Judicial Discretion in Corporate Bankruptcy

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Abstract

We study a model of judicial discretion in corporate bankruptcy. The key ingredients of the model are the presence of judicial bias and the debtor’s first mover advantage in financial distress. The model parsimoniously explains why the resolution of financial distress varies across bankruptcy courts; why, despite such variation, bankruptcy outcomes may have a systematic pro-debtor bias; and why such systematic bias may change over time, even absent statutory changes to the bankruptcy code. A key finding is that stronger creditor protection improves judicial incentives to resolve financial distress efficiently, preventing a "race to the bottom" towards inefficient uses of judicial discretion. The model is consistent with available evidence on U.S. bankruptcy and yields novel predictions on how bankruptcy codes should affect firm-level outcomes. Our analysis suggests that judicial incentives are key to understanding how judicial discretion affects the workings of real-world bankruptcy procedures.

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1 Introduction

Recent evidence documents remarkable cross-section and time series variation in the extent to which bankruptcy outcomes favor debtors as opposed to creditors, both in terms of reorganization policies and creditors' recovery rates. There are three main stylized facts. First, while the U.S. bankruptcy code is systematically biased in favor of debtors in that it "appears to have strong incentives to keep the firm as a going concern even when it is worth more in liquidation" (Franks and Torous 1993), the extent of the pro-debtor stance of bankruptcy outcomes systematically varies across countries (Djankov et al. 2006, Davydenko and Franks 2007). Second, resolutions of financial distress within a given bankruptcy code vary substantially across bankruptcy judges (Bris et al. 2006, Chang and Schoar 2006). Third, the systematic bias of bankruptcy outcomes appears to vary over time within a given bankruptcy code, even absent statutory changes to the latter, as recently documented in the U.S. (Skeel 2001; Baird and Rasmussen 2003). We present a model that parsimoniously rationalizes the above three facts, and also yields novel empirical predictions.

Existing theories have focused on explaining only subsets of these facts. For example, it has been informally argued (e.g. Weiss and Wruck 1998) that idiosyncratic judicial preferences may affect resolutions of financial distress under a given bankruptcy code. However, this view can neither explain the systematic bias of the code, as the idiosyncrasies of different judges would tend to cancel out on average just like pure noise, nor can it explain the changes of such systematic bias over time. Likewise, political economy theories (e.g. Skeel 2001, Bolton and Rosenthal 2002) explain the systematic pro-debtor bias of a bankruptcy code with the political preferences of legislators, but can neither explain why resolutions of financial distress vary across bankruptcy courts, nor why the pro-debtor stance of bankruptcy outcomes varies over time absent statutory changes to the code. One problem of political economy theories is that they overlook the fact that – rather than directly mandating outcomes – bankruptcy codes leave courts extensive judicial discretion to interpret the law and decide on issues such as the approval of new financing, the appointment of trustees, or the approval of a reorganization plan, to mention just a few.

In this paper we show that accounting for judicial discretion can rationalize the above three facts of corporate bankruptcy in a parsimonious way, as well as yielding several additional empirical predictions on firm financing, private workouts, timing of default and their variation across firms. Prior seminal work on judicial discretion in bankruptcy (Giammarino and Nosal 1994; Bernhardt and Nosal 2004) focused on whether random judicial mistakes are desirable. Instead, the key to our
approach is to explicitly model judicial decision-making under discretion. In contrast to the view stressing random errors or judicial idiosyncrasies, our approach allows one to study the systematic incentives that discretion places on bankruptcy judges. It turns out that these systematic incentives are key to understanding the workings of judicial discretion. Our main finding is that such incentives are shaped by creditor protection in reorganization: only when creditor protection is strong enough does judicial discretion generate a "race to the top" towards efficient resolutions of financial distress.

Our model relies on two assumptions. First, in line with Gennaioli (2005) and Gennaioli and Shleifer (2006), we assume that bankruptcy judges can be biased in favor of the debtor or the creditor. Judicial preferences over litigants have been shown to strongly affect trial outcomes in several areas of law (e.g. Partridge and Eldridge 1974, Abrams, Bertrand, and Mullainathan 2006) including bankruptcy (e.g. Chang and Schoar 2006). Second, we assume that debtors have a "first mover advantage" in financial distress. Indeed, debtors know before creditors if their firm is in financial distress. As a result, debtors can often choose where to file for bankruptcy ("forum shopping"). In our model, this assumption amounts to giving debtors the possibility of choosing a sympathetic judge. We then parameterize creditor protection as the share of reorganization proceeds that can be pledged to creditors. This parameter can capture the extent of violations of absolute priority (Franks and Torous 1989), of asset securitization in bankruptcy (Ayotte and Gaon 2006), of private benefits of control (Aghion and Bolton 1992) or even debtors’ tunneling of corporate assets during reorganization, especially in developing countries (Djankov et al. 2006).

Section 2 illustrates the role of judicial bias in a model where a potentially biased court should decide whether to liquidate a financially distressed firm or reorganize it under existing management. The court maximizes a weighted sum of the debtor’s and creditor’s welfare. The relative weight put on the debtor’s welfare measures the court’s pro-debtor bias. We find that pro-debtor courts reorganize too often so as to allow the debtor to extract private benefits of control. In turn, this induces under-liquidation losses and reduces creditors’ recovery rates. The reverse is true with respect to pro-creditors courts. This model of biased adjudication is consistent with the empirical evidence on the impact of individual judges in bankruptcy cases (e.g. Bris et al. 2006, Chang and Schoar 2006), but it cannot by itself explain the systematic bias prevailing under a given bankruptcy code, as the biases of different judges may just average out with each other like pure noise.

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1 Forum shopping by debtors is widespread both in the U.S. and around the world - see LoPucki and Whitford (1991) and Ayotte and Skeel (2004) for evidence on the U.S. and Enriques and Gelter (2006) for multinationals. Section 3 discusses the empirical evidence on forum shopping.
Section 3 shows that when one accounts for the debtor’s first mover advantage, judicial discretion can also explain a pervasive, systematic pro-debtor bias. In our model debtors forum shop in their favorite court whenever their rents from doing so exceed the costs, namely whenever the restrictions placed by the code on the bankruptcy venue are not too strong. If that is the case, debtors file in courts that are more likely to reorganize the firm under the debtor’s control. Such sorting of cases in pro-debtor courts prevents the biases of individual judges from cancelling out, implying that judicial discretion is likely to create a systematic pro-debtor bias. This result is even stronger in a dynamic career concerns model where judges try to attract future, large bankruptcy cases. In this case, even unbiased courts endogenously become pro-debtor so as to attract future filing. As a result judicial discretion can reconcile the variation of bankruptcy outcomes across courts with the systematic bias in bankruptcy outcomes emerging under a given bankruptcy code.\(^2\)

A key result of our paper is that higher creditor protection reduces the systematic pro-debtor bias created by judicial discretion. Crucially, Section 4 shows that two effects of creditor protection on judicial incentives are simultaneously at work in the same direction. First, by reducing the rents earned by debtors in reorganization, higher creditor protection reduces debtors’ incentive to forum shop. This demand effect directly reduces the systematic pro-debtor bias by dampening the sorting of cases in pro-debtor courts. In turn, anticipating future lower demand, unbiased judges have fewer incentives to establish a pro-debtor reputation, which also reduces systematic bias. Second, higher creditor protection in reorganization induces a supply effect so that even highly pro-debtor judges are less willing to over-reorganize a bankrupt firm. The reason is that under strong creditor protection the debtors have little to gain from reorganization anyway. As a result, even a highly pro-debtor judge will have little or no incentives to reorganize an unprofitable firm. At the extreme when creditor protection is perfect, any systematic pro-debtor bias disappears. Interestingly, Appendix 2 shows that creditor protection reduces also the systematic pro-creditor bias that may arise when creditors, rather than debtors, have the legal right to file for bankruptcy. Importantly, this is not because creditor protection reduces judicial discretion, but rather because creditor protection improves judicial incentives, avoiding a "race to the bottom" towards any inefficient use of such discretion. As a result, we argue that changes in creditor protection may help explain changes in the systematic bias of bankruptcy outcomes over time, even absent statutory changes to the bankruptcy

\(^2\)Generally speaking, our model shows that the systematic bias of bankruptcy outcomes favors the party having the legal right to file. In Appendix 2 we show that if creditors have the right to file for bankruptcy (which is indeed the case in several countries), the very same effects create a systematic pro-creditor bias, which also gives rise to inefficiencies.
code, in line with recent evidence on U.S. Chapter 11 (e.g. Adler, Capkun and Weiss 2006).\footnote{Interestingly, there is a debate on whether the fall in the pro-debtor bias of Chapter 11 since 2000 was due to a reform of the U.S. commercial code that increased creditor protection in reorganization or to changed judicial attitudes. Our model suggests that these explanations are not inconsistent as creditor protection might have reduced the pro-debtor bias precisely by changing judicial incentives and thus attitudes.}

Another interesting implication of our model of judicial incentives is that if creditor protection is imperfect, forum shopping induces all courts (not only those intrinsically pro-debtor) to display a pro-debtor bias in the resolution of financial distress in an effort to establish a pro-debtor reputation. Our finding implies that existing attempts to empirically identify the consequences of forum shopping (e.g. Lo Pucki 2005, Ayotte and Skel 2004), which hinge on comparing bankruptcy outcomes in different courts, say Chicago and Delaware, are likely to underestimate the consequences of forum shopping and the extent of pro-debtor bias because they overlook the uniform increase in the extent of pro-debtor outcomes induced by forum shopping.

Besides shedding light on the cross-sectional and time series variation of bankruptcy outcomes, in Section 5 we show that our model of judicial discretion delivers additional testable implications on various firm level outcomes. First, we find that judicial discretion can help shed light on the strong efforts of U.S. corporations to avoid filing for Chapter 11 (Gilson, John and Lang 1990) despite the costs of private workouts (Asquith, Gertner and Scharfstein 1994) and on the well-documented, puzzling reluctance of U.S. corporations to resort to debt financing (e.g. Graham 2000, Warner 1977, Parrino and Weisbach 1999). Second, we show that our focus on judicial discretion can help obtain novel predictions on the timing of default by debtors as well as on the way financial distress is resolved across different firms and industries.

Our analysis indicates that judicial discretion is key to understanding the workings of real world bankruptcy procedures. Thus, providing judges with incentives to exercise such discretion in the most desirable manner is a crucial prerequisite to foster efficient resolutions of financial distress and debt financing. Section 6 concludes by discussing some normative implications of this insight.

## 2 The Basic Model

Consider an existing firm in financial distress. The firm has current cash flow of zero, has defaulted on its debt, and has entered a formal bankruptcy procedure under court supervision.\footnote{We focus on the resolution of financial distress occurring in a state provided, court supervised bankruptcy procedure. As a result, we do not consider the possibility for the parties to do away with judicial discretion by contract, consistent with the cross-country empirical evidence of Djankov et al. (2006) that there are many legal restrictions to purely contractual resolutions of financial distress. Even if contracts were allowed, however, Gennaioli} To resolve

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financial distress, it must be decided whether existing management keeps control and the business is reorganized\(^5\) or the firm is liquidated piecemeal. In this section we focus on ex post outcomes in bankruptcy but Section 5 evaluates also the ex ante consequences of court behavior on out-of-court workouts, debt financing and timing of default.

The value of the firm under piecemeal liquidation is \(\lambda > 0\). The liquidation value \(\lambda\) is entirely pledged to the investors. The reorganization value of the firm equals \(\rho\), a random variable taking values \(\overline{\rho}\) and \(\underline{\rho}\) with probability 1/2, where \(\overline{\rho} > \lambda > \underline{\rho}\). As a result, liquidation is ex post efficient if and only if the reorganization value is \(\rho\). In reorganization, only a fraction \(\alpha\) of the reorganization proceeds can be pledged to the investors. The remaining share \((1 - \alpha)\) of the reorganization proceeds goes to the debtor. Thus, the debtor prefers reorganization to liquidation even if the latter is socially efficient because under liquidation he obtains zero while under reorganization he obtains \((1 - \alpha)\rho\). Debtors may obtain these rents in reorganization thanks to private benefits of control (e.g. Aghion and Bolton 1992), violations of creditors’ contractual priorities (e.g. Franks and Torous 1989), lack of full asset securitization (e.g. Ayotte and Gaon 2006), or even tunnelling, especially in developing countries (Djankov et al. 2006). In this respect, \(\alpha\) can be thought of as measuring creditor protection in reorganization: if \(\alpha\) is higher, creditors can obtain a larger share of the reorganization proceeds. Parameter \(\alpha\) plays a key role in our analysis.

But how is it decided whether the firm is reorganized or liquidated? Our basic premise is that the bankruptcy procedure gives some discretion to the bankruptcy judge. By exercising such discretion, the judge can affect the way in which financial distress is resolved. Most bankruptcy procedures around the world rely strongly on the discretion of judges or of judicially-appointed administrators (e.g. Franks, Nyborg and Torous 1996, Davydenko and Franks 2007, White 1996), so that judicial discretion is pervasive in bankruptcy. For example, U.S. Chapter 11 leaves bankruptcy courts large discretion on issues such as first day orders, refinancing, extensions of exclusivity, appointments of trustees\(^6\), and the final approval of a reorganization plan, all of which can crucially determine the resolution of financial distress.\(^7\) As Gilson (1991) puts it, Chapter 11 "effectively requires judges

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\(^5\)In Section 4 we also consider the possibility that the firm is reorganized under an alternative management team.

\(^6\)Although §1104 of the U.S. code states that "the court shall order the appointment of a trustee for cause, including fraud, dishonesty, incompetence, or gross mismanagement of the affairs of the debtor by current management, either before or after the commencement of the case," substantial flexibility is left to judges to determine whether those conditions apply. For example, U.S. courts have almost never appointed trustees, not even in such famous bankruptcy cases of corporate fraud as Enron, Worldcom, Global Crossing and Adelphia (e.g. LoPucki 2005).

\(^7\)Consider how these issues may affect the reorganization decision. First, if the judge prevents failed debtors from
to set corporate operating policies”. In the next subsection, we present a model to study the consequences of judicial discretion for the resolution of financial distress.

2.1 Bankruptcy Courts’ Decision-Making

To study judicial decision-making under discretion we take the shortcut that bankruptcy courts directly decide whether to reorganize or liquidate the firm. To focus on the effects of pro-debtor bias, we assume that the court perfectly observes the firm’s reorganization value but might still be unwilling to do the right thing. In Section 5.4 we relax this assumption and study the case where the court observes a noisy signal of the firm’s reorganization value.

After observing the state \( \rho \), court \( j \) chooses the probability \( x_j(\rho) \) with which the firm is reorganized to maximize a weighted sum of the debtor and the creditor’s utilities. The non-negative parameters \( \beta_{j,c} \) and \( \beta_{j,d} \) indicate the weights the court attaches to the creditor’s and the debtor’s welfare, respectively. As a result, the court’s pro-debtor bias \( \beta_j = \beta_{j,d}/\beta_{j,c} \) fully identifies bankruptcy court \( j \). At any \( \rho \), court \( j \) chooses \( x_j(\rho) \) to solve:

\[
\max_{x_j(\rho)} \lambda [1 - x_j(\rho)] + \rho [\alpha + \beta_j (1 - \alpha)] x_j(\rho) \quad (1)
\]

Consistent with intuition, expression (1) indicates that if the firm is liquidated (i.e. \( x_j(\rho) = 0 \)), then the creditor obtains \( \lambda \) while the debtor obtains zero. If instead the firm is reorganized (i.e. \( x_j(\rho) = 1 \)) then the creditor obtains \( \alpha \rho \) and the debtor obtains \( (1 - \alpha) \rho \). The court then evaluates the desirability of such liquidation policies in both state \( \rho \) and \( \rho^* \) by comparing the parties’ utilities under liquidation and reorganization in each state.

Notice that in this model judges can discretionally affect the resolution of financial distress not only by using their legal right to do so, but also by exploiting discretion in finding facts (Gennaioli

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8 Recent estimates suggest that the price of judicial discretion in financial markets can be very large. Ayotte and Gaon (2006) find that credit spreads increased by about 30 basis points for Chapter 11-eligible securitizers immediately after a controversial judicial decision in the Chapter 11 bankruptcy of LTV Steel, in which a securitization contract was unexpectedly treated as a secured loan, and as such subject to automatic stay.

9 We assume that the bias is in favor of the party who has control over the decision about where to file for bankruptcy. Thus, in closely-held firms one can interpret the bias as being pro-CEO, while in widely-held firms one can interpret the bias as being either pro-CEO, or pro-controlling shareholder, should the two differ.
2005; Gennaioli and Shleifer 2006). For example, the firm’s reorganization value may not be objectively verifiable and thus allow the court to trigger its preferred outcome by distorting the verification of $\rho$. As an illustration, suppose that the firm is liquidated if and only if the judge does not extend the managers’ exclusivity period and the code specifies that courts should extend such period if and only if it allows debtors to propose a value-enhancing reorganization plan, that is if and only if the state is $\overline{\rho}$. Then, the court can directly affect the resolution of financial distress by influencing the estimate of the firm’s reorganization value, particularly when debtors and creditors disagree.\textsuperscript{10} Irrespective of the true $\rho$, judge $j$ emphasizes the pro-debtor estimation warranting reorganization when $x_j(\rho) = 1$ and the pro-creditor one warranting liquidation when $x_j(\rho) = 0$.

By solving (1) one finds that in state $\overline{\rho}$ court $j$ reorganizes the firm (i.e. $x_j(\overline{\rho}) = 1$) if and only if $\beta_j \geq \beta_\overline{\rho} \equiv \frac{\lambda - \rho \alpha}{1 - \alpha}$, while in state $\overline{\rho}$ court $j$ reorganizes the firm (i.e. $x_j(\overline{\rho}) = 1$) if and only if $\beta_j \geq \beta_\overline{\rho} \equiv \frac{\lambda - \rho \alpha}{1 - \alpha}$ \textsuperscript{11}. Intuitively, a judge with higher $\beta_j$ is more likely to reorganize irrespective of $\rho$ so as to allow the debtor to extract private benefits of control. At the same time, liquidation is more likely at $\rho$, i.e. $\beta_\rho \geq \beta_\overline{\rho}$ because judges are less willing to rule for the debtor if reorganization imposes a large loss on the creditor. Figure 1 below illustrates the adjudication policies for different judges as a function of creditor protection $\alpha$.

\textbf{Figure 1 - Discretion, Bias, and Creditor Protection}

\begin{center}
\includegraphics[width=0.5\textwidth]{figure1.png}
\end{center}

Figure 1 shows that for intermediate values of judicial bias (i.e. for $\beta \in [\beta_\rho, \beta_\overline{\rho}]$), judges have the

\textsuperscript{10}For example, Butler (2003) documents that in Chapter 11 the valuation estimates presented by experts on behalf of the debtors are systematically higher than those presented on behalf of the creditors. As a result, courts have considerable discretion to affect the estimated reorganization value by emphasizing one estimate over another.
incentive to take the efficient decision, that is to liquidate in state $\rho$ and to reorganize in state $\overline{\rho}$. By contrast, highly biased judges will always cater towards their preferred party, irrespective of the firm’s reorganization value: pro-debtor judges with $\beta_j \geq \beta_{\rho}$ always reorganize, pro-creditor judges with $\beta_j \leq \beta_{\overline{\rho}}$ always liquidate.

Importantly, Figure 1 shows that the impact of bias on adjudication falls with creditor protection $\alpha$. At higher $\alpha$ the region where judges implement the efficient policy expands. Intuitively, if $\alpha$ is large the debtor obtains little from reorganization. As a result, even a very pro-debtor court does not find it worthwhile to distort adjudication very much. In the limit where $\alpha = 1$ then, irrespective of $\beta_j$, all courts behave like unbiased ones! Section 3 shows that this specific result reflects a much broader point: by affecting the systematic incentives of judges under discretion to rule in favor of either party, changes in creditor protection affect the workings of judicial discretion. For now, however, we keep $\alpha$ fixed and only focus on the impact of bias on the resolution of financial distress.

2.2 The Resolution of Financial Distress

In state $\rho$ court $j$ reorganizes a firm with probability $p_j(\rho) \equiv I(\beta_j > \beta_{\rho})$, where $I(.)$ is the indicator function. The firm is thus liquidated with probability $1 - p_j(\rho)$. The probability of reorganization increases in the firm’s reorganization value $\rho$. We now study how the court’s pro-debtor bias affects the probability that the firm is reorganized and the repayment to creditors. We find:

**Proposition 1** A higher $\beta_j$ increases the probability of reorganization and reduces repayment. Ex post efficiency falls in $|\beta_j - 1|$.

The proof is by inspection. More pro-debtor courts (i.e. with larger $\beta_j$) are more likely to reorganize all firms, including those with poor prospects. In addition, $\beta_j$ reduces expected repayment to creditors. Indeed, pro-creditor courts simply maximize repayment at the expense of ex post efficiency, while pro-debtor courts reorganize too often, undermining repayment. Concerning ex post welfare, if the bankruptcy court is unbiased, it efficiently reorganizes the firm in state $\overline{\rho}$ and

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11Our model also yields the prediction, consistent with evidence from Chang and Schoar (2006) that a higher $\beta_j$ also increases the probability of a bankruptcy re-filing, i.e. the probability that a recently reorganized firm files again for bankruptcy. However, the interpretation given to re-filing depends on specific assumptions. For example, if in reorganization corporate debt is restructured to a face value of $\alpha \overline{\rho}$, the debtor is doomed to default and file for bankruptcy again, because he cannot repay more than $\alpha \overline{\rho}$. In this case, re-filing is a symptom of over-reorganization, consistent with Lo Pucki and Kalin (2001). On the other hand, if in state $\overline{\rho}$ there is uncertainty about the future reorganization value (which can either be very high or very low but with average value $\overline{\rho}$), then re-filing will again be inevitable but not symptomatic of inefficiency, consistent with Ayotte and Skeel (2004).
liquidates it in state $p$. If instead the court is biased ($\beta_j \neq 1$), then ex post efficiency falls as pro-debtor judges reorganize too often, while pro-creditor judges liquidate too often.

Section 5 extends our analysis to study the impact of judicial bias on ex ante financing, on the timing of default and to evaluate the possibility for the parties to soften the costs of judicial bias by entering into private workouts. For now, however, we keep our focus on ex post outcomes to evaluate how judicial discretion affects the working of bankruptcy procedures.

Overall, the basic insight of this section is that a straightforward consequence of judicial discretion is to allow judicial biases to affect the resolution of financial distress. In this respect, our model is not only consistent with the view that judicial idiosyncrasies matter for bankruptcy outcomes (e.g. Weiss and Wruck 1998), but also with recent U.S. evidence showing that the identities of bankruptcy judges matter for the resolution of financial distress. Chang and Schoar (2006) document that some judges are more likely to grant extensions of exclusivity and that this increases the probability of reorganization, consistent with the idea that bankruptcy judges use their discretion to attain desired bankruptcy outcomes. Much in the same spirit, Bris, Welch, and Zhu (2006) study Chapter 7 and Chapter 11 cases filed in the courts of Arizona and New York, and find that the frequency of violations of absolute priority\textsuperscript{12} (Franks and Torous 1989, Weiss 1990) across judges varies from 60% for the more pro-debtor ones to 0% for the more pro-creditor ones, and the fraction of pre-bankruptcy claims ultimately paid to creditors varies from 70% to 100%.

A drawback of the current model is that it cannot explain the kind of systematic biases in the resolution of financial distress prevailing under different bankruptcy codes and documented by bankruptcy scholars (Skeel 2001, Franks and Torous 1989, 1993). Typically, some courts will be unbiased, some will be pro-debtor and some pro-creditor. Thus, if cases are randomly allocated across courts, judicial discretion would only cause idiosyncratic variation of bankruptcy outcomes. The question then arises, can judicial discretion also generate a systematic bias in the resolution of financial distress over and beyond the idiosyncrasies of individual judges?

\textsuperscript{12}In footnote 20 we discuss how our model can account for variations across judges of violations of absolute priority. In personal bankruptcy, variations across courts are even more startling. For example, debtors filing for Chapter 13 in San Antonio, Texas, in the early 1990s had to repay close to 100% of their claims, while debtors filing the same kind of case in Dayton, Ohio, generally had to pay only 10% of the face value of their claims (Braucher 1993).
3 Judicial Discretion and Debtors’ First Mover Advantage

The connection between judicial discretion and a systematic pro-debtor bias relies on the first mover advantage that debtors naturally have in financial distress. Debtors are informed before and more accurately than their creditors about their firms’ financial problems, especially so at the onset of financial distress. An often stressed implication of such first mover advantage is that debtors on the verge of bankruptcy may engender creditors’ ability to recover their loans by engaging for example in asset substitution (e.g. Jensen and Meckling 1976). Here we want to stress another important consequence of the debtor’s first mover advantage, namely the possibility that the debtor, rather than the creditor, files for bankruptcy. For example, the U.S. bankruptcy code stipulates that both debtors and creditors can file for bankruptcy, although creditors have to meet stronger standards, e.g. §301, 303. In practice, 94% of all large Chapter 11 cases from 1980 to 2005 (678 out of 722) were initiated by debtors (Lo Pucki 2005).

In the context of our model, this implies that debtors might seek relief from creditors by strategically filing in a favorable bankruptcy court, a practice known as "forum shopping" (LoPucki and Whitford 1991, Ayotte and Skeel 2004). Although most bankruptcy codes contain provisions aimed at restricting debtors’ ability to engage in "forum shopping", substantial flexibility still exists, especially for large companies. For example, the U.S. bankruptcy venue statute restricts forum shopping by recognizing four connections between a debtor and a court, any of which makes the court a proper venue for the debtor’s bankruptcy. The four connections are that the court is: (1) at the “domicile or residence” of the debtor, (2) at the debtor’s “principal place of business”, (3) at the location of the debtor’s principal assets, or (4) where the bankruptcy case of an affiliate is already pending.

In practice, companies have been able to get around the filing restrictions in different ways so that the extent of forum shopping in U.S. bankruptcy is large. For example, LoPucki and Whitford (1991) find that in the 1980s large pre-bankrupt firms from all over the U.S. began transferring their headquarters in small offices in Manhattan to be able to file at the New York court, where

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13 In Appendix 1 we study the case of the creditor’s first-mover advantage in the filing decision. The analysis is interesting because in several countries it is the creditors who, upon their debtors’ default, file for bankruptcy to recover their claims. Appendix 1 shows that under this alternative assumption judicial discretion creates a systematic pro-creditor bias. The implication of our result is that filing rules may be another reason behind the different performance of bankruptcy codes. For now we just note that the first-mover advantage of creditors does not imply the possibility of a creditors’ run but only represents the possibility for them to decide on the bankruptcy venue. In our model, what rules out creditors’ runs is the fact that we assume the existence of a state-mandated bankruptcy procedure. Put differently, creditor runs on the firm’s assets could only occur in the absence of such procedure (Hart 1995, 2000).
judge Burton R. Lifland and his colleagues were known to be strongly pro-debtor. As a result, forum shopping is widespread: 57% of all U.S. large Chapter 11 cases from 1980 to 2005 (411 out of 722) can be classified as “forum shopping.” Forum shopping is also increasingly pervasive in Europe (Enriques and Gelter 2006), and around the world, where multinational debtors enjoy a strong first-mover advantage (Rasmussen 2007). Indeed, the costs of international forum shopping are one of the main arguments held by legal scholars supporting a move towards universalism in international bankruptcy practice (e.g. Guzman 2000).

Section 3.1 shows that the combination of judicial bias with forum shopping may account for the systematic pro-debtor bias of a bankruptcy code. Section 3.2 shows the role of forum shopping in a career concerns model.

3.1 Judicial Bias and Forum Shopping

The evidence on judicial discretion described in Section 2 suggests that debtors have significant potential advantages if they can file for bankruptcy, and if they can do so in a pro-debtor court. To study the impact of filing flexibility, we now study the problem faced by a failed debtor in choosing where to file for bankruptcy among a measure of courts distributed in $[\beta, \beta']$, where $\beta < \beta' < \beta_p < \beta$, with c.d.f. $B(\beta)$. In words, some judges always reorganize, others always liquidate, the rest takes the efficient decision. Importantly, not only are there some unbiased courts, but courts are assumed to be not systematically biased for the debtor or the creditor, i.e. $E(\beta) = 1$. We assume that the debtor can freely choose where to file by bearing a cost $x$ of forum shopping, where $x$ is uniformly distributed in $[0, c]$. Empirically, a higher $c$ captures a bankruptcy code placing stricter legal restrictions to forum shopping. We study the allocation of cases to bankruptcy courts by leaving aside the issues potentially arising from court congestion, but our main results continue to hold if courts have some excess capacity that allows them to attract cases from other courts.

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14Forbes magazine described Judge Lifland “A Bankrupt’s Best Friend,” writing that Judge “Lifland’s pro-debtor reputation is so widespread that companies which want to stiff their creditors are known to ‘forum shop’ to get their cases before him” (Forbes, April 1, 1991, pp. 99-102). See also Weiss and Wruck (1998).

15Crucially, even if creditors challenge the venue choice, it is the debtor-chosen court to have the final say, often resulting in the pro-debtor court retaining the case.

16See LoPucki’s data at http://lopucki.law.ucla.edu/index.htm. Forum shopping is widespread in various other areas of the law, too. For example, White (2006) finds that when asbestos lawsuits are filed in six particularly favorable jurisdictions, plaintiffs’ expected returns from trial increase by $800,000 to nearly $4 million. See Proposition 3 for an argument as to why these (and similar) estimates may underestimate the impact of forum shopping.

17For simplicity, we assume that the cost of forum shopping does not depend on the court chosen by the debtor. One could assume that the cost depends on the natural or chosen court or both (for example on the distance between the biases of these courts), but none of these alternative assumptions would change the thrust of our results.
Initially, each debtor is randomly allocated to his "natural" bankruptcy venue $\beta_0 \in [\beta, \bar{\beta}]$. At such court, the expected payoff of a debtor with reorganization value $\rho$ is equal to $(1 - \alpha) \rho p_0(\rho)$, namely the debtor’s private benefits under reorganization times the probability that reorganization takes place. If all debtors stick with their natural court, there would be a variation of bankruptcy outcomes across courts – some being favorable to the debtor, others to the creditor – but on average bankruptcy courts would be approximately unbiased, as implied by the fact that $E(\beta) = 1$.

Matters change if one accounts for debtors’ incentive to file in a favorable court. If the debtor decides to engage in forum shopping, then he files in a court with bias $\beta > \beta_0$, as there is no incentive for him to file in a court that is equally or less favorable than the natural one. In particular, as long as the debtor engages in forums shopping, he chooses a court that surely reorganizes, i.e. a court with $\beta_j > \beta_0$, allowing the debtor to extract private benefits. Once the debtor’s first mover advantage is considered, judicial discretion naturally implies that the debtors will seek to file in the most pro-debtor courts. We thus obtain:

**Proposition 2** At any given $\rho$, a debtor forum shops if $x \leq (1 - \alpha) \rho [1 - p_0(\rho)]$ and sticks to court $\beta_0$ otherwise. The probability $\Pr(\beta_0)$ of forum shopping falls with $\beta_0$ and $c$.

The debtor engages in forum shopping whenever the cost is less than the benefit of doing so. Intuitively, debtors endowed with a relatively less favorable natural bankruptcy venue (i.e. with lower $\beta_0$) are more eager to engage in forum shopping, while stricter rules on the natural bankruptcy venue (i.e. higher $c$) make forum shopping less likely for all debtors.$^{18}$

To simplify the algebra, suppose that if debtors forum shop they file in a court with bias $\beta_\rho$, which is the least pro-debtor court always reorganizing. Then Proposition 2 implies that under forum shopping the average pro-debtor bias resulting from the population of disputes is equal to:

$$
\int_\beta^\bar{\beta} \left\{ \Pr(\beta_0) \beta_\rho + [1 - \Pr(\beta_0)] \beta_0 \right\} dB(\beta_0),
$$

where $B(\beta_0)$ is the c.d.f. of the bias of natural courts. By deriving expression (2) one can find:

**Corollary 1** Under judicial discretion, forum shopping creates a systematic pro-debtor bias even if bankruptcy judges are on average unbiased. Such systematic bias falls in filing restrictions $c$.

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$^{18}$To verify these properties notice that $\Pr(\beta_0) = \min \left\{ 1, \frac{(1-\alpha)\rho}{c} [1 - p_0(\rho)] \right\}.$
Under debtors’ first mover advantage, the introduction of judicial discretion in bankruptcy should, ceteris paribus, be associated with an increase in the aggregate pro-debtor bias in the resolution of financial distress. In this sense, judicial discretion can help explain the systematic biases of court-supervised bankruptcy procedures, not only idiosyncratic variation across courts. Corollary 1 also shows that even if judicial discretion is extensive, one key aspect through which the bankruptcy code can affect the resolution of financial distress is the restrictions it places on the filing flexibility of debtors. Bankruptcy codes placing more restrictions on the natural bankruptcy venue can make forum shopping more difficult, thereby reducing the systematic pro-debtor bias caused by judicial discretion. Another important dimension along which bankruptcy codes matter in our setup is by giving creditors the exclusive right to file for bankruptcy. As we show in Appendix 2, this would create a creditors’ first mover advantage yielding a systematic pro-creditor bias. In sum, filing rules and restrictions may be an important determinant of the workings of real world bankruptcy procedures.

What is the welfare impact of judicial discretion when forum shopping is taken into account? On the one hand, social welfare under forum shopping is lower than in the first best due to the cost of judicial bias. On the other hand, it is beyond the scope of this paper to evaluate whether allowing debtors to file in their preferred bankruptcy court increases welfare relative to a situation where firms are randomly allocated across courts. Theoretically, forum shopping in pro-debtor courts generates ex ante and ex post costs of over-reorganization, but also reduces the ex post over-liquidation costs induced by pro-creditor courts. Additionally, as we shall see in Section 5.3, forum shopping in pro-debtor courts may also reduce the pre-bankruptcy managerial moral hazard stressed by Bernhardt and Nosal 2004. Instead, an unambiguous normative message of our analysis is that reforms inducing judges to use their discretion in the most efficient manner would improve social welfare. In the Conclusions we discuss a normative implication of this insight.

In sum, besides accounting for idiosyncratic variation of bankruptcy outcomes across courts, judicial discretion can generate the sort of systematic pro-debtor bias described in the literature (e.g. Franks and Torous 1993) by inducing forum shopping. Consistent with our model, forum shopping in the U.S. has mainly rewarded two courts, New York and Delaware (Weiss and Wruck 1998, Ayotte and Skeel 2004); for example, New York alone attracted 32% of the Chapter 11 cases in the 1980s, and Delaware 43% (31 out of 72) between 1993 and 1996 (LoPucki and Whitford 1991, LoPucki and Doherty 2002). While there is a general consensus that these two courts are pro-debtor (again consistent with our model), the evidence obtained from directly comparing
bankruptcy outcomes in New York and Delaware with those in other U.S. courts is more mixed (see for example Lo Pucki 2005, Ayotte and Skeel 2004). In the next section, we show that these purely cross-sectional correlations fail to account for the incentive structure of courts and are thus unsuited to identify the effects of forum shopping on bankruptcy outcomes.

3.2 Career Concerns and Forum Shopping

To see how forum shopping can systematically affect courts’ incentives to use their discretion in a pro-debtor manner, suppose that bankruptcy courts benefit not only from trying current cases, but also from attracting future ones. A court attracting many filings may be viewed as more prestigious, it may allow the judge to choose the "best" case and obtain for example more coverage in the press, but it may also affect more mundane incentives such as increase the revenue of local bankruptcy lawyers as well as the judge’s probability of re-election (Lo Pucki 2005). In a survey of bankruptcy judges, Cole (2002) finds that "almost all of the judges suggested that there is a level of prestige and satisfaction that attaches to hearing and deciding important cases. Big Chapter 11 cases are interesting as well as prestigious."

In such a world, judges have an incentive to use their discretion in such a way to establish a favorable reputation and thus attract future cases, very much like in Holmström’s (1999) career concern model. More formally, suppose that debtors do not observe the courts’ intrinsic pro-debtor bias but only the court’s reorganization policy \( x(\rho) \) at \( \rho \).

There are two periods. In the first period, the demand for any given court is fixed and the bankruptcy court chooses a first period policy \( x_{1,j}(\rho) \). After observing \( x_{1,j}(\rho) \), debtors update their priors and form a posterior expectation of the court’s second-period adjudication \( E(x_{2,j}(\rho) | x_{1,j}(\rho)) \). Based on these inferences, in the second period debtors decide where to file, judges choose \( x_{2,j}(\rho) \) and the game ends. We assume that future filings affect the judge’s utility as in (1), and that judges discount the future by a factor \( \gamma \leq 1 \).

For ease of exposition, suppose that there are only three courts: a pro-creditor court with \( \beta < \beta_p \), an unbiased court and a pro-debtor court with \( \beta > \beta_p \) so that courts are on average unbiased. There is a population of measure one of failed debtors. A share 1/3 of them is naturally allocated to each court. For simplicity, we consider only the cases where restrictions to forum shopping are either non-existent or impossible to overcome, i.e. \( c \in \{0, \infty\} \).

Let us now solve the model. Consider first the case where forum shopping is disallowed, i.e. \( c = \infty \). In this case, irrespective of first-period adjudication, each court obtains 1/3 of all future
filings. As a result, in the first period each court chooses its statically optimal reorganization policy of Section 2. Absent forum shopping, no systematic bias emerges on average, neither in the first nor in the second period.

Suppose instead that \( c = 0 \). In this case, in the second period debtors leave unfavorable courts and move to favorable courts. In particular, since the pro-debtor court always reorganizes, any court setting \( x_{1,j}(\rho) = 0 \) for some \( \rho \) is certain to lose all future filings. The question then becomes, do pro-debtor and pro-creditor courts have an incentive to always reorganize so as to mimic pro-debtor courts and avoid losing future cases? It is easy to find that:

**Proposition 3** If \( c = 0 \) there exists a \( \widehat{\gamma} \) such that, for \( \gamma \geq \widehat{\gamma} \) all courts always adjudicate like pro-debtor ones. If instead \( c = \infty \), every court adjudicates according to its own preferences and no systematic pro-debtor bias arises.

The proof is in Appendix 1. Thus, under judicial discretion the debtor’s first mover advantage may be a sufficient condition to trigger a pro-debtor adjudication, irrespective of a court’s intrinsic preferences for the debtor or the creditor. The intuition is that now even unbiased or pro-creditor courts have an incentive to adjudicate in a pro-debtor manner to establish a reputation for being pro-debtor and thus attract future cases, especially if attracting future cases is valuable (i.e. if \( \gamma \) high). As a result, the debtor’s first mover advantage might generate a systematic pro-debtor bias over and beyond courts’ idiosyncratic preferences. As a result, not only can forum shopping by debtors induce the selection of biased courts, it may also further increase the judicial bias of all courts, thereby increasing the bankruptcy code’s pro-debtor bias even more. Interestingly, the basic mechanism of pro-debtor adjudication in the U.S. is consistent with the one set out by our model of career concerns as there is also evidence that many U.S. courts have started signaling an increased pro-debtor stance to try and attract cases away from Delaware. For example, Chicago chief bankruptcy judge Susan Pierson Sonderby recently told the Wall Street Journal that “she began spreading the word to attorneys that if they showed they deserved their pay . . . the [Chicago] judges would accept their fees.”\(^{19}\)

Most important, the current model suggests that under judicial discretion, simple comparisons of bankruptcy outcomes across courts may fail to identify the extent of the systematic bias induced by forum shopping under a bankruptcy code, because forum shopping gives all courts an incentive to rule in favor of debtors. As an illustration, consider a strategy to estimate the consequences

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of forum shopping (in Delaware, say) on bankruptcy outcomes by regressing firm level outcomes such as the probability of reorganization on a dummy for Delaware and other control variables, and then interpreting the coefficient on Delaware as the effect of forum shopping (LoPucki 2005, Ayotte and Skeel 2004; see also Elul and Subramanian 2002, White 2006). Proposition 3 warns that this strategy is likely to severely underestimate the total effect of forum shopping, because such regression overlooks the fact that under forum shopping all courts have an incentive to rule in favor of debtors. A more effective strategy may thus be to focus on bankruptcy outcomes in a court that is shielded from forum shopping for some exogenous reasons.

Thus, judicial discretion can parsimoniously explain both the systematic bias of a bankruptcy code and the idiosyncratic variation of bankruptcy outcomes across courts within the same code. One key mechanism is that debtors’ forum shopping gives courts an incentive to use their discretion in favor of the debtor. As a result, understanding the determinants of judicial incentives is key to understand the workings of judicial discretion. The next section directly tackles this issue.

4 Systematic Bias and Creditor Protection

In this section we focus on the determinants of judicial incentives and study how systematic bias can endogenously change over time as a function of creditor protection. Section 4.1 shows that in our model an increase in creditor protection $\alpha$ can dramatically alter judicial incentives to rule in favor of debtors. Section 4.2 argues that in line with our model changes in creditor protection can account for documented changes over time in the systematic bias of U.S. bankruptcy outcomes, even those occurred in the absence of statutory changes to the code.

4.1 Judicial Incentives and Creditor Protection

The effect of creditor protection on the systematic bias of adjudication is readily seen in the following proposition:

**Proposition 4** In both the exogenous bias and the career concern models, higher $\alpha$ reduces the systematic pro-debtor bias. At $\alpha = 1$, all courts adjudicate in an unbiased manner and the first best is attained.

The Proof is in Appendix 1. The key message of this result is that creditor protection in reorganization improves the working of judicial discretion and bankruptcy. Before discussing in
detail why this is the case, it is worth stressing that our result does not hinge on artificially assuming that creditor protection reduces judicial discretion. Throughout our analysis we hold the extent of judicial discretion constant. The key effect here is that higher creditor protection improves the systematic incentives of judges to use their discretion in a pro-debtor or pro-creditor manner.

Higher creditor protection reduces the systematic pro-debtor bias thanks to two simultaneous effects. First, by reducing the rents earned by debtors in reorganization, higher creditor protection reduces debtors’ incentive to forum shop. This demand effect directly reduces the systematic pro-debtor bias by dampening the sorting of cases in pro-debtor courts. In turn, anticipating future lower demand, unbiased judges have fewer incentives to establish a pro-debtor reputation, which also reduces systematic bias. Second, higher creditor protection in reorganization induces a supply effect so that even highly pro-debtor judges are less willing to over-reorganize a bankrupt firm. This is the effect illustrated in Figure 1: because with high creditor protection debtors end up getting very little anyway, there is little or no reason even for highly pro-debtor courts to significantly distort the decision whether to reorganize or liquidate the firm, which is thus taken in an unbiased manner. In sum, creditor protection in reorganization prevents a "race to the bottom" whereby judicial discretion generates a pro-debtor bias in the resolution of financial distress. At the extreme when creditor protection is perfect not only does the systematic bias of a bankruptcy code disappear but also its variation across courts. The intuition is that at $\alpha = 1$ judges realize that the reorganization vs. liquidation decision no longer allows them to redistribute resources to their preferred party, be it the debtor or the creditor. As a result, their preferences for debtors or creditors no longer affect their resolution of financial distress, which becomes fully efficient.

In sum, creditor protection crucially shapes the workings of judicial discretion. When creditor protection is low, debtors exploit their first mover advantage and massively file in favorable courts, thereby distorting the resolution of financial distress. When creditor protection is high, debtors’ incentives to forum shop decrease sharply, increasing the efficiency of resolutions of financial distress. Before considering the evidence in support of our results, it is worth discussing what institutional changes or reforms might entail an increase in creditor protection in practice. One way to improve $\alpha$ is to reduce the scope of violations of absolute priority (or forbid them altogether, i.e. set $\alpha = 1$). These violations are widespread in reality (Franks and Torous 1989, Weiss 1990, Chang and Schoar 2006, Bris et al. 2006) and allow debtors to obtain rents in reorganization at the expense of credi-
Another way to improve $\alpha$ is to allow creditors to unilaterally replace existing management upon bankruptcy with a new manager or a trustee (more generally, to allow creditors to control the reorganization process). This allows creditors to prevent existing managers from appropriating reorganization proceeds, effectively increasing $\alpha$ to 1.\footnote{Interestingly, if in our model bankruptcy courts are allowed to discretionally violate absolute priority up to a share $(1 - \alpha)$ of a debtor’s obligations, then we would be essentially back to the current model because pro-debtor judges would always grant the maximal violations and then distort the reorganization decision to benefit debtors. The only difference with the current model would be that pro-creditor judges would never violate absolute priority. As a result, they would attain the first best, at least as long as problems related to managerial moral hazard and the timing of default are not introduced (see Section 5.3 for a treatment of these issues).} Greater creditor control of reorganization could also be achieved by letting contracts collateralize non-physical assets (Gennaioli and Rossi 2007), such as for example let creditors take a security interest in the debtors’ bank accounts. Finally, an increase in $\alpha$ could also occur with improvements in a country’s legal infrastructure against managerial fraud and self dealing.

4.2 Recent Developments of U.S. Bankruptcy

There are two main recent changes in the pro-debtor bias of U.S. bankruptcy outcomes. First, Skeel (2001) documents a marked increase in pro-debtor bias after the introduction of the 1978 Bankruptcy Code. Second, Baird and Rasmussen (2003) document a marked reduction in the pro-debtor bias of U.S. bankruptcy courts around year 2001. This latter development is especially interesting because it appears to have happened absent statutory changes to the bankruptcy code (e.g. Adler, Capkun and Weiss 2006). In this section we argue that our model can rationalize these two facts as a function of changes of creditor protection over time.

Consider the first fact. To begin, it is important to notice that the surge in forum shopping took place shortly after the introduction of the 1978 Bankruptcy Code - indeed, there are no accounts of forum shopping before the early 1980s. One explanation for this fact that is consistent with our model is that the 1978 bankruptcy reform increased judicial discretion, effectively increasing debtors’ incentives to forum shop. In line with this view, Skeel (2001) argues that the scope for court intervention was substantially increased by the 1978 Code with respect to the Chandler Act of 1938 - for example, the 1978 code enhanced the scope of the automatic stay and the debtor-in-possession financing. Intriguingly, however, the evidence is also consistent with the possibility, highlighted by...
Proposition 4, that the bankruptcy reform of 1978 may have increased forum shopping by reducing creditor protection. For example, while under the bankruptcy code of 1938 the appointment of a trustee was automatic, the bankruptcy code of 1978 established that trustees should be appointed only in case of fraud. As a result, the increase in forum shopping and in the systematic pro-debtor bias occurred after 1978 may have not only been induced by an increase in judicial discretion but also, perhaps especially, by a reduction of creditor protection.

Turning to the second fact, it has been argued that the pro-debtor stance of U.S. bankruptcy courts has decreased substantially since 2001. For example, Chapter 11 seems to no longer provide a safe harbor for failed managers, as 70% of CEOs are replaced within two years of the bankruptcy filing (Ayotte and Morrison 2007), and liquidations appear to be far more common after 2001 than in the past (Adler et al. 2006). Interestingly, also judicial attitudes seem to have changed, as judges have become more likely to approve liquidation of bankrupt firms, thereby inducing a zero return to pre-bankruptcy shareholders (Adler et al. 2006).

Puzzlingly, this marked shift in the workings of Chapter 11 has occurred in the absence of any statutory changes to the bankruptcy code. What can thus explain the change of systematic bias over time? Our model can rationalize both this change in judicial attitudes and the change in bankruptcy outcomes as being the result of increased creditor protection. Several scholars (e.g. Skeel 2001, Baird and Rasmussen 2003) document that creditors are now in control of the reorganization process. In the absence of statutory changes, such increased creditor control has been argued to stem from a change in the Uniform Commercial Code adopted around the year 2000, whereby the new UCC §9-104 allows contracts to collateralize the debtors’ bank accounts (Adler et al. 2006). As a result, debtors frequently enter bankruptcy with little or no liquid assets and require an immediate debtor-in-possession (DIP) financing to continue operations, with pre-bankruptcy secured lenders in a unique position to provide it. These new contractual practices allow creditors to have far more power in bankruptcy vis a’ vis incumbent management and are thus akin to increasing $\alpha$ in our model. As we have shown, such an increase strongly alters the workings of judicial discretion by dampening the incentives of debtors to file in favorable courts and by dampening the incentives of judges to use their discretion in a biased manner.
5 Additional Predictions on Firm-Level Outcomes

This section shows that, besides fitting the main stylized facts on the working of bankruptcy codes, our model of judicial discretion delivers additional testable predictions on firm level outcomes. Section 5.1 illustrates the ex ante effects of judicial discretion on debt financing. Section 5.2 considers private workouts. Section 5.3 derives implications on the timing of the bankruptcy filing decision. Section 5.4 shows the implications of our model for differences across firms in the way financial distress is resolved.

5.1 Ex Ante Debt Financing and Investment

To study the ex ante impact of judicial discretion on debt financing and investment, suppose that $\rho$ and $\lambda$ represent the productivities attached in different states to the concave production function $f(I)$, where $I \geq 0$ is the level of investment. Function $f(.)$ fulfills the usual Inada conditions. Then, if parties expect a probability of reorganization equal to $\tilde{p}_j(\rho) = [1 - \Pr(\beta_0)] p_0(\rho) + \Pr(\beta_0) p_j(\rho)$, the optimal financial contract solves:

$$\max_I E_\rho \{ \lambda [1 - \tilde{p}_j(\rho)] + \rho \tilde{p}_j(\rho) \} f(I) - I$$  \hspace{1cm} (3)

$$s.t. \ E_\rho \{ \lambda [1 - \tilde{p}_j(\rho)] + \alpha \rho \tilde{p}_j(\rho) \} f(I) \geq I$$  \hspace{1cm} (4)

Where (3) is the firm’s profit and (4) is the investor break even constraint. The first order condition of the problem is:

$$E_\rho \left\{ \lambda [1 - \tilde{p}_j(\rho)] + \frac{1 + \alpha \mu}{1 + \mu} \rho \tilde{p}_j(\rho) \right\} f'(I) = 1$$

Notice that investment falls in $\mu \geq 0$, which measures the tightness of the break even constraint. We then have:

**Proposition 5** Under judicial discretion, if the break even constraint is binding (i.e. $\mu > 0$) the level of debt and ex ante investment increase in legal restrictions to forum shopping $c$ and in creditor protection $\alpha$. Forum shopping reduces debt and investment by reallocating cases to judges with higher $\beta_j$.

If $\mu > 0$, debt and investment are determined by (4) and they increase in the expected repayment to the creditor, which in turn falls with $\tilde{p}_j(\rho)$. This result immediately follows from Proposition 1. Clearly, the expected probability of reorganization increases with forum shopping to pro-debtor
courts and with the extent to which judges use their discretion in a pro-debtor manner. This effect determines the comparative statics with respect to $c$ and $\alpha$.

Broadly speaking, Proposition 5 suggests that under debtors’ first mover advantage, judicial discretion in bankruptcy increases the ex ante costs of debt finance by undermining repayment. An immediate reaction to these costs could be for entrepreneurs to relax their financial constraints by issuing equity, which is perhaps less subject to pro-debtor enforcement. This result suggests that judicial discretion and debtors’ forum shopping may well be responsible for the puzzling observation that debt levels in U.S. corporations are usually thought to be much lower than would be expected given the large tax benefits of issuing debt as opposed to equity.

5.2 Private Workouts

The possibility of private workouts raises at least two important questions. First, what are the implications of judicial discretion for the use of private workouts? Second, can private workouts reduce the costs of judicial bias? To answer these questions, suppose that before going to court the debtor and the creditors can negotiate a private workout and assume for simplicity that the investor has all the bargaining power.

Let us begin with a firm of type $\rho$ ended up before a judge who reorganizes it with probability $p_j(\rho)$. After the bankruptcy court is chosen, does a workout occur or not? In this case the answer is yes: to avoid an unprofitable reorganization, the investor concedes an amount $(1 - \alpha)\rho p_j(\rho)$ of liquidation proceeds to the entrepreneur. In this case the workout is successful and ex post efficiency is attained. Consider now the case of a firm of type $\overline{\rho}$ which ended up before a judge reorganizing it with probability $p_j(\overline{\rho})$. Because the entrepreneur is cash constrained, to avoid unprofitable liquidation, he can promise to the investor at most $\alpha\rho$ of reorganization proceeds. As a result, the workout goes through and the firm is reorganized if and only if $\alpha\rho \geq \lambda$. If instead

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22 This effect may be due to the different dynamics of forum shopping for equity contracts. For example, a firm’s incorporation decision might be a credible way for managers to commit to a court maximizing the value of equity. In contrast to debt, where the bankruptcy venue is chosen ex post, this would create a beneficial competition among judges to properly enforce equity contracts.

23 In an influential study, Graham (2000) estimates corporate tax benefits of debt equal to 9.7% of the typical firm value when correcting for diminishing marginal benefits of debt, and concludes that "The typical firm could double tax benefits by issuing debt until the marginal tax benefit begins to decline." To explain the very low observed debt levels, traditional trade-off theories of capital structure suggest that there may be costs of financial distress (e.g., Kraus and Litzenberger 1973). However, subsequent research demonstrates that both such direct costs as lawyers’ fees (Warner 1977) and such indirect costs as under- and over-investment (Parrino and Weisbach 1999) are too small to reconcile the observed low levels of debt. Our paper suggests that judicial discretion may represent an indirect cost of financial distress, in principle able to explain the reluctance of U.S. corporations to resort to debt issuance in their capital structure.
\(\alpha < \lambda / \rho\), the workout fails and the firm is over-liquidated with probability \(1 - p_j(\rho)\).

From this analysis, and consistent with Giammarino (1989), it is clear that while workouts can soften some of the ex post costs of judicial bias, they cannot prevent pro-debtor bias from reducing ex ante repayment and thus debt capacity and welfare. Even if \(\alpha / \rho \geq \lambda\), which is associated to workouts giving full ex post efficiency, expected repayment to creditors is \((1/2) \alpha / \rho + \lambda - p_j(\rho) (1 - \alpha) / \rho\), which falls in \(p_j(\rho)\) and thus in \(\beta_j\). As a result, although workouts improve ex post efficiency and might sometimes induce full ex post efficiency, they do not eliminate the ex ante cost of judicial bias. Let us now evaluate the frequency with which workouts are observed. The overall probability of observing a workout is proportional to:

\[
\int_{\beta_0}^{\beta_j} \Pr(\beta_0; \rho) dB(\beta_0) + \int_{\beta_0}^{\beta_j} dB(\beta_0) + I(\alpha \geq \lambda / \rho) \int_{\beta_0}^{\beta_j} dB(\beta_0)
\]

where \(I(.)\) is the indicator function. The first and second integral measure the workouts undertaken to prevent unprofitable reorganizations. They consist both of firms that forum shop and of firms whose natural venue is pro-debtor. The third integral measures workouts rescuing profitable firms sticking to their natural pro-creditor venue. To avoid confusion, we made the dependence of the probability of forum shopping on the firm’s reorganization value explicit. First of all, notice that under discretion judicial bias is what gives rise to workouts: if all judges are unbiased and efficiently resolve financial distress, then workouts never occur.\(^{24}\) In addition, expression (5) shows that many workouts are induced by forum shopping in pro-debtor courts.\(^{25}\) By deriving (5) one easily finds:

**Proposition 6** Under judicial discretion, the probability of workouts falls with \(c\). Forum shopping increases workouts by reallocating cases to judges with higher \(\beta_j\).

As a result, by introducing judicial biases and especially by allowing debtors to forum shop, judicial discretion increases the incentive for the parties to engage in a private workout. The intuition is that creditors have a strong incentive to make concessions to debtors so as to avoid that financial distress is resolved by a very pro-debtor judge. In the appendix, we show that judicial discretion increases workouts even in the case where it is the creditors who can choose the

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\(^{24}\)This statement is true in the current model because there are no direct costs of going through bankruptcy. Although in reality these costs exist, workouts have substantial direct costs too; for example, bargaining costs may be substantial, especially when the number of creditors is large (e.g. Asquith et al. 1994). As a simplifying assumption we rule out the direct costs of formal bankruptcy and workout and only focus on the role of indirect costs.

\(^{25}\)Notice that when \(\alpha \geq \lambda / \rho\), debtors with profitable firms allocated to pro-creditor bankruptcy venues will not forum shop. The intuition is that even if creditors have all the bargaining power, the debtor will end up with \(\alpha / \rho\), which is more than what he can obtain under forum shopping, given the cost of doing so.
bankruptcy venue. Because pro-creditor courts are likely to remove failed managers, such managers
have strong incentives to make concessions out-of-court to avoid losing their job. Thus, whether
it is the debtors or the creditors who can choose the bankruptcy venue, the basic result remains:
judicial discretion increases workouts by inducing forum shopping away from unbiased courts.

As a result, our model helps explain why U.S. creditors typically try to avoid Chapter 11
proceedings via private negotiations and workouts (Gilson, John and Lang 1990), despite the fact
that such workouts are very costly in practice because they lead to asset sales at below market
prices (Asquith, Gertner and Scharfstein 1994).

5.3 Timing of the Bankruptcy Filing Decision

Suppose that the debtor can decide whether to immediately file for bankruptcy as soon as financial
distress looms or to wait to file until the firm’s financial problems become egregious. For concreteness,
if the debtor immediately files for bankruptcy we are back to the model of Section 2. If instead the
debtor decides to postpone default he engages in an action $A$ generating a cash flow $w > 0$. While allowing the debtor to service current debt and retain a private benefit $(1 - \alpha)w$, action $A$ is costly because it dissipates the firm, whose next period value becomes 0. We assume that $A$ is undertaken before the firm’s reorganization value is realized and $w < \min \{\lambda, E(\rho)\}$. As a result, it is socially optimal not to undertake $A$ and to immediately file for bankruptcy. In line with Bernhardt and Nosal (2004), the manager can postpone financial distress by engaging in socially wasteful actions such as a fire sale of assets, inventory and so on.

How does the resolution of financial distress under judicial discretion affect the debtor’s decision to postpone financial distress? In the following analysis we assume, consistent with existing literature (e.g. Bernhardt and Nosal 2004), that contracts cannot compensate debtors for promptly revealing financial distress. Formally, we assume that $A$ is unverifiable by courts and thus non-contractible. In this setup the debtor decides whether to immediately file or undertake $A$ by comparing his payoff under alternative courses of action. If financial distress is resolved by a pro-creditor court the debtor expects to obtain 0. Under an unbiased court the debtor expects to obtain $(1 - \alpha)\overline{\rho}/2$, while under a pro-debtor court the debtor expects to obtain $(1 - \alpha)E(\rho)$. As a result, the debtor postpones filing when the courts is pro-creditor, does not postpone filing when the courts is pro-debtor, while what he does when the court is unbiased depends on whether $w$ is greater or smaller than $\overline{\rho}/2$.

Consider now the possibility of forum shopping. In this case, the choice faced by a debtor
placed in a hostile natural venue is whether to postpone filing in that venue and obtain \((1 - \alpha) w\) or to file in a pro-debtor court and obtain \((1 - \alpha) E(\rho)\) minus the cost of forum shopping. As a result, the share of postponed filings is equal to:

\[
\int_{-\infty}^{\beta + I(w > \rho/2)(\beta - \beta_0)} \left[ 1 - (1 - \alpha) \frac{E(\rho) - w}{c} \right] dB(\beta_0)
\]

where \(I(.)\) is the indicator function. That is, the postponed filings are firms with a pro-creditor natural venue that face a high cost of forum shopping, but also those with an unbiased venue provided that \(w > \rho/2\). As a result, it is easy to find that:

**Proposition 7** The debtor is more likely to file early when \(\beta_j\) is higher. Early bankruptcy filings are more likely when \(c\) is smaller.

In other words, not only does pro-debtor bias promote early bankruptcy filings, as found by Bernhardt and Nosal (2004), but judicial discretion further promotes early filings by fostering forum shopping in pro-debtor bankruptcy venues. As a result, this proposition delivers the empirical prediction that under forum shopping by debtors, judicial discretion should be associated with early bankruptcy filings.

### 5.4 Estimation Uncertainty

In this section we explicitly consider what happens when bankruptcy proceedings produce a noisy estimate of the firm’s reorganization value. This extension allows us to obtain empirical predictions on how the resolution of financial distress should vary across firms. The idea is that mature firms with more stable cash flows should generate less uncertainty about their reorganization value than younger, innovative, "growth" firms with more volatile cash flows. The court now observes a noisy signal \(r\) of the firm’s reorganization value, where \(r\) is normally distributed with mean \(\rho\) and variance \(\theta^2\). We call \(\theta\) "estimation uncertainty" because it measures the noise with which outsiders (i.e. courts) assess the firm’s reorganization value. After observing \(r\), the court chooses the probability \(x(r)\) with which the firm is reorganized to maximize:

\[
\max_{x(r)} E_{\rho|r} \left\{ \lambda [1 - x(r)] + \rho \left[ \alpha + \beta_j (1 - \alpha) \right] x(r) | r, \theta \right\}
\]

As in the basic model, the court maximizes a weighted sum of the parties’ payoffs but now this objective is averaged using the conditional distribution of \(\rho\) with respect to \(r\). It is easy to find
that court $j$ reorganizes the firm (i.e. sets $x(r) = 1$) if and only if $r \geq r\left(\beta_j\right) \equiv r_j$, where:

$$r_j = E\left(\rho\right) - \frac{\theta^2}{\beta_j} \ln \frac{\beta_j(1 - \alpha)\beta_j + (\alpha\beta_j - \lambda)}{(\lambda - \alpha\rho) - \beta_j(1 - \alpha)\rho}$$

(7)

Estimation uncertainty is relevant only if $\frac{\beta_j(1 - \alpha)\beta_j + (\alpha\beta_j - \lambda)}{(\lambda - \alpha\rho) - \beta_j(1 - \alpha)\rho} \in (0, \infty)$, which is the cases provided $\beta_j \in (\beta_{\min}, \beta_{\max})$ where $\beta_{\min} < 1 < \beta_{\max}$ are two suitable thresholds. Court $j$ reorganizes a firm worth $\rho$ with probability $\Pr(r > r_j|\rho)$. Since $r \sim N\left(\rho, \theta^2\right)$, such probability is equal to

$$p_j(\rho) = 1 - \Phi\left(\beta_j\rho\beta_j - \rho\right)$$

where $\Phi\left(\cdot\right)$ is the standard normal c.d.f. As in Section 2, the probability of reorganization increases in $\beta_j$ and in $\rho$.

Consider the role of estimation uncertainty $\theta$ and assume for algebraic simplicity that the ex post social cost of over- and under-liquidation are equal, i.e. $\rho - \lambda = \lambda - \rho$. Then, the impact of $\theta$ on the reorganization policy depends on judicial bias $\beta_j$. In particular, we obtain:

**Proposition 8** A higher $\theta$ increases the probability of reorganization if and only if $\beta_j > 1$. A higher $\theta$ reduces repayment if $\beta_j > 1$.

The proof is in Appendix 1. Estimation uncertainty $\theta$ magnifies the role of bias. Courts cater even more to their own preferences when a firm’s reorganization value is more noisy. The intuition is that in highly uncertain environments (i.e. when $\theta$ is large) courts are aware of making many mistakes. As a result, they prefer to cater to their own bias than to err against their preferred party. Thus, a higher $\theta$ induces more liquidations if the court is pro-creditor ($\beta_j < 1$) and more reorganizations if the court is pro-debtor ($\beta_j > 1$). As a result, repayment is also lower, especially when the court is pro-debtor.

This result yields the following novel predictions. First, the identity of bankruptcy judges should especially matter for innovative and more volatile industries where uncertainty about the firm’s prospects is greater. Ceteris paribus, this implies that forum shopping should be especially widespread in those industries where having the right judge is of the essence for debtors. Second, the ex ante consequence of those effects is that the cost of debt finance should be especially large for firms in innovative and volatile industries. As a result, those industries should be associated with a greater use of equity finance. This prediction of our model is shared with the traditional view that innovative industries are more likely to use equity to avoid debt overhang problems (Myers 1977). However, this view is incomplete, because Chapter 11 is precisely a mechanism to allow bankrupt firms to raise DIP financing and undertake positive NPV projects. Our model thus
provides a rationale for why Chapter 11 may be more costly for more innovative and volatile firms: judicial discretion may be a prohibitively costly mechanism to resolve financial distress for firms with uncertain prospects.

6 Conclusions

We have presented a model of judicial discretion in corporate bankruptcy that parsimoniously explains a wealth of empirical evidence on resolutions of financial distress and firm-level outcomes, and also yields novel predictions. Our key result is that stronger creditor protection improves judicial incentives, promoting a "race to the top" towards the most efficient uses of judicial discretion.

Clearly, drawing normative implications is beyond the scope of our paper. Indeed, one normative message of our model is that bankruptcy reforms that do not explicitly take into account judicial incentives may be doomed to fail. However, it is not obvious what is in practice the best way to do so. For example, it has been argued that parties should be allowed to specify the bankruptcy venue already in the debt contract (e.g. Schwartz 1997). Our model clearly shows that while this provision may beneficially reduce the demand for biased adjudication and systematic bias, such reform is unlikely to directly improve the supply of unbiased adjudication; if the number of unbiased courts is not very large, some cases will inevitably end up in pro-creditor or pro-debtor courts, undermining efficiency. In other words, contracting about the bankruptcy venue is likely to dampen the costs of systematic bias but not those of judicial idiosyncracies.

A more incisive reform stressed by our model could be to automatically remove failed managers. Not only would this improve judicial incentives by reducing debtors’ payoff from forum shopping, but it may also reduce the supply of biased adjudication, because judges might be less sympathetic to financial distress experts than to failed managers who devoted time and effort to rescue their firms. Interestingly, recent market-based developments line up with this idea, such as for example the increasing use of turnaround specialists (Byers, Lee, Martin and Parrino 2007) in the reorganization of financially distressed firms.

Perhaps the most effective reform proposal emerging from our analysis would be to improve creditor protection in reorganization. This reform would effectively reduce the supply of biased adjudication by rendering the reorganization decision almost neutral with respect to the distribution of payoffs between various parties. As a result, such reform would not only dampen systematic bias but also judicial idiosyncracies by rendering the judge’s preferences among parties irrelevant to
his decision of how financial distress should be resolved. There are several ways in which creditor protection could be increased in practice. Here, consistent with recent U.S. developments we wish to stress the possibility of increasing creditor protection with flexible contractual instruments. The possibility of using those instruments is however often limited in many countries, because of legal restrictions to doing so (Djankov et al. 2006). In this respect, and in line with Gennaioli and Rossi (2007), one way to interpret our results is that we provide additional arguments in favor of increasing freedom of contract in the resolution of financial distress. In the current context, contracts would complement rather than substitute formal bankruptcy procedures by improving the workings of judicial discretion.
Appendix 1. Proofs

TO BE COMPLETED.

Proof of Proposition 1. It is clear that \( p_j(\rho) \) increases in \( \beta_j \). To see the impact of \( \beta_j \) on repayment, note that expected repayment is \( E_\rho \{ \lambda(1-p_j) + \alpha \rho p_j \} \). If \( \beta_j \leq \beta_p \), average repayment is \( \max \{ \lambda, (1/2) \lambda + \alpha \rho p \} \). If \( \beta_j > \beta_p \), average repayment is \( (1/2) \alpha \rho (p + \bar{\rho}) \). The proposition trivially follows.

Proof of Corollary x. It is useful to start by recalling that \( r_j \) maximizes the court’s utility \( E_\rho \{ \lambda \Phi_j + v_j \rho (1 - \Phi_j) \} \), where we have labeled \( v_j = \alpha + \beta_j (1 - \alpha) \). The first order condition implies that \( E_\rho \{ (\lambda - v_j \rho) \Phi_j' \} = 0 \). Consider now the effect of \( \beta_j \) on the outcome of bankruptcy. By deriving expression (??) it is easy to find that the probability of reorganization increases in \( \beta_j \), as \( dr_j / d\beta_j < 0 \). The probability of re-filing is \( 1 - \Phi \left( \frac{r(\beta_j, \theta_j) - \rho}{\beta_j} \right) \), which also increases with \( \beta_j \). Finally, the derivative of expected repayment \( (E_\rho \{ \lambda \Phi_j + \alpha \rho (1 - \Phi_j) \}) \) with respect to \( \beta_j \) is equal to:

\[
E_\rho \{ (\lambda - \alpha \rho) \Phi_j' \} \frac{dr_j/d\beta_j}{\theta_j} = E_\rho \{ \beta_j (1 - \alpha) \Phi_j' \} \frac{dr_j/d\beta_j}{\theta_j} 
\]

where the equality exploits the court’s first order condition in setting \( r_j \). Thus repayment falls in \( \beta_j \).

Appendix 2. The Creditor Chooses the Bankruptcy Court.

There are two cases to consider. 1) \( \alpha \geq \lambda / \rho \). The creditor’s incentives are aligned with efficiency: the creditor seeks to file in the most pro-liquidation court \( \beta \) when \( \rho = \rho \) and in the most pro-reorganization court \( \bar{\beta} \) when \( \rho = \bar{\rho} \). In this case, one does not expect to observe a clear systematic bias by looking at the overall population of cases. Most important, in this case forum shopping by the creditor improves both ex post and ex ante efficiency.

2) \( \alpha < \lambda / \rho \). The creditor is biased for liquidation even if \( \rho = \rho \). Thus, in the most pro-creditor court \( \bar{\beta} \) will file a fraction \( \frac{(\lambda - \alpha \rho)}{\epsilon} \left( \Phi \left( \frac{r(\beta)}{\rho} \right) - \Phi \left( \frac{r(\bar{\beta}) - \rho}{\rho} \right) \right) \) of creditors. Call this fraction \( Pr(\beta_0; cre) \). This expression is symmetric to the one found for the debtor. In turn, the resulting average pro-debtor bias is equal to:

\[
\int_{\beta} \left\{ Pr(\beta_0; cre) \beta + [1 - Pr(\beta_0; cre)] \beta_0 \right\} dB(\beta_0),
\]

As a result, when the creditor chooses the bankruptcy court a systematic pro-creditor bias arises from forum shopping, even if debtors are on average unbiased. According to Proposition 1 and Corollary 1, such pro-creditor bias increases repayment but undermines ex post efficiency.
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