* to minimize

$$L' = W'A \geq 0$$

for which there are two alternatives depending on the value of W':

1) $0 < b^* < 1$; $W' = (W-w_l^*)f(w_l^*)/N_l = 0 \Rightarrow W = w_l^* = 1$; that is, all suits are deterred by $b^* < 1$.

2) $b^* = 1$; $W' > 0$: $b^* = 1$ deters some but not all legitimate suits.

Q.E.D.

PROOF OF PROPOSITION 4: Substitution of w_m for C_1/A in Proposition 1 causes either no change or a decline in the number of suits deterred in each case, 1(a) - 1(d), for a given b. It remains to be shown that b* does not increase and thereby cause an increase in suits deterred. First, substitute w_m for C_1/A in (7), (8), and (9), then totally differentiate L' in (12) and solve for db/dw_m :

$$db/dw_m = (dN_s/dw_m)tY/\{L''\} \leq 0$$

where $L'' = W''A - 2P_s'tY - bP_s''tY \geq 0$ is the second order condition for b* in Proposition 2 to minimize L. When $N_s > 0$, then $dN_s/dw_m < 0$; and $L'' \geq 0$ by assumption . If $N_s = 0$, then $dN_s/dw_m = 0$. Thus, $db^*/dw_m \leq 0$. The reader may wish to confirm that W_s', W_l', N_s', N_l', and the sum $(N_s + N_l)$ are unchanged by w_m for $N_s > 0$. Q.E.D.

PROOF OF PROPOSITION 5: Follows directly from (15) and (16) and Propositions 1 and 3.

Q.E.D.

REFERENCES

Andrews, Carol Rice, "After BE&K: The 'Difficult Constitutional Question' of Defining the First Amendment Right to Petition Courts," 39 *Hous. L. Rev.* 1299, Spring 2003.

Balmer, Thomas A. (1980) "Sham Litigation and the Antitrust Laws," Brooklyn Law Review, Winter.

Bebchuk, Lucian A. (1984) "Litigation and Settlement Under Imperfect Information," *Rand Journal of Economics*, Autumn.

______.(1988) "Suing Solely to Extract a Settlement Offer," *The Journal of Legal Studies*, June.

Bien, Michael W. (1981) "Litigation as an Antitrust Violation: Conflict Between the First Amendment and the Sherman Act," *University of San Francisco Law Review*, Fall.

Bork, Robert H. (1978) *The Antitrust Paradox*, Basic Books: New York.

Briggs, Hugh C., Kathleen D. Huryn and Mark E. Mcbride, (1996) "Treble Damages and the Incentive to Sue and Settle," *The RAND Journal of Economics*, 27(4), Winter, pp. 770-786.

California Motor Transport Co. v. Trucking Unlimited, 404 US 508 (1972).

Cooter, Robert D. and Rubinfeld, Daniel L. (1989) "Economic Analysis of Legal Disputes and Their Resolution", *Journal of Economic Literature*, September.

Daughety, A.F. (2000) “Settlement,” in B. Bouckaert and G. de Geest, eds., *Encyclopedia of Law And Economics*, Vol. 5, Cheltenham: Edward Elgar.

Daughety, A.F. and Reinganum, J.F. (2002) “Informational Externalities in Settlement Bargaining: Confidentiality and Correlated Culpability,” *The RAND Journal of Economics*, 33(4), Winter, pp. 587-604.

Daughety, A.F. and Reinganum, J.F. (2000) “On the Economics of Trials: Adversarial Process, Evidence, and Equilibrium Bias,” *The Journal of Law, Economics, and Organization*, 16(2), October, pp. 365-394.

Daughety, A.F. and Reinganum, J.F. (1993) “Endogenous Sequencing in Models of Settlement and Litigation,” *The Journal of Law, Economics, and Organization*, 9(2), October, pp. 314-348.

Davis, Daniel J. (2002) “The Fraud Exception to the Noerr-Pennington Doctrine in Judicial and Administrative Proceedings,” 69 *U. Chi. L. Rev.* 325, Winter.

Eastern Railroad Presidents Conference v. Noerr, 365 U.S. 127 (1961).

Erwin Sussman v. Bank of Israel, 56 F. 3d 450 (2nd Circuit 1995).

Getzoff, Timothy P. (1996). “Dazed and Confused in Colorado: The Relationship Among Malicious Prosecution, Abuse of Process, and the Noerr-Pennington Doctrine,” 46 *U. Colo. L. Rev.* 675, Summer.

Gould, John P. (1973) "The Economics of Legal Conflicts," *Journal of Legal Studies*, June.

Grip-Pak, Inc. v. Illinois Tool Works, Inc. 694 F. 2d 466 (Seventh Cir. 1982).

Hay, B.L. and Spier, K.E. (1998) “Settlement of Litigation,” in P. Newman, ed., *The New Palgrave Dictionary of Economics and the Law*, New York: Stockton Press.

Handler, Milton and De Sevo, Richard A. (1984) "The Noerr Doctrine and the Sham Exception," *Cardozo Law Review*, Fall.

Hurwitz, James D. (1985) "Abuse of Government Processes, the First Amendment, and the Boundaries of Noerr," *Georgetown Law Journal*, October.

Katz, Avery (1990) "The Effect of Frivolous Lawsuits on the Settlement of Litigation," *International Review of Law and Economics*, 10, May, pp. 3-27.

Klein, Christopher C. <u>The Economics of Sham Litigation: Theory, Cases, and Policy</u>, Bureau of Economics Staff Report, Federal Trade Commission, April 1989.

Klein, Christopher C. (1990) "Predation in the Courts: Legal Versus Economic Analysis in Sham Litigation Cases," *International Review of Law and Economics*, 10, May, pp. 29-40.

Kolln, Thies (1994). "Rule 11 and the Policing of Access to the Courts after *Professional Real Estate Investors*,"61 *University of Chicago Law Review* 1037, Summer.

Lao, Marina, (2003) "Reforming the Noerr-Pennington Antitrust Immunity Doctrine," 55 *Rutgers L. Rev*. 965, Summer.

Meurer, Michael J. (1989) "The Settlement of Patent Litigation," *RAND Journal of Economics*, Spring.

Nalebuff, B. (1987) "Credible Pretrial Negotiation," *Rand Journal of Economics*, Summer.

Noah, Lars, (1995) "Sham Petitioning as a Threat to the Integrity of the Regulatory Process," 74 *N. C. L.Rev.* 1, November.

Perrine, James B. (1995) "Defining the 'Sham Litigation' Exception to the Noerr-Pennington Antitrust Immunity Doctrine: An Analysis of the Professional Real Estate Investors v.

Columbia Pictures Industries Decision," 46 *Ala. L. Rev.* 815, Spring.

P'ng, I. (1983) "Strategic Behavior in Suit, Settlement, and Trial," *Bell Journal of Economics*, Autumn.

Polinsky, A. M. and Rubinfeld, D. L.(1996) "Optimal Awards and Penalties when the Probability

Of Prevailing Varies Among Plaintiffs, *Rand Journal of Economics*, Summer.

Premier Electric Construction Co. v. N.E.C.A., Inc. 814 F. 2d 358 (Seventh Cir. 1987).

Professional Real Estate Investors v. Columbia Pictures Industries, 508 US 49, 123 L. Ed. 611 at 625, 113 S Ct 1920, (1993).

Shavell, Steven (1989) "Sharing of Information Prior to Settlement of Litigation," *Rand Journal of Economics*, Summer.

Snyder, Edward A. and James W. Hughes (1990) "The English Rule for Allocating Legal Costs: Evidence Confronts Theory," *Journal of Law, Economics, & Organization*, Fall.

Snyder, Edward A. and James W. Hughes (1995) "Litigation and Settlement under the English and American Rules: Theory and Evidence," *Journal of Law and Economics*, April.

Spier, Kathryn E. (2003) "The Use of 'Most-Favored Nation' Clauses in Settlement of

Litigation," *The RAND Journal of Economics*, 34(1), Spring, pp. 78-95.

Spier, Kathryn E. (2002) "Settlement with Multiple Plaintiffs: The Role of Insolvency," *The Journal of Law, Economics, and Organization*, 18(2), October, pp. 295-323.

Steinman, David R. and Danielle S. Fitzpatrick, (2001) "Antitrust Counterclaims in Patent Infringement Cases: A Guide to Walker Process and Sham Litigation Claims," 10 *Tex. Intell. Prop. L. J.* 95, Fall.

Wall Street Journal, (1995) "Appeals Court Rules on Improper Suits," June 7, p. B4.

Wang, G. H., Kim, J-Y., and Yi, J-G. (1994) "Litigation and Pretrial Negotiation under Incomplete Information," Journal of Law, Economics, and Organization, April.

Wofford, Russell, (2003) "Considering the 'Pattern Litigation' Exception to the Noerr-Pennington Antitrust Defense," 49 *Wayne L. Rev*. 95, Spring.

[*/] This research was supported by a summer research grant from the Jennings A. Jones College of Business at Middle Tennessee State University. The author thanks seminar participants at Auburn University and the Federal Trade Commission for comments on earlier versions of this paper.

[1] / The U. S. Supreme Court found in *Eastern Railroad Presidents Conference v. Noerr* (1961) that attempts to influence government are immune to challenge under the Sherman Act, unless the attempts are a "mere sham" aimed at disrupting the business relationships of a competitor.

[2] / *Professional Real Estate Investors v. Columbia Pictures Indus.*, 508 US 49, 123 L. Ed. 611 at 625, 113 S Ct 1920, (1993).

[3]/ The "baselessness" standard has also been applied in some circuits for sanctions under Rule 11 of the Federal Code of Civil Procedure, as lawyers were not sanctioned for bringing lawsuits with improper purposes as long as the suits themselves were not frivolous, as well as to claims of malicious prosecution and abuse of process. For example, see *Erwin Sussman v. Bank of Israel*, 56 F. 3d 450 (2nd Circuit 1995). This case even made the Wall Street Journal (1995). Getzoff (1996) and Kolln (1994) are also relevant.

[4] / *Grip-Pak v. Illinois Tool Works, Inc.*, 694 F. 2d 466 (1982) at 471. See also, *Premier Electric Construction Co. v. N.E.C.A.*, Inc. 814 F. 2d 358 (Seventh Cir. 1987).

[5] / *Supra*, note 2, p. 472.

[6] / *California Motor Transport Co. v. Trucking Unlimited*, 404 US 508 (1972). This case is discussed in Bork (1978), p. 353.

[7]/ For reviews of the case law and related literature, see Handler and De Sevo (1984), Hurwitz (1985), and Klein (1989).

[8] / The payoffs and settlement outcomes under full information are given in Appendix Tables 1 and 2. Legitimate suits never face countersuits and those without collateral gains always settle. Legitimate suits with "large enough" collateral gains go to trial. Sham suits face countersuits when defendants find them "profitable" and all sham suits and countersuits go to trial if the plaintiffs collateral gain is "large enough".

[9]/ Gould (1973) contains the classic treatment of the full information case. Hay and Spier (1998) and Daughety (2000) provide surveys of the literature on settlement bargaining.

[10]/ The nature of these anticompetitive collateral gains is discussed in more detail in Klein (1989, 1990).

[11]/ Technically, nuisance suits - suits with non-positive net expected values and no collateral gains - are excluded at this time. Although the model can be modified to analyze nuisance suits, the reader is cautioned against viewing the collateral gain in a sham suit as parallel to the expected value of an extorted settlement in a nuisance suit.

[12]/ It is assumed that suits with zero expected values or less are not brought.

[13]/ There is no reason to expect the probability of success in court to be correlated with the existence of collateral gains from bringing suit, *a priori*.

[14]/ If the countersuit is a Sherman Act suit, t=3 reflecting treble damages. In non-antitrust suits, t=1 may be more appropriate.

[15]/ It is assumed that suits with zero expected values or less are not brought.

[16] / This merely extends Daughety and Reinganum's (2000) observation that the costs of the adversarial process inevitably screen out some meritorious cases. If the costs rise due to the possibility of countersuits, then more cases are screened out or deterred.

[17]/ For example, at the far right D3 (top of Figure 2) all suits for which $wA - C_1 + V \leq W^+A + D_1 + Y$ settle for the righthand side amount. This defines a maximum w such that

$$w \leq W^+ + (D_1 + Y + C_1 - V)/A$$

for settled suits under the naive strategy. The defendant must be worse off by settling unless **all** suits settle for this amount, in which case he is indifferent between settlement and litigation. Otherwise, the expected loss from litigating the settled suits must be less than the expected loss from litigating all suits.

[18]/ The defendants could randomize their choices at D3, but plaintiffs would then offer settlements equal to the greater of their expected gain or the probability-weighted average of their gain and the defendant's expected loss. Defendants' still end up settling with these plaintiffs as a group for more than the loss realized from litigating all the settled suits, such that litigation is the best strategy.

[19]/ Furthermore, if the defendant played this strategy, plaintiffs could anticipate the settlement amount when deciding whether to sue or not at P1. Thus, all plaintiffs would sue, whether (10) or (11) held or not, and the defendant would end-up paying settlements to plaintiffs whose suits were not economically justified - even to plaintiffs with frivolous (w=0) claims. Randomized strategies by the defendant would mitigate, but not eliminate, this effect.

[20]/ The only exception is if **all** suits would settle for this amount, in which case the defendant is indifferent between trial and settlement.

[21] / At node D2, the initial litigation is a certainty, such that P = 1 in equation (9) and P' = 0.

[22]/ For legitimate suits to be deterred when some sham suits go to trial requires a correlation between collateral gains, V, and potential plaintiffs' probabilities of winning, w, a case not considered here.

[23]/ See Balmer (1980), Bien (1981), Handler and De Sevo (1984), and Hurwitz (1985).

[24]/ See opinions for the Seventh Circuit in *Grip-Pak, Inc. v. Illinois Tool Works, Inc.* (1982) and *Premier Electric Construction Co. v. N.E.C.A., Inc.* (1987).

[25]/ The standard for the common law tort of abuse of process is similar, except that an anticompetitve effect is not required, and an act independent of the litigation must occur in order to achieve the improper end. Note that other commentators on sham litigation suggest the additional condition that the collateral gain, alone, justify the litigation: $V > C_1$. That is, those suits for which $wA + V > C_1$, $wA < C_1$, and $V < C_1$ would not face antitrust liability, even though these suits would never be filed absent the collateral gain, V.

[26]/ The adoption of any approach makes a value judgment weighing the economic factors relative to the First Amendment rights to access to the courts. That is, if the right to access was judged to over-ride all other factors, then a policy allowing all suits with a positive probability of winning to go to trial is preferred. The cost-benefit approach implicitly rejects this extreme view, but imposes relative weights that require suits to satisfy the economic test $w > C_1/A$ to avoid antitrust liability. Thus, some might argue that external values (of free-access to the courts, or free speech, etc.) are given a zero weight. That is, a suit's value to society under the cost-benefit approach is determined solely by its direct economic value to the participants.

[27]/ Comparison of the English and American rules for the allocation of court costs, as in Katz (1990) for example, is common. A summary and an empirical test of some of the theoretical results can be found in Snyder and Hughes (1990, 1995).

[28]/ The defendant's expected loss under the English Rule becomes

$$L_e = (W_s+W_l)A + (N_s+N_l)(D_1+Y) + bN_l(D_2+C_2) - bN_s(tY-D_2)$$

and the first order condition is

$$L_e' = W_s'A + N_s'(D_1+Y) + N_l(D_2+C_2) - (bN_s'+N_s)(tY-D_2) = 0$$

implying

$$b^* = \{W_s'A + N_s'(D_1+Y) + N_l(D_2+C_2) - N_s(tY-D_2)\} / \{N_s'(tY-D_2)\}$$

Comparison of b* above with equation (12) shows that, in general, the effect of the English rule on b* in equilibria of type 3(b) is ambiguous. More or fewer sham suits could be deterred in equilibrium under the English rule than under the American rule for certain f(w) and values of C_1, C_2, D_1, D_2, V, and A.