

Research Seminar 4.

Applications to Law

- Strategic Suit and Settlement
- Outcome and Play of the Game
- Games in Abstract Parameters

The Litigious Society

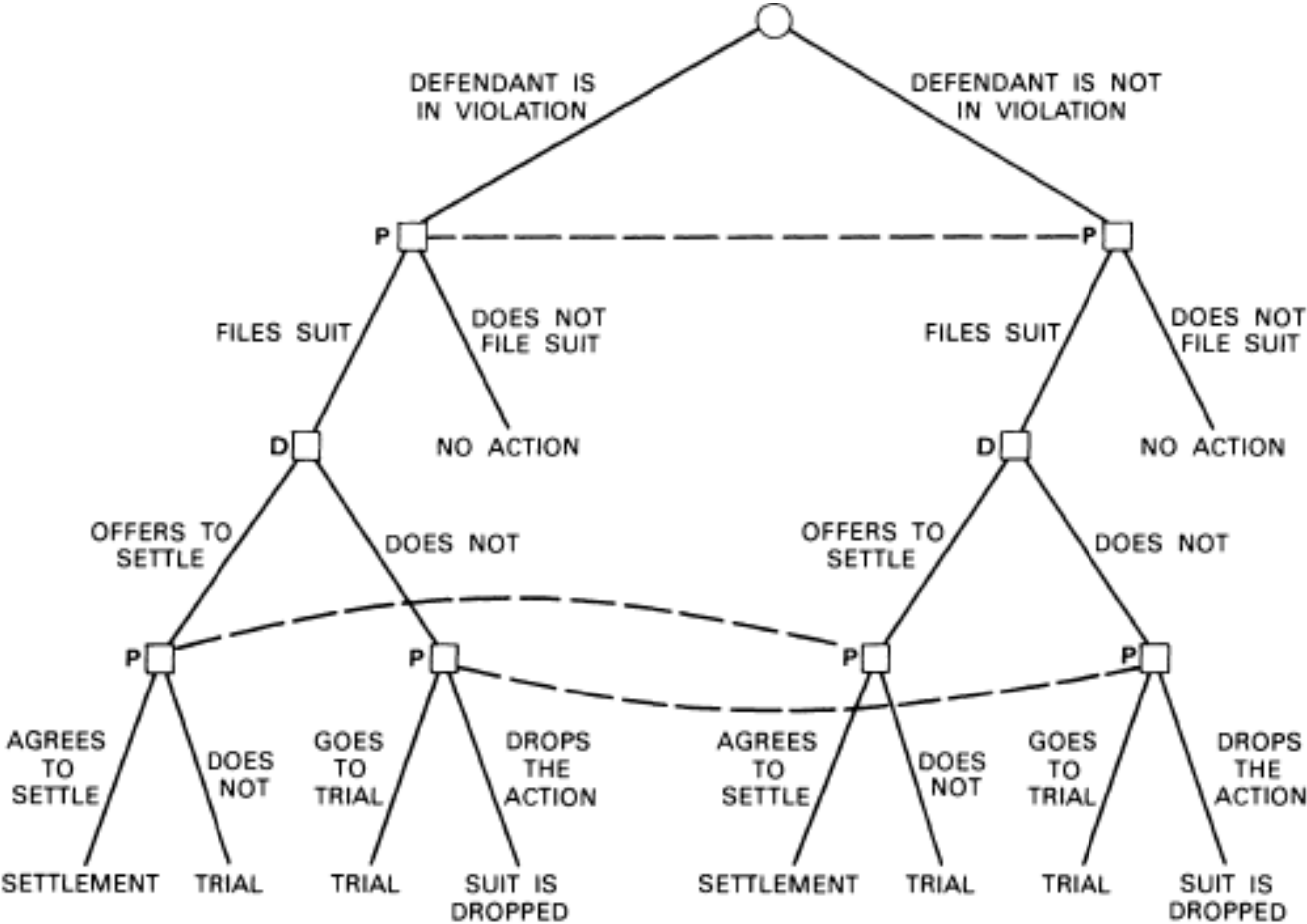
- “There is a growing concern in the judiciary, the bar, and society in general about the seemingly uncontrollable growth of legal action.”
- Litigation includes court action, as well as the possibility of court action
- A thorough understanding of the problem is necessary
- Is the volume of litigation excessive?
- If reduction is desirable, we must identify alternative policies for reducing the volume.

P’ng (1983)

Parameters of the Model

- q : Prior expectation of guilt
- S : Amount of the settlement, exogenous to the model
- W : Amount of legal award
- π : Legal costs to the plaintiff
- δ : Legal costs to the defendant

Extensive Form of the Game



Assumptions and Extensions

- Defendant knows their guilt
- Judge is without error
- How about dual uncertainty?
- Extensions to discovery phase, between suit and trial?

Strategies

Plaintiff

- “do not sue”: do not bring suit
- “sue; settle, try”: file suit, then settle if the defendant offers to settle, otherwise go to trial
- “sue, try, try”: file suit, then go to trial regardless of the defendant’s moves
- “sue; try, drop”: file suit, then go to trial if the defendant offers to settle, otherwise drop the action
- “sue; settle, drop”: file suit, then settle if the defendant offers to settle, otherwise drop the action

Defendant

- “settle, settle”: Settle regardless if violator
- “try, try”: Go to trial regardless of violator
- “settle, try”: offer to settle if a violator, otherwise do not
- “try, settle”: go to trial if a violator, otherwise settle

Example Payoff

- Plaintiff's Strategy (sue; try, drop)
- Defendant is in violation
- Defendant's Strategy (settle)

- Plaintiff sues, defendant offers to settle, but the case goes to court.
- Defendant judged guilty; defendant pays $W+\delta$ and plaintiff receives $W-\pi$

Strategic Form of the Game

TABLE 1 Strategic Form of the Game

Plaintiff's Strategy	Defendant's Strategy			
	settle, settle	try, try	settle, try	try, settle
no action	0, (0, 0)	0, (0, 0)	0, (0, 0)	0, (0, 0)
sue; settle, try	$S, (-S, -S)$	$qW - \pi, (-W - \delta, -\delta)$	$qS - (1 - q)\pi, (-S, -\delta)$	$q(W - \pi) + (1 - q)S, (-W - \delta, -S)$
sue; try, try	$qW - \pi, (-W - \delta, -\delta)$	$qW - \pi, (-W - \delta, -\delta)$	$qW - \pi, (-W - \delta, -\delta)$	$qW - \pi, (-W - \delta, -\delta)$
sue; try, drop	$qW - \pi, (-W - \delta, -\delta)$	0, (0, 0)	$q(W - \pi), (-W - \delta, 0)$	$-(1 - q)\pi, (0, -\delta)$
sue; settle, drop	$S, (-S, -S)$	0, (0, 0)	$qS, (-S, 0)$	$(1 - q)S, (0, -S)$

Payoffs (plaintiff, defendant violator, defendant non-violator)

Dominated by strategy 5 (sue; settle, drop)

Strategic Form of the Game

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Plaintiff's Strategy	Defendant's Strategy			
	settle, settle	try, try	settle, try	try, settle
sue; settle, try	$S, (-S, -S)$	$qW - \pi, (-W - \delta, -\delta)$	$qS - (1 - q)\pi, (-S, -\delta)$	$q(W - \pi) + (1 - q)S, (-W - \delta, -S)$
sue; try, try	$qW - \pi, (-W - \delta, -\delta)$	$qW - \pi, (-W - \delta, -\delta)$	$qW - \pi, (-W - \delta, -\delta)$	$qW - \pi, (-W - \delta, -\delta)$
sue; try, drop	$qW - \pi, (-W - \delta, -\delta)$	$0, (0, 0)$	$q(W - \pi), (-W - \delta, 0)$	$-(1 - q)\pi, (0, -\delta)$
sue; settle, drop	$S, (-S, -S)$	$0, (0, 0)$	$qS, (-S, 0)$	$(1 - q)S, (0, -S)$

Payoffs (plaintiff, defendant violator, defendant non-violator)

Defendant will never use (settle, try) or (try, settle) because

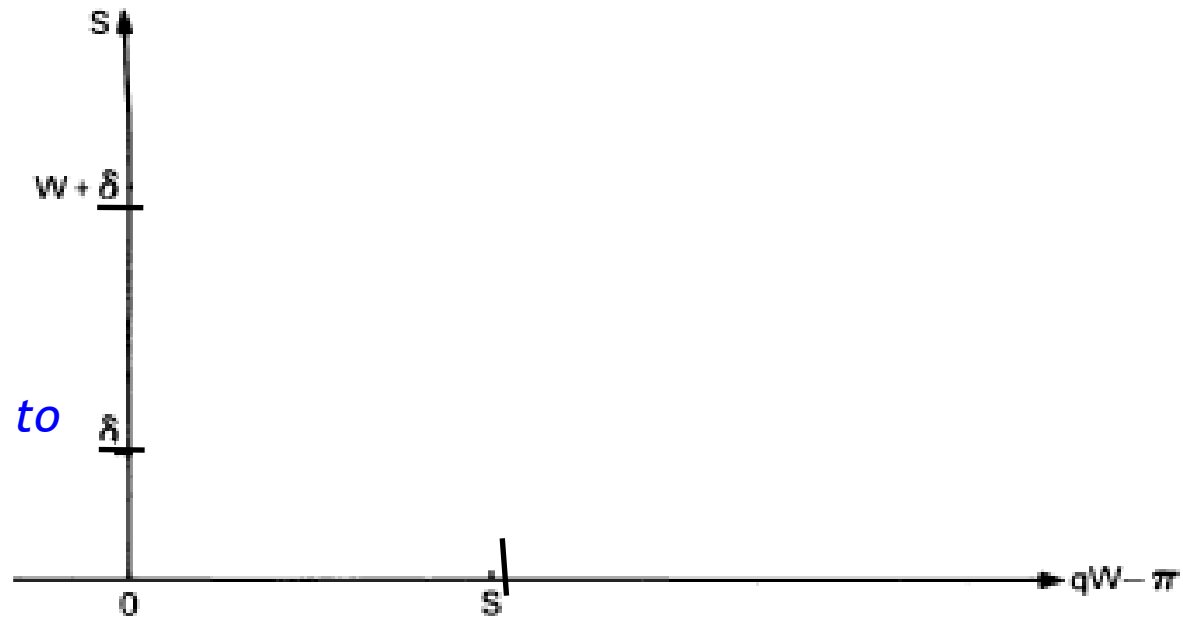
Parameter Space

What is the cost to the defendant of settling?
Is it . . .

Is it . . .

less than going to court and losing?

less than going to court fees?



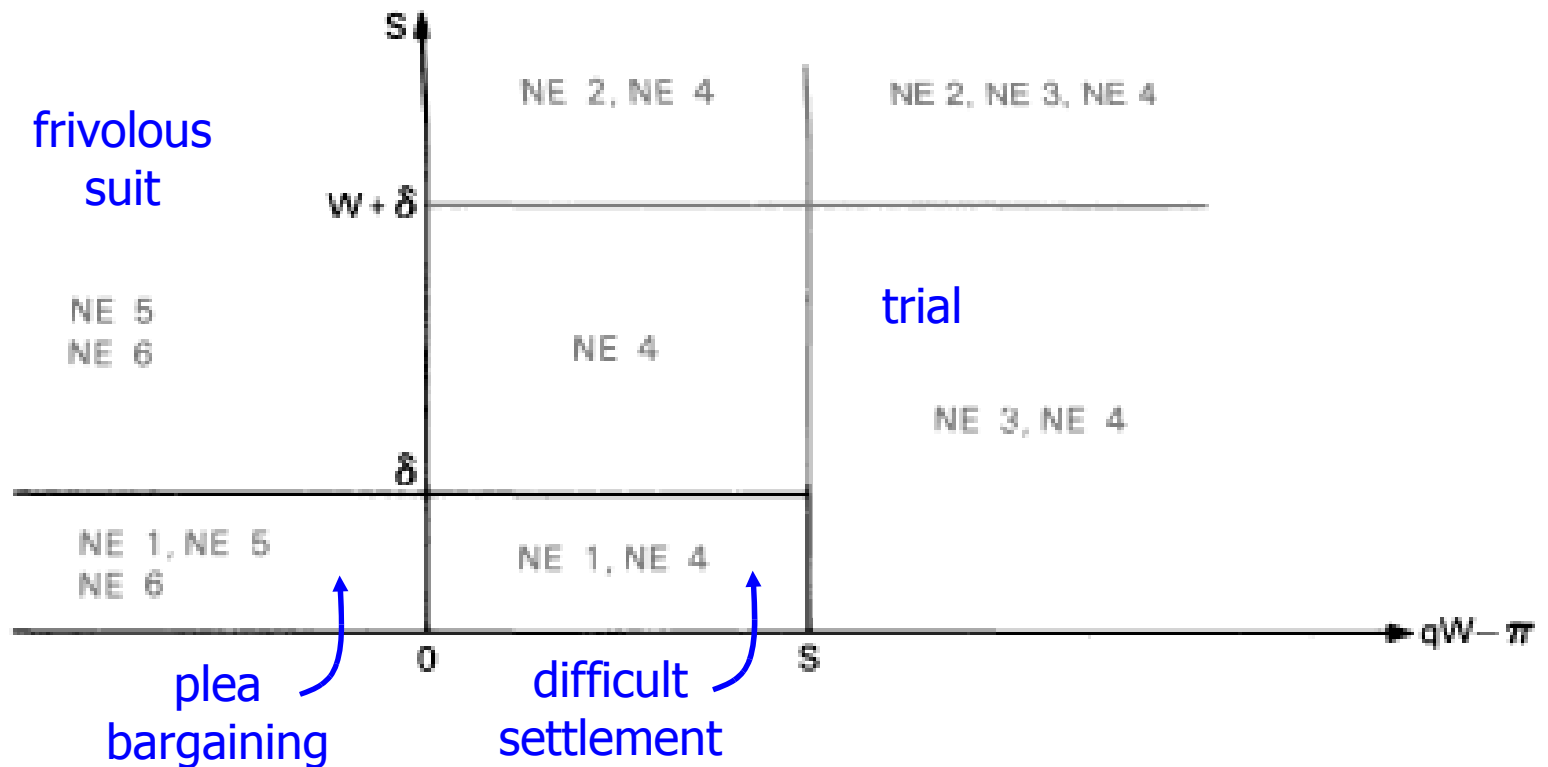
more than settling?

What is the value to the plaintiff of going to trial?
Is it . . .

Six Equilibria and their Outcomes

<u>NE No</u>	<u>Play of the Game</u>	<u>Outcome</u>
NE1	(sue; settle, try) and (settle, settle)	settlement
NE2	(sue; settle, try) and (try, try)	trial
NE3	(sue; try, try) and (settle, settle)	trial
NE4	(sue; try, try) and (try, try)	trial
NE5	(sue; try, drop) and (try, try)	plaintiff drops the action
NE6	(sue; settle, drop) and (try, try)	plaintiff drops the action

Outcomes and Equilibria



Costs of Strategic Suit and Settlement

- Social Efficiency
 - Diligence and Deterrence
 - Backlog of Cases
 - Development of New Law
 - Incidence of Fees
- Private Efficiency
 - Revelation principle
 - Inefficient legal fees $(\pi + \delta) \geq qW$
 - Inefficient awards $(S - \delta) \leq W \leq (S + \pi)$