The Cycle of Corporate Distress, Rescue and Dissolution: A Study of Small and Medium Size UK Companies

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1. Introduction

In this paper we study the cycle of distress, rescue and liquidation among small to medium size UK companies. Using a *unique* data set, based on the private records of three UK clearing banks, we have surveyed *all* the companies that entered the central 'rescue unit' of these banks, within a certain 'sampling window'. We then tracked the companies for the following two years, to the resolution of financial distress. The latter includes either a successful turnaround ('return to branch' as it is called), 'rebanking' with another institution, or in case of failure a formal insolvency procedure (such as receivership or administration). The analysis of such a complete data set allows a comprehensive analysis of the entire menu of instruments available in the resolution of financial distress.

As is well known, UK insolvency procedures are highly creditor oriented. Contractual rights are strictly enforced, and the courts have no power to intervene in the way the bank exercises its rights, say, to sell the business as a going concern, or sell the assets piecemeal. Moreover, bank lending is usually heavily collateralised, which puts the bank in control of the insolvency procedures. The conventional wisdom is that this high level of control and security has resulted in a bias towards liquidation and an absence of a rescue culture. We shall provide evidence of a more complex pattern of behaviour.

The centrepiece of the bank's secured position derives from the fact that it holds a floating charge over the company and has specific charges over the main assets. In the sample, between 75% and 118% ('Banks 2' and 'Bank 3', respectively) of bank lending is secured by various mortgages. Personal guarantees from the company's directors are held in a majority of cases. We shall argue that the combination of floating charges, fixed charges and personal guarantees, not only secure the bank's lending, but also place the bank in a powerful position from where it can control the resolution of financial distress, both within formal insolvency, and in rescue.

Our first finding is that there exists an elaborate rescue process outside formal procedures. About 75% of firms emerge from rescue and avoid formal insolvency procedures altogether (after 7.5 months, on average). Either they are turned-around or they repay their debt by finding alternative banking sources. The remaining 25% of cases enter some form of insolvency procedure, usually administrative receivership or winding up i.e. liquidation. Turnarounds are often accompanied by management changes, asset sales, and new finance or directors' guarantees. There is evidence that these changes significantly influence the bank's response and the likelihood of a successful outcome.

The intervention of the bank early in a company's decline appears to provide an element of competition among banks during rescue. There is strong evidence that a significant number of companies terminate their relationship with their bank and re-bank elsewhere. It is not easy for us to identify the extent to which that re-banking is at the request of the bank or at the request of the customer who is able to obtain better terms elsewhere. For one of the banks re-banking is as much as 33%, for another it is only 4.4%.

The seniority of creditors' claims influences not only the control rights in insolvency but also in the rescue process. The importance of seniority is illustrated by the evolution of bank debt and trade credit through the rescue process. For one bank, debt shrinks by almost 23% on average, although there are large differences across firms. In contrast, unsecured creditors, who supply about 37% of all finance, marginally expand (by 4%) their credit. However, that expansion of trade credit is greater, at 11%, for companies that end up in a formal insolvency procedure; some of those firms expand trade credit by almost 80%. For these same firms, bank debt declines by about 14%.

We explore two very different explanations for these results. One is that banks contract their position at the expense of trade creditors, who are weak and uninformed. The costs of any such expansion of trade credit is high since they recover little in formal procedures. The second explanation is more benign. It is possible that trade creditors lack a diversified customer base suggesting that the loss of business in

the event of liquidation is very great and provides strong incentives for them to continue financing the business, even in the face of possible default.

The study also examines how well formal insolvency procedures perform. We use three measures of performance: recovery rates for each class of creditors, the direct costs of formal procedures, and the incidence of going concerns.

The recovery rates for the banks are high with a rate of 77% compared with close to zero for trade creditors and 27% for preferential creditors. Interestingly, in Sweden where there is also a floating charge, unsecured creditors collect only 2 cents in the dollar. [1] This suggests that it is the procedure rather than the way it is administered that determines the outcome for the most junior claims. The contrast with Chapter 11 in the US is stark; there, the bargaining game among creditors results in the unsecured obtaining about 29 cents in the dollar. However, the debtor friendly nature of Chapter 11 suggests that less distressed firms (or even profitable ones) may enter Chapter 11 thereby increasing the incidence of going concerns compared with the UK sample.[2]

The costs of formal procedures appear significant in the UK. For one bank the costs of all formal procedures, averages about one quarter of the proceeds. About one half of these costs comprises fees to the insolvency practitioner. These costs seem high. Where the bank recovers all its indebtedness the costs will be borne by preferential and unsecured creditors. As a result, where the bank controls the process it may not have sufficient incentives to control those costs.

It is difficult to ascertain how many of the companies that enter formal procedures end up as going concerns and how many are piecemeal liquidations. One bank has reported that 27% of all its administrative receiverships and winding ups are going-concern sales. When we studied a sample of 27 administrative receiverships, we estimate going concern sales to be 44%. These figures should be treated with considerable caution since definitions of going concern are very loose. However, our

[1] Reported in "Bankruptcy Auctions: Costs, debt recovery, and firm survival", Karin Thorburn, forthcoming in the Journal of Financial Economics. She reports recovery rates for both Sweden and US corporate bankruptcies.
[2] This does suggest considerable caution in making comparisons of going concerns in Chapter 11 and UK receiverships.

analysis provides evidence that receivers do continue to run businesses during the formal procedures, and on occasions incur a trading loss.

Our paper is organised as follows. In Section 2 we describe how our data set was constructed. In Section 3 we describe the cycle of distress, rescue and formal procedures. We also analyse more closely the relations between the different classes of creditors and how they fare both in term of their debt outstanding, the evolution of debt through time, and the amounts recovered. In section 4 we provide evidence for the 'passivity' of trade creditors, and suggest some explanation. Section 5 provides some statistical analysis of the pricing of bank debt, and of the determinants of the success of the rescue process. Section 6 concludes with a summary.

2. The data

2.1 The Sample

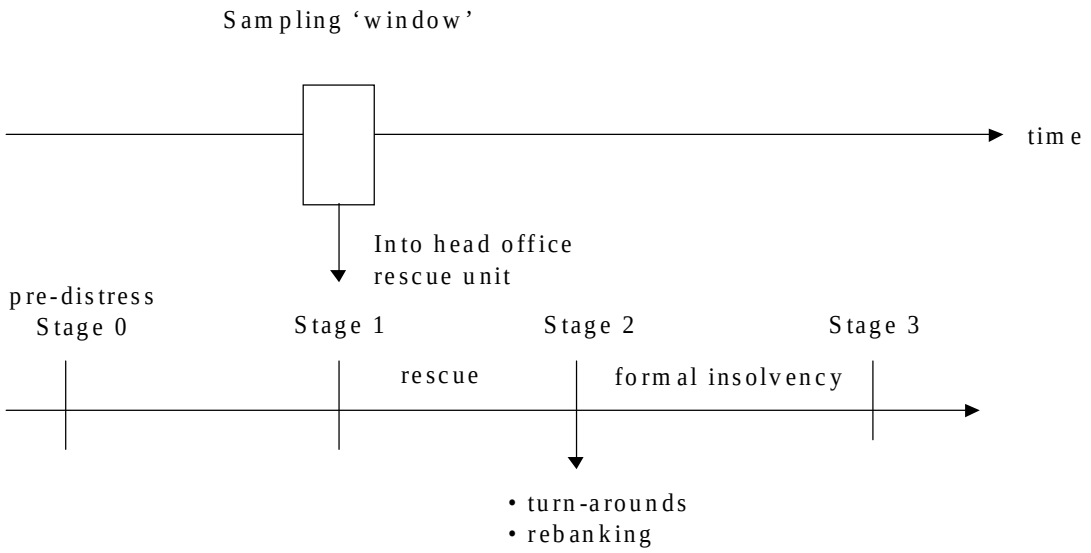
During the recession of the early to mid 1990s there was a high incidence of companies placed in formal procedures, especially receivership and liquidation. With the benefit of hindsight, there is a perception that there have been excessive liquidation with a 'fire sale' of assets in a weak market, generating large losses for both owners and lenders. As a result of this experience, the banks set up central rescue units for the purposes of providing specialised services to companies with problem loans. The stated objective was to intervene early in the cycle of a company's decline and provide a greater opportunity for rescue and recovery, without necessarily resorting to formal procedures.

The purpose of this study was to examine these rescue procedures and their performance. Three UK commercial banks provided us with a sample of companies entering their central rescue unit (also called the 'business support unit') for a selected sampling window. It was necessary to use different sampling windows to ensure an adequate sample size for each bank.

Figure 1 describes the sample procedure and the different possible outcomes at the end of the rescue period. Stage 1 signifies entry into the rescue unit from which our

samples are identified. Stage 2 signifies when the firm leaves the rescue unit. The average length of the rescue process, the period between Stages 1 and 2, was 7.6 months. This is probably an under-estimate since firms may receive help at the branch level before they enter the central distress unit.

Figure 1: Description of sampling procedure and outcomes



There are three possible outcomes at Stage 2. The firm may have sufficiently recovered and returned to the bank branch where it was managed prior to distress; this is called turnaround in the figure. Alternatively, at the end of stage 2 the firm might close its account at the bank and go to another bank termed 'rebanking'. Rebanking may be either at the request of the first bank, because of a disagreement over strategy, or because the borrower is able to obtain better terms elsewhere. Finally, the firm may be regarded as failing and beyond rescue and be placed in formal insolvency. In this case, the firm will be placed in another unit usually called the debt recovery unit or DRU. The DRU may put the firm into administrative receivership, file for winding up, or support an Administration order or CVA. Occasionally, the firm may discharge its debts in the DRU thereby avoiding formal procedures. In other cases, a firm's deterioration might be so rapid or go unnoticed by the bank (and the firm) that Stage 1 will be omitted completely and the firm will go direct from the branch to DRU. The

proportion going direct to DRU, and omitting the rescue process in Stage 1, is 6.6% for Bank 1.

Table 1 provides descriptive statistics for each bank. Bank 1 provided data for 241 companies that entered the rescue unit over a three-month period from January 1998 to end March 1998. Bank 2's sample is drawn from a 15-month period, January 1997 to March 1998. In each case the sample constituted all the companies entering the rescue unit over that period. The total sample of firms for all three banks is 542. For Bank 2 the sample of firms that went into rescue is about 5% of total corporate borrowers for that size range.

The firms for the most part may be classified as small to medium sized. Using sales turnover prior to entry into the rescue unit, the range is £20,000 to £73 million for Bank 1, £1 to £45 million for Bank 2, and £308,000 to £42 million for Bank 3.

Table 1: Descriptive statistics for the population of companies in the rescue units of the three banks

	Bank 1	Bank 2	Bank 3
Number of Firms	241	192	109
Sampling Dates	Jan 98-Mar 98	Jan 97-March 98	Dec 97-March 98
HO criterion	>50k (debt)	>1m (turnover)	>0.5m (turnover)
Turnover: range	20k-73m	1m-45m	308k-42m
% of portfolio in distress (adj. for size)		5%	

Each bank has a different threshold for placing a company in its central rescue unit. For example, Bank 1 has a threshold of debt in excess of £0.05 million, whereas Bank 2 uses a threshold of sales turnover in excess of £1 million. However, these bounds are not rigidly complied with. One bank's reasons for sending a company to the central rescue unit include the failure to make important payments of interest or repayments, the occurrence of losses, frequent breaches of a borrowing limit, a request for larger borrowing facilities accompanied by a deterioration in the business or concern over the company's business strategy. The stated objective of all the banks is to provide help to the borrower well before the company begins to fail.

Table 2 shows the extent to which firms in the sample were previously viewed by the bank as problem loans, referred to as 'under watch', and an independent measure, the incidence of losses prior to rescue. The proportion of firms that reported losses prior to entry into the rescue unit ranged from 42.7% for Bank 3 to 50.5% for Bank 1. The table also shows the proportion of firms that both entered the rescue process and went into formal procedures. There is considerable variation among the banks, 12.8% for Bank 3 and 34.8% for Bank 2. In subsequent analysis we explain some of this variation. The large majority of companies are unquoted, and the average age suggests that many companies are not new ventures.

Table 2: Incidence of prior distress and formal procedures following entry into rescue unit for all three banks.

	Bank 1	Bank 2	Bank 3
Average age (years)	19.6	25.2	17.4
Previous distress (incidence)	-	36.6%	36.7%
Pre-distress losses (incidence)	50.5%	45.3%	42.7%
Turnover mean (median) mill. pounds	3.5m (0.8)	9.6m (5.5)	4.6m (2.1)
Employees (median)	50 (20)	108 (75)	59 (25.5)
% entering formal procedures[1]	25.9%	34.8%	12.8%
% of sample publicly quoted	0.4%	12.9%	2.8%

[1] We classify companies that are still 'ongoing' as rescued.

3. The Distress Cycle

3.1 Pre-distress debt structure

Table 3 shows the different sources of debt finance for each bank. Sources include the main bank, trade creditors, other bank borrowings, and other creditors. These other creditors include factoring, hire purchase and owners' loans. Data for Bank 2 show that the main bank comprises about one half of total borrowings on average, with trade credit comprising 37%. Although owners' loans are a small percentage of the total debt, in absolute size they may be significant for the owner. For example, in 10% of cases the loans are above 0.34 million for Bank 2.

Table 3: Main sources of debt finance for companies in all 3 Banks' samples

	Bank 1	Bank 2	Bank 3
Panel A: Sources of debt finance from different creditors and owners (% of total credit)			
Main Bank	38.2	49.0	41.9
Trade Credit	24.0	37.4	40.2
Other Financial Institutions	2.3	2.8	7.5
Other Creditors	29.4	8.3	8.0
Owners – Directors	6.1	2.5	2.4
Panel B: Size of owners' loan position in pounds (£ K)			
85th percentile	90	100	48
90th percentile	118	150	97
95th percentile	159	339	200

Figure 2 shows for each company in the sample the relative importance of bank borrowing, trade creditors, and third party lenders. Along the diagonal line, trade creditors and the main bank comprise together 100% of the company's borrowing. For those companies at the upper part of the diagonal line trade creditors are the dominant form of finance and at the lower part of the diagonal, bank finance dominates. The observations further away from the diagonal line, towards the origin, are for companies that borrow increasingly from third parties.

Figure 2: Bank Debt and Trade Credit, Bank 2

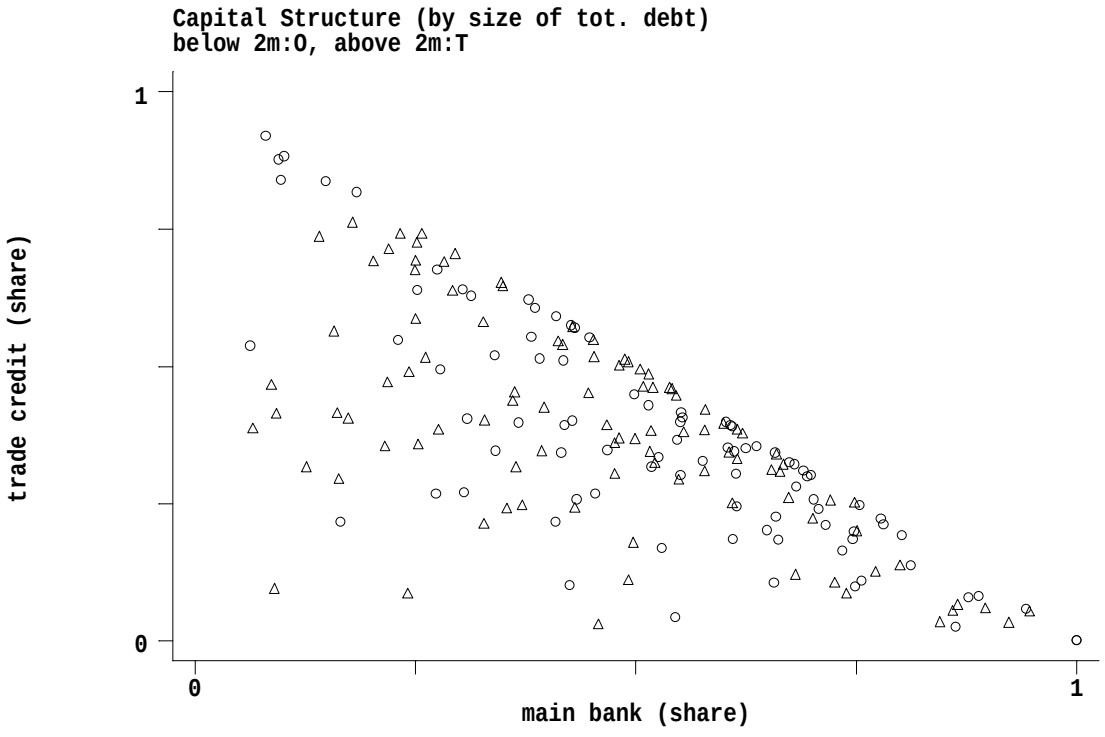


Table 4 shows the extent to which loans are collateralised for each bank, and the incidence of the floating charge. These are important measures of a bank's control rights. Almost the entire sample of firms in rescue in Bank 2 has a floating charge held by the bank. In addition, the bank's loans are highly collateralised covering on average 75% of the bank's debt (using bank values); these figures include the bank's value of personal guarantees. The figures for floating charges for other banks are lower but the incidence of fixed charges are much higher. For example, Bank 3 has floating charges over almost 85% of customers but fixed charges in almost 89% of cases.

Table 4: Incidence of floating charge and the size of collateral for the 3 Banks

	Bank 1	Bank 2	Bank 3
Floating charge (%)	79.7%	94.8%	84.4%
Fixed charges (%)	83.4	55.7	88.9
Personal guarantees (%)	60.4	51.0	55.0
Security value over main bank debt (%)	103.7	74.6	118.5

3.2 Outcomes of the rescue process

Panel A of Table 5 describes the incidence of different outcomes for companies that entered the rescue unit of each bank. The incidence of formal procedures differs significantly across banks. For example, it is almost 26% for Bank 1 compared with 13% for Bank 3. As the same panel shows, the difference may reflect the high level of rebanking from Bank 3 of firms with a significant probability of formal insolvency. Panel B describes the main types of formal procedures, administrative receivership and liquidation. Administrations and Company Voluntary Arrangements (CVAs) are not often used, representing only 11% of all insolvencies.

Although all three banks usually hold a floating charge in our sample, a bank may not exercise its prerogative to appoint an administrative receiver.[3] It may allow a formal liquidation, administration or CVA to proceed without appointing an administrative receiver. For example, Bank 1 has informed us that it may be content with a formal

[3] Research by Harry Rajak suggests that almost one half of administrations and CVAs involve lenders with a floating charge.

liquidation where it feels the sole control rights granted by administrative receivership are not of great importance.[4]

Table 5: Incidence of recovery, rebanking and formal procedures

Panel A: Incidence of formal procedures, rescue and rebanking

	Bank 1	Bank 2	Bank 3
Formal procedures	25.9%	34.8%	12.8%
Recovery by DRU	7.9%	2.1%	
Rebanking	4.4%	20.3%	33.0%
Return to branch	36.4%	40.1%	19.3%
Ongoing	25.4%	2.6%	34.9%

Panel B: Incidence of different forms of insolvency procedures

	Bank 1	Bank 2	Bank 3
Debt recovery unit (DRU):			
Formal liquidations	32	7	6
Administrative receiverships	20	44	7
Administration/CVA	4	11	
LPA receiverships	3	3	1
Other		2	
Recovery by DRU outside formal procedures	18	4	
Total	77	71	14

Table 6 shows a more detailed breakdown of how debt contracts in the sample of companies that went through rescue for each bank. The debt contraction of the average company disguises large variations across banks and companies. For example, the debt contraction for Bank 2 is only 20% for companies returning to branch compared with 50% for Bank 1. Panel B shows that, whereas companies in the bottom quartile, ranked by amount of debt outstanding, repaid on average 58.7% of their debt, companies in the top quartile expanded their debt, and the company in the ninetieth percentile expanded its bank borrowings by 29.1% (data for Bank 2).

What factors might explain these great variations in the record of debt repayments during rescue? Although more than one half of companies reports significant asset

[4] These liquidations tend to be for smaller companies.

sales in the rescue process we find this does not sufficiently explain differences in repayments across companies.

Table 6: Differences in growth in debt during rescue for Banks 1, 2 and 3.

Panel A: Growth rates in debt during rescue

	Bank 1	Bank 2	Bank 3
Return to branch (median)	-50%	-20.2%	-62.0%
Ongoing (median)	-12.1%	-4.5%	-35%
Termination/Rebanking	-100%	-97.2%	-82.4%
DRU	-14.9%	-7.8%	N/a

Panel B: Distribution of growth rates in debt for Bank 2 in rescue

Percentile	Total sample (121 rescues)	No assets sales (46% of sample)
25%	-58.7%	-53.5%
50%	-18.2%	-14.5%
75%	0	+5.3%
90%	+29.1%	+44.2%

One striking explanation is the incidence of managerial turnover. Table 7 shows that where an important member of the management team is replaced, debt contraction is modest at only –1.2% (for Bank 2). In contrast, there is debt contraction of –28.3% where there is no significant management replacement. This suggests that the outcome of the rescue process depends upon particular patterns of behaviour by the borrowing company. We also find that it is the smaller firms that do not replace management possibly because they resist change, or because as owner-managed firms the economics of changing management cannot justify the costs.

Table 7: Relation between contraction in main bank debt and management replacement for the sample of turnarounds for Bank 2

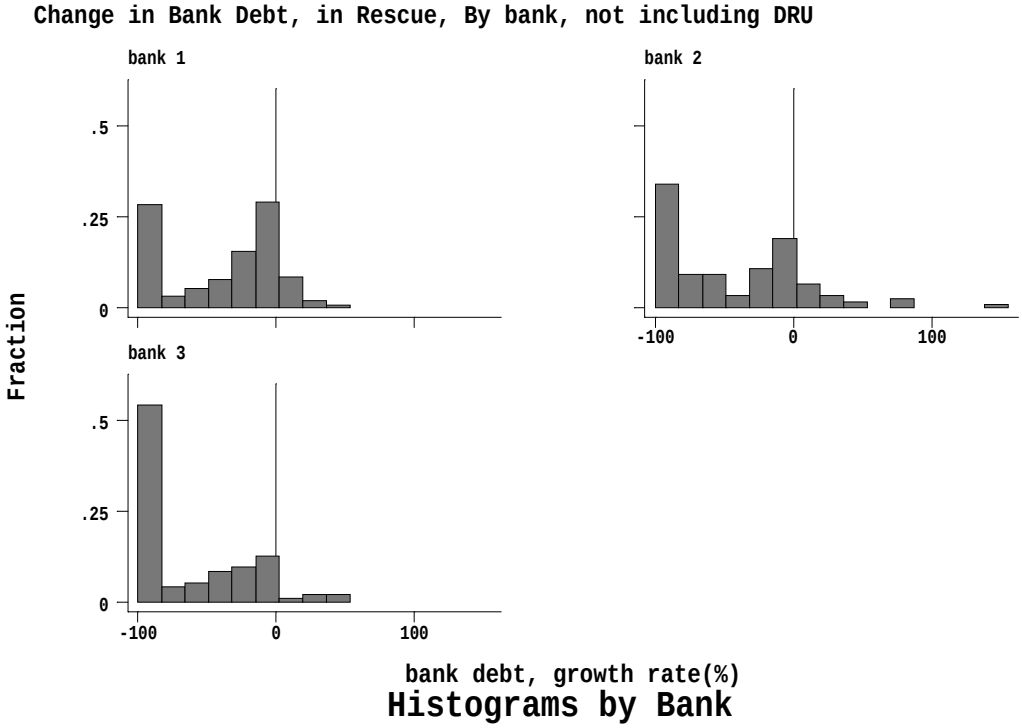
	manager replaced (23)	manager not replaced (54)
% of sample	29.9%	70.1%
Size of bank debt	2.4m	1.5m
% Change in bank debt	-1.2%	-28.3%

The size of debt repayment also explains which firms enter formal insolvency procedures. Table 8 shows the growth rate in bank debt for firms that return to branch and for those that go to DRU. Firms that enter formal procedures repay a much smaller proportion of their debt during the rescue period compared with firms that return to branch at the end of the rescue procedure. For example, firms that return to branch in Bank 1 repay 34.4% of their debt in contrast to the average repayment of 14.9% for those companies that end up in formal insolvency procedures.

3.3 The rescue process

This section examines the measures the bank takes (or requires the company to take) when borrowers enter the rescue process. They include calling back some or all of the bank debt, restructuring the business including asset sales, and managerial replacement. Depending upon the firm's response the bank may decide whether to initiate formal procedures, return the account to branch, or request the firm to bank elsewhere.

Figure 3: Bank Debt, Growth Rate, By Bank



Note: 28 missing values in bank 3, classified as 'termination', were substituted for -100%.

As we report below, on average bank debt contracts significantly during the rescue. In Figure 3 we show the histogram of debt repayment for individual companies for each bank. A striking observation is that the distribution of debt repayments for all three banks is bi-modal. Thus, at the extreme lower end of the histogram firms repay their debt in their entirety, by re-banking or by substantially liquidating/selling the firm. The second observation is the large differences across banks in terms of their strategy towards rescue. For example, in the case of Bank 3 the banking relationship was terminated for 33% of firms and their debt was substantially repaid.

Table 8: Growth rate in bank debt in both rescue and formal insolvency procedures (DRU) for the 3 Banks.

	Bank 1		Bank 2		Bank 3	
	Branch (141)	DRU (86)	Branch (82)	DRU (71)	Branch (59)	DRU (14)
Main Bank	0.7m	0.4m	1.8m	1.0m	0.6m	0.3m
Turnover	3.5m	3.5m	11.0m	6.3m	4.0m	5.9m
Collateral	106.7%	84.9%	77.6%	72.1%	108.5%	168.6%
Call-back	-34.4%	-14.9%	-19.2%	-7.8%	-44.8%	-
Spreads (% over base)	3.26%	3.80%	2.46%	2.80%	1.70%	2.15%

Note: Branch includes those that are ongoing. All spreads exclude arrangement fees.

An important characteristic of any rescue process is the willingness of the lender to forgive debt in exchange for additional funds provided by the borrower. Such forgiveness (often termed a 'haircut'), when the company is insolvent, ensures that injections of cash by the borrower do not simply flow into the banks' coffers. In our sample, we know of only one case of debt forgiveness. If this reflects an unwillingness of banks to consider debt forgiveness then this might reduce the incidence of going concerns. This is an issue that requires further investigation.

3.3 Recovery rates and costs of formal procedures

Table 9 shows the recovery rates for different classes of creditors for Bank 2. The picture is that whereas banks obtain relatively high recovery rates, unsecured and preferential creditors fare badly. Although the mean recovery rate for preferential creditors is 32.6%, the distribution is highly skewed and the median is only 3.3%; in 10 cases both the main bank and preferred received 100% of their claims.

Panel B suggests that the average costs of formal insolvency procedures is about 25% as a proportion of the proceeds of the insolvency. Panel C suggests that costs decline proportionately with the size of the firm as measured by the value of assets realised. The issue of cost is important on the grounds that when the bank's debt is fully repaid, costs will be borne by the unsecured and preferential creditors who have little or no say in the insolvency procedure (e.g. receiverships).

Costs reported in Panel B include both the fees paid to the administrative receiver, or to the insolvency practitioner in other procedures, and the costs paid to other parties for selling or realising the assets. Those costs include advertising the sale of assets, fees to agents for the sale of property, solicitors' fees, and costs of indemnities. Costs may also include salaries and associated costs to employees. It does not include trading losses arising from maintaining part or all of the business as a going concern during receivership prior to sale.

Table 9: Mean recovery rates for different classes of creditors for 71 companies in debt recovery unit for Bank 2. (Medians in brackets)

Panel A: recovery rates for different creditors by insolvency procedure

Creditor class (number of companies)	Admin. receivership (44)	Administration/CVAs (10)	Liquidations (7)
Main bank	81.1%(100%)	77.6% (86.7%)	60.4% (93.6%)
Preferential creditors	32.6% (8.9%)	37.5% (0%)	50% (50%)
Unsecured creditors	N/a (0%)		

Note: 1. Using a sample of 27 administrative receiverships we confirmed a recovery rate for unsecured creditors of 0% (median).

Panel B: Share of proceeds of insolvency taken by different parties

	Admin. receivership (41)	Administrations/ CVA (7)
Costs of procedure	25.2%	26.3%
Main Bank	70.2%	65.3%
Preferential creditors	4.6%	8.4%

1. For 3 LPA receiverships the costs are 9.6%. Although a tiny sample, this confirms the view that this procedure is quite cheap.

Panel C: How costs change with size of insolvency, measured by realisations.

Value of realisations (000s)	Costs of all procedures
100-500 (13)	31.7% (29.1)
500-1000 (19)	23.3% (18.5)
1000-4000 (19)	20.2% (15.9)

To check the data provided by the bank and to explore in more detail these costs, we examined 27 cases of administrative receivership using the statements of accounts provided by the receiver. We found average receivership costs to be similar to the main sample. Fees to the receiver were about one half of total costs and accounted for 14.6% of realised values. Median values are a little lower. The increasing use of LPAs and the search for new procedures such as Attorneyships suggests that banks may be looking for ways to reduce these costs.

The view that the costs of receivership are high is reinforced by data from the Royal Bank of Scotland. It has found that a policy of tendering at fixed prices for a receivership has substantially reduced costs. For receiverships with realisations of similar size to those described in table 9, costs have been reduced by between 30 and 50%.

3.4 Incidence of going concern sales in administrative receivership

An important issue in formal procedures is the incidence of sales of businesses as going concerns, especially in administrative receiverships, where the role of the floating charge has become a contentious issue. However, there are considerable difficulties in determining the degree to which a company's business is sold as a going concern. Parts may be liquidated and the remainder sold as a going concern. In some cases the assets including depots and machines are sold but none of the staff remain and the company's goodwill is not included in the sale. Also, a company may continue to be traded in receivership but such trading may only take place in order to complete an existing contract and then be followed by liquidation. Conversely, a company may show no evidence of trading in receivership but that may reflect a pre-

packaged receivership where an agreement to sell the company's business is made prior to receivership or immediately after appointment.

Because of these difficulties we report one bank's views on the degree to which the sale of the business were preserved as going concerns. Of the 27 cases the bank concluded that there were 8 going concerns and 8 partial going concerns. If we score the partial going concerns as one half then there are 12 going concerns which is 44% of the sample. If the partial going concerns are scored one then the incidence rises to 59%. The former is remarkably close to the numbers provided in the latest SPI Survey.[5]

Our own analysis of the receivership statements show significant evidence that there is trading during receivership. For 6 of the 27 companies trading losses ranged from £96,000 to more than £0.5 million during receivership, and in one case trading profits of £53000 were reported. In a further three cases small trading losses were reported, all less than £13000.

4. The Puzzle of the Trade Creditors

It should be clear, by now, that if the bank is 'unhappy' with the resolution of the rescue process, it will take control of the firm and put it into formal procedures, receivership or liquidation. Once that happens, trade creditors are typically placed at the bottom of the seniority ladder, with little chance of recovering any of their money. The relationship between the bank and the trade creditors is highly asymmetric: the bank has collateral, and has all the control rights needed to enforce its legal claims. It is an interesting question why the trade creditors are willing to enter into a contract that places them in such an inferior position. The puzzle is amplified by the fact that trade creditors are typically small, undiversified, and highly exposed to the risk of default. Unlike the bank, they have no comparative advantage in bearing these risks.

[5] A second bank, Bank 1, has provided us with their view as to the extent of going concerns in their sample of 52 formal procedures. There were 6 pre-packaged receiverships and 8 other going concern sales in receiverships making a total of 14. There were 8 break up administrative receiverships and 30 piecemeal liquidations. If we aggregate the liquidations with the receiverships, the percentage total of going concerns is 27%. If however, we focus only on the administrative receiverships we obtain the far higher figure of 63.6%. We believe the former figure is more representative since this bank encourages liquidations rather than administrative receiverships when control is not an important issue.

One view is that the relationship is not as unbalanced as it appears. Trade creditors indeed suffer heavy losses when the firm ends in insolvency, but they may receive a better deal than the bank when the firm is saved and goes back to branch. This view is expressed in the theoretical literature as well. It is argued that the trade creditors can use their small size and lack of co-ordination, to their own advantage. Hence, if the bank decides to rescue the firm, trade creditors cannot be forced to remain with the firm, or contribute to its recovery. Our evidence is not consistent with this explanation: trade creditors continue to lend to firm in distress even when the outcome is insolvency.

There are two other explanations for the trade creditors' inferior position. The first is that this imbalance is by itself a market failure, resulting from the trade creditors' inability to innovate the financial and legal instruments that would protect them in case of default.[6] An important exception is Retention of Title that allows trade creditors to retain title to goods and repossess them in the event of default.[7] The second explanation is that their passivity serves some economic purpose. Evidence from other countries suggests that financial distress is more difficult to resolve as the number of parties controlling the process increases. According to this explanation, the trade creditors are made passive, deliberately, by stripping them of both control rights and seniority[8]. Obviously, they have to be compensated for bearing these risks, most likely by higher profit margins.

We examine the evidence more carefully, confining our analysis to Bank 2. Table 10, Panel 1 provides information about the evolution of trade credit in rescue (*i.e.* between t=1 and t=2). Trade credit expands by 11.2% on average while bank debt contracts by 13.6%, when the firm ends up in DRU. When the firm returns to branch trade credit expands by 3.8% and bank debt contracts by 18.1%. Thus, while trade creditors continue to supply credit to the firm in both cases, the bank tends to contract its position.

[6] The limitations on retention of title are an example.
[7] The low recovery rates recorded for unsecured will understate realisations if the trade creditor has Retention of Title and is able to enforce it.
[8] Seniority would have encouraged them to use the remedies that they do have, such as petitioning for winding up.

This impression is reinforced when we examine the whole distribution of the growth in debt (see Figures 4.a and 4.b). The right hand 'tail' of the distribution (where credit expansions are indicated) is 'long and fat' for trade creditors, 'short and thin' for bank debt. The effect is more pronounced among firms that have ended up in DRU rather than returned to branch. More simply, the bank scarcely expands credit to firms that end in DRU; when it does so, the expansion is modest. On the other hand, trade creditors expand credit more frequently, and the expansion is often very significant. This expansion of trade credit must be seen in the light of the fact that if the firm is sent to DRU and put into formal procedures, a trade creditor's pound is placed at the bottom of the seniority ladder, while the bank's pound is drawn from the top of the seniority ladder. It is almost a direct transfer from the trade creditors to the bank.

Note, however, that the left-hand tail of the distribution (where credit shrinks) is quite fat for trade creditors, especially for those firms that have returned to branch (see Figure 4.b). This might be consistent with the idea that trade creditors are better off than the bank when the rescue process is successful. To examine this possibility more closely, we restrict our analysis to firms that went back to branch and where trade credit has contracted sharply during the rescue process, by 50% or more (71.8% on average, see Table 10.a, Panel 2). However, bank credit has contracted as well in those firms, by 38% on average. To investigate the correlation, we regress the £-change of trade credit on the £-change in bank debt. The regression coefficient is 1.35 and is highly significant (see Table 10.b, Panel 2). More simply, for every pound the bank has withdrawn from the business, the trade creditors have withdrawn £1.35. The sub-sample from which the regression is estimated and the regression line are plotted in Figure 4.c. There are hardly any exceptions to the rule that when trade creditors pull out, the banks withdraw roughly an equal amount.

To complete the picture, we return to firms where the rescue process has failed, firms end up in DRU and trade credit has expanded by 10% or more (78.8% on average, see Table 10, Panel 2). Bank debt has contracted 11.3% on average (see Table 10.a, Panel 2). The £-change regression coefficient is –0.87 and is highly significant. In simple words, for every pound the bank has withdrawn, the trade creditors have put in 87P. A closer look at Figure 4.c may raise the concern that the regression coefficient is highly

affected by one extreme observation. On the other hand, it is telling that there seems to be only one case where both bank debt and trade credit expanded significantly.

Table 10.a: Changes in Bank and Trade Credit in Rescue for Bank 2

The table analyses changes in bank and trade credit during the rescue process for firms that went either 'back to branch' or to DRU[1]. In Panel 1, the whole population is analysed. Panel 2 examines the 'tails' of the distribution: firms that have contracted trade credit by 50% or more, and then went to Branch, and those that have expanded trade credit by 10% or more, and then went to DRU[2].

	Branch	**DRU**
	mean	Mean
Panel 1		
trade credit: growth rate(%)	3.8	11.2
trade credit/total debt (t=0,%)	35.4	37.4
bank debt: growth rate(%)	-18.1	-13.6
bank debt/total debt (t=0,%)	47	45.9
total debt (t=1, million £)	4.66	2.60
Interest-rate spread (t=0, %)	2.45	2.78
Panel 2		
trade credit: growth rate(%)	-71.8	78.8
trade credit/total debt (t=0,%)	42.0	34.2
bank debt: growth rate(%)	-37.6	-11.3
bank debt/total debt (t=0,%)	46.9	50.7
total debt (t=1, million £)	4.61	3.26
Interest-rate spread (t=0, %)	2.64	2.57

1. Ongoing cases are omitted; cases where the relationship was terminated are not examined due to data deficiencies.
2. The results are robust to slightly different selection of tails.

Table 10.b: Regression Results

The following equation is estimated:

$$\Delta(\text{trade credit}) = \alpha + \beta \cdot \Delta(\text{bank credit}) + \varepsilon$$

The panel definition is identical to that in Table 14. β should be interpreted as follows: how many pounds the trade creditors put in, per 1 pound put in by the banks. Numbers in parenthesis: t statistics

	Branch			**DRU**		
	β	N	R^2	β	N	R^2
Panel 1						
	0.28	69	0.08	-0.50	64	0.08
	(2.48)			(-3.41)		
Panel 2						
	1.35	15	0.55	-0.87	21	0.56
	(4.06)			(-4.98)		

Figure 4.a

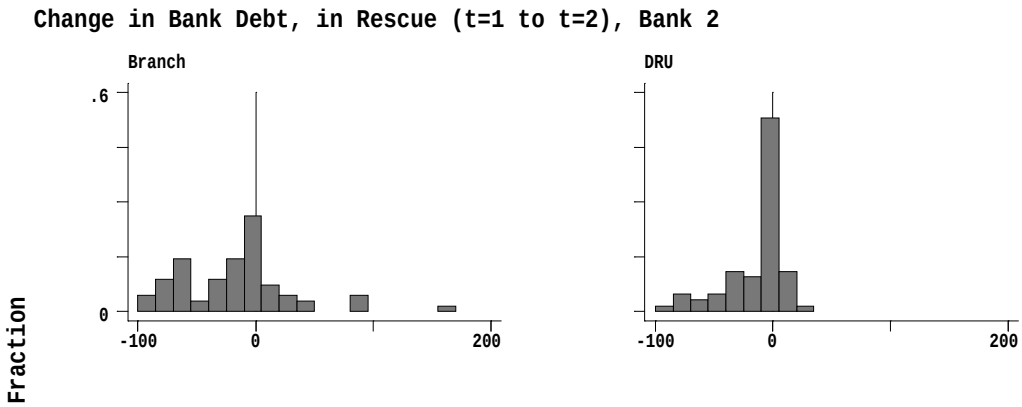
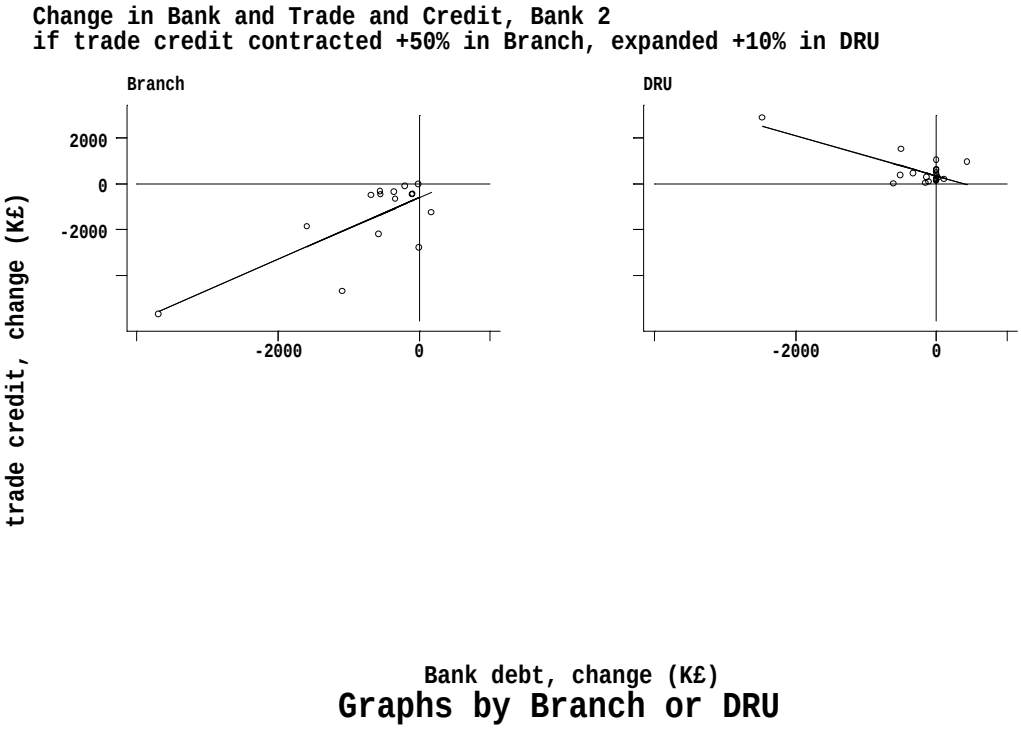


Figure 4.b

Figure 5.c



5. Results of regression analysis

In this section we use regression analysis to establish, more firmly, some of the main insights identified above: for example, the way the bank uses its control power in order to manage the rescue process and the passivity of trade creditors.

5.1 Spread regressions

In Table 11 we analyse the pricing policy of bank 2. The dependent variable is the interest-rate spread. The independent variables are various firm characteristics including total debt as a proxy for size and the share of the main bank within total debt. Both are highly significant and have the predicted sign. We believe this result is consistent with the findings of the former section. Since trade creditors are constrained by their junior position, they pose no risk of 'rocking the boat or starting a 'run' on the firm, nor can they hold up the bank's rescue process. All other variables have the anticipated sign, although some are only marginally significant. The dummy for personal security is highly significant but has a positive coefficient. It seems that high-risk borrowers are forced to put up more personal securities.

Table 11: The relation between interest rate spreads and characteristics of firms in rescue for Bank 2

In this table we analyse the pricing of bank debt for firms entering the rescue unit of the bank (*i.e.* at t=1). The dependent variable is the interest rate spread charged by the bank. The independent variables represent firms' characteristics. They include main 'Total debt' in millions of pounds (includes trade credit), 'Tenure' of banking relationship, previous distress security value over bank debt, personal security (dummy =1 if there is personal security), trade credit over total debt, profit over turnover, and dummy if publicly quoted. 1 was substituted for values above 1. Estimation is by OLS. A constant term is included but not reported. Numbers in parenthesis are t-stat.

	eq. 1	eq. 2	eq. 3	Eq. 4	eq. 5
Total debt (millions)	-0.083	-0.068	-0.083	-0.084	-0.077
	(-5.86)	(-4.73)	(-5.65)	(-5.61)	(-4.95)
Tenure (years)	-0.006	-0.007	-0.004	-0.004	-0.005
	(-1.65)	(-1.76)	(-1.15)	(-1.07)	(-1.40)
Dummy: previously distressed	0.288	0.240	0.215	0.214	0.198
(=1 if 'yes')	(2.57)	(2.19)	(2.02)	(1.97)	(1.86)
Security value/bank-debt	-0.067	-0.082	-0.133	-0.132	-0.135
	(-0.58)	(-0.73)	(-1.21)	(-1.18)	(-1.23)
Dummy: personal security		0.378	0.327	0.324	0.310
(=1 if 'yes')		(3.35)	(2.94)	(2.86)	(2.78)
Bank debt/total-debt			-0.840	-0.843	-0.796
			(-3.21)	(-3.15)	(-3.03)
Profit/turnover				0.079	
				(0.138)	
Dummy: publicly quoted					-0.219
(=1 if 'yes')					(-1.37)
Adjusted R^2	0.211	0.260	0.302	0.295	0.306
# of observations	160	160	160	158	160

5.2 What determines the outcome of the rescue process

In Table 12 we analyse the various determinants of the success of the rescue process. The dependant variable receives a value of 1 if the firm is rescued, and zero otherwise. The coefficients of the probit regressions should thus be interpreted as marginal probabilities. The most notable result is that the coefficients for managerial replacement, and 'voluntary' credit contraction significantly increase the probability of a successful rescue. There can be little ambiguity in the interpretation of this result. The bank uses its liquidation right as a threat point so as to force the firm to restructure and to decrease its debt position. Consistent with the previous sub-section, trade creditors do not diminish the prospects of the rescue process.

Table 12: Factors Affecting the Success of the Rescue Process for Bank 2

In this table we analyse the factors affecting the success, or failure, of the rescue process. The dependent variable gets a value of 1 if the firm goes back to branch, and a value of zero if it is sent to DRU. The outcome of the rescue process is evaluated when the firm leaves the rescue unit, (*i.e.* at t=2). We assume that firms which are still in rescue will be saved, eventually. The independent variables represent firms' characteristics. They include: either total or bank debt when the firm entered distress (at *t*=1), security value over bank debt (at *t*=1), a dummy for managerial replacement (between *t*=1 and *t*=2), the growth rate of bank debt during the rescue period (between *t*=1 and *t*=2), the interest-rate spread and total debt over total credit (both at *t*=1). Equation is estimated by a probit procedure. A constant term is included but not reported. Numbers in parenthesis are z-stat.

	eq. 1	eq. 2	eq. 3	eq. 4
bank debt (millions)	0.277		0.220	-0.284
(at t=1)	(2.79)		(1.77)	(2.84)
total debt (millions)		0.088		
(at t=1)		(2.34)		
dummy: managerial replacement	1.630	1.611	1.460	1.639
(=1 if 'yes')	(3.90)	(3.90)	(3.42)	(3.93)
security value/bank-debt	0.122	0.067	-0.255	0.144
(at t=1)	(0.483)	(0.27)	(0.93)	(0.56)
bank debt:	-0.614	-0.66	-0.588	-0.592
growth rate (from t=1 to t=2)	(-1.90)	(-2.07)	(-1.48)	(-1.81)
interest-rate spread			-0.108	
(at t=1)			(-0.60)	
trade credit/total credit				0.193
(at t=1)				(0.334)
pseudo R^2	0.185	0.172	0.174	0.188
# of observations	153	152	131	152

6. Conclusions

The purpose of this paper was to provide a detailed view of the rescue process for small to medium size companies that are classified as in financial distress, as reflected in the records of three UK clearing banks. The main points arising from the study are:

(i) Bank debt is highly collateralised and in the large majority of cases the security includes a floating charge that allows the bank to exercise control over the insolvency procedure. Even when the insolvency procedure does not include receivership the bank is often crucial in allowing an alternative procedure to be initiated.

(ii) The rescue process is elaborate. Companies in our sample rarely move from the branch directly into insolvency. On average companies remain in the central rescue unit about 7.5 months. There is no evidence of automatic liquidation upon default. About 75% of companies survive and either return to branch or rebank elsewhere.

(iii) The bank uses its control rights to encourage (or force) distressed firms to undergo restructuring, that includes downsizing and managerial replacement. The willingness of the company to restructure, to replace management for example, appears to be significantly related to the size of debt repayments demanded by the bank.

(iv) During rescue the bank frequently receives substantial repayment of loans outstanding. Trade creditors appear to be passive and maintain or even slightly expand their credit outstanding. This issue is important because unsecured creditors receive very little in formal insolvency whereas banks receive on average repayment of more than three quarters of the loans outstanding.

(v) About one quarter of the proceeds of receivership is taken up in costs. These costs appear high. Royal Bank of Scotland has provided evidence of substantial reductions in costs through new tendering procedures in the choice of insolvency practitioners. Costs are an important issue since unsecured

creditors receive only a small fraction of the proceeds and yet have little say in the insolvency procedure.

(vi) About 44% of companies in receivership are sold as going concerns. However, since definitions of going concern are imprecise, these figures should be treated with some caution.

(vii) There is evidence of substantial rebanking during rescue. For example, customers of Bank 3, which enter the distress unit, frequently terminate their relationship and bank elsewhere. Consistent with this evidence, Bank 3 charges lower interest rates to their customers than other banks with lower levels of rebanking.