

Capture of Bankruptcy: Theory and Russian Evidence*

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Abstract

Laws that work well in developed market economies may produce unexpected outcomes in a corrupt environment. The paper argues that the Russian legal system is impaired by the capture of regional arbitration courts and analyzes the consequences of this capture for functioning of bankruptcy institution in the late 1990s. A model of strategic interaction among main stakeholders generates the following results. First, governors and managers of large regional enterprises colluded to use bankruptcy procedure as a mechanism of expropriation of the federal government's revenues and claims of outside investors. Second, the bankruptcy law did not put pressure on managers to restructure; instead, the law could have prevented restructuring even when managers wanted to do so. Empirical analysis substantiates the theoretical findings and shows that regional political factors were important in explaining implementation of the 1998 Russia's bankruptcy law.

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1 Introduction

Institutions that perfectly fit a well developed market economy may bring disastrous outcomes when transplanted to an economy on the way to market: many laws that work well in a country with the rule of law produce bad outcomes in a corrupt environment. This paper studies the effect of a particular legal transplant - Russia's bankruptcy law of 1998 - that was drafted to satisfy up-to-date academic standards but initiated a wave of inefficient property redistributions controlled by Russian regional political powers.¹

Ideally, a bankruptcy law should protect creditors, impose financial discipline on managers, induce restructuring, and free assets from inefficient use.² The Russian bankruptcy law of 1998 was expected to accomplish these goals. Since it was relatively harsh on the incumbent management, the law was supposed to improve managerial incentives.³ At the same time, it included provisions aimed at avoiding inefficient liquidations: judges overseeing the proceedings were given discretion to refuse liquidations suggested by creditors. Prior to 1998 most Russian firms accumulated large arrears to the government and private creditors. Thus, experts had predicted that the law would have caused a flood of bankruptcies.⁴ The number of bankruptcies has, indeed, increased dramatically since the law was adopted (see the first column of Table 1). Many economists interpreted this fact as evidence of hardening of managerial budget constraints. Aggregate figures on initiation of bankruptcies turned out to be misleading, however: Majority of existing companies have not started to restructure

¹Berkowitz, Pistor, and Richard (2003) provide a cross-country study the effects of legal transplantation.

²Hart (2001) and Georgakopoulos (2001) provide a general framework for discussion of an ideal bankruptcy procedure. A well-functioning bankruptcy law has been considered an important component of transition from planned to market economies by the literature. Aghion, Hart, and Moore (1992) studied the challenges of designing bankruptcy rules in transition economies. In particular, they suggested some measures to overcome liquidity constraints of potential buyers in liquidation. Berkovitch and Israel (2001) and Claessens and Klapper (2001) studied bankruptcy procedures around the world.

³According to the 1998 Russia's bankruptcy law, reorganization procedure (called "external management procedure") implied replacement of incumbent management team by external manager nominated by creditors' meeting and appointed by the judge.

⁴In 1997, the share of loss-making enterprises in Russia was about 50 percent, total overdue loans and taxes amounted to 30 percent of GDP, of which overdue tax liabilities to consolidated budget were about 7% of GDP (Goskomstat, 1999).

and bankruptcies were initiated primarily against ‘nonexistent’ firms that disappeared right after registration; many of these firms were created with the sole purpose of tax evasion.⁵

This paper provides a simple theoretical model of subversion of bankruptcy institution and analysis of firm-level data to show that in contrast to expectations the Russian bankruptcy law of 1998 softened managerial budget constraints. Enactment of the law resulted in abuse of judges’ discretionary powers by regional authorities. Governors’ control of regional judiciary allowed them to stop liquidation of politically powerful but inefficient enterprises and extract political rents from the managers. Using bankruptcy procedure, governors also often protected local enterprises from paying taxes to the federal center. Thus, instead of removing bad management, closing down loss-making enterprises, and protecting creditor rights as intended, the bankruptcy institution became a major tool of conservation of the inefficient status-quo.

The model investigates how bankruptcy capture affects managerial incentives, the financial position of firms, and protection of creditor rights. A firm with a manager and two creditors is considered. One of the creditors is a regional governor, who can influence decisions of bankruptcy judges. The firm is insolvent in terms of verifiable cash flows, but has high private benefits that accrue to the manager. The model demonstrates that if the judge is under the governor’s influence and the manager and the governor can collude, debts are not repaid, the firm does not restructure, and the manager pays bribes to the governor in exchange for protection from losing control during bankruptcy. As a result, the outside creditor’s claim is expropriated by the coalition of the incumbent manager and the governor.

The model shows that the Russian bankruptcy law not only failed to create additional incentives for restructuring, but the law may have even prevented it when managers were interested in pursuing restructuring. Indeed, in the model when official regional taxes are small, the governor wants to prevent restructuring because he can extract bribes only from the insolvent firm. If the governor values official taxes highly, restructuring may not happen since the governor cannot commit to liquidate, in case no restructuring occurs, because he

⁵In 2000, after the full recovery from 1998 crisis, the share of loss-making enterprises in Russia remained above 37 percent; yet, bankruptcy has been initiated against no more than 2 percent of these firms (Goskomstat, 2001). Second column of Table 1 shows the numbers of bankruptcies initiated against present (existent) debtors.

may still prefer to accept a bribe from the manager. The model provides a classic example of state capture: the manager may capture the bankruptcy procedure via the governor when the governor values bribes, regional taxes are small, and controlling the judge is not very costly for the governor.⁶

In the late 1990s in Russia, the federal government was in the position of any outside creditor vis-à-vis regional governors and managers of regional enterprises since it could not collect tax arrears that constituted the most sizable claim on firms.⁷ The mechanism of asset expropriation from the federal government and outside investors was based on three components: First, the 1998 law gave large discretionary power to arbitration judges in decisions about appointments of arbitration (temporary, liquidation, and external) managers. For our analysis, it is important that the judge could overrule the creditors' nomination of a candidacy for the external manager. Second, these arbitration judges tended to be controlled by regional governors. There is a voluminous anecdotal evidence suggesting that the decisions of the judges in the regional arbitration courts were often politically captured by the regional governments. According to the Russian legislation, all arbitration courts are in the federal jurisdiction and, thus, supposedly independent of the regional governors. The practice diverged from the law. Lack of federal financing of arbitration courts and the large political and geographical distance from the federal center for many jurisdictions made arbitration courts highly dependent on regional politics. Media reports many examples of direct financing of courts by regional administrations.⁸ And third, reorganization procedure

⁶For discussions of state capture see Bardhan and Mookherjee (2002), Hellman, Jones, and Kaufman (2000), and Slinko, Yakovlev, and Zhuravskaya (2003).

⁷The federal government with its claim for tax arrears was by far the largest outside creditor because private outside lenders were reluctant to finance firms due to the absence of functioning bankruptcy law before 1998.

⁸The best known examples of dependence of arbitration judges on regional political elite were the bankruptcy proceedings of the oil holding Sidanko and of its key subsidiaries Chernogoneft and Kondpetroleum in 1999. During the Chernogoneft bankruptcy proceedings, 98% of the creditors voted for a certain external manager, but the judge overruled their decision and appointed a different candidate connected to another oil company Tyumen Oil. The court also rejected the offer by Chernogoneft to pay all creditors in full. Incidentally, the Tyumenskaya Oblast governor, Leonid Roketsky, happened to be the Chairman of the Tyumen Oil's Board. Tyumen Oil bought Chernogoneft for \$176 million and Kondpetroleum for \$52 million (a small fraction of the actual value). Black, Kraakman, and Tarasova (2000) wrote: "apparently ...

with the incumbent management team reappointed as "external management" was used by the regional governors and managers to freeze claims of outsiders by means of exercising control over judges.⁹

Application of the model to Russia's bankruptcy institution allowed us to formulate predictions about, first, the ex ante regional-, industry-, and firm-level factors that influence the probability of a particular firm falling into the external management and the liquidation procedures after the enactment of the 1998 law (holding the level of firm's financial health constant), and second, the extend of ex post restructuring after the initiation of external management procedure against firms. Our empirical analysis supports the theoretical predictions. Ceteris paribus, the external management procedures were more frequently initiated against firms in the regions with politically strong governors that could more easily control courts, in the regions with higher independence of the governor from the federal center that made it less politically costly to expropriate the federal tax revenues, and in regions with nontransparent tax collection system that made administering bribes easier. Profitability of the industry (our proxy for the size of private benefits) made the external management more likely and liquidation less likely. In addition, we found no evidence that the initiation of external management procedure increased restructuring efforts within firms. These findings are consistent with the bankruptcy capture model and seem to contradict the view that Russia's bankruptcy institution was politically independent rather than regionally subverted.

The paper contributes to the literature on the new comparative economics (for a survey, see Djankov et al. 2003) by analyzing the consequences of a legal transplantation and to the literature on Russia's federalism (de Figueredo and Weingast, 2001, Shleifer and Treisman, 2000, Sonin, 2003, Treisman, 1997, Zhuravskaya, 2000, Ericson, 2000, and Ponomareva and Zhuravskaya, 2002) by documenting that the bankruptcy institution is used as a mechanism

Tyumen Oil didn't merely bribe judges (Sidanko could have offered its own bribes), but threatened them as well..." *The Economist* (Dec. 4, 1999) said that "according to allegations of Tyumen Oil's rival the company intimidated judges; in addition, Sidanko complained that: If they just stuck to bribing judges, we could play that game too."

⁹The name for a reorganization procedure in Russian law was ironic: the "external management" procedure often did not result in a management change. A more appropriate name for the procedure would have been "incumbent management" procedure.

for redistribution of revenue from the federal center to the regions.

The rest of the paper is organized as follows. Section 2 briefly presents stylized facts about bankruptcy in Russia. Section 3 contains theoretical analysis. Section 4 describes the results of testing the implications of the theoretical model. Section 5 concludes.

2 Bankruptcy in Russia

Russia has had a bankruptcy law since November 1992.¹⁰ The 1992 law was completely ineffective. Between 1992 and 1998, very few companies went bankrupt. A common view is that the failure of this law to bring about financial discipline was due to the limited scope of its application and excessively complicated procedures. For initiation of a bankruptcy procedure, the total amount of outstanding debt had to exceed the total book value of company's assets. To avoid bankruptcy, a company manager could simply issue worthless debt to his own firm at a high face value. Ineffectiveness of the 1992 law motivated the adoption of another law in March 1998 that is a focus of our study.

The law of 1998 was drafted according to Western standards and made the initiation of bankruptcy very easy. Formally under the 1998 law, if a creditor filed a bankruptcy petition, the following procedure was undertaken. First, a temporary manager, appointed by an arbitration court judge, collected information about the claims on the company and organized a creditors meeting. At the meeting, the creditors decided if they wanted liquidation or reorganization. Second, the judge, taking into consideration the resolution of the creditors meeting, made a ruling on the liquidation or reorganization of the company and appointed liquidation manager if liquidation was ordered or external manager if reorganization was ordered. The judge did not necessarily need to follow the creditor's request. This clause in the law was motivated by the fact that creditors may opt for an inefficient liquidation. Initiation of both procedures deprived the incumbent management of control over the firm unless a member of the incumbent management team was appointed as the external manager. In December 2002, a new bankruptcy law was adopted.¹¹ The changes made in the new law

¹⁰Although the first Russia's bankruptcy regulation was adopted in 1740, there has been no bankruptcy institution during the five decades of the soviet regime preceding 1992.

¹¹For an overview of main changes made, see Branch, Goncharova, and Sonin (2003).

aimed at reducing outright fraud that was frequent when the 1998 law was in force; most features of 1998 law important for our story remained intact in the new reduction.

A look at bankruptcy statistics allows noting some interesting features of the implementation of the 1998 law. Right after the enactment, liquidation procedures were initiated solely in small and medium-size enterprises. In contrast, external management procedures were primarily initiated in very large enterprises. On average, output of firms with external management was fifteen times as large as output of firms that entered liquidation procedures and the difference in the number of employees was fourfold.¹² The political economy literature supplied convincing arguments explaining why politicians may be opposed to liquidation of large companies and why there can be too few liquidation procedures.¹³

An interesting fact is that the bankruptcy procedures initiated right after the enactment of the 1998 law were unevenly distributed across industries. Externally managed firms were more than proportionally represented in oil and gas, chemicals, and ferrous and nonferrous metallurgy by far the best performing industries in Russia at that time (there were no liquidation procedures in these industries at all). In contrast, liquidations were most frequently initiated against firms in construction-oriented industries (logging, wood-working, and construction materials) that were the worst performing before the devaluation that followed the August 1998 crisis. At the same time, some quite poorly performing industries like many branches of light industry were completely unaffected by either procedure.

In addition there is a lot of anecdotal evidence that external management procedures were particularly frequent among the large and politically important firms in politically and economically strong regions whereas many poorly-performing regions were unaffected by bankruptcy procedures.¹⁴

These last two pieces of evidence create a puzzle of why, on the one hand, poor performance was not associated with larger risk of bankruptcy and, on the other hand, reorganization procedures were frequently ordered in seemingly financially sound firms in relatively

¹²The source of statistical facts in this sub-section is the authors' data; their description and formal analysis follow in the empirical section of the paper.

¹³See, for instance, Shleifer and Vishny (1994). A thorough study of political economy of transition is Roland (2000).

¹⁴Sidanko in Tumenskaya oblast again is an example.

successful industries and regions. Our model of regional political protection provides an explanation for this puzzle.

3 Theory

The Setup

Consider a firm with an outstanding overdue debt. There are three agents: a manager who is currently in control, and two creditors: an outside investor, and a governor. The outside investor is the major creditor: the firm has a large amount of outstanding debt to him. The governor also has a claim on the firm in terms of overdue regional taxes τ (that may include social contributions and debts to the regionally owned enterprises).

In addition to tax income (repayment of regional tax arrears and flows of future taxes), the governor also values side payments (bribes). In exchange for bribes, he may use his influence on bankruptcy procedures to protect an insolvent firm from other creditors.

The firm is currently insolvent in terms of verifiable cash flows and generates zero verifiable profits. Thus, the creditors cannot be paid off. The firm could pull out of financial distress by deep restructuring. Restructuring requires high managerial effort, and substantial time. We assume that after restructuring the firm repays all its debts, and operates profitably thereafter. A key assumption is that although the firm is insolvent, there is a significant private benefit that accrues to the manager in control. This private benefit includes hidden income, on-the-job benefits, and so on.¹⁵

While the firm is insolvent, creditors can file a bankruptcy petition with an arbitration court. This initiates a procedure administered by a judge. The procedure is modeled in the following way: (i) the judge decides whether to liquidate or reject the request for liquidation, and (ii) in the case of liquidation, the judge administers it. If the request for bankruptcy is rejected, the inefficient status-quo is maintained: the manager remains in control and runs the firm as he chooses.

In reality, the judge does not need to reject the petition: he may simply appoint a manager chosen by the old manager or even re-appoint the same manager as external manager to

¹⁵One possibility is that the manager diverts profits from the profitable firm and fakes insolvency.

implement the reorganization.¹⁶ One reason for doing this is that the creditors may appeal to a higher level court if the judge declines to initiate bankruptcy.¹⁷ In contrast, if the judge initiates external management and does not change the management team, under the law all debts become frozen for the period of the external management procedure, creditors cannot file a petition with another court, and the status quo is preserved. In order to link the model with our empirical analysis (below), one needs to keep in mind that "rejection" in our model corresponds to the external management procedure. Explicitly allowing for reorganization with an external manager appointed by the judge yields the same qualitative results as the simplified setting presented here.¹⁸

The judge may be either independent (benevolent) or corrupt. When the judge is benevolent his decisions are fully determined by the procedure. The outside investor as the majority creditor is given the right to make the decision about the fate of the firm. In liquidation, the judge maximizes proceeds from the sale of assets, and distributes them according to the priority rule: debts to the local budget τ are paid first, while the outside creditor gets $L - \tau$, where L is the liquidation value ($L \geq \tau$). A benevolent judge might turn down the majority creditor's request for liquidation when it is socially efficient to do so.

When the judge is corrupt, his decisions are captured by the governor. If the governor prefers liquidation, the judge rules accordingly and gives all of the liquidation value to the governor. This is not an important assumption. It can be interpreted as capture of the liquidation procedure: the judge (on the behalf of the governor) manipulates the liquidation auction to facilitate plain robbery of the firm's assets. If the governor prefers continuation, the bankruptcy request is rejected. Influencing the judge is associated with a fixed cost γ for the governor (the cost of influencing the judge is prohibitive for the outside investor).

The interaction is repeated infinitely. In each period, the timing of the relationship is as follows. First, the manager undertakes an action. Thereafter, the creditors decide whether to file a bankruptcy petition or not. If one of them does, the judge decides whether to reject the request or to liquidate. If the governor controls the judge, the governor and the manager

¹⁶The bankruptcy law formally requires that the manager be replaced. What we have in mind is that the new manager essentially represents the same interests as the old one.

¹⁷They may also petition for an individual debt repayment.

¹⁸This is formally shown in an earlier draft of the paper. (see CEPR Discussion paper No. 2488).

may collude: a bribe can be paid by the manager to the governor in exchange for protection against liquidation.

The firm

The only input into the firm is managerial effort. We denote managerial effort by $e \in \{C, R\}$ where C stands for continue without restructuring (low effort) and R stands for restructure (high effort).¹⁹ This effort is observable, but not verifiable (and, thus, not contractible). If the manager chooses $e = C$, he secures that the firm is not run down while remaining insolvent. When the manager undertakes effort $e = R$, we say that he starts restructuring. To emphasize that this is a long process, we assume that the process can be interrupted.²⁰ After restructuring has been initiated, but before it has been completed, the creditors may file a bankruptcy petition. In such a case, restructuring can be completed only if the request is turned down. When the firm is restructured (i.e., the manager chooses R and restructuring is not interrupted by liquidation), it becomes solvent and can be run profitably from the next period on.

The payoffs

There are private benefits that accrue to the player who has control over the firm. We assume that the manager earns no private benefit in the first period if he starts restructuring; the forgone private benefit represents the cost of exerting high effort. We denote the life-time benefit (discounted to the period 1) of the manager when he completes restructuring and, thus, stays in control forever by V^R . Similarly, let V^C denote life-time manager's payoff, when the manager exerts a low effort ($e = C$) in all periods. Then, $(1 - \delta)V^C$ is the corresponding one period private benefit. We assume that $V^C > V^R > 0$, and so the manager has no direct incentives to restructure.

In each period t , the manager pays a nonnegative bribe b_t to the governor in exchange for protection from liquidation: the threat of liquidation may come either from the outside

¹⁹An earlier draft of the paper (CEPR Discussion Paper No. 2488) shows that the same qualitative results are obtained in the model that in addition to restructuring or continuation allows the manager to strip the firm of all assets. This is an extreme case of *tunnelling* (Johnson et al., 2000).

²⁰This assumption was first made by Roland and Verdier (1999).

investor or from the governor. When the judge is independent, the governor has no protection to offer, and the bribe is equal to zero. If the judge is dependent and the firm is restructured or liquidated in the first period, the bribe flow is $B^R = b_1$. The manager needs no more protection after the first period since either the firm has become solvent in terms of verifiable cash flow, or he is out of control. In contrast, if the manager never undertakes restructuring, he pays the total of B^C in discounted bribe flow, $B^C = \sum_{t=0}^{\infty} \delta^t b_t$. Each period, bribe b_t is determined in negotiations (described in detail below).

To simplify the presentation of our infinitely repeated game, we use a short form for the continuation game following the first sequence of moves. We write the manager's payoff: $U_M = V^j - B^j$, where V^j and B^j are the life-time private benefit and the discounted bribe flow, respectively; $j \in \{C, R\}$.

The governor's payoff is $U_G = G^R + B^R$, if the firm is successfully restructured, $U_G = \tau$, if the firm is liquidated under the outside creditor's control, $U_G = L - \gamma$ if the firm is liquidated under his own control, and $U_G = B^C - \gamma$ if the firm continues to be unstructured.²¹ The latter two payoffs include the (negative of) the cost of influencing the judge.

The outside investor's payoff is given $U_I = I^R$ when the firm is restructured: debts are repaid and a flow of interest on new loans (not explicitly modelled) accrues to the investor. When the firm is liquidated by an independent judge, $U_I = L - \tau$. In all other cases the outside investor earns zero payoff.

The Independent Judge Case: A Benchmark

In this section, we consider the case when the judge is independent (formally, this corresponds to the case of $\gamma = \infty$). All the results in this section are just a repetition of the findings obtained elsewhere in the literature; the section, however, provides a useful benchmark.²²

First, we note that the governor cannot affect the outcome. The governor can trigger bankruptcy, but the outside investor controls the procedure: he decides whether to liquidate or not.²³ As a result, the governor has no incentives to file a bankruptcy petition. We assume

²¹It is assumed that the firm continues to be unstructured only if the governor uses the judge to protect the firm from the outside creditor.

²²Berkovitch and Israel (1999) and Hart (2000) offer thorough surveys of the literature.

²³Under the 1998 law, the government representatives could not vote at a creditors' meetings. Since the

that when a player is indifferent between triggering bankruptcy or not, he chooses not to. Thus, when the judge is independent, the governor has no role to play.

In the case of an independent judge, the sequence of moves in every stage game (which takes one period) is as follows:

Step 0. The manager chooses effort $e \in \{C, R\}$.

Step 1. The outside investor chooses whether or not to trigger bankruptcy and liquidate.

Step 2. If the manager is still in control, either restructuring is completed (if it started at Step 0), or the firm remains insolvent (if $e = C$). If bankruptcy is triggered at Step 1, the firm ceases to exist. All the players receive their payoffs.

After Step 2: If restructuring has been completed, the firm enters the phase where it operates with profit. Old debts are repaid out of verifiable profit, and a flow of interest and taxes is generated. If the manager had not initiated restructuring but was left in control, the stage game starts over at Step 0 in the next period. In all other cases, the firm does not exist any longer. The stage game is illustrated in Figure 1, where the payoffs are computed for the corresponding continuation game.

We assume that restructuring is socially efficient: formally, $V^R + I^R + G^R \geq L$. The manager, however, prefers to run the firm with low effort whenever $V^C > V^R$. The following proposition shows the beneficial effect of the threat of bankruptcy on managerial incentives.

Proposition 1 *Suppose that the investor prefers restructuring, i.e. $L - \tau \leq I^R$. Then the threat of bankruptcy induces restructuring as long as $V^R \geq (1 - \delta) V^C$.²⁴*

The condition is that the life time private benefit of restructuring for the manager, V^R , exceeds his one-period private benefit of simply running, $(1 - \delta) V^C$. Under these conditions, the bankruptcy law serves its purpose. The threat of losing control induces the manager to restructure. The next proposition shows that a functioning bankruptcy law produces inefficient outcome when the creditor is more interested in receiving the liquidation value than in continuation.

tax debt is a higher priority claim than the debt owed to the private creditors, private creditors are entitled to decide on the fate of the firm.

²⁴All proofs are relegated to the appendix.

Proposition 2 *If $L - \tau > I^R$, any subgame equilibrium yields the termination of the firm's activity: the manager exerts low effort and the firm is liquidated.*

The result of Proposition 2 reveals a pitfall of this simple procedure. It corresponds to a classic inefficiency result applied to creditor-oriented procedures (see e.g., Hart, 2000). An important assumption is that the manager cannot bribe the outside creditor to avoid bankruptcy. A possible reason is that there are many outside investors who may not agree on how to share the potential bribe revenue (Berglöf et al., 2002).

By assumption, restructuring is always efficient. Thus, liquidation that occurs when $L - \tau > I^R$ is socially suboptimal. This justifies why society may not wish to let the creditor alone decide on the fate of the insolvent firm; instead, it can delegate the decision-making power to a judge. We next consider the case when the judge has discretion to reject a request for liquidation. In accordance with the objective of the law to promote social efficiency, the judge can decline the request of liquidation only when the manager has already started restructuring. To illustrate the potential value of leaving some discretion to the judge, we present the following result:

Proposition 3 *In equilibrium of the game, in which the judge has discretion, the outcome is efficient if (i) $V^R \geq (1 - \delta)V^C$, and (ii) the judge is benevolent.*

The result in Proposition 3 depends crucially on the assumption that the judge acts in the social interest. Indeed, since managerial effort is not verifiable, compliance with the rule heavily relies on the judge's benevolence. In the Russia's context, this assumption appears to be particularly unreasonable. The next section considers the risks of corruption and collusion associated with discretionary power given to an opportunistic (or dependent) judge.

Capture of Law

In this section, we investigate the situation where the governor can, at some fixed cost $\gamma \geq 0$, capture the judge's decision in bankruptcy. When the governor exercises his influence, the judge effectively rubber-stamps the governor's decisions. If bankruptcy is triggered, the governor decides whether to liquidate or reject the request (we assume that rejection is

equivalent to the external management procedure with the same manager). If he chooses to liquidate, the governor appropriates all the liquidation proceeds as side income.

The dependent judge case is symmetric to the independent judge case in the following respect. When the judge is independent, the governor has no real power because he cannot vote at the creditors meeting. In a similar way, political capture deprives the outside investor of influence over the procedure. She can trigger bankruptcy, but the governor can reject the request. Moreover, if liquidation follows, the governor appropriates all the proceeds.

The new feature of the capture model is collusion: the governor and the manager can agree on a deal where the governor uses his influence to protect the manager from liquidation in exchange for a bribe. The collusive agreement arises as the outcome of negotiations. As above, we ignore the passive player, here - the outside investor. The timing of the stage game in each period is the following:

Step 0. The manager chooses an effort $e \in \{C, R\}$.

Step 1. The governor and the manager bargain over a bribe. If agreement is reached, the manager stays in control, and the game continues to the next period. If there is no agreement, the governor files a bankruptcy petition and liquidates.

Step 2. If the manager is still in control, either restructuring is completed (if started at Step 0), or the firm remains insolvent (if $e = C$). If liquidation procedure is triggered at Step 1, the firm ceases to exist. The players receive their payoffs from the firm and the bribe is paid to the governor. If restructuring is completed, the firm enters a phase where it operates with profit. Old debts are repaid out of verifiable profit, and a flow of interests and taxes is generated. If the manager had not initiated restructuring but was left in control, the stage game starts over at Step 0. In all other cases the firm exists no more.

The stage game is illustrated in Figure 2, where the payoffs are computed for the corresponding continuation game.

Collusion

The outcome of negotiations about the size of the bribe subject to the manager's liquidity constraint at Step 1 is the collusive agreement. The manager pays the bribe out of his

current private benefit.²⁵ We do not explicitly model the bargaining game. Instead we use the (constrained) symmetric Nash bargaining solution. Our main results do not depend on the chosen solution concept. In particular, they hold, with some minor changes, for the alternative procedures where either the manager or the governor makes a take-it-or-leave-it offer.

First, we assume that $\gamma < L$, so that the cost of influence is sufficiently small for governor's threat to intervene to be credible. Below, we also consider the case of $L - \gamma \leq 0$.

Bargaining occurs after the manager has chosen his effort. The collusive deal is about giving a credible promise to protect from liquidation *in the current period* in exchange for a bribe. In the subgame following $e = R$, the net gain from avoiding bankruptcy at Step 1 is $V^R + G^R - (L - \gamma)$. When restructuring has been initiated, postponing bankruptcy for one period is equivalent to 'postponing' it forever. In the next stage, the firm is solvent and cannot be bankrupt any more. The main issue here is that the manager is liquidity constrained. Under restructuring, the first period's private benefit is equal to zero. The manager cannot pay the governor, so the gains from collusion cannot be realized.

Now we turn to the case when the chosen effort is low, $e = C$ (collusion might appear in this case only). Postponing liquidation for another period (till the next stage game is played) would allow the manager to earn his one-period private benefit, $(1 - \delta)\delta V^C$. Since the governor can liquidate in the next period as well, the cost of postponing the liquidation to him is $(L - \gamma)(1 - \delta)$. Thus, the net gain is $[\delta V^C - (L - \gamma)](1 - \delta)$, which we assume to be strictly positive.²⁶ We denote the symmetric Nash bargaining solution by b^N .

$$b^N = \frac{1}{2} [\delta V^C + (L - \gamma)] (1 - \delta). \quad (1)$$

Formally, $b^N = \arg \max (\delta V^C (1 - \delta) - b) (b - (L - \gamma) (1 - \delta))$ s.t. $b \geq (L - \gamma) (1 - \delta)$ (the governor's rationality constraint) and $b \leq (1 - \delta) V^C$ (the manager's liability constraint). Note that the manager has zero outside option. If negotiation breaks down, liquidation occurs (see proof of proposition 4). Thus, the manager's next period payoff will be zero. In the current period he earns $V^C (1 - \delta)$ irrespective of whether he accepts or refuses to

²⁵We assume that there is no outside enforcement of illicit contracts. Bribes are self-enforceable in the model: paying the bribe is an equilibrium outcome of the repeated game.

²⁶In the opposite case there is no gain from collusion.

pay the bribe. Note that $b^N \leq (1 - \delta) V^C$ (since $[\delta V^C - (L - \gamma)] (1 - \delta) > 0$). Therefore, the manager's liquidity constraint is not binding. For the same reason, we also see that $B^C = \frac{1}{2} [\delta V^C + L - \gamma] > (L - \gamma)$: the normalized net present value of the flow of bribes satisfies the governor's incentive constraint.

To complete the analysis, we have to investigate whether these collusive outcomes can be supported as a subgame perfect equilibrium of the whole repeated game. We do this in the next section.

Equilibrium allocation under political capture

The central theoretical result of the paper is the following:

Proposition 4 *When (i) $\delta V^C > L - \gamma$ and (ii) $G^R < L - \gamma$, any subgame perfect equilibrium entails no bankruptcy and no restructuring. Each period t , the manager pays a bribe b_t^* to the governor such that*

$$B^{C*} = \sum_{t=0}^{\infty} \delta^t b_t^* = \frac{b^N}{1 - \delta},$$

where b^N is the bargaining solution described in (1).

The intuition for Proposition 4 is that the governor can only protect the manager in exchange for bribes as long as the manager needs protection, i.e. the firm is insolvent. Condition (i) secures that there is a positive gain of collusion, so the governor prefers to extract bribes in each period rather than liquidate at Step 1 each period. Condition (ii) states that when the manager initiates restructuring, the governor liquidates because he values tax income too little relative to the outcome from (captured) liquidation. Therefore, the manager never initiates restructuring.

The Proposition 4 is the most relevant to the Russian reality. It depicts a situation when the governor and the manager explicitly collude against the outside investor. The result in Proposition 4 covers situations where the manager's per period private benefit is larger in the insolvent firm than in the restructured one. One reason for why this may be the case is that the absence of financial discipline makes it easier to hide income.

Proposition 4 remains true even for $V^R > V^C$. This is a remarkable result which emphasizes the potential costs of corruption in bankruptcy. In the capture model, the bankruptcy

law may *hinder* restructuring. When $V^R > V^C$, the manager has private interest in restructuring. Restructuring does not happen in equilibrium because capture of bankruptcy provides the governor with (additional) control rights over the firm. He uses these control rights to protect his rents (flow of bribes). This requires keeping the firm insolvent.

Proposition 5 *When (i) $\delta V^C > L - \gamma$ and (ii) $V^R < V^C - B^{C*}$, there is no restructuring in equilibrium even for $G^R > L - \gamma$.*

Proposition 5 depicts a situation symmetric to that of Proposition 4. Here, the governor values restructuring such that he would not liquidate if the manager initiated restructuring. The manager, however, prefers to run and pay bribes for protection. Capture of bankruptcy even in this case leads to no restructuring and no liquidation, since the governor cannot commit to liquidate if he sees no restructuring (he prefers to take a bribe rather than liquidate).

Our last result shows that even when the threat of a governor's intervention is not credible i.e., $L - \gamma < 0$, capture of bankruptcy can be an important issue. Assume that the outside investor is uncertain about the judge's type (so he may file a bankruptcy petition in hope that the judge is independent) while the manager knows that the judge is corrupt. We have the following result:

Proposition 6 *If $\gamma < (1 - \delta) V^C$, a sufficient condition for the firm never to be restructured is $V^R < \delta V^C$.*

The intuition is that if $\gamma < (1 - \delta) V^C$ the manager can bribe the governor so that he influences the judge who rejects the investor's request for liquidation. Since the governor's threat to liquidate is not credible ($L - \gamma < 0$), the manager only needs protection against the outside investor. The outside investor only files one time. The presumption being that once she learns the true type of the judge, she leaves the manager alone.²⁷ When $V^R < \delta V^C$, the manager *always* prefers to pay all of his private benefit just once rather than restructure. Note that this result obtains when $L - \gamma < 0$, i.e. when the governor has no additional control rights (compared with the independent judge case). When $L - \gamma > 0$, we are in the case depicted in proposition 4.

²⁷This is consistent with the assumption that when a player is indifferent between filing or not he chooses not to file.

Summing up, the model shows that when the judge is not independent from the governor, there is a scope for collusion between the governor and the manager. The governor uses his influence to secure that the manager stays in control. There are two reasons why there is no restructuring. Either the manager prefers to run and pay bribes (prop. 5 and 6), or the governor prefers to keep the firm insolvent to secure side income (prop. 4). The manager's and governor's shares of the gains of collusion depend on the costs of influence and on the liquidation value of the firm.

Allowing for collusion between the outside investor and the governor would not affect our results. Suppose that the outside investor offers a bribe to the governor so that he (via the judge) lets restructuring be completed. In this case, the governor would always take the bribe but still initiate bankruptcy procedure to stop restructuring. Therefore, the outside investor would never offer such a bribe in the first place. In contrast, the manager only pays the governor to avoid bankruptcy *when the firm remains insolvent*. The governor, then, has no incentives to defect from the collusive agreement and bankrupt the firm because he expects rents in the future. The results of the model, however, depend crucially on our definition of bankruptcy capture in terms of (political) influence rather than bribes to the judge. In particular, we rule out the possibility that the outside investor bribes the judge in exchange for letting the manager complete restructuring.

4 Evidence

Data sources

We used data from the following sources: a list of publicly announced external managements initiated in 1998 and the first half of 1999 comes from the *Internet Securities* and the *AK&M* news data bases; a comprehensive list of liquidation procedures initiated in 1998 and the first half of 1999 comes from the Higher Arbitration Court Journal (*Vestnik Vysshego Arbitrazhnogo Suda*); statistical data for firms in 1996-1999 were obtained from the Russian Enterprise Registry Longitudinal Database (RERLD);²⁸ firm-level financial data come from

²⁸This is an annual industrial censuses of large and medium-size industrial enterprises. Detailed information on how the RERLD was constructed is given in Brown and Brown (1999).

the ALBA data set of balance sheets for large Russian industrial firms; regional statistical data come from statistical abstracts *Regions of Russia*, 1999, the official web site of the Russia's State Tax Agency, and *MFK Renaissance*.

How do ex ante firm characteristics influence bankruptcy?

Available information on bankruptcies in Russia is very limited: we only have access to the lists of firms against which bankruptcy procedures were initiated in 1998 and the first half of 1999. We merge this information to firm-level, regional-level and industry-level data from other sources. Unfortunately, there are no micro data on who initiated bankruptcy procedures or what were the receipts of any of the claim holders. Therefore, it is important to keep the data limitations in mind during the discussion of the testable predictions of our model which follows.

Under the assumptions of symmetric information and no uncertainty, our model predicts no bankruptcy in equilibrium because the outside creditor finds it not worth the effort to file a bankruptcy petition. With asymmetric information about the type of the judge, bankruptcy can happen in equilibrium. Rejection of outside creditor's request for liquidation in our model corresponds to the initiation of the external management procedure with the appointment of the same manager as an external manager. This consideration allows us to formulate testable hypotheses. First, we focus on how the ex ante characteristics of firms, their industries, and regions influence the odds that these firms would end up in either the external management or liquidation procedure, or would not be affected by either of the procedures.

The model predicts that firms with high private benefits (holding other things constant) are likely to be protected by regional governments. Since private benefits usually are in industries with high cash flows and low in poorly-performing industries, we expect that industry performance increases the likelihood of external management procedure and decreases the likelihood of liquidation. Political strength of the governor affects costs of influencing the judge, thus, regions with stronger governors should have fewer liquidation procedures and larger number of external management procedures.

Anecdotal evidence that regional divisions of arbitration courts made rulings in favor

of regional and against the federal authorities in bankruptcy hearings allow us to conclude that the federal government often played the role of the largest outside creditor in firms that accumulated sizable tax arrears. A testable hypothesis can be formulated about the differences between regions with respect to the quality of their relationship with the federal government. Politically hostile to the federal center regional government is more likely to protect regional firms from paying federal taxes; thus, we expect external management procedures to be more frequent and liquidation less frequent in the regions, where relations between the governor and the federal center are hostile.

External management procedure in our model is accompanied by a stream of bribe payments from the manager to the governor. There are no direct measures of the level of bribes in Russia's regions. Nonetheless, in-kind tax payments and tax offsets often provide an easy quasi-legal channel for bribe payments from enterprises to regional authorities. Thus, we use the percentage of regional taxes collected in kind as a proxy for bribes.²⁹

In reality, monetary bribes are not the only means of payment for protection at managers' disposal. Shleifer and Vishny (1994) stressed the importance of excessive employment as means of pleasing politicians. Following the "politicians and firms" story, we expect that governors are more likely to protect firms with large employment.³⁰

To test these predictions we estimate the Multinomial Logit regression model of a probability that a firm, given its characteristics before the 1998 law was adopted, (1) falls into an external management procedure, (2) is liquidated, or (3) is unaffected by bankruptcy during a year and a half after the introduction of the new law. We look at the ex ante characteristics of firms in order to treat them as exogenous and rule out any reciprocal effects of bankruptcy onto firm characteristics. Our sample consists of 8,773 firms that are drawn from the intersection of RERLD and ALBA data sets for 1997.

²⁹A so-called governor's off-budget fund, formed in 1997 in Kemerovskaya oblast, serves as example of the well-established mechanism for illegal payments to the governor. According to *Izvestia*, a nation-wide newspaper (16 September 1999), the deeply troubled West-Siberian Metallurgy Kombinat (ZapSib) has regularly contributed to this fund while accumulating large federal tax arrears.

³⁰Lizal (2002) shows some evidence that "politicians and firms" story determined bankruptcy patterns in the Czech Republic.

We estimate the following model:

$$\Pr \{Y_i = j\} = F[\beta_1 R_PolStr_i + \beta_2 R_Host_i + \beta_3 R_InKind_i + \beta_4 I_CashF_i + \beta_5 Controls_i + \varepsilon_i]$$

i is an identifier of a firm in the sample. Y is an outcome after the introduction of the new law: it is equal to one of the three following outcomes for each firm in 1998 and the first half of 1999: 0 - bankruptcy procedure was not initiated, 1- external management procedure was initiated, and 2- liquidation procedure was initiated. F is a logistic function. R_PolStr is a measure of political strength of the governor; it is an index constructed by MFK Renaissance that measures the extend to which the regional governor had political control over the regional economy in 1997 (larger values mean stronger governor).³¹ R_Host is another MFK Renaissance index that measures how hostile the relationships of the governor and the federal government were in 1997 (larger values mean higher hostility).³² R_InKind is our proxy for percentage of in kind tax collections. It is equal to the negative of the log percentage of cash regional tax collections in the total regional tax collections in 1997. I_CashF is our proxy for industry cash flows. It is equal to the negative of the five-digit-OKONH industry median value of the logarithm of enterprises' costs per unit of sales in 1997.³³

The following variables are used as controls. First, we control for the firm-level characteristics that influence the probability that firm ends up in bankruptcy: leverage ratio (log debt to assets ratio), coefficient of current liquidity (log ratio of liquid assets to short term liabilities), cash flow (negative of the log costs per unit of sales), log labor productivity, log labor productivity growth, size of the firm (the level of official employment), and two-digit-OKONH industry dummies. Firm-level controls are needed in order to analyze the effect of regional and industry characteristics in firms that, otherwise, would have similar prospects in bankruptcy. Second, we control for gross regional product per capita. This is an important

³¹The index combined the data on political rating of the governor during the last election and the share of regional industrial output controlled by the governor's team.

³²This index was constructed using information on 1) the frequency of public statements by the governor against the policies of the federal center, 2) the extent to which regional laws and regulations violate federal laws, 3) the level of support of the governor by the president at the last regional elections, and 4) the presence of a bilateral treaty between the region and the center.

³³We take negatives of costs and cash tax collections in order to have all the predictions of the same sign for each outcome.

control because political characteristics of the regions that we are interested in may be correlated with regional economic development that in turn may affect the numbers of regional bankruptcy procedures. All control variables are measured in 1997, before the introduction of the new law. Table 1A in appendix presents summary statistics for variables used in the regression analysis. We specify clusters in ε_i so that observations are allowed to be correlated within combinations of regions and 2-digit industries (Krishnaiah and Rao, 1994).

In accordance with the model, we expect to find positive effects of regional political strength, hostility, in-kind tax collections, and industry-level cash flows on the probability of external management and negative effects of these variables on the probability of liquidation procedure.

Table 2 presents the regression results. They are as predicted by our model. *Ceteris paribus*, political strength of the governor that proxies the ease with which governor can influence courts positively affects the probability of external management procedure against the regional firms. The sign of coefficient of the political strength for the liquidation outcome is negative but insignificant.³⁴ The probability of external management is significantly higher and the probability of liquidation is significantly lower for firms in regions where the governor is at odds with the federal center compared to similar firms in regions that have friendly relations with the center. Regions with higher share of in kind tax collections, our proxy for corruption and bribes, have significantly higher probability of external management procedures and significantly lower probability of liquidation procedures in the regional firms. In addition, firms in industries with larger cash flows (a proxy for the size of private benefits) have higher chances of getting into an external management procedure and lower chances to be liquidated.³⁵ The economic significance of these results is as follows. One standard deviation increases in the measures of governor's political strength, regional hostility towards the federal center, in-kind tax collections, and of the industry cash flow increase the probability that an average firm ends up in external management procedure by 23, 33, 26,

³⁴In specifications with fewer controls (and, therefore, more observations) the coefficient of political strength for the liquidation outcome is negative and significant.

³⁵These results are very robust: they do not depend on a particular specification or the choice of control variables.

and 42 percent of predicted probability of this outcome.³⁶ One standard deviation increases in the measures of regional hostility towards the federal center, in-kind tax collections, and of the industry cash flow decrease the probability that an average firm ends up in liquidation procedure by 18, 31, 19, and 29 percent of predicted probability of this outcome.³⁷

Signs of the coefficients of control variables are also as one would expect: low levels of current liquidity and labor productivity significantly increase the probability of both bankruptcy procedures. As predicted by political economy models in which politicians (and judges) care about employment, we find that firms that end up in liquidation are significantly smaller than average. The size of the firms that end up in external management procedure is, however, above the size of firms that are unaffected by bankruptcy. Since regional governments are more likely to use external management procedure to protect large firms from the federal government and outside creditors, this is consistent with our model of bankruptcy capture.

In the case of politically independent bankruptcy, regional political variables should have no effect on the probability of bankruptcy procedures unless these variables were correlated with regional economic distress that is not properly accounted for by our control variables. In this case, however, regional political variables should have the same effect on the probability of both bankruptcy procedures. In contrast, we find the opposite effects of regional political variables on the probability of external management and liquidation procedures holding firm characteristics constant, just as our model predicts.³⁸

How does external management influence ex post restructuring?

The model of bankruptcy capture implies no restructuring following the introduction of external management. To test whether firms under the external management procedure restructure as they are supposed to under the assumption of independent bankruptcy, we

³⁶Predicted probability of the external management outcome evaluated at the mean value of employment for firms with this outcome and overall means for all the other independent variables is equal to 1.78 percent.

³⁷Predicted probability of the liquidation outcome evaluated at the mean value of employment for firms with this outcome and overall means for all the other independent variables is equal to 0.03 percent.

³⁸The indices of governor's political strength and hostility towards the center do not seem to correlate with regional economic distress. The correlation coefficients of these variables with various available measures of regional economic well-being (for instance, per capita growth, index of resource potential, ratio of per capita income to subsistence level, etc.) are small, positive, and insignificant.

compare several measures of restructuring in similar firms in two groups: group of firms that started external management procedure in 1998 and a control group. We use the following four proxies for restructuring: log sales growth, log labor productivity growth, log employment cuts, and log number of new product varieties between 1998 and 1999. The control group is comprised of two firms for each firm under external management. The two firms are chosen from the same five-digit-OKONH industry as the firm under external management so that they are the closest to it in size (one smaller; one larger). The number of firms that started external management procedure in 1998 for which we have all required data is 134. The resulting sample consists of 380 firms.

We run an OLS regression of the proxies for restructuring between 1998 and 1999 on the external management dummy controlling for lagged labor productivity growth (between 1996 and 1997), outside finance during 1998 and 1999 (which we proxy by the log change in the stock of the outside finance), initial employment size and two-digit-OKONH industry dummies. Our model predicts no correlation of restructuring and external management dummy. This is in contrast to the independent bankruptcy case that predicts above average levels of restructuring in firms under external management procedure.

Table 3 presents the regression results. Coefficients of external management dummy in all regressions are insignificant. And they are negative in regressions of sales growth, labor productivity growth, and employment cuts. The p-values of the tests that coefficients at external management dummy are strictly positive (as predicted by the alternative hypothesis) range from 73 to 60 percent. This evidence supports our story that there is no difference in restructuring efforts between firms in and outside the external management procedure. The coefficients are not very precisely estimated, however: as reported in table 3, the confidence intervals for coefficient estimates at external management dummy are quite wide: the difference in sales growth between external management firms and similar firms not in bankruptcy can be anywhere between -20 and 14 percent; the difference in labor productivity growth ranges from -18 to 13 percent; in layoffs between -8 and 3 percent; and in the number of new products between -13 and 7 percent.

Overall, the evidence acquired from both tests is consistent with our model of bankruptcy capture and seems to be inconsistent with politically independent bankruptcy.

5 Conclusion

This paper investigates the effect of a legal transplant into the weak institutional environment. Russia's bankruptcy law of 1998 was intended to solve several important problems of corporate governance: release of assets from inefficient uses, secure the rights of creditors, and discipline the managers. Although the law was drafted with these goals in view, in reality it did not induce restructuring or harden managerial budget constraints. Absence of the rule of law transformed bankruptcy into the mechanism that allowed regional governors and incumbent managers of large firms to leave outside claim holders unsatisfied. In particular, the federal government (the largest outside claim holder) had no effective legal mechanism for collecting tax arrears. We argue that a possible reason for this is the capture of regional divisions of arbitration courts and analyze the consequences of this capture.

A simple model shows that when the judiciary is captured, the manager has no incentives to restructure and the debt to the outside investor is not repaid. Instead, the threat of bankruptcy is used to perpetuate insolvency in a collusive deal between the manager and the governor. An empirical investigation provides support to the theoretical findings. Just as the model predicts, firms in industries with high cash flow and regions with politically strong governors, governors independent from the federal center, and opaque tax collection systems were more likely to have external management procedure initiated against them after the enactment of the 1998 law compared to similar firms in other regions and industries. Furthermore, introduction of an external management procedure did not change performance of the firms or triggered layoffs as one would expect to see during reorganization.

Thus, the dependence of arbitration courts on regional governments had important implications for the Russian economy. First, assets were locked into inefficient uses by unrestructured enterprises. Second, even very profitable projects could hardly be financed by outside investors due to insecurity of property rights. Third, regional protection of firms against federal tax authorities seriously undermined federal attempts to improve tax collection.

Our findings shed some light on a fundamental question: How do laws affect agents' behavior when enforcement is weak and the judiciary is dependent? Our analysis suggests that it may be worthwhile to give up some sophisticated features of the law, including

judges' discretion to avoid inefficient liquidation, in order to secure implementation of its basic objectives.

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Table 1: Initiation of bankruptcy procedures

Year	Proceedings initiated:	
	total	excluding proceeding against absent debtors
1993	<100	n/a
1994	240	n/a
1995	1,108	n/a
1996	2,618	n/a
1997	4,320	n/a
1998	8,337	4,893
1999	10,933	5,940
2000	19,041	7,959
2001	56,920	8,538

Source: Higher Arbitration Court of the Russian Federation

Table 2. Ex ante firm characteristics: multinomial logit estimation

Probability of the following bankruptcy procedure against a firm in 1998-99 compared to no bankruptcy outcome:				
	External management		Liquidation	
	Coefficient	dy/dx	Coefficient	dy/dx
Political strength of the governor, 97	0.14 *	0.0010 *	-0.11	0.0000
	[0.07]	[0.0005]	[0.09]	[0.0000]
Regional hostility towards the center, 97	0.25 ***	0.0018 ***	-0.23 **	-0.0001 *
	[0.09]	[0.0007]	[0.11]	[0.0001]
In-kind regional tax collections, 97	0.91 ***	0.0063 ***	-0.67 **	-0.0002 *
	[0.29]	[0.0023]	[0.33]	[0.0001]
5-digit industry median cash flow, 97	6.02 ***	0.0415 ***	-4.09 ***	-0.0014 **
	[1.40]	[0.0115]	[1.41]	[0.0007]
Firm's leverage ratio, 97	0.09	0.0006	0.08	0.0000
	[0.06]	[0.0004]	[0.06]	[0.0000]
Firm's current liquidity, 97	[-1.97] ***	-0.0136 ***	-4.05 ***	-0.0014 ***
	[0.27]	[0.0014]	[0.42]	[0.0004]
Firm's cash flow, 97	-0.24	-0.0016	-0.18	-0.0001
	[0.20]	[0.0014]	[0.16]	[0.0001]
Firm's log labor productivity, 97	-0.23 **	-0.0016 **	-0.39 ***	-0.0001 **
	[0.10]	[0.0007]	[0.10]	[0.0001]
Firm's log labor productivity growth, 96-97	-0.01	-0.0001	-0.07	0.0000
	[0.11]	[0.0007]	[0.10]	[0.0000]
Firm's log enterprise employment, 97	0.72 ***	0.0050 ***	-0.29 ***	-0.0001 **
	[0.06]	[0.0008]	[0.11]	[0.0001]
Log gross regional product per capita, 97	0.12	0.0008	-0.01	0.0000
	[0.21]	[0.0015]	[0.23]	[0.0001]
2-digit industry dummies included	YES ***		YES ***	
Frequency of the outcome		2.70%		2.29%
Predicted probability		0.695%		0.035%
Observations			8773	
Pseudo R-squared			0.34	

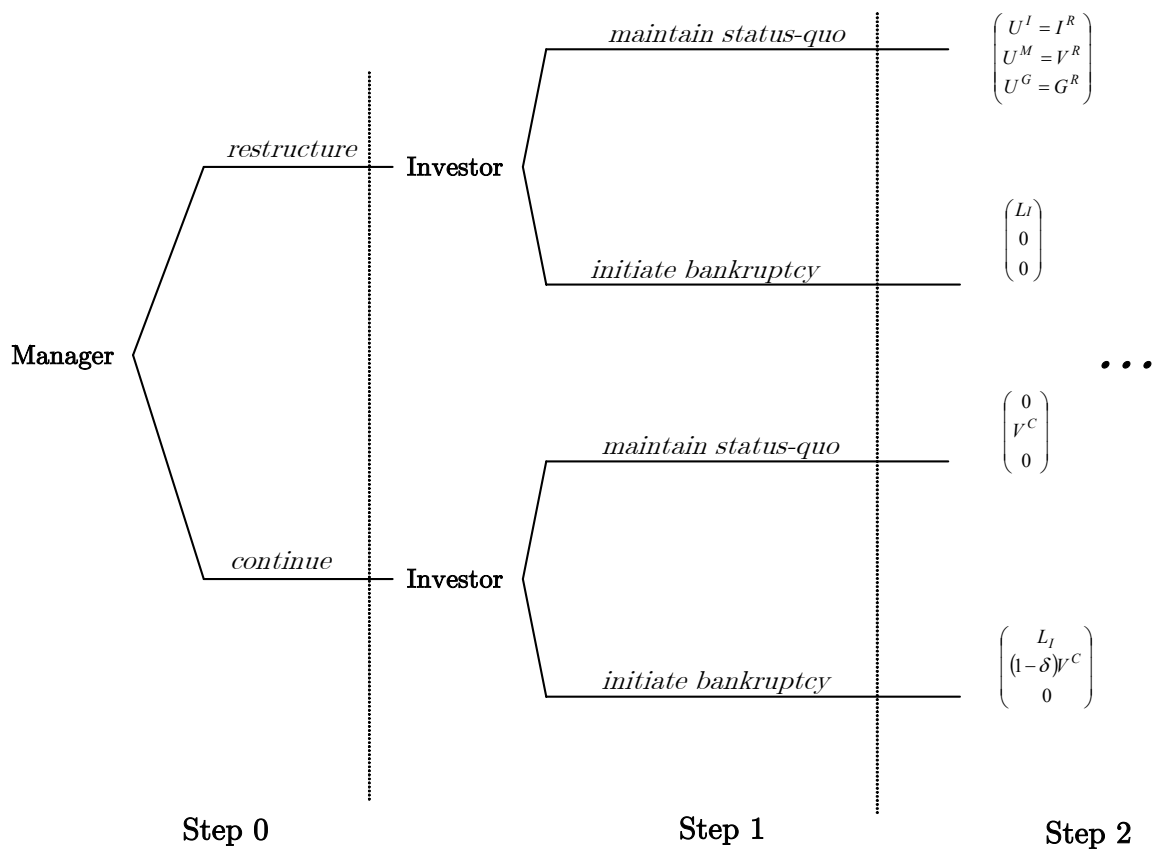
*Note: Comparison group is no bankruptcy. Clusters for combination of 2-digit industry and region are allowed. Marginal effect are evaluated at the mean values of independent variables. Robust standard errors in brackets. *, **, and *** significant at 10, 5, and 1%, respectively.*

Table 3: External management and restructuring

	Sales growth, 98-99	Labor productivity growth, 98-99	Employment cuts, 98-99	Number of new product varieties, 98-99
External management	-0.029 [0.105]	-0.023 [0.092]	-0.023 [0.038]	-0.03 [0.065]
Lag of labor productivity growth (96-97)	-0.051 [0.065]	-0.114** [0.057]	0.007 [0.024]	0.074* [0.042]
Outside finance, 98-99	0.175*** [0.029]	0.117*** [0.026]	0.024** [0.010]	-0.016 [0.018]
Initial employment size, 96	-0.066 [0.048]	-0.064 [0.042]	0.836*** [0.017]	0.174*** [0.030]
2-digit industry dummies included	YES***	YES***	YES***	YES***
Observations	366	366	366	380
% of firms under external management	34.7	34.7	34.7	35.2
R-squared	0.14	0.09	0.92	0.14
P-value of one-sided test that coefficient of external management is strictly positive	0.610	0.597	0.728	0.677
Lower end of the 90% confidence interval	-0.203	-0.175	-0.085	-0.136
Upper end of the 90% confidence interval	0.144	0.130	0.039	0.077

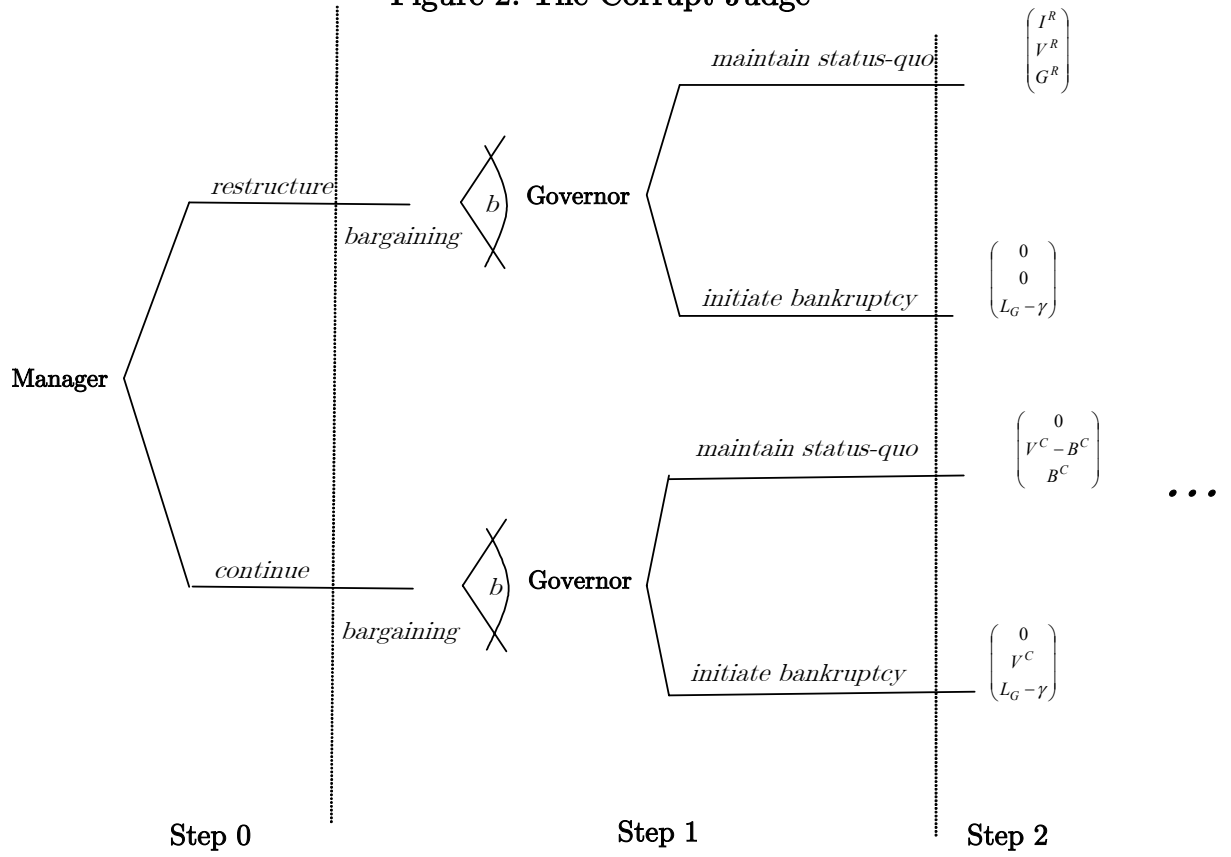
*Note: Dependent variables are in logs. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.*

Figure 1. The Independent Judge Case



Note: The figure reports the discounted sum of future payoffs of the continuation game.

Figure 2. The Corrupt Judge



Note: The figure reports the discounted sum of future payoffs of the continuation game.

APPENDIX

Proof of Proposition 1. In the subgame where $e = C$, and the investor has not filed for bankruptcy, the stage game is repeated in the next period. In the new sequence, the manager faces exactly the same incentives: if it was optimal to choose $e = C$ at Step 0 is optimal to do so at Step 1; so debts will not be repaid at the end of the next period. Anticipating this the investor files for bankruptcy at Step 2, since $L - \tau > 0$. Thus, choosing $e = C$ provides the manager with the life-time utility of $V^C(1 - \delta)$ (as he loses control at Step 2). In the subgame where $e = R$, the investor obtains I^R if he lets the manager complete the restructuring and $L - \tau$ if he chooses to bankrupt the firm. Therefore, a manager with $V^R \geq V^C(1 - \delta)$ chooses $e = R$ at $t=0$. ■

Proof of Proposition 2. The proof is similar to that of Proposition 1 except that when $L - \gamma > I^R$, the investor chooses to liquidate even in the subgame when $e = R$. Since $(1 - \delta)V^C > 0$, while he earns zero payoff in the first period when he chooses to restructure, the manager never initiates restructuring. ■

Proof of Proposition 3. The result follows immediately from Proposition 1 and the assumption of a benevolent judge. ■

Proof of Proposition 4. In any subgame where $e = R$, the governor faces the choice between awaiting debts repayment and the flow of taxes or liquidating which yields a payoff of $L - \gamma$. No bribes can be paid since the manager has no liquidity. Under condition (ii), the governor prefers to liquidate and the manager loses control and his payoff is zero. In the subgame where $e = C$, the governor obtains his one time payoff $L - \gamma$ if he liquidates. If he takes the bribe (and does not liquidate), the manager proceeds to the next period. The manager chooses $e = C$ if and only if $V^C - \sum_{t=0}^{\infty} \delta^t b_t^* \geq 0$ if selecting $e = C$ yields a larger payoff than $e = R$. Using our assumption on negotiations, i.e. symmetric Nash bargaining solution, we have $\sum_{t=0}^{\infty} \delta^t b_t^* = \frac{b^N}{1-\delta}$ with $b^N = \arg \max (\delta V^C (1 - \delta) - b) (b - (L - \gamma) (1 - \delta))$ st. $b \geq (L - \gamma) (1 - \delta)$ (the governor's rationality constraint) and $b \leq (1 - \delta) V^C$ (the manager's liability constraint). Thus the liability constraints which applies in each period guarantees the non-negativity of the payoff associated with playing C in each period. The assumption of non negative net gain from collusion guarantees that the repeated game payoff is strictly positive. Hence, any subgame perfect equilibrium entails $e = C$ in each period, no

bankruptcy and no liquidation and $\sum_{t=0}^{\infty} \delta^t b_t^* = \frac{b^N}{1-\delta}$.

In the subgame where the manager chooses $e = R$, the governor always bankrupt the firm. Initiating restructuring ($e = R$) means losing control and 0 payoff to the manager. Therefore, he refrains from $e = R$ even when $V^C < V^R$. In the subgame where he chooses $e = C$, the manager also pays the bribe. If he does not, the governor chooses to liquidate which is optimal by ii) since the governor knows that the manager's equilibrium strategy is that if he does not pay a bribe now then he does not pay a bribe in any of the subsequent periods. ■

Proof of Proposition 5. When G^R large, the governor has interest in restructuring, so he always lets the manager complete it. The manager chooses not to restructure when $V^R < V^C - \sum_{t=0}^{\infty} \delta^t b_t^*$. By condition i) the governor prefers to pocket bribes than to liquidate. ■

Proof of Proposition 6. If $\gamma < (1 - \delta) V^C$, the manager can cover the cost of protection only out of his current private benefit. Since $L - \gamma < 0$, the governor never threatens with liquidation. So the most the manager pays for protection if an outsider files a petition (which can only happen once) is $(1 - \delta) V^C$. Therefore, he chooses not to restructure when $V^R < \delta V^C$. ■

Table 1A. Summary statistics for variables used in regression analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
<u>Ex-ante firm characteristics regression:</u>					
Outcome (0-no bankruptcy; 1-external management; 2-liquidation)	8773	0.073	0.337	0	2
Political strength of the governor, 97	8773	3.795	1.710	1	5
Regional hostility towards the center, 97	8773	2.618	1.319	1	5
In-kind regional tax collections, 97 (Proxied by the negative of log % of cash tax collection)	8773	-0.667	0.286	-1.43	-0.06
5-digit industry median value of cash flow, 97 (Proxied by negative of log cost per unit of sales)	8773	-4.577	0.070	-5.20	-4.35
Firm's leverage ratio, 97	8773	0.510	0.784	0.02	15.00
Firm's current liquidity, 97	8773	1.221	1.255	0.01	38.36
Firm's cash flow, 97 (Proxied by negative of log cost per unit of sales)	8773	-4.696	0.447	-10.84	-1.13
Firm's log labor productivity, 97	8773	3.729	1.308	-5.91	9.48
Firm's log labor productivity growth, 96-97	8773	0.056	0.651	-24.00	6.03
Firm's log enterprise employment, 97	8773	5.636	1.384	0.00	11.41
Log gross regional product per capita, 97	8773	9.471	0.432	8.39	11.09
<u>Ex-post restructuring regressions:</u>					
Dummy for external management in 98	380	0.353	0.478	0	1
Log sales growth, 98-99	366	-0.048	0.984	-6.06	2.49
Log labor productivity growth, 98-99	366	0.032	0.869	-5.69	2.60
Log employment cuts, 98-99	366	4.678	1.146	-0.39	7.96
Log number of new product varieties, 98-99	380	0.521	0.617	0.00	2.77
Log labor productivity growth, 96-97	380	-0.049	0.754	-4.08	5.93
Log change in outside finance, 98-99	380	-1.467	1.996	-8.75	2.83
Log employment, 96	380	6.796	1.306	3.04	10.29