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Institutional Determinants of the Quality of Law

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The Levers of Legal Design: Institutional Determinants of the Quality of Law

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1. INTRODUCTION

The new comparative economics is largely organized around an effort to explain differences in country economic performance in terms of differences between common law and civil code systems, whether understood in the abstract or in terms of a small set of legal families thought to establish the legal origins for most legal systems in the modern world. Empirical work suggests in particular that French-origin and (less so) German-origin civil code systems have not performed as well as English-origin common law systems. (La Porta et al 1997, 1998, 2004; Johnson et al (2000); Mahoney 2001; Djankov et al 2002, 2003; Beck et al 2003; Botero et al 2004) Theoretical accounts of why this might be true have focused on two principal mechanisms. Mahoney (2001) and Glaeser & Shleifer (2002) emphasize judicial independence from the state and hence the capacity for courts to protect property and contract rights from incursion by the state; these authors claim that a common law regime generates greater judicial independence than does a civil code regime. Beck et al (2003) emphasize adaptability and assert that common law regimes–specifically those in which judicial opinions are a source of law and judges can justify their results on equity and not merely statutory grounds–are better able to respond to changing circumstances than are civil code regimes in which law is only found in statutes. Anderlini, Felli & Riboni (2006) make a similar claim for caselaw based systems: ex post judging is better able to respond to local information than ex ante legislating, although judicial responsiveness to ex post evidence may generate a time-inconsistency problem that reduces the value of caselaw relative to statutory law. Djankov et al (2003) can also be understood to attribute

[1]I have benefitted in this work from the comments of many colleagues and workshop participants at the Universityof British Columbia, the University of Toronto, New York University, Stanford Law School, Yale Law School, the National Bureau of Economics Research Summer Workshop, the American Law and Economics Association Annual Meeting, Columbia Law School and the Comparative Law and Economics Forum. I wish to thank in particular Bruce Ackerman, Barry Adler, Dick Craswell, John Ferejohn, David Friedman, Clay Gillette, Tim Guinnane, Dan Klerman, Karen Knop, Bentley Macleod, Paul Mahoney, Katharina Pistor, Mitch Polinsky, Jeff Strnad, Michael Trebilcock, Joel Watson and Ralph Winter.

stronger economic performance to the capacity of judges to exercise discretion: their measures of formalism in the procedures for deciding simple disputes attempt to capture the extent to which judges are required to look to established legal rules, whether in statute or caselaw, and to follow externally-imposed procedures to decide or justify decisions.

We have gained considerable insight into the impact of legal institutions (as distinct from the substantive content of law) on economic performance from this common law/civil code, statutes versus judicial discretion, framework. It is clear, however, that making further progress on this comparative project will require substantially more refined understanding of the institutional features that define different legal regimes and more detailed analysis of how institutions determine the behavior of legal actors, particularly judges. As is now widely understood by comparative law scholars, the traditional picture of the common law/civil code dichotomy has been overdrawn. (Mattei 1997) It is not possible to differentiate modern regimes solely on the basis of whether they rely on a comprehensive legislative code or judge-made precedents as a source of law. Common law regimes such as the U.K., the U.S. and Canada are infused with statutes, including broad-ranging comprehensive codes such as the Uniform Commercial Code or California's Business and Professions Code; civil code regimes such as Germany and France are replete with topic-specific statutes that deal with matters such as environmental regulation in scope and detail that is indistinguishable from that found in English-origin systems.[2] At the same time, the idea that civil code judges, unlike common law judges, ignore what other judges have said and done in previous resolutions of similar cases or that they never think of their role as requiring active policymaking has been recognized as overly simplistic. (Damaska 1986; Merryman 1985, 1996; Mattei 1997; Lasser 2004.) La Porta (2004) and Beck et al (2003) recognize this when they code countries based on whether caselaw is considered a source of law in a legal regime, rather than whether or not there is a comprehensive code. Djankov et al (2003) goes still further to identify more detailed institutional differences across and within legal families. Atiyah and Summers (1987) provide a detailed analysis, largely focused on legal reasoning but attentive to institutional differences, of the significant differences in the role of caselaw and statutes, judicial discretion and formal rule-following, within the common law family, specifically between the U.S. and the U.K. As these efforts suggest, there clearly are differences between common law and civil code regimes, and within each category, but the conventional focus on sources of law obscures rather than illuminates most of them.

The more fundamental difficulty in the existing framework, however, has to do with the stylized theoretical relationship that is assumed to exist between how legal regimes, particularly judges, behave and the institutions that identify the regime as a "civil code" or "common law" system. The literature has largely conceptualized a common law system (or, as in Beck et al (2003), a civil law system that recognizes caselaw as a source of law) as one in which judges exercise discretion to decide cases in independent and/or adaptive lawmaking ways, unlike the civil code system in which the state controls judicial outcomes and the content of law. In effect, however, this approach treats what is essentially a behavioral difference–the extent to which judges decisions are determined by rules as opposed to their independent judgment and discretion at the time of decision–as if it were an institutional

[2] Mattei (1997) has recently observed that "the number of statues enacted outside the code in civil law jurisdictions is staggering." p. 83.

difference, as if the choice to establish a common law system, of itself, generated independent judicial behavior while the choice to adopt a civil law regime, of itself, constrained the actions of judges so that they merely implement rules written into a code. The problem of legal design, however, is fundamentally the problem of how legal institutions can induce desired behavior from legal actors. The thinness of the institutional account of how legal regimes differ thus has theoretical import: we have yet to identify the particular institutions that generate judicial discretion and rule adherence in equilibrium. And the thinness of our theoretical account of how legal actors such as judges behave has yet to suggest the institutional attributes that our empirical work should seek out. The catalogue of procedural and institutional differences presented in Djankov et al (2003), for example, is based on a very simple model of ideal 'neighbor' justice in which judges decide in a Solomonic way with no procedural or substantive legal constraints. Their study then looks for any procedural or substantive constraints on judges, but does not identify the institutions that, in equilibrium, lead judges in some regimes to require elaborate procedures to evict a clearly non-paying tenant while others develop short-cuts and efficiencies; why judges in some regimes require citations to statutes in complaints for a simple matter such as collection on a bounced check while others do not; why judges in some regimes are comfortable issuing decisions in these simple cases with only brief, sometimes only equitable, reasons while others feel compelled to provide lengthy rationales with extensive citation to caselaw or statutes. Glaeser and Shleifer (2002) suggest civil codes constrain judges' discretion more effectively than statutes adopted in common law countries, but do not identify the institutions that generate this difference: why do judges in France respond differently to statutory language than judges in the U.K. or U.S.?

My goal in this paper is to develop a richer picture of the institutional landscape that influences the quality of law produced by a legal regime. I start with a theoretical model of the quality of law that treats the problem of judicial decisionmaking in the context of common law precedents, statutory texts or codes as a generic one of interpreting and adapting legal rules, whatever their source, to a local or changing environment. As Berkowitz, Pistor and Richard (2003) emphasize in their evaluation of the empirical evidence of the economic growth generated by transplanted legal regimes, and Beck et al (2003) also recognize, the quality of a legal regime is in part a function of its capacity to adapt to local and changing circumstances. This is not to deny the importance of judicial preferences and the risk of corruption by state or private interests, issues that Glaeser and Shleifer (2002) and La Porta et al (2004) rightly emphasize; rather, my goal is to draw attention to the institutional complexity of generating high quality law even in an environment in which judges have socially-aligned preferences and to suggest that particularly in modern complex economies located in largely stable democracies, the greater systematic threat to economic development may be judicial competence, not judicial misconduct.

Section II first summarizes a model developed in Hadfield (2006) that separates out behavioral and institutional elements in the analysis of a legal regime, specifically by endogenizing the extent to which judges follow established rules or draw on what they learn from litigants to fashion a more appropriate rule. That is, what the existing literature identifies as an institution–judicial discretion, development of new rules through caselaw, informality, etc.–is treated as a behavioral consequence in this model. The analysis identifies five key parameters that influence judicial (and, it will be seen, litigant) behavior and therefore the process and

quality of legal adaptation. These are: 1. judicial incentives, 2. exogenous legal human capital (understood as expertise in choosing and applying legal rules in a way that promotes economic welfare), 3. the processing of litigant information into judicial error-reducing legal human capital, 4. the cost of producing evidence and legal argument and 5. the penalties (damages) levied in adjudication.

Section III then turns to an analysis of the institutional features of legal regimes that determine these parameters. I set out these institutional features as dimensions along which real legal systems reside, although our comparative knowledge of the details of existing systems—particularly given the heavy focus on conventional distinctions between code and common law sources of law—is relatively thin. These dimensions include the organization of the courts and the extent to which jurisdiction is general or specific; the organization of the judiciary and the extent to which judicial careers are organized on a bureaucratic career model or what I call a "capstone" model, the crowning achievement of legal practice; the mechanisms of information distribution and the extent to which information is distributed to a broad public audience or a more confined professional audience; the role of judges, whether active or passive, in finding facts and shaping the issues in adjudication; the role of public versus private entities in the enforcement of judgments (damages); and the degree to which the mechanisms by which legal services are produced, priced and distributed are competitive or professionally-controlled. My claim is that these key institutional dimensions, rather than conventional and more abstract distinctions based on the sources of law or judicial independence, should be the primary focus of empirical efforts to evaluate and policy efforts to reform legal regimes. They are the levers of legal design.

2. A MODEL OF LEGAL HUMAN CAPITAL AND LEGAL ADAPTATION

The model in Hadfield (2006) starts with a simple two-period world in which there is a population of judges, defendants and plaintiffs and an established legal rule, R^e. This established rule, which could be either a statutory text or a common law case holding, determines the liability of defendants sued under the rule on the basis of information about a defendant's conduct that is costlessly observable to judges, plaintiffs and defendants and judges make no mistakes in applying the rule. If a defendant is held liable it pays damages, D. For simplicity, it is assumed that all potential defendants are sued and all cases are tried to conclusion in each of the two periods, with no settlements and no appeal.

The model focuses on identifying the conditions under which the established legal rule will be adapted to new welfare-relevant information about the environment, producing a new rule R^n. This could be information about a new environment, as when a rule is transplanted, or it could be information about a changed environment, as when technology changes or even when theory develops so that a previously overlooked factor is now recognized as a welfare-improving distinction. Suppose, for example, that under the established rule all defendants are held liable for some conduct, such as selling a product that causes injury. (This would be a strict liability rule.) By assumption, this rule is sub-optimal in some new environment: perhaps the rule is being transplanted to an economy where sellers have little liquidity and hence are excessively deterred by strict liability from producing valuable products with unavoidable risks of injury. Perhaps there has been a technological development that allows buyers to more cheaply avoid injury than sellers, or simply a theoretical discovery that it is optimal to shift liability to

buyers if they are the cheaper-cost avoider. In any event, the model is intended to analyze the conditions under which the law (judges) will *learn* this information about the environment and incorporate that information into the liability rule. If the rule is in a statutory text, the process by which this new information can be incorporated is through interpretation. Even an explicit statutory provision that "sellers shall bear all liability for injuries caused by their products" is subject to potential interpretation about when and where that applies. (If buyers are easily able to avoid the injury, is the injury "caused" by the product, or the carelessness of the user? Did the legislature intend sellers to bear liability for reckless use of their products–using a product in an unintended or unusual way or contrary to explicit warnings about proper use? Even where it is plain that such a rule, together with critical constraints on seller liquidity, is causing a crisis of undersupply of some important product such as a vaccine?) If the rule is derived from a body of case law articulating the reasons for holding defendants liable for product injuries in the past, the new information is incorporated through the process of doctrinal legal reasoning. (Past cases may have presented facts, not attended to in those opinions, in which avoidance of the harm by the buyer was not possible or seller liquidity was not constrained; a restatement of those prior decisions may be made that identifies avoidance of the harm or seller liquidity as a factor that determines when the rule is applied and when a different rule, such as negligence, is appropriate. Or a court may simply announce that the prior rule was ill-considered and adopt the new rule.)

Whether the established rule is in a statute or prior judicial decisions, the potential is always there for judges to make a move from R^e to R^n. The willingness of a court to make such a move may, and does, vary across legal regimes; this is a behavioral response that the model seeks to explain rather than assume.

An individual judge's decision to adopt R^n rather than applying R^e is a function of three factors: the judge's reward structure, the risk of judicial error understood in terms of social welfare[3]–adopting R^n when R^e is optimal–and the information presented to the judge by the litigants in the form of facts and legal reasoning Consider these factors in turn.

Judges have idiosyncratic evaluations of the rewards they enjoy for the choice they face in any individual case between rule-following and rule-adaptation. The model captures this by assuming all judges receive a uniform payoff $\gamma > 0$ if they follow the existing rule and an idiosyncratic payoff α_j (which may or may not exceed γ) if they adopt the new rule, R^n, and the result under R^n in the particular case they are deciding is social welfare-maximizing. They receive zero if they use R^n in a case in which the rule does not produce a social welfare-maximizing result. We can think of this as an effort to capture the idea that (some) judges may be rewarded for working a needed change in the law, but not for making change for change's sake. Thus the model assumes that judges have socially-aligned incentives in the sense that they seek only to adapt the law when it is socially optimal to do so; there is no private policy or other corrupting influence at work. This approach abstracts from the more extensively studied problem of judicial bias (see, e.g., Gennaioli and Shleifer 2007) to focus on the competence issue that faces even a well-intentioned judiciary.

The competence problem arises because judges make mistakes about when a

[3]This meaning for judicial error should be distinguished from the notion of legal error as a failure by a lower court to properly apply legal rules as determined by an appellate court.

new rule is social welfare-maximizing. This might be because of an incomplete understanding of the relationship between defendant characteristics, liability and welfare outcomes (what we could think of as an error of law), or it might be because of difficulty distinguishing between two types of defendants: *good defendants* who should not be held liable and *bad defendants* who should be (what we could think of as an error of fact.) The model in Hadfield (2006) explores both the case in which defendants are homogeneous and the case in which defendants are heterogeneous.

The risk of judicial error is important for two reasons. First, the potential for error influences judicial incentives to risk rule-change. Judges only enjoy a payoff for rule-change (if they do at all) when they are accurate in their choice and implementation of a new rule. High rates of error will then discourage even those judges who enjoy high payoffs for rule adaptation. Judges are also making an error when they stick with the established rule in a case with a good defendant but this error is ignored by the judge–the payoff for following rules does not depend on whether the rule is optimal. This captures the idea that judges can play it safe by doing what the 'law' tells them to do; they do not bear personal responsibility for what is a mistake of the system as whole. Second, the potential for error will also influence the willingness of litigants to invest in the resources necessary to present evidence and legal argument geared towards convincing a judge to change the rule. For concreteness, the model assumes that the established rule holds all defendants liable and that only defendants face a question of whether to invest in trying to obtain a switch to a rule that will release them from liability. Good defendants will be discouraged from investing in the effort to obtain a change in the rule if the judge is highly likely to make an error and hold them liable anyway. Bad defendants, however, will be encouraged to invest by the likelihood of judicial error: they benefit when judges make mistakes.

Hadfield (2006) does not focus on a question that others in the literature have already explored, namely the extraction of reliable information from a strategic presentation of evidence by competing plaintiff and defendant (Milgrom and Roberts 1986, Shin 1994, Shin 1998, Dewatripont and Tirole 1999, Daughety and Reinganum 2000.) Judicial error is modeled in reduced form, as probabilities of type 1 and type 2 errors in each period and the analysis focuses on the systemic relationship between the information accumulated from litigants across multiple cases and the development of judicial capacity to distinguish good from bad defendants (assess when liability is optimal) over time. Specifically, it is assumed that the level of *shared legal human capital* available in period 1 is exogenously determined; the level is period 2 is determined by the aggregate of exogenous legal human capital plus the information presented in period 1. The likelihood of judicial error in any period–which is assumed for simplicity to be common across all judges–is then a function of the quantity of shared legal human capital available in that period. This is meant to capture the idea that individual evidentiary and argumentative presentations can be instructive to all judges when subjected to thoughtful reflection and review–by judges, by commentators–with the advantage of cross-case comparisons and time. The presentations in individual cases are essential in order to obtain a rule change, but they do not immediately alter the likelihood of judicial error.

This introduces the principal feedback mechanism and key insight in the model: judicial error can only be reduced by the joint willingness of judges *and* defendants to invest in the evaluation of costly evidence and argument, but both judges and (good) defendants are discouraged by the incidence of error. Bad defendants are encouraged by error but this is to no avail if judges, recognizing this, are unwilling

to risk hearing the case for a change in the rule. Whether the evidence and argument presented by bad defendants, if heard, increases or decreases the likelihood of judicial error is an open question of the model: this depends on an empirical assumption about whether efforts to mislead a court ultimately succeed in misleading an entire system, or whether they provide an instructive counterpoint to the evidence and argument presented by good defendants.

The first result of the model is the demonstration that in order for a legal regime ever to evolve to the new rule, three independent conditions must be met: 1) there must be enough judges with sufficiently high rewards to accurate rule change; 2) the cost of evidence and argument in an individual case, k, relative to the potentially avoided damages D, must be neither too high (discouraging good defendants) nor too low (encouraging excessive investment by bad defendants); and 3) initial judicial error rates must not be too high (initial or exogenous legal human capital too low.) What this tells us is that it is possible for a legal regime to remain stuck at a sub-optimal legal rule: judicial errors may be low enough to justify moving to a new rule, but judges and/or defendants may lack the incentive to invest in rule change even at this low level of risk. Alternatively, even with (or perhaps because of) the availability of cheap evidence and change-oriented judges, rule change may be stymied by the high risk of error and thus the potential for long-run reduction in error may not be realized.

The risk of error and the cost of evidence and argument, however, also mean that it may not be optimal to switch to a new rule. The issue is one of optimal capital growth: how much is it worth investing today in the form of legal costs and legal errors so as to generate legal human capital and reduce legal errors tomorrow? It can be worthwhile for some judges in a legal system to adopt the new rule, even if the same-period welfare benefits are outweighed by the error and legal costs, if in doing so they generate system-wide error reductions so that more judges can more accurately implement the new rule in the next period. Alternatively, if these first-period costs are too high (which is a function not only of the risk of error and expenditures in a given case but also of the distribution of judicial incentives, that is, how widespread is initial rule change) then the regime is better off sticking with the theoretically sub-optimal rule.

Hadfield (2006) presents a comparative analysis of legal regimes to determine what we can say about when legal regimes will do better or worse at achieving optimal rule adaptation. The analysis identifies five key parameters that affect optimal adaptation:

- the distribution of judicial incentives, α_j
- legal costs, k
- damages, D
- initial (exogenous) legal human capital, K_1
- judicial information processing, $i(\Delta)$ where Δ is the total amount invested in evidence and legal argument by defendants in period 1 and $K_2 = K_1 + i(\Delta)$.

The impact of these parameters on the potential for optimal rule adaptation depends in part on the underlying value of rule change, and on the mix of good and bad defendants that will make their way into the pool of those presenting evidence and argument–seeking rule change–in courts. Put aside for the moment differences

between regimes that lead to a scenario in which all defendants seek rule change in one regime but only good defendants do in the other. (This occurs if, given the risk of error, relative legal costs are high in one–so that only good defendants find it worth the investment to seek rule change–and relatively low in the other–so that both good and bad defendants are encouraged to invest.)

Compare first two regimes in both of which rule change in the first period–based on the initial or exogenous level of legal human capital and error rates–increases social welfare (the established rule is poorly adapted to new features of the environment.) If the expected payoff of R^n in a single case justifies the expenditure on legal costs and error, then a regime that encourages more widespread first period change enjoys higher social welfare in period 1. Moreover more widespread first period rule change generates higher levels of second period legal human capital and lower levels of judicial error. Lower judicial error in period 2 has multiplier effects: more defendants are encouraged to incur the cost of seeking this (socially beneficial) rule change and more judges are encouraged to risk rule change. The welfare gap between the two regimes therefore widens over time. We can thus expect a regime to enjoy higher social welfare if it is characterized by:

- higher judicial rewards for rule change
- lower legal costs
- higher damages, provided this induces investment by good defendants that is lacking in the other regime
- higher initial legal human capital
- more effective information processing

Taking these in turn, if more judges enjoy higher rewards for rule change, more are encouraged to risk rule-change in period 1. If legal costs in one regime are high enough to discourage even good defendants from investing in rule change, only a regime with lower costs will enjoy the benefits of rule change; even if defendants in both regimes are encouraged to invest, lower legal costs generate net benefits in reducing the cost of rule change. Higher damages also encourage defendants to invest, by increasing the value of avoiding liability through rule change. The relevant parameter for behavioral impact is, in fact, legal costs relative to damages, k/D, which may be reduced by either reductions in absolute costs or increases in damages. Higher damages increase social welfare if they induce good defendants–who are discouraged from investing in the low damage regime–to incur the costs of seeking rule change. Higher initial legal human capital, which implies lower initial judicial errors, encourages a larger share of judges and, potentially, more defendants to invest in period 1 rule change. Better judicial information processing means that one regime does a better job of extracting error-reducing information from the accumulated investments in first period litigation and hence enjoys lower errors in period 2 and thus more widespread rule change.

The more difficult set of comparisons involve regimes in which rule change is not justified in period 1. In this case, it is no longer true that more widespread rule change is unambiguously beneficial in period 1: there is an optimal extent of initial rule change (investment in legal costs and error) to reap (if possible) the benefits of reduced legal error in subsequent periods. We can still conclude that a regime is better off under the following conditions:

- lower legal costs
- higher damages, provided this induces investment by good defendants that is lacking in the other regime
- more effective information processing.

But higher judicial rewards for rule change and higher initial legal human capital–lower period 1 legal errors–do not necessarily lead to higher social welfare in this more complicated setting. Higher judicial rewards and lower initial errors–although both factors increase the potential value of second period rule change after sufficient reduction in legal error–may lead to excessive first-period rule change.

Finally, consider the scenario excluded from the above, namely the case in which the differences between regimes lead to differences in the mix of defendants who seek rule change, with both types seeking rule change in one regime and only good types in the other. Bad types will be weeded out of the pool of defendants seeking rule change if relative legal costs (k/D) are higher in one regime or the likelihood of a type 2 error is lower, sufficiently so that it is not worth the investment to attempt to induce the court to switch rules and (mistakenly) release the defendant from liability. Eliminating bad defendants from the pool of those seeking rule change would seem to be an unambiguously good thing: legal costs and errors are reduced. The presence of bad defendants in the pool can, however, generate social benefits. First, it is possible that having bad defendants in the pool reduces the expected error from the judge's perspective: if judges are good at avoiding type 2 errors but bad at avoiding type 1 errors, then the decision to entertain a defense is less risky if there's a good chance the defendant is an easily identified bad type. While this is theoretically possible, it seems implausible: it seems unlikely that judges will see less risk in deviating from an established rule when they know there are defendants in the mix who are trying to mislead them than when they believe that they face only good defendants and only risk reaching the same result under a new rule (liability) that they would reach under the established rule.

The second, more important, reason why having bad defendants in the mix of those seeking rule change may generate offsetting social benefits is that these defendants may provide the legal system with information that, when aggregated and processed, contributes to the accumulation of legal human capital and the systemic reduction of legal error. This depends on some subtle questions, which are raised but not taken up, about the nature of judicial or legal learning. It may be the case that information from bad defendants–which is of course intended to lead an individual court into a type 2 error–is disinformative, degrading what is learned from good defendants. This happens if, for example, the (accurate) conclusions one would reach from reviewing the evidence and argument of good types are clouded and hedged by confusing claims to the contrary from bad types. Some claim, for example, that this is the effect of sustained efforts by tobacco companies to sow doubt about the scientific evidence showing links between smoking and cancer (Proctor 1995).[4] If this is the case, then, indeed, eliminating bad defendants from the pool of those seeking rule change through higher initial legal human capital or relative legal costs is welfare-improving.

But it is also possible that eliminating bad defendants from the pool reduces legal human capital and so is costly. Reviewing the evidence and arguments pre-

[4] Proctor reports, for example, that in an internal memo one tobacco company proclaimed with respect to the goals of its research funding: "Doubt is our product."

sented by bad defendants alongside the presentations made by good defendants may improve the quality of what is learned. In the absence of evidence from bad types, for example, it may be that the conclusions about good defendants will be overgeneralized:"all defendants are good." This would be a common error in interpreting data: failing to take into account sample size and selection. Bad defendants increase the total amount and diversity of the information collected by courts and in general more information is better. If this describes judicial information processing, then higher relative legal costs may create the further problem of eliminating information; and the benefits of lower initial legal errors may be offset by the loss of opportunities for better learning.

3. INSTITUTIONAL DIMENSIONS OF LEGAL REGIMES

The model above predicts that the quality of legal evolution in a given legal regime will depend on (at least) five parameters: the judicial rewards for rule-adaptation (relative to those for rule-following); the cost of evidence and legal argument; the level of damages levied against unsuccessful defendants; the exogenous legal human capital available to judges (judicial competence); and the nature of information processing within the judiciary to convert information from individual cases into systemic error-reducing legal human capital. How are these parameters determined? In this section, I present an overview of the institutional attributes that can vary across legal regimes and analyze how these institutional attributes might affect the parameters and hence the quality of law produced in a legal regime.

3.1. Jurisdiction: Generalized versus Specialized Courts

Legal regimes can be organized along more or less specialized lines. At one extreme, we could have a single general jurisdiction court that hears all types of matters; at the other we could create separate courts for each individual area of law. In practice, modern legal regimes all use some degree of specialization. Countries such as the U.S. and the U.K. rely heavily on general jurisdiction courts that are empowered to hear almost any type of claim but use specialized courts in areas such as small claims, tax matters, family disputes, patent cases, bankruptcy cases, and so on. Countries such as Germany and France typically have separate courts for ordinary private law matters (contract, tort, property), commercial law, employment law, social security matters, administrative law and constitutional law. The key distinction between these systems is the pattern of appeal. In the U.S. and the U.K., specialized courts feed into general jurisdiction courts, with ultimate appeal located in a single supreme court. In the U.S. the only separation is on state and federal lines. In countries such as Germany and France, however, the lower specialized courts feed into higher specialized courts, with a separate supreme court for that area. In France, the division at the highest level is between three areas: public law matters (administrative jurisdiction, actions between citizen and the State), private law matters (ordinary jurisdiction, actions between citizens) and constitutional matters. At the highest court for ordinary jurisdiction, the Cour de Cassation, specialization is maintained with separate chambers that hear appeals in different areas. (In some cases, an appeal may be heard by judges drawn from multiple chambers.) In Germany, the divisions are more extensive, with separate supreme courts for constitutional, administrative, tax, labor, social insurance and private matters (including criminal law).

The extent of judicial specialization is likely to have an impact on both the exogenous level of judicial legal human capital that a judge brings to a novel issue in the law, and the nature of judicial information processing of what is learned through litigation. To some extent we might expect that a judge who specializes in, for example, commercial or intellectual property matters, has a higher level of legal human capital available when a novel commercial or IP issue arises, and hence is less likely to make errors in recognizing the relevance of new information or distinctions between litigants, facts and cases; as we have seen, this can encourage more extensive rule change in the initial phases (period 1 in the model) both because judges perceive less risk in rule-change and litigants (good defendants in the model) perceive higher expected returns from their investments in efforts to educate the court about the novel features of the environment. Moreover, across a set of judges who specialize in a given court, we might expect that the system as a whole does a better job of extracting and aggregating information over time and hence achieves more significant reductions in legal error, promoting more accurate adjudication and, again, more extensive adoption of the changed rule.

Ultimately, however, this is an empirical question, not unrelated to the empirical question raised in the previous section about the impact of information from bad defendants on legal human capital. While specialization often promotes more detailed and expert knowledge, specialization may also inhibit innovation and creativity. A judge who is deciding his or her hundredth patent dispute may be less open to new information or ways of thinking than a judge who is deciding his or her tenth. Specialization across a set of judges may also lead to reproduction of a set of views that are highly stable–a boon to the implementation of established rules but an obstacle to the generation of needed novelty. Specialization may also lead to an inadvertent form of capture, as courts identify with the interests of a particular set of litigants and are less attuned to the interests of other, particular, new sets of interests. In the U.S., for example, there is some concern that specialization of appellate jurisdiction over patent cases in the Federal Circuit has led to an overly pro-patentee orientation.

Specialized court systems may also generate different judicial incentives than more generalized systems. The model presented above assumes that judicial incentives are sensitive to ex-post assessments of whether a judge who adopted a new rule "got it right." In this sense, judicial incentives can be sensitive to how well-informed is a judge's audience. If the judge's audience is primarily other judges, particularly senior judges in the same specialized court, then specialization may influence a judge's expectations about the risks of how rule-change will be assessed: specialized reviewers may be more able to identify the welfare implications of legal change. This raises the important question of how judicial careers are structured, to which I now turn.

3.2. Judicial Careers: The Career versus the Capstone Judiciary

Judicial independence has figured prominently in the literature comparing the economic performance of common law and civil code regimes (Mahoney 2001, Glaeser and Shleifer 2002, Klerman and Mahoney 2005). It is sometimes claimed that common law judges enjoy greater judicial independence, but this is far from clear as an empirical matter. Judges in many regimes are often protected against removal from office for purely political reasons through life or term tenure. And judges in many regimes are exposed to political consequences. Judges in many US

states (where 98% of all litigation takes place), for example, are elected or subject to retention or recall voting, and in the federal system are dependent on politicians for appointment to higher office; judges in many countries such as France and Japan are subject (in some but not all cases) to promotion and transfer by the government, if not removal. Those in common law regimes look at the civil service nature of judicial careers in civil code regimes and see in that the makings for a judiciary that is controlled by the executive, but the actual mechanisms for the selection, evaluation and promotion of judges, as discussed above, appear to be heavily influenced, particularly at the lower trial and appellate levels, not by political or administrative actors but rather by senior judges. Those in civil code regimes, on the other hand, look at the political appointment and even election of judges at all levels in common law systems and the absence of systematic peer review by members of the judiciary itself and see in that the makings for a judiciary that is beholden to politicians and the electorate rather than the law.

The concept of judicial independence in the comparative literature is also unclear. Independence from whom? In most writing, the concern is about the independence of the judiciary from the government. But it is unclear how relevant this type of independence is for ordinary litigation and the overall performance of the legal system in supporting a market economy. Judges who are not beholden to the government will presumably be more effective at countering unlawful expropriation by government (as Glaeser and Shleifer (2002) and Mahoney (2001) argue), but this is surely a small determinant of the risk of expropriation, in light of the capacity of government to authorize expropriation through legislation. Constitutional protections against such legislation are characteristic not of common law regimes in general, but rather of specific constitutional regimes; even in the United States, with a strong constitutional provision, the protection is limited to outright takings and very limited in protecting property against diminution of value through regulation or legislative modification of remedies for breach of government contracts. (La Porta et al (2004) attend to the importance of constitutional constraints.) Most importantly, the vibrancy of a diversified market economy is far more dependent on the reliability of the enforcement of contract and property rights as between citizens than it is on the enforcement of contracts as between citizens and the state. For those cases, judicial independence from corrupting private influences would seem to be more important, as Glaeser and Shleifer (2002) note. Indeed, the greater risk of government control over judges would seem to be from expansion of the routes by which corruption from private sources can make its way into the system, rather than the overt distortion of decisions in favor of strictly government interests.

The model set out in Section II suggests that rather than focusing on abstract concepts of judicial independence from government, comparative work should focus on the institutions that determine judicial incentives. Ultimately judicial independence is a behavioral characteristic, not an inherently institutional aspect of legal design. In much of the literature it is assumed that judges will be more constrained by rules written into a comprehensive code than those in ordinary statutes (Glaeser and Shleifer 2002) or caselaw (Anderlini, Felli & Riboni 2006). The model presented above takes the stance that it is not enough to look to the source of legal rules–whether in a comprehensive code, a collection of disparate statutes or judicial opinions–to predict judicial behavior: clearly written rules in a comprehensive code or statute are not necessarily more constraining of judicial behavior than caselaw. Instead the model directs attention to the incentive a judge faces to follow rules–wherever they are found–as compared to the incentive he or she faces to exercise

discretion and adapt the rule to new information. It may well be that civil code countries, as Glaeser and Shleifer assume, are more effective at inducing judges to follow rules, but given the presence of equivalently detailed (or not) statutes in common law systems, the code itself cannot be the explanation; rather, it must be explained by the particular institutions that often–but not always (consider Quebec and Louisiana)–are also adopted in jurisdictions that rely on a code, institutions that generate the payoffs judges experience when they choose to be more or less adherent to established rules. I now turn to examine what those institutions can look like.

In some legal regimes judges are career civil-servants, typically with little experience outside of the judiciary. Indeed, in some cases, such as (traditionally) France, judicial remove from the world of commerce and ordinary affairs is prized. Judges in these systems generally enter the judiciary directly from law school with a first undergraduate degree in law, undertake specific judicial training offered by the state, and progress through the system from junior positions in low-level courts through to more senior judicial posts. The initial selection of judges is based on performance on judicial exams. Promotion within the system can mean moving to a higher level court within an area or to the head or presidency of a particular court, or being transferred to a more important or desirable location or type of court. Promotion is generally described as being on the basis of performance reviews, in the civil service tradition, and seniority. Performance reviews are conducted in general by senior judges. The panel that reviews performance of sitting judges in the courts of ordinary jurisdiction in France, for example, is composed of (in addition to the President and Justice Minister) five senior judges elected from the private law courts, a public prosecutor, and four members appointed by the President, Senate, National Assembly and State General Assembly. These fours members cannot be private law judges but one must be from the Conseil d'Etat, the supreme court on the administrative side; the others appear to be drawn largely from other parts of the legal profession. Since 1994, for example, of the three remaining appointments, one was president of the Cour des Comptes, a court which oversees the administration of public funds, and one was a law professor. This panel recommends to the President appointments to the 350 senior judgeships in the ordinary courts, and has binding authority to determine all other judicial appointments. The panel is also a disciplinary body, taking disciplinary action against judges, including removal from office. Similarly, in Germany promotion of judges at all but the highest levels within the system is on the basis of evaluation and review by senior judges. In these countries, this peer review of judges is understood as a requirement of judicial independence: judges are evaluated by and as judges, and not by and as policymakers or politicians. The understanding of law as legal science (Germany) or the guardianship of a complete, coherent and clear body of code (France) makes sense of the institution: judges can be trained, selected and promoted on the basis of objective criteria evaluated by those who are specialists in law.

The career of a judge in regimes such as those found in the U.S., the U.K. and Canada is governed by a very different set of institutions. Entry into the judiciary in the U.S. and Canada, for example, comes after completion of a first undergraduate degree in a subject other than law, a graduate degree in law, admission to the bar and a fairly lengthy period of practice as an attorney (at least 10 years, for example, in New York and Ontario.) I call this type of judiciary the "capstone judiciary:" appointment to the bench is the crowning achievement of a successful career as a practicing lawyer.

In many capstone judiciaries, appointment to the bench is significantly affected by politics. Judges are either appointed by elected officials (the Attorney-General in Canada, the President, governors and legislatures in the U.S.) or elected by popular vote, sometimes based on political party nomination; in many U.S. states, judges who are appointed initially by governors or legislators are subject to retention elections by popular vote. (Shepherd 2007) In the U.K. selection among judicial candidates was formerly made by the Lord Chancellor–now also Secretary of State for Constitutional Affairs–a Cabinet Minister drawn from the politically appointed House of Lords. As of 2006, however, selection has been vested in an independent Judicial Commission; the Lord Chancellor must approve a recommended appointment but cannot select alternative candidates. Whereas senior judges appear to play the primary role in evaluating the merit of judges in career judiciaries, evaluation of potential candidate for judicial office in capstone judiciaries is substantially affected by the judgments made by practicing lawyers and members of the public. Utah state judges, for example, are periodically evaluated by the judicial council based on surveys of lawyers and jurors. In Ontario, the judicial nominating committee that determines the list from which judges are selected by the Attorney General consists of 7 lay members and 6 members of the legal profession, including lawyers and judges. Promotion in the capstone judiciary is far less routine than in the career judiciary; the vast majority of judges will remain at the court and in the position they were appointed to for the duration of their judicial careers. (Klerman 1999) Promotion when it does happen proceeds through the same process as initial selection. There is no formal role for peer review by senior judges within a particular court system.

The differences between the career and the capstone judiciary suggest the possibility for important differences in judicial incentives. The key observation is that the nature of the judiciary determines the judge's audience–the set of evaluators who determine the rewards associated with judging, whatever they might be (prestige, money, promotion, etc.) The model predicts that differences in judicial incentives can lead to differences in judicial behavior, specifically the tendency of judges to follow or adapt rules and their receptivity to arguments based on the welfare effects of established rules.

Many traditional comparative studies conclude that a defining difference between the common law and civil code judiciary is a differential orientation to the trade-off between legal certainty and flexibility (Merryman 1985). Legal reasoning in civil code jurisdictions, particularly those based on Germanic legal science, is conventionally thought to favor a process that extracts and refines abstract principles of law whereas legal reasoning in common law jurisdictions favors outcome-oriented and pragmatic analysis. In the recent law and economics literature, Georgakopoulos (2000) argues that there is a greater likelihood that civil law judges in a career bureaucracy, as compared to common law judges, will follow rules in order to please senior judges who control promotion and transfer. Posner (2005) also predicts that civil code judges in a career bureaucracy will tend to follow rules and not to innovate. Ramseyer and Rasmussen (1997) reach similar conclusions based on their study of judges in Japan's civil code regime. Levy (2005) develops a model of common law judging in which judges are influenced by career concerns—specifically the extent to which they will be judged to be of high ability—and predicts that judges who are evaluated by legal outsiders who learn about the judge's ability only through appeals (which are endogenous) will be more 'creative' (contradicting a prior line of cases) than those who are evaluated by insiders (other judges who

can audit the quality of a judge's work whether the judge is appealed or not.)

My claim is that differential judicial rewards for rule adaptation and rule following are structured by institutional features that imply that career and capstone judges are, in effect, evaluated by different audiences. As a broad generalization, career judges are assessed by a relatively insulated and homogeneous audience—primarily senior judges. Capstone judges, in contrast, are evaluated by an audience that can include litigants, practitioners, politicians, the media and the general population. An audience that is composed of those affected by legal decisions and those who have intimate knowledge of the environment in which the legal rule is operating is potentially more interested in the end result of legal decision-making and thus in the adaptation of rules to local or changing circumstances than is an audience dominated by senior judges who must manage a judicial bureaucracy. This not to say that either audience is disinterested in the alternative approach to judicial decision-making: senior members of the career judiciary no doubt do care about rule adaptation, and members of the wider public in countries with a capstone judiciary do care about whether judges follow rules. It is to say, however, that the distribution of judicial rewards in these institutional environments is likely to be different, and in particular for more judges to derive higher rewards from rule-adaptation in a capstone setting than a career setting.

Some of this attention to welfare effects in the capstone regime may be problematic, as judges seek to please particular factions or interests. And, indeed, the function of the career judiciary can be understood as an institutional effort to move the evaluation of judges away from outcome-based criteria to meritocratic and objective criteria that are impervious to the consequences for particular individuals or groups. Recent reforms in the UK, for example, emphasize the effort to shift selection from political to meritocratic criteria. But as a generalization for purposes of working through the implications of the model in Section II, it seems fair to suggest that the career judge's audience and the capstone judge's audience place different weights on rule-following and rule-adaptation.

Even if there were no inherent differences in the evaluative criteria that these two audiences might bring to bear, differences in the information available to these audiences can support the claim that judges in capstone regimes face judicial rewards that place greater weight on rule adaptation. The capstone audience often contains those who bear the welfare effects of legal rules (litigants and potential litigants), and those who have incentives to discover, publicize and respond to welfare effects (the media, politicians, etc.) The career judge's audience, on the other hand, is much more insulated. Even if senior judges in the career judiciary are interested in the welfare effects of the rules implemented by the judges they supervise—as they undoubtedly are—they face higher costs of discovering and interpreting those effects. Indeed, it is hard to see how any judges learn about welfare effects systematically other than through the evidence and argument presented to them in the course of their work as judges. It is true that the greater degree of subject matter specialization that frequently emerges in career judiciaries and the more frequent and systematic process of peer review likely increases the information available to the judge's audience relative to the more generalist court with less frequent peer review that often characterizes the capstone judiciary. Nonetheless, the limitations on this audience's information set would seem to cabin the benefits of specialization and systematic peer review.

The capstone practice of requiring judges to have generally extensive experience with clients (and thus their problems) also suggests that judges may arrive in the

judiciary with a higher level of (this type of) legal human capital and that they experience lower rates of initial legal error in an area of legal change than their counterparts in career judiciaries. Judges entering the career judiciary do so directly from a first undergraduate degree in law; their entire professional experience then is accumulated through the lens of what the judge sees. Judges in capstone judiciaries, in contrast, enter the judiciary with an educational background that often includes an undergraduate degree in a subject other than law and only after a relatively lengthy period of time in practice. Their professional experience therefore reflects exposure to the impact of legal rules, particularly through their close relationship with clients and the facts about their legal predicaments. Capstone judges on average are also simply older.

There are countervailing considerations, however. Unlike capstone judges, career judges often receive specialized judicial training and to spend their careers developing expertise in particular areas of law. They may therefore conceivably obtain more structured and formal training in evaluating the social welfare implications of their work, and thus come to an area of legal change with a higher initial level of knowledge, than capstone judges who cut their teeth in the context of advocacy. Moreover, the system of regular peer review in a career judiciary may increase the capacity of a legal regime to extract valuable shared legal human capital from the work of individual judges–as cases are reviewed on a systematic merit basis, presumably with the opportunity for feedback to members of the judiciary and considered judgment about the quality of decisionmaking. Ultimately, it is an empirical question whether judges with specialized training and experience and subject to peer review will be more or less equipped to develop welfare-regarding rule adaptations, experiencing lower rates of initial legal error, than judges with practical but ultimately anecdotal experience.

3.3. Information: Public versus Professional Distribution

One of the critical attributes of the institutional setting for a legal regime is the nature and extent of information sharing. This influences both the generation of shared legal human capital and judicial error-reduction and the nature of judicial incentives. I will focus on two particular types of information: information about cases and decisions, available to others in the legal profession; and information about the performance of individual judges. Legal regimes differ substantially with respect to the sharing of information of both types.

As a starting point, it is important to remember that most courts prepare written statements of their decisions, which are held in the case file. The question concerns when, how and to whom the contents of those decisions are distributed beyond the parties (or their lawyer) and at what cost. The written accounts of case decisions are more widely, probably much more widely, available and at lower cost in some legal regimes than in others. In countries such as the U.S. and Canada, for example, electronic access to the decisions of both trial and appellate courts in the state and federal systems is widely available both to the legal profession and to the public at large. Even decisions that are not "published" in the U.S., in the sense of being citable as precedent, are generally available in electronic databases. In countries such as Germany and France, on the other hand, there has traditionally been more restricted publication, with an emphasis on important cases from higher courts. Although this is changing, perhaps rapidly, electronic access is more limited, making court decisions less available to the legal profession and the public at large.

Even if court decisions are published, however, the amount and type of information conveyed by the published decision varies across legal regimes. Case decisions in the U.S. and Canada, for example, are substantially more detailed in their narration of the facts and substantially more expansive about the reasons for a decision than decisions in countries such as France and Germany. Even with respect to decisions from higher courts, Lasser (2004) has documented the sharp divide in information distribution as between the French Cour de Cassation, the European Court of Justice and the U.S. Supreme Court. Although there may be a lively debate within the judiciary about the facts and arguments in a particular case, this debate is not by and large played out in a publicly accessible way in many countries. In the French Court, although extensive judicial analyses of a case (including policy arguments and citations to precedent) may be distributed to other members of the Court, the published decision is exceedingly brief, written in the style of an extended multi-clause sentence, and conclusory in the sense that it states simply that a particular legal conclusion is or is not reached. As some scholars have observed, "French decisions are not considered to be very enlightening as to the true bases of a court's decision or of the difficulties encountered in arriving at it." (Glendon, Gordon & Carozza 1999) German court decisions are lengthier, provide greater factual detail and more discussion of reasons but still appear to be systematically shorter and less detailed than American cases. Commentators (legal academics) play a key role in France and Germany with their detailed analysis of cases often published alongside judicial opinions. Systematic empirical study of variations among countries would give us a much better sense of how this important attribute varies, particularly within the conventional "common law" and "civil code" categories. Those in the common law world, for example, are well aware that modern American cases are generally far denser in facts and reasoning than modern Canadian and British cases or older American cases.

More restricted transmission of judicial analysis and opinion translates into a lower rate at which individual investments in evidence and legal argument accumulate as shared legal human capital throughout the profession and specifically beyond a particular court at a particular time. If judges never publish decisions, for example, investments made by individual litigants to educate the judge in a particular case may never diffuse into the legal system as a whole; they are then largely lost in terms of reducing the rate of error in the court system.

Restricted publication and opinion-writing practices might also imply not only a lower quantity of information available for processing but also less informative processing. This would follow if the ability to ultimately improve the judicial capacity to distinguish good and bad defendants depends on the capacity to analyze individual presentations as a group, if it is only clear what is 'good' about a good defendant when one has seen what a bad defendant presents, for example. It would also follow if the systemic ability to evaluate, ex post, the evidence and argument presented by good and bad defendants depends on commentary from a variety of sources, such as experts in fields other than law, journalists and other members of the wider public. If more information is available to a wider audience this suggests an increased capacity for the regime to squeeze information out of the material presented by interested litigants.

If, however, there is a substantial risk that shared legal human capital, based in part on the presentations of bad defendants seeking to lead court into error, will be disinformative, degrading the capacity of judges to distinguish good from bad, then limitations on the distribution of information throughout a regime may

protect against error. Indeed, one way of understanding the theory of the career judiciary's greater emphasis on specialized judicial training and the insularity of the professional dialogue among the judiciary, the bar and legal scholars is that it is based on the belief that non-experts in law will introduce error and that legal expertise is best suited to properly filter information.

Publication and distribution practices also influence judicial incentives. The publication of cases in different regimes also reveals different degrees of information about particular judges. In Anglo-American systems, the identity of the judge or judges who decide a case is uniformly included in the decision of the court. American court opinions are almost always signed by an authoring judge. At the trial level, the fact that there is a single trial judge who is identified means, of course, that all decisions are signed. At the appellate level with multi-judge panels, identification of the authoring judge is the rule, with an indication of which judges joined in the opinion; concurring or dissenting opinions are not uncommon and indeed routine at the Supreme Court level. An opinion from a British or Canadian court also identifies the author at the trial level by virtue of the fact that there is a single trial judge; cases at the appellate level increasingly identify the author of a particular opinion and carry concurring or dissenting opinions. Even where an appellate decision is unanimous (as is the older tradition in British and Canadian courts), however, the identity of the judges on the panel is known. In contrast, decisions in France and Germany generally do not identify an author of a decision. Dissenting or concurring opinions are rare if not unheard of. There is therefore much less visibility for individual judges.

Visibility for a judge is important because only then can responsibility for rule-change be attributed. Moreover, the reward to rule adaptation requires that the judge's audience be able to determine whether a particular judge 'got it right' or not. This is clearly much more difficult if a public document is not produced or if any public document fails to reveal the facts or reasons in play, much less the judge who is 'responsible' for the decision. If the potential for legal error cannot be judged, its avoidance cannot be rewarded. A detailed explication of a judicial opinion provided by legal academics, while undoubtedly providing substantial material of value to future litigants and judges, is critically different from the detailed explication of a judicial opinion provided by the judge who rendered the opinion: the latter is attributable to the judge while the former is not.

Finally, publication and explication practices may affect the cost of presenting evidence and legal argument. More extensive case opinions, published widely, may raise the complexity of legal analysis. Hadfield (2000) argues that the level of complexity in law is an important determinant of the level of legal fees, not only via a straightforward cost mechanism but also through the impact of complexity on the competitiveness of the market for legal services. As the model discussed above suggests, the impact of higher legal fees is itself difficult to predict and sensitive to several factors. Higher legal fees may limit the accumulation of legal human capital and hence error-reduction–but in some cases this can eliminate excessive investment in rule change where the benefits of rule change are only realized over time. Higher legal fees can also screen out bad defendants, a benefit if this encourages judges to risk rule-change when it is socially beneficial to do so and/or if information from bad defendants is disinformative, but a cost if judges are less likely to entertain rule change from a pool made up exclusively of hard-to-identify good defendants or if the evidence and argument collected from bad defendants contributes overall to shared legal human capital and error-reduction.

3.4. Judicial Process: Active versus Passive Judging

It is conventional to identify common law courts as following an adversarial process, in which lawyers are active and judges are passive in shaping issues and collecting evidence, and civil code courts as following an inquisitorial process, in which judges are responsible for shaping issues and collecting evidence. The distinction is generally overdrawn: judges in common law jurisdictions are increasingly active in pre-trial stages in managing the identification of issues and the collection of evidence through discovery; lawyers in civil code jurisdictions are able to propose issues and sources of evidence.

But even accounting for the overstatement of the differences, it is true that lawyers play a much greater role in shaping issues and collecting evidence in some legal regimes than in others and that the differences are to some extent located in institutional, as opposed to behavioral, differences. Judges in some regimes are authorized to seek out evidence on their own account, contacting authorities for copies of documents, for example, or appointing experts; judges in a typical Anglo-American regime must look only to evidence that is presented by the parties and would violate clear rules against *ex parte* contacts if they engaged in their own fact-finding. Moreover, there is no general practice of American-style discovery in many regimes, in the sense of the document and deposition (oral examination) demands made and carried out by the parties themselves, subject only to supervision by the court for abuse when parties resist such demands and seek judicial protection. In countries such as France and Germany, for example, evidence is sought by an individual party by making a request that the court obtain particular documents or testimony. Lawyers for the parties propose lines of questioning to be conducted by the judge; no lawyer-conducted cross-examination is available.

The collection of evidence in many legal regimes is also affected by the use of a different judge, an examining or hearing judge, for purposes of collecting evidence. This judge then prepares a summary of testimony (which may not be otherwise recorded), which is forwarded to the judges (often more than one) who will decide the case. In Anglo-American trial courts, in contrast, evidence is heard in the first instance by the same judge (usually one) who will decide the case. The evidence is not reduced to a judicially-determined record but rather is retained in its original received form through transcripts, exhibits, etc.

Judges in some regimes are more active than others in shaping the content and sequencing of issues, with important implications for the collection of evidence and legal argument. In Anglo-American regimes, although there are pre-trial motions governing the collection of evidence or the resolution of questions of law, evidence itself is heard during a single event–the trial–at the conclusion of which a final decision is rendered by judge or jury. In regimes such as those in France and Germany evidence is heard and decisions made in a series of short hearings, in piecemeal fashion, and often on the basis of documents and written submissions alone; there is no ultimate 'trial' at which evidence is presented orally by the parties and a final decision rendered. Judicial control over fact-finding in such a regime is thus importantly exercised through judicial identification of disputed issues of fact and judicial determination of how and when disputed facts will be resolved.

Legal issues, and hence evidentiary investigations, are also shaped by the rules governing appeal. In Anglo-American regimes, the trial court has primary control over the determination of evidentiary issues; appeals are largely limited to legal questions with only narrow review of factual determinations to identify gross errors;

review of jury factual determinations is highly limited, allowing a reversal or remand on appeal only in the event that there exists no evidence to support a jury's (often implicit) factual findings. Litigants forego their opportunity to appeal on legal issues they have not raised, and presented evidence about, to the trial court in the first instance. If an appellate court in these regimes determines that the correct legal rules require additional fact-finding the case is sent back to the trial court to conduct further evidentiary proceedings, but the successful appellant must have sought to raise this issue and enter this evidence at the original trial. In many legal regimes, however, appellate courts are generally free to re-examine facts as well as legal issues. Moreover, if a case is remanded by the appellate court (as it must be in France, for example, if the Cour de Cassation finds legal error, as that court generally cannot enter a decision, it can only annul the first decision) it is sent to a different (set of) judge(s) than the one that entered the initial decision. The new trial court is often not bound by the higher court's interpretation of the law (although this is clearly persuasive) and new factual investigations may continue, whether they were raised in the first instance proceedings or not.

The structuring of evidentiary proceedings and issue determination has critical implications for the type and quantity of information produced in the course of litigation. As most litigators are aware, and the generous approach to the amendment of complaints in some systems recognizes, facts and legal issues often only make their relevance plain as investigation and engagement with the arguments of the opposing side progress. Moreover, some facts and legal issues will only become relevant if other factual and legal issues are resolved one way rather than another: the existence of a contractual term affecting liability will alter the nature of a tort claim, for example. If the term is found to be unenforceable or interpreted not to apply to a particular case, the tort claim will be analyzed in one way; if the contract term is found to be enforceable and applicable in some way, the tort claim will be analyzed in another way.

A judge with substantial control over the sequencing of issues–deciding whether a contract defense will be resolved early or late in the process, for example–will shape the body of evidence ultimately produced by the parties. If the court resolves a contract defense early, and in favor of the defendant, for example, the evidence on tort issues may never be heard by the court (and, one can imagine, never investigated by the parties.) By way of contrast, if the parties exercise control over the presentation of evidence and argument, as in the Anglo-American trial, all issues remain before the court throughout the litigation. This implies that evidence on all issues is generated by the parties and presented to the trial court: even if tort issues are mooted by the ultimate determination of a contract defense, this occurs after the evidentiary proceedings are concluded[5].

The use of juries is sometimes identified as a key difference between common law and civil code regimes, but in reality the use of juries beyond the criminal setting is relatively rare outside the U.S. Civil juries are virtually non-existent in the U.K. In Canada, some provinces prohibit civil juries entirely, while in other provinces the availability of juries is a matter of judicial discretion; in one study, it

[5] This assumes that the contract defense has some contested factual element in it; if it is a purely legal defense, it can be resolved on a pre-trial motion (summary judgment). While in theory this means that the evidence on the tort claim may not be developed until after the summary judgment motion is decided, in modern American trial practice however, it is commonplace for the summary judgment motion to be decided very late in the preparations for trial, even days before a trial is set to begin.

was estimated that juries heard cases in 3-10% of civil trials in British Columbia, and 22% in Ontario in the early 1990s. (Bogart 1999) Even in the U.S. the actual incidence of jury trials is low; Hadfield (2005) estimates, for example, that in 2000 approximately 37% of contested[6] U.S. federal civil cases were disposed of by judicial decision on a pre-trial motion or a bench trial while only 2.5% were disposed of after a jury trial; there were almost three times as many bench trials as jury trials. In the states, jury trials are generally not available in small claims matters, which are estimated to comprise roughly half of all civil filings (Schauffler et al. 2006); very roughly speaking, approximately 1% of other civil matters (contract, tort, probate, property etc.) are resolved by a jury trial, 7% by a judge trial.[7]

Even in matters that do not ultimately reach a jury but which settle or are disposed of by a non-trial motion (summary judgment, for example), however, the expectation of a jury trial may impact the quantity and type of evidence accumulated. Where juries are expected to make final judgments, judicial incentives may be largely unaffected by the likelihood that juries will make mistakes in facts or the application of legal rules. Judicial incentives to admit evidence and legal argument and to apply expanded legal rules are rooted in judicial functions that persist in jury trials, particularly in the form of rulings on pre-trial motions of law. Judges may anticipate that their evaluation is based on their role in the trial outcome (allowing a matter to go to the jury, for example) alone. Defendants anticipating a jury trial, on the other hand, will base their decision to invest in producing evidence and legal argument in substantial part on the anticipated errors that juries might make. If the level of errors made by juries is higher than that made by judges then the model suggests that the impact of jury trials will depend on relative legal costs. If legal costs are sufficiently high that only good types present evidence, then this higher rate of error will reduce legal human capital accumulation as fewer defendants seek to present evidence, and judicial willingness to admit evidence is unchanged. If legal costs are sufficiently low that bad types are also seeking to present evidence, then the higher rate of error in the jury system may increase legal human capital accumulation.

Where it exists, jury decisionmaking may also have an impact on legal human capital accumulation through the impact on information processing. Juries generally provide no written account or reasons for their judgments; a case resolved by a jury only produces written analysis if the judge is called on to rule on matters of law, such as whether the evidence presented was sufficient to justify the jury's result or what is the proper legal standard. A system that relied heavily on juries, then, might be one that generated less information and shared legal human capital to inform future decisionmakers, including judges.

Even if juries today play only a small role in fact in Anglo-American courts, however, the jury tradition may nonetheless play an important role in setting the parameters for other institutional attributes of these legal regimes. Merryman (1985), for example, points to the jury as the explanation for why Anglo-American regimes were structured around a single-event trial with active cross-examination, an institutional structure that survives even where the jury has not. These features

[6] The calculation of trial rates here excludes cases that are abandoned or defaulted or terminated without a final disposition (such as by transfer to another court).

[7] These are rough approximations only, based on samples drawn by the National Center for State Courts. Analysis of the more complete data available for the federal courts in Hadfield (2005) determined that the error rate in the federal data was very high and used auditing techniques to correct the estimates based on official data. A similar method has not been employed with respect to the state data and these estimates should be viewed with enormous caution.

of the judicial process are likely to increase the quantity of evidence that is produced in such systems relative to those in which there is substantial judicial control over the sequencing of issues and incremental decisionmaking. As discussed above, the event trial keeps all contested issues open throughout the case. Even the practice of cross-examination, and its immediacy in a trial setting, may contribute to greater incentives for litigants to invest in evidence and argument, as their lawyers have to be prepared to engage in several lines of inquiry based on the particulars of live testimony from a witness for the opposing side.

Relatedly,a system that limits appellate jurisdiction to legal review of issues raised at trial and the factual record made in the first instance, may generate more investment in and processing of information than a system that allows appellate courts to raise new legal issues, to seek their own facts and to more freely send matters back for further evidentiary development. In the limited jurisdiction case litigants must try to anticipate and keep open for appeal more issues that appear, initially, only peripherally important as they will have no opportunity to supplement the record if later they emerge as pivotal. In a regime with more generous appellate jurisdiction, late-emerging issues can be subject to investments in evidence only after they emerge. It may be, however, that the more generous system that allows litigants to revisit evidentiary decisions after appeal produces more information–if litigants in restricted regimes forego (or fail to adequately forecast the need for) initial evidence on less obvious issues.

Finally, the practice of using a judicial summary of evidence–prepared by an examining judge–as opposed to verbatim testimony and documents may also restrict the production and processing of information. This depends, however, on our assumptions about the quality of information and analysis generated by the different evidentiary processes. It is conceivable that specialized examining judges are better able to sift through evidentiary presentations to render these presentations informative in the sense of contributing to legal human capital. But it is also conceivable that a messier raw database, which includes the full presentations from opposing sides, provides a richer basis for learning, particularly if this database is widely available to a diversity of analysts including commentators, journalists, regulators, non-legal experts, and future legal providers. The recent federal practice in the U.S. courts, for example, of putting all documents filed in a case (not under seal) on a publicly-accessible website[8]–rather than a distilled judicial statement of evidence that may directly or indirectly resolve contested factual claims–has substantial implications for the availability and processing of information into systemic shared legal human capital. The capacity to extract informative legal human capital from case-specific information depends not only on the quantity of information available but also the quality of the analysis of the information, something that may be better done with a diversity of perspectives or with attention from specialized legal experts.

As may be evident from the above discussion, however, judicial control over the shaping of issues and evidentiary processes has implications not only for the quantity and quality of information, but also for its cost. And as we have seen, the cost of producing and presenting evidence and argument is an important factor in the dynamics of legal evolution. The Anglo-American systems, particularly the wide-open American system, are much more costly than the systems in traditional civil code regimes such as France or Germany. There is something quite rational,

[8] This is the PACER system: http://pacer.psc.uscourts.gov/

from an expenditure point of view, about structures that allow investments in evidence to be delayed until it becomes clear whether or not the evidence is needed to resolve a relevant issue–until the contract defense has been rejected by either the first instance or the appellate court, for example, putting the tort claims into play. Lower legal costs are inherently economizing. The question, as we have seen however, depends critically on the mix of defendants: costs must be low enough to encourage good defendants to incur the expense of educating a court that makes mistakes, but if they are too low they may encourage bad defendants to enter the game, and hence discourage judges from risking rule-change. The question also depends on the resolution of yet another empirical question, namely the impact of information from bad defendants on information processing and legal human capital: lower cost systems are better if bad information degrades legal human capital but inferior if such information serves to (sufficiently) improve our understanding over time. What is clear is that the institutional shaping of evidence and issues through the role of judges is an important determinant of this cost parameter.

There is another cost-related implication of different institutional roles for judges in shaping evidence and issues. In the model above it is assumed that litigants can invest in evidence production in all regimes. This not only captures what must be true in practice, even in regimes where judges have the authority to seek their own evidence—even in such regimes litigants may offer to produce evidence—it also makes the results in the model conservative. If judges do play a larger role in evidence production, we might conjecture that judicial incentives to collect evidence directly are, on net, weaker than those facing defendants seeking to avoid monetary damages. Moreover, it may be that the cost of evidence to the court is higher than it is for defendants, particularly if the premise of the model is met, namely that the circumstances that occasion the potential for rule-change are local and changing and hence better known to the participants in the underlying economic activity than to outsiders. Abstracting from potential differences in the cost of producing evidence however, systems with a more active role for judges in the production of evidence, however, are characterized by a public subsidy of legal costs which may reduce the cost to litigants and hence produce the behavioral consequences–encouraging more defendants, good and bad, to seek rule change–analyzed in the model.

3.5. Public versus Private Enforcement of Judgments

In some legal regimes a judgment (to pay damages, for example) is a court order; even private settlements can be entered as court orders. As such, failure to comply with the judgment or settlement is not merely another private wrong or breach of contract; it is contempt of court, a public wrong enforceable using public enforcement techniques, including fines and imprisonment, as well as the services of public officers such as the local sheriff (although the identification of assets is still largely up to the judgment holder, a process that may require private services.) In other regimes, in contrast, a judgment merely gives the holder of the judgment the right to proceed (often privately, through the services of another legal professional known as a bailiff or enforcer) to identify assets against which the judgment can be exercised; there is no sense in which the failure to comply with the order is a public wrong, merely another private wrong. Thus there is no procedure for seeking a contempt order enforced by punishments such as fines or imprisonment.

The institutional setting for enforcement of judgments has implications for what

would otherwise seem to be an element of the substantive law, namely the level of damages.[9] Defendants' decisions to invest in the production of evidence and legal argument–to seek rule change–are determined not by the ordered amount of damages but rather by the amount they expect will be ultimately collected. (If we recast the model so that plaintiffs are the ones who may seek rule-change and have to decide how much to invest in producing evidence and argument, the enforcement scheme will affect how much they expect to collect in damages if they prevail, and the costs of that collection process.) It seems reasonable to conjecture that a regime that treats failure to pay up on a judgment as a public offense–contempt of court punishable by fines or imprisonment–and that subsidizes the collection process through the employment of public resources such as the sheriff's office translates a larger share of ordered damages into collected damages, effectively raising the level of damages that influences defendant behavior and hence the dynamics of legal evolution. Public enforcement regimes are predicted by the model, therefore, to generate greater incentives for defendants to seek legal change and invest in producing evidence and legal argument. Again, whether this improves the welfare of the regime then depends on whether judges are discouraged by an increase in the likelihood that bad defendants seek rule change and the impact of evidence from bad defendants on legal human capital.

3.6. The Legal Profession

Although much is made of the different 'style' of legal practice in the U.S. as compared to civil law (and indeed, other common law) countries, differences in the organization and regulation of the legal professions across countries have historically been small. The legal profession in most regimes is a self-governing entity with substantial controls over entry and practice, including restrictions on the form of practice (generally a restriction to partnerships) and competition. Changes in the professions worldwide over the last several decades have increased the extent of differences across countries, although the greatest divergence appears to be between the U.S. and most other countries.

Although this is changing, it appears generally to be the case that law practices are, on average, larger in the U.S. than other regimes. Indeed, in some countries, lawyers have historically been prohibited from being employed by other lawyers (requiring all lawyers to practice as partners with direct client relationships) and from opening more than a single office. Advertising restrictions have largely been eliminated in the U.S. and (more recently) other common law jurisdictions such as Canada and the U.K., whereas they continue in many regimes in forms ranging from outright bans on anything other than a nameplate to prohibitions on the identification of past clients or specialties. Similarly, whereas bar association price controls have long been struck down in these common law jurisdictions as antitrust violations, statutory fees continue to be found in many countries. Many jurisdictions follow the practice of requiring a losing party to pay the winner's legal fees—sometimes governed by statutory guidelines—and prohibiting contingent fees; the U.S. appears to be an outlier in this regard.

Control over who may perform legal services varies extensively across different regimes. In the U.K., for example, many legal services may be provided by those

[9] There are notable differences in the substantive law of damages across different regimes. In general the U.S. system allows for higher damages–punitive damages, multiple damages, non-compensatory (pain and suffering) damages–than is the case in most other regimes.

who are not admitted to practice and in many civil law countries in-house legal counsel can be provided by those not admitted to the bar; in the U.S., all legal advice and services must be provided by a member of the bar. Furthermore, essentially all countries restrict the practice of law to those who have been admitted to practice in that country and many limit the capacity of foreign lawyers to form associations with domestic lawyers.

The organization and regulation of the markets for legal services has significant implications for the evolution of legal rules because of the effect on legal costs. In general we would expect less competitive legal markets to generate higher legal costs than more competitive markets. Greater restrictions on entry, advertising, pricing, forms of practice, a priori, lead to higher costs. But markets for legal services are complex and subject to multiple, more subtle, sources of non-competitiveness. (Hadfield 2000) Legal work is a credence good: its quality is difficult to judge, even ex post by experts; as a consequence it is difficult for consumers to compare across providers or select an appropriate cost/quality combination. Legal work is also often highly specialized, both across fields and across clients and cases; as a consequence, there are natural entry barriers that reduce competition among suppliers. Litigation services are often supplied in the context of a process akin to a sunk cost auction: marginal decisions about investing in the next steps of litigation are determined, at each step, by how much is at stake and not how much has already been spent. This is true in a system in which the court is empowered to enter a default judgment against the litigant who stops showing up and incurring legal costs, for example. As a consequence it is easy for legal expenditures to exceed the amount at stake.

These features of legal markets are to some extent independent of the legal regime, and inherent in the nature of the nature of the service being provided. But nonetheless we may expect that features of the institutional environment will affect costs. The credence quality of legal services and the extent of specialization is, at least in part, a function of the level of legal complexity; this in turn is a function of the quantity of legal information available and the elaboration of rules that emerges through legal adaptation to new and changing circumstances. The model in Section II does not allow for this feedback effect, but we can certainly see that it may be relevant: as law adapts, it becomes more complex and hence potentially more expensive as legal markets become less competitive. Institutional restrictions on lawyer specialization, which include regulations that directly or indirectly limit the size of law firms, may thus help to keep legal costs in check. We might also expect that institutional features of judicial process might influence the extent to which legal costs are subject to the over-investment problem of the sunk cost auction: judicial control over evidentiary proceedings may give litigants greater capacity to shape their investments to the marginal value of the investment. In addition, some legal regimes do not give the court the authority to enter a default judgment, which is what makes past investments irrelevant for a litigant who is contemplating whether to make further investments in order to protect the full amount at stake. The litigant who quits before the end in the Anglo-American litigation process foregoes the full amount at stake through default judgment. More generally, where there is greater responsibility placed on the court to adduce evidence and argument, litigants face less risk that if they fail to present evidence rebutting even a weak presentation from the other side they will lose; passive courts judge only the relative legal arguments and evidence made, not their absolute quality.

The structure of the legal services market in a legal regime may also affect ex-

ogenously determined levels of judicial error and information processing. If an open-access legal services market and/or a lack of professional allegiance and discipline generates less reliable/lower quality evidence and argument, judges may make more errors and litigant presentations may be less informative in the sense of increasing shared legal human capital. In turn, both judges and litigants may be more reluctant to take on the risks of rule-change. But, as we saw with respect to the career versus capstone judiciary, it is also possible that a competitive open-access legal services market is able to suss out real welfare effects better than a more closed self-reproducing professional system. Systems that prohibit lawyer specialization, for example, probably generate lower quality evidence and legal argument. Again, it is an empirical question of the trade-offs between expertise and diversity and between more or less formalized or hierarchical systems of evaluating quality.

3.7. Codes and Statutes

Consistent with my claim that the emphasis in conventional analysis on the presence of 'codes' in civil law countries is misplaced, I have left this distinction for last. It is unclear what to make of the presence of a comprehensive code in a legal regime. To some extent, this could be understood merely as a matter of legislative organization, with all statutory provisions (at least with respect to private obligations in property, contract and tort) collected in a single title. The tremendous volume of legislation in Anglo-American countries belies the historical emphasis on the distinction between judge-made law and legislator-made law. Nor does there appear to be a systematic difference in the amount of detail in civil and common law statutes and regulations: both regimes evidence both brief, generally stated provisions (such as the French law of torts and the U.S. Sherman Act) as well as lengthy detailed provisions (such as the environmental legislation and regulations enacted in many countries.)

The legislative and/or administrative process by which statutes, regulations and codes are developed and enacted is probably far more important than the identification of law as code or statute. From the perspective of the model presented in Section II, what is most critical is the quality of the information that makes its way into statutory or code provisions. If legislatures, regulators or private law drafting bodies (such as law reform commissions or committees of legal academics[10]) are capable of identifying the need for rule adaptation, obtaining the necessary information to adequately modify the rule, and transmitting that modified rule to courts, then there is less demand from a social welfare point of view for judicial rule adaptation in the context of adjudication. It is likely unrealistic, however, to think that any legislature or other law-drafting body can operate in this way in a complex diversified economy: a critical premise of the analysis in Section II is that there is information embedded with the participants in a market that it is costly to obtain in other ways. Collective effort to present evidence for rule change to legislators is subject to the free-rider problem; the defendants facing potential damages in court, in contrast, perceive a self-interest in undertaking costly

[10] In the U.S., the American Law Institute, a non-governmental organization composed primarily of law professors, judges and other legal experts, drafts model laws which are often enacted largely unchanged by state legislatures, as well as authoritative *Restatements* of the law in specific areas (torts, contracts, etc.) which are widely used by judges in resolving cases. Mattei (1997) notes the similarity between this role for academics in statutory development in the U.S. and the conventional role for academics in the generation of code revisions in civil law regimes.

investment in conveying what they know to a potential lawmaker. Moreover, even legislatively-adapted rules must be implemented in practice by courts; often, as we have seen, this requires courts to have expertise in understanding a market or transaction or relationship or organization sufficiently well to be able reliably to distinguish between heterogeneous, good and bad, litigants. The problems of legal interpretation and application, even of expertly-designed and updated rules, require legal human capital and the differential capacity of legal regimes to generate and deploy legal human capital is still a relevant dimension on which to compare these regimes.

Lasser's (2004) comparative study of the French, European Union and U.S. high courts emphasizes that judges everywhere must interpret the law, be it vague law that was enacted 200 years ago (as with the French code provisions governing tort actions) or detailed law that was enacted only 2 years ago. His study finds this as a constant across regimes. The question is how interpretation is done, whether with a view to the continuity or the adaptation of law to the particular circumstances of a case. It is often argued that, although apparently similar, civil codes and common law statutes invite very different methods of interpretation and application (Valcke 1996). But this is a claim not about an institutional difference per se but rather about a behavioral difference, which I argue is a consequence of other institutional differences that affect legal costs, judicial incentives and litigant incentives. The difference lies not in the source of law, but in how law comes alive in the hands of litigants and judges.

4. CONCLUSION

We began with the question of which legal regimes better support economic growth and the development of markets. The analysis in this paper suggests that making progress on that question will require moving beyond the simple dichotomy between common law and civil code regimes that has thus far dominated the literature. This model suggests that, abstracting from (admittedly important) issues of judicial corruption and the quality of law enacted in legislatures, the important distinctions between legal regimes are found not in the reliance on code versus caselaw but rather in the institutional determinants of judicial incentives and the capacity for a legal regime to generate investments in legal human capital that reduce legal error.

In highly generalized terms, the analysis suggests a multi-dimensional institutional continuum that can explain the quality of law generated by legal regimes. At one extreme point is a wide-open public regime in which judges are evaluated by a wide and diverse public audience with access to a large body of individualized information about the decisionmaking of particular judges and the welfare effects of rules; evidence and legal analysis is cheap to generate, collected by courts in large quantities on the full range of issues implicated by a case and preserved in raw form for future analysis by a wide range of individuals capable of (collectively) evaluating the welfare implications of legal rules; judges come to the bench with extensive knowledge about legal environments and welfare effects and large numbers of judges are highly rewarded for welfare-promoting legal adaptation; and defendants face high penalties under existing rules.[11] At another extreme point is a closed professionalized regime in which judges are evaluated by an insulated

[11] But not so high that they abstain from the activity for which they might be sued altogether.

audience of other judges with little information about the welfare effects of rules and a more public audience that can evaluate welfare effects is provided little in the way of individualized information about the decisionmaking of particular judges; evidence and legal analysis is expensive, courts focus their collection of evidence on a narrow set of issues and evidence is not preserved or is preserved only in summary form; judges come to the bench with little expertise about the relationship between legal environments and welfare effects and few are rewarded for welfare-promoting legal adaptation; and defendants face low penalties under existing rules. Neither of these extreme points is clearly associated with the conventional paradigmatic common law or civil code regime and the analysis demonstrates that the effort to work within that conventional dichotomy obscures factors that play a role in the regime's capacity to generate quality law. For example, the open access regime obviously shares features with common law systems, but whether the generalist capstone judiciary that also tends to characterize these regimes produces higher exogenous legal human capital than the specialized career judiciary that tends to characterize civil law systems is uncertain. As another example, as we have seen, it is unclear whether legal costs, particularly relative to damages, are systematically higher or lower in common law as compared to civil law systems: the organization of the legal profession and markets for legal services appears to differ more between the American and all other systems than as between common law and civil law systems generally.

Moreover, neither extreme point on this continuum is clearly associated with lower or higher quality law. As a generalization, the open public regime with cheap evidence, high damages and high exogenous legal human capital will be more likely to experience rule adaptation–provided that there is no influx of disinformation from bad defendants generated by cheap relative legal costs and change-happy judges who see a high expected return to rule-change even in the face of this influx. As a generalization, closed professionalized systems are likely to produce more rule-following, assuming that a career judiciary with professionalized training and evaluation does not generate better welfare evaluations than an open system–an assumption that might be unwarranted if disinformation poses a significant obstacle. Even assuming these generalizations hold, however, it is not clear that–given the potential for judicial error and the cost of evidence and legal argument–more adaptation is better than less, even under the premise that an established rule is sub-optimal. As we have seen, more extensive rule change prior to long-term reductions in legal error may represent an over-investment in change, and the system that engages in a more gradual shift may do better. What does seem clear is that better judicial information processing is unambiguously good and that wider distribution of judicial information (about cases and about judges) promotes higher quality law *provided* that this wider distribution is effective, over time, at extracting expertise from a mix of good and bad information. If this wider distribution includes a diversity of commentators, this criterion seems more likely to be met. Thus regimes that generate publicly available data about reasons and facts, and incorporate the welfare lessons from those data into the system of rewards facing judges appear likely to do better than those that produce and distribute little to a broader audience.

These are stylized conclusions only, however, based on what we know to be overly generalized pictures of real world legal regimes. My review of the institutional landscape thus highlights the need for two important empirical projects. First, we clearly need to deepen our attention to the specifics of the institutional

environments in different countries that affect judicial incentives and the accumulation of legal human capital. Classifying regimes as either civil code or common law is not likely to prove helpful. Rather, we need to know far more, country-by-country, about the structure of judicial rewards and the information available to those who judge the performance of judges and hence influence the structure of judicial rewards and penalties. This suggests a far more refined comparative project than the one that currently engages comparative law and economics scholars. My analysis suggests that the key variables include the identity of those who evaluate judges and thus determine their reward structure (senior judges? politicians? lawyers? journalists?) and the information available to those evaluators (are decisions published? with what level of detail on factual findings and reasoning? is the information filtered by a judge or available in its original form as verbatim testimony and exhibits?). The structure of courts is important (are judges identified? do they sit alone or in panels? how collegial are courts? are opinions attributable to individual judges? who determines evidentiary questions?) The exposure of judges to the welfare effects of their decisions may also be important (have judges been exposed to the practical problems of clients? do they enter the judiciary directly from their legal education or only after a period of practice? what training do judges have in evaluating evidence about the impact of legal rules and assessing policy questions?) And, critically, how is information learned by judges in a particular case diffused through the system (again, are decisions published and how detailed is the presentation of facts and reasoning?)

With a more refined descriptive catalogue of differences between legal regimes, we will be in a position to conduct a second important empirical project: more careful study of the relationship between these institutional variables and economic growth. As many have noted, the classification of regimes on the basis of legal origins is somewhat crude and makes it difficult to sort out the effect of a particular legal history from other cultural or human capital imports. To be fair, legal origins is often chosen as an explanatory variable because it is exogenous. The slide from that econometric technique into generalizations about the legal institutional environment and policy recommendations, however, is not warranted. My analysis suggests more specific legal variables—which undoubtedly vary across countries that are otherwise classified as belonging to a particular legal family—on which empirical work can focus in the effort to assess the role of legal factors in economic growth and development. Not only might this help disentangle confounding effects from the inheritance not only of legal rules but also human capital and other cultural attributes, but it may also help to increase the precision of our estimation techniques, as we can make use of the substantial variability in legal regimes, variability that is masked by the macro division into legal families.

The policy prescriptions that flow from the analysis I have presented suggest that the choice facing transition and developing economies is not between writing codes or borrowing volumes of caselaw. Rather it is a series of choices about institutional attributes such as the publication and expansiveness of legal opinions, the institutional structuring of judicial incentives for rule adaptation and the mechanisms by which information about the welfare effects of particular rules makes its way to judges and those who evaluate judges. The model also links the effectiveness of courts to the organization and regulation of the legal profession. Lawyers play a key role in the generation and transmission of specialized legal human capital, specifically expertise about the relationship between legal rules and welfare. As the model makes clear, the adaptation of law to local and changing circumstances

over time requires that litigants face incentives to invest in lawyers' efforts to produce evidence and innovate legal arguments. The organization and regulation of the legal profession—the extent to which the market for lawyers is competitive, for example—will influence the path of the law, both through the cost of legal services and the cost of generating a certain level of expertise. Rules governing the organization of legal practice—limitations on firm size or prohibitions on employment for example—influence the extent to which legal human capital is shared among those in the profession. Professional control over legal ethics will also have an impact on the potential for disinformation in courts. The model also suggests that countries attempting to transition quickly to a legal regime that supports economic growth and market development may need to take specific steps to overcome both inadequate judicial incentives and an initially high level of legal error. Particularly in systems transitioning from socialist or communist governance to market democracy, it is likely that the shared level of legal human capital about the relationship between legal rules and outcomes will be low by virtue of the lack of experience with markets. In these settings, policy efforts to effectively import legal human capital into the profession and judiciary may be necessary. This has implications, for example, for the rules governing the access of foreign lawyers and law firms to practice in the new regime as well as for the access the profession and judiciary has to the work of lawyers and courts in other jurisdictions.

Moving beyond the common law/civil code dichotomy to a richer institutional landscape also promises to improve the richness of our theoretical models of the institutional factors that influence the capacity of a legal regime to support economic growth, in a way that is sensitive to the undoubtedly different legal needs facing developing, transition and mature market economies. As the theoretical framework used to develop the institutional overview in this paper suggests, optimal legal institutions depend in part on the level of legal human capital (judicial error rates), the capacity of a judicial audience to evaluate judicial efforts to adapt law in welfare-improving ways and the costs of generating sufficient evidence and legal analysis to improve judicial decisionmaking, as well as the extent to which established (or imported) rules deviate from optimal rules. These factors undoubtedly vary with the level of development in a legal regime, and thus institutions well-suited to a mature legal setting may be counterproductive in a developing or transition environment.

Finally, a richer institutional landscape is likely to help us make progress on understanding the determinants of a problem I have set aside in this paper but which has dominated the comparative economics of legal institutions, namely the problem of corruption and the divergence between judicial preferences and social welfare. A thicker description of the institutional settings in which judges (and lawyers, who participate in corrupt judicial practices) operate can help to understand the environmental factors that contribute to corruption. The emphasis in this paper on the mechanisms that support the generation and distribution of information and the level of shared legal human capital, together with the structuring of judicial incentives and the organization of the legal profession, provide clues about how we might advance our analysis of corruption. Identifying corrupt judicial decisionmaking is in part a problem of legal competence, monitoring and information: a closed legal system that produces little information shared with a wider audience capable of interpreting judicial decisions (and hence identifying cases in which courts 'get it wrong') is likely to foster corruption. Relatedly, if shared legal human capital is low (sincere judicial error rates are high) it is likely to be the case both that corrupt decisionmaking is difficult to distinguish from sincere error,

and that a judge's audience lacks the expertise to make the distinction. Efforts to control corruption may, indeed, be part of the explanation for why legal regimes with high rates of error establish institutional mechanisms that generate high rewards to rule-following and low rewards for even accurate rule adaptation; as we have seen, restricted information dissemination and judicial anonymity are likely to promote greater rule following as this hampers the capacity for judges to be recognized for their rule adaptation. As we have also seen, however, such mechanisms are also likely to retard the accumulation of the shared legal human capital that, in the long-run, can improve the capacity for identifying corrupt decisions and hence reduce the incidence of corruption. Moving beyond the common law/civil code dichotomy to richer empirical and theoretical models of the relationship between legal institutions and legal behavior is thus a critical next step in furthering our understanding of the relationships between legal regimes and economic growth and development.

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