Adversarial versus inquisitorial justice

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1. Introduction
This chapter is about the merits of the adversarial system relative to its implied alternative, the inquisitorial system. The adversarial and inquisitorial systems are the two basic procedural systems used to control disputes.\(^1\) While there are many differences between the two systems, the primary difference between the two emphasized in the economic literature is whether the production of information is centrally controlled, or produced in a decentralized manner by the parties.\(^2\) In an adversarial system, the parties to the litigation produce and present evidence and arguments to a judge or jury, who renders a verdict. Compared to the adversarial decision maker, the inquisitorial decision maker exerts greater control over the trial process, from the organization of the case to the gathering, presentation, and interpretation of evidence. As a result, the parties’ role is diminished, as the judge in effect carries out his own independent investigation of the case. In reality, all procedural systems have elements of both systems, which can vary over time.\(^3\) However, studying the extreme characteristics of the pure adversarial or pure inquisitorial system, as most economic analyses have done, can lead to insights regarding the relative merits of the two systems, and the potential effects that incremental changes in one direction or another can have.

On the policy side, many have suggested that the adversarial system of justice is an inefficient system.\(^4\) Critics point to selective production of evidence, the use of unsophisticated and potentially biased decision makers, and its high cost and slow speed as problems. In its place, they propose a movement toward neutral non-adversarial proceedings and offer a variety of solutions that place more of the litigation under the control of judges or magistrates.\(^5\) These reforms include increasing the power of judges to

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4. *Id.* See also Langbein (1985), Thibault et al. (1972).
5. These devices include expanded use of summary judgment, summary juries, and expanded use of directed verdicts. For a discussion of these issues, see Cecil et al. (1991) at 736–8.
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prevent issues from reaching the jury and the elimination of the right to a jury trial in complex civil cases.\(^6\) They also include expanded discovery rules to include mandatory disclosure of information to make it harder for parties to hide evidence,\(^7\) and the use of more sophisticated decision makers, including court-appointed experts or special masters who would not have to rely on evidence produced by self-interested parties.\(^8\) Indeed, much of the policy debate about the relative merits of the two systems has focused on the role of scientific or statistical evidence in the courts and on the role of experts in the courtroom.\(^9\) In this setting, the problems facing a potentially unsophisticated decision maker are exacerbated because he is not trained to evaluate scientific or statistical evidence. Implicit in much of the criticism is the thought that a movement towards a neutral, non-adversarial proceeding, like that of an inquisitorial system, would lead to better and less costly decision making.

On the other hand, the adversarial system may give parties incentives to produce more information.\(^10\) While an inquisitor may not have to

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\(^6\) For arguments in support of a complexity exception to the Seventh Amendment (the right to a trial by jury in civil cases), see Campbell (1988) and Campbell and LePoidevin (1980). But see Arnold (1980) (arguing that such an exception is not necessary).

\(^7\) See Sobel (1989), Cooter and Rubinfeld (1994) (providing an economic analysis of mandatory disclosure); Brazil (1978), Schwarzer (1989) (advocating use of mandatory disclosure). But see Bell et al. (1992), Easterbrook (1989) (criticizing mandatory disclosure). Dissatisfaction with discovery under the adversarial process led to amendments to Rule 26 of the Federal Rules of Civil Procedure which controls discovery in the federal courts. The most controversial part of the amendments enacted in 1993 was a provision that required early disclosure of both favorable and unfavorable information. See the 1993 Amendments to the Federal Rules of Civil Procedure, Rule 26(a)(1). However, this provision was repealed in 2000 in favor of a rule that required the disclosure of favorable information only. See FRCP 26(a)(1) (2009).

\(^8\) Court appointment of expert witnesses is provided for under Rule 706 of the Federal Rules of Evidence. Special "reference" masters can be appointed under "exceptional conditions" under Rule 53(b) of the Federal Rules of Civil Procedure. However, use of court-appointed experts and non-pretrial special masters has been rare. See Cecil and Willging (1994a, 1994b) and Farrell (1994). For a recent discussion of this issue, see Bernstein (2008).

\(^9\) See Bernstein (2008).

\(^10\) For example, opposing litigants can have more or better information than even a sophisticated decision maker, and competition among the litigants forces them to reveal relevant information (see Milgrom and Roberts (1986); Froeb and Kobayashi (1996); Lipman and Seppi (1995), McChesney (1977). See generally Hayek (1945, 1948) and Demsetz (1969) (discussing the informational advantages of decentralized systems).
worry about the selective production of evidence by interested parties, he typically has less information than the parties, and may have biases and prejudices of his own. Determining which system is better for resolving legal disputes in general, and for disputes involving scientific or statistical evidence in particular, is a matter of obvious policy importance, but the issue is much broader than that. It also has implications for the way that institutions choose to organize. In many cases, organizations deliberately set up incentives for members to advocate or defend a specific “cause” that differs from group welfare maximization. Examples include legislatures, whose members advocate for specific constituencies, rather than for all citizens; and regulatory bodies whose mandate is very narrow, like protecting the environment, which is often in conflict with other goals, like economic growth. Typically, each of these narrow “causes” will have its own advocates. The broader policy issue is whether competition between these advocates leads to good policy; or, if not good policy, then at least the production of information that would allow a decision maker to make an informed decision about the benefits and costs of various policy proposals.

In this chapter, we survey economics articles that have tried to assess the benefits and costs of the adversarial and inquisitorial systems. Except for several experimental papers, all of the reviewed articles construct theoretical models of one or both systems in order to evaluate or compare their performance, typically measured by the quality of decision making, or by the creation or production of information, a prerequisite to informed decision making. We compare the systems based on their accuracy and costs, and the quality of the decisions they produce, but not on their deterrent effects. All of the reviewed articles take legal disputes as exogenously given, and model their resolution at trial. They ignore the question of whether a particular system would encourage or discourage further disputes. In other words, all of the articles present partial equilibrium models of the resolution of disputes, not full equilibrium models of the generation and resolution of disputes.

Predictably, whether the benefits of the adversarial system outweigh its costs depends crucially on the models’ assumptions. But this is to be expected. Economists use models, with their attendant assumptions, to isolate the effects of various components of competing systems. This makes it difficult to compare results across models because the articles

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13 For a discussion of this issue, see Sanchirico (2001b).
identify advantages of the adversarial system under one set of assumptions and the advantages of the inquisitorial systems under a different set of assumptions. Often, when an economist identifies an intriguing or significant theoretical result, he or she will test the robustness of the result by “rigging” the model’s assumptions against it. So, for example, if an economist finds that the adversarial system does better than the inquisitorial, the model is purged of all assumptions that might favor the adversarial system, so that the economist can isolate the significant factor that leads to the result.

Whatever the assumptions, to be credible, any theoretical model must be able to explain several salient features of each system. The most obvious is that, under the adversarial system, the parties report only favorable evidence to the court. All of the surveyed articles rule out lying by assuming that the decision maker can verify the truthfulness of reported evidence. Instead, they allow parties to withhold information that is unfavorable to their cause. This can be explained by adverse selection, that is, only parties with relatively good evidence choose to produce and present it; or by moral hazard – the parties produce evidence, and then report only favorable evidence. This raises two immediate follow-on modeling questions that must be addressed: (i) what happens to unfavorable evidence; and (ii) does the decision maker know about the potential existence of unfavorable evidence?

If he does, then the decision maker can learn as much from the evidence that is not reported at trial, as from that which is. In particular, if a party doesn’t report evidence, a sophisticated decision maker can infer that it was adverse to this party’s interests. In a criminal case, for example, a sophisticated decision maker learns something from the fact that a defendant chooses to exercise his Fifth Amendment rights. In a theoretical model, a sophisticated decision maker will update his beliefs in the usual way, so that the outcome of trial is a Bayesian equilibrium.14

As one might expect, this kind of sophistication turns out to be important for evaluating the merits of an adversarial versus an inquisitorial system of justice. A sophisticated decision maker mitigates some of the costs of the adversarial system because he is not fooled by the selective production of evidence. In fact, if the decision maker has good enough knowledge about what evidence could have been reported but wasn’t, then the failure to report evidence can be just as informative as the actual evidence that is reported (for example, Shin (1998)). For this reason, this

14 Harsanyi (1967).
chapter classifies articles using a taxonomy based on the sophistication of the decision maker.

The outline of the chapter is as follows. In the next section, we review two papers that we use to define and compare the adversarial and inquisitorial systems (Tullock (1975); Froeb and Kobayashi (2001)). Section 3 examines related articles on the performance of the two systems. In Section 3.1, we survey articles that assume the decision maker uses a naïve decision rule that does not take into account the fact that the litigants in an adversarial system may select the data that is produced and reported (Milgrom and Roberts (1986); Froeb and Kobayashi (1996)). We also examine a model that compares a hybrid system where both adversarial and inquisitorial evidence is produced (Parisi (2002)). Section 3.2 surveys four articles that assume a sophisticated decision maker, that is, one that takes into account the nature of the adversarial litigation and the evidence produced in its decision rule (Sobel (1985); Milgrom and Roberts (1986); Shin (1998); Dewatripont and Tirole (1999)). One article (Milgrom and Roberts (1986)) appears in both categories because it varies the sophistication of the decision maker. In Section 4, we examine the experimental literature that examines the performance of adversarial and inquisitorial systems. Two of the articles report experimental evidence used to “test” the assumption of sophisticated decision making (Block et al. (2001); Block and Parker (2004)). One article examines whether adversarial experts improve decision making, but does not compare the adversarial outcome with a single expert. In what follows, we discuss the articles and conclude with suggestions for future research.

2. Adversarial and Inquisitorial Regimes Defined and Compared

Tullock (1978) provided an early analysis comparing adversarial and inquisitorial procedural systems. In an adversarial system, evidence and arguments are produced by interested parties and transmitted to the decision maker, who decides which party will prevail. In contrast, in an inquisitorial system, the judge carries out an independent investigation of the case and gathers the evidence himself. Thus, the basic tradeoff between inquisitorial and adversarial systems can be viewed as one of centralized versus decentralized evidence production. In a mixed system, the decision maker can consider submissions by the parties in addition to conducting his own information gathering. Proponents of inquisitorial systems have stressed both the efficiency and neutrality of such systems. However, adversarial regimes can be superior to the extent that they take advantage of the superior information of the parties.

To compare the two systems, Tullock presents a model of litigation between two parties, Mr. Right and Mr. Wrong. In a pure adversarial
system, the parties compete to alter the probability of obtaining a fixed prize \(D\). Mr. Right and Mr. Wrong compete by spending resources \(R\) and \(W\) respectively to alter the probability of a victory by Mr. Right (\(P(R, W)\)). Tulloch used a simple weighting function to model the probability that Mr. Right will prevail:\(^{15}\)

\[
P(R, W) = \frac{f(E) R}{f(E) R + W}.
\] (1.1)

The function \(f(E)\) scales the effectiveness of R’s expenditures depending on the evidence in the case (\(E\)). If \(f(E) > 1\), then Mr. Right is favored (disfavored) by the evidence. The two parties maximize the following functions:

\[
V_{R} = DP(R, W) - R
\] (1.2)

\[
V_{W} = D(1 - P(R, W)) - W.
\] (1.3)

Tulloch notes that a noncooperative Nash equilibrium, \((R^*, W^*)\) in the pure adversarial system is unlikely to be optimal for two primary reasons. First, there are Pareto-preferred litigation expenditure pairs \((R < R^*, W < W^*)\) that yield the same outcome (that is, \(P(R, W) = P(R^*, W^*)\)). In addition, Tulloch notes that if one assumes that it is socially optimal for Mr. Right to win, then the expenditures by Mr. Wrong are socially counterproductive.

To consider inquisitorial systems, Tulloch modifies equation (1.1) so that

\[
P(R, W) = \frac{f(E) R}{f(E) R + W} + g(F),
\] (1.4)

where \(F\) are resources invested in judging. The function \(g(F)\) is assumed to increase the probability that Mr. Right prevails \((g'(F) > 0)\). Under the assumption that it is socially optimal for Mr. Right to prevail, expenditures invested in \(F\) increase the probability that the socially preferred outcome occurs.

In a pure adversarial system, \(F = 0\). As noted above, not only are the expenditures of the parties on litigation likely to be non-optimal, but in such adversary proceedings, “a great deal of the resources are put in by

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\(^{15}\) See generally, Dixit (1987) (discussing the use of similar functions in models of economic contests).
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someone who is attempting to mislead.” On the other hand, in a pure inquisitorial system, $R = W = 0$, so 100% of the resources $F$ are committed to increasing $P$, thus moving the case in the socially proper direction. Tullock concludes that, based on this analysis, there is at least “a strong argument that the inquisitorial system is better.”

Critics of Tullock’s analysis noted that his analysis ignored aspects of real world litigation that serve to mitigate the overinvestment implied by the noncooperative Nash equilibrium. These include the use of procedural devices such as discovery, and the use of settlements to avoid the costs of trial. Indeed, private settlements of legal disputes are ubiquitous, and economic models of the litigation/settlement decision predict settlement where there is little disagreement about the outcome. The critics also note the positive production of legal precedent as a benefit of adversarial systems. Critics have also noted that adversarial systems may be more efficient in mitigating decision maker bias, and that inquisitorial systems can suffer from suboptimal incentives to produce information. Moreover, the assumption that a judgment for one of the litigants (Mr. Right) can be classified as a priori correct is also problematic. If this is not clear to the parties or the inquisitor ex ante, it is far from clear that expenditures on $F$ will increase the probability that the correct or efficient outcome will occur. Moreover, even within Tullock’s framework, one cannot conclude that the inquisitorial system is superior. The pure inquisitorial system will yield an unambiguously superior outcome only if it results in a higher probability that $R$ will prevail at a lower cost. If the inquisitor is at a disadvantage vis-à-vis the parties in producing information, for example, if $g'(F)$ is small so that the equilibrium increase in $P(F)$, $g(F^*)$, is small, the pure inquisitorial system can in theory produce a lower probability that party $R$ prevails with higher resource costs.

The possibility of this last outcome is demonstrated by Froeb and Kobayashi (2001). In their model, they characterize the relative advantages of adversarial versus inquisitorial regimes as one of centralized versus decentralized evidence production. That is, rather than characterize litigation in terms of right and wrong, they examine how centralized

16 Tullock (1980) at 96.
17 Tullock (1980) at 87.
18 McChesney (1977); Ordover and Weitzman (1977).
19 See generally, Kobayashi (1996).
20 McChesney (1977); Ordover and Weitzman (1977).
22 Ordover and Weitzman (1977).
and decentralized systems perform in terms of the production of evidence. Specifically, they examine the production of evidence consisting of draws out of a distribution $F(x)$ with mean $\mu$ and variance $\sigma^2$. In their analysis, the mean $\mu$ represents the value of the issue being litigated (for example, damages, the level of harm caused), and both the adversarial parties and inquisitor are interested in producing an estimate of the mean of $X$. The plaintiff seeks a high value of the estimated mean, while the defendant seeks to minimize the value of the estimated mean.

In a pure inquisitorial system, Froeb and Kobayashi presume that the sample mean, with its well-known optimality properties, would be used. Thus, if the inquisitor takes $N_c$ draws, he will produce an unbiased estimate of the sample mean with variance $\sigma^2/N_c$.

In an adversarial regime, they assume that the decision maker is a passive, unsophisticated actor that takes the reports of the parties $x_p$ and $x_d$ and uses a naïve split-the-difference estimator:

$$x^* = (x_p + x_d)/2 \quad (1.5)$$

Each of the parties take draws from $F(x)$. Each draw costs $c$. As noted above, the plaintiff benefits from a high value of $x^*$, while the defendant benefits from a low $x^*$. To capture the selective use of evidence by the adversarial parties, Froeb and Kobayashi assume that parties report only the most favorable information to the court. If the plaintiff and defendant take $N_p$ and $N_d$ draws respectively, the parties report:

$$x_p = \text{Max} \{x_1, x_2, x_3, \ldots, x_{N_p}\} \quad (1.6)$$

$$x_d = \text{Min} \{x_1, x_2, x_3, \ldots, x_{N_d}\}. \quad (1.7)$$

The parties’ payoff functions equal:

$$\pi_p = x^* - cN_p \quad (1.8)$$

$$\pi_d = -x^* - cN_d \quad (1.9)$$

To capture the information advantage over the inquisitor, they assume that the parties know the distribution out of which they are drawing. Froeb and Kobayashi show that both parties use optimal stopping rules. In a dominant strategy equilibrium, the plaintiff stops producing evidence after a draw greater than $\nu_p$ and the defendant stops after a draw lower than $\nu_d$. The stopping values $\nu_p$ and $\nu_d$ are defined by equating the marginal cost of a draw $c$ to the marginal benefit of taking a draw:
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\[ c = \int_{\nu_d}^{\infty} (\nu_p - x) dF(x) / 2 \]  
\[ c = \int_{-\infty}^{\nu_d} (\nu_d - x) dF(x) / 2. \]  

(1.10)  

(1.11)

If the distribution \( F(x) \) is symmetric, the stopping values will be symmetric around the mean of the distribution, and the court’s split-the-difference estimator will be unbiased because the litigants are stopping equidistant from, but on either side of, the mean. Under these conditions, each party on average will take \( N_d = N_p = 1/[1 - F(\nu_p)] \) draws. The variance of the split-the-difference estimator equals:

\[ [Var(x|x > \nu_p) + Var(x|x < \nu_p)]/4 = Var(x|x > \nu_p)/2. \]  

(1.12)

Because both the sample mean used by the inquisitorial system and the adversarial split the difference estimator are unbiased, the estimators can be compared on the basis of variance and cost. The adversarial estimator will have a lower variance than the sample mean used by the inquisitor when:

\[ Var(x|x > \nu_p)/2 < Var(x)/N_c. \]  

(1.13)

For equal cost estimators (that is, assuming that \( N_c = N_d + N_p = 2/[1 - F(\nu_p)] \)), the adversarial estimator will have a lower variance when:

\[ Var(x|x > \nu_p) < Var(x)[1 - F(\nu_p)]. \]  

(1.14)

Satisfaction of condition (1.14) does not violate the Gauss-Markov theorem proving the optimality of the sample mean because the adversarial estimator does not belong to the class of linear estimators to which the theorem applies. Its potential superiority follows from the fact that, in the adversarial regime, the litigants know the properties of the distribution, and use this distribution to produce optimal stopping rules. Use of these optimal stopping rules can result in the adversarial estimator dominating the sample mean, depending upon the properties of the distribution.

For example, with a uniform distribution, Froeb and Kobayashi show that condition (1.14) is satisfied. Thus, holding the number of draws constant, the adversarial estimator will have a lower variance than the sample mean. This is because the large variance of a uniform distribution imparts
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a large variance on the sample mean, while simultaneously allowing the parties to move quickly to the endpoints of the distribution. In contrast, a double exponential distribution centered on $\mu$ generates the opposite result, as condition (1.14) never holds. Because of the memoryless characteristic of this distribution, the conditional variance does not decrease as the parties move out to the tails of the distribution. An intermediate case is the normal distribution. If the litigants stop near the mean of the distribution (for example, when $c$ is large), the adversarial regime can dominate the sample mean for the same reasons as in the uniform case. For stopping values far from the mean, the adversarial regime throws away too much information to be efficient.

In addition, condition (1.14) is a necessary, but not sufficient, condition for the adversarial estimator to dominate the sample mean. Figure 1.1 plots the tradeoff between cost and variance offered by the sample mean. The horizontal axis is the number of draws (a proxy for the costs when the parties and the inquisitor have equal costs $c$). On the vertical axis is the variance of the estimator. The locus of points attainable in the inquisitorial system is the hyperbola $(\operatorname{Var}(x)/N, N)$ in the figure. Assuming that society prefers both a lower variance and cost, society’s indifference curves are concave toward the origin. The indifference curve $U(A)$ represents the highest attainable societal indifference curve using the sample mean.

Figure 1.1 The tradeoff between cost and variance

23 For a general discussion of the issue of accuracy in adjudication, see Kaplow (1994).
If condition (1.14) is not satisfied, then the adversarial estimator must lie in the inferior region $D$. If it is satisfied, the adversarial estimator can be preferred (as is the case for point B in the figure), or can be less preferred because of its high relative cost (as is illustrated by point C).

The feasibility of comparative analysis of two unbiased estimators depends on the assumption of a symmetric distribution $F(x)$ as well as other assumptions of the model. The effects of asymmetric distributions on equilibrium bias is examined by Daughety and Reinganum (2000), who find that differences in the cost of sampling or asymmetry in the sampling distribution can cause equilibrium bias. Their model considers only the performance of an adversarial system, and does not make a direct comparison with an inquisitorial system. A full consideration of the performance of adversarial and inquisitorial systems with equilibrium bias would consider trading off cost and two dimensions of accuracy, bias and variance.

### 3. Theoretical Literature on Adversarial and Inquisitorial Systems

In this section, we review the literature that has looked at the nature and performance of adversarial and inquisitorial system. In Section 3.1, we examine models that have looked at adversarial systems with a naïve decision maker. That is, the decision maker adopts a rule that interprets the evidence produced, without taking into account the fact that the parties select favorable evidence. Section 3.2 examine papers in which the decision maker’s rule takes into account the selective or exaggerated reporting of evidence.

#### 3.1 Naïve Decision Makers

Milgrom and Roberts (1986) find that even a naïve decision maker can reach a full information decision provided that the interests of the parties are sufficiently opposed, and evidence is costless to produce. Evidence not reported by one party, because it is unfavorable, will be reported by the other, and vice versa. While they do not explicitly consider the merits of an inquisitorial system, their results suggest an “equivalence” result between the two, in that the adversarial system produces a full information decision. This issue is also examined by Lipman and Seppi (1995) and Seidmann and Winter (1997).

This same theoretical result is extended to costly evidence production by Froeb and Kobayashi (1996) (see also McAfee and Reny (1992)), who model a naïve jury as using a simple proportional function to weight endogenously produced evidence. In their model, evidence consists of the favorable outcomes of draws from a binomial distribution (a coin flip). The probability the plaintiff prevails equals $p = H/(H + T)$. The parties produce selective evidence, that is, the plaintiff reports only the number of
times he obtained an $H$ outcome, but not the total number of flips taken. Similarly, the defendant reports only the number of $T$ outcomes. Because a litigant disfavored by the probability distribution will require more costly flips to produce a given number of reportable (favorable) outcomes, such a party will be disadvantaged by the probability distribution. As a result, the party favored by the distribution produces more favorable evidence in equilibrium, and the naïve weighting function used by the jury reveals the truth. Furthermore, even when the jury has strong priors, the authors show that the adversarial system overcomes these priors as long as both parties produce evidence in equilibrium. Farmer and Pecorino (2000) examine the Froeb and Kobayashi result to consider other forms of jury bias. They find that the adversarial system does not eliminate this bias when the bias takes a multiplicative form rather than the additive bias considered by Froeb and Kobayashi. Moreover, they show that endogenous expenditures by adversarial litigants may not even reduce jury bias in some cases. They also consider how two-way fee shifting affects the equilibrium outcome, and find that use of such a system may exacerbate the effects of strong jury bias.

Parisi (2002) uses the same probability function to characterize the payoffs to the parties of producing evidence under an adversarial system, and finds, similar to the Tullock (1978) model discussed above, that parties in such a system produce “more” evidence than is socially optimal. In addition to the evidence produced by the parties, Parisi considers a “mixed” system where the court can produce its own evidence. In the mixed system, the court’s decision is a weighted average of the decisions coming out of the two regimes. Parisi finds that by placing some weight on the adversarial regime, where the decision maker gathers evidence for himself, the incentives of the parties to produce evidence is reduced. Parisi also finds that a skeptical adversarial judge would reduce the wasteful production of evidence.

3.2 Sophisticated Decision Makers
Several models of the adversarial system analyze the role of sophisticated third party decision makers. An early example is Sobel (1985). In his model, litigants decide whether or not to withhold evidence in a setting where it is costly to report pre-existing evidence. Sobel’s model treats the decision as a binary one. In his model, the decision maker is sophisticated in the sense that the judge who uses a mixed strategy maximizes social surplus by “favoring” one of the litigants with a lower burden of proof. He finds that if the burden of proof is lowered for the party with the low cost of evidence, this will lower the cost of evidence. On the other hand, placing the burden on the high-cost party will increase the cost of evidence, but
will result in more informed decisions, as more evidence is produced. The optimal weights will depend on how the decision maker trades off the cost of evidence against the benefit of increased accuracy. Emons and Fluet (2007) also examine the tradeoff between cost of evidence and accuracy. They examine a setting where an arbiter chooses to hear from both parties, only one party, or no parties. In the last case, the arbiter decides the case on his priors. The decision maker in this model is sophisticated in that when only one party is allowed to present evidence, he rationally corrects for the biased information he receives from that party. In the two-party adversarial case, the arbiter uses a split-the-difference estimator. The optimal number of parties to submit evidence depends upon the costs of evidence, and the value of the information. Lower evidence costs favor hearing both parties, while the choice to hear only one party or not to hear from either party is rational at higher costs. Sanchirico (2001a) examines a setting where low burdens of proof or use of imperfect evidence are the result of an attempt by the fact finder to use less costly signals. In this setting, these burdens are not designed to elicit accurate fact finding, but rather are designed to create conditions under which meeting these burdens is more costly for one type of litigant.

In addition to naïvely credulous decision makers, Milgrom and Roberts (1986) also model decision makers who are sophisticated, in that they know (i) the preferences of interested parties, (ii) the kind of information to which the parties have access so that they know how to interpret a lack of evidence, and (iii) how to update beliefs following reports, or non-reports, from the parties. When the parties’ interests are opposed, as in litigation, the first two of these restrictions can be relaxed because the sophisticated decision maker can count on at least one of the parties to divulge the information.

Shin (1998) compares adversarial and inquisitorial procedures in arbitration. As is the case in prior models, Shin examines a model where the arbiter can choose to hear from both parties and rely on this information exclusively (adversarial), or to rely on his own investigation exclusively (inquisitorial). The adversarial parties cannot submit false information, but can withhold information. He finds that the adversarial decision maker who receives reports from interested parties always receives more information than an inquisitorial decision maker who receives the signals directly, in the sense that the adversarial decision maker’s posterior probabilities are less noisy. The advantage of the adversarial system derives from the case where neither party reports evidence (non-revelation) and where one of the parties is favored in its ability to produce evidence. The adversarial decision maker knows the party favored by the distribution and is able to allocate the burden of proof in an effective manner to extract
information from the parties. As a result, the arbiter can learn more from a non-report than does a neutral inquisitorial decision maker who receives the signals directly.

Dewatripont and Tirole (1999) examines the problem of incentive alignment under adversarial and inquisitorial procedures. Unlike the authors of the other papers discussed, who implicitly assume that the agents of the two regimes (the advocates and the decision makers) act in the best interests of the principals, their model allows for agency costs. The authors find that, when effort is observable, the inquisitorial regime has an advantage because compensation of the inquisitor can be tied to observed effort. In the more realistic case when effort cannot be observed, the adversarial regime has an advantage because advocates’ incentives can be tied to trial outcomes. This same kind of incentive compensation will not work for an inquisitorial regime because effort provision requires the inquisitor to be rewarded when the status quo is abandoned (to show he is not shirking). This will make the inquisitor reluctant to release conflicting pieces of evidence that make the status quo desirable. In a trial setting, the status quo can be thought of as favoring the defendant in either a criminal (innocent until proven guilty) or civil (preponderance of evidence) setting. Palumbo (2001) extends the Dewatripont and Tirole (DT) model where effort in information gathering is a continuous variable, and where agents can conceal evidence. She finds that when manipulation is possible, the costs of providing incentives to agents increase, and thus the conditions under which an adversarial regime would be superior to an inquisitorial scheme are more restrictive than implied by the DT model.

4. Experimental Tests of Sophistication
The complexity of adversarial and inquisitorial systems and the lack of natural experiments have precluded serious empirical work on comparing adversarial and inquisitorial systems. One set of authors has applied the tools of experimental economics to test various theories and assumptions of the models of adversarial and inquisitorial systems. Block et al. (2001) (BPVD) attempt to recreate experimental conditions to test the Tullock (1980) hypothesis that inquisitorial systems will be superior to adversarial systems. In their experiments, two case scenarios were presented to the experimental subject that embodied Tullock’s assumption of an unambiguously “right” and “wrong” party. The authors find that the inquisitorial system does better at uncovering the truth in an experimental setting when the parties have uncorrelated signals – that is, when Mr. Wrong is given private and asymmetric discrediting information; but that the adversarial system does better when their signals are correlated – that is, when both parties have access to hidden information.
Block and Parker (2004) use the data from the earlier BPVD experiments to test predictions of the Shin (1998) and DT (1999) models regarding decision making under conditions of non-revelation. Specifically, they examine the Shin hypothesis that the adversarial system will perform relatively better under these conditions, as the decision maker gains information when he observes non-revelation by the relatively informed party. Concentrating on a subset of the experimental data where non-revelation occurred, Block and Parker find that the decision makers are unsophisticated, in that they do not learn to interpret evidence as postulated in Shin when confronted with a lack of evidence. In addition, Block and Parker test the DT hypothesis that adversarial proceedings tend toward the status quo and inquisitorial proceedings tend toward extremism in the absence of the revelation of decisive facts. This is because, in the absence of such facts, DT hypothesize that the adversarial system tends to produce offsetting and neutralizing information that leads to a compromise or “split-the-difference” result. In contrast, a single inquisitorial decision maker is more likely to choose between the competing positions based on his prior beliefs. Block and Parker find evidence consistent with the DT non-revelation hypothesis, in that they find a tendency toward moderation in the absence of decisive facts in the adversarial setting, but not in the inquisitorial setting.

Finally, Boudreau and McCubbins (2008) examine the extent to which the use of competing experts improves decision making in an experimental setting. Subjects in the experiment are asked to solve binary math problems and are rewarded for correct responses. In the baseline setting, these subjects solve the problems without any help. In the treatments, the subjects solve the problems after they receive reports from two “experts.” One expert is paid if the subject answers the problem correctly, and the other expert is paid if the subject answers the problem incorrectly. Boudreau and McCubbins find that the introduction of the adversarial experts improve decision making, as for the subjects that receive the experts’ reports there is an increase in the percentage of correct responses. In part, decision making improves because the experts’ payoffs (including penalties for lying in some of the experiments) result in the subjects receiving two correct reports from the competing agents more often that they receive two incorrect reports. The experiment in Boudreau and McCubbins, however, compares the adversarial setting to the baseline setting of no expert, and does not address the use and relative performance of a single inquisitorial expert. In the context of comparing adversarial and inquisitorial systems, extending the data to consider a single expert would be of great interest.
5. Conclusion and Directions for Future Research

Obviously, the importance of sophistication, and exactly what it means, is important for evaluating the benefits and costs of the adversarial and inquisitorial regimes. More or better tests of how decision makers process evidence and whether decisions are sophisticated are important for modeling the benefits and costs of the two systems. But as several of the articles point out, even if decision makers are unsophisticated, the competing incentives of the parties to produce evidence can offset some of the costs of the adversarial system. Tests of decision making in isolation from the competitive production of evidence would seem to rig the outcome in favor of the inquisitorial system, and neglect one of the benefits of the adversarial system.

It is ironic that economists have focused on sophisticated decision making by either the judge or jury as favoring the adversarial regime when legal systems often seem to rule this out. For example, decision makers are instructed or constrained to behave in an unsophisticated way, that is, not to draw an inference from the fact that evidence is not reported that could have been reported. If sophisticated decision making is important, figuring out how to integrate it into existing legal regimes seems like an important area of research.

Another intriguing area is the principal-agent problem highlighted by Milgrom and Roberts. Just as principal-agent models have opened up the “black box” of firm decision making and led to a number of important insights about firm behavior, opening up the black box of the relationships between the judiciary and their agents (judges, juries) and between the parties and their agents (attorneys, experts) might yield similar returns.

References


