THE COSTS AND BENEFITS OF SECURED CREDITOR CONTROL IN BANKRUPTCY: EVIDENCE FROM THE UK

by

John Armour
Faculty of Law & Centre
for Business Research
Cambridge University
Judge Business School
Trumpington Street
Cambridge CB2 1AG
Tel +44 1223 332550
Fax +44 1223 332537
j.armour@law.cam.ac.uk

Audrey Hsu
Department of Accounting
National Taiwan University
No 1, Sec 4, Roosevelt Rd
Taipei City 106
Taiwan (R.O.C.)
Tel + 886 2 3366 1131
Fax +886 2 2363 2082
audrey.hsu@
management.ntu.edu.tw

Adrian Walters
Nottingham Law School
Nottingham Trent
University
Burton Street
Nottingham NG1 4BU
Tel +44 115 848 2771
Fax +44 115 848 6489
adrian.walters@ntu.ac.uk

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Abstract
Recent theoretical literature has debated the desirability of permitting debtors to contract with lenders over control rights in bankruptcy. Proponents point to the monitoring benefits brought from concentrating control rights in the hands of a single lender. Detractors point to the costs imposed on other creditors by a senior claimant's inadequate incentives to maximise net recoveries. The UK provides the setting for a natural experiment regarding these theories. Until recently, UK bankruptcy law permitted firms to give complete *ex post* control to secured creditors, through a procedure known as Receivership. Receivership was replaced in 2003 by a new procedure, Administration, which was intended to introduce greater accountability to unsecured creditors to the governance of bankrupt firms, through a combination of voting rights and fiduciary duties. We present empirical findings from a hand-coded sample of 348 bankruptcies from both before and after the change in the law, supplemented with qualitative interview data. We find robust evidence that whilst gross realisations have increased following the change in the law, these have tended to be eaten up by concomitantly increased bankruptcy costs. The net result has been that creditor recoveries have remained unchanged. This implies that dispersed and concentrated creditor governance in bankruptcy may be functionally equivalent.

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1. Introduction

Secured creditors in the US have in recent years been exerting ever-greater influence over financially-distressed companies (Baird and Rasmussen, 2002; Skeel, 2004). This has lead to a lively debate over the desirability of secured creditor control. Proponents point to the benefits that a concentrated creditor can bring to the governance of a firm. This lowers investors' monitoring costs. Moreover, all-encompassing secured credit facilitates control by the secured lender, especially when combined with revolving overdraft facilities and extensive loan covenants (Scott, 1986; Franks and Sussman, 2005; Baird and Rasmussen, 2006; Armour, 2006). Thus a concentrated secured lender is in a position to assist in keeping the debtor's management under control (Triantis, 1995; Baird and Rasmussen, 2002).

Bankruptcy law modifies the rights of investors so as to impose a collective governance mechanism on a distressed firm and its creditors. This can, depending on the procedure employed, greatly impede the control that secured creditors are capable of exercising. Some argue that it is undesirable for bankruptcy law to do this, and that firms should be left free to write contracts with their creditors concerning how control rights will be allocated in default states (Rasmussen, 1992; Schwartz, 1998). Others, however, are strongly critical of such proposals, pointing to the possibilities for rent-seeking by those in control of such a process (LoPucki, 1999; Westbrook, 2004).

Policy-makers in the UK have grappled with these issues in a recent bankruptcy reform, the results of which may be of interest to participants in these debates elsewhere. Until recently, control in UK bankruptcy proceedings lay firmly in the hands of secured creditors. A creditor holding a floating charge (a security interest similar to the UCC's floating lien) had the right to appoint an administrative receiver, who had plenary powers to manage the debtor firm and yet owed fiduciary duties only to the secured creditor. It was widely thought that this receivership system had lead to excessive liquidations and inflated bankruptcy costs: senior claimants lack incentives to maximise recoveries and minimise costs in cases where the firm's assets are worth more than the face value of the senior debt. Secured creditor control, it was thought, therefore tended to reduce recoveries for junior claimants. In response to these concerns, the UK's Enterprise Act 2002 effected a transformation of the governance of corporate bankruptcies, shifting power from secured to unsecured creditors. This was done by abolishing the secured creditor's right to appoint a receiver: under the new regime, they may instead appoint an administrator, who owes fiduciary duties to all the creditors, and must put proposals for the exit from proceedings to a vote of unsecured creditors.

We present the results of the first systematic empirical comparison of the UK's old and new bankruptcy regimes. We analyse a hand-coded sample of 348 bankruptcy cases, comprising 153 administrative receiverships commencing in 2001-2003 and 195 administrations commencing in 2003 and 2004, after the change in the law.[1] We find robust evidence that, as compared with administrative receivership, the new administration procedure tends to generate both higher gross recoveries and higher direct costs. The net result is that there has been no overall change in creditors' net recoveries. Moreover, there is no significant difference in the number of bankrupt firms that are kept open under the new regime. We interpret these findings as casting doubt on strong theoretical claims for the superiority of one form of investor governance in bankruptcy proceedings.

The rest of this paper is structured as follows. Section 2 explains the structure of UK corporate bankruptcy law, both before and after the recent change. Section 3 reviews prior literature on bankruptcy costs and develops hypotheses. Section 4 describes our data. Results are presented in section 5, and section 6 concludes with a discussion of the implications.

2. UK Bankruptcy Law

US federal bankruptcy law offers distressed debtors two options for formal bankruptcy: Chapter 7 or Chapter 11. Chapter 7 involves the transfer of the control of the firm to a creditor-appointed Trustee. In Chapter 11, as is well-known, the debtor's management usually remain in control of the firm during the proceedings. The current US Bankruptcy Code was introduced in 1978. At first, creditors found that debtors had a high degree of control, especially in smaller cases (LoPucki, 1983). However, over time, creditors responded by writing more stringent contracts regarding the provision of finance to firms in Chapter 11 proceedings, thereby reasserting a significant degree of control (Baird and Rasmussen, 2002; Skeel, 2004).

Yet the creditor control exerted in Chapter 11, even now, is weak compared to that which was, until recently, enjoyed by secured creditors in UK bankruptcy situations. English insolvency law did not historically impose a stay on the enforcement of secured claims. This permitted a secured creditor holding an all-encompassing security interest—known in the UK as a 'floating charge'—to enforce against the entirety of the debtor firm's assets. In effect, the floating charge holder (FCH) conducted a private liquidation, known as an 'administrative receivership' (or 'receivership' for short). When English law was modified in 1985 to include a stay on the enforcement of all security, in a new 'administration' procedure, a special carve-out was granted for FCHs: they were given a veto over the commencement of administration proceedings. The

upshot was that a creditor with a floating charge still enjoyed unfettered control rights over the appointment of a receiver (Armour and Frisby, 2001).

Under the English system, firms 'opted in' to the private liquidation procedure by writing a contract with a secured creditor whereby a floating charge was granted. For those US scholars who have debated the merits of contracting over bankruptcy, the UK has sometimes been cited as an example of a system where such contracting was possible (Schwartz, 1998; Westbrook, 2004). An empirical study of the effects of the UK's recent shift away from its system of secured creditor control may therefore be of interest to both sides of the US debates.

2.1 Criticisms of Receivership

Many in the UK were critical of the receivership system (Benveniste, 1986; Aghion, Hart and Moore, 1992; Milman and Mond, 1999; Finch, 1999; Mokal, 2004). The principal objection was that giving decision rights to the secured creditor created a perverse incentive. Where the value of the firm's assets was greater than the amount of secured debt owed, then the secured creditor would not be the residual claimant. Rather, they would, it was feared, have an incentive simply to seek repayment of their money as quickly as possible. This would, it was argued, tend to lead to a bias against continuation of distressed firms, on the basis that closure and piecemeal liquidation would typically be quicker (Benveniste, 1986; Aghion *et al*, 1992). Of course, in cases where the value of the firm's assets was less than the amount of secured debt owed (that is, the secured creditor was not undersecured), they would be the residual claimant and hence concerns about excess costs and precipitate liquidation would not be pressing (Armour and Frisby, 2001). Secured creditors were thought to be undersecured in just under half of all UK insolvencies during the late 1990s (Armour and Mokal, 2005).

Several other criticisms were levelled against the receivership system. It was argued that because receivership involved a sale of assets and did not permit a corporate reorganisation, good businesses might be forced to close (Insolvency Service, 2001; Mokal, 2004).[2] Secondly, it was thought that the procedure rendered the receiver insufficiently accountable to those who were affected by her actions in many cases, namely unsecured creditors (Insolvency Service, 2001). A particular manifestation of this problem concerned costs: it was argued that oversecured lenders would fail to monitor the costs incurred by insolvency professionals in carrying out their functions, such that the fees and remuneration expenditure would be needlessly and wastefully inflated (Mokal, 2004).

2.2 The New Administration Procedure

In 2001, the UK government announced a package of reforms to bankruptcy law that were intended to correct the perceived problems with receivership (Insolvency Service, 2001). These were implemented in the Enterprise Act 2002, which came into force on 15 September 2003. In essence, they involved two steps. First, the entitlement of an FCH to appoint an administrative receiver was (with some limited exceptions) abolished. This abolition was prospective, in the sense that it applied only to security interests created after 15 September 2003. In return, FCHs are now given the right to appoint an administrator out of court. This is intended to preserve the usefulness, for the governance of small firms, of giving a concentrated creditor the power to initiate bankruptcy proceedings and replace management very quickly.

The second major change has been to remodel the administration procedure. As before, it involves a stay of all claims, secured and unsecured. Unlike before, the decision-making process is now explicitly geared towards the maximisation of *ex post* value by the administrator. Two mechanisms of accountability seek to ensure this. First, the administrator must put proposals to a creditors' meeting for a vote within eight to ten weeks of appointment.[3] The vote is taken by the unsecured creditors, unless the administrator thinks that they will receive no recoveries, in which case secured creditors vote.[4] This structure can be understood as seeking to ensure that voting power resides in the hands of the residual claimant. Of course, the correct identification of the residual claimant depends upon the administrator's evaluation of the firm's value at the commencement of formal proceedings.

The second mechanism of accountability is the administrator's legal duties. He owes duties to act in the interests of the company's creditors as a whole, to perform his functions as quickly and efficiently as possible, and is statutorily obliged to pursue a hierarchy of objectives.[5] The first two of these are, respectively, (i) the rescue of the company as a going concern; and (ii) the achievement of a better result for the company's (unsecured) creditors than in liquidation. As between these, he must seek to do that which will yield the highest return for the (unsecured) creditors. In effect, he is legally obliged to seek to maximise the returns for the unsecured creditors—either through a corporate reorganisation (objective (i)), where possible—or failing that, through any other technique (e.g. sale of the business as a going concern, or work through of existing contracts) that will yield more for the creditors than an immediate fire sale (objective (ii)). Where the administrator thinks that neither (i) nor (ii) is reasonably practicable, then he may seek instead to realise assets for the benefit of a secured creditor, provided that in so doing he does not unnecessarily harm the interests of unsecured creditors. In essence, this statutory hierarchy is, like the voting mechanisms, intended to ensure that the

administrator has appropriate incentives to maximise returns *ex post* (Armour and Mokal, 2005).

However, doubts have been raised as to whether these new legal mechanisms of accountability will result in a significant improvement for unsecured creditors (Frisby, 2004; Armour and Mokal, 2005). First, it should be noted that secured creditors will still retain considerable control over rescue proceedings. The FCH will in most cases be responsible for the selection and appointment of the administrator. Banks typically operate 'panels' for the selection of accountants to act as their insolvency practitioners, which will impose reputational constraints on the latter's' actions: those appointees who take steps contrary to the banks' interests in the course of an appointment may expect not to be appointed again. Moreover, and perhaps more importantly, the new regime makes no provision for 'statutory super-priority' to be granted to those advancing funds to the bankrupt firm. Thus the company's existing bankers will retain control of funding during administration proceedings. This will make it practically impossible in many cases for an administrator, even if so minded, to achieve an outcome contrary to that desired by the secured creditor.

Secondly, it has been argued that it will be difficult to bring an action successfully for breach of the new legal duties, because they are framed in such a way as to give the administrator the benefit of a generous business judgement rule (Frisby, 2004). The choice between the hierarchy of objectives is based upon what the administrator 'thinks', a subjective term designed to accord respect to the office-holder's 'business judgment'. In practice, it will be extremely difficult to demonstrate that the relevant criteria were not satisfied. Relatedly, some have suggested that it is so difficult to know how to interpret a duty to act 'efficiently' that it is perhaps intended merely to be hortatory, rather than genuinely justiciable (Sealy and Milman, 2005).

3. Previous Literature and Formulation of Hypotheses
The change in UK law effected by the Enterprise Act 2002 may be summarised as follows: the secured creditor's control of bankruptcy proceedings is reduced, in favour of increased control granted to unsecured claimants. This transfer is effected through two new mechanisms of accountability: (i) legal duties to all the creditors; (ii) the requirement for approval by a creditors' meeting. We might expect these changes to have an impact on realisations and on costs of proceedings. In this section, we examine prior literature on these issues and formulate hypotheses about the likely determinants of realisations and bankruptcy costs. To assist us in structuring our intuitions about the changes in practice, we conducted thirteen open-ended interviews with professionals involved in UK bankruptcy proceedings. Summary details of interview subjects

are tabulated in Table 1, and relevant findings are identified at appropriate points in the text.

Table 1: Summary details of interview subjects

Interview Number	Date	Profession	Location	Expertise	Digital Record
1.	06-07-05	Insolvency Practitioner (mid-market firm)	Birmingham		N
2.	12-07-05	Insolvency Practitioner (mid-market firm)	Nottingham		N
3.	20-07-05	Insolvency Practitioner ('big four' firm)	Birmingham		N
4.	21-07-05	Insolvency Practitioner ('big four' firm)	Birmingham		N
5.	24-08-05	Insolvency Practitioner (mid-market firm)	Birmingham		N
6.	08-11-05	Regulator (IPA)	London		N
7.	08-11-05	Insolvency Practitioner (mid-market firm)	London		N
8.	22-12-05	Regulator (IPA)	London		N
9.	22-12-05	Insolvency practitioner (mid-market firm)	London		N
10.	18-04-06	Accountant/pensions expert ('big four' firm)	London		Y
11.	03-05-06	Credit insurer	London		Y
12.	19-06-06	Banker (clearing bank)	London		Y
13.	30-06-06	Banker (clearing bank)	Bristol		N

3.1 Realisations

Administration versus administrative receivership

The imposition of new governance mechanisms rendering the office-holder accountable to all the creditors might therefore be expected to result in increased recoveries, because the administrator would thereby have better incentives to maximise realisations. Whilst a number of our interview subjects stated that the change in the law would have little effect on the way in which bankruptcies were run, some insolvency practitioners did indicate that it would cause them to be more careful in thinking about how best to realise the assets.

Hypothesis 1: Realisations may be expected to be larger in administrations than in administrative receiverships.

We would expect any such difference to be more pronounced in cases where the value of the bankrupt firm's assets are more than the amount of secured debt. This is because, if the assets are worth less than the secured debt, then in a receivership, the secured creditor will have appropriate incentives to maximise value.[6]

Measuring realisations

Realisations can be measured straightforwardly as gross recoveries by the insolvency practitioner. However, where trading is involved, results may differ depending on whether trading receipts and/or trading expenses are included. This yields three possible measures of realisations: (i) asset realisations (excluding trading); (ii) asset realisations, including gross trading receipts; (iii) asset realisations including net trading receipts (deducting operating costs for trading). These might in turn be measured either (i) simply in absolute value terms; or (ii) relative to the value of the assets at the outset of proceedings. If the absolute value of the assets is used, then it will of course be necessary to control for the size of the firm's assets at the commencement of proceedings.

3.2 Costs

Types of bankruptcy cost

The literature typically divides the costs of bankruptcy into 'direct' and 'indirect' components. Direct costs are the costs involved in running a procedure: that is, the fees paid to professionals such as lawyers, accountants, valuers, business consultants and marketing experts who are employed in realising the assets of the bankrupt firm and agreeing an appropriate distribution of the proceeds. Direct costs are relatively easy to observe, as most bankruptcy systems require that a record of such payments costs be kept in individual cases. Indirect costs encompass everything else. *Ex post*, they would include the costs of decisional error by the trustee realising the assets—that is, the costs of failing to allocate the distressed firm's assets to their highest-valued use. They would also include the costs resulting from unnecessary delay in the completion of the proceedings, as this will impact negatively on the value of the firm's goodwill. Indirect costs are also thought to have *ex ante* components, which, because they affect all firms, as opposed to simply those which enter bankruptcy proceedings, are potentially much greater (White, 1996). These include the incentive effects of bankruptcy on management's investment strategy (Schwartz, 1994) and on the credibility of the creditor's threat to enforce (Hart, 1995). Whilst it is possible to think of ways to measure *ex post* indirect costs, it is very difficult to think how this might be done for *ex ante* costs.

Direct costs

A number of studies have investigated direct bankruptcy costs in various jurisdictions. These are typically reported as a ratio of total firm value, in order to control for firm size. Possible denominators for comparison are the value of the prebankruptcy assets (either at book, or estimated market value, where available) and the market value of postbankruptcy assets, as realised by sales (which can be presented either as a gross figure or net of the associated costs of sale). The results of various prior studies using samples of private firms, between them encompassing a variety of bankruptcy regimes, are summarised in Figure 1.

Figure 1: Prior literature on the direct costs of bankruptcy in private firms

Authors (year)	Jurisdiction, procedure, firm type	n	Mean costs, % of starting values (median)		Mean costs, % of final market values (median)	
			Book value	Market value (est)	Gross mkt value	Net mkt value
Lawless and Ferris (1997)	US: private firms, Ch 7	98	-	6.1 (1.1)	-	13.5 (2.1)
Lawless and Ferris (2000)	US: private firms, Ch 11	11 8	-	17.6 (3.5)	-	7.6 (4.7)
Bris et al (2006)	US: private firms, Ch 7 private firms, Ch 11	57 38 22 2 15 7	- - - -	8.1 (2.5) - 16.9 (1.9) -	- 37.9 (9.6) - 9.4 (3.5)	- - - -
Thorburn (2000)	Sweden, public and private firms, auction	26 3	6.4 (4.5)	-	19.1 (13.2)	-
Franks and Sussman (2000)	UK, private firms, r'ship Administration	41 7	- -	- -	- -	25.2 26.3
Citron *et al* (2004)	UK, MBO firms, receivership	65	-	-	15.2 (14.6)	24.5 (21.3)

Results reported in Franks and Sussman (2000) and Citron *et al* (2004) suggest that the mean costs of insolvency practitioner remuneration in a typical UK receivership were in the region of 25% of the value of the postbankruptcy assets, net of the costs of realisation. Franks and Sussman (2000) also report mean costs for a sample of 7 pre-Enterprise Act administrations, which were slightly higher, at 26.3%. However, the sample size is so small that little significance can be attached to this finding.

Other studies report costs as a fraction of gross postbankruptcy asset values. This tends to reduce the percentage reported. Thus Citron *et al* (2004) report a mean (median) cost of 15.2% (14.6%) of gross postbankruptcy assets for a sample of 65 MBO firms that subsequently went into receivership. This is similar to the figures reported by Thorburn (2000) for the Swedish bankruptcy process, in which firms are mandatorily auctioned within a year (mean 19.1%, median 13.2%).[7]

However, care must be taken not to read too much into such results. LoPucki and Doherty (2006) suggest that scale effects (namely, that marginal direct costs are declining in firm size) may render fractional representations of bankruptcy costs meaningless. At the very least, little weight should be placed on comparisons where the size distribution of the samples may be different.

Administration versus administrative receivership
Administration, it has been argued, is likely to generate greater process costs than administrative receivership (Frisby, 2004; Armour and Mokal, 2005). The new procedure involves a greater likelihood of court appearances. Moreover, the administrator will be required to engage in several types of 'accountability' related actions that would not be necessitated under receivership: preparing and circulating reports to creditors; calling and conducting creditors' meetings; preparing reasons for their actions, etc. All of these may be expected to lead to increased costs.

At the same time, if it was the case that lack of control by (over)secured creditors tended to lead to needlessly inflated costs in receivership, then it might be expected that administration, with enhanced mechanisms of accountability to unsecured creditors, would reduce these costs (Mokal, 2004). This, however, assumes that unsecured creditors are in a good position to exercise control both directly through creditors' meetings, and more obliquely, through the bringing of litigation to challenge the administrator's conduct of his duties.

A contrary view might be that unsecured creditors are typically likely to be dispersed and so suffer from free-rider problems in exercising control over insolvency practitioners. This might lead them to have difficulty in operationalising the new mechanisms of accountability (creditors' meetings and lawsuits against insolvency practitioners). In contrast to the problems with concentrated creditor control, which occur only when the lender is oversecured, the problems of dispersed creditor governance would manifest themselves in all cases. When combined with increased process costs, therefore, the outcome—ironically—might be expected to be *increased* costs as a result of the shift to the new regime.

Interviewees to whom we spoke confirmed these intuitions. They told us that there were real process costs involved in conducting a creditors' meeting, and in preparing a 'paper trail' to guard against the risk (of uncertain magnitude) of legal liability. Moreover, we were told by interviewees from banks, who are both concentrated investors and repeat players, that they typically negotiated a 'bulk' rate with insolvency practitioners regarding fee arrangements. In contrast, when fees are put to creditors' meetings for approval, the unsecured creditors are offered a higher rate, which is accepted because the unsecured creditors are disinterested in the process. The foregoing leads us to formulate the following hypothesis:

Hypothesis 2: Bankruptcy costs are likely to be larger in administration than in administrative receivership.

Other determinants of costs
Firm size. The larger the value of the business assets at stake, the more effort is likely to be required to assess and market the assets (Lawless and Ferris, 2000; LoPucki and Doherty, 2004; Bris *et al*, 2006).

Mode of Sale. It might be thought that in situations where the assets are sold piecemeal, this would be cheaper and quicker to complete than a trading / going concern sale, and that therefore going concern sales, or continued trading, would be positively correlated with fees.

Length of proceedings. The longer the proceedings take to complete, the greater the professional fees likely to be involved. Thorburn (2000), Franks and Sussman (2003) and Bris et al (2006) find a positive relation between time in bankruptcy proceedings and bankruptcy costs.

3.3 Other Outcomes
The difference between administration and administrative receivership may also be expected to have several other effects on outcomes:

Time in bankruptcy
Administration proceedings are limited to one year, although this may be extended with the permission of the court or of a majority of the creditors.[8] Receivership proceedings, although commonly thought to be 'quick', are not subject to any legal time limit. Citron *et al* (2004) found that, in a sample of 65 receiverships, only 3.1% were completed within one year and 37% took more than 3 years.

Mode of exit
The common criticism of receivership would imply that receivers close down good businesses unnecessarily. If the perverse incentive problem has been resolved by the new mechanisms of governance in administration, then we would expect to see more going concern sales, and more trading activity, in administration.

Creditor recoveries
Hypothesis 1 predicts that gross recoveries are likely to be larger in administration than in administrative receivership. Hypothesis 2 predicts that costs will, however, also increase too. It is difficult to predict *a priori* how these two predicted changes might interact to affect net recoveries for creditors, which are the value of recoveries minus costs.

4. Data Description and Methodology

We study data on asset realisations and costs incurred in UK bankruptcy proceedings before and after the changes introduced by the Enterprise Act 2002, which came into force on 15 September 2003. We use a hand-constructed dataset of 348 cases of formal insolvency to compare receiverships under the old law with administrations under the new law. This is a slightly larger sample than the largest similar dataset that has been studied in relation to bankruptcy costs in the US (Bris *et al*, 2006).

A random sample of 500 cases, comprising 250 receiverships commencing between 1 January 2001 and 14 September 2003 and 250 administrations commencing between 15 September 2003 and 31 December 2004,[9] were first identified using the index of insolvency appointments published in the *London Gazette*. Data relating to each case were then entered manually from reports filled at the UK public register of companies, Companies House, by insolvency practitioners.[10] From the Statement of Affairs form, which must be filed shortly after the practitioner's appointment, we extracted the book value of assets, the directors' estimate of the market value of the company's assets, and the amount of creditors' claims, all as of the beginning of proceedings. Insolvency practitioners are also required to file progress reports as the proceedings continue, and final statements of receipts and payments on completion of a case. From these, we collect information on the duration of the bankruptcy procedure, the realisation value of the firm's assets (that is, their postbankruptcy market value), the total remuneration paid to the insolvency practitioner and other bankruptcy-related direct costs, and distributions made to creditors. We exclude cases for which the bankruptcy procedure was not completed by 1 February 2006, and cases for which the relevant abstracts of receipts and payments were not available in electronic form via the *Companies House Direct* service.[11] This yielded a sample of 153 receiverships and 195 administrations, as shown in Table 2.

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Table 2: Year of companies entering receivership and administration

The table shows the year in which our sample cases entered bankruptcy proceedings. Random samples of 250 receiverships commencing between 1 January 2001 and 14 September 2003 and 250 administrations commencing between 15 September 2003 and 31 December 2004, respectively, were first identified using the index of insolvency appointments published in the *London Gazette*. Data relating to each case were then entered manually from reports filed at Companies House by insolvency practitioners. We only include cases in which the insolvency procedure had been completed by February 2006 and cases for which the Receiver's Abstract of Receipts and Payments or Administrator's Progress Report are available in electronic form on the Companies House website (www.direct.companieshouse.gov.uk).

Type of proceedings	2001	2002	2003	2004	Total
Receivership	23	79	51		153
Administration			42	153	195
Total	23	79	93	153	348

Table 3: Firm characteristics and compositions

Data are from receiverships commencing between 1 January 2001 and 14 September 2003 and administrations commencing between 15 September 2003 and 31 December 2004. Panel A gives the age, duration of bankruptcy, turnover, number of employees, the book value of assets at the latest available financial statement (extracted from FAME), and the estimated market value of assets at the time of entry into bankruptcy (from the statement of affairs). Panel B describes the proportion of firms continuing to trade during the bankruptcy proceedings. Panel C describes the outcome of the insolvency process: going concern sale or piecemeal sale. Panel D describes the eight categories of industry based on the 1 digit SIC code.

Panel A Firm characteristics

	Receivership		Administration		t-test for
	Mean	median	Mean	median	differences of mean
Duration of bankruptcy (days)	622	610	356	358	**2.96***
Age (years)	14.9	9.8	16.9	14.9	-1.09
Employees	85	60	83	57	0.20
Turnover (£000)	7,000	4,194	6,682	1,932	0.44
Book value of assets from last annual accounts (£000)	3,318	1,521	2,173	846	0.94
Estimated market value of assets on entry to bankruptcy (£000)	822	473	656	195	0.96

Panel B Trade or not

	Receivership		Administration	
Group	Frequency	Percentage	Frequency	Percentage

	Frequency	Percentage	Frequency	Percentage
Continue trade	33	32.3%	45	24.7%
No trade	69	67.7%	137	75.3%
Total	102	100%	182	100%

Panel C outcomes

	Receivership		Administration	
Group	Frequency	Percentage	Frequency	Percentage
Going concern whole sales	43	42.5%	65	35.7%
Going concern half sales	3	2.9%	11	6.0%
Piecemeal sales	56	54.6%	106	58.3%
Total	102	100%	182	100%

Panel D: Industry components

	Receivership		Administration	
Industrial Group	Frequency	Percentage	Frequency	Percentage
Agriculture, forestry and fishing (1)	0	0	1	0.57%
Mining (2)	15	10.79%	10	5.75%
Construction (3)	39	28.06%	42	24.14%
Manufacturing (4)	12	8.63%	23	13.22%
Transportation, communication, electric, gas and sanitary services (5)	10	7.19%	24	13.79%
Wholesale trade (6)	27	19.42%	39	22.41%
Retail trade (7)	10	7.19%	9	5.17%
Service (8)	26	18.71%	26	14.94%
Total	139	100%	174	100%

* Significance at 5% level.

To explore the pattern of realisations and insolvency cost across different firm characteristics, further information about the firm's SIC industry code and accounting data was obtained from the FAME database.[12]

Table 3 presents descriptive statistics on various characteristics of sample firms. As can be seen, Panel A shows that the average duration of proceedings (1) for receivership (mean 622 days, median 610 days) was nearly twice as long as for administration (mean 356 days, median 358 days). This is consistent with expectations: administration proceedings are subject to a statutory time limit of one year (extendable with the consent of the court or of creditors), whereas receivership has no fixed time limit.[13] The ages of firms (2) in the receivership and administration samples are not significantly different. We also present descriptive statistics for two binary indicators of outcomes: trading versus closure (3) and going concern versus piecemeal sales (4). In each case, the receivership and administration samples are very similar. Panel D reports the distribution of the sample firms by industry at the 1-digit SIC code level. It appears that approximately 45% of the sample in the two respective proceedings is comprised of firms in the construction industry and in wholesale trading. However, the overall industry composition of the two proceeding subsample is similar.

4.1 Realisations
Insolvency practitioners in receivership and administration cases are required to submit to the Registrar of Companies, at six-monthly intervals, a 'Receiver's Abstract of Receipts and Payments' or an 'Administrator's Progress Report', respectively. When assets are sold during the reporting period, the gross realisations must be entered as receipts and related costs entered as payments. We classify the receipt items as the asset realisations and the associated costs as direct insolvency costs on the grounds that costs of these types (namely, legal fees, investigation fees, advertisement fees, and appraisal fees) are normally unavoidable and are related to the efforts beings made by the insolvency practitioners to realise value for the creditors.

However, in cases where the insolvency practitioner continued to operate the business as a going concern, it would be inappropriate to treat operating costs as part of the costs of the insolvency procedure. To help distinguish sums received and paid in the course of trading from asset realisations and associated costs, administrators typically provide a separate trading receipts and payments account in cases where the business continued to operate.[14] Hence, to ensure robustness, three measures of realisations were employed in our study:

A1: total asset realisations
A2: total asset realisations + gross trading receipts
A3: total asset realisations + net trading receipts

Simply comparing realisations, of course, would not give a meaningful comparison between procedures unless those figures can be standardised by a measure of firm size. Consistently with prior literature (LoPucki and Doherty, 2004; Bris *et al.*, 2006), we use the estimated value of the firm's assets at entry into bankruptcy as an indicator of size. The value is extracted from the Statement of Affairs prepared by directors shortly after an insolvency practitioner is appointed. The directors are required to provide an abbreviated balance sheet containing their best estimate of the current value of the firm's assets and liabilities as at the commencement of bankruptcy proceedings.

Thus, the ratio of the value of actual realisations in bankruptcy to the estimated (prebankruptcy) value of the firm's assets ('total assets') yields one measure of the 'effectiveness' of the insolvency practitioner in realising assets. To be sure, the directors' estimates are not audited, and may well be subject to an optimism bias. Provided that this does not differ systematically as between administration and administrative receivership—and we have no reason for thinking that it should—then this ratio can nevertheless provide a meaningful way of comparing the effectiveness of the two procedures. When combined with the three definitions of actual realisations, this yields three different 'realisation ratios', summarised in Figure 2 as follows:

Figure 2: three measures of realisation ratio			
Scaling factor	**Realisations**		
	Asset realisations	**Asset realisations + gross sales**	**Asset realisations+ net sales**
Total assets	$A1: \dfrac{Total\ asset\ realisations}{total\ assets}$	$A2: \dfrac{[Total\ asset\ realisations + gross\ sales]}{total\ assets}$	$A3: \dfrac{[Total\ asset\ realisations + net\ sales]}{total\ assets}$

4.2 Costs

Two measures of the direct costs of insolvency proceedings were employed: (i) the remuneration paid to insolvency practitioners, and (ii) total direct costs (comprising, in addition to insolvency practitioner remuneration, all the costs associated with the realisation of the assets, e.g. legal fees, estate agent fees, document fees, etc). In order to interpret the results meaningfully across the two different proceedings, the costs also need to be standardised by a measure of firm size. We use two measures as a scale factor: (i) the estimated market value, from the Statement of Affairs, of the firm's total assets on entry into bankruptcy and (ii) the value of the actual realisations in bankruptcy. As we have three definitions for asset realisations, the remuneration costs and total direct costs were then divided by total assets and each of the three proxies for actual realisations to yield eight measures of the 'costliness' of insolvency procedures. These are set out in Figure 3:

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Figure 3		
Scaling factor	**Remuneration**	**Total direct costs**
Total assets:		
	$R1: \dfrac{Remuneration}{total\ assets}$	$C1: \dfrac{Direct\ insolvency\ costs}{total\ assets}$
Asset realisations:		
(1) asset realisations	$R2: \dfrac{Remuneration}{Total\ asset\ realisations}$	$C2: \dfrac{Direct\ insolvency\ costs}{Total\ asset\ realisations}$
(2) asset realisations plus gross sales	$R3: \dfrac{Remuneration}{Total\ asset\ realisations + gross\ sales}$	$C3: \dfrac{Direct\ insolvency\ costs}{Total\ asset\ realisations + gross\ sales}$
(3) asset realisations plus net sales	$R4: \dfrac{Remuneration}{Total\ asset\ realisations + net\ trade\ sales}$	$C4: \dfrac{Direct\ insolvency\ costs}{Total\ asset\ realisations + net\ trade\ sales}$

4.3 Creditor Recoveries

The recovery rate is calculated as the distribution to a class of debt over the face of the claims. The recovery rate is thus subclassified into total recovery rate, secured creditor recovery rate, preferential creditor recovery rate and unsecured recovery rate.

5. Results

5.1 Summary Statistics

Table 4 shows descriptive statistics for each of our three measures of actual realisations, as a percentage of total assets (that is, actual postbankruptcy market values as a proportion of estimated prebankruptcy market values). So far as realisation ratios are concerned, the means of each of the measures (A1-A3) are higher in administration than in receivership, the difference of which is statistically significant at the 5% level. When actual realisations are measured as total asset realisations, the actual realisations for administration average 98% of total assets, the figure of which is much higher than the realisation ratio for receivership, 78% of total assets. When net trading sales are included in the calculation for the actual realisations, the administration cases have a mean realisation ratio of about 103% of total assets, which is much higher than the 77% of total assets reported in receivership. These results are consistent with our first hypothesis that realisations are expected to be larger in administration than administrative receivership.

Turning to costs ratios, Table 5 shows the summary statistics for remuneration cost and total direct costs as a percentage of total assets and actual realisations. Overall the means are universally higher in administration than administrative receivership and all the differences are statistically significant at the 5% level.

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This evidence tends to support our second hypothesis, namely that the costs are likely to be larger in administration than in administrative receivership.

Panel A in Table 5 first measures costs as a proportion of pre-insolvency assets. The mean (median) remuneration cost to total assets for administration is 29% (19%), which is much higher than 16% (11%) in receivership. The figures in Panel A should in principle be comparable with those derived from earlier studies giving costs as a fraction of prebankruptcy values.[15] Both the UK procedures appear to have higher direct costs, by this measure, than those reported by Lawless and Ferris (2000) and Bris *et al* (2006) for Chapter 11 proceedings in the US.

The total direct costs for administration cases are also higher than the direct costs for receivership, by a margin of 21% (16%) of total assets. Panels B to D of Table 5 respectively use each of our three different definitions of actual realisations as the denominator. In each case, the cost ratio for administration is significantly higher than the ratio for receivership. For example, remuneration costs amount to 26% (21%) of asset realisations plus gross trading sales in administration, as opposed to 22% (15%) in receivership. The measures in Panel C should in principle be comparable with earlier studies giving costs as a fraction of gross receipts in bankruptcy. The figures for receivership are similar to those reported by Citron *et al* (2004) for a sample of UK receiverships and Thorburn (2000) for the Swedish auction bankruptcy procedure.

Finally, Table 6 shows the results for recovery rates in different classes of claims. An average of 21% of total claims was repaid in both of receivership and administration proceedings. Although, as shown in Table 4, the realisation ratio for administration is a significant improvement on that in receivership, the total recoveries for creditors are not affected in any statistically significant way by the choice of proceedings. There is also little difference in the recovery rate for secured creditors between the administration cases and receivership cases. Thus, in conjunction with Tables 4 and 5, Table 6 implies that whilst administration encourages insolvency practitioners to work more effectively in generating recoveries for creditors, this potential benefit to creditors is eaten up by concomitantly increased costs. Thus there is no net benefit for creditors in administration, as opposed to receivership.

Table 4 Total realisations as a percentage of the estimate value of assets at the commencement of insolvency

Data are from receiverships commencing between 1 January 2001 and 14 September 2003 and administrations commencing between 15 September 2003 and 31 December 2004. Realisations are obtained from the Receiver's Abstract of Receipts and Payments form (in receiverships) and the Administrator's Progress Report form (in administration). Three measures of actual realisations are employed: A1=total asset realisation, A2=(total asset realisation + gross sales) and A3=(total asset realisation + net sales). Total assets are the estimated value of total assets at entry into bankruptcy, extracted from the Statement of Affairs prepared by directors shortly after an insolvency practitioner is appointed.

	AD	RE	AD	RE	Diff (t-value)	AD	RE	AD	RE	AD	RE
	OBS		mean			Median		Minimum		Maximum	
Realisation :											
(1) $\dfrac{A1:Total\ asset\ realisations}{total\ assets}$	182	102	0.98	0.78	2.30*	0.88	0.69	0.00	0.002	5.30	4.19
(2) $\dfrac{A2:[Total\ asset\ realisations + gross\ trade\ sales]}{total\ assets}$	182	102	1.22	0.84	3.21*	0.99	0.75	0.00	0.002	9.12	4.25
(3) $\dfrac{A3:[Total\ asset\ realisations + net\ trade\ sales]}{total\ assets}$	182	102	1.03	0.77	2.98*	0.93	0.67	0.007	0.002	5.30	3.92

(note1):* denotes significance at 5%

Table 5 Remuneration and direct insolvency costs as a percentage of the estimate value of assets at the commencement of insolvency and as a percentage of the actual realisation

Data are from receiverships commencing between 1 January 2001 and 14 September 2003 and administrations commencing between 15 September 2003 and 31 December 2004. Remuneration costs and total direct costs are obtained from the Receiver's Abstract of Receipts and Payments form (in receivership) and the Administrator's Progress Report form (in administrations). Total direct costs comprise all the costs specific to the bankruptcy proceedings (including remuneration costs, legal fees, estate agent fees, and document fees), but excluding operating costs associated with trading, where applicable. Total assets are the estimated market value of total assets at entry into bankruptcy, extracted from the Statement of Affairs prepared by directors shortly after an insolvency practitioner is appointed. Three measures of actual realisations are used: A1=total asset realisation, A2=(total asset realisation + gross sales) and A3=(total asset realisation + net sales).

	AD	RE	AD	RE	Diff (t value)	AD	RE	AD	RE	AD	RE
	OBS		Mean			Median		Minimum		Maximum	
Panel A: as a percentage of the estimate value of assets											
(1) $\frac{\textit{Remuneration}}{\textit{total assets}}$	182	102	0.29	0.16	**3.71***	0.19	0.11	0.007	0	2.45	1.12
(2) $\frac{\textit{Direct insolvency costs}}{\textit{total assets}}$	182	102	0.49	0.28	**4.04***	0.33	0.17	0.007	0.0003	3.67	1.34
Panel B: as a percentage of the actual realisation R1[total asset realisations]											
(1) $\frac{\textit{Remuneration}}{\textit{Total asset realisations}}$	182	102	0.29	0.23	**2.63***	0.24	0.17	0.007	0.002	0.77	0.75
(2) $\frac{\textit{Direct insolvency costs}}{\textit{Total asset realisations}}$	182	102	0.49	0.38	**3.27***	0.43	0.29	0.007	0.02	1.30	0.97
Panel C: as a percentage of the actual realisation R2[total asset realisations + gross trade sales]											
(1) $\frac{\textit{Remuneration}}{\textit{Total asset realisations+gross sales}}$	182	102	0.26	0.22	**2.06***	0.21	0.15	0.007	0	0.77	0.75
(2) $\frac{\textit{Direct insolvency costs}}{\textit{Total asset realisations+gross sales}}$	182	102	0.45	0.36	**2.51***	0.38	0.25	0.007	0.010	1.00	0.98
	AD	RE	AD	RE	Diff (t value)	AD	RE	AD	RE	AD	RE
	OBS		mean			Median		Minimum		Maximum	
Panel D: as a percentage of the actual realisation R2[total asset realisations + gross trade sales]											
(1) $\frac{\textit{Remuneration}}{\textit{Total asset realisations+net trade sales}}$	182	102	0.28	0.23	**2.19***	0.23	0.18	0.007	0	0.77	0.75
(2) $\frac{\textit{Direct insolvency costs}}{\textit{Total asset realisations+net trade sales}}$	182	102	0.47	0.38	**2.71***	0.41	0.29	0.007	0.019	1.00	0.98

Table 6 Summary statistics of total recovery rate

Data are from receiverships commencing between 1 January 2001 and 14 September 2003 and administrations commencing between 15 September 2003 and 31 December 2004. The recovery rate is calculated as the distribution paid to a class of debt as a proportion of the face value of their claims. The recovery rate is subclassified into total recovery rate, secured creditor recovery rate, preferential creditor recovery rate and unsecured recovery rate.

	AD	RE	AD	RE	Diff (t -value)	AD	RE	AD	RE	AD	RE
	OBS		mean			Median		Minimum		Maximum	
Recovery rate :											
(1) Total recovery rate	182	102	0.21	0.21	0.02	0.13	0.12	0	0.0003	1.00	1.00
(2) recovery rate to secured creditors	141	101	0.61	0.55	1.10	0.78	0.62	0	0	1.00	1.00
(3) recovery rate to preferential creditors	103	96	0.36	0.25	1.87	0	0	0	0	1.00	1.00
(4) recovery rate to unsecured creditors	182	102	0.006	0.002	1.05	0	0	0	0	0.27	0.19

(note1):* denotes significance at 5% for both table 5 & 6

5.2 Multivariate Analysis

We next analyse the determinants of realisations, remuneration costs, and total direct costs in a multivariate framework. Based on our expectations, we try to relate actual realisations, remuneration costs and total costs to a series of explanatory variables. As the summary statistics reported in Section 5.1 indicate that the type of bankruptcy procedure matters in relation to realisations and costs incurred, we first create a dummy variable which takes a value of one for administration cases and zero for receivership cases. In addition, we include two binary variables to reflect, respectively, whether the firm continues trading in bankruptcy and whether the disposal of the firm is based on a going concern sale or break-up sale. This is because we expect the realisations and costs to be positively correlated with continued trading and/or going concern sales. A going concern sale may be expected to realise a higher valuation than a piecemeal asset sale. Continuing to trade can either facilitate a going concern sale, or permit the insolvency practitioner to work through existing contracts and yield higher values for assets such as stock in trade and receivables. In both cases, however, these steps are likely to require more effort and therefore yield higher costs, than a straightforward closure and fire sale. We also include explanatory variables for duration of proceedings, a size factor (the estimated market value of total assets, taken from the Statement of Affairs), and industry sector.

$$\log(\text{Realisations}) = \alpha + \beta_1 \times \text{dum\_proceed} + \beta_2 \times \text{dum\_trade} + \beta_3 \times \text{dum\_outcome}$$
$$+ \beta_4 \times \log(\text{duration}) + \beta_5 \times \log(\text{total assets}) + \beta_6 \times \text{industry}$$

$$\log(\text{Remuniration}) = \alpha + \beta_1 \times \text{dum\_proceed} + \beta_2 \times \text{dum\_trade} + \beta_3 \times \text{dum\_outcome}$$
$$+ \beta_4 \times \log(\text{duration}) + \beta_5 \times \log(\text{total assets}) + \beta_6 \times \text{industry}$$

$$\log(\text{direct costs}) = \alpha + \beta_1 \times \text{dum\_proceed} + \beta_2 \times \text{dum\_trade} + \beta_3 \times \text{dum\_outcome}$$
$$+ \beta_4 \times \log(\text{duration}) + \beta_5 \times \log(\text{total assets}) + \beta_6 \times \text{industry}$$

Where

Realisations	=	a. total asset realisations
		b: total asset realisations + gross trading receipts
		c: total asset realisations + net trading receipts
dum_proceed	=	1 if the insolvency procedure is administration
		0 if the insolvency procedure is receivership
dum_trade	=	1 if the insolvency practitioner continues to trade
		0 if the insolvency practitioner ceases to trade
dum_outcome	=	1 if the outcome is going concern sales
		0 if the outcome is piecemeal sales
duration	=	Days in insolvency
log (total assets)	=	Natural logarithm of estimated value of assets at the beginning of the insolvency
industry	=	Eight category of industry based on the 1 digit SIC code level.

Table 7 shows the results of regression of the logarithm of the asset realisations against three binary variables [proceedings, outcome, and trade], two logarithm variables [duration and estimated value of assets], and one categorical variable [industry]. As the dependent variable is a natural logarithm of the realisation figure, the slope coefficient measures the elasticity of the realisation amount with respect to explanatory variables. That is, when the explanatory variable is also a natural logarithm, the coefficient indicates the percentage change in the amount of realisations amount that is associated with a 1% change in the explanatory variable, whilst holding the other variables constant. For example, when realisation is defined as the asset realisations (A1), for the binary variables, the 5% significance of the coefficient β_1 indicates that the amount of realisations is 48% higher in administration than in receivership, holding the other variables constant. Overall, the amount of the actual realisations in the specifications are positively and statistically significantly correlated with administration (as opposed to receivership), length of time in proceedings, a decision to continue to trade (as opposed to closure), and the size of the firm (as represented by asset values).

Table 7 Determinants of realisations

Data are from receiverships commencing between 1 January 2001 and 14 September 2003 and administrations commencing between 15 September 2003 and 31 December 2004. Realisations are obtained from the Receiver's Abstract of Receipts and Payments form (in receivership) and the Administrator's Progress Report form (in administration). Three measures of realisations are employed: A1=total asset realisation, A2=(total asset realisation + gross sales) and A3=(total asset realisation + net sales). *dum_proceed* takes the value of one in an administration case and zero for receivership; *dum_trade* equals one if the firm continues to trade in bankruptcy; *dum_outcome* equals one if the outcome is a going concern sale; *duration* is the length of the proceeding; *total assets* is the estimated market value of the firm's assets at the beginning of the insolvency from the Statement of Affairs; *industry* indicates the eight categories of industry based on the 1 digit SIC code level.

$$log(Realisations)=\alpha+\beta_1\times dum\_proceed+\beta_2\times dum\_trade+\beta_3\times dum\_outcome$$
$$+\beta_4\times log(duration)+\beta_5\times log(total\ assets)+\beta_6\times industry$$

	A1	A2	A3
Constant	-0.46	0.19	0.13
	(-0.42)	(0.17)	(0.12)
Dum_proceed	0.48	0.48	0.48
	(3.50*)	(3.56*)	(3.54*)
Dum_trade	0.49	0.92	0.61
	(3.80*)	(7.27*)	(4.61*)
Dum_outcome	0.11	0.05	0.03
	(1.04)	(0.43)	(1.17)
Log(duration)	0.48	0.35	0.36
	(2.99*)	(2.24*)	(2.32*)
Log(assets)	0.73	0.74	0.74
	(18.88*)	(19.23*)	(19.44*)
Industry	0.00009	0.006	0.002
	(0.00)	(0.22)	(0.07)
observations	261	261	261
Adjusted R^2	66.67%	70.45%	68.27%

(Note 1) the value in parentheses indicates the t-statistics and * denotes significance at 5%

Table 8 contains estimated coefficients and t-statistics from regressions of remuneration costs and total direct costs on the explanatory variables. The same other explanatory variables (proceedings dummy, log duration, trading dummy,

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Table 8 Determinants of remuneration and total costs

Data are from receiverships commencing between 1 January 2001 and 14 September 2003 and administrations commencing between 15 September 2003 and 31 December 2004. Remuneration costs and total direct costs are obtained from the Receiver's Abstract of Receipts and Payments form (in receivership) and the Administrator's Progress Report Form (in administration). Total direct costs comprises remuneration costs, legal fees, estate agent fees, document fees, etc. *dum_proceed* takes the value of one in an administration case and zero for receivership; *dum_trade* equals one if the firm continues to trade in bankruptcy; *dum_outcome* equals one if the outcome is a going concern sale; *duration* is the length of bankruptcy; *total assets* is the estimated market value of assets at the beginning of the bankruptcy, from the Statement of Affairs; *industry* indicates the eight categories of industry based on the 1 digit SIC code level.

$$\log(\text{Remuneration})=\alpha+\beta_1\times\text{dum\_proceed}+\beta_2\times\text{dum\_trade}+\beta_3\times\text{dum\_outcome}$$
$$+\beta_4\times\log(\text{duration})+\beta_5\times\log(\text{total assets})+\beta_6\times\text{industry}$$
$$\log(\text{direct costs})=\alpha+\beta_1\times\text{dum\_proceed}+\beta_2\times\text{dum\_trade}+\beta_3\times\text{dum\_outcome}$$
$$+\beta_4\times\log(\text{duration})+\beta_5\times\log(\text{total assets})+\beta_6\times\text{industry}$$

	Remuneration	*Direct Costs*
Constant	2.04	2.44
	(1.78)	(2.35*)
Dum_proceed	0.47	0.46
	(3.39*)	(3.66*)
Dum_trade	0.83	0.61
	(6.53*)	(5.37*)
Dum_outcome	0.09	0.02
	(0.94)	(0.20)
Log(duration)	0.51	0.46
	(3.09*)	(3.06*)
Log(assets)	0.39	0.45
	(10.2*)	(12.8*)
Industry	-0.01	-0.03
	(-0.5)	(-1.16)
observations	261	261
Adjusted R^2	49.61%	54.74%

(Note 1) the value in parentheses indicates the t-statistics and * denotes significance at 5%

going concern sale dummy, industry code and log assets) are employed in each of the specifications. Consistently with the predictions, and with the descriptive statistics, all five specifications show that the bankruptcy procedure used makes an economically, and statistically significant difference to the ratio of costs to total value of the realisations.

They first indicate that the costs are higher in administration cases than in receivership cases. Cases in which the insolvency practitioner decides to carry on the trading can result in higher remuneration costs and total direct costs, and all of the costs are positively correlated with the length of proceedings. Moreover, as would be expected, costs are larger in larger firms. We find little evidence of any industry effect, or that the choice between going concern sale and piecemeal sale has costs implications.

5.3 Multivariate Analysis: Decomposition to Under- and Over-secured Cases
It will be recalled that our first hypothesis, that administration would yield greater realisations, is based on the idea that the introduction of legal mechanisms designed to render the insolvency practitioner accountable to the residual claimant (as in administration) as opposed to senior claimants (as in receivership) will improve her incentives to raise value. If this is indeed the reason why recoveries in administration tend to be larger than in receivership, we would expect to see the effect being most pronounced in situations where the senior debt is oversecured: this is the circumstance that may give rise to inadequate incentives on the part of an office-holder acting solely for the senior creditor.

To test this, we decompose our sample into an over-secured group and an under-secured group, and re-examine the determinants of actual realisations and remuneration and direct costs in these two groups. If the new mechanism of administration can mitigate the perverse incentive problem, we expect that the increase in realisations from the administrative cases should be largely driven by the over-secured subsample.

Table 9 Determinants of realisations for over-secured group and under-secured group

Data are from receiverships commencing between 1 January 2001 and 14 September 2003 and administrations commencing between 15 September 2003 and 31 December 2004. A firm is classified as 'over-secured' if the estimated value of total assets at the entry to bankruptcy is larger than the face value of secured creditors' claims. Realisations are obtained from the Receiver's Abstract of Receipts and Payments form (in receivership) and the Administrator's Progress Report form (in administration). Three measures of realisations are used : A1=total asset realisation, A2=(total asset realisation + gross sales) and A3=(total asset realisation + net sales). *dum_proceed* takes the value of one in an administration case and zero for receivership; *dum_trade* equals one if the firm continues to trade in bankruptcy; *dum_outcome* equals one if the outcome is a going concern sale; *duration* is the length of the proceeding; *total assets* is the estimated market value of the firm's assets at the beginning of the insolvency from the Statement of Affairs; *industry* indicates the eight categories of industry based on the 1 digit SIC code level.

$$log(Realisations)=\alpha+\beta_1 \times dum\_proceed+\beta_2 \times dum\_trade+\beta_3 \times dum\_outcome$$
$$+\beta_4 \times log\,(duration) +\beta_5 \times log\,(total\ assets)+\beta_6 \times industry$$

	Over-secured group			Under-secured group		
	A1	A2	A3	A1	A2	A3
Constant	-0.78	-0.47	-0.61	1.57	2.78	2.49
	(-0.59)	(-0.35)	(-0.45)	(0.60)	(1.12)	(1.02)
Dum_proceed	**0.63**	**0.68**	**0.71**	0.15	0.19	0.07
	(3.57*)	(3.80*)	(3.89*)	(0.55)	(0.72)	(0.27)
Dum_trade	**0.44**	**0.83**	**0.52**	**0.67**	**0.98**	**0.86**
	(2.90*)	(5.37*)	(3.35*)	(2.30*)	(7.42*)	(3.17*)
Dum_outcome	0.17	0.12	0.11	0.26	0.12	0.17
	(1.34)	(0.88)	(1.17)	(1.15)	(0.54)	(0.79)
Log(duration)	**0.53**	**0.47**	**0.48**	0.56	0.37	0.39
	(2.98*)	(2.44*)	(2.51*)	(1.50)	(1.05)	(1.11)
Log(assets)	**0.71**	**0.72**	**0.72**	**0.58**	**0.57**	**0.59**
	(15.34*)	(15.25*)	(15.21*)	(6.91*)	(7.12*)	(7.44*)
Industry	0.01	0.01	0.007	-0.07	-0.07	-0.06
	(0.34)	(0.32)	(-0.07)	(-1.27)	(-1.19)	(-1.06)
observations	156	156	156	105	105	105
Adjusted R^2	**65.36%**	**67.73%**	**64.98%**	**51.11%**	**59.26%**	**56.00%**

(Note 1) the value in parentheses indicates the t-statistics and * denotes significance at 5%

Table 9 reports the estimated coefficients and t-statistics for the determinants of realisations in the over-secured and under-secured subsamples. A case is placed in the over-secured subsample if the estimated value of total assets at the commencement of the insolvency proceedings is larger than the face value of the debts owing to secured creditors; otherwise it is placed in the under-secured subsample. The pattern of the regression results in the over-secured group is consistent with that in the full sample as reported in Table 7. The coefficient for the proceeding dummy variable in the over-secured group is around 0.6, at a 5% significance level. This suggests that the realisation in administration for over-secured groups is 60% higher than that in receivership. Conversely, with the same regression specification in the under-secured group, we do not find any significant improvements of asset realisations from administration. These results strongly support the first hypothesis: that the introduction of administration proceedings has, by reducing the secured creditor's control, enhanced the insolvency practitioner's incentive to generate recoveries in situations where the senior claims are oversecured.

We also consider the costs effects of bankruptcy procedure choice for situations where senior claimants are both over- and undersecured. Table 10 reports the estimated coefficients and t-statistics for the determinants of costs between the over-secured group and under-secured group. Interestingly, the effect from the proceeding dummy is significantly positive in the over-secured group, but insignificant in the under-secured group. This suggests that administration is leading to increased costs in situations where senior claimants are oversecured, but is having relatively little impact where their claims are undersecured. These results again support our second hypothesis that the new mechanisms of accountability in administration may be expected to result in an increase in costs.

Table 10 Determinants of remuneration (or total costs) for over-secured group and under-secured group

Data are from receiverships commencing between 1 January 2001 and 14 September 2003 and administrations commencing between 15 September 2003 and 31 December 2004. A firm is classified as 'over-secured' if the estimated value of total assets at the entry to bankruptcy is larger than the face value of secured creditors' claims. Remuneration costs and total direct costs are obtained from the Receiver's Abstract of Receipts and Payments form (in receivership) and the Administrator's Progress Report Form (in administration). Total direct costs comprises remuneration costs, legal fees, estate agent fees, document fees, etc. *dum_proceed* takes the value of one in an administration case and zero for receivership; *dum_trade* equals one if the firm continues to trade in bankruptcy; *dum_outcome* equals one if the outcome is a going concern sale; *duration* is the length of bankruptcy; *total assets* is the estimated market value of assets at the beginning of the bankruptcy, from the Statement of Affairs; *industry* indicates the eight categories of industry based on the 1 digit SIC code level.

$$\log(\text{Remuneration}) = \alpha + \beta_1 \times \text{dum\_proceed} + \beta_2 \times \text{dum\_trade} + \beta_3 \times \text{dum\_outcome}$$
$$+ \beta_4 \times \log(\text{duration}) + \beta_5 \times \log(\text{total assets}) + \beta_6 \times \text{industry}$$
$$\log(\text{direct costs}) = \alpha + \beta_1 \times \text{dum\_proceed} + \beta_2 \times \text{dum\_trade} + \beta_3 \times \text{dum\_outcome}$$
$$+ \beta_4 \times \log(\text{duration}) + \beta_5 \times \log(\text{total assets}) + \beta_6 \times \text{industry}$$

	Over-secured group		Under-secured group	
	remuneration	Total costs	remuneration	Total costs
Constant	0.65	0.06	4.58	6.22
	(0.55)	(0.05)	(1.89)	(2.88*)
Dum_proceed	0.60	0.76	0.35	0.23
	(3.87*)	(5.07*)	(1.42)	(1.05)
Dum_trade	0.65	0.83	1.09	0.83
	(4.97*)	(5.37*)	(4.06*)	(3.48*)
Dum_outcome	0.10	0.04	0.16	0.17
	(0.93)	(0.34)	(0.77)	(0.88)
Log(duration)	0.76	0.78	0.32	0.12
	(4.74*)	(4.89*)	(0.93)	(0.40)
Log(assets)	0.38	0.47	0.29	0.32
	(9.30*)	(3.83*)	(3.73*)	(4.60*)
Industry	-0.02	-0.03	-0.03	-0.04
	(-0.59)	(-0.97)	(-0.54)	(-0.83)
observations	156	156	105	105
Adjusted R^2	52.58%	59.15%	35.80%	38.69%

(Note 1) the value in parentheses indicates the t-statistics and * denotes significance at 5%

5.4 Limitations and Future Research

There is necessarily a considerable amount of uncertainty involved in the application of a new bankruptcy procedure. Empirical results from the early years of the Chapter 11 procedure in the US found that the (then) new law had given debtors a great deal of power, and creditors correspondingly less (LoPucki 1983). However, the law's effect has tended to become diluted with time as participants respond by 'contracting around' the law (Baird and Rasmussen, 2002; Skeel, 2004). A similar process may well occur in the UK. It is therefore too soon to say whether the changes documented in our results will persist, or whether they may simply be disequilibrium effects resulting from transition. Further research conducted after the Enterprise Act regime has had time to 'bed down' would shed light on this issue.

However, a study of the immediate impact of a change in the law is nevertheless valuable because it offers a more direct comparison of the old and new regimes than a study with an intervening gap of several years. The wider the time difference between the two samples, the greater the possibility a temporal bias may be introduced, if unobserved time-variant effects impact upon the costs and recoveries in bankruptcy proceedings.

6. Conclusions and Implications

Recent changes in UK bankruptcy law have made it possible to conduct a 'natural experiment' concerning the costs and benefits of secured creditor control in bankruptcy. The move in 2003 from receivership to administration may be seen in stylised terms as effecting a shift in control rights from secured to unsecured creditors in bankruptcy proceedings. To investigate the impact of this change, we present findings from a hand-coded dataset of 348 bankruptcy cases, which comprises the largest sample of bankruptcy costs and realisations yet reported.

We find that cases conducted under the new administration procedure are much quicker than receiverships, taking on average a little over half the time. This is entirely consistent with predictions, given the statutory time limit for administration proceedings.

Controlling for a range of other explanatory variables, we find that administration cases are associated with higher gross recoveries than were receiverships. When the sample is decomposed into cases where senior claimants are over- and undersecured respectively, we find that the difference in recoveries between the old and new procedures appears to be driven by changes where senior claimants are oversecured. This is consistent with the intuition that greater accountability to unsecured creditors encourages administrators to act more effectively to generate recoveries in cases where, as fiduciaries for the

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senior claimant, they would have lacked sufficient incentives under receivership.

However, we also find that administration cases are associated with higher direct costs than receiverships, which tend to consume any additional recoveries, with the net result that recoveries to creditors are no better. Moreover, administrations do not result in any significantly greater incidence of continued trading or going-concern sales than did receiverships, indicating that the new procedure is not preserving any more employment.

When the sample is decomposed into over and undersecured groups, the bankruptcy procedure appears to make no difference to costs in situations where the senior claimant is undersecured. This is consistent with theoretical claims that in such situations the secured creditor has appropriate incentives to monitor costs. However, in cases where the senior claimant is oversecured, their incentives to monitor costs are weaker. Nevertheless, the finding that costs have increased in oversecured administrations tends to suggest that unsecured creditors, who are dispersed and each have a very small stake in the business, have even weaker incentives to monitor. It was argued in the theoretical literature that in such situations, receivership costs would be "unnecessarily" inflated. This presupposed that an alternative mechanism could be devised to ameliorate the perceived problem. Administration does not appear to be such a mechanism.

Our findings may be summarised as follows: the shift from secured to unsecured creditor control has increased the power of the insolvency practitioner—the agent—as against the creditors—the principals. The very high costs awards under administration imply that in many cases, the professional running the case is effectively the residual claimant. In turn, this provides an alternative, and less benign, explanation for the increase in gross recoveries under the new regime: it is because, with weak monitoring from unsecured creditors, insolvency practitioners have themselves become the residual claimant in UK bankruptcies: they have a strong incentive to maximise the recoveries that will go to pay fee income.

Our results also have more general implications for the debate about bankruptcy contracting and the desirability of secured creditor control. The change in UK bankruptcy governance, in essence, involves a crossing of the central fault line of corporate governance: a shift in control from a concentrated investor to many dispersed investors. With concentrated investor control, the main governance problem is how to prevent them from extracting rents from other investors. With control rights in the hands of dispersed investors, the problem is rather how to prevent those managing the firm from extracting rents. No clear

consensus has emerged as to which of these is preferable. Our results imply that concentrated creditor governance in bankruptcy, in the form of strong control rights allocated to a single concentrated lender, does on average at least as good a job at preserving jobs and generating recoveries for creditors as does a relatively sophisticated legal procedure designed to allocate control to the residual claimant.

Notes

[1] The new law came into force on 15 September 2003.

[2] However, the extent to which it was really necessary to provide a mechanism for reorganisation as well as asset sales (whether on a going concern or piecemeal basis) was questionable, as many reorganisations are effected informally outside bankruptcy proceedings (Franks and Sussman, 2005).

[3] The proposals must be circulated within eight weeks, and the meeting must be held within ten weeks: UK Insolvency Act 1986, Sch B1, paras 49, 51.

[4] The default position is that no meeting need be held where the administrator considers that the unsecured creditors will not share in any recoveries; in this case the administrator is required simply to act in the interests of secured creditors, and a meeting is only called if requested by a creditor or creditors owed at least 10% of the company's total debts (UK Insolvency Act 1986 Sch B1, para 52; UK Insolvency Rules 1986, rr. 2.38, 2.40-42).

[5] UK Insolvency Act 1986, Sch B1, paras 3-4.

[6] Only the holder of a floating charge could appoint an administratrive receiver (UK Insolvency Act 1986 s 29(2)). The floating charge has a lower priority ranking than other forms of secured debt in UK corporate insolvencies (see Ferran, 1999). Thus in situations where the face value of total secured debt is more than the value of the firm's assets, the floating charge holder will be undersecured.

[7] These costs seem somewhat higher than those reported by Lawless and Ferris (2000) and Bris *et al* (2006) for Chapter 11 proceedings in the US. However, it is likely that this is because the salary of managers of firms in Chapter 11 is reported as an operating expense as opposed to a 'bankruptcy' cost, meaning that procedures in which the firm is managed by an outside appointee may be expected to generate higher reported direct costs. This conjecture is supported by results from Lawless and Ferris (1997) and Bris *et al* (2006) suggesting that US Chapter 7 proceedings have significantly higher direct costs than Chapter 11.

[8] UK Insolvency Act 1986 Sch B1, para 76.

[9] The corporate bankruptcy provisions of the Enterprise Act 2002 came into force on 15 September 2003.

[10] For details of the forms that must be completed by Insolvency Practitioners running a case, see Companies House (2005), chs 3&4.

[11] See www.direct.companieshouse.gov.uk

[12] The FAME (Financial Analysis Made Easy) database provides detailed company accounting and financial information on UK and Irish public and private firms.

[13] See above, section 3.3.

[14] In most of the receivership cases, the receiver did not provide a separate trading receipt and payment accounts. In these cases, information on gross trading receipts and net trading receipts was identified from the receiver's general 'abstract of receipts and payments' report.

[15] See above, section 3.2.

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