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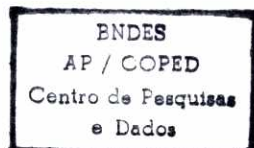
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## **JUDICIAL SYSTEM PERFORMANCE AND ECONOMIC DEVELOPMENT**

Armando Castelar Pinheiro



October - 1996

Planning Area

Economics Department - DEPEC



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*Ensaio BNDES*  
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**JUDICIAL SYSTEM  
PERFORMANCE AND  
ECONOMIC  
DEVELOPMENT\***

Armando Castelar Pinheiro\*\*

\*Paper originally prepared for the seminar *Economic Growth, Institutional Quality and the Role of Judicial Institutions*, IRIS, University of Maryland, Washington, D.C., December 5-6, 1996, and as part of the research project *"Economic Costs of Judicial Morosity: Development of a Methodology for Cross-National Comparisons and a Preliminary Estimation of Their Aggregate Significance in the Brazilian Case"*, conducted by IDESP, São Paulo, Brazil.

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Rio de Janeiro, October - 1996

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## **Contents**

Abstract .....	5
1. Introduction .....	7
2. What Is a Well-functioning Judicial System?.....	8
3. How do Judicial Systems Affect Economic Growth?.....	20
4. Empirical Evidence .....	34
5. Final Remarks .....	42
References .....	45

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## **Abstract**

The role of judicial systems in determining economic performance has gained increasingly attention in recent years. Nonetheless, the literature lacks a clearly articulated framework to examine how judicial systems influence the investment and production decisions of economic agents. This paper tries to fill in this gap. It examines what constitutes a well-functioning judiciary, analyzes how dysfunctional judicial systems compromise economic growth, and reviews the relevant empirical literature. It concludes with some remarks about why, despite the widespread perception that well-functioning legal and judicial systems are key to the success of market-oriented reforms in developing and transition countries, judicial reform has lagged so much behind other reforms.



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"If efficiency is the fundamental problem of economists, justice is the guiding beacon of law professors. ... The difference between a discipline that seeks to explain economic life (and, indeed, all rational behavior) and a discipline that seeks to achieve justice in regulating all aspects of human behavior is profound. This difference means that, basically, the economist and the lawyer live in different worlds and speak different languages" [Stigler (1992, p. 462-463)].

## **1. Introduction**

In recent years, the interest in the role played by institutions in shaping economic development has grown steadily.<sup>1</sup> While many authors list them among the main determinants of growth, some go as far as singling them out, together with economic policies, as the most important determinant of a country's success in accomplishing economic development [North (1981) and Olson (1996)]. In fact, according to some estimates [Scully (1988)], countries with good institutions are twice as efficient and grow three times as fast, in per capita terms, as countries with poor institutional endowments.

Among the institutions that most influence economic performance, the legal and judicial systems play a prominent role. The rapid increase in the number of law and economics associations throughout the world attests to this recognition, as does the growing number of economics professors teaching in law schools.<sup>2</sup> There are essentially three ways through which law and economics may interact [Stigler (1992)]. First, economists may assist courts and lawyers in general in antitrust cases, in anti-dumping and other types of foreign trade litigation, and policy-oriented cases in general.<sup>3</sup> Second, economics helps understanding incentives to litigate, the process of litigation itself and the costs involved. This strand of the literature has also developed quite successfully in recent years, accompanying the rise in the number of lawsuits, the cost of trials and the size of the compensations awarded.<sup>4</sup>

A third area is analyzing the role of legal and judicial institutions in determining the pace and form of economic development. What are the merits and flaws of different legal and

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1 See, for instance, Summers and Thomas (1993), Bruno (1995), Lin and Nugent (1995) and World Bank (1996). North (1990, p. 97) defines institutions as "the humanly devised constraints that structure political, economic and social interaction. They consist of both informal constraints (sanctions, taboos, customs, traditions and codes of conduct), and formal rules (constitutions, laws, property rights)... Together with the standard constraints of economics they define the choice set and therefore determine the transaction and production costs and hence the profitability and feasibility of engaging in economic activity."

2 See, for instance, Van den Bergh (1996), Cooter and Rubinfeld (1989) and Stigler (1992).

3 As noted by Cooter and Rubinfeld (1989, p. 1,068): "Policy-making courts need a behavioral theory to predict responses to changes in law and to evaluate these responses systematically according to a normative standard. Economics was able to provide both the behavioral theory and a normative standard that legal theory lacked."

4 See Cooter and Rubinfeld (1989) for a review of the literature on this subject.

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judicial systems? What are their distributive impacts? How should legal and judicial systems be reformed in developing and transition economies to foster economic growth? Who are the beneficiaries and the opponents of judicial reform in these countries? These are all questions that economics can help to answer. In fact, the importance, even urgency, to answer them is currently widely acknowledged. As remarked by a well placed analyst, "es cada vez más amplio el consenso sobre la vinculación entre justicia y desarrollo económico" [Hausman (1996, p. 41)].<sup>5</sup> In particular, as developing and transition economies adopt market-oriented policies, such as trade liberalization and privatization, and many transactions formerly carried out inside large organizations or under public sector coordination are being transferred to the market, enhancing the need for well-functioning judicial systems that protect and enforce rights and contracts.<sup>6</sup>

In contrast to the importance and urgency of the subject, the size of the literature on the role of judicial systems in fostering economic development is not large. Even more remarkable is the little progress that has been made so far with respect to measuring and testing the impact of the weakness of judicial systems on economic performance. As remarked by Sherwood, Shepherd and Souza (1994, p. 4): "Self-evident though it may seem, the proposition that a strong judicial process enhances economic performance is far from proven. The extent of that enhancement has not been estimated or even guessed at."

This paper tries to fill in part of this gap. It has a dual objective. First, to develop an analytical framework that helps understanding *how* an inefficient judicial system compromises economic growth. Second, to review the literature on the relation between judicial systems and economic performance. Special attention is given to studies with empirical content. The paper is structured in five sections. Section 2 tries to establish what constitutes a well-functioning judiciary. Section 3 examines how judicial systems influence growth. Section 4 critically reviews the empirical literature. Section 5 concludes.

## **2. What Is a Well-functioning Judicial System?**

Legal systems in market economies – or, as Cooter (1996) puts it, in rule-of-law states – establish the rules of the game and the mechanisms individuals may resort to enforce their rights. As

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5 See also *The Economist* (1996).

6 As noted by Summers and Thomas (1993, p. 249): "The establishment of a well-functioning legal system and secure property rights is an essential complement to economic reforms." Willig (1994, p. 156) notes that: "The first lesson is that in order to be effective, the divestiture of state-owned enterprises requires a suitable set of institutions, a suitable legal system, and a strategy that is tailored to the country's circumstances."



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pointed out by Hay, Shleifer and Vishny (1996, p. 559), “[t]he rule of law means, in part, that people use the legal system to structure their economic activities and resolve disputes. This includes learning what the legal rules say, structuring their economic transactions using these rules, seeking to punish or obtain compensation from those who break the rules, and turning to the public officials, such as the courts and the police, to enforce these rules.” In particular, economic law performs four major functions.<sup>7</sup> First, it defines and protects property rights, particularly private rights. Second, it sets rules for trading those rights, not only among private agents, but also between these and the state. Third, it defines rules for entering and exiting the market. Fourth, it promotes competition and regulates behavior in sectors where monopolies prevail. In addition, as remarked by Sherwood, Shepherd and Souza (1994, p. 6):

“In market systems, the legal framework (ideally at least) will establish durable property rights which are difficult to alienate arbitrarily and provide means to assure those rights are clearly assigned across all property; allow substantial activity; allow substantial freedom for association in forming companies and, by allowing for limited liability, both encourage the raising of capital and provide for orderly dissolution of associations, firms, joint ventures and so on.”

No matter how good is a countrys legislation, it will not stand up by itself. To be effective, laws need to be supported by well-functioning enforcement and dispute-resolution institutions. In this way, the courts play a central role in market economies, guaranteeing that the rule of law in fact applies. However, although the importance of well-functioning judiciaries in market economies is widely recognized, just how important they are is still an open issue. To advance in obtaining an estimate, it is important to articulate a description of how judicial system performance influences economic activity. In order to do that we need some benchmark of what constitutes a well-functioning judiciary. Broad definitions like “a good judiciary is the one that ensures that justice is made and accessible to all, that laws and rights are respected and that all of these are properly enforced at a low cost to society” (e.g. Shihata, 1995, p. 14) capture the essence of the problem but are difficult to use. In particular, they require complex subjective judgments to resolve the trade-offs inherent in pursuing these various objectives. Stigler’s (1992) remark, reproduced in the epigraph of this paper, gives an obvious signal of alert. Caution is also advocated by Sherwood, Shepherd and Souza (1994, p. 9):

“Effective enforcement is inevitably a trade-off between *justice*, in terms of identifying the law, determining the facts, reaching a correct decision, setting a remedy and apportioning costs, and *efficiency*, in terms of the time and the public and private costs of conducting the litigation.”

In the same vein, Cooter and Rubinfeld (1989, p. 1,068) warn that while “[t]he behavioral theory (that) treats laws, like

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7 World Bank (1996) and Gray et al. (1993), in Sherwood, Shepherd and Souza (1994).

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prices, as incentives for behavior... has been well received... (and) [t]he normative theory of efficiency is relatively uncontroversial... as a broad guide to policy... controversy is abundant when efficiency is seen as dominating other norms of fairness and justice."<sup>8</sup>

Defining precisely what is the "ideal" judicial system is difficult not only because it involves subjective judgments, but also because, as argued by Sherwood, Shepherd and Souza (1994, p. 7), the "line between a legal system and its judicial system is not self-evident." In particular, the courts' ability to provide fair, predictable and timely verdicts depends on laws being sensible, well written, and consistent with other laws and business practices. Contracts, too, whether between private parties or involving the state, have to be properly drafted if courts are to function efficiently. Contracts need to be consistent with legislation and provide for verifiable and enforceable clauses. It is necessary, therefore, to have not only competent judges and legislators, but also well-prepared lawyers. This is bound to be an especially critical problem in transition economies.<sup>9</sup> In the remainder of this paper, I will often speak of judicial and legal systems as a single institution.

Therefore, although finding a definition of what is a good judicial system is not difficult, selecting one that can be used for measurement purposes and that satisfies all tastes and ideologies is probably an impossible mission. Sherwood, Shepherd and Souza (1994, p. 7) propose, as an alternative, that one look instead at the results that the judiciary produces in terms of "assured access, predictable outcomes, timely outcomes, and adequate remedies." Hay, Shleifer and Vishny (1996, p. 560) go a step further, and suggest that the quality of a judicial system could be measured by observing the extent to which people resort to it rather than to competing mechanisms of conflict resolution and enforcement: "To be competitive, the legal system has to outcompete other, typically private, mechanisms of enforcing agreements and resolving disputes."<sup>10</sup> A similar but even more indirect means of assessment is advanced by Williamson (1995, p. 181-182):

"The upshot is that the quality of a judiciary can be inferred indirectly: a high-performance economy (expressed in governance terms) will support more transactions in the middle range [i.e., long-term contracting outside hierarchical organizations] than will an economy with a problematic judiciary. Put differently, in a low-performance

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8 See also Dixit (1996, p. 13-15).

9 As reported by the World Bank (1996, p. 93), "[t]ransition has brought a dramatic rise in the number of lawyers and the training opportunities open to them. In China, for example, the number of licensed lawyers rose from only 3,000 over the entire 1957-80 period to more than 60,000 in 1995. Law school enrollments today exceed 30,000, and the government has announced a target of 150,000 lawyers by 2000. Improving legal education is also perceived to be an important element of judicial system reform in Latin America [Rowat, Malik and Dkolas (1995)].

10 The size of the informal sector is, in this sense, an indicator of how competitive is the country's legal and judicial systems. By operating outside the legal system, informal sector firms forego the right to be protected by the law and the courts.



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economy the distribution of transactions will be more bimodal – with spot-market and hierarchical transactions and fewer middle-range transactions.”

I will look at the implications of Williamson’s suggestion in the next two sections. Meanwhile, we may look at how the outputs of a judicial system affect the decisions of economic agents by focusing on the frequency of litigation. Note that a well-functioning judicial system is not necessarily one that is constantly in use. On the contrary, its role is to stimulate people to transact, while being confident that they may, if necessary, resort to the courts to enforce contracts and protect their rights. Therefore, we may assert that a good judiciary should not lead to either too much or too little litigation.

A judiciary that leads to a lot of litigation is not being efficient on at least two accounts. One, because it is consuming too much resources, both by the litigants (lawyers etc.) and the public sector (e.g., judges, administrative personnel). Two, because it indicates that laws and rights are not sufficiently well defined and/or respected. It is also probably a sign that the system is not being efficient in discouraging frivolous cases. On the other hand, too little litigation is also a sign that the judiciary is not performing well. No matter how well laws and contracts are transparent and well written, in practice one should expect litigation to occur, because there will always be contingencies that are hard for the parties to foresee (for instance, in a 50-year concession) or that are not contractible (car accidents etc.). Too little litigation is probably an indication that firms and individuals do not trust that the judiciary will efficiently protect their rights. It may also indicate that the costs of resorting to the judiciary are too high, in practice precluding universal access by the parties.<sup>11</sup>

Obviously, the optimal level of litigation is dependent upon many factors, such as the nature of the legal system – common, Muslim, civil law etc. – the complexity of the economy (the production of knowledge, for instance, requires more legal protection than that of agriculture goods), the nature of capital ownership (in the state sector, litigation is resolved by administrative fiat), and the availability, cost and quality of alternative mechanisms.<sup>12</sup> Nonetheless, by examining how the outputs of the judicial system affect economic agents’ decisions of whether or not to resort to the judiciary, we may advance on defining what constitutes a well-functioning judiciary.

To understand the decision to litigate one has to see what is gained and lost when doing that. A person goes to court when the expected utility of doing so is larger than otherwise. In the same fashion, litigants resort to an out-of-court solution when

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11 In England, for instance, for claims below \$31,000, the costs of litigation generally exceed the value of compensation awards [*The Economist* (1996, p. 47)].

12 See, for instance, Gray (1991).

both parties' utility is larger in that circumstance than otherwise. Formally, let  $U_N$  be the utility of not litigating;  $U_C$  the expected utility of resorting to court; and  $U_A$  the expected utility of using an alternative mechanism. The dispute will not go to court if  $U_N > \max(U_C, U_A)$  for both parties involved. An alternative resolution mechanism will be preferred if  $U_A > \max(U_C, U_N)$  also for both parties. The outcome is undefined if for one party  $U_N > \max(U_C, U_A)$  and for the other party  $U_A > \max(U_C, U_N)$ . In the remaining cases, the dispute will be taken to court.<sup>13</sup> Each party's utility may be expressed as:

$$U = U[g, \sigma^2]$$

where:

$$g = E(\text{net gain}) = E(\text{gain}) - E(\text{cost of litigation});$$

$$E(\text{gain}) = E[G/(1 + i)^T] = p \cdot V E[1/(1 + i)^T];$$

$$E[1/(1 + i)^T] = \sum_{t=1}^{\infty} p_t/(1 + i)^t; \text{ and}$$

$$E(\text{cost of litigation}) = E[c_A + C/(1 + i)^T] = c_A + [pc_G + (1 - p)c_L] [\sum_{t=1}^{\infty} p_t/(1 + i)^t].$$

$U_1 > 0$  and  $U_2$  is negative, equal to zero or positive depending on whether the person is risk averse, risk neutral or risk lover, respectively.

In these expressions,  $G$  is the gross gain, a random variable that may assume values 0 or  $V$ , where  $V$  is the value of the property right in dispute.<sup>14</sup> The probability of winning is  $p$  and  $T$  is the number of periods until a decision is reached.  $T$  is also a random variable, with  $p_t$  ( $t = 1, 2, \dots$ ) being the probability that the cause is settled at  $t$ . I assume that the nature of the decision is independent of how long it takes to be reached.

Since only after  $T$  periods the litigant will know whether he or she won the case ( $G = V$ ) or lost it ( $G = 0$ ), the litigant will receive a right that has a present value equal to  $V/(1 + i)^T$ , where  $i$  is the interest rate. The expected cost of litigation will depend in addition on  $c_A$ , the cost of access, i.e. of using the specific dispute resolution mechanism, and on  $c_G$  and  $c_L$ , that reflect other costs in case of a favorable or unfavorable verdict, respectively.<sup>15</sup> In addition:

13 The following analysis centers on how the quality of the judicial system affects the behavior of agents. Cooter and Rubinfeld (1989) conduct a similar analysis centered on how the procedural rules, the perceptions of agents and the nature of the dispute affect the parties' behavior on the various stages of a legal dispute.

14 "Property rights include the right to use an asset, to permit or exclude its use by others, to collect the income generated by the asset, and to sell or otherwise dispose of the asset. In market economies these rights are defined in law, usually in great detail" [World Bank (1996, p. 49)].

15 There are different ways to apportion litigation costs to the parties. In some countries each party pays its costs; in others, the party that loses bears all the costs.



$$\begin{aligned}
\sigma^2 &= \text{Var}(\text{net gain}) = \text{Var}(\text{gain} - \text{cost of litigation}) = \\
&= \text{Var}(G - C) E[1/(1 + i)^{2T}] + \text{Var} [1/(1 + i)^T] [E(G - C)]^2 = \\
&= p(1 - p) [V - c_G + c_L]^2 E[1/(1 + i)^{2T}] + \text{Var} [1/(1 + i)^T] [p \cdot \\
&\quad \cdot (V - c_G) - (1 - p) c_L]^2
\end{aligned}$$

The utility functions presented above may be adapted to three options presented before – resorting to the judiciary, using alternative dispute-resolution mechanisms, or not litigating – by correctly fixing the value of parameters. One has to keep in mind, though, that the parameters have different meanings for each of the two parties – for instance, one’s probability of winning is the other’s of losing. In addition, each party may make a different assessment of the parameters’ values, even though in a well-functioning judicial system these discrepancies should be small. Furthermore, it is worth stressing, judicial systems do not operate in an institutional vacuum. On the contrary, the performance of a country’s judicial system will depend on its overall institutional structure, the legal system in particular.<sup>16</sup>

We may now use the model to see how a judicial system’s outputs affect agents’ decisions. There are four properties a well-functioning system should have: low cost access, fairness, and predictable and timely outcomes.<sup>17</sup>

The cost of using a dispute-resolution method depends on the value of access fees ( $c_A$ ), on how much one has to spend during the litigation process, on the probability of winning (which may itself depend on how much is spent), and on how litigation costs are apportioned ( $c_G$  and  $c_L$ ). High court fees, expensive lawyers and corrupt judges will all tend to encourage parties to use alternative mechanisms or simply not to litigate. A tension between justice and efficiency arises from the need to provide adequate remedies, and at the same time guaranteeing timely outcomes and low costs.

Outcomes are predictable when the variance of the net gain is small. Note that this variance is formed both by the variance of the result and of the time it takes to reach a decision. Both are a

16 Levy and Spiller (1994, p. 221) identify five different components of a country’s institutional structure: 1) “Its legislative and executive institutions – the formal mechanisms for appointing legislators and decisionmakers, for making and implementing laws, and for determining the relations between these two institutions;” 2) “Its judicial institutions – the formal mechanisms for appointing judges and determining the internal structure of the judiciary and for impartially resolving disputes among private parties or between private parties and the state;” 3) “Its administrative capabilities;” 4) “Custom and other informal but broadly accepted norms that tacitly constrain the actions of individuals or institutions;” 5) “The character of the contending social interests within a society and the balance between them, including the role of ideology.”

17 Sherwood, Shepherd and Souza (1994, p. 7-8) also include the possibility of remedying wrong decisions as an important desirable characteristic. In addition, “[w]hile it is difficult to give content to this prescription, the availability of precautionary measures to achieve immediate relief where warranted is certainly a component (of good judicial systems).”



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bad and work as a disincentive to resorting to the judiciary. Predictability is high when  $p$  is close to 0 or 1 and  $\text{Var}(T)$  is small. Courts may be unpredictable because contracts and/or laws tend to be poorly written, because decisions are based on non-legal and uncertain criteria, because judges are incompetent or poorly informed, or because the parties are very uncertain about how long it will take until a decision is reached. Alternative dispute-resolution methods may be preferred, therefore, not only because they are speedy, but also because arbitrators may be better prepared to interpret the issue in dispute. Casella (1996, p. 157), for instance, notes that despite being rather expensive, international commercial arbitration is very popular among traders because “[a]rbitrators are considered more competent and more reliable than the courts,... an important side of arbitration is the possibility to give highly specialized judgments.”

A dispute-resolution system is fair when  $p$  is close to 1 for the right side and 0 for the wrong side. Partiality is clearly bad, and different from unpredictability, because it distorts the sense of justice in a deterministic and purposeful fashion. Courts may be biased due to corruption, because they are politicized (favoring certain classes of litigants, as elite members, workers, debtors, nationals etc.), or because they lack independence from the state, bending to its wishes when the government is a party in the dispute.<sup>18</sup>

In the model, a speedy dispute resolution method has a low value of  $E(T)$ . When justice is slow, the expected value of the gain will be lower the higher the rate of interest.<sup>19</sup> The failure to provide timely decisions is often cited as an important problem of judicial systems around the world. This, in turn, causes two sorts of related problems. On the one hand, it reduces the present value of the net gain, meaning that the judicial system only partly protects property rights. In high inflation economies, if proper indexing mechanisms are not adopted by courts, the value of the right in dispute may fall to zero rather rapidly.<sup>20</sup> This is a clear disincentive to resorting to courts. On the other hand, long delays in reaching a decision function as an incentive for the wrong party to file a lawsuit and avoid speedier systems of dispute resolution, leading to an even heavier load of cases in the judicial system. In this sense, with high rates of interest and a slow judiciary, the “right side” will have a disincentive to resort to court even if he

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18 This is the case, for instance, in Russia, where Arbitrazh courts are generally perceived as being impartial, except when the government is a party in the litigation [Ryterman et al. (1996)].

19 Note that  $i$  may be alternatively interpreted as a rate of time preference, which may differ from one agent to another. In either case, the present value will tend to differ among agents, since interest rates faced by distinct firms may also differ (small firms usually pay higher rates of interest). This may help to explain why large firms litigate more than small ones. Interest rates vary over time too, so that it may make less sense to litigate in certain times than in others.

20 Even in low-inflation economies this may be important. In a recent article on the need of judicial reform in England, *The Economist* (1996) notes that “[a]t present, insurance companies, in particular, often drag litigation out for years, knowing that the value of the settlement is being eroded by inflation.”



has a high probability of winning. A situation like that will put strong incentives for the “wrong side” to go to court – for instance, when companies go to court against the payment of taxes although with a small chance of winning. Note, however, that if slowness is the only problem, it is possible to discourage such kind of behavior by fixing a low  $c_G$  and a sufficiently high  $c_L$ .

A simpler version of the model will facilitate understanding the benefits of a well-functioning judiciary. Assume, for the sake of analysis, that  $T$  has a geometric distribution with the probability of a decision being reached in period one equal to  $\theta$  ( $T \sim G(\theta)$ ),<sup>21</sup> then:

$$g = \theta [p \cdot V - pc_G - (1 - p) c_L] / (i + \theta) - c_A$$

$$\sigma^2 = \theta \{p(1 - p) [V - c_G + c_L]^2 + i^2(1 - \theta) [p \cdot (V - c_G) - (1 - p) c_L]^2 / (i + \theta)^2\} / [\theta + 2i + i^2]$$

In addition, let us: 1) work with a simple first-order approximation to the utility function, of the form  $U[g, \sigma^2] = g - a\sigma$ ; 2) assume that  $c_G = c_L = cV$ ; and 3) suppose that  $c_A$  is very small ( $= 0$ ). In this case, the utility function simplifies to:

$$U = \theta V [p - c] / (i + \theta) - aV \{ [p(1 - p) + i^2(1 - \theta) (p - c)^2 / (i + \theta)^2] [\theta / (\theta + 2i + i^2)] \}^{1/2}$$

In Figures 1 to 4, I show how utility changes with the value of  $p$ , for different values of  $i$  and  $\theta$ . Because in the simplified model  $U$  is proportional to  $V$ , we may assume without loss of generality that  $V = \$1$ . In all figures the top (straight) line reflects the case of a risk neutral agent, and the middle and bottom lines increasingly risk averse agents. Risk neutral agents are not affected by the lack of predictability of the judiciary, so we may concentrate on the top straight line to understand the effects of slowness, costs, and fairness.

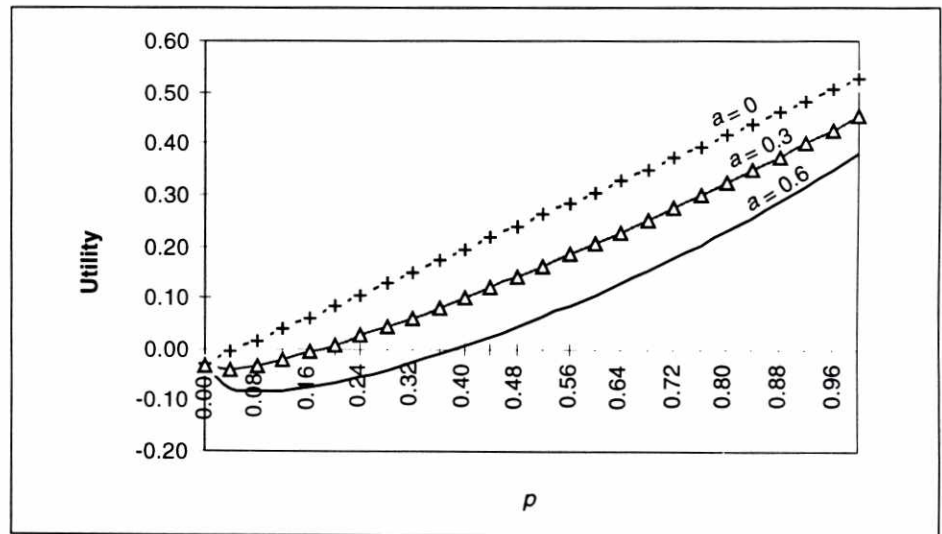
Note initially that the figures have different  $y$  scales, reflecting the fact that even when the probability of winning is 1, the utility is lower the higher the interest rate and the expected time until a verdict is reached (low  $\theta$ ). In the least favorable case, in which  $\theta = 0.1$  and  $i = 20$  percent, a risk neutral agent would have an expected gain, in present value terms, of just \$0.32. Slowness, however, would not significantly affect a risk neutral agent's decision to litigate or not, since  $U_C$  is positive even for very low values of  $p$ . Note, though, that while  $i$  and  $\theta$  determine the

21 A drawback of the geometric distribution is that it is memoryless. That is, the probability of a cause being judged in period  $k$ , given that it was not judged until  $k - 1$ , is  $\theta$ , for all  $k$ . This, however, will not affect our results.

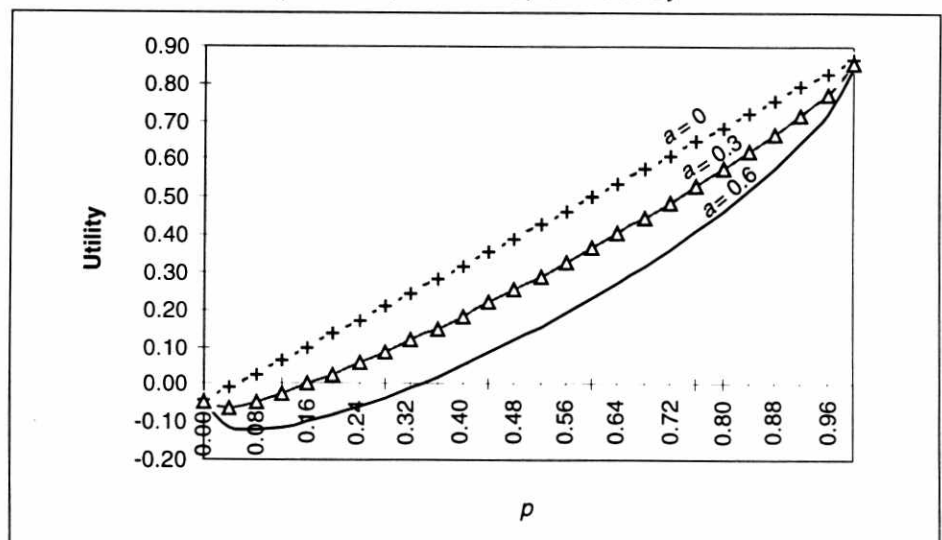
slope of the curve, its intercept is equal to minus  $c$ . By comparing Figures 2 and 3, one may easily check that, even for not very high values of  $p$ , a speedy dispute-resolution mechanism with high costs may be preferable to a slow one with low costs. Fairness and costs are obvious determinants of the decision of whether or not to litigate.

When the judiciary is not predictable,  $p$  is close to 0.5 and/or  $\text{Var}(T)$  is high, leading to a large  $\sigma^2$ , and reducing the utility of going to court. The effect of unpredictable decisions on utility may be assessed in Figure 2. In this case, because  $\theta$  is

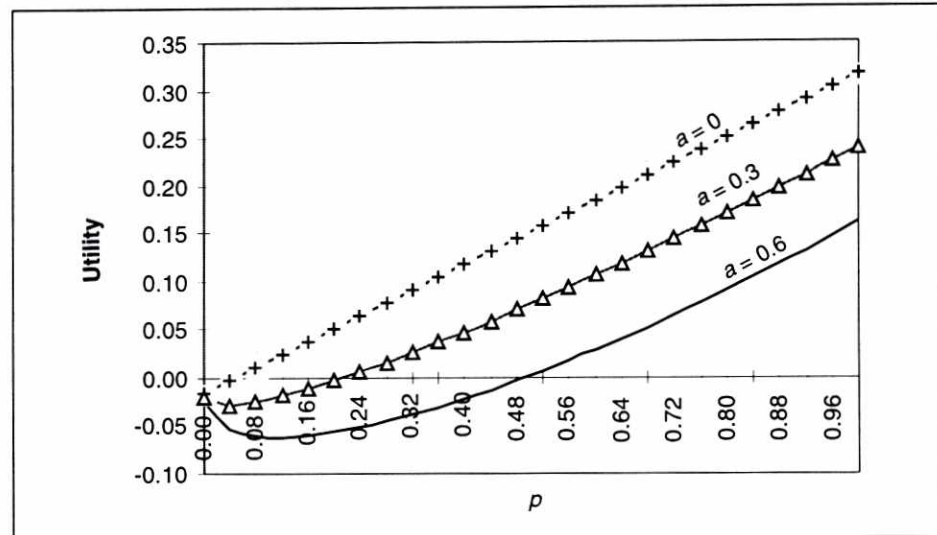
**Figure 1**  
**Slow Judiciary and Low Interest Rates**  
 $(\theta = 0.1, i = 0.08, c = 0.05)$



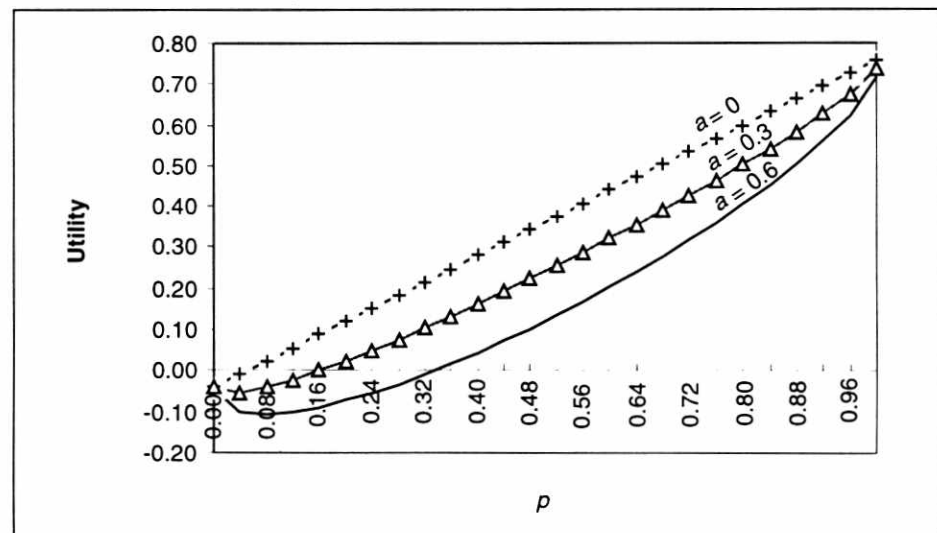
**Figure 2**  
**Speed Judiciary and Low Interest Rates**  
 $(\theta = 0.8, i = 0.08, c = 0.05)$



**Figure 3**  
**Slow Judiciary and High Interest Rates**  
 $(\theta = 0.1, i = 0.2, c = 0.05)$



**Figure 4**  
**Speed Judiciary and High Interest Rates**  
 $(\theta = 0.8, i = 0.2, c = 0.05)$



large,  $\text{Var}(T)$  and  $E(T)$  are relatively small, so that the vertical differences between curves reflect essentially the disutility of unpredictable decisions. In the case of very risk averse agents, this may be an important incentive not to litigate. As illustrated by the bottom line of Figure 2, a risk averse agent that had to pay fees of 5 percent of the value in dispute would not resort to the courts unless he had at least a 33-percent chance of winning. To assess the impact of  $\text{Var}(T)$ , compare Figures 1 and 2, at the point  $p = 1$ . In Figure 2, in which  $\theta = 0.8$ , risk aversion is not an important factor, but in Figure 1, in which  $\theta = 0.1$ , the utility of the more risk averse agent is substantially lower than that of the risk neutral agent (0.38 against 0.53).



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In addition, from the point of view of the party on the "right side" of the law, that is, the one that should receive  $V$ , a value of  $p$  close to 0.5 implies an expected gain below what he or she is entitled to. The same happens if  $\text{Var}(T)$  is large, even for high values of  $p$ , since in this case there is a sizable chance that the present value of the gain, if it happens, will be small (that is, unpredictable courts are also unfair courts). From the standpoint of the "wrong party", however, these are characteristics which stimulate the use of the courts. They mean that litigating is equivalent to exchanging a payment for certain for a lottery, with the possibility of a bonus if the decision is reached only in the very distant future. In this way, measures that make courts more predictable, like increasing the homogeneity of judges' decisions and raising the information content of previous decisions, lower the incentive of the wrong party to litigate. Another way to do this is by establishing high costs to the party that loses the cause. If the lack of predictability results solely from the value of  $T$ , a high enough  $c_L$  will suffice to discourage the "wrong party" to litigate, while not significantly affecting the "correct side". However, if unpredictability results partially or totally from a value of  $p$  close to 0.5, a high  $c_L$  will discourage both parties from resorting to the judiciary.

In this way, causes may be started in good faith (to protect rights), but also in bad faith, exploiting the malfunctioning of the system. If courts are biased, the favored parties will have an incentive to litigate. If courts are slow or unpredictable, the "wrong parties" will have a tendency to litigate in otherwise unwarranted cases. For instance, in the concession of the right to explore the Rio-Niteroi bridge toll,<sup>22</sup> in 1995, the firm that lost the bid was able to postpone the conclusion of the process by appealing to higher courts, even knowing it had no chance of winning, simply to hurt its competitor. Lanjouw and Lerner (1996) show how the mechanism of injunctive relief is "successfully" used by financially strong firms to engage in predation against weaker companies, in this way settling disputes on favorable terms. Camargo (1996) shows how slowness and unpredictability (with respect to time) of Brazilian labor courts stimulate firms not to pay social contributions due to employees, opting to settle the issue later in court. Although labor courts are perceived to be biased in favor of workers, because they take very long to reach a decision, workers usually agree to close the litigation for a value much below the one they would be entitled to receive. These results help to explain why not only partial, but also slow and unpredictable judicial systems are bad both for justice and efficiency.

Hay, Shleifer and Vishny (1996, p. 561) raise yet two other critical issues, particularly in transition economies – verifiability and completeness:

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22 This bridge connects the cities of Rio de Janeiro and Niterói, in Brazil.



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"[I]n a dysfunctional legal system, courts cannot effectively resolve contract disputes, even if they try, for two reasons. First, courts cannot easily *verify* whether a violation has taken place. For example, in the absence of standard accounting methods, courts cannot verify that one partner stole money from the other in their joint venture. Second, there is no body of law that specifies what a court should do even if there is a violation. For example, the Russian law does not specify who is liable when a buyer of securities discovers that these securities have been previously stolen (*bona fide* purchaser rules do not exist)."

Obviously, the ability of courts to enforce their decisions is another crucial requirement of a well-functioning judicial system. Enforcement depends on the coercive power of the state, but also on social norms and the quality of the law, both with respect to its transparency and as to whether it is perceived to be just. As with dispute-resolution methods, if the judicial system does not properly enforce the law, parties may resort to private mechanisms or just opt not to litigate. In Russia, for instance, "private enforcement methods are common, with their associated social and economic costs." Ryterman et al. (1996, p. 2) and World Bank (1996, p. 93) further notes that:

"[E]ven when judgments have been reached, the winners can find them difficult to enforce. In Vietnam, for example, fewer than 40 percent of court rulings in 1993 and 1994 were actually enforced, and up to half the judgments of Russian courts go unforced. These factors, combined with ingrained cultural attitudes toward the law, help to explain why so few private businesses want to use the courts to settle disputes, particularly in the NIS and East Asia."

Some authors argue, however, that the role of public enforcement should not be overemphasized [Hay, Shleifer and Vishny (1996)]. Laws and court rulings, even in the absence of proper enforcement by the state, offer guidelines that economic agents may use to structure their transactions and to privately enforce contracts. By the same token, Cooter (1996, p. 5) stresses the importance of social norms and the perceived fairness of laws as alternatives to state coercion:

"As an economy develops and grows in complexity, officials need more information to enforce the law, and citizens need more information to obey it. By responding to social norms, state law loosens the constraints on information and motivation.... Because responsive law makes sense to citizens, officials can rely on their cooperation and informal enforcement efforts."

The Russian Arbitrazh courts provide yet another instance in which enforcement relies more on social norms than on the coercive power of the state. Ryterman et al. (1996, p. 5) reports that Russian firms rely extensively on Arbitrazh courts, despite their lack of enforcement powers, because "an Arbitrazh court judgment, it seems, is viewed as a credible delineation of which enterprise is wronged.... Arbitrazh courts gain from a general perception of the legitimacy of their decisions, which perhaps explains why such decisions are quite often self-enforcing and why the threat of going to court can resolve disputes."

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### **3. How do Judicial Systems Affect Economic Growth?**

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There are only two ways to expand output: increasing the amount of inputs used in production and/or raising the productivity with which these inputs are used. Total factor productivity growth may, in turn, result from either technological progress, i.e., a shift in the frontier production function, or an increase in the efficiency with which the available technology is used. In this way, if one wants to understand why some countries are poor and others rich, or why some grow more than others, it is on these components that one has to center one's attention.

The literature on cross-country differences in economic performance is extensive and reviewing it is way beyond the scope of this paper.<sup>23</sup> It is enough to note here that differences in public policies and institutions are currently recognized as one of the key explanations for the large differences in levels and growth rates of per capita GDP among countries [North (1981 and 1990) and Barro and Lee (1994)]. To some, it is not only an important cause, but the most important one [North (1981) and Olson (1996)]. In fact, for Olson (1996, p. 20), reforming economic policy and institutions is sufficient for rapidly getting a country into a high growth track: "But any poorer countries that adopt relatively good economic policies and institutions enjoy rapid catch-up growth..."

Olson's arguments are given empirical content by Scully (1988), who analyzed the impact of institutions on the efficiency levels and growth rates of 155 market economies. Scully reaches three main conclusions. First, countries with good institutions – that is, "politically open societies, which bind themselves to the rule of law, to private property, and to market allocation of resources" – grow three times as fast, in per capita terms, as countries with poor institutions (2.73 to 0.91 percent annually). Second, countries with poor institutions are only half as efficient as those with a good institutional framework. Third, countries with poor institutions tend to show a continuous decline in efficiency, whereas those with good institutions have already captured all efficiency gains, so that in these countries "one should not expect an improvement in efficiency over time."

The institutions Olson (1996, p. 6) calls attention to comprise "the legal systems that enforce contracts and protect property rights and... political structures, constitutional provisions, and the extent of special-interest lobbies and cartels." The importance of well-functioning judicial systems is stressed by North (1992, p. 8):

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23 On this subject, see, for instance, Barro (1991), Mankiw, Romer and Weil (1992), Levine and Renelt (1992), Romer (1994), Barro and Lee (1994), Barro and Sala-i-Martin (1995), Bernard and Jones (1996) and Sala-i-Martin (1996).



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"Indeed, the difficulty of creating a relatively impartial judicial system that enforces agreements has been a critical stumbling block in the path of economic development. In the Western world the evolution of courts, legal systems, and a relatively impartial system of judicial enforcement has played a major role in permitting the development of a complex system of contracting that can extend over time and space, an essential requirement for economic specialization."

According to the supply-side growth decomposition suggested above, well-functioning judiciaries may foster growth through essentially three different channels: technological progress, investment and high efficiency. Next, I examine each of these channels individually.

### **Technological Progress**

Good legal and judicial systems may stimulate growth by protecting intellectual property, and in this way fostering technological progress and absorption.<sup>24</sup> There are two different mechanisms that could produce this result. One, less developed countries with stringent intellectual property legislation may find it easier to buy advanced technology from firms in industrialized countries, whether embodied or not in capital goods. Two, by encouraging domestic firms to invest in R&D. Some evidence in that direction is provided by Gould and Gruben (1996), who use cross-country regressions to analyze the impact of intellectual property rights on growth, while controlling for trade regime and different country-specific characteristics. Their results suggest that countries that protect intellectual property grow faster than the ones that do not, and that this effect is slightly more pronounced in open economies. Mansfield (1994 and 1995) finds empirical evidence that the strength of a country's system of intellectual property protection appears to influence its ability to attract American, German and Japanese investment and technology to high-technology industries.<sup>25</sup>

Furthermore, timely and consistent enforcement of private contracts reduces transaction costs and stimulates economic agents to increase the number and breadth of their market transactions. This, in turn, leads to a wider diffusion of knowledge, including not only technological spillovers, but also the transmission of sound managing, marketing and financing practices. Two other mechanisms operate through the stimulus provided by the market-enlargement effect of low transaction costs. One, as the size of the market increases firms face stiffer competition. Two, a larger market means that more sales and profits could be made out of a specific innovation. Both mechanisms will

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24 Interestingly, this possibility is downplayed by Olson, to whom "the world's productive knowledge is, for the most part, available to poor countries, and even at a relatively modest cost. It would be very difficult to explain much of the differences in per capita incomes across countries in terms of differential access to the available stock of productive knowledge" [Olson (1996, p. 8)].

25 These conclusions are not, obviously, free from controversy. Helpman (1993), for instance, uses a different methodology to show that whereas tight intellectual property rights may advance the interest of industrialized countries, it may not in general benefit developing countries.

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tend to encourage firms to innovate, either by developing or acquiring technology.<sup>26</sup>

### **Investment**

Another way well-functioning judicial systems foster growth is by stimulating a more rapid accumulation of factors of production. In particular, investment in both physical and human capital will be encouraged by secure property rights, well-functioning legal and judicial systems and political stability [Schmidt-Hebbel, Servén and Solimano (1996) and Alesina and Perotti (1994)]. In the case of rights that depend on a grant from the state, such as land, intellectual property and the right to explore mineral resources or other public concessions, poor enforcement and the risk of administrative expropriation reduce the expected value of the property right and, therefore, the returns on new investment. Dysfunctional judicial systems may also discourage savings and stimulate capital flight, reducing the volume of funds available to finance investment.

As noted by Williamson (1995, p. 182), the impact of poor judicial systems on investment in physical and human capital will be larger the more specialized and specific is the nature of this investment:

"Nations that pose severe investment hazards will support smaller amounts of specialized, durable investment ... than will more credible investment regimes; nations with problematic judiciaries will be similarly disadvantaged. That will show up in technology. Regimes that afford weak supports for investment and contracting will rarely be able to provide strong supports for intellectual property rights. High-technology industries or industries that benefit from specialized, durable investments will thus flee from regimes with great investment and contractual insecurities - for safer havens."

The reason for that is articulated by Makler (1996, p. 4-8). Private agents will only make long-term and highly specialized investments if they are secure that the contracts that support their activities will be properly enforced. Because specialized production often requires transaction-specific assets, contracts that support it are usually affected by the ability of the parties to exit the agreement. Legal restrictions may also limit the ability of the parties to freely dispose of their assets.<sup>27</sup> Long-term contracting, on the other hand, suffers from the difficulty of the parties, at the time of contracting, to forecast and address all possible contingencies that may arise during the life time of the agreement. Because they were not predicted beforehand or were too costly to contemplate in the contract, contingencies have to be dealt with as they arise, requiring both parties to exercise some degree of discretion during the operation of the contract. Hay, Shleifer and

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26 The mechanisms at work here are similar to those discussed by Grossman and Helpman (1992, particularly Chapter 9) in the context of foreign trade.

27 "For instance, the new Brazilian Concession Law precludes the private investor from disposing of the concession without permission of the granting power" [Makler (1996)].



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Vishny (1996, p. 561) note that contracts may also be incomplete if they contemplate clauses the courts cannot verify and rule on.

In all these cases, one or both parties will have an incentive to behave opportunistically; i.e., seek its self-interest with guile: "While it is reasonable to expect parties to pursue their own self-interest... the guile component addresses the propensity of a party to abrogate or depart from the original bargain in pursuit of his self-interest" [Makler (1996)]. Well-functioning judicial systems, broadly understood to contemplate the drafting of contracts and the existence of accounting methods that allow verifiability by courts, are essential to reduce contractual hazards. Especially when the state is a part in the agreement, strong and independent judiciaries will be essential to stimulate economic activities that involve specific investment.

The country studies summarized in Levy and Spiller (1994) clearly indicate that in sectors with specific investment – that is, investment that cannot be salvaged for other purposes – a strong and independent judiciary is a necessary condition for the participation of private investors. In countries where judiciaries are weak, laws are unstable and administrative discretion common, investment in these sectors will only take place if undertaken by the state. In this way, malfunctioning judicial systems lead either to lack of investment or to usually dysfunctional public production. The telecommunications sector, as exemplified by Levy and Spiller (1994, p. 218-219), illustrates the problem well:

"Establishing a telecommunications network involves large sunk investments because assets have very low alternative, or salvage, value. Consequently, utilities are particularly vulnerable to administrative expropriation, with regulators setting prices below long-run replacement costs so as to capture the quasi-rents (returns above the opportunity cost when a good is temporarily in short supply) associated with the operation of those assets. Firms end up with incentives to invest less than socially optimal."

A simple model will help understanding the importance of judicial systems to foster investment in cases in which asset specificity is important. Suppose that to fulfill a contract a firm has to invest \$1 and as a result will receive a return of  $r$  dollars per period. If there is no risk that the other party in the contract will behave opportunistically, the flow the firm will receive in exchange for its investment has a present value of  $r/i$ , where  $i$  is the interest rate. Therefore, the firm will enter the contract if  $r > i$ .

Suppose now that because of asset specificity, there is a probability  $\pi$  that the other party will behave opportunistically. Assume that because exit for the firm is limited, the other party may expropriate a proportion  $\alpha$  of the firm's return. Alternatively,  $(1 - \alpha)$  may be seen as the salvage value of the firm's investment. In this case, the expected present value of the firm's return on the investment is  $[(1 - \pi) r + \pi (1 - \alpha) r]/i$ . In this case, the firm will only engage in the contract if  $r > i/(1 - \pi\alpha)$ . That is, the firm will

require a higher rate of return, to accommodate for the risk of expropriation. This risk premium will be higher the larger the values of  $\pi$  and  $\alpha$ .

If the firm may resort to the courts to enforce its contract, then it may avoid or at least limit the extent of expropriation. Suppose, as we did in Section 2, that the firm has a probability  $p$  of winning the case, that a decision will be reached after  $T$  periods, and that litigation costs amount to a proportion  $c$  of the right in dispute. In this case, the expected present value of the firm's return on the investment is:

$$(r/i) \{1 - \pi\alpha - p(1 - \alpha)\pi + \pi [p(\theta + i(1 - \alpha)(1 - \theta)) - \alpha\theta]/(i + \theta)\}$$

Table 1 gives the value of the minimum rate of return the firm would accept, for different values of the parameters. If the judiciary is fair, predictable and fast, and litigation inexpensive ( $p$  high and  $\theta$  and  $c$  low), and interest rates are not high, the firm will accept a rate of return ( $r$ ) only slightly higher than the interest rate ( $i$ ). Even in the worst situation presented in Table 1 ( $p = 0.5$ ,  $\theta = 0.1$  and  $i = 20\%$ ), however, the judiciary still contributes to reduce the minimum acceptable rate of return, as compared with the case in which there is no recourse to third-party enforcement.<sup>28</sup>

**Table 1**  
**Impact of Judiciary on Premium Over Interest Rate ( $r/i - 1$ , in percent)**  
( $\pi = 0.5$ ,  $\alpha = 0.5$ ,  $c = 0.05$ )

p	$\theta = 0.8$		$\theta = 0.1$	
	i = 8%	i = 20%	i = 8%	i = 20%
0.9	8	13	17	24
0.7	13	17	20	26
0.5	19	22	24	28

### Efficiency

Finally, malfunctioning judicial systems hamper growth by stimulating an inefficient use of resources and technology, moving countries away from their potential or best practice output. High risk and large transaction costs move the country's price system away from international standards, distorting resource allocation. Because contract and property rights are not properly enforced, firms may decide not to pursue certain activities, forego the opportunity to specialize and exploit economies of scale, mix inputs inefficiently, not allocate production among clients and markets in the most efficient fashion, keep resources unemployed etc. Efficiency may also be affected if weak judicial performance

<sup>28</sup> Note that the model does not consider the disutility embedded in the unpredictability of the judiciary, as done in Section 2. If that was introduced in the model, the required rate of return would increase.



segment markets to an extent that competition is significantly reduced.

A simple model will help understanding the impact of weak judicial systems on the price system and, as a consequence, on economic efficiency. Assume a firm caters to a market with two types of clients. Type 1 clients abide entirely to the contract and provide a return to the firm of  $r$  for the service provided. Type 2 clients always abrogate the contract. In this case the firm has to renegotiate the contract and is able to salvage a return of  $r(1 - \alpha)$ , net of renegotiation costs. The firm does not know who is a client of which type, but knows that a proportion  $\pi$  of its customers are of type 2.<sup>29</sup> Using the standard capital-asset-pricing model, we have that in this case the firm will fix its price to obtain an expected rate of return given by:

$$E(\text{return}) = i + \alpha\sigma_r$$

where:

$i$  is the risk-free rate of return;

$$E(\text{return}) = (1 - \pi)r + \pi(1 - \alpha)r = r(1 - \alpha\pi); \text{ and}$$

$$\sigma_r^2 = r^2\alpha^2\pi(1 - \pi).$$

From which follows that the firm will operate with a rate of return equal to:

$$r = i/[1 - \alpha\pi(1 + \alpha\sqrt{(1 - \pi)/\pi})]$$

It is clear from the above expression that  $r/i$  will be higher the larger the values of  $\alpha$ ,  $\pi$  and  $\alpha$ . While  $\alpha$  reflects risk aversion,  $\alpha$  and  $\pi$  are characteristics of the firm's market, which will be influenced by the quality of the judicial system in two interrelated ways. First, note that instead of renegotiating the contract, the firm may try to enforce it in court. The utility of doing this is given by  $U$ , as established by the model in Section 2. In this way, the above model may be more properly specified by substituting  $\max(U, 1 - \alpha)$  for  $1 - \alpha$  in the above expressions. Obviously, because clients of type 2 know that the firm will go to court otherwise, they will offer to renegotiate at a value of  $1 - \alpha$  equal to or higher than  $U$ . In this case,  $\alpha$  will fall in the interval defined by  $1 - \alpha \geq U_f$  and  $\alpha \geq U_2$ , where  $U_f$  and  $U_2$  are the utilities of litigating for the firm and clients type 2, respectively, if this is not an empty set. Second, the value of  $\alpha$  and the possibility of being penalized by the courts, as well as culture and social norms, will determine the value of  $\pi$ . In the limiting case, a good judiciary

29 This model is essentially indistinguishable from another in which a proportion  $b$  of the firm's customers are type 2 and each has a probability  $e$  of reneging the original contract. For that, just substitute  $b.e$  for  $\pi$  in the following expressions.

would reduce the value of  $\alpha$  to an extent that  $\pi$  would become very small.

Table 2 gives the value of the premium over the risk-free rate of return required by the firm for different values of the parameters. Although this premium is low – that is, under 10 percent – for relatively low values of  $\alpha$  and  $\pi$ , which would prevail in case of a well-functioning judiciary, it increases quite significantly for high values of these parameters.<sup>30</sup> As the nature of the firms' markets differs, the value of this premium will also vary. Therefore, malfunctioning judiciaries reduce efficiency by distorting the price system.

**Table 2**  
**Risk Premium Due to Nonperforming Clients ( $r/i - 1$ , in percent)**

		$\pi = 0.2$	$\pi = 0.5$	$\pi = 0.8$
$\alpha = 0.3$	$\alpha = 0.2$	6.8	14.9	22.6
	$\alpha = 0.5$	19.1	48.2	85.2
	$\alpha = 0.8$	34.4	108.3	278.8
$\alpha = 0.6$	$\alpha = 0.2$	9.7	19.1	26.3
	$\alpha = 0.5$	28.2	66.7	108.3
	$\alpha = 0.8$	54.3	177.8	495.2

Although the model assumes that the firm is the one being expropriated, this need not be the case. In fact, particularly in developing countries, producers breach contracts with frequency. Firms sell goods that do not have the quality advertised, private concessionaires provide services that do not attend all the specifications of the concession contract etc. Because litigation is costly, consumers and/or the government may decide not to persecute. Klein and Leffler (1981) develop a model that shows that in case of repeated transactions and non-monopolistic market structures, self-enforcement is possible if consumers communicate at low costs and the price is sufficiently high. In this case, the firm earns a rent, in the form of a premium over prices that would prevail with perfect third-party enforcement, which it loses in case of breach, and that works as an incentive for self-enforcement.

Another obvious way dysfunctional judicial systems reduce the economy's efficiency level is by direct consumption of scarce resources. Litigation demands lawyers, time and attention from the parties and a well staffed judiciary. These are highly specialized services, and society has to spend sizable resources to train and educate judges, lawyers and other personnel involved. There are three additional related sources of inefficiency. One, that incurred by private agents while learning and keeping abreast

30 Note that these results suggest that the premium is more sensitive to the value of  $\alpha$  than to that of  $\pi$ .



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with the more cumbersome legislation that tends to substitute for weak judicial systems. The public sector, too, frequently has to maintain a large bureaucracy to process and supervise application of this legislation. Two, dysfunctional judicial systems, especially when inclined to pronounce politicized verdicts, stimulate rent seeking and lobbying by interested parties.

Three, resources are consumed by economic agents while providing and using private mechanisms that substitute for a well-functioning judiciary or allow circumventing the problems created by weak enforcement. Firms spend resources to screen clients and suppliers. Contracts between private parties and with the government become at the same time more difficult to write – because less room is left to third-party interpretation – and less important in transacting. In addition, as noted by Sherwood, Shepherd and Souza (1994, p. 14), administering “contracts is also more complicated in a weak enforcement system since there is a prominent need to monitor performance closely in the absence of the unspoken discipline which strong enforcement mechanisms impose.” On the other hand, because the cost of enforcing these contracts is so high, firms may constantly renegotiate or just abandon them if the other party does not comply. The Russian experience illustrates this point well [Ryterman et al. (1996, p. 4)]:

“Many elements of contracts are not implemented.... The quantity and timing clauses of contracts seem irrelevant. Similarly, prices are entered into contracts only to be the object of renegotiation at the time of implementation. When a supplier demands a higher price, customers regard this as normal practice. Customers either pay,...., or walk away from the contract. Court action for breach does not seem to be contemplated under such circumstances.”

In the presence of dysfunctional legal and judicial systems economic agents may opt to keep existing production capacity partly or fully unemployed. Holden and Rajapatirana (1994, p. 51) note for instance that:

“[In Uruguay] the market value of real estate when occupied is about half what it would be if unoccupied. There are a large number of unoccupied housing units in Montevideo because owners do not want to rent them for fear of not being able to recover their properties without large costs. Brazilian real estate suffers from a similar complaint. It is difficult to rent apartments in Rio de Janeiro because of problems associated with terminating rental contracts.”

Credit markets, because they are so sensitive to adverse selection and so dependent on third-party enforcement, tend to be particularly affected. As noted by Sherwood, Shepherd and Souza (1994, p. 15), “[p]oor enforcement makes loan guarantees difficult to collect and, by extension, hinders commercial lending in capital markets.” In addition, when governments are perceived to influence courts, firms will tend to shy away from dealing with the public sector and charge an overprice when they do. In many settings, difficulty to enforce contracts with the government will stimulate corruption among politicians and public officials and lower competition in public procurement.

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An inefficient judiciary, particularly one that is politicized, may also lead to an inefficient use of inputs. In Brazil, for instance, because courts tend to favor labor over capital, firms hire fewer workers than would be warranted by the cost of labor. Firms may also opt to locate in cities or states where they trust the judiciary, even though other locations could make more sense from a purely financial perspective. In the same vein, weak judicial systems may preclude more complex transactions and force firms into rather inefficient forms of trading [Ryterman et al. (1996, p. 13)]:

"One of the most important features of the Russian economy is that payments are dominated by mechanisms that are very costly to implement... (one is) the reliance of firms on prepayment as a method for ensuring contractual performance.... (the other is) barter. Barter is an institutional feature that appears to have reached epidemic proportions in Russia. We believe that the high incidence of barter is a direct consequence of... underdeveloped financial markets, which have resulted in very high real rates of interest, and an underdeveloped legal system, in which tax policy fails to be supported by appropriate social norms and institutions ... The average reported share of barter in sales was 40 percent in 1996 compared with a 1992 share of 5 percent."

Still another way dysfunctional legal and judicial systems reduce efficiency is by encouraging firms to vertically integrate, in this way reducing the level of specialization in the economy and preventing the full exploitation of economies of scale and scope. An example is reported in Ryterman et al.'s (1996, p. 15) analysis of the Russian experience: "In some cases, firms are able to accommodate the failure of the legal and financial systems by changing the boundaries of their firms. We observed some tendency for firms to vertically integrate downwards. Firms that supply the consumer market report that they are expanding their operations into retail outlets in order to increase the reliability of payments."

The reasons why malfunctioning judicial systems discourage technological progress, factor accumulation and efficiency concern threats to property rights and risk of opportunistic behavior from economic agents in general. Nonetheless, most of the literature concentrates in the role of judicial systems in constraining government discretion in three interrelated ways: 1) securing property rights against administrative expropriation; 2) reducing policy instability; and 3) increasing the flexibility and credibility of economic policy. I turn to these next.

### **Securing Property Rights against Administrative Expropriation**

The most oft-cited channel through which functional judicial and legal systems stimulate growth is by protecting private property rights from administrative expropriation. The risk of expropriation arises from the fact that the state, as any party in a contract, has an incentive to behave opportunistically. Also as in any contract, the risk is higher the more specific is the investment the other party has to make to fulfill its side of the bargain. What makes the state so special is the monopoly of legal



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coercion given to it by society, which increases its degrees of freedom to unilaterally change the terms of the contract or not abide by them, while still not breaking the law.<sup>31</sup> Therefore, while contracts may specify clauses aimed at constraining government opportunism, transacting with the public sector is particularly dependent on the protection awarded by an independent judiciary.

Levy and Spiller (1994) deal extensively with the problem of administrative expropriation in the case of telecommunications and public utilities in general, in which the risk of opportunistic behavior by the state is particularly high, due to asset-specificity and long-term contracting.<sup>32</sup> Based on the analysis of five country experiences, Levy and Spiller (1994, p. 216) conclude that: "A necessary condition for sustained and large-scale private investment in utilities is that administrative arbitrariness on the part of government be restrainable." In that respect, the study conveys two key messages: one, well-functioning judicial systems are necessary to limit administrative discretion; and two, they are not a sufficient condition.

As pointed out by Coase (1988, p. 27), governments influence the actions of economic agents by changing the law and/or its administration. Economic policy consists, in this sense, "of choosing those legal rules, procedures, and administrative structures which will maximize the value of production." There are, however, two different levels of economic policy. One, parallel to what Levy and Spiller (1994) call detail regulation, comprises the laws themselves, as defined in Section 2 of this paper. The other, akin to Levy and Spiller's basic regulation, consists of the substantive and procedural constraints used by society to make firms less vulnerable to administrative discretion and more inclined to invest.

To limit governments' incentives and freedom to behave opportunistically, countries resort to three mechanisms. First, they constrain the discretion with which the state may administer the law, by setting limits in the law itself or in other legislation. Second, they establish rules limiting the ability of governments to change the law and the constraints imposed by it. Third, they create independent and strong institutions that enforce these substantive and procedural constraints on administrative discretion.

Obviously, neither the restraints built into the law, nor those constraining the government's ability to change the law, carry any commitment unless enforced by an efficient, impartial and powerful judiciary. It is not surprising, therefore, that Levy

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31 As remarked by Dixit (1996, p. 49): "The power to coerce raises the danger of its misuse. Although the intention of the constitution is that such force, or its threat, should serve the general interest, nothing can guarantee that once an agency is given the state's monopoly of force, it will not use this power in pursuit of its own interests."

32 See also Makler (1996).

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and Spiller (1994, p. 233) conclude that “[a]ll three countries whose regulatory systems have successfully constrained the discretionary power of regulators have independent and well-regarded judiciaries.”

A second key message in Levy and Spiller (1994) is that well-functioning judicial systems are a necessary but not sufficient condition to effectively protect property rights from administrative expropriation. This because if the law imposes few limits on administrative discretion, or there are no stringent constraints on changing the law, there is little judiciaries may do. A particularly unfavorable situation is the one in which the executive branch of government is able to largely influence the legislative agenda, either because it has legislative powers, or because the same party controls the executive and legislative branches of government. In these cases, even if the judiciary impeded the opportunistic behavior by the government in one instance, the latter could get its way by simply changing the law. An important conclusion from Levy and Spillers (1994, p. 230) case studies was, therefore, “that private utilities were willing to make sustained investments only when all three components of restraint worked adequately.”

### **Improving the Quality and Reducing the Instability of Economic Policy**

The importance of sound and stable macroeconomic policy to economic development has been well emphasized in the literature.<sup>33</sup> Recently, however, Borner, Brunetti and Weder (1992) have argued that the emphasis on macroeconomic instability has been excessive. Institutional uncertainty, resulting from volatile and highly discretionary economic policy, make the “rules of the game” very unstable, discouraging investment and production. In addition, because the effect of policy instability on markets is not neutral, it distorts resource allocation and reduces incentives for specialization. As discussed above, well-functioning judicial systems contribute to reduce policy instability by upholding specific legislative or constitutional commitments and constraining administrative discretion.

Dysfunctional judicial systems not only reduce the stability of economic policy, but also its quality. In countries where legal and judicial systems do not perform well, economic policy tends to be more interventionist. As noted by Gray (1991, p. 775), “[c]ertain forms of direct regulation and government policies of intervention in the marketplace in developing countries can be seen at least in part as substitutes for an independent, well-func-

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33 Bleaney (1996), for instance, concludes that “policy-induced macroeconomic instability is an important negative influence on investment and growth in developing countries.” An interesting conclusion that arises out of Bleaney’s (1996) results is that sound macroeconomic policies affect growth essentially by raising the productivity of capital, while not showing a clear impact on the rate of investment.



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tioning legal system." The widespread presence of state-owned enterprises in different sectors of developing economies is a telling example. In most cases, state enterprises substitute for private investment, which was absent because governments failed to provide a credible commitment that they would not expropriate investment in these activities.

Another instance of low quality economic policy due to malfunctioning judiciaries arises in the fiscal area. Weak enforcement encourages tax evasion, which is pervasive in many developing countries. To maintain the level of tax revenues, governments resort to low yield and highly distortionary taxes, compromising economic growth. In addition, since not all taxpayers have the same opportunity to evade taxes, poor enforcement will also have an important distributive impact.

### **Increasing the Flexibility and Credibility of Economic Policy**

When defining how rigid the substantive and procedural constraints imposed on administrative discretion should be, countries have to address a basic trade-off. On one hand, the stimulus provided by the legal system to investment will increase with the strength of the restrictions imposed on government discretion. Because most investment in an economy carries some degree of asset-specificity, governments will be permanently tempted to behave opportunistically. The more degrees of freedom allowed to economic policy, the higher will be this risk. From that perspective, laws should be detailed, rigid, hard to change and self-contained. On the other hand, because circumstances in which the economy operates change over time, economic policy may only be efficient if governments enjoy some flexibility in administering the law. In a rapidly changing environment, a legal system that permits wide adaptation will allow economic policy efficiency to an extent not possible in very rigid settings. Excessive flexibility, however, increases the risk of opportunism.

Striking a sensible balance between these two objectives is therefore fundamental to accomplish high investment and efficient policies. The existence of independent institutions that constrain opportunistic behavior while allowing sufficient flexibility is a key factor in attaining economic growth. Strong and independent courts allow legislation, regulation and long-term contracting with the government to be left relatively open without compromising investment, because private investors know their rights will be protected. In this way, well-functioning judicial systems can enhance the flexibility of economic policy without concerning investors that excessive discretion will allow administrative expropriation.

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## Attenuating Circumstances

The actual impact of a malfunctioning judicial system on economic performance will depend on an array of complementary factors.<sup>34</sup> First, the availability of alternative mechanisms for securing property rights and their characteristics with respect to cost and effectiveness. Even in economies where judicial systems function properly, many companies specialize in collecting and selling information about other firms' and people's creditworthiness. As the cost of processing information falls, so does the price charged for these services, even in less developed economies. These services allow firms in countries with weak judicial systems to trade and contract widely and in rather impersonal terms. Reputation is also a reasonably effective substitute for third-party contract enforcement in sectors characterized by non-atomistic market structures and repeated transactions, reducing the incentive for opportunism. Obviously, the existence of a strong judiciary will stimulate self-enforcement to be even more effective. Sherwood, Shepherd and Souza (1994, p. 10) note that these mechanisms for screening business partners and stimulating self-enforcement have been identified in several World Bank studies, and that in many instances they provide cheaper alternatives to stimulate compliance with the law than resorting to litigation. In the same fashion, alternative mechanisms are also available to resolve disputes without resorting to courts. As noted by Williamson (1995, p. 182):

"The legal centralism tradition presumes that efficacious rules of law regarding contract disputes are in place and applied by the courts in an informed, sophisticated, and low cost way ... The facts, however, disclose otherwise. Most disputes - including many that under current rules could be brought to a court - are resolved by avoidance, self-help, and the like."

A simple extension of the model discussed in the beginning of this section will help clarifying the role of mechanisms for screening business partners. Suppose in the previous model that some institution specializes in selling information about people's creditworthiness. In particular, the firm in the model is able, by paying a fee  $f$ , to reduce the probability of doing business with clients of type 2 from  $\pi$  to  $\rho$ . In this case, the expected value and the variance of the firm's return become:

$$E(\text{return}) = r(1 - \alpha\rho) - f$$

$$\sigma_r^2 = r^2\alpha^2\rho(1 - \rho)$$

from which follows that the firm will operate with a rate of return equal to:

$$r = (i + f) / [1 - \alpha\rho(1 + \alpha\sqrt{(1 - \rho)/\rho})]$$

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34 Note that while these factors may attenuate the impact of a malfunctioning judiciary on economic performance, they may be themselves the result of weak courts.



Table 3 gives the premium over the risk-free rate of return, assuming this rate ( $= i$ ) to be 10 percent and the fee paid by the firm for information about clients ( $= f$ ) to be equal to 0.5 percent. The results in the table show that by resorting to methods that reduce the risk of contracting with type 2 clients, the firm is able to substantially reduce the social cost of weak third-party enforcement. Obviously, this reduction will be more significant the less expensive and the more efficient (lower  $f$  and  $\rho$ ) are these mechanisms.

**Table 3**  
**Risk Premium Due to Nonperforming Clients ( $r/i - 1$ , in percent)**

		$\rho = 0.02$	$\rho = 0.05$	$\rho = 0.1$
$\alpha = 0.3$	$\alpha = 0.2$	6.3	7.5	9.1
	$\alpha = 0.5$	8.4	11.4	16.0
	$\alpha = 0.8$	10.5	15.7	23.8
$\alpha = 0.6$	$\alpha = 0.2$	7.2	8.9	11.2
	$\alpha = 0.5$	10.8	15.4	22.1
	$\alpha = 0.8$	14.5	22.8	35.3

Note: Assuming  $i = 10\%$  and  $f = 0.5\%$ .

Second, the impact on growth depends on how economic actors react to the uncertainties created by the poor performance of the judiciary. If they react by raising prices to accommodate for a risk premium, the costs, although present, will tend to be lower, in terms of allocative efficiency, than if economic actors react by rationing quantities. For instance, if banks raise their spreads rather than rationing credit, resources will tend to be better allocated. The actual impact will depend, obviously, on the criteria used for rationing and on the extent of adverse selection problems.

Third, judicial systems will have a larger impact on economic activity if firms' performance is not already compromised by other problems. In highly inflationary economies, for instance, agents will only engage in short-term contracting, no matter how independent, impartial and timely the judiciary is. In the same fashion, firms may vertically integrate as a result of incentives given by (usually import substitution) trade policies so that, no matter how efficient is the judiciary, specialization will be limited. Investment or production may also be constrained by other factors - e.g., lack of infrastructure - so that improving the judiciary will have reduced effects on production and investment.

Fourth, North (1991) and Sherwood, Shepherd and Souza (1994) note how the importance of well-functioning judicial systems depend on the level of complexity of the economy. Relatively unsophisticated economies engage less in contract intensive transactions, may rely more on social norms and trade property

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rights that need less legal protection, so that they may do well without strong enforcement. More complex economies – and within them sectors that engage in more long-term contracting – produce and trade intensively in goods that are not easily excludable and that may be reproduced at low cost, such as computer software, and therefore will benefit most from well-functioning legal and judicial systems.

Finally, in what way and how much a dysfunctional judicial system affects economic performance will depend on the extent to which state-owned enterprises participate in production. In particular, if private firms operate only in sectors where transactions tend to be short-term, investment is not specific and self-enforcing contracts are the norm, efficiency will probably be hurt, but production will take place. In this case, although reforming the judiciary may be essential to allow privatization, it will not have a large impact on sectors in which private firms operate. There is, however, one important qualification; weak judiciaries will discourage investment and production in activities whose major client is the state. If state enterprises control a large part of the economy this problem will be magnified.

Overall, we may conclude that although well-functioning legal and judicial systems foster growth, assessing the extent of this effect is a matter of empirical research. I turn to this issue next.

## **4. Empirical Evidence**

In his lecture on industrial organization at the 50th anniversary of the NBER, in 1972, Ronald Coase started by remarking that what he found curious about the treatment of problems of industrial organization in economics was that it did not exist.<sup>35</sup> Something very similar may be said of the empirical analysis of the impact of judicial systems on economic development. In fact, what is curious about the treatment of this subject in the empirical literature is exactly how little has been done, given the wide recognition of this topic's importance.

Although more conspicuous in the case of judicial systems, the shortage of empirical research is a problem that affects the entire field of institutional economics. Because institutions change so slowly and are so ingrained in social, economic and

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35 Coase (1988, p. 58) used a conversation between Sherlock Holmes and Inspector Gregory to illustrate his point: "You may remember the occasion on which Sherlock Holmes drew the Inspector's attention to the 'curious incident of the dog in the nighttime.' This brought the comment from the Inspector: 'The dog did nothing in the nighttime.' Holmes then remarked: 'That was the curious incident.' I could not help recalling this conversation when contemplating the present state of the subject of industrial organization."



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political life, actually measuring a country's institutional endowment or its isolated impact on economic performance is not an easy task. As a consequence, while institutional economics has made considerable strides on the theory front, empirical research has lagged significantly behind. As remarked by Lin and Nugent (1995, p. 2,305), "the Achilles heel of the New Institutional Economics is the difficulty of empirical testing..."

Most of the empirical literature on the impact on growth of institutions, in general, and judicial systems, in particular, is based on cross-country regressions. The work in this area usually relies on conditional convergence models, in which a low institutional endowment, in general, and weak judicial systems, in particular, are hypothesized to reduce the steady-state level of per capita GDP and, as a consequence, the country's output growth rate [see Barro (1991) and Barro and Sala-i-Martin (1992 and 1995)]. Several of the first studies in that area proxied the quality of the legal/judicial systems using either a measure of political instability or, less frequently, the nature of the political system. The rationale behind these exercises is two-fold. One, that political instability reduces the security of property rights. In particular, that the legal and judicial systems in countries experiencing wars, revolutions and other forms of violent political transitions would be less able to secure property rights than countries without these sort of events. Two, that democratic regimes are better able to secure property rights.

There is plenty of empirical evidence supporting the assertion that political instability hampers growth [Alesina and Perotti (1994)]. In fact, although the early study by Hibbs (1973) detected little effect of political instability on growth, most of the recent literature concluded otherwise [e.g., Barro (1991) and Easterly and Rebelo (1993)]. Barro and Lee (1994), for instance, measured political instability using the number of revolutions, both successful and unsuccessful, experienced by each country per year, concluding that it had a negative and significant influence on growth, in the statistic and economic senses – a one-standard-deviation increase in their political-instability variable lowers annual growth rates by 0.3 percentage points. Alesina and Perotti (1996) showed that political instability reduces investment, a primary supply-source of growth, and also find convincing evidence that unequal income distribution fosters socio-political instability.

Less persuasive is the evidence in favor of the hypothesis that democracy fosters growth. The main argument in favor of a positive effect of democracy on growth is that dictators cannot credibly commit themselves not to expropriate property rights. Dictatorships would then raise uncertainty and lower investment [North (1990) and North and Weingast (1989)]. The empirical evidence, however, does not seem to support this hypothesis. As surveyed by Alesina and Perotti (1994, p. 353), the literature "on

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this point is fairly unanimous in finding inconclusive results. Controlling for the economic determinants of growth, democracy has no effect on growth, either positive or negative.”

Przeworski and Limongi (1993) surveyed 18 studies, with 21 results about the relationship between economic performance and political regimes. Five revealed no impact, eight favored democracy, and an equal number authoritarianism.<sup>36</sup> Not only is the empirical evidence inconclusive, but as argued by Przeworski and Limongi (1993) and Przeworski (1995), it suffers from serious statistical problems. In particular, political regimes are not exogenous variables, as assumed in various of these studies, so that the sample used in these regressions is not randomly selected.

The lack of a significant relationship between political regimes and growth does not mean, of course, that these have no impact on the security of property rights. There are other channels linking growth and political regimes, such as lower pressure for immediate consumption and state autonomy, factors that may weight in favor of higher growth in dictatorships. But not only is it not clear why democracies should make it easier for the state to provide credible commitments – after all, there were plenty of short-lived democracies and many long-lasting dictatorships – but also the usual arguments fail to recognize that the state is not the sole threat to property rights:

“The property rights literature treats the state as the only source of potential threat. But property rights are threatened by private actors: capitalist property is threatened by organized workers, landlords’ property by landless peasants. It is by no means clear that the villain is necessarily ‘the ruler’. Indeed, one liberal dilemma is that a strong state is required to protect property from private encroachments but a strong state is a potential threat himself” [Przeworski and Limongi (1993, p. 53)].

More recently, different studies have tried to assess the impact of legal/judicial systems on economic development by focusing on proxies more closely linked to the security of property rights, policy stability and the performance of judicial systems, while at least partially overcoming the problem of endogeneity. Knack and Keefer (1995), Mauro (1995) and Brunetti and Weder (1995) are studies that follow this line of analysis.

Knack and Keefer (1995) use a series of subjective measures of country risk as assessed by two private institutions and sold to international investors. Their results reveal an impact of well-functioning legal and judicial systems on countries’ rate of investment, steady-state level of income and GDP growth that is larger than previously estimated using measures of political violence or Gastil indices of political and civil liberties. A one-stan-

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36 According to Przeworski and Limongi (1993, p. 60), the historical pattern of these results makes one suspicious of the role of ideology in statistics: “What is even more puzzling is that among the 11 results published before 1988, eight found that authoritarian regimes grew faster, while none of the nine results published after 1987 supported this finding.”



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standard-deviation increase in Knack and Keefer's indices of property rights' security increases growth by about 1.2 percentage points. The authors conclude that securing property rights is as important to growth as education. Knack and Keefer also find that their results "are robust to changes in sample period, sample size and specification." Finally, the authors conclude that protected property rights foster economic growth not only by stimulating investment but also by increasing total factor productivity.

Mauro (1995) uses nine different indices collected by Business International, a private country risk evaluator, comprising measures of political and social stability, quality of the legal and judicial systems, a measure of bureaucratic interference in commercial activities and the degree of corruption. Mauro's (1995) results suggest a negative association between corruption and investment and growth, which is significant in statistical and economic terms. He also concludes that bureaucratic efficiency has an impact on investment and growth that rivals with that of political stability.

Brunetti and Weder (1995) look at how policy instability affects economic development using data collected from 310 firms, in 28 developing countries, through a especially designed questionnaire. In particular, the questionnaire was intended to reveal entrepreneurs' assessment of "uncertainties in tax legislation, unstable regulations concerning labor contracts, uncertain and arbitrary decisions of courts or unclear proceedings in the allocation of all sorts of licenses." Their results indicate that legal and policy instability reduce growth rates. However, enforcement instability – as gauged by the degree of transparency of the law enforcement process, an indicator of the prevalence of corruption and the degree of favoritism in the political system – shows no effect on growth. The authors conclude that while firms apparently succeed in dealing with the discretionary power of judges and bureaucrats, they are not as successful in getting around the problems created by policy and legal uncertainty.

Williamson's (1995) suggestion, of using the pattern of contracting in the economy to indirectly assess the performance of judicial systems, is followed by Clague et al. (1995). The authors use the proportion of contract-intensive money (one minus the ratio of currency held outside banks to M2) as a proxy for the intensity of transactions in the economy that require third-party enforcement of contract and property rights. They hypothesize, in addition, that because investment is dependent on this sort of enforcement, countries with a higher proportion of contract-intensive money (CIM) should also present higher rates of investment and growth. Clague et al. (1995) find a positive statistically significant correlation between CIM and investment and, to some extent, also with growth. According to their estimates, a one-standard-deviation increase in CIM increases investment rates by more than 2.5 percentage points. Finally, the authors conclude

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that CIM impacts growth through its impact on investment, but not through efficiency effects.

Although the literature on cross-country growth models has contributed much to improve our understanding of how judicial and legal systems affect economic development, one should be aware of its limitations. Four in particular deserve attention.

First, although progress has been made in recent years in finding better proxies, a good measure of the quality of countries' legal and judicial systems has not yet been found. Revolutions and other forms of violent political transitions have effects on the supply of production factors and their productivity that extend much beyond the security of property rights. It is not very clear, also, how better judiciaries could reduce policy instability resulting from "surprise inflation taxing, [and] unpredictable exchange rate and interest rate manipulations" [Borner, Brunetti and Weder (1992, p. 17)]. Knack and Keefer's (1995) and Mauro's (1995) indicators are criticized by Brunetti and Weder (1995, p. 5), who note that country-risk assessment is prepared mainly for foreign companies, focusing on risks of nationalization and exchange controls, and do not reflect the perception of domestic investors. Moreover, they remark, "the interviews with managers of multinational firms... revealed one common attitude towards business indicators. They are mostly used as one general, rather unimportant source of information for foreign decisions."

Brunetti and Weder's (1995) indicators are no less problematic. Their questionnaires ask about businessmen's perceptions and not about their actual experience. In the same fashion, Clague et al.'s (1995) contract-intensive money – equal to the sum of checking deposits, savings and small time deposits at banks and thrift institutions – is constituted of sufficiently liquid assets to make one less than fully confident that it reflects the importance of "transactions that require third-party enforcement" in an economy. In addition, one may wonder how exactly to interpret the result that countries with large ratios between the stock of savings and GDP tend to present larger investment to GDP ratios.<sup>37</sup>

Second, there are serious econometric problems in the cross-country literature which are not always well treated. Levine and Renelt (1992) show that these models are very sensitive to specification and reject many of the explanations put forward in previous studies. As I have already mentioned, another serious, often disregarded problem is the endogeneity of many of the explanatory variables used as proxies of the quality of the legal/judicial systems in these models. When endogeneity is controlled for, the statistical significance of these proxies drop

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37 For a discussion of this point see Clague et al. (1995, p. 24-25).



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considerably or just vanish. For instance, in Clague et al. (1995), when the effect of contract-intensive money on growth is estimated using instrumental variables it is not statistically significant. Similar results are observed by Besley (1993), whose conclusion, as reported by Lin and Nugent (1995, p. 2,361), is worth reproducing: "the paper confirms the idea that there may be a link between these two (property rights and investment), but also cautions that issues of measurement error and endogeneity should not be neglected..."

Third, many studies are also very sensitive to the sample used. Brunetti and Weder's (1995) sample of firms, for instance, is far from random.<sup>38</sup> The authors also report testing for their sample the impact of political instability – using as measures the number of revolutions and assassinations and Mauro's (1995) indicators, derived from experts surveys – obtaining, in both cases, a coefficient that is "clearly insignificant." In Clague et al. (1995) the sensitivity to sample selection shows up quite clearly in Table 3. When growth regressions are estimated using the whole sample of 102 countries, the contract-intensive money variable is found not to be statistically significant, in contrast with the result obtained using 96 countries, for which the variable is significant at the 5 percent level.

It is worth noting that sensitivity to sample selection is a common problem in cross-country regressions, despite the large number of observations normally used. Auerbach, Hasset and Oliner (1993) [cited in Pack (1994, p. 57)] show that De Long and Summers's (1991) finding that returns to investment in equipment surpass that to other sorts of investment do not resist a marginal change in their sample: "the differential returns to equipment and other investment may be an artifact. Omitting Botswana from the set of observations leads to coefficients for equipment and structures that are similar." Another example is Cukierman and Webb's (1995, p. 42) conclusion that central bank independence fosters growth:

"With a full sample of countries, nonpolitical turnover of central bank governors has a marginally significant positive sign, contrary to priors. *Brazil, Korea and Botswana are outliers, however, because they achieved high growth rates despite central bank turnover and high vulnerability.* With those countries excluded, the six-month vulnerability indicator has a significantly negative sign. This finding supports the view that, other things being equal, higher political dependence of central bank tends to retard growth in most countries" (the emphasis is mine).

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38 Brunetti and Weder's (1995, p. 9) questionnaires, directed at private sector entrepreneurs, were distributed in 1992 in Spanish and English versions "as broadly as possible in Latin American, Asian and African LDCs. The recipients were local, private firms in LDCs that Swiss embassies, some multinational companies and a private development foundation could mediate." Only countries for which at least three completely filled out questionnaires were returned were used in the analysis. The sample is therefore hardly random, and results may be biased both as a result of how firms were initially selected and due to self-selection bias.



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Fourth, legal and judicial systems' quality is only one among many competing explanations for observed differences in countries' growth and investment rates, all tested and not-rejected using cross-country regression models. Several studies have explored a trade-related explanation [e.g., Michalopoulos and Jay (1973), Feder (1983), Levine and Renelt (1992) and Harrison (1996)], others a link through financial markets [Fry (1982)], central bank independence [Cukierman and Webb (1995)], the quality and stability of macroeconomic policies [e.g., Kormendi and Meguirre (1985), Ramey and Ramey (1995) and Bleaney (1996)], the profile of investment [De Long and Summers (1991)], the participation of the state in production [Yoder, Borkholder and Friedën (1991) and Plane (1992)]. Although they all rejected the hypotheses that their explanation for growth differentials does not matter, with exception of one, they have not tested the power of their arguments against competing hypotheses. Levine and Renelt's (1992, p. 959) assessment of this literature may be summarized as follows:

"[E]ach of these studies uses an assortment of theoretical papers to motivate a variety of economic variables that are then used in cross-country growth regressions. Although each study presents intuitively appealing results, they use different explanatory variables.... this paper systematically evaluates the robustness of the partial correlation between per capita growth rates and a wider assortment of economic indicators than any previous study. We find that very few economic variables are robustly correlated with cross-country growth rates or the ratio of investment expenditures to GDP."

Pack (1994) presents some other pertinent qualifications to results derived from cross-country models, including the fact that they all impose very stringent assumptions about international production functions. Therefore, he cautions that although cross-country regressions help to systematize basic facts about growth and to indicate which may be more important, they should not be interpreted as implying causality.<sup>39</sup> As remarked by Romer (1994, p. 19): "In evaluating different models of growth, I have found that Lucas's (1988) observation, that people with human capital migrate from places where it is scarce to places where it is abundant, is as powerful a piece of evidence as all the cross-country regressions combined."

Interestingly, I have not found studies adopting two other methodologies that could be useful to assess the economic costs of malfunctioning judicial systems. The first of these consists of developing computable general equilibrium models and using them to assess the impact of a change in the quality of judicial and legal systems. This type of methodology is commonly used to assess the effect of trade policies [e.g., Srinivasan and Whalley

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39 In particular, cross-country regressions are hardly evidence enough to warrant conclusions as Scully's (1992, p. xiii-viv): "The Anglo-American paradigm of free men and free markets unleashed human potential to an extent unparalleled in history... One needs evidence to persuade those who see promise in extensive government intervention in the economy. I have found such evidence, and the evidence is overwhelmingly in favor of the paradigm of classical liberalism." [as cited in Przeworski and Limongi (1993, p. 60)].



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(1986)], to appraise the impact of public policy on income distribution [Taylor et al. (1980)], and so on.<sup>40</sup> To use CGEs to examine this sort of problem, one would need a model and an idea of how and to what degree improving the judiciary would affect people's behavior. For instance, an improvement in the judiciary could reduce interest rate spreads by 1 percentage point, shift the demand for labor by 10 percent etc. These effects could then be introduced in the model and be used to measure their overall impact on output, income distribution etc.

There are three "problems" with this sort of methodology. One is its complexity. These models consist of thousands of equations and variables, and developing them requires a large amount of data and computer programming. Another is that, contrary to what happens with trade models, several of the elasticities may not be estimated econometrically. To overcome this problem, one may resort to contingent valuation or similar methods of measurement.<sup>41</sup> A third problem is that to fully assess the impact of reforming judicial systems one has to build some dynamics into the model. Otherwise, only static, once and for all gains will be measured.

An alternative, complementary strand of research is to do detailed country studies. Sherwood, Shepherd and Souza (1994, p. 18) suggest, for instance, to research the experience of countries undergoing significant reforms, as happened to the former socialist countries and is bounded to happen with Hong Kong. But even in countries where transitions have not been so pronounced a deep analysis may uncover important evidence. China is a case in point. As reported by Perkins (1994, p. 34):<sup>42</sup>

"At first glance, China's success in attracting foreign investment is a puzzle. After all, foreign investors have traditionally had little security in China. China does not have a strong legal tradition; in fact, lawyers and most commercial law were abolished during the Cultural Revolution. The system after 1976 had to be rebuilt from scratch, and the new laws were not very reliable protection against official assaults on foreign property rights. Whatever one's legal rights of ownership, official support was required to gain access to state controlled inputs such as electricity, foreign exchange, or railroad transport.... After the political crisis caused by the events of Tiananmen on June 4, 1989, there was even reason for foreign investors to expect a reversion to more bureaucratic controls over the economy, not fewer. And yet foreign investment continued to rise."

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40 See Gunning and Kuzner (1995, Section 3), for examples of policy assessments using CGE models.

41 See Sherwood, Shepherd and Souza (1994, p. 17-19).

42 Shapiro and Taylor (1990, p. 866) call attention to another, less obvious, but equally interesting case; the U.S.: "During the industrialization push in all now-rich countries, public interventions were rife. Horowitz (1977) shows that US courts restricted individuals' control over property; decisions came to favor community property over absolute domain... The Handlins (1969) and Hartz (1948) demonstrate that although they were constrained by the constitution in their choice of instruments, US state legislatures controlled exports and granted monopoly power to public corporations."

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## **5. Final Remarks**

There is persuasive evidence that well-functioning judicial systems foster economic growth. By securing property and contract rights, reducing policy instability and curbing administrative expropriation, impartial, timely and predictable judiciaries stimulate investment, efficiency and technological progress. Yet, despite the consensus about the importance of good judiciaries for economic development, judicial system reform in developing and transition economies has been slow, and in some cases has not started at all. In particular, it has lagged much behind other reforms, such as trade liberalization, privatization and, in some countries, social security reform.

Haussman (1996) explores different reasons for this lack of progress. First, there is no clear and well-defined alternative being proposed, neither as to where exactly to move to, nor as to how to get there. On the contrary, judicial reform is perceived as a leap in the dark. Risk averse actors resist change in favor of maintaining the status quo. Also important, many of the proposed changes are advocated as turn-key reforms, disregarding countries' specific institutional endowments. The lack of a well-defined alternative is not a coincidence. As I have tried to show, the literature does not provide a clear-cut definition of what is a good judiciary, with issues of efficiency and justice often getting mixed up. Ultimately, striking a balance between these contending objectives will require a political, rather than a technical solution.

Second, society is relatively adapted to the current system, lacks a clear view of how costly it is, and realizes that the necessary reforms will take time and much political effort. Overall, the level of discontentment with the current situation is much lower than what was observed with macroeconomic instability. There is, therefore, a tendency to postpone the reform. This is the result of two factors. One, many costs are borne by taxpayers in general, rather than privately. These costs get lost in the middle of other, much larger public expenditures. Two, the bulk of the social cost of a malfunctioning judiciary is a hidden cost. It results much more from investments and business deals that do not take place, or that are done inefficiently, than from expenditures with litigation. In addition, there are private substitutes for securing property rights and resolving disputes that mitigate the importance of dysfunctional judicial systems.

Third, in most countries, reforming the judicial system means passing from a system designed to satisfy the producers of justice to one targeted at benefiting its consumers [*The Economist* (1996)]. The problem is that while the losses to producers are clear, immediate and concentrated, the benefits for consumers are spreaded thinly among the population, are not evident and will only be entirely felt in the long run.



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There are several groups bound to lose from judicial reform. First, the bureaucracy in charge of the system and people who make a living out of providing facilities and speeding up judicial processes – in countries where corruption is pervasive, interests are even more pronounced. Second, providers of substitutes are also interested.<sup>43</sup> Third, the litigant lawyers. Fourth, the firms and private agents that benefit from dysfunctional judicial system: firms that are able to postpone tax payment and reduce payroll taxes by resorting to courts; insurance companies that gain from postponing payment to clients; tenants who are able to pay low rents without risking eviction; squatters in rural and urban sites; not to mention people involved in illegal and criminal activities.

While costs are up front and concentrated in specific groups, the beneficiary is the population at large. It is not even clear how different groups will be affected. In Brazil, for instance, private firms suffer from lack of protection from administrative discretion, but on the other hand benefit from the opportunity to delay payment of taxes. No one knows how the two balance out. In addition, as noted by Haussman (1996, p. 45): “en la medida que la reforma es un proceso de ensayo y error, ello puede postergar y hacer menos transparente la aparición de beneficios tangibles para grupos cuyo apoyo político es decisivo.”

One of the means through which malfunctioning judiciaries impact economic activity is by stimulating more interventionist economic policies. In many sectors, notably in infrastructure, public production is partly explained by the lack of interest from private investors, afraid of administrative expropriation and insufficient protection from the judiciary. As developing and transition economies adopted market-oriented policies, especially privatization, judicial reform becomes critical to allow these countries to succeed in attracting private investment. This, however, raises the issue of how to sequence reforms. The literature is not conclusive. North (1992, p. 27), for instance, observes that:

“There exists no theory of the dynamics of polity evolution that can guide the policy maker in the many current restructuring efforts that are ongoing in the developing and formerly socialist economies. But the dilemma is straightforward enough. Slow, incremental change will be sabotaged by the creation of “corruption rights” by the existing bureaucracy. The policy implication is that radical alterations in policy should be accompanied by radical restructuring of the bureaucracy. But this will only be possible where the existing underlying ideology and resultant informal constraints are at least partially complementary to the creation of more efficient property rights. Economies without a heritage of informal institutions and ideological perceptions to enable them to adjust to the stresses and strains of impersonal markets, competition, and other institutional consequences that flow from the technological imperatives of the second economic revolution simply cannot adjust overnight.”

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43 Ryterman et al. (1996, p. 14), for instance, mentions that lack of well-functioning judicial systems led to widespread barter transactions in Russia, and to “the rise of intermediaries whose sole reason for existence seems to be as guarantor of complicated barter transactions.”

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Levy and Spiller (1994) take a similar stand, arguing that in many countries judicial and other related reforms should precede the privatization of public utilities. According to them, a proper institutional structure has to be in place before privatization can be successfully implemented in sectors such as telecommunications. The opposite view is defended, however, by Hay, Shleifer and Vishny (1996). They argue that, especially in transition economies, privatization and other liberal reforms are necessary to create interested parties in judicial reform. Therefore, they argue, the judicial system reform – including the courts, prosecutors and the police – should not be the starting point, since it is likely to take a long time. Rather, reform should be initially targeted at making the judicial and legal systems more competitive, by trying to adapt them to business practices.<sup>44</sup>

Overall, an important conclusion is that although there are many channels through which malfunctioning judicial systems affect growth, the actual impact and its nature will depend on two sets of factors. The first concerns the types of problems faced. That is, are courts biased, or unpredictable or just slow, but otherwise fair and predictable. Unfairness, because it affects justice, and unpredictability, because it affects the incentive to seek justice, are probably the worst problems. Slowness, however, may also become a key problem if it stimulates agents to behave opportunistically. The other set of factors include the availability and quality of substitutes, the complexity of the economy and the existence of other policy shortcomings that limit investment and reduce efficiency.

Assessing the actual impact of dysfunctional judicial system on growth is, therefore, a matter of empirical research. The review of the empirical literature conducted in this paper leads us to three different conclusions. First, that almost all evidence is based on cross-country regression models of investment and growth, that use different proxies for the quality of legal and judicial systems. Two, that most studies suggest that dysfunctional legal and judicial systems seriously compromise investment and growth. Third, that cross-country regression models, although useful tools to elicit stylized facts and rough orders of magnitude of where to look for explanations for growth differentials, in general suffer from important econometric problems. Although there are many suggestive stories, there is very little hard evidence outside these cross-country regression models. To get a better assessment of the cost of malfunctioning judicial systems, especially estimates that may be used to raise support for judicial reform, it is essential to embark on detailed individual country studies.

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44 See also Cooter (1996).



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