A Dynamic Model of the Demand for the Rule of Law

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Abstract. This paper develops a dynamic model that addresses a central
political economy question in much of the former Soviet Union (and arguably in
many developing countries as well): Will those who obtained assets at large
discounts, or stole them, in the beginning of the transition become the vanguard
of the rule of law, or will they be indifferent to or even actively frustrate the
establishment of the rule of law? The model suggests that the view that once
stripping has occurred, the strippers will say "enough" and by supporting the
rule of law seek public protection of their gains, is flawed. By abstracting from
the obvious problem that strippers who obtain great wealth can buy special
favored treatment from the state, the model highlights two less obvious factors
that can weaken support for the rule of law: First, that the asset-strippers can
remove the assets from exposure to further stealing, and in that case they will
not care about public protection of their gains. And second, that stripping can
give agents an interest in prolonging the no-rule-of law state, since full state
protection of asset-strippers may be infeasible even under an ostensible rule of
law. Knowing this, strippers will be less supportive of the rule of law.

1. Introduction

This paper develops a dynamic model that addresses a central political economy question in much of the former Soviet Union (and arguably in many developing countries as well): Will those who obtained assets at large discounts, or stole them, in the beginning of the transition become the vanguard of the rule of law, or will they be indifferent to or even actively frustrate the establishment of the rule of law? The answer to this question will shape the prospects for future economic growth and development in these countries.

The collapse of communism in Eastern Europe and the former Soviet Union in the period 1989-91 provided an opportunity to observe and try to influence the creation of a new set of "rules of the game," understood in the broad sense of political economy. At the outset, the absence of the legal framework underlying a market economy was recognized, but advocates of rapid privatization argued granting individuals the control of property would create a political constituency for the rule of law, where there is protection for private property rights. All over the post-communist world, Western donors promoted "Big Bang" privatization—the rapid transfer of state-owned enterprises to private economic agents (Przeworski et al. 1995, p. viii, at note 2). The paradigm that underlay this approach was articulated, for example, by Shleifer and Vishny (1998):

> Privatization then offers an enormous political benefit for the creation of institutions supporting private property because it creates the very private owners who then begin lobbying the government…to create market-supporting institutions…[Such] institutions would follow private property rather than the other way around." (pp. 10-11)

But there was no theory to explain how this process of institutional evolution, including a legal framework for the protection of investors, would occur and, in fact, it has not yet

occurred in Russia, in other former Soviet Union countries, in the Czech Republic, and elsewhere. According to many scholars, the weakness of the political demand for the rule of law—in spite of the fact that by 1994, 70 percent of Russian industry had been transferred to private agents—was a central reason for the limited progress towards effective property rights institutions.[1] Black *et al.* (2000) observe that in Russia, it was

hoped that broad private ownership would create a constituency for strengthening and enforcing [the new Civil and Commercial Codes]. That didn't happen. Instead, company managers and kleptocrats opposed efforts to strengthen or enforce the capital market laws. They didn't want a strong Securities Commission or tighter rules on self-dealing transactions. And what they didn't want, they didn't get. (p. 1753)

The contrast between what emerged and what the reformers hoped would emerge is brought out forcefully by Freeland (2000). She first quotes Anatoly Chubais, the principal architect of Russia's mass privatization, as describing Russia's businessmen: "'They steal and steal and steal. They are stealing absolutely everything…'" (p. 70). But she then quotes Chubais as supporting Coase's claim that all that is needed to make a market economy is private property, no matter how acquired: "'But let them steal…They will then become owners and decent administrators of this property'" (p. 70 Freeland describes Chubais, like many Western scholars at that time, as recognizing the absence in Russia of an adequate legal framework, but supporting the "political Coase theorem," the notion that once control is turned over to private agents, they will ensure political reforms creating a rule of law:

"Chubais hoped he could craft a program that would be impervious to the country's widespread corruption, one that might even take advantage of it. Businessmen's greed would make them privatization's most effective lobbyists; their corruption would stop once they became real owners" (p. 70).

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[1] See Gray and Hendley (1997), Aslund and Dmitriev (1999), Stoner-Weiss (2001), Kitschelt (2001), and EBRD (2001, 2002).

The contrast between what was expected and what happened in the 1990s motivates our study of a dynamic model in which both the economic actions and the political positions of agents are endogenous. In our model, agents with control rights over privatized property are concerned with the wealth they can obtain from these rights, and have two alternative economic strategies in each period: building value, or stripping assets. In each period they also reveal their preferences, *e.g.* by voting, over policies that would establish the rule of law.

The model explores what we would interpret as a favorable set of conditions for the emergence of the rule of law. In the model, those with control rights over privatized assets are powerless individually to obtain property rights protection *à la carte* from the state, but can collectively bring about the rule of law simply by "voting" for it. If in this model mass privatization creates a constituency for the rule of law, it would not mean that mass privatization is as an effective strategy to establish the rule of law, for capitalists who are political insiders could still capture the state and establish a legal regime that privileged their own interests.[2] But if privatization does not do that under the circumstances explored here, then the dominant Western view of institutional change that justified quick privatization should be viewed with considerable skepticism. This paper shows that the support for the establishment of the rule of law among the beneficiaries of privatization may be weak, even if the rule of law is the Pareto efficient rule of the game. Moreover, there may be multiple equilibria for the political/economic choices of agents entailing different levels of support for the rule of law. An initial decision—*e.g.* to have a big bang privatization—can have long run, even permanent, and adverse, effects on the

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[2] We begin to consider that case in Hoff and Stiglitz (2003b).

emergence of the rule of law.[3]

We embed the static model of Hoff and Stiglitz (2002a) into a real time model of political and economic choices (the choices corresponding to the actions of the static coordination game). Our principal focus is on the intertemporal effect of an agent's economic actions on his political support for the rule of law (how actions today and *rational* beliefs about actions to be taken in the future, affect political choices, given *rational* beliefs about the likelihood of the emergence of the rule of law in the future), and on the interdependence across agents' political decisions at a point in time. We succeed, however, only in modeling the potentially complex intertemporal linkages through a Markov process, where an individual's decisions are conditioned only on current income flows and asset values. Two variables link an agent's past decisions with his current and future opportunities: First, a decision to strip assets reduces the *future stake* that an agent has in the legal regime. Second, such a decision reduces his current *relative return* from the rule of law (relative to no-rule-of-law) because the establishment of the rule of law at the end of a given period constrains his ability to strip. Thus, past actions to strip or build value exert historical pressure on future actions.

In our analysis, we try to parse out the role of various "market failures." We show that how agents vote influences other agents' actions[4] (a *spillover effect*), and how

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[3] We briefly summarize some analytical contributions on the obstacles to the rule of law in the post-communist states and contrast their approach to ours. (1) Johnson, Kaufmann, and Shleifer (1997), Roland and Verdier (1999), and Glaeser, Johnson, and Shleifer (2001) focus on constraints on *supply*: Government may be unable to collect taxes to finance a market-oriented legal system, or judicial enforcement of legal rules may be ineffective. (2) Dewatripont and Roland (1992, 1995) and Hellman (1998) focus on the problem of sustaining the *demand* for reform over time: voters who suffer short-term losses may turn against reform, or the early winners from partial reform may block continuation of reforms in order to earn rents. In contrast, the absence of a political demand for the rule of law *even when that legal regime would advance the interests of the majority of decision-makers* is the central phenomenon addressed in this paper. The model developed here was briefly sketched in Hoff (2001, pp. 166-168). Related models were recently developed by Polishchuk and Savvateev (2001), Sonin (2002), and Berglof and Bolton (2002).

each agent acts influences his political position (an *intertemporal incentive effect*). The externalities that are mediated through the political environment can lead agents to take actions that give them an interest in prolonging the no-rule-of law state.[5] Each individual, in attempting to exercise influence on the choice of the environment, focuses on the impact on himself, not on others. He takes the votes of others as given, independent of his own vote. The political environment, in that sense, is a public good (or public bad).

To simplify we consider a society in which the possible legal structures vary only along the dimension of the security of property rights. The two possible legal regimes in our model capture the ends of the spectrum. By the *rule of law* we mean well-defined and enforced property rights, broad access to those rights, and predictable rules symmetrically applied for resolving property rights disputes. By *no rule of law* we mean a legal regime that does not protect investors' returns from arbitrary confiscation, does not protect minority shareholders' rights from tunneling, and does not enforce contract rights.[6]

Our approach—like most of the popular discussions—oversimplifies the issue of rule of law and property rights in several ways. Simplistic discussions treat the state as

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[4] Each individual is assumed to know not how any other single individual votes, but rather the fraction of the population that supports a rule of law, or to have beliefs about those votes that, in the equilibrium explored here, are fulfilled.

[5] This was particularly the case in Russia so long as there were state assets to be distributed; all of those who thought that they might have a chance at obtaining these assets on favorable terms wished to delay the rule of law regime. To put it graphically, they wanted one more "bite of the apple." Our analysis assumes everyone is "small," but in practice, the second phase of privatization in Russia (the "loans for shares" program) created oligarchs who, possibly singly, but certainly in concert, had the power to delay the rule of law regime.

[6] We also include under "no rule of law" situations where the outcomes are predictable, but in the sense that judges always rule in favor of the person who bribes him the most.

"owning" and "controlling" assets before privatization and treat privatization as the transfer of title to a private economic agent, who then has complete control. The absence of a rule-of-law state is sometimes defined by depicting its opposite: a state of anarchy. Both concepts are more subtle. For instance, privatization typically did not eliminate the role of state and local governments, and accordingly eliminating control rights at the central government does not necessarily mean that all control rights are assigned to the individual who has "bought" the asset. Similarly, the law, itself, has been used in ways that undermine the security of property rights. Our use of the term "rule of law" focuses on the enforcement of property rights in a reasonably neutral and predictable way.[7] Thus, in our use of the term, under the "rule of law," the ability of the local, regional, and national authorities to take arbitrary actions is circumscribed. . Similarly, in Russia *the law* has been used by some powerful groups to appropriate assets away from others through an abuse of bankruptcy processes (even though the bankruptcy *law* would itself be quite similar to that of Western countries). In some cases, *the law* has been used to create entry barriers to maintain monopoly positions. Under any legal regime, minority shareholders have "ownership" rights in the sense of clear title, but typically few control rights. In Russia, the absence of a rule of law meant that reportedly even the ownership rights were of dubious value. Overnight, a shareholder could see his interests diluted and his assets tunneled away. More remarkably, in many of the post-communist countries, even majority shareholders encountered such problems (Black *et al.* 2000). In our use of the rule of law, all of these nefarious activities are precluded.[8]

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[7] In a sense, the *mathematics* of the equations in our model define what we mean by the "rule of law"— legal structures that change relative net pay-offs in the way assumed.

[8] We are leaving out other conceivable solutions to the problem of providing incentives for wealth creation, such as individuals' allocation of resources to defend the property they produce, and non-governmental

The remainder of this paper is organized as follows. Section 2 develops the model, and section 3 analyzes the effects of changes in initial conditions and policies on the equilibrium path of support for the rule of law. Section 4 discusses the role of the key assumptions of the model, and Section 5 concludes.

2. A Model of the demand for the rule of law

A. Assumptions

Agents. The economy consists of a continuum of agents, normalized to one, who exercise some control rights over enterprises. Agents live forever, but discount future consumption (per unit time) at a rate $\delta < 1$. The set of feasible economic actions for each agent, in each period, consists of:

Building value: Making an irreversible investment to increase the enterprise's value.

Stripping assets: Stripping the assets of the enterprise; tunnelling value out; and/or letting the capital stock wear out, meanwhile enjoying the returns that accrue to the capital. (Those who undertook this strategy in Russia typically whisked capital out of the country to a safe place.)

Agents are indexed by θ. Those with a higher value of θ strip better. The payoff from stripping an enterprise is larger, the more liquid its assets, the larger its debt, and the greater the equity of minority shareholders. θ has a continuous distribution over $[\theta_{min}, \theta_{max}]$ given by $H(\theta)$, with a density function $h(.)$ associated with it.[9]

(voluntary) enforcement of property rights and contracts. Such arrangements by and large did not work in Russia, and there are few instances where they have been effective on the scale of a nation-state. Frye 2000 provides a set of case studies for Russia.

[9] We simplify by focusing on stripping ability as the only source of differences across agents in the relative returns to building value and stripping assets. Nothing depends on this simplifying assumption.

In addition to choosing an economic strategy, agents in each period also reveal their preferences, e.g. by voting, over policies that would establish the rule of law.

Timing. In each period, the timing is:

<u>Stage 1.</u>   Agents choose an *action*—to build value or strip assets—and a *political position*—for or against the rule of law.

<u>Stage 2.</u>   A state N or L is realized, and payoffs are received.

Transition probabilities. The initial period is one without the rule of law. The probability of transition in any period to the rule of law depends on the constituency in that period for the rule of law (1-x_t) as well as many other factors, *e.g.*, freedom of the press, the structure of political parties, and norms. We capture this assumption as:

$$\pi = \pi(x_t), \quad \pi'(.) \le 0, \quad 0 = \pi(1) < \pi(0) = 1.$$

We shall not investigate all possible equilibria, but instead explore a subset of possible equilibria where, as long as the no-rule-of-law state prevails, the constituency for reform remains the same over time: $1 - x_t = 1 - x_{t+1} = 1 - x_{t+2} = ...$ There are other dynamics where the constituency may jump from one period to the next, which we do not explore.

After a society attains the rule of law, we assume that it continues in that state forever. Similar results would hold if there were a small probability of reversion to the state of no rule of law.

We say that a path $\pi_t^*, \pi_{t+1}^*, \pi_{t+1}^*,...$ constitutes a more rapid transition to the rule of law than another path $\pi_t^{**}, \pi_{t+1}^{**}, \pi_{t+1}^{**},... \pi_t, \pi_{t+1}, \pi_{t+2},...$ if the cumulative distribution of the first path dominates that of the second in the sense that $\sum_i \pi_{t+i}^* > \sum_i \pi_{t+i}^{**}$.

Technology and payoffs. Technology is constant returns to scale. One unit of an asset produces a flow of value *f* each period, forever. An agent who builds value increases the asset by a proportionate amount $\tilde{g}$ of its former size. We assume $\delta \tilde{g} < 1$, so that asset values are finite; let *g* denote $\delta \tilde{g}$. To build value requires an investment I^j per unit asset that depends on the legal regime, indexed by *j,* where *j* is rule of law (*L*) or no rule of law (*N*). We assume that $I^L < I^N$, which captures the idea that in order to build value, an agent must interact with others in the economy. He benefits from the rule of law because it enforces property rights and contracts and expands his access to both domestic and foreign markets for inputs and credit. Without the rule of law, he risks even being able to capture the return on his investment productive assets.[10] We let $b^j \equiv f - I^j$ denote the current flow per unit asset to an agent who builds value.

The model makes an important simplification that leads to an underestimate of the value of the rule of law: it abstracts from externalities that affect *f* and *g*. If a large fraction of the economy is engaged in asset stripping, then (as in Russia in the 1990s) overall production will suffer, and *f* and, most importantly, *g* will be depressed.[11]

Alternatively, an agent may choose to strip assets and thereby increase the current income flow per asset, at the cost of reducing the asset to a proportion $\tilde{z} < 1$ of its former size. Let *z* denote $\delta \tilde{z}$. An agent of type θ can only strip so much, and the rule of law

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[10] For simplicity, we have modeled the technology as *requiring* a given level of investment, so that in the absence of the rule of law, higher levels of investment must be made, e.g. to obtain obtains and protect assets. Alternatively, we could have modeled the rule of law as entailing a reduced return from the *same* level of investment. Again, nothing depends on the simplification chosen.

[11] In particular, the return to asset stripping will be increased relative to that of investing. There are other channels besides the impact on aggregate demand. With lower levels of production, the demand for non-traded intermediate goods is reduced, and this has adverse effects on aggregate supply. If many people are engaged in corruption, the relative returns to being honest may fall. The importance of these kinds of social interactions has been emphasized in Murphy, Shleifer, and Vishny (1993) and Acemoglu (1995) and the survey in Hoff and Stiglitz (2001).

further constrains his ability to strip:

$$s^N(\theta) = f + \theta, \qquad s^L(\theta) = f + \theta[1-\lambda] \quad \text{with } 0 < \lambda < 1. \qquad (1)$$

λ represents the diminution in the ability to strip as a result of the imposition of the rule

of law. $\lambda = 0$ implies no diminution.

Thus, when the current state is N, the expected current income flow is

$$\bar{b}(x) = \pi b^L + [1-\pi]b^N \qquad (2)$$

if the agent builds value, and

$$\bar{s}(x,\theta) = f + \theta[1 - \pi(x)\lambda] \qquad (3)$$

if he asset strips.

We assume that under the rule of law, all agents prefer building value to stripping:

$$V^L \equiv \frac{b^L}{1-g} > \frac{s^L(\theta)}{1-z} \equiv S^L(\theta) \quad \text{for all } \theta. \qquad (4)$$

where V^L represents the present discounted value of the stream of benefits generated by a

building strategy, and S^L represents that generated by a stripping strategy, under the rule

of law.

B. The economic decision

An agent must decide in each period whether to build value or strip assets. Given (4), he

will always choose to build value once the rule of law is established. This leaves him

with only the problem what to choose in the no-rule-of-law state. We approach this

problem in steps.

Let $W(x,\theta)$ denote the optimal value function of a θ-agent when the current state

is N and a fraction x of the agents oppose the rule of law. The Bellman equation is

$$W(x,\theta) = \begin{array}{l} \max \{\bar{b}(x) + g\,[\pi(x)V^L + [1-\pi(x)]W(x,\theta)\,], \\ \bar{s}(x,\theta) + z[\pi(x)V^L + [1-\pi(x)]W(x,\theta)]\}. \end{array} \tag{5}$$

Building value is the optimal strategy for this type (θ) if

$$W(x,\theta) = \bar{b}(x) + g[\pi(x)V^L + [1-\pi(x)]W(x,\theta)] \tag{6a}$$

$$\geq \bar{s}(x,\theta) + z[\pi(x)V^L + [1-\pi(x)]W(x,\theta)]. \tag{6b}$$

Solving for $W(x,\theta)$ using (6a) and (6b), the condition becomes

$$\Delta(x,\theta) \equiv \underbrace{\bar{b}(x) - \bar{s}(x,\theta)}_{} + \underbrace{\pi[g-z]V^L}_{} + \underbrace{[1-\pi][g\bar{s}(x,\theta) - z\bar{b}(x)]}_{} \geq 0 \tag{7}$$

change in	*gain in wealth*	*gain in wealth*
current income	*in state L*	*in state N*

To see that the last term corresponds to the wealth gain in state *N,* one can

compare (7) term by term with the expression obtained by subtracting (6b) from (6a),

which gives $\quad \bar{b} - \bar{s} + \pi[g-z]V^L + [1-\pi][g-z]W(x,\theta)$.

A similar analysis can be carried out for stripping assets to be optimal, and it

simplifies to a condition in which the inequality in (7) is reversed.

Because $\Delta(.)$ is monotonic in θ, that is,

$$\partial\Delta\!\big/\!\partial\theta = -[1-\pi(x)\lambda][1-g(1-\pi(x))] < 0 \tag{8}$$

for each *x* there exists a unique critical value, denoted by $\theta_a(x)$, where $\Delta(.) = 0$. The

identity that defines θ_a represents the "switch line for (economic) action":

$$\Delta(x, \theta_a) \equiv 0. \qquad\qquad \textit{\textbf{Switch line for action}} \qquad (9)$$

We have thus shown that if the initial state is "no-rule-of-law," then there exists a threshold type θ_a below which the agent builds value in every period, obtaining a lifetime expected payoff

$$V^N(x) = \frac{\overline{b} + \pi g \dfrac{b^L}{1-g}}{1 - g[1 - \pi]} = \frac{\overline{b}}{1-g} + \frac{\pi g}{1-g}\left[V^L - V^N(x)\right], \qquad (10)$$

and above which he strips, obtaining a lifetime expected payoff

$$S^N(x, \theta) = \frac{\overline{s} + \pi z \dfrac{b^L}{1-g}}{1 - z[1 - \pi]} = \frac{\overline{s}}{1-z} + \frac{\pi z}{1-z}\left[V^L - S^N(x, \theta)\right]. \qquad (11)$$

In the last expression in (10) and (11), the first term is the asset value if current expected flows, $\overline{b}$ or $\overline{s}$, continued forever; and the second term is the capital gain or loss from transition to the rule of law.

Each agent, in choosing his economic action, takes the political environment as given. Proposition 1 states that an increase in the fraction of agents who oppose the establishment of the rule of law in each period *raises* the fraction of agents who choose to strip assets in each period:

Proposition 1. $\dfrac{d\theta_a}{dx} < 0$.

Proof. Differentiating (9) gives $\dfrac{d\theta_a}{dx} = -\pi' \dfrac{\partial\Delta(x, \theta_a)/\partial\pi}{\partial\Delta(x, \theta_a)/\partial\theta}$, where

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$$\frac{\partial \Delta(x,\theta_a)}{\partial \pi} = [b^L - b^N][1 - [1-\pi]z] + \theta_a \lambda [1 - [1-\pi]g] + [g-z]V^L - [g\bar{s} - z\bar{b}] . \quad (12)$$

From (8), $\partial \Delta / \partial \theta < 0$ and so the proposition is proved if $\partial \Delta(x,\theta_a)/\partial \pi > 0$. An increase in π affects the relative return to building value in four ways: it increases current expected income from building value (the first term), decreases the foregone payoff from stripping (the second term), increases wealth if state L occurs (the third term), but lowers income if state N persists (the fourth term). The last two terms taken together are positive since

$$[g-z]V^L - [g\bar{s}(x,\theta_a) - z\bar{b}(x)] = \frac{[1-g][1-z]}{\pi}\left[\frac{\bar{s}(x,\theta_a)}{1-z} - \frac{\bar{b}(x)}{1-g}\right] = [g-z][V^L - V^N(x)] > 0$$

where the first equality uses (7) and (9) to substitute for $[g-z]V^L$, and the second uses (10) and (11) and the fact that in state N, an agent of type θ_a is indifferent between stripping and building value. It follows that $\partial \Delta(x,\theta_a)/\partial \pi > 0$, as was to be shown. ∎

C. The political decision

We now consider the agent's second problem—whether to support or oppose the establishment of the rule of law. Those who build value in the no-rule-of-law state (types $\theta < \theta_a$) unambiguously benefit from the rule of law: they take the same action in both states and earn higher returns under the rule of law. In contrast, asset-strippers face a trade-off: their lifetime payoff is $f + \theta - \lambda\theta + zV^L$ if the rule of law is established in the present period, and $f + \theta + zS^N(x,\theta)$ if it is not. For a given x, let β denote an asset-

stripper's net benefit (which could be negative) from prolonging the no-rule-of-law state

by one period: [12]

$$\beta(x,\theta) \quad = \quad \lambda\theta \quad - \quad z[V^L - S^N(x,\theta)]. \tag{13}$$

$\beta(.)$ is the sum of the immediate benefit and the stream of future effects, with properties

$$\frac{\partial\beta}{\partial\lambda} \quad = \quad \frac{1-z}{1-z[1-\pi]}\theta \quad > \quad 0 \tag{14}$$

$$\frac{\partial\beta}{\partial x} \quad = \quad z\frac{\partial S^N}{\partial\pi}\pi' \quad = \quad \frac{-z\pi'\beta(x,\theta)}{1-z[1-\pi]} \tag{15}$$

$$\frac{\partial\beta}{\partial\theta} \quad = \quad \lambda \quad + \quad \frac{z[1-\pi\lambda]}{1-z[1-\pi]} \quad > \quad 0 \tag{16}$$

(14) states that the benefit β from prolonging the no-rule-of-law state by one

period is larger, the more deeply the rule of law reaches into current returns from

stripping. (15) states that if $\beta > 0$, an increase in the political opposition to the rule of law

increases β; if $\beta < 0$, it decreases β. (16) states that β is monotonic in an agent's ability to

strip; thus a unique critical value of θ, denoted θ_p, exists at which $\beta = 0$:

$$\beta(x,\theta_p) \quad \equiv \quad 0. \tag{17}$$

The next result is easy to check:

Proposition 2.   The constituency opposed to the rule of law is increasing in λ and is

invariant to the current political environment (*i.e.* to the opposition of *others*).

$$\frac{d\theta_p}{d\lambda} = -\frac{\partial\beta/\partial\lambda}{\partial\beta/\partial\theta} < 0, \qquad\qquad \frac{d\theta_p}{dx} = -\frac{\partial\beta/\partial x}{\partial\beta/\partial\theta}\bigg|_{\beta=0} = 0. \tag{18}$$

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[12] We treat (13) as if it is defined over all θ, but it affects behavior only through (19) below.

We are now ready to define the "political switch line," $\theta^*(x)$, such that agents of type $\theta < \theta^*$ support the establishment of the rule of law and agents of type $\theta > \theta^*$ oppose it:

$$\theta^*(x) \equiv \text{Max } \{ \theta_a(x), \theta_p(x) \} \qquad \textit{Political switch line} \qquad (19)$$

D. Equilibrium

An equilibrium is defined by the size of the constituency (x) that in the no-rule-of-law state, "votes" in each period to prolong the state one more period. An equilibrium solves $x^* = 1-H(\theta^*(x^*))$. In words, if agents believe that a fraction x^* will vote to prolong the no-rule-of-law state (so that the transition to the rule of law is just $\pi(x^*)$), then $x \geq x^*$ will choose to strip assets, and x^* will oppose the rule of law. All those who oppose the rule of law in a given period will be strip assets in that period, but not all asset-strippers will vote against the rule of law. In equilibrium the marginal "voter" could either strip assets or build value.

Figure 1A depicts the two "switch lines"—for economic and political choices—in the space x and θ. Since $d\theta_a/dx < 0$ and $d\theta_p/dx = 0$, the switch lines may cross. In that case, they demarcate the three areas depicted in the figure. In Area I, agents build value and support the rule of law. In Area II, they strip assets and oppose the rule of law. In Area III, $\theta_a(x) < \theta < \theta_p$: agents strip assets and support the rule of law; for these values of $\{x,\theta\}$, the capital gain from establishment of the rule of law exceeds the loss of stripping income.

Figure 1B shows the "political switch line," $\theta^*(x)$, and the stripping ability curve. An interior equilibrium occurs as a pair (x,θ^*) at which the two curves intersect.

The next proposition shows that in this model there must be a stationary

transition probability from state N to state L that is the outcome of an optimization process. The proposition characterizes the set of equilibria.

Proposition 3. An equilibrium always exists. If $\theta_p < \theta_a$ and if $0 < x^* < 1$ is an equilibrium where

$$-h(\theta^*(x^*))\frac{d\theta_a}{dx} \geq 1, \tag{20}$$

then there are also at least two other equilibria, one with a greater and one with a lower probability of the rule of law. On the other hand, if $\theta_a < \theta_p$ or if at every equilibrium,

$-h(\theta^*(x^*))\dfrac{d\theta_a}{dx} < 1$, then the equilibrium is unique.

Proof. $\phi(x) = 1 - H(\theta^*(x)) - x$ satisfies $\phi(0) \geq 0$, $\phi(x^*) = 0$, and $\phi(1) \leq 0$ and is continuous. Therefore an equilibrium exists. Multiple equilbria exist is $\phi'(x^*) > 0$ if and only if $\theta_p < \theta_a$ and inequality (20) holds.∎.

It should now be clear how multiple equilibria could arise in a dynamic setting even with infinitely far-sighted agents and even when the equilibria are Pareto ranked. If the expected probability of transition to the rule of law is low, the relative return to building value is low: both the current income and the expected return to increasing the asset base are low. Thus many agents will rationally strip and, given that, some will vote against the rule of law if its "reach" into stripping returns is high (taking into account as well the reduced asset base on which they have to build).[13] This can make the no-rule-of-law regime *persist*.

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[13] A single agent's vote has a negligible effect on the probability that the rule of law is established; therefore in choosing his economic action, he ignores the effect of his economic decision on how *he himself* votes, how other people believe the system will evolve and, thus, how *others* invest and vote.

Conversely, if the expected probability of transition to the rule of law is high, then the relative return to building value is high for two reasons: the current relative payoff from building value is high, and the long-run return to building up the asset base is high. In such a case, many (possibly all) agents will build value in the current period. Such agents unambiguously gain from the rule of law, and so a strong political constituency for the rule of law may also be an equilibrium.

Although we do not explicitly posit political dynamics here, it is reasonable to characterize situations where the political switch line crosses the stripping ability curve from above as *unstable*. If x were slightly higher than this point, for instance, so many more people would engage in asset stripping that the constituency against the rule of law would increase and so the value of x would be still higher, and the economy would move away from the putative equilibrium. Similarly, when the political switch line cuts the stripping ability curve from below, we say that the equilibrium is stable.

3. Effects of initial conditions and policy

In this section we characterize the comparative dynamics of equilibrium. We can incorporate in our simple framework a wide variety of factors that scholars have argued influence the political demand for the rule of law in post-communist societies. We focus on stable equilibria.

Figure 2 provides the basic insights. Any change in the parameters of the model that shifts up the stripping ability curve leads to an increase in x at a stable equilibrium—and accordingly to a decrease in the "value" of the equilibrium. A large enough upward shift can eliminate the equilibrium where constituency for the rule of law is large. We will describe such a situation loosely as "making a wealth-creating equilibrium less

likely." By the same token, any change in parameters that results in a downward shift in the switch line has similar effects to an upward shift in the stripping ability curve.

We now describe more precisely what kinds of shifts lead to these results. We define three parameters to capture exogenous factors that change, respectively, the distribution of stripping abilities (the parameter ε), the net return to building value (α), and the probability of the establishment of the rule of law (γ):

$$H = H(\theta;\varepsilon)\ with\ H_\varepsilon < 0$$

$$I^j = I^j(\alpha)\ with\ \left. dI^j \middle/ d\alpha \right. < 0$$

$$\pi = \pi(x;\gamma)\ with\ \pi_\gamma > 0\ for\ x \in (0,1)\ and\ otherwise\ \pi_\gamma = 0.$$

An increase in ε shifts *down* the distribution of abilities to strip and so shifts *up* the stripping ability curve. An increase in α or γ shifts up the switch line.[14]

Proposition 4. Evaluated in the neighborhood of a stable equilibrium $x \in (0,1)$,

$$dx/d\varepsilon > 0, \qquad dx/d\alpha < 0, \qquad and\ dx/d\gamma \leq 0\ as\ \theta_a \overset{>}{\underset{<}{}} \theta_p.$$

Proof. See the appendix.

The proposition states that the constituency opposed to the rule of law is increasing in the payoff to stripping, decreasing in the net payoff to building value, and weakly decreasing in the probability of the transition. Note that if the marginal voter is an asset-stripper (the case where $\theta_a < \theta_p$), then an increase in the transition probability will reduce asset-stripping (using (12)) but will not affect any individual's "vote," since in the initial equilibrium the marginal asset-stripper *supports* the rule of law and a

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[14] Some factors could have effects of opposite sign at different points along the stripping ability curve or the switch line. Our results do not depend on the uniformity of the effect of a given factor on one or the other of these curves; what matters is only the effect evaluated at the initial equilibrium point.

marginal increase in the transition probability does not shift the political switch line

(Proposition 2).

Elsewhere (Hoff and Stiglitz 2003a) we have considered the effect of a variety of

applications of the comparative statics results. Here we will focus on two applications:

natural resources and macro-policy.

The natural resource "curse"

Consider first the role of factor endowments. All assets can be viewed as depletable

resources. Stripping of natural resources would appear to be much easier (at least relative

to wealth creation) than , say, the stripping of industrial firms. This suggests the

hypothesis that an exogenous increase in the share of an economy's assets in natural

resources (rather than industrial assets) would tend to increase the relative returns to

asset-stripping. This effect lowers $H(.;\varepsilon)$, which increases the constituency in favor of

prolonging the no-rule-of-law state; see Figure 2.

The results of Table 1 are at least consistent with this hypothesis.[15] We report two

measures of natural resource abundance—exports of fuel and minerals as a fraction of

total exports and as a fraction of GDP—and three outcome measures—growth, a measure

of property rights insecurity from the 1999 EBRD/World Bank survey of business

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[15] The sample of 14 countries for which data on natural resource abundance are available is too small and heterogeneous to draw reliable conclusions. Even with a larger sample, a cross-section study could not test this hypothesis because it could not distinguish the direction of causation. Natural resource abundance, by influencing the relative returns to stripping and building assets and, hence, the constituency for the rule of law, influences the legal regime. But the absence of the rule of law, by depressing "contract-intensive" sectors in manufacturing relative to those in natural resource sectors (Blanchard and Kremer 1997) increases the measures of natural resource abundance. Fuel and mineral exports as a fraction of total exports in Russia rose from 53.2 to 60.6 percent between 1996 and 2000, as exports in manufacturing fell and natural resource exports rose (World Bank, Statistical Information and Management Analysis).

enterprises, and the *Wall Street Journal* index of the rule of law.[16] In countries with low

natural resource exports (< 10 percent of total exports), "only" 40 percent of firms

disagree with the statement that "the legal system will uphold my contract and property

rights"; and the *Wall Street Journal* index is 7.5 out of a possible score of 10. In

countries with high natural resource exports (> 20 percent of total exports), nearly 70

percent of firms disagree with the statement that their property rights will be upheld; and

the *Wall Street Journal* index is 4.2.

Our model suggests an explanation for this pattern, which is related to the "now

almost conventional wisdom that [natural] resources are a 'curse' for currently

developing countries" (Robinson, Torvik, and Verdier, 2002, p.1; see also Ross, 1999).

But whereas existing theories focus on the so-called *rentier* states (which use their

control over natural resources to maintain their power and wealth without adopting a

legal regime that is broadly beneficial) or on the dissipation of resources through

competitive rent-seeking and patronage, we emphasize a different mechanism: a greater

ratio of natural resources to industrial assets in an economy with weak property rights

increases the relative returns to stripping (relative to building value), which, in turn, tends

to reduce the constituency for institutions broadly beneficial to development (the rule of

law).

A change in parameters has stark implications for growth. A factor that lowers

the equilibrium probability of transition from, say, π to $\underline{\pi}$, increases the expected duration

of the no-rule-of-law state from $1/\pi$ to $1/\underline{\pi}$. An economy that experiences a long period

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[16] The *Wall Street Journal*'s panel of investment professionals rates the transition economies according to the "rule of law" on a scale of 0 (the worst) to 10 (the best).

of no rule of law will always be poorer than another economy with the same initial wealth but a less prolonged experience without the rule of law.[17] Figure 3 shows the growth path of two economies with similar initial conditions, but in one of which a policy has been undertaken which somehow increases, say, the probability of transition to the rule of law (e.g. the $\pi(x)$ curve shifts up). We look at the *average* path. It should be apparent that not only is the duration of the non-rule of law shorter, but expected income *in every period* is higher. In this simple formulation, the economy will *never* catch up. (The average path has a dip in GDP as assets originally get stripped, and then a steady growth expansion. If the vertical axis is measured in logs, the growth regime will be a straight line. The bad equilibrium dips down further, but once the rule of law is established, the slope of the curve is the same as before.)

Macroeconomic policy.

Big Bang reforms rested upon the hope that if one privatized assets, freed relative prices, and stabilized the price level, then the creation of market-supporting institutions, including the rule of law, would follow in due course. The next example demonstrates, on the contrary, that a narrow focus on stabilization can block the transition to the rule of law if it reduces the relative returns to building value.

Suppose that the establishment of the rule of law depends on a simple majority voting rule: thus $\pi = 0$ if $x > \frac{1}{2}$ and otherwise $\pi = 1$. The "tipping point" at which the rule of law will be established is a population fraction $\hat{x} = \frac{1}{2}$.

Associated with the tipping point is a critical value of stripping ability. Let $\hat{\theta}$ denote the critical value. Half of the population has a stripping ability above the critical

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[17] Our simplifying assumption of constant returns to investment is what leads to this stark result.

value and half below it. To make things interesting, we assume that $\hat{\theta}$ is sufficiently high that if an individual of type $\hat{\theta}$ strips, then he will have an interest in voting against the establishment of the rule of law in the current period. Formally, $\hat{\theta} > \theta_p$. (This inequality is satisfied if λ is sufficiently large or z is sufficiently small.)

The establishment of the rule of law now depends completely on the incentives of the individual of type $\hat{\theta}$. If he prefers to strip rather than build value, then so will at least half the population (those with ability to strip above $\hat{\theta}$), and the rule of law will surely *not* be established. Denote the discounted sum of his lifetime payoffs from stripping assets by $S^N(\hat{\theta}, r)$, where the first argument of this function denotes the individual's stripping ability and the second denotes the interest rate (r).

If, however, he prefers to build value rather than strip, then again so will at least half the population (those with ability to strip less than $\hat{\theta}$) and the rule of law will be established with certainty. Denote the discounted sum of lifetime payoffs from building value by $V^L(r)$. Thus, as an individual of type $\hat{\theta}$ votes, so votes a majority. Thus, if an agent of type $\hat{\theta}$ chooses to strip in the no-rule-of-law state, $\pi = 0$ and his lifetime payoff is $S^N(\hat{\theta}) = s^N(\hat{\theta}) + zS^N(\hat{\theta})$. If he chooses to build value, then $\pi = 1$ and his lifetime payoff is $V^L = b^L + gV^L$.

Government chooses a level of public spending (G) and through monetary policy influences the level of the interest rate. Under plausible circumstances, raising r lowers the relative return to building value: at a higher value of r, the cost of capital is higher, the likelihood of credit rationing is greater, and future profits obtained from current investments are more heavily discounted. For simplicity, suppose that the level of G

does not affect the relative return to stripping and to building value. (This would be easy to generalize.) Then the rule of law will be established if and only if

$$\frac{s^N(\hat{\theta}, r)}{1-z} \quad \leq \quad \frac{b^L(r)}{1-g}. \qquad \qquad \textbf{\textit{Rule-of-law constraint}}$$

Equating the two sides of this inequality defines a critical value of the interest rate, $\hat{r}$. Only if the interest rate is below the critical value will the rule of law be established. We call this the "rule of law constraint."

As in standard macroeconomics, suppose that social welfare can be viewed as a function of economic growth, the level of social expenditures, and inflation, and that these three variables in turn depend on r and G. This means that social welfare is an indirect function of these two government policies. A possible shape for iso-welfare curves is depicted in Figure 4. The social optimum is at point P where $\Omega_r = 0$ and $\Omega_G = 0$.

This paper poses a fundamental objection to the traditional approach, namely, that the structural equations relating growth, social expenditures, and inflation to the policy instruments $\{r,G\}$ depend on the institutional structure, which *itself* is endogenous. Macroeconomic policies and institutional evolution are not independent issues, especially in an economy such as Russia which was in the midst of institutional evolution. Yet outside advisers pushing particular macro-economic policies virtually never took into account the political and institutional consequences of their macro-economic policies[18]

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[18] Other than naively asserting, better macro-economic policies will induce better economic performance, which will enhance support for the reforms. But more typically, they recognized that the benefits of, say, monetary stringency would be reaped sometime in the future, and thus continually lectured the countries on "commitment to reform." They emphasized the painfulness of the reforms (implying that they did not believe the benefits would be reaped in the short run), and seemed to *hope* that the belief that the reforms would be sustained would enhance the political constituency for reform. But they did not even seem to

Suppose that social welfare under the rule of law is so much higher than under no rule of law that we need only focus on the rule-of-law state. But then we must recognize that $\{r,G\}$ must be chosen so that the rule of law emerges as part of the political equilibrium. This requires that $r \leq \hat{r}$. The iso-welfare curves are dashed in the policy region where the rule of law is unattainable, and maximum social welfare is obtained at point P', not P.

In this case, defenders of tight monetary policies in Russia who said that the problem was not the policies, but the weak Russian institutions, are missing the mark. If our analysis is correct, the institutions themselves are affected by the macroeconomic policies and in a way that can be adverse to the creation of the rule of law.

4. Discussion of the assumptions

This section examines more closely the key assumptions of the model.

Intertemporal effects. We examine first the assumption that today's political state affects today's economic action, and that today's economic action affects one's vote for the political regime that will prevail next period. In two limiting cases, such a link might not exist. First, if λ equals zero, then there is no effect of the rule of law on today's return. Everyone will, accordingly, vote for what is in his best long-term interests. We believe that, in practice, the rule of law does affect the amounts that can be stripped, so that λ is greater than zero. λ greater than zero means that the rule of law inhibits an agent's ability to strip in the period that just ended; *i.e.*, the rule of law circumscribes certain actions used by strippers to maximize their returns.

contremplate the alternative dynamic which our model suggests: that the political consitutency for reform would be undermined, and therefore even economic outcomes would be worse.

In fact, we believe our model underestimates the importance of the links between what happens today and in the future. The rule of law is based on not only statutes but also morality: Not just *any* principle of distributing property rights can be an element of the rule of law in a democracy (Fuller 1968, Dahl 1990). A commitment to the rule of law *today* may proscribe certain rules for distributing state assets today, and those who believe that they will obtain more assets under "no rule of law" will thus oppose the rule of law.[19] Moreover, a democracy cannot make a credible commitment to a distribution of property rights that is widely viewed as illegitimate.[20] This diminishes the value of the rule of law and, in particular, encourages asset stripping even under the rule of law by those who have obtained their assets illegitimately[21].

The other possibility is that the prospect of the rule of law in the future always induces individuals to take actions *today* to maximize the long-run value of their assets. This might be the case, for instance, if there were perfect capital markets (with non-governmental enforcement). With perfect capital markets and the prospect of the establishment of the rule of law in the future, it would be in the interests of each individual to take actions that maximize the value of assets because he could "capture" that value. This may have been the economic model in the minds of those who believed

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[19] As noted earlier, implicitly we are assuming that those who have a comparative advantage in stripping also will, on average, receive more from distributions in the no-rule-of-law state.

[20] Technically, this means that the value of an asset under the rule of law depends in part on how it was obtained; if it is obtained through a privatization procedure that is viewed as illegitmate, then there is a certain probability that it will be reappropriated by the state, *even under the rule of law.* This greatly complicates the mathematics.

[21] More generally, we have not modeled a reversion from the rule of law state to a no rule of law state. This too can be modeled in a Markovian way. The larger the number of those who have obtained their assets "illegitimately" (and are in this sense committed, in our earlier language, to *non-civic-virtue*, the larger the likelihood of a reversion, and as before, there is a social multiplier, with the increase in the probability of a reversion greater than that which would have been induced *directly* by an increase in the number of those committed to the non-rule-of law state.

in the Coasian analysis; but the whole issue of transition concerns the sequencing and pacing of reforms and institution creation. Privatization occurred *prior* to the creation of effective capital markets; the gradualists emphasized the dangers of privatizing before market-supporting infrastructure existed, the shock therapists ignored their warnings.

Ironically, with imperfect capital markets, the belief that the rule of law might eventually be established might lead to even more, and more inefficient, asset stripping than our simplified model suggests. Stripping assets ensures that assets appropriated illegitimately from the State would not be reappropriated. The historian Orlando Figes (1996) describes how, in a Russian town on the weekend between the departure of the White Army and the arrival of the Red Army in 1920, the citizens stripped the streets of the trees. The announcement in Brazil that restrictions were about to be imposed to prevent environmentally unsound logging may have exacerbated such unsound logging in the short run. In Russia, those controlling assets, especially with uncertain long-term rights, had an incentive to strip assets quickly, before they either lost those rights or before controls (such as those associated with the export of capital) were imposed.[22]

The manner of privatization in Russia may have exacerbated these problems, with control of many of the enterprises in the hands of older individuals who would retire

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[22] In that sense, the belief that the rule of law would be introduced not immediately, but in the intermediate term, represented the worst of all possible worlds. If it were believed that the rule of law were to be introduced only in the very long run, a more efficient pattern of asset stripping could emerge. If it were believed that the rule of law were to be introduced very quickly, then it might not pay to asset strip at all, given the high value of assets under the rule of law. Thus, what happened in Russia may have represented the worst of all possible worlds. Oligarchs who believed that a rule of law would eventually be established, worried that in that case, their illegitimately obtained property rights would be questioned, as indeed they were; and the way to most secure those property rights was in fact to strip the assets and move them outside the jurisdiction. Some outsiders recognized this problem, and argued strongly to let bygones be bygones, to create an oligarch dominated society which would ensure that the oligarchs felt secure in their property rights, so that they might even repatriate funds they had previously taken out. But this strategy too was risky, for it meant a long term commitment to a framework which we have identified as a non-rule-of law state (in which oligarchs received preferential treatment), which in turn encouraged asset stripping by others, and of course slowed the movement towards a rule of law.

before there was a likelihood that a good capital markets would be in place. For them, the only way of realizing value from control was stripping, rather than wealth creation.[23]

Stationary transition probability. In the model a stationary transition probability to the rule-of-law state always exists. There are a variety of arguments for why things might not be as stationary as we model them.

First, the model assumes that there are only two possible activities: to strip or build value. If, alternatively, there was a subsistence, stand-alone activity that agents could undertake in the no-rule-of-law state[24], then ultimately that activity would be adopted by everyone as the asset base was depleted (a stationary value of π would not exist); in the long run no one would oppose the rule of law. A second assumption, which we made because it greatly simplifies the analysis, is that of constant returns to investment. If, alternatively, marginal returns to assets increase as the level of assets decreases, as in standard growth analysis, then as more and more funds are taken out of the economy, the capital stock is so depleted that the attractiveness of foreign direct investment and reinvestment of profits, and thus of the rule of law, increases. On both grounds, the prognosis for the rule of law is not as bleak as this model might suggest.

However, the assumptions of the model regarding the asset base and beliefs have the opposite bias. First, we assumed that the distribution of stripping abilities was exogenous. Given Russia's vast natural resources, in ten years Russia will still be rich in

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[23] In contrast, in Poland, where privatization was conducted more slowly, with large enterprises broken into smaller units, control was more frequently in the hands of younger individuals, for whom there were larger returns from longer term investments, and for whom there was a greater prospect of the creation of effective capital markets prior to retirement.

[24] It has to be assumed, moreover, that individuals cannot simultaneously "strip" and engage in this stand alone activity, or at least that the increase in value from the rule of law in the stand alone activity exceeds the decrement in value in the asset stripping activity.

natural resources. A bad situation—characterized by a high relative return to stripping—could worsen because the value of man-made capital (machines, buildings, equipment) tends to deteriorate more quickly than that of natural resources under a stripping/no-maintenance strategy. Deindustrialization is rapidly progressing within Russia (recall footnote 19). It may shift the distribution of types, among those who control assets, toward those with greater ability to strip. One could thus argue that the incentives to strip are increasing over time and that the prognosis for the rule of law is actually worse than this model might suggest.[25]

Another assumption of the model is that beliefs are independent of events that occur after the Big Bang. But the experience of the transition may reinforce one or another view of man; one can learn not to trust. The experience of low or high levels of corruption can guide expectations with respect to the equilibrium that will be achieved.[26]

Further, populations that experience different levels of corruption over prolonged periods are likely to exhibit different behaviors because the level of corruption affects the way behavior is *evaluated.* The response of a Russian minister to allegations of corruption is illustrative of such an effect:[27]

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[25] Arguing slightly in the other direction is the fact that those in the extractive industries still need to raise additional funds to finance the investments required even for resource depletion, so that there is a need for at least a minimal rule of law to elicit these funds.

[26] Experimental economics has addressed the question of what happens when large groups of individuals repeatedly play a coordination game with multiple equilibria. Recent results (van Huyck et al 1990, Crawford 1991) highlight two conclusions: (a) The outcomes are history-dependent. Contrary to Schelling's suggestion, players do not necessarily coordinate on the efficient outcome; rather, it is the happenstance of the *initial* play that seems to play a key role. (b) In some cases, the "risk dominant" equilibrium emerges over repeated plays and is then played virtually all the time. This is the equilibrium with the lowest strategic risk in the sense of being most robust to uncertainty about the other players' actions. As each realizes, or comes to believe, that this is the strategy that others will pursue, this becomes *the* unique equilibrium, even though it may be very inefficient.

[27] There are two strands of thought suggesting that one should be unconcerned with corruption. One is the principal subject of this paper: that it matters little how property rights are established, only that they be established. The other likens corruption to an auction. With robust competition, the assets are "sold" to the

Vladimir Rushaylo has flatly denied the allegations that 70 per cent of all Russian officials are corrupted … "Only those who have links with the organized criminal gangs can be regarded as corrupted officials. Do not mistake bribe-taking for corruption," the Russian Interior Minister stressed.

(RIA news agency, Moscow, March 13, 2001/BBC Monitoring © BBC)

In limiting cases, *e.g.* Russia, where high levels of criminal activity were used to obtain control rights, there may be still another reason why it is difficult to exit from the no-rule-of-law state. For those who engaged in criminal activity, the switch to the rule of law may not entail an increase in the net returns they can appropriate because of the risk of retroactive criminal prosecution. Recognizing the huge cost associated with the transition to the rule of law, these individuals may "invest" a great deal in the maintenance of no rule of law, including killing those who work to establish the rule of law. Not only are some individuals locked in by their pasts, but others who might wish to support the rule of law may incur tremendous risks in doing so.[28] History matters.[29]

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highest bidder. In this perspective, bribe-taking improves economic efficiency and thus is not a "bad" form of corruption. The only conditions under which such a conclusion might hold would be those in which markets worked well, *e.g.* because there was perfect information, in which case the issue of corruption itself would simply not arise. Theoretical and empirical work finds that more bribe payments give rise to more regulatory burden: Corrupt politicians *create* regulations so that they can release firms from them in exchange for bribes (Kaufmann and Wei 1999 and Laffont and Martrimort 1999), while firms bribe government to take actions that restrain competition (Hellman, Jones, and Kaufmann 2000).

[28] The assassination in August 2002 of V. Golovlyov, a member of parliament, is one of a long list of assassinations, nearly all unsolved, of Russian government officials who had links with criminal activities. Reportedly, "Mr. Golovlyov was killed by former cronies because he had jumped [from a criminal past] to the side of the law helping the investigators." (Michael Wines, "Politics in Moscow More Dagger than Cloak," *New York Times,* August 24, 2002, pp. A1-4.)

[29] The probability that a vote for a particular set of formal rules (an independent judiciary, disclosure rules, freedom of information over government proceedings, etc.) will actually *lead to* the rule of law may depend on history. As North (1998, p. 8) for example. notes,

"The way in which a society changes is a mixture of changes in formal rules, informal norms of behavior, conventions, and their enforcement characteristics…In Russia, for example, many of the formal rules were changes, but there were no enforcement mechanisms and the norms of behavior that evolved over time were inconsistent with these formal rules, producing the chaos and results that are apparent today." [reference to be added]

5. Conclusion

This paper has made a small step forward by treating a variable that was previously treated as exogenous as endogenous—the political environment (the rule of law). The model analyzed here, in which no individual or subgroup has the power to establish their own limited version of law and order, one which favors them at the expense of others, is a setting that we would interpret as very favorable to the emergence of the "rule of law." Yet we have shown that under these seemingly favorable conditions, Big Bang reforms may well not create a constituency for the rule of law. We have shown that this would be the case even if the Big Bang had been managed in ways that did not give rise to an oligarchy, a small group able to shape the institutional, including legal, environment in ways that advantage them at the expense of the rest of society.[30]

Our model, we believe, provides some insights into the failure of the emergence of the rule of law in Russia and in many of the other transition countries. Many of the factors that in our model reduce the constituency for the rule of law are present in Russia: lack of experience of a market economy before communism, an historical legacy of corruption, a corrupt privatization, abundant natural resources, open capital markets, and a hyperinflation in 1992-93 that by destroying private savings aggravated the consequences of imperfect capital markets. Thus, the model helps explain why what happened in Russia actually happened.

The framework used for the analysis also makes predictions about policies—macroeconomic and capital market policies—that could help drive an economy out of a bad equilibrium and towards the rule of law. Demand for, and opposition to, the rule of

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[30] In that sense, it should be emphasized, the analysis here is not directly applicable to the situation in Russia, where an oligarchy did emerge.

law cannot be separated from macroeconomic policy, from other rules such as financial market liberalization, and, most clearly, from the nature of the privatization process. Our analysis suggests then that many of the policies advocated by the international economic insitutitons and the big-bang reforms actually *have some culpability* for the failure of the emergence of the rule of law. Some took the rule of law as given, and thought they were trying to formulate the best policies, *given the rule of law;* but others, as we noted in the introduction, believed that their strategies would *promote* the rule of law. But it was not just that the absence of a coherent theory of a political/economic equilibrium evidenced not only naïve optimism; it was potentially dangerous for these countries: the adverse outcomes predicted by our integrated political/economic equilibrium regrettably seem to have emerged in so many of the countries, and it will not be easy to reverse.

At one level of analysis, our results are hardly surprising. There was no reason, on the basis of theory or history, to expect that the privatization of control rights would lead to the rule of law—a legal framework that would promote economic efficiency in a market economy. Russia showed that incentives did matter but that if the economic and political environment was not well designed, the incentives created by Big Bang privatization could lead to asset stripping rather than wealth creation, and to the perpetuation of a regime that was far from what would, in ordinary parlance, be called a rule of law.

Defenders of the Big Bang, while gradually and reluctantly admitting that matters have not proceeded as they had anticipated, argue that, still, outcomes are better than they would have been had a more gradual approach been taken. Without privatization, control resided in the hands of government officials, who might also have stripped assets (the

process occurred widely under *perestroika* and came to be known as "spontaneous privatization"). The point, however, is that their ability to strip was enhanced by official privatization; before official privatization, a too greedy government official could be dismissed from a state post and thereby lose the privileges attached to it. Official privatization did entail the transfer of control rights, which did make a difference.

The contribution of the paper is to show that the view that once stripping has occurred, the strippers will say "enough" and by supporting the rule of law seek public protection of their gains, is flawed. By abstracting from the obvious problem that strippers who obtain great wealth can buy special favored treatment from the state, we highlight the two less obvious flaws in the optimistic view about the Big Bang: First, that the asset-strippers can remove the assets from exposure to further stealing, and in that case they do not care about public protection for their gains (formally, $z > 0$). And secondly, that an assignment[31] of property rights that conflicts with a society's view of fairness undercuts the moral credibility of the law and so engenders subversion. The perceived justice of a system is important to gaining the cooperation of those involved in the process of producing the rule of law (judges, regulators, jurors, potential offenders, etc.). Accordingly, state protection of asset strippers may be infeasible, even under an ostensible rule of law (formally, $\lambda > 0$). Knowing this, strippers will be less supportive of the rule of law.

Our dynamic model makes one further point: what is at issue is *how fast* the rule of law will emerge. The presumption of the Big Bang strategy was that the faster state property was turned over to private hands, the faster a true market economy, including

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[31] Including the processes by which those assignments were made.

the rule of law, would be established. Our analysis shows that, even if *eventually* a rule of law is established—and there is no assurance that it will, or that it will be sustained-- the Big Bang may put into play forces that *delay* the establishment of the rule of law. The tortoise once again may beat the hare!

We have described the impact on the political equilibrium—and thus on the economic equilibrium—of certain *policies*, such as the particular structure of privatization and monetary policy. In a fuller analysis, these policies would themselves be viewed as *endogenous.* To be sure, international institutions and other outsiders promoted rapid privatization, capital market liberalization, and tight monetary policies. But at least some of these policies served particular interests, and those interests might have prevailed even without outside pressure. This is only one of several difficult issues in counterfactual history, which it is not the intent of this paper to address.[32]

Where do we go from here? There are hysteresis effects; we cannot turn back history. Our model provides a framework for thinking about what kinds of policy changes, given that history, might be most conducive to the creation of a constituency for the rule of law. Policies that enhance the returns to investment and wealth creation rather than asset stripping not only serve to strengthen the economy in the short run, but enhance political support for the rule of law and thus put it in a position for stronger long-term growth. The analysis of this paper details the kinds of concrete policy changes with these desired impacts.

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[32] Clearly rapid privatization served the interests of those who seized control as a result. Perhaps without outside pressure, there would have been even more insider privatizations. While our analysis cannot fully answer such questions, it provides a framework for exploring the further ramifications. If the insider privatizations had more political legitimacy than the loans-for-shares privatization (they could hardly have less legitimacy), then it might have been easier to provide security for those insiders who invested inside the country rather than sending their assets abroad, in which case there would have been more political support for the rule of law, and thus a "better" political *and* economic equilibrium might have emerged.

In the past, for instance, institutional and structural reforms on the one hand and macro-economic stabilization policies have proceeded on parallel tracks: macro-economic policies have been delegated to one set of institutions and agencies, both domestically and internationally, while the institutional reforms have been assigned to other institutions and agencies. Our analysis suggests that the two sets of policies are intimately intertwined. Macro-economists cannot simply blame others for the institutional failures, such as the absence of the rule of law. Macroeconomic policies may, in fact, be creating an environment that impedes the emergence of the rule of law.

Appendix: Proof of Proposition 4

An equilibrium is a value of x such that

$$x = 1\text{-}H(\theta^*; \varepsilon) \tag{A1}$$

The proof of Proposition 4 is in four steps. First we show that $D > 0$. From (19), $\theta^* \equiv$ Max $\{\theta_a, \theta_p\}$. If $\theta^* = \theta_p$, $d\theta^*/dx = 0$ from (18) so $D = 1$. If $\theta^* = \theta_a$, then, at a stable equilibrium, (20) does not hold, so $D > 0$.

Second, we implicitly differentiate (A1) with respect to x and ε, which yields

$$\frac{dx}{d\varepsilon} = -\frac{H_\varepsilon}{D} > 0 \tag{A2}$$

Third, we consider the case where $\theta^* = \theta_a$ and implicitly differentiate (A1) with respect to x, α, and γ. Using (2), (4), and (7)-(9), we obtain

$$\frac{dx}{d\alpha}\Big|_{\theta^*=\theta_a} = -\frac{h}{D\,\partial\Delta/\partial\theta}\left\{\pi\left[1 - z[1-\pi] + \frac{g-z}{1-g}\right]\frac{dI^L}{d\alpha} + [1-\pi][1 - z[1-\pi]]\frac{dI^N}{d\alpha}\right\} < 0 \tag{A3}$$

and

$$\frac{dx}{d\gamma}\Big|_{\theta^*=\theta_a} = \frac{h\pi_\gamma}{D}\left[\frac{\partial\Delta/\partial\pi}{\partial\Delta/\partial\theta}\right] < 0 \ . \tag{A4}$$

The last step is to consider the case where $\theta^* = \theta_p$, and again implicitly differentiate (A1) with respect $x,$ γ and $\alpha.$ Using (13) and (17), we obtain

$$\frac{dx}{d\alpha}\Big|_{\theta^*=\theta_p} = \frac{hz}{D} \frac{1}{\partial\beta/\partial\theta} \frac{1-z}{1-z[1-\pi]}\left[\frac{\partial I^L/\partial\alpha}{1-g}\right] \quad < \quad 0 \qquad (A3')$$

and

$$\frac{dx}{d\gamma}\Big|_{\theta^*=\theta_p} = \frac{-hz\pi_\gamma}{D} \frac{1}{\partial\beta/\partial\theta}\left[\frac{\beta(x,\theta_p)}{1-z[1-\pi]}\right] = 0 \qquad (A4')$$

since $\beta(.,\theta_p) = 0.$

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