CHAPTER 1

INTRODUCTION

1.0 Background and Motivation

When describing a set of insolvency procedures, regulators need to decide whether to place more emphasis on preserving viable firms or on ensuring the liquidation of non-viable ones. When firms become distressed, they first attempt to reorganise by entering into informal procedures and if these fail, then a formal insolvency procedure is arranged. The efficiency of these formal insolvency procedures is important for the health of the economy. Indeed one of Franks et al.,'s (1996) criteria for the efficiency of an insolvency code is whether the code preserves promising enterprises while liquidating uneconomic ones. This thesis investigates the functioning of the formal insolvency procedures[1] in a creditor-oriented regime[2] (i.e. the United Kingdom) where emphasis has been placed on the liquidation of uneconomic enterprises, i.e. one which gives more weight to repaying the firm's creditors than to keeping the firm as a going-concern.

1 In the UK, bankruptcy refers to an individual's inability to meet his debts when they fall due, whereas insolvency refers to a company in a similar situation. In other countries (e.g. the US) bankruptcy refers to companies and not individuals. However, in this thesis, bankruptcy and insolvency are used interchangeably and refer to companies and not individuals.

2 A creditor-oriented code is an insolvency code that focuses on the right of creditors under which management has no significant input in the process.

The thesis provides an examination of this aspect of the efficiency of an insolvency code[3] by looking at three key areas – the distinguishing features of firms entering the two main paths open to them in the UK insolvency code[4], and the viability and performance of firms entering the path that is aimed at keeping firms in operation[5].

The next section discusses the importance and motivation of the thesis. This section looks at why this research focuses on the UK and why the specific period, 1996 – 2001, was studied.

2.0 : Why Conduct the Study in the UK?

The motivating factor for conducting the study on the UK insolvency code stems from two factors. The first factor relates to the difference between debtor- and creditor-oriented insolvency codes and the fact that most research heretofore has focused on the debtor-oriented systems. By conducting research in a creditor-oriented system such as the UK, this thesis narrows the gap in research between debtor-oriented codes and the UK creditor-oriented code. The second factor relates to existing research conducted on the UK insolvency code and identifies gaps in these studies that the thesis attempts to address. These two factors are discussed in more detail below.

3 The UK insolvency code is set of practices and laws that facilitate the recovery of companies in times of crisis, stimulate the rehabilitation of insolvent companies and businesses as going-concerns, and dissolve companies when necessary, together with associated rules governing the distribution of assets.

4 These two main parts are know as administration order and administrative receivership. Both will be discussed later.

5 The Insolvency Act 1986 introduced the administration order which aims to reorganise distressed firms in the UK. This is discussed later in this chapter and in detail in Chapter 2.

2.1: Differences Between the Debtor- and Creditor-Oriented Codes

An insolvency code that focuses on trying to reorganise the firm and allowing management to remain in control and actively participate in drawing up the company's reorganisation plan is generally referred to as a debtor-oriented code, while an insolvency code that focuses on the right of creditors and under which management has no significant input is referred to as a creditor-oriented code (Franks et al., 1996). The insolvency codes in some countries focus more on the rights of the creditors (creditor-oriented) while others stress the need to reorganise and maintain the company as a going-concern (debtor-oriented). An example of a debtor-oriented code is the US bankruptcy code; it has been argued that this code is biased towards reorganisation because it gives considerable responsibility to existing management to remain in control during the implementation of the reorganisation plan and to draw up that plan (Hotchkiss, 1995).

In a creditor-oriented code the rights of creditors are maintained mainly as a result of private contracts that exist between the company and the creditors. The UK insolvency code is an example of such a code where creditors are allowed to negotiate freely with companies to which they lend. When there is a breach of the loan agreements for example, these creditors have, under certain circumstances, the power to take control of the company and place it in the hands of an insolvency practitioner(s). Management of the company is not involved in drawing up a reorganisation plan, as this is the responsibility of the insolvency practitioner(s) appointed by the creditors.

The state of the current literature on corporate insolvency is such that most of the research in this area has been carried out on the US debtor-oriented code as will be shown in detail in Chapter 3. Theoretically, there exist differences between these codes and therefore a study of the UK insolvency code (in terms of liquidating weak firms versus fostering survival of distressed firms) is important not least because it will highlight areas where these two codes differ empirically. This thesis aims therefore to restore the balance in the literature by examining the success of a more creditor-oriented insolvency system in keeping viable firms alive while liquidating those which cannot survive.

2.2: Types of Research on the UK Creditor-Oriented Code

Most of the studies relating to the UK insolvency system (e.g. those by Pond (1997) and Katz and Mumford (2002)) have been based on qualitative data received from questionnaires. While these studies give an understanding of the perceptions and motives of the parties involved, they do not provide information of the actual outcomes of the UK insolvency process based on large samples of distressed firms. This thesis aim to complement the qualitative studies by adopting a quantitative research methodology in the UK context.

3.0 Why the Chosen Period is Important

The period covered by the thesis (the post-1986 and pre-2002 period) is important because it provides the opportunity to assess the success (or lack thereof) of a specific and innovative procedure, - administration. Prior to 1986 the formal insolvency route

available to distressed firms in the UK was almost exclusively the receivership route. This is an insolvency procedure that allows a lender holding a specific type of security, a floating charge, to appoint an insolvency practitioner known as a receiver[6]. The primary duty of the receiver is to the floating charge holder, to ensure they receive as large a repayment of their loan as possible. Since the right to appoint a receiver is so valuable to a lender, lenders ensure that in virtually all cases they hold a floating charge. It is as a result of this the UK insolvency code is regarded as primarily a creditor-oriented code.

The 1986 Act introduced the administration order. An administration order is a formal insolvency procedure that was introduced in order to foster distressed company reorganisation in the UK. The introduction of this new procedure therefore represented a partial move towards a more debtor-oriented code, but the system remained predominantly creditor-oriented, since the role of the administrative receiver[7] in appointing the insolvency practitioner was still important.

Hence, the thesis examines the performance of a creditor-oriented system during a key period when it was gradually moving towards a more debtor-oriented system. The thesis is also important because post-2002 the UK system became more completely debtor-oriented and the thesis provides some indications of whether the initial 1986-2002 move in that direction was successful or not.

6 A floating charge is an equitable charge that gives the holder the right to take control of the company when distress occurs.

7 Prior to the introduction of the Insolvency Act 1986, the insolvency practitioner appointed by the floating charge holder was referred to as a receiver and the procedure was referred to as receivership. After the introduction of the Insolvency Act 1986, the name was changed to an administrative receiver and the procedure was referred to as administrative receivership.

The growing importance of the new administration procedure is shown in Table 1.1 and Figures 1.1 and 1.2 show trends that reveal some interesting patterns between administration and administrative receivership between 1990 and 2002. Figure 1.1 shows that the number of companies entering administration was on the rise since 1993 – with the exception of insignificant dips in 1997 and 2000. Figure 1.2 shows that the number of companies that entered administrative receivership increased sharply from 1990 to 1992, but thereafter, this number has been falling sharply. Over the period 1990 to 1992 the economy experienced one of its worse post war recessions when output declined by a cumulative 3.5%. The decline in real GDP starting in the second quarter of 1990 to the third quarter was -2.5% (Catao and Ramaswamy, 1995). However, regardless of the fact that there are more companies being placed into administrative receivership than into administration, the percentage change in companies that have entered both procedures over time indicates that the proportion of companies placed in administrative receivership has fallen over time while that of those in administration has increased.

4.0: Limitations of the Study

This thesis is limited to the study of the formal insolvency procedure – administration and administrative receivership – under the UK insolvency code. It does not address the informal procedure of workout, mainly because it has been in the the formal procedures that the main developments and changes of interest have been occuring and, moreover, research in the area of workouts has been done by Olsen (1996).

Data availability is a considerable restriction for research in the area of distress resolution (Routledge and Gadenne, 2000). For example, there are factors (for example, direct bankruptcy costs) other than those included in this study that could affect the probability of reorganisation but because of the lack of data needed to assess the extent to which these factors can influence the outcome of the procedure, their importance can only be referred to in a theoretical context.

There are difficulties in observing the actual process of insolvency resolution because many of these companies stop producing financial reports one or two years prior to the appointment of the administrator or the administrative receiver. Thus, the number of companies provided in the Financial Analysis Made Easy (FAME) accounting Database is actually fewer than those given in the Insolvency Database[8]. The reason is that the Insolvency Database provides the names of all companies placed in administration and administrative receivership in the UK, whereas the companies in the FAME Database includes only those producing accounts and with sales turnovers above £500,000 per annum.

5.0: Structure and Contribution of the Thesis

Figure 1.3[9] shows the path through insolvency proceedings as studied in the thesis. The figure shows that distressed firms can be placed in either administration or

8 The FAME and the Insolvency Databases are two of the key sources of information for the thesis. The FAME Database provides financial and non-financial statement information (e.g. income statement, balance sheet, names of lenders and their security holdings) used in the empirical chapters in the thesis. The Insolvency Database provides the names of the companies placed in administration and administrative receivership.

9 Figure 1.3 looks at the path through insolvency proceedings as studied in the thesis. The events following administrative receivership are ignored because I wanted it to focus on the areas covered by the thesis.

administrative receivership. It also shows that once the firm is in administration, it can either reorganise or liquidate, and if reorganised, that this process can then prove either successful or unsuccessful in terms of subsequent firm performance.

The main contribution of the thesis is to engage in a quantitative analysis of the determinants of the choice of the resolution form between the two main formal insolvency procedures and to evaluate the outcomes for companies entering administration. The thesis therefore studies distressed companies as they make their way through selected pathways of the UK formal insolvency process at a time when this creditor-oriented system was making the first steps to becoming more debtor-oriented as discussed below.

The rest of the thesis is structured as follows. Chapter 2 looks at the UK insolvency code. It includes a detailed analysis of the UK insolvency code before and after the introduction of the Insolvency Act 1986 and the Enterprise Act 2002, as well as a discussion of the priority ladder in the UK.

Chapter 3 contains a detailed literature review of studies and findings in various jurisdictions relating to the subject matter of this thesis. It also contains the hypotheses for the thesis. The review is organised according to the three empirical chapters contained in the thesis.

Chapter 4 describes the data and the methodology used in the empirical chapters. This chapter also discusses the procedure employed in analysing the data set for Chapters 5 and 6 (logistic regression) and how it differs from other methods (probit, multiple

discriminant analysis). An analysis of the different types of securities provided by borrowers in both administration and administrative receivership is also included in order to gauge the presence of these charge holders in both procedures.

Chapter 5 investigates the determinants of the resolution form between administration and administrative receivership in the UK. This chapter investigates whether there are characteristics that distinguish between companies that were placed in administrative receivership as compared to those placed in administration in the UK from 1996 to 2001.

This section of the thesis adds to the current literature on the UK insolvency code in several ways. The results show that the choice of the resolution form between administration and administrative receivership can be modelled using both financial statement and non-financial statement variables. The key findings indicate that the state of the economy and creditors' complexity are crucial factors in deciding the path that distressed firms will follow. Floating charge holders still prefer the administrative receivership procedure in dealing with distressed firms, as the proportion of floating charge holders is higher in administrative receivership than in administration. As hypothesised, firms are more likely to be placed in administration when the economy is in a downturn. In addition firms spend less time in administration than in administrative receivership, possibly indicating that firms entering administration are less financially distressed, with the result that their problems can be resolved more quickly. Hence, assuming that time spent in administration and administrative receivership is a proxy for indirect costs, then firms in administration bear lower

indirect costs than those in administrative receivership, which is contrary to expectations.

The conclusion is that there are significant differences between firms entering administrative receivership and those entering administration, indicating that the introduction of the administration procedure by the 1986 Act is likely to have been valuable as it served the needs of firms with a clearly different profile from those in administrative receivership.

Chapter 6 investigates the characteristics of firms entering administration in the UK and the difference between those reorganising compared with those liquidating. This chapter looks in more detail at the administration procedure by analysing the differences between companies that reorganise as compared with those that liquidate. The key findings are that, as expected, firms that reorganise are larger and more liquid than those that liquidate. Also, as expected, reorganised firms have the potential to be able to generate funds, due mainly to the presence of a holding company. Findings are also in line with the hypothesis that firms are more likely to reorganise when the economy is doing well. More importantly, as expected, reorganised firms spend less time in administration than those that liquidate, and moreover these firms tend to have more stable management since they have lower directors' turnover than those that liquidate. The result is in line with the hypothesis that firms with better relationships with their banks, proxied by age of the firm, are more likely to reorganise than to liquidate.

Thus, while the administration procedure was introduced to enable appropriate distressed firms to reorganise and survive, not all firms entering this procedure succeeded in this way and some did eventually liquidate. The findings of this chapter show that there are important differences between the firms experiencing these two different outcomes.

Chapter 7 investigates the subsequent performance of UK firms reorganised in administration. This chapter investigates the characteristics of distressed companies that reorganise in administration relative to a matched sample of healthy firms in the same industry and of relatively the same size. The question is whether changes in the financial variables of reorganised firms, relative to the matched sample, give any indication of the success of the administration procedure in reviving viable but distressed firms in the UK.

The results show significant differences in the median liquidity position of firms that reorganise and the matched sample of firms from two years before to two years after the appointment of the administrator, with the distressed firms that reorganise continuing to show poorer liquidity relative to those in the matched sample. The results also show that reorganised firms have significantly higher leverage, relative to the matched sample of firms, from two years before to two years after the appointment of the administrator. The results also show no significant difference in operating performance two years prior to the appointment of the administrator. However, from one year before to one year after the appointment of the administrator, firms that reorganise in administration have poorer operating performance than their matched sample of firms. Then, in the second and third years after the appointment of

the administrator, firms that reorganise in administration record significantly better median operating performance than the matched sample of firms, although the differences in the means are not significant. This finding provides some evidence of the ability of the administration procedure to assist the successful turnaround of distressed firms. The result is in line with the hypothesis that firms that reorganise in administration undertake downsizing after the appointment of the administrator.

Chapter 8 concludes the thesis and includes a summary of the strength and weaknesses of the thesis, together with the main contributions and suggestions for future research in the area of corporate insolvency.

CHAPTER 2

THE UNITED KINGDOM INSOLVENCY CODE

2.1: Introduction

This chapter provides insight into the UK insolvency code. It includes a discussion of the type of charges (or security available to lenders) in the code, a priority ladder of repayments to creditors and a general overview of the UK insolvency code prior to and after the introduction of the reorganisation procedures by the Insolvency Act 1986. It also includes a summary of the Enterprise Act 2002 that became effective on 15 September 2003.

When a bank provides money to a company, it usually takes some kind of security interest over the company's assets as a protection against default in repayments. The security can be in the form of a floating charge or a fixed charge and, because of their importance, these types of charges are explained before the broader review of the insolvency code.

2.2: Types of Charges in the UK Insolvency Code

There are two types of charges in the UK insolvency code: the fixed charge and the floating charge. These were in existence prior to the introduction of the Insolvency Act 1986 and remained after the introduction of the Enterprise Act 2002. They are both discussed below.

2.2.1 Fixed Charge

A fixed charge relates to a specific, identifiable item of corporate property or assets (which may be property currently owned by the company)[10]. The key point about this interest is that it prevents the company from dealing with that asset without the consent of the fixed charge holder. When the company becomes financially distressed, the holder of a fixed charge has the power to appoint an insolvency practitioner, referred to as the Law of Property Act receiver. Law of Property Act receivership is a method mortgagees use to enforce their security in relation to property assets. Such a receiver has control of the property and acts as he considers appropriate to realise value from the property. He is appointed with a view to selling the charged property or collecting the rental income from it for the lender. The fixed charge holds a superior position in terms of absolute priority[11] above all other creditors which means that holders of a fixed charge are the first to receive payments when the assets of a distressed firm are liquidated.

2.2.2 Floating Charge

Unlike a fixed charge, the floating charge is an equitable charge over the assets of the company, which assets are changing in nature and are not specifically identifiable. A floating charge creates a security over substantially all of the uncharged assets (both present and future) of a corporate borrower. Such a charge could cover, for example,

10 Examples are freehold and leasehold property.

11 The APR states that an insolvent firm's value is distributed to the suppliers of capital such that senior creditors are fully satisfied before any distributions are made to junior creditors, and junior creditors are fully satisfied before any distributions are made to shareholders. This will be explained more fully in section 2.3.

goods in the process of manufacture, stock, materials and, subsequent to the Brumark case, book debts. The existence of a floating charge provides the opportunity for the company to extend the range of its security interests to include items that are constantly in flux or that have not yet come into existence. With the floating charge, when the firm is not in distress, the company remains free to deal with the assets in the ordinary course of business and can sell these assets without the consent of the floating charge holder – unless there is some contractual arrangement to the contrary.

During the period covered by this research (i.e. 1996 to 2001) the holder of the floating charge had powers available to him when the company fails to meet its commitment in the loan agreement, this being the right to appoint an insolvency practitioner, referred to as the administrative receiver. Floating charge holders rank relatively low in terms of priority; ranking third in line to receive payments from the sale of the distressed firm's assets after payments have been made to the fixed charge holders and the preferential creditors. When fixed and floating charges are compared, it is clear that the deficiency of one is made up for by the strength of the other, i.e. the fixed charge holder has less control over the assets of the company, except the assets with a fixed charge, but at the same time, he holds a superior position in terms of absolute priority. On the other hand, even though the holder of a floating charge ranks lower in priority to that of a fixed charge, he can have control over the distressed firm by appointing an administrative receiver. Therefore, even with its superior position in having priority over all other claims, the fixed charge suffers a major drawback in the sense that when it stands alone the Law of Property Act receiver's powers are limited to taking possession of the property covered by the charge and then selling it. As a result, most financial institutions now have both fixed and floating charges on a

company's assets (Franks and Sussman, 2005), which gives them absolute control over the company should it become insolvent.

2.3: The Priority Ladder in the UK Insolvency Code

When a company's assets are distributed to creditors as a result of insolvency proceedings, the proceeds from the sale are distributed based on the absolute priority rule (APR). The APR states that an insolvent firm's value is distributed to the suppliers of capital such that senior creditors are fully satisfied before any distributions are made to junior creditors, and junior creditors are fully satisfied before any distributions are made to shareholders. Thus, the basic premise of the rule is that all creditors should be paid in full before shareholders receive any payment. This rule is generally described as the 'me-first' rule. The APR has the potential to reduce conflicts between claimants. The reason for this is that the APR clearly stipulates that distribution of the firm's value must be made in accordance with well-defined priorities. If claimants to the firm's cash flow know exactly where they stand with regard to this priority ladder, then the possibility for conflicts arising regarding the liquidation of the firm is minimised.

Translating this general rule to the specific case of the UK, priority goes to the holders of the fixed charge on the assets of the company – as they are the first to be paid out of the assets over which there is a fixed charge. After the fixed charge holders have been fully satisfied, the next-in-line are the preferential creditors, followed by floating charge holders, unsecured creditors and equity holders. Olsen's (1996) empirical analysis of financially distressed UK public companies over a sample period from

1987 to 1995 confirms a complete absence of deviation from absolute priority in the UK administrative receivership procedure. Fixed and floating charges have already been defined in Section 2.2. The remaining claimants in this list are briefly discussed below.

Preferential Creditors

The Insolvency Act 1986 gives a list of preferential creditors – Inland Revenue, Customs & Excise, Social Security Contribution, and Employees' Remuneration – and how they rank in terms of priority. Prior to the Enterprise Act 2002, the period covered by the thesis, these preferential creditors ranked according to categories. The first category encompasses debt due to the Inland Revenue. Here, the liquidator has to pay the amount due to the Inland Revenue on account of income tax deductions from pay as you earn (PAYE) for the twelve months prior to the winding up resolution. The Inland Revenue's claim is also extended to cover deductions required on the part of subcontractors in the construction industry. The second category – debt due to Customs & Excise – deals with the Value Added Tax (VAT) amount, which refers to the period of six months before the relevant date. It may also include any car taxes or levies due from the insolvent company at the relevant date. The third category – Social Security Contribution – refer to all contributions due to occupational pension schemes and state schemes premiums with respect to the National Insurance Contributions (NI) twelve months prior to the winding up of the company. The final category – Employees' Remuneration –refers to any amount that is owed by the company to any person who is currently or has been an employee of the company. Also, if any person or institution has lent the company money specifically to pay a

preferred creditor (most often a bank will lend the company money to pay employees' wages), such payment is protected and the person or institution is regarded as a preferred creditor for the amount that was advanced for the payment of the preferred creditors.

The Enterprise Act 2002 abolished the Crown preference in all insolvencies, with the results that the priority of the debts due to Inland Revenue, Customs & Excise, and Social Security Contribution ceased to exist. The preferential status of certain claims by employees in insolvency proceedings, such as wages and holiday pay within certain limits, remains however.

Unsecured Creditors

Unsecured creditors receive payment before the equity holders but only after the floating charge holders have been paid in full. This category usually includes trade creditors.

Equity Holders

This group ranks last in the priority ladder and they only receive payments after all creditors have been paid. In most cases, they receive nothing or, at most, an insignificant amount when the company is insolvent (Olsen, 1996). Because of their weak priority status, equity holders would prefer to maintain the company as a going-concern rather than to liquidate the company because there may be hope that their payoffs, in the form of dividends, would increase if the company is not liquidated.

Having discussed the main types of charge holders and the repayment priority ladder, this chapter now looks at the UK insolvency code by describing formal procedures available pre- and post-1986. Section 2.4 and 2.6 contain a summary of the pre-1986 and post-2002 regimes respectively, Section 2.5 focuses on the 1986 to 2001 period which is the period covered in this thesis.

2.4: The Insolvency Process – The UK Code: Pre-1986

This section provide an overview of corporate insolvency proceedings in the UK. Prior to the introduction of the Insolvency Act 1986, financially distressed firms in the UK could employ three formal procedures in dealing with distress or addressing violations of debt covenants when they occurred: scheme of arrangement, receivership, and liquidation. These three formal procedures are discussed in the remainder of Section 2.4 below.

2.4.1: Scheme of Arrangement

This is a formal procedure that does not involve the services of an insolvency practitioner. In the scheme of arrangement, there is an agreement by the creditors to receive a lesser amount as full settlement of their debt and/or a conversion of some of their unsecured debt into secured long-term debt. In return, creditors agree to hold off on any legal action to recover their debts or agree not to petition for winding up. The scheme of arrangement becomes binding on all creditors or classes of creditors and on the company. The plan would be sanctioned by the court if a three-quarters majority in value of the creditors or classes of creditors who are present vote in favour of it.

This scheme was rarely used because it was relatively expensive and complex involving an initial application to the court and the calling of meetings of creditors (Campbell and Underdown, 1991). In addition, there is no power to prevent action by creditors against the company to recover their debts or to petition for winding up until the court has sanctioned the scheme.

2.4.2: Receivership

The receiver is an insolvency practitioner appointed to take possession of the property of the company and he is authorised to deal with it primarily for the benefit of the charge holder. The most common type of receiver is that appointed by a debenture holder with a floating charge, and it is this type of receiver that is focussed on in this thesis. For the sake of completeness, two other classes of receiver should be mentioned – the court-appointed receiver and the Law of Property Act receiver discussed earlier.

The Law of Property receiver is appointed only by the holder of a fixed charge over property under The Law of Property Act (LPA) 1925. An LPA receiver does not need to be a licensed insolvency practitioner. The decision to appoint a Law of Property receiver is to protect the interests of the holder of the fixed charge and the decision of the holder of the fixed charge to do so cannot be challenged except, occasionally, on the grounds of bad faith. However, the Law of Property receiver has a duty to the lender to use reasonable skill and care in obtaining a proper price for the property and to manage the property with due diligence. The court-appointed receiver is appointed

by the court, which has an inherent jurisdiction to appoint a receiver in order to take care of property until the rights of the interested parties can be determined.

2.4.3: Liquidation

Liquidation is most clearly indicated where a company is constantly experiencing losses and creditors are pressing for payment; where rescue plans under other insolvency procedures have failed through lack of adequate finance; or where the receiver has completed his duties. Any creditor with a debt in excess of £750 can appoint the liquidator or the company itself can appoint the liquidator. The role of the liquidator is to sell the assets of the company, either on a going-concern basis or on a piecemeal basis, to satisfy all remaining creditors' claims. After selling the assets of the company, the liquidator is then entrusted with supervising the distribution of funds to creditors. There are three types of liquidation and these are discussed below.

- Members'/Shareholders' voluntary liquidation.
- Creditors' voluntary liquidation.
- Compulsory liquidation.

2.4.3.1 Members' Voluntary Liquidation

A voluntary liquidation of a solvent company is termed 'a members' voluntary winding up.' Members' voluntary liquidation is when a company goes into liquidation but still expects to pay all of its creditors, including employees and taxes – and also to pay the shareholders at least part of their ordinary capital. Members' voluntary

liquidation is generally used to re-organise the assets of distressed firms. Member's and creditors' voluntary liquidation are triggered by the actions of a company's members by passing a special resolution in favour of a voluntary liquidation.

In this procedure the directors make a statutory declaration of solvency in which the company's directors (either unanimously or by majority decision) must vouch that they have made a full enquiry into the company's affairs and have concluded that the company will be able to pay its debts (including interest) in full within a maximum period of 12 months. The declaration includes a statement of the company's assets and liabilities as of the latest practicable date before making the declaration. Directors who negligently make a false declaration of solvency are committing a criminal offence and, moreover, the burden of proof is on them to disprove lack of care should the company eventually turn out to be insolvent within the stated period in the declaration.

2.4.3.2 Creditors' Voluntary Liquidation

A creditors' voluntary liquidation is the winding up of an insolvent company. The distinction between members' voluntary winding up and creditors' voluntary winding up is that the former includes the directors' statutory declaration of solvency. If there is no such declaration of solvency, then the liquidation is a creditors' voluntary liquidation. Moreover, if the liquidator in a members' voluntary liquidation believes that the company will be unable to pay its debts in full (including interest at the

official rate) within the period stated in the director's declaration, then the member's voluntary liquidation automatically becomes a creditors' voluntary liquidation.

2.4.3.3 Compulsory Liquidation

Compulsory liquidation is a state in which a company is forced into liquidation by one of its fixed or floating charge holders. In compulsory liquidation, the company is insolvent – i.e. it cannot pay its debts when they fall due. Unlike members' voluntary liquidation, in compulsory liquidation, there is no statutory declaration by the directors of the company. Liquidation is forced upon the company, as it cannot continue to trade either because the directors believe that they cannot do so or a liquidator is appointed to wind up the company. When a creditor demands payment of debt and the company is unable to meet this demand, the court will wind up the company. However, the creditor must be owed more than £750 and must have given the company 21 days notice through a statutory demand. In compulsory liquidation, the appointment of the liquidator requires the permission of the commercial court: the Court in Chancery (Franks and Torous, 1992). However, the petition to appoint the liquidator can be opposed by the company.

2.5: The Insolvency Process – The UK Code: Post Insolvency Act 1986

The UK insolvency code underwent a change with the Insolvency Act 1986 in an attempt to allow distressed firms to reorganise. This Act introduced the administration procedure, and company voluntary arrangement (CVA) while retaining receivership

(which became known as administrative receivership). This was the statutory regime that was in effect during the period covered by this thesis.

2.5.1 Administrative Receivership

Administrative receivership is a procedure in which a creditor with a floating charge appoints a qualified insolvency practitioner, the administrative receiver, to take control of the distressed firm when there is a breach of the loan agreement. When a company borrows money (typically from banks), the company can grant the creditor a debenture - a document that gives the creditor a floating charge over the company's assets. If the company then enters financial distress, the debenture holder can decide whether to appoint an administrative receiver. The administrative receiver is responsible for assessing the company's financial situation and deciding how best the floating charge holder can recover his money. The administrative receiver may decide: that the company should cease trading and its assets sold on a piecemeal basis; that the company should be sold as a going-concern or that only part of the company should be sold.

Administrative receivership is a relatively quick procedure undertaken to initiate debt recovery for any lender whose security is backed by a floating charge, enabling a rapid response to a perceived crisis in the company's business. Katz and Mumford (2002) find that in 33% of administrative receivership cases, avoidance of delay was a significant factor in the selection of the administrative receivership procedure over administration. This was because assets were considered to be at physical or other financial risk, which risk may be exacerbated by delay. It is an effective way for a

secured creditor with a floating charge to exercise his contractual right to realise his security and therefore provide some encouragement regarding secured lending to the business.

2.5.1.1: Administrative Receiver's Appointment and Procedures

It is a common practice for the debentures to set out lists of situations that entitle the floating charge holder to appoint an administrative receiver. Typical example include the failure to meet demands with regard to paying interest and principal; the passing of a resolution to liquidate the company voluntarily; the presentation of a petition for an administration order;[12] the failure to meet any obligations or to abide by any restrictions set out in the debentures; or the inability to pay debts. An administrative receiver may also be appointed in situations where the assets of the company – upon which the floating charge is based – are in jeopardy or at risk. Assets could be in jeopardy if the passage of time erodes their market value.

The administrative receiver's appointment, in principle, can only be challenged on technical grounds. Administrative receivership imposes a *de facto* stay of all claims junior to those of the appointing floating charge holder (Buckley, 1994). Hence, to some extent, there is automatic stay in administrative receivership, this being situation in which the creditors are restricted for a given period from taking actions against the company to collect amounts owed to them.

12 The administration procedure is a formal, court-organised procedure that enables the distressed firm to reorganise under the supervision of an insolvency practitioner referred to as the administrator. The administration procedure will be discussed in the next section.

On accepting the appointment, the administrative receiver and the floating charge holder must notify the outside world of the change in the stewardship of the company. Section 46 of the Insolvency Act 1986 requires that the administrative receiver notify the company and all known creditors of his appointment within 28 days. Further, the appointment should be advertised in the London Gazette and in local newspapers. All invoices, business letters and other documentation must indicate that an administrative receiver has been appointed.

Recently, the courts have also had to consider whether the floating charge holder owes any duty of care to the company when making the appointment (Milman and Durrant, 1994). The courts heed that the floating charge holder is entitled to protect his interests and is under no duty to refrain from exercising his rights merely because doing so may cause loss to the company or its unsecured creditors. This is important because it may well influence the financial outcome of administrative receiverships because there is the possibility that the appointment of the administrative receiver would result in viable but distressed companies being liquidated.

The administrative receivership will come to an end once all possible realisations by way of sale of the business or its restoration have taken place and the floating charge holders have been paid. After paying the floating charge holder, the administrative receiver would then pass any remaining balance to the liquidator of the company if the assets of the company have been sold and a liquidator has been appointed to wind-up the company. If the company is insolvent at the time that the administrative receiver has finished his realisations but no winding up petition has been presented, the administrative receiver himself has the power to petition for the winding-up of the

company. Alternatively, if the administrative receiver has surplus funds after the realisation and the company is not in liquidation, the surplus funds should be returned to the directors or owners. If the company is liquidated, any surplus gained from the sale of assets covered by the administrative receivership must be paid to the liquidators and distributed to the unsecured creditors.

2.5.1.2: Powers of the Administrative Receiver

The powers of the administrative receiver are found in the debenture under which he was appointed. [13] An administrative receiver is insulated from instruction or interference from corporate management when carrying out the day-to-day process of realisation and management of the company's property. The administrative receiver acts like a director of the company and generally has complete control over the assets subject to the charge under which he was appointed (Davies, 1997). The administrative receiver's prime responsibility is to 'protect the interests of the secured debt holders who appointed [him]' and he has full discretion regarding how to achieve that purpose. However, the administrative receiver is in a complex position because on one hand, he has to consider the floating charge holder who wanted him to complete the realisation as quickly as possible; while on the other hand, he also has to consider the interest of other creditors because he will be liable to personal damages if it is proved that - when selling the assets - he did not do his best to achieve the maximum amount possible for the company's assets (Finch, 2002).

13 A list of possible powers is set out in Schedule 1 of the Insolvency Act 1986.

The administrative receiver can also start work on any rescue plans favourable to the floating charge holder without having to put the proposal to the creditors for their consent. He makes the decision as to whether to sell the assets on a going-concern basis or on a piecemeal basis. For example, the Insolvency Act 1986 permits the administrative receiver to engage in 'hiving down' activities such as establishing subsidiary companies, to transfer viable portions of the company's business to them and, ultimately, to sell them.

The decision whether to allow the company to continue in operations or to sell the assets is based, among other things, on its net cash flow. If, by continuing to trade, the cash flows to the floating charge holder are expected to be greater than what would be received if the assets of the company were sold at the time of the appointment of the administrative receiver, then there is a possibility that the company will continue. If the cash flow is negative however, then the business should only continue if new funds are raised either by a sale of assets or by obtaining additional funds. The administrative receiver may be able to call on a bank to fund any viable rescue plan for the distressed firm. On the other hand, if the realisable value of the firm's assets exceeds the going-concern value, then the administrative receiver will sell the assets.

The administrative receiver is entitled to make necessary payments to creditors and to issue cheques in the company's name. He also has the power to employ agents and other professionals to assist him in the day-to-day running of the company. The administrative receiver can relocate its registered office. This was introduced by the Cork Committee to enable an administrative receiver to move the company's registered office to an area with lower rents and rates.

2.5.2: Administration Procedure

For the last 25 years or so, the focus of insolvency law reform in the UK has increasingly been on the promotion of a rescue culture. This trend started with the work of the Cork Committee chaired by Sir Kenneth Cork. The Cork Report (1982) recommended encouraging the continuation and or disposal of a debtor's business as a going-concern wherever possible. It recommended that English law acknowledge the benefits that might flow from having corporate insolvency procedures designed specifically for corporate rescue than for mere asset realisation. The government responded by introducing new mechanisms to facilitate these objectives in the form of administration and company voluntary arrangement (CVA) procedures in the Insolvency Act 1986.

The administration procedure was introduced by the Insolvency Act 1986 as an addition to the pre-existing formal procedures of receivership and liquidation. The administration procedure was designed to provide companies in financial difficulty with a period of respite in which to put together a rescue package or, alternatively, to achieve a more effective realisation of the company's assets than would be possible in a liquidation or administrative receivership. The administration procedure was thus meant to move the UK insolvency code towards a debtor-type system, and, as a result, it has sometimes been referred to as the UK equivalent of Chapter 11 (Franks and Torous, 1992).

2.5.2.1 Administrator's Appointment and Procedure

The administration procedure is a formal procedure that enables the distressed firm to reorganise under the supervision of an insolvency practitioner - referred to as the administrator - appointed by the court. Before the court appoints the administrator, an application for the appointment of the administrator must be presented to the court by either the company's directors, or the Secretary of State for Trade and Industry. This petition is supported by an affidavit by the applicant and, in almost all cases, by a report prepared by the proposed administrator.[14]

However, before an application for an administration order is made (or the administration order presented), the petitioner (i.e. the company or the Secretary of State for Trade and Industry) must give notice to the floating charge holder of his intention to apply for an administration order[15]. Crucially the petition for an administrator will be dismissed by the court if the floating charge holder decides to appoint an administrative receiver by vetoing the appointment of the administrator.

Moreover, the petitioner must swear an affidavit in support of the petition, not only stating the financial and security positions of the firm but also stating which of the statutory purposes is expected to be achieved. These statutory purposes are stated in the Insolvency Act 1986:

14 Insolvency Act 1986, rule 2(2).

15 An administration order is an order directing that, during the period for which the order is enforced, the affairs, business and property of the company shall be managed by a person (administrator) appointed by the court.

- the survival of the company and the whole or part of its undertaking as a going-concern;
- the approval of a voluntary arrangement under Part 1 of the Insolvency Act 1986;
- the sanctioning, under Section 425 of the Companies Act 1985, of a compromise or arrangement between the company and its creditors or any class of them or between its members or any class of them; and
- a more advantageous realisation of the company's assets than would have been realised through a winding up.

The petition should contain an independent expert's recommendation of the administration option to the court. Even though this is not mandatory, the court places great reliance upon this form of expert opinion when deciding whether to grant an administration order. On hearing the petition for administration, the court may make an administration order stating that it is satisfied that statutory grounds for an appointment exist (namely, that the company is or is likely to become insolvent and that an administration order would be likely to achieve one of the purposes set out in the Insolvency Act 1986).

The main function of the administrator is to examine the business and the causes of its decline in order to try and achieve a turnaround of the company, either through an arrangement between the company and its creditors or through making a plan to achieve a better realisation of the company's assets than would be achieved under a winding up. In trying to achieve a turnaround or a survival of the company, the administrator will evaluate the company's cash flow needs if there is to be continuing trading, and then arrange for additional financing through further capital input by

management or shareholders, or through loans or continued support from secured creditors, or cash receipts from trading.

There is in addition a provision of an immediate moratorium – i.e. a 'freezing' – on all legal action that could otherwise be taken by creditors against the company. The effect of the moratorium is to provide breathing space and relief against creditors' pressure. During this time, the administrator can explore all of the options for a rescue. The moratorium starts with the presentation of a petition for the administration order (pre-hearing moratorium) and lasts until the hearing of the petition. If the administration order is granted, the moratorium is then continued until the termination of the administration order (post-hearing moratorium). During the period beginning with the presentation of a petition for an administration order and ending with the making of such an order or the dismissal of the petition, no resolution may be passed for the winding up of the company. In addition, an administrative receiver cannot be appointed and no other steps may be taken to enforce any security over the company's property or to repossess goods in the company's possession except with the consent of the administrator or the court.

What triggers the appointment of the administrator is the inability of the company to meet its debt obligations which effectively means that the company is financially distressed. These include the failure to meet interest and principal payments when they fall due and the breach of other covenants in the debenture. Once appointed, the administrator must notify all known creditors of his appointment within 28 days. The administrator has up to three months to come up with a plan of reorganisation to be approved by a majority of shareholders, and any action taken by him requires a vote by all creditors (Franks et al., 1996). Within the three-month period, the administrator

must send details of his proposals to all creditors for achieving the purposes specified in the administration order and must summon a meeting of the creditors to consider them. The creditors may approve the proposals (with or without modifications) or may decline to do so, in which case it is open to the court to discharge the administration order.[16] If the plan is accepted, the administrator goes ahead in implementing it.

The powers of the creditors go beyond voting for whether the plan should be accepted or rejected. However, they may establish a creditors' committee to represent them and the committee may require the administrator to appear before it and furnish it with information regarding the carrying out of his functions. They also have the power to apply to the court if they feel that the company's affairs are being managed by the administrator in a manner that is unfairly prejudicial.[17] The administrator represents all creditors' claims, and since he is not appointed by any one creditor, as in the case of administrative receivership, some of the potential conflicts that arise in administrative receivership are mitigated.

An administrative receiver is appointed just after the end of the administration procedure in some cases. It could be true that the floating charge holders that appoint an administrative receiver after the end of the administration procedure do so because of the arrival of new information that prompts the floating charge holder to review its original plans about the distressed firm. For example, the floating charge holder may learn that some of the forecasts made to the court, which allowed for the appointment of the administrator were seriously flawed or that changes in economic conditions made it impossible for the distressed company to realise the objective set by the court.

16 Insolvency Act 1986, Section 23.

17 Insolvency Act 1986, Section 27.

In this case, it is possible for the floating charge holder to appoint an administrative receiver after the termination of the administration order.

It was mentioned above that the floating charge holder has the right to veto the appointment of the administrator. In vast majority of cases in which distressed companies with floating charge holders are placed in administration, the floating charge holder does not exercise this veto however. Katz and Mumford (2002) show that the appointment of an administrative receiver following the presentation of a petition occurred in only two percent of administrative receivership appointments. This supports the notion that there is, in practice, often a considerable degree of informal discussion involved at an early stage.

2.5.2.2: Powers and Duties of the Administrator

In the event that the court approves the appointment of the administrator, Schedule 1 of the Insolvency Act 1986 sets out specific powers, which are available to the administrator. The administrator is appointed to manage the affairs of the company and has the power to do all things as may be necessary for the management of the affairs, business and property of the company.

The administrator has the power to override security and property rights to enable him to dispose of properties of the company.[18] The administrator has the power to dispose of properties where there is a floating charge and does not require the consent of the court. With the permission of the court, the administrator can also dispose of

18 Insolvency Act 1986, Section 15.

properties that are subject to a fixed charge or any goods in possession of the company that are subject to a hire-purchase, a conditional sales agreement or are being held subject to retention of title.

The administrator has the power to delay or stay creditors' claims; further, unlike the administrative receiver, the administrator is not personally liable for liabilities undertaken after his appointment. For example, interest and repayment on loans are stayed while the administration order is outstanding. Also, the owner of a leased asset may be prevented from repossessing the asset if the asset is necessary for the running of the company. The administrator has the power to remove any director and appoint any person to be the director, or to streamline the workforce if necessary to achieve the objective of the administration order.

To conclude, the introduction of the administration procedure in the UK insolvency code in 1986 was mainly geared towards the reorganisation of firms that are worth saving. The administrator is appointed by the court, but before such appointment, notice must be sent to all floating charge holders, who can veto the appointment of the administrator and appoint an administrative receiver. However, before the appointment of the administrator is made, the court must be satisfied that one or more of the purposes of the administration order is capable of being achieved.

2.5.3: Company Voluntary Arrangement (CVA)

Company voluntary arrangement (CVA), like administration, owes its origins to the Cork Report (1982) that preceded the Insolvency Act 1986. Cork considered that the

law it reviewed was deficient because of a failure to provide that a company, like an individual, could enter into a binding arrangement with its creditors by a simple procedure that would allow it to reorganise its debts.

A CVA occurs when a company arranges with its creditors, approved by the court, in which the company has formally agreed to terms with its creditors for the settlement of its debts. A CVA is a formal procedure and therefore requires that the supervisor, who is the insolvency practitioner appointed to conduct the CVA, must be a qualified insolvency practitioner.

The CVA procedure is more widely available than the administration procedure because both solvent and insolvent companies can use it, whereas companies can only be placed in administration order when they are insolvent. For a company that is not in administration or liquidation, the directors of the company initiate CVA by submitting a written proposal to creditors either for the exchange of debt for equity or for a moratorium from the creditors. It is therefore possible for the directors to procure a CVA by false representation. However, the Insolvency Act 1986 makes such false representation an offence. If the company is already in administration or liquidation, then the proposal for a CVA should come from the insolvency practitioner who is responsible for conducting the administration order or the winding-up. The proposal should identify an insolvency practitioner who has agreed to take responsibility for the CVA. This person is known initially as the nominee and, once in receipt of the proposal, the nominee has 28 days to report to the court on the firm's possible viability.

A proposal for a CVA is put to both the creditors and the shareholders. If this is approved, it binds every person who (in accordance with the voting rules in the CVA) had notice of and was entitle to vote at the meeting. What CVA does not do is affect, without agreement, the rights of secured creditors of the company to enforce their securities.[19] Secured and preferential creditors cannot have an arrangement foisted upon them without their approval. If the CVA proposal involves the rights of the secured creditors therefore, they have the power to veto the proposal. As stated earlier, the right of the secured creditors depends on the type of charge held by the creditors. The floating charge holder's right is to take control of the company by appointing an administrative receiver. For the fixed charge holder, the right is to take control and to dispose of the asset upon which the fixed charge is based. Therefore, the meeting would not approve any proposals or modifications that interfere with such enforcement rights except with the backing of the concerned secured creditor. The CVA proposal may specify the restructuring of liabilities and/or the disposal of assets. Once the plan is agreed upon, it becomes the responsibility of the nominee, who now becomes the supervisor, to implement the scheme.[20]

2.6: The Insolvency Process – The UK Code: Enterprise Act 2002

This thesis's focus is on the insolvency code prior to the Enterprise Act 2002. Its aim is to study the functioning of the UK insolvency process in the period post–1986 Act during which the UK insolvency code was moving from the pre-1986 strongly creditor-oriented situation to the more debtor-oriented post-2002 situation. In essence,

19 Insolvency Act 1986, Section 4.

20 Insolvency Act 1986, Section 7.

the thesis looks at the functioning of a 'middle-of-the-road' system. The Enterprise Act 2002 is outside the scope of the empirical work in this thesis, but is included in this chapter for completeness and to explain some of the expected potential and the perceived drawbacks of the Enterprise Act 2002 insolvency regime.

The Enterprise Act 2002 is the latest chapter in reshaping the UK corporate insolvency code and the aim is to facilitate company rescue beyond the provisions of the 1986 Act. In order to achieve this, three important changes to the pre-existing code needed to be made. First was the abolition of the administrative receivership procedure. It was widely accepted in some areas that the administrative receivership procedure gave a disproportionate amount of power to floating charge holders (Mokal, 2003).

Second was the reshaping of the administration procedure with the aim of capturing the benefits of speed and flexibility associated with the administrative receivership procedure and, at the same time, fostering accountability. Out-of-court appointments of the administrator can be made by either the floating charge holders or the directors of the company. Thirdly, the Crown's preferential status was abolished and in its place a proportion of floating charge recoveries are 'ring fenced' for unsecured creditors[21]. The rationale for this is to increase recoveries to unsecured creditors of the distressed firm.

21 Further datails on the reasons for the Enterprise Act 2002 and the 'new' administration procedure under the Enterprise Act 2002 are set out in the Appendix to the thesis.

2.7: Conclusion

The main goal of this chapter is to give a detailed description of the UK insolvency code and, in the process, explain the procedures available to distressed firms and their creditors. In the UK, prior to the introduction of the Insolvency Act 1986, distressed companies had less chance of reorganising their activities, as there was no provision that catered to maintaining distressed firms as going-concerns. The floating charge holders could easily appoint a receiver and then sell off the assets so as to recover their debts as fast as possible. Hence, prior to the introduction of the Insolvency Act 1986, the UK insolvency code was strongly creditor-oriented.

The aim of the Insolvency Act 1986 was to provide an opportunity for distressed companies to reorganise in administration thus moving the UK system closer to the US debtor-oriented system. However, the main weakness of the Insolvency Act 1986 was that, for firms with floating charge holders, the Act did not cause a major change in the direction of distressed companies, as the uptake of administration was very low. This was because the Insolvency Act 1986 provided the floating charge holders the opportunity to veto the appointment of the administrator and to appoint an administrative receiver instead.

The floating charge holder's control over the distressed company – mainly due to the power to veto the appointment of the administrator and appoint an administrative receiver - when default occurred made it easy for distressed companies in the UK to be placed into administrative receivership, and the current trends in Figure 1.1 and 1.2

show that the number of companies placed into administrative receivership are higher than those placed into administration.

However, the introduction of the Enterprise Act 2002 has potentially brought about a very important step towards creating an efficient 'rescue mechanism' in the UK by abolishing the right of the floating charge holder to appoint an administrative receiver. Mokal (2003) claims that the administrative receivership procedure was inefficient because it liquidated viable firms and therefore led to loss of jobs due mainly to the power of the floating charge holder to appoint the administrative receiver to take control of the distressed firm. Based on this argument, it is reasonable (at least in theory) to assume that a procedure that stops the floating charge holder from appointing an administrative receiver should bring about a more efficient rescue mechanism. Indeed on the evidence so far, Katz and Mumford (2006) show that there has been a substantial increase in the number of administrations after the introduction of the Enterprise Act 2002. This thesis, however, focuses on the pre-2002 period and provides evidence on the success or otherwise of the administration procedure when it was, in effect, functioning in parallel with administrative receivership.

CHAPTER 3

LITERATURE REVIEW AND HYPOTHESES SETTING

3.1 Introduction

This chapter focuses on the analysis of prior literature and establishing the hypotheses in the area of corporate insolvency, drawing from studies that have been undertaken in the well researched US debtor-oriented code and other insolvency studies in Europe, including the UK.

The literature review is organised according to three empirical chapters. This basically follow the time line of the insolvency process. Thus the first empirical chapter (and hence the first section in the literature review) deals with the choice of the resolution form (administration versus administrative receivership). The second looks at the short-term success of the new administration procedure in terms of reorganisation versus liquidation (i.e. the characteristics of firms entering administration in the UK and the difference between those reorganising compared with those liquidating), and the third examines its longer-term success in terms of the subsequent performance of reorganised firms relative to a matched sample of non-failed firms.[22]

Each section of the literature review looks in turn at the issue examined, its importance and findings from previous research. A summary of the motivation and the results from previous empirical chapters are also given in order to aid the

22 The literature review is not organised by country or subject areas as these would involve more repetition of the material.

development of the hypotheses that will be tested in the subsequent empirical chapters.

3.2 Review of Literature on 'Determinants of the Resolution Form Between Administration and Administrative Receivership in the UK'

This section contains the literature review for the chapter on the choice of the resolution form between administration and administrative receivership in the UK. This chapter investigates the introduction into a strongly creditor-oriented culture of a more debtor-friendly procedure and, more specifically, the differential economic and financial characteristics of firms that enter into each of these two procedures in order to see if there appears to be an economic rationale for the choice. It is important to see the extent to which the choice between administration and administrative receivership is dependent on procedural issues (i.e. indirect costs of the procedure, creditors' complexity and information asymmetry) as opposed to what can be referred to as the underlying economic viability of the firm (i.e. ability to raise funds, intangibles and economic cycle). The literature will review the procedural and economic factors that determine which paths are chosen for firms entering insolvency procedures.

However, at this stage, it is important to highlight the purpose of the administration and administrative receivership procedures - as this is crucial to the development of the hypotheses. The reason for this is that some of these hypotheses - especially those relating to the underlying economic variables - draw heavily on the reorganisation versus liquidation literature; therefore, the link between administration/administrative receivership and reorganisation/liquidation has to be established beforehand.

Administrative receivership always results in the sale of a firm's assets to a third party (Armour, 2001), whereas in administration, rescue can be (and generally is) an objective of the administrator (Finch, 2002). Hence, firms placed in administration should have better potential to reorganise than those firms placed in administrative receivership. It was widely thought that, prior to the introduction of the administration procedure, administrative receivership had led to excessive liquidations (Armour et al., 2006) and that it involved a sale of assets, and did not permit a corporate reorganisation. Hence, viable businesses might have been forced to close (Insolvency Service, 2001). Mokal (2003) states that one in every two administrative receiverships potentially allows a viable business to be broken up. If administrative receivership is more likely to destroy distressed but viable firms as compared with administration (Mokal, 2003), then I expect to find that distressed firms placed into administration are more likely to reorganise and those placed into administrative receivership must liquidate.

The following subsections review the prior literature on the factors likely to influence the choice of the resolution form between administration and administrative receivership, with a view to establishing the hypotheses to be tested in the empirical chapters.

3.2.1 : Bankruptcy Costs

Bankruptcy costs (both direct and indirect) are 'deadweight' economic costs of firms going bankrupt (White, 1983). These costs can be divided into two parts – ex ante (bankruptcy costs before filing) and ex post (bankruptcy costs after filing).

The direct bankruptcy costs in administration and administrative receivership include fees paid to professionals such as lawyers, consultants, accountants, valuers, business consultants and marketing experts, employed to realise the assets of the distressed firm. Direct costs are relatively easy to observe, as most bankruptcy systems require that a record of such costs be kept in individual cases (Armour et al. 2006).

The indirect costs include the reputational damage to the company, the opportunity costs of management's time, lost sales, lost competitive advantage, and lost investments. These costs are very difficult to quantify empirically. Firms that have high probabilities of bankruptcy, whether they eventually fail or not, can still incur these costs (Altman, 1984).

Table 3.1 gives a summary of the studies (Ang et al., 1982; Ravid and Sundgren, 1998; Olsen, 1996; Thorburn, 2000; Fisher and Martel, 2001) on bankruptcy costs in different jurisdictions – the US, UK, Finland and Sweden are a few examples. For the US debtor-oriented code, the general evidence shows that direct costs in a reorganisation procedure (Chapter 11) are larger than those in a liquidation procedure (Chapter 7) (Bris et al., 2006; Lawless and Ferris, 1998). However, Fisher and Martel (2001), using a sample of commercial bankruptcies filed under Canadian law, find no significant difference between direct costs in reorganisation and those in liquidation.

Direct costs do vary with the size of the distressed firm. Relatively small firms shoulder a greater proportion of these costs than do large firms. Such costs are largely fixed and, when expressed as a percentage of firm size, they tend to be regressive. Economies of scale indicate that as the size of the firm increases the average costs per

unit of size fall. LoPucki and Doherty (2006), using a US sample, find evidence of economies of scale in professional fees paid in reorganisation cases, as the coefficient for the independent variable (assets) in their regressions was positive and less than one, indicating that fees paid in reorganisation increase with assets at a declining rate.[23] In addition, the findings are that the direct costs are significant in relation to the size of the firm. Thorburn (2000) estimates the direct costs in bankruptcy auctions in Sweden average around 6.4% of pre-filing assets values and 3.7% for the one-third largest firms.

In the UK administrative receivership, the direct costs include fees paid to the administrative receiver as well as those paid to financial advisers appointed by the administrative receiver. They also include fees paid to agents instructed to realise the assets of the company on behalf of the administrative receiver and any costs incurred in distributing funds to unsecured creditors through a liquidator (Olsen, 1996). In their survey of administration and administrative receivership, Katz and Mumford (2002) find that a company may be placed in administrative receivership if the additional costs of the administration procedure are significant in relation to realisation value. The additional costs of administration were cited by respondents as a significant deterrent to the appointment of an administrator.

In addition, Armour et al., (2006) study asset realisations and costs incurred in UK insolvency proceedings before and after the changes introduced by the Enterprise Act 2002. Their results show that the total direct costs to total assets for administration

23 Other studies have also shown scale effects. Gilson (1990) finds that direct costs indicate economies of scale in a sample of out-of-court workouts. Betker (1997) finds economies of scale in a sample of out-of-court workout and Chapter 11 cases. Lawless and Ferris (1998) finds weak economies of scale for professional fees in a study of small business bankruptcies.

cases are higher than for administrative receivership cases by a margin of 21%. These results provide evidence that direct costs are likely to be higher in administration than in administrative receivership. The findings by Katz and Mumford (2002) and Armour et al., (2006) therefore indicate that costs is a discriminating factor in the choice of the resolution form between administration and administrative receivership and that firms placed in administration are more likely to have higher bankruptcy costs than firms placed in administrative receivership.

Delay affects bankruptcy costs (Lawless and Ferris, 1998) and the indirect costs increase with the length of time spent in bankruptcy (Thorburn, 2000)[24], thus indicating that the indirect bankruptcy costs can be captured using the time spent in the insolvency or the bankruptcy process. Creditors' claims become less valuable with each passing day and these costs increase as the company spends more time in the insolvency or bankruptcy procedure (Lawless and Ferris, 1998).[25] If these costs are significant and vary by insolvency procedure (administration or administrative receivership), then it is likely that they will influence a firm's choice of procedure.

Given the limitation of the data in the sense that information on direct bankruptcy costs cannot be obtained, the bankruptcy cost hypothesis is tested in relation to indirect costs only, using the time spent in administration or administration receivership as a proxy for indirect costs. The longer the time taken up by an insolvency procedure (administration or administrative receivership), the greater the loss to the creditors. Since the administrative receiver can be appointed without court

24 For firms sold as a going-concern in a bankruptcy auction in Sweden, the time from filing to the date the assets are sold is 2.4 months with a median of 1.5 months.

25 For every year that a Chapter 11 firm takes in the reorganisation process, the total costs of the proceeding consume another 2.1% to 2.2% of the total distributions in the case.

intervention as compared to administration, the indirect costs of administrative receivership are expected to be lower than the indirect costs of administration. In addition to the above, upon appointment of the administrative receiver, his main objective is how quickly the assets of the business can be sold (Mokal, 2003) to repay the floating charge holder given the fact that delay could erode the value of these assets. On the other hand, once the administrator is appointed, his first task is to investigate the cause(s) of failure, conduct creditors meeting, and draw up a reorganisation plan that is acceptable to the creditors. These processes take time and the passage of time increases the indirect costs of bankruptcy (Thorburn, 2000). Hence, firms placed in an administration order are expected to have higher indirect costs than those placed in administrative receivership[26].

Thus:

Hypothesis H1:

Firms that are placed in administration have higher indirect bankruptcy cost than firms placed in administrative receivership.

3.2.2: Information Asymmetry

Information asymmetries involve different parties having access to different sets of information. In this case, managers of the distressed firm represent one party with their own information about the firm's financial position and the creditors (outsiders) represent another party with their belief or information about the firm's position.

26 It should be noted that time spent in administration or in administrative receivership is only known once the procedure is completed so it is not strictly a determinant of procedure choice. I acknowledged that this is a limitation to the thesis.

Those within the firm may be aware that the current financial problem is not threatening in the long term, but outsiders (creditors) are not so well informed about the specifics of the enterprise. Information asymmetries make it difficult for firms to renegotiate their debts with their creditors in times of distress (Hoshi et al., 1990).

Hoshi et al., (1990), investigate the role of banks in reducing the costs of financial distress in Japan. The authors compare various performance measures before, during, and after the onset of financial distress. The authors find that firms with financial structures in which information asymmetry problems exist are likely to be small firms.

However, the problem of information asymmetry is less acute for large firms because available external information generally increases with firm size (Storey, 1994), which will enable external users to make decisions based on publicly available data rather than on subjective assumptions. If information asymmetry varies with the size of distressed firm, then it is likely that it will influence the choice of procedure between administration and administrative receivership.

Table 3.2 provides empirical evidence on the effect of firm size on the reorganisation versus liquidation literature for studies undertaken in different jurisdictions. The table shows that size has been a significant discriminating variable between companies that reorganise and those that liquidate and that larger firms are more likely to reorganise than smaller firms (LoPucki 1983; Barniv et al. 2002; and Campbell, 1996).

Contrary to the above findings in relation to the significance of size in the reorganisation versus liquidation literature, Table 3.3 gives a summary of studies in which size does not have an effect on the likelihood of reorganisation by distressed firms. Casey et al., (1986) show that size is not a significant variable in discriminating between firms that reorganise and those that liquidate. Hong (1983) finds that size is not only insignificantly related to the probability of success, but that it coefficient is negative in the regression of successful versus unsuccessful reorganisation.

Despite some contrary evidence, the studies above mainly indicate that size positively correlates with reorganisation. Larger firms are more likely to reorganise than smaller ones. Hence, it is hypothesised that firms that enter administration are larger than those placed in administrative receivership.

Thus:

Hypothesis H2:

Firms placed in administration are larger than those placed in administrative receivership.

3.2.3: Intangibles

Intangible assets are those that are not physical in nature. These are included on the balance sheet of firms because there is an expectation that these assets will generate future economic benefits to the firm. Intangible assets can be both large and important. Acquired goodwill, as a proportion of turnover, has steadily grown over the past thirty years. However, current financial statements provide very little

information about these assets. Solving the problem of non-disclosure of intangibles requires on-balance-sheet accounting for many of these assets as well as additional financial disclosures (Lev, 2003).

Intangibles in the form of Research and Development costs (R&D) may qualify to be included as assets on the balance sheet because - according to the accounting definition of an asset (i.e. an asset is a resource controlled by an enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise (Elliot and Elliot, 2006)) - these intangibles may have some future economic value that could well be instrumental in generating future cash flows to the company. Hong (1983) defined intangibles as the difference between a firm's value as a going-concern and its value in liquidation. According to Hong (1983) a firm's intangible assets are the most crucial factor in determining the outcome for a distressed firm and, the larger the firm's intangible assets, the more likely that there is sustainable economic value in the firm.

The value of intangibles would disappear if the assets were sold, especially on a break - up basis (Denis and Denis, 1995). Also, high intangible-intensity can imply that the firm has fewer physical assets to sell during distress. Therefore, there is a greater incentive to try and keep an intangible-intensive business (especially one with relatively high R&D) functioning as a going-concern. If the distressed firm is liquidated - especially on a piecemeal basis - then there is a possibility that the value of the firm's intangibles would be lost. Thorburn (2000) finds that the probability of survival (i.e. the firm being sold as a going-concern rather than on a piecemeal basis)

is positively related to the value of intangible assets in the firm. The author shows that firms with large intangible assets tend to be auctioned as going-concerns.

If intangible assets can be crucial in discriminating between reorganised and liquidated firms, given the connection established earlier between administration versus administrative receivership on the one hand and reorganisation versus liquidation on the other, then a connection can be made between intangibles and the choice of the resolution form between administration and administrative receivership. Since administration was introduced to help reorganise distressed firms in the UK, firms that are more likely to reorganise are more likely to be placed in administration than in administrative receivership. Hence, the choice of the resolution form between administration and administrative receivership suggests that firms with a higher proportion of intangible assets are more likely to be placed in administration than administrative receivership.

Moreover, the ability of troubled firms to sell assets and repay debt is important in reviving troubled firms (Shleifer and Vishny, 1992). Firms with large amounts of intangibles are less likely to obtain reasonable amounts for their assets and, as such, their ability to repay their debt is severely hindered. Denis and Denis (1995) show that firms with a large percentage of intangible assets find it difficult to sell their assets. This may indicate the presence of liquidity constraints for distressed firms with high intangible assets.

Thus:

Hypothesis H3:

Firms with a higher proportion of intangible assets to total assets are more likely to be placed in administration than in administrative receivership.

3.2.4: Ability to Raise Funds

The choice of the resolution form between administration and administrative receivership can also be influenced by the ability of the company to generate funds. The level of free assets provides a greater ability for the firm to obtain additional financing. Lenders to distressed firms are interested in the level of free assets available to the firm (Casey et al., 1986) and major creditors, such as banks and financial institutions, are interested in obtaining security for their loans, which would protect them in the event of default.

Table 3.4 gives a summary of some empirical studies that have investigated the effect of free assets on reorganisation. The results have almost been entirely one-sided (Casey et al., 1986; Fisher and Martel, 2001; Hong, 1983) in the sense that the level of free assets has been found to be statistically significant in distinguishing between firms that reorganised from those that liquidated.

The analysis of Casey et al., (1986) is subject to certain limitations. First, the sample is too small in the sense that it is not representative of the population of bankrupt firms and, as a result, the estimates obtained should be corrected for choice-based sampling. Also, by using only successfully reorganised firms, the authors introduce a

sampling bias. Hence, their study is not a robust test of the model proposed by White (1981, 1984).

Fisher and Martel (2001)'s sample contains an overwhelming majority of privately owned firms. This sample's characteristics, with respect to the size and the type of companies (i.e. mostly private companies), are similar to those found on the UK insolvency database of companies that are placed into administration and administrative receivership procedures.

Even though the majority of the studies in Table 3.4 have shown that the level of free assets is significant as a determinant of reorganisation, Bryan et al., (2002) show that this variable is insignificant in their pooled sample regression results. The authors define free assets as the sum of property, plant and equipment less collateralised loans divided by inflation-adjusted total assets. Since different authors use different definitions as proxies in their empirical analyses, these differences in the choice of proxy could, to some extent, explain the differences in the results. However, across various types of bankruptcy codes, it is expected, on average, that the level of free assets to be positively related to successful reorganisation.

Given the connection established earlier between administration versus administrative receivership on the one hand and reorganisation versus liquidation on the other a connection can be made between the level of free assets and the choice of the resolution form between administration and administrative receivership. As firms in administration are more likely to reorganise than those in administrative receivership,

it is expected that firms in administration are more likely to have higher levels of free assets than firms in administrative receivership.

Also, firms that are part of a holding company can be in an advantageous position to generate funds that are necessary for the firms to survive, or to have the borrowing capacity to enable the firm to raise the funds needed for reorganisation. To some extent, the presence of a holding company can also provide a source of internally generated funds for the distressed firm. Casey et al., (1986) note that firms that are expected to operate successfully in the future should be able to generate funds internally or to obtain funds from external borrowing in order to emerge successfully from bankruptcy proceedings. Hence, companies with substantial free assets and those with holding companies are more likely to be placed in administration than in administrative receivership.

Thus, it follows that:

Hypothesis H4:

Distressed firms with higher levels of free assets are more likely to be placed in administration than in administrative receivership.

Distressed firms that are part of a group with a holding company are more likely to be placed in administration than in administrative receivership.

3.2.5: Economic Cycle

The economic cycle is an external (uncontrollable) factor that could cause firms to be financially distressed, even when their debt levels are low. As the economy enters a recession period, firms generally feel the effect of lower expenditure in the economy. As consumers spend less, revenues generated from the sale of goods fall and the overall effect is a reduction in the pre-interest profits of firms. Hence, during periods of recession, one expects a greater proportion of firms to be financially distressed.

A direct impact that a recession would have on the economy can be analysed through the firm's asset sales over this period. During recession, if a firm is financially distressed, it is also the case that the industry in which the firm operates could also be experiencing financial distress. If this is the case, not only is it difficult to sell the firm's assets, but the amount received from the sale would also be negatively affected due to illiquid market. Shleifer and Vishny (1992) study the liquidation costs associated with interfirm asset sales prompted by financial distress and find evidence of market illiquidity. They argue that the price received in a distress sale may have liquidity discounts if the entire industry is in a downturn. In support of this viewpoint, Bryan et al., (2002), in their analysis of the probability of emergence by firms that file for bankruptcy, show that firms are more likely to reorganise than liquidate when the filing occurred during recession.

If the firm is in distress and the charge holders are 'over-secured' – where the value of the assets subject to its charges is greater than the amount owed to the charge holders

– they may have an incentive[27] to close down the distressed businesses 'too quickly' (Mokal, 2003) even though managers may have a greater incentive to continue. In addition, Franks and Sussman (2005) find in their sample of administrative receiverships in the UK that the collateral is on average 103.7%, 74.6% and 118.5%, (i.e. collateral as a percentage of the loan) of the face value of the loans for all three banks in their sample, which, to some extent, indicates that banks are generally 'over-secured.'[28] The percentages show that in two out of three banks, the value of the collateral is greater than the amount owed to the floating charge holders. In this case, the floating charge holder is more concerned about how quickly the assets of the business can be sold, as opposed to selling them in a way that maximises value to all stakeholders. If the floating charge holders are over-secured, it could be argued that administrative receivers, acting on behalf of the floating charge holders, may not have the correct incentive to maximise value in some cases.[29]

In addition, the effect of a depressed market coupled with a large discount on the sale of the assets would be detrimental for firms that are sold either as a going-concern or on a piecemeal basis. A depressed market would have an adverse effect on the amount received from the sale of the firm's assets and this might lead to the floating charge holder not vetoing the appointment of the administrator. Again, as suggested by

27 Mokal (2003) refers to this as perverse incentive of the floating charge holders.

28 Armour and Frisby (2001) argue that banks are 'under-secured' in insolvency proceedings and hence, the notion that these creditors move 'too quickly' to sell the assets of the distressed firm is somehow baseless. Mokal (2003) argues however that it is less useful to look at the mean recoveries of banks and quite crucial to examine the proportion of administrative receiverships in which banks are 'over-secured.' In other words, what matters is not so much the means but the medians of banks' recoveries in administrative receivership. In this way, the argument that banks are undersecured is not necessarily valid.

29 Mokal (2003) states that one in every two administrative receiverships potentially allows a viable business to be broken up.

Mokal (2003), if the floating charge holders have perverse incentive then I expect to find distressed firms more likely to be placed in administrative receivership when the economy is doing well (i.e. distressed firms are more likely to be placed in administration during 'bad times' in an insolvency code that is creditor-oriented).

Thus:

Hypothesis H5:

Firms are more likely to be placed in administration than in administrative receivership when the economy is experiencing a slowdown.

3.2.6: Creditors' Complexity

This section deals with two key aspects - the presence of multiple secured creditors and the presence of unsecured creditors – and their effect on the choice of the resolution form between administration and administrative receivership. In the UK insolvency code, secured creditors can have a fixed or a floating charge (or both) over the assets of the distressed firm. The fixed charge holder cannot directly influence the direction of the distressed firm as they cannot take control of the distressed firm. On the other hand, the floating charge holder can influence the direction of the distressed firm. The creditor focus of the UK insolvency code implies that floating charge holders have a significant influence on whether the distressed firm should be placed in administration or administrative receivership.

The creditors' complexity problem is reflected in the nature and complexity of a firm's outstanding financial claims and is influential in the outcome of debt restructuring (Asquith et al., 1994, and Gertner and Scharfstein, 1991). However, in the UK, where the debt holders have a floating charge, the creditors' complexity problem could be viewed by looking at the potential conflicts that could exist between secured creditors with floating charges. Heterogeneous priorities amongst creditors give parties incentives to back outcomes that result in the largest payoffs to them (Roe, 1983) and, hence, senior claimants whose claims are fully covered will prefer a rapid cash sale, whereas junior claimants may favour a highly risky reorganisation (Armour, 2001).

Seeking immediate payment, secured creditors could push the process toward liquidation of viable businesses (Morrison, 2006). In the UK, because floating charge holders are in control of the insolvency process, they will have less interest in the going-concern value of the firm and, as a result, there is less efficient liquidation (Hart, 2000). Davydenko and Franks (2006) show that, in the UK, the concentration of control rights in the hands of the most senior creditors may result in more piecemeal liquidations. Where there are many creditors, bargaining problems introduce further friction into post-default decision-making (Armour and Frisby, 2001). In the UK, this implies that the greater the number of secured claims with floating charges, the more complex coordination becomes among secured creditors. Armour and Frisby (2001) find from interviews with insolvency practitioners that where banks have floating charges they will tend to recommend administrative receivership rather than administration. In order to secure a collective renegotiation, or because of a decision to sell the firm as a going-concern, it is necessary for all

creditors (especially secured creditors with floating charges) to be in agreement about the preferred course of action (Armour and Frisby, 2001). If cooperation cannot be achieved, imminent default can then precipitate a 'race to collect' and the inefficient dismemberment of the firm (Armour and Frisby, 2001). In other words, if the secured creditors cannot agree between themselves as to what the appropriate route for the distressed firm should be, then any one of them could appoint an administrative receiver to take control of the company and liquidation could be the eventual outcome. Hence, this indicates that the greater the proportion of floating charge holders in a distressed firm, the more likely the company will be placed in administrative receivership rather than administration.

Unsecured creditors are those that lend to the company (usually on a short-term basis). Given the useful services rendered by unsecured creditors to the company, these creditors are as important to the company as are the floating charge holders and therefore should enjoy some protection in the event of default.[30] Trade creditors can play an important role by compensating for unavailable bank credit (Fisman and Love, 2003).

Unsecured creditors do not always participate in the reorganisation process because their claims are too small to justify active participation in reorganisation and they cannot adjust their interest rates in order to take account of the circumstances of a particular debtor (Baird et al., 2007). Thus, in the UK, unsecured creditors have very little or virtually no say in the operations of the distressed company. In addition,

30 Baird et al., (2007) state that Chapter 11 protects small general creditors who cannot bargain for special treatment and cannot afford to participate actively in the process. They find that Chapter 11 protects general creditors, as it guaranrees an efficient redistribution of the estate among all claimants.

unsecured creditors are almost at the end of the priority ladder and, in most cases, their payoffs in reorganisation are higher than in liquidation (Fisher and Martel, 2001).

It has been stated that small and dispersed trade creditors could be an obstacle to reorganisation. Trade creditors are typically the most difficult group to negotiate with, and US firms with many trade creditors are typically forced to file for Chapter 11 (Chatterjee et al., 1996). Gertner and Scharfstein (1991) argue that the larger the number of trade creditors, the less likely the company is to reorganise because it would be very difficult to coordinate their activities. They state that as the number of trade creditors increases, they would resist value-enhancing write-downs, panic and precipitate a 'creditors' run.'

However, in the US, power to liquidate the distressed firm is not solely in the hands of secured creditors, as junior creditors are more active and the conflicts within the system are harder to coordinate. In the UK insolvency code, because of the power allocated to the floating charge secured creditors, junior creditors are generally passive. The liquidation right of the distressed firm is in the hands of the floating charge holders (Franks and Sussman, 2005). If the floating charge holders decided to appoint an administrative receiver, then the unsecured creditors' significance shrinks even more. However, if an administrator is appointed instead, then these creditors would have some power in a decisive vote as to whether to accept the reorganisation plan proposed by the administrator or to reject it outright. Hence, the US findings of Gertner and Scharfstein (1991) do not seem to hold in the UK creditor-oriented system.

In the UK code, because of the weak priority position of unsecured creditors, there is the possibility that, if the company is placed in a procedure that lends itself to the reorganisation of the distressed firm, the unsecured creditors could gain at least as much as they do in liquidation. They generally receive less in a liquidating procedure than in a reorganisation procedure (Fisher and Martel, 2001; Bris et al., 2006), therefore, unsecured creditors are more likely to favour a reorganisation procedure as there is a greater potential to gain more than in a liquidating procedure.

Hence, given that the administration procedure relative to the administrative receivership procedure is a reorganisation procedure, then it follows that firms placed in administration are expected to have a higher proportion of unsecured creditors than those placed in administrative receivership. From the above, I expect to find distressed companies placed in administrative receivership to have a higher proportion of secured creditors with floating and fixed charges than those placed in administration.

Thus:

Hypothesis H6:

Firms with a higher proportion of secured creditors with floating and fixed charges, and a lower proportion of unsecured creditors are more likely to be placed in administrative receivership than in administration.

3.2.7: Conclusion

This section provides a review of the relevant literature in the area of corporate insolvency addressing factors that could possibly explain the likelihood of distressed firms being placed in either administration or administrative receivership.

The contribution of the thesis to this literature is an investigation of an insolvency code that focuses on the enforcement of private contracts under which the floating charge holder has the power to decide the fate of a distressed firm. This part of the thesis investigates the two main formal choices of the resolution form - administration and administrative receivership – with the aim of shedding light on the characteristics of companies that enter each of these two procedures.

Some of the hypotheses (e.g. information asymmetry, ability to raise funds, intangibles) were formulated from the literature on the reorganisation versus liquidation debate. The rationale for this was established by demonstrating a clear link between administration versus administrative receivership on the one hand and reorganisation versus liquidation on the other.

3.3: Review of Literature on 'The Characteristics of Firms Entering Administration in the UK and the Difference Between Those Reorganising Compared with those Liquidating'.

In this chapter, I investigate the administration procedure that was introduced in the UK insolvency code to assist firms to reorganise. It is important to know whether

firms entering administration survive and what distinguishes those that do survive from those that do not survive, as this is important for practitioners and those working in the area of corporate insolvency.

3.3.1: Financial Distress

This section describes economic and financial distress and makes clear that firms expected to reorganise are likely to be financially (rather than economically) distressed.

A company is said to be financially distressed if it cannot pay its debts when they fall due.[31] A firm is financially but not economically distressed if it is making a pre-interest profit but not enough to cover its interest expense or to repay its debts. Financial distress is a condition where a company cannot meet or has difficulty paying off its financial obligations to its creditors. The cause of distress is the financial structure of the firm. Such a firm is economically viable and may do well in reorganisation. Table 3.5 provides some of the definitions that have been used by various authors in defining financial distress. When a company is financially distressed due to insufficient cash, the company is in a position where it can no longer meet its interest payments. Hence, a debt restructuring is required.

In this case, the purpose of the UK insolvency proceedings should be to save either the company or its business as a going-concern (Mokal, 2003). Dismantling the business may not be in the interest of the company's creditors, since a break-up of the

31 According to the Insolvency Act 1986, this is the case if a company fails to repay a debt of at least £750.

assets would essentially result in withdrawing these assets from their highest value use. If the firm is worth more as a going-concern than on a break-up basis, but nonetheless financial distress results in its closure, then there will be a social loss equivalent to the difference (White, 1996).

The reason for financial distress is not entirely due to the company's capital structure. Having debt in the company's capital structure can be beneficial to the company but when this ceases to be the case, it causes financial distress. For example, for firms that are experiencing rapid growth, the addition of more debt to the capital structure of the company would enable the firm to undertake worthwhile investment opportunities that could generate future net cash inflows to the company.

When financial distress occurs, firms generally do not have the necessary resources to meet their immediate obligations. When firms fail to meet certain debt obligations, violation of a debt covenant may occur, which can serve as a trigger for the appointment of the administrator or the administrative receiver if formal proceedings are undertaken. However, there is a possibility that banks may be flexible depending on the relationship between the bank and the company and the terms of the loan agreement. If the bank believes in the projects of the company and its growth potential then there is the possibility that failure to meet a debt covenant may not lead to insolvency proceedings. On the other hand, there is also the possibility that when the company fails to meet the debt covenant, the bank may choose to appoint an administrative receiver. Again, it all depends on the relationship between the company and the bank as well as on the loan agreement between the two parties.

Economically distressed firms are those with going-concern values of less than the value of assets broken up and sold separately. These firms have pre-interest losses and are therefore far harder to reorganise**.** Hence, it would be in the interest of the claimants in such a company for its assets to be realised piecemeal (Crystal and Mokal, 2006).

From the above discussion on financial and economic distress, firms that are expected to successfully reorganise in administration are those that are financially, but not economically distressed. Hence, an efficient insolvency procedure should ensure that economically distressed firms be liquidated whereas financially distressed firms be given another chance. A procedure that allows too many such companies to be liquidated is contributing to unnecessary job losses and the misallocation of social resources (Mokal, 2003). Morrison, (2006) states that firms that are quickly liquidated exhibit characteristics of economic distress, and reorganised firms display characteristics of financial distress. The author shows that among US Chapter 11 firms that were shut down, nearly 80% exhibited obvious markers of economic distress. In addition, among firms that exited intact from Chapter 11, 71% reported indicators of financial distress. A firm should be preserved if it suffers financial, not economic, distress. Since administration is a reorganisation procedure, firms entering administration should be financially, but not economically distressed. However, among financially distressed firms in administration, those that reorganised are less financially distressed than those that liquidate. Therefore, on this basis, firms that reorganise in administration should be less financially distressed than those that liquidate.

Thus:

Hypothesis H1:

Firms that reorganise in administration are less financially distressed than those that liquidate.

3.3.2: Size

The size of the distressed firm plays a significant role in discriminating between firms that reorganise and those that liquidate. Smaller firms are more at risk of failure than larger firms (Bunn and Redwood, 2003). Previous studies have proxied size using sales revenue (D'Aveni, 1989; D'Aveni and MacMillan, 1990; Schreuder, 1993; Smith and Taffler, 1992), total assets (Campbell, 1996; Casey et al., 1986) and number of employees (Chowdhury and Lang, 1996; Bunn and Redwood, 2003; Geroski and Gregg, 1997). Both in the UK (Pond, 1997, Bunn and Redwood, 2003; Geroski and Gregg, 1997) and elsewhere (Barniv et al., 2002; LoPucki, 1983; Campbell, 1996), studies have shown that size is a crucial factor in the reorganisation versus liquidation outcome and that larger firms are more likely to reorganise than smaller firms.

Table 3.2 summarises studies in the reorganisation versus liquidation literature in which size has been a significant variable. The summary from Table 3.2 is that size is a significant variable in distinguishing between companies that reorganise and those that liquidate, and that larger firms are more likely to reorganise than smaller firms (LoPucki, 1983; Campbell, 1996). Denis and Rodgers (2005) find that firms that reorganise in Chapter 11 are twice as large as either liquidated or acquired firms.

They argue that the reason behind this finding is that larger firms are more likely to have sufficient resources to survive the Chapter 11 process or that larger firms are more likely to reorganise because they are more likely to be economically viable. White (1996), on the survey evidence on business bankruptcy, shows that larger firms are more likely to adopt a reorganisation plan in Chapter 11 and to continue operating as a going-concern.

In the UK, Pond (1997) shows that because of banks' efforts to avert failure, larger firms are more likely to emerge from distress than smaller firms because the larger the borrower, the greater the chance of the bank taking some action to avert failure and, to achieve this, larger companies have 'relationship managers' placed centrally or regionally and can obtain swift access to them. Lennox (1999), using a sample of UK listed companies, finds that the size of the firm is a significant factor in discriminating between firms that reorganise and those that liquidate and that larger firms are more likely to reorganise than smaller firms. Also, other studies in the UK (Geroski and Gregg, 1997; Bhattacharjee et al., 2002; Bunn and Redwood, 2003) have shown that size plays a key role in saving distressed firms, as larger firms are less likely to fail than smaller firms. On these bases, one can argue that larger firms are more likely to reorganise than smaller firms.

However, contrary to the above findings in relation to the significance of size in the reorganisation versus liquidation literature, Table 3.3 gives a summary of studies in which size is not found to have an effect on the likelihood of reorganisation by distressed firms. Casey et al., (1986) found that size is not a significant variable in discriminating between firms that reorganise and those that liquidate. In addition,

Table 3.3 also shows that the evidence provided by Hong (1983) indicates that size is not only insignificantly related to the probability of success, but that the size coefficient in the regression of reorganisation versus liquidation is also negative, i.e. reorganised firms are smaller than liquidated firms. However, despite the studies that show no apparent or even a negative relationship between size and probability of reorganisation, the general consensus with regard to the expectation is that larger firms are more likely to reorganise than smaller firms. Many studies find that size discriminates because it represents general economic variables (e.g. economies of scales) that exist across jurisdictions (LoPucki and Doherty, 2006). Thus, my expectation is that larger firms are more likely to reorganise than smaller firms.

Thus:

Hypothesis H2:

Distressed firms that are reorganised in administration are larger than those liquidated.

3.3.3: Liquidity and Solvency

There are two reference points regarding a firm's inability to pay debts: the cash flow and the balance sheet tests. According to the cash flow test (short-term distress), a company is insolvent when it is unable to pay its debts when they fall due. Altman (1983) labels the cash flow definition of insolvency as 'technical insolvency'. This relates to the liquidity of the company. Among other reasons, the lack of liquidity could cause companies to violate their debt covenants.

The balance sheet or asset test (long-term distress) considers whether the company's assets are insufficient to discharge its liabilities, taking into account its contingent and prospective liabilities. A balance sheet-based definition describes a firm with a negative economic net worth (net assets) as insolvent. This may involve assessing the value of the assets and judging the amount the asset would raise in the market (Finch, 2002). The balance sheet or assets tests relate to the solvency of the company.

Balance sheet and cash flow-based insolvency gives unpaid creditors the right to demand restructuring because their contract with the firm has been breached (Wruck, 1990). If the firm is insolvent on a balance sheet but not on a cash flow basis, its creditors have little power because their claims are paid to date.

The determinant of the long-term prospect of a firm can be related to its solvency risk rather than to its liquidity risk. The liquidity ratios speak of the firm's capacity to pay its debts in the short-term; the long-term solvency ratios consider the firm's capital structure and its ability to meet long-term financial commitments (Finch, 2002). There is a possibility that a firm could be liquid in the short-term but its long-term prospects are uncertain. Hence, its chances of reorganisation could be severely affected by the lack of solvency.

In the reorganisation and liquidation models, these two measures have proven to be significant in distinguishing between companies that liquidate and those that reorganise. Firms that reorganise are more solvent and liquid than those that liquidate. Table 3.6 provides empirical evidence on studies in the area of liquidity risk, solvency risk and the violation of debt covenants. Empirical evidence has shown the

importance of liquidity to the reorganisation prospects of firms (Fisher and Martel, 1995; Routledge and Gadenne, 2000). These authors claimed that the lack of liquidity precludes distressed firms from continuing operations without securing new financing (Bryan et al., 2002). The liquidity of the firm can also play a significant role in accepting a reorganisation plan by a creditor. Fisher and Martel (1995), using a sample of firms in Canada, examine what creditors consider to be important in determining whether reorganisation is likely to be viable and find that accepted plans include a substantial cash payment to creditors, which is considered a signal of future firm success. Given the evidence, they claim that reorganisation plans offering a high proportion of cash payments are more likely to be accepted by creditors, which finding was interpreted as evidence that cash is a signal of financial viability and an indication of liquidity. Bunn and Redwood (2003), using a sample of 29,361 public and private UK non-financial firms from 1991 to 2001, show that firms that reorganise have significantly higher liquidity than those that liquidate. The prospects of an improved cash payment under a reorganisation plan, made possible by the firm's short-term liquidity, may secure creditors' acceptance of the plan. Hence, companies likely to reorganise have significantly higher liquidity than those likely to liquidate.

Studies (Chen and Wei, 1993; and Routledge and Gadenne, 2000) have shown that creditors could waive debt covenant violation if the firm is solvent, which implies that distressed firms that are relatively more solvent stand a better chance of reorganising than those that are less solvent. Firms that emerge from bankruptcy exhibit greater solvency than firms that liquidate and the greatest proportion of firms that emerged from bankruptcy belong to the low-solvency risk group (Bryan et al., 2002). Bunn and

Redwood (2003) also show that firms that reorganise are more solvent than those that liquidate.

The overall conclusion from the above studies is that firms' liquidity and solvency levels are important discriminating factors between firms that reorganise and those that liquidate. The following hypotheses results:

Thus:

Hypothesis H3A:

Firms with relatively higher levels of liquidity are more likely to reorganise than those with lower levels of liquidity.

Hypothesis H3B:

Firms with relatively higher levels of solvency are more likely to reorganise than those with lower levels of solvency.

3.3.4: Ability to Raise Funds

The ability of a distressed firm to raise funds depends crucially on the existence of free assets and the existence of a holding company. Free assets are those assets that are not secured by previous borrowing by the firm. This section looks at these two aspects and their influence on the reorganisation prospects of the firm. The larger the proportion of free assets, the greater the chance the firm has to obtain the additional financing needed to emerge successfully from insolvency proceedings. Distressed firms with a significant level of free assets are more likely to attract new capital providers because these free assets can be used as security on the loans. Clementi and

Hopenhayn (2002) analyse the effect of borrowing constraints on firm growth and survival. They model a multi-period borrowing/lending relationship with asymmetric information and investigate the role of collateral on the probability of success. They argue that the provision of additional capital is costly when there is an increased risk of future liquidation of the company. They conclude that the larger the collateral of the firm, the more likely that banks will provide finance to the company. Based on their simulation exercise, they find that the company's chance of survival increases with collateral value.

Table 3.4 shows studies that have found the level of companies' free assets to be significantly related to reorganisation. Casey et al., (1986) empirically investigate the theoretical model proposed by White (1984) and find the level of free assets to be significant in distinguishing between firms that reorganise and those that liquidate. In addition to the above, other studies (Campbell, 1996; Routledge and Gadenne, 2000; Fisher and Martel, 2001; Hong, 1983) have also shown that the level of free assets has a significant positive effect on the probability that the firm will reorganise.

For reorganisation to succeed, firms should be able to generate funds internally or from external sources. Firms with holding companies stand a better chance of obtaining funds internally from that company than those without holding companies. Hence, firms with a holding company (i.e. the distressed firm is a subsidiary) are less likely to fail (Bunn and Redwood, 2003). Bunn and Redwood (2003) show that if a firm is a subsidiary, its probability of failure is 1.7 % lower than if it is not a subsidiary, all else held constant. The authors argue that a subsidiary in trouble can be bailed out by its holding company, which reduces the probability of failure for

subsidiaries. Therefore, these firms have better prospects to reorganise than firms without holding companies. Gautier and Hamadi (2004), using a sample of 434 Belgian and Luxembourg subsidiaries and 105 Belgian listed holding companies for the period from 1991 to 1996, investigate whether firms operate an internal capital market to transfer financial resources between their subsidiaries. They find that Belgian holding companies use coordinated centres to effectively transfer resources between their subsidiaries. These centres allow multinational groups to carry out a large variety of financial and management services on a tax-free basis; the principal activity of these centres is to finance investments of group members where the loaned funds may come from financial institutions or affiliate companies.

To conclude, the two areas that made up the ability of the firm to raise finance shows that firms with available free assets and those with a holding company are in a better position to secure the funds needed to reorganise.

Thus:

Hypothesis H4A:

Firms with a higher level of free (unencumbered) assets are more likely to reorganise than those with a lower level of free (unencumbered) assets.

Hypothesis H4B:

Firms, which are part of a group, are more likely to reorganise than those that are not group members.

3.3.5: Profitability and Earnings Prospects

For reorganisation to be worthwhile, the going-concern value of the firm should be greater than the liquidation value of its assets less costs of reorganisation. White (1984, 1989), in modelling the outcome of bankruptcy proceedings, demonstrates that firms that successfully reorganise have attractive earnings prospects. In some circumstances, past profitability (or level of economic distress, as referred to by Hotchkiss, 1995) may be a valid indicator of reasonable future earnings prospects. Optimally, when facing financial distress, economically viable firms should be able to renegotiate and continue operations (Chatterjee et al., 1996). A company with an underlying profitable business operation may become insolvent due to short-term cash flow problems associated with rapid expansion, and, as a result, could violate debt obligations.

Studies on the US debtor-oriented code on the reorganisation versus liquidation debate have been largely one-sided in the sense that firms that reorganise are more likely to have higher profitability than those that liquidate. Denis and Rogers (2002) conduct an empirical study with a sample of 224 Chapter 11 filings, from 1985 to 1994. Their aim is to establish the characteristics of firms that successfully reorganise under the US Chapter 11 reorganisation procedure. They find that reorganisation success is significantly and positively related to industry-adjusted firm operating profitability in the year prior to filing. Pindado et al., (2006) estimate the probability of financial distress for firms in various developed countries using financial data from 1990 to 1999. They find that the probability of financial distress falls with higher historical profitability, which can serve as a cushion to provide wider financial solutions to financial crises.

In addition to the US studies, some of the literature on the UK evidence, using listed companies (Lennox, 1999; Bhattacharjee et al., 2002) and a combination of both public and private companies (Geroski and Gregg, 1997; Bunn and Redwood, 2003) shows that profitability is a significant factor in determining the likelihood of successful reorganisation. Lennox (1999), using a sample of 949 UK listed companies over the period from 1987 to 1994, looks at the characteristics of companies that fail and those that reorganise. The author finds that profitability is a discriminating factor between failed and non-failed firms in the sense that firms likely to fail have lower profitability. Geroski and Gregg (1997), using a sample of UK public and private firms from 1988 to 1993, examine which factors determine the likelihood of a firm's failure. They define failure as a firm going into either administrative receivership or liquidation. Their results show that firms that are likely to fail have lower profitability than those that are not likely to fail. Using a larger sample over a longer period (relative to the sample and period used by Lennox (1999) and Geroski and Gregg (1997)), Bhattacharjee et al., (2002) examine a sample of 4,300 UK quoted companies over the period from 1965 to 1998. They find that the possibility of liquidation decreases with profitability. Bunn and Redwood (2003) also show that firms that survive have a significantly higher mean profit margin than firms that liquidate.

Thus, based on the prior literature and assuming that historical profitability is a reasonable indicator of future earnings:

Hypothesis H5:

Distressed firms with relatively better historical earnings are more likely to reorganise than to liquidate.

3.3.6: Economic Cycle

If the economy is performing well, the chance that a firm will be in distress due to poor market conditions is less than when the economy is not doing well. During good economic periods - even when firms become distressed - the chance of reorganisation is greater. Quoted companies' bankruptcies were particularly high during years when the economy turned down after a peak, and were lower during upturns in the business cycle (Bhattacharjee et al., 2002). Caballero and Hammour (1996), based on a sample of US firms between 1978 and 1997, show that the annual failure rate generally reflects the overall health of the economy, with relatively high failure rates during the recession of the early 1980s and lower rates during the expansion years of the mid 1990s.

Empirically, studies relating the macroeconomic environment to business performance in the UK have noted that movements in the aggregate failure rate of business establishments have coincided with changes in macroeconomic performance (Hudson, 1986). Over a business cycle, the rates at which firms exit their industries increase during downturns (Audretsch and Mahmood, 1995). This lends strong support to the view that firms are more likely to reorganise when the economy is doing well compared with times when the economy is in a downturn. Lennox (1999) finds that macroeconomic effects affect the likelihood of failure, and that improvement in the macroeconomic environment reduces the likelihood of failure. This was also supported by the findings of Bunn and Redwood (2003), who find that the macroeconomic conditions influence the individual firm-level probability of failure. The conclusion from these findings is that firms are more likely to reorganise when the economy is performing well than when it is doing badly.

Thus:

Hypothesis H6:

Firms in administration are more likely to reorganise when the economy is doing well than when the economy is experiencing a slowdown.

3.3.7: Time in Administration

Time is a crucial factor for firms that are already distressed and time spent in administration is a proxy for indirect bankruptcy cost. The longer a distressed firm takes in a reorganisation process, the more likely that delay may exacerbate both physical and financial risks on its assets. Firms that are more likely to reorganise spend less time in a reorganisation procedure (Morrison, 2006). The greater the uncertainty surrounding firm viability, the longer the firm is allowed to continue in Chapter 11. Morrison (2006) shows that among the 36 firms in his study that reorganised in Chapter 11, nearly two-thirds (23 firms) exited in less than one year, thus showing that firms likely to reorganise are more likely to spend less time in Chapter 11. Denis and Rodgers (2005) analysed the duration, outcome, and post-reorganisation performance of firms placed in the US Chapter 11 procedure between 1985 and 1994. They also find that firms likely to emerge as going-concerns spend less time in Chapter 11.

Given that administration is a reorganisation procedure, firms expected to reorganise are more likely to spend less time in administration than those that liquidate. This is both because firms that are able to reorganise are likely to emerge from administration

more quickly, and because shorter periods of administration reduce the indirect costs of distress and hence facilitate reorganisation[32].

Thus:

Hypothesis H7:

Firms expected to reorganise are more likely to spend less time in administration than those that liquidate.

3.3.8: Management Stability/Efficient Management Retention Hypothesis

The efficient management retention hypothesis predicts that higher quality managers have a higher chance of retaining their jobs when the firm experiences financial distress. Managers may have acquired firm-specific knowledge, which increases their value to the firm, which, in turn, would help reorganise distressed firms. In addition, the rate of change in top management[33] may serve as a signal for the quality of management in a firm. Pre-filing CEO turnover is the rate of CEO turnover prior to filing for bankruptcy. Pre-filing CEO turnovers reflect discipline by internal corporate governance mechanisms as well as the market for corporate control (Thorburn, 2000). Following poor performance, directors are expected to face pressure from institutional investors and large shareholders to leave their posts (Easterwood and Raheja, 2007). Directors may also attempt to abandon the firm in order to minimize damage to their

32 It should be noted that time spent in administration is only known once the procedure is completed so it is not strictly a determinant of the likelihood of reorganisation and liquidation in administration. I acknowledged that this is a limitation to the thesis.

33 Previous studies have defined top management as the directors of the company (Daily and Dalton, 1995; Thain and Goldthorpe, 1989), while other have restricted it to CEO, (Thorburn, 2000), CEO, president and chairman of the board (Gilson, 1989), or vice president and above (Hambrick and D'Aveni, 1992).

reputation, avoid legal liability, or escape the higher workload associated with underperforming firms (Fich and Shivdasani, 2006). Distressed firms with lower CEO turnover rates (i.e. a stable management structure) are more likely to retain managers with firm-specific knowledge and expertise. CEOs that are able to keep their jobs through a bankruptcy auction (a process where the distressed firm is sold to the highest bidder) are on average of a higher quality (Thorburn, 2000); therefore, their knowledge is a vital part of the reorganisation process.

Finch (2002) argues that not all directors of insolvent companies are unfit to continue to manage them or, indeed, to manage any other companies. There may be a number of reasons for corporate troubles that do not imply a lack of managerial competence. Hence, the insolvency practitioner must judge whether retention of managers will be detrimental to survival or vital for survival and whether managers and directors should be kept in their posts if they have expert knowledge (Pond, 1997).

CEO turnover rates have been investigated in different jurisdictions and the results show that there are significantly high turnover rates in distressed firms that eventually become bankrupt. The results on CEO turnover rates are also quite high for the US debtor-oriented type insolvency code. Hotchkiss (1995) finds that, at the time of filing, 55% of firms replaced CEOs that were in office two years prior to filing, while 70% were replaced by the end of the Chapter 11 proceedings. In addition, Gilson (1989) finds that of senior management in office two years prior to filing, only 45% remain in the year the firm files for Chapter 11, and only 29% remain two years later. In Sweden, where the bankruptcy laws provide for the auction of all bankrupt firms either as going-concerns or on piecemeal bases, Eckbo and Thorburn (2005), find that

in excess of one-third of the CEOs in place two years prior to filing are replaced when the firm files for bankruptcy. The above results might indicate that CEO turnover is directly related to poor performance of the company.

However, this might not always be the case. The efficient management retention hypothesis indicates that firms likely to reorganise should be able to retain managers with knowledge about the firm. Easterwood and Raheja (2007) study the effect of poor performance on directors and CEO turnover. They find that even though underperforming firms do replace directors, the rate at which experienced directors are replaced is lower compared to inexperienced directors, thus indicating low turnover rate among experienced CEOs[34].

Since the administration procedure is geared towards reorganising distressed firms, one expects such firms to have a more stable management structure, with managers having the necessary expertise to see the company through distress. The stability of management is crucial for firms that attempt reorganisation in administration. Companies that reorganise in administration are therefore more likely to retain competent directors than those that liquidate.

Thus:

Hypothesis H8:

Reorganised firms in administration have lower CEO turnover rates than those that liquidate.

34 In support of the view of Easterwood and Raheja (2007) that the turnover rate of experienced CEOs is low, Thorburn (2000) shows that efficient CEOs are more likely to retain their positions when the company becomes insolvent.

3.3.9: Relationship Banking in Administration

This section looks at the relationship between banks and the distressed firm as proxied by age of the firm and the effect of this on the outcome for firms that attempt to reorganise in administration. The link here is thus: the older the firm, the more likely the firm will be to reorganise rather than liquidate, as banks are more willing to negotiate due to their knowledge about the firm.

In the UK, Franks and Sussman (2005) show that a larger proportion of small and medium sized firms crucially depend on bank debt as a major source of finance. Banks generally develop relationships with firms. This relationship develops with time. For older firms, the banks have a clearer picture of the value of the assets of the firm, due to the bank's knowledge of management and the firm, making the bank more willing to make concessions in an informal renegotiation rather than seek repayment through formal bankruptcy (Davydenko and Franks, 2006). Firm size generally increases with age; survival increases with firm size, and failure rates decrease with firm age (Clementi and Hopenhayn, 2002); therefore, firm survival probability increases with age. Davydenko and Franks (2006) analyse a sample of small-to-medium sized firms that defaulted on their bank debts in France, Germany and the UK. Their results show that older firms are less likely to be liquidated piecemeal.

The failure rates and the probability of liquidation are likely to increase in the early stages of a firm's lifetime and decrease thereafter (Audretsch, 1991); further, when

failure rates are measured by month, the rates increase for most of the first year and decline thereafter (Bruderl et al., 1992).

New firms are generally characterised with very little or no retained earnings with which to finance their investments (Zarutskie, 2007), which characteristics would have a negative impact on their ability to survive or reorganise. Zarutskie (2007) studies the effects of bank competition on firm borrowing and investments. She presents evidence on the financial and real effects of bank competition following the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994, which increased the competitiveness of US banking markets, on a sample of large, privately-held firms. She examines whether bank competition affects the likelihood of bankruptcy, and hypothesises that younger firms are significantly more likely to exit the sample in response to greater bank competition because they receive less bank financing and are therefore more likely to fail. She finds that older firms are less likely to exit when bank competition increases because these firms receive more debt financing and are therefore less likely to fail. Firms between one and five years old are between 13% and 17% more likely to exit the sample than are firms aged 16 years or more.

In summary, as firms get older, the probability of liquidation falls, and older firms are less likely to liquidate when bank competition increases because these firms receive more debt financing than younger firms.

Thus:

Hypothesis H9:

Since older firms are more likely to have developed a better relationship with banks, they are in a much better position to reorganise than younger firms. Hence, firms that reorganise in administration are relatively older than firms that liquidate.

3.3.10: Conclusion

This section reviews the liquidation versus reorganisation literature. The aim of this part of the thesis is to investigate the outcome for firms that reorganise and for those that liquidate in administration following the implementation of the Insolvency Act 1986. The general findings of the literature are that firms that reorganise are more likely to be less financially distressed than those that liquidate. Even though these firms are financially distressed, however, they are relatively more liquid and solvent than those that liquidate; further, firms that are expected to reorganise are larger than those that liquidate. The efficient management retention hypothesis states that firms that reorganise are more likely to rely on the experience of high quality managers, since these managers have the expertise and firm-specific knowledge. Firms that reorganise are more likely to have higher levels of free assets than those that liquidate and firms with holding companies are more likely to reorganise than those without. Firms that reorganise are expected to have higher historical profitability than those that liquidate, and reorganisation is more likely to take place when the economy is doing well compared to times that the economy is in recession. In addition, firms that reorganise spend less time in the reorganisation process. Since this is a proxy for the indirect costs of bankruptcy, it can be concluded that firms that reorganise incur lower

bankruptcy costs than those that reorganise. Relationship banking shows that as firms get older, the banks have a clearer picture of the value of the assets of the firm, due to the bank's knowledge of management and that the banks' relationship with the firm and the knowledge about the firm will make the bank more willing to make concessions. Hence, older firms are more likely to reorganise than younger firms.

While the administration procedure was introduced mainly as a reorganisation mechanism for distressed firms, the results of this part of the thesis will show whether this new procedure is able to discriminate between those firms whose characteristics indicate that they are fundamentally viable and those that are not.

3.4: Review of Literature on 'The Subsequent Performance of UK Firms Reorganised in Administration'

The aim of this section is to investigate the characteristics of firms that reorganise in administration, and, in particular, the extent to which these firms' performance is better post-reorganisation than it is before reorganisation.

LoPucki (1983) presented empirical evidence showing that the success rate of firms entering bankruptcy reorganisation (since the new bankruptcy code in the US became effective in October 1979) is even lower than it was ten years earlier. She suggests that to improve matters:

'…future researchers should identify the characteristics of businesses which enable them to succeed in reorganisation proceedings with sufficient precision to reliably predict which will do so.'

It has been stated that one of the aims of an administration order is to enable distressed firms to reorganise and possibly to return to profitability and financial stability. However, there have been no studies on the UK insolvency code that investigate the extent to which administration actually achieves this goal. To investigate the reorganisation success (or lack thereof) during the administration procedure, this empirical chapter looks at the performance of firms that reorganise in administration, relative to a matched sample of firms in the same industries and of relatively the same size, using key proxies for liquidity, leverage, operating performance/profitability and assets and labour restructuring (downsizing), starting from two years before to three years after the appointment of the administration.

The key financial indicators will reveal whether companies that reorganise in administration are improving on their liquidity, leverage and operating performance/profitability, and whether there has been significant downsizing of reorganised firms relative to the matched sample of firms in the same industry and relatively the same size, two years before to three years after the appointment of the administrator. If there is no apparent improvement in the key financial indicators between companies that reorganise in administration and the matched sample of firms over the selected time frame, then the efficiency of the administration procedure in turning around distressed firms could be open to debate.

3.4.1 Liquidity and Leverage

The liquidity position of the company gives an indication of the ability of the company to be able to meet its short-term obligations as they fall due. Fisher and

Martel (1995) noted the significance of the liquidity level of the firm in order to secure creditors' acceptance of the reorganisation plan. Other studies (Comerford, 1976; and Routledge and Gadenne, 2000) have shown that firms that reorganise successfully are more liquid than those that liquidate. Hence, given that firms that reorganise in administration are more distressed (relative to the matched sample of firms), reorganised firms are expected to have lower liquidity before the appointment of the administrator. However, for periods after the appointment of the administrator, reorganised firms are expected to improve on their liquidity (relative to the matched sample of firms) if the administration procedure is successful in reviving distressed firms.

Leverage measures the proportion of debt in the company's capital structure. Distressed firms that reorganise generally have higher leverage relative to other firms that operate in the same industry. Kalay et al., (2007), using a sample of firms that reorganise in the US Chapter 11, show that the divergence between their sample firms' leverage and the median industry leverage starts early, and by the seventh year prior to filing for Chapter 11, the sample firms are significantly more levered than the industry median. By the fiscal year-end prior to filing for Chapter 11, the median sample distressed firm has a total debt to total assets ratio that significantly exceeds the industry median. Hence, firms that reorganise in administration are expected to have significantly higher leverage than their matched sample of firms in the years prior to reorganisation.

After the appointment of the administrator, successful reorganisation requires (among other things) finance to support the firm in its attempt to get back to its 'normal'

operating activities. Hence, firms tend to emerge from bankruptcy with debt ratios still above their industry medians (Gilson, 1993). Although financially distressed firms may be unable to obtain financing before bankruptcy, after filing for bankruptcy, the long-term debt ratio increases significantly (Datta and Iskandar-Datta, 1995). Firms that reorganise can undertake financial restructuring which involves (among other things) debt-for-equity substitution. Datta and Iskandar-Datta (1995), using a sample of firms that filed for bankruptcy in the US, show that firms that file for bankruptcy engage in different forms of restructuring, including extention of maturity, waiver of debt covenants, deferring loan payments, debt-for-equity swaps. However, given that reorganised firms are already highly levered prior to the appointment of the administrator, the implication is that – post-appointment of the administrator - distressed firms that reorganise in administration will continue to have higher leverage relative to matched sample firms.

Thus:

Hypothesis 1A:

Firms that reorganise in administration are expected to have lower liquidity than matched sample firms prior to the appointment of the administrator. However, thereafter, if the administration procedure is successful in reorganising distressed firms, then reorganised firms are expected to improve on their liquidity relative to the matched sample of firms.

Hypothesis 1B:

Firms that reorganise in administration are expected to have higher leverage than matched sample firms prior to the appointment of the administrator. However, thereafter, because of the need for finance in reorganisation, reorganised firms are expected to continue to have higher leverage relative to the matched sample of firms in the same industry.

3.4.2 Operating Performance/Profitability

White's (1984, 1989) theoretical model of the outcome of bankruptcy proceedings argues that firms that successfully reorganise have attractive earnings prospects. Firms that reorganise are therefore more likely to improve on their profitability as time progresses.

Studies have shown that - prior to filing for bankruptcy - firms that reorganise have poorer operating performance (measured by profitability) than the average firms in the industries in which they operate. Kalay et al., (2007) examined a sample of 457 firms filing for Chapter 11 during the period from 1991 to 1998. They find that from four years prior to filing to the year of filing their sample firms experience declines in operating performance relative to the industry's average.

Studies have also reported significant turnaround for firms that emerge from bankruptcy. In his analysis of the post-distress operating performance of a sample of 35 firms that overcome financial distress and remain independent, Kahl (2002) finds that the median sample firm has a strongly positive post-distress operating

performance. The industry-adjusted performance shows that the sample firms seem to perform roughly as well as their 2-digit SIC code industry median since the industry-adjusted return on assets is never statistically significantly different from zero at any conventional significant level. Kalay et al., (2007) also find that firms that are placed in Chapter 11 experience improvements in operating performance during bankruptcy, that the decline in operating performance is arrested at the first fiscal quarter immediately following the Chapter 11 filing, and that subsequent to the first fiscal quarter, the operating performance for their sample firms shows a significant increase.

However, some studies (Hotchkiss, 1995; Alderson and Betker, 1995) show firms that emerge from bankruptcy under the US code underperform their industries on the basis of median operating profit margin during the first years (Alderson and Betker, 1995), and five years following reorganisation (Hotchkiss, 1995), which findings may indicate inefficiency in the selection process (Kahl, 2002).

The above studies suggest that, prior to the appointment of the administrator, reorganised firms in administration should have lower operating performance relative to firms in the same industries and of relatively the same size. However, during the post-appointment periods, firms that reorganise in administration are expected to show improvements in operating performance relative to the matched sample firms in their industries.

Thus:

Hypothesis 2:

Firms that reorganise in administration are expected to have poorer operating performance than the matched sample prior to the appointment of the administrator. However, thereafter, reorganised firms are expected to improve on their operating performance relative to the matched sample of firms in the same industry.

3.4.3. Restructuring/Downsizing

There are different forms of restructuring (e.g. financial, asset, governance, and labour) that distressed firms can undertake. However, this section focuses only on asset and labour restructuring of reorganised firms relative to the matched sample of firms.

Arogyaswamy and Yasai-Ardekani (1997) investigated the role that cutbacks, efficiency improvements and investment in technology play in the turnaround process. They find that cutbacks and increases in efficiency were important factors for successful turnarounds, as these actions improved profitability in the short-run and allowed the company to release resources that may have been used elsewhere. Studies (Hambrick and Schecter, 1983; Robbins and Pearce, 1992; Chowdhury and Lang, 1996) have shown that efficiency-oriented restructuring attempts by distressed firms were associated with successful turnaround and that downsizing is normally a critical factor in such strategies.

Financially distressed firms can divest assets in order to raise cash as an alternative to issuing securities (Shleifer and Vishny, 1992) and the cash generated from asset sales can then be used to pay down debt and avoid default. In addition, asset divestitures and plant closings may refocus firm energies on business segments where the firm has a comparative advantage (Datta and Iskandar-Datta, 1995).

Datta and Iskandar-Datta (1995) find that firms that reorganise in the US Chapter 11 undertake asset sales both before and after filing for bankruptcy. Before bankruptcy filing, 64.44% of the sample firms engaged in asset restructuring by divesting or spinning off assets, and during bankruptcy, 62.96% of the firms engaged in divestitures. Kalay et al., (2007) show that ten years prior to filing, the sample firms have assets greater than the median firms in their respective industries. However, as the firms approach bankruptcy, the sample firms significantly reduce in size. The implication from the above is that firms that reorganise in administration are expected to downsize, both before and after the appointment of the administrator, relative to the matched sample of firms.

Labour restructuring relates to changes in labour contracts, including employee layoffs, wage concessions, and retiree concessions. This section, however, focuses on employee layoffs, as data on wage concessions and retiree concessions are not available from the FAME Database. Since labour represents a large proportion of the costs in many corporations, recontracting with present employees has the potential to improve the financial condition of the firm. Datta and Iskandar-Datta (1995) show that during the pre-filing period, 21.48% of the sample firms reduced employment, and during the post-filing period, 18.52% reduced employment. Kalay et al., (2007)

show that the sample firms significantly reduce the number of employees over the Chapter 11 period.

The implications from this are that firms that reorganise in administration are expected to reduce their labour force relative to the matched sample firms both before and after the appointment of the administrator.

Thus:

Hypothesis 3:

Firms that reorganise in administration are expected to undertake asset and labour restructuring both before and after the appointment of the administrator relative to the matched sample of firms.

3.4.4: Conclusion

The conclusion from the literature review shows that, on average, firms that reorganise have lower liquidity and higher leverage than their industry counterparts and these firms have worse operating performance relative to other firms in the industry before filing for bankruptcy. However, the operating performance and liquidity of reorganised firms significantly improves but leverage deteriorates after filing for bankruptcy. Firms that reorganise also engage in significant asset and labour restructuring both before and after filing for bankruptcy.

The contribution of the thesis to the previous literature on the effectiveness of insolvency codes is to apply these factors – liquidity, solvency, operating performance/profitability and restructuring (downsizing) – to investigate the success

of the administration procedure in the UK, by undertaking a comparative analysis of firms that reorganise in administration relative to a matched sample of firms in the same industries and of relatively the same size.

CHAPTER 4:

DATA AND METHODOLOGY

4.1 Introduction

This chapter describes the data and methodology. It starts with a description of the data, including the sample source, sample period and proxy variables for each empirical chapter.

4.2 Data, Sample Source and Period

This section is organised according to the three empirical chapters in the thesis.

4.2.1 Determinants of the Resolution Form Between Administration and Administrative Receivership in the UK.

This chapter investigates the choice of the resolution form between administration and administrative receivership in the UK. The aim is to develop models, using information from financial statements and other variables that explain why distressed firms are placed in either administration or administrative receivership. The decision to put a company into administrative receivership implies that all companies have a floating charge. However, because firms in administration can have fixed charges and floating charges, the administration sample will include only firms with floating charge holders. The reason for this is that if the distressed company in administration does not have a floating charge, then there is no choice to be made about whether the company should be placed in administration or administrative receivership. The issue

of choice comes into effect only when there is a floating charge since it is the floating charge holder who can either allow the company to be placed in administration or veto the appointment of the administrator and appoint an administrative receiver instead.

Information Needed

In this chapter, I select companies that were placed in administration and administrative receivership between 1 January 1996 and 31 December 2001. Both financial statements and non-financial statement variables are used in the analysis. Accounting variables relate to financial ratios collected from financial statements for the last two years prior to the appointment of the administrator or the administrative receiver. Financial ratios that proxy for indirect bankruptcy costs, information asymmetry, intangibles, ability to generate funds, growth and creditors' complexity were used to form models that attempt to explain the choice of the resolution form between administration and administrative receivership.

Sample Sources

The main data sources used in this study are the Insolvency Database (www.insolvency.co.uk), Financial Analysis Made Easy (FAME) and Companies House Direct. Each of these is now described.

Insolvency Database

The Insolvency Database in general provides information on companies that were placed in administrative receivership, administration and liquidation over the period from 1996 to 2001. For example, all companies placed in administration and administrative receivership in England and Wales are arranged in alphabetical and numerical (year) order. For companies in the administration and administrative receivership sample, the database provides the names of the companies, along with the date on which the administrative receivers and administrators were appointed. It also provides the names of the banks that appointed the administrative receivers and the administrators. The reliability of the information provided by this database was checked with information provided by the Financial Analysis Made Easy (FAME) Database and Companies House Direct.

Financial Analysis Made Easy (FAME) Database

After obtaining the names of the companies from the Insolvency Database, financial statements and non-financial statement information on these companies were obtained from the FAME Database. The FAME Database provides income statements and balance sheet information. It also provides non-accounting information relating to the company type, incorporation date, registration number, company status, document filings dates, document filing types.

The 'short particulars' section in the FAME Database provides information on the type of charges – fixed, floating, fixed and floating – which information facilitates three key functions. The first is that it helps select all companies with floating charges in administration because there are some companies in administration with just fixed

charges and no floating charges which are excluded from the sample. Second, the information provided on the types of charges facilitates comparisons between floating and fixed charges in both administration and administrative receivership as shown in Figures 4.1 and 4.2. Third, the information helps to investigate the hypothesis on creditors' complexity in the UK code. In addition, where a holding company and its subsidiary are both put into either administration or administrative receivership, the subsidiary company was deleted from the data set in order to avoid the problem of double counting, as the holding company's group financial statements already would reflect those of the subsidiary. A company is classified as a subsidiary when a significant number (50% or greater) of its voting shares is held by the parent company and the parent has control over the subsidiary.[35] The accounting rules are that all of the assets, liabilities, income and expenses of the subsidiary are included in the group's financial statements, which therefore justifies the exclusion of subsidiaries from the data set.

The initial sample consists of all companies placed in either administration or administrative receivership from 1st January 1996 to 31st December 2001 and includes 7,358 companies entering administrative receivership and 2,066 companies entering administration. It is important to note that data availability is a considerable restriction for research in this area due to lack of complete data - especially for small companies in which the reported financial statements are limited to key financial data required to be provided by law. The financial statements provided in the FAME Database are thus incomplete because, in a majority of the cases, the income statements' information is not provided. Table 5.1 shows that of the 2,066 administration orders between 1996

35 There are also other conditions set by International Accounting Standards (IAS 27). For example, the holding company controls more than 50% of the votes in the subsidiary via agreements with other investors.

and 2001, only 499 (24.15%) and 781 (37.80%) have income statement (turnover) and balance sheet (total assets) information two years prior to the appointment of the administrator. For the administrative receivership cases, of the 7,358 cases over the same period, only 1936 (26.31%) and 3161 (42.96%) have income statement (turnover) and balance sheet (total assets) information two years prior to the appointment of the administrative receiver. When firms are financially distressed, few parameters in the financial statements are reported. As companies become distressed, there is the possibility that some will produce less information, while others will produce nothing in the year prior to the appointment of the administrator or administrative receiver. Hence, using financial statements two years prior to the appointment of the administrator or administrative receiver increases the sample size primarily to overcome the problem of companies publishing less information as they approach distress.

Companies House Direct

This database provides the names of companies and information on the dates of incorporation, SIC Codes, and dates of appointment and discharge of the administrator or administrative receiver. The dates of appointment and discharge permit calculation of the time spent in administration and administrative receivership, a proxy variable for the indirect bankruptcy cost in the model.

Sample Period

My sample period includes all companies with financial accounting information that were placed in administration and administrative receivership from 1st January 1996

to 31st December 2001. The sample period starts from 1996 because this is the year from which the Insolvency Database has information for companies placed into these procedures. The reason for selecting a cut-off year of 2001 is because of the pending introduction of the Enterprise Act 2002, as I only wanted to include years that will not be affected by the change in the legislation. Selecting a period after 2001 may have given rise to a sample that is significantly biased towards administrative receivership, as banks could have been rushing to place firms in administrative receivership before the Enterprise Act 2002 became effective in 2003, when the floating charge holders would no longer be able to appoint an administrative receiver.

4.2.2. The Characteristics of Firms Entering Administration in the UK and the Difference Between Those Reorganising Compared with Those Liquidating.

This chapter focuses on the administration procedure as a rescue vehicle in the UK. It examines the outcome of firms placed in administration between January 1996 and December 2001, with a view to examining the characteristics of companies that reorganise as compared with those that fail in administration.

Information Needed

Firms placed in administration can either reorganise or liquidate. Since this chapter investigates the characteristics of companies that reorganise or liquidate, information on the document filings by distressed firms is important. The document filing date and document filing type in the FAME Database provide information on filing relating the change of directors before or after the appointment of the administrator. This

information was needed in estimating directors' turnover for the models. In order to test the relationship banking hypothesis information on the date of incorporation and the date of appointment of the administrator is needed. In addition, the Companies House Direct Database also provides information on the date of discharge of the administrator and the date of administration order, which serves as a proxy for the time spent in administration. The financial variables selected for the models examine issues relating to the level of distress, size, liquidity, solvency, ability to raise funds, profitability and growth prospects.

Sample Sources

The sample sources are identical to those of Section 4.2.1 above. The names of companies were obtained from the Insolvency Database. Financial information was obtained from the FAME Database and Companies House Direct.

Sample Period

The period includes all companies that were placed in administration that either survived or liquidated from the period of January 1996 to December 2001. The reason for my choice of sample period is stated above (see Section 4.2.1).

4.2.3. The Subsequent Performance of UK Firms Reorganised in Administration.

This chapter investigates the performance of UK firms that reorganise in administration relative to a matched sample of firms of the same size and in the same

industry as the distressed firm.[36] Chapter 7 uses ratios as proxies for the level of liquidity, leverage, operating performance/profitability and labour and assets restructuring (downsizing) to assess the relative performance of a sample of reorganised firms in administration relative to the matched sample firms.

Information Needed

The information needed for this analysis are financial accounting variables mainly contained within the financial statements of firms to proxy for liquidity, solvency, operating performance/profitability and assets and labour restructuring (downsising). Information is also needed on the SIC codes of the distressed firms in order to obtain a matched sample of firms in the same industry. The SIC codes for each company that reorganised were obtained from the Company House Direct and FAME Databases.

Sample Sources

The sample sources are identical to those of Section 4.2.1 above. The names of companies were obtained from the Insolvency Database. Financial data for the reorganised companies and the matched sample of firms were obtained from the FAME and Companies House Direct Databases.

Sample Period

The sample period includes all companies that were placed in administration from January 1996 to December 2001.

36 The matching process used is explained in Section 4.7.

4.3: Overview of the Data

This section provides a general analysis of the data used in the thesis. Table 1.1 shows the number of companies in administration and administrative receivership from 1990 to 2002. This sample gives an indication of the significance of the creditor-oriented system in the UK, in which secured creditors exercise their power by placing distressed companies in administrative receivership. Almost 16 years (from 1986 to 2002) after the introduction of a reorganisation procedure in the UK, the uptake of the administration procedure could be described as disappointing - as shown in Table 1.1. The table shows that less than 10% (3,960 of 49,815) of all administration and administrative receivership appointments in the UK between 1990 and 2002 were placed in administration. The relatively small percentage of companies placed into administration was cited as one of the reasons that the government introduced the Enterprise Act 2002, which had the aim of increasing the number of companies placed into administration by eliminating the administrative receivership procedure**.** Figures 1.1 and 1.2 plot the numbers of companies in both administration and administrative receivership from 1990 to 2002, respectively. Figure 1.1 depicts a positive trend in the number of cases placed in administration over the years, with the exception of a fall in 1993 and in 2002. On the other hand, Figure 1.2 shows that the number of companies placed in administrative receivership from 1990 to 1992 increased, but thereafter the number of companies has been declining over the years. Thus, the information obtained from the Department of Trade and Industry shows that from 1996 to 2001, the number of companies placed in administration increased by more than 232.38% (from 210 cases in 1996 to 698 cases in 2001), whereas the number of companies placed into administrative receivership fell by almost 29.14% (from 2701 cases in

1996 to 1914 cases in 2001). Given the trend in the number of administration and administrative receivership cases as shown in both Figures 1.1 and 1.2, the question is whether this trend indicates that banks, over the years, are now beginning to realise the potential of the administration procedure and are willing to allow companies to be placed in administration or are the floating charge holders actually preparing for the introduction of the Enterprise Act, 2002. Katz and Mumford (2002) find that some floating charge holders and their advisers have become increasingly willing to consider administration, which could be a possible reason for the trend shown above.

Figures 4.1 and 4.2 plot the numbers of secured creditors with floating charges and fixed charges as a percentage of the total number of secured creditors, respectively. The idea is to have a feel of the distribution of secured creditors in both procedures. Figure 4.1 show that, over the years, the proportion of secured creditors with floating charges to the total number of secured creditors is higher for firms placed in administrative receivership than for those placed in administration. This shows that administrative receivership has been the main route for secured creditors with floating charges. Figure 4.2 shows that the proportion of secured creditors with fixed charges to the total number of secured creditors for companies placed in administrative receivership steadily fell over time, whereas those placed in administration fell sharply from 1996 to 1997, increased in 1998, and have been increasing steadily thereafter. Hence, the figures indicate that, secured creditors in administrative receivership appear to have become more interested in control of the distressed firm via appointment of an administrative receiver rather than priority of payment, which would be obtained via a fixed charge. The reason is that because the fixed charge have priority of payment over other creditors and floating charge holders have the power to

gain control of the distressed firm, the decrease in the proportion of secured creditors with fixed charges and the increase in the proportion of secured creditors with floating charges, to the total number of secured creditors, indicates that secured creditors in administrative receivership are more interested in gaining control rather than enjoying priority of payment.

Having a floating charge gives the charge holder control to have an administrative receiver in place of the management of the company or the administrator. Such reasons typically include ease of communication and processes of approval between the office holder and his appointor, selection of office holder and avoidance of matters not relevant to the floating charge holder.

4.4 Methodology

This section describes the procedures and tests used in the following empirical chapters. Many of the choices that firms and individuals make are either/or in nature. For example, a firm may decide to advertise its product on the internet or it may decide against such advertising. Economists and practitioners alike are interested in explaining why particular choices are made and what factors enter into the decision-making process. Choices such as that above can be represented by a binary dependent variable that takes the value of 1 if one outcome is chosen, and 0 otherwise. The presence of a binary dependent variable will affect the choice of the statistical model to be used to analyse the data. The models available for much analysis are the linear probability model, multiple discriminant analysis (MDA), the probit model and the logistic model. These four models are considered in the following sections.

4.4.1 Linear Probability Model

For models with binary dependent variables, the usual Ordinary Least Squares (OLS) is not the best method to estimate the coefficients of the variables in the regression. Instead, maximum likelihood estimation is the most appropriate. Why is the OLS estimation method not appropriate when we have a binary dependent variable? Let us denote the binary dependent variable as *y* and the independent variables as *x.* If the outcome of the dependent variable is unknown until the sample is drawn, then this means that the variable *y* is a random variable. Given that this random variable *y* is a binary variable, which takes the value of 1 or 0, then the probability function of *y* can be expressed as:

$$f(y) = p^{y}(1 - p)^{1-y}$$

y = 0, 1, and *p* is the probability that *y* takes a value of 1.

The determinants of the random variable are the independent variables (denoted as *Xs).* For simplicity, if we assume there to be just one independent variable, *x*, and a positive and linear relationship between *x* and the dependent variable *y*, then the relationship between these two variables would be expressed as:

$$y = E(y) + e$$

$$y = \beta_1 + \beta_2 x + e$$

where $E(y) = \beta_1 + \beta_2 x$

The linear regression model above is called the linear probability model (Hill et al., 2001). With the presence of a binary dependent variable, if the parameters (β_1 and β_2) are estimated using OLS, then we will obtain estimates of the parameters that would enable us to form a fitted model that will explain *y* by using different values of the independent variable *x*. The problem lies with the use of different values of *x*, given the estimated parameters from OLS, to obtain the dependent variable *y*. If we substitute values of *x* in the equation, then we can easily obtain values or probabilities that are less than 0 or greater than 1. However, the rules of probability state that their values should lie between 0 and 1, as any probability that lies outside this boundary would not make any sense. Thus, the binary dependent variable cannot be estimated using OLS.

4.4.2 Multiple Discriminant Analysis (MDA)

The MDA approach has been the most popular technique for bankruptcy studies using vectors of predictors. It has been utilised in a variety of disciplines since its first application in the 1930s and recently it has been applied successfully to financial problems such as consumer credit evaluation and investment classification (Altman, 1968). Altman (1968) provided the first multivariate analysis of bankruptcy using MDA with financial ratios. He established a function which best discriminates between companies in two mutually exclusive groups: bankrupt and non-bankrupt firms. Using MDA, he combined five financial ratios into a single predictive equation to produce the Z-Score of a company. Altman chooses a cut-off Z-Score for his model, and if a firm has a Z-Score below the cut-off point, such a firm is expected to fail.

Problems with MDA

Overall, Z-Score models have been criticised frequently. Some have argued that there is no accounting theory behind the variables used and that the whole procedure is an exercise in data mining. The model does not predict bankruptcy, it is argued, but merely raise questions regarding the financial health of the firm. However, at a pragmatic level, Z-Scores seem to have some value that helps lead to better decisions compared with a simple univariate ratio analysis (Altman 2000). Altman (2000) states that MDA, in its most simple form, attempts to derive a linear combination of characteristics that 'best' discriminates between two groups. He further stresses that the MDA technique has the advantage of considering an entire profile of characteristics common to the relevant firms as well as the interaction between these properties. Combinations of ratios can be analysed together in order to remove possible ambiguities and misclassifications.

Statistical Requirements

Beside the problems associated with the Z-Score, the major problems with MDA lie in its statistical requirements and the matching process it adopts. MDA imposes some statistical requirements on the distributional properties of the predictors. For example, the variance-covariance matrices of the predictors should be the same for both groups (i.e. the failed and non-failed firms) when matching failed and non-failed firms. In addition, MDA is based on the assumption that the variables are normally distributed (Altman and Eisenbeis, 1978). If the distributions of the ratios are non-normal, this can affect the efficiency of the various statistical methods that are usually employed

(Mensah, 1983). This requirement limits the use of dummy variables as independent variables in the regression. Ohlson (1980), using a US sample from 1970 to 1976, shows that (with the exception of size) the standard deviations of the predictors are larger for the bankrupt firms compared to non-bankrupt firms. These differences are significant at the 5% level or better. The implication of this is that the standard assumption of normally distributed predictors is violated because of the significant difference between the standard deviations of the bankrupt and non-bankrupt firms. Hence, the use of MDA as a methodology is not appropriate in my sample.

The Matching Procedures

There are also problems relating to the matching procedures that have typically been used in MDA. Failed and non-failed firms are matched according to certain criteria such as size and industry. At the very least, it would seem to be more fruitful to include these variables (i.e size and industry classification) as predictors rather than to use them for matching purposes. Hence, with the exception of Chapter 7 (which looks at the subsequent performance of the UK firms that reorganised in administration) the size factor would be included as part of the independent variables rather than used to match firms.

4.4.3 Probit Model

As discussed in Section 4.4.1, the linear probability model gives rise to probabilities that could be less than 0 or greater than 1. Because the probability has to be between the interval [0,1] rather than an assumed linear relationship between x and the

probability, *p*, a non-linear S-shaped relationship could be used. On the S-shaped graph, the independent variable would be plotted on the *X*-axis and the probabilities, *p*, on the *Y*-axis. With the S-shaped curve, as the independent variable, *x*, increases, the probability rises rapidly at first and then begins to increase at a decreasing rate. Along the curve, an increase or a decrease in the value of the independent variable will correspond to a change in the probability on the *Y*-axis. This will constrain the probability to the interval [0,1]; the functional form that is used to represent such a curve is the probit function. The probit function is related to the standard normal probability distribution. The probit model expresses the probability, *p*, that *y* takes the value 1 to be:

$$p = p[z \leq \beta_1 + \beta_2 x]$$

$$p = F(\beta_1 + \beta_2 x)$$

The above equation is a non-linear function of β_1 and β_2 and because these coefficients are unknown, they have to be estimated using maximum likelihood estimates, which is a slightly different approach than the OLS estimation method. In addition, in large samples, the maximum likelihood estimator is normally distributed, consistent, and best (in the sense that no competing estimator has smaller variances) (Hill et al., 2001). This shows that with a binary dependent variable, the probit model can be used to estimate the probabilities of events.

Problem with the Probit Model

However, it should be noted that the use of the probit model makes assumptions about the independent variables in the model. The key assumption of the probit model is that it assumes normality. If this assumption is violated, then the estimates of the probit model become very difficult to rely on. The assumption of normality, as in MDA, would pose problems when using financial accounting variables that are not normally distributed.

4.4.4 Logistic Model

Probit model estimation is numerically complicated because it is based on a normal distribution. A frequently used alternative to the probit model when one has a binary dependent variable is the logistic model. The cumulative distribution function, unlike the normal distribution in the probit model, has a closed form expression, which makes analysis somewhat easier. The cumulative distribution function for a logistic random variable, *L*, is:

$$F(\imath) = p(L \leq \tau)$$

$$F(\imath) = (1/1 + \ell^{-\tau})$$

In the logistic model, the probability, *p*, that the observed value *y* takes the value 1 is

$$P = p(L \leq \beta_1 + \beta_2 x)$$

$$P = F(\beta_1 + \beta_2 x)$$

$$P = (1/1 + \ell^{-(\beta 1 + \beta 2\, x)})$$

The above equation is the maximum likelihood estimation of the logistic model. And, like in the probit model, the maximum likelihood estimation procedure would be used to estimate $\beta_1 + \beta_2$.

The probit and logit models differ only in the particular S-shaped curve used to constrain probabilities to the [0,1] interval. The main difference between the logistic and the probit models is that the error term in the probit model follows a normal distribution and the variance is therefore normalised to be equal to 1. Hence, the estimated coefficients of these two models are different. One cannot directly compare the estimates of the logistic and the probit regressions without some adjustments.

How Does the Logistic Model Overcome the Problems of Both the MDA and the Probit Model?

The use of conditional logistic analysis essentially avoids all of the problems discussed with respect to MDA (Ohlson, 1980). The fundamental estimation problem can be simply reduced to the following statements: given that a firm belongs to some pre-specified population, what is the probability that the firm fails within some pre-specified time period (Ohlson, 1980)? When related to my area of study, given that a firm is distressed, what is the probability that the firm is going to be placed in administration or in administrative receivership? Also, given that the firm is already in administration, what is the probability that it will be liquidated or survive? Unlike the MDA and the probit models, with logistic analysis, no assumptions have to be

made regarding prior probabilities or the distribution of the predictors. The statistical significance of the predictors in the model is obtained from asymptotic (large sample) theory. Mensah (1983), for example, selected the logistic regression as his methodology because it permits the statistical significance of each of the variables in the model to be evaluated independently.

Unequal Sample Sizes

In any set of samples, it is a common occurrence that the number of observations in both categories (e.g. administration and administrative receivership samples) are not equal. The regression will therefore involve samples of two groups with unequal sample sizes. In such a case, the question arises as to how one should analyse the data.

There are also suggestions that when faced with unequal sampling sizes, one should use a weighted logistic or probit model similar to the weighted least squares method when faced with heteroskedasticity (Maddala, 2001). However, the decision regarding whether the sample should or should not be adjusted depends on the methodology adopted to test the data. The usual logistic model can be used without any change when the samples are unequal; further, the results obtained from unequal samples are valid for the logistic regression but not for the probit model or the linear probability model (Maddala, 2001). If the logistic model is used, the coefficients are not affected by unequal samples. The only variable that is affected is the constant term, and this can be adjusted to reflect the effect of the difference in the sample sizes. Maddala (2001) argues that the constant term has to be adjusted by the term ($\log p1 - \log p2$), where *p1* and *p2* are the proportions of observations chosen from the two samples for

which the dependent variable is equal to 1 and 0 respectively, and the logarithm (log) is the natural logarithm. Maddala (2001) also states that weighting the observations is clearly not an appropriate solution, and if the purpose of the test is to examine which variables are significant, then there should not be changes in the estimated coefficients for the logistic regression. However, if the estimated model is going to be used for predictive purposes, then an adjustment to the constant term, as suggested above, is necessary.

4.5 Variables Used in the Chapter on 'Determinants of the Resolution Form Between Administration and Administrative Receivership in the UK'

In investigating the characteristics of firms that enter administration and administrative receivership, I used a binary dependent variable that takes the value of 1 if the firm is placed in administration and 0 if the firm is placed in administrative receivership. Table 5.2 displays the hypotheses and defines the explanatory variables. It also contains the expected sign of each variable in the model. Each of the financial dimensions is operationalised by financial ratios or proxy variables generally represented by one selected ratio, an approach suggested by Chen and Shimerda (1981). This approach avoids problems associated with correlation between explanatory variables.

Various proxies have been selected as independent variables in the analysis. The indirect bankruptcy cost is proxied by the time spent in administration or administrative receivership (TIME). The assumption is that the longer the firm takes in an insolvency procedure, the higher the indirect costs will be. The information

asymmetry is proxied by the natural logarithm of the total assets (LNTOTA). A binary measure of intangibles was used to investigate the effect of intangibles on the choice of the resolution form of distressed firms. The variable, INDMY, is a dummy that takes a value 1 if the company is in a high-technology industry and 0 otherwise. The assumption is that high-technology companies have higher levels of intangible assets and, as such, these firms are more likely candidates for reorganisation, as there are fewer assets to realise.

Two variables were used to capture the ability of firms to generate funds: the level of free assets and a dummy variable that represents the presence of a holding company. The level of free assets is proxied by logarithm of tangible assets to total liabilities (i.e. LNTANGTL). Using tangible assets rather than total assets is more appropriate as it proxies for the physical assets available to the firm. Total assets could include the value of certain intangibles, that are non-physical in nature and therefore not available as collateral. The definition used implies that firms with higher logarithm of tangible assets to total liabilities have higher levels of free assets at their disposal upon which future liabilities can be secured. Hence, firms with higher levels of free assets should have higher logarithm of tangible assets to total liabilities. Although studies by Casey et al., (1986), Campbell (1996) and Routledge and Gadenne (2000) all find this variable to be a significant predictor of corporate recovery, they differed in the way they define free assets. Casey et al., (1986) defined free assets as non-collateralised assets to total tangible assets. Campbell's (1996) definition of free assets is non-pledged assets, whereas Routledge and Gadenne (2000) define free assets as total assets to total liabilities. Casey et al.,'s (1986) definition is technically the most sound as it identifies the amount of assets that can be used as collateral for future financing.

However, for this thesis, the limitation of the data contained within the annual reports, makes it impossible to identify which assets were used as collateral for secured loans.

The presence of a holding company is represented by a dummy variable, DHLD, which takes the value of 1 if the distressed firm has a holding company and 0 otherwise. Bunn and Redwood (2003) use a holding company dummy in their model of firm failure to show that firms with a holding company are less likely to fail. For distressed firms with holding companies, the assumption is that these firms could have unused debt capacity which would allow the distressed firms to borrow. As a result, the holding company can help raise the funds required for reorganisation by the distressed firm.

To capture the level of growth in the economy (G), I estimated the growth rates for the FTSE All Share Price Index for each of the six-year period from 1996 to 2001. I used the growth in the index in the year the firm entered administration or administrative receivership as compared with the year before. The assumption is that the growth rates in the FTSE All Share Index would proxy for the growth levels in the economy in general.

Three variables were used to test the creditors' complexity problem, two of which proxy for secured creditors and one for unsecured creditors. The secured creditors were separated into those with floating charges and those with fixed charges. As a proxy for the proportion of the floating charge creditors, FCP (defined as the number of secured creditors with floating charges as a percentage of the total number of secured creditors) and the proportion of fixed charge creditors, FXCP (defined as the

number of secured creditors with fixed charges as a percentage of the number of secured creditors) were used. Defining the floating and fixed charge proportions in this way essentially captures the concentration of the floating and fixed charge holders in administration and administrative receivership. The assumption here is that the greater the concentration (especially of the floating charge holders), the more complex the issue becomes regarding the direction of the company.

Because trade creditors are generally unsecured, the proxy for the level of unsecured creditors is the trade creditors as a percentage of the current liabilities (TCCL). The assumption is that the higher the ratio of trade creditors to current liabilities, the higher the level of unsecured creditors and the greater the possibility that the firm will be placed in administration rather than administrative receivership because unsecured creditors are more likely to gain if the firm reorganises than if it liquidates**.** More appropriate definitions would have been the total number of secured creditors with floating charges to the total number of creditors (for FCP); the total number of secured creditors with fixed charges to the total number of creditors (for FXCP); and the total number of unsecured creditors to the total number of creditors (for TCCL). However, because of the limitations in the database, data on the number of unsecured creditors and the total number of creditors were not available, and hence it was not possible to use these definitions.

4.6: Variables Used in the Chapter on 'The Characteristics of Firms Entering Administration in the UK and the Difference Between Those Reorganising Compared with Those Liquidating'

In comparing the characteristics of firms that reorganise with those that liquidate in administration, I used a binary dependent variable that takes the value of 1 if the firm reorganises and 0 if the firm liquidates. Table 6.2 displays the hypotheses and the definitions of the dependent and independent variables.

Various proxies are used in the analysis. Financial distress is proxied by a dummy variable (DISTRESS) that takes a value 1 if earnings before interest, tax, depreciation and amortisation (EBITDA) are greater than 80% of interest expenses, and 0 otherwise. Asquith et al., (1994), used this proxy for distress. The size of the distressed firm is proxied by the logarithm of total assets (LNTOTA). Various authors (Campbell, 1996; Casey et al., 1986; Kahl, 2002) have used this proxy to capture the size of the firm. Liquidity and solvency are proxied by the current ratio (CR) and the logarithm of the total assets to total liabilities (LNTATL) ratios, respectively. The current ratio was used by Routledge and Gadenne (2000) and Bunn and Redwood (2003) to capture the liquidity of the firm. Kalay et al., (2007) used total asset to total liabilities as a proxy for the solvency of firms.

The proxies for the ability to generate funds are given by the tangible assets to total liabilities (TANGTL) and the presence of a holding company (DHLD). Profitability is proxied by the earnings before interest and tax to total assets (EBITTA). Firms with relatively higher historical profitability are expected to have higher (EBITTA) ratios.

The FTSE All Share Price Index growth rate (G) was used as a proxy for growth in the economy. The time in administration (TIP) is measured as the date of discharge of the administration order minus the date of the administration order, divided by 365.

To investigate the management stability hypothesis on whether firms in administration reorganise or liquidate, I used the change in directors, a dummy variable, ΔDRT, that takes a value of 1 if there was a change in directors within two years prior to the appointment of the administrator and 0 otherwise. This definition acknowledges the fact that in some companies, there is a policy of rotation of directors and, as such, the proxy for the management stability hypothesis measure may be affected by this fact. The assumption is that firms with a stable management structure have a better potential to reorganise in administration, as retaining those with the appropriate experience and firm-specific knowledge would have a positive impact on any reorganisation attempt.

Relationship banking was proxied by the age of firms placed in administration; this is defined as the difference between the date of incorporation of the distressed firm and the date of appointment of the administrator divided by 365. Davydenko and Franks (2006) use the same definition. They define the variable as the age of the company from incorporation to default.

Three different samples were used in the empirical analysis. The reasons for having three samples are that it is not a simple matter to identify which companies have successfully reorganised in administration and I therefore used a number of

alternative samples as robustness checks. In addition, using alternative samples helps increase the number of cases for the empirical analysis.

The first sample takes into account only companies with information on the discharge of the administration order that did not go into administrative receivership. The discharge of the administration order is a document that the administrator must file with Companies House at the end of the administration process. I obtained this information from the FAME and Companies House Direct Databases.

The sample definition above is not without problems however. Limiting the number of cases to those with information on the discharge of the administration order effectively puts an upper bound to the potential number of cases. There are possibilities that companies that reorganise or liquidate in administration did not file information on the discharge of the administration order with Companies House, and this could be more of a problem for liquidated firms as compared to those firms that reorganise. Hence, to some extent, one could argue that there is a possibility that some smaller firms that liquidate did not file information on the discharge of administration with Companies House. Search on the FAME Database yielded an initial sample of 231 cases with discharges of administration. However, to investigate this further, I decided to use another database, Companies House Direct, and manually collected information on the dates of appointment and discharge of the administration order and incorporation dates for all available administration firms in the database.[37] This increased the number of companies with information on the discharge of administration order from 231 to 971.

37 The dates of appointment and dates of discharge of the administrative receivers were also collected for Chapter 5.

To increase the sample size of firms, two alternative samples of reorganisation and liquidation were used. The second sample considers all companies that were originally in administration and subsequently entered administrative receivership. The third sample excludes all companies that were originally in administration and subsequently entered administrative receivership.

The difference between the first sample and the other two samples is that in the first sample, there must be information on the discharge of the administration order whereas in the second and third sample this information may or may not be available. Hence, there are companies in the second and third samples that have information on the discharge of the administration order and those without this information.

Reorganised firms are those that are assumed to still be in operation either by having financial information after the date of appointment of the administrator or being quoted as 'live' in the 'company status' column in FAME. Liquidated firms are those that are assumed to have ceased to operate either because of no subsequent financial information after the date of appointment or those indicated as such by the 'company status' column in FAME Database.

4.7: Variables Used in the Chapter on 'The Subsequent Performance of UK Firms Reorganised in Administration.'

This chapter compares the performance over time of firms that reorganise in administration with a matched sample of firms in the same industry as the distressed firms. To identify the matched firm for a company that reorganised in administration,

I first obtained the SIC code of the firm that reorganised in administration. Search on the FAME Database gives the total number of companies with the same SIC code as the reorganised firm. Among firms with the same SIC code, I selected the company with total assets closest to the sample firm within a range of +/- 15% of the total assets of the distressed firm in administration. The matched sample firms for companies that reorganised in administration were identified two years before the appointment of the administrator. The matching process was successful; Table 7.3A shows that the difference in the mean and median logarithm of total assets (LNTOTA) for the matched firms and the sample of reorganised firms were not significant.

Table 7.1 shows the number of firms that reorganise in administration in the UK from 1996 to 2001. Table 7.2 displays the hypotheses and the definitions of the variables used in the analysis. Financial accounting ratios were calculated using information from the two years prior and three years following the appointment of the administrator.

Four measures of performance were used: liquidity, leverage, operating performance/profitability, and labour and asset restructuring. Two variables proxy for the measure of liquidity: current ratios (CR) and liquid ratios (LIQ). The rational for including both measures of liquidity is that the current ratio looks at the company's ability to meet its short term obligations from its current assets whereas the liquid or acid test ratio looks at the ability of the company to meet its current liabilities from its most liquid assets. The proxy for leverage is total liabilities to total assets. Routledge and Gadenne (2000) also used this ratio to proxy for the level of leverage in their

analysis of successful versus unsuccessful reorganisations in voluntary administration in Australia.

Three variables proxy for the companies' operating performance - operating profit before interest and tax to total assets (EBITTA), operating profit before interest, tax, depreciation and amortisation to total assets (EBITDATA) and gross profits to total assets (GPTA). The aim is to capture the difference in trading profits (GPTA), operating profits (EBITTA) and the level of economic distress (EBITDATA).

Two different forms of downsizing were used in the analysis – labour restructuring and asset restructuring. Labour restructuring was proxied by the number of employees (NE) in the distressed and matched sample firms. The assumption is that reduction in the number of employees could imply that the firm is downsizing its operations. Three proxies for asset restructuring are used. The first is the logarithm of total assets (LNTOTA); the second (DTA) is defined as the difference between the current period total asset and the previous period total assets, expressed as a percentage of the previous period total assets; and the third (DDTA) is defined as the difference between the current period total asset and the total assets two years before appointment of the administrator, expressed as a percentage of the total assets two years before appointment of the administrator. The aim of these three definitions is to capture the yearly deviations of total assets (DTA); the cumulative deviation starting from two years before the appointment of the administrator (DDTA); and current level of total assets (LNTOTA).

CHAPTER 5

DETERMINANTS OF THE RESOLUTION FORM BETWEEN ADMINISTRATION AND ADMINISTRATIVE RECEIVERSHIP IN THE UK

5.1 Introduction

As explained in more detail in Chapter 2, the Insolvency Act 1986 was a major stepping stone towards encouraging a culture of reorganisation for distressed firms in the UK. Prior to 1986 the main insolvency procedure, apart from liquidation, was receivership. The main aim of receivership was to maximise repayments to floating charge holders and it was argued by many (e.g. Kaiser, 1996; Mokal, 2003) that it encouraged premature liquidation. The 1986 Act brought with it the administration and company voluntary arrangement (CVA) procedures in addition to the administrative receivership procedure. The aim of the administration procedure is to encourage the process of reorganisation in the UK insolvency code, thereby bringing it closer to that of the US bankruptcy code. The administration procedure was intended to give companies the chance to reorganise and emerge stronger than before the appointment of the administrator. Since the administration procedure is geared towards the reorganisation of the distressed firm, the expectation is that, given the connection between administration and reorganisation on the one hand and between administrative receivership and liquidation on the other, as established in the literature review, the likelihood of reorganisation is much greater in administration than in administrative receivership. It is therefore possible to adapt the arguments about the characteristics of companies that reorganise or liquidate to the choice of the resolution form between administration and administrative receivership.

5.2 Motivation and Summary of Hypotheses and Results

The general motivations for the thesis are explained in Chapter 1, but those specifically related to the choice of the resolution form between administration and administrative receivership are briefly restated below.

One important trend in the UK insolvency code is the growing importance of the administration procedure from 1994 to 2001 as seen in Figures 1.1 and 1.2 and Table 1.1. Figures 1.1 and 1.2 show a trend of increasing numbers of companies placed into administration and falling numbers of those placed into administrative receivership. Table 5.1 shows that the percentage of cases going into administration more than doubles from 13.8% in 1996 to 31.3% in 2001, whereas for the administrative receivership cases, the figures are 86.22% in 1996 and 68.66% in 2001.

Are there differences between companies placed in administration and those placed in administrative receivership? In the area of corporate insolvency, the bulk of the research has been carried out in the US debtor-oriented code. Thus, it is of interest to investigate the economic rationale, if any, for the channelling of distressed companies between administrative receivership and administration in a creditor-oriented regime such as that in the UK – albeit one that has made moves, since 1986, towards a more debtor-oriented system. The economic rationale is of particular interest given the growth in administrations as shown in Table 1.1 and Figure 1.1.

A few studies have investigated the UK insolvency code using qualitative data from questionnaires (Pond, 1997, and Katz and Mumford, 2002). The limitation of the

above studies is that they focus mainly on qualitative surveys for the choice of the resolution form between administration and administrative receivership. Hence, they fail to develop quantitative models that could explain the factors that can discriminate between companies placed in administration and those placed in administrative receivership. Others rely on quantitative data but with a different focus on the issue[38], or they use relatively small sample sizes (Franks and Sussman, 2005). These are some of the gaps my thesis tries to address. No study has been undertaken that empirically investigates the formal insolvency procedures in the UK with regard to why certain companies are placed into administrative receivership and others into administration. An empirical analysis of this choice of resolution form could perhaps shed some light on the prospects of the administration procedure in achieving the reorganisation of the distressed firm.

It is important to note that, whenever there is a floating charge on the company's assets, the floating charge holders are the creditors who are making the decision about the choice of the resolution form, either by appointing an administrative receiver or, implicitly, by not exercising their veto power over the appointment of the administrator. Is it the case that the floating charge holders are beginning to accommodate the administration procedure because of their beliefs about the prospects of firms that enter administration? If this procedure attracts firms that are potential candidates for reorganisation, then some form of success could be attributed to the administration procedure as a rescue vehicle in the UK insolvency procedure.

38 Olsen, 1996, investigated factors that can explain the choice of the resolution form between administrative receivership and workout in the UK using public companies, thus ignoring the significance of the administration order.

Hence, this chapter's main contribution is to engage in quantitative analysis, in a creditor-oriented insolvency regime, of the determinants of the choice of the resolution form between administration and administrative receivership when there is a clear choice between administration and administrative receivership due to the presence of a floating charge holder. The analysis of the determinants of the choice of the resolution form makes sense only if the distressed firm can be placed into either administration or administrative receivership. Hence, the data contain only companies with floating charge holders in administration or administrative receivership.

For the sake of clarity, I am restating the hypotheses here as they appear in the literature review in Chapter 3. Drawing mainly from the characteristic of the UK insolvency code and White's (1984) theoretical model, the main predictions are as follows:

- H1: Firms that are placed in administration have higher indirect bankruptcy cost than firms placed in administrative receivership. This is proxied by the time the firms take in either administration or administrative receivership (TIME). The reason for using this proxy is that the longer the time spent by a firm in either administration or administrative receivership, the greater the indirect bankruptcy costs.[39]
- H2: Firms in administration are larger than firms in administrative receivership, and proxy for this is the natural logarithm of total assets (LNTOTA).

39 It should be noted that time spent in administration or in administrative receivership is only known once the procedure is completed so it is not strictly a determinant of procedure choice. I acknowledged that this is a limitation to the thesis.

- H3: Firms placed in administration have higher levels of intangibles than firms in administrative receivership. This is proxied by a dummy variable (INDMY) that takes a value 1 if the industry is high-technology, 0 otherwise.
- H4: Firms placed in administration have better ability to generate funds than those placed in administrative receivership. This is proxied by the levels of free assets (LNTANGTL) and the presence of a holding company (DHLD).
- H5: Firms are more likely to be placed in administration than in administrative receivership when the economy is in a downturn, and this is proxied by the growth in the FTSE All Share Price Index (G).
- H6: The creditors' complexity hypothesis indicates that firms in administration have a higher proportion of unsecured creditors (TCCL) and a lower proportion of secured creditors with floating (FCP) and fixed (FXCP) charges than those placed in administrative receivership.

The remaining part of this chapter is organised as follows. The next section discusses the empirical results for both the univariate and multivariate analyses and the final section concludes the chapter.

5.3 Results

The results for both the univariate and multivariate models are obtained using data for one and two years before the appointment of the administrator and the administrative receiver. Because of the similarities between the results, the discussion in both

Sections 5.3.1 and 5.3.2 relates only to the findings based on financial statements two years before the appointment of the administrator and the administrative receiver. The main reason for running the models using data one year prior to appointment is to conduct a robustness check on the results when the variables are measured using data two years prior to the appointment. The results are given in Tables 5.3 (descriptive statistics and univariate tests), 5.4 (correlation matrix) and 5.5 (logistic models) (with the 'A' series tables being for data two years prior to appointment, and the 'B' series tables one year prior). As expected, the results show that using data one year prior leads to improvements in the R-Squared and prediction accuracy. In addition, the variables that discriminate between firms placed in administration and those placed in administrative receivership using data two years prior were also significant when using data one year prior to the appointment. This shows that the variables are robust in the choice of the resolution form between administration and administrative receivership.

5.3.1 Univariate Statistics

Table 5.1 shows the total number of cases for both administration and administrative receivership from 1996 to 2001 and the number of cases with income statements and balance sheet information two years before the appointment of the administrator and the administrative receiver. Data were obtained for these companies from the FAME and Companies House Databases two years prior to the appointment of the administrator and administrative receiver. Table 5.2 provides the definitions of the variables used in the univariate and multivariate analysis together with the expected signs. Table 5.3A presents the descriptive statistics for the sample, together with differences in means and medians, for predictor variables included in the

administration/administrative receivership regressions. The significance of differences in medians is based on Wilcoxon/Mann-Whitney tests. The results show significant differences in the means and medians between the two groups for most of the predictors.

Hypothesis 1 states that firms in administration have higher indirect bankruptcy costs, proxied by the time spend in administration or administrative receivership (TIME). The results show significant differences between the means and the medians with regards to time taken by firms in administration and those placed in administrative receivership. Contrary to expectations, however, the results show that, on average, firms spend 2.42 years in administration while those in administrative receivership spend an average of just over three years. The median time taken by firms placed in administration is approximately two years whereas the median time taken by firms in administrative receivership is almost three years. This finding shows that firms placed in administration take less time in the process than those in administrative receivership. One possible reason for this is that if the choice of placing firms in administration or administrative receivership is a rational one, then the expectation is that firms placed in administration should spend less time in the process than those placed in administrative receivership because of the need to continue the business or company as a going-concern. The more time the firm takes in an insolvency process, the greater the level of distress and the more difficult it would be for the firm to continue in operation. Another possible explanation for the longer time in administrative receivership is that when a firm is placed in administrative receivership, it takes time to find buyers for the assets of the firm.

The results also show that there is a significant difference between the mean and the median sizes given by the logarithm of total assets (LNTOTA) of firms placed in administration and those placed in administrative receivership. As expected, firms placed in administration tend to be larger than those in administrative receivership.

Hypothesis 3 suggests that firms in administration have a higher proportion of intangible assets (INDMY) than those in administrative receivership. The differences between the means and medians for firms placed in administration and administrative receivership are not statistically significant.[40]

In investigating the relative ability of distressed firms to generate funds, the logarithm of tangible assets to total liabilities (LNTANGTL) and a dummy variable representing the presence of a holding company (DHLD) were included as predictors. As expected, the results show a statistically significant difference in the means and medians for the free assets proxy. Firms in administration have significantly higher mean and median levels of tangible assets to total liabilities than those in administrative receivership. In addition, distressed firms with holding companies are more likely to be placed in administration than in administrative receivership. As the administration procedure is geared towards the reorganisation of the distressed firm, the ability to generate funds indicated by the level of free assets and the presence of a holding company appear to be significant variables that indicate the ability of distressed firms to raise much-needed finance in support of the reorganisation process.

3. The variable was also measured by the value of intangible assets as a percentage of total assets on the balance sheet. Like the main definition used in the chapter, this was also insignficant at both the univariate and the multivariate levels.

The growth rate of the FTSE All Share Index (G) is used to capture the economic cycle in the UK. The univariate statistics show that firms are more likely to be placed in administration if the economy is slowing down. During this period, it is likely that the market for the distressed firm's assets will be illiquid. Shleifer and Vishny (1992) study liquidation costs associated with inter-firm asset sales prompted by financial distress and find evidence of market illiquidity. This implies that when the economy is in downturn, it is possible that the administrative receiver and those involved in the liquidation process of the firm's assets have to increase their effort to sell the assets of the distressed firm or even to sell at a discount. The reason is that if the economy is not doing well and companies are distressed, it is likely that others in the same industry are also experiencing difficult periods. Hence, there is the possibility that the markets for the firm's assets will be illiquid. When the economy is doing well, the floating charge holder is in a better position to liquidate the assets of the distressed firm because of the likelihood of a liquid market for the firm's assets. If the market value of the assets is greater than the amount owed to the floating charge holder, then there is an incentive by the floating charge holder to close down the business because of the possibility of high recovery rates. If, on the other hand, the market value of the assets is less than the amount owed, the floating charge holder may not have the incentive to close down the business (Mokal, 2003), especially considering the fact that the floating charge holder does not enjoy superior position over any fixed charge holder in terms of absolute priority. However, this might not be the case if the floating charge holder also has a fixed charge on specific assets of the company, in which case the floating charge holder also enjoys a superior position in terms of absolute priority. As a result, the state of the economy provides an avenue for floating charge holders to

promote their own interest as liquidation of the assets may likely realise a higher value if the market is liquid.

If creditors' complexity problems exist, then the expectations are that firms in administration should have a higher proportion of unsecured creditors (TCCL) and a lower proportion of secured creditors with floating charges (FCH) and fixed charges (FXCP) than those in administrative receivership. Due to their weak priority status, unsecured creditors, on the other hand, are more likely to gain if the company reorganises. Fisher and Martel (2001), using data from Canada, find ordinary creditors receive on average 38.2% and 2.5% in the reorganisation process and liquidation process, respectively. Bris et al., (2006) show that in 95% of Chapter 7 cases, unsecured creditors did not receive anything. In Chapter 11, unsecured creditors receive 40% of their due, and 23% are fully satisfied. On the UK evidence, Olsen (1996) shows that the recovery rate for unsecured creditors is three pence for every pound recovered in administration.

The proxy for the level of unsecured creditors in administration and administrative receivership is given by the trade creditors to current liabilities (TCCL) variable. As expected, the result shows that firms placed in administration have higher mean and median levels of trade creditors to current liabilities than those in administrative receivership, that the differences are highly significant at the 1% level of significance. Also both the difference in means for the proportion of secured creditors with floating charges (FCP) and the proportion of fixed charge holders (FXCP) are significant at the 1% and 10% significance levels, respectively. This indicates that firms in administrative receivership have higher proportions of secured creditors with floating

charges and fixed charges, indicating that greater creditor complexity - as evidenced by a higher proportion of floating charge holders in administrative receivership. This is consistent with the idea that the more floating charge holders there are, the more likely that the appointment of an administrator will be vetoed**.** This indicates that both fixed and floating charge holders still prefer the administrative receivership procedure to the administration procedure, and that unsecured creditors are more likely to favour a procedure that caters to the reorganisation of the firm rather than one that may lead to the liquidation of the firm.

The overall conclusion from the univariate analysis indicates that firms spend less time in administration than in administrative receivership, which is contrary to expectations. As expected, however, firms in administration are larger with the ability to generate finance due to the presence of a holding company and higher levels of free assets than there are in firms in administrative receivership. Firms are more likely to be placed in administrative receivership when the economy is doing well than when the economy is experiencing a slow down. In addition, the results also support the hypothesis of creditors' complexity in the UK insolvency code. The results also show that there is no difference in the level of intangibles between firms in administration and administrative receivership.

5.3.2 Multivariate Analysis

This section contains a logistic regression analysis that examines the conditional discriminatory power of selected variables in distinguishing between firms that are likely to be placed in administration and in administrative receivership. It also

contains the correlation matrix among selected variables in the logistic regression analysis.

Correlations among independent variables are reported in Table 5.4A. The table shows a high correlation (-0.47) between the proxy for the proportion of floating charges and the proportion of fixed charges. This may therefore cause multicollinearity concerns for the subsequent logistic regression analysis. To address this issue, variables are eliminated from Model 1 and two more models are then estimated in Table 5.5A. All other correlations are less than +/- 0.5. However, Routledge and Gadenne (2000) found a correlation of 0.72 between current assets to current liabilities and total assets to total liabilities for firms that entered voluntary administration in Australia, which implies that models that investigate issues such as choice of resolution form and reorganisation versus liquidation using financial accounting variables usually have high correlation as these variables are likely to be related.

Table 5.5A presents the results of the logistic models for the entire sample of firms for which data were available from the FAME and Companies House Databases two years prior to the appointment of the administrator and administrative receiver. The dependent variable (ADREC) is a dummy variable that takes a value of 1 if the company was placed in administration and 0 if it was placed in administrative receivership. Table 5.5A contains results for three models. The first includes all the variables that relate to the hypotheses set out in Table 5.2; Model 2 contains only the significant variables from Model 1; and Model 3 contains only non-financial statement variables.

The likelihood ratio (LR) tests the joint null hypothesis that all slope coefficients except the constant are 0. It is a test of the overall significance of the model. The LR probabilities for all models show statistically significant overall discrimination between firms in administration and those in administrative receivership. These results verify the ability of the selected variables to distinguish between these two forms of insolvency resolution.

I also conduct a goodness-of-fit test using the Hosmer-Lemeshow statistic to investigate whether there is any misspecification in the models. The idea underlying this test is to compare the fitted expected values to the actual values by group. Large *p*-values do not indicate significant misspecification of the models. The McFadden R^2 was also included as an indication of the fit of the model. This measure is akin to the conventional measure of goodness-of-fit, R^2. In binary models, goodness-of-fit is of secondary importance (Gujarati, 2003). What matters are the expected signs of the regression coefficients and their statistical significance.

The prediction accuracy is also reported for all three models.[41] Overall, the estimated models correctly predict between 64% and 66% of the observations. The prediction accuracy for administration and administrative receivership samples was between 62% and 64% and between 64% and 68%, respectively. The prediction accuracy for the model that uses only non-financial statements variables was as good as the model

41 The cut-off was determined by the percentage of administration cases in the model. Since the dependent variable (ADREC) takes a value of 1 if the company is in administration, it would be inappropriate to use the default cut-off of 0.5 provided in Eviews, as this would probably lead to very high prediction accuracy for the administrative receivership and low prediction accuracy for the administration sample. Eviews' correct classifications are obtained when the predicted probability is less than or equal to the cutoff and the observed y = 0 (which in this case represents ADREC = 0) or when the predicted probability is greater than the cutoff and the observed y = 1 (ADREC = 1). Based on this, it is logical to use a cutoff between 0.20 and 0.22, given the sample sizes in both administration and administrative receivership.

that contains both financial and non-financial variables (Model 1). This is consistent with the findings of Gilbert et al., (1990), who find that a financial ratio-based bankruptcy model estimated from a sample comprised of distressed firms performs poorly. Using a sample of bankrupt firms that filed for Chapter 11 in the US and a distressed group (firms identified as financially weak but which did not go bankrupt), they find that their model performs poorly with respect to the classification accuracy with approximately 70% of the firms being misclassified. This could suggest that the choice of the resolution form is perhaps influenced by other, presumably non-financial statement factors, not included in the model either because they are not available due to confidentiality of the banks' clients or because they are difficult to proxy due of lack of information.

Hypothesis 1 states that firms in administration have higher indirect bankruptcy costs proxied by the time in the procedure (TIME) than those in administrative receivership. The results show that firms actually spend less time in the administration procedure than in administrative receivership. These results are highly significant for all three models. Even though this is contrary to expectations, it shows that when indirect costs are proxied by time-in-a-procedure, firms placed in administration have lower indirect costs than those placed in administrative receivership. One possible explanation for this is that if administration is geared towards reorganising firms and the mechanism is efficient in that only firms capable of reorganising are placed in administration, then it is reasonable for firms placed in administration to take less time in the process.

Hypothesis 2 suggests that because of information asymmetry, larger firms (LNTOTA) are more likely to be placed in administration than smaller firms. As expected, the results support the hypothesis that firms in administration have higher total assets than those in administrative receivership.

Hypothesis 3 suggests that firms in administration have a higher proportion of intangible assets (INDMY) than those in administrative receivership. When all the independent variables are considered, even though this variable has a positive relationship with firms placed in administration, the results for Model 1 show that the variable is not statistically significant. However, when only non-financial statements variables are considered, Model 3 shows that firms placed in administration do have higher intangible assets than those placed in administrative receivership. This implies that firms with high intangible assets have few tangibles assets to sell and, as such, it is highly unlikely that the floating charge holder would be interested in taking over the company by appointing an administrative receiver.

Hypothesis 4 states that firms that are placed in administration have a greater potential to generate funds than those in administrative receivership. Firms with high levels of free assets are more likely to be placed in administration because of the reorganisation prospects of these companies. As hypothesised, the results show that firms in administration do have higher levels of tangible assets to total liabilities (the free assets proxy) than their counterparts in administrative receivership, and the proportion of distressed firms with holding companies placed in administration is significantly larger than those in administrative receivership.

Hypothesis 5 states that firms are more likely to be placed in administration than administrative receivership when the economy is in a downturn (i.e. the economy is experiencing a slowdown). As expected, the results show that firms are more likely to be placed in administration than in administrative receivership when the economy (G) is experiencing a slowdown. When the economy is not doing well, there is a possibility that the market for the distressed firm's assets is illiquid and that this will depress the expected revenue from disposal of the firm's assets. This may force the floating charge holder not to veto the appointment of the administrator.

The creditors' complexity hypothesis (Hypothesis 6) states that firms in administration have a higher proportion of unsecured creditors (TCCL) and a lower proportion of secured creditors with floating (FCP) and fixed charges (FXCP) than those placed in administrative receivership. As expected, the proxy for unsecured creditors (TCCL) is positively related to the firm being placed into administration. With regard to secured creditors, the findings are also in line with the hypotheses, (i.e., firms in administrative receivership have a higher proportion of secured creditors with floating charges (FCP) and fixed charges (FXCP) than those placed in administration). As the proportion of secured creditors increases (especially those with floating charge), this increases the tendency or potential for disagreements among secured creditors. With the power to veto the appointment of the administrator and appoint an administrative receiver, it appears that veto activities that pave the way for the appointment of the administrative receiver are more likely as the number of secured creditors with floating charges increases.

5.4 Conclusion

This chapter investigates the choice of the resolution form between administration and administrative receivership in the UK using a sample of firms which were in either administration or administrative receivership between 1996 to 2001. The aim was to identify key economic drivers of the choice of the resolution form. Some of these are best measured or proxied by accounting variables.

The characteristics of companies placed in this procedure should give an indication of the potential of the administration order in attracting companies with some of the required attributes to survive. If the administration procedure was introduced to help reorganise distressed firms in the UK, then it needs to attract firms with the qualities that would enable these distressed firms to reorganise.

The logistic models show that firms in administration are larger with better potential to generate funds (which are necessary, but not sufficient enough conditions for a successful reorganisation of the firm) than firms in administrative receivership. Equally important is that the results also indicate that firms spend less time in administration, which is very important as it indicates that maybe the problem that resulted in the firm being placed in administration was not severe. In addition, the finding that administration takes less time than administrative receivership is encouraging because it means that regulators have introduced an apparently less costly procedure into the UK formal insolvency resolution process.

The results presented in this chapter are encouraging to the extent that they provide support for the Enterprise Act 2002. The most important change with respect to corporate insolvency relates to the abolition of the administrative receivership procedure, which was replaced with an expanded form of administration procedure. The government's view, according to the White Paper that preceded the Act, was that banks could be too quick to use their rights under floating charges to appoint administrative receivers (Mokal, 2003). The Enterprise Act 2002 now channels corporate financial distress resolution through administration on the assumption that this would serve to level the playing field for creditors and give more scope for corporate rescues. If the aim of this legislation is to save distressed firms, then the change that saw the elimination of the administrative receivership procedure and the continuation of the administration procedures is a rational one.

There are some limitations that affect the predictive ability and fit of the models presented in this chapter. The models' prediction accuracy averaged around 65%; there could be several factors responsible for this. First, the models developed in this chapter are based on nominal values of the variables selected.

Second, financial and some non-financial variables were used to determine the choice of the resolution form between administration and administrative receivership. The model based on the non-financial variables predicts almost 64% of the sample correctly. This suggests that non-financial statement variables are important discriminators in the choice of the resolution form between administration and administrative receivership. It could well be that there are factors besides those in the models that are driving the decision of the floating charge holders. There is also the

possibility that accounting numbers are not always good proxies for the underlying financial factors that they purport to represent and that this will affect the prediction accuracy and outcome of the model. Given the significance of the floating charge, further research in this area should focus on trying to operationalise the choice made by the floating charge holders (using non-financial variables) in developing models that distinguish between different resolution forms in the UK.

CHAPTER 6

THE CHARACTERISTICS OF FIRMS ENTERING ADMINISTRATION IN THE UK AND THE DIFFERENCE BETWEEN THOSE REORGANISING COMPARED WITH THOSE LIQUIDATING

6.1 Introduction

In the UK, distressed firms can attempt to reorganise either informally or following formal insolvency procedures. The formal method involves the use of a qualified insolvency practitioner and is sometimes court-supervised (administration and company voluntary arrangement). Firms can also reorganise outside the formal procedure – mainly as a workout - which generally involves agreements between the distressed firms and their creditors.

This chapter investigates formal reorganisation attempts by distressed firms in administration, as the administration procedure was introduced to increase the number of companies that reorganise following distress. The main purpose of the chapter is to explore and understand the key differences between those companies that reorganise versus those that liquidate in administration. In other words, is the administration procedure an effective 'filtering' device in differentiating between those companies that have the potential to reorganise and those that liquidate?

6.2 Motivation and Summary of Hypotheses

Generally, although many studies have documented the usefulness of financial accounting data and security price information in predicting bankruptcy (e.g. Altman 1968), little research, especially in the UK, has been conducted on the potential information value of financial accounting data in distinguishing between firms in formal reorganisation procedures that reorganise and those that liquidate following the implementation of the Insolvency Act 1986.[42] Hence, the main motivation of this chapter is to investigate this issue, which will help to throw light on the success of administration procedure in the UK.

The motive of this study can be traced back to the evidence presented by LoPucki (1983). She shows that the success rate of firms entering bankruptcy reorganisation since the bankruptcy code in the US became effective in October 1979 is even lower than it was ten years earlier. LoPucki (1983) suggests that to improve matters:

'future researchers should identify the characteristics of businesses which enable them to succeed in reorganisation proceedings with sufficient precision to reliably predict which will do so.'

Thus, the process of identifying the characteristics of firms that will reorganise under administration could be of significant help to distressed firms in the UK as well as to

42 Few studies have investigated the UK insolvency code. Pond (1997) and Katz and Mumford (2002) use qualitative data from questionnaires for their analyses. Olsen (1996) mainly looks at the determinants of the choice of the resolution form between administrative receivership and workout using quantitative data for a sample of firms from the London Stock Exchange between 1987 and 1995. Franks and Sussman (2005) focus on small firms in an attempt to analyse the rescue process adopted by banks. These sources are all discussed in full in Chapter 3.

practitioners and policy makers who are involved in the bankruptcy reorganisation process.

The hypotheses are restated here as they appear in the literature review in Chapter 3. The main predictions are as follows:

- H1: Firms that reorganise are less distressed than those that liquidate. This variable was proxied by a dummy variable (DISTRESS) that takes a value 1 if earnings before interest, tax, depreciation and amortisation (EBITDA) are greater than 80% of interest expenses and 0, otherwise (Asquith et al., 1994).

- H2: Larger firms are more likely to reorganise than smaller firms. The proxy for this variable is the natural logarithm of total assets (LNTOTA). This proxy has been widely used by various authors (e.g. Campbell, 1996; Casey et al., 1986; Kahl, 2002).

- H3A: Firms that are more liquid have better chances to reorganise than those that are less liquid. The current ratio (CR) is used as a proxy for liquidity (Bunn and Redwood, 2003).

- H3B: Firms that are more solvent have a better chance to reorganise as compared with those that liquidate. The natural logarithm of total assets to total liabilities (LNTATL) is used as a proxy for solvency (Kalay et al., 2007).

- H4: Firms with greater potential to generate funds are more likely to reorganise than to liquidate. Two variables were included to capture this effect – the level of free assets and the presence of a holding company. The tangible assets to total liabilities (TANGTL) was used as a proxy for the free assets and a dummy variable, DHLD, which equals 1 if there is a holding company and 0 otherwise, was used as a proxy for the presence of a holding company (Bunn and Redwood, 2003).

- H5: Firms with relatively better historical profitability are expected to reorganise rather than to liquidate. The earnings before interest and tax as a percentage of total assets (EBITTA) were used as a proxy for profitability.

- H6: Firms are more likely to reorganise when the economy is performing well than when the economy is in a downturn. The probability of reorganisation is expected to be positively correlated with the economic environment. The FTSE All Share Price Index growth rate (G) was used as a proxy for growth in the economy.

- H7: Distressed firms with the potential to reorganise are expected to take less time in the administration process than those that are expected to liquidate. The variable (TIP) is defined as the date of discharge of the administration order less date of administration appointment, divide by 365[43].

43 It should be noted that this variable can only be measured once the administration procedure is completed.

- H8: Firm that reorganise are expected to have a more stable management structure due to lower directors' turnover than those that liquidate. This is proxied by a dummy variable (ΔDRT) that takes a value 1 if there is a change of directors within two years prior to the appointment of the administrator and 0, otherwise.

- H9: Firms that reorganise are expected to have a better relationship with their banks than those that fail. The proxy of relationship banking is the age of the firm (Age) based on the implication that older firms are more likely to have developed better working relationships with their banks.

6.3 Results

The results are divided into univariate and multivariate analyses. The multivariate analysis uses logistic models. The results are obtained for three different samples as defined in Chapter 4. However, the analysis in Sections 6.3.1 and 6.3.2 focuses on Sample 1, which includes all firms with dates of appointment and discharge of the administration orders. The results for the univariate analysis were similar, with the exception that in Samples 2 and 3, the difference in the median TANGTL variable for firms that reorganise and those that liquidate is not significant, whereas it is significant in Sample 1. In addition, the differences in the means and medians for Age were not significant in Sample 3, whereas they were significant in Samples 1 and 2. For the multivariate analysis, the results for the two other samples are very similar to those of Sample 1, with the exception that for Sample 3, the multivariate analysis

shows that the proxies for liquidity, solvency and relationship banking are not significant in distinguishing between firms that reorganise and those that liquidate.

6.3.1 Univariate Statistics

The univariate statistics are divided into three separate sections; each section investigates a given sample of firms that reorganise and those that liquidate. The first sample takes into account only companies with information on the discharge of the administration order. Reorganised companies are those that are active subsequent to completion of the administration order (i.e. they have some income statement and balance sheet information and are classified as such under the company status columns in the FAME Database); liquidated companies are those classified as liquidated under the company status column in the FAME Database.

The numbers of companies that reorganise and liquidate in administration are given in Table 6.1A. Table 6.2 provides definitions, abbreviations and expected signs of the variables used in the analysis. Descriptive statistics for predictor variables included in the reorganisation / liquidation models together with differences in means and medians are presented in Table 6.3A[44]. Differences in medians are based on the Wilcoxon / Mann-Whitney tests.

The results from Table 6.3A show some significant differences in the means and medians between the two groups. There is no significant difference in the level of distress (DISTRESS) between reorganised and liquidated firms. However, there are significant differences between the means and medians at the 1% level for proxy of

44 The number of companies for Samples 2 and 3 are given in Tables 6.1B and 6.1C, respectively. The descriptive statistics for Samples 2 and 3 are given in Table 6.3B and 6.3C, respectively.

size (LNTOTA). Consistent with my hypothesis, reorganised firms have significantly higher mean and median logarithms of total assets (LNTOTA) than companies that liquidate.

There is no difference in liquidity (CR) and solvency (LNTATL), between firms that reorganise and those that liquidate. Hence, at a univariate level, there is no evidence to suggest that firms that reorganise are relatively more liquid and solvent than those that liquidate.

The results also show that firms that reorganise have lower median levels of tangible assets to total liabilities (TANGTL) than those that liquidate. Although this result is contrary to expectations, it is significant only at the 10% level. However, the difference in the means is not statistically significant. As expected, the differences in means and medians for the presence of the holding company (DHLD) are highly significant at the 1% and 5% level, respectively. This indicates that firms in administration are more likely to reorganise when they have a holding company, which could indicate that these firms stand a better chance of generating finance from their parent companies than those that liquidate. Therefore, at the univariate level, there is partial acceptance of the 'ability to generate funds' hypothesis by distressed firms that reorganise compared to those that liquidate.

The difference in means and medians of profitability (EBITTA) between firms that reorganise and those that liquidate is not statistically significant. Hence, at a univariate level, there is no evidence to suggest that firms that reorganise are relatively more profitable than those that liquidate. The differences in mean and

median values for growth (G) in the economy are statistically significant. The findings are consistent with the hypothesis that firms are more likely to reorganise when the economy is doing well than when the economy is experiencing a slowdown.

The results also show that firms that spend less time in administration are more likely to reorganise than those that spend more time in administration, with the differences in the means and medians for the variable representing the time spent in the administration procedure (TIP) are highly statistically significant at the 1% level. Firms that reorganise spend, on average, 1.76 years in administration with a median of around one year whereas those that are liquidated spend, on average, 2.85 years with a median close to three years. This finding is consistent with the hypothesis that firms that reorganise spend less time in administration, as reorganisation is more likely for firms that are able to get back in operations quickly.

Hypothesis 8 states that firms that are expected to reorganise have a more stable management structure as reflected in lower directors' turnover than those that liquidate. The results show that distressed firms that reorganise in administration have a lower rate of directors' turnover than those that liquidate, as the differences between the means and medians are highly statistically significant, a finding consistent with the management retention hypothesis. The result supports the hypothesis that firms with lower directors' turnover are more likely to have high quality staff with the know-how and experience to get the company out of distress, and, as a result, are more likely to reorganise than to liquidate.

Relationship banking is also a crucial factor in the univariate analysis. Its proxy, (Age), shows significant differences in the means and the medians for firms that reorganise and those that liquidate. The results show that firms that reorganise are older than those that liquidate in administration. However, the result could also mean that older firms have good customer relationships and are able to continue trading when distress occurs.

The overall conclusion from the univariate analysis indicates that, as expected, firms that reorganise are larger, more likely to be able to generate funds due mainly to the presence of a holding company than those that liquidate. In addition, firms that enter administration are more likely to reorganise when the economy is doing well, even though past profitability does not seem to be a discriminating factor. More importantly, reorganised firms are more likely to have a stable management and to spend less time in administration than liquidated firms. Older firms are more likely to reorganise than liquidate in administration. There is, however, no evidence that firms that reorganise are more liquid, more solvent, less distressed or have more free assets than those that liquidate.

6.3.2 Multivariate Analysis

In this section, I conduct a logistic regression in order to examine the conditional discriminatory power of selected variables in distinguishing firms that are likely to reorganise from those that are likely to liquidate in administration. As in the univariate case, the analysis only focuses on Sample 1, as the results are similar to those of the other two samples.

Correlations between independent variables are reported in Table 6.4A. These correlations are generally low, with the exception of those between LNTATL and CR (0.48) and between LNTATL and TANGTL (0.45) as a result of which there is the possibility that multicollinearity problems might affect the logistic regression analysis.

Table 6.5A shows the logistic regression results. Results are shown for three models. The likelihood ratio (LR) tests the joint null hypothesis that all slope coefficients except the constant are zero; it is a test of the overall significance of the model. The LR probabilities for the three models show statistically significant overall discrimination between firms that reorganise and those that liquidate. The Hosmer-Lemeshow (H-L) statistics, together with their probabilities, are also reported for the three models. This statistic tests whether there is any misspecification of the regression models such as that relating to the functional form of the regression. With the exception of Model 3, the results show that there is no significant misspecification in the models. These two tests verify the ability of the selected variables to distinguish reorganised from liquidated firms in administration.

The McFadden R^2 is also included as an indication of the fit of the model. The McFadden R^2 lies between 0.12 and 0.16. The prediction accuracies for the two models using a cut-off of 0.4 are also reported. Overall, the estimated models correctly predict approximately 70% of the observations in the sample. The prediction accuracies for the reorganised sample vary between 66% and 73%, and for the liquidated sample, they vary between 68% and 73%. In summary, the results show

strong prediction accuracies for both the overall sample and the sub-samples of reorganised and liquidated firms.

The results show that there is no apparent difference between the level of distress between reorganised and liquidated firms. They also show that size, measured as the logarithm of total assets (LNTOTA), is a significant discriminator between reorganised and liquidated firms. This indicates that firms that reorganise are larger than those that liquidate in all of the models, a result consistent with the findings of other authors (Barniv et al., 2002; Campbell, 1996; LoPucki, 1983; Pond, 1997) that larger firms are more likely to reorganise than smaller firms. Pond (1997), using UK firms, states that larger firms are more likely to emerge from distress as banks increase their effort to avert failure for these firms.

Unlike the univariate analysis, the multivariate results show, as expected, that firms that reorganise in administration have a higher current ratio (CR) than those that liquidate. Contrary to expectations, however, reorganised firms have lower total assets to total liabilities (LNTATL).

The free assets proxy (TANGTL) is insignificant in discriminating between the two groups of firms. For all models, firms are more likely to reorganise when there is the presence of a holding company (DHLD). The result is consistent with the findings of Bunn and Redwood (2003) that firms with a holding company are less likely to fail than those without. The ability of the firm to generate funds is quite significant for firms that reorganise, as it is likely that new finance will need to be raised in order to fund continued trading. To induce a lender to extend credit, this will have to take

priority ahead of claims of existing creditors.[45] As suggested by White's (1984) theoretical model and those who have tested it (e.g. Casey et al, 1986), the ability of the distressed firm to be able to generate funds is crucial to its prospect of reorganisation. However, the results show that the hypothesis relating to the ability of distressed firms to generate funds can only be partially accepted since only one of the variables is significant in the model.

The historical profitability of the distressed firm is not a significant discriminator. When the economy is doing well, the chances of reorganisation increase significantly for distressed firms in administration. This implies that distressed firms are more likely to reorganise during the upswing of economic cycles, as the prospects of reorganisation increase with economic growth. This result is consistent with the findings of Audretsch and Mahmood (1995), who state that over a business cycle, the rates at which firms exit their industries increases during downturns. It is also consistent with the findings of Lennox (1999) and of Bunn and Redwood (2003), who find that macroeconomic conditions influence the individual firm-level probability of failure.

The time taken by a distressed firm in administration is a crucial factor for its reorganisation prospects. Firms are more likely to reorganise when they take less time in administration. The assumption in this hypothesis is that the longer the administrator takes in attempting a reorganisation of the distressed firm, the greater the level or severity of distress. This positive correlation between time spent in the procedure and the severity of distress could have some implications for the firm. The

45 Armour (2001) stated that administrators have the power to borrow on the company's behalf. However, superpriority for new borrowing is possible under Chapter 11 and, to a more limited extent, under administration.

shorter the time spent by the administrator in his duties, the more likely it is that the level of distress is not very severe and the more likely it is therefore that the company will reorganise and return to its profitable operations. The results for all models show that there is indeed a negative relationship between time spent in the administration procedure and the chance of reorganisation which is consistent with this hypothesis.

The stability of management is very important, as managers have the necessary knowledge and experience about the firm to be of great value in reorganisation. As expected, with the exception of Model 1, the results show that firms with lower directors' turnover are more likely to reorganise than those with higher directors' turnover within two years prior to the appointment of the administrator. In addition, age is a significant variable in discriminating between firms that reorganise and those that liquidate in the sense that older firms are more likely to reorganise than younger firms. This is consistent with the univariate analysis and the hypothesis.

In conclusion, the results from the multivariate analysis are similar to the univariate analysis. They show that larger firms in administration are more likely to reorganise than smaller firms. In addition, these firms that reorganise are older and more liquid. Reorganised firms spend less time in administration, are able to retain management with knowledge about the firm, and have the potential to generate funds, due to the presence of a holding company. Their reorganisation is also aided by the economic environment. In a multivariate setting there is no evidence, however, that firms that reorganise in administration are less distressed, more solvent, have higher levels of free assets, or have relatively better historical profitability than firms that liquidate.

6.4: Conclusion

The results above help track the progress of the UK insolvency code in its attempt to promote the reorganisation of distressed firms. The pre-1986 UK insolvency code has been referred to as a system that encouraged 'premature' liquidation of firms that were worth more as going-concerns; the changes to the code introduced in 1986 were purposely designed to rectify this problem by helping the reorganisation of distressed firms in the UK (Kaiser, 1996). The liquidation right is with the secured creditors holding floating charges. However, in the US debtor-oriented code, the liquidation right is not in the hands of secured creditors as there are other parties actively involved in the decision making process. Most previous studies, especially in the US, have focused on the bankruptcy decision by firms with the interaction of key groups (bondholders, bank lenders and equity holders) as major players acting in coalition (Bulow and Shoven 1978; and White 1989). Bulow and Shoven (1978) were the first to apply coalition behaviour theory to determine whether a firm would continue or liquidate under the US Bankruptcy Code. The coalition that they describe as driving decision making comprised the bank and equity holders. White (1984) utilises this model to examine the Chapter 11 reorganisation procedure in the US. She shows that the decision to reorganise or liquidate will be made by coalitions of equity holders (with management as assumed agent), secured lenders and unsecured creditors. White (1984) argue that owner's equity and managers' jobs will likely be eliminated in liquidation thereby providing incentive to form coalitions to avoid liquidation.

This chapter provides a gauge in judging the success of the administration procedure. In doing so, the question that is addressed is whether this procedure can distinguish

between distressed firms with characteristics more appropriate to liquidation and those with characteristics more appropriate to reorganisation. Do the best firms reorganise in administration? The motivation is to evaluate the success of the administration procedure by trying to gain an understanding of why some firms nevertheless liquidate after entering administration and, in particular, to see what the characteristics are that distinguish firms that liquidate from those that reorganise.

The multivariate logistic models show that non-financial statement variables perform as well as financial statements variables in discriminating between firms that reorganise and those that liquidate. The results show that firms in administration are more likely to reorganise when they have a stable management structure. In addition, these firms spend less time in administration. Since the administrator has no reason to spend more time than is necessary in administration (as it is very important for the firm's suppliers and customers to know that the firm is no longer in administration in order to help build the faith and confidence in the distressed firm), this finding is consistent with the idea that firms that spend less time in administration are potential reorganisation candidates.

The results show that reorganised firms in administration have the potential to generate funds due to the presence of a holding company. Other variables are also significant, including the economic environment, age, liquidity and size. Hence, to some extent, these findings indicate the potential of the administration procedure to reorganise firms which are more likely to be viable.

Regarding the research methodology, the timing of the data needs to be taken into account. The analysis is based on financial variables estimated from financial statements two years prior to insolvency (appointment of the administrator). In my view, the use of variables one year prior to insolvency might have greatly impacted the estimated coefficients of the variables, the fit of the models and the classification accuracy of the results. However, the study has shown some promising results regarding what is a difficult but potentially influential area of the UK insolvency procedure. The results presented in this chapter are to some extent encouraging in that they provide support for the Enterprise Act 2002, which proposed the elimination of the administrative receivership procedure and the continuation of the administration procedure with some adjustments.

As the decision for companies to appoint an administrator is made by the court, in my view, it would be efficient if there were an effective filtering mechanism in place to ensure that only companies that are reasonably expected to recover are actually placed in the system. Morrison (2003), in his analysis of small-business bankruptcy in the US, argues that judges are poor decision-makers who allow failing firms to linger under the protection of the court.

To some extent, the present UK insolvency code and others around the world have stringent requirements for distressed firms that seek to reorganise. For example, in the US Chapter 11 procedure, the court carefully scrutinises the validity of a reorganisation plan; and the German Composition Proceedings require composition plans to be confirmed by the court. If the Enterprise Act 2002 introduces a more flexible approach to allowing companies to proceed with reorganisation (in relation to

the pre-2002 system) or if parties involved with distressed firms can manipulate the system, then one should expect to see more and more unsuitable companies attempting reorganisation in administration. With the financial costs and other factors to be considered, the likely end result – i.e. the eventual liquidation of the distressed firm attempting to reorganise in administration - could possibly result in lower payouts to stakeholders, with unsecured creditors and equity holders most likely to suffer. With the introduction of the Enterprise Act 2002, there are possible cases for abuse of the administration procedure. The principal areas of concern about abuse appear to be whether the procedure might be used as a means of avoiding any creditors' meeting, or to enable delinquent and incompetent directors avoid any real scrutiny of their culpability. However, Katz and Mumford (2006) find no evidence to suggest that the increase in the number of administration cases following the introduction of the Enterprise Act 2002 is due to the procedure being used to avoid the need to hold a meeting of creditors. They state that if there is evidence to show that an insolvency practitioner is wrongly encouraging administration instead of liquidation, this should be regarded as a regulatory issue rather than a legislative one. They conclude that there is no evidence that areas of concern and scope for abuse represent inherent faults in the administration procedure; hence, they do not make a case for restricting access to the administration procedure.

Further research in this area is needed, especially in finding additional financial dimensions and categorical variables, not the least of which are those relating to management of the company, in the reorganisation versus liquidation models. There is a possibility that different industry sectors may have different value patterns or respond differently to the discriminating variables. For example, in 1989 to 1990, the

oil, gas and mining industries had an average profit margin of 15%, whereas the engineering services industry only achieved 2.9%. In the same period, the average liquidity ratio was 1.1 for commercial services, but only 0.4 for food and drink distribution (Elliott and Elliott, 2006). Further research in this area should focus on developing industry-specific models that can be applied by practitioners working in different industries.

The introduction of the Enterprise Act 2002 creates a context within which coalition behaviour in the UK context can be examined. Hence, future research on the issue of coalition behaviour theory in the new administration procedure would be of interest, as this analysis would provide much needed answers regarding the possible coalition that drives decision making in reorganisation in the UK insolvency code.

CHAPTER 7

THE SUBSEQUENT PERFORMANCE OF UK FIRMS REORGANISED IN ADMINISTRATION

7.1 Introduction

In the UK, the administration procedure was introduced in the Insolvency Act 1986 in order to foster the process of reorganisation in the UK insolvency code. As a formal procedure, it has been viewed as a means of helping distressed firms in the UK to get back to their prior thresholds of profitability, solvency and financial stability. The Cork Committee placed emphasis on the value of insolvency processes in finding ways of rescuing companies in distress in addition to realising the assets of the firm. Its recommendations led to the procedures governing administration orders as set out in the Insolvency Act 1986. The Cork report (1982) stated that for a distressed firm to stand any chance of survival, it should be given breathing space from the pressure of creditors. The presentation of the petition for an administration order under the 1986 Act effectively stops creditors from enforcing their claims against the company and therefore provides the avenue for reorganisation.

When a distressed firm is placed into administration, the aim of the administrator is to investigate the affairs of the company and the reason(s) for its current financial situation, and then to draw up a reorganisation plan for the distressed firm, during which time the floating charge holders cannot appoint an administrative receiver. In addition, the company cannot be wound up and the permission of the court is required if a creditor wants to enforce a security against the company or the repossession of

goods in the company's possession under a hire purchase agreement. Protection also extends to the property owed by the company but in the possession of third parties. The aim of all these provisions is to promote the eventual reorganisation of distressed firms.

7.2 Motivation, Expectations and Summary of Findings

There is a case for making the administration procedure the main vehicle of company rescue in the UK, as enacted by the Enterprise Act of 2002, even though the government had little or no empirical research on which to rely (Armour and Mokal, 2003). The basis for this case is that the alternative, administrative receivership, had led to excessive liquidations, did not permit corporate reorganisation and is likely to have forced good businesses to close (Insolvency Services, 2001).

Few studies have investigated the UK insolvency code since the introduction of the Insolvency Act 1986. The aim of this chapter is therefore to investigate the performance of firms that reorganise in administration relative to a matched sample of firms in the same industry by considering changes in key performance indicators before and after the appointment of the administrator. Do key financial indicators for firms placed in administration behave differently from those of the matched sample firms before and after the appointment of the administrator? It is expected that as firms become distressed prior to the appointment of the administrator, there is the possibility of differences between key indicators amongst distressed and healthy firms in the same industry.

Hotchkiss (1995) argues that firms that reorganise under the US Chapter 11 suffer distress for years after they emerge from Chapter 11. She finds that 40% of firms continue to experience operating losses in the three years following bankruptcy and that 16% have to file for Chapter 11 a second time. The implication is that distressed firms that successfully complete a bankruptcy reorganisation procedure may face a period of financial distress after the reorganisation procedure ends. Thus, companies that successfully complete the administration procedure may also face such a period, with a possibility of re-entering administration for the second time.

Other studies have investigated the performance of companies that exit Chapter 11 relative to their industry counterparts (Heron et al., 2007; Kahl, 2002; and Kalay et al., 2007). The general findings have been that distressed firms suffer deteriorating performance on a relative basis before the onset and filing of Chapter 11, but thereafter firms that successfully reorganise improve on their operating performance. The motivating question, therefore, is whether this behaviour of reorganised firms in a debtor-oriented regime is akin to that of a creditor-oriented regime such as that studied here. In essence, is the time-series behaviour of reorganised firms' performance indicators homogeneous across different insolvency codes?

It has been stated that one of the aims of an administration order is to enable distressed firms to reorganise and possibly return to profitable operations. However, there have been no studies on the UK insolvency code that actually investigate whether there is a reasonable time frame within which firms that reorganise in administration can return to healthy financial states. Hence, looking at the time-series trend of key ratios, should indicate whether there is a discernable time frame within

which distressed firms that reorganise in administration are expected to be operating normally. If there are no apparent improvements in the key financial indicators between periods prior to and after the appointment of the administrator then the efficiency of the administration procedure with regard to its ability to rescue distressed firms and bring them back to their 'normal' operating activities could be open to debate.

The main prediction is that prior to the appointment of the administrator, distressed firms that reorganise in administration will significantly underperform the matched sample firms in the same industry and of relatively the same size. Reorganised firms are expected to have poorer liquidity, higher leverage and poorer operating performance/profitability than the matched sample firms from two years before the appointment to the year of the appointment of the administrator. In addition, these firms are expected to undertake labour restructuring. However, the matching methodology employed makes asset restructuring difficult to discern, which does not necessarily imply that distressed firms in administration do not restructure their assets in the years prior to the appointment of the administrator. This is because firms in administration are matched with firms in the same industry using total assets two years prior to the appointment of the administrator as a matching variable. As a result, there will be no significant difference in assets size between firms in administration and the matched sample firms, at least two years prior to the appointment. There is the possibility that these firms do restructure their assets but, given the matching process, this will not be apparent in the results as seen in Table 7.3A where the difference in the means and medians for the variable, LNTOTA, are not statistically significant.

During the period following the appointment of the administrator, firms that reorganise are expected to improve significantly on their liquidity and operating performance/profitability positions relative to the matched sample firms. However, these firms are also expected to have higher leverage levels relative to the matched sample, as the need for finance remains important for a successful reorganisation. In addition, I expect firms that reorganise to significantly downsize their operations (both in term of labour and asset restructuring) relative to the matched sample firms over the three years after the appointment of the administrator. The reason is that downsizing has been regarded as an efficiency improvement and successful turnaround measure, as it allows the company to release resources to be used elsewhere (Arogyaswamy and Yasai-Ardekani, 1997; Kalay et al., 2007).

Univariate statistical analysis was conducted using financial information from two years prior to three years after the appointment of the administrator. The sample considers all reorganised firms in administration with financial information available after the appointment of the administrator. Reorganised firms are those that are still in operation as evidenced either by having financial information after the date of appointment of the administrator or being quoted as 'live' in the 'company status' column in FAME Database.

To identify the matched firm for each company that reorganised in administration, I first obtained the SIC code of that firm. Search on the FAME Database gives the total number of companies with the same SIC code as the reorganised firm. Among firms with the same SIC code, I selected the company with total assets closest to the sample firm within a range of +/- 15% of the total assets of the distressed firm in

administration. The matched sample firms for companies that reorganised in administration were identified two years before the appointment of the administrator. The matching process was successful; Tables 7.3A and 7.4F show that the difference in the mean and median logarithm of the total assets (LNTOTA) and the mean and median peer-adjusted ratios, respectively, two years prior to the appointment of the administrator, were not significant.

In total, ten sets of univariate statistics were performed from two years before the date of appointment of the administrator to three years after the appointment for companies that reorganised in administration in the UK from 1996 to 2001. The results show significant differences in the liquidity position (using both the current and liquid ratios) between firms that reorganise and the matched sample firms from two years before to two years after the appointment of the administrator, indicating that distressed firms that reorganise in administration continue to underperform relative to those in the matched sample. The leverage level of firms that reorganise was, as expected, significantly worse than that of the matched sample both before and after the appointment of the administrator.

The ratios that capture the operating performance/profitability indicate that two years prior to the appointment of the administrator, there is no significant difference between the operating performance/profitability for firms that reorganise in administration and their matched samples. However, from a year before to a year after the appointment of the administrator, the results show that firms that reorganise in administration have poorer operating performance, with the exception of the ratios of gross profits to total assets (GPTA), than the matched sample firms. However, in the

second and third years after the appointment of the administrator, firms that reorganise have significantly higher profitability medians than the matched sample firms, although the differences in the means are not significant. The difference in gross profits to total assets (GPTA) continues to be insignificant from two years before to three years after the appointment of the administrator.

The labour restructuring measure shows a significant difference in medians only one year prior to the appointment of the administrator and no significant difference in the means. However, the results is in line with the expectation that firms that reorganise in administration undertake relatively more asset restructuring than a matched sample after the appointment of the administrator.

The remaining part of this chapter is organised as follows. The next section discusses the results and Section 7.4 concludes the chapter.

7.3 Results

The empirical work in this chapter is based on a univariate analysis of differences in means and medians of the selected variables of reorganised firms versus those in the matched sample from two years before to three years after the appointment of the administrator.

Table 7.1 provides the number of reorganised companies in administration by year starting from 1996 to 2001, and Table 7.2 gives the definitions and expected path of the selected variables. The 7.3 series of tables give the univariate statistics for both the reorganised firms and the comparable firms along with differences in means and

medians for the selected variables in the analysis. Differences in medians are based on the Wilcoxon/Mann-Whitney tests. The 7.4 series of tables give the mean and median peer-adjusted ratios two years before to three year after the appointment of the administrator for selected ratios.

7.3.1A Liquidity

Hypothesis 1A states that firms that reorganise relative to the matched sample have poorer liquidity before the appointment of the administrator and that thereafter (during the post-appointment periods) their liquidity position improves. The results in Tables 7.3A and 7.3B show that, for both liquidity measures, the matched sample firms shows significantly higher current (CR) and liquid (LIQ) ratios for each of the two years before the appointment of the administrator. The mean ratios for the matched sample increase from two years before the appointment to one year before the appointment of the administrator, while those for the firms that reorganise in administration fall over this period. Also, the results show that the significance of the differences in the medians of both the current and liquidity ratios increase from the 5% level two years before the appointment to the 1% level one year before appointment. Table 7.3C shows that in the year of the appointment of the administrator both the mean and the median ratios of the matched sample firms were significantly higher than the ratios for the firms in administration, and the difference in the medians is statistically significant at the 1%. This indicates that as time gets closer to the appointment of the administrator, the sample firms in administration show increasingly significant differences in liquidity as compared with the matched sample, a finding consistent with my hypothesis.

Tables 7.3D and 7.3E show that for the period after the appointment of the administrator, the median liquidity ratios of the reorganised firms continue to be significantly lower than those of the matched sample firms up to the second year after the appointment of the administration. Even though the mean liquidity ratios of the reorganised firms were lower than those of the matched sample firms over this period, the difference in the means was only significant one year after the appointment and not in the second year after the appointment of the administrator. In addition, the results show that from one year after the appointment to two years after the appointment of the administrator both the mean and the median of the current (CR) and liquid (LIQ) ratios of the reorganised firms improved. Three years after the appointment of the administrator, the differences in the means and the medians, as shown in Table 7.3F, are not significant. These results are in line with expectations, showing that firms that reorganise in administration improve their liquidity position relative to that of the matched sample firms.

Tables 7.4A and 7.4B show the mean and median peer-adjusted current and liquid ratios for the reorganised firms from two years before to three years after the appointment of the administrator, respectively. These ratios shows that the percentages of firms with negative peer-adjusted current and liquid ratios increase sharply from 63.89% to 77.42% and from 69.44% to 78.13%, from two years prior to one year prior to the appointment of the administrator. Thereafter, the percentage of negative peer-adjusted ratios starts to fall, with the exception of the percentage of firms with negative peer-adjusted current ratio that increase in the second year after the appointment. By the third year after the appointment of the administrator, less

than 60% of firms in administration have current and liquid ratios lower than the matched sample firms.

Overall, the results are consistent with the hypothesis that firms that reorganise in administration, relative to the matched sample firms, have poorer liquidity prior to the appointment of the administrator, but over time, these firms show significant improvement in their liquidity position.

7.3.1B Leverage

Hypothesis 1B states that because of the need for finance in reorganisation, distressed firms that reorganise in administration are more likely to have increasing leverage levels over time, starting from two years prior to the appointment to three years after the appointment of the administrator. The leverage ratios do show that firms that reorganise in administration have significantly higher mean and median levels of total liabilities to total assets than the matched sample firms from two years prior to three years after the appointment of the administrator.

The results in Table 7.3A show that two years prior to the appointment of the administration, the differences in the means and the medians were significant at the 10% and 5% levels, respectively. However, from one year prior to two years after the appointment of the administrator, as shown in Tables 7.3B to 7.3E, the differences in the means and the medians were highly significant at the 1% level. Table 7.3F shows that three years after the appointment of the administrator, the difference in the medians is not significant, while the difference in the means remains significant at the

5% level. These findings are in line with expectations that prior to the appointment of the administrator, firms that reorganise have higher leverage relative to identical firms in the same industry, and that this difference persists in the years after appointment, probably due to the reorganised firms' continued need for outside funds.

Table 7.4C shows the peer-adjusted mean and median total liabilities to total assets ratios. The table shows the percentages of reorganised firms with total liabilities to total assets ratios higher than those of the matched sample firm. Table 7.4C shows that, from two years prior to one year prior to the appointment of the administrator, 31.43% and 22.58% of firms in administration have total liabilities to total assets higher than the matched sample firms. By the year of appointment, the percentage has fallen to 16.67%. One year after the appointment, it was 15.15%, rising to 32% by the second year and then falling to 30.43% percent by the third year. This finding is consistent with the hypothesis that firms in administration experience higher leverage than those in the matched sample firms.

The results are consistent with those of Kalay et al., (2007). They show that as firms approach bankruptcy, the sample firms become significantly more leveraged than the median firms in the industry. Consistent with the findings of Kalay et al., (2007), Heron et al., (2007) find that their sample firms have substantially higher debt than their respective industry medians. The results are also consistent with those of Gilson (1997) who shows that firms have higher debt ratios than their industry peers upon emerging from Chapter 11. Gilson (1997) argues that the optimal debt ratios might have increased during the reorganisation process, while Kahl (2002) suggests that

creditors might force emerging firms to maintain high debt levels due to uncertainty regarding long-term economic viability.

7.3.2 Operating Performance

Hypothesis 2 states that distressed firms that reorganise are likely to experience poorer operating performance prior to the appointment of the administrator relative to the matched sample firms. However, after the appointment of the administrator, reorganised firms are more likely to improve on their operating performance. Table 7.3A shows that one year prior to the appointment of the administrator, there were no significant differences between the operating performance of firms that reorganise in administration relative to those of the matched sample firms. However, from one year before the appointment to the year of the appointment of the administrator, Tables 7.3B and 7.3C show that, as expected, the differences in the means and the medians for EBITTA and EBITDATA were statistically significant. Hence, with the exception of the gross profit to total assets (GPTA) ratio, the results show that regoranised firms have poorer operating performance relative to the matched sample firms. This result is consistent with the findings of Kalay et al., (2007) that state that firms show a deterioration in operating performance prior to filing for bankruptcy.

Table 7.3D shows that one year after the appointment of the administrator, the difference in the means and medians for EBITDATA and the difference in the means for EBITTA were only significant at the 10% level, whereas one year prior to the appointment of the administrator these differences were significant at the 5% level and in the year of appointment they were significant at the 1% level. Hence, the

results in Table 7.3D shows that even though the differences in the means and medians continue to be significant, the level of significance has fallen compared to one year before and in the year of appointment. This finding indicates significant improvements in the operating performance of reorganised firms after the appointment of the administrator.

Tables 7.3E and 7.3F show that in the second and third year after the appointment of the administrator, with the exception of the differences in the medians for EBITTA, there were no significant differences in the operating performance of reorganised firms relative to the matched sample firms. These findings show the potential of reorganised firms to return to their 'normal' levels of operations. The findings also indicate that the decline in operating performance for reorganised firms is halted as soon as two years after the appointment of the administrator.

Tables 7.4D and 7.4E show the means and medians peer-adjusted EBITDATA and EBITTA ratios from two years before to three years after the appointment of the administrator. The percentages of reorganised firms reporting EBITDATA and EBITTA lower than the matched sample firms peaked in the year of appointment. About 77.78% and 83.33% of reorganised firms have median EBITDATA and EBITTA lower than the matched sample firms, and this is significant as indicated by the sign tests. However, in the second and third year after the appointment of the administrator, the peer-adjusted median EBITDATA and EBITTA were positive, which implies that firms in administration actually have higher EBITDATA and EBITTA than the matched sample firms, which is a complete turnaround from the pattern prior to the appointment of the administrator.

This result is consistent with the findings of Kahl (2002), who shows that the fraction of firms in Chapter 11 that experience operating losses increases until it reaches its peak in the year of the onset of financial distress and starts to deline thereafter. In addition, Kalay et al., (2007) also show that operating income declines sharply as the sample firms approach Chapter 11 filing, but that this decline is arrested in the first quarter immediately following the Chapter 11 filing.

Hence, the general conclusion is that firms about to enter administration grow significantly worse than their matched sample firms with regards to operating performance from one year before to one year after the appointment of the administrator, but thereafter these firms improve on their profitability and economic viability.

7.3.3 Labour and Asset restructuring

Hypothesis 3 states that, over the period of analysis, reorganised firms undertake significant labour and asset restructuring relative to the matched sample firms. The results in Tables 7.3A to 7.3F indicate that, with the exception of the difference in the medians one year prior to the appointment of the administrator, there are no significant differences in the means and medians of the number of employees from two years before to three years after the appointment of the administrator.

The results for asset restructuring show that firms in administration undertake asset restructuring in the year of appointment to three years after the appointment of the administrator. In the year of the appointment of the administrator, Table 7.3C shows

that the means and medians DTA and DDTA were significantly higher for the matched sample firms relative to the reorganised firms. Tables 7.3D to 7.3F show that from one year after the appointment to three years after the appointment of the administrator, the levels of total assets for the reorganised firms were significantly lower to that of the matched sample firms. These findings indicate that reorganised firms in administration undertake significant downsizing after the appointment of the administrator.

In addition, in line with expectations, the peer-adjusted logarithm of total assets (LNTOTA) in Table 7.4F shows significant differences between the mean and median peer-adjusted values from the year of appointment of the administrator to three years after the appointment. The table also shows that the percentages of reorganised firms with logarithms of total assets lower than the matched sample firms increases from one year prior to the appointment to one year after the appointment of the administrator, and the results are highly significant for the year of appointment to three years after the appointment. The conclusion is that firms that reorganise in administration are more likely to significantly restructure their assets relative to the matched sample firms than to cut down on the number of employees.

Overall, at a univariate level, the results show that firms that reorganise in administration, relative to their matched sample firms, show significant underperformance in their levels of liquidity and operating performance prior to the appointment of the administrator. However, the periods following the appointment of the administrator see significant improvements in the liquidity and operating performance of reorganised firms. The leverage position of reorganised firms both

before and after the appointment of the administrator remains significantly higher than that of the matched sample firms. In addition, reorganised firms in administration are more likely to restructure their assets (rather than undertake labour restructuring) from the year of appointment to three years after the appointment of the administrator relative to the matched sample firms.

7.4 Conclusion

The Insolvency Act 1986 was introduced to foster a culture of reorganisation in the UK. In as much as the number of companies placed in this procedure has increased over time, the government recognised the potential of the administration procedure in reorganising distressed firms, leading to the Enterprise Act 2002. The aim of this Act was to encourage and enhance the reorganisation prospects of distressed firms in the UK. The findings of this chapter support these aims of the administration procedure and show that distressed firms that reorganise in administration have the potential to return to 'normal operations' in a reasonable time period as indicated by the convergence in the levels of operating performance/profitability and liquidity between reorganised firms and the matched samples firms.

The results of this study have the following implications. The findings lend support to studies that have investigated reorganisation successes in other jurisdictions or bankruptcy codes, including the findings by Kalay et al., (2007), Kahl (2002) and Heron et al., (2007).

The analysis shows the characteristics of reorganised firms relative to matched sample firms, indicating that, on average, reorganised firms have poorer liquidity and higher

leverage, and poorer operating performance than the matched sample firms before the appointment of the administrator. After the appointment of the administrator, even though the leverage of reorganised firms remain high, there was significant improvement in the liquidity of these firms and, in addition, the results show significant downsizing from the year of appointment to the three years after that. Within two years of appointment, however, the apparent difference in the operating performance that existed prior to the appointment of the administrator disappears. This indicates that companies that reorganise in administration are likely to take an average of only two years before their operations return to some form of 'normality.' These findings lend support to the role played by the administration procedure in reorganising distressed firms in the UK, and are significant for providers of funds and practitioners alike.

However, small sample sizes and missing data present limitations. These are common problems with research in the area of financial distress. This problem is more pronounced in the administration procedure because the veto powers in the hands of floating charge holders had a significant negative effect on the administration procedure in the UK prior to the 2002 Act, to the extent that they limit the number of companies that enter the administration procedure and, hence, the number of reorganisation cases.

Further research in this area is needed. Since firms in different industries respond differently to different variables, further research that includes a much larger sample size separated by industry classifications would indicate how firms in these industries respond. Further research is also needed in the area of modelling successful

reorganisation versus unsuccessful reorganisation, given different definitions of success.

CHAPTER 8

CONCLUSION

8.1 Overview of Thesis

This main objective of this thesis is to undertake an empirical investigation on the functioning of the creditor-oriented code for which the UK is a good example. The period studied is post 1986 Insolvency Act, a time when the code was becoming somewhat more debtor-friendly. When debt violation occurs (both pre- and post-1986), the existence of a private contract between the floating charge holder and the distressed firm enables the floating charge holder to take control of the firm and place it in the hands of administrative receivers. Because of the possibility that viable but distressed companies could be liquidated in administrative receivership, the Cork Committee recommendations led to the introduction, with the 1986 Act, of the administration procedure in a bid to rescue firms in distress. With the introduction of this Act, however, floating charge holders still retained veto power over the commencement of administration proceedings.

The thesis investigates three key issues: the choice of the formal resolution form between administration and administrative receivership; the characteristics of firms entering administration in the UK and the difference between those reorganising compared with those liquidating; and the subsequent performance of firms reorganised in administration relative to a matched sample of firms in the same industry and of relatively the same size. Figure 1.3 shows that firstly distressed

companies can formally be placed in either administration or administrative receivership. Secondly, those placed in administration can either reorganise or liquidate. Finally, if they reorganise, that their subsequent performance can be either successful or unsuccessful.

The first empirical chapter (Chapter 5) investigates the choice of the resolution form between administration and administrative receivership for companies with floating charge holders. The floating charge holders are able to decide whether to veto the appointment of the administrator and appoint an administrative receiver, or to allow the company to be placed into administration. The remaining empirical chapters (Chapter 6 and Chapter 7) focus on the administration procedure. The second empirical chapter (Chapter 6) investigates the ability of the administration procedure to distinguish ex-ante between firms that reorganise and those that liquidate, i.e. the characteristics of firms entering administration in the UK and the difference between those reorganising compared with those liquidating. The pertinent question here is whether there are factors that explain the difference between reorganised and liquidated firms in administration. The final empirical aspect of the thesis (Chapter 7) is the investigation of companies that reorganise in administration. I conduct a time series analysis of these firms relative to a matched sample of firms in the same industry and of relatively the same size using key financial ratios that proxy for liquidity, leverage, operating performance/profitability, and labour and asset restructuring (downsizing). The analysis provides an insight into the performance of distressed companies that reorganise in administration.

8.2 Strength of the Thesis and its Contribution

The thesis addresses gaps in the current literature on the UK insolvency code which is a prime example of a creditor-oriented code. Current research on the UK insolvency code has failed to investigate the choice of the resolution form of what are perhaps the two most important formal insolvency procedures in the UK insolvency code: administration and administrative receivership. Also, the literature on the UK insolvency code has not empirically assessed the success or lack thereof of the administration procedure introduced in the Insolvency Act 1986 to foster reorganisation in the UK. Given the length of time that the administration procedure has been in existence, it is important to assess whether the purpose(s) for which the administration procedure was introduced have been achieved.

The findings of the thesis add to the current literature on the UK insolvency code in several ways. The results show that the formal choice of the resolution form between administration and administrative receivership can be modelled using both financial and non-financial statement variables. The key findings indicate that the state of the economy and creditors' complexity are crucial factors in deciding the path that distressed firms will follow. In addition, firms spend less time in administration than in administrative receivership. This indicates that maybe the problem that resulted with the firm being placed in administration is relatively less severe. The conclusion is that the administration procedure, introduced by the 1986 Act, has catered for a class of distressed company that is significantly different from those that continue to enter administrative receivership.

The thesis also addresses the administration procedure in greater depth by investigating the key differentiating features between companies that reorganise and those that liquidate in administration. The key findings are that firms that reorganise spend less time in administration. They also have a more stable management structure than those that liquidate, in line with the efficient management retention hypothesis that firms likely to reorganise should be able to retain managers with firm-specific knowledge. These firms are also larger and are more likely to reorganise when the economy is doing well. In conclusion, the results show that certain firms placed in administration have the potential to reorganise. The administration procedure can therefore be described as an important rescue vehicle in reorganising distressed firms in the UK. The results also show that the administration procedure has the potential to 'filter' companies with some of the more suitable attributes necessary for reorganisation.

Finally, the thesis investigates differences between the performance of reorganised firms relative to a matched sample of firms in the same industry and of relatively the same size using ratios from two years prior to three years after the appointment of the administrator. The results show significant differences between the two sets of firms regarding liquidity, leverage, operating performance, and asset restructuring. In addition, for the distressed firms that reorganise, deterioration in operating performance is halted within two years after the appointment of the administrator. Two years prior to the appointment of the administrator, distressed firms show significantly higher leverage relative to the matched sample of firms. However, during the post-appointment periods, as the operating performance/profitability and liquidity of the reorganised firms improves, the leverage of reorganised firms still

remains higher than those of the matched sample firms. This is also accompanied by significant post-appointment asset restructuring by reorganised firms. These findings are significant and provide support to the ability of the administration procedure to successfully turnaround distressed firms within a short period of time.

In summary, the thesis has shown some promising results regarding the potential of the administration procedure as a rescue vehicle in the UK insolvency code. Companies placed in the procedure have some of the appropriate characteristics needed for reorganisation (e.g. they are larger and have greater ability to generate funds than those placed in administrative receivership as shown in Chapters 5), and those firms that eventually do reorganise in administration are able to return to a profitable threshold within a reasonable period of time.

8.3 Weaknesses of the Thesis

There are two major weaknesses of the thesis. It is limited to the study of formal insolvency procedures – administration and administrative receivership – in the UK insolvency code, and it ignores informal workout procedures. The rationale for this focus on formal procedures is that the change brought about by the Insolvency Act 1986 was mainly on this area which introduces the administration order.

Secondly, it is a known fact that research in this area of study is affected by the non-availability of data necessary to carry out a thorough analysis of the issue at hand (Routledge and Gadenne, 2000). For example, in Chapter 5 the hypothesis on bankruptcy costs focuses only on the indirect costs as data for the direct costs cannot

be obtained from the FAME and Insolvency Databases. Hence, there are additional factors (other than those included in the thesis) that could affect the probability of reorganisation in the UK – e.g. the relationship between the floating charge holders and the distressed firm, direct costs of bankruptcy - but because of the lack of availability of data to assess the extent to which these variables could influence the outcome of the procedure, their importance can only be referred to in a theoretical context.

In addition to the above, there are difficulties in observing the actual process of insolvency resolution because most of these companies stop producing financial reports one or two years before the appointment of the administrator or the administrative receiver. Firstly, the number of companies provided in the FAME Database was actually fewer than that supplied by the Insolvency Database. The reason is that the Insolvency Database provides the names of all companies placed in administration and administrative receivership in the UK, whereas the number of companies in the FAME Database includes only data relating to companies with sales turnover above £500,000. As a result, not all companies in the Insolvency Database are included in the FAME Database. This puts a cap on the number of usable cases before even checking for the availability of financial information. Secondly, those companies with some form of financial report, incomplete data such as the dates of the discharge of the administration order or the availability of key financial statement variables limits the number of usable sample cases and eventually hinders the power of the regression models and their predictive ability.

In addition to the above, the directors' turnover variable used in the determinants of the outcome of firms that attempt to reorganise under administration may not be an accurate measure of management turnover. This is because some companies have a policy of rotation of directors; but the lack of information regarding this issue means that the necessary information could not be obtained.

8.4 Future Research

In this thesis financial and some non-financial statement variables are used to investigate the choice of the resolution form between administration and administrative receivership. The model based on non-financial statement variables has almost equal prediction accuracy to those based on financial statement variables, which indicates the importance of non-financial statement variables. It could well be that there are factors other than those in the models that are driving the decision of the floating charge holders. Further research in this area should focus on finding additional variables that can determine the choice made by the floating charge holders in developing models that distinguish between different insolvency resolution forms.

As judges make decisions regarding the companies that should be placed into administration, the question is whether judges are good decision-makers in this respect. Morrison (2003), in his analysis of small business bankruptcy in the US, argued that judges are poor decision makers who allow failing firms to linger under the protection of the court. As the decision for companies to appoint an administrator in the UK is made by the court, it would be efficient if there were an effective filtering mechanism in place to ensure that only viable companies that are reasonably expected to recover are actually placed in administration. As the Enterprise Act 2002

introduces a more flexible approach to allow companies to proceed with reorganisation, further research is needed to investigate the extent to which the introduction of such flexibility affects the types of companies placed in administration.

The introduction of the Enterprise Act 2002 may well have created the avenue within which coalition behaviour in the UK context can be examined (since the liquidation right is no longer in the hands of the secured creditors with floating charges). Studies in the US have focused on the bankruptcy decision by firms with the interaction of key groups as major players acting in coalition (Bulow and Shoven, 1978; White 1989). The coalition that they describe as driving decision-making comprised the bank and equity holders. It would be of interest to see how the theory works in the UK context under the new administration procedure, as this could provide much needed insights regarding the reorganisation of insolvent firms in the UK insolvency code.

With the introduction of the Enterprise Act 2002, the primary insolvency procedure is now the new 'streamlined' administration regime. The qualifying floating charge holder's position seems to be greatly weakened, given that outside administration the qualifying floating charge holder has no power to enforce his or her package of security. However, the qualifying floating charge holder enjoys priority in out-of-court appointments because, if the company or its directors wish to appoint an administrator out-of-court, they must first give five days notice to the qualifying floating charge holder, who may then appoint an administrator himself. The question is whether such privileged treatment is sufficient enough to compensate for the loss of the entitlement to appoint an administrative receiver. Will this change the attitude of

secured creditors after the introduction of the Enterprise Act 2002, with regard to debt provisions and loan covenants on secured debts made to firms, relative to the pre-Enterprise Act 2002 in the UK? In a letter to the Insolvency Service the British Bankers' Association (BBA) (Thirlwell, 2001) give their total support to the government's determination to foster an enterprise, as well as a rescue, culture in the UK insolvency code. They argue that the White Paper preceeding the Enterprise Act 2002 shifts the balance of risk for lenders who hold a floating charge, and that unless floating charge holders effectively have the same powers that existed prior to the Enterprise Act 2002 with regard to selecting the insolvency practitioner of their choice, making the appointment swiftly, challenging administration proposals from other parties, and having their security realised without influence from other creditors of lower priority, changes to the behaviour of floating charge holders and banks in particular may well arise. Some of the expected changes include less support for informal rescues for distressed firms, review of the flexible overdraft facility, and a greater need for personal guarantees (a potential disincentive to would-be enterpreneurs). Given these comments from the British Bankers' Association, there is a need for further work in this area (which may or may not be empirically based due to confidentiality issues) to evaluate possible changes in the attitutes of banks and how these changes impact on the new administration procedure. In addition, with the floating charge holder in a weaker position than before the introduction of the Enterprise Act 2002, should we expect increased costs of debt from banks?

There is also the possibility that both borrowers and lending banks deal with insolvency issues differently in different industry sectors. Further research in the area

should be based on developing industry-specific models, which will serve as a guide to practitioners and firms in dealing with distress in their respective industries.

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TABLES OF CHAPTER 1

Table 1.1 Number of Companies in Administration and Administrative Receivership in the UK from 1990 to 2002.

Years		Administrator Appointments	Receivership Appointments	Sum Total
1990		**211**	**3,400**	3,611
1991		**206**	**7,815**	8,021
1992		**179**	**9,256**	9,435
1993		**79**	**5,362**	5,441
1994		**159**	**3,877**	4,036
1995		**163**	**3,226**	3,389
1996		**210**	**2,701**	2,911
1997		**196**	**1,837**	2,033
1998		**338**	**1,713**	2,051
1999		**440**	**1,618**	2,058
2000		**438**	**1,595**	2,033
2001		**698**	**1,914**	2,612
2002		**643**	**1,541**	2,184
		3,960	45,855	49,815

Source: The Department of Trade and Industry (DTI).

TABLES OF CHAPTER 2

Table 2.1 Definition of Absolute Priority Rule (APR).

Eberhart et al., (1990) define APR

The absolute priority rule states that a bankrupt firm's value is to be distributed to suppliers of capital such that senior creditors are fully satisfied before any distributions are made to junior creditors, and junior creditors are paid in full before common shareholders.

Franks and Torous (1989) define APR

Absolute priority denies any claimholder a stake in the securities of the reorganised firm, until more senior claims have been fully satisfied.

Weiss (1990) defines APR

Priority of claims is violated when senior claimants are not fully satisfied before junior claimants receive any payment.

TABLES OF CHAPTER 3

Table 3.1: Summary of Studies on Bankruptcy Costs

Study	Sample	Results
Ang et al., (1982)	Investigates a sample of 86 firms that filed for bankruptcy in the Western District of Oklahoma between 1963 and 1979.	The mean and the median direct costs as a percentage of total liquidation proceeds are 7.5% and 1.7%, respectively. When expressed as a percentage of total liabilities, they found these costs to be low.
Ravid and Sundgren (1998)	Analyse the comparative efficiency of small-firm bankruptcies using both US and Finnish firms. Compare the costs of both codes using two measures of costs.	The mean costs of reorganisation for small firms in the US are slightly higher than the costs of selling a firm as a going-concern in Finland.
Ferris et al., (1993)	Investigating a sample of liquidation and reorganisation in the US for the period 1981 to 1991. They estimate administrative costs at the initiation of bankruptcy.	Larger direct administrative costs for small firms.
Olsen (1996)	Analysing the administrative receivership and workout in the UK, estimate the median direct costs of administrative receivership using a sample of UK public companies from 1987 to 1995.	The median direct costs of administrative receivership was roughly 6% of the ex-ante proxy for firm size and 25% when measured against the ex-post value of the firm.
Warner (1977)	Analyse a sample of 11 railroad bankruptcies using sample from 1933 to 1955, focusing on the administrative costs of bankruptcy.	The average cost of bankruptcy was 5.3% of firms' market value at the time of filing.
Weiss (1990)	Analyse a sample of 37 New York and American Stock Exchange firms that filed for bankruptcy between November 1979 and December 1986.	The direct costs of bankruptcy average 3.1% of the book value of debt plus the market value of equity.
Thorburn (2000)	Study the Swedish auction bankruptcy system and made a comparison to the US Chapter 11 firms, using sample period from 1998 to 1991.	Direct costs as a percentage of pre-filing book value of assets average 6.4% for the sample of firms undergoing auctions in bankruptcy.
Lawless and Ferris (1998)	Study bankruptcy cost in Chapter 11 using a sample of 20 cases for each of six districts in the US.	Mean number of days for Chapter 11 firm was 437 days with a median of 395 days. Found a positive relationship between time in Chapter 11 and bankruptcy costs.
Bris et al., (2006)	Investigate a sample of 300 cases from Arizona and New York Federal Bankruptcy Court from 1995 to 2001.	Mean direct costs in Chapter 11 (9.5%) is significantly larger than the mean direct costs in Chapter 7 (8.1%) when

		expressed in terms of pre-bankruptcy value.
LaPucki and Doherty (2006)	Investigates professional fees and expenses awarded by US bankruptcy courts in Chapter 11 for a sample of 48 large firms from 1998 to mid-2002.	Total fees and expense were 1.4% of the debtors' assets at the beginning of the bankruptcy proceedings. Firm size and duration were key determinants of the amount of fees the firms paid to attorneys.
Armour et al., (2006)	Study assets realisation and costs incurred in the UK insolvency proceedings before and after the changes introduced in the Enterprise Act 2002, using a sample of 348 companies.	The overall mean (median) remuneration costs to total assets for administration is 29% (19%), and that for administrative receivership is 16% (11%).
Fisher and Martel (2001)	Test whether there is a difference in direct costs between reorganised firms and liquidated firms using a sample of 622 commercial bankruptcies filed under Canadian law.	Find no significant difference between direct costs in reorganisation and those in liquidation.

Table 3.2 Summary of Prior Studies in the Reorganisation versus Liquidation Literature with Size a Significant Variable.

Study	Sample	Variables
Barniv et al., (2002)	Attempt to classify and predict the final bankruptcy resolution for a sample of firms that filed for Chapter 11 between 1980 to 1995. Their sample consist of 237 firms, out of which 49 (21%) firms were acquired, 119 (50%) emerged as independent entities, and 69 (29%) were liquidated.	Size, measured as the natural logarithm of total assets, was significant.
Campbell S. (1996)	Developed a statistical model to forecast the probability of bankruptcy emergence using financial information available at the initial stage of Chapter 11 process. The study examined 121 firms, 82 reorganisation and 39 liquidations.	Size was significant and the study concludes that costs become less material to the probability of reorganisation success as firm size increases.
LoPucki (1983)	Examine the relationship between the outcome of the reorganisation process and several individual variables using 41 firms that petitioned the Bankruptcy court of the Western District of Missouri during 1980.	Size is significant. Larger firms were more likely to reorganise.
Pond, K (1997)	Investigated the rescue of insolvent companies in the UK, via administrative receivership using questionnaires sent to administrative receivers on the possible causes of failure. The sample consisted of 99 technically insolvent firms during 1993.	He found that larger firms are more likely to emerge from distress as banks increase their effort to avert failure.

Table 3.3 Summary of Prior Studies in the Reorganisation versus Liquidation Literature with Size not Significant.

Study	Sample	Variables
Hong (1983)	Developed a model that distinguished three categories of financially distressed firms- those that reorganised, liquidate, and those that continue operation without filing during the period 1970 to 1979.	The size variable was insignificant in the model.
Casey et al., (1986)	Examine the potential information value of accounting data in distinguishing firms that reorganise versus those that liquidate using data for the period 1970 to 1981.	Size, proxied by the natural logarithm of total assets was not significant in discriminating between firms that reorganised from those that liquidate.

Table 3.4 : Effect of Free Assets on the Reorganisation of Firms

Study	Sample	Variables
Casey et al., (1986)	Empirically investigated the theoretical model proposed by White (1984) for distinguishing between firms that successfully reorganised from those that liquidated using data for the period 1970 to 1981. They examined classification accuracy for a multivariate model using data from both a predictive and a holdout sample of 113 firms (57 liquidations and 56 successful reorganisation).	The level of free assets was found to be a significant discriminating variable for the 11 year period as a whole, as well as for the two sub-periods examined separately
Fisher and Martel (2001)	Empirically examined the model proposed by White (1984) using micro data on 640 bankrupt firms in Canada for the period 1977 to 1988. Sample contains 326 commercial liquidations, and 314 commercial reorganisation.	The free assets have a significant positive effect on the probability that the firm would choose reorganisation over liquidation.
Hong (1983)	The author analysed firms that were successfully reorganised from those that liquidated during the period 1970 to to 1981. Success was defined as firms with confirmed reorganisation plan and liquidation as firms classified as bankrupt by the court. Three logistic regressions were constructed, one for each financial year for the three years prior to the filing for bankruptcy.	The results show that free asset was positively related to successful reorganisation and as statistically significant in all three years.

Table 3.5: Definitions of Financial Distress

Asquith et al., (1994)
A firm is described as being financially distressed if the firm's earnings before interest and tax, depreciation and amortisation (EBITDA) are less than its reported interest expense, or if in one year EBITDA is less than 80 % of its interest expense.
Denis and Denis (1995)
Financial distress has also be defined as a restructuring of debt claims for the purposes of avoiding or resolving defaults or a filing for Chapter 11 under the US Code.
Olsen (1996)
He defines a firm to be financially distressed if it exchanges any of its current debt contracts for new securities with a lower value and/or priority.

Table 3.6: Summary of Studies on the Effect of Liquidity Risk, Solvency Risk, and Debt Covenant Violation on Reorganisation:

Bryan et e.l., (2002)	Examined the probability of emergence by firms that file for bankruptcy using information available at the time of bankruptcy filing to assess the probability emergence. Their sample consists of 414 firms that emerged from bankruptcy and 34 firms that liquidated.	Firms that emerge from bankruptcy exhibit greater solvency than firms that liquidate. Also they found that the greatest proportion of firms that emerged from bankruptcy belong to low solvency risk.
Routledge and Gadenne (2000)	Investigated distressed companies in Australia since the introduction of voluntary administration (VA) as an alternative to liquidation, using a sample of 20 reorganised and 20 liquidated companies for the period from 1993 to 1995. They investigawhether distressed companies that reorganised can be distinguished from those that are liquidated under voluntary administration.	Their logistic model shows that the outcome of a VA is more likely to be reorganisation where the company has a high level of short-term liquidity.
Chen and Wei (1993)	Study the event of violation of debt covenant for a sample of 128 violators from the period 1985 to 1988 in the US.	They found that creditors often waive violations when the they believe that the violations are simply a technical default rather than an early indicator of distress. 44% of debt covenant violations are waived and this is more likely for firms with lower leverage.
Beneish and Press (1993)	Investigate the costs of technical violation for a sample of 91 firms that violated accounting-based covenants in debt arrangement between 1983 and 1987, focusing on the refinancing and restructuring costs. Their sample includes firms for which the technical violation was sufficiently significant to merit disclosure.	Their results show that violators are more leveraged, i.e., they have poor solvency.

Fisher and Martel (1995)	They provided insight into what creditors consider important in determining whether reorganisation is likely to be viable.	They found that the accepted plans include a substantial cash payment to creditors, and this was made possible by the firm's short-term liquidity.

TABLES OF CHAPTER 5

Table 5.1: Administration and Administrative Receivership Filings

This table displays the time series distribution of companies that entered administration and administrative receivership procedures between 1996 and 2001. To increase our sample size financial statements variables two years prior (i.e. accounts published during the second year prior to failure) to the appointment of the administrator and administrative receiver was used.

		Administration Appointments					Receivership Appointments				
Years	Total	N^	%*	%+ Chg	Cases IS	Cases BS	N^	%*	%+ Chg	Cases IS	Cases BS
1996	1,604	221	13.78	-	42	57	1,383	86.22	-	243	404
1997	1,461	215	14.72	-2.79	36	59	1,246	85.28	-9.91	271	474
1998	1,413	268	18.97	24.65	70	100	1,145	81.03	-8.11	344	553
1999	1,567	355	22.65	32.46	99	151	1,212	77.35	5.85	400	631
2000	1,535	429	27.95	20.85	104	177	1,106	72.05	-8.75	323	520
2001	1,844	578	31.34	34.73	148	237	1,266	68.66	14.47	355	579
Total	9,424	2,066			499	781	7,358			1,936	3,161

IS = Cases available with income statement information 2 years before the appointment of the administrator or receiver.
BS = Cases available with balance sheet information 2 years before the appointment of the administrator or receiver.
^ The data source for the number of cases per year was provided by the Insolvency Database.
* Represent percentage of cases along the rows (in years).
+ represent percentage change in the number of cases in each year. Defined as {(current year number – previous year number)/previous year number *100})

Table 5.2: Definition of Variables

This table displays the variables used in the regression analysis following the different hypotheses. In addition, the table also shows the expected impact of the selected variables on the dependent variable ADREC, which takes a value of 1 if the company is placed in administration and 0 if the company is placed in administrative receivership. To increase our sample size financial statements variables two years prior (i.e. accounts published during the second year prior to failure) to the appointment of the administrator and administrative receiver was used.

Hypotheses and Variables		Variables Abbreviation	Construction	Expected Sign
H1	Indirect Costs	TIME	[(Date of discharge – Date of appointment)/365].	+
H2	Information Asymmetry	LNTOTA	Log (Total assets).	+
H3	Intangibles	INDMY	1 if the industry is high-technology, 0 otherwise.	+
H4	Ability to Raise Funds	LNTANGTL	[Log (Tangible assets / Total liabilities) × 100].	+
	Presence of Holding Company	DHLD	Dummy = 1 if there is a holding company, 0 otherwise.	+
H5	Growth of Economy	G	FTSE All Share Price Index growth rate in the year of appointment	-
H6	Creditors Complexity			
	Trade Creditors %	TCCL	[(Trade creditors / Current liabilities) x 100].	+
	Floating Charge %	FCP	[(Number of secured creditors with floating charge / Number of secured creditors) x 100].	-
	Fixed Charge %	FXCP	[(Number of secured creditors with fixed charge / Number of secured creditors) x 100].	-

Table 5.3 A: Descriptive Statistics and Univariate Tests

The tables display descriptive statistics for the variables used in the analysis and provides univariate tests on the differences in means and medians for firms that entered administration and administrative receivership from 1996 to 2001. Differences in medians are calculated using the Mann-Whitney Test. To increase our sample size financial statements variables two years prior (i.e. accounts published during the second year prior to failure) to the appointment of the administrator and administrative receiver was used.

				Administration = 1			Administrative Receivership = 0			p-value difference	
VAR.	Total	Mean	Median	Total	Mean	Median	Total	Mean	Median	Mean	Median
TIME	4,597	3.04	2.69	880	2.42	1.99	3,717	3.19	2.81	0.00	0.00
TOTA	3,942	3,870.89	1143	778	4,684.56	1363	3,164	3,670.82	1,102	0.17	0.00
LNTOTA	3,862	7.07	7.08	766	7.24	7.23	3,096	7.03	7.04	0.00	0.00
INDMY	4,404	0.46	0.00	915	0.48	0.00	3,489	0.46	0.00	0.17	0.16
LNTANGTL	3,585	3.16	3.39	733	3.29	3.47	2,852	3.13	3.37	0.00	0.01
DHLD	5,328	0.094	0.00	1,055	0.18	0.00	4,273	0.07	0.00	0.00	0.00
G	5,327	0.05	0.11	1,054	0.01	-0.08	4,273	0.06	0.11	0.00	0.00
TCCL	2,302	38.11	37.30	474	41.17	40.89	1,828	37.32	36.48	0.00	0.00
FCP	5,248	86.53	100.00	1,061	83.75	100.00	4,187	87.23	100.00	0.00	0.00
FXCP	5,251	36.12	25.00	1,061	34.25	25.00	4,190	36.59	20.00	0.09	0.28

Table 5.3 B: Descriptive Statistics and Univariate Tests

The tables display descriptive statistics for the variables used in the analysis and provides univariate tests on the differences in means and medians for firms that entered administration and administrative receivership from 1996 to 2001. Differences in medians are calculated using the Mann-Whitney Test. Financial statements variables one year prior (i.e. accounts published during the year prior to failure) to the appointment of the administrator and administrative receiver was used.

				Administration = 1			Administrative Receivership = 0			p-value difference	
VAR.	Total	Mean	Median	Total	Mean	Median	Total	Mean	Median	Mean	Median
TIME	4,597	3.04	2.69	880	2.42	1.99	3,717	3.19	2.81	0.00	0.00
TOTA	1,395	4,532.53	1058	321	5,603.37	1,309	1,074	4,212.47	1012	0.35	0.03
LNTOTA	1,348	7.08	7.04	315	7.19	7.21	1,033	7.04	6.98	0.10	0.09
INDMY	4,404	0.46	0.00	915	0.48	0.00	3,489	0.46	0.00	0.17	0.16
LNTANGTL	1,246	3.06	3.30	304	3.24	3.45	942	3.00	3.24	0.01	0.01
DHLD	5,328	0.094	0.00	1,055	0.18	0.00	4,273	0.07	0.00	0.00	0.00
G	5,327	0.05	0.11	1,054	0.01	-0.08	4,273	0.06	0.11	0.00	0.00
TCCL	785	37.68	36.73	194	40.08	41.52	591	36.89	35.29	0.06	0.02
FCP	5,248	86.53	100.00	1,061	83.75	100.00	4,187	87.23	100.00	0.00	0.00
FXCP	5,251	36.12	25.00	1,061	34.25	25.00	4,190	36.59	20.00	0.09	0.28

Table 5.4 A: Correlation Matrix

This table displays the correlation matrix for the variables used in the analysis for firms that were placed in administration and administrative receivership from 1996 to 2001. To increase our sample size financial statements variables two years prior (i.e. accounts published during the second year prior to failure) to the appointment of the administrator and administrative receiver was used.

	ADREC	TIME	LNTOTA	INDMY	LNTANGTL	DHLD	G	TCCL	FCP	FXCP
ADREC	1.00									
TIME	-0.17	1.00								
LNTOTA	0.06	0.15	1.00							
INDMY	0.02	-0.05	-0.08	1.00						
LNTANGTL	0.05	-0.03	0.14	-0.01	1.00					
DHLD	0.14	0.08	0.18	-0.03	-0.04	1.00				
G	-0.14	0.06	-0.07	-0.02	-0.01	-0.17	1.00			
TCCL	0.02	-0.02	-0.06	-0.05	-0.13	-0.03	0.01	1.00		
FCP	-0.06	-0.02	-0.18	0.04	-0.11	-0.06	0.02	0.02	1.00	
FXCP	-0.02	0.04	0.23	-0.06	0.19	0.02	0.04	-0.04	-0.47	1.00

Table 5.4 B: Correlation Matrix

This table displays the correlation matrix for the variables used in the analysis for firms that were placed in administration and administrative receivership from 1996 to 2001. Financial statements variables one year prior (i.e. accounts published during the year prior to failure) to the appointment of the administrator and administrative receiver was used.

	ADREC	TIME	LNTOTA	INDMY	LNTANGTL	DHLD	G	TCCL	FCP	FXCP
ADREC	1.00									
TIME	-0.17	1.00								
LNTOTA	0.04	0.20	1.00							
INDMY	0.02	-0.05	-0.07	1.00						
LNTANGTL	0.08	-0.06	0.15	-0.00	1.00					
DHLD	0.14	0.08	0.15	-0.03	-0.07	1.00				
G	-0.14	0.06	-0.08	-0.02	-0.04	-0.17	1.00			
TCCL	0.07	0.01	0.05	-0.08	-0.08	-0.03	0.01	1.00		
FCP	-0.06	-0.02	-0.17	0.04	-0.07	-0.06	0.02	-0.01	1.00	
FXCP	-0.02	0.04	0.18	-0.06	0.21	0.02	0.04	-0.01	-0.47	1.00

Table 5.5 A: Logistic Models on Determinants of the Resolution Form Between Administration and Administrative Receivership

This table shows logistic regressions of the determinants of administration and administrative receivership filings for firms that started formal insolvency procedures between 1996 and 2001. To increase our sample size financial statements variables two years prior (i.e. accounts published during the second year prior to failure) to the appointment of the administrator and administrative receiver was used. The probability values are given in the brackets.

Models	**Expected Sign**	**1**	**2**	**3**
Variable				
C		-1.67 (0.00)	-1.43 (0.00)	0.18 (0.42)
TIME	+	-0.32 (0.00)	-0.32 (0.00)	-0.28 (0.00)
LNTOTA	+	0.170 (0.00)	0.13 (0.01)	
INDMY	+	0.123 (0.32)		0.143 (0.09)
LNTANGTL	+	0.130 (0.02)	0.17 (0.00)	
DHLD	+	1.45 (0.00)	1.44 (0.00)	1.201 (0.00)
G	-	-1.361 (0.00)	-1.32 (0.00)	-1.849 (0.00)
TCCL	+	0.010 (0.00)	0.01 (0.00)	
FCP	_	-0.01 (0.00)	-0.01 (0.00)	-0.009 (0.00)
FXCP	_	-0.01 (0.00)	-0.01 (0.00)	-0.003 (0.01)

McFadden R-Squared	0.11	0.11	0.072
LR Statistics	207.65	214.54	273.58
Prob. (LR Stats)	0.00	0.00	0.00
Hosmer- Lemeshow (H-L) test	12.21	24.93	43.84
Prob. (Chi-Sq)	0.14	0.00	0.00
Prediction Accuracy:	(cut off = 0.22) %	(cut off = 0.21) %	(cut off = 0.20) %
Administration	61.73	62.80	64.22
Administrative Receivership	67.78	64.86	64.13
Total	66.48	64.43	64.14
Observations	1,823	1,993	3,807
Administration	392	422	763
Administrative Receivership	1,431	1,571	3,044

Table 5.5 B: Logistic Models on Determinants of the Resolution Form Between Administration and Administrative Receivership

This table shows logistic regressions of the determinants of administration and administrative receivership filings for firms that started formal insolvency procedures between 1996 and 2001. Financial accounting variables one year prior (i.e. accounts published during the year prior to failure) to the appointment of the administrator and administrative receiver were used. The probability values are given in the brackets.

Models	**Expected Sign**	**1**	**2**	**3**
Variable				
C		-1.27 (0.17)	-0.84 (0.30)	0.18 (0.42)
TIME	+	-0.39 (0.00)	-0.36 (0.00)	-0.28 (0.00)
LNTOTA	+	0.21 (0.02)	0.15 (0.08)	
INDMY	+	0.10 (0.63)		0.143 (0.09)
LNTANGTL	+	0.17 (0.07)	0.21 (0.02)	
DHLD	+	1.57 (0.00)	1.46 (0.00)	1.201 (0.00)
G	-	-1.84 (0.01)	-1.66 (0.02)	-1.849 (0.00)
TCCL	+	(0.02) (0.00)	0.01 (0.01)	
FCP	_	-0.01 0.01	-0.02 (0.00)	-0.009 (0.00)
FXCP	_	-0.01 (0.00)	-0.01 (0.00)	-0.003 (0.01)

McFadden R-Squared	0.16	0.14	0.072
LR Statistics	107.60	104.05	273.58
Prob. (LR Stats)	0.00	0.00	0.00
Hosmer- Lemeshow (H-L) test	8.59	12.66	43.84
Prob. (Chi-Sq)	0.38	0.12	
Prediction Accuracy:	(cut off = 0.26) %	(cut off = 0.25) %	(cut off = 0.20) %
Administration	70.13	70.24	64.22
Administrative Receivership	68.79	65.31	64.13
Total	69.14	66.57	64.14
Observations	593	661	3807
Administration	154	168	763
Administrative Receivership	439	493	3044

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Table 6.1A: Time Series of Companies that Reorganise and Liquidate in Administration: Sample 1

This table displays the time series distribution of companies that reorganise in administration procedure between 1996 and 2001. The distribution of companies is limited to those cases where 'discharge of administration order' is filed at Companies House.

Years	Total	Reorganise	Liquidate
1996	75	30	45
1997	81	44	37
1998	119	54	65
1999	191	72	119
2000	224	64	160
2001	281	85	196
Total	971	349	622

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Table 6.1B: Time Series of Companies that Reorganise and Liquidate in Administration: Sample 2

This table displays the time series distribution of companies that reorganise in administration procedure between 1996 and 2001.

Years	Total	Reorganise	Liquidate
1996	82	34	48
1997	92	52	40
1998	137	57	80
1999	197	76	121
2000	223	62	161
2001	296	91	205
Total	1027	372	655

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Table 6.1C: Time Series of Companies that Reorganise and Liquidate in Administration: Sample 3

This table displays the time series distribution of companies that reorganise in administration procedure between 1996 and 2001.

Years	Total	Reorganise	Liquidate
1996	72	29	43
1997	87	49	38
1998	122	50	72
1999	175	66	109
2000	175	49	126
2001	223	77	146
Total	854	320	534

Table 6.2: Definition of Variables

This table displays the definition of the variables used in the logistics regression models in Table 6.5. In addition, the table also shows the expected impact of the selected independent variables on the dependent variable ARL which takes a variable of 1 if the company is reorganise and 0 if the company liquidates in administration.

Hypotheses and Variables		Variables abbreviation	Construction	Expected sign
	Dependent Variables			
	Administration set	ARL	Dummy = 1 if the company reorganises, 0 if it liquidates.	
	Independent Variables			
H1	Financial Distress	Distress	Dummy = 1 if the earnings before interest, tax, depreciation and amortization (EBITDA), are greater than 80% of interest expenses, and 0 otherwise.	+
H2	Company size	LNTOTA	Log (Total assets).	+
H3A	Liquidity	CR	(Current assets / Current liabilities).	+
H3B	Solvency	LNTATL	[Log (Total assets / Total liabilities) x 100].	+
H4	Ability to Raise Funds	TANGTL	[(Tangible assets / Total liabilities) x 100].	+
	Presence of Holding Company	DHLD	Dummy = 1 if there is a holding company, 0 otherwise.	+
H5	Profitability	EBITTA	[(Earnings before interest and tax / Total assets) x 100]	+
H6	Growth of Economy	G	FTSE All Share Price Index growth rate in the year of appointment.	+
H7	Time in Admin.	TIP	[(Date of discharge of admin. order – Date of admin. order) / 365].	-
H8	Management Stability	ΔDRT	Dummy = 1 if there is a change in directors within two years prior to the appointment of administrator, 0 otherwise.	-
H9	Relationship Banking	Age	[(Date of incorporation – Date of appointment of administrator) / 365].	+

Table 6.3A: Descriptive Statistics and Univariate Tests: Sample 1

The tables display descriptive statistics for the variables used in the analysis and provides univariate tests on the differences in means and medians for firms that reorganise and those that liquidate in administration from 1996 to 2001. Differences in medians are calculated using the Mann-Whitney Test.

				Reorganisation = 1			Liquidation = 0			p-value difference	
VAR.	Total	Mean	Median	Total	Mean	Median	Total	Mean	Median	Mean	Median
Distress	408	0.56	1.00	157	0.59	1.00	251	0.53	1.00	0.25	0.32
TOTA	720	16127.23	1372.00	264	37926.36	1736.00	456	3506.68	1209.00	0.16	0.00
LNTOTA	709	7.26	7.25	262	7.50	7.49	447	7.13	7.11	0.00	0.00
CR	704	1.18	0.94	260	1.22	0.95	444	1.15	0.93	0.76	0.44
TATL	707	149.93	115.79	260	149.49	114.86	447	150.19	116.15	0.98	0.90
LNTATL	705	4.78	4.75	259	4.76	4.74	446	4.79	4.76	0.44	0.87
TANGTL	685	45.47	33.13	250	42.46	29.08	435	47.20	34.13	0.23	0.06
DHLD	969	0.18	0.00	347	0.24	0.00	622	0.14	0.00	0.00	0.02
EBITTA	481	-16.98	-0.42	192	-18.35	-0.19	289	-16.07	-0.47	0.77	0.97
G	966	0.02	-0.08	345	0.04	0.11	621	0.00	-0.08	0.00	0.00
TIP	964	2.46	2.11	345	1.76	1.17	619	2.85	2.65	0.00	0.00
ΔDRT	970	0.56	1.00	348	0.51	1.00	622	0.60	1.00	0.01	0.02
Age	970	15.91	9.28	349	17.49	10.36	621	15.02	8.73	0.05	0.09

Table 6.3B: Descriptive Statistics and Univariate Tests: Sample 2

The tables display descriptive statistics for the variables used in the analysis and provides univariate tests on the differences in means and medians for firms that reorganise and those that liquidate in administration from 1996 to 2001. Differences in medians are calculated using the Mann-Whitney Test.

				Reorganisation = 1			Liquidation = 0			p-value difference	
VAR.	Total	Mean	Median	Total	Mean	Median	Total	Mean	Median	Mean	Median
Distress	425	0.56	1.00	165	0.58	1.00	260	0.54	1.00	0.50	0.56
TOTA	757	15445.65	1338.00	281	35640.05	1675.00	476	3524.17	1148.50	0.163	0.002
LNTOTA	746	7.231	7.218	279	7.425	7.440	467	7.115	7.092	0.004	0.004
CR	740	1.223	0.930	276	1.340	0.940	464	1.153	0.920	0.443	0.405
TATL	743	150.50	116.12	276	151.81	116.25	467	149.72	116.12	0.93	0.63
LNTATL	741	4.779	4.755	275	4.763	4.757	466	4.789	4.755	0.541	0.602
TANGTL	722	46.753	33.233	266	46.757	30.527	456	46.750	33.813	0.998	0.258
DHLD	1025	0.176	0.000	370	0.254	0.000	655	0.134	0.000	0.000	0.000
EBITTA	497	-16.643	-0.466	200	-17.657	-0.951	297	-15.961	-0.438	0.821	0.859
G	1022	0.020	-0.080	367	0.046	0.109	655	0.005	-0.080	0.000	0.001
TIP	948	2.438	2.105	345	1.705	1.112	603	2.857	2.647	0.000	0.000
ΔDRT	1026	0.558	1.000	371	0.485	0.000	655	0.600	1.000	0.000	0.002
Age	1008	15.939	9.107	358	17.458	10.122	650	15.103	8.730	0.062	0.092

Table 6.3C: Descriptive Statistics and Univariate Tests: Sample 3

The tables display descriptive statistics for the variables used in the analysis and provides univariate tests on the differences in means and medians for firms that reorganise and those that liquidate in administration from 1996 to 2001. Differences in medians are calculated using the Mann-Whitney Test.

				Reorganisation = 1			Liquidation = 0			p-value difference	
VAR.	Total	Mean	Median	Total	Mean	Median	Total	Mean	Median	Mean	Median
Distress	335	0.55	1.00	135	0.56	1.00	200	0.55	1.00	0.75	0.78
TOTA	616	17403.74	1273.5	236	39923.97	1577.5	380	3417.50	1107.5	0.19	0.01
LNTOTA	605	7.18	7.177	234	7.337	7.399	371	7.081	7.071	0.03	0.023
CR	601	1.197	0.93	231	1.216	0.94	370	1.185	0.92	0.909	0.503
TATL	604	152.71	114.60	232	153.55	114.36	372	152.19	115.36	0.96	0.89
LNTATL	602	4.765	4.743	231	4.737	4.740	371	4.783	4.749	0.341	0.918
TANGTL	588	45.918	31.938	223	46.027	28.640	365	45.852	33.632	0.971	0.226
DHLD	852	0.156	0.000	318	0.252	0.000	534	0.099	0.000	0.000	0.000
EBITTA	398	-17.866	-0.893	167	-21.507	-1.606	231	-15.234	-0.466	0.428	0.612
G	849	0.032	0.109	315	0.051	0.109	534	0.020	-0.080	0.004	0.029
TIP	791	2.091	1.775	300	1.527	1.015	491	2.435	2.211	0.000	0.000
ΔDRT	853	0.562	1.000	319	0.495	0.000	534	0.601	1.000	0.003	0.010
Age	837	15.913	8.868	308	17.215	9.836	529	15.154	8.447	0.139	0.148

Table 6.4A: Correlation Matrix: Sample 1

This table shows correlation matrix for the variables used in the logistics models presented in Table 6.5A.

	ARL	Distress	LNTOTA	CR	LNTATL	TANGTL	DHLD	EBITTA	G	TIP	ΔDRT	Age
ARL	1.00											
Distress	0.06	1.00										
LNTOTA	0.12	0.03	1.00									
CR	0.01	-0.03	0.07	1.00								
LNTATL	-0.03	0.29	0.24	0.48	1.00							
TANGTL	-0.05	0.06	0.15	0.07	0.45	1.00						
DHLD	0.12	-0.02	0.22	0.11	0.01	-0.01	1.00					
EBITTA	-0.01	0.29	0.24	0.02	0.41	0.05	0.03	1.00				
G	0.13	0.08	0.00	-0.04	0.00	-0.04	-0.14	0.06	1.00			
TIP	-0.29	-0.04	0.15	-0.05	-0.02	0.04	0.06	0.02	0.10	1.00		
ΔDRT	-0.09	-0.08	0.12	-0.01	0.01	-0.06	0.04	0.04	-0.03	0.06	1.00	
Age	0.06	-0.11	0.22	0.09	0.17	0.12	0.12	0.04	0.02	0.02	-0.03	1.00

Table 6.4B: Correlation Matrix: Sample 2

This table shows correlation matrix for the variables used in the logistics models presented in Table 6.5B.

	ARL	Distress	LNTOTA	CR	LNTATL	TANGTL	DHLD	EBITTA	G	TIP	ΔDRT	Age
ARL	1.00											
Distress	0.03	1.00										
LNTOTA	0.10	0.03	1.00									
CR	0.03	-0.03	0.07	1.00								
LNTATL	-0.02	0.29	0.24	0.48	1.00							
TANGTL	0.00	0.06	0.15	0.07	0.45	1.00						
DHLD	0.15	-0.02	0.22	0.11	0.01	-0.01	1.00					
EBITTA	-0.01	0.29	0.24	0.02	0.41	0.05	0.03	1.00				
G	0.13	0.08	0.00	-0.04	0.00	-0.04	-0.14	0.06	1.00			
TIP	-0.31	-0.04	0.15	-0.05	-0.02	0.04	0.06	0.02	0.10	1.00		
ΔDRT	-0.11	-0.08	0.12	-0.01	0.01	-0.06	0.04	0.04	-0.03	0.06	1.00	
Age	0.06	-0.11	0.22	0.09	0.17	0.12	0.12	0.04	0.02	0.02	-0.03	1.00

Table 6.4C: Correlation Matrix: Sample 3

This table shows correlation matrix for the variables used in the logistics models presented in Table 6.5C.

	ARL	Distress	LNTOTA	CR	LNTATL	TANGTL	DHLD	EBITTA	G	TIP	ΔDRT	Age
ARL	1.00											
Distress	0.02	1.00										
LNTOTA	0.09	0.03	1.00									
CR	0.00	-0.03	0.07	1.00								
LNTATL	-0.04	0.29	0.24	0.48	1.00							
TANGTL	0.00	0.06	0.15	0.07	0.45	1.00						
DHLD	0.20	-0.02	0.22	0.11	0.01	-0.01	1.00					
EBITTA	-0.04	0.29	0.24	0.02	0.41	0.05	0.03	1.00				
G	0.10	0.08	0.00	-0.04	0.00	-0.04	-0.14	0.06	1.00			
TIP	-0.28	-0.04	0.15	-0.05	-0.02	0.04	0.06	0.02	0.10	1.00		
ΔDRT	-0.10	-0.08	0.12	-0.01	0.01	-0.06	0.04	0.04	-0.03	0.06	1.00	
Age	0.05	-0.11	0.22	0.09	0.17	0.12	0.12	0.04	0.02	0.02	-0.03	1.00

Table 6.5A Logistic Models: Sample 1.

The table below shows logistics regressions for firms that reorganise and those that liquidated in administration between 1996 and 2001. The dependent variable is a binary variable that takes the value of 1 if the firm is reorganised in administration and 0 if the firm is liquidated. The probability values are in brackets.

Models	**1**	**2**	**3**
Variables			
C	0.94 (0.64)	0.87 (0.55)	-1.55 (0.00)
Distress	0.35 (0.16)	0.30 (0.22)	
LNTOTA	0.41 (0.00)	0.41 (0.00)	0.28 (0.00)
CR	0.45 (0.07)	0.38 (0.08)	
LNTATL	-0.92 (0.04)	-0.86 (0.01)	
TANGTL	0.00 (0.52)		
DHLD	0.54 (0.06)	0.52 (0.07)	0.65 (0.00)
EBITTA	0.00 (0.50)		
G	3.06 (0.00)	2.99 (0.00)	2.52 (0.00)
TIP	-0.52 (0.00)	-0.52 (0.00)	-0.48 (0.00)
ΔDRT	-0.38 (0.11)	-0.39 (0.10)	-0.29 (0.10)
Age	0.01 (0.10)	0.01 (0.09)	
McFadden R-Squared	0.16	0.16	0.12
LR Statistics	86.73	85.63	113.90
Prob. (LR Stats)	0.00	0.00	0.00
Hosmer- Lemeshow (H-L) test	5.10	5.17	32.26
Prob. (Chi-Sq)	0.75	0.74	0.00
Prediction Accuracy: (cut off)	0.4 %	0.4 %	0.4 %
Reorganisation	73.2	67.11	66.02
Liquidation	67.76	73.20	73.42
Total	71.14	70.90	70.71
Observations	402	402	700
Reorganisation	152	152	256
Liquidation	250	250	444

Table 6.5B Logistic Models: Sample 2.

The table below shows logistics regressions for firms that reorganise and those that liquidated in administration between 1996 and 2001. The dependent variable is a binary variable that takes the value of 1 if the firm is reorganised in administration and 0 if the firm is liquidated. The probability values are in brackets.

Models	**1**	**2**	**3**
Variable			
C	1.13 (0.57)	0.92 (0.53)	-1.28 (0.01)
Distress	0.22 (0.39)	0.17 (0.51)	0.27 (0.00)
LNTOTA	0.36 (0.00)	0.36 (0.00)	
CR	0.42 (0.09)	0.33 (0.13)	
LNTATL	-0.82 (0.07)	-0.73 (0.03)	
TANGTL	0.00 (0.43)		
DHLD	0.63 (0.03)	0.60 (0.04)	0.75 (0.00)
EBITTA	0.00 (0.50)		
G	3.65 (0.00)	3.57 (0.00)	3.03 (0.00)
TIP	-0.54 (0.00)	-0.54 (0.00)	-0.53 (0.00)
ΔDRT	-0.53 (0.03)	-0.55 (0.02)	-0.46 (0.01)
Age	0.01 (0.11)	0.01 (0.10)	
McFadden R-Squared	0.17	0.17	0.15
LR Statistics	91.46	90.10	132.18
Prob. (LR Stats)	0.00	0.00	0.00
Hosmer- Lemeshow (H-L) test	3.25	3.55	21.32
Prob. (Chi-Sq)	0.92	0.89	0.06
Prediction Accuracy: (cut off)	0.4 %	0.4 %	0.4 %
Reorganisation	68.87	66.89	66.93
Liquidation	72.24	70.20	72.75
Total	70.96	68.94	70.60
Observations	396	396	687
Reorganisation	151	151	254
Liquidation	245	245	433

Table 6.5C Logistic Models: Sample 3.

The table below shows logistics regressions for firms that reorganise and those that liquidated in administration between 1996 and 2001. The dependent variable is a binary variable that takes the value of 1 if the firm is reorganise in administration and 0 if the firm is liquidated. The probability values are in brackets.

Models	**1**	**2**
Variable		
C	1.27 (0.56)	-0.98 (0.07)
Distress	0.14 (0.63)	
LNTOTA	0.30 (0.01)	0.22 (0.00)
CR	0.19 (0.54)	
LNTATL	-0.72 (0.14)	
TANGTL	0.00 (0.60)	
DHLD	0.96 (0.00)	1.01 (0.00)
EBITTA	0.00 (0.41)	
G	3.56 (0.00)	3.12 (0.00)
TIP	-0.62 (0.00)	-0.60 (0.00)
ΔDRT	-0.46 (0.08)	-0.34 (0.00)
Age	0.01 (0.13)	
McFadden R-Squared	0.15	0.130
LR Statistics	64.81	96.34
Prob. (LR Stats)	0.00	0.00
Hosmer- Lemeshow (H-L) test	12.06	11.85
Prob. (Chi-Sq)	0.15	0.16
Prediction Accuracy: (cut off)	0.4 %	0.40 %
Reorganisation	70.40	66.98
Liquidation	71.28	72.22
Total	70.93	70.20
Observations	313	557
Reorganisation	125	215
Liquidation	188	342

TABLES OF CHAPTER 7

Table 7.1: Number of Reorganised Companies in Administration by Year.

This table displays the time series numbers of companies that reorganised in administration procedure between 1996 and 2001.

Years	Reorganised
1996	7
1997	17
1998	13
1999	23
2000	19
2001	42
Total	121

Table 7.2: Definition of Variables

This table displays the definition of the variables used in the subsequent analysis in Tables 7.3 and 7.4. In addition, the table also shows the expected path of the selected variables over time for firm that reorganise in administration.

Hypotheses and Variables		Variables abbreviation	Definition	Expected Path
	Independent Variables			
H1A	Liquidity			
	Liquid Ratio	LIQ	(Current assets - Stock)/ Current liabilities	Increasing
	Current Ratio	CR	(Current assets)/ Current liabilities	Increasing
H1B	Leverage	TLTA	(Total liabilities / Total assets)*100	Increasing
H2	Operating Performance			
		EBITTA	(Operating profit before interest and tax / Total assets)*100	Increasing
		EBITDATA	(Operating profit before interest, tax, depreciation and amortisation/ Total assets)*100	Increasing
		GPTA	(Gross profits / Total assets)*100	Increasing
H3A	Labour Restructuring	NE	Number of Employees	Falling
H3B	Asset Restructuring			
		LNTOTA	Log (Total assets)	Falling
		DTA	((Total asset*$_t$ – Total asset$_{t-1}$)/ Total asset$_{t-1}$)*100	Falling
		DDTA	((Total asset$_t$ – Total asset$_{2 \text{ years before the appointment of the administrator}}$)/ Total asset$_{2 \text{ years before the appointment of the administrator}}$)*100	Falling

** Total asset$_t$ is assets in the current period.*
** Total asset$_{t-1}$ is assets in the previous period.*

Table 7.3A: Descriptive statistics for differences in means and medians 2 year before the appointment of the administrator:

		Sample	Comparable	Sample	Comparable	Diff	Diff
Var.	**N**	**Means**	**Means**	**Medians**	**Medians**	**Means**	**Medians**
CR	72	0.88	1.15	0.94	1.14	0.04**	0.05**
LIQ	70	0.69	0.98	0.61	0.95	0.02**	0.02**
TLTA	70	93.84	73.84	83.21	62.35	0.06*	0.02**
EBITTA	42	0.74	4.04	2.42	4.11	0.64	0.47
EBITDATA	42	6.01	8.57	5.44	10.770	0.72	0.15
GPTA	38	48.17	45.83	33.33	35.59	0.88	0.56
LNTOTA	72	7.16	7.16	7.24	7.24	0.99	0.96
NE	34	109.77	92.35	76.00	52.00	0.69	0.24

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

Table 7.3 B: Descriptive statistics for differences in means and medians 1 year before the appointment of the administrator:

		Sample	Comparable	Sample	Comparable	Diff	Diff
Var.	**N**	**Means**	**Means**	**Medians**	**Medians**	**Means**	**Medians**
CR	62	0.72	1.63	0.67	1.12	0.05**	0.00***
LIQ	64	0.53	1.38	0.49	0.84	0.06*	0.00***
TLTA	62	99.26	66.55	95.20	59.43	0.00***	0.00***
EBITTA	38	-10.06	3.56	-4.32	3.70	0.05**	0.01***
EBITDATA	38	-4.47	9.07	0.75	9.06	0.05**	0.02**
GPTA	30	38.00	47.05	32.55	34.50	0.49	0.30
LNTOTA	64	7.35	7.37	7.24	7.28	0.88	0.85
DTA	60	7.07	20.43	-3.91	1.88	0.49	0.58
NE	26	143.85	112.39	81.00	42.00	0.64	0.09*

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

Table 7.3 C: Descriptive statistics for differences in means and medians on the year of the appointment of the administrator:

		Sample	Comparable	Sample	Comparable	Diff	Diff
Var.	N	Means	Means	Medians	Medians	Means	Medians
CR	60	0.61	1.55	0.56	1.01	0.05**	0.00***
LIQ	62	0.58	1.34	0.36	0.92	0.10*	0.01***
TLTA	60	146.46	66.96	115.02	75.11	0.00***	0.00***
EBITTA	36	-33.31	5.84	-21.87	4.76	0.00***	0.00***
EBITDATA	36	-27.65	11.10	-15.25	10.86	0.00***	0.00***
GPTA	32	33.12	39.25	31.30	31.99	0.67	0.61
LNTOTA	62	7.13	7.63	7.02	7.64	0.11	0.15
DTA	54	-5.66	23.77	-5.64	1.92	0.04**	0.01**
DDTA	56	-4.51	60.23	-13.51	15.95	0.06*	0.01***
NE	28	154.79	114.21	74.50	50.00	0.63	0.19

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

Table 7.3 D: Descriptive statistics for differences in means and medians 1 year after the appointment of the administrator:

		Sample	Comparable	Sample	Comparable	Diff	Diff
Var.	N	Means	Means	Medians	Medians	Means	Medians
CR	66	0.79	1.76	0.61	1.09	0.03**	0.00***
LIQ	66	0.74	1.62	0.53	1.07	0.05*	0.00***
TLTA	66	144.03	66.86	106.47	68.09	0.00***	0.00***
EBITTA	28	-7.88	8.04	0.41	6.02	0.07*	0.04**
EBITDATA	26	-1.26	13.93	5.49	13.73	0.10*	0.10*
GPTA	30	57.83	45.50	47.71	47.07	0.39	0.51
LNTOTA	68	7.07	7.53	6.95	7.55	0.09*	0.08*
DTA	60	19.88	7.28	2.76	0.88	0.39	0.71
DDTA	60	6.71	24.04	-11.16	23.82	0.36	0.01***
NE	20	151.50	138.70	73.50	35.50	0.91	0.16

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

Table 7.3 E: Descriptive statistics for differences in means and medians 2 year after the appointment of the administrator:

		Sample	Comparable	Sample	Comparable	Diff	Diff
Var.	N	Means	Means	Medians	Medians	Means	Medians
CR	46	1.14	1.81	0.72	1.01	0.33	0.06*
LIQ	48	0.99	1.66	0.59	0.88	0.32	0.04**
TLTA	50	128.35	62.57	90.54	64.51	0.01***	0.01***
EBITTA	22	-11.21	-18.88	9.95	1.82	0.81	0.04**
EBITDATA	20	-11.77	-14.66	14.90	7.66	0.94	0.12
GPTA	16	63.99	44.77	63.52	38.36	0.27	0.27
LNTOTA	50	7.12	7.83	6.88	7.61	0.03**	0.03**
DTA	48	-2.07	19.06	-1.43	1.40	0.23	0.22
DDTA	46	-4.33	87.16	-21.26	21.31	0.13	0.01***
NE	14	63.00	176.29	82.00	60.00	0.34	0.95

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

Table 7.3 F: Descriptive statistics for differences in means and medians 3 year after to the appointment of the administrator:

		Sample	Comparable	Sample	Comparable	Diff	Diff
Var.	N	Means	Means	Medians	Medians	Means	Medians
CR	44	1.33	1.72	1.01	1.14	0.58	0.49
LIQ	44	1.23	1.56	0.86	0.99	0.64	0.53
TLTA	46	115.21	62.93	79.70	62.11	0.05**	0.11
EBITTA	20	12.47	-10.54	10.39	1.65	0.18	0.05*
EBITDATA	14	16.11	-13.47	16.88	5.21	0.23	0.13
GPTA	18	53.54	41.48	48.19	38.86	0.52	0.54
LNTOTA	46	7.24	8.08	6.97	7.91	0.02**	0.03**
DTA	44	37.73	9.38	4.29	5.99	0.30	0.90
DDTA	42	18.09	125.00	-28.57	47.98	0.24	0.00***
NE	16	56.88	165.38	65.00	62.00	0.31	0.62

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

7.4A Mean and median peer-adjusted current ratios (CR) two years before to three years after the appointment of the administrator. The test for comparison of means is the peered t-tests.

Year	Mean (Peer- adjusted) CR	Median (Peer- adjusted) CR	Number of firms with negative peer-adjusted CR	Percentage of firms with negative peer-adjusted CR %	Sign Tests (exact binomial)
-2	-0.27**	-0.24**	23	63.89	0.13
-1	-0.91*	-0.30***	24	77.42	0.00***
0	-0.94*	-0.63***	23	76.67	0.01***
1	-0.97**	-0.50***	23	69.70	0.04**
2	-0.68	-0.19*	17	70.83	0.06
3	-0.39	-0.12	13	59.09	0.52

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

7.4B Mean and median peer-adjusted liquid ratios (LIQ) two years before to three years after the appointment of the administrator. The test for comparison of means is the peered t-tests.

Year	Mean (Peer- adjusted) LR	Median (Peer- adjusted) LR	Number of firms with negative peer-adjusted LR	Percentage of firms with negative peer-adjusted LR %	Sign Tests (exact binomial)
-2	-0.28**	-0.21**	25	69.44	0.03**
-1	-0.85*	-0.28***	25	78.13	0.00***
0	-0.77	-0.44**	22	70.97	0.03**
1	-0.88*	-0.51***	23	69.70	0.04**
2	-0.68	-0.30*	16	66.67	0.15
3	-0.35	-0.16	13	59.09	0.52

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

7.4C Mean and median peer-adjusted total liability to total assets ratios (TLTA) two years before to three years after the appointment of the administrator. The test for comparison of means is the peered t-tests.

Year	Mean (Peer- adjusted) (TLTA)	Median (Peer- adjusted) (TLTA)	Number of firms with positive peer-adjusted TLTA	Percentage of firms with positive peer-adjusted TLTA %	Sign Tests (exact binomial)
-2	20.00**	20.44**	11	31.43	0.04**
-1	32.71***	35.11***	7	22.58	0.00***
0	79.50***	63.74***	5	16.67	0.00***
1	77.17***	60.63***	5	15.15	0.01***
2	65.77***	50.21***	8	32.00	0.11
3	52.28**	8.15**	7	30.43	0.09*

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

7.4D Mean and median peer-adjusted operating profits before interest, tax, depreciation and amortisation to total assets ratios (EBITDATA) two years before to three years after the appointment of the administrator. The test for comparison of means is the peered t-tests.

Year	Mean (Peer- adjusted) (EBITDATA)	Median (Peer- adjusted) (EBITDATA)	Number of firms with negative/positive peer-adjusted (EBITDATA)	Percentage of firms with negative/positive peer-adjusted (EBITDATA) %	Sign Tests exact binomial
-2	-2.56	-5.33	16	76.19	0.03**
-1	-13.54**	-7.77*	13	68.42	0.17
0	-38.75***	-30.57***	14	77.78	0.03**
1	-15.19	-7.60	9	69.23	0.27
2	2.89	6.61	3	30.00	0.34
3	29.59	18.50	1	14.29	0.13

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

7.4E Mean and median peer-adjusted operating profits before interest and tax to total assets ratios (EBITTA) two years before to three years after the appointment of the administrator. The test for comparison of means is the peered t-tests.

Year	Mean (peer-adjusted) (EBITTA)	Median (peer-adjusted) (EBITTA)	Number of firms with negative/positive peer-adjusted (EBITTA)	Percentage of firms with negative/positive peer-adjusted (EBITTA) %	Sign Tests exact binomial
-2	-3.30	-6.86	15	71.43	0.08*
-1	-13.62**	-11.76**	14	73.68	0.06*
0	-39.15***	-32.47***	15	83.33	0.01***
1	-15.92	-9.64	9	64.29	0.42
2	7.68	8.13	3	27.27	0.23
3	23.01	9.47**	1	10.00	0.02**

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

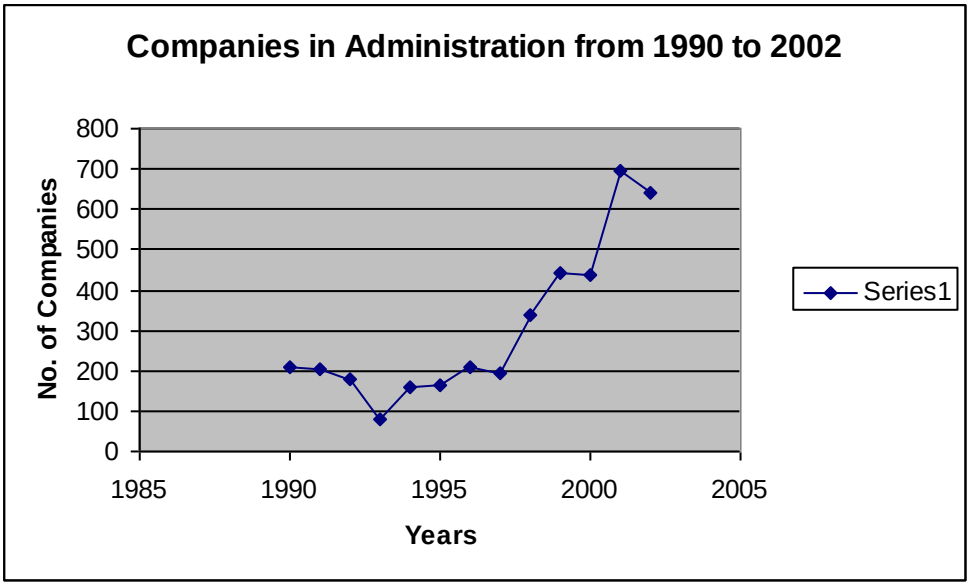
7.4F Mean and median peer-adjusted logarithm total assets ratios (LNTOTA) two years before to three years after the appointment of the administrator.

Year	Mean (peer-adjusted) (LNTOTA)	Median (peer-adjusted) (LNTOTA)	Number of firms with negative peer-adjusted (LNTOTA)	Percentage of firms with negative peer-adjusted (LNTOTA) %	Sign Tests (exact binomial)
-2	0.00	0.00	12	33.33	0.46
-1	-0.02	-0.02	19	59.38	0.38
0	-0.50***	-0.25***	23	74.19	0.01***
1	-0.47***	-0.45***	26	76.47	0.00***
2	-0.71***	-0.65***	19	76.00	0.01***
3	-0.84***	-0.83***	17	73.91	0.03**

* represent significant at the 10 % level
** represent significant at the 5 % level
*** represent significant at the 1 % level

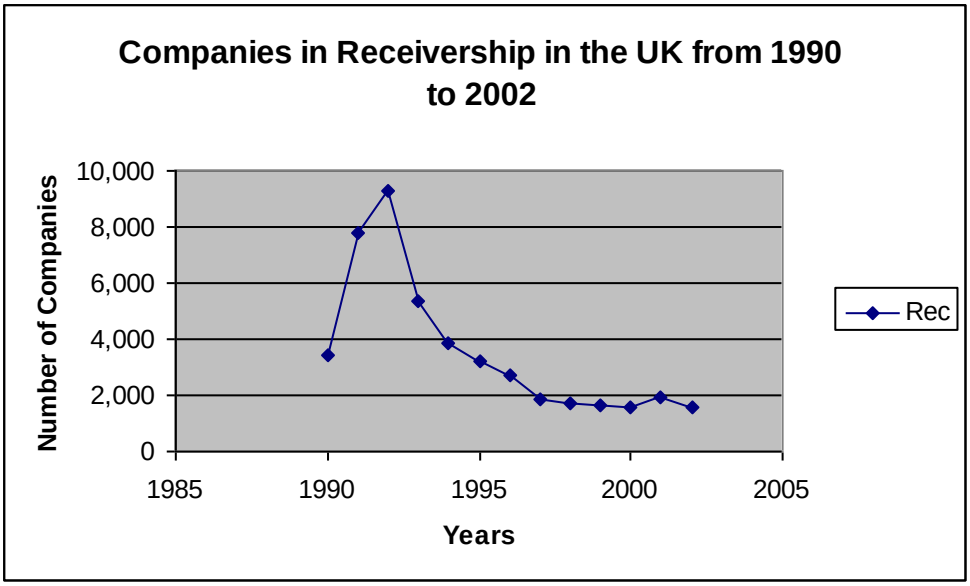
FIGURES OF CHAPTER 1

Figure 1.1: Graph of Number of Companies in Administration from 1990 to 2002



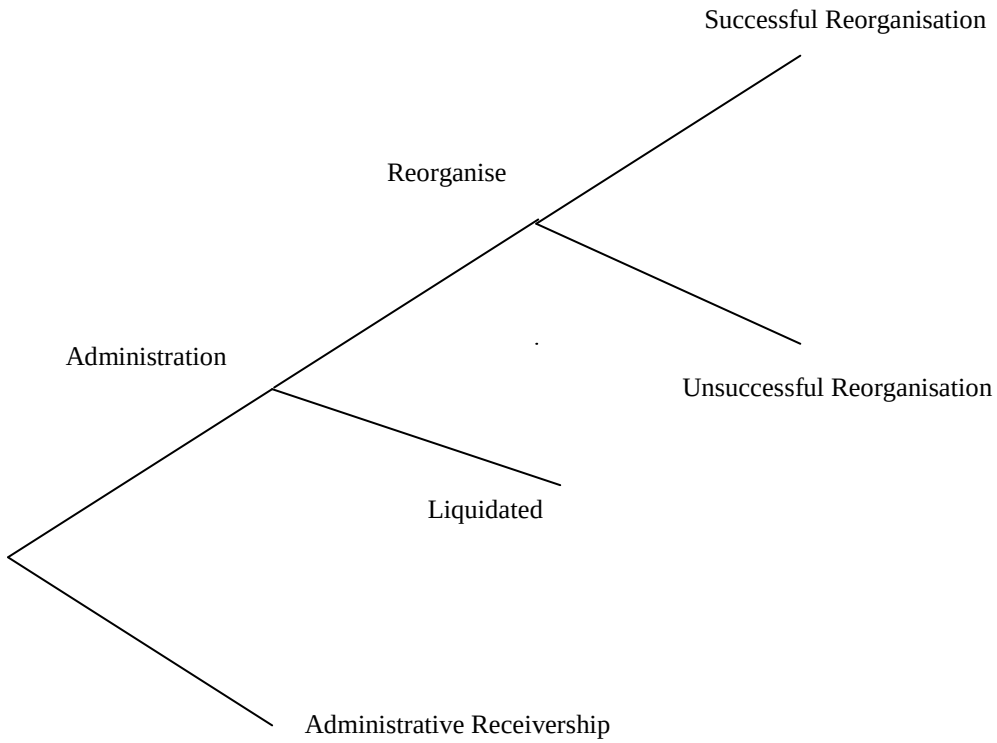
Source: Information on the number of companies was obtained from the Department of Trade and Industry (DTI)

Figure 1.2: Graph of Number of Companies in Receivership from 1990 to 2002



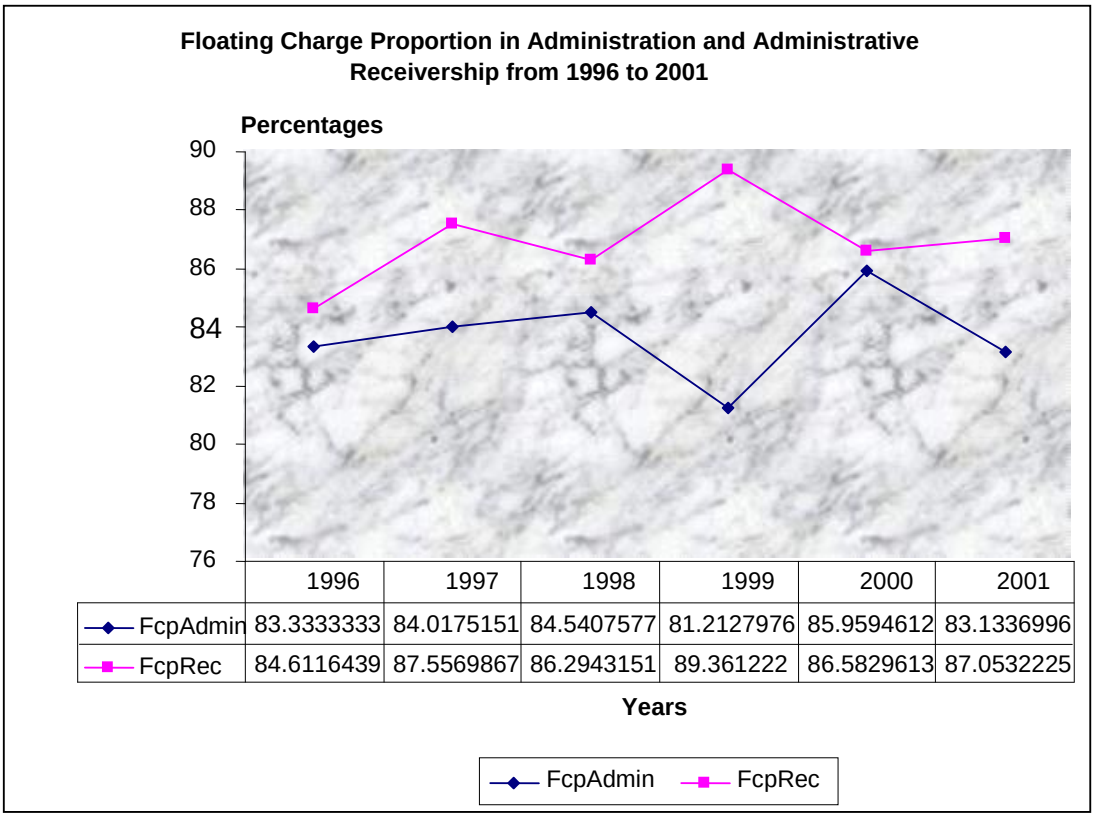
Source: Information on the number of companies was obtained from the Department of Trade and Industry (DTI)

Figure 1.3: The Path Through Insolvency Proceedings as Studied in Thesis.



FIGURES OF CHAPTER 4

Figure 4.1: Floating Charge Proportion in Administration and Administrative Receivership from 1996 to 2001



FcpAdmin is the percentage of secured creditors with floating charge in administration.

This is defined as:

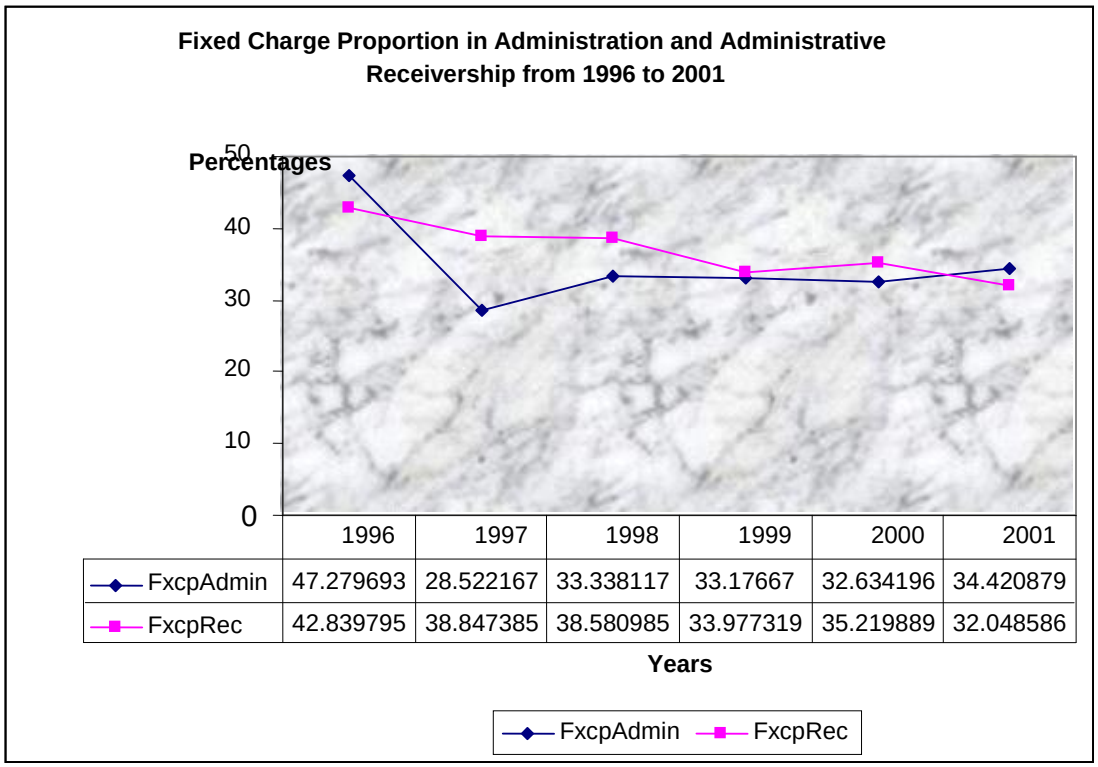
*(number of secured creditors with floating charge in administration/number of secured creditors in administration)*100*

FcpRec is the percentage of secured creditors with floating charge in administrative receivership.

This is defined as:

*(number of secured creditors with floating charge in administrative receivership/number of secured creditors in administrative receivership)*100*

Figure 4.2: Fixed Charge Proportion in Administration and Administrative Receivership from 1996 to 2001



FxcpAdmin is the percentage of secured creditors with fixed charge in administration.

This is defined as:

> *(number of secured creditors with fixed charge in administration/number of secured creditors in administration)*100*

FcpRec is the percentage of secured creditors with fixed charge in administrative receivership.

This is defined as:

> *(number of secured creditors with fixed charge in administrative receivership/number of secured creditors in administrative receivership)*100*

Appendix:

This appendix deals with two key issues – the reasons for the Enterprise Act 2002 and the new administration procedure – introduced in the Enterprise Act 2002.

Reasons for the Enterprise Act 2002

The Enterprise Act 2002 was preceded by a review of company rescue mechanisms; the recommendations from the review were largely adopted by the government. The White Paper, Productivity and Enterprise: Insolvency – A Second Chance[46] explains the weaknesses of the previous law.

The first of this is that the government considered that the existing law did not do enough to promote a 'rescue culture.' The government claimed that even though the Insolvency Act of 1986 introduced two procedures that were geared towards the reorganisation of distressed firms in the UK, the uptake of both had been 'disappointingly low' (Armour and Mokal, 2003). The White Paper concluded that this was because secured creditors with floating charges were able to block a petition for the appointment of the administrator or a proposed CVA and appoint an administrative receiver. Hence it was stated that the government was interested in rescuing companies that had a decent chance of survival.

46 See Armour and Mokal (2003) for a detailed analysis of the Enterprise Act 2002 and its implications for companies in the UK.

The second weakness was the concern that the administrative receivership procedure was inefficient in the sense that it failed to maximise value for all creditors (Armour and Mokal, 2003).[47]

In addition to the above reasons, there was a belief held by the government that the administrative receivership procedure lacked transparency and accountability to a range of groups who were affected by the administrative receiver's decision-making - especially unsecured creditors. The replacement of the administrative receivership procedure with a modified form of administration can help all creditors, especially unsecured creditors, and also results in less time spent in insolvency. For example, Frisby (2006) shows that there have been significant improvements and positive results under the Enterprise Act 2002. Frisby (2006) shows that more payments to secured creditors are being made by administrators following the implementation of the Enterprise Act 2002 in addition to the fact that companies now spend less time in administration during the post- Enterprise Act 2002 than prior to the introduction of the Enterprise Act 2002.

The New Administration Procedure in the Enterprise Act 2002

After the introduction of the Insolvency Act 1986, an administrator could only be appointed by a court order after the court was petitioned by the company, its directors or creditors. Under the new regime, appointment of an administrator by the company

47 Insolvency – A Second Chance (30 July 2001). Patricia Hewitt MP, Secretary of State for Trade and Industry made a statement along these lines prior to the introduction of the Enterprise Act 2002.

or directors, or a holder of a qualifying floating charge,[48] can be made out-of-court. In the new regime, for a court application for the appointment of the administrator,[49] there is a reduction in the level of proof required of the party submitting the petition to the court for the appointment of the administrator. Under the Insolvency Act 1986, the company, its directors or creditors petitioning for the appointment of the administrator had to prove that the company was, or was likely to become, unable to pay its debts, and that an administration order was likely to achieve one or more of the objectives of the administration order. Under the Enterprise Act 2002, as long as the court is satisfied that there is reasonable likelihood that the objectives of the administration order in the Enterprise Act 2002 will be achieved, the court will authorise the appointment of the administrator. The reason for the relaxation of the threshold of proof is geared towards speeding the appointment of the administrator when distress occurs. It is worth noting that central to the scheme of the new legislation is the desire to capture the benefits of speed and flexibility associated with the administrative receivership procedure.

Given the reduction in the threshold of proof in court appointments of the administrator under the new administration procedure, one would suggest that this could be a potential pitfall or drawback of the new administration procedure. The reason is that a reduction in the level of proof required by the court would probably

48 A qualifying floating charge is a floating charge or package of charges including a floating charge that together cover the whole or substantially the whole of the company's property; it is created by an instrument reserving to its holder power to appoint an administrator.

49 Under the Enterprise Act 2002, the application of the administration can either be made by the approval of the courts or it can be made out-of-court. Since the Insolvency Act 1986 stipulates that the administration order can only be made by the court, when talking about the appointment of the administrator under the Enterprise Act 2002, it is vital to distinguish court-appointed administrators and administrators appointed out-of-court.

encourage firms with severe financial distress for which a speedy liquidation is more appropriate to attempt to reorganise under the new administration procedure.

In addition, for an out-of-court appointment, the person appointed as administrator will have to declare that he thinks that there is a reasonable likelihood of achieving the new statutory objectives as stated below. The Enterprise Act 2002 makes it an offence to make such a declaration without reasonable grounds for believing it to be true.

There are three objectives of the administration order under the Enterprise Act 2002. They are as follows:

- rescuing the company as a going-concern; or
- achieving a better result for the company's creditors as a whole than would be likely if the company were wound up (without first being in administration); or
- realising property in order to make a distribution to one or more secured creditors or preferential creditors.

A company's directors are usually in the best position to sense an impending crisis and there is a value in providing incentives for them (directors) to take action by petitioning for the appointment of the administration at the earliest possible time. One way of providing incentive would be to ensure that the directors would have some hope of regaining control at the earliest moment of distress. Paragraph 22 of the Enterprise Act 2002 of the appointment mechanism indicates that if the procedure was

initiated by the company or its directors, then selection of the administrator would be placed in the hands of the directors, which would give the board more influence over the direction of proceedings than if the process were initiated by a creditor.

The qualifying floating charge holder still enjoys some benefits. For example, if the company or directors want to appoint the administrator out-of-court, they must first give five days' notice to the qualifying floating charge holder, who may then appoint an administrator himself.[50] If the qualifying floating charge holder decides to appoint an administrator, then the directors may not appoint an administrator. Also, if an administration application has been made to the court, any qualifying floating charge holder must be notified of the application and will then have the right to petition the court to have a specific person appointed as administrator. The qualifying floating charge holder enjoys a priviledged treatment because he has the power to select who the administrator should be and this can be understood as a quid pro quo for the loss of the entitlement to appoint an administrative receiver (Armour and Mokal, 2003).

The requirement or ability for the floating charge holder to unilaterally appoint an administrative receiver without consulting with other creditors was the main advantage of the administrative receivership procedure, as the speed of appointment saved time and cost - especially for assets whose values were vulnerable to the passage of time. This point, in theory, represents a benefit to the UK insolvency code. Also, under the new regime, the appointment by the qualifying floating charge holder can no longer be viewed as a ploy geared towards fulfilling the sole interest of the qualifying floating charge holder since, upon appointment of the administrator, the

50 Enterprise Act 2002, paragraph 14 of the appointment mechanism.

power of the qualifying floating charge holder to control the proceedings is substantially reduced.

In summary, the Enterprise Act 2002 brings the most significant changes to insolvency law in the UK. The main aim of the Act was to facilitate company rescue and to produce better returns for creditors as a whole. To achieve this, the administrative receivership procedure was abolished, as the procedure was widely regarded as giving a disproportionate amount of power to creditors with floating charges. The second major change concerns the reshaping of the administration procedure. The aim of the new procedure is to capture the benefits of speed and flexibility associated with administrative receivership. Frisby (2006) shows that companies placed in the new administration procedure spend less time in administration compared to those placed in administration pre-Enterprise Act 2002. Companies placed in administration after the Enterprise Act 2002 spent an average of 348 days there, whereas those placed in administration before the Enterprise Act 2002 came into effect spent an average of 438 days there.