LEGAL ORIGINS*

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A central requirement in the design of a legal system is the protection of law enforcers from coercion by litigants through either violence or bribes. The higher the risk of coercion, the greater the need for protection and control of law enforcers by the state. Such control, however, also makes law enforcers beholden to the state, and politicizes justice. This perspective explains why, starting in the twelfth and thirteenth centuries, the relatively more peaceful England developed trials by independent juries, while the less peaceful France relied on state-employed judges to resolve disputes. It may also explain many differences between common and civil law traditions with respect to both the structure of legal systems and the observed social and economic outcomes.

I. INTRODUCTION

The laws of many countries are heavily influenced by either the English common law or the French civil law.[1] The common law tradition originates in the laws of England, and has been transplanted through conquest and colonization to England's colonies, including the United States, Australia, Canada, and many countries in Africa and Asia. The civil law tradition has its roots in the Roman law, was lost during Dark Ages, but rediscovered by the Catholic Church in the eleventh century and adopted by several continental states, including France. Napoleon exported French civil law to much of Europe, including Spain, by conquest. French civil law was later transplanted through conquest and colonization to Latin America and parts of Africa and Asia.

Structurally, the two legal systems operate in very different ways: civil law relies on professional judges, legal codes, and written records, while common law on lay judges, broader legal principles, and oral arguments. In addition, recent research reveals significant differences between common law and (French)

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1. In a study of civil procedures in 109 countries, Djankov et al. [2002a] identify 42 countries in the English common law tradition and 40 in the French civil law tradition. In addition, German civil law, Scandinavian law, and socialist law prevail in parts of the world.

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civil law countries in a variety of political and economic conditions. At the same level of development, French civil law countries exhibit heavier regulation, less secure property rights, more corrupt and less efficient governments, and even less political freedom than do the common law countries [La Porta et al. 1999; La Porta, Lopez-de-Silanes, and Shleifer 2002; Djankov et al. 2002b]. One area where the greater insecurity of property rights in the civil law countries shows up clearly is the development of financial markets. On just about any measure, common law countries are more financially developed than civil law countries [La Porta et al. 1997, 1998].

These observations raise two crucial questions. First, why did such very different legal systems evolve in France and in England? Second, why are these differences in the organization of legal systems associated with such different social and economic outcomes? In this paper we argue that the historical evolution of legal systems in France and England starting in the twelfth and thirteenth centuries has shaped how these systems operate. Legal historians such as Dawson [1960], Berman [1983], and Damaška [1986] show that the two countries chose very different strategies for law enforcement and adjudication. Specifically, they opted for different levels of control that the sovereign exercised over judges. France went in the direction of adjudication by royally controlled professional judges, while England moved toward adjudication by relatively independent juries. Over the subsequent millennium, the conditions in England and France reinforced the initial divergence in the legal systems. Moreover, the transplantation of the two legal systems through conquest and colonization may account for some crucial differences in social and economic outcomes among countries that are reported in the empirical studies.

The different choices made in England and France in the twelfth and thirteenth centuries are especially puzzling in light of the widely recognized observation that, at that time, the English king commanded greater power over his subjects than did the French king [Dawson 1960; Reynolds 1994]. By that time, the English kings had clearly prevailed over the nobles. In contrast, the French king was at best the first among equals with various dukes, and did not even have full military control over the Ile-de-France. It would seem natural, then, for the more powerful English kings to create a legal system that extended royal control more deeply into the life of the country, while for the weaker

French king to accept more decentralized adjudication of disputes. Yet the opposite happened.

What explains the different choices in legal design? A central goal of a national legal system is how to protect law enforcers from being bullied with either physical force or bribes by powerful local interests. In the middle ages, judges and juries faced both physical and financial incentives to cater to the preferences of local feudal lords. "A celebrated statement in the Yorkshire eyre roll of 1294 stated that 'Justice and Truth are completely choked,' as a result of the way in which influential men manipulated legal proceedings" [Prestwich 1997, p. 283]. In another instance, "A conspiracy in 1287 on the part of some sailors at Dunwich was a serious matter. They had prevented the local court from sitting, had appropriated fines imposed by royal justices, and prevented the execution of royal writs and judgments" [Prestwich 1997, p. 281]. More recently, in Russia's transition economy in the 1990s, businessmen occasionally bribed judges to excuse breaking the law. In one instance, when a judge jailed a powerful executive, the judge's husband was assassinated. A rapid release of the executive followed.

For a legal system to protect property, the effects of coercion and corruption must be limited. When bullying is moderate, it is more efficient to leave the adjudication of disputes to independent local decision makers, such as juries, than to delegate it to possibly biased state-employed judges who are better insulated from bullying. In contrast, when bullying is extreme, it is better to accept the distortions inherent in more biased but better insulated adjudication by state-employed judges, than to leave decisions in the hands of the vulnerable locals. The politicization of justice may be necessary when the state is the only institution with enough military power to fight local bullies. Consistent with the historical evidence, we argue that France chose to rely on state-employed judges precisely because local feudal lords were too powerful: there was no possibility of effective local justice when these lords' interests were involved. England, in contrast, had weaker local magnates, and so its juries were less vulnerable to subversion and could be trusted with adjudication. Moreover, these differences in basic conditions persisted for centuries, mainly because of persistently greater power of local magnates in France than in England. As a result, different legal systems persisted as well.

There is another, perhaps more general, way to make this

point. Feudal lords in France were so powerful that they were more afraid of each other than of the king, and as a consequence it was more efficient to delegate dispute resolution to the sovereign, even if he had his own stake in the matter. People demand a dictatorship when they fear a dictator less than they fear each other [Olson 1993; Grossman 1997]. Feudal lords in England, in contrast, were less powerful, and more afraid of the king than of their neighbors. As a consequence, they were willing to pay the king to allow them to resolve disputes locally. This could occur because in England, but not in France, the royal power was sufficient to protect local law enforcers. Both France and England thus opted for a system that was more efficient for each country at the time. In fact, we argue that the English Magna Carta was a Coasian bargain supporting the efficient outcome.

This analysis of the structure of common and civil law—with its emphasis on protecting law enforcers—helps understand many of the structural differences in the organization of the two systems. Many writers see the nineteenth century codification, which involves greater reliance on specific "bright line" rules rather than broad principles for adjudication, as a defining element of a civil law system [von Mehren 1957; Merryman 1969]. Codification emerges in our model as an efficient attempt by the sovereign to control judges as his knowledge of individual disputes deteriorates (as it did when the states and the economies developed). The simplicity of bright line rules, and the possibility of verifying their violation, enables the king to use them to structure incentive contracts for judges. Codification thus naturally follows from the original choice of royal judges over juries. Our model also sheds light on such differences between the two systems as the reliance on written records versus oral argument, importance of trials, role of appeal, combining versus separating prosecution from judging, and the importance of precedent. In all these dimensions, common and civil law systems differ, and the difference can be plausibly traced to the fundamental choice of state-controlled versus independent justice.

Our approach also sheds light on legal convergence and transplantation. We show that as the accuracy of codes improves and the local pressure on the judges declines, common and civil law systems tend to produce similar resolutions of specific disputes. In contrast, the transplantation of rules designed for a system with a relatively benign government into a system with a more autocratic regime can lead to poor outcomes. In our model,

civil law works very badly in dictatorships, where it becomes a method of control by a sovereign unresponsive to public preferences. These results may explain the evidence of the comparative effectiveness of common and civil law in securing property rights in different countries and markets.

We note three alternative explanations of why such different legal systems, with different procedures and social outcomes, developed in England and France. According to the first theory, the choice of law was shaped by a country's predisposition to Catholicism, and the institutions of the Catholic Church, rather than by its law and order environment. This explanation ignores the fact that at the time all states in Europe were Catholic yet trying to establish secular law. France nonetheless adopted the institutions of the Church, while England did not. According to the second theory, distance from Rome was critical to legal adoption. This theory is contradicted by the fact that Scotland adopted civil law. Finally, some scholars argue that only the much later developments of the eighteenth and nineteenth centuries, such as codification, really distinguished the two legal systems. Codification was indeed crucial, but we agree with legal historians like Dawson [1960] and Berman [1983] that the systems diverged much earlier, when the choice of royal judges versus independent juries was made in France and England.

II. Royal Judges versus Independent Juries

A central choice in the design of a legal system is that between judges controlled by the sovereign (royal judges) and judges who are not (juries). In this section we formally consider this choice. Historians of legal systems, such as Berman [1983] and Dawson [1960], agree that this choice is central for the divergence between the French and English legal systems in the twelfth and thirteenth centuries, and explains many persistent differences between civil and common law.

We focus on the twelfth and thirteenth centuries because the legal systems of the two countries until then were similar and governed primarily by religious and customary law. Disputes among nobles were resolved by battle. Murder suspects were tried by ordeal, whereby they were tossed into a river with a stone around their legs. Those who floated were presumed innocent [Dawson 1960]. Yet over the following two centuries, these prac-

tices were largely replaced by procedures that have persisted to modern times in a recognizable form.

In the eleventh century the Gregorian revolution delineated the scope of secular and ecclesiastical authority, opening up the need for secular legal systems [Berman 1983]. We focus on what Berman calls royal law, which in the early years covered major crimes and civil disputes. Our analysis does not apply to many other—more pervasive—areas of law, such as manorial, feudal, and urban law, where adjudication was entirely local and governed by custom, and where the issues we discuss were not central. On the other hand, it is the royal law that eventually came to dominate. We present a theoretical account of the development of royal law.

In the twelfth century, England under Henry II develops the jury system. Pollock and Maitland [1898] define the jury as "a body of neighbors summoned by some public officer to give upon oath a true answer to some question" [Vol. 1, p. 138]. Despite a long-standing debate on the true novelty of juries (e.g., to what extent were they just a slight modernization of the Frankish inquest), there is no question that the jury became a primary tool of English law around that time. In its original formulation (dated roughly to the various royal assises in the 1150s and 1160s), the jury was an assembled body of local notables who would inform itinerant royal judges of local facts. The jury of novel disseisin, for example, had to inform a royal judge of who was seized (roughly meaning "in possession") of the land at some past date. In its initial incarnation, the jury was responsible for providing vere dicta (true statements) and not actually given control over the outcome of the case. While the public nature of the juries' verdicts surely made it difficult for judges to completely ignore them, initially juries were an efficient means of gathering information, not a check on the royal prerogative.

In fact, in the twelfth and early thirteenth centuries, English kings did not surrender ultimate control to juries. "Behind the keen interest of Henry II and John in the operations of the courts of justice there lay a ready instinct to ensure that judgments inclined favourably towards the king's friends and ministers and away from those who were out of favour or distrusted. On occasion John's writs assumed that customary procedure should give way, if necessary, to royal prohibition" [Holt 1992, p. 84]. "It is noteworthy that the one novelty with which the king [John] can reasonably be linked was designed to investigate, and if needed

quash, the verdicts of local jurors. Its purpose was supervisory. And it is fitting that it should appear on the Fine roll, for it is in this roll that the king's control of government is seen at its most immediate and unremitting" [Holt 1992, p. 182].

In subsequent years there was a gradual movement to ensure that judges could not convict without the consent of a jury. The critical statement of this veto power is the Magna Carta. At Runnymede, in exchange for cash and peace, King John agreed that he and his subjects were to be governed by rule of law and that "no person may be amerced (i.e., fined) without the judgment of his peers" (Cap. 39). At this point, there is little doubt that the king accepted juries as a check on royal judges and royal power. After 1215, the influence of the juries generally increased. In the fourteenth century Parliament "interpreted the phrase 'lawful judgment of peers' to include trial by peers and therefore trial by jury, a process which existed only in embryo in 1215. Secondly, 'the law of the land' was defined in terms of yet another potent and durable phrase—'due process of law,' which meant procedure by original writ or by an indicting jury" [Holt 1992, p. 10]. In fact, an important phenomenon in English legal history is jury nullification, whereby juries systematically refused to convict suspects of crimes when the penalties were seen as excessive (such as a hanging for theft of value above one shilling).[2]

During the ensuing centuries, despite the fact that English judges continued to serve the king, juries remained a check on royal discretion. "The presence of the jury as fact-finder and the absence of any effective modes of controlling the juries, meant during the earlier centuries that the judge's role was limited to maintaining courtroom order, framing the questions that the juries must answer, and ensuring compliance with the ground rules of the various forms of action" [Dawson 1960, p. 136]. In addition, even the judges in England have been traditionally more independent than those in France. Throughout history, common law judges insisted that the principal source of English law was historical precedent rather than the will of the sovereign, with Coke emerging as the leading advocate of this view. The Tudors responded to the increasing independence of judges and juries by creating new courts more subordinate to the monarchy,

2. Kessler and Piehl [1998] present a more modern example of juries in a common law system undoing harsh penalties (mandatory sentencing guidelines in the United States).

such as the Star Chamber, and by punishing juries whose decisions they disliked. Only the Revolution of the seventeenth century conclusively removed royal control over the legal system. The Star Chamber was abolished in 1641, and the Act of Settlement in 1701 confirmed judicial independence from both king and Parliament. Starting in the eighteenth century, judicial independence was an undisputed element of the English legal system, in contrast to the sovereign control of judges in France.

Indeed, the French path was radically different. The Frankish inquest existed in France as well, and institutions like juries—such as enquete par turbe—continued to show up throughout the ancien regime. However, the critical step in France was the decision under Philip Augustus and Louis IX (who organized the Parlements de Paris in 1256) to move toward a judge-inquisitor model governed by Romano-Canon law. This model became widely available in the twelfth and especially thirteenth centuries, after the Justinian code was rediscovered in 1080, and the scholars of Bologna modernized it for the use by the Catholic Church in its own courts.[3] In this system, judges would question witnesses privately and separately, prepare written records, and themselves determine the outcome of the case. These judges were directly beholden to the king, and there is no question that the king had the ability to strongly influence their actions through appointments, reappointments, and bribes.

As in England, royal control over judges in France was not absolute. Sale of judicial offices afforded judges at least some independence. Indeed, through the centuries, French kings made efforts to redesign the system of courts, and to create new courts of law whose judges would be more responsive to the king's will [Ford 1953]. Some, like Louis XIV, succeeded better than others, like Louis XV. Yet despite this ongoing tug-of-war between the king and the judges, sovereign control over the judiciary remained greater in France than in England, and culminated in an effort at a complete subordination of the judiciary by Napoleon.

To explain the different choices in England and France, we rely on the generally accepted historical fact that the power of local magnates in the twelfth and thirteenth centuries, including

3. It is sometimes argued that Henry II designed his legal system too early, and that the choice of Romano-Canon law was not available to him. Berman [1983] presents compelling evidence against this view, including the fact that one of Henry's principal advisors had previously worked for Roger II in Palermo, who chose the Roman law system for his country.

influence over lower level local notables such as knights, was greater in France than in England. "In practice relations between kings and counts [in France] were still in many cases more like those between independent powers than Suger would have admitted" [Reynolds 1994, p. 272]. In contrast, "The power of the English government meant that all English fees in the twelfth and the thirteenth centuries were to some extent precarious, but the same power also protected free property from anyone except the government" [p. 394].

In this environment, a jury of notables in France would not have been able to deliver justice when the interests of the local magnates were involved. It was more efficient to surrender adjudicatory powers to royal judges even when the preferences of the king did not reflect community justice. In England, in contrast, local magnates were weaker relative to the knights, in large part because William the Conqueror prevented the creation of vast contiguous land holdings. As a consequence, local pressure on the juries was weaker, and the decisions they could reach were probably closer to the community standards of justice. It was more efficient, then, to delegate the adjudicatory powers to the juries, and the magnates were willing to pay the king for that privilege. "The French kings could not make effective use of local village and county institutions, as English kings could, because the tradition of local self-government was less developed in the Frankish than in the Anglo-Saxon kingdom and was therefore more vulnerable to a takeover by the feudal barons" [Berman 1983, p. 465].

We examine the choice of the legal system from the viewpoint of social welfare, including that of the king and the nobles. In this model, the king always prefers adjudication by a royal judge beholden to him. However, if the nobles want a jury system strongly enough, they are willing to fight and to pay for it. As long as there is some way of enforcing a bargain whereby the king agrees to decentralized adjudication in exchange for taxes, there might be efficiency pressures toward such a bargain, including efforts to secure peace. The Magna Carta, as a document in which the king gave up some control over adjudication in exchange for peace and taxes, might reflect such a bargain. To consider this possibility more closely, we examine the conditions under which either of the two systems sits on the Pareto frontier.

We focus on the adjudication of cases involving local magnates or their interests. The key advantage of juries is that they

reflect the preferences of the community, not those of the king. By assumption, juries, unlike judges, cannot be incentivized or controlled by the king, or at least that there are significant limits of such control. The disadvantage of juries is that they are vulnerable to influence by local magnates, which can take the form of either physical bullying or corruption intended to influence the verdict. A royal judge is less vulnerable to bullying by a powerful local lord than a jury both because of the king's own military resources and because the king's payments offset the influence of local magnates. On the other hand, a royal judge caters to the king's rather than the subjects' preferences. In our model, the trade-off is between a judge incentivized by the king and therefore less vulnerable to local magnate pressure, and a jury, whose preferences are closer to those of the community but which faces no incentives and can be more easily coerced.

The Setup

We think of a king and the community of his subjects, including knights and nobles (the peasants were not important for the administration of justice at that time). Some of the members of the community, whom we call the magnates, are especially powerful and have the ability to subvert justice when their interests are infringed upon. We examine the vulnerability of alternative mechanisms of law enforcement to subversion by the magnates.

We focus on violations, like the takings of land, which involve the interests of local magnates, or of parties close to them. We think of these violations as crimes, as they would be today, but in the twelfth century there was no clear distinction between civil and criminal justice. For concreteness, we suppose that one magnate has taken the land of another, and that the offender is powerful enough to threaten or corrupt the adjudicator. In a more general model, both sides would bully adjudicators.

Violations differ on two dimensions, denoted by D and R. D captures the severity of the violation. The utility of the community from punishing a violation of type D is normalized to equal D. These gains combine deterrence, incapacitation and taste-for-vengeance and subtract social costs of punishment. The community wants to punish all violations for which $D > 0$.

The variable R captures the extent to which the king wants to punish a violator. R might be positive in the case of political violations that are dangerous to the king. Alternatively, if the violator is a royal ally, R might be negative. The king's utility

from conviction is given by $D + \theta R$, where $\theta > 0$. The term θ captures the degree to which the preferences of the king do not match those of the community. In a perfect democracy, θ is presumably close to zero, but it rises as the sovereign becomes less constrained by his subjects. In this section we assume that D and R are common knowledge, and that the two attributes are independently distributed with smooth cumulative distribution functions $F(D)$ and $G(R)$ and finite variances. The expected value of D is positive, and the expected value of R is zero.

To compare the efficiency of alternative systems of adjudication, we define "social welfare" as a weighted average of the preferences of the king and the community, with the king's weight in the social welfare function given by λ and the community's by $1 - \lambda$. The total social payoff from each conviction therefore equals $D + \lambda\theta R$. For most of history, the king's resources were relatively meager relative to those of the community, and hence we concentrate on the case of λ close to zero. In fact, $\lambda = 0$ is an important special case, for which all of our results hold. Our model can also deal with the case of λ close to 1, in which an outcome close to the king's preferences materializes. This may be a useful case to describe the developments of the nineteenth and especially twentieth centuries, but not for most of history.

With these assumptions, social welfare is given by

$$\iint (D + \lambda\theta R) f(D) g(R) dD dR. \tag{1}$$

We consider two possible modes of adjudication: the jury, which is a group of members of the community, and the royal judge. The jury and the royal judge have two features in common, and one crucial difference. Both the jury and the royal judge have some preferences over punishing particular violations (although these preferences may differ). Both the jury and the royal judge are also subject to pressure from the magnate—through bullying and bribes—to rule in his favor. We assume that the amount of pressure brought on the jury and on the royal judge is exactly the same, although one could argue that, especially with a unanimity rule for juries, it might be cheaper to bribe one juror. Jury unanimity, however, is neither a universal nor a fundamental element of the jury system. "From the reign of Edward I onwards the function of the jury was slowly being judicially defined; questions

of law became separated from questions of fact, and gradually unanimity was required—although for some time whether a verdict by eleven jurors was not sufficient, in which case the twelfth might be committed to prison" [Plucknett 1956, p. 129].

The fundamental difference between juries and royal judges in our model is that the latter, but not the former, can be put on an incentive scheme ("protected") by the king, so as to either counter the pressure from the magnate or follow the king's own preferences. The defining feature of juries in our model is their independence—in fact, that was the whole point of juries in Magna Carta. There are many reasons why juries are much harder than judges for the sovereign to control: there are many more of them, they rotate from case to case, and the sovereign usually does not even know who the jurors are to "incentivize" them. Sometimes, of course, kings try. In the sixteenth and seventeenth centuries, the Tudors and the Stuarts engaged in jury intimidation, possibly contributing to the English Revolution. After the Revolution, acts of Parliament specifically reaffirmed the independence of the juries, and prohibited various forms of bullying them.

We assume that the tastes of the jury mirror those of the community, in part because the jurors come from among them. The jurors do not care about R, but want to see the violators of community rules punished. They also—to some extent—internalize the social costs of punishment because one day a juror might himself be accused. The jury's utility from conviction is taken to be $\beta D - A$. The shift parameter β reflects the extent to which the jury cares about doing justice relative to being bullied or bribed. The term "A" captures the pressure put on the jury by the local magnate, whose interests are jeopardized. These could be direct physical reprisals for conviction, but also bribes that the juror receives if he acquits the magnate.

In some well-functioning societies, A is small, and jurors are well protected from physically or financially powerful interested parties. But elsewhere A may be higher. In the twelfth and thirteenth centuries, a central problem of government was the division of control over local affairs (including adjudication) between local feudal lords and the king. In a more recent context of the developing world, unpaid or low-paid judges and jurors are subject to local political pressures and corruption from oligarchs, landowners, and local officials. In Russia today, influence by the oligarchs and regional governments over courts is the central

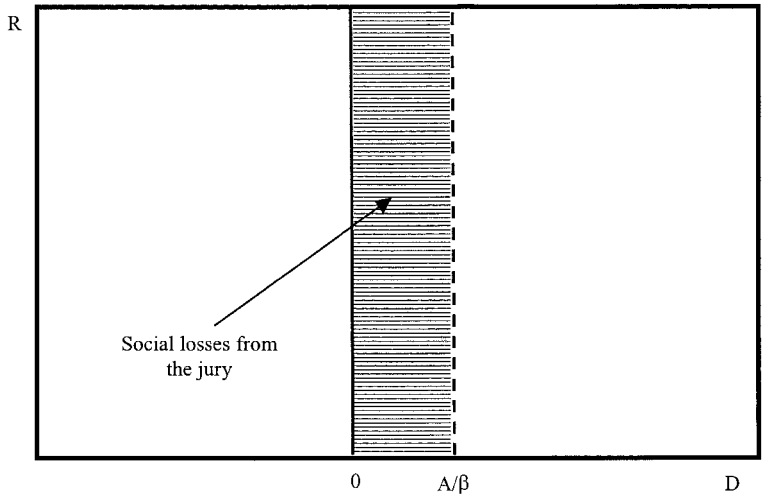

FIGURE I
Social Losses from Jury Coercion Relative to the First Best When $\lambda = 0$

problem of rule of law. Even in the United States, local juries and judges have been routinely intimidated or bribed (as in various acquittals of Al Capone or civil rights cases in Southern courts). The susceptibility of law enforcers to bullying, A, is the central parameter of the model.

Under these assumptions, the jury convicts if $\beta D > A$, which always leads to fewer convictions than the society wants. Obviously, in cases where local magnates wish to convict a rival, magnate pressure might also lead to overconviction.

Because the unconditional expectation of R is zero and the juries ignore R, social welfare under the jury system equals $\int_{D>A/\beta} Df(D)dD$. Figure I illustrates the social welfare loss from jury coercion relative to the first best when $\lambda = 0$. The area to the right of $D = 0$ is the social optimum, the area to the right of $D = A/\beta$ is where the bullied jury still convicts, and the shaded area, in which the community wants to convict but the jury does not, is the social loss. This social loss is increasing in A and decreasing in β. Juries perform worse when local magnates are more powerful, and better when they are more committed to their own independent preferences.

The royal judge, like the jury, has some set of innate preferences and is also subject to local pressure. However, unlike the

jury, the judge can be punished and rewarded by the king who perfectly observes all aspects of the case. The judge's utility from convicting is $\beta_J(D + \theta_J R) - A$ plus whatever the king chooses in his incentive scheme. The parameters β_J and θ_J are meant to keep the judge's preferences flexible.[4] However, as the king observes R and knows the preferences of the judge, a simple incentive scheme can easily induce the judge to exactly follow the king's preferences. The king simply pays the judge $A + \beta_J(\theta - \theta_J)R$ if the judge convicts. This payment compensates for both the coercion by the magnate and the deviation in the judge's preferences from those of the king. After the judge had been incentivized, he convicts whenever the king would; i.e., if and only if $R > -D/\theta$. For any given D, then, a fraction of cases equal to $1 - G(-D/\theta)$ reach conviction.

For $\lambda = 0$, total social welfare in this case equals

$$\int_D D\left(1 - G\left(-\frac{D}{\theta}\right)\right) f(D)dD,$$

and the total social losses are shown in the two triangles in Figure II. The top triangle covers the king's enemies whose crimes are mild by the standards of the community but who are nonetheless convicted by the king's judge. The bottom triangle covers the king's friends whose crimes are major but who are nonetheless acquitted by the king's judge. Unsurprisingly, the social losses from the royal judge system increase when the preferences of the king and the community fail to overlap. More generally, the following proposition holds (all proofs are in the Appendix):

PROPOSITION 1. When λ is sufficiently close to zero, there exists a value of $A^* > 0$ at which "social welfare" is the same under royal judges and independent juries. For $A > A^*$, royal judges yield higher social welfare. For $A < A^*$, juries yield higher welfare. The value of A^* rises with β and falls with λ. When λ is sufficiently close to zero, A^* rises with θ.

The crucial parameter in Proposition 1 is A, which represents the ability of local notables to bully, coerce, or corrupt the arbiters of the king's justice. Across societies, A is generally higher when

4. For a discussion of preferences of judges, see Posner [1995].

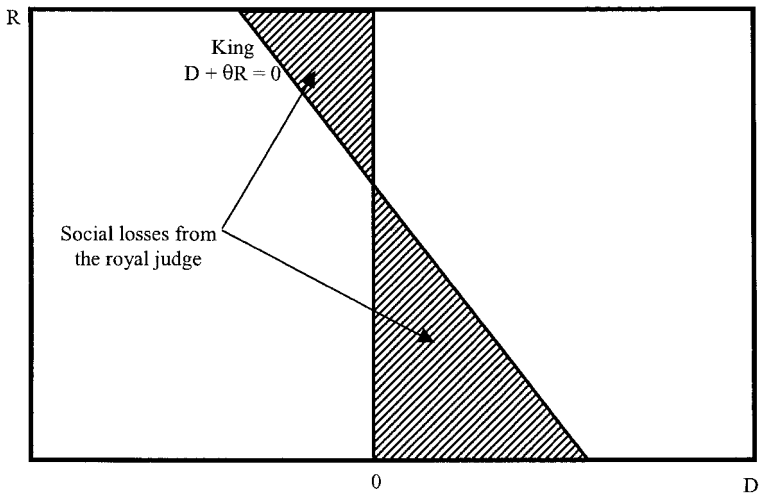

FIGURE II
Social Losses from the Royal Judge System When $\lambda = 0$

there is significant local inequality—powerful local lords have the resources to bribe or bully. *A* is also a function of the general level of violence in the society. When the supply of armed warriors is high, it is cheaper to coerce the king's justice. *A* is also higher when the crown is weak and cannot punish violators. The crown may be weak either because it has access to few tax revenues or because transport costs prevent its forces from enforcing justice.

Throughout the past millennium, the ability of local bullies to control their environment was higher in France than in England. During the earlier period, the nobles such as the Duke of Burgundy or the Constable Bourbon essentially ran independent principalities within the technical borders of France.[5] In the nineteenth century, France saw major regional fights over the revolution (the Chouans resisting the forces of the Directory; the merchants of Bordeaux acquiescing only nominally to the revolution of 1848). Even during the apotheosis of the centralized French power under Louis XIV and Napoleon Bonaparte, the ability of local authorities to undermine central control was much greater in France than in the age of Parliamentary control in England [Woloch 1994].

5. The king's writ did not run in the duchies, which exemplify the power of the nobles.

Why were the local magnates so much weaker in England than in France? We see two key differences. First, in 1066 William the Conqueror gave out to his followers dispersed holdings of land, precisely to minimize the ability of any general to create a local power base. As a consequence, while the French nobles held sway over vast, contiguous areas of land, the English nobles had parcels that were dispersed over the country. This initial allocation of land holdings limited the creation of concentrated local authority.

Second, during the last millennium, England experienced much more limited warfare on its territory than did France. Without recounting the full history of hostilities, we estimate that between 1100 and 1800, France had a war on its soil during 22 percent of the years, whereas England only 6 percent (one can also argue that the wars on English soil were relatively bloodless). The constant war on the French soil meant that weapons and warriors were readily available to anyone who wanted to subvert justice.

Interestingly, the two periods of lengthy battle on English soil were the War of the Roses in the second half of the fifteenth century and the English civil war. As our model suggests, the ability of local nobles to subvert justice increased during the War of the Roses, and after the war Henry Tudor brought English justice closer to the French model through the courts of Star Chamber. The English civil war was fought in part to secure the independence of the legal system from royal control, and in fact succeeded in doing so.

Our theory, then, suggests that England and France went their different ways in adopting judicial systems for reasons of efficiency. The relatively higher ability of the magnates to subvert justice in France led to the adoption of the civil law system controlled by the crown. The relatively lower ability of such magnates in England to subvert justice led to the adoption of the jury-controlled common law system. Both outcomes were efficient at the time for their environments. In fact, one can view the Magna Carta as a remarkable example of an early Coasian bargain, in which the community and the crown agree on a cash transfer needed to support the efficient outcome. It is perhaps too far-fetched to think of the Magna Carta literally as an enforceable Coasian contract. A broader view of the Coase theorem is to identify the incentives and pressure to move toward efficiency. To the extent that decentralized jury-controlled adjudication was

more efficient in England, the Magna Carta might reflect such pressure.

This analysis is broadly consistent with the available historical accounts of the divergence in approaches to adjudication, and in particular with the classic work of Dawson [1960]. "So we return to the question why France, which started with institutions so similar [to the English], followed in the end such a different course. The answer that has been given centers on weakness—weakness at the critical times. The marks of weakness had appeared very early. The community courts, analogous to the English county and hundred courts, had been captured by local feudal lords during the breakdown of government in the tenth and eleventh centuries. When the rebuilding of monarchy began, the French crown lacked an important resource that the Norman kings of England had already put to very good use. But it was much more than this. Over large parts of France that owed a nominal fealty to the king, great territorial lords had effective control; in them, for long, the king's writ did not run. Even within the king's own domain there could be no massive enlistment of free subjects whose allegiance was to the crown as a symbol of national government transcending and displacing the bonds of feudal tenure [p. 299]." In Dawson's view, the adoption of canonist inquest by royal judges was a sign of the crown's weakness in France, not of strength.

In broader terms, this analysis reveals how the royal judge versus independent jury decision hinges upon the extent to which the magnates fear the crown more or less than they fear each other. This point has much broader implications. It suggests in part that the connection between English legal origin and rule of law, emphasized by Hayek [1960], may flow as much from rule of law to the common law system as vice versa. Juries are better systems when local magnates are not freely able to terrorize them; i.e., when peace prevails. Without peace, state inquisitors may be the only means of enforcing the law. It is not entirely surprising in this regard that tight state control of adjudication has often been introduced as part of national liberation or unification, often in the aftermath of civil war and other disorder. Without internal peace to begin with, a system of juries may simply not work.

Proposition 1 has several other implications for the optimal choice of a legal system. When juries care more about community justice and are less vulnerable to the influence of the local mag-

nate (β is higher), jury systems work better. This may explain why juries in England were often made up of twelve local knights. Presumably a body of twelve fighting men was not as easy to bully as that of unarmed but otherwise respected citizens. When the sovereign has greater political power in bargaining with the community, or alternatively, when the social welfare function puts a higher weight on his preferences (λ is higher), the system of royal judges is more likely to emerge. It is not surprising, in this regard, that centralized civil law systems were often championed by the great autocrats, like Napoleon.

Finally, the value of θ captures the extent to which the preferences of the king differ from those of the society. Proposition 1 holds that so long as the social welfare function does not put too much weight on the preferences of the king, the farther these preferences are from those of the community, the less efficient is the system of royal judges. Put differently, civil law works better when the government is more constrained by its subjects or more democratic.

This result has significant implications for the effectiveness of alternative legal arrangements in different political regimes. On the one hand, this argument suggests that the problems with centralized justice are less severe in democratic societies. As democracy replaces royal government and the community trusts the democratically elected leaders who control the judicial system, then juries may become less essential. This analysis might account for the expansion of public law and regulation in the twentieth century, even in common law countries such as the United States and England. Such growth of parliamentary control over lay justice is broadly consistent with our analysis, yet, as Hayek [1960] so clearly emphasized, is likely to undermine the freedoms inherent in the Magna Carta. On the other hand, the argument suggests that, in autocratic societies, the power that the sovereign obtains by controlling judges will lead to politicization of justice and socially inefficient outcomes. As we argue in Section IV, this result has profound implications for legal transplantation, and for the consequences of centralized justice for the security of property rights and other aspects of governance.

III. The Adoption of Bright Line Rules

In the eighteenth and nineteenth centuries, civil law systems in France and Germany experienced an important change,

namely codification. Von Mehren's [1957] classic textbook states in its opening chapter: "Two points of difference are emphasized in comparing the civil and the common laws. First, in the civil law, large areas of private law are codified. Codification is not typical of the common law. Second, the civil law was strongly and variously influenced by the Roman law. The Roman influence on the common law was far less profound and in no way pervasive" [p. 3]. In this section we focus on codification as a way of controlling law enforcers.

Codification aims to provide adjudicators with clear bright line rules, as opposed to broad legal principles or standards, for making decisions. Compared with a legal principle, a bright line rule describes which specific actions are prohibited. Some modern examples clarify the difference. The law can prohibit dangerous driving (a standard) or it can impose a speed limit (a BLR). The law can prohibit stock trading by insiders on nonpublic information (a standard) or all trading by insiders within N days of a public announcement by a firm (a BLR). The law can prohibit self-dealing by corporate officers (a standard) or require that all financial transactions by such officers be approved by a vote of the majority of disinterested directors of the firm (a BLR). The law can prohibit all "sham transactions designed to evade taxes" (a standard) or very specific trades in the capital market (a BLR).

No system is made up entirely of bright line rules, but civil codes are basically collections of rules intended to restrict the actions of the participants in the legal system. We maintain that the purpose of such rules to enable sovereigns—whether kings or parliaments—to control judges; they are a natural consequence of the reliance on state-controlled judiciaries. Merryman [1969] describes the role of the judge and the code as seen by the writers of Code Napoleon as follows: "If the legislature alone could make laws and the judiciary could only apply them (or, at a later time, interpret and apply them), such legislation had to be complete, coherent, and clear. If a judge were required to decide a case for which there was no legislative provision, he would in effect make law and thus violate the principle of rigid separation of powers. Hence it was necessary that the legislature draft a code without gaps. Similarly, if there were conflicting provisions in the code, the judge would make law by choosing one rather than another as more applicable to the situation. Hence there could be no conflicting provisions. Finally, if a judge were allowed to decide what meaning to give to an ambiguous provision or an obscure state-

ment, he would again be making law. Hence the code had to be clear" [p. 30].

Common law countries also have codes of laws, such as the Uniform Commercial Code in the United States, and the many codes of the State of California. Some of these codes have even more statutes than civil codes do. However, as Merryman [1969] explains, the codes in common law countries often summarize prior judicial decisions. Moreover, a common law judge, to the extent that he can focus on the differences between the case under review and specific provisions of the code, has some flexibility to disregard these provisions when they conflict with the basic principles of common law. In civil law countries, in contrast, judges are not even supposed to interpret the codes very much, and in principle must seek not to differentiate a specific situation, but to fit it into the existing provisions of the code. As a restraint on the judge, codes are much more powerful in civil than in common law countries.

Historically, codification has often been associated with efforts to control judges. Although there is some dispute of whether the Code of Justinian has the character of modern codes as opposed to the summary of cases, there is little doubt that Justinian himself was interested in the control of justice. Similarly, the work of the Glossators and their successors for the Roman Church and the continental kings was centrally focused on developing centralized control over adjudication through a system of clear rules. The early Stuarts tried to introduce codification in seventeenth century England out of their frustration with the failure of common law judges to cater to royal preferences. Absent the rebellion against the king, they might have succeeded. Elsewhere, codification was promulgated by Philip II in Spain, Frederick the Great in Prussia, and Napoleon Bonaparte in France. These men saw their codes as a means of controlling their judges. Napoleon wrote that he wanted to turn French judges into automata simply enforcing his code. We believe that this perspective explains the history of codification better than the view that bright line rules make adjudication "less complex," which focuses more on the control of individual conduct than on the control of the judges [Kaplow 1992, 1995].

We keep the basic structure of the previous model, and again compare the efficiency of royally controlled judges and juries. Violations have attributes D and R. We assume that the king no longer observes the values of D and R. Instead, he observes only

a bright line, namely whether $D > \bar{D}$. The value $\bar{D}$ represents some fixed threshold of severity. We assume that $\bar{D}$ does not equal zero (which would yield the first best). Increases in the absolute value of $\bar{D}$ correspond to higher imprecision of BLRs.

The assumption that the king can observe (or verify) less than all the attributes of the violation may indeed accurately reflect the fundamental changes in law enforcement in the eighteenth and nineteenth centuries. In the twelfth and thirteenth centuries, the range of violations subject to royal justice was extremely limited. Judges were often members of the king's household, and the king himself got involved in many decisions. The assumption that D and R were known to the king is appropriate for this period. Over the centuries, both the states and their economies grew tremendously, and royal justice became more anonymous. This necessarily led to the loss of information at the center, and therefore eliminated the possibility of incentivizing every royal judge to do what the king wants in every case. The assumption that only limited information trickles up to the king or the top judges becomes more suitable. Below we describe the circumstances under which codification is an efficient response to such information loss.

We also make the following assumption.

ASSUMPTION 1. $Expectation(D|D > \bar{D}) > 0 > Expectation(D|D < \bar{D})$.

This assumption ensures that if the only thing known about an act is its relation to the BLR, the king would want to convict violators and acquit nonviolators. We think of this signal as exogenously given by nature rather than a choice by the king as to where "to draw the line."

What is the optimal policy for the king when he can verify whether a bright line has been crossed? We take the view that the community and the king can strike a Coasian bargain over the type of system, but that the king cannot credibly commit not to influence his judges. The incentive contract for the judge is then the one the king chooses.

After each case, the king receives two pieces of information: (1) was the bright line rule violated and (2) did the judge convict. Any incentive scheme must be based exclusively on these two pieces of information. Since both of these items are binary, it must be the case that any optimal incentive system contains at most four different payouts. Furthermore, since we are not concerned with the absolute level of payment to the judge, but only

with the quality of the judge's decisions, we can normalize the payouts in the case of nonconviction to zero regardless of whether the BLR had been violated. The judge's decision is only affected by the incremental payment for conviction, which would depend on whether the BLR had been violated or not.

Denote this increment by P_i for $i = v,nv$ (i.e., the BLR has been violated or not violated).

The judge convicts if

$$\beta_J(D + \theta_J R) + P_i > A.$$

The king chooses incremental payments for conviction, P_V and P_{NV}, for the cases when the BLR has been violated ($D > \bar{D}$) and when it has not ($D < \bar{D}$), to maximize his welfare. For example, when $D > \bar{D}$, the king chooses P_V to maximize

(4′)

$$\int_{D>\bar{D}} \int_{R>(A-P_V)/\beta_J\theta_J-(D/\theta_J)} (D + \theta R) f(D)g(R)\, dD\, dR, \text{ when } \theta_J > 0,$$

and

$$\int_{D>\bar{D}} \int_{R<(A-P_V)/\beta_J\theta_J-(D/\theta_J)} (D + \theta R) f(D)g(R)\, dD\, dR, \text{ when } \theta_J < 0.$$

The value of P_{NV} is chosen in a similar manner.

We define a pure bright line rule system as one where the king commands a royal judge to punish an act if and only if the bright line has been crossed. The question is under what circumstances would the king choose to use this pure bright line rule system as the incentive contract for the judge that maximizes the king's welfare. We can show the following.

PROPOSITION 2. If the density g is sufficiently close to uniform, then the king's optimal strategy is a pure bright line rule system if and only if $\theta_J < 0$.

When $\theta_J < 0$, as the king raises P, the marginal violator (holding D constant) has an increasingly higher value of R, and the king wants to pay even more for convictions. This makes the king's problem convex, so it is optimal for the king to get either universal conviction or universal acquittal within a given region

of D's. Since Assumption 1 guarantees that convictions dominate when the bright line rule is violated, and acquittals dominate when it is not, the king just orders the judge to follow the bright line rule to the letter.

The condition that the density function of R—of how much the king dislikes a violator—is near uniform has an interesting interpretation. By adopting a pure bright line rule system, the king accepts the impartiality of law and gives up on using the justice system to discriminate between his friends and enemies. If the density function g places a lot of weight on either high R's—the king's enemies—or low R's—the king's friends—he would choose a more elaborate incentive system for his judges, which discriminates between friends and enemies. Such a system would use the information in bright line rules, but not rely on it exclusively.

Proposition 2 illustrates the importance of judicial tastes in pushing the king toward bright line rules. Bright line rules are particularly attractive to a sovereign when the tastes of the judges are far from his own (e.g., when $\theta_J < 0$). Napoleon's judiciary was made up of men trained in prerevolutionary times and sometimes holding monarchist views. These judges did not share Napoleon's preferences, and he could not count on their unconstrained choices to reflect his views. Napoleon's Code was his attempt to control such disagreeable judges.

As in the previous section, the next question we address is that of comparative efficiency of the two alternatives of juries and royal judges, the latter now incentivized through bright line rules. We continue to assume that the fundamental difference between juries and royal judges is that juries cannot be put on any incentive system. Even bright line rules are subject to jury nullification. A good example of this is the response of English juries to the Tudor innovation of mandatory hangings for theft of value above one shilling. In response to this bright line rule, English juries refused to declare the value of stolen property as exceeding one shilling when they did not want to hang the offender, even when the stolen goods were much more valuable.

With a pure bright line rule system, social welfare is $\int_{D>\bar{D}} Df(D)dD$, assumed to be strictly positive. The key parameter shaping the relative attractiveness of juries and BLRs is again A.

PROPOSITION 3. There exists a value of A, denoted A^{**}, at which social welfare is the same under independent juries and a pure bright line rule system. For $A > A^{**}$, bright line rules dominate and for $A < A^{**}$, independent juries dominate. The value of A^{**} rises with the absolute value of $\bar{D}$.

Proposition 3 shows that pure bright line rules are socially desirable when A is high (jurors are susceptible to pressure) and when $\bar{D}$ is close to zero (bright line rules are accurate). This proposition, we believe, goes to the heart of von Mehren's observation of complementarity between civil law and codification. The common law regime is efficient when juries are capable of making roughly efficient and independent decisions, and therefore bright line rules are unnecessary to control adjudication. In contrast, when pressures on adjudicators are high, the king chooses to employ his judges and to restrict their discretion through codes. Through bright line rules inherent in the codes, the king uses the information he can verify to monitor and shape the decisions of the judges, and thus to protect them—and justice—from subversion. Bright line rules are the optimal instrument of control as long as they can be made sufficiently precise. Bright line rules thus emerge as a central element of a civil law regime because, in the absence of full verifiability of information by the sovereign, they allow state control over adjudication.

The use of bright line rules, the violations of which can be verified by higher level authorities, as an instrument of control is more general than our application to legal design. For example, bright line rules can be used to control agents in a bureaucracy. In his classic study of the United States Forest Service, Kaufman [1960] describes how forest rangers in the United States were obligated to follow extremely detailed operating manuals regulating their behavior in a large number of foreseeable circumstances. The focus of forest rangers is especially interesting because they operate nearly alone in remote locations, and are subject to significant pressures from the logging interests to make favorable decisions on harvesting trees. In this instance as well, precise instructions are used as an antidote to local bullying.

To conclude, this section has focused on our central theme: a key goal in the design of a legal system is to control law enforcers. Starting with Becker [1968], the law and economics literature has focused on the regulation of the behavior of individuals as the principal goal of legal design (see Polinsky and Shavell [2000]).

Becker and Stigler [1974] consider the compensation of law enforcers as a way of preventing corruption, but the focus on the design of law enforcement has remained peripheral. In our view, the control of law enforcers has historically been as or more important to the design of legal systems as the control of individual behavior. Not just the compensation of enforcers, but legal rules themselves are shaped with the purpose of verification of the decisions of law enforcers, such as judges. Codification, which many have seen as one of the defining elements of a civil law system, is best understood from this perspective. In the next section we argue that other differences between common and civil law systems are also best understood from the perspective of efficient design of enforcement.

IV. Consequences of Alternative Systems

Civil Procedure

In the previous sections we described the difference between legal systems of France and England as the outcome of an efficient choice. This is the choice between a regime that favors incentivized decision-makers to protect against local pressure and corruption, and a regime that favors de-incentivized decision-makers to protect against the state. Once we focus on this choice, we can understand many of the aspects of the two legal traditions, both in terms of the procedures used by the legal system and in terms of the implications for social outcomes.[6] We begin with legal procedures. In our comparison, we rely on the standard comparisons of the two approaches to adjudication presented in the comparative law textbooks, such as von Mehren [1957], Merryman [1969], and Schlesinger et al. [1988].

Comparative law textbooks emphasize the following procedural differences between civil and common law systems. The common law system greatly relies on oral argument and evidence, while in civil law systems, much of the evidence is recorded in writing. Trials play a much larger role in a common law than in a civil law system. Civil law systems rely on regular and comprehensive superior review of both facts and law in a case; in com-

6. In this analysis, we obviously simplify. Even the legal systems of the United States and the United Kingdom have important structural differences [Posner 1996].

mon law systems, in contrast, the appeal is much less frequent, and is generally restricted to law rather than facts.

Common law systems, at least in the last century, have generally relied on heavily incentivized state prosecutors, who are separate from judges, especially in the criminal cases. In civil law systems, in contrast, judging and prosecution are generally combined in the person of the same judge. Finally, although this distinction is less clear-cut, common law systems generally rely to a greater extent on the precedents from previous judicial decisions than do the civil law systems. We argue below that these differences can be understood from the perspective of our model.

First, compare the English tradition of oral argument and evidence with the French reliance on written evidence. The key feature of written evidence is that it facilitates oversight of the court by higher level officials. For the central authorities to monitor judges, it is much easier to verify whether the decisions adhere to the rules and to the preferences of the sovereign when there are written records. A higher authority would find it difficult to punish and reward judges in the hinterland if the judges do not produce any written records, and decisions are made based on oral evidence provided to the jury. Furthermore, written evidence in a jury-type system would have been hard in any modern period because of high rates of illiteracy among the general population. In fact, insofar as in the twelfth and thirteenth centuries kings wanted to control their judges, they needed written records, and because of the need for such records they needed to use literate clerics as judges. It is possible that the imperative of using clerics in a civil law system was a further factor that moved the English kings during this period toward juries—recall that both Henry II and King John were excommunicated. Using clerics must have been much more attractive to the French kings, who were closely allied with the Church and usually canonized.

Second, the more central role of trials in the common law system is obviously linked with adjudication by generally illiterate juries. Evidence can only be collected from and presented to such juries in a public trial. In civil law systems, in contrast, most evidence is collected prior to the trial by a judge-inquisitor, and hence the trial plays only a secondary role of rehashing this evidence publicly. The surprises and revelations of a common law courtroom play no role in this process. Moreover, the reliance on trials makes it harder to review judicial decisions than does the written report of the findings, which is inconsistent with the

centrality of such review in civil law. This difference, then, is also linked to the choice of the method of adjudication.

Third, review by higher level courts is automatic in a civil law system and reconsiders both law and evidence. Review by higher level courts in a common law system restricts itself largely to law. Again, this appears to be closely linked to the problem of monitoring judges. As we argued, the defining element of the civil law system is the reliance on state-employed judges, who need to be incentivized to follow the preferences of the sovereign. Appellate review is how this incentive scheme works; it is one of the main ways that judicial incompetence and corruption are detected. In a system based on incentivizing judges, this type of review creates crucial data for providing these incentives. In a common law system, in contrast, it is the unincentivized juries rather than the state-employed judges that render verdicts. The need to monitor the decisions of such juries is less pronounced, except to the extent that the judges must be properly informing the juries about the basic outline of the law.

The extensive superior review in the civil law systems leads to very different manpower requirements. Dawson [1960] reports that "The total number of royal judges [in France] at this stage [sixteenth century] must certainly have exceeded 5000. These estimates from France should be compared with figures from England: from 1300 to 1800 the judges of the English central courts of common law and Chancery rarely exceeded fifteen. These judges, furthermore, conducted most of the trials and all the appellate review that English courts undertook" [p. 71].

Fourth, with independent and weakly incentivized judges and juries, a common law system needs to rely on state prosecutors to develop cases. Judges and juries do not care strongly enough about convictions to invest resources in collecting information and otherwise developing cases. In the instances of private litigation, private parties bringing suit have strong enough incentives to do the work. In criminal cases (which were brought privately in England until well into the nineteenth century for obvious incentive reasons), in contrast, it may be necessary to have motivated prosecutors who are paid for convictions, even if they end up being advocates of the state's position rather than seekers of justice.[7] In a civil law system, to the extent that a judge

7. Incentives for prosecutors are discussed by Dewatripont and Tirole [1999] and Glaeser, Kessler, and Piehl [2000].

is already motivated to do the state's bidding, a state prosecutor is less necessary to pursue the goals of the state. Thus, the difference in approaches to advocacy and prosecution in the two systems emerges as a consequence of the difference in incentives faced by the judges.

Our model also suggests why precedents play a larger role in a common law system, as exemplified by the doctrine of stare decisis. Absent bright line rules and other guides for adjudicators, precedents may serve to remind judges and juries where the law has drawn lines previously. Despite precedents, it is common for advocates in common law systems to draw subtle distinctions between cases, unlike in the civil law systems, where similarities are sought by a judge [Damaška 1986]. Nonetheless, precedents may serve to eliminate excessive unpredictability, which may be a natural consequence of the importance of individual trials and of particular sentiments of the juries. "Certainty is achieved in the common law by giving the force of law to judicial decisions, something theoretically forbidden in civil law" [Merryman 1969, p. 51]. Precedents have the further advantage that, unlike bright line rules, they have been established by independent judges rather than by the sovereign. As such, they again may provide protection from the ability of the state to change the rules through dictate. It is for this reason that writers like Coke and Hayek have celebrated the reliance on precedents as a key guarantee of freedom in the English legal system.

Social Outcomes

Recent research identifies some systematic differences between French civil law and common law countries in a variety of social outcomes. Holding the level of economic development constant, French civil law countries have less secure property rights, greater government regulation and intervention, greater government ownership of banks and industry, and higher levels of corruption and red tape than do common law countries [La Porta et al. 1999, 2002; Djankov et al. 2002b]. There is also evidence that, at the same level of development, common law countries are more financially developed than their civil law counterparts [La Porta et al. 1997, 1998]. Can our model help explain such findings?

In thinking about this question, it is important to distinguish between countries that have chosen their legal rules and regulations, and countries into which such rules were transplanted,

sometimes involuntarily. For the countries that choose their legal rules, our model suggests that the reliance on more extensive regulation is an efficient response to lack of law and order, since regulation facilitates the enforcement of laws. For such countries, the insecurity of property rights causes heavier regulation, rather than regulation making property rights less secure.

However, as we argued in the introduction, most countries have not developed their legal systems on their own, but rather have inherited them from their colonizers. Indeed, the empirical results described above are driven almost entirely by former colonies rather than by England and France. For such countries, it is incorrect to think about the choice of a legal regime as an efficient response to the law and order environment. Instead, we need to think about the transplantation of rules developed in one environment into another.

From this perspective, our results suggest that the transplantation of a civil law system into a new environment may raise significant problems for the security of property rights. Proposition 1 shows that civil law systems work relatively better when the preferences of the sovereign are close to those of the community; i.e., when θ is low. If a civil law system is introduced into a community with a high θ, the sovereign will use his control over judges and legal rules to politicize dispute resolution. He will punish his enemies rather than violators of community justice. The transplantation of common law does not suffer from this problem to the same extent, since law enforcement is relatively depoliticized—juries (and judges) are independent. A sovereign whose tastes do not reflect those of the community cannot use the common law system as extensively to promote his goals as he can a civil law system. As a consequence, when a civil law system is transplanted into a country with a "bad" government, it will lead to less secure property rights, heavier intervention and regulation, and more corruption and red tape than does a common law system transplanted into a similar environment. Put simply, regulations and controls are much more vulnerable to misuse by the sovereign than is community justice. This, of course, is exactly what the evidence shows.

Our approach might also explain why civil law works better in some areas of law than in others. Suppose that the choice of the form of adjudication is systemwide, rather than specific to a given area of law. The analysis implies that, for a given level of pressure on adjudicators, A, civil law systems work better when bright line

rules accurately capture community justice (i.e., $\bar{D}$ is close to zero), while common law systems work better when BLRs are inaccurate (i.e., $\bar{D}$ is far from zero). One area in which BLRs notoriously fail to catch undesirable conduct is the expropriation of investors by corporate insiders, generally governed by company and security laws. BLRs do not work well in this area because a broad range of creative behavior designed to expropriate investors "falls between the cracks" in the rules [Johnson et al. 2000]. When the resources at stake are enormous, the creativity in such conduct rises accordingly. As a result, the model predicts that common law regimes would do better than civil law in the areas of law governing investor protection, just as the evidence indicates [La Porta et al. 1997, 1998].

In summary, this section has argued that many of the key features of a civil law system—as seen both in the legal procedures and in the social outcomes—"come with" its reliance on state-employed judges to adjudicate disputes. Many of these features do not have a role in a system that relies heavily on adjudication by local unincentivized juries.

V. Convergence

In this section we ask under what circumstances do common and civil law systems converge, i.e., lead to similar decisions, and alternatively, when do they yield different outcomes?

Some writers argue that, judging by substantive outcomes, there has been a great deal of convergence in wealthy economies between common and civil law systems in the twentieth century [Coffee 2000]. To understand this phenomenon, we consider the degree of overlap in the decisions between the BLR and the independent jury systems. Assume that $A/\beta > 0 > \bar{D}$. In this scenario, the range of cases in which the two regimes lead to different decisions is given by $A/\beta \leq D \leq \bar{D}$. When bright line rules are inaccurate ($\bar{D}$ is far from zero) and there is no rule of law (A is high), the two systems deliver very different outcomes. Which one does better depends on whether the lack of rule of law or the inaccuracy of the BLRs is a bigger problem.

The degree of divergence of the two systems is (1) rising with A, (2) falling with β, and (3) falling with $\bar{D}$. Unsurprisingly, we expect to see convergence in outcomes as juries become more immune to pressure and corruption (i.e., as either A falls or as β

rises). The tendency of juries to be swayed by local influence would have fallen as the ability to protect them rose over the twentieth century. This may be one reason for the tendency of systems to converge.

A second reason is that codifications may have been brought more into line with the tastes of the public at large; i.e., $\bar{D}$ has gotten closer to zero. As societies became more democratic, parliaments wrote laws and codes that better reflected the views of the entire community. As a result, the tendency of codes to reflect the preferences of the elite rather than the will of the people must have declined. Bright line rules may also have become better as the information systems in the society have improved, and hence it became possible to draw sharper "lines" between different forms of conduct. As $\bar{D}$ goes to zero, when A is low, civil codes will resemble jury systems more and more. In that case, the two systems are both more or less accurately reflecting the will of the public. In fact, as we take the limit as both A and $\bar{D}$ converge to zero, the two systems converge to efficiency in terms of the outcomes they deliver.

VI. Conclusion: the Practice of Justice

Economists generally agree that the state's main role in the economy is to protect property rights. The libertarians believe that this is pretty much all the state should do, while economists with more interventionist tendencies begin from there and go on. The trouble with this imperative is that it does not tell us exactly how the state can design a functional legal system, and what it takes to "protect property rights." At the heart of the libertarian view is Coase's [1960] idea that individual contracting will move societies toward efficient resource allocation, as long as these contracts are enforced by courts. But there is nothing in the Coasian logic to explain what would enable or motivate courts to enforce contracts, or for that matter why such judicial enforcement would work better than property rights protection by other means, such as government regulation. In at least some instances, regulation by government agencies appears to work better than enforcement of contracts by inefficient courts susceptible to political pressures [Glaeser, Johnson, and Shleifer 2001]. The imperative of protecting property rights, at the most general

level, says nothing about the desirable extent of government intervention.

In fact, as we try to show in this paper, efficient solutions to the problem of the design of legal systems to protect property rights may lead to very different answers in different environments. When the law and order environment is benign to begin with, a system of law enforcement relying on decentralized adjudication by peers may be the most efficient. In such a system, we would see greater security of property rights and relatively little state intervention in the economy and society. In contrast, when law and order is weak to begin with, a system of law enforcement relying on more centralized adjudication of disputes by government employees may be the most efficient. In such a system, we would see less security of property rights, more regulation, and more state intervention in the economy. Indeed, we might see some institutions that can be viewed as unfriendly to a free market economy, even though—from a broader perspective—they might be efficient for the environment. Put differently, people might demand some level of "dictatorship" and "state control" because the alternative is lawlessness.

Unfortunately, however, this assessment of government control and regulation as an antidote to lawlessness is too optimistic. As our propositions show, the civil law approach to law enforcement, with its reliance on enforcers beholden to the sovereign and on bright line rules, is especially vulnerable to abuse by a bad government. Such a government can use the controls inherent in civil law to politicize justice to its own end rather than to pursue community standards of justice. As a consequence, civil law, if used to direct justice to political ends, will lead to heavy government intervention, insecure property rights, and poor governance in general. Common law, with its decentralization of adjudication, is less vulnerable to politicization.

As we have noted, most countries in the world have inherited their legal systems from their occupiers and colonizers, rather than developed them indigenously. In this process, French civil law and English common law have been transplanted throughout the world. If the logic of this paper is correct and civil law can become a control instrument of a bad government, the transplantation of civil law can have adverse consequences for the security of property rights. The cross-country evidence on government intervention, security of property rights, and governance is consistent with this hypothesis.

Appendix: Proofs of Propositions

Proposition 1. When λ is sufficiently close to zero, there exists a value of $A^* > 0$ at which "social welfare" is the same under royal judges and independent juries. For $A > A^*$, royal judges yield higher social welfare. For $A < A^*$, independent juries yield higher welfare. The value of A^* rises with β and falls with λ. When λ is sufficiently close to zero, then A^* rises with θ.

Proof. Because the unconditional expectation of R is zero, social welfare under the jury system equals $\int_{D>A/\beta} Df(D)dD$. This expression both is monotonically declining in A and converges to zero as A increases to infinity. The social welfare under the royal judge equals

$$\text{(A1)} \quad \int_D D\left(1 - G\left(-\frac{D}{\theta}\right)\right)f(D)dD + \lambda\theta \int_D \int_{R>-D/\theta} Rf(D)g(R)dDdR.$$

The first term is positive because $E(D) > 0$ and the weighting function puts a higher weight on higher D's. The second term is positive because $E(R|R > -D/\theta)$ is positive for every D. Because social welfare under royal judges is strictly positive, and social welfare under juries converge to zero as A increases, for sufficiently high levels of A judges must dominate juries.

When $A = 0$ and $\lambda = 0$, social welfare under juries reaches the first best and therefore strictly dominates social welfare under judges of $\int_D D(1 - G(-D/\theta)f(D)dD$, which does not reach the first best. Because social welfare under judges is continuous in λ, for values of λ close to zero judges still dominate juries at $A = 0$. Using the mean value theorem, for these values of λ, there must exist a value of A (denoted by A^*) at which social welfare under judges and that under juries are equal. By monotonicity of social welfare under judges with respect to A, for values of A above A^* juries dominate judges and for values of A below A^*, judges dominate juries.

Note next that the value of A^* is defined through

$$\text{(A2)} \quad \int_{D>A^*/\beta} Df(D)dD = \int_D \int_{R>-D/\theta} (D + \lambda\theta R)\, f(D)g(R)dDdR.$$

For (A2) to hold, A^*/β must remain constant as β rises. Differentiation then shows that

$$\frac{\partial A^*}{\partial \beta} = \frac{A}{\beta} > 0.$$

Differentiating both sides of (A2) and inverting gives us that

$$\frac{\partial A^*}{\partial \lambda} = \frac{-\beta^2 \int_D \int_{R>-D/\theta} \theta R f(D) g(R) dD dR}{A^* f(A^*/\beta)}, \tag{A3}$$

which is always negative since $E(R|R > -D/\theta) > 0$.

Differentiating both sides of (A2) and inverting gives us that

$$\frac{\partial A^*}{\partial \theta} = \frac{\beta^2 [\int_D ((1-\lambda) D^2/\theta^2) f(D) g(-D/\theta) dD - \int_D \int_{R>-D/\theta} \lambda R f(D) g(R) dD dR]}{A^* f(A^*/\beta)}, \tag{A4}$$

which is positive if and only if

$$\frac{1-\lambda}{\lambda \theta^2} \int_D D^2 f(D) g\left(-\frac{D}{\theta}\right) dD > \int_D \int_{R>-D/\theta} R f(D) g(R) dD dR, \tag{A5}$$

which always holds when λ is sufficiently small.

PROPOSITION 2. If the distribution g is sufficiently close to uniform, then the king's optimal strategy is a pure bright line rule system if and only if $\theta_J < 0$.

Proof. For any subset of D's (denoted Ω_i) captured by any bright line, the problem is to choose P_i, the subsidy toward conviction, to maximize

$$\int_{D \in \Omega_i} \int_{R>(A-P_i)/\beta_J \theta_J - (D/\theta_J)} (D + \theta R) f(D) g(R) dD dR$$

when $\theta_J > 0$ and

$$\int_{D \in \Omega_i} \int_{R<(A-P_i)/\beta_J \theta_J - (D/\theta_J)} (D + \theta R) f(D) g(R) dD dR$$

when $\theta_J < 0$. This problem yields the first-order condition:

$$\frac{1}{\beta_J \theta_J} \int_{D \in \Omega_i} \left(\frac{\theta_J - \theta}{\theta_J} D + \frac{\theta (A - P_i)}{\beta_J \theta_J}\right) g\left(\frac{A - P_i}{\beta_J \theta_J} - \frac{D}{\theta_J}\right) f(D) dD = 0. \tag{A6}$$

P_i is defined as the solution to (A6), and when second-order conditions hold, this will represent the optimal incentive scheme (from the king's perspective). The second derivative of the maximand is

$$\text{(A7)} \quad \int_{D\in\Omega_i}\left(\frac{-\theta}{\beta_J^2\theta_J^2}\right)g\left(\frac{A-P_i}{\beta_J\theta_J}-\frac{D}{\theta_J}\right)f(D)dD-\left(\frac{1}{\beta_J\theta_J}\right)^2$$
$$\times\int_{D\in\Omega_i}\left(\frac{\theta_J-\theta}{\theta_J}D+\frac{\theta(A-P_i)}{\beta_J\theta_J}-\frac{D}{\theta_J}\right)g'\left(\frac{A-P_i}{\beta_J\theta_J}-\frac{D}{\theta_J}\right)f(D)dD,$$

when $\theta_J > 0$ and -1 times this quantity when $\theta_J < 0$. Thus, if terms involving $g'(\cdot)$ are small, (A7) is positive if and only if $\theta_J < 0$. When (A7) is positive for any finite value of P_i, then no system with finite payoffs can be an optimum. Thus, we only need consider schemes where the judge is given infinite positive or infinite negative incentives to convict. In the case of high levels of D, convicting is, on average, better than letting go. In the case of levels of D below the bright line rule, convicting is, on net, worse than letting go. Thus, when $\theta_J < 0$, it is optimal to pursue a pure bright line rule strategy.

When $\theta_J > 0$, second-order conditions hold, and (A6) determines the optimal subsidy for conviction. Since (A6) implies finite rewards and judicial discretion, a pure bright line rule system is not optimal for the king when $\theta_J > 0$.

PROPOSITION 3. There exists a value of A, denoted A^{**}, at which social welfare is the same under independent juries and a pure bright line rule system. For $A > A^{**}$, bright line rules dominate and for $A < A^{**}$, independent juries dominate. The value of A^{**} rises with the absolute value of $\bar{D}$.

Proof. As before, social welfare under juries is a function of A and social welfare under bright line rules is not. At $A = 0$, juries produce the social optimum, and bright line rules do not, so juries are preferable. For sufficiently large values of A, social welfare under juries is arbitrarily close to zero, and social welfare under bright line rules is assumed to be strictly positive. Because the social welfare under juries is monotonically and continuously decreasing in A, there must exist a value of A, for which the levels of social welfare under juries and bright line rules are identical.

Above that value, bright line rules dominate, and below that value, juries dominate.

A^{**} is defined by

$$\int_{D>A^*/\beta} Df(D)dD = \int_{D>\bar{D}} Df(D)dD,$$

and taking derivatives yields

$$\frac{\partial A^{**}}{\partial \bar{D}} = \frac{\bar{D}f(\bar{D})\beta^2}{A^{**}f(A^{**}/\beta)}. \tag{A8}$$

Because (A8) takes on the sign of $\bar{D}$, this means that A^{**} rises with the absolute value of $\bar{D}$.

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