

After the Big Bang?

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

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In recent years economists have increasingly been concerned with understanding the creation of the “rules of the game”—in the broad sense of political economy—rather than merely the behaviors of agents within a set of rules already in place. The transition from plan to market of the countries in the former Soviet bloc entailed an experiment in creating new rules of the game. In going from a command economy, where almost all property is owned by the state, to a market economy, where individuals control their own property, an entirely new set of institutions would need to 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 Andrei Shleifer and Robert W. 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 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 Bernard S. Black *et al.* (2000) 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. (p. 1753)

What explains the gap between what emerged in the 1990s and what the reformers hoped would emerge? This paper provides an explanation based on a simple model in which the economic actions and the political positions of individuals are interdependent.² Individuals who control assets make both economic choices—to build value or strip assets—and political choices, *e.g.* by voting over policies that would establish the rule of law. An individual's economic decision affects his political position. If, for example, an individual strips the assets he controls instead of building value, then he has some reason to oppose the establishment of the rule of law as it would constrain his ability to strip. Further, when enough individuals oppose 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 circumstances in which the equilibrium does and does not lead to the establishment of the rule of law.

In this paper, we examine this interdependence within a highly stylized general equilibrium framework under conditions that we would interpret as very favorable to 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 or to establish an oligarchy that privileges their own interests, but can collectively bring about the rule of law by

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

² The model developed here was briefly described in Hoff (2001, pp. 166-168). Related models were recently developed by Leonid Polishchuk and Alexei Savvateev (2001), Erik Berglof and Patrick Bolton (2002), and Konstantin Sonin (2003). Hoff and Stiglitz (2004) provide a diagrammatic exposition of a simple case of the model presented here.

voting for it. If in this model mass privatization creates a constituency for the rule of law, it does not mean that Big Bang privatization is 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—which we show may well be the case-- then the paradigm of institutional change that justified quick privatization should be viewed with considerable skepticism.³

Our model identifies factors that reduce the political demand for the rule of law. Many of these 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.⁴ Thus, the model helps explain why what happened in Russia actually happened.

I. 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, including a mass privatization program that distributed equity to managers and workers and sold shares at public auctions. By July 1994, 14,000 medium and large state enterprises (70

³ Shleifer and Daniel Treisman (2003) have argued that although investor protection, corporate governance, and control of corruption remain weak in Russia, these flaws are typical of middle-income capitalist democracies today, and of the US during parts of the 19th century. However, legal historians of the US in the 19th century present a very different view of the overall security of property rights and the functioning of the courts, which seems to contrast quite a lot with the situation in Russia. See, e.g., Lawrence M. Friedman (1985, p. 275), who states that in the US, “The 19th century was the golden age of the law of contract,” and Black *et al.* (2000, p. 1782), who describe in Russia a “lawless climate, in which managers could justify self-dealing by claiming (sometimes correctly) that they had done nothing illegal.”

⁴ There were other consequences, such as the growth of barter, that also adversely affected the market economy.

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 (Roman Frydman *et al.* 1996, and Joseph R. Blasi *et al.* 1997).⁵

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, for instance, no rules to make management teams contestable. In 1995-96, Russia adopted laws to protect shareholders' rights, but enforcement was very weak. 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 \$15-20 billion per year during 1995-2001, or 5% of GDP (Prakash Loungani and Paolo Mauro, 2001; Reuters, February 20, 2002).

Systematic evidence of the insecurity of property rights in post-Communist societies years after the beginning of the transition comes from a 1999 survey of firms conducted jointly by the European Bank for Reconstruction and Development (EBRD) and the World Bank. 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.⁶ The

⁵ 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 privatization 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.

⁶ 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).

horizontal axis plots the fraction of firms in the 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 contracted sharply—by official statistics, the contraction was more than 30 percent.

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

A. Agents

The model economy consists of agents who have control rights over enterprises. The agents have unit mass. Each agent chooses between two actions to maximize the expected value of his wealth:⁷

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 abilities to create value and to strip assets. θ denotes an agent's type. Agents with a higher value of θ strip better but are less productive in investing. θ has a continuous distribution $H(\theta)$ and a density function $h(\cdot)$.

B. Political environment

We consider a society in which the possible legal structures vary only along the dimension of the security of property rights. 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

⁷ 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.

investors' returns from confiscation by the state, does not protect minority shareholders' rights from tunneling, and does not enforce contract rights.⁸

The initial state is one without the rule of law. Agents who build value demand reform—the rule of law—because to build value, they must interact with others, and that requires that contracts be enforced in a reasonably neutral way; building value requires investment, and to reap the reward of that investment requires the enforcement of property rights. 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 static model, an agent's economic strategy determines his political position.⁹

The determination of the constituency for the rule of law is the focal point of the paper. Let $1-x$ denote this constituency, so x is the fraction of agents who *oppose* the establishment of the rule of law. We capture the idea that government is responsive to political interests by assuming that the probability, π , of the establishment of the rule of law is a decreasing function of x :

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

C. Payoffs

Technology is constant returns to scale and yields a pay-out f per unit asset. An agent of type θ can only

⁸ 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).

⁹ In a dynamic version of the model (Hoff and Stiglitz 2003), 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.

strip so much. The return to stripping in state j , where j is no rule of law (N) or the rule of law (L), is

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

Since θ parameterizes the absolute and relative ability to strip (relative to building value), we have $ds/d\theta > 0$. 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 of type θ 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 to stripping assets for an agent of type θ :

$$\begin{aligned} (1) \quad \Delta(x, \theta) &= \pi V^L + [1 - \pi]V^N - \left[\pi S^L + [1 - \pi]S^N \right] \\ &= f \left[1 + \pi(x)g^L(\theta) + [1 - \pi(x)]g^N(\theta) - s(\theta)[1 - \lambda\pi(x)] \right] - I. \end{aligned}$$

We are now ready to define the *switch line*, $\theta^*(x)$, such that agents of type $\theta < \theta^*(x)$ build value and support the establishment of the rule of law and agents of type $\theta > \theta^*(x)$ strip assets and oppose the rule of law. The *switch line* are those combinations of (x, θ) for which agents are indifferent between building value and stripping assets; that is, where

$$(2) \quad \Delta(x, \theta) = 0. \quad \text{Switch line}$$

In choosing his economic action, each individual ignores the effect of his economic decision on how other people believe the institutional environment will change and, thus, how *others* invest and vote. The political environment, in that sense, is a public good (or public bad).¹⁰

The *switch line* is downward sloping, since

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

The numerator shows how a change in the political environment—an increase in the proportion of agents that an individual believes oppose the establishment of the rule of law—lowers the relative returns for the marginal person to creating value versus stripping. The more sensitive the relative returns are, the steeper the *switch line*.

To analyze the equilibrium, one additional curve is needed—the *stripping ability curve*.

This curve is defined as $x = 1 - H(\theta)$. For each value of θ , the *stripping ability curve* is the fraction of agents whose type is greater than or equal to that value. 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 commodities requiring little processing can be extracted from the assets and sold on world markets. If the factors that determine the ability to strip and to build value are normally distributed in the population of agents, the *stripping ability curve* will tend to have the S-shape depicted in Figure 3.

D. Equilibrium

An equilibrium is a fraction of agents, x , who oppose the establishment of the rule of law, that is,

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

¹⁰ The interdependencies explored here are distinctly different from those in Kevin M. Murphy, Shleifer and Vishny (1993) and Daron 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) states that for a fraction x of the agents, the expected return to stripping assets exceeds the expected return to building value. An interior equilibrium occurs as any pair $\{x, \theta\}$ where the *switch line* and the *stripping ability curve* intersect.

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

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

then there are also at least two other equilibria, one with a greater and one with a smaller 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, $\phi'(x^*) > 0$.

The inequality in (5) holds when the response to a perturbation in x is greater than the perturbation itself. In this case, the equilibrium is unstable in the sense that if there is a perturbation above x^* , the “switched” agents will not wish to switch back. This is because the perturbation changes the political environment, which 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. Figure 3 illustrates a case of three equilibria, of which one (x^{**}) is unstable. The next example illustrates a case in which a unique stable equilibrium exists and it entails asset-stripping.

Example. Suppose $\pi(x) = (1-x)^2$, θ is uniformly distributed on $[0,1]$, $f_s(\theta) = \theta$, $\lambda = 0$, and the returns to building value for all ability types are $V^L = 1$ and $V^N = 1/4$. Then (4) becomes $x = 1 - \theta^*(x) = 3/4 - 3/4(1-x)^2$. Equilibria are $x = 0$ and $2/3$; see Figure 4. Although all agents are better off building value under rule of law than stripping assets under no-rule-of-law, the probability that the rule of law emerges is only $1/9$. The *switch line* is steeper than the *stripping ability curve* at $x = 0$; thus (5) holds at that equilibrium point, which makes it unstable.

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 (the world's largest producer of natural gas, whose managers had an official ownership stake of 35 percent according to Black *et al.* (2000, p. 1775)), 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 (expected to be) 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. With capital market liberalization, they could have the best of both worlds: the lack of the rule of law made asset stripping in Russia easier; and yet, as they took their money out of the country, they could avail themselves of the "rule of law" elsewhere to protect their ill-gotten assets. As many of the Russians who became millionaires in the early 1990s might have said, Why create when you can steal?¹¹ Our analysis suggests that there is some truth in both views—depending on the circumstances, either building value or stripping assets may be rational—but that there can exist an equilibrium in which asset stripping dominates.

III. Comparative statics

We can incorporate in our framework a wide variety of factors that scholars have argued

¹¹ 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" (Paul 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']" (David E. 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.

influence the political demand for the rule of law in the transition economies. Figures 5A and B provide the basic insights. Any factors that shift up the *stripping ability curve* lead 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 factors that result in a downward shift in the *switch line* have similar effects to an upward shift in the *stripping ability curve*. We consider three applications: initial conditions, “civic virtue,” and policy.¹²

A. Initial conditions

Consider first the role of history. 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, such as a free press, churches, and 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 Elena V. Ledeneva, 1998, p. 211). A corrupt privatization process reinforced pessimistic beliefs about how society works. Pessimism about the emergence of the rule of law (a 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.

¹² Hoff and Stiglitz (2003) present a dynamic model of transition in which the likelihood of transition to a rule of law in any period depends on the same variables that we identify here.

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.¹³ We report two measures of natural resource abundance—fuel and mineral exports 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 I, and the *Wall Street Journal* index of the rule of law.¹⁴ 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 best 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 that is related to the “now almost conventional wisdom that [natural] resources are a ‘curse’ for currently developing countries”

¹³ 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 (Olivier Blanchard and Michael 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).

¹⁴ 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).

(James Robinson *et al.* 2002, p.1). But whereas existing theories focus 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 decreases the political constituency for the rule of law, and therefore the likelihood that it will emerge.¹⁵

B. 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.¹⁶

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 leftward shift increases the “switch point” θ^* , as depicted in Figure 5A. 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. 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*).

C. 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. Both effects shift down

¹⁵ Not only did initial conditions matter, but so did policy decisions made early in the transition. For instance, the quick liberalization of prices, which led to massive inflation, wiped out the assets of most households. This meant that those who obtained control of assets did so by borrowing money. Without the rule of law, they were better able to renege, in one way or the other, on these debts.

¹⁶ This modification is related to John Haltiwanger and Michael Waldman (1991).

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.

Our analysis reinforces 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, with excessively restrictive monetary policy, it is possible, even likely, 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.¹⁷ 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. This is particularly true for a natural resource economy, like Russia, where assets can easily be stripped, and the proceeds reinvested in the West, which at the time was experiencing a boom.

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. Capital market

¹⁷ 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 $(0.6)^{10/4} = 0.28$.

liberalization allows asset strippers to reap the benefits of the lack of rule of law without paying the full consequences, that their wealth in turn might be taken away from them. 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.

IV. Conclusion

In this paper, we have analyzed the interdependence between economic and political choices under conditions that we would interpret as highly favorable to the emergence of the rule of law: beneficiaries of privatization are too weak individually to obtain privileged property rights protection from the state, but are strong enough collectively to secure the rule of law. Our theory shows that asset stripping can cripple the demand for the rule of law. Each individual, in attempting to influence society's choice of the environment, focuses on the impact on himself, not the impact 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). The model is motivated by the contrast between what emerged following the Big Bang in Russia and what the reformers hoped would emerge, but the model applies more generally to an economy with weak institutions and with assets to steal. In that context, the model can be viewed as a theory of anarchy.

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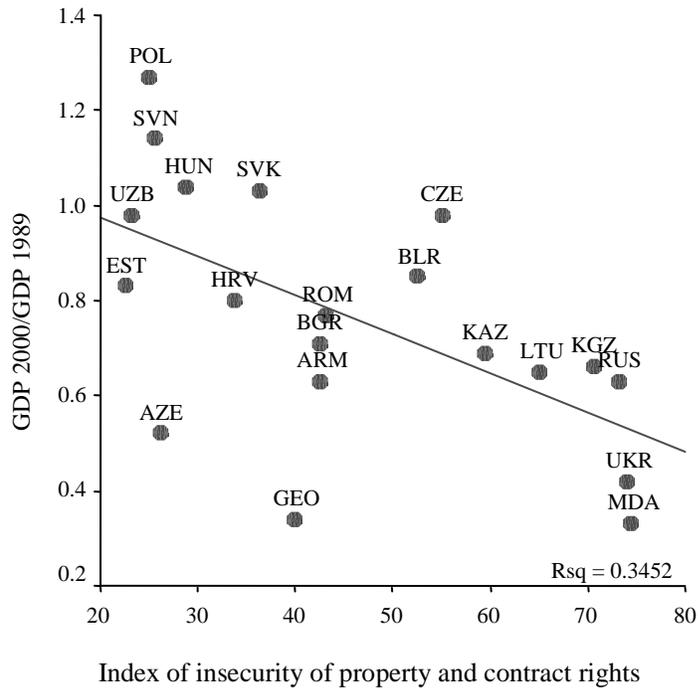
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Figure 1. Growth and property rights insecurity in 20 transition economies



Note. The index of insecurity is the fraction of respondents to the survey in 1999 who disagreed with the statement: “I am confident that the legal system will uphold my contract and property rights in business disputes.”

Source. Survey data: <http://www.worldbank.org/wbi/governance/beepsinteractive.htm>, and for documentation, Joel Hellman *et al.* (2003). GDP data: EBRD (2002).

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

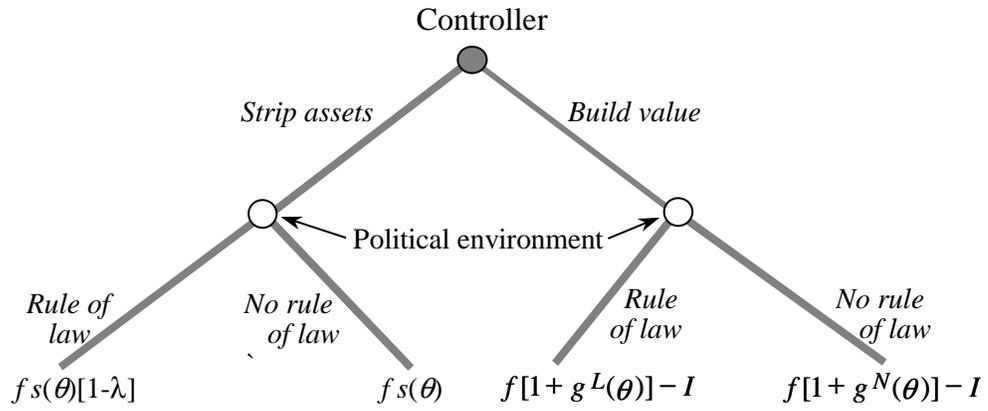


Figure 3. Dual stable equilibria

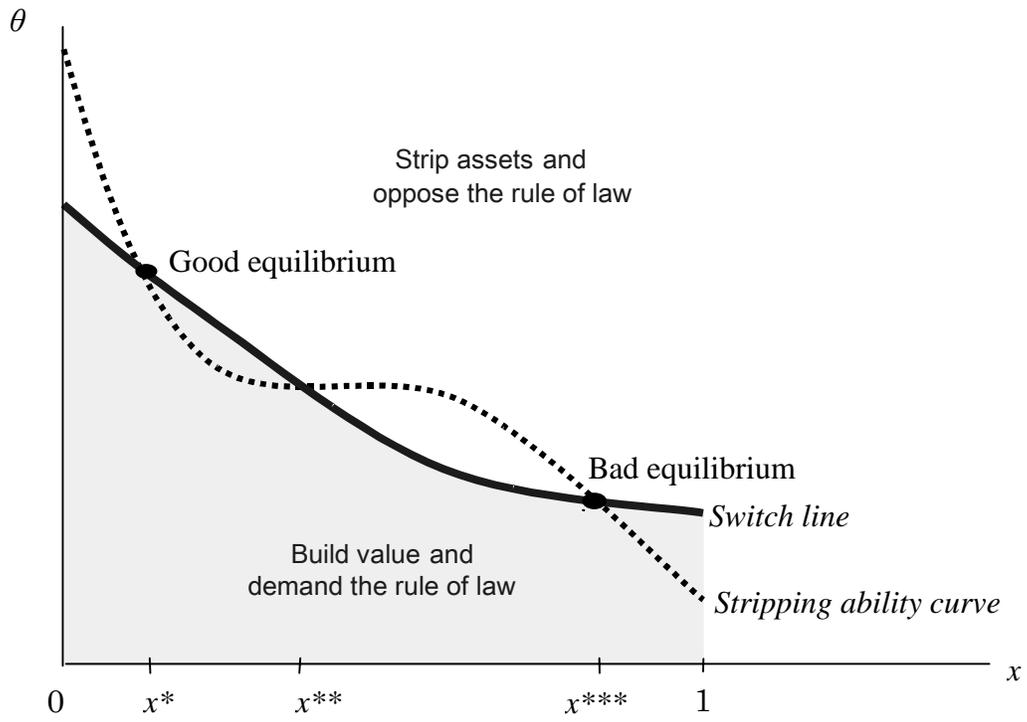


Figure 4. Unique stable equilibrium—a numerical example

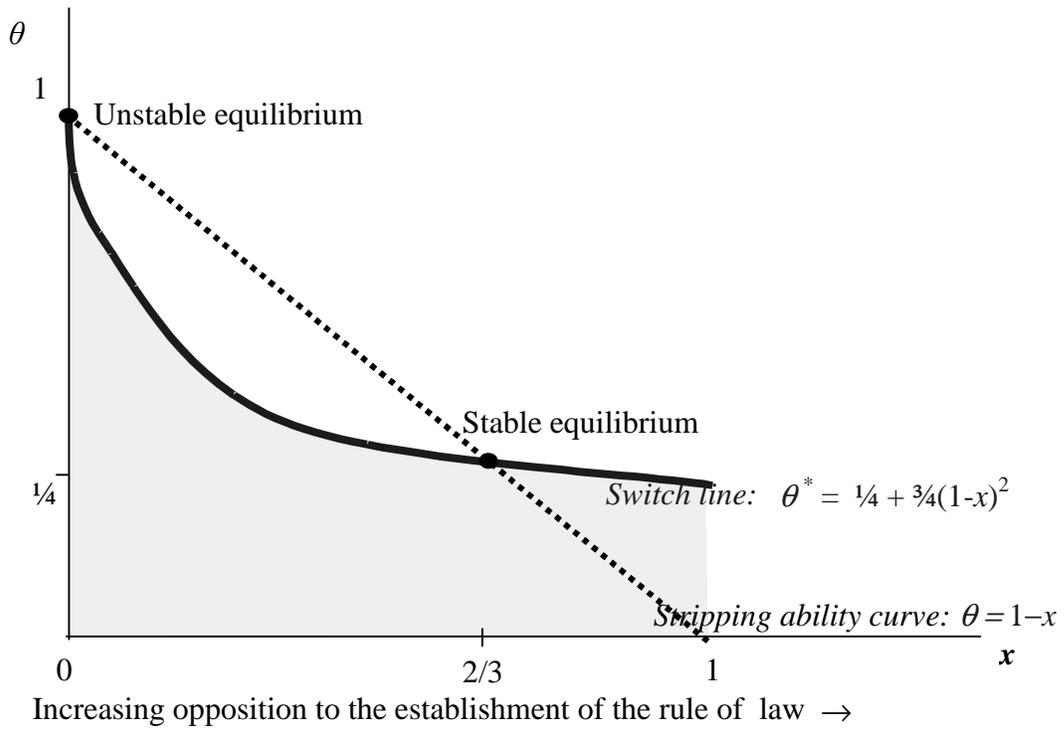


Figure 5. Comparative statics: (A) A shift up in the *stripping ability curve*, (B) a shift down in the *switch line*

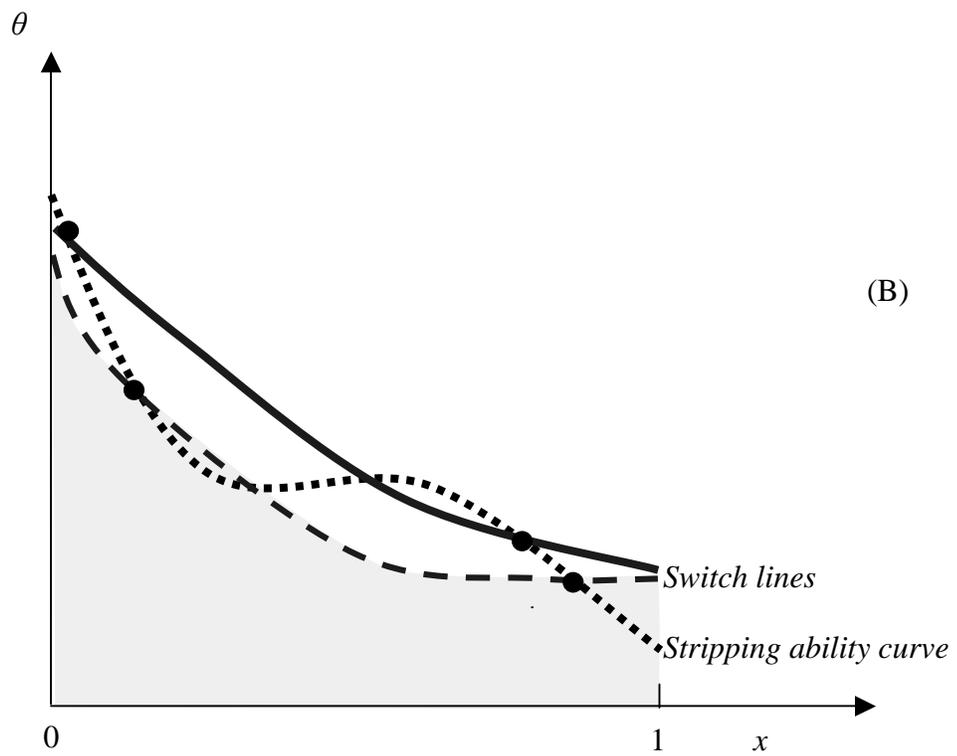
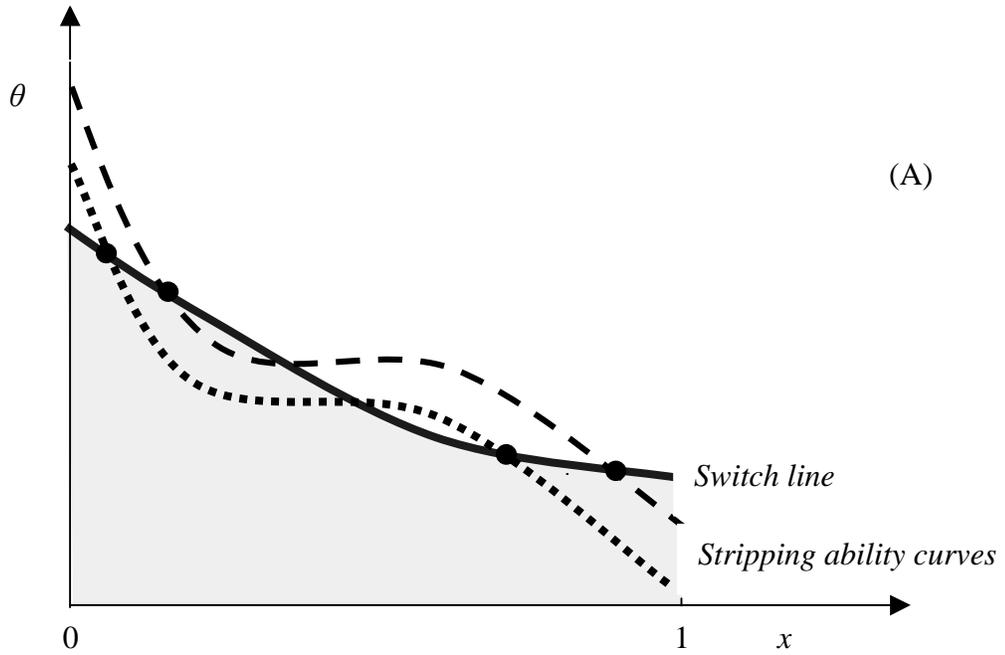


Table 1. Natural resource abundance, growth, and property rights insecurity

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)	Percent believe legal system will not “uphold my contract and property rights in business disputes” (EBRD/WB survey)	<i>Wall Street Journal</i> 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 order of increasing natural resource abundance, as measured in column 1.

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, World Bank. Growth data in column 4 are from EBRD (2002).