After the Big Bang:

Obstacles to the Emergence of the Rule of Law in Post-Communist Societies

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There is now a very broad belief that the quality of institutions is the fundamental determinant of the level of a country's development. What is more contentious is where good institutions come from. The transition from plan to market of the countries in the former Soviet bloc entailed a novel experiment. In going from a command economy, where almost all property is owned or controlled by the state, to a market economy, where individuals control their own property, an entirely new set of rules must be established in a short period. How could this be done?

The strategy adopted in Russia and many other transition economies was the "Big Bang" – mass privatization of state enterprises as quickly as possible. The rationale for this experiment was articulated, for example, by Shleifer and Vishny (1998, pp. 10-11):

> 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.

But there was no theory to explain how this process of institutional evolution would occur and, in fact, it has not yet occurred in Russia and many of the other transition economies. A central reason for that, according to many scholars, is the weakness of the political demand for the rule of law.[1] As Black *et al.* (2000, p. 1753) observe for Russia,

> 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.

The Big Bang approach to creating market institutions by and large didn't work. The question is, why? This paper provides an explanation based on a model where

[1] On Russia, see Gray and Hendley (1997), Aslund and Dmitriev (1999), Pistor (1999) and others in the symposium "Demand for Law" in the *East European Constitutional Review*, Kitschelt (2001), and Stoner-Weiss (2001). On Russia and other transition economies, see Black *et al.* (2000) and EBRD (2001, 2002).

economic and political decisions are interdependent.[2] Individuals who control assets make both economic choices (to build value or strip assets) and political choices (to "demand" a rule of law). An individual's economic decision affects his political position. If, for example, an individual chooses to strip the assets he controls instead of building value, then the establishment of the rule of law constrains his ability to strip and he has no reason to support its establishment —or at least, not so much as he would if he were investing in new assets. Further, when enough individuals do not demand the rule of law, the probability that it will be established falls, which reduces the economic incentives of other asset-holders to invest and so affects *their* "votes." Individuals' demands for the rule of law are thus interdependent, and it is appropriate to consider the equilibrium set of decisions to support the establishment of the rule of law.

In this paper we examine this interdependence within a highly stylized general equilibrium framework in a context that would seem particularly favorable for the emergence of the rule of law. Those with control rights over privatized assets are assumed to be powerless individually to obtain property rights protection *à la carte* from the state, but can collectively bring about the rule of law by voting for it. If in this model mass privatization creates a constituency for the rule of law, it does not mean that one should view mass privatization 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). But if privatization does not do that under the circumstances explored here, then the naïve view of institutional change that was adopted to justify quick privatization should be viewed with considerable skepticism. We will

[2] The model developed here was briefly described in Hoff (2001, pp. 166-168). Related models were recently developed by Polishchuk and Savvateev (2001), Sonin (2002), and Berglof and Bolton (2002).

show that there is no presumption that private decisions regarding the choice of legal regime are socially efficient. In some circumstances, cases of multiple equilibrium occur, and in others, a unique stable, bad equilibrium of weak demand for the rule of law exists.

In choosing his economic action, each individual ignores the effect of his economic decision on how other people believe the system will evolve and, thus, how *others* invest and vote. Moreover, we assume each individual votes for the regime that enhances his own welfare.[3]

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, uniformly enforced, for resolving property rights disputes. By *no rule of law* we mean a legal regime that does not protect investors' returns from confiscation by the state, does not protect minority shareholders' rights from tunneling, and does not enforce contract rights.[4]

Our model helps to identify factors that help or hurt the prospects for the

[3] The interdependencies explored here are distinctly different from those of Murphy, Shleifer and Vishny (1993) and Acemoglu (1995). Those papers show that when there are direct interdependencies (externalities) between producers and rent-seekers, individuals' *economic* choices have no social efficiency properties and can generate multiple equilibria. In our paper, we abstract entirely from direct interdependencies between producers and asset-strippers, and yet we are able to show that agents' *political* choices have no social efficiency properties.

[4] 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 "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 rule of law is sometimes defined by depicting its opposite: a state of anarchy. Both concepts are more subtle. For instance, in Russia *the law* has been used by some powerful groups to appropriate assets away from others through an abuse of bankruptcy processes. In some cases, *the law* has been used to create entry barriers to maintain monopoly positions. Our use of the term "rule of law" focuses on the enforcement of property rights in a reasonably neutral and predictable way: under the "rule of law," the ability of the local, regional, and national authorities to take arbitrary actions is circumscribed. But in Russia, privatization may have actually expanded the discretion of the subnational authorities. 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 (Black *et al*. 2000).

emergence of a rule of law. Many of the factors that 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 and made asset stripping appear relatively more attractive. Some of the policy frameworks imposed on Russia (such as excessive monetary tightness) had unintended consequences, among which was the inhibition of the movement towards the rule of law.[5] Thus, the model helps explain why what happened in Russia actually happened.

1. A Short Background on the Big Bang in Russia

In December 1991, the USSR was dissolved. In the next year, Russia implemented Big Bang reforms, launching a mass privatization program that distributed equity to managers and workers and sold shares at public auctions. By July 1994, when the mass privatization program was completed, 14,000 medium and large state enterprises (70 percent of Russian industry) had been transformed into joint-stock companies. Because worker and outside ownership was so dispersed, management exercised effective control in most employee-owned firms (Frydman *et al.* 1996, and Blasi *et al.* 1997).[6]

[5] There were other consequences, such as the growth of barter, which also adversely affected the market economy.

[6] The privatization itself went through several stages, and interestingly, some of the failures at the early stages gave rise to forces that made privatizations in later stages even less supportive of the "rule of law." Mass privatization turned out to be unpopular because it did not deliver the promised economic improvement. Facing very uncertain reelection prospects, President Yeltsin entered into a deal in 1995 that led to a second privatization program in 1995-97 of some of Russia's most valuable enterprises through a program known as 'loans for shares.' The program gave rise to the term 'oligarchs' to refer to the small group of bankers and industrialists who obtained billions of dollars in state assets at very low prices in exchange for help in reelecting President Yeltsin.

Mass privatization was initiated before institutions to support the rule of law, particularly concerning corporate governance, were in place. Such institutions are imperfect in all societies, but between Russia and most other developed, capitalist societies there was a qualitative difference. There were few rules for corporate governance and no rules to make management teams contestable. In 1995-96, Russia adopted laws to protect shareholders' rights, but political opposition (free elections have been held regularly since 1993) made enforcement of these rules very weak. Further problems arose from weak control of the provinces by the Central government.

The transfer of state property to private agents was accompanied by the stripping of Russia's assets. Capital flight from Russia averaged, depending on the measure used, more than $20 billion or $15 billion per year during 1995-2001, or 5% of GDP (Loungani and Mauro, 2001; Reuters, Feb. 20, 2002).

Systematic evidence of the insecurity of property rights in Russia and 21 other transition economies comes from a 1999 EBRD/World Bank survey of firms. In response to the survey question, "I am confident that the legal system will uphold my contract and property rights in business disputes," a staggering 75 percent of firms in Russia, Kyrgyzstan, Moldova, and the Ukraine stated that they disagreed. Figure 1 is a scatter plot of data on property rights insecurity and growth for all countries for which such data are available.[7] The horizontal axis plots the fraction of firms in the EBRD/World Bank survey that report that they do not trust the legal system to uphold their property and contract rights. The vertical axis plots the ratio of GDP in 2000 to GDP in 1989. In the six economies where property rights are most insecure, GDP has

[7] In each country except Belarus, the private sector emerged from a very small share of the economy in 1989 to the dominant share by 2000 (EBRD 2001).

sharply contracted—by official statistics, the contraction is more than 30 percent.

2. A static model of the demand for the rule of law

Agents and timing. Consider the behavior of individuals who have control rights over enterprises. There is a continuum of such agents normalized to one. Each agent chooses between two actions to maximize the expected value of his wealth:[8]

> Build value: Make an irreversible investment to increase the enterprise's value.
>
> Strip assets: Strip the assets of the enterprise, whisk capital to a safe place, tunnel value out, and let the capital stock wear out.

Agents differ in their ability to strip and their ability to invest. Let θ denote an agent's type. Agents with a higher value of θ strip better but are less productive in investing. θ has a continuous distribution over $[\theta_{min},\theta_{max}]$ given by $H(\theta)$, with a density function $h(.)$ associated with it.

Political environment. The initial state is one without the rule of law. Agents who build value demand reform—the rule of law—because to build value, an agent must interact with others and he benefits from a regime that enforces property rights and contracts in a reasonably neutral way. Without the rule of law, he risks even being able to capture the return to his investment. Asset-strippers, who follow a strategy of "take the money and run," will be indifferent to or actively frustrate the establishment of the rule of law because it does not benefit them and may constrain their ability to strip. In this simple static model, an agent's economic strategy determines his political position.[9]

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[8] For simplicity, we treat these two strategies as mutually exclusive. For an enterprise where claims to income are concentrated in a sole shareholder, there would never be a reason to do both simultaneously. For a firm with multiple shareholders, the controlling shareholder might want to pursue both the value-creating and the self-dealing strategies, but that would not be sustainable, as investors would ultimately refuse to do business with a firm that defrauds them.

[9] In a dynamic version of the model, an individual's political position is a function of not only his current economic strategy but also his future decisions, but the results remain robust; see Hoff and Stiglitz (2003).

Let x denote the fraction of agents who do not support the establishment of the rule of law. The probability π of its establishment depends on the size of the constituency who demand it (1-x) as well as many other factors (*e.g.*, freedom of the press, the structure of political parties, and norms). We capture this assumption as:

$$\pi = \pi(x), \quad \pi'(.) \leq 0, \quad 0 = \pi(1) < \pi(0) = 1.$$

Payoffs. Technology is constant returns to scale and yields a pay-out f per unit asset. An agent of type θ can only strip so much. The return to stripping in state j, where j is rule of law (L) or no rule of law (N), is

$$S^N(\theta) = fs(\theta), \qquad S^L(\theta) = fs(\theta)[1-\lambda]$$

where $ds/d\theta > 0$. The parameter λ represents the diminution in the ability to strip as a result of the imposition of the rule of law: $0 \leq \lambda < 1$, where $\lambda = 0$ implies no diminution.

An agent who builds value invests a fixed amount I per unit asset and increases the asset by a proportion $g^j(\theta)$, with $dg^j/d\theta \leq 0$. The return to building value is thus

$$V^j(\theta) = f[1 + g^j(\theta)] - I.$$

We assume that the rule of law raises the return to building value for every agent: $g^L(\theta) > g^N(\theta)$ for all θ. This activity benefits from the rule of law because it controls the misbehavior of others. The concomitant reduction of each agent's ability to benefit from opportunism is the price he has to pay. Figure 2 summarizes the payoff structure for an agent of type θ.

Let $\Delta(x,\theta)$ denote the difference between the expected return to building value and stripping assets for an agent of type θ:

$$\Delta(x,\theta) = \pi V^L + [1-\pi]V^N - \left[\pi S^L + [1-\pi]S^N\right]$$

$$= f\left[1+\pi(x)g^L(\theta)+[1-\pi(x)]g^N(\theta)-s(\theta)[1-\pi(x)\lambda\right] - I \ . \qquad (1)$$

We can define a "*switch line*" $\theta^*(x)$ such that if, in choosing their economic action, agents believe that a proportion x will oppose the rule of law (so that the probability of its establishment is just $\pi(x)$), then

$$\Delta(x,\theta^*) = 0 \qquad \textbf{\textit{Switch line}} \qquad (2)$$

and so a population fraction 1-$H(\theta^*)$ strips assets and does not demand the rule of law. The central point is that the critical value θ^* depends on the political environment x:

$$\frac{d\theta^*(x)}{dx}_{|switch\ line} = -\frac{\Delta_x(x,\theta^*)}{\Delta_\theta(x,\theta^*)} = -\frac{\pi'[g^L - g^N + s\lambda]}{\pi\frac{dg^L}{d\theta}+[1-\pi]\frac{dg^N}{d\theta}-[1-\pi\lambda]\frac{ds}{d\theta}} < 0. \qquad (3)$$

The numerator shows how a change in the political environment changes the relative returns for the marginal person to creating value versus stripping. The more sensitive the relative returns are, the steeper the *switch line*.

Equilibrium. An equilibrium is a fraction of agents, x, who do not support the establishment of the rule of law:

$$x = 1 - H(\theta^*(x)). \qquad (4)$$

(4) states that for a fraction x of the agents, the expected return to stripping assets exceeds the expected return to building value. We will call the function $x(\theta) = 1- H(\theta)$ the *stripping ability curve*. An agent's ability to strip an enterprise will be greater, the greater its debt, the greater the equity of minority shareholders, and the more liquid its assets—in particular, the more easily one can extract from the assets commodities

requiring little processing and easily sold on world markets. If the factors that determine the ability to strip and the ability to build value are normally distributed in the population of agents, then the *stripping ability curve* will have the S-shape depicted in Figure 3. An interior equilibrium occurs as any pair $\{x,\theta\}$ where the two curves intersect.

Proposition. An equilibrium always exists. If $0 < x^* < 1$ is an equilibrium where

$$-h(\theta^*)\frac{d\theta^*(x^*)}{dx}\Big|_{switch\ line} \geq 1, \qquad (5)$$

then there are also at least two other equilibria, one with a greater and one with a lower probability of the establishment of the rule of law. On the other hand, if for all x, (5) does not hold, 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. If (5) holds, $\phi'(x^*) > 0$. ■.

Inequality (5) is the condition where the response to a perturbation in x is greater than the perturbation itself. When this condition holds, the equilibrium is unstable in the sense that if there is a perturbation above x^*, then the "switched" agents will not wish to switch back. This is because the political environment and so changes how people believe the system will evolve and, thus, how *others* invest and vote. If (5) holds, multiple equilibria exist.

The proposition can also be seen graphically. If (5) holds, the *switch line* cuts the *stripping ability curve* (with slope $-1/h(\theta^*)$) from above or, in the limiting case, coincides with it. The equilibrium is unstable because a perturbation that increases x lowers the "switch point" θ^* by at least as much as it lowers the return of the marginal asset-stripper, which induces movement away from the equilibrium. Figure 3 illustrates a

case where there are three equilibria and one (x^{**}) is unstable.

Example. Suppose $\pi(x) = (1-x)^2$, θ is uniformly distributed on [0,1], $fs(\theta) = \theta$, $\lambda = 0$, and returns to building value for all ability types are $V^L = 1$ and $V^N = \frac{1}{4}$. Then (4) becomes $x = 1-\theta^*(x) = \frac{3}{4} - \frac{3}{4}(1-x)^2$. Equilibria are at $x = 0$ and $x = \frac{2}{3}$; see Figure 4. In this example, even though building value under the rule of law dominates stripping assets under any legal regime for every agent, a weak constituency for the rule of law is the unique stable equilibrium. The *switch line* is steeper than the *stripping ability curve* at $x = 0$ and thus (5) holds at that point. The efficient equilibrium, where the rule of law is established with certainty, is unstable. By similar reasoning, the inefficient equilibrium, where the probability of the establishment of the rule of law is just 1/9, is stable.

The model sheds light on the debate about rapid privatization. The optimistic view was that privatization would create a class of individuals who stood to gain enormously by building up the value of their firms and who would thus demand the rule of law. Observers of the Russian scene quipped, *Why steal Gazprom* (*a Russian energy firm and the world's largest producer of natural gas*) *if you can make billions from it?* One answer has to do with the credibility of property rights. If an individual's property rights to Gazprom are not enforced in the future, then he cannot make billions by normal business investments. This point is strengthened if we recognize that control rights can extend well beyond ownership rights. Those who have an advantage in asset-stripping, relative to wealth creation, may also have an advantage in converting corporate and social assets to private use. Accordingly, they will not support the rule of law *even when they themselves have assets to protect.* As many of the Russians who became millionaires in

the early 1990s might have said, *Why create when you can steal?*[10] Our analysis suggests that there is some truth in both views—building value may be rational and stripping assets may be rational—but that unfortunately there can exist an equilibrium in which asset stripping dominates, and it may be the only stable equilibrium. And, again unfortunately for the economies in transition, it is the asset stripping equilibrium that seems to have emerged in so many of them.

3. Comparative statics

We can incorporate in our framework a wide variety of factors that scholars have argued influence the political demand for the rule of law in the transition economies. Figures 5A and B provide 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 "good" equilibrium. 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 consider, in turn, three applications: initial conditions, "civic virtue," and policy.

Initial conditions. What people see has happened in the past affects what they believe will happen in the future. Pessimism about the emergence of the rule of law (a

[10]For example, Boris Berezovsky, who in the early 1990s amassed one of the largest personal fortunes in Russia, has been described as a master at devising schemes that "soaked cash out of the big companies he dealt with, leaving them effectively bankrupt" (Klebnikov, 2000, p. 4). One of his widely announced plans was to produce a new Russian car in a joint venture with Avtovaz and General Motors. Reportedly he used the proceeds of a public securities sale not to build the factory but "to bootstrap himself and [an Avtovaz manager] into private ownership of [Avtovaz, an 'industrial crown jewel of Russia']" (Hoffman, 2002, pp. 217, 226). In 1994, "GM backed out of the…project, alarmed by gangsterism and corruption at Avtovaz" (Klebnikov, p. 141). The factory was never built.

shift down in $\pi(x)$) shifts the *switch line* down and, in a vicious cycle, makes less likely the emergence of the rule of law; see Figure 5B. Russia had the experience of 74 years of rule by the Communist Party. A consequence of a prolonged experience of communism was the absence of civil society institutions (churches, the press, political clubs) with countervailing power to hold the state to account. (In contrast, Poland had powerful social networks, including the Catholic Church and the Solidarity trade union.) During the long period of Soviet rule, a parallel, informal structure grew up alongside the official Party structure, in which people engaged in illegal trades, often at the expense of the State. This structure survived the collapse of Soviet rule and weakened the capacity of the state to enforce a rule of law. As one Russian businessman noted,

> All large-scale [Russian criminal] operations —financial swindles, non-paid loans, investment projects, in which millions vanished in unknown directions—are mostly based on former connections (quoted in Ledeneva, 1998, p. 211).

A corrupt privatization process reinforced pessimistic beliefs about how society works.

Consider next the role of factor endowments. All assets can be viewed as depletable resources. Asset stripping of natural resource firms would appear to be much easier (at least relative to wealth creation) than asset stripping of industrial firms. This suggests the hypothesis that relative natural resource abundance (relative to industrial assets) represents a shift up in the *stripping ability curve*, reducing the constituency for the rule of law as depicted in Figure 5A.

The results in Table 1 are at least consistent with this hypothesis.[11] We report two

[11] The sample of 14 countries for which data on natural resource abundance are available is, however, 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

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, the 1999 EBRD/World Bank measure of property rights insecurity discussed in Section 1, and the *Wall Street Journal* index of the rule of law.[12] 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). 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, decreases the political constituency for the establishment of the rule of law.*

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).

[12] 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).

Civic virtue. With a slight modification of the model, we can consider the effect of the presence in the population of agents who always demand the rule of law, irrespective of their private interests.[13] The presence of agents with civic virtue is equivalent to an atom at $\theta = -\infty$. This shifts the *stripping ability curve* left: corresponding to any given positive number $\hat{\theta}$ there is now a weakly smaller fraction of agents for whom $\theta \geq \hat{\theta}$. At an initial stable equilibrium, this shift raises the "switch point" θ^*, as depicted in Figure 5A. That is, the presence of a given number of individuals who always demand the rule of law leads to an increase by a larger number in the *equilibrium* number of individuals who demand the rule of law by a larger number. The converse is that the loss of civic virtue—as occurred in Russia when corrupt managers or criminal figures obtained control rights through official privatizations—may have had a disproportionate effect in bringing about the "bad" equilibrium (a *social multiplier*).

Policy. Demand for, and opposition to, the rule of 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. Monetary policy has several effects: Policy that leads to higher real interest rates lowers the discount factor and increases the cost of capital, which shifts down the *switch line* in a manner similar to that depicted in Figure 5B. Policy that makes credit unavailable stacks the balance even more against building value, making the establishment of the rule of law less likely.

Monetary policy also affects the state of the economy in a way that affects the relative attractiveness of stripping assets versus building value. Our analysis reinforces

[13] This modification is related to Haltiwanger and Waldman (1991).

the standard argument for fighting hyperinflation, but provides an important warning against excessive monetary tightening. By reducing the risk of hyperinflation, a restrictive monetary policy may be an important tool for enhancing confidence in economic stability and thus raising the return to building value. But it is possible that the negative effects described above outweigh this positive effect. The outcome of restrictive monetary policy could be even worse than the model implies because our static model abstracts from the fact that as asset stripping goes on, the aggregate supply function shifts back. The shift back in potential GDP itself creates inflationary pressure, reducing the likelihood of lower interest rates, which were part of the healthy dynamics that are traditionally predicted.[14] Moreover, excessively contractionary fiscal policy lowers the returns to investment by inducing economic recessions and depressions, and thus again tilts the balance against wealth creation and the establishment of the rule of law.

Consider finally the effect of capital market liberalization. In the absence of the rule of law, people have a strong incentive to take measures to protect their property from predation by the state and mafias. Capital market liberalization introduces a new "technology" for asset-strippers to protect themselves from predation, one not available to those who undertake domestic wealth creation: If capital can be hidden abroad, then it cannot be seized. This effect may strongly shift the balance of incentives in favor of stripping, shifting up the *stripping ability curve* and so making the rule of law less likely, as in Figure 5A.

[14] After Russia's GDP had fallen by 40 percent over the period 1990-96, it was widely believed that any loosening of monetary policy would lead to inflation, which might have been true but could be interpreted to mean that 72 percent of productive capacity had been destroyed. We abstract from contracting problems (which also contributed to the fall in output) and use a Cobb-Douglas production function to obtain this estimate. If the capital share is 0.4, then the capital stock as a fraction of its initial level implied by a 40 percent fall in GDP is $(0.6)^{10/4} = 0.28$.

3. Conclusion

This paper has made a small step forward by formulating a coherent model in which economic and political decisions are interdependent. Russia showed that incentives do matter, but "incentives" do not necessarily lead to a good outcome. The incentives created by Big Bang privatization could lead simultaneously to asset stripping and the perpetuation of a regime that was far from what would, in ordinary parlance, be called a rule of law.

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 individuals' 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, both for economic and political outcomes.

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, tight money policies, and capital market liberalization. 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.[15]

[15] 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

The hard questions relate to transition—to the *dynamics* of the movement from Communism to a market economy. If there were a unique stable equilibrium involving the rule of law, we might not worry so much about the design of transition—eventually we would end up in the "good" equilibrium of the rule of law and wealth creation. But our analysis has shown that the rule of law may not emerge as part of a political and economic equilibrium.

In a sequel to this paper (Hoff and Stiglitz 2003), we take a closer look at the dynamics of transition, arguing that the likelihood of transition to a rule of law in any period depends on precisely the same variables that we have identified here—and that the Big Bang approach may result in a path in which there is a lower probability of transition to the rule of law in every period. In short, Big Bang privatization may not be a rapid route to a true market economy governed by the rule of law. As the experience of the past twelve years has borne out, often the tortoise beats the hare. Even at the beginning of the transition, there was no reason to think otherwise.

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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.

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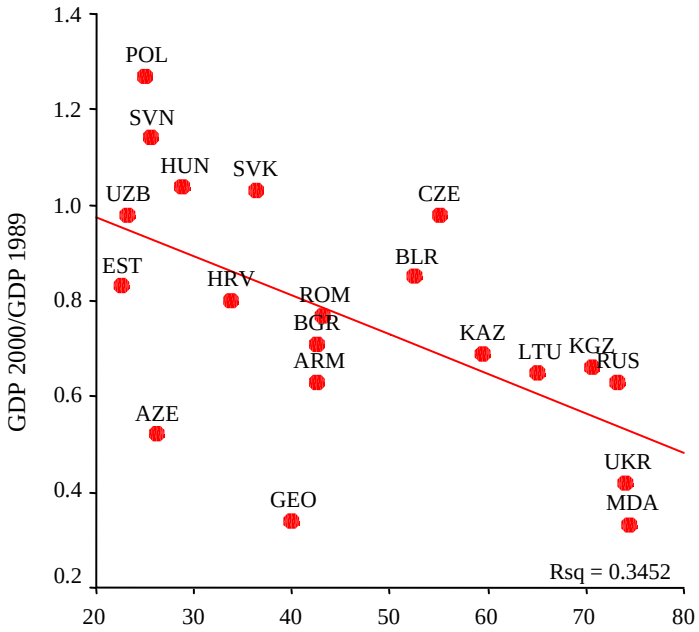
Figure 1. Growth and property rights insecurity in 20 transition economies



Note. The index of insecurity is the fraction of respondents who disagree with the statement: "I am confident that the legal system will uphold my contract and property rights in business disputes."
Source. GDP data: EBRD 2001. Survey data: http://www.worldbank.org/wbi/governance/beepsinteractive.htm, and for documentation, Hellman, Jones and Kaufmann (2000).

Figure 2: The agent's dilemma: Strip assets or build value

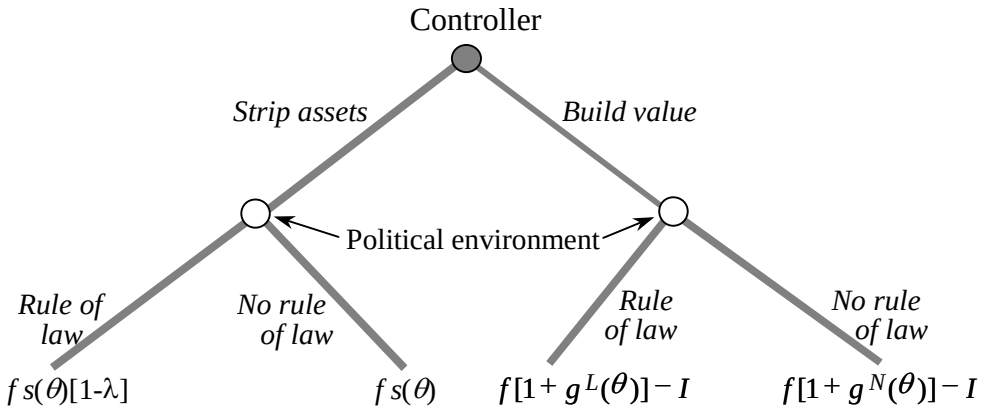


Figure 3. Dual stable equilibria

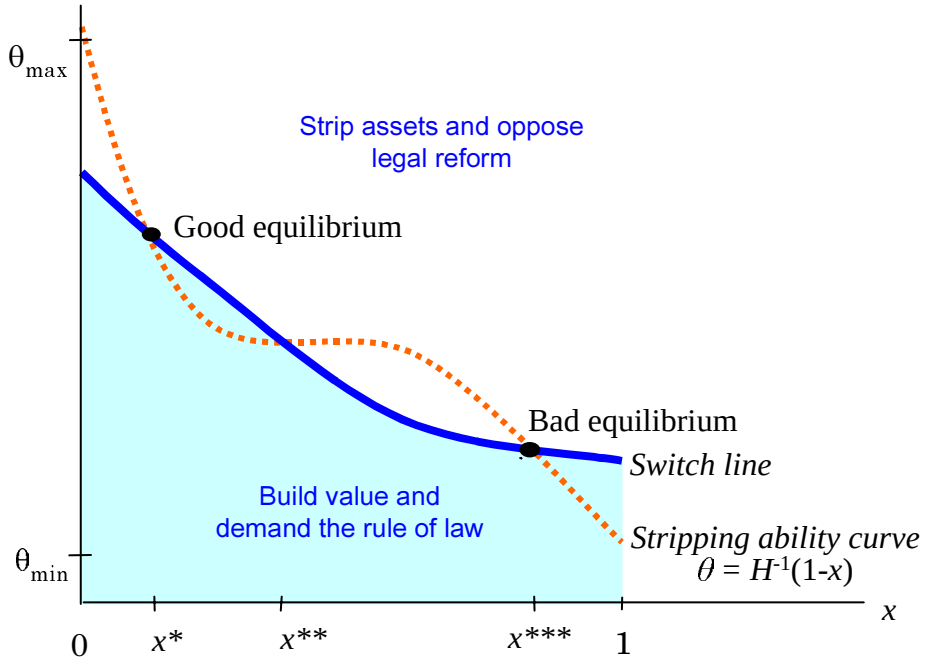


Figure 4. Unique stable equilibrium—a numerical example

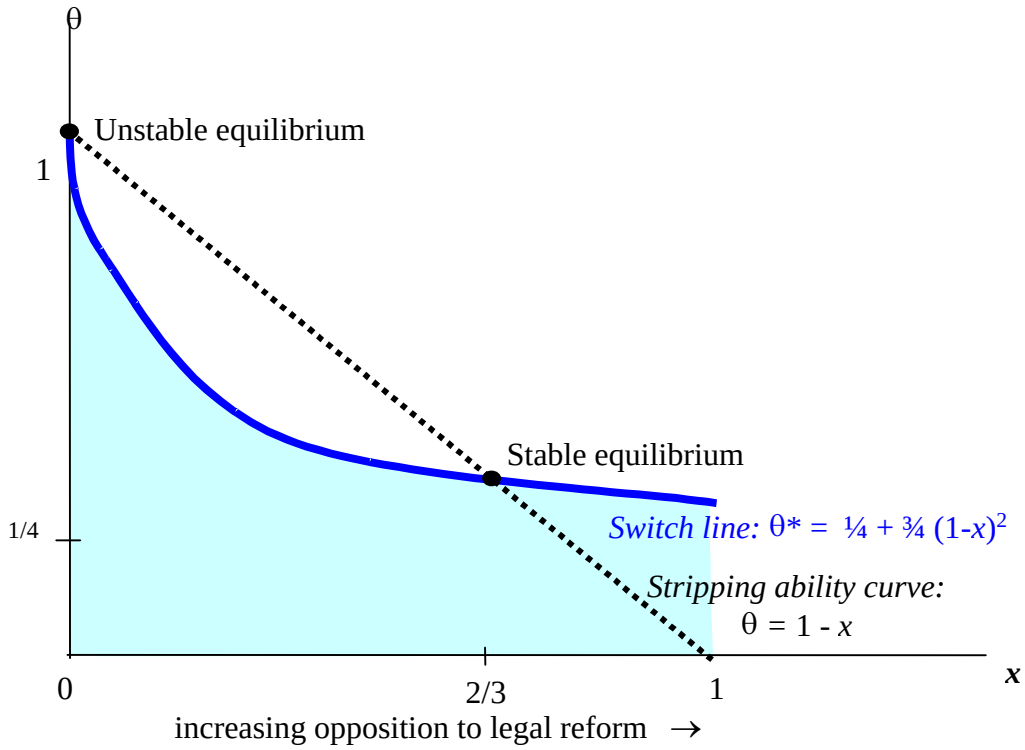


Figure 5. Comparative statics: (A) A shift up in the *stripping ability curve.* (B) A shift down in the *switch line.*

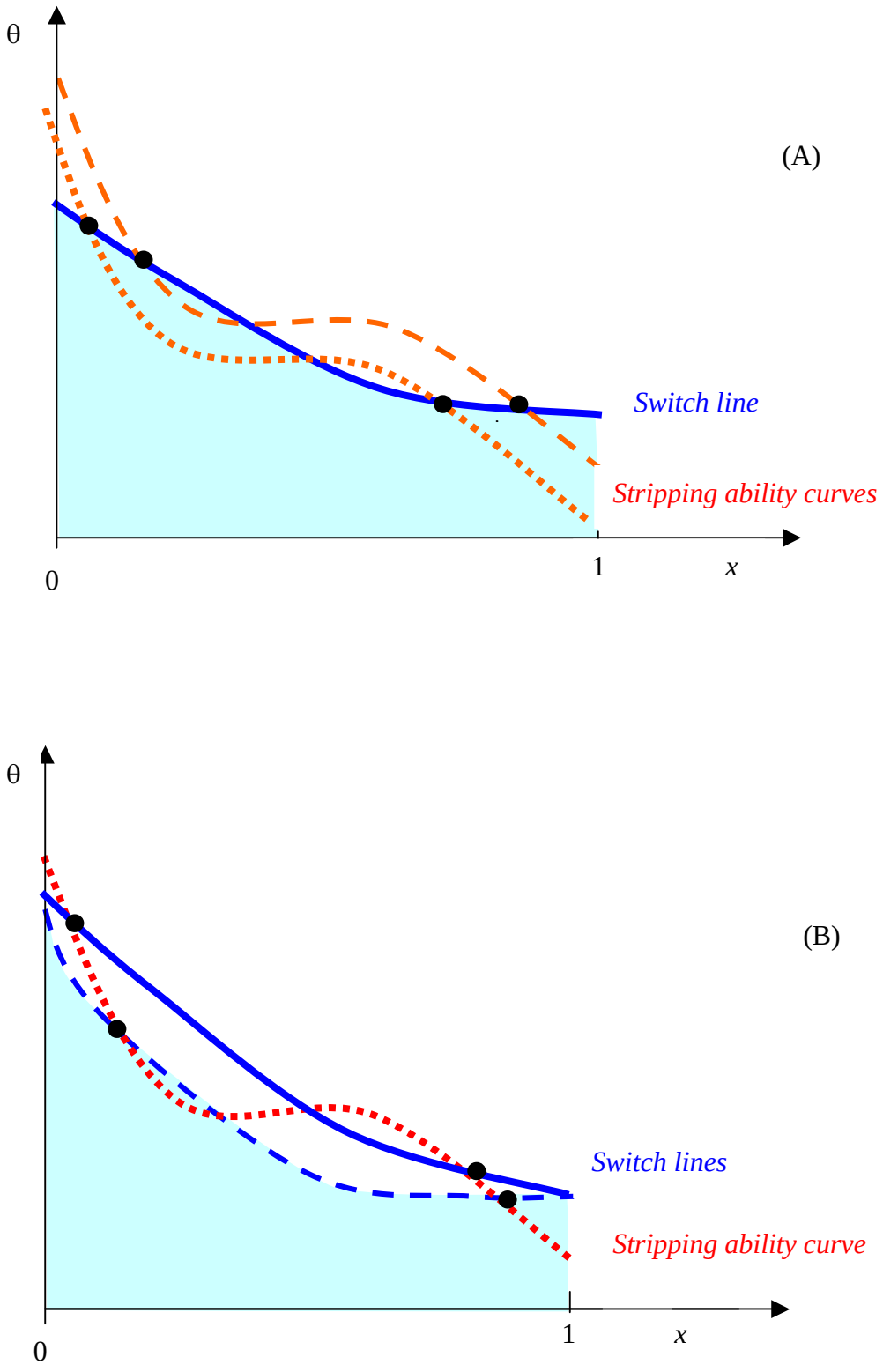


Table 1. Natural resource abundance, growth, and property rights insecurity

Country	Measures of Natural Resource Abundance			Performance Measures		
	Fuel and mineral exports/ total exports (percent)	Fuel and mineral exports/ GDP (percent)	Year	2000 GDP/ 1989 GDP (percent)	% believe legal system will not "uphold my contract and property rights in business disputes" (EBRD/WB survey)	*Wall Street Journal* rule of law index (10 = best, 0 = worst)
Moldova	3.80	0.69	1994	33	74	4.7
Slovenia	4.36	1.65	1994	114	26	8.4
Hungary	7.00	1.70	1994	104	29	8.7
Slovak Republic	8.04	3.13	1994	103	36	6.4
Czech Republic	8.48	2.43	1994	98	55	8.3
Estonia	9.18	3.68	1995	83	23	8.5
Average	**6.81**	**2.21**		**89**	**40**	**7.5**
Croatia	11.02	3.16	1994	80	34	7.0
Romania	13.63	2.81	1994	77	43	5.6
Bulgaria	16.17	6.72	1996	71	43	5.9
Poland	16.98	2.82	1994	127	25	8.7
Lithuania	18.32	5.96	1994	65	65	7.2
Average	**15.22**	**4.29**		**84**	**42**	**6.9**
Kyrgyz Republic	23.63	2.93	1995	66	71	4.4
Kazakhstan	48.86	12.87	1995	69	59	4.5
Russia	53.16	14.44	1996	63	73	3.7
Average	**41.88**	**10.08**		**66**	**68**	**4.2**

Note: Countries are listed in increasing order of natural resource abundance, as measured in column 2.

Source: Rule of law ratings are from the *Central European Economic Review*, a supplement to the *Wall Street Journal*. Export and GDP data in columns 1-2 are from Statistical Information and Management Analysis (SIMA), World Bank. Growth data in column 4 are from EBRD (2001).