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BANK RESTRUCTURING OF
SMALL-TO-MEDIUM SIZE
UK COMPANIES**

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ABSTRACT

Financial Distress and Bank Restructuring of Small-to-Medium Size UK Companies*

We use a unique data set to analyse how UK banks deal with small-to-medium size distressed firms both inside and outside bankruptcy. The approach to bankruptcy is contract-based, with lenders and borrowers relying on procedures written into the debt contract, and where the courts are largely uninvolved. We find that firms in our sample have highly concentrated debt structures and liquidation rights. As a result, the rescue process is largely free of coordination failures and creditors' runs. We find that the principal lender, 'the bank', makes few concessions to the borrower and that there is a virtual absence of debt forgiveness. Finally, the bank relies heavily on the highly collateralized value of its loan in making the decision to place the distressed firm in bankruptcy.

JEL Classification: G10, G20 and K00

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1. Introduction

In his well-known paper on the public corporation, Jensen (1989) argues that too often in the U.S. financial distress results in a “cumbersome court-supervised bankruptcy process that diverts management time and attention away from managing the enterprise”. Instead, he advocates a privatized system that would “limit the courts abrogation of the contractual priority of claims”. Such a system should “provide incentives for the parties to accomplish reorganization of claims ... outside the court-room” in those cases where the firm is viable, and push for a speedy liquidation in those cases where continuation has no value. Strict enforcement would enhance debt’s role “as a monitoring and incentive device, especially in slow growing or shrinking firms” where over-investment problems are pervasive (pp. 42-44).

Many researchers would hesitate to support Jensen’s (1989) reforms if only because of their radical nature. How would such a system work in practice? How would it deal with the problems of premature liquidation or asset grabbing? In this paper we address these questions using evidence from the U.K., where the approach to bankruptcy is similar to the one advocated by Jensen. In such a “contract-driven system” the lender and borrower allocate via the debt contract default-contingent rights, which the courts strictly enforce.

To study the operation of the U.K. system, we survey a population of 542 small to medium-sized¹ financially distressed companies and follow them through, from the beginning of distress to its resolution, either bankruptcy or successful rescue.² The data set is unique and was assembled specifically for this study from the private records of three U.K. commercial banks. In order to avoid selection bias we survey all companies that went into distress within a particular sampling window, unconditional of firm type or the outcome of distress. The data set contains information about the type of lender, the amount of collateral, the size of the various loans and how they change over

¹ Small to medium sized companies account for 43% of employment in the UK; see Klapper and Sulla (2002).

² We note that in English law, the term “bankruptcy” is reserved for individuals only; the word “insolvency” applies to corporations. We use the term “bankruptcy” in line with international practice.

the period of distress, and features of the restructuring arrangements, for example, changes in management.

In the vast majority of cases in our sample companies borrow from only one commercial bank. Since banks play such a prominent role in resolving distress among small to medium size firms, our paper is as much about bank lending as it is about financial distress and bankruptcy.

The theoretical background for this paper is provided by the literature on debt structure, including Hart and Moore (1998), Gertner and Scharfstein (1991), Berglof and von Thadden (1994), Bolton and Scharfstein (1996), Diamond (1984), and Manove, Padilla, and Pagano (2000). These papers analyze how the firm and its lenders efficiently select the level of concentration for debt and liquidation rights. On the one hand, dispersion makes it harder for the borrowing firm to renegotiate strategically better terms. On the other, dispersion may lead to coordination failures, such as asset grabbing and creditors' runs. One potential disadvantage of concentrating collateral and liquidation rights in the hands of the bank is that it may become "lazy", lose interest in the going-concern value of the firm and liquidate it prematurely in order to assure full recovery of its loan. Hence, the liquidation rights should be sufficiently concentrated so as to avoid a creditors' run, but not too concentrated so as to induce lazy banking and strategic renegotiation.

The paper provides four main results. First, we find that liquidation rights are heavily concentrated in the hands of one bank. Although the bank supplies about 40% of all loans (this total includes trade credit), its collateral includes nearly all the company's assets, placing it in full control over the company in the event of default. There is no evidence that debt dispersion is used to prevent strategic default by the borrower.

Second, we find that the banks make very limited concessions during distress. We find only one case of debt forgiveness in our sample. Also, banks rarely expand and often contract lending during distress. However, banks do not hurry to exercise their liquidation rights and rarely increase interest-rate margins to compensate for the increased default risk.

Third, we find no evidence of asset-grabbing or creditors' runs by the dispersed trade creditors. It is almost always the case that the bank makes the decision to place the company in bankruptcy. There is no evidence that the

bank's decision is dictated by the actions of trade creditors, who we find rarely litigate to enforce repayment of debts by threatening liquidation, and tend to maintain or even expand lending during distress. We interpret these findings as showing that once the liquidation rights are concentrated, the incentives for trade creditors to precipitate bankruptcy are limited. This interpretation suggests that asset grabbing is not a generic problem of financial distress, but rather an outcome of a particular debt structure.³ More generally, debtors and creditors are capable of finding a contractual solution to some of the fundamental problems caused by financial distress.

Fourth, we find mixed results with respect to "lazy banking". On the one hand, high recovery rates for the bank and low recovery rates for other creditors suggest that the bank times liquidation close to when the value of the firm equals the value of its collateral. On the other hand, the evidence suggests that the bank's decision to liquidate a firm is sensitive to the firm's own restructuring efforts, such as replacing its manager. Thus, there is some evidence that the banks show an interest in the going concern value of the firm, and do not confine monitoring to valuing the firm and its collateral.

Our paper contributes to narrowing two gaps in the empirical literature on bankruptcy and distress. First, very little is known about the functioning of contract-driven systems. The limited evidence available is from Scandinavian countries. Thorburn (2000) examines Swedish auctions of bankrupt firms, which resemble English receiverships, and argues that the outcomes compare favorably with Chapter 11. Stromberg (2000), using a similar sample, finds that many of the auctions result in sales to existing management at the expense of the junior creditors.⁴ However, these studies analyze only one of the possible outcomes of distress, namely, bankruptcy. In contrast, we sample the companies at an earlier stage of the cycle of distress, follow them through the process and study all possible resolutions, including survival outside bankruptcy. As a result, we provide a comprehensive analysis of the interrelations between debt structure, coordination failures, renegotiation and restructuring efforts by the main lender.

³ See Jackson (1986) for a general discussion of coordination failures as a basic problem of corporate bankruptcy and distress. See also Baird (1986).

⁴ See Ravid and Sundgren (1998) for a study of Finnish auctions.

The second contribution of our paper is to the research on financial distress among small, unlisted companies, a topic virtually ignored in the literature. Well-known American studies such as Gilson, John and Lang (1990), Asquith, Gertner and Scharfstein (1994) and Franks and Torous (1994) use samples of large listed companies with multiple large lenders as well as public bondholders; an exception is a study by LoPucki (1983).⁵ Compared with these studies, we find a greater concentration of liquidation rights, less potential for coordination failures, and far less evidence of debt forgiveness. Our analysis provides some evidence that these differences arise as a result of legal systems rather than simply the size of companies.

Our paper is organized as follows. Section 2 discusses the theory and formulates some testable hypotheses. Section 3 describes the law on corporate bankruptcy in the U.K. Section 4 describes the data set and provides an overview of the cycle of distress. Section 5 provides a detailed analysis of the companies' debt structure and debt dispersion. Section 6 presents evidence on soft banks, creditors' runs and lazy banking. Section 7 provides some additional findings, including the frequency of litigation and the incidence of going concerns in bankruptcy. Section 8 concludes.

2. Theory and hypotheses

In this section we state three hypotheses that provide the focus for our empirical analysis. The main idea is that the firm and its creditors will structure the company's debt so as to trade off the costs and benefits of debt dispersion. On the one hand, debt dispersion allows the firm to pre-commit not to renegotiate its debt, thus "hardening its budget constraint"; on the other, concentrated debt makes it easier to resolve coordination failures among lenders.

The mechanism by which debt dispersion hardens the budget constraint is as follows. According to Hart and Moore (1998), a firm may force a single secured lender to accept a debt write-off, possibly down to the liquidation value of the assets. In contrast, Berglof and von Thadden (1994), and Berglof, Roland and von Thadden (1999) show that small, dispersed

⁵ An unpublished study by Brunner and Krahen (2002) examines multilateral contractual

lenders can deter such renegotiation provided that each lender has the right to liquidate the firm, and satisfy itself from the whole pool of the company's assets regardless of other lenders. This is because each dispersed lender ignores the loss it imposes on other small lenders while liquidating the company's assets. The company anticipates the lenders' greater propensity to liquidate the assets and avoids the renegotiation altogether. Hence, the dispersion of debt and liquidation rights is a mechanism by which the company pre-commits itself to avoid debt renegotiation.

One testable implication of the theory is that banks holding a significant amount of secured debt might be vulnerable to strategic renegotiation. Then we should expect to observe "soft banks" forgiving a significant amount of debt, waiving interest payments or rolling over high levels of lending (or even expanding it) at below market interest rates.

To summarize,

Hypothesis (soft banks): Big lenders, secured on the company's assets, will be soft in response to attempts by the borrower to renegotiate down the debt. At the same time small, uncoordinated lenders would resist any attempt to renegotiate.

The firms in our sample typically borrow from a large number of "small" trade creditors. However, most of the liquidation rights are held by the company's main bank, although trade creditors do have some liquidation rights.⁶ As described above, in order to be considered as "dispersed" along the lines of Berglof and von Thadden (1994), the trade creditors should be able to exercise their liquidation rights, regardless of other lenders. If these liquidation rights are significant and if trade creditors have an incentive to use them, they will resist attempts at renegotiation, thereby hardening the firm's budget constraint. Once the firm foresees such an outcome, dispersion will achieve the pre-commitment objective modeled by Berglof and von Thadden.⁷

arrangements among German banks, designed to mitigate co-ordination failures.

⁶ See also Biais and Gollier (1997).

⁷ The theory typically associates dispersed lenders with public bondholders (see Gertner and Scharfstein (1991)). None of the companies in our sample issues public debt, and most of them are not listed.

Although debt dispersion can prevent strategic renegotiation, Bolton and Scharfstein (1996) argue that the benefits of dispersion should be traded off against important disadvantages. In particular, dispersed creditors might fail to co-ordinate a distressed restructuring of an economically viable company. We would expect this effect to reduce incentives to give liquidation rights to dispersed creditors. We will provide some evidence as to which effect is more significant.

The theory of debt dispersion also provides an important insight into the problem of asset grabbing and creditors' runs. A creditors' run takes place when lenders exercise their first mover advantage, each trying to grab assets before other lenders, thereby precipitating the liquidation of a viable company.⁸ Thus, a creditors' run is a direct result of a dispersed and uncoordinated debt structure, and is not a generic problem of financial distress. As Webb (1991) argues, "certain kinds of financial structure [like the U.K.'s] create an incentive for creditors to prematurely and inefficiently liquidate companies. ... The problem stems from the feature of this system, which allows the creditors to act in individual self-interest. They have the right to recover the value of their claim without considering what happens to the overall pool of assets upon which they draw" (pp. 143-145). In Section 6 below we look for evidence of creditors' runs by studying whether bankruptcies coincide with trade creditors exercising their liquidation rights or withdrawing credit from the distressed company.

Hypothesis (creditors' run): A creditors' run may be observed in those firms where the liquidation rights are dispersed among lenders.

Although the concentration of liquidation rights in the hands of a bank may prevent creditors' runs, it may distort the liquidation decision. In his discussion of the English system, Hart (1995) suggests that the bank "may decide against keeping a good company going because it does not see the upside potential. Moreover, even when the bank does decide to sell a

⁸ Like in an optimal bank run, a firm may intentionally choose an unstable capital structure to pre-commit itself not to renegotiate strategically; see Calomiris and Kahn (1991) and Diamond and Dybvig (1983).

company as a going concern, it may not have an incentive to push for a high sale price, given the ceiling on its returns. As a result, there may be little left over for junior claimants”. In that event, banks may have an incentive to be “lazy” in monitoring and restructuring the distressed firm, and may prematurely liquidate the firm without investing much effort in its restructuring.

Empirically, there is no clear benchmark available for assessing the optimal amount of effort the bank should put into restructuring the firm. In the extreme we might expect to see the banks putting no effort into restructuring the business, simply liquidating it when the value of the collateral is well above the face value of the debt so as to economize on the costs of monitoring the collateral. A slightly stronger hypothesis would be that the bank times bankruptcy to the point where the value of the collateral equals the value of the debt. This may reflect the bank’s incentives to protect the profits on its lending and maintain a reputation for not liquidating companies prematurely. We test the lazy banking hypothesis using a probit regression that relates the outcome of distress (bankruptcy or rescue) to the value of the bank’s collateral and the firm’s restructuring efforts (proxied by managerial replacement).

Another implication of lazy banking is that if the bank expects 100% recovery, net of costs, it may have little incentive to minimize the direct costs of bankruptcy. In this case, we would expect that junior creditors would bear excessively high costs reducing their recovery rates. We use estimates of direct costs from other countries as a benchmark against which we evaluate excessive costs.

Hypothesis (lazy banking)⁹: Banks will liquidate distressed companies when the value of the collateral equals or exceeds the value of the debt outstanding, regardless of the firm’s restructuring efforts. We would also expect to observe direct costs of bankruptcy to be excessive.

⁹ The expression was coined by Manove, Padilla and Pagano (2000). Their paper is one of the few that provides a coherent argument for why the lazy banking problem is not resolved by way of a contract. The argument relies on informational externalities across banks, by which one bank’s information production depends on how much information is produced by others.

3. U.K. Legal Structure

In this section we describe the legal framework relating to bankruptcy procedures in the U.K.¹⁰ We highlight the contractual instruments, which are widely used to concentrate liquidation rights in the hands of the secured lenders. At the same time, we describe the legal remedies available to the unsecured creditors and the preferential creditors (mainly the tax authorities).

There are two types of secured loan contracts in the U.K., those with a fixed charge and those with a floating charge.¹¹ A fixed charge is secured on a specific asset such as real estate or heavy machinery. A floating charge is secured on the whole pool of the company's assets, including real estate, intangibles, working capital, receivables and cash. If there is a fixed charge on a particular asset the fixed charge is senior to the floating charge. A lender is permitted to hold both a fixed and a floating charge.

The rights given to the floating charge are substantial. It effectively gives the lender default contingent control rights over the entire company. Upon default, the creditor with the floating charge has the right to appoint an administrative receiver (henceforth a receiver), who assumes all the powers of the company's board of directors. The receiver exercises these powers for the sole purpose of realizing sufficient funds to repay the debt of the floating charge holder. His responsibility is limited to "protecting the interests of the security-holders who appointed [him]" (see Davies (1997) page 385). He has no duty to consider the interests of other lenders, in particular the unsecured lenders.¹² However, he must respect the rights of secured creditors, and they will have priority over the proceeds of the sale of their assets. The receiver has full discretion on whether to sell the firm as a going concern or liquidate it piecemeal. This discretion cannot be challenged in the courts on the grounds that the receiver has, for example, underestimated the firm's prospects of recovery.

The unsecured creditors rank behind creditors with a fixed and floating charge. Nevertheless, the unsecured have some liquidation rights that allow them to enforce their rights in the event of default. First, they can apply for a *winding up* order. Unlike receivership, winding up is court-supervised and is

¹⁰ See Franks and Sussman (2002) for an analysis of the evolution of the system.

¹¹ In the U.S. a floating charge is called a floating lien.

undertaken by a liquidator. Although the liquidator operates on behalf of all creditors, he is obliged to pay the lenders in the order of their seniority. Crucially, the holder of a floating charge can always pre-empt a winding up order by appointing a receiver. Second, trade creditors can incorporate into the contract of sale a Retention of Title clause that allows them to reclaim goods supplied as long as they are identifiable and distinguishable from other inputs. For example, once wool has been used to make a fabric it is no longer distinguishable from labor, raw materials etc., and the rights created by Retention of Title are void.

It is important to emphasize that this uneven allocation of liquidation rights across lenders is a direct consequence of the debt contract, and not of statute. In the U.K.'s contract-driven system the parties may strengthen or weaken the rights of any class of lenders. For example, it is for the lender and borrower to agree whether to secure a loan by a floating charge or not. The firm may also give a floating charge to several lenders. The fact that we rarely observe such a debt structure provides some evidence that the parties are reluctant to disperse liquidation rights as a means of hardening the budget constraint.

There is one important exception to this contract-driven system. The law has prescribed that debts owed to the tax authorities have seniority over all other creditors, except those that are secured against a specific asset, namely fixed charges and Retention of Title. In summary, the order of seniority is as follows. Assets secured specifically by a fixed charge or Retention of Title, are separated from the pool of the company's assets. The proceeds from their sale accrue to the creditor holding the specific security.¹³ On the remaining pool of assets, the preferential creditors come first, then the floating charge holder and then the unsecured trade creditors. The unsecured share any proceeds on a pro rata basis according to the size of their loans.

As we shall see below it is common for the bank to demand both a fixed and floating charge. This provides the bank with a dominant position: the floating charge gives it control rights over the bankruptcy process and the

¹² However, the receiver cannot steal or perform his task negligently.

¹³ If there is a surplus from the sale of a fixed asset after the secured creditor's loan has been fully repaid, the proceeds will go back into the pool of the company assets.

fixed charge gives it seniority over the proceeds of sale of the company's assets.

In the interests of completeness, we mention the Insolvency Act of 1986, which introduced two new rescue procedures modeled in part upon Chapter 11: *Administration* and *Company Voluntary Arrangements (CVA)*. Both of these procedures are court-administered and provide the company with temporary protection from creditors' actions. However, the holder of the floating charge has the power to veto both procedures and appoint a receiver instead. These procedures therefore do not put any restriction on the rights of the creditor with the floating charge.

4. The data

In Section 4.1 we provide an outline of the cycle of distress, rescue and bankruptcy. In Section 4.2 we describe the procedure used for data collection, explaining the measures we have taken to avoid selection bias. Our data set includes all small to medium size corporate customers of three U.K. commercial banks that became distressed within a defined sampling window.¹⁴ In Section 4.3, we describe the level of distress of companies in our sample.

4.1 The cycle of distress

A company is defined to be in distress once the local branch and the regional credit officer transfers the account to the bank's Business Support Unit (BSU). Each of the three banks has a Business Support Unit that is a specialized head-office department that deals with distressed small to medium-sized companies. The pronounced objective of the BSU is to "turnaround" the company and to return control of the company's accounts to its local bank branch.¹⁵ Appendix 1 provides some information on the criteria that the credit officers use to determine whether a firm should be sent to the BSU.

¹⁴ According to Cruickshank (2000) these three banks account for 67% of all U.K. commercial lending to the small to medium size corporate sector.

¹⁵ It is unusual for a company to be placed in bankruptcy without first entering BSU. For example for Bank 1, 7 out of 85 firms were placed in bankruptcy without passing through the BSU.

Figure 1 describes the time line for the cycle of distress. We denote the point when the company enters the BSU (and our sampling window) as $t=1$. We denote by $t=0$ the period prior to distress, and $t=2$ the point at which the firm leaves the BSU. The rescue effort may end successfully or, the firm may be considered no longer viable, in which case it is placed in the “Debt Recovery Unit” (DRU) where formal bankruptcy proceedings are undertaken. The DRU will appoint a professional insolvency practitioner, from an independent company, to realize the company’s assets and repay the creditors. The practitioner must decide whether to liquidate the company piecemeal, or to sell it as a going concern. Another possible resolution of the process is that the firm repays its debt to the bank, terminates the relationship and “rebanks” with another bank.

[Insert Figure 1 here]

4.2 Sample selection

The data set includes *all* companies that entered the BSU of any one of the three banks within the sampling window. The calendar period of the sampling window differs slightly across the three banks, but in all cases straddles 1997 through to 1998 (see Table 1, Panel A). Effectively, our data set is a survey of distress within the sampling window

Choosing an earlier period was difficult because the banks have only recently centralized data collection electronically. A later period was undesirable because it did not allow us sufficient time to observe how financial distress was resolved. During 1997 the economy was relatively strong, with 15,500 bankruptcies compared with an annual average of 19,000 (from 1987 to 1999).¹⁶ Altman, Resti and Sironi (2001) provide U.S. evidence that recovery rates for creditors are cyclical.¹⁷

¹⁶ Source: Table 1 in “A Review of Company Rescue and Business Reconstruction Mechanisms: Report by the Review Group, Department of Trade and Industry and HM Treasury”, May 2000.

¹⁷ See also Altman and Brady (2001).

The criterion for “small to medium size” is defined differently across the banks.¹⁸ Bank 1 uses size of bank debt outstanding whereas the other two banks use (different) sales criteria (see Table 1, Panel A). As a result, the size distribution of our firms differs considerably across the banks, although it is heavily skewed towards smaller firms with a median turnover of between £0.8 and £5.5 million (see Table 1, Panel C).

[Insert Table 1 here]

For the three banks, the length of time spent in BSU varies between 6.9 and 11.2 months, with an average of 7.5 months. The period spent in BSU is higher for firms that are rescued than for those that end up in bankruptcy, 9.2 versus 5.2 months.¹⁹ The outcome of distress differs significantly across the three banks. Panel B of Table 1 shows that Bank 3 has the lowest rate of bankruptcy (13%) with a relatively high incidence of rebanking (33%). We believe this reflects either a difference in the quality of customers, or a different strategy of dealing with financial distress (or both). We shall comment further on this point in Section 7.4 below.

To improve our understanding of the data, we have conducted numerous interviews with the staff of each bank so as to obtain information about the way they manage the process of distress. We were allowed unrestricted access to the banks’ original files, and we have used this access to verify the quality of the data. In addition, we collected data from reports of receivers appointed by Banks 1 and 2. Where needed, we have augmented the data supplied by the banks with a publicly available dataset FAME (owned by Thompson Financial), which provides balance sheet and profit and loss data for all private and listed U.K. companies. These data were particularly helpful for Banks 1 and 2, which gave us the names of distressed companies and

¹⁸ Larger distressed companies, especially listed ones, are managed by another unit, while very small distressed firms are dealt with by the local bank branch.

¹⁹ There are two qualifications. For firms that survive in BSU there is a downward bias since 28% of the sample of firms were still in BSU at the time data collection was completed. Discussions with the banks lead us to believe that most of these firms will go back to branch. Where the outcome is bankruptcy, 5.2 months does not include the amount of time when the firm is administered in bankruptcy.

therefore enabled us to identify them in FAME. Finally, we obtained a limited amount of data on the liquidation rights of trade creditors and their recovery rates from Gurlings, one of the largest suppliers of insurance to trade creditors in the U.K.

4.3 How distressed are firms in the sample?

Since placing a firm in BSU is an administrative decision of the bank, which need not be disclosed to outside parties, we sought an objective verification of the level of financial distress in the sample. In Table 2, we provide data from FAME on the financial health of companies entering the BSU of Banks 1 and 2 (referred to as the “bank’s sample” in Table 2). Also, we report statistics for the entire FAME population, for firms that are within the sales-turnover range of our sample. We compare the means and medians in both data sets, and we report the decile in the FAME population, in which the median of the three banks’ sample falls. Data are reported for the year of entry to BSU ($t=1$), and one year before and one year after entry.

[Insert Table 2 here]

We report three balance sheet ratios in Panel A: book leverage (total debt/total assets), return on assets (net operating income before interest and after taxes divided by total assets), and the liquidity ratio (current assets minus inventory/ current liabilities). Compared with the FAME sample, our firms are highly levered (8th decile), unprofitable (2nd decile), and illiquid (3rd decile).

Also, we report two statistics from the profit and loss accounts (Panel B). The sales turnover of the banks’ sample tends to be larger than that of the FAME sample (8th decile), but much less profitable, with only 44% of firms in our sample reporting a profit before entering distress, compared with 73% in the FAME sample.

In Panel C of Table 2 we provide a more formal test of whether our firms are in distress. We run a probit regression where the dependent variable receives a value of 1 if the firm is in our sample (Banks 1 and 2) and zero otherwise. The independent variables are the same as in Panels A and B. The population is the entire FAME sample, straddling the sales turnover of the

banks' sample. Note that our regression suffers from a serious classification error: distressed FAME firms, not banking with Banks 1 and 2, are counted as not being distressed. Such a classification error biases (downwards) the estimated coefficients (see Hausman, Abrevaya, and Scott-Morton (1998)). Nevertheless, the coefficients of all the independent variables are significant and have the right sign. These results confirm that the firms in our sample are distressed compared with the general population of firms.

5. Debt structure

The main focus of this section is the debt structure of companies in our sample, particularly the dispersion of liquidation rights across the different creditors. The evidence suggests that liquidation rights are very concentrated in the hands of the main bank. Although the unsecured creditors provide a significant proportion of the firm's funding, their liquidation rights are much weaker than those of the bank. This unevenness is confirmed by other evidence on creditors' recovery rates in bankruptcy.

5.1 Debt dispersion

Panel A of Table 3 shows that the companies' principal source of credit is their "main" bank (henceforth, "the bank"). The second largest source of funding is trade credit. For firms dealing with Banks 2 and 3, these two sources of borrowing exceed 80% of the total; the figure is somewhat lower for firms dealing with Bank 1, at 62%. Other sources of lending (labeled "other") include other banks, leasing companies, and purchasers of receivables i.e. trade factors. The entire distribution of debt for Bank 2 is described in Figure 2, with larger companies (total debt above £2 million) designated with a triangle. The figure indicates that main bank's debt and trade credit are the dominant sources of lending for most companies in our sample (*i.e.* the observations lie close to the diagonal), especially for the smaller firms.

[Insert Table 3 and Figure 2 here]

Although we have no comprehensive data about the composition of trade credit, we have good reason to believe that trade credit is highly dispersed. Using receivers' reports we have obtained lists of individual creditors for two firms. For one firm, the total proceeds of sale in receivership were £619,000. There were 91 trade creditors who were owed a total of £330,000. Of these 91 trade creditors, 46 were owed less than £1000, 31 between £1000 and £5000, and 14 more than £5000. The largest trade creditor was owed £42,000. For another firm, where the sales proceeds were £2.46 millions, 94 trade creditors were owed in aggregate £1.52 million pounds. Of these, 46 were owed less than £1000, 24 between £1000 and £5000, 19 between £5000 and £100,000 and 4 over £100,000.

Owners provide only a small fraction of companies' lending (see Panel A of Table 3). Nevertheless, the amounts are sizeable in terms of personal wealth. Although the median lending by managers is zero, in 10% of cases it exceeds £100,000 (see Panel B). Typically, this kind of debt is very junior. Additionally, Panel C reports that the majority of owners provide personal guarantees for their business loans. The importance of guarantees can be better appreciated once it is realized that, unlike in the U.S., U.K. laws do not provide any exemption for the individual's assets in the event of personal bankruptcy. The implication is that owners and managers contract away some of the protection provided by limited liability: in the event of the company's failure they stand to lose not only their salary and equity, but also some of their personal assets.

Although a significant proportion of lending is provided by other sources such as trade credit, the liquidation rights are very concentrated in the hands of the bank. Panel C shows that for firms in Bank 1's sample, 91.2% of their loans to Bank 1 are secured by both a fixed and a floating charge. As described in Section 3, these charges will allow the bank to take control of a firm in the event of default, and make it senior with respect to the distribution of proceeds from any formal bankruptcy proceedings. For firms with Bank 3 the equivalent figure for fixed and floating charge is 78.9%. It is the lowest for Bank 2 at 52.6%. However, officers of Bank 2 have informed us that taking both a fixed and a floating charge is the bank's standard policy. Possibly, the policy is so common that the credit officers take it for granted

that reporting one implies the other.²⁰ If this is the case, the vast majority of companies provide a fixed and a floating charge to their main bank.

The bank's powers may be better appreciated once it is realized that much of the bank's debt is provided through overdraft facilities and is callable at 48-hours notice. A failure to repay promptly will put the company in breach of its covenant and will provide the bank with a legal right to place the company in bankruptcy. However, default typically leads to a firm being placed in BSU rather than an immediate bankruptcy. The bank then waits 5.2 months on average before making a decision to send it to DRU. This patience may indicate the banks' confidence in the quality of their collateral, and the dominance of their position among other lenders.

As described in Section 3, trade creditors can create liquidation rights through Retention of Title clauses. In order to establish the incidence of Retention of Title claims, we obtain data from Girlings, a trade-credit insurer, which retains data on payouts to suppliers whom they insure.²¹ We provided Girlings with the names of 113 bankrupt companies from our sample. We found that of these 113, Girlings had insured suppliers to 21 of these companies. However, the compensation paid to suppliers was typically small. In 7 cases nothing was paid; in 13 cases up to £15,000, and in one case £142,000. Crucially, only in the last case were payments made against a Retention of Title claim; however, the amount was very small at £2,400, less than 2% of total payments. From this evidence we conclude that Retention of Title is unlikely to play a significant role in our data.

5.2 Recovery rates

We have already provided evidence that the bank and trade creditors have very different liquidation rights. We would expect that the unsecured creditors' recovery rates should be significantly lower than the banks.

In reporting recovery rates we aggregate over all bankruptcy procedures (see Panel A of Table 4). Differences in recovery rates across

²⁰ It is not clear from the bank's records that where no charge is reported whether this should be interpreted as a missing observation or unsecured lending. We have assumed the latter.

²¹ In return for a premium trade credit insurers guarantee the repayment of trade credit in the event that the company receiving the goods defaults and the supplier is not paid. Girlings supply 37% of all trade credit insurance in the U.K.

bankruptcy procedures were not statistically significant, although the small size of some of the sub-samples made comparisons less meaningful.

[Insert Table 4 here]

Recovery rates are calculated as the actual payments made to lenders divided by the principal or face value of the loan. Panel B of Table 4 reports recovery rates for each of the three banks. The main bank recovers on average between 74% and 77% of their loan, with medians as high as 100% for two banks. Calculations of recovery rates are based on debt outstanding at the end of the rescue period (i.e. $t=2$) upon entry into DRU. These recovery rates may be conservative since distressed companies typically make some repayments to the bank during the period of rescue. Hence, if we include repayments during the rescue period in recovery rates to the banks they may be somewhat higher than those reported in the table.

Little is known about recovery rates for trade creditors. The banks do not collect such data, and the information in receivers' reports is incomplete. However, we were able to infer the median recovery rates for trade creditors in the case of Bank 2. We know that for any realizations from the sale of assets secured against a fixed charge the bank comes first, then come the preferential creditors, and then any unsatisfied claims of the floating charge, and finally the unsecured creditors. It follows that where preferential creditors recover less than 100%, the unsecured receive no payout. Data from receivers' reports, provided by the Bank, tells us that the median recovery rate for preferential creditors is very small at 3.3%, which implies that the median recovery rates for the trade creditors are zero. For Bank 1, we only have recovery rates for the bank. As a result, we cannot be sure of recovery rates for preferential creditors. However, since median recovery rates for the bank are less than 100%, it is a reasonable expectation that medians for preferential creditors will be small or zero. Since trade creditors are always junior to the bank, their median recovery rates must be zero since the bank's claims are not fully satisfied.

Franks and Torous (1989) provide evidence that unsecured creditors receive 27 cents in the dollar in Chapter 11 reorganizations. These compare

with virtually zero in our sample, and we believe reflect very different patterns of liquidation rights in the two legal jurisdictions.

5.3 Spreads on bank debt

Interest rate spreads charged by each bank are reported in Panel A of Table 3. We argue in Section 7.4 below that the variability of these spreads provides an indication of differences in the quality of customers across banks, with Bank 3 having the highest quality of customers.

6. The rescue process

We examine the rescue process to test the main hypotheses described in Section 2. We show that there is little or no evidence that banks are soft. We also find a virtual absence of creditors' runs. This result is consistent with the theory: once liquidation rights are concentrated, we do not expect to observe runs. As for the lazy banking proposition, we find the evidence to be mixed.

6.1 Soft banks

According to theory, large secured creditors are vulnerable to opportunistic behavior by the borrower (see Section 2). It follows that one should expect to observe banks acting softly in debt renegotiation. Soft behavior might take the form of debt forgiveness, the expansion or rolling over of existing debt without a significant increase in spreads.

Contrary to the theory, we find the evidence shows tough behavior on the part of the banks. In Panel B of Table 5 we report only one case where a bank has forgiven debt during rescue. Also, we observe only a few cases where the bank expands credit during the rescue period. On average, the banks' lending is reduced by between 30.8% and 43.5% (see Panel A, Table 5).

[Insert Table 5 here]

The only indication of soft behavior by banks is the tendency not to increase interest rate spreads in BSU to reflect the increased risk exposure following distress. However, in spread regressions (using data at $t=0$, prior to

distress), we have found some evidence that Bank 2 charges a higher interest rate for firms with a history of distress.²² Hence, it is possible that the bank increases spreads once a firm returns to branch, and is no longer included in our data set.

At the same time that banks are contracting their lending, trade creditors are expanding theirs.²³ On average, trade credit tends to *grow* in BSU, between 11.1% and 32.6%, depending on the bank. This growth is concentrated in a minority of firms since the medians are zero for two banks (see Table 5, Panel A). The result is more dramatic when we split the sample according to the outcome, rescue or bankruptcy.

In Figure 3, we describe the entire distribution of credit flows from the bank and the trade creditors to the distressed firm while in BSU for Bank 2. Credit flows from both bank and trade creditors are normalized by total debt outstanding at the beginning of the rescue period ($t=1$), so that observations on the diagonal represent the same credit flows (in money terms) for both bank and trade creditor. The sample is sorted according to the resolution of distress - bankruptcy or successful rescue. The data show sharp differences in the pattern of credit flows.

This is particularly true for firms that end up in DRU. While trade creditors often extend credit, the bank rarely does so; even when it does, the sums are insignificant; see the truncation of the cloud along the vertical axis in the DRU panel of Figure 3. Moreover, whereas there are cases of trade credit expansion coinciding with bank repayments (NW quadrant), there are no cases of credit flows in the opposite direction (SE quadrant). Regression results reported in Figure 3 show that in DRU for every pound sterling the bank has on average withdrawn, the trade creditors have put in 0.50 pounds; the picture is very different from firms that are rescued.

[Insert Figure 3]

²² The regressions are available on request.

²³ We are not certain, however, whether it is the old trade creditors who provide additional funding, or new creditors

These findings raise two interesting questions. First, why do trade creditors expand their lending to distressed companies, particularly among those firms that eventually end up in bankruptcy? Two explanations are plausible. Trade creditors are simply unaware of the firm's distress since the bank's decision to place a firm in BSU is not a public event.²⁴ Alternatively, trade creditors may price in the high risk of default into the trade credit decision. Wilner (1995) provides evidence on the high costs of trade credit. It may be that those costs incorporate an element of rent that provides the supplier/trade creditor with an incentive to stay loyal to the firm, extending credit during times of distress (see Cunat (2002)).²⁵

Second, how do the banks manage to deal so effectively with the threat of strategic default? One answer given in interviews with the bank's lending officers is that debt forgiveness is simply "out of the question". In other words, the credit officers have no authority to negotiate such concessions. Thus, the absence of debt forgiveness (in all three banks) may be an outcome of the bureaucratization of the rescue process.²⁶ We might then expect to observe some concessions among larger firms, where managers higher up in the bank's hierarchy make the relevant decisions. A new study by Franks and Sanzhar (2002) on listed companies confirms that banks do forgive debt in a significant proportion of workouts.

6.2 Asset grabbing and creditors' run

A creditors' run is often perceived to be an endemic problem of contract-driven systems, as trade creditors exercise their right to wind up the company in the event of default. In this section, we provide evidence that shows a virtual absence of creditors' runs, because trade creditors do not appear to exercise their liquidation rights. We provide some explanations as to why the English system avoids these problems.

²⁴ Peterson and Rajan (1997) have argued that trade creditors are typically well informed.

²⁵ Interviews with Giralings, a trade credit insurer (see above), confirmed that trade suppliers, are often uninformed about the distress of the firms being supplied, and when informed will often extend further trade credit and forgive past debts. Thus, trade creditors are 'soft' and dispersed.

²⁶ The tax authorities had a stated policy of refusing debt forgiveness under any circumstances.

We analyze the rescue process using a probit regression.²⁷ The dependent variable is a dummy that receives a value of 1 if the firm is placed in bankruptcy and 0 otherwise. The explanatory variables can be classified into three groups. The first group includes variables such as size and interest rate spreads upon entry to BSU, which control for *ex ante* firm characteristics. A second group includes variables such as share of (main) bank debt and collateralization rates, based upon amounts outstanding at the beginning of the rescue process, which control for debt structure. The third group includes variables for managerial replacement and the evolution of both bank and trade credit, which capture the actions of major players during the rescue process.

[Insert Table 6 here]

Under the creditors' run hypothesis (Hypothesis 2) the contraction of trade credit during the rescue process (GR-TRADE-1-2) should have a significantly negative effect on the probability of survival. Namely, a creditors' run starts when the company can no longer resist the demands from trade creditors for payment, which leaves the bank with no choice but to send the firm to DRU. Hence, the more trade credit is reduced or repaid in BSU, the higher is the probability that the distressed firm will be placed in bankruptcy. This hypothesis is clearly rejected. The coefficient of GR-TRADE-1-2 is always positive and significant at better than the 10% level, indicating that a contraction of trade credit in BSU by one standard deviation decreases the probability of bankruptcy by up to 17% (see for example regression 2 in the table). The results are consistent with a competing hypothesis, whereby repaying trade creditors is a sign of confidence by the firm in its ability to survive.

Additional evidence against the creditors' run hypothesis is provided by the low frequency of winding ups, which is a remedy for trade creditors upon entry into BSU. Since it is not exclusive to trade creditors this is an upper bound on the incidence of trade creditors exercising their rights. Of the 170 firms sent to DRU (Panel A of Table 4) we find only 11 cases where a

²⁷ Data availability restricts the analysis to Bank 2 only.

winding up order triggers financial distress; of these, 4 were triggered by the preferential creditors. Further evidence on the role of trade creditors in initiating distress is provided by Bank 3's description of the cause of distress. Of 109 cases of distress, 100 are classified as "bank initiated" and the rest as "owner initiated". There is not a single case where Bank 3 reports that the trade creditors have triggered entry into BSU.

What explains the absence of creditors' runs? A creditors' run is always the result of a first mover advantage. The debt structure in our sample allocates liquidation rights in a way that avoids this problem. Due to seniority, once the firm is insolvent if the trade creditors attempt to initiate a liquidation, the holder of the floating charge will appoint a receiver and realize the company's assets. Even if some funds remain after the secured creditor has been repaid, the trade creditor initiating a winding up will share the remainder pro rata so there is no first mover advantage. If there is any surprise in the findings it is that the contractual mechanism works so well to prevent creditors' runs. We might expect some cases where the trade creditors exercise their rights when the firm is just solvent and there is still some money in the pot. In this case we would expect to observe trade creditors precipitating bankruptcy through a winding up order. However, the previous evidence suggests that this does not happen.

6.3 Lazy banking

We have established that the debt structure in our sample has largely eliminated the problem of creditors' runs. The remaining question is whether this debt structure encourages banks to be lazy. We take lazy banking to mean that the bank (i) puts too little effort into rescuing the company, (ii) ignores the restructuring efforts of the firm such as management replacement, (iii) liquidates the firm automatically once the value of the collateral falls short of the face value of the loan, and (iv) incurs excessive direct costs of bankruptcy. Here, the evidence is mixed.

Because we lack a clear benchmark for the optimal amount of effort the bank should invest in restructuring the firm, we test a weaker proposition: that bank puts no effort whatsoever in restructuring the firm. We have already

observed some evidence against this extreme view: banks have specialized rescue units, and the rescue process lasts on average 5.2 months.

To measure the firm's restructuring effort, we use managerial replacement, which is widely used in the bankruptcy literature (see for example, Gilson (1989)). In Table 6, we have included a dummy variable (D-MANGE), which equals 1 if the company replaces its senior manager in BSU, and 0 otherwise. The negative coefficient indicates that replacement of a senior manager decreases the probability of bankruptcy by almost 57% (see regression 6 in the table).²⁸

Evidence on recovery rates in Table 4 indicate that once the value of collateral falls below the face value of the debt, the bank does not wait too long before it puts the firm into bankruptcy. However, the relation between collateral value and the liquidation decision is unlikely to be monotonic. If the firm has only a small amount of collateral, the lazy option of bankrupting the firm may be of very little value; the bank has more of an equity stake in the firm and therefore has a stronger incentive to bet on recovery. By the same argument, the more collateralized the loan, the stronger is the bank's incentive to force repayment or exercise its bankruptcy option. However, once the value of the collateral exceeds the value of the loan, the bank may bet on recovery and the continuance of a profitable relationship. To test this non-linear effect, we define a pair of variables: the log of the security coverage ratio $\text{LN}(\text{SCRT1}/\text{MAIN1})$, and a slope dummy D-SLOPE with a breaking point at the value where $\text{SCRT1}/\text{MAIN1}=1$. The coefficients have the predicted signs, but are not statistically significant.

Another implication of lazy banking is that the bank has little incentive to reduce bankruptcy costs, as long as those costs are borne by other creditors (see the quote by Hart (1995) in Section 2). We find evidence that direct costs of bankruptcy seem to be relatively high.²⁹ In panel C of Table 4 we report medians of 26.8% and 18.5% based on the total proceeds of sale recovered by the receivers for Banks 1 and 2, respectively; means are 42.4% and 24.3%, respectively. (We ignore Bank 3 because the sample is very small.) However,

²⁸ The firms that replace managers tend to be of above average size. This may be because ownership and control tend to be combined in smaller firms, and replacing a senior manager means giving up ownership, with all the associated private benefits.

the median costs figure for Bank 1 is upward biased, since we do not have data for recoveries by the preferential creditors. The mean for Bank 2 is also upward biased because we do not have precise individual recovery rates for preferential creditors.

Using international comparisons we are able to make a more meaningful assessment about whether costs are excessive. Direct costs as a percentage of realizations reported by Thorburn (2000) for Swedish auctions of firms with a size similar to ours, are 13.2% (medians) and 19.1% (means). Thus, a comparison of medians of the two samples suggests that the U.K. sample has costs about a 40% higher for Bank 2 and about twice as high for Bank 1 (although the latter number is upward biased). One reason for the lower costs in Sweden may be that the receiver is legally responsible to all creditors whereas in the U.K. he is responsible only to the creditor with the floating charge i.e. the bank.

Comparisons with the U.S. are very difficult to make because of a deflator problem. Thorburn (2000) surveys eight US studies and concludes that Chapter 11 direct reorganization costs, deflated by the book value of the companies, are between 3.1 and 3.6%. Note that we deflate by total recovery values. Using a comparable deflator, Thornburn estimates that Swedish direct costs are 50-80% higher than in the U.S. However, those differences might be largely explained by the different size of companies.³⁰ We thus conclude that it is likely that the direct costs in our sample are higher than in the U.S., but the exact size of the difference is difficult to determine.

Interestingly, there is some evidence that the high costs of bankruptcy are more related to the non-competitive nature of market for receiver's services, and that one U.K. bank is taking action to tackle this problem. Recently, The Royal Bank of Scotland has set up a system that requires receivers to tender for bankruptcy appointments. Preliminary results indicate a significant reduction in direct costs. A sample of 31 receiverships shows costs averaging 14.5% as a percentage of total recoveries, which is between one

²⁹ Costs include the receiver's fees, the costs of selling assets, and legal fees.

³⁰ There is strong evidence that relative bankruptcy costs are strongly decreasing in the size of the company due to a fixed-cost effect. For example, the costs of bankruptcy for Bank 1 as a percentage of realizations are 29% of the proceeds ranging between £100-£500,000, 19% for proceeds between £500-£1,000,000 and 16% over £1 million. See Also Weiss (1990).

third and one half below the costs for receiverships in our sample for Bank 1, after controlling for the size of company.³¹ Figures for The Royal Bank are very similar to the direct costs reported by Thorburn (2000) for Sweden.

7. Additional Findings

In this section we elaborate on some of the main themes developed earlier in the paper. First, findings on the incidence of litigation provide some additional evidence about the resolution of co-ordination failures in a contract-driven system. Second, evidence on the number of going-concern sales in bankruptcy provides some perspective on the issue of inefficient liquidations. Third, opportunistic behavior by receivers provides more evidence of the dominant position of banks during bankruptcy. Finally, statistics on rebanking suggests some degree of competition between U.K. commercial banks.

7.1 Litigation

For the most part, bankruptcy in the U.K. is settled out of court. For the entire sample, we find only one case where the appointment of a receiver is challenged in court. The borrower argued that the registration of the debenture was defective and that the bank did not give it sufficient time to resolve its difficulties. The company's appeal was dismissed. This level of court activity is in marked contrast to the U.S. in Chapter 11.

Litigation, by its very nature reflects a coordination failure. If the lender and borrower settle out of court they could share a larger pie. We believe that differences between the U.K. and U.S. can be explained by the same features that resolve other coordination failures in the U.K.: strict enforcement of the contract and concentration of liquidation rights.

It is generally accepted that Chapter 11 awards the courts much discretion. For example, the court may approve supra priority finance (otherwise call debtor-in-possession financing) thereby diluting the claims of senior creditors. Hence appeals to judicial discretion become a vital part of the U.S. process, in contrast to the U.K. where there is a virtual absence of discretion, discouraging most litigation.

³¹For assets between £500,000-£1000,000 costs are 9% for Royal bank of Scotland compared

Also, Chapter 11 tends to disperse power away from the secured creditors. For example, the reorganization plan requires the approval of all classes of lenders and shareholders.³² This dispersion of power complicates further the capital structure of the distressed company, making it more difficult to reach an out of court settlement. In contrast, the U.K. allows banks to concentrate liquidation rights in bankruptcy and therefore the threat of bankruptcy often leads to an informal workout.

7.2 Incidence of going concerns in bankruptcy

Frequently, receivership does not lead to the cessation of the firm's economic activities. The receiver may sell the assets of the company including intangibles such as patents or commercial logos to a new owner, who will incorporate them under a different name. Relieved of debt, the new company can continue the activities of the old company, retaining employees and business relationships.

We know very little about those aspects of receivership. While it is relatively easy to track companies, it is much more difficult to track assets and business relationships. The only information available to us is notes made in the receiver's report. In the case of Bank 2, of 27 receiverships 8 are reported as "going concern sales", 8 as "partial going concerns", with the rest being sold piecemeal. Hence, the proportion of receiverships resulting in going-concern sales is 44%, scoring a partial going concern as one half. The corresponding proportion for Bank 1 is 63.6%. These numbers compare with 44% going concern receiverships published in the survey of the Society of Insolvency Practitioners (SPI) for that period. Thorburn (2000) finds that in Sweden 74% of bankrupt companies were auctioned as going concerns, which is considerably higher than our figures.

7.3 Opportunistic behavior by banks

In this section we present evidence showing that banks use the powers conferred by the floating charge in order to increase their recovery rates at the

with 19% for Bank 2, and over £1 millions they are 7% compared with 16%, respectively.
³² The court can "cram down" one class of dissenting creditors or shareholders.

expense of the “preferential creditors”. The evidence provides further illustration of the benefits of the dominant position of the bank.

Where the bank has both a fixed and a floating charge, the receiver acting for the bank must make an allocation of costs to each of the charges, prior to making any distribution. The receiver may increase the overall recovery rate of the bank by loading the direct costs of bankruptcy onto the floating charge instead of the fixed charge, since the bank is first in seniority under a fixed charge and second under a floating charge (see Section 3).

Using 35 receivers’ reports supplied by Bank 2, we calculate the hypothetical allocation of costs of receivership to the fixed charge and the floating charge on a pro rata basis, proportional to the value of assets secured by each. We then compare the hypothetical cost allocation with the actual one. A simple example may be useful. Let the costs of selling all of the company’s assets be 100 pounds sterling. The fixed assets are expected to realize 400 pounds and the floating charge 100 pounds. The bank is owed exactly 400 pounds and the tax authorities 100 pounds. By loading all the costs onto the floating charge the net proceeds will be zero. As a result, the bank will be repaid in full and the tax authorities will receive nothing. If 75% of the costs are allocated to the fixed charge then the bank will receive 325 pounds and the tax authorities will receive 75 pounds. The latter we refer to as the hypothetical pro rata allocation.

The results are striking: with the exception of two cases, the actual cost allocation to the floating charge is always above the hypothetical one. Of the 21 cases where the bank’s recovery rate is less than 100%, in 10 cases the bank has allocated sufficiently large costs to the floating charge so as to wipe out completely any recovery to the preferential creditors. The difference between the hypothetical and actual allocation is on average 5.8% of the total proceeds available. These findings are consistent with a Report by the Comptroller and Auditor General, The Stationary Office, (1996).

7.4 Competition among banks

It is sometimes argued that the floating charge blocks competition among banks. This is because once a company mortgages its assets to a bank, it is locked into a relationship that is difficult to withdraw from. Evidence from

our sample is not consistent with this view. Moreover, we show how some banks use the termination of the banking relationship to discipline underperforming customers.

We find a significant number of firms switching banking relationships during distress. In Table 1, we report the incidence of rebanking for the three banks: 5.8%, 20.3%, and 33%, respectively. Hence, even while distressed, it seems possible for a company to obtain a loan from a new bank, re-mortgage its assets, and pay-off the old bank.

Looking at the history of our sample prior to distress, rebanking appears even more common: of 186 companies who supplied credit history to Bank 2, 89 have moved from another bank. Of 23 companies that joined Bank 2 in the two years prior to distress, 7 have switched from another bank.

The different rates of rebanking for the three banks are consistent with the credit market being separated by firm quality. As we have described elsewhere, interest-rate spreads tend to be the lowest in Bank 3, and highest in 1 (see Section 5.3 above), a negative correlation with the rate of rebanking. It appears that Bank 3 has a higher quality of customers, and that it tends to punish low performance by terminating the relationship and sending the company to the lower quality Bank 1.

Interestingly rebanked firms survive distress. The original banks do not have data about survival post rebanking. However, using the FAME data base we found information on 59 of the 86 rebanked firms in the sample; 47 are still operating as of 2001, and 12 companies have been placed in bankruptcy by their new bank, a survival rate of about 80%.

8. Conclusion

We began this paper with Jensen's proposals advocating the privatization of the US bankruptcy system. Our study of the U.K. bankruptcy system has shed some light on the feasibility if not the desirability of Jensen's proposals.

The evidence is not sufficient to establish that a contract-driven system performs better than a statutory system such as Chapter 11. Efficiency in bankruptcy is the result of a complicated trade off between conflicting objectives, providing incentives to the firm to service the debt, to the bank not to be lazy, and to the junior creditors not to precipitate a run on the company's

assets. Proving that a particular system is indeed efficient requires a quantification of these effects, which is well beyond the scope of this paper.

However, our paper makes a contribution towards a normative evaluation of a contract-driven approach to corporate bankruptcy. The major part of this paper provides a description of how U.K. bankruptcy operates: how debt contracts allocate rights across creditors, how those rights are enforced and how the resulting incentives affect the behavior of the distressed company and its creditors. The description strongly suggests that the U.K. approach, whether optimal or not, is at least a viable option.

In the tradeoff between concentration of power to avoid coordination failures, and dispersion of power to avoid opportunistic behavior, the revealed preference in the U.K. is towards avoiding coordination failures. In that respect, the concentration achieves its purpose: creditors' runs are eliminated and the incidence of litigation is extremely low. However, there is a cost, the direct costs of bankruptcy appear to be relatively high, which is consistent with the idea that once the banks' liquidation rights are secured, their incentives to be lazy increase.

Appendix 1

Criteria for placing companies in a bank's Business Support Unit

The three banks' criteria for placing a firm in the business support unit are based on a number of measures of distress. Each bank has provided us with a written description of the guidelines to its bank branches. Typically, they consist of an early warning list with three levels of concern: low, medium and high. To be placed on the early warning list, a company may have experienced one or more of the following: difficulty meeting payment obligations, high leverage, and unexpected declines in profitability and cash flow. In addition, its bank account will have experienced breaches of covenants, failure to meet interest or repayments, overdrafts in excess of agreed limits and returned checks.

A rating of *low* implies "caution" about a customer exhibiting some of the unsatisfactory features mentioned above, and although not giving rise to immediate concern, their viability in the medium term may be affected. Such companies are not sent to the BSU but are dealt with at the local branch level. A rating of *medium* implies 'doubt' as to the long term viability of the borrower, but that the borrower can meet its obligations for the next 6-12 months and that the bank is not at risk over this period. *High* implies definite concern. The borrower is at present considered viable for the next six months but any deterioration would result in failure and the bank's loan would be at risk. There is a high probability of some loss to the bank. Companies rated *medium* or *high* are placed in the Business Support Unit.

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Figure 1
The cycle of financial distress

The figure describes the cycle of distress and how firms enter and leave the bank's rescue unit. A firm enters the bank's rescue unit (Business Support Unit) at $t=1$, and leaves it at $t=2$. There are three possible outcomes: the firm returns to branch, it is transferred to the debt recovery unit (DRU), or it repays its loans and rebanks at another bank. If it is transferred to the DRU it will enter some form of bankruptcy procedure which ends at $t=3$. Our sample of firms also includes those that enter the BSU at $t=1$ and leave at $t=2$ with three possible outcomes described above.

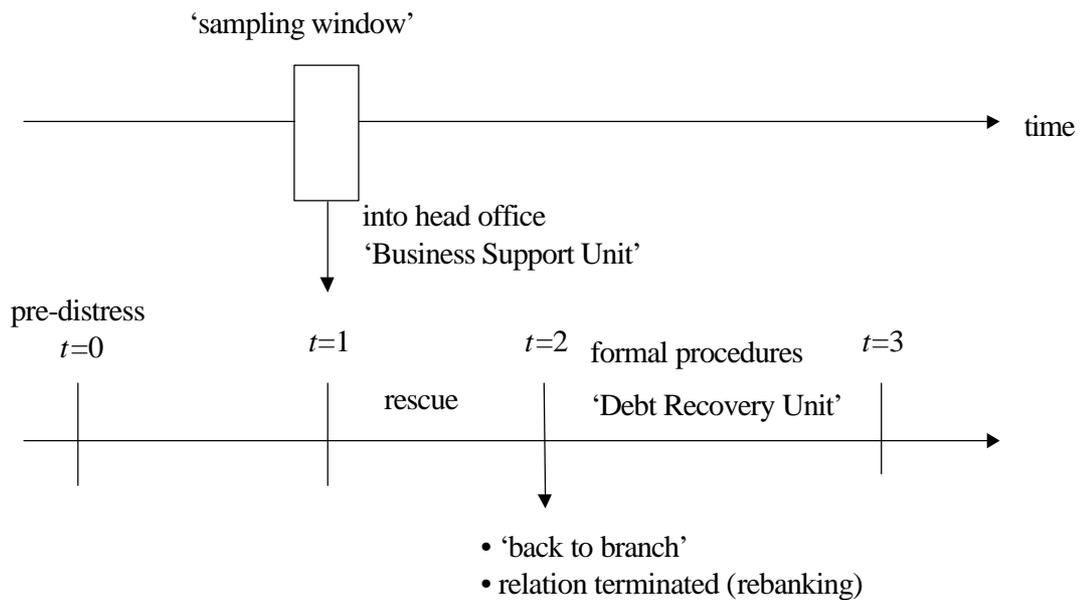


Figure 2

Proportion of firm's total debt owed to the main bank and trade creditors for Bank 2.

The figure describes the importance of trade debt and main bank debt expressed as a proportion of total debt outstanding. Total debt includes all bank debt, trade creditors, and other loans outstanding, such as leasing. Firms with total debt above and below £2 million are designated with a triangle and a circle, respectively. The mean main bank/total debt is 49.0% for the sample, and the mean trade credit/total debt is 37.4%.

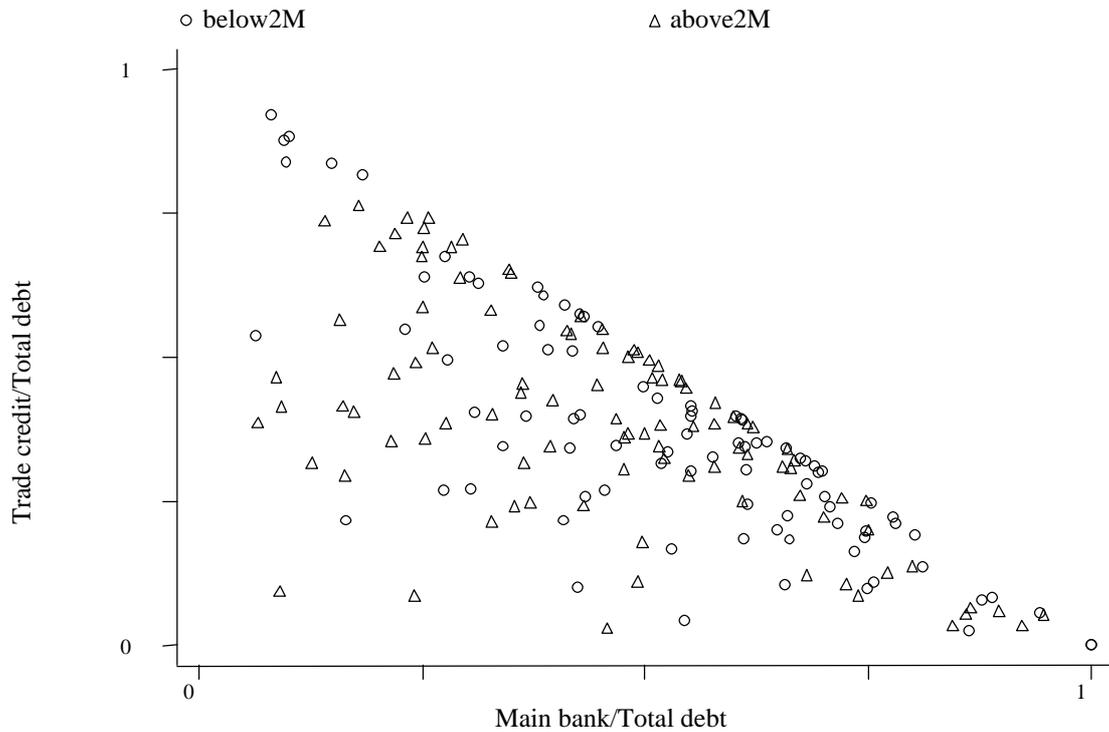
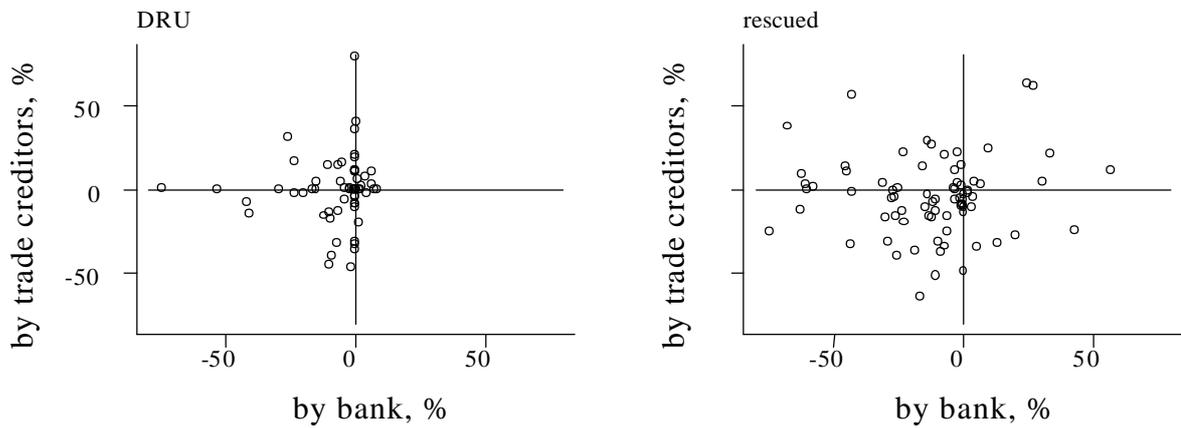


Figure 3
Credit flows during distress for Bank 2.

New credit extended (or reduced) by the bank and by trade creditors to 132 firms with Bank 2 during the period of distress (between t=1 and t=2). The sample is sorted by the outcome of the rescue process, either successful rescue (68 firms) or bankruptcy (64 firms) via the Debt Recovery Unit (DRU). Flows of credit for trade creditors and the bank are normalized by total debt outstanding at t=1.



Regression results:

$$(\text{trade credit flow}) = ? + ? (\text{bank credit flow}) + ?$$

? should be interpreted as how many pence in the pound the trade creditors put in for each pound put in (withdrawn when ? is negative) by the bank. (*t* statistics)

	Branch			DRU	
?	N	R²	?	N	R²
0.28 (2.48)	69	0.08	-0.50 (-3.41)	64	0.08

Table 1
Choice of sample and the outcome of financial distress.

Panel A gives the sample size, the sampling period, and the size criterion for entry into the specialized distress unit (The Business Support Unit or BSU) of each bank. Panel B describes the outcome of the rescue process at $t=2$: survival as a going concern, bankruptcy, ongoing in the rescue unit, or rebanking with another bank after full repayment of Bank 2's loan. Panel C gives the age, turnover and number of employees at the time of entry into the BSU at $t=1$.

	Bank 1	Bank 2	Bank 3
<i>Panel A: Choice of sample</i>			
Number of firms sampled	241	192	109
Sampling period	Jan 98 – Mar 98	Jan 97 – Mar 98	Dec 97 – Mar 98
Entry criterion into BSU	> 50k (debt)	> 1m (turnover)	> 0.5 m (turnover)
<i>Panel B: Outcome of rescue (at $t=2$)</i>			
Going concern	34.4%	40.1%	19.3%
Bankruptcy	35.7%	37.0%	12.8%
Ongoing	24.1%	2.6%	34.9%
Rebanking	<u>5.8%</u>	<u>20.3%</u>	<u>33.0%</u>
	100%	100%	100%
<i>Panel C: Firm characteristics</i>			
	<u>Mean (median)</u>	<u>Mean (median)</u>	<u>Mean (median)</u>
Age (years)	19.6 (13.7)	25.2 (17.6)	17.4 (12.0)
Turnover (£ millions) ³³	3.5 (0.8)	9.6 (5.5)	4.6 (2.1)
Employees (No.)	50 (20)	108 (75)	59 (25.5)
Main bank debt at $t = 1$ (£ thousands)	348 (143)	963 (700)	342 (202)
No. of publicly quoted firms in sample	1 (0.4%)	25 (12.9%)	3 (2.8%)

³³ Turnover is taken from the last P&L account before distress (i.e. between $t = 0$ and $t = 1$ in Figure 1).

Table 2

Some accounting measures of financial distress for Banks 1 and 2 compared with the population of companies recorded in the FAME database.

We report various accounting ratios for the firms in our sample (“Banks’ sample”) that we could identify in FAME. For comparison, we report the same statistics for the entire FAME population, distressed and healthy alike. Statistics for the Banks’ sample are provided for three years: the year when the firm enters the bank’s rescue unit, the year prior to entry, and the year subsequent to exit (defined as 1, 0 and 2, respectively). Statistics for the FAME population are reported for 1997, which is the year when most of the banks’ sample entered the BSU. In addition to the mean and median, the “Decile” column reports the decile in the FAME sample corresponding to the median in the Banks’ sample.

Panel A: Balance sheet statistics. Leverage is the book value of debt over total assets. Return on assets is profit before interest but after taxes as a percentage of total assets. Liquidity ratio is current assets minus inventories over current liabilities.

Panel B: Profit and loss statistics. Sales turnover and proportion of firms reporting profits after tax.

Panel C: Probit regression. Data include all FAME population straddling turnover of banks’ sample. Dependent variable: 1 if the firm is in the Banks’ sample, and 0 otherwise. The independent variables are as in panels A and B (z stat. in parenthesis).

Distress time, years (DRU=1)		Banks’ Sample			FAME population	
		0	1	2	Statistics	Decile
<i>Panel A: Balance sheet statistics</i>						
Leverage (%)	Mean	62	64	54	0.46	
	Median	66	65	56	0.45	8th
	N	249	167	124	99,210	
Return on assets (%)	Mean	-9.2	-16.4	-7.25	12.3	
	Median	-1.49	-0.44	1.56	6	2nd
	N	185	140	100	133026	
Liquidity ratio	Mean	0.59	0.79	1.75	1.66	
	Median	0.56	0.57	0.62	0.93	3rd
	N	307	239	174	133,223	
<i>Panel B: Profit and loss account statistics</i>						
Sales turnover (£ Million)	Mean	9.7	9.7	9.4	3.9	
	Median	4.9	4.3	4.0	0.8	8th
	N	185	138	104	135,303	
Firms reporting profits after tax	proportion	0.44	0.47	0.50	0.73	
	N	201	154	115	135,389	

Panel C: Probit regression: The likelihood of a firm being in Banks 1 and 2 sample of distressed firms

Constant	Turnover	Leverage	Liquidity	Return on assets	Profit dummy: 1 if firm has positive profit.	R ²	N of observations
-2.76 (-31.43)	1.81 E-8 (9.06)	0.40 (4.19)	-0.29 (-6.54)	-0.003 (-2.39)	-0.39 (-7.07)	0.10	93,534

Table 3

Composition of the debt structure for firms entering the Business Support Unit (BSU) of each bank, at $t = 1$.

Panel A describes the debt structure of the firms that enter the BSU at $t = 1$. Panel B shows lending from owners in pounds sterling. Panel C describes the amount of collateral held by the bank as a percentage of the loan to the firm, the proportion of the sample where the main bank has various fixed or floating liens on the firm, and the proportion with loan guarantees from owners.

	Bank 1		Bank 2		Bank 3	
<i>Panel A: Debt composition (%)</i>	<u>mean</u>	<u>median</u>	<u>mean</u>	<u>median</u>	<u>mean</u>	<u>median</u>
Main Bank	38.2	35.3	49.0	49.7	41.9	39.9
Trade Credit	24.0	15.8	37.4	35.5	40.2	40.4
Other lenders/creditors ¹	31.7	33.2	11.1	4.5	15.5	7.4
Owners – Directors	<u>6.1</u>	0.2	<u>2.5</u>	0	<u>2.4</u>	0
	100%		100%		100%	
Interest-rate spread above prime, %	3.46	3	2.58	2.5	1.85	2
<i>Panel B: Lending by owners/directors</i>						
Mean (£ thousands)	38.5		60.8		62.5	
Median	0		0		0	
90 th percentile (£ thousands)	118		150		97	
95 th percentile (£ thousands)	159		339		200	
<i>Panel C: Collateral²</i>						
Percentage of loans with:						
Fixed and floating charges	91.2		52.6		78.9	
Fixed or floating charges	100		97.9		94.5	
Personal guarantees by owners	60.4		51.0		55.0	
Collateral as a percentage of bank loan	103.7%		74.6%		118.5%	

¹ Including non-banking subsidiaries of the main bank, debt to other banks, and loans by leasing companies and trade factors.

² Only Bank 1 makes a clear distinction between the absence of a charge and missing observations; hence its percentage of charges tends to be higher.

Table 4

Outcome of the Debt Recovery Unit (DRU), recovery rates for different creditors in bankruptcy, and the costs of bankruptcy.

Panel A describes the number of firms placed in each bank's Debt Recovery Unit (DRU), and the outcome according to different bankruptcy procedures. Panel B describes recovery rates for the main bank and preferential creditors when the outcome is bankruptcy. Recovery rates are based on the amount received by the lender as a percentage of the face value of the loan outstanding. It also includes an estimate of recovery rates for trade creditors for Bank 2 only. Panel C shows how the proceeds of bankruptcy are shared between the main bank, preferential creditors and the costs of the bankruptcy procedure; for Banks 1 and 3 only data on recovery rates for the main bank and the costs of bankruptcy are available.

	Bank 1		Bank 2		Bank 3	
<i>Panel A: Outcome of DRU</i>	No. of cases		No. of cases		No. of cases	
Total no. in DRU	85		71		14	
Receivership	20		44		7	
Administration/CVA	4		11			
Winding-up	32		7		5	
Ongoing	29		9		2	
	<u>mean</u>	<u>median</u>	<u>mean</u>	<u>median</u>	<u>Mean</u>	<u>median</u>
<i>Panel B: Recovery rates at $t = 2$ (%)</i>						
Main bank	73.8	87.9	76.7	100	76.2	100
Preferential creditors	N/A	N/A	33.9	3.3	N/A	N/A
Trade creditors	N/A	0	N/A	0	N/A	N/A
Number of observations	56		62		12	
<i>Panel C: Distribution of proceeds (%)</i>						
Main bank	57.6	73.2	70.8	74.1	61.3	60.1
Preferential creditors ¹	N/A	N/A	4.9	1.1	N/A	N/A
Direct cost ²	42.4	26.8	24.3	18.5	38.7	39.9
Number of observations	56		62		12	

¹ Including sales tax and income tax authorities.

² The percentage of direct costs is overstated for Banks 1 and 3, since we do not have recovery rates for preferential creditors and trade creditors.

Table 5

Features of the rescue process (between $t = 1$ and $t = 2$).

Panel A describes some general features of the rescue process including growth in different forms of debt between $t=1$ and $t=2$ (when the distressed firm is in BSU) and changes in interest rate spreads. Panel B describes the incidence of debt forgiveness by banks (equivalent to a writedown of the face value of debt). Panel C describes the incidence of managerial replacement.

	Bank 1			Bank 2			Bank 3		
<i>Panel A: Changes in debt structure</i>	<u>N</u>	<u>mean</u>	<u>median</u>	<u>N</u>	<u>mean</u>	<u>median</u>	<u>N</u>	<u>mean</u>	<u>median</u>
Growth in main bank debt (%)	219	-32.9	-19.1	192	-30.8	-18.1	80	-43.5	-33.2
Growth in trade credit (%)	72	32.6	0	142	11.1	0	16	26.3	-5.8
Change in interest rate spread (%)	126	-0.1	0	162	0	0	13	0.7	0.7
<i>Panel B: Debt forgiveness in rescue</i>	<u>N</u>	<u>Debts forgiven</u>		<u>N</u>	<u>Debts forgiven</u>		<u>N</u>	<u>Debts forgiven</u>	
No. of firms with debt writedowns	219	1 (0.4%)		192	0		192	0	
<i>Panel C: Managerial replacement</i>	<u>N</u>	<u>Incidence</u>		<u>N</u>	<u>Incidence</u>		<u>N</u>	<u>Incidence</u>	
Replacements, % of sample	241	5.0		192	22.4		109	17.4	

Table 6

The determinants of the outcome of rescue process for Bank 2.

Dependent variable is a dummy, which equals 1 if the firm enters bankrupt, and 0 otherwise. Values in parentheses: z-statistic. Estimation method: probit. The coefficients represent changes in probability associated with one standard deviation of the independent variables and a change from 0 to 1 for dummies. The independent variables are:

L(MAIN1): Log(debt owing to main bank at $t=1$)

SPREAD1: interest rate spread at $t=1$

D-PRSNL: dummy variable, equals 1 if personal guarantee is provided and zero otherwise

D-MANGE: dummy variable, equals one if manager is replaced during BSU process

GR-MAIN-1-2: growth of main-bank debt from $t=1$ to at $t=2$

GR-TRADE-1-2: growth of trade credit from $t=1$ to at $t=2$

L(MAIN1/TOT1): Log(debt to main bank over total debt, both at $t=1$)

L(SCRT1/MAIN1): Log(collateral over bank debt at $t=1$)

D-SLOPE: slope dummy, equals L(SCRT1/MAIN1) if $SCRT1/MAIN1 > 1$, and 0 otherwise

D-PUBLIC: dummy variable, equals 1 if firm is publicly traded and zero otherwise

	(1)	(2)	(3)	(4)	(5)	(6)
L(MAIN1)	-0.109 (-1.916)	-0.157 (-2.045)	-0.147 (-1.897)	-0.149 (-1.818)	-0.136 (-1.752)	-0.143 (-1.829)
SPREAD1	0.043 (0.816)	0.016 (0.248)	0.021 (0.314)	0.020 (0.306)	0.033 (0.471)	0.019 (0.276)
D-PRSNL	0.061 (0.647)	0.057 (0.499)	0.053 (0.464)	0.052 (0.450)	0.062 (0.529)	0.047 (0.414)
D-MANGE	-0.413 (-3.291)	-0.578 (-3.586)	-0.574 (-3.532)	-0.573 (-3.508)	-0.547 (-3.326)	-0.568 (-3.445)
GR-MAIN-1-2	0.259 4.410		0.093 (1.404)	0.093 (1.405)	0.067 (1.198)	0.093 (1.351)
GR-TRADE-1-2		0.169 (2.093)	0.169 (1.853)	0.085 (1.807)	0.140 (1.823)	0.085 (1.760)
L(MAIN1/TOT1)				0.004 (0.059)		
L(SCRT1/MAIN1)					0.044 (0.713)	
D-SLOPE					-0.426 (-1.126)	
D-PUBLIC						-0.093 (-0.533)
pseudo R-square	0.28	0.24	0.25	0.25	0.24	0.25
No. of observations	163	123	123	123	119	123