

Maximizing the value of distressed assets:

Bankruptcy law and the efficient reorganization of firms

by

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1. INTRODUCTION

Many observers have noted the historical differences between U.S. corporate bankruptcy procedures and those in other developed countries. The U.S. law has been described as “debtor-friendly,” oriented towards reorganizing the existing company (i.e., giving the debtor a second chance), and accustomed to deviating from contractual payoff priorities. The traditional bankruptcy procedures in many other developed countries including the United Kingdom, Germany, Japan, and Sweden are described, in contrast, as “creditor-friendly,” favoring the liquidation of the debtor’s assets to pay off creditors in the order of their priority. A relatively large literature has arisen debating the relative merits of each system.¹

Perhaps with an eye to the perceived success of the U.S. system, many countries have recently begun to institute more debtor-friendly, U.S.-styled reorganization codes into their bankruptcy laws.² Indeed, the World Bank, International Monetary Fund (IMF), and the European Union (EU) now encourage member countries to adopt bankruptcy laws that have a reorganization code as one of their cornerstones.³ Thus, from a public policy standpoint, U.S.-styled bankruptcy procedures appear to be quickly gaining the upper ground as the preferred mechanism for dealing with distressed companies.

Yet anecdotal evidence suggests that very few of these recent reorganization codes adopted by countries have been successful. For example, of all firms going

¹ Early contributions include Roe (1983), Baird (1986), Jackson (1986), Jensen (1989), and Aghion, Hart, and Moore (1992). More recently, see Strömberg (2000), Armour, Cheffin, and Skeel (2002), and Baird and Rasmussen (2002).

² In fact, each of the four European countries cited above have refurbished or added new reorganization codes within the last seven years (see Table 1).

³ Cites.

bankrupt in Sweden over the 2000 to 2002 period, only 0.7 percent of the firms emerged under their new company reorganization code (*Företags-rekonstruktion*). Likewise, only 0.4 percent of bankrupt German firms filed for protection under the reorganization section of the new German Insolvency Act (*Insolvenzordnung*).

Against this backdrop, this paper uses an incomplete contracts framework to identify and explore the central features of a bankruptcy procedure. We view the role of bankruptcy as a mechanism for reducing costs associated with bargaining between the debtor and creditors of a company in financial distress. In financial distress, managers and claimants must bargain over who should control the operation of the assets, and how value will be redistributed once the control decision has been made. Bankruptcy law creates a set of rules that affect the cost of bargaining and can influence whether or not bargaining achieves a socially efficient outcome.

To better motivate our framework of analysis, we examine how financial distress can be resolved privately outside the shadow of bankruptcy law. Venture capitalist (VC) financial contracts share many of the characteristics of a typical debt contract. Yet VC contracts typically manage to opt out of bankruptcy law, relying instead on provisions in the ex ante contract to resolve financial distress. We argue that although there are limitations to the VC financing analogy, the VC contract provisions offer guidance on the features that an optimal bankruptcy mechanism should incorporate.

We then apply our framework to the comparison of a variety of different bankruptcy systems.⁴ Our analysis suggests why recent attempts to popularize reorganization codes around the world have been a failure. More importantly, we argue

⁴ Currently, only five: the United States, United Kingdom, Japan, Germany, France, and Sweden.

that the debate on distinguishing between reorganization and liquidation codes is misguided. Debtor-oriented reorganizations, sales of the assets as a going-concern, or piecemeal liquidations can be obtained under either type of code. In fact, going-concern survival rates in countries dominated by a reorganization code can look very similar to the survival rates in countries that mostly use a liquidation code. What is most important is that assets be directed to their highest-valued use. Thus, a bankruptcy procedure should be constructed to attract potential bidders for control of the assets, and to facilitate smooth-running auctions for sales to the highest valuing bidder.

The rest of the paper proceeds as follows. Section discusses the role of bankruptcy in a world of incomplete contracts. Section 3 argues that VC contracting can provide useful lessons about the construction of bankruptcy procedures. Section 4 contains the international comparison of bankruptcy laws. In Section 5, we highlight the characteristics of efficient bankruptcy procedures. We draw policy implications from this characterization, and offer advice on how emerging market countries might best focus their energies on constructing bankruptcy systems. Section 6 concludes.

2. THE ROLE OF BANKRUPTCY IN A WORLD OF INCOMPLETE CONTRACTING

2.1. Financial distress and incomplete contracts

As a matter of definition, financial distress occurs when a firm is not able to (or foresees that it will not be able to) meet its debt obligations. If the financial distress leads to the firm defaulting on these obligations, the debt contract gives the lender certain

control rights, such as seizing collateral or forcing the firm into bankruptcy. These rights are not necessarily exercised, however, but are rather a starting point for a renegotiation between creditors and the owners of the firm (and possibly also including other stakeholders such as employees). Financial distress can be resolved outside of bankruptcy, through a private renegotiation between stakeholders. Only if one or more of the stakeholders exercise the right to put the firm in bankruptcy will distress be resolved under the rules dictated by bankruptcy law.

Thanks to modern financial contracting theory, economists now have a good understanding of the economic role of financial distress.⁵ Key to understanding financial distress and bankruptcy law is to realize that financial contracts are incomplete. In a world of complete, frictionless contracting, there is no need for financial distress and bankruptcy. At an ex ante stage, when an entrepreneur or owner-manager seeks financing from investors, a complete contract will be written which specifies for all future states of the world how the future cash flows of the project will be split, in which instances the firm should be sold or liquidated, and more generally, what actions need to be taken in controlling the firm (e.g. when management should be replaced, when a division should be sold, etc.). Since the state-contingent contract specifies when the firm should be liquidated or sold, and how much investors will be paid back and in what order, the contract already encompasses a perfect mechanism to deal with “financial distress”. Ex ante contracting will ensure that an economically optimal outcome will be achieved, and the only role for the legal system is to enforce the written contracts.

⁵ See Hart (2001)

Obviously, such complete contracts are impossible to write and enforce in reality. Many relevant states of the world are impossible to foresee in advance. The possible state-space is too rich to be formulated in a written contract of finite length. During the last fifteen years, theorists have worked extensively on what optimal financial contracts should look like under incomplete contracts.⁶

A key feature of an optimal contract is how to allocate control rights between managers and investors. Control rights are important because they determine which party has the right to decide on the actions of the firm, such as whether operations should be continued or shut down, or whether management should be replaced. One of the robust findings from this literature is that the optimal contract typically will call for control staying with the manager in the good states of the world, while in the bad state control rights will be transferred to investors.⁷ In other words, this literature can explain why the optimal contract shares many features of a debt contract, where control of the firm's assets is transferred to creditors if the firm fails to meet its contracted payments. Such control transfer mechanisms are not only seen in debt contracts, however, but also in venture capital (equity) financings.⁸

A second feature of these types of models is that the outcome of financial distress cannot be specified in contracts *ex ante*, but will be a result of renegotiation between the manager of the firm and its claimholders. The possible outcomes that can be attained are thus limited to the ones that are consistent with renegotiation.

⁶ See Hart (1995, 2001) for an overview.

⁷ See for example Aghion and Bolton (1992), Dewatripont and Tirole (1994), and Hart and Moore (1998).

⁸ See Kaplan and Strömberg (2003).

2.2. The role of bankruptcy in improving on free contracting

The goal for an optimal financial distress resolution mechanism, and an optimal contract design more generally, is to get as close as possible to a socially efficient outcome. There are two separate, but related, notions of economic efficiency. Ex post efficiency has to do with ensuring an optimal asset allocation outcome of financial distress. An ex post efficient resolution of financial distress is one that ensures a value-maximizing decision with respect to whether a company should be reorganized, sold, or liquidated. Ex ante efficiency, on the other hand, goes back to the point when the firm was first started or financed. An ex ante efficient contract or mechanism is one that ensures that as many socially valuable projects (and as few wasteful ones) as possible get started.

From an optimal contracting framework, it is not obvious why bankruptcy law is needed in the first place. For example, in the simple incomplete contracting settings of Aghion and Bolton (1992) and Hart and Moore (1994), there is no obvious place for bankruptcy law. In order to play an economic role, bankruptcy law has to improve on the outcome that would obtain by simply letting investors and entrepreneurs contract freely. As these papers show, even in an incomplete contracting world, an carefully designed contract, in combination with efficient renegotiation in the case of subsequent contracting disputes, will go a long way towards achieving an ex ante optimal outcome. When evaluating bankruptcy law, we therefore need to identify the ways in which it makes contracting and renegotiation more efficient. Moreover, we need to identify the effects bankruptcy law will have both on ex ante and on ex post efficiency.

The policy discussion around bankruptcy law is typically preoccupied with ex post efficiency, and sees the aim of bankruptcy law to make sure that viable firms are not inefficiently liquidated. Theoretically, the Coase theorem has shown us that as long as property rights are well defined and there are no frictions to bargaining, private negotiations between the parties will ensure an ex-post efficient outcome. For example, take a situation where control has been transferred to creditors following a default, and the creditors have an incentive to liquidate the assets even though the firm is worth more as a going concern. In this case, the shareholders should be able to persuade the creditors to refrain from liquidation by offering them a side payment (or a fraction of the reorganized firm) equal to whatever the creditors would get in the liquidation, plus part of the going concern surplus. Similarly, in the case when the debtor is still in control of the firm, and has an incentive to inefficiently continue a firm that should really be liquidated, the creditors should be able to make the managers shut down the operations by offering a large enough monetary incentive.⁹

In a less ideal world, however, bargaining may not be frictionless. Bankruptcy law can therefore improve on ex post efficiency by facilitating bargaining in a world with frictions. Below we will identify a number of bankruptcy mechanisms that could potentially achieve this purpose.

Bankruptcy law could also have important implications for ex ante efficiency. Although largely ignored in the policy debate, such implications are important economically since they affect the ability to set up and finance firms in the first place. Too much emphasis on improving ex post efficiency may even be harmful, since ex ante

⁹ In a similar fashion, Haugen and Senbet (1978) argue that bankruptcy costs cannot be important for capital structure choice if parties can negotiate out of court.

and ex post efficiency sometimes can conflict with each other. While ex post efficiency is about maximizing the value of assets in financial distress, it is not affected by the way this value is split between claimants. This split of value between claimants, however, is central for the incentives of these claimants from the time the contracts are written, and can have important effects on ex ante efficiency. For example, one could argue that by writing down creditors' claims in favor of shareholders, bankruptcy increases ex post efficiency to the extent it allows viable firms to be reorganized.¹⁰ But debt write-downs could make credit more expensive at the ex ante stage when the firm tries to obtain financing, leading to credit constraints and positive net present value projects not getting financed.¹¹

It even may be optimal to sacrifice some of the ex post value in order to improve ex ante incentives. A general result in contract theory is that being able to pre-commit to an ex post inefficient outcome will be at least weakly better for ex ante contracts. For example, in order to incentivize entrepreneurs to avoid financial distress, it may be beneficial to make financial distress costly for entrepreneurs by liquidating some viable firms in bankruptcy.

To summarize, in order to understand the effect of bankruptcy law on efficiency, we need to identify what the frictions are that prevent efficient bargaining from taking place, and to what extent the bargaining outcome can be distorted in order to improve ex ante incentives.

¹⁰ Although, as we will emphasize later, we believe this view of reorganizations is rather too simplistic.

¹¹ Alternatively, Berkovitch, Israel, and Zender (1998) have argued that deviating from absolute priority in favor of managers (who are the sole equityholders in their model) is good for ex ante efficiency, since it encourages investment in firm-specific human capital.

2.2.1. *The verification role of bankruptcy*

One important impediment to bargaining is asymmetric and incomplete information.¹² Obviously, if one of the parties is uninformed about true value of the assets and the informed party cannot credibly convey this information, the outcome may be inefficient. It may not even be clear to the parties exactly what claims are outstanding on the firm.

Here bankruptcy laws can play an important *verification role* of verifying what assets belong to the bankruptcy estate, and what claims are outstanding, thus reducing some of the informational asymmetries between the bargaining parties. Theoretical examples of this are the costly state-verification models of Townsend (1979), Gale and Hellwig (1984), and others, where bankruptcy is basically a policy for auditing the firm to figure out the value of its assets. Since auditing is costly, the optimal mechanism will try to economize on auditing as much as possible. As a result, such auditing will only happen when the firm fails to make its contracted payments, i.e. bankruptcy will only occur in connection with a default. As we will show, most bankruptcy codes involve some aspects of auditing and verifying assets and liabilities.

2.2.2. *The role of bankruptcy in reducing coordination problems*

Bargaining will also become more complex when there are more than two parties that are involved in negotiations, and *coordination problems* between claimants can impede an efficient outcome. Legal scholars, such as Jackson (1986), have argued that one of the main rationales for bankruptcy is to mitigate creditor coordination problems.

¹² See Ausubel, Cramton, and Deneckere (2002).

A typical firm will have claims outstanding to several creditors, each of whom may have their claim secured by specific collateral. In the absence of bankruptcy law, such a situation may lead to a creditors' "run" on a distressed firm to be first to seize the available collateral, similar to the bank runs of Diamond and Dybvig (1980). It may be individually rational for any individual creditor to try to seize available collateral early, thereby forcing a piecemeal liquidation, even though collectively creditors would have received a higher payoff had the company been preserved as a going concern.¹³ One of the most important roles of bankruptcy law is to prevent such runs, for example, by imposing an automatic stay on the firm's assets once it has entered bankruptcy.

Another coordination problem that has been identified in the academic literature is the hold-out problem. Take a situation where the firm needs to write down the amount of debt in order to be reorganized, but this debt is owed to a large number of individually small, dispersed, creditors. A typical example could be a firm with public debt outstanding to numerous different bondholders, or trade credit owed to a large number of small suppliers. Rather than forgiving some of its claim, each small creditor has an incentive to hold out, hoping that the other creditors write down their claim instead. This can lead to a Nash equilibrium where no one forgives its debt. As Gertner and Scharfstein (1991) show, bankruptcy law can reduce hold-out problems in several ways, for example, through voting rules which do not require unanimity in order to approve a reorganization plan, or by giving the bankruptcy judge the ability to "cram down" a reorganization proposal on unwilling creditors.

¹³ See Von Thadden, Berglöf, and Roland (2003) for a theoretical model of creditor runs as a rationale for bankruptcy law. Their model also shows why the firm will choose to borrow from several creditors, despite the possibility for runs and coordination inefficiencies.

2.2.3. The role of bankruptcy for protecting third party stakeholders

Related to coordination failures is the problem of third-party, “involuntary” claimholders. A firm will have many stakeholders that do not hold explicit financial claims on the firm, such as current employees who depend on the firm for their salary, previous employees who may depend on the firm for their pensions, tax authorities who may have unpaid taxes owed to them, and society at large who may be affected by the firm’s actions through effects on the environment. A negative externality can be created by the fact that these non-financial stakeholders are not present at the bargaining table with the debtor and creditors. Bankruptcy policymakers, particularly in Europe, have identified protection of third party stakeholders as an important task of bankruptcy law.¹⁴ Bankruptcy law can include provisions to mitigate these externalities in different ways, e.g. by assigning a court appointed official to participate in the bargaining, representing the rights of third parties, or through government guarantees of employee and pension claims.

2.2.4 The role of bankruptcy for maintaining asset value during bargaining

Another set of important bargaining friction are the transaction costs associated with negotiations. Negotiations can take considerable time, and many of the cost linked to negotiation increase with time, for example, terms of lawyers’ fees, administrative

¹⁴ This is evident from the recent European Union report on bankruptcy reform, *Bankruptcy and a Fresh Start: Stigma on Failure and Legal Consequences of Bankruptcy* (http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/failure_bankruptcy/index.htm)

expenses, and the opportunity costs of time that the parties could put to more other uses. Such costs are often referred to in the literature as *direct bankruptcy costs*.

More important than these direct costs are so called *indirect bankruptcy costs*, defined to be the losses that occur from running the operations while the firm is financially distressed. One reason that preserving asset value in financial distress is difficult is the unwillingness of investors to provide new financing to a firm with a large debt overhang, as first demonstrated by Myers (1977). The resulting liquidity constraints will lead to under-investment in new projects and assets,¹⁵ difficulties in preserving relationships with employees, suppliers, and customers,¹⁶ and an inability to respond strategically to the actions of competitors.¹⁷ Also, to the extent that control of important firm decisions are transferred from managers to creditors, who do not have the same expertise in running the firm (or whose interference diverts management's attention), operations will be run inefficiently and value will be lost. On the other hand, leaving too much control to incumbent management in financial distress may lead to the firm taking sub-optimally risky actions and continue operations for too long, i.e. to gamble for resurrection.¹⁸

Bankruptcy rules can potentially affect the size of both direct and indirect costs of financial distress. Direct costs can be lowered by forcing the parties to come to an agreement within a limited period of time. Bankruptcy law can reduce costs from liquidity constraints by facilitating the ability of firms to raise new financing. Also,

¹⁵ Myers (1977)

¹⁶ Titman (1984)

¹⁷ Bolton and Scharfstein (1990)

¹⁸ Jensen and Meckling (1976)

bankruptcy law can give the managers more or less discretion to run the firm without interference from creditors or courts.

2.2.5. The effects of liquidity constraints in bargaining

As shown in a previous example, one reason why frictionless bargaining leads to ex post efficiency is that the parties can use side payments to bribe the party in control to take the efficient action. For this reason, bargaining will not necessarily work efficiently if shareholders, creditors, or other interested parties face liquidity constraints.¹⁹ To the extent that bankruptcy law can alleviate the negative effects of these constraints, ex post efficiency can be enhanced.

Shleifer and Vishny (1992) use a liquidity argument to propose that reorganizations can be superior to auctions for reorganizing distressed firms. In their model, financial distress is correlated between firms, because the distress is the result of an industry downturn or a macro shock. As a result, when a firm is in financial distress, the potential bidders for the firm's assets are likely to face financial difficulties themselves. As a result, auctioning off the assets in distress is not likely to realize a very high value, and assets may not end up going to the highest value user.

The bankruptcy code can alleviate liquidity problems in a couple of ways. First, a firm operating under bankruptcy protection for some time could be allowed to postpone asset sales until liquidity in the market has improved. Second, by permitting bidders for the firm's assets to offer financial claims rather than cash, and by making it easier for a

¹⁹ For example, the driving force behind Aghion and Bolton's (1992) result of state-contingent control being optimal relies on the fact the entrepreneur is more liquidity constrained than the investor. To get ex post efficiency, you want to leave as much control as possible to the entrepreneur, since the investor can bribe the entrepreneur into taking the efficient action, but not the other way around.

bankrupt firm to issue public securities (e.g. with less stringent registration requirements), liquidity constraints can possibly be relaxed.²⁰

2.2.6. The role of bankruptcy in affecting the split of surplus (ex ante effects)

So far we have considered the role of bankruptcy in alleviating bargaining problems that may otherwise prevent ex post efficiency. Still, for economic welfare, ex ante efficiency is really the relevant concept. While ex post efficiency is about the “size of the pie,” that is whether a reorganization, sale, or piecemeal liquidation maximizes the value of the distressed assets, ex ante efficiency critically depends on how this pie is distributed among different parties.

It is very difficult to assess whether a particular ex post outcome improves or worsens ex ante efficiency, since such conclusions will typically be model specific and involve trade-offs. For example, a more “creditor-friendly” distribution of bankruptcy proceeds may have ex ante benefits, in that credit becomes cheaper to obtain and that entrepreneurs work harder to avoid distress, but may also have ex ante costs, in that entrepreneurs may be discouraged from committing their human capital to a levered business. What is clear, however, is that bankruptcy law can have big effects on ex ante efficiency through its effect on the ex post distress outcome.

First, by changing the bargaining power in negotiations, bankruptcy rules will affect the split of value between claimants, compared to what would have obtained if the bargaining had taken place outside of bankruptcy. There are several ways in which bankruptcy law affects the bargaining power between claimants. One is by giving certain

²⁰ The bankruptcy reform proposal of Aghion, Hart, and Moore (1992) emphasizes the need to allow non-cash bids in bankruptcy auctions. Also, see Hart (1995) for an overview of these arguments.

claimants a first-mover advantage to initiate (or terminate) negotiations, or to propose a reorganization plan. Another is to limit the possible bargaining outcomes by ruling out certain negotiated outcomes, e.g. not allowing deviations from absolute priority or forbidding sales to certain parties such as previous management.

Also, practically any rule aimed at improving ex post efficiency will also have ex ante effects. Rules addressing coordination problems (e.g. voting rules), management of operations in distress (e.g. whether the debtor is in possession), and so on, will distort the bargaining power of the claimants and the eventual split of bargaining proceeds. Again, whether the ex ante effects of these distortions improve or worsen efficiency is difficult to assess. One way to get some hints on this issue is to look at a setting where private contracting works well outside the realm of bankruptcy law, which is what we turn to next.

3. FINANCIAL DISTRESS RESOLUTION WITHOUT BANKRUPTCY

3.1. Bankruptcy law and private workouts

To understand the role of bankruptcy law for ex ante and ex post efficiency, we first want to look at what financial distress resolution would look like if there were no bankruptcy law. Empirically, this is very hard to do, since practically all countries have a bankruptcy law. Even though debtors and creditors can try to restructure out-of-court rather than file for bankruptcy, the outcome will be heavily influenced by the ability to file for bankruptcy if the private negotiations break down. The expected bankruptcy outcome will provide the outside option for the out-of-court bargaining. If a certain claimant would expect to get a large payoff in court, and she has the ability to file and put

the firm in bankruptcy, she would not accept a lower payoff out-of-court. In the United States, for example, out-of-court restructurings tend not to look all that different from Chapter 11 reorganizations.²¹ Also, it is increasingly common to combine out-of-court and in-court restructuring, through so called “pre-packs,” where the parties have already negotiated a reorganization plan by the time the firm enters Chapter 11.²² Hence, the efficiency of bankruptcy law also depends on the effect it has on out-of-court bargaining. As we will see later, this will make empirical evaluations of the efficiency of bankruptcy law extremely difficult, since systematic data on out-of-court renegotiations are very hard to come by.²³

3.2. Distressed renegotiations in Venture Capital

As Baird and Rasmussen (2001, 2002) point out, looking at venture capitalist (VC) financing of start-up firms can teach us something about what an optimal bankruptcy law should look like. Venture capital is a setting where contracting parties have largely managed to opt out of bankruptcy law. Instead, the financial distress procedures used in default are a result of the ex ante contracts written when the firm was first financed. Despite the recent tech crash, the VC industry has been very successful over the last decades. VCs have strong incentives to maximize value, but, at the same time, receive few or no private benefits of control. Hence, we would expect them to write contracts and formulate procedures in order to maximize ex ante efficiency.²⁴

²¹ See Franks and Torous (1994).

²² See Lease, McConnell, and Tashjian (1996).

²³ There are a few exceptions, such as Franks and Sussman (2003), Franks and Torous (1994), Brunner and Krahn (2001), and Brown, Ciochetti, and Riddiough (2003).

²⁴ See Kaplan and Strömberg (2001) for a more detailed argument.

VCs hold preferred equity securities rather than debt securities, and as a result, a default or insolvency does not give the firm (or any of its claimants) the right to file for bankruptcy. Still, as Kaplan and Strömberg (2003) show, these contracts share many important features of debt contracts.²⁵ VCs are senior in liquidation to common equityholders (which typically consist of founders and managers). Although entrepreneurs keep control of the venture as long as performance is satisfactory, control switches to VCs upon bad performance. An important difference is that what triggers a change in control is not the default on a contracted payment. Instead, contracts often state that control is transferred to VCs when the failure to meet some performance milestone (which could be financial, such as a profit threshold, or non-financial, such as getting FDA approval of a drug). Also, staged financing gives the ability for VCs to effectively take control in the bad state of the world.²⁶ If the venture has not been performing well, the only way the firm will be able to obtain new funds will be if the valuation is sufficiently low. Because of the low valuation, VCs will typically end up holding the majority of both cash flow and control rights after the new financing round. Such financings are frequently referred to as “down rounds”.

So what are the characteristics of the VC financial distress mechanism?

First, not surprisingly, we observe some ventures being shut down and liquidated, others being acquired or merged, and many being restructured and recapitalized, sometimes replacing management in the process. Although aggregate statistics are

²⁵ Also, see Sahlman (1990) and Gompers (1998) for empirical analyses of venture capital contracts. Kaplan, Martel, and Strömberg (2003a) present evidence suggesting that the U.S. style VC contracts are optimal across different legal regimes.

²⁶ See Gompers (1996).

difficult to come by, down rounds have been increasingly common in the last few years, after the tech crash.

Second, VCs (i.e. “creditors”) are in control of the process. The VCs typically have effective board and voting control, and have most of the bargaining power in negotiations. Managers cannot file for bankruptcy “protection”, and do not have any exclusive rights to propose a reorganization plan, and derive bargaining power only insofar as they have unique skills needed to run the business. Hence, if the creditors/VCs decide that it is in their best interest to sell or liquidate the firm rather than have it reorganized, it will be sold or liquidated.

Third, renegotiations of existing contracts are common in connection with new rounds. Often, existing VC investors waive some of their contractual rights, such as liquidation preference, anti-dilution rights, and performance ratchets, in order to persuade new VCs to invest in the venture.²⁷

Fourth, reorganizations always involve deviations from absolute priority.²⁸ APR is violated in two ways. One is that management typically receive a fraction of the equity of the reorganized company, although all of the value should have gone to the senior claimants (i.e. the VCs) had the assets been sold or liquidated. The reason for this is simply that if the firm is going to continue to be operated, managers need to be incentivized to put in effort.²⁹ The other is that VCs who do not participate in the new financing get diluted in favor of VCs who choose to put in new money in the firm. This happens despite the fact that VC contracts have anti-dilution clauses, which insures

²⁷ See Kaplan and Strömberg (2003), and Henig (2002).

²⁸ See Kaplan, Martel, and Strömberg (2003b).

²⁹ This incentive reason for deviating from absolute priority has been pointed out by Baird and Rasmussen (2001) and Ayotte (2002).

existing VCs against decreases in valuation in subsequent rounds by adjusting the previous valuation downwards (by giving the old investors some free shares). In practice, existing VCs often end up waiving their anti-dilution rights in order to persuade new VCs to invest. Moreover, it is not uncommon to see so called “pay to play” provisions in VC contracts, which explicitly state that the investor loses her anti-dilution rights if she fails to participate with a pro rata share in a subsequent financing round. In the last few years, so called “wash-out” rounds have become increasingly common, where the dilution of existing investors and shareholders is extreme, and the company ends up being more or less wholly owned by those VCs putting in new funds, and existing management.³⁰

Fifth, although VCs have substantial control during the procedure, they typically do not personally manage the day-to-day business during distress.³¹ The management team, which can be the original founder, but often is new management that the VC has put in place, is given considerable autonomy over the daily operations.

Sixth, it is common that ventures obtain some limited financing during negotiations, in order to keep it in operations until the financial distress is resolved. This is typically done through so called “bridge loans,” that are provided by one or more of the existing VC investors. These loans are structured in such a way that if the venture subsequently obtains new financing, the loans convert into preferred equity securities at the same terms as this new financing round. If instead the venture is unsuccessful in getting a new round of financing, the bridge loan has seniority over all other existing securities, effectively giving the bridge financiers “super-priority” on the venture’s assets.

³⁰ See Gove (1999).

³¹ See Kaplan and Strömberg (2004).

The VC resolution of financial distress shares several important features with a formal bankruptcy code such as the Chapter 11. Firms are both sold, liquidated, and restructured. Restructuring typically involves deviations from absolute priority. Firms receive senior DIP financing in order to keep operating during negotiations. A major difference, however, is that the bargaining power is firmly in the hand of the creditors, and the debtor is given no extra protection, rights, or first-mover advantages.

To understand the limits of the VC analogy, we need to understand why it is that VCs are able to “privatize” bankruptcy. In the earlier section, we went through a number of reasons why private contracting may not be enough and bankruptcy law may be needed to enhance efficiency. It turns out that in the VC context, several of these reasons are not valid:

- (1) VCs are unusually well informed investors, with considerable industry knowledge, and put major effort into screening and monitoring their investments. VCs are likely to have as good information as the entrepreneur of whether a particular business is economically viable or not. Hence, problems of asymmetric information are likely to be much lower than in a typical debtor-creditor relationship, and there will be less need for the verification role of bankruptcy.
- (2) Although VC investments are often syndicated, the claims structure is not very dispersed (at least in early-stage financings). Moreover, VCs within a syndicate hold very similar claims that do not differ significantly in their rights or seniority. VCs also tend to syndicate with the same investors, and syndication networks are stable. Finally, VC securities are never secured with

specific collateral. All of these factors decrease coordination and hold-out problems significantly. Moreover, contractual features such as “pay-to-play” provisions are frequently included in VC contracts in order to increase coordination.

- (3) Start-up firms are typically smaller, and most key employees are also shareholders in the firm, which decreases the need for 3rd party protection.
- (4) Since VC also share in the upside if the venture is successful, they have a large incentive to make sure that asset value is preserved during negotiations. Also, VCs have particular skills in overseeing and replacing management of start-up firms.³²
- (5) Liquidity constraints may be less important in this setting, although this may be more questionable given the booms and busts that the VC market has experienced.
- (6) Finally, as mentioned earlier, given the visible success of VC start-up financing in the U.S., it is likely that private contracting in this market has evolved to become largely efficient. Hence, it seems unlikely that imposing rules that would restrict the contracting environment, or change the bargaining power between claimants, could increase ex ante efficiency.

³² See Hellman and Puri (2002).

4. A COMPARISON OF INTERNATIONAL BANKRUPTCY LAWS

In section 2, we described the different roles that bankruptcy law can play in affecting the ex post and ex ante efficiency of financial distress resolution. We now apply our framework to the comparison of a variety of different bankruptcy systems. We are not the first to perform a comparative analysis of bankruptcy mechanisms. Apart from an extensive literature on Chapter 11, previous comparative analyses of bankruptcy law include Armour, Cheffins, and Skeel (2002), Berkovich and Israel (1997), Biais and Malecot (1996), Claessens and Klapper (2003), Franks and Nyborg (1996), Franks Nyborg & Torous (1996), Rajan and Zingales (1995), Ravid and Sundgren (1995), and White (1994). Our goal is not to provide an exhaustive review of each country's bankruptcy system. Rather, we aim to highlight those features that influence the cost of bargaining in financial distress.

First, we provide a quick overview of the differences between reorganization-oriented and liquidation-oriented bankruptcy codes.

4.1. Reorganization vs. Liquidation codes

Bankruptcy procedures are typically grouped into one of two classes, reorganization or liquidation. Nominally speaking, reorganizations are built around the idea of giving the distressed firm a second chance. After accounting for all assets and claims on the firm, the bankruptcy administrator acts to facilitate a restructuring of creditor claims to provide some relief to the debtor, formalized in a reorganization plan. Meanwhile, the firm is allowed to continue to operate. Since the reorganization may take some time, the court may stay creditor attempts to collect on their debts and approve additional financing for the operations. Liquidations involve accounting for all assets and

claims on the firm, and then auctioning the assets off, either together as a going concern, or in pieces to different buyers. The court collects the cash from the asset sales and distributes it according to the seniority of the debtholders. Chapters 11 and 7 of the U.S. Bankruptcy Code are good examples of reorganization and liquidation procedures, respectively.

But the differences between reorganization and liquidation codes can actually be exaggerated. Legally speaking, the only real difference between a liquidation and reorganization is that the legal corporate identity survives in a reorganization and ceases to exist in a liquidation.³³ Otherwise, the lines can blur fairly quickly. For example, as pointed out in Baird and Rasmussen (2003), many firms today are auctioned off, either as a going concern or piecemeal, in Chapter 11.³⁴ Even with no explicit auction, reorganizations can be viewed as sales back to existing claimants, whom are compensated with claims on the emerging firm (Jackson, 1986). Likewise, liquidations can look very much like a reorganization. As shown by Strömberg (2000), many Swedish liquidations are going-concern sales back to the firm's original owner/manger. Typically, these sales are financed by a senior creditor, who effectively rolls over his original position. For these reasons, we consider the names "liquidation" and "reorganization" codes somewhat of a misnomer. (Economically important only to the extent there are valuable contracts, e.g. licenses, etc., that cannot be sold or transferred to a new legal entity.)

³³ This distinction can be economically important if valuable, but non-transferable, rights die with a firm in liquidation. For example, brand names, franchise and distribution rights, sports club teams, etc. could have restrictions that preclude transfer at the time of liquidation.

³⁴ Enron, Worldcom, and Global Crossing are three high-profile examples.

4.2. A taxonomy of bankruptcy laws

In the current draft of the paper, we compare the bankruptcy laws of France, Germany, Japan, Sweden, UK and the US. In a future version of the paper we will cover more countries, including some emerging markets that have recently gone through bankruptcy reform.

In Table 1, we summarize the different bankruptcy laws according to a taxonomy outlined in Section 2. As seen from the table, all of the five countries have codes that include both liquidation and reorganization chapters. Three of the five countries have undergone major bankruptcy reform in recent years, and France is currently (in 2003) in the middle of discussions of further reform.

4.2.1. Verification mechanisms

All bankruptcy laws have rules regarding information disclosure and collection. Most codes require the debtor to submit information to the court at the time of filing, including lists of estate assets and claims, and sometimes financial statements. Some codes, such as Sweden's liquidation chapter, also require the trustee to collect data on the bankruptcy estate, including a preliminary valuations of its assets.

4.2.2. Mechanisms for reducing coordination problems.

Bankruptcy law can address coordination problems in different ways. First, as many scholars have emphasized, the automatic stay is considered to play an important role in preventing collateral runs. Despite this, the degree of automatic stay differs significantly between countries. Japan has particularly weak rules on stays, with little

protection from secured creditors seizing their collateral. Without an automatic stay, secured creditors can effectively kill off any attempt to reorganize or sell the firm as a going concern by seizing collateral.

Second, voting rules are crucial to implementing reorganization plans when a minority of creditors might strategically oppose a plan. The U.S. Chapter 11 code has a particularly clever system to prevent hold-outs. First, only “impaired” classes – defined to be those claimants that would receive some payoff less than their face value but greater than zero in liquidation – get to vote. Those classes that would receive nothing or be fully paid back in the plan, are precluded from strategically holding out. Still, relevant creditors will be allowed to vote since the plan has to offer at least their liquidation payoff. This is important, since this prevents the backers of the plan to simply overrule creditors by offering them a zero payout and locking them out from the voting. Second, only a majority of creditors in each class (2/3 in terms of value) have to approve the plan, rather than all of them. Third, the law gives some freedom in defining classes, so that creditors that are particularly important (or have particularly high bargaining power) can be offered a better deal. Finally, the bankruptcy judge has the power to cram down a reorganization plan on a dissenting class, at least as long as this class is deemed to do better under the plan than in a liquidation.

None of the other four systems offers the same ability to prevent hold-outs problems in reorganizations as the U.S. system does. In the French code, debt write-downs require unanimous approval among creditors, although the judge can unilaterally impose a rescheduling of debt payments and extend maturity without creditor approval. In Sweden and Japan, secured debt cannot be written down without unanimous approval

from secured creditors. Moreover, in Sweden, all unanimous consent is required from unsecured creditors if their recovery ratio is expected to be below 25%. Britain and Germany have rules that come very close to the U.S. ones, but with some notable exceptions. In Britain, the judge does not have the ability to cram down a plan. The new German reorganization code appears superficially to have more or less identical rules as the U.S. However, before even beginning the reorganization procedure creditors, have to agree to continue operating the firm. If they do not agree, the firm immediately enters liquidation. Also, the German system has a strong bias against keeping existing management in charge of the firm, which limits the possible reorganization plans that can be proposed.

To summarize, none of the systems surveyed seem to have as strong protection against coordination failures in their reorganization plans as the U.S. Chapter 11.

4.2.3. Protection of 3rd party claimants, such as employees

All bankruptcy systems take some extra care in protecting employees, although the U.S. and Japan provide relatively weak protection by only offering some limited seniority. In the European countries, the government actually guarantees wage claims to the extent bankruptcy proceeds are not high enough to fully cover them (up to some maximum amount). Moreover, in Germany, France, and Sweden, the law explicitly states that the courts should take particular care to protect employment. France is the extreme case, where firm survival is stated as the primary goal of bankruptcy law.

4.2.4. Maintaining asset value during bargaining

The U.S. Chapter 11 stands out regarding its provisions aiming to ease the management of the firm's operations during negotiations. First, it gives the most autonomy to debtor management to continue running the firm without interference by a court official. Second, it provides the most access to senior financing in bankruptcy. Germany and Japan lack debtor-in-possession financing provisions altogether, and only the U.S. code allows for the possibility of super-priority financing over secured creditors. Some countries, like Sweden and France, also limit the time the company can operate in bankruptcy.

4.2.5. Rules affecting liquidity in the disposal of assets

An important role of reorganization procedures is to avoid inefficient asset sales when buyers are liquidity constrained. One way reorganization procedures do this is by postponing the sale of the firm until liquid buyers have emerged. For this reason, being able to run the firm's operations during reorganization without a major loss in asset value is important. As mentioned in the previous subsection, the U.S. Chapter 11 procedure seems to have the most flexibility in keeping the firm's operations alive in bankruptcy.

Another way in which reorganization can alleviate liquidity constraints is by allowing potential buyers of the firm's assets to offer securities rather than cash. In a reorganization, it is not only important to be able to write down debt claims, but also to be able to exchange these claims with new securities such as equity or warrants. U.S. Chapter 11 helps to facilitate non-cash bids, by for example, including rules that allow stakeholders to bypass some of the normal SEC registration requirements when issuing

new securities in Chapter 11. This aspect have been largely ignored in many of the new reorganization procedures outside of the U.S.

The sales mechanism used in the bankruptcy procedures are also important in order to create a liquid market for distressed assets. A market based sales procedure, which allocates the firm's assets to the highest bidder (to the extent there is one), has the advantage of encouraging investors to participate in an auction in the first place. On the other hand, a procedure that allocates assets according to other criteria, for example to the discretion of courts or a trustee, may discourage external investors to bid for the assets, since their ability to be rewarded for being the highest value user of the assets may be limited.

With the exception of France, the reorganization codes all involve a voting procedure, where claimholders can decide on whether to accept a "bid" (i.e. a reorganization plan). In France, however, implementing a reorganization plan is up to the discretion of the judge, and creditors cannot in principle affect the asset allocation decision.³⁵

The liquidation procedures, or "cash auction" procedures, in the different chapters generally delegate the sales decision to a trustee or judge. As a consequence, claimholders have no direct say in the asset allocation decision (although they may have a say indirectly, as we will return to below). The exception is the U.K. receivership and administrative receivership codes, where a receiver, appointed by senior creditors, is responsible for disposing of the assets. The administrative receivership code also allows for reorganizations rather than just cash bids. In the other codes, where a trustee or judge

³⁵ In the next draft we plan to also address the ability for external investors to submit reorganization plans in the different codes.

is responsible for selling the assets, trustees typically have a lot of discretion in disposing of the assets. Codes generally do not specify that a certain sales method (such as an auction) should be used, which may be troublesome if the trustee does not have clear, value-maximizing incentives. To make this matter worse, some liquidation codes, such as the Swedish code, has no element of incentive pay for the trustee, but will simply pay an hourly wage, independent of proceeds realized.

4.2.6. Effects on Bargaining Power and Ex Ante Efficiency

The specific bankruptcy rules primarily aimed at affecting the ex post asset allocation decision will also have ex ante effects. For example, voting rules requiring unanimity or a weak automatic stay will tilt bargaining power in the direction of creditors. Leaving the debtor in possession of the assets will likely tilt bargaining power in the other direction. Hence, given the previous discussion, many codes, such as the U.K., Sweden, and Japan give more bargaining power to secured creditors, compared to the U.S. code. In addition, U.S. Chapter 11 is the only code giving managers an exclusivity period to propose a reorganization plan. France is a special case. As is recognized in earlier literature (such as Biais and Malecot), France gives considerable bargaining power to courts, presumably tilting power towards third parties such as the government and employees.

Whether tilting bargaining power to debtors, creditors, or third parties is good from an ex ante perspective is a difficult question to answer, however. In the VC distress negotiations, most of the bargaining power lies with creditors (i.e. VCs) rather than management. This raises the question of whether tilting the power more towards

management, as is done in the U.S. system, is beneficial outside the VC setting, and why this would be the case.

4.3. Evidence on the use of bankruptcy laws.

The previous analysis suggests that compared to Chapter 11, the non-U.S. reorganization codes generally has less power to coordination creditors, less ability to manage assets in negotiations, have less provisions aimed at enhancing liquidity, and give higher employee protection and more power to senior creditors. Have these differences affected the actual use of the reorganization relative to liquidation chapter?

One place to look to address this question is bankruptcy filing rates. The top row of Table 2 compares for the five countries the proportion of bankruptcy filings that start under the country's reorganization code relative the total number of firms filing for reorganization or liquidation. One caveat with these numbers is that they do not account for differences in overall bankruptcy filing rates between countries.³⁶

The table shows that with the exception of France, reorganization filings are much more rare outside the U.S. than in the U.S. The French numbers are very hard to interpret, though, since all firms in principle have to file for the “Redressement Judiciaire,” procedure, and a debtor or creditor cannot directly file for liquidation. We count as liquidation filings firms only those that are immediately liquidated by the judge at the beginning of the procedure, when the judge decides that there is no hope of reorganization. Excluding the French data, filing rates suggest that reorganization codes have been much lower used outside the U.S.

³⁶ See Claessens and Klapper (2002) for an analysis of cross-country variation in aggregate bankruptcy rates.

Under the row of filing rates, we report successful reorganization completion rates, defined to be the proportion of total firms exiting bankruptcy (including firms that cease to exist after liquidation) that exit reorganization under current management. These rates are hard to calculate because good data is spotty and even lacking for most countries. Therefore, most of the completion rates are estimates and should be interpreted with care.

France appears to have the highest completion rate. However, it is not clear whether this statistic includes small firms, which (at least for the U.S.) have much lower completion rates. Also, even if we believe the statistics suggesting that France has a relatively high number of completed reorganizations, it is hard to judge whether this is considered to be a sign of success, given that it is the court rather than the distressed claimants or debtor that makes the reorganization decision.

For the U.S. completion rate, we provide a range from 4 percent to 20 percent of total exits. The estimate of 4 percent is based on the study of U.S. Chapter 11 cases by Flynn (1986). Using data from the Administrative Office of the U.S. Courts over the period 1979 to 1986, Flynn finds that only 17 percent of firms filing for Chapter 11 emerge as a going-concern under the same management. But the Flynn averages may be comparatively low for two reasons. First, Flynn documents an upward trend in confirmation rates over his period. To the extent that this trend continued, confirmation rates could be expected to be higher today. Second, the Flynn sample, comprising all Chapter 11 filings, is dominated by small firms, which are probably less likely to be successfully reorganized than large firms.

The estimate for the upper end, 20 percent, is based on Lynn Lopucki's sample of large (assets of at least \$100 million), publicly trade firms filing over the period 1990 to 2002.³⁷ Lopucki's sample implies that 77 percent of firms entering Chapter 11 during this period were confirmed as a going-concern. But estimates based on the Lopucki sample are biased upwards because the sample is so heavily weighted toward the largest firms in the U.S economy. Moreover, even for large firms, the Lopucki estimates probably overstate the rate at which firms emerge as a going-concern with current management. Baird and Rasmussen (2002, 2003) argue that many of the Chapter 11 cases coded as "confirmed" in the Lopucki sample were actually sold in Chapter 11, either as a going concern or in pieces.

It may be that the statistics simply are too heterogenous and speculative to really allow meaningful analysis. Still, we think there are a few conclusions that can be drawn from the filing data. For instance, even though many non-U.S. reorganization codes are modeled after Chapter 11, all of them have important differences. These differences seem to be important deterrents to the use of the codes. Ignoring the French statistics, which are hard to interpret, the U.K. system comes closest to the U.S.

4.4. Reorganization, liquidation and firm survival.

Despite data problems, the previous section suggests that firms are not frequently successfully reorganized in many non-U.S. reorganization codes. Is this finding economically important? Does this mean that firms are less likely to survive financial

³⁷ The Lopucki sample represents one of the most complete and detailed samples of Chapter 11 filings and has been used extensively, especially in the legal bankruptcy literature. See, for example, Lopucki and Whitford (1990) and Lopucki and Eisenberg (1999).

distress in Germany, Sweden, or the U.K., resulting in excess liquidations and ex post efficiencies? The answer is no. So far we have only considered firms that survive in the form of corporate reorganizations. But this does not mean that the rest of the firms are liquidated, despite the fact that many of them end up filing for “liquidation bankruptcy.”

Studies of liquidation codes outside of the U.S. show that going concern sales are common. Available estimates of the fraction of liquidations ending up as going concern include 76% for Sweden,³⁸ 47% for the U.K.,³⁹ and 30% for Finland,⁴⁰ using somewhat different methodologies and sampling criteria. Informal discussions with German bankruptcy practitioners suggest that this is a common outcome in Germany as well.⁴¹

Moreover, successful Chapter 11-type outcomes can be implemented within a liquidation code. Strömberg (2000) studies bankruptcy resolution in the Swedish liquidation code using a sample of 205 bankruptcies of closely held corporations.⁴² In his sample, about two thirds of the going concern sales were actually made back to the previous owner-manager, with the asset purchase typically financed by an existing senior creditor, the firm’s old bank. In other words, a large number of liquidation bankruptcies really end up looking like reorganizations, where current management is allowed to continue running the firm, and the senior creditor rolls over its debt into the new reorganized firm. The results also indicate that such sale-backs are more likely when the market for the firm’s assets is less liquid. Hence, a formal reorganization code is not necessary to avoid inefficient liquidations when markets are illiquid. Again, such sale-

³⁸ Strömberg and Thorburn (1996).

³⁹ Kaiser (1996); receivership and administrative receivership only.

⁴⁰ Sundgren (1995).

⁴¹ Personal communication with Arne Wittig.

⁴² Also, see Thorburn (2000) for a related study.

backs to current managers are not unique for Sweden. Kaiser (1996) reports that 54% of administrative receiverships end up in whole or partial going concern sales back to current management.

Why do firms end up being reorganized under the liquidation chapter, despite the fact that these countries have formal reorganization codes? There are a few possible reasons for this. In a liquidation code, reorganizations can be arranged in a private negotiation between senior creditors and the debtor, without major interference from courts and other claimants. Although outside of the U.K., the asset sale is undertaken by a court-appointed trustee rather than a creditor-appointed receiver, the trustees are typically not involved except in expediting the formalities of the sale. Unsecured creditors, such as trade creditors and tax authorities, can be left out of negotiations, and their debt being written down effectively. The resolution is also fast, with sale-backs on average occurring less than two months after filing (median is about one month).

So, what is the no advantage of having formal reorganization codes such as Chapter 11, if firms can equally well be reorganized in a liquidation procedure? One important drawback to liquidation codes is the lack of transparency in the system, in combination with a lack of mechanisms that facilitate running the firm as a going concern in bankruptcy. Strömberg (2000) shows that secured creditors implement sale-backs too often, at the cost of junior creditors. This problem results from the risk of a loss of going concern value if the sale was postponed in order to find alternative bidders. Since this risk is asymmetrically born by senior creditors, they will be biased towards a fast sale to existing management rather than searching for outside bidders. A related reason why banks may prefer rolling over their debt in a sale-back is to be able to avoid booking a

credit loss on the loan. By financing a sale-back at a price at least equal to the existing bank-loan, the bank is able to “evergreen” and avoid a write-down.⁴³

This discussion suggests two important differences between a formal reorganization code and manager sale backs under liquidation codes. First, a formal reorganization code contains provisions such as debtor-in-possession financing, allowing the firm to keep operating longer in bankruptcy. This might decrease the costs of delaying the bankruptcy resolution, which will facilitate the ability of gathering alternative bidders to participate in the auction. Hence, liquidity would be enhanced, increasing ex post efficiency. Second, in a cash auction, the negotiations between the claimants take place outside of the realms of the bankruptcy law, which leaves some parties, such as the junior creditors, without much power to affect the bankruptcy outcome. In a formal reorganization code, the bargaining of junior claimants can be increased through formal voting power, which may or may not increase ex ante efficiency. One may argue that the increased transparency from keeping negotiations in court will decrease the likelihood of inefficient self-dealing and exploitation of unsecured creditors.

Formal reorganization procedures can also act as effective auction mechanisms.⁴⁴ Under current practices in U.S. Chapter 11 filings, debtors often seek a “stalking horse” bidder to commit to purchase firm assets as part of a reorganization plan. Often, the stalking horse bidder is an existing claimant, or an investor who has recently purchased claims on the distressed firm. The stalking horse bid, which can be arranged in advance

⁴³ See Smith (2003) for evidence on evergreening behavior from Japan.

⁴⁴ Indeed, Baird and Rasmussen (2003) believe “the dominant feature of the large corporate Chapter 11 today is the asset sale.”

of filing, sets a floor on bids that can be entertained under an auction eventually run by the bankruptcy judge. Baird and Rasmussen (2003) demonstrate that more than half of large, publicly-traded firms currently entering Chapter 11 sell assets using the Ch. 11 auctioning mechanism. Many of these auctions are prepared through arrangements between the debtor and creditors before filing in court.

Auctions in Chapter 11 can provide another advantage not typically available in sales through a liquidation code by allowing bidders to bid with securities. That is, bidders can offer existing stakeholders claims in the reorganized firm or in their own firm, as well as cash. Offering securities provides at least two benefits. First, it allows bidders who are liquidity constrained to compete without seeking other sources of financing. Thus, it increases the flexibility of the bidding process. Second, providing certain classes of existing stakeholders (e.g., managers or other informed shareholders) with a claim in the future value of the ongoing concern could provide incentives for these stakeholders to contribute to improving the value of the reorganized firm.

5. CONCLUSIONS AND IMPLICATIONS FOR BANKRUPTCY POLICY (INCOMPLETE)

In sum, liquidation procedures can provide a means for reorganizing a firm under current management (through sale-backs) and reorganization codes allow for auctioning and assets sales (as under current Chapter 11 practices). So, what features might an optimal bankruptcy system include? We summarize some suggestions below:

- *Ensure the going-concern value of the firm during the procedure.*
 - Creditors should be automatically stayed from collecting collateral or suing for payment.

- Super-senior financing should be available to allow for continued financing of operations can be continued under bankruptcy.
- Management of the firm can be left to the current management or to another group of managers selected by the creditor.
- *Maximize the potential for bidders to compete for reorganizing the firm.*
 - Implement a verification disclosure process that is credible and open to potential bidders.
 - Allow auctions in which bidders can offer securities, cash or both.
 - Allow for deviations from absolute priority to claimholders that are willing to place competitive bids for the firm.
 - Ensure that the bankruptcy procedure can go on for awhile so that potential bidders have time to evaluate the assets of the firm and obtain financing to make an offer.
 - Maximize the ability for existing claimholders, including junior claimants to make bids. Try to avoid instances where one creditor can preclude junior claimants from bidding (e.g., as is the case when floating lien holders initiate receivership proceedings in the U.K.)
 - Provide opportunities for outside investors to bid, either in an open bidding process, or through purchases of existing claims. Current U.S. bond and syndicated loan markets facilitate such purchases by putting up distressed securities for sale in secondary markets.

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Table 1
Taxonomy of Corporate Bankruptcy Codes

This table compares various bankruptcy provisions between different countries. Sources: Kaiser (1996); Franks, Nyborg, and Torous (1996); European Union (2002), *Bankruptcy and a Fresh Start: Stigma on Failure and Legal Consequences of Bankruptcy*; Title 11 U.S. Bankruptcy Code (<http://www4.law.cornell.edu/uscode/11/index.html>) and other various bankruptcy law websites.

	United States	United Kingdom	Japan	Germany	France	Sweden
“Liquidation” code	Chapter 7	<ul style="list-style-type: none"> • Member’s voluntary • Creditor’s voluntary • Compulsory • Receivership • Administrative receivership 	<ul style="list-style-type: none"> • Hasan (Bankruptcy) • Tokubetsu-seisan (Special liquidation) 	<u>New</u> <ul style="list-style-type: none"> • Insolvenzordnung (Insolvency Act: Reorganization or asset sale) <u>Old:</u> <ul style="list-style-type: none"> • Konkursordnung (Bankruptcy Act) 	<ul style="list-style-type: none"> • Reglements Amiable (Reorganization for companies not yet in default) • Redressements Judiciares (Reorganization and Judicial Liquidation) 	Konkurs. (Bankruptcy)
“Reorganization” code	Chapter 11	<ul style="list-style-type: none"> • Company Voluntary Arrangement • Sec. 425 Scheme of arrangement • Administration 	<ul style="list-style-type: none"> • Kaisha-kousei (Company reorganization) • Kaisha-seiri (Company arrangement) • Minji-saisei (Civil rehabilitation) 	<u>New</u> <ul style="list-style-type: none"> • Insolvenzordnung (Insolvency Act: Liquidation) <u>Old:</u> <ul style="list-style-type: none"> • Vergleichsordnung (Composition Act) 	<ul style="list-style-type: none"> • Redressements Judiciares (Reorganization and Judicial Liquidation) 	Företagsrekonstruktion (Company reorganization) Ackord. (Composition). Post-1996 compositions are a part of Company Reorganization code.
Year of last major change	1978	2000	2000	1999	1985	1996

	United States	United Kingdom	Japan	Germany	France	Sweden
Verification mechanisms:						
	(To be completed)	(To be completed)	Debtor furnishes own balance sheet. Upon commencement, court gives public notice. Creditors have fixed period to submit claims. Can adjudicate in court.	<u>Post-1999:</u> Trustee prepares “table of claims” and list of estate assets.	<u>Reglement Amiables:</u> Debtor presents financial statements, table of claimants and summary of liens, proposed corrective measures and proposed new payment schedule. <u>Redressements Judiciares:</u> The above plus observation of firm by court for up to 18 months.	<u>Bankruptcy:</u> Trustee does inventory of assets (including valuations) and liabilities at the beginning of procedure. <u>Reorganization:</u> Administrator does inventory in connection with reorg. plan.
Coordination mechanisms:						
Automatic stay in reorganization	Yes.	Yes, for administration. Subject to application for vol. arrangements No, for 425 schemes.	Not automatic and subject to many exceptions.	<u>Post 1999:</u> <u>Unsecured:</u> Yes. <u>Secured:</u> Requires an injunction. <u>Pre-1999:</u> <u>Unsecured:</u> No. Requires injunction <u>Secured:</u> No.	<u>Reglement Amiables:</u> No. <u>Redressements Judiciares:</u> Court sets a date for cessation of payments, which can be 18 months in advance of procedure commencement.	Yes.
Automatic stay in liquidation?	Yes.	Yes, for compulsory liquidation. No, for voluntary liq. receivership, and admin. receivership.	Not automatic, does not cover secured creditors.	<u>Unsecured:</u> Yes. <u>Secured:</u> Requires an injunction.	Only during observation period.	Yes.

	United States	United Kingdom	Japan	Germany	France	Sweden
Coordination, continued.						
Voting rules for approval of reorganization plan	Only impaired classes vote. 50% in number, 2/3 in value of each impaired class.	<u>425 Scheme:</u> > 75% of creditors within each class have to approve. <u>Administration:</u> >50% of unsecured creditors. Secured creditors only participate for the part of the claim that is impaired.	<u>Unsecured:</u> Must be consented by 2/3 of aggregate unsecured amount. <u>Secured:</u> only vote to the extent their claim is impaired. Then at least 3/4 of secured creditors (corporate reorg.)	<u>Post-1999:</u> Impaired classes vote, 50% in number and value in each class must approve. <u>Pre-1999:</u> 75% of value of 50% of all creditors present at meeting.	<u>Reglement Amiables:</u> Voluntary agreement among participating creditors. <u>Redressements Judiciaires:</u> No voting by creditors. Judge makes decision. Debt reductions need approval from each creditor.	<u>Unsecured:</u> 3/5 approval if >50% recovery, 3/4 approval if >25% recovery, unanimity if <25% recovery. <u>Secured:</u> unanimity.
Flexibility in defining voting classes in reorg.	Yes.	No.	No.	Yes.	No.	No.
Limits on debt write-downs in reorganization	Have to offer liquidation payoff.	Cannot write down secured debt below the value of their collateral.	Have to offer secured 100% recovery.	<u>Post-1999:</u> No. <u>Pre-1999:</u> Must pay 35% of claims within 1 yr, 40% or more after that.	<u>Redressements Judiciaires:</u> Cannot write-down debt without unanimous approval.	Have to offer unsecured >25% recovery. Have to offer secured 100% recovery.
Cram-down in reorganization.	Yes.	No. If no consensus, case moves to liquidation.	No. If no consensus, court dismisses case or liquidates.	<u>Post-1999:</u> Court must ratify decision of creditors. <u>Pre-1999:</u> Yes, on creditor dissents and absent creditors.	<u>Reglement Amiables:</u> No. <u>Redressements Judiciaires:</u> Judge can impose a delayed debt repayment schedule.	No.
Creditor committees	Unsecured creditors, typically composed of reps seven largest unsecured creditors.	Consists of creditors present as pre-planned meetings.	Consists of creditors with claims > 20% of total debt.	<u>Post-1999:</u> Creditor's "assembly" votes at outset to reorganize, sell assets, or liquidate.	<u>Reglement Amiables:</u> Officer of court appointed to represent creditors. <u>Redressements Judiciaires:</u> No.	Yes.

	United States	United Kingdom	Japan	Germany	France	Sweden
Protection of 3rd party claimants:						
Wage guarantee?	No.	Yes.	No.	Yes.	Yes.	Yes in liquidation. No in reorganization.
Procedure should aim towards preserving employment?	No.	No.		Yes. Employees can only be fired by trustee in reorganization or asset sale.	Yes.	Yes in liquidation and reorganization.
Priority of wages?	Senior to general unsecured claims.	Preferentials paid prior to unsecured.	Senior to unsecured.	<u>Pre-1999 only</u> : senior to unsecured		Senior to unsecured.
Maintaining asset value:						
Possession of assets in liquidation	Trustee.	Trustee/receiver.	Trustee.	Liquidator.	Liquidator.	Trustee.
Possession of assets in reorganization	Debtor generally. Trustee appointed in extraordinary circumstances.	Administrator	<u>Civil Rehab</u> : debtor monitored by court-order supervisor. <u>Comp. Reorg</u> : Trustee.	<u>Post-1999</u> : Trustee. Although debtor can apply for self-management. <u>Pre-1999</u> : Trustee.	<u>Reglement Amiables</u> : Debtor. <u>Redressements Judiciaires</u> : Debtor and receiver.	Administrator.
Seniority of new financing in reorganization?	Generally senior to unsecured. Under special circumstances senior to secured.	Not generally. However, administrator can borrow and be repaid ahead of floating charge holder.	No. Any new financing can be blocked with an injunction.	No. Company will be shut down if cash is insufficient keep operations going.	<u>Redressements Judiciaires</u> : Yes, for creditors entering during judicial arrangement period.	Senior to unsecured.
Time limits to reorganization?	No.				<u>Redressements Judiciaires</u> : 18 months (8 months for small firms)	3 months; can be extended to max 12 months.
Time limits to Liquidation?	No.					Cannot run business for more than 12 mos.

	United States	United Kingdom	Japan	Germany	France	Sweden
Liquidity and disposal of assets:						
Can exchange debt for other securities in reorganization?	Yes.		Yes. (Recent change.)			No.
Sales mechanism in liquidation?	Trustee discretion.	Trustee discretion subject to rules of court.	Trustee discretion.	Trustee discretion.	Trustee discretion.	Trustee discretion. Sale to management has to be preceded by public solicitation of bids.
Auctioneer/trustee incentive comp.?	Yes.	Yes?				No.
Limits on whom asset can be sold/transferred to?	No.	No.	No.	Most likely unable to transfer assets to previous mgmnt.	No.	No.
First-mover advantages:						
Debtor has advantage in filing?	Yes.	No. Receivership filing by creditor overrules administration filing. I.e. secured creditors can veto reorganization filing.	Yes.	<u>Post-1999:</u> No. Creditors decide whether company can enter reorganization. <u>Pre-1999:</u> Yes, subject to court approval.	<u>Reglement Amiables:</u> Yes. Legally required to seek help when nearing default. <u>Redressements Judiciares:</u> No. Court decides whether to pursue reorganization or liquidity (Although company legally required to file at default).	Yes. Debtor applications approved automatically.
Who submits reorganization plan?	Debtor has exclusivity for at least 120 days.	Administrator.	Debtor or trustee. No exclusivity guarantee.	<u>Post-1999:</u> Debtor or trustee. No exclusivity guarantee. <u>Pre-1999:</u> Debtor, at time of filing.	<u>Reglement Amiables:</u> Debtor. <u>Redressements Judiciares:</u> Receiver.	Administrator.

Table 2
Reorganizations as a Proportion of Total Bankruptcies

	United States	United Kingdom	Japan	France	Germany	Sweden
Reorganizations as a percent of total filings	28.6	6.7	4.4	73.8*	0.4	Less than 1%*
Successful reorganizations as percentage of all exiting bankruptcies	4 – 20*	2.4*		8.7	0.3	0.4
Years Covered	2000-2002	1999		2000-2001	1998	2000-2002
Source:	American Bankruptcy Institute	Society of Practitioners of Insolvency, Kaiser (1996)	Teikoku Data Bank	European Union (2002), and Kaiser (1996)	German Statistical Yearbook	Swedish Statistical Office

*Estimated using ancillary data.