At the heart of economic analysis of law is a mystery that is also an embarrassment: how to explain judicial behavior in economic terms ... Posner (1993, p. 2)

1. Introduction

As the quotation from Posner indicates, explanation of the behavior of judges is one of the most important but also most difficult problems facing law and economics scholars. This is because judicial opinions are the result of utility-maximizing behavior and economists are unable to specify the details of judges’ (or anyone else’s) utility functions. Consequently, it has proven difficult to develop a theory that explains why judges make the decisions that we observe, though, as we discuss below, many have tried. Because of the difficulty of explaining decisions in terms of utility functions, there have also been attempts to use evolutionary models to explain outcomes. In these models, the form of law is due to factors involving wealth-maximizing behavior of actors in the legal process such as litigants or attorneys, and judges play a minor role.

The structure of this chapter is as follows: I first consider briefly arguments regarding the efficiency of common law. I then discuss utility-maximizing models of judicial behavior. I next consider the evolutionary models. The final section discusses models of multi-judge behavior.

2. Efficiency of Common Law

A basic question for law and economics is the efficiency of law. Hayek (1960, 1973), although writing before the law and economics movement and writing from another perspective, had argued that common or judge-made law was better than statute law (see Christiansen, 1990, for an attempt to reconcile Hayekian arguments with law and economics). More recently, Posner (1992) has of course argued often and forcefully that the common law is efficient. His arguments are based on examination of particular legal doctrines. The difficulty of this method is that often the conclusion regarding the efficiency of a particular rule depends on unmeasured transactions costs of various sorts; if Posner’s intuition about relative magnitudes of costs is incorrect, then doctrines he claims are efficient may not be so. Nonetheless, his analysis has been the intellectual spark behind the growth of law and economics, and questions of efficiency of the sort he was
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the first to raise have dominated the literature. Much of this literature may be considered as detailed attempts to answer the positive efficiency question first posed by Posner, and much of the rest aims at deriving normative conclusions as to what is efficient.

Others are less certain that common law is efficient. Tullock (1971, 1980) has long argued that the English common law process is less efficient than Continental processes. Rizzo (1980a, 1980b) argues from an Austrian perspective that the amount of information needed for judges to achieve efficiency is excessive, although Rubin (1980) in a critique argues that Rizzo’s criticism might apply to efficiency in all of economics, not merely in law and economics. Aranson (1992) argues that it is impossible for judges to seek efficiency because the calculations required are equivalent to those required to make central planning work. Hadfield (1992b) has argued that because judges see only a biased sample of potential cases, depending on the rules in existence, it is impossible for judges to move towards efficiency, even if they desire to do so.

Much of the literature in law and economics consists of attempts to examine particular legal doctrines and attempts to determine if they are efficient. (Much of my own work is of this type; see for example Rubin, 1983.) This method of analysis is fundamentally different from efficiency analysis in other branches of economics. There, a process (market competition) is postulated and it is shown that the process leads to efficient outcomes. Economists do not generally examine consumers to see if they are equating ratios of marginal utilities to prices, or firms to see if they are charging marginal cost. Rather, the process by which outcomes are generated is shown to lead to efficiency. It is for this reason that many economists are uncomfortable with the efficiency arguments of law and economics. Nonetheless, because this is the standard method in law and economics, any analysis of the efficiency of any particular body of law can be considered as evidence for or against Posner’s hypothesis. If some law is found efficient, then this is evidence for the hypothesis. If some law is found inefficient, or if there are proposals for reform, then this is evidence against the hypothesis. In this sense, all of law and economics is aimed at testing this fundamental hypothesis.

Scholars are of course aware of this difficulty, and have sought to identify a process that would lead to efficiency. The two candidates are utility maximization by judges and evolutionary models. I discuss each. As we will see, there is no definitive demonstration in the literature of a mechanism that would lead to efficiency. This has led many to conclude that the law is not so efficient as Posner believes.

3. Utility Maximization

The first argument regarding utility maximization by judges was in Posner (1992, first edition, 1973). The argument (elaborated in Posner, 1993) is that
judges are so insulated from personal factors and from interest group and other pressures that the only remaining decision factor is efficiency. The only other candidate is income redistribution, and judges lack the tools needed for such redistribution. This explanation was and is not terribly convincing to economists because it ultimately relies on judicial tastes for efficiency and economists prefer not to explain behavior on this basis.

There have been some attempts to model judicial utility functions in terms of economically relevant and observable variables. The first such effort was by Higgins and Rubin (1980). They argued that promotion to a higher position was an element of judicial utility functions, that promotion was more likely if the judge was reversed less, and that the value of promotion was reduced as the judge became older. However, in their sample they were unable to find any relation between age or any other factor and reversal, and only a weak relation between reversal and promotion.

In two articles, Cohen continued to examine promotion possibilities for federal judges. His argument was that if the Justice Department recommended a judge, then promotion was more likely. In Cohen (1991) he examined voting on the constitutionality of the US Sentencing Commission and found that judges voting for constitutionality were more likely to be promoted; the Justice Department favored this position. In Cohen (1992) he found that judges who imposed more severe antitrust sanctions, again in line with the desires of the Department, were more likely to be promoted. Thus, there is evidence for normal utility maximization by judges. The problem is that it is difficult to see how these results generalize to explain other types of decisions, including common law decisions. Macey (1994) has argued that many rules of procedure are aimed at maximizing judicial utility – for example by emphasizing procedure, where judges have a comparative advantage, over substance, where they do not.

Landes and Posner (1980) examined differences between state court judges and federal court judges. Their hypothesis was that since federal judges are paid more and have life tenure, we would expect higher quality people to occupy these positions and write better opinions. Their measures of quality had to do with citations to opinions as discussed in Landes and Posner (1976) and with use of opinions in legal casebooks. Except for the last measure, they found little difference. Other variables such as age and the political party appointing the judge also had little influence. Ashenfelter, Eisenberg and Schwab (1995) examined the extent to which judicial decisions are influenced by the political party appointing the judge and other elements of the judges’ personal background. They find little or no influence. Thus, if we believe that these characteristics influence the judges’ utility function, this may be taken as an argument that this aspect of utility has little impact.

It is apparent that there is little evidence regarding the effect of utility maximization on the mass of case outcomes. This is clearly an area for future research.
4. Evolutionary Models
The evolutionary models are attempts to explain judicial behavior without resort to utility functions. Initially, these models aimed at explaining Posner’s putative observation that the common law was efficient. It is fair to say that the models failed in this endeavor, perhaps because the law is not so efficient as Posner argued. Nonetheless, these models have had an important impact on the literature because they have called attention to forces other than judicial preferences in explaining the law. The evolutionary models are ultimately based on the model of the litigation process first set forth by Landes (1971).

The first paper applying an evolutionary model to the common law was Rubin (1977). Following Landes (1971) Rubin argued that most cases are settled, rather than litigated, and that it is only litigated cases that can lead to legal change. Cases are settled when the expected value to the plaintiff of a case is less than the expected cost to the defendant, which is generally true if stakes are symmetric. However, inefficient laws can sometimes create asymmetric stakes because the inefficiency means that there are deadweight losses that cannot be bargained away in the settlement process. That is, an inefficient rule creates a loss to one party that is greater than the gain to the other because of future stakes in similar type cases. Thus, litigation becomes more likely when rules are inefficient, and so inefficient rules are subject to greater selection pressure, and more likely to be overturned. (Note that this model, like many of its successors, depends on parties having ongoing interests in disputes of a certain sort, rather than merely in the matter at hand.)

Following this initial contribution were several extensions and modifications. Priest (1977) argued that inefficient rules generated larger stakes and so were more likely to be litigated, again subjecting them to increased selection pressure. Goodman (1979) argued that efficient precedents were worth more to parties who would benefit than inefficient precedents were worth to their beneficiaries, and that parties to whom a decision was worth more would spend more litigating and so would be more likely to win. In other words, efficient precedents were more likely to win in litigation and survive than were inefficient precedents. Katz (1988) expanded on this notion in the context of presenting a model of litigation expenditures. Terrebonne (1981) also presented a model of efficient legal evolution.

Other scholars began critically examining these models. Landes and Posner (1979) in a symposium paper published in the *Journal of Legal Studies* argued that the earlier models had erred by modeling precedent as an all or nothing issue, when the proper question was whether a precedent was stronger or weaker. That is, litigation might strengthen or weaken a precedent without overturning it completely. Thus a party with an interest in overturning an inefficient precedent would also have to consider the possibility that litigation could strengthen as well as weaken the precedent. This consideration greatly weakens the
evolutionary pressures for efficiency. Parsons (1983) combined Priest’s point (that inefficient precedents would lead to increasing litigation) with the Landes and Posner point (that precedents that were litigated might become entrenched) to argue that there is a tendency for the common law to become ‘reckless’ – to favor rules that inefficiently lead to increased accidents.

Cooter et al. (1979) presented a model in which movement towards efficiency could only occur if judges sought such a movement. In a more elaborate examination of the issue, Cooter and Kornhauser (1980) present a complex evolutionary model in which there are some tendencies towards efficiency, but in which both efficient and inefficient rules will be observed at any time. This model, and alternative definitions and implications of efficiency, are discussed in Kornhauser (1980). Von Wangenheim (1993) presents a model with similar results.

Hirshleifer (1982), building on Rubin’s discussion of inefficiency when stakes in precedent are asymmetric, provided what may be the most useful and influential criticism of the evolutionary models. Recall that in the original Rubin (1977) model and in some others, including Goodman (1979) and Landes and Posner (1979), evolutionary forces moved the law towards efficiency only if the party with an interest in efficiency had an ongoing interest in the form of the law. Hirshleifer generalized this point to show that the law could come to favor whichever party could most easily organize and mobilize resources for litigation of unfavorable precedents. This movement would be independent of efficiency. Rubin (1982) uses this point to argue that common law was more like statute law than many want to admit: interest groups could use either common or statute law to achieve their goals. He argued that the apparent efficiency of the common law was because most common law was developed at a time when organization of interest groups was expensive, and that more recently both common and statute law have been subject to interest group pressures. Crew and Twight (1990) expanded on this point and found common law less subject to rent seeking than statute law. Rowley and Brough (1987) find that contract and property might be expected to be efficient, but not tort. Bailey and Rubin (1994) have extended this theme in a formal model of the influence of interest groups on the law, and Rubin and Bailey (1994) have shown that plaintiffs’ attorneys have been responsible for the shape of modern tort law, using an evolutionary mechanism to shape the law. An interesting question worthy of future exploration is the extent to which other interest groups have found litigating for precedent worthwhile.

Heiner (1986) explains stare decisis and other features of the law as a result of human imperfect decision making. Because attempts to achieve optimality in each decision might lead to erroneous decisions in many cases, it may be more efficient to rely on rather simple rules that minimize the potential costs of error.
An interesting set of hypotheses regarding legal evolution is in Roe (1996). Roe argues that the notion of evolution towards efficiency is an important determinant of legal form, but it is not the only determinant. He incorporates three subsidiary notions into an efficiency framework – the importance of initial conditions (borrowed from chaos theory), path dependence and evolutionary accidents. The result of these processes would be that laws would be well but not perfectly adapted. However, while these notions are interesting, as Roe himself admits, they do not as of yet provide refutable hypotheses. It would be interesting to see if these propositions can be generalized to provide some implications.

What can we say about the evolutionary models? They have not succeeded in the original task of providing an explanation for common law efficiency. However, by demonstrating the difficulty of achieving this goal, they have helped understand when the law may be efficient and when it is likely not to be efficient. Moreover, an important component of the evolutionary models was their focus on the litigation decision as driving legal evolution. Other models of legal evolution, both economic and non-economic, either leave mechanisms for evolution unspecified or assume that the preferences of judges are the driving forces. The economic models were the first to focus on the motives of litigants, realizing that judges can decide only those cases that come before them.

As Elliott (1985, p.71), in an important study of the history of evolutionary models, indicates: ‘Moreover, the economic school of evolution has broadened our view of the legal system to include the role of litigants, as well as judges, in making law.’ The literature associated with Priest and Klein (1984) on selectivity bias in case selection is a result of the focus on litigants’ decisions, which has come out of the evolutionary models; for a discussion, see Priest (1980). (For an analysis of theories of legal evolution from 1880–1940 (which thus omits analysis of the economic theories), see Hovenkamp, 1985.)

Aranson (1986) summarizes the assumptions of several of the evolutionary models. He shows that many combinations of assumptions have not been examined, and thus provides clues for further research. There is much useful research to be done on evolutionary models of legal change.

More recently, Gennaioli and Shleifer (2007, 2008) have extended this model. They find that under some circumstances legal evolution is beneficial even when judges are biased, because evolution increases the precision of the law and reduces the effects of biases.

5. Multi-Judge Interactions
Matters become more complex when more than one judge is involved in a decision or sequence of decisions. Multiple judges may be involved because a judicial panel may consist of more than one judge; because different judges may hear similar cases at different times; or because the appellate process may involve judges at different levels of a judicial hierarchy hearing the same case.
One issue that appears when panels of judges hear a matter is the potential for inconsistency. Easterbrook (1982) was the first to point out that the Arrow theorem (which shows that there is no way of aggregating preferences that is not subject to some flaw, and that, for example, majority voting can lead to cycles: A defeats B, B defeats C, C defeats A) also applies to judicial voting; see also Easterbrook (1984).

Kornhauser has written extensively on issues that arise in multi-judge settings, both alone and with Sager. Kornhauser and Sager (1986) apply the Condorcet Jury Theorem to the context of judicial panels and show that increasing the number of judges on a panel will increase the accuracy of the outcome. In addition, they argue that multi-judge panels can act consistently (in the sense of avoiding cycles), but that multi-judge panels may act incoherently, in the sense that the pattern of decision will not satisfy community principles of coherent explanation.

In two related papers, Kornhauser (1992a, 1992b) investigated several additional characteristics of collegial courts. He emphasized the dichotomous nature of common law adjudication. He argued further that judges had to respect the results rather than the rules or rationales of prior decisions. In this context, he showed that, except under implausible conditions, a legal system will be path dependent; that is, the state of the law at any time will be a result of the order in which the court has heard disputes. This path dependence, however, will not lead to inconsistency if the legal system observes strict stare decisis.

Next, Kornhauser observed that common law practice incorporates two distinct ways of aggregating judgments of multiple judges: courts may resolve matters on a case-by-case or on an issue-by-issue basis. Kornhauser shows that there is a ‘doctrinal paradox’ in that these two methods may lead to different outcomes. He shows that the doctrinal paradox is distinct from the Condorcet paradox. Kornhauser and Sager (1993) extend the analysis of the doctrinal paradox in several ways. They observe, for instance, that in actual practice each judge decides how to aggregate the votes of other members on the court and that this may affect the outcome.

Kornhauser (1995) considers the hierarchical structure of courts systems. It explains many of the features of the US judicial system through a simple production model. Kornhauser assumes that judges in the system form a team, in that they all want the same goal, the maximization of the ‘number of correct answers subject to its resource constraint’. Then the structure of the production function explains the pattern of precedent observed and the specialization of trial courts to fact finding and appellate courts to review of law. Other features, such as the lack of specialization of courts by subject matter, are not explained by the model.

Miceli and Cosgel (1994) and Rasmusen (1994) have argued that judges’ behavior is based on a tradeoff between writing decisions they prefer and the
possibility of reversal, either by higher courts or by future judges. O’Hara (1993) analyzes why appellate judges choose to follow precedents in the absence of any formal rule mandating adherence to precedent. She explains this behavior as the result of a repeated game between different appellate judges, each of whom follows the precedents established by his or her colleagues’ decisions in order to avoid triggering a ‘punishment’ phase. In this punishment phase the precedents established by the errant judge’s decisions are ignored by his or her colleagues. Shavell (1995) argues that the structure of the appellate process is a low cost method of error correction, since only a subset of cases are examined for error through an appeal.

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