

JUDICIAL LEGITIMACY AS A REPEATED GAME

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Abstract

An independent judiciary faces the problem of how to restrain high-court judges from indulging their personal whims. One restraint is the desire of judges to influence future judges. To do so, judges may have to maintain their own or the system's legitimacy by restraining their own behavior. This situation can be viewed as an equilibrium of an infinitely repeated game. Such a game has many equilibria, some of which are Pareto superior to others. In some equilibria, self-interested judges are responsible even without the threat of external penalties.

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Use the memory of thy predecessor fairly and tenderly; for if thou dost not, it is a debt will sure be paid when thou art gone.”

—Francis Bacon, Lord Chancellor of England: 93.

1. Introduction

A political system makes laws so that society can commit itself to rules made in an orderly manner and not retract the rules later when it appears that particular individuals will be helped or hurt by them. For laws to work in this way it is helpful to have judges who are responsible and independent: responsible, in the sense that they faithfully interpret the law regardless of their personal policy preferences, and independent, in the sense that they interpret the law regardless of the extra-legislative preferences of the legislature, the executive, or the people. The traditional explanation for the desirability of independence is to provide a check on tyranny by the rest of government, as Alexander Hamilton explained in Federalist Paper number 78. Another explanation, suggested by Landes and Posner (1975), is that an independent judiciary is useful to instill confidence that the legislature will adhere to its agreements. The case of *Fletcher v. Peck*, 6 Cranch 87 (1810), is an early illustration of this: the Georgia legislature wished to cancel a contract that sold state land cheaply to private parties, and the U.S. Supreme Court ruled that it could not. An independent judiciary is helpful both to ameliorate agency problems between citizens and elected officials and to allow the citizens to make binding commitments.

But how can responsibility be made compatible with independence? The decisionmaker in an independent judiciary, unlike in the executive branch or a private business, cannot be removed by his superiors, rejected in the next election, or abandoned by his customers.¹ Most judges do have superiors—the judges of higher courts—who can overrule them, but high courts, state and federal, face no such check, and even lower-court judges have some slack, since the high courts allocate their time to only a limited number of cases.² Some states exercise control over their courts by elections, but federal courts

do not. Judges may be impeached, but this is a costly procedure which by tradition, if not by constitutional language, is not invoked against judges who write bad opinions.

Insofar as disciplinary devices are used, they undermine the independence of the judiciary. In the U.S. federal system, Congress and the President are free to increase the number of justices, a threat best known from Roosevelt's court-packing plan, which although it failed to win the approval of Congress may have induced the "switch in time that saved nine". In the disputes between the President and Congress over Reconstruction, the number of justices on the Supreme Court fluctuated depending on the political situation. In 1865 Congress reduced the number of justices to seven to prevent President Johnson from making any appointments, and four years later the number was increased to nine so that newly elected President Grant could make new appointments (McDowell: 138). Congress also establishes rules of procedure for the federal court, and the U.S. Constitution gives the Supreme Court appellate jurisdiction "...with such Exceptions, and under such Regulations as the Congress shall make" (U.S. Constitution, III-2). The Norris-La Guardia Act of 1932, which heavily restricted the power of federal courts to issue injunctions in labor disputes, is an example of Congressional regulation. More extreme restrictions have been proposed but not passed; in the 1860's bills were introduced to eliminate judicial review or to require a unanimous Supreme Court if federal statutes were to be overturned (McDowell: 140, 141, 146). More directly, statutes and constitutional amendments can be passed to overrule irresponsible judicial rulings, though this is problematic if the irresponsible court has the authority to interpret the new legislation.³ All of these external methods of controlling judicial excess are costly and difficult, and must remain so if the courts are to remain a check upon the rest of society.

The Anglo-American judicial system is difficult to understand because it does not provide its high courts with the bureaucratic incentives that are available in the Continental judicial systems. For most of Continental Europe's history, from Justinian to Hitler, judges have been under the control

of the executive, so it is not judicial irresponsibility that has been the problem.⁴ Each system has its advantages: the European system of bureaucratic judges reduces the agency problem between the judiciary and the citizens, while the Anglo-American system of independent judges reduces the agency problem between the rest of the government and the citizens, and allows government commitments to be made binding.

Somehow, an independent judiciary must be self-enforcing, so that even if the judges are entirely independent, free from external threats of dismissal or punishment, they will act as the faithful agents of the legislature and the constitution. It has long been recognized that the system of precedent helps serve this purpose. The Anglo-American judicial system is unusual in not one, but two respects: the independence of judges and the formal importance of precedent, which contrast with the bureaucratic judges and free-standing codes of Continental law. Continental law puts its emphasis not on individual cases but on groups of cases that create a practice, so it is unclear whether a judge is breaking precedent or not, nor does he get so much credit for creating law.

Sir John Salmond (pp. 376, 386), commenting on the connection between precedent and independence of the judiciary, says of precedent that

“It seems clear that we must attribute this feature of English law to the peculiarly powerful and authoritative position which has been at all times occupied by English judges. . . . The growth of case law involves the gradual elimination of that judicial liberty to which it owes its origin. In any system in which precedents are authoritative the Courts are engaged in forging fetters for their own feet.”

But the extent to which precedent should be followed is one of the longstanding controversies in jurisprudence. A.L. Goodhart (p. 61), playing Bentham to Salmond’s Blackstone, replies:

“But why should it be necessary to forge fetters for judges who are peculiarly able and powerful? The greater the skill and the pro-

fessional reputation of the judges, the less necessary would it seem to be to bind them by artificial rules. . . . The result is that the English judge is a slave to the past and a despot for the future, bound by the decisions of his dead predecessors and binding for generations to come the judgements of those who will succeed him.”

Both parties’ arguments are deficient, Goodhart’s, for assuming that a skillful judge is a trustworthy judge, and Salmond’s, for failing to explain why judges forge fetters for themselves. But the two views do suggest two different kinds of self-enforcing systems, one based on the tastes of judges, and one based on future rewards for present restraint.

The first method is to select judges who have a strong taste for following the law. One taste that will lead to this result is a feeling of a duty to responsibly follow the law even if the judge must thereby violate his own beliefs about good policy.⁵ This, of course, is an ideal solution if enough such judges can be found, or if the state can costlessly mold the preferences of future judges. If the supply of such judges is limited, however, the state must accept judges of lower intellectual ability if it wishes to weight responsibility more heavily.⁶ The supply is limited, since talented lawyers make a financial sacrifice in becoming judges, which they would only make for prestige, leisure, or the ability to put their mark on the law. Similarly, molding preferences is not without cost: law schools must teach less law if they teach more duty.

Tastes other than duty can lead to the same desirable result. If, for example, a judge views judging as an intellectual exercise, to be played as skillfully as possible according to whatever the rules happen to be, then he is no more tempted to violate the law than a card-player is tempted to cheat at solitaire.⁷ Any taste-based solution, however, faces the same problem as duty: it is costly to discover judges with the appropriate tastes and to exclude other potential judges.

The second method, the subject of this article, is based on future rewards for present restraint, on the desire of today’s judges to influence

tomorrow's. The intuition to be examined is that a judge will faithfully follow statute and precedent because he wishes to create precedents in new areas of law that will be obeyed by other judges.⁸ Even if he feels he can successfully make policy today against the will of the legislature and the decisions of past judges, he knows that the judges who succeed him can change that policy. Thus, he shows restraint in most areas of law in the hopes that where he does innovate, the innovation will be permanent.⁹

The idea that the desire for influence constrains judges is not new. Professor Easterbrook, now a judge himself, said that, "Each Justice may find it advantageous to follow rules announced by his predecessors, so that successors will follow his rules in turn. Stare decisis thus enhances the power of the Justices" (Easterbrook, 1982: 817; see also Posner, 1992: 534, 542). This fits nicely into the link between precedent and independence. The less powerful Continental judge, constrained by external forces, is neither required to obey precedents nor allowed to win fame by creating them.¹⁰ But the argument from future influence is slippery enough to benefit from formal analysis. Why does a judge's own behavior affect whether his successors will "follow his rules in turn"? What if he turns rogue and rejects his predecessors? How can he possibly punish successors who reject him? The idea is, in fact, perfectly suited to the theory of repeated games, and the next section will construct a stylized model of successive judges, each of whom decides whether to obey his predecessors or not.

2. The Model

Let there be an infinite sequence of judges.¹¹ Each judge moves in turn and decides $n + 1$ cases. In one of these cases, no precedent exists and the judge follows his own preferences. In the other n cases, the precedents set by the n previous judges are relevant, and the current judge must decide whether to follow precedent, or flout it and impose his own preferences. Thus, besides deciding his one case of first impression, judge j chooses the values of n indicator variables $A_{j-n}^j, \dots, A_{j-1}^j$, where $A_i^j = 1$ if precedent i is followed and $A_i^j = 0$ if precedent i is disregarded.¹² The superscript refers to

the judge who is taking action, and the subscript refers to the judge who set the precedent.

The payoff to judge j is a decreasing function of $A_{j-n}^j, \dots, A_{j-1}^j$ and an increasing function of $A_j^{j+1}, A_j^{j+2}, \dots, A_j^{j+n}$. This represents the extreme case of a judge who wishes to overturn every one of the n relevant precedents and wants every one of his own holdings to be followed in the future. Formally, the payoff to judge j is

$$\pi^j = - \sum_{i=1}^n (A_{j-i}^j)(x) + \sum_{i=1}^n \left(\frac{1}{1+r} \right)^i (A_j^{j+i})(y), \quad (1)$$

where x is the disutility of following a precedent and y is the utility of being followed. The specification of the discount rate, r , means that although the judge is no unhappier following older precedents than newer precedents, he derives more utility from his own precedents being followed in the near future than in the distant future.

We will assume that the payoff to the general public is increasing in the number of precedents followed, although this is only relevant to the normative conclusion's, not the positive conclusions, since the public has no influence on the judges. The variable n represents the fact that old precedents gradually cease to be relevant to modern cases, either because everyone comes to agree that they are bad public policy or because the laws they interpret and the situations to which they apply disappear.¹³ If n is larger, judges come across more cases whose decisions are controlled by existing precedents. The variable x represents the disutility of obeying previous judges' precedents, and the variable y represents the utility of having future judges obey one's own precedents. If $x < y$, a judge would be willing to obey one other judge in return for one judge obeying him. The discount rate, r , represents the declining utility of obedience to one's precedents by judges further in the future.¹⁴

The only reason a judge would follow existing precedents in this model is to induce future judges to follow his own precedents. It is possible that a judge dislikes following precedent so much that he would violate precedent

even if that were sure to destroy his own future influence. If a judge obeys no precedents, and none of his own precedents are obeyed, his payoff is zero. If, on the other hand, he obeys m past precedents and the m succeeding judges all obey his new precedent, then $A_{j-i}^j = 1$ for $i = 1, \dots, m$, $A_{j-i}^j = 0$ for $i = m + 1, \dots, n$, and the judge's payoff is

$$\pi(m) = -\sum_{i=1}^m(x) + \sum_{i=1}^m\left(\frac{1}{1+r}\right)^i(y). \quad (2)$$

The amount $\pi(m)$ is a measure of the judge's willingness to obey precedent in response to the reward of future influence. Inspection of (2) shows that $\pi(m)$ declines in x and r , and increases in y . If r is small enough and $y > x$, then $\pi(m) > 0$ and $\pi(m)$ is increasing for small m and decreasing for large m , because

$$\pi(m) - \pi(m - 1) = -x + \left(\frac{1}{1+r}\right)^m(y). \quad (3)$$

Denote the value of m that maximizes $\pi(m)$ (subject to $m \leq n$) by m^* . We will say that if $\pi(m^*) \geq 0$, the *feasibility condition* is satisfied. This means that the judge will be willing to obey m^* precedents if his own precedents thereby command the obedience of m^* future judges. Obedience still might not be the equilibrium outcome, but if the feasibility condition is satisfied, it becomes possible.¹⁵

The feasibility condition is satisfied if x and r are small enough in magnitude relative to y —that is, if judges do not dislike following precedent too much, if they do not discount the future too much, and if they enjoy future influence enough. Table 1 presents a numerical example in which $r = .05$, $x = 100$, $y = 200$, and $n = 20$. The payoff of a judge in an equilibrium in which each judge follows m precedents is greater than the payoff from following zero precedents (which is zero), and $m^* = 14$.

TABLE 1 GOES HERE

2.1 What the Model Excludes

The model is designed to look specifically at the question of how judges motivated by a desire for present and future influence will behave. It excludes other motivations, which are worth briefly discussing here before going on to discover what happens when only influence matters.

Most importantly, many and perhaps most judges have modest aims. Their opinions on what the law should be are weak enough that even a small amount of social conditioning can restrain the temptation to flout precedent. The typical high-court judge previously served as a judge on a lower court, where he had little choice but to obey precedent, so he has been habituated to following precedent.¹⁶ More importantly, judges, like other peoples, are averse to effort. It is easier to follow precedent than to break new ground, so judges have incentive to follow precedent when other motives are absent.¹⁷ The litigant and amicus briefs are helpful, and clerks may do the actual writing, but the judge still must do some thinking if he is to sign his name to a novel opinion.¹⁸

The model also fails to apply to a Holmes or a Cardozo, a judge who desires influence but who would achieve it through sheer brilliance even in a system without binding precedent. Judges with such talent can flout precedent and still retain their influence because their reasoning would be cited even if it was written in a law review instead of a court reporter. Cardozo's judicial influence is mainly through his state court opinions, which have no precedential force outside of New York, and Holmes's influence is through his dissents, which have the *opposite* of precedential force.¹⁹ But exceptional intellects are exceptional. The model is driven by the assumption that judges want to influence policy, but it will be a model of the ordinary judge, whose future influence, if it is to exist, must be based on the authority of his position rather than the brilliance of his intellect.²⁰

Even limiting ourselves to reputation as a motivation, reputation might work in a number of different ways. The desire for future influence is different from three other ways that reputation might discipline judges.²¹

First, desire for future influence is different from desire to sell a high-

quality product, although the technical model below will have features similar to those that economists have used to model product quality.²² The key element in product-quality models is that consumers can punish a misbehaving seller by boycotting him after one bad experience. This incentive would apply only if litigants mutually agreed to let certain judges hear their cases, and the judges were rewarded for the number of cases they heard.

Second, desire for future influence is different from desire for a good reputation with the public. To the extent that public opinion does matter, it undermines judicial independence; so long as the judge gives way, it makes little difference whether it is to threats of dismissal or to threats of having his feelings hurt by the disapproval of his fellow citizens. But in fact the public does not seem to mind when judges refuse to obey precedent or statute. Americans make little distinction between judges and politicians, and give more credit for desired policy than for judicial integrity, as one might realize from the emphasis on policy outcomes rather than judicial craft in the public debates on *Roe v. Wade* and Robert Bork's nomination to the Supreme Court.²³ One reason the common man cares so little about judicial interpretation is perhaps that he realizes how ignorant he is on the subject; it requires some sophistication to know that a judge is brushing aside the law, if he refrains from admitting it openly.

Third, desire for future influence is different from desire for a good reputation within the legal profession. Other lawyers know better than the public whether a decision follows precedent or not, and their opinion of judges might be based on that. This preserves some of the independence of the judiciary, especially if judges care only about the goodwill of other judges. It is not clear why the legal profession should esteem a judge for following precedent instead of, for example, clever substitution of his personal preferences. It will usually be the case that lawyers will feel uneasy when precedent is violated, however, since their expertise is based on their ability to predict judicial outcomes, which becomes easier when precedent is followed.²⁴

3. The Model's Equilibrium

An equilibrium in this model consists of a strategy for each judge such that no judge could increase his influence by unilaterally deviating from his strategy to something different. The game has an infinite number of equilibria, as is typical of repeated games with infinite horizons.²⁵ What the multiplicity of equilibria means is that the actual outcome depends on the expectations of the players, because there are many self-enforcing outcomes. This means that besides the traditional question of how the parameters of the model affect the equilibrium, we must also ask how expectations affect it. This will be how the concept of legitimacy can enter a game in which every player is a cold-bloodedly rational *homo economicus*.

The following six possible equilibrium strategy profiles, of which only the first four are actual equilibria, will serve as a basis for discussion. Each will be called an “expectation regime,” because which one is actually played out depends on which one the players expect to be played out; an equilibrium is a set of self-confirming expectations. Each is described from the point of view of judge j .

Expectation Regime 1 (judicial breakdown).

Strategy: Violate every precedent.

Outcome: Every judge violates every precedent.

Expectation Regime 2 (breakdown punishment).

Strategy: Obey every precedent unless some previous judge has violated a precedent. In that case, violate every precedent.

Outcome: Every judge obeys every precedent.

Expectation Regime 3 (specific punishment).

Strategy: Obey the precedent of Judge $j - i$, for $i = 1, \dots, n$, if he “retains legitimacy,” and violate it otherwise. Judge $j - i$ retains legitimacy if he himself followed this strategy.

Outcome: Every judge obeys every precedent.

Expectation Regime 4 (lax specific punishment).

Strategy: Obey the precedent of Judge $j - i$, for $i = 1, \dots, n - 1$, if he “retains legitimacy,” and violate it otherwise. Violate the precedent of judge $j - n$. Judge $j - i$ retains legitimacy if he himself followed this strategy or if he obeyed all n precedents.

Outcome: Every judge obeys $n - 1$ precedents and violates one precedent.

Expectation Regime 5 (blind precedent) (not an equilibrium).

Strategy: Obey the precedent of every judge.

Outcome (if all judges follow the strategy): Every judge obeys every precedent.

Expectation Regime 6 (simple punishment) (not an equilibrium).

Strategy: Obey the precedents of every judge unless the immediately preceding judge violated any precedents. In that case, violate every precedent.

Outcome (if all judges follow the strategy): Every judge obeys every precedent.

An expectation regime is a Nash equilibrium if no judge can benefit from deviating from his expected behavior given that the other judges do not deviate.²⁶ The first four expectation regimes form Nash equilibrium. Under Expectation Regime 1, a judge who deviates by following precedent reduces his payoff by x for each precedent that he follows, without any corresponding gain, so he has no reason to deviate. Under Expectation Regime 2, a judge who deviates by violating precedent gains up to nx (if he violates all n precedents), but he loses $\sum_{i=1}^n \left(\frac{1}{1+r}\right)^i y$. If $\pi(n) \geq 0$, the loss from violating precedent is greater than the gain. Under Expectation Regime 3, the same is true. Under Expectation Regime 4, a judge who deviates by not violating any precedents reduces his payoff by x . A judge who deviates by violating two or more precedents gains up to $(n - 1)x$, depending on how many precedents he violates, but his own precedent is violated in the future, so unless $\pi(n - 1) \geq 0$, he has no incentive to violate precedent, and Expectation Regime 4 also is a Nash equilibrium.

Expectation Regimes 5 and 6 are included to show that although many equilibria exist for this game, not every pattern of behavior forms an equilibrium. It is easy to see why Regime 5 does not. If every future judge is going to obey precedents regardless of what happens, judge j can increase his payoff by deviating and violating every previous precedent. His own precedent will be obeyed despite his misbehavior, so the expectations are not self-sustaining. The failure of Regime 6 is more subtle. If every judge did follow the behavior specified, no judge would have an incentive to deviate by violating precedent, because his immediate successor would violate his precedent and the judges further into the future would also violate precedent, in a chain reaction in which judge j violates precedent because judge $j - 1$ had violated precedent. Consider, however, the incentives of judge $j + 1$ after judge j violates precedent. If judge $j + 1$ follows Regime 6, he will violate precedent himself, as will all future judges, and his payoff will be 0. If he deviates by obeying j 's precedent, and that of his other predecessors, then his successors will obey precedent and judge $(j + 1)$'s payoff will be $\pi(n)$, from equation (2). If $\pi(n) > 0$, Regime 6 is not an equilibrium.²⁷ This shows that punishments must be carefully arranged; if they cost the punisher too much, they are not effective. Expectation Regime 2 appears similar to Regime 6 but it is more effective because under Regime 2, unlike Regime 6, no individual judge has the power to stop the destructive consequences of judge j 's deviation.

Which equilibrium is actually played out depends on the expectations of the players in the game. The considerations which enter into this will be discussed below in Section 4.2, but first let us look into the welfare properties of the different equilibria.

4. Implications

What has been shown so far is that different equilibria exist and the effectiveness of a system of precedent depends very much on the expectations of the judges. The argument that judges do not need external monitoring because they will follow precedent in order to increase their influence can

be true, but it is not necessarily true even within the confines of a simple model. This section will discuss the attractiveness and feasibility of the different equilibria and link them with exogenous variables such as the degree of discounting of future influence.

If the feasibility condition is satisfied, there exist both equilibria in which courts follow precedent and equilibria in which they do not. Let us divide the implications of the model into those relating to the feasibility condition and those relating to differences in the equilibria.

First, consider the feasibility condition. If it is not satisfied, then Expectation Regimes 2 and 3 are not equilibria, and if it is strongly violated (if, for example, $x > y$), there is only a single equilibrium: judicial failure. This is bad for the public because every judge violates precedent and the law is inconsistent, and it is bad for judges because their influence ends with their tenures on the bench. Hence, if society can change the parameter values x , y , r , and n so that the feasibility condition is satisfied, it should do so.

The disutility of following precedent, x , should be made as small as possible. Choosing x to be small was one of the methods of judicial control discussed earlier, where it was noted that it is costly, whether it takes the form of selecting judges with small x 's or of teaching judicial restraint in law schools. As with any choice variable, however, it should be used up to where the marginal cost exceeds the marginal benefit.²⁸

The utility of having one's precedents followed, y , should be made as large as possible. The desire to have an impact on the law is not bad in itself; it is only bad because breaking precedent and misinterpreting statutes are its byproducts. To the extent that judges can be made desirous of having future influence, however, it is easier to induce them to follow precedents they dislike.

The number of old precedents, n , is not a matter of the judge's taste, like x or y , but of how long old law remains relevant. It really represents the maximum amount of old law that judge must follow relative to the amount of

new law he can create, which is normalized to a value of one. If old law does not depreciate, but instead accumulates until it decides almost every case a judge will hear in his lifetime, it follows that n is very large and $\pi(n) < 0$, so no equilibrium can induce the judge to follow every relevant precedent. The value of n is determined partly by the pace of social change, as whaling law becomes obsolete and software law becomes necessary. It is also partly determined by the activism of the legislature, which can forestall judge-made law by passing detailed statutes in new areas. The model suggests that the legislature might find more of its statutes faithfully interpreted if it left more legal territory empty, because judges need scope for their policymaking urges if they are to be kept responsible.²⁹

The distinction between *ratio decidendi* and *dictum* limits the rate at which new law can be created, which is useful with regard to maintaining a precedent-obeying equilibrium. Judges must wait to create law until appropriate cases arrive at their benches, and only the *ratio decidendi* or *holding*, the case's essential and decisive point of law, is binding precedent. *Dicta*, rulings irrelevant to the case's outcome, are, by convention, not binding on future judges, although, like anyone's writings they may be considered as arguments. If *dicta* were binding, a judge could create an unlimited amount of new law. His six-hundred-page decision on a bankruptcy case could also control the law on abortion, copyright, and criminal evidence. Such an equilibrium could not be maintained in this model, because even if the *dicta* carefully avoided violating existing precedent, very little new law would be left to future judges to create.

The discount rate, r , is like x in being influenced by the taste of the judge and like n in being influenced by external factors. If r is too large, given the other parameters, judicial breakdown is the only equilibrium, because judges care too little about the future. As with the disutility of following precedent, r might be controlled by molding the tastes of future judges or by selecting judges carefully to find those that look to history. But it too is affected by legislative activism. If the legislature increases the probability with which it replaces judicial decisions by statutes, especially if the statutes

reverse instead of codifying the decisions, then r , like n , will increase as the expected lifetime of the precedent declines.

4.1 Comparing Equilibrium Expectation Regimes

Having discussed what makes precedent-following expectation regimes feasible, let us now compare them. The payoffs for the judges are 0 under Expectation Regime 1 and $\pi(n)$ under Expectation Regimes 2 and 3. The payoff under Expectation Regime 4 is $\pi(n-1)$, which might be either greater or smaller than $\pi(n)$, depending on the value of m^* . The public simply wants the greatest number of precedents upheld, so it likes Expectation Regimes 2 and 3 best, then Expectation Regime 4, and lastly Expectation Regime 1. Judges and public both prefer Expectation Regimes 2 and 3 to Expectation Regime 1. In addition, if $m^* = n$, then both the judges and the public both rank Expectation Regime 4 between Regimes 3 and 1, because everyone prefers an equilibrium in which more precedents are followed.³⁰ If $m^* < n$, then judges have slightly different interests from the public, because the public favors equilibria in which all n precedents are followed, but the judges prefer equilibria in which only m^* equilibria are followed.

Expectation Regimes 2 and 3 achieve exactly the same outcome: every judge obeys every precedent. Where they differ is in the sanctions they would impose if a judge deviated and violated precedent. Expectation Regime 2 uses a sanction similar to the grim strategy in the repeated prisoner's dilemma: if there is a deviation, the game instantly and permanently drops into the worst possible equilibrium. Expectation Regime 3 uses a narrower sanction, punishing only the deviant judge. The effect on the deviant judge is the same in either equilibrium, but Expectation Regime 2 has adverse side effects on all other judges too. This makes Expectation Regime 3 superior if there are a few judges who break precedent out of confusion or because they do not care about future influence. If such judges exist, Expectation Regime 2 sooner or later brings the system to judicial breakdown.

Expectation Regimes 2 and 3 can be interpreted as depending on the

legitimacies of the judicial system and of individual judges respectively. One can interpret Expectation Regime 2 as saying that misbehavior by a judge destroys the legitimacy of the judicial system as a whole. Judges no longer expect each other to obey precedent once the triggering event occurs, and their beliefs are self confirming. One can interpret Expectation Regime 3 as saying that misbehavior by a judge destroys that judge's legitimacy but not the legitimacy of the system. Future judges reject his precedents, but obey those of well-behaved, legitimate judges. Note also that loss of legitimacy can take more than one form under Expectation Regime 3. Not only does a judge who breaks precedent without reason lose his legitimacy, but also the judge who obeys the precedent of a precedent-breaker. Failure to punish is as deviant as the initial offense.

Expectation Regime 4 shows that Expectation Regimes 2 and 3 are not fragile in the sense that a slightly greater reluctance to punish would induce complete judicial breakdown. Expectation Regime 4 allows each judge to disregard one previous precedent without punishment, which he will thereupon do. Other equilibria may exist in which two, three, or some other number of unpunished precedent violations are allowed. The difficulty with these equilibria is in the unmodelled formation of expectations: it may be difficult for the judges to maintain common expectations that the equilibrium is one in which each of them is, for example, limited to exactly seven violations before he becomes illegitimate.

Where a lax equilibrium such as Expectation Regime 4 makes social sense is if (a) it is not always clear if a judge is obeying precedent or not, or (b) it is socially important to allow some precedents to be broken. Judges will try to push against precedent as far as they can under any system, wherever the line is drawn, so condition (a) will certainly apply. Allowing one distortion of precedent so gross as to be called a violation will of course encourage them to distort all precedents more, and would require a more complicated model to analyze. But this may be a reason to allow some apparent violations.³¹ Reason (b) will also usually apply: the social optimum will rarely be to follow precedent always, and even if judges' policy tastes did not match those of

the people exactly, they would match for the most extreme cases.³²

Another advantage of “lax equilibria” which allow some violation of precedent is that they may have weaker feasibility conditions, and hence be possible to maintain when Expectation Regimes 2 and 3 are not. If the number of precedents to be followed is $m^* < n$, it is possible to sustain an equilibrium even when judges cannot be induced to follow all n precedents. Note, however, that it does not necessarily become easier to sustain an equilibrium as the number of precedents to be followed declines, because this also reduces the influence of the precedent-following judge: he is less constrained today, but influences fewer future generations of judges.

If no feasibility condition is satisfied, and Expectation Regime 1 is the only equilibrium, the result is not necessarily a system in which judges always violate precedent and interpret statutes capriciously. Rather, one would expect society to arrive at some other solution to the problem of judicial control. The obvious solution is to give up on independence of the judiciary and subject judges to external sanctions: if the equilibrium is bad, change the rules of the game. If expectations fail to result in a desirable equilibrium, one might expect the state to move to a civil law system in which judges are more closely constrained.

4.2 Which Equilibrium Will be Played Out?

When the feasibility condition is satisfied but the current equilibrium is undesirable, is it possible to move to a better equilibrium, rather than abandoning hope of an independent and responsible judiciary? Expectations determine what behavior is in an individual’s self-interest. Under Expectation Regime 2, for example, each judge expects that if he were to break precedent, future judges would disregard his precedent, and this is a correct prediction. A player in a game cannot create his own expectations, even though this might be to his advantage. Game theory takes expectations as part of the primitive assumptions of the model; it is, indeed, one of game theory’s weaknesses that it must do so. More informally, however, we might

hope that public policy could be directed towards creating the expectations that lead to the equilibrium with the highest payoffs. The origins of expectations are unclear, but game theorists commonly refer to pareto optimality, simplicity, tradition, and communication as three ways that expectations can be formed. An equilibrium that is pareto optimal, that uses simple strategies, that has been played out in the past, and that is publicly announced to be the equilibrium is a “focal point,” an equilibrium attractive for psychological reasons.

Pareto optimality is perhaps the most unreliable of these focal characteristics, especially in this game. If $m^* = n$, then an equilibrium with all n precedents followed is best for both judges and public, but if $m^* < n$, an equilibrium with only m^* of the precedents followed is pareto optimal from the viewpoint of the judges. Adapting the game to the real world, where it is often unclear whether precedent has been violated or not, makes it even less clear what equilibrium is Pareto optimal, since, as discussed in the previous section, a lax equilibrium is less likely to result in judicial breakdown when judges make mistakes about the behavior of previous judges. Thus, even the identity of the pareto optimal equilibrium is ambiguous.

Simplicity is also a difficult characteristic to determine. It seems plausible that judges would have a difficult time coordinating on a complex equilibrium such as one in which every judge violates only the precedent of the judge six times removed from himself, but it is less clear whether Expectation Regime 4 in the list above is significantly more complex than Regime 1.

Tradition is a more plausible source of expectations. If Expectation Regime 4 has been the equilibrium in previous repetitions of the game, that makes it focal for the game presently being played out. The expectations that sustain a good equilibrium are a form of social capital (see Coleman), a valuable asset which may be difficult to recover if it is ever destroyed.

The influence of tradition may provide a tool for changing the equilibrium. One problem that arises in macroeconomics is self-confirming inflationary expectations. People expect prices to rise, and they therefore behave

in ways that make prices rise. One justification for temporary price controls is that they will change expectations, so that even after the price controls are removed, prices will not rise. Here, similarly, if judges consistently break with precedent, removing the independence of the judiciary for a period of time by punishing judges who break precedents might change the expectation of how judges will behave, so that if independence is restored, the judges will be more responsible. Thus, if the legislature intervenes occasionally using external incentives such as those discussed in the introduction to this article—impeachment, changes in the number of justices, and changes in procedural rules—it may be able to change expectations in such a way that judges continue to behave responsibly even after the external threat is removed. The lack of success of price controls in stopping inflation, however, should prevent us from putting too much hope in this solution to judicial misbehavior.

Announcements may also determine expectations. If all the judges tell each other that Expectation Regime 2 is the equilibrium to be played out, it seems plausible that they would believe each other, since that equilibrium is better for all of them than is Expectation Regime 1.³³ The mechanics by which a judicial culture arises cannot easily be derived from economics or game theory, but it would seem useful for judges to discuss jurisprudence informally and frequently, something which various state and federal programs that now exist primarily to discuss specific substantive issues would facilitate. Or, if some outside party—a legislature, or the academic literature—announces that Expectation Regime 2 will be played, judges may use this evidence when deciding how future judges will respond. Announcements, even if they have no binding force, can matter if they change the expectations of players in a game.

The effect of announcements is subtly different from the effect of changing tastes, because announcements operate on expectations, not on payoff functions. Tastes concern a player's personal preferences, independent of the actions of other players, whereas expectations are purely instrumental, and fundamentally concern what other players do. Alteration of tastes cannot be achieved simply by an announcement; it requires conditioning, which

is costly. Expectations, on the other hand, are entirely about the behavior of other players, and hence might be changed by a costless announcement, if the announcement is plausible. If the legislature tries to change a judge’s taste by announcing “Judges enjoy following precedent for its own sake,” nothing will happen. The judge knows it is false in his own case, and that simply asserting the fact does not make it true. If, however, the legislature tries to change a judge’s expectations by announcing “Future judges will not obey the precedents of present judges who themselves have disregarded precedent,” the announcement might be self-confirming.

This suggests another way to move from a Pareto-inferior equilibrium to one in which judges follow precedent: use announcements to change the expectations of the judges. Even if outside parties do not threaten the judges, they can influence judicial behavior if they can change the judges’ expectations. If all the treatises, law professors, and law reviews say that the regime has changed and predict that future judges will obey precedent if present judges do, the predictions may become self-confirming. This is also true of predictions that worsen the equilibrium: if everyone predicts that judges will flout precedent, it may become in the interest of judges to break precedent.

5. Judges Who Follow Precedent Even in the Absence of External Incentives

What happens if there exist some conscientious judges who positively enjoy following precedent, or some lazy ones who prefer it to the effort of creating new law? Either of these can be modelled by specifying that if judge j breaks precedent then the expected number of future judges who will follow j ’s precedents is not zero or m , but θm , where θ is the percentage of inflexibly precedent-following judges. Let us consider the decision of one of the judges who does *not* enjoy obeying precedent, and see under what conditions he can be induced to obey precedent in this modified model. His payoff if he obeys precedent in an equilibrium in which all judges obey is

$$\pi(\textit{obey}) = - \sum_{i=1}^m (x) + \sum_{i=1}^m \left(\frac{1}{1+r} \right)^i (y) \quad (4)$$

and his payoff if he deviates and follows no precedents is, if his precedents are followed only with probability θ :

$$\pi(\textit{deviate}) = -\sum_{i=1}^m (0) + \theta \sum_{i=1}^m \left(\frac{1}{1+r}\right)^i (y). \quad (5)$$

The feasibility condition is $\pi(\textit{obey}) - \pi(\textit{deviate}) \geq 0$, i.e.,

$$-mx + (1 - \theta) \sum_{i=1}^m \left(\frac{1}{1+r}\right)^i (y) \geq 0. \quad (6)$$

This feasibility condition is easiest to satisfy if $\theta = 0$. The presence of judges who enjoy following precedent may therefore result in fewer judges following precedent, because the precedent-enjoying judges are unwilling to punish the precedent-flouting judges. It is a paradox of the same kind as the paradox that the number of wars can increase in the amount of disarmament because of the decline in deterrence. The implication is that care must be taken to avoid instilling overly crude preferences into judges.³⁴ Training them to blindly follow precedent by making their disutility of precedent negative ($x < 0$ in the model's notation) can have consequences adverse to the public unless the system begins in judicial breakdown, since it reduces deterrence for those judges for whom the training is ineffective. If the public wishes to condition future judges, it should condition them to enjoy following a strategy such as that of Expectation Regime 3. Where conscientious judges would be more useful is when an irresponsible but clever judge can obscure his violations by twisted reasoning. I suggested above that this might make Expectation Regime 4 more attractive; it also makes conscientious judges more useful.³⁵

6. Concluding Remarks

“Hardly ten men of true integrity and good faith can be found today, and yet the offices of the state number in the hundreds. If they must be filled by men of integrity and good faith, then there will never be enough men to go around; and if the offices are left unfilled, then

those whose business it is to govern will dwindle in numbers while disorderly men increase. Therefore the way of the enlightened ruler is to unify the laws instead of seeking for wise men, to lay down firm policies instead of longing for men of good faith” (Han Fei Tzu: 109).

Writing in the third century B.C., Han Fei believed that a firmly controlled bureaucracy was the only way for the state to ensure the faithful administration of the law, because the Confucian ideal of autonomous scholar-administrators required an unrealistically high level of virtue. This article’s model has shown that the maintenance of a judicial system that is both independent and responsible does not necessarily require men of integrity and good faith. Judges need no professional conscience to impel them to obey existing law even when they think it bad policy, but instead can be made to obey it to maximize their own influence, in the hope that the new law they create interstitially will be obeyed by future judges. In theory, then, it is possible even for purely self-interested judges to discipline each other.

The model also shows, however, that though the judges in such a system need not be virtuous, the climate of expectations and the norms of judicial behavior must be carefully balanced to sustain responsible behavior as a self enforcing equilibrium. Future judges must impose sanctions on judges who break precedent and misinterpret statutes by not following their precedents. If all judges follow precedent for its own sake, regardless of the behavior of the judge who set the precedent, there is no problem, but if only some of them do so, then the judges who are not internally motivated will be free to warp the law without fear of losing their influence.

The outcome does depend on expectations. If judges care only about their own policy preferences and desires to affect the law, then one equilibrium outcome is for precedent to be freely violated. Responsible behavior is another possible outcome, however, and can be achieved by a variety of different norms. One equilibrium that can sustain it is for the deviation of an irresponsible judge to trigger judicial breakdown into a regime in which precedent is standardly violated. A rational but self-interested judge will

follow precedent in order to avoid undermining the legitimacy of the judicial system as a whole. Another equilibrium is for the deviation of an irresponsible judge to result in disregard of his own holdings by future judges. In this equilibrium he will follow precedent to preserve the individual legitimacy of his own precedents. In either case, legitimacy is preserved not by the reverence of the individuals involved, but by their rational self interest.

FOOTNOTES

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1. Judicial salaries are under legislative control but it is somewhat implausible that the small changes in them has a strong effect on judicial decisions, though Anderson, Shughart and Tollison have found a positive correlation between the salary of state chief justices and the willingness of the courts to overturn legislation on the grounds of substantive due process. Article III of the U.S. Constitution forbids Congress to reduce the salary of federal judges. This gives rise to a curious agency problem when it must be interpreted. In 1920 the Supreme Court held that judges could not be required to pay income tax (*Evans v. Gore*, 253 U.S. 45 (1920)); this was extended to judges whose terms started after the income tax was imposed (*Miles v. Graham*, 268 U.S. 501 (1925)); and reversed after Congress expressly passed a statute subjecting newly appointed judges to the income tax (*O'Malley v. Woodrough*, 307 U.S. 277 (1938)).

2. A judge's equals can also overrule him, which is one reason why appellate courts have more than one judge—e.g., 3-judge appellate panels, and the 9-judge Supreme Court of the U.S. Federal system. The problem remains that if a majority of the judges in a court agree and wish to substitute their personal opinions for the law, it is hard to discipline them—impeachment, in fact, becomes even more difficult. And if a panel of judges substitutes personal belief for precedent and statute, the law can become even more unstable than with a single irresponsible judge, due to voting cycles, as Easterbrook (1982) has noted.

3. Such amendments have worked on occasion, however. The Eleventh

and Sixteenth Amendments were passed to overrule the U.S. Supreme Court decisions *Chisholm v. Georgia*, 2 U.S. 419 (1793) and *Pollock v. Farmers' Loan and Trust Co.*, 158 U.S. 601 (1895). See also *Cory v. Shierloh*, 629 P2d. 8 (1981), in which the California Supreme Court acknowledges the constitutionality of a statute that states "The Legislature hereby declares that this section shall be interpreted so that the holdings in cases such as *Vesely v. Sager*, 5 Cal.3d 153, *Bernhard v. Harrah's Club*, 16 Cal.3d 313, and *Coulter v. Superior Court*, 21 Cal.3d 144 be abrogated in favor of prior judicial interpretation finding the consumption of alcoholic beverages rather than the serving of alcoholic beverages as the proximate cause of injuries inflicted upon another by an intoxicated person." West's Annotated California Codes, Business and Professions Code (1985: 454), §25602(c). For a formal model of the interaction between legislature and court, see Gely and Spiller.

4. Even in modern Europe, an independent judiciary does not mean the same thing as in the United States. "Oversight and disciplinary measures may be directed toward judicial activity outside the core (*Kernbereich*) decisional process protected by judicial independence. Thus, sanctions can be applied against a judge who fails to apply a well-known general statute, who applies a formally repealed statute, or who ignores a binding decision from the Federal Constitutional Court" (Clark: 1840).

5. See, for example, Solum's article on the virtues to be sought in judges, which spends 2 pages on "judicial wisdom" and 10 1/2 pages on "judicial intellect," but only 1 page on "judicial integrity" ("a special fidelity to the law and its coherence"). Is this because integrity is so common, because it is so rare, or because it is so easily faked?

6. Judge Cardozo, for example, wrote of judges who did not try to make policy that "Their notion of their duty is to match the colors of the case at hand against the colors of many sample cases spread out upon their desk. The sample nearest in shade supplies the applicable rule. But, of course, no system of living law can be evolved by such a process, and no judge of a high court, worthy of his office, views the function of his place so narrowly. If that

were all there was to our calling, there would be little of intellectual interest about it” (Cardozo: 20).

7. Posner (1993) discusses this motivation for judges.

8. These other judges might, in fact, include contemporaries. Some courts, such as the U.S. Courts of Appeal, divide into smaller panels to hear cases. Each judge would like all other panels in his circuit to follow his precedents, which they customarily do.

9. Traditionally, judges said that they “discovered” the common law rather than “created” it, but the model still applies. The difference is unimportant so long as the discovering judge, like the discovering scientist, cares very much about having the truth established, and with his name attached.

10. “The civil law judge is not a culture hero or a father figure, as he often is with us. His image is that of a civil servant who performs important but essentially uncreative functions. It is a logical, if not a necessary, consequence of the quite different status of the civil law judge that he is not widely known, even among lawyers” (Merryman: 38).

11. Each judge is representing an entire court. Collegial bodies have internal dynamics which will be ignored here, but which are central to Easterbrook (1982), Kornhauser (1992a, 1992b), and Schwartz.

12. It is perhaps even more important for a judge to faithfully interpret statutes as for him to follow precedent. This could be incorporated into the model by specifying a number z of statutes that each judge has the choice between following and violating, and the model’s results would be essentially the same. When I talk of the problem of inducing judges to follow precedent, this is for expositional convenience, and the reader can feel safe in adding “and inducing judges to follow statutes.” The only caveat is that this model could not operate entirely without judge-made law: a judge needs some carrot in the form of law he can create if a precedent-following equilibrium is to be possible.

13. Landes and Posner (1976: 255) found that the median age of citations from the U.S. Courts of Appeals to the Supreme Court was 9.8 years and to appeals courts was 4.3 years (from a sample of 658 decisions, 1974-75). Some precedents gain strength with age, but others lose strength. Easterbrook (1988: 424) notes that the 1871 Original Package Rule was overturned with very little comment in 1976 (*Low v. Austin*, 80 U.S. 29 (1871), overturned in *Michelin Tire Corp. v. Wages*, 423 U.S. 276 (1976)).

14. This model is a descendant of the overlapping generations model of Paul Samuelson. In Samuelson's model, individuals live for two periods, but they receive income only in their youth, and wealth is not storable. Thus, if there are no transfers, old people starve. If, however, a convention is established that young people give part of their income to old people, this can take the place of storable wealth.

15. The situation in which judges follow the m^* precedents that immediately precede them is preferred by judges to the more complicated strategies in which they "skip over" some precedents. This is because of concavity of $\pi(m)$. The function is not differentiable, so we cannot say that $\pi'' < 0$, but its rate of increase increases at a negative rate: $[\pi(m) - \pi(m-1)] - [\pi(m-1) - \pi(m-2)] = \left[\left(\frac{1}{1+r}\right)^m - \left(\frac{1}{1+r}\right)^{m-1} \right] (y) < 0$.

16. It may be that this habit wears off over time. Members of the Supreme Court, from Nixon Republican Justice Blackmun back to the Jeffersonian Republicans who served with Justice Marshall, have surprised their backers by deciding that expansive judicial power was not so bad after all, once they became the ones to exercise it.

17. The reduction in judicial effort is one reason why the system of precedent is efficient. Macey (p.95) has suggested that even judges who wish to make an impact on the law may follow precedent in most areas so they can concentrate on one area of expertise. This concentration is most useful, however, for judges whose concentration allows them to write opinions which must have persuasive as well as precedential force.

18. Restricting the number of clerks and amicus briefs will help to stabilize the law if the judge has any preference for spending less rather than more time writing opinions, even if leisure is not his primary motivation, because following precedent becomes relatively cheaper. Abolishing briefs altogether would have the opposite effect, since without the litigants' briefs the judge would have to discover the precedents himself, and using his own reasoning might be easier.

19. In fact, while on the U.S. Supreme Court, Cardozo's citations by the lower federal courts were fewer than those of his less distinguished but more senior colleagues (Posner, 1990: 88).

20. An implication of the model will be that a brilliant judge, who knows that his ideas will be influential regardless of their value as precedents, may very well be an irresponsible judge.

21. For further exploration of the motives of judges, see Posner (1993). He emphasizes the desire to vote, to register an opinion rather than to exert influence, as a motive for judges, and balances this against the desire for leisure.

22. The literature on reputation and product quality is descended from Klein and Leffler. For a formalization as an infinitely repeated game see Rasmusen (1989: 96). For applications to law, see Palay or Ramseyer. The Klein-Leffler model is about trust when information is asymmetric; the influence model here is a game of perfect information with symmetric players.

23. See the articles on the public attitude towards the judiciary cited in Posner (1990: 136).

24. Cooter has written on the incentives of private judges, who in competing for business from litigants would tend to make efficient decisions, and suggests that public judges would do the same to acquire prestige. Prestige is very different from income, however, and it may only be among economists that an admirable decision is one which maximizes wealth.

25. See Fudenberg and Maskin: 92 or Rasmusen (1992). The present model is not a repeated game, strictly speaking, since the player is different at each stage, but it has the same properties as a repeated game because the payoff functions link the payoffs of one player to the actions of later players.

26. These are also “subgame perfect equilibria” in that no judge can benefit from deviating even if the game has departed from its equilibrium path when he makes his decision (Rasmusen, 1989: 85).

27. This argument is an implication of the equilibrium concept of subgame perfectness. For an equilibrium to be subgame perfect, it must be Nash for every subgame as well as for the entire game, including for subgames that start off the equilibrium path.

28. One way that x is reduced is if the judge can have some influence even when he follows precedent, by making the precedent significantly stronger. He may be able to do this by adding to his opinion new arguments for why the precedent is good policy or good law. This is one reason why we should think twice before criticizing judges who write opinions in easy cases rather than ruling without written opinion.

29. “Thou shalt not muzzle the ox that treadeth out the corn.” 1 Timothy 5:18, King James Version. This may also help to recruit talented judges, as a legitimate perk of the office. See also Cardozo, *supra* note 6.

30. A curious feature of the model is that Expectation Regimes 1 through 4 remain equilibria even if the public wishes for judges never to follow precedent. This is because the tastes of the public do not affect the behavior of judges. Other models of social control have the same feature; see Hirshleifer and Rasmusen: 101.

31. The problem is akin to that of an oligopoly deciding when a member has cheated based on noisy information. See Stigler or the more recent Abreu, Pearce and Stacchetti and the references therein. It is also related to the issue of how much to punish recidivists, where it has been

found that light initial punishments followed by heavy punishments for repeat offenders are optimal when the probability of false conviction is substantial. See Rubinstein: 406.

32. This too might require more formal modelling, because it raises a free-rider problem: Judge j might push the burden of overruling the obviously wrong decision $j - 1$ onto Judge $j + 1$, so that j himself can choose as his one precedent to violate some decision that only j dislikes.

33. Formalizing the effect of communication—of what game theorists call “cheap talk”—is surprisingly difficult. See Farrell for a relatively nontechnical discussion.

34. Contrary to the opinion of Sir John Salmond (p. 384), who says, “If, therefore, a precedent belongs to the class which is absolutely authoritative, it does not lose its authority simply because it is contrary to law and ought not to have been made.” (He refers to precedents made by the Court of Appeals and the House of Lords for themselves and for the lower courts.) It is unclear whether Salmond considered the possibility of blatantly illegal decisions, as opposed to ones that are simply mistaken, but his statement at least illustrates his first reaction.

35. An important caveat is that since in reality judges sit on panels rather than individually, if most judges follow precedent for its own sake, they will outvote the judges who value their own influence more than precedent. This is one reason, no doubt, why higher courts tend to have more members than lower courts. In the federal system of the United States, trial courts have one judge, appellate courts ordinarily sit on three-judge panels, and the Supreme Court has nine members.

References

Abreu, Dilip, David Pearce and Ennio Stacchetti. 1986. "Optimal Cartel Equilibria with Imperfect Monitoring," 39 *Journal of Economic Theory* 251-269.

Anderson, Gary, William Shughart, and Robert Tollison. 1989. "On the Incentive of Judges to Enforce Legislative Wealth Transfers," 32 *Journal of Law and Economics* 215-228.

Audain, Linz. 1992. "The Economics of Law-Related Labor V: Judicial Careers, Judicial Selection, and an Agency Cost Model of the Judicial Function," 42 *American University Law Review* 115-154.

Bacon, Francis. 1625. *The Essays*. 3rd edition. London: Penguin, 1985.

Cardozo, Benjamin. 1921. *The Nature of the Judicial Process*. New Haven: Yale University Press.

Clark, David. 1988. "The Selection and Accountability of Judges in West Germany: Implementation of a *Rechtsstaat*," 61 *Southern California Law Review* 1797-1847.

Coleman, James. 1988. "Social Capital in the Creation of Human Capital," 94S *American Journal of Sociology* S95-S120.

Cooter, Robert. 1983. "The Objectives of Private and Public Judges," 41 *Public Choice* 107-132.

Easterbrook, Frank. 1982. "Ways of Criticizing the Court," 95 *Harvard Law Review* 802-832.

———. 1988. "Stability and Reliability in Judicial Decisions," 73 *Cornell Law Review* 422-433.

Farrell, Joseph. 1987. "Cheap Talk, Coordination, and Entry," 18

Rand Journal of Economics 34-39.

Fudenberg, Drew and Eric Maskin. 1986. "The Folk Theorem in Repeated Games with Discounting or with Incomplete Information," 54 *Econometrica* 533-54.

Gely, Rafael and Pablo Spiller. 1990. "A Rational Choice Theory of Supreme Court Statutory Decisions with Applications to the *State Farm* and *Grove City* Cases," 6 *Journal of Law, Economics, and Organization* 263-300.

Goodhart, A.L.. 1934. "Precedent in English and Continental Law," 50 *The Law Quarterly Review* 40-65 .

Hamilton, Alexander, James Madison and John Jay. 1788. *The Federalist Papers*. New York: The New American Library, 1961.

Han Fei Tzu. 1964. *Basic Writings*. Translated by Burton Watson. New York: Columbia University Press.

Hirshleifer, David and Eric Rasmusen. 1989. "Cooperation in a Repeated Prisoner's Dilemma with Ostracism," 12 *Journal of Economic Behavior and Organization* 87-106.

Klein, Benjamin and Keith Leffler. 1981. "The Role of Market Forces in Assuring Contractual Performance," 89 *Journal of Political Economy* 615-41.

Kornhauser, Lewis. 1992a. "Modelling Collegial Courts I: Path Dependence," 12 *International Review of Law and Economics* 169-85.

———. 1992b. "Modelling Collegial Courts II: Legal Doctrine," 8 *Journal of Law, Economics, and Organization* 441-70.

Landes, William and Richard Posner. 1975. "The Independent Judiciary in an Interest-Group Perspective," 18 *Journal Law and Economics* 875-901.

—— 1976. “Legal Precedent: A Theoretical and Empirical Analysis,” 19 *Journal of Law and Economics* 249- 307.

Macey, Jonathan. 1989. “The Internal and External Costs and Benefits of Stare Decisis,” 65 *Chicago-Kent Law Review* 93-113.

McDowell, Gary. 1988. *Curbing the Courts: The Constitution and the Limits of Judicial Power*. Baton Rouge: Louisiana State University Press.

Merryman, John. 1969. *The Civil Law Tradition*, Stanford: Stanford University Press.

Palay, Thomas. 1984. “Comparative Institutional Economics: The Governance of Freight Contracting,” 13 *Journal of Legal Studies* 265– 87.

Posner, Richard. 1990a. *Cardozo: A Study in Reputation*. Chicago: The University of Chicago Press.

—— 1990b. *The Problems of Jurisprudence*. Cambridge, Mass.: Harvard University Press.

—— 1992. *Economic Analysis of Law*. Boston: Little, Brown and Company.

—— 1993. “What do Judges and Justices Maximize? The Same Thing Everybody Else Does),” chapter 2 of *Overcoming Law* (unpublished). Also forthcoming in 3 *Supreme Court Economic Review* 1-42 (1994).

Ramseyer, J. Mark. 1991. “Legal Rules in Repeated Deals: Banking the in the Shadow of Defection in Japan,” 20 *Journal of Legal Studies* 91-117.

Rasmusen, Eric. 1989. *Games and Information*. First edition. Oxford: Basil Blackwell.

—— 1992. “Folk Theorems for the Observable Implications of Repeated Games,” 32 *Theory and Decision* 147-164.

Rubinstein, Ariel. 1979. “An Optimal Conviction Expectation Regime

for Offenses that May Have Been Committed by Accident,” in *Applied Game Theory*, 406-413, Wurzburg: Physica-Verlag.

Salmond, John. 1900. “The Theory of Judicial Precedents,” 16 *The Law Quarterly Review* 376-391.

Samuelson, Paul. 1958. “An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money,” 66 *Journal of Political Economy* 467-82.

Schwartz, Edward. 1992. “Expectation Regime , Precedent, and Power: A Positive Theory of Supreme Court Decision-making,” 8 *The Journal of Law, Economics, and Organization* 219-252.

Solum, Lawrence. 1988. “The Virtues and Vices of a Judge: An Aristotelian Guide to Judicial Selection,” 61 *Southern California Law Review* 1735-1756.

Stigler, George. 1964. “A Theory of Oligopoly,” 72 *Journal of Political Economy* 44-61.

TABLES

m	1	2	...	11	12	13	14	15	16	17	18	19	20
$\pi(m)$	90	172	...	561	573	579	580	576	568	555	538	517	492

Table 1: Payoffs When m Preents are Followed