The 1986 U.K. Insolvency and Company Directors' Disqualification Acts: An Evaluation of their Impacts upon Small Firm Financing Decisions

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ABSTRACT. This paper examines the potential impact of the 1986 U.K. Insolvency and Company Directors' Disqualification Acts on small firm financing decisions. With the aid of a simplified Black and Scholes (1973) option model of financing decisions, the paper illustrates how the 1986 legislation reduces the incentives for owner-managers to gamble with creditor claims, particularly in situations of financial distress, by making them personally liable for unmet claims and/or by disqualifying them from holding office for a fixed period. For instance, example 3 in the paper shows the conflict that could result from the owner-manager reducing his/her opening equity position and it further argues how the legislation should act to alleviate the situation. It remains, however, an empirical question as to whether this reduction in creditors' exposure to the risk of uncompensated wealth transfers will ultimately result in a significantly greater number of company liquidations and disqualifications, particularly during a prolonged economic downturn, or an improved/less costly supply of finance to small firms.

Introduction

For many years small firm sector representatives have complained (see for example, Macmillan, 1931, Bolton, 1971 and Wilson, 1979) that the economic contribution and potential growth of the U.K. small firm sector has been unnecessarily constrained by a lack of access to external equity and long term debt finance. Many of the difficulties experienced by small firms in obtaining external finance appear to stem from the problems creditors face in monitoring and controlling the actions of small firm owner-managers. Indeed, widespread concern at the ease with which the directors of financially distressed firms could take actions which materially reduced creditor claims was largely responsible for the introduction of the Insolvency and the Company Director Disqualification Acts of 1986. The main purpose of this paper is to illustrate, with the aid of a model which recognises the call option characteristics of equity, how the new provisions contained in the 1986 Insolvency Act and the Company Directors' Disqualification Act have reduced the incentives for opportunistic actions by owner-managers.

Although this legislation has now been on the statute book for six years, it is only since the onset of the recession in 1991 and the accompanying large increases in company liquidations, that its main effects have been felt by small business owner-managers. As we shall see, one of the main consequences of this legislation is to discourage the continuation of insolvent firms. However, given the differences in perception and economic interests regarding future payoffs, conflicts between creditors and owner-managers seem to be inevitable, particularly during an economic downturn (see Keasey and Watson, 1992). We argue that conflicts of this nature simply stem from the need for creditors to protect themselves from uncompensated risk and that the 1986 legislation by increasing this protection is likely to be perceived by the owners of distressed firms as providing their creditors with too much power.

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The structure of the paper is as follows. Section one describes major features of the small firm financing environment and the main provisions of the 1986 Insolvency and Directors' Disqualification Acts. The second section presents a model of small firm financing decisions which focuses on the call option characteristics of equity. This provides an analytical structure by which to illustrate the likely impact of the 1986 legislation upon owner-manager and creditor decision making. The final section draws conclusions.

1. Small firm financing and the 1986 legislation

a. *The small firm financing environment*

While there are a number of features of the small firm financing environment, the one over-riding characteristic is the relatively high risk associated with investing in a small firm. This risk can be seen as reflecting the following facets of small firms. First, small firms are subject to high failure rates. For example, Ganguly (1983), using VAT data, estimated that typically some 10 to 15% of small businesses can be expected to fail in any one year period. Second, small firms have relatively high volatility in earnings over time (see Storey et al., 1987). This is due to a combination of factors associated with the small size and scope of business activity and ownership and management limitations. Small scale generally implies that the firm lacks product and/or market diversification, is reliant upon relatively few customers and/or suppliers and will experience proportionately higher costs due to market and other institutional imperfections (Ang, 1991). Small firm management teams are usually restricted to one or a few key individual owners which frequently lack the full portfolio of management skills. As a consequence, the small firm may not be able to adjust to external environmental changes or to evolve in response to changes in the scale of operations as the firm matures. Third, the probable lack of breadth in the management team leaves the small firm reliant upon the continuing good health, motivation and financial probity of the owner-manager(s).

The above risks are added to by the generally poor information available for small firm activities. The earnings of small firms, whether expressed in terms of (highly manipulable) accounting profits or cash flows, will often only provide a poor indication of a creditor's security. The lack of organised secondary markets for small firm equity or debt implies that there will be a great deal of uncertainty regarding both the value of small firm assets and the possibility of creditors being able to "exit" (realise their investments) when required without incurring additional costs. Furthermore, for the U.K. at least, the regulatory framework applicable to unlisted enterprises is considerably less onerous and many of the financial reporting requirements appear not to be as vigorously enforced as they are for widely held, publicly listed enterprises (see Keasey and Watson, 1988, for a review of the area). In addition, because of the small size of the market for financial information on individual small firms, there are few incentives for third parties such as analysts and rating agencies to overcome information deficiencies by collecting and analysing information for sale (see Ang, 1991). Hence, the creditors of small firms normally face additional risks associated with their dependence upon the relatively poor quality and infrequent financial information available for small firms.

As well as the risks involved with small firm business operations and lack of adequate information, small firm creditors also have to cope with the fact that the directors of closely held firms have almost complete discretion regarding business decisions, the distribution of any earnings and the amounts taken from the business in the form of remuneration. Two recent empirical studies (Watson, 1990, Keasey and Watson, 1992) have shown that the retained profits of small firms are not highly correlated with their operating profits and that the major reason for this is that some 65% of the latter are typically removed from the business as directors' remuneration. Moreover, these annual remuneration levels were large relative to the total assets of the business, consisting of approximately 20% of the book value of total assets. Consequently, the security of small firm creditors is likely to be inversely related to the liquidity of the firm's asset base because highly liquid assets can quickly be removed from the business by the owner-manager prior to failure.

The difficulties facing creditors are also increased when firms become financially distressed because, with limited liability, equity takes on "call option" characteristics (Black and Scholes, 1973). For example, the relatively low value of the equity of a financially distressed firm gives the owner-manager incentives to invest in high risk and/or negative net present value (NPV) projects since most downside costs will be borne by the creditors. In the context of an economic downturn, a prime example of such high risk/negative NPV projects may often be the continuation of the firm itself. Moreover, few small enterprises are capable of being sold as "going concerns" since a major part of the value of a small firm as a going concern derives from the owner-manager's human capital inputs, his/her specialised skills and knowledge of customers and suppliers. This ability to maintain control over the assets of a firm, even in liquidation, provides small firm owner-managers with incentives and opportunities to both gamble with creditor claims and to put any tangible business assets beyond the reach of creditors. The ability of directors to place assets beyond the reach of creditors and to continue to trade by creating new, so called 'phoenix companies', was a problem which gained a large degree of press and media attention in the early 1980's.

The closely held nature of the small firm therefore makes adequate monitoring of the firm by creditors difficult and/or excessively costly. This situation also provides the owner-manager with scope to engage in opportunistic behaviour at the expense of the creditors. Of course, the recognition by creditors that they may be exposed to these types of risk, can be expected to increase the costs and other difficulties experienced by small firms generally in raising external finance. Indeed, if creditors are unable to distinguish between good and bad risks, all small firms will be subject to these proportionately high transaction costs. Hence, this may lead to the perception of a "finance gap" since some small firm owners may be unable to obtain finance even though they have significantly positive NPV projects available. This is likely to be most severe in the case of new firms without a track record and/or those which cannot provide credible commitments, enter into bonding arrangements (see Thompson, 1988) or otherwise signal their good intentions (see Phlips, 1988).

With the large increase in the number of small firms (and also small firm failures) in the early 1980's, existing company law was seen to be inadequate in safeguarding those dealing with small firms and, following the publication of the very influential Cork Report (1982), two major new pieces of legislation, The Insolvency Act and The Directors' Disqualification Act, were introduced in 1986. Both Acts can be seen as attempts to reduce the scope for owner-managers to take actions which prejudice creditor claims. The next sub-section examines the major new provisions contained in both the Insolvency and Directors' Disqualification Acts.

b. *The 1986 Insolvency and Directors' Disqualification Acts*[1]

The main provisions of the 1986 Insolvency Act were intended to make directors of insolvent firms personally accountable for any reckless behaviour or incompetent management. Thus it was aimed at improving the position of creditors in the event of firms becoming insolvent.[2] Before 1986, directors were implicitly allowed to continue to trade without regard to prospective liabilities such as credit, leasing and hire purchase argeements. Therefore, prior to the Insolvency Act, if the directors believed prosperity would return, then it seems to have been permissible for the directors to incur additional credit to continue trading. However, this situation has changed under the Insolvency Act and a new offence, "wrongful trading", has been introduced (IA, s214). Now directors of an insolvent company who simply continue trading in the belief that they can trade their way out of financial difficulties, or who are judged to have acted recklessly or showed no regard for meeting the claims of their creditors may be subject to criminal charges and/or be held personally liable for any unmet claims (IA, s216).

Notwithstanding the fact that directors have always been personally at risk if they engage in fraudulent activities, the 1986 Directors' Disqualification Act has broadened and strengthened the power of the courts. Prior to the Act, directors could be disqualified but this rarely happened and usually only occurred when very extreme derelictions of duty had been proved in open court. Under the Act (DA, s1—9), directors can be disqualified for the following type of offence:

- guilty of fraud in relation to the company
- in winding up the company the directors have continued to trade with the intent to defraud creditors
- persistent non compliance with the directors' obligations under the Companies Act.

In terms of insolvent companies the Directors' Disqualification Act instructs the courts to disqualify directors if their behaviour was such as to make them unfit to manage a company. The factors considered include:

- extent of the directors' responsibility for company transactions at an undervalue and thereby prejudicing the interests of creditors
- misappropriation or retention of assets
- misfeasance or breach of duty to company
- failure to maintain adequate records
- the causes of insolvency

Although some of the above offences may involve an element of fraud, if the creditors are prejudiced by a specific action, fraudulent actions or intent need not be proved (DA, s4). Whilst it takes time for the interpretation of any Act to become established, the statistics presented in Table 1 indicate there is now a positive probability that directors who have acted recklessly with creditor claims will incur significant personal costs, either through being made personally liable in respect to unmet claims or being disqualified from holding corporate office for a specified period.

Table 1 shows the number of compulsory liquidations and the number of length of disqualifications over the first five and one half years since the Act became operative. From the data[3] provided in Table 1 it can be seen that the total number of directors disqualified in each period is small relative to the number of compulsory liquidations. Most disqualifications (86.1%) were for a period of between two and ten years. What is particularly interesting, however, is that, whilst the number of compulsory liquidations is clearly related to macroeconomic factors, both the total number of disqualifications in each year (excluding the first year of operation, 1987) and the typical length of disqualification, are remarkably stable over time. This degree of apparent stability may indicate that the Act is being used as it was intended, which was to punish only those activities such as excessive benefits to owner-managers, phoenix companies, crown debt arrears and inadequate records which clearly prejudiced creditor claims.

The other major change introduced by the Insolvency Act was administration (see IA, s8—11). The administration procedure provides an opportunity for the company, the directors or the creditors to initiate procedures comparable to receivership where no debenture has been issued.[4] The court cannot make an order unless it is satisfied that the company is insolvent and that the appointment of an administrator will achieve one of the following:

(1) help all or part of the company to survive as a going concern,

TABLE 1
Disqualification of company directors — England and Wales period of disqualification in years

	Compulsory Liquidations	up to 1	over 1 up to 2	over 2 up to 3	over 3 up to 4	over 4 up to 5	over 5 up to 10	over 10 up to 15	*Total*
1987	4,116	6	12	31	10	50	40	10	159
1988	3,667	0	39	80	49	100	53	11	332
1989	4,020	6	36	91	39	64	58	9	303
1990	5,977	8	35	78	45	80	52	11	309
1991	8,368	1	42	71	50	76	52	7	299
1992*	5,020	0	35	37	34	46	31	2	185
		21	199	388	227	416	286	50	1,587

* – first 2 quarters
Source: Business Briefing, 1992.

(2) enable the company to come to an arrangement with creditors or
(3) secure a more advantageous realisation of assets for creditors than would be the case in a liquidation.

The administrator's job is similar to that of the receiver except that within three months of appointment, the administrator must submit proposals to creditors for approval and once approved, manage the company's affairs in accordance with the proposals, subject to the supervision of the court. The appointment of an administrator effectively puts a temporary stop on all procedures against the company and creditors are unable to enforce any security or payment of their debts without first obtaining the approval of the court (see note 4). The administrator is jointly obliged to act on behalf of the creditors and the shareholders. This implies that operationally the administrator has to carry on the business of the company until a meeting of the creditors and shareholders decides otherwise.

Although administration potentially offers benefits, it is limited in its applicability to the small firm sector for a number of reasons. First, the major and dominant creditor of most small firms is their bank and as banks generally secure their debts via floating charges they rarely have anything to gain from administration as compared to receivership. Second, if the bank has secured itself by a floating charge it is able to prevent the appointment of an administrator (who may benefit a wider set of stakeholders) by the timely appointment of a receiver. Third, if the directors attempt to appoint an administrator, they are likely to face difficulties in obtaining the finance necessary to run the business — most banks are generally less willing to lend to administrators than their own receivers. Thus, it is easy to understand why administration seems to have rarely been applied to small firms. Of far more relevance to the small firm sector is the Directors' Disqualification Act, to which attention is now directed.

2. The impact of the 1986 legislation upon small firm financing decisions

In this section, a simple model is developed to illustrate the incentives of owner-managers to behave opportunistically with creditor claims. The model indicates how the provisions of the 1986 legislation reduces these incentives by attempting to ensure that the owner-manager bears the full cost of his/her decisions. Consider a typical unlisted owner-manager firm which obtains some proportion of its working capital requirements on unsecured credit terms. This working capital is required for the firm's operations in the current period and has to be paid for before the next period's credit (and, therefore, operating resources) is made available. It is assumed that the firm is able only to obtain its working capital from existing creditors.[5] Thus, if the firm does not meet its contractual obligations at $t = 0$, it cannot continue without first reaching an agreement with its existing creditors. The decision then has to be made as to whether to allow the firm to continue for a further period under owner-manager control or whether to immediately liquidate the firm at $t = 0$.[6] It is further assumed that decisions will be taken by all parties solely on the basis of their own expected payoffs and that the outcome with the highest expected payoff for the party in control will be chosen.

In addition, because of his/her insider position, the owner-manager is assumed to have superior information to the creditors regarding the distribution of income in period 1. It is also assumed that the creditors will have insufficient knowledge, specialist skills, etc. to take over the running of the firm themselves without incurring unacceptable efficiency losses. That is to say, they will be unable to realise the same level of profits as the firm under the control of the owner-manager. It is further assumed that both the owner-manager and creditors are risk neutral,[7] and that they both know the information abilities of the other.

In developing the model the following definitions are employed:

E^L = owner-manager's payoff if firm is liquidated at $t = 0$
E^c = owner-manager's expected payoff if firm continues to $t = 1$
C^L = creditor's payoff if firm is liquidated at $t = 0$
C^c = creditor's expected payoff if firm continues to $t = 1$
L_0 = liquidation value of firm's assets at $t = 0$

L_1 = expected liquidation value of firm's assets at $t = 1$
c_0 = contractual amount owing to creditors at $t = 0$
c_1 = contractual amount owing to creditors at $t = 1$
g = uncertainty surrounding L_1.

In this two period model, where the firm is either liquidated at $t = 0$ or is allowed to continue to $t = 1$, the expected payoffs to each party at $t = 0$ and $t = 1$ are denoted by the superscripts L and C respectively. Given the above notation and the limited liability of the owner-manager, his/her payoff if the firm was liquidated at $t = 0$ will be as follows,

$$E^L = L_0 - C^L \text{ if } L_0 - C^L > 0 \text{ and } 0 \text{ otherwise.}$$

The creditors payoff at $t = 0$, C^L, will be equal to the contractual amount owing,

$$c_0 \text{ if } L_0 - c_0 > 0 \text{ and } L_0 \text{ otherwise.}$$

Hence, the value of the firm's assets, L_0, in either situation must equal the combined shares of E^L and C^L. For both parties there will, of course, be some uncertainty regarding the liquidation value (L_0) of the firm's asets at $t = 0$. For simplicity, however, we assume that L_0 is known to the owner-manager.

If the firm continues for a further period to $t = 1$, the expected liquidation value of its assets will be L_1. However, it seems reasonable to assume that there will be considerably more uncertainty regarding L_1 than for L_0.To capture this possibility two equally probable states of the world are defined for L_1: $L_1 + g$ with probability p or $L_1 - g$ with probability $1 - p$, where $p = 1 - p = 0.5$. Asuming risk neutrality for both parties, the expected payoffs if the firm continues to $t = 1$ is as follows:

$$\begin{aligned} E^c &= (p)(L_1 + g - c_1) + (1-p)(L_1 - g - c_1) \\ &= L_1 - c_1 \text{ if } L_1 - g > c^1 \\ &\text{and,} \\ &(p)(L_1 + g - c_1) + (1-p)(0) = \\ &0.5(L_1 + g - c_1) \text{ if } L_1 - g < c_1. \end{aligned}$$

$$\begin{aligned} C^c &= (p)(c_1) + (1-p)(c_1) = c_1 \text{ if } L_1 - g > c_1, \\ &\text{and,} \\ &(p)(c_1) + (1-p)(L_1 - g) = \\ &0.5(c_1 + L_1 - g) \text{ if } L^1 - g < c_1. \end{aligned}$$

Clearly, no conflict of interest arises between the creditors and the owner-manager in respect of liquidation/continuation decisions if at $t = 0$, E^L is positive and at $t = 1$, $L_1 - g > c_1$ which implies that E^c will also be positive. In this situation, even in the bad outcome the owner bears all the business risk and creditors get paid in full. Only when either $L_0 - c_0 < 0$ or $L_1 - g < c_1$ will a possible conflict of interest arise. In other words these are exactly the types of situation where information asymmetries may in the past have allowed the owner-manager to argue that he/she continued trading because the insolvent/potentially insolvent nature of the business was not known. If the 1986 legislation operates as it is designed to, then this form of defence is no longer admissible. Furthermore, if the owner-manager continued to trade knowing that the business could not meet the claims of creditors, the courts could interpret this as "trading with intent to defraud." However, even with the 1986 legislation, the owner-manager may still have incentives to misrepresent the size and nature of L_1 and g of his intended project whenever $L_1 - g < c_1$.

The remaining examples discussed in this section illustrate how the relationships between L_0, c_0, L_1, g and c_1 can generate a number of situations of conflict once asymmetric information and inadequate monitoring of owner-manager decisions by creditors are assumed. They also indicate how the various facets of the 1986 legislation may improve the position of creditors. The first example is a benchmark case intended to illustrate the operations of small firms vis-a-vis their creditors.

Example 1: Project with NPV = 0, both E^L and $E^c = 60$.

$t = 0$	$t = 1$	
$L_0 = 100$	$L_1 = 100$	$g = 60, p = 0.5$
$c_0 = 40$	$c_1 = 40$	

Because the NPV of this project is 0 and both E^L and E^c are equal to 60, both creditors and the owner-manager will be indifferent between liquidating at $t = 0$ or continuing until $t = 1$:

$$\begin{aligned} E^L &= 100 - 40 = 60, \\ E^c &= 0.5(100 + 60 - 40) + 0.5(100 - 60 - 40) \\ &= 60, \text{ and} \\ E^c - E^L &= 60 - 60 = 0. \end{aligned}$$

$C^L = c_0 = 40$,
$C^c = 0.5(40) = 0.5(40) = 40$, and
$C^c - C^L = 40 - 40 = 0$.

If L_1 were any smaller this would become a negative NPV project for both the owner-manager and the creditors (since they would bear some risk in the bad outcome) and liquidation should occur at $t = 0$. If L_1 were larger then it would be a positive NPV project for the owner-manager since all increments in L_1 accure to him/her. In this example, neither party would be affected by a reduction in business risk (g). However, if g increased then a conflict of interest immediately arises because the owner-manager no longer bears the full cost of his/her decisions. This possibility is described in the following example.

Example 2: Increased risk where NPV $= 0$, $L_0 - c_0 > 0, L_1 - g < c_1$

$t = 0$	$t = 1$	
$L_0 = 100$	$L_1 = 100$	$g = 100, p = 0.5$
$c_0 = 40$	$c_1 = 40$	

$E^c = 0.5(100 + 100 - 40) = 0.5(0) = 80$
$E^c - E^L = 80 - 60 = +20$

Even though this would be a zero NPV decision if the owner-manager had unlimited liability, it becomes a positive NPV decision for him/her to continue with limited liability and a negative NPV decision for the creditors because they bear some of the business risk:

$$C^c = 0.5(40) + 0.5(0) = 20$$
$$C^c - C^L = 20 - 40 = -20.$$

Hence, unless creditors are able to prevent continuation their position will worsen since they would bear additional downside risk. Whilst this is one form of behaviour that the 1986 legislation was designed to eradicate, it is doubtful that a case of this nature (i.e., $E_0 > 0$) would lead to disqualification unless there was either a record of similar occurrences in the past or that it was obvious at $t = 0$ that the owner-manager had misrepresented the level of risk involved with continuation. Thus, during an economic downturn where ex post changes in business conditions rather than owner-manager opportunism is likely to be the main cause of insolvency, proportionately fewer owner-managers of insolvent firms are likely to face disqualification.

The type of situation where the courts would be more likely to judge that an owner-manager was continuing to trade with an intent to defraud is illustrated in the following example:

Example 3: Low, but positive opening equity, 0 NPV.

$t = 0$	$t = 1$	
$L_0 = 60$	$L_1 = 60$	$g = 60, p = 0.5$
$c_0 = 40$	$c_1 = 40$	

If, as in this example, the owner-manager reduces his/her initial stake in the firm, this has the same effect upon the relative payoffs as increasing risk (g) in the previous example. By reducing the owner-manager's initial stake (the price of his/her option) to 20, he/she can improve his/her expected payoff relative to liquidation at $t = 0$. Obviously, the creditors would not sanction continuation if presented with this information:

$E^c = 0.5(120 - 40) + 0.5(0) = 40$
$E^c - E^L = 40 - 20 = +20$
and,
$C^c = 0.5(40) + 0.5(0) = 20$
$C^c - C^L = 20 - 40 = -20$.

In this example, the owner-manager is continuing to trade where there is a high probability that the claims of creditors will not be met while also removing tangible assets (the creditor's security) from the business.

The previous examples have shown the conflict that could result from the owner-manager increasing the risk of the business or reducing his/her opening equity position. The following example describes the situation where the owner-manager takes ex post decisions which result in damaging creditor claims. Given the same information as for Example 1, if the creditors increased their stake in the firm to 70 at $t = 1$, then provided that the expected liquidation value of the assets, L_1, also increased by the same amount (i.e., $L_1 = 130 +/- g$) the creditors' exposure to risk would not be increased and they would still be confronted with a zero NPV decision. However, if L_1 did not increase equivalently because the owner-manager paid himself/herself a larger salary over the period $t = 0$ to $t = 1$, such that $L_1 - g < c_1$, then the creditors' position would be significantly diminished.

Example 4:

$$\begin{array}{lll} t=0 & t=1 & \\ L_0=100 & L_1=100^* & g=60, p=0.5 \\ c_0=\ 40 & c_1=\ 70 & \end{array}$$

* assumes that owner pays him/herself an extra 30

$E^c = 30 + 0.5(160 - 70) + 0.5(0) = 75$
$E^c - E^L = 75 - 60 = +15$
$C^c = -30 + 0.5(70) + 0.5(40) = 25$
$C^c - C^L = 25 - 40 = -15.$

One of the intentions of the Directors' Disqualification Act was to make actions which result in "excessive" personal benefits to the directors, when substantial creditor claims remain outstanding, much less attractive to owner-managers. Similarly, by increasing the probability of incurring a substantial personal cost, the 1986 legislation reduces the incentives for owner-managers to reduce the firm's asset base; for example, by the sale of company assets to 'interested parties' at prices significantly below market value. Given a high probability of failure, the owner-manger, in the absence of legal constraints, has clear incentives to attempt to transfer business assets into personal wealth holdings to put them beyond the reach of creditors. One method of achieving this is to acquire company assets at less than their value. This leaves a reduced asset base to meet the claims of creditors. In effect this is essentially no different to the owner-manager paying him/herself an increased salary in spite of impending failure. Not surprisingly the Directors' Disqualification Act views both types of behaviour as unduly prejudicing the position of creditors.

The final type of owner-manager behaviour to be considered is the establishment of Phoenix Companies. This refers to directors of insolvent firms creating new, legally separate, enterprises, often with the assets of the insolvent firms (and possibly also appropriate at well below their realistic market values), rather than honouring existing creditors' claims. As already noted the Disqualification of Directors' Act views this form of behaviour as grounds for disqualification. This type of situation can be most clearly seen by assuming that opening equity is negative. With negative opening equity it will not benefit the owner-manager (in the absence of reputation effects or other constraints on his/her ability to set up a new business) to press for continuation even if he/she has a positive NPV project which, if implemented, would result in an improvement in the creditors position. The owner-manager would be better off setting up an entirely new enterprise to undertake the project and thereby appropriate all the positive NPV instead of sharing the gains with existing creditors. This situation is illustrated by the following example.

Example 5: Assume the following applies:

$$\begin{array}{lll} t=0 & t=1 & \\ L_0=30 & L_1=40 & g=10, p=0.5 \\ c_0=40 & c_1=40 & \end{array}$$

This project has an NPV = 10 and if the project were undertaken both parties could improve their $t = 0$ liquidation payoffs as follows:

$E^c = 0.5(50 - 40) + 0.5(0) = 5$
$E^c - E^L = 5 - 0 = +5$
$C^c = 0.5(40) + 0.5(30) = 35$
$C^c - C^L = 35 - 30 = +5$

Hence, both parties appear to be better off relative to immediate liquidation by allowing the firm to continue for another period: each party sharing equally the expected NPV of 10. However, with negative opening equity, the owner-manager would prefer liquidation at $t = 0$ if, as was the case prior to 1987, he/she were simply able to leave existing creditors unpaid and begin a new firm. By setting up a new firm the owner-manager is able to appropriate the whole of the project gains (an NPV of 10 in the above example) if there is no cost to walking away from the negative equity situation. Since 1987 the possibility of being disqualified and/or being made personally liable for some or all of the unmet debts has considerably reduced the incentives associated with such actions.

3. Discussion and conclusions

This paper has presented a model of small firm financing decisions and illustrated a number of situations where the call option characteristics of small firm equity provide incentives for owner-managers to take actions which seriously prejudice creditor claims. The paper has also shown how the provisions of the 1986 legislation have been designed to strengthen the position of small firm creditors. Generally, the legislation reduces the incentives to gamble with creditor claims by imposing a personal cost upon owner-managers (either by making them personally liable for unmet claims or by disqualifying them from holding office for a considerable period). Of course, many of the situations shown in the previous section where $L_1 - c_1 < 0$, may arise because of unanticipated macroeconomic factors and other business uncertainties and have little to do with opportunism by owner-managers. Nevertheless, the 1986 legislation places a much greater responsibility on owner-managers to cease trading when circumstances deteriorate whilst giving creditors greater protection and powers of intervention. Hence, given the likelihood of conflicts of interests, it is not surprising that complaints are being heard from the owner-managers of insolvent firms that their creditors have acted prematurely in closing them down.

The small amount of available evidence suggests that the 1986 legislation is being used by the courts in a discriminating fashion. Its most serious penalties seem to be reserved only for those who have most blatantly flouted creditors' rights, i.e., those who have been judged to have operated Phoenix companies, taken excessive personal salaries, sold off assets below value, etc. If the 1986 legislation results in a significant lowering of the risk to creditors from owner-manager opportunism, then the costs and other difficulties experienced by small firms with viable projects in obtaining debt finance and short-term credit may diminish significantly. In this respect, the 1986 legislation can best be seen as a regulatory alternative to individually negotiated "bonding" arrangements. Just as bonding operates at the individual level to reduce risk by making certain actions unprofitable, the 1986 legislation should result in an overall reduction in small business financial costs whilst also imposing significant personal costs upon those individuals that behave opportunistically with creditor claims. However, as noted above, even if small firm owner-managers totally refrained from opportunistic behaviour, there would, of course, still be many other sources of business risk remaining. Indeed, as the high variability in cash flows and high failure rates indicate, most sources of uncertainty seem to be the unavoidable consequence of the small size and limited scope of the firm's business operations and management structures.

Notes

[1] For an annotated guide to the main provisions of the 1986 legislation and examples of the relevant case law, see Souster, 1990.

[2] Legally a firm is insolvent if it is unable to discharge its liabilities when they fall due or if the value of its assets is less than its liabilities (IA, s123).

[3] Due to issues of available government statistics, the data provided in Table 1 has been compiled as follows. Upto and including the second quarter of 1991 the disqualification data refers to all company director disqualifications within England and Wales. From the third quarter of 1991 the data refers to those disqualifications that were purely associated with insolvencies. As disqualifications associated with insolvencies are argued by the Insolvency Section of the Department of Trade and Industry to comprise approximately 98% of all insolvencies, this difference in series should not overly distort Table 1.

[4] Both Administration and Receivership when no debenture exists are court procedures which temporarily prevent creditors from pressing their claims against an insolvent firm in order to allow it time to come to an agreement with its creditors (IA, s33-49).

[5] While the assumption of small firms only being able to attract more credit from existing creditors is not applicable to those small firms who have managed to obtain further credit from a wider set of sources, it would seem to capture the position of a large number of small firms. This is because banks and suppliers of trade credit will rarely grant credit to existing small firms without the support of bank and trade credit references.

[6] Although the life of small firms and a range of their financing decisions may be defined across n periods, the provision of funding their working capital purposes may be best described by a two period model. The revolving nature of working capital funds from both banks (overdrafts) and trade suppliers can be potrayed as a decision consisting of whether to terminate the provision of funds or to continue for one further period. If funding is continued, then the same decision is faced at the end of the next period. The revolving nature of this form of funding is one way of coping with the risks involved in small firms financing.

[7] For ease of tractability we have assumed risk neutrality on both the part of the owner-manager and the creditors. The consequences of relaxing this assumption would seem to be as follows. Although the owner-manager is assumed to be risk neutral, his/her limited liability imparts a degree of risk loving around the point of liquidation (see Stiglitz and Weiss, 1981,

for a fuller discussion of this argument). Thus, if the owner-manager was assumed to have a utility function characterised by inherent risk loving, then the opportunistic behaviour displayed in the examples of this paper would be strengthened. Whereas, it is possible to imagine the owner-manager's utility function displaying inherent degrees of risk aversion that would potentially outweigh the impact of limited liability. In this case, the interests of the creditors and owner-manager would be more aligned. In terms of the risk attitudes of the creditors, more (less) risk aversion would lead to less (more) of a likelihood of finance being provided at points close to liquidation.

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