THE LAW AND ECONOMICS OF CORPORATE INSOLVENCY: A REVIEW

J. Armour

WP 197
March 2001

The Law and Economics of Corporate Insolvency: A Review

ESRC Centre for Business Research, University of Cambridge
Working Paper No. 197

By
John Armour
Norton Rose Lecturer in Corporate & Financial Law
School of Law
University of Nottingham
University Park
Nottingham
NG7 2RD

tel: 0115 951 5703
fax: 0115 951 5696
email: j.armour@nottingham.ac.uk

March 2001

This Working Paper forms part of the CBR Research Programme on Corporate Governance, Contracts and Incentives

Abstract

Law and economics scholarship has contributed greatly to our understanding of corporate insolvency law. This paper provides an overview of this literature. It begins by defining some relevant terminology, and then reviews theories about the goals of insolvency law. It then considers Jackson's well-known claim that insolvency law exists as a response to a common pool problem, and continues by looking at suggestions for reducing the costs of financial distress both ex post and ex ante. Finally, it asks whether a solution to the common pool problem might not be sought through contract, or indeed through reliance on social norms.

JEL Codes: G33, G38, K22, Z13

Keywords: law and economics, corporate insolvency, financial distress, social norms

Acknowledgements
This paper draws on work done whilst the author was a Research Fellow at the ESRC Centre for Business Research, University of Cambridge. The financial support of the Leverhulme Trust is gratefully acknowledged.

THE LAW AND ECONOMICS OF CORPORATE INSOLVENCY: A REVIEW

1 Introduction

Any extension of credit involves a risk that the debtor may not repay the debt in due course. The state therefore grants creditors power to have the assets of a defaulting debtor seized and sold to cover an unpaid debt. These remedies are fundamental to a market economy as without them lending would be irrational. Yet where a corporate debtor defaults on multiple debts simultaneously, thereby becoming financially distressed, the exercise of these powers individually by creditors can lead to an inefficient 'race to collect', with a resulting dismemberment of the debtor's business. Corporate insolvency law effects a transformation of creditors' rights from individual to collective, which removes creditors' incentives to engage in such wasteful behaviour.

The risk of dismemberment is not the only cost associated with financial distress. A number of decisions must be taken over which claimants are likely to have conflicting views: what is the best way to deploy the debtor firm's assets: should the firm continue in business, or should it—whether in whole or in part—be closed? Who should own the assets: should it be sold to a buyer, or should the claims of existing financiers be reorganised? Which claimants should receive what payouts? A corporate insolvency procedure must provide a mechanism for resolving these issues. Furthermore, the threat of financial distress can lead corporate managers to take risky gambles with the firm's assets, another cost which appropriately-structured legal provisions can assist in reducing.

Law and economics scholarship has contributed a great deal to our understanding of how best to minimise the costs of financial distress through the design of a corporate insolvency procedure. This paper provides an overview of this literature. Section 2 begins by defining some relevant terminology, and explaining the structure of corporate

insolvency law in England and the US. Section 3 then considers the goals of insolvency law, showing that the law in both England and the US reflects a wider range of objectives than simply minimising the costs of financial distress. A number of normative claims have been made about the appropriate objectives of insolvency law. None of these provides support for the law as it currently stands, but rather each makes various prescriptions for reform. However, a consideration of several of these positions suggests that many of the suggested prescriptions will not succeed in implementing the goals advocated. Although the law and economics literature proceeds from the premise that the primary goal of insolvency law should be the enhancement of efficiency, it does contain the most extensive discussion of the question of implementation. This literature should therefore be of interest to all those who are interested in reforming insolvency law.

Section 4 outlines the principal contributions to the law and economics literature. It begins with the claim that insolvency law exists as a response to a common pool problem, and continues by looking at the various suggestions that have been made for reducing the costs of financial distress both ex post and ex ante. Section 5 then considers the limits of the 'common pool' model of insolvency law. It explains how recent contributions have begun to investigate whether or not other well-known 'solutions' to the prisoner's dilemma might not apply in the context of insolvency: could a firm contract with its creditors in advance over the procedure that is to apply? Or could social norms resolve the problem? Finally, consideration is paid to the role of law in giving incentives to firms and creditors who avoid formal insolvency proceedings through an informal 'workout.' Section 6 concludes.

2 What is insolvency?

2.1 Legal and factual terminology

Broadly speaking, 'insolvency' means inability to pay creditors.[1] However, depending on the context, this colloquial usage may refer to any one of several related concepts. This section will attempt to clarify definitional matters and set out some common terminology. To do so, it is necessary to distinguish between (i) 'balance sheet insolvency'; (ii) cash-flow insolvency (or 'financial distress'); (iii) economic failure (or 'economic distress'); (iv) liquidation; (v) reorganisation; and (vi) insolvency proceedings or 'bankruptcy' (e.g. Wruck, 1990: 421-422; Belcher, 1997: 39-55).

Balance sheet insolvency is an accounting concept (Belcher, 1997: 46-48). It signifies that the book value of a firm's assets are less than those of its liabilities. It should be distinguished from so-called 'cash flow' insolvency,[2] in which case a firm is unable to pay its debts as they fall due. In English law, such inability may be inferred from the fact that a company has failed to pay, on demand, a debt which is due.[3] Financial economists commonly use the expression 'financial distress' to refer to the condition experienced by a firm which is having difficulty in paying its creditors. Although there are some terminological differences between authors,[4] the phrase is often used to refer to the condition of a firm which is in substantial default on its debt obligations (e.g. Gilson et al, 1990: 325; Wruck, 1990: 422). In this sense, the expression is coterminous with 'cash flow' insolvency.

Financial distress, to a far greater extent than the balance sheet test of insolvency, is dependent on the structure of the repayments under outstanding debt obligations, and the nature of the assets available to satisfy them. Illiquid assets and large repayments may mean that a firm which is solvent in a balance-sheet sense cannot pay its debts as they fall due. Conversely, a firm which has significant growth opportunities and debt repayments spread over a number of years may be insolvent in a balance sheet sense, but nonetheless be able to pay

its debts as they fall due.

Solvency should be distinguished from economic viability (White, 1989). Insolvency is concerned with the relationship between a firm's assets or cash flows, and the amount of debt in its financial structure. Viability is a function of the net present value of its business as a going concern. Provided that the business has a going concern value which is greater than the value of its assets sold on a break-up basis, and also greater than zero, then it is economically viable. In other words, its assets are being put to their highest-valued use. Lack of economic viability is referred to as 'economic distress'. This condition is related to financial distress in the following way: all firms which are economically distressed will also become financially distressed.[5] The reverse, however, is not true. A firm with an economically viable business may become financially distressed simply because it has taken on more debt than it can service.

The terms 'liquidation' and 'reorganisation' are used to refer to the outcomes of financial distress. Liquidation in the sense used here refers simply to the conversion into cash, through sale, of a firm's assets. As such, it should be distinguished from its common usage as a synonym for winding-up proceedings. Although liquidation is a necessary component of winding-up proceedings, it can also occur under other procedures, for example in administrative receivership. The sale of assets it connotes can be either on a 'going concern' basis, which involves a sale of the entire business including goodwill and other intangibles, or on a 'break-up' basis, whereby the assets are sold piecemeal. Reorganisation refers to a financial restructuring of a financially distressed firm. Claimants exchange their old claims against the firm for new ones, which because the firm has been unable to pay its debts, will necessarily be less than the face value of their old claims. A reorganisation is functionally equivalent to a going-concern liquidation in which the existing claimants are the purchasers (Baird, 1986). Solvency and economic viability are factual conditions, and liquidation and reorganisation are factual events. A fundamental distinction should be drawn between these and various types of legal

(corporate) insolvency procedures (known as 'bankruptcy' in the US) which are related to them.[6]

2.2 Legal insolvency procedures

The discussion of insolvency procedures is made more complex by the technical differences between national legal systems. Under English law, there are currently four corporate insolvency procedures: (i) administration; (ii) administrative receivership; (iii) winding-up; and (iv) compromises and arrangements. The Insolvency Act 2000 will introduce a fifth.[7] Under US federal bankruptcy law, there are two forms of insolvency procedure open to all corporate debtors, Chapter 7 and Chapter 11.[8] Legal procedures may be associated with factual insolvency – and thence, indirectly, to economic distress – in various ways.[9] First, there are legal procedures which make the fact of insolvency a precondition for their operation. Sometimes this may be explicit, as with compulsory winding-up, a successful petition for which may be made on the basis that the company is insolvent in either a balance-sheet or a cashflow sense.[10] For other procedures, such as receivership, financial distress is a less explicit, but nonetheless important, precondition.[11] And entry to administration proceedings requires that a firm either be insolvent, or be likely to become insolvent.[12] Second, there are procedures which, whilst not making factual insolvency a legal precondition, will only be attractive to firms which are, or are likely to become, financially distressed. Examples include procedures which involve the reorganisation of corporate debt, such as creditors' voluntary arrangements. Creditors are unlikely to consent to a renegotiation downwards of their claims unless the firm is unable to pay them the face value. Legal insolvency procedures are also related to the fact of liquidation or reorganisation, as the latter will be outcomes of the former.

To minimise the terminological confusion, it is helpful to make use of a functional classification of the features of corporate insolvency procedures. A first point of comparison is the effects of commencing a particular procedure. These can be sub-divided into (i) the effects on

creditors' claims; (ii) the allocation of rights to control the debtor firm's assets; (iii) whether or not the debtor's business can continue to trade; and (iv) whether fresh finance may be raised. Most insolvency procedures impose some form of stay on creditors' claims, preventing them from pursuing individual enforcement, thereby forcing them to look to the insolvency proceedings for their recoveries. In the US, both Chapters 7 and 11 impose complete stays on creditors' claims, as does the current English administration procedure, and will the new CVA moratorium procedure to be introduced this year.[13] Administrative receivership imposes a de facto stay of all claims junior to those of the appointing debenture-holder (Buckley, 1994), and winding-up imposes a stay of unsecured claims.[14] The scheme of arrangement and company voluntary arrangement provisions (in their pre-moratorium guise) are really just voting mechanisms, and so are not attempted as a 'stand-alone' measure if it is felt that a stay of claims are necessary, but rather coupled with another procedure, such as administration (see Goode, 1997: 333-338).

Where creditors' individual claims are stayed, it is necessary to provide for some new allocation of rights to control the firm's assets during the insolvency proceedings. These rights may be apportioned (i) to an outside appointee, as with Chapter 7, winding-up and administration;[15] (ii) to the debtor's existing management, as with Chapter 11 and the new English CVA moratorium procedure;[16] or (iii) to a representative appointed by a creditor or creditors, as with administrative receivership.[17] All of the procedures which impose a stay of creditors' claims permit continued trading of the debtor's business in one form or another. However, some, such as winding-up, administration and US Chapter 7, require the permission of the court,[18] whereas others such as Chapter 11 and administrative receivership do not.[19] It is also likely that new finance will need to be raised to fund continued trading. In order to induce a lender to extend credit, this will usually have to take priority ahead of the claims of existing creditors. Such 'superpriority' for new borrowing is possible under Chapter 11 and, to a more limited extent, under administration and administrative receivership.[20] These points of comparison are

summarised in Table 1.

Another point of comparison is the mechanism of entry. Chapter 7, Chapter 11 and winding-up may be commenced either 'voluntarily'—by the debtor firm—or 'involuntarily'—in response to a court petition lodged by creditors,[21] the latter subject to the condition that it be demonstrated that the debtor firm is in fact insolvent.[22] Under English law, the right of entry to administrative receivership is determined as a matter of contract between the secured creditor and the debtor company. The creditor may simply elect to appoint a receiver at any time should the debtor default on any of the conditions attached to the loan.[23] The other English procedures involve some form of 'screening' by an independent official. Administration requires a court hearing, in which evidence must be presented sufficient to satisfy the judge that the making of an order will enable either (i) a better realisation of the firm's assets than would be obtainable in a winding-up; or (ii) the preservation of the debtor firm's business; or (iii) facilitate voting on a plan of reorganisation.[24] Similarly, the new CVA moratorium procedure will require the approval of an independent nominee, who must refuse to support plans with no reasonable prospect of being accepted by creditors.[25]

Insolvency procedures can also be classified according to the outcome which they are geared towards or permit—liquidation or reorganisation. A procedure geared towards liquidation must make provision for the sale—in one way or another—of the debtor firm's assets. Conversely, a reorganisation procedure must provide for some mechanism by which a plan of reorganisation, under which existing claims are restructured, is to be formulated and voted upon. In the US, this division is quite straightforward: Chapter 7 provides for liquidation only, whereas Chapter 11 is geared only towards reorganisation. Matters are more complex under English law, under which a successful reorganisation is likely to require the use of two procedures. This is because the fourth 'insolvency procedure' mentioned—schemes and arrangements—at present consist of no more than mechanisms whereby a majority vote of creditors can bind

minorities to a plan of restructuring. Whilst such a vote can be conducted on a stand-alone basis, it is more common that it would be combined with one of the other procedures, usually administration. It would be possible to achieve a reorganisation using the liquidation procedure, but in practice this is rare due to the difficulties with continued trading. Administrative receivership, however, always results in a sale of the firm's assets to a third party. Tables 2 and3 compare entry, exit and outcome for UK and US insolvency procedures.

3 The goals of insolvency law

Policymakers, judges and scholars disagree as to which goals it is appropriate for insolvency law to seek to further. These differences occur at several levels, and consequently proponents of particular positions often end up talking past one another (see Korobkin, 1996).[26] First, there are conflicting views on the positive question of which goals or values insolvency law does reflect. Secondly, there is a normative debate over which policy goals insolvency law ought to target. Finally, there are prescriptive differences over questions of implementation—how the law should be structured so as to reach a given goal. The modern debate began during the 1980s over the question whether insolvency law does—or should—seek only to maximise the returns to paid creditors of an insolvent company, or whether other goals do or should matter; such as preserving jobs, rehabilitating troubled firms and protecting the interests of local communities. The exchanges between the participants have shaped much of the following literature, and it is therefore helpful to use as an axis around which to organise the various contributions.

3.1 Positive legal analysis

Thomas Jackson, both in his own work, and in collaborative papers with Douglas Baird, advanced the proposition that the US system of corporate insolvency law was primarily geared towards the maximisation of returns to creditors (Jackson, 1982; 1986; Baird and

Jackson, 1984; 1990). Put very shortly: Jackson argued that insolvency law was no more than a collective debt collection mechanism. As such, the only goal it sought to further was the maximisation of creditors' returns.

English insolvency law provides some support for this argument.[27] The interests of creditors take primacy over the interests of all other groups from the moment that the firm seems to be in financial distress. Consider first directors' duties. In the 'twilight' period before legal insolvency proceedings commence, the primary content of directors' fiduciary duty of loyalty to the company shifts to consideration of the position of its' creditors.[28] Furthermore, once there is no reasonable prospect of avoiding insolvency proceedings, directors are subject to liability unless they cease trading, or take every step thereon for the benefit of creditors.[29] Secondly, the decision whether or not to enter insolvency proceedings is one which must be taken almost exclusively with the interests of creditors in mind.[30] Thirdly, insolvency practitioners, once appointed, owe duties to creditors alone.[31] In this framework, employers, suppliers and customers achieve protection solely through their status as creditors. It may therefore seem reasonably straightforward to infer from this that the principal purpose of insolvency law is the maximisation of creditor's returns.

However, it is clear that many provisions of both English and US insolvency law do not appear to be designed for this purpose (Warren, 1987; 1993; Goode, 1997: 25-29); Ponoroff and Knippenberg, 1991: 961-962; Finch, 1997). First, the law exhibits a willingness to alter the priority ranking of creditors' claims inter se. For example, employees rank ahead of unsecured creditors for certain wages, holiday pay and employers' pension contributions.[32] Liquidators and administrative receivers come under statutory duties to respect these priorities.[33] Second, corporate 'rescue' or reorganisation procedures can legitimate outcomes which do not maximise returns to creditors. Perhaps most obviously, the Chapter 11 reorganisation procedure frequently results in the 'old' shareholders receiving claims in the

reorganised firm, even though the fact of its insolvency would suggest that their claims should be extinguished.[34] Under English law, the administration procedure includes amongst its purposes, 'the survival of the firm as a going concern'.[35] It is conceivable that this goal could conflict with the maximisation of returns to creditors.[36]

For Jackson, these provisions are best characterised as aberrations. If the insolvency system is understood as Jackson saw it—solely a response to a common pool problem—then coherence would demand that such discordant provisions be reformed. Yet as Elizabeth Warren and others have pointed out, the conclusion that insolvency law should be understood in this way cannot be reached on the basis of a purely positive analysis of the law. Not only can these other goals be seen as reflected in the law, those preparing the legislation clearly intended that they be there. Several of the twelve aims of corporate insolvency law identified by the Cork Committee—for example, the distribution of proceeds in a 'fair and equitable' manner; the recognition that 'public interests' (namely, 'other groups in society' apart from the debtor and its creditors) are affected by insolvency and should be safeguarded; and to provide for the 'preservation of viable commercial enterprises'—are likely to conflict with the maximisation of returns to creditors (Insolvency Law Reform Committee, 1982: para 198).[37] Jackson's claim that the only legitimate goal of insolvency law is creditor wealth maximisation is therefore a normative one.

3.2 Normative and prescriptive debate

The normative theories which have been called in aid of policy prescriptions for corporate insolvency law are striking for their very diversity. In this section, we will canvass a short selection comprising: (i) contractarian arguments; (ii) 'fairness'; (iii) the law's immanent goals; and (iv) efficiency.[38] These positions have then been coupled with specific policy prescriptions for insolvency law which it is claimed will further the goal in question. Little attempt will be made to address whether or not the premises of these arguments are in

themselves defensible: such an enquiry would be far beyond the scope of the present paper. Rather, attention will be paid to the internal consistency of the positions defended: do their policy prescriptions follow from their premises?

Once again, it seems appropriate to start the discussion by reference to Jackson's (normative) contribution, which was his claim for the primacy of creditor wealth maximisation. This he derived through the framework of the 'creditors' bargain': an enquiry as to which legal provisions creditors would agree should govern a debtor's financial distress, were they able to contract about the matter in advance. He argued that such an 'hypothetical bargain' would to give rise to rules tending to maximise the wealth available to all creditors. The creditors coming to this bargain would do so with differing entitlements under noninsolvency law, and would not consent to any changes which made them relatively worse off in insolvency. Hence insolvency law should 'respect preinsolvency priorities'. In other words, claims against the solvent firm should quadrate perfectly into claims against the insolvent firm, with the exception that (i) shareholder claims are extinguished; and (ii) control rights are collectivised.

One normative foundation for the 'creditors' bargain' framework was that, because of its invocation of 'consent', it respected parties' autonomy. However, as opposed to an actual bargain,an hypothetical bargain can only be said to derive weak support from the argument that it tends to preserve the autonomy of the 'parties' (Trebilcock, 1993: 246). The parties to an hypothetical bargain have never actually given any real consent. Furthermore, only creditors are at the table in Jackson's hypothetical bargain, whereas corporate insolvency may have an impact on a wide range of other stakeholders (Korobkin, 1993). The autonomy of these latter parties is necessarily not respected by such an hypothetical bargain. Finally, it seems unlikely that secured creditors would agree to a stay of their claims on the commencement of insolvency proceedings, as happens under US bankruptcy law.

Korobkin (1993) offered an expanded 'contractarian' framework which sought to counter the objections which were raised to the autonomy defence of Jackson's framework. All interested participants are included at the bargaining table, and unlike Jackson's framework (but similarly to that of Rawls), they are not permitted to know their respective real-world positions. The parties are then asked to select 'general principles' which should be the norms guiding insolvency law. Korobkin argues that these would be 'inclusiveness'—that the interests of all affected parties should be taken into account—and 'rational planning'—that insolvency law should (i) seek to mediate between conflicting interests in a neutral fashion as far as possible; and (ii) where this is not possible, it should choose to protect the interests of those who are most vulnerable (Korobkin, 1993: 572-589). However, as Korobkin freely admits (ibid, 627-628), these principles cannot be enacted directly, but must first be fleshed out through a series of evaluative judgements about the proper content of insolvency law. He offers some tentative proposals which imply amongst other things that insolvency law should be concerned with issues of distribution, in favour of non-creditors who are adversely affected. In contrast, Rasmussen (1994a) argues that parties considering the design of insolvency law from a Rawlsian 'original position' would not want any redistribution to take place in that forum. This is not because such redistribution should not take place at all, but just because to do so in insolvency would be far more expensive than via taxation and direct transfers. There is clearly much work still to be done if this theory is to be operationalised.[39]

A second normative starting-point is to begin with the law's immanent values, and thence to argue that the values which are reflected in the law are the ones which ought to continue to be so reflected.[40] This claim would neatly solve the problems of implementation which are common to the other normative theories. The prescriptions of this position would be perfectly congruent with the law as its stands. However, this does not offer any independent grounds for promoting any one, let alone all, of these values. It seems more like an ad-hoc assumption that because these are reflected in the

law, they ought therefore to be implemented: a classic non sequitur. Furthermore, such a claim gives us no idea of the relative importance of these values, and consequently has no answers to the difficult questions raised by conflicts between them in the application of the law to hard cases.

A third approach is advocated by Gross (1997). She bases her normative position on 'multiple intuitive factors' drawn from internal reflection on human nature and fairness in the insolvency arena. Her approach yields two important prescriptive claims: one about the treatment of community interests in insolvency proceedings; the other positing importance of equality of outcome amongst creditors, as well as the equality of treatment provided for (to a greater or lesser degree) by the current law. However, there are significant difficulties associated with basing claims on unstructured intuitions, as a consideration of the first will show. Gross observes that corporate insolvency often has an exaggeratedly adverse impact on local communities who rely on the debtor firm for their livelihood. She then claims that people are essentially altruistic, although she admits that this claim is not based on empirical evidence but introspective reflection. Thus people help communities because they are 'willing to forego certain self-interests to accomplish larger goals.' (ibid: 200). This observation is then extrapolated to justify a sort of 'community interest' aspect for insolvency law. It is argued that creditors will not mind accepting a slightly smaller return if in doing so they can help to preserve local communities.

Even if it is assumed that people are in fact altruistic at core,[41] it seems that a difficulty with the claim is the linkage between the posited 'core' altruism and the specific policy prescriptions Gross advocates. She suggests that communities with a particularly close 'nexus' to the insolvency firm, and which will suffer 'injury' from its insolvency which a court could 'redress', should be taken into account by judicial decision-makers. It is not clear, however, why this particular outcome should be legislated for. If people are entirely altruistic, then we would expect to see them bailing out communities

without legislative prompting. If they are not entirely but partially altruistic, what is to say that this is a particular outcome that they would want?[42]

A fourth norm for developing prescriptions for insolvency law is efficiency. This is the second rationale underpinning Jackson's 'creditors' bargain': in a Coasean world of zero transaction costs, parties would agree to an efficient allocation of resources regardless of the initial distribution of rights. Thus by imagining what such parties would contract for, were they able to do so with full information and at zero cost, we are able to work towards an understanding of what the efficient legal rule would be (Cheffins, 1997: 128-129).

There are of course difficulties with the claim that economic efficiency should be the only, or even the most important, goal for law reform. These difficulties notwithstanding, it can make several claims to primacy in the context of corporate insolvency law. First, the implementation question has been more thoroughly addressed for this particular prescription. Proposals based on economic efficiency suffer less from indeterminacy and internal incoherence than do those based on the other normative positions. Second, it is possible to 'close off' arguments from other normative positions in the context of corporate insolvency law. Even if it their normative premises are accepted, corporate insolvency law is a poor vehicle for furthering their goals. For example, take the issue of redistribution from creditors to other stakeholders ex post. Schwartz (1998) argues that this can be achieved more cheaply through subsidies directly to the stakeholder groups in question. This is no more than the flipside of the failings of those advocating stakeholders rights to answer the implementation question.

Third, even if the normative premises of welfare economics are not accepted, the law and economics literature on corporate insolvency is still highly relevant to policy makers. To cut to the chase: the answers this literature provides to the 'implementation question' are of interest to anyone seeking to formulate policy prescriptions. The positive

analyses it contains of the way in which rational actors respond to changes in the legal regime. As resources are not unlimited, it will ceteris paribus be preferable to achieve any given social goal at less rather than more cost ('cost' representing resources which can be used to achieve other social goals, whatever they may be). Hence whichever normative theory is subscribed to, its implementation will be subject to a regulatory cost-benefit constraint. The law and economics literature therefore provides insights into how to implement the goals of any given theory. It is this, rather than the inherent normative attractiveness of efficiency, which makes it important to policy-makers. It is to this literature that we now turn.

4 Economic theories of insolvency law

Financial economists view the costs of financial distress as a concomitant feature of debt finance. The function of insolvency and related aspects of debtor-creditor law is therefore to minimise the costs of debt finance (e.g. Schwartz, 1998). In order to see how this may be done, we will consider in turn the nature of debt, the costs it can give rise to, and how insolvency procedures may reduce these. Creditors have a legal power, following default, to have a debtor's assets seized and liquidated to cover the debt.[43] The existence of this power gives debtors an ex ante incentive to repay, and indeed it is inconceivable that borrowing could be sustained without the grant of such a power. Creditors' investments, once sunk, are highly firm-specific. If they had no power to seize assets in the event of default, then they would be vulnerable to expropriation by shareholders,who could simply refuse to repay. However, such grants bring with them costs—in particular those generated by creditor-debtor and inter-creditor conflicts of interest—which corporate (insolvency) law also helps to reduce.

The use of debt creates costs ex post, after enforcement occurs. These encompass first, the 'direct' costs of financial distress: the professional fees incurred (lawyers, accountants and other valuation experts) in seeking to restructure or terminate the firm. In terms of

allocative efficiency, they are a dead-weight loss. Empirical research based on US firms suggests that these are relatively small in comparison with firms' total values.[44] Second, and probably more importantly, there are likely to be losses resulting from inefficient deployment of the firm's assets ex post. If, for example, 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, 1994a; 1996). Creditors are not usually in the business or running firms, and hence they will wish to sell the assets to a third party, or to renegotiate with the incumbent managers and shareholders.How well the assets end up being deployed will be a function of (i) the quality of the information available to the creditors about the firm's value under different possible courses of action; (ii) the functioning of the market for (assets of) distressed firms; (iii) the creditors' ability to co-ordinate their actions.

There will also be ex ante costs. The prospect of default will give rise to perverse incentives for incumbents. On the one hand, it is well-known that wealth (in an expected-value sense) can be transferred from debt to equity by increasing the riskiness of a firm's projects once a loan has been made (Jensen and Meckling, 1976; Myers, 1977; Smith and Warner, 1979; Barnea et al, 1985).[45] These costs, sometimes referred to as 'financial agency costs,' are more pronounced where shareholders and managers' interests are aligned: as in a closely-held debtor. It is arguable that for solvent firms, the most significant mechanism for minimising these costs is reputation. A firm which must return to the market for corporate credit will harm its own long-term interests by 'baiting' its creditors (see Brealey and Myers, 1993: 441-442). Hence financial agency costs are most significant in their guise as a 'last-period problem'—and as such may perhaps best be viewed as an associated cost of financial distress.[46]

Where managers' and shareholders' interests are not well aligned, as may often be the case in large public firms, then financial agency costs in the sense discussed above will not be such a problem.

However, managers' incentives may be adversely affected by imminent financial distress. Financial distress frequently results in the removal of corporate managers, even if the debt contracts are renegotiated (Gilson, 1989; Gilson and Vetsuypens, 1994). This process is the debt-based equivalent of a hostile takeover: what might be termed a 'takeunder' (Armour and Frisby, 2001). Managers typically find it difficult to find top-level employment again after this type of event (Gilson, 1989). Thus, in the 'twilight' period prior to default, managers may have strong incentives to 'bet the firm' on high-risk projects so as to avoid losing their jobs. Alternatively, they may simply 'give up', taking the view that the payoff to their efforts is likely to be low, and that taking more leisure time is therefore optimal. As Triantis (1997: 1328) puts it,

'[T]he manager's worry about falling through thin ice does not always lead to superior performance; it may instead lead to a fatalistic sense that effort might be wasted in a futile cause.'

Finally, the actual conduct of negotiations pertaining to default is likely to have an adverse impact on managerial decision-making, since they are likely to become distracted from running the firm (Megginson, 1997: 333).

We now turn to a consideration of various legal responses to the costs of financial distress. These can be understood as falling into two categories: those which respond to the ex post costs of enforcement, and those which seek to ensure efficient incentives ex ante. The discussion will in each case explain the relevant incentive effects, followed by relevant empirical evidence and provisions of English and US corporate insolvency law.

4.1 Ex post costs: Insolvency law and the prisoner's dilemma

According to the most famous analysis, insolvency law exists as a response to a common pool problems faced by creditors. This approach is due to Jackson (1982), who concluded that a state-

supplied insolvency code was necessary to mandate a co-operative solution. Jackson's model considered the position of the creditors of a financially distressed firm who do not have the ability to invoke a state-supplied insolvency code. They are, however, entitled to make use of court-sanctioned individual debt-collection procedures. The legal structure of these procedures is archaic, but their operation is relatively simple to understand. The creditor first obtains a court judgment against the debtor, certifying that the latter has failed to pay a due debt. This is then taken to a state enforcement official—such as a bailiff or sheriff—who is thereby mandated to seize the debtor's assets to the value of the outstanding debt. If the debtor does not pay immediately, the assets are sold and the proceeds passed to the creditor. Where the debtor has multiple unpaid creditors, the creditors' claims to the proceeds of enforcement procedures are ranked in the order that writs are delivered to the sheriff.[47]

This 'first come, first served' approach can provoke an inefficient 'race to collect'. Consider the following simple example.A corporate debtor has two creditors, each owed £9. If its assets are broken up and sold piecemeal, £10 will be realised. If either creditor exercises its power of individual enforcement, then crucial assets are sold and the debtor firm is unable to continue in business, meaning that a piecemeal sale must occur. Each creditor may alternatively wait ('co-operate') and not enforce. If both do this, then they will be able to agree to a collective decision about the debtor's future. There are, broadly speaking, two collective strategies which they may wish to take. First, they may wish to sell the debtor's business as a going concern rather than as a separate collection of assets. Second, they may take the view that the debtor's troubles can be worked out by a collective debt renegotiation package, whereby some loans are rescheduled or converted to equity. Where either of these strategies would yield a greater total payoff to the creditors than piecemeal liquidation, it would be efficient for them to adopt it as a group. Assume for the moment that one or other of these solutions will generate a total return to the creditors of £14. Unilateral co-operation does not pay. If either creditor enforces and the other does not, then

the enforcer will be fully repaid, and the co-operator will do poorly. The unilateral enforcer's payoff exceeds that which he could expect from mutual co-operation, and hence each creditor will seek to enforce if he believes the other will co-operate. Conversely, as unilateral co-operation is worse than mutual enforcement, each creditor will seek to enforce if he believes the other will do so too. Co-operation is therefore strictly dominated by enforcement: each creditor is always better off enforcing, regardless of what the other will do. Since this payoff structure is common to both creditors, the result will be that both enforce. However, this is collectively inefficient, since only £10 is realised rather than £14.

Jackson pointed out that a mandatory insolvency procedurecan avoid the prisoner's dilemma for creditors. As we have seen, insolvency procedures usually require the debtor or one of the creditors to trigger entry. Assuming that the legal procedure is costlessly able to ensure that the correct deployment decision is taken as to the firm's assets, then the payoffs to the creditors will be (7 , 7) if the procedure is used. Perhaps more than any other technique, this collectivisation helps to reduce the costs of creditor decision-making by removing the possibility of a 'race to collect ' (Jackson, 1982; 1986; Baird and Jackson, 1990). It could most obviously be implemented through a formal stay of claims, as under the 'automatic stay' of US bankruptcy law.[48] A similar effect is had upon the claims of unsecured creditors by the commencement of winding-up proceedings in the UK,[49] or on those of all creditors by the bringing of a successful petition for administration.[50] However, security interests can also be viewed as effecting a transformation of individual property rights into a unified asset pool, because by establishing clearly in advance who is entitled to enforce against which assets, it removes the incentive to start a 'race to collect' (Picker, 1992).[51] We now turn to a consideration of the various features of insolvency procedures that give rise to costs, and of proposed improvements.

1 Creditor decision-making

Collective rights require collective decision-making. The mechanism which is adopted for making decisions is crucial to the efficiency of the procedure. First, it will impact on the amount of time taken to resolve the issues. On the whole, the more quickly decisions can be taken, the lower the direct costs of financial distress.[52] It seems plausible that rapid decision-making may reduce the 'uncertainty costs' of financial distress. Second, the accuracy of the decisions achieved by the procedure will improve the efficiency of the allocation of the firm's assets ex post. Third, the scope for strategic behaviour—which optimally will be minimised—largely depends on the procedure that is adopted.

A number of factors inhibit collective decision-making by creditors. First, their individual rights give them incentives to engage in strategic 'hold-up' behaviour. Whilst a stay of claims may reduce the problem, it can be expected to persist in a fairly strong form so long as a unanimous decision is required. Hence majority voting, or delegation of decision-making to an agent, may be necessary. Indeed, one or both of these are features of all the English and American corporate insolvency procedures. Second, asymmetric information between creditors is likely to lead to disputes over the best means of deploying the firm's assets. Differing expectations give rise to conflict over what the firm's assets—and hence creditors' claims—should be 'worth'. Third, heterogeneous priorities amongst creditors gives parties incentives to back outcomes which result in the largest payoffs to them (Roe, 1983; Baird, 1986; Bebchuk, 1988).[53] For example, senior claimants whose claims are fully covered will prefer a rapid cash sale, whereas junior claimants may favour a highly risky reorganisation which will allow them to retain control. These factors combine to give negative synergy. As Aghion et al (1992) put the matter,

'There are already reasons to think that bargaining may break down over a given pie (e.g. if there is asymmetric information among the agents); matters are merely made worse by having a further conflict of

interest over which pie should be chosen.'

These perverse incentives can be greatly reduced by specifying a valuation mechanism in advance, and directing assets to the highest-valued use suggested by that mechanism. Alternatively, they may be reduced by homogenising the creditors' claims against the firm. Let us consider each of these in turn.

2 Valuation mechanisms

Market-oriented theorists have argued that the best means of determining the debtor firm's value would be through an auction (Roe, 1983; Baird, 1986). Bidders have the right incentives to value the firm appropriately. A procedure which simply directed that the firm be auctioned so as to maximise the returns would thereby seem to solve many of the problems of creditor decision-making.[54] Some legal insolvency procedures do in fact lead to auctions. In the UK, the administrative receivership procedure typically ends in an auction of the firm's assets, as does a winding-up. It is also possible that an auction of the firm's assets will be the mechanism used to exit an administration. In the USA, the debtor's assets are auctioned under Chapter 7 proceedings. However, two strong criticisms have been made of the use of 'simple' auctions in this fashion.

First, the way in which the auction is conducted will have implications for the sort of bids which are obtained. For example, if the firm is to be auctioned as a going concern, someone must keep it running during the auction period. Sometimes insolvency procedures do not facilitate continued trading of this variety. For example, the winding-up procedure in England does not stay the claims of secured creditors, which makes it very difficult for the liquidator to continue trading. However, if the business can be sold as a going concern then this result can be pre-empted by commencing administrative receivership or administration proceedings.

A related issue concerns who should oversee the auction process. Whilst the residual claimant would normally be the party with the appropriate incentives to determine the optimal amount of time spent soliciting bids, the whole point about creditor heterogeneity is that – at least until the firm's valuation has been determined – we do not yet know who the residual claimant is. Hence the problems of perverse incentives may return by the back door, because the party in charge of procuring the sale may have an incentive to delay, or foreshorten, as their interests dictate (Easterbrook, 1990).[55] The administrative receivership procedure illustrates this problem. There the decision about how to sell the firm is placed ultimately in the hands of a secured creditor. If the value of the firm exceeds the outstanding secured loan, they are not the residual claimant, and may have an incentive simply to have the firm sold in the least risky manner, even if this is for a lower expected value (Aghion et al, 1993: 103-104).

The incentive problem may be ameliorated by passing responsibility for the conduct of the sale to a court official. However, the evaluation of the worth of a business is a task which many argue that court officials are not well-placed to perform (Roe, 1983; Baird, 1986; Aghion et al, 1992).[56] In particular, they are said to lack the expertise enjoyed by market participants, and having no money of their own invested in the outcome do not have such strong incentives. This can lead to uncertainty and generate incentives for rent-seeking ex ante, as where parties precipitate insolvency proceedings with the idea that they will persuade a judge to adopt their favoured (redistributive) plan (e.g. Baird, 1998: 577-579).

Second, there may be failures in the markets for the assets of distressed firms (Aghion et al, 1992; Hart, 1995: 156-185). If there is not a thick and liquid market for assets of the relevant type then markets will not prove an effective means of reallocating resources. Shleifer and Vishny (1992) argue that at times when firms are suffering from financial distress, other firms in the same industry - who would be the natural buyers of its assets - are likely to be suffering liquidity problems, because financial distress is often linked

to industry-wide downturns. Hence assets will be sold at a severe undervalue.[57] Furthermore, there may be an adverse selection problem, with potential buyers avoiding the market, fearing that creditors will prefer to renegotiate with high-quality firms and sell only low-quality ones (Webb, 1991).

A partial solution to the liquidity problem is to allow for the possibility of non-cash bids. Thus the bidder offers creditors shares or securities, issued either by the bidder (as with a take-over) or, following a reorganisation, in the distressed firm (Aghion et al., 1992).[58] However, this will tend to intensify the auctioneer's incentive problem, since non-cash bids are inherently more difficult to evaluate than cash. Chapter 11 reorganisation proceedings in the US, and company voluntary arrangements in the UK can be understood as situations where the existing managers and shareholders put together a non-cash bid for the firm's assets. However, these procedures are not auctions, as there is only ever one potential buyer.

3 Homogenisation of claims

The homogenisation of creditors' claims offers an alternative means of reducing the costs of collective decisionmaking. For example, converting all claims into equity would mean that decision-making could be conducted with commonality of interest. However, this would imply an alteration of preinsolvency priorities, which would mean that the disciplinary effect of loan priorities would be diluted.[59] It is, however, possible to use options to ensure that no redistribution takes place.[60] A procedure making use of such a mechanism would mandate the automatic allocation to claimants of options to purchase a fixed number of shares of the distressed firm's equity. The number of shares would be pro rata to the amount of other claims of equal priority. The exercise price would be equal to the face value of an equal proportion of all senior claims.[61] This would ensure that no creditor ever receives less than their priority entitlement - they either get bought out at par, or get the option of a pro rata share of the firm's equity. If they are not bought out, and their claim is not under water,

then the option will be worth exercising.

Option mechanisms are not a panacea. In order to decide whether or not it is worthwhile to exercise their options, claimants must be able to assess the value of the firm. Paradoxically, this is the verydecision which is sought to be simplified through the homogenisation of interests. Free-riding and 'rational ignorance' are likely to mean that the total investment in valuation is inappropriate. Furthermore, small claimants may suffer from liquidity problems which prevent them from exercising their options. To a certain extent, such liquidity and information problems may be solved by claim trading (Bebchuk, 1988). However, this raises in turn issues about the protection of minority claimants from expropriation by a purchaser of 51% of the equity.

Aghion et al (1992) propose that the 'auction' and the 'options' be combined. Their proposed procedure would involve (i) the solicitation, for a fixed period by a court official, of bids for the firm; (ii) the exercise of options; and (iii) the selection of the 'desired' bid by the residual claimants after the options are exercised. This has the benefit of solving, to a large extent, the auctioneer's incentive problem. The decision which bid is to be accepted is taken by the parties who consider themselves to be the residual claimants. Furthermore, it also reduces the information problem faced by claimants in deciding whether or not to exercise their options. They have the advantage of having presented to them the valuations placed on the firm by a number of potential purchasers.

4 Maintaining pre-insolvency priorities

An important theme in much of the law and economics analysis of insolvency law is that collective ex post regimes should be merely procedural in their effect, collectivising decision-making, but preserving the relative entitlements of each party (see Baird, 1998: 580-582). The best-supported theoretical explanation for the existence of loan priorities is their ability to constrain debtor firm's investment

decisions and thereby mitigate ongoing financial agency costs (Schwartz, 1989). On this basis, any interference with pre-existing priority contracts would reduce their ability to do so, and hence be inefficient. Second, it may lead parties to commence insolvency unnecessarily—with additional costs ex post—merely to enable them to capture gains from the commencement of such proceedings (Baird and Jackson, 1984; Baird, 1987a; 1987b).[62] The argument suggests that opportunities for such behaviour should therefore be minimised as far as is possible.

4.2 Near-default costs

As has already been alluded to, corporate law and debtor-creditorlaw provide a number of mechanisms which seek to assist in minimising the costs generated by perverse managerial and/or shareholder incentives in the period immediately before a default occurs. Whilst it is true that wealth (in expected value terms) can be transferred from creditors to shareholders at any time, the incentives to do this are likely to intensify in the 'twilight' period prior to default. Solvent firms need to return to the market for future funding, and so reputation is an important—arguably the most important—constraint on expropriatory behaviour. However, where a firm is financially distressed, its managers and shareholders are likely to discount the value of future periods of interaction with loan markets very heavily: unless the distress is resolved, these periods will be irrelevant. Thus there is a significant 'last-period problem': reputational penalties no longer provide an effective deterrent to opportunism (Whincop, 2000).

However, there are a variety of regulatory mechanisms which can assist in deterring opportunistic behaviour under these circumstances. These can be categorised according to effect: those which ameliorate the incentives of shareholders, and those which act directly on managers' incentives. They can also be divided into those which are mandatory: in other words, part of the background to any corporate borrowing transaction, and those which are enabling: namely,

operating only if the parties choose to opt into them.

1 Loan priorities and security interests

The law of secured credit can be seen as a set of opt-in rules which assist in reducing shareholders' perverse incentives. To understand its role, it is first necessary to understand how the use of loan covenants allows creditors to restrict the debtor's ability to enter into transactions which will transfer wealth away from them (Schwartz, 1989; 1997). Consider for example a 'negative pledge', one of the most common covenants, by which a borrower promises not to issue any subsequent debt with a priority rating equal or superior to that of the initial lender. If a firm with such a covenant raises external finance for a new project, the new financier (be they debt or equity) will thereby bear all the additional risk which the project generates.[63] If they are rational, they will insist on credible evidence from management about the effects of the project on the firm's value, and price the terms of their investment accordingly. Alternatively, management might seek to renegotiate the terms of the original loan. Either way, management are encouraged only to take on projects which have a positive net present value (Hart, 1995: 126-151).[64]

Without such a covenant, the firm is able to poach part of the 'cushion' of assets which protected the earlier lender against the risk of default, and use these as part of a cushion offered to a subsequent lender. The competitive interest rate required for the second loan will therefore be commensurately lower. In effect, the firm will have been able to secure finance at less than the competitive rate by expropriating the earlier creditor (Schwartz, 1989: 228-234; Triantis, 1992: 235-236). This saving could be used to fund either a dividend to shareholders as a group or an investment in a weak project which yields private benefits to management. No rational lender would lend on terms that allowed for such expropriation. However, were the risk to be priced into the initial interest rate, the cost of the loan would be excessive as it would need to cover every possible expropriation which the debtor might attempt. Hence it is more efficient to protect

the initial creditor and have the debtor firm 'pay as they go' in terms of raising future finance.

Whilst a breach of a negative pledge covenant would be harmful to the reputation of a borrower, it would not prevent the subsequent lender from gaining priority over, or at least ranking pari passu with, the earlier borrower. However, the use of a security interest allows the loan covenant to be 'self-enforcing': the subsequent lender will, to the extent determined by the priorities system of the law relating to properly perfected security interests, rank behind the earlier secured creditor. Furthermore, because the enforcement is non-judicial, the use of security removes the need to verify a breach of covenant to the court (Schwartz, 1997: 1413; Scott, 1997: 1453-1454). This makes the covenant more effective, as the shorter creditor response time means that the expected sanction for breach will be more severe (Triantis, 1992: 246; Buckley, 1994: 745-750).

2 Vulnerable Transactions and Dividend Restrictions

The law also regulates the debtor's ability to dispose of its assets in a 'twilight' period leading up to insolvency. Like the law relating to secured credit, these provisions act on the incentives of shareholders. However, unlike the latter rules, these provisions are mandatory. They apply to all relevant transactions, making them 'vulnerable' such that assets which have been transferred away may be retrospectively restored to the debtor's estate, when insolvency proceedings supervene.

The provisions serve a variety of functions. On the one hand, preference law (and the associated UK provision striking down 'late value' floating charges) is thought to extend insolvency law's collectivising feature to the period before insolvency,[65] and hence to deter any individual creditors from taking steps to enforce against assets lest their recoveries be subject to an action by the liquidator or administrator (Jackson, 1984; Prentice, 1987). That said, this justification is less than entirely compelling. A preference action

never demands the return of more than the amount paid over, and if the probability of a successful action being brought is less than one, it is still rational for individual creditors to seek to enforce if they can. Adler (1995) argues instead that preference law is geared towards the reduction of financial agency costs. In particular, he suggests that it acts to prevent deals where an existing lender is persuaded to lend into a very high-risk transaction in return for a grant of security in respect of pre-existing indebtedness.

The law regulating transactions at an undervalue—or 'fraudulent conveyances' as the US counterpart is still known—similarly appears to serve more than one purpose.[66] On the one hand, it can be used to unwind what Clark (1977) calls 'ur-fraud': where the debtor transfers assets to an associate simply to put them beyond the reach of creditors. Additionally, however, it can also be seen as serving to police asset substitution transactions. Where corporate managers enter into transactions near the time of default which they hope will save the firm, but which actually have a negative net present value, then the undervalue transaction provisions can be used to unwind them.

Finally, corporate law, through the doctrine of capital maintenance and its statutory counterparts, places restrictions on firms' ability make distributions to their shareholders.[67] This can be seen as a mechanism by which shareholders bond themselves to keeping a certain minimum level of assets in the corporate coffers. As such, it serves to restrict one classic form of wealth transfer: the 'liquidating dividend', whereby assets are withdrawn from productive endeavour in order to fund a payment to shareholders (Armour, 2000).

3 Modifying directors' incentives: ex post penalties

In the UK, the wrongful trading provisions impose a duty on directors to deal with the corporate assets in a way which will minimise the losses to creditors.[68] The duty arises at the point at which the directors know, or ought to know, that there is no reasonable prospect of their firm avoiding insolvent liquidation. This can be seen as a provision

directed at minimising the impact of pre-default incentives on managerial decision-making (Grantham, 1991; Mokal, 2000; Whincop, 2000). Similarly, directors who are found to have continued negligently to trade—incurring new debts—whilst insolvent, may also be disqualified from being concerned in the management of a UK company for a fixed period afterwards.[69] This will reduce the value the director's human capital and thereby act in a similar way to a financial deterrent of the sort imposed by the wrongful trading provisions.

4 Chapter 11 and 'beneficial' redistribution

As has been seen, UK company law penalises directors for failing to take creditors' interests into account. In contrast to this 'stick' technique, the US Chapter 11 procedure might be seen as offering directors (and shareholders) of troubled firms a 'carrot' in order to minimise financial agency costs. Chapter 11 allows the incumbent management to continue running the debtor firm, free of interference by creditor claims. What is more, the structure of the Chapter 11 process puts equity in a strong bargaining position, allowing them to extract concessions from creditors as the price for not delaying the proceedings (Meckling, 1977: 33-37; Bebchuk and Chang, 1992; Bebchuk, 1998).

Empirical studies show that under the US Chapter 11 reorganisation procedure, the former shareholders commonly do receive claims in reorganised firms.[70] White (1989; 1996: 483-485) argues that allowing for ex post redistribution in favour of the (old) shareholders may serve to ameliorate the particularly acute incentives to misinvest which are visited upon them during the period immediately prior to financial distress. Daigle and Maloney (1994) support this empirically with the finding that the size of the transfer to equity in Chapter 11 proceedings is positively correlated to that the possibilities for misinvestment in the five years leading up to financial distress.[71] There is a tension between these claims and the argument, noted earlier, that insolvency law should simply preserve pre-insolvency

priorities. On the latter view, such deviations from 'absolute priority' are inefficient. In theory, the expectation of such a side-payment would worsen the investment incentives for equity in firms which are performing well, by reducing the downside risk it bears (Schwartz, 1994). However, reputational considerations act on these firms in a way in which they do not on firms which are approaching default, and hence a side-payment may generate a net social benefit.

5 Collectivisation in pre-insolvency mechanisms

As we have seen, the most fundamental feature of insolvency law is its transformation of creditors' rights from individual to collective status, with associated collective governance mechanisms. This is justified by the enormously destructive effect of allowing creditors, when their power to take control becomes exercisable, to apportion control rights on a first-come-first-served basis. When enforcement occurs, then debt shifts from being an ex ante incentive mechanism to the locus of ex post control. Thus it is necessary for the structure of creditors' rights to be transformed so that they are appropriate for the efficient exercise of control.

A related set of arguments apply vis-à-vis the enforcement of legal rules designed to minimise the costs of near-contingency misbehaviour by incumbents. These provisions seek to minimise the extent to which incumbents can reduce the value of the (collectivised) ex post control rights granted to creditors. They are therefore auxiliary to insolvency proceedings. If creditors were given individual rights of enforcement vis-à-vis these rules, actions in right of them could be taken well before insolvency proceedings commenced, hence usurping their auxiliary status, and in cases where this was not necessarily in the interests of the majority of the creditors. This would upset the collective nature of the insolvency regime such safeguards are intended to support. This rationalisation can explain why enforcement of many of these provisions is mediated through ex post collective mechanisms. The liquidator or administrator chooses whether or not to bring actions based on unlawful returns of share

capital, wrongful trading or vulnerable transactions.[72] These office-holders in turn are accountable to the creditors.[73] Similarly, the Department of Trade and Industry chooses whether or not to seek to disqualify directors on the basis, amongst other things, of the harm that they have caused to creditors.[74]

The principal exception to this collectivisation is the law relating to secured credit. Before the commencement of insolvency proceedings, a secured creditor is free to exercise their rights to seize and sell the charged assets, should the debtor default. Yet in substance this is little different (apart from the speed at which it takes place) from an unsecured creditor taking enforcement action against a solvent debtor. Where security interests make a significant difference is when the debtor is insolvent. Under these circumstances, allowing secured creditors to retain their right to control the charged assets would lead to inefficient dismemberment of the debtor's business, with one exception: where the charge itself covers the entirety of the business. US corporate insolvency law stays all enforcement action by secured creditors. Under UK, the administration regime blocks all such enforcement except the use of administrative receivership, which as we have seen solves the common pool problem in a different way.

5 The limits of the common pool model

The common pool model of corporate insolvency has considerable power to explain the role of corporate insolvency law. But like all models, it also has limitations. In this section, we will consider three of its important ones: (i) the possibility of solving the prisoner's dilemma through ex ante contracting; (ii) the role of non-legal mechanisms for solving common pool problems; and (iii) the possibility of renegotiation as a substitute for legal insolvency proceedings.

5.1 Contracting for an insolvency procedure

The common pool model starts its consideration of creditors' position

at a relatively late stage in the firm's history—once financial distress has commenced. At this point, creditors with only individual enforcement rights would certainly face a prisoner's dilemma problem. However, it is well-known that one 'solution' to the prisoner's dilemma is for the parties to write in advance a binding contract to co-operate. The effect of this is to alter the payoffs to defection (enforcement) by introducing a legal sanction for breach of the contract. Whilst such a contract clearly could not be negotiated once distress (and the dilemma) has commenced, a number of scholars have pointed out that there is no such dilemma at the time funds are advanced (Rasmussen, 1992; Adler, 1993; Schwartz, 1998). Thus it might be possible for the to write a contract amongst themselves, or to sign up to the terms of a contract offered by the debtor firm.

For example, a majority voting provision might be included in an issue of bonds or a syndicated loan. It would theoretically be possible for firms to provide that debt claimants should have no individual execution remedies against the debtor, but that failure to make a repayment should result in the 'annihilation' of the equity claimants' stake in the firm, and the transfer of control (and rights to residual returns) to the (former) creditors with the lowest priority ranking. Such claims have been characterised as 'chameleon equity' Adler (1993).

However, such ex ante contracting is not seen in practice.[75] The clearest explanation seems to be that the current legal regime makes it impossible for firms to 'contract out' of their right to grant creditors individual execution remedies, or for the firm to enter insolvency proceedings (Schwartz, 1993). Thus holders of debt which is within the ambit of such an agreement are vulnerable to expropriation through a subsequent issue of 'traditional' debt (Adler, 1993).[76] This is to say: such a contract would only bind the parties, and if the debtor firm borrowed from another creditor ex post, that creditor would still be able to invoke the basic insolvency regime. Thus the debtor and the subsequent creditor may be able to transfer wealth away from the

initial creditors to themselves, in so doing undermining the value of the insolvency procedure which the earlier creditors had contracted for. In short, what is needed is a means by which the debtor can lock itself into an insolvency regime which binds not only the original parties, but all possible subsequent creditors. The normative argument is therefore that firms should be offered a 'menu' of insolvency procedures, each, once chosen, binding all creditors. Firms could then select between them and lock themselves into the procedure which was most appropriate for their particular circumstances (Rasmussen, 1992).

Such proposals are not themselves unproblematic. First, there are likely to be failures in the mechanism by which the choice is to take place. Many of the proposals assume efficient capital markets and argue from there that giving the choice to the debtor's initial incorporators would ensure that the cost-minimising procedure is chosen (e.g. Rasmussen, 1992). But if the capital markets are not efficient, incorporators may select the rules on the basis of the extent to which they favour their own interests, rather than the interests of creditors.[77] Furthermore, the debtor firm's management may fear the inclusion of certain terms to be an adverse signal (Roe, 1987).Terms which lessen the impact of insolvency can be seen as sending a signal that the incorporators consider there is a risk of insolvency. A recent study of bond ratings and collective renegotiation clauses provides some support for the thesis that this sort of effect may occur (Eichengreen and Mody, 2000).[78]

A multiplicity of potential sets of rules would necessarily also increase the direct costs of insolvency and related transactions. Legal fees would increase to reflect the fact that lawyers will need to be familiar with multiple regimes. However, one would hope that competition in the market for legal services would drive lawyers to generate greater efficiencies in the way in which their understanding of the differences and similarities between insolvency regimes are processed. Hence the ultimate impact might not be excessive.

A more serious problem seems to be the threat of potential lock-in to suboptimal choices of insolvency procedure. The costs of specifying such a procedure ex ante may be prohibitive, as may be the opportunity costs if it turns out to be inappropriate. By providing firms with the ability to select amongst a wide range of insolvency regimes, the possibility of a severe mismatch between needs and applicable procedure is likely to be increased. Furthermore, firms' business, finance and organisational structure may change over time, and hence a chosen insolvency regime, even if appropriate at the outset, may cease to be so ex post.

5.2 Non-legal solutions to the common pool problem

The common pool story, as it is usually told, assumes that the insolvency procedure which 'solves' the problem is supplied by law.[79] However, non-legal mechanisms can substitute for legal solutions. On the one hand, the debtor could simply opt to borrow from only one significant creditor. This is in fact what happens with many small firms, who source most of their borrowing with a single bank (Armour and Frisby, 2001).[80]

Alternatively, much recent law-and-economics scholarship has devoted itself to pointing out that actions can be affected not just by the 'price' signals sent by law, but also by social norms: whether interpreted as sanctions in a repeated game, co-ordinating conventions, or internalised as part of actors' utility functions. For example, if a prisoner's dilemma is repeated indefinitely and parties have sufficiently low discount rates, then multilateral co-operation is a possible equilibrium result (see Baird et al., 1994: 165-178). In real-word borrowing situations these are unlikely to be a complete substitute for collective legal procedures, simply because legal systems do not offer individual enforcement mechanisms without collective insolvency procedures.[81] Their role is more likely to be apparent either in reducing the costs of bargaining within insolvency procedures (see LoPucki and Whitford, 1990), or of private 'workouts'.

5.3 Renegotiation and the role of insolvency law

It is natural to assume that if insolvency procedures are a response to a common pool problem, then the content of the procedure 'supplied' will directly affect the efficiency of the process. This assumption belies a third limitation of the common pool model: it neglects the role played by renegotiation, given an insolvency procedure. The existence of a power in creditors to effect a collective transformation of some sort is probably far more important, in terms of efficiency, than the content of the procedure which will thereby be invoked. If the content of the procedure is inefficient, then the creditors may well be better off by arranging a 'workout'—a resolution of the debtor's financial distress without initiating formal proceedings. Whether or not this will be the case depends on a comparison between the transaction costs of bargaining in a workout situation and the costs of formal proceedings. However, the existence of the legal procedure 'in the shadows' means that the prisoner's dilemma problem is no longer one of the obstacles to renegotiation. To see this, consider how the example shown in Figure 1 is modified by the introduction of a costly insolvency procedure. Assume that the procedure may be invoked unilaterally by the debtor or any creditor.

Once it has commenced, any individual enforcement action must cease, and any individual attachments which took place immediately prior to its commencement must be repaid to the collective pool. The assets are then sold in a manner determined by the decision-making process and the proceeds distributed amongst the creditors. The strategy referred to in Figure 1 as 'co-operate' is now interpreted to mean a workout, and yields £7 to each creditor. Enforcement is the same as before. However, the game has a second stage, at which each creditor has an option to invoke a collective insolvency procedure. Diagram 1 shows the initial enforce/co-operate game in extensive form, with a normal form 'insolvency procedure game' embedded within it as a subgame. The strategies here are labelled "I" and "≠I", meaning that the creditor respectively does and does not exercise its option. Insolvency proceedings are assumed to involve a reasonably

efficient decision-making process (in that gross returns of £14 are realised), but to cost £2. The returns are split between the creditors pro rata; hence the payoffs to creditors are £6 each.

The introduction of an insolvency procedure makes co-operation a more attractive strategy. To see this, consider the outcomes of the various liquidation subgames. Working from the left, in the subgame where both players have previously played 'enforce', strategy I (weakly) dominates ≠I for both players, and we would expect to observe insolvency proceedings taking place, yielding payoffs of (6 , 6).[82] In the two 'middle' subgames—where one player has played 'enforce' and the other 'co-operate'—it will always be in the interests of the co-operator to play I. Hence the players will again receive (6 , 6). In the right-hand subgame, ≠I (weakly) dominates I for both players, and we would therefore expect them to receive (7 , 7).[83] The results of the solutions to these subgames may now be factored back into the original normal form game:

The key result is that it is now no longer irrational to co-operate. Indeed, this now (weakly) dominates 'enforce', with the result that the bottom-right cell, in which both players choose 'co-operate' has become the dominant strategy equilibrium. Thus, were this model to represent reality, we would not expect to see any formalinsolvencies, because this result would be off the equilibrium path. The existence of the legal procedure 'in the shadows' has only an indirect role in altering outcomes.[84]

Clearly, the transaction costs of workouts will not be zero, as has been assumed in this example. Thus the choice between workouts and formal proceedings will depend on the relative costs of each. Market norms and creditor concentration have an important role to play in reducing the transaction costs of workouts. Armour and Deakin (2000) argue that the way in which the financial distress of large UK-based public firms is resolved, according to the so-called 'London Approach', constitutes a set of such norms. These renegotiations take place in the shadow of English insolvency law. The contribution of

the market norms is to reduce the transaction costs of workouts, which would principally be that of free-rider behaviour.

6 Conclusion

The fact that corporate insolvency law is currently under review in the UK makes the debate about insolvency policy particularly topical. This paper has sought to provide an overview of the contributions which have been made by law and economics scholars. As was suggested in section 3, it is not necessary to subscribe to the view that the enhancement of efficiency should be the sole, or even the most important, goal of corporate insolvency law, for this literature to be of interest. An appreciation of the costs of financial distress and the incentive effects of various legal responses is surely an important precondition of designing legal rules which will succeed in implementing any given policy for corporate insolvency.

Notes

1. The OED Online defines ‘insolvency’ as ‘[T]he fact of being unable to pay one's debts or discharge one's liabilities.’ <http://dictionary.oed.com>.

2. In North American terminology, this is referred to as 'equity' insolvency.

3. Insolvency Act 1986 (‘IA 1986’) s 123(1)(e); Cornhill Insurance plc v Improvement Services Ltd [1986] 1 WLR 114. In the US, it is necessary to show that the debtor is generally not paying debts as they fall due, for which non-payment of a single debt will not be sufficient (11 U.S.C. § 303(h)(1); Matter of Lesher Intern, Ltd. 32 B.R. 1 (Bankr. N.Y., 1982); Re Garland Coal & Mining Co. 67 B.R. 514 (Bankr. W.D. Ark., 1986)).

4. See, e.g., Belcher (1997: 39-42). Substantial default indicates a failure to make a payment of interest or capital that is due. It should be distinguished from technical default, which connotes breach of any other term of a loan covenant – for example provisions relating to the provision of information or the maintenance of financial ratios. Belcher also discusses an alternative use of the term, derived from the accounting literature, which is based on financial ratios.

5. If accounting values matched net present values, it would be true to say that all firms which are economically distressed will also be insolvent in the balance-sheet sense. However, accounting measures are based on historic cost, and systematically biased towards undervaluation in order to promote prudence in the face of uncertainty. Hence many firms which are in fact economically viable are insolvent in the balance sheet sense.

6. Note that in this section consideration is only paid to corporate insolvency procedures. Individual insolvency—referred to under

English law as ‘bankruptcy’—raises fascinating issues which are beyond the ambit of this paper’s enquiry.

7. The Act will come into force mid-2001.

8. Chapter 9 proceedings are open only to municipalities; Chapter 12 only to family farmers, and Chapter 13 only to individuals.

9. The relation to economic distress is indirect because as we have seen, the fact of insolvency is only imperfectly correlated with economic distress.

10. IA 1986 ss 122, 123. A creditors' voluntary liquidation is also explicitly linked to factual insolvency (see IA 1986 ss 89, 90, 95).

11. A receiver may not be appointed unless a firm has defaulted on its secured debt. Default necessarily implies financial distress.

12. IA 1986 s 8(1)(a).

13. 11 U.S.C. § 362 (US proceedings); IA 1986 ss 9, 11 (administration); Insolvency Act 2000 (CVA moratorium).

14. IA 1986 ss 126-128, 130(2).

15. 11 U.S.C. §§ 363; 702; 704; 721 (Chapter 7); IA 1986 ss 14, 17 (administration); 143, 167-168 (winding-up).

16. 11 U.S.C. §§ 1107, 1108.

17. IA 1986 s 29(2).

18. Under the administration regime, the court’s consent is granted on entry to the procedure (IA 1986 s 8(3)), and is subject to subsequent review on a creditor’s petition (ibid s 27). For

winding-up and Chapter 7, the power to trade is granted by application to the court after the procedure has commenced (IA 1986 s 167, Sched. 4; 11 U.S.C. § 721).

19. IA 1986 s 41(1), Sched. 1; 11 U.S.C. § 1108.

20. 11 U.S.C. § 364; IA 1986 ss 19(4),(5); 15(1); 44(1), 45(3)(b). Administrators and administrative receivers have power to borrow on the company's behalf, which will rank as 'expenses' payable in priority to the claims of the holder of a floating charge in administration or those of the creditor who appointed the receiver.

21. 11 U.S.C. §§ 301, 303; IA 1986 ss 84, 122(1)(a); 122(1)(f). To commence an involuntary case under Chapter 7, the petition must be brought by at least three creditors. A winding-up petition, in contrast, may be brought by a single creditor.

22. 11 U.S.C. § 303(h)(1); IA 1986 s 123.

23. See e.g. Bank of Baroda v Panessar [1987] Ch 335; Shamji v Johnson Matthey Bankers [1991] BCLC 36.

24. IA 1986 s 8.

25. IA 1986 Sched. 1A, to be inserted by Insolvency Act 2000.

26. It is interesting to note that these exchanges have been conducted in parallel with the longer-running and more broad-ranging debates about the proper goals and purposes of company law more generally, but that there has to date been little cross-fertilisation between the two.

27. Similar support can of course be drawn from a consideration of US law. See Jackson (1982, 1986).

28. See e.g. West Mercia Safetywear Ltd v Dodd (1988) 4 BCC 30. The precise stage at which this shift occurs (whether it starts at the point of the debtor's factual insolvency, or before), and the nature of the shift (whether sudden and unitary when the debtor becomes factually insolvent, or graduated as the debtor's difficulties deepen) is as yet unclear. See Finch (1995).

29. Insolvency Act 1986 s 214.

30. See e.g. Shamji v Johnson Matthey Bankers (1986) 2 BCC 98, 910, per Oliver LJ at 98, 915 (appointment of administrative receiver); Re Craven Insurance Company Ltd [1968] 1 All ER 1140, per Pennycuick J at 1144; Re Camburn Petroleum Products Ltd [1979] 3 All ER 297 (petition for winding-up).

31. All office-holders owe fiduciary duties nominally to the company, but the content of the 'interests of the company' is different in each case. For an administrator, it will be the interests of all creditors; for a liquidator, those of unsecured creditors; and for an administrative receiver, their appointing debenture-holder.

32. IA 1986 ss 40, 175.

33. IRC v Goldblatt [1972] Ch 498.

34. See infra section 4.2.4.

35. Insolvency Act 1986 s 8(3)(a).

36. In practice, such conflicts are likely to be rare. The powers of an administrator are constrained by the purposes he is appointed to further (IA 1986 s 8(3)). Which of these purposes are actually embodied in any individual appointment will be a function (a) of what is asked for in the petition; and (b) what the court orders on the basis of the evidence presented to it about the state of the

company's affairs. Those who are entitled to present a petition have either no incentive (creditors) or no right (directors, constrained by their duties via-a-vis wrongful trading) to take into account the interests of employees in priority to the interests of shareholders, and hence it is unlikely that a petition would be presented asking for the preservation of the business as a going concern where this would not tend to enhance the interests of creditors.

37. Similarly, the Bankruptcy Commission responsible for the 1978 Act in the US also saw itself as furthering policies such as the rehabilitation of distressed debtors which might conflict with creditors' returns (see e.g. Carruthers, Halliday and Parrott, 1998: 166-181).

38. This list is by no means exhaustive. For much fuller discussion of the various normative positions in the debate, see Finch (1997).

39. Indeed, Finch (1997) is pessimistic about the prospects for operationalising Korobkin's framework, considering that its very inclusiveness (which is a source of normative strength) leads to indeterminacy in application.

40. This appears to be Warren's position (see Warren, 1993).

41. A claim that humans are 'essentially' or 'at core' altruistic, as opposed to selfish, presumably must imply that a theory based on altruism would in most circumstances be a better predictor of human behaviour than one based on self-interest.

42. Asserting that the reason communities are not taken into account spontaneously is because of the high transaction costs of doing so does not advance the argument. This would take us back to 'hypothetical consent' arguments.

43. If the loan is secured, then these proceedings will be private, usually through the appointment of a receiver. If unsecured, then the creditor must make use of the debt enforcement machinery provided by the state.

44. Weiss (1990) studied a sample of 37 US public firms which filed for Chapter 11 bankruptcy between 1979 and 1986. On average, direct costs amounted only 2.8% of the total book value of firms' assets. Lawless and Ferris (1998) studied a sample of 118 US firms which filed for Chapter 11 between 1986 and 1993. The median direct costs amounted to 3.5% of the total book value of the assets of firms at filing. Where firms are restructured out of court, the direct costs appear to be even lower. Gilson et al (1990: 336-337) obtained estimates of the direct costs of 'workouts' undergone by 18 US firms during the period 1978-1987, and found them to be a median of only 0.32% of the total book value of the firms' assets prior to the reorganisation.

45. For accessible reviews of the literature, see Buckley (1992); Triantis (1992); Rasmussen (1994b: 1167-1173).

46. Empirical research is generally supportive of the existence of such costs. Daigle and Moloney (1994: 182-187) took a sample of 56 US firms which filed for Chapter 11 bankruptcy during the 1980s, and investigated their investment decisions in the 5 years prior to filing. They found considerable qualitative evidence of risk-shifting, excessive dividend payments or share repurchases, and even outright fraud. In contrast, Andrade and Kaplan (1998) find 'no evidence of any risk-shifting or asset substitution' in their sample of 31 highly leveraged transactions that became financially distressed. However, further indirect support for the existence of financial agency costs comes from the observed use of loan covenants (e.g. Smith and Warner, 1979), the constrictiveness of which have been shown to be related to firms' level of gearing.

47. Hutchinson v Johnstone (1787) 1 Term Rep 729, 99 ER 1346

48. 11 USC § 362.

49. IA 1986 ss 128, 130(2), 183, 184.

50. ibid ss 10, 11.

51. It is clear that the English administrative receivership procedure, although formally an enforcement mechanism employed by a single secured creditor, has a collectivising role to play in this way (Buckley, 1994; Armour and Frisby, 2001).

52. Lawless and Ferris (1998) found that direct costs were correlated to the length of Chapter 11 proceedings, although the statistical significance was weak (90%).

53. However, LoPucki and Whitford (1990) downplay the empirical significance of such valuation problems.

54. Auctioning the firm outright may not in fact maximise the possible returns to creditors. Cornelli and Felli (1997) show that any given return to creditors from an outright auction can be increased through the auction of only a controlling stake in the firm. The intuition is that through retaining a minority shareholding, the creditors are able to capture part of the successful bidder's surplus.

55. Strömberg (2000) provides some support for this prediction with empirical data from Sweden. The principal Swedish insolvency procedure is in fact a liquidation sale, which may be either on a going-concern or a break-up basis. Strömberg's sample of Swedish liquidations show that firms are often sold back to incumbent management, and that this occurs in circumstances where the ability of management plus the financing bank to extract value from junior claimants is maximised.

56. In the US, bankruptcy law doctrine asserts that markets ‘systematically undervalue’ firms in reorganisation proceedings, leading judges to distrust market valuation evidence and confirm plans containing inflated figures. Whilst the undervaluation problem may be real in the case of small firms with thin markets for their securities, this is not the case for large firms, as evidenced by some early empirical work cited by Roe (1983).

57. Strömberg (2000) provides some empirical support for this prediction. His data show that liquidation value decreases with the indebtedness of the firm's industry, and the degree of specificity of the assets for sale.

58. The point that a reorganisation is, in effect, a 'sale' to the firm's existing owners was first made by Baird (1986).

59. On this effect, see infra section 4.2.4.

60. This proposal is due to Bebchuk (1988), although it is best known in the form presented in Aghion et al (1992).

61. Bebchuk (1988: 800 n46) offers the following general example,

62. ‘Consider, for example, a situation in which the total claim of a given intermediate class of creditors is $200 and the total claim of the classes above it is $540. In this case, any member of this intermediate class will receive, for each $1 debt that he is owed, a right that may be redeemed by the company for $1 and, if not redeemed, will entitle him to purchase 1/200 of the company's securities for a price equal to $2.70 (1/200 of the total preceding claims of $540).’

63. Baird and Jackson (1984, 1990) term this type of behaviour 'forum shopping'.

64. The new financier's expected return cannot be greater than the

firm's value (after incorporating the effect of the new project) minus the promised return to the prior lender.

65. An alternative technique for financing subsequent projects is through the sale of assets associated with existing projects. Once again, this can be prohibited through the use of loan covenants restricting dispositions of the firm's assets.

66. IA 1986, ss 239, 241, 245; 11 USC § 547.

67. IA 1986 ss 238, 241, 423-425; 11 USC §§ 544, 548 ; Uniform Fraudulent Transfer Act.

68. See e.g. Companies Act 1985, Parts IV, V and VIII.

69. IA 1986 s 214.

70. Company Directors' Disqualification Act 1986.

71. Research on this topic has tended to focus on large public firms. LoPucki and Whitford (1990) found that in 21 out of 30 Chapter 11 bankruptcies during the 1980s (70%) where debtors were insolvent, creditors agreed to allow equity to receive a share in the reorganised firm. However, the share as a percentage of the total distributions was generally small and rarely exceeded 10%, nor did equity's proportionate share increase with the percentage recovered by creditors. Weiss (1990) studied 37 public firms filing for Chapter 11 during 1979-86. He found violations of preinsolvency priorities in 78% of cases. In 12 cases, equity received more than 25% of the reorganised firm's value. Other studies finding deviations from preinsolvency priorities are Eberhardt et al (1990) (23%) and Franks and Torous (1989) (78%). White (1994b) aggregates the findings of a number of studies to show that equity receive a minimum of around 5% of the value of creditors' claims, rising slowly with creditors' percentage recoveries.

72. Their sample consisted of 56 Chapter 11 firms filing during the 1980s. The possibilities for misinvestment were determined by reference to the value of the firms' current assets, as a proxy for those available for substitution into more risky projects. Their size five years prior to bankruptcy was found to be correlated to the size of equity's share in reorganised firms.

73. Mills v Northern Rly of Buenos Aires (1870) 5 Ch App 621 (creditors have no individual right to injunct the company form breaching the capital maintenance regime); IA 1986 ss 214(1), 238(1), 239(1) (wrongful trading action may only be brought by liquidator, preference and undervalue actions may only be brought by liquidator or administrator).

74. IA 1986 s 24 (administrators' proposals must be approved by creditors' meeting), s 139 (liquidator appointed in accordance with creditors' preferences).

75. Company Directors' Disqualification Act 1986, ss 6-7; Sched. 1.

76. For example, in the UK, syndicated bank loans typically contain majority-voting provisions relating to waiver of certain covenants, but will implement a rule of unanimity in respect of renegotiation of payments or waiver of non-payment (see Wood, 1996; Isern-Feliu, 1996).

77. Negative pledge clauses might be used to provide that such behaviour would constitute an automatic event of default, thereby providing an effective 'lock-in' to the particular procedure. There would, however, still be the possibility of large debts being owed to involuntary creditors such as tort victims.

78. Bebchuk and Ferrell (1999) claim to find evidence of this sort of behaviour as respects take-over provisions. They suggest that if capital markets are not completely efficient, then managers will attempt to (re)incoporate their firms in jurisdictions with strong

'constituency' statutes. These are laws which give managers the power to make use of defensive tactics in the face of a hostile bid if they consider that the bidder is likely to harm employees, the local community etc. They are commonly thought to give underperforming managers a licence to avoid disciplinary bids. Bebchuk and Ferrell argue that managers tend to prefer to incorporate in jurisdictions where such provisions are prevalent if capital markets are not scrutinising the terms of their corporate charter carefully.

79. The authors compared bonds issued under English law (which permits collective action clauses) with those issued under US law (which does not). By controlling for borrowers' credit ratings, they found (i) collective action clauses reduce the cost of borrowing for more credit-worthy borrowers; (ii) increase the cost of borrowing for less credit-worthy borrowers.

80. The proposals to replace mandatory state-supplied procedures with 'contractual' procedures in the debtor's constitution is merely a shift from one form of legal rule to another.

81. English law allows the debtor firm to grant such a creditor the rights to control insolvency proceedings, through the administrative receivership procedure.

82. Lending relationships do sometimes operate in circumstances where there are no (legally binding) collective or individual enforcement procedures: sovereign debt being a good example.

83. This is so regardless of whether or not they play I.

84. The cell in which both players play $\neq$I is a dominant strategy equilibrium.

85. See Baird et al (1994: 6-49).

FIGURES, DIAGRAM AND TABLES

Figure 1

	Enforce	Co-operate
Enforce	5 , 5	9 , 1
Co-operate	1 , 9	7 , 7

Figure 2

Column

Row		Enforce	Co-operate
	Enforce	6 , 6	6 , 6
	Co-operate	6 , 6	7 , 7

Diagram 1

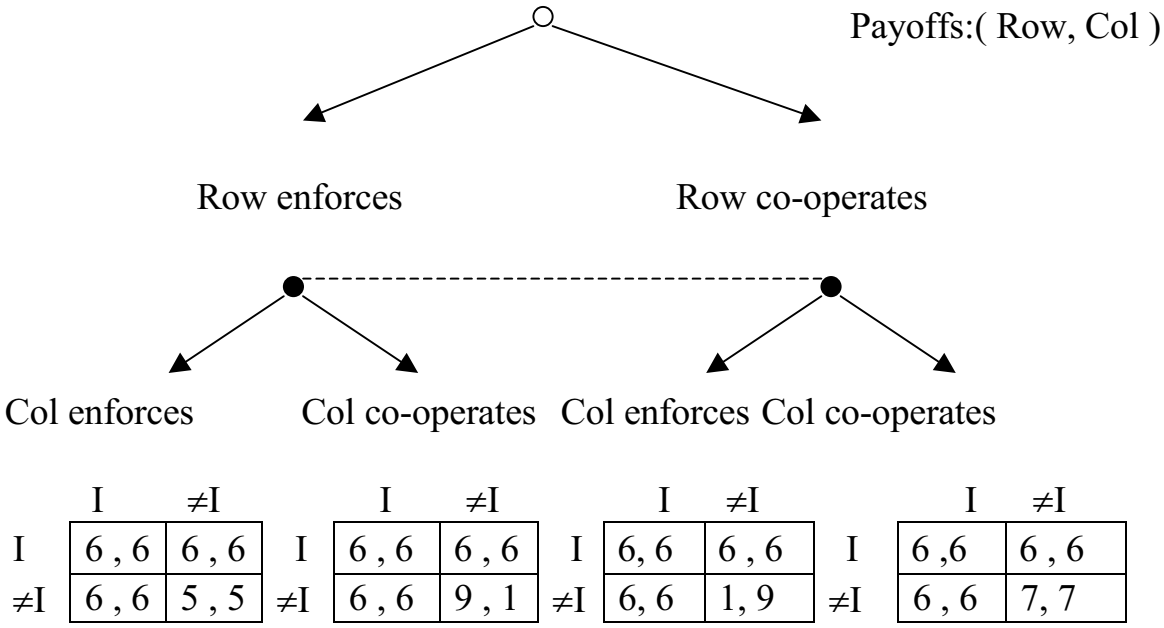

Table 1 Collectivisation

Procedure	Stay of enforcement	Allocation of control rights
UK		
Winding-up	Unsecured claimants: all claims stayed; ex post policing of preferences	Liquidator: appointed by creditors committee; court has supervisory jurisdiction
Administration	All claimants	Administrator appointed by creditors committee; court has supervisory jurisdiction
Administrative receivership	All claimants junior to the appointing creditor	Administrative receiver appointed by concentrated secured creditor, owing duties to that creditor
Scheme of arrangement / CVA	n/a	n/a
CVA moratorium procedure	All claimants	Existing management for 28 days; nominee has right to terminate procedure; creditors vote may terminate or extend
USA		
Chapter 7	All claimants	Trustee appointed by creditors committee
Chapter 11	All claimants	Debtor's existing management; subject to supervisory jurisdiction of court

Table 2 Liquidation and Reorganisation

Procedure	**Liquidation**	**Reorganisation**
UK		
Winding-up	Yes	Yes (coupled with a voting procedure)
Administration	Yes	Yes (coupled with a voting procedure)
Administrative receivership	Yes	No
CVA/ Scheme	No	Yes
CVA moratorium	No	Yes
USA		
Chapter 7	Yes	No
Chapter 11	No	Yes

Table 3 Entry and Exit

Procedure	Entry Mechanism	Exit Mechanism
UK		
Winding-up	(i) shareholder vote ('voluntary' liquidation) (ii) court hearing on petition of creditors	realisation of firm's assets completed and proceeds paid over to creditors and members (where appropriate)
Administration	court hearing demonstrating imminent insolvency; and that admin will enable (i) better realisation; (ii) preservation of business or (iii) reorganisation	winding-up or scheme of arrangement/CVA.
Administrative receivership	Secured creditor entitled to appoint receiver and chooses to do so.	Receiver has realised assets and paid off appointor
Scheme of arrangement/ CVA	Directors initiate proposal; scrutinised and confirmed by IP-nominee (CVA)	Creditors vote and scheme implemented
New CVA moratorium procedure	Directors initiate proposal, scrutinised and confirmed by nominee (insolvency practitioner)	28 days; Creditors vote on whether to extend; scheme implemented
USA		
Chapter 7	Debtor firm or court hearing	Realisations completed and distributed to creditors
Chapter 11	Debtor firm	Plan confirmed by court or court decides that debtor should be transferred to Chapter 7

References

Adler, Barry E. (1993), 'Financial and Political Theories of American Corporate Bankruptcy', 45 *Stanford Law Review*, 311.

— (1995) 'A Re-examination of Near-Bankruptcy Investment Incentives' 62 *University of Chicago Law Review,* 575.

Aghion, Philippe, Hart, Oliver and Moore, John (1992), 'The Economics of Bankruptcy Reform', 8 *Journal of Law Economics and Organisation,* 523-546.

— , — and — (1993), 'A Proposal for Bankruptcy Reform in the UK', 9 *Insolvency Law and Practice,* 103.

Andrade, Gregor, and Kaplan, Steven N. (1998), 'How Costly is Financial (Not Economic) Distress? Evidence From Highly-Leveraged Transactions that Became Distressed',*53 Journal of Finance,* 1443.

Armour, John (2000), 'Share Capital and Creditor Protection: Efficient Rules for a Modern Company Law?', 63 *Modern Law Review,* 355-378.

— and Deakin, Simon (2000), 'Norms in Private Insolvency: The 'London Approach to the Resolution of Financial Distress', *ESRC Centre for Business Research Working Paper*, 173, September 2000.

— and Frisby, Sandra (2001), 'Rethinking Receivership', 21 *Oxford Journal of Legal Studies*, 72-103.

Baird, Douglas G. (1986), 'The Uneasy Case for Corporate Reorganisations', 15 *Journal of Legal Studies*, 127-147.

— (1987a), 'A World Without Bankruptcy', *50 Law and Contemporary Problems*, 173-193.

— (1987b), 'Loss Distribution, Forum Shopping and Bankruptcy: A Reply to Warren', 54 *University of Chicago Law Review*, 815-834.

— (1998), 'Bankruptcy's Uncontested Axioms', 108 *Yale Law Journal*, 573-599.

— and Jackson, Thomas H. (1984), 'Corporate Reorganisations and the Treatment of Diverse Ownership Interests: A Comment on Adequate Protection of Secured Creditors in Bankruptcy', 51 *University of Chicago Law Review*, 97-130.

— and — (1990), *Cases, Problems and Materials on Bankruptcy*, Boston, MA: Little, Brown, 2nd ed..

— Gertner, Robert and Picker, Randall C. (1994), *Game Theory and the Law*, Cambridge, MA: Harvard University Press.

Barnea, Amir; Haugen, Robert A., and Senbet, Lemma W. (1985), *Agency Problems and Financial Contracting*, Englewood Cliffs, NJ: Prentice-Hall.

Belcher, Alice (1997), *Corporate Rescue*, London: Sweet & Maxwell.

Bebchuk, Lucien Ayre (1988), 'A New Approach to Corporate Reorganizations', 101 *Harvard Law Review*, 775-804.

— (1998), 'Chapter 11', in Newman, Peter (ed.) *The New Palgrave Dictionary Of Economics And The Law*, Basingstoke: Macmillan.

— and Chang, Howard (1992), 'Bargaining and the Division of Value in Corporate Reorganization', 8 *Journal of Law, Economics, and Organization*, 253-279.

— and Ferrell, Allen (1999), 'Federalism and Takeover Law: The Race to Protect Managers from Takeovers', *NBER Working Paper*, #7232.

Brealey, Richard A., and Myers, Stewart C. (1993), *Principles of Corporate Finance*, London: McGraw-Hill, 4th ed..

Buckley, Frank H. (1992), 'The Termination Decision', 61 *University of Missouri-Kansas City Law Review*, 243.

— (1994), 'The American Stay', 3 *Southern California Interdisciplinary Law Journal*, 733-781.

Cheffins, Brian C (1997*), Company Law: Theory, Structure and Operation*, Oxford: Oxford University Press.

Clark, Robert C. (1977), 'The Duties of the Corporate Debtor to Its Creditors', 90 *Harvard Law Review*, 505.

Cornelli, Francesca, and Felli, Leonardo (1997), 'Ex-Ante Efficiency of Bankruptcy Procedures', 41 *European Economic Review*, 475-485.

Daigle, Katherine H. and Maloney, Michael T. (1994), 'Residual Claims n Bankruptcy: An Agency Theory Explanation', *37 Journal of Law and Economics*, 157-192.

Easterbrook, Frank H. (1990), 'Is Corporate Bankruptcy Efficient?, 27 *Journal of Financial Economics*, 411-417.

Eberhardt, Allan; Moore, William; and Roenfeldt, Rodney (1990), 'Security Pricing and Deviations from the Absolute Priority

Rule in Bankruptcy Proceedings', 45 *Journal of Finance*, 1457-1469.

Eichengreen, Barry and Mody, Ashoka (2000), 'Would Collective Action Clauses Raise Borrowing Costs', *NBER Working Paper*, #7458.

Finch, Vanessa (1997), 'The Measures of Insolvency Law', 17 *Oxford Journal of Legal Studies*, 227-251.

Franks, Julian R., and Torous, Walter N. (1989), 'An Empirical Investigation of US Firms in Reorganization', 44 *Journal of Finance*, 747-769.

Gertner, Robert and Scharfstein, David (1991), 'A Theory of Workouts and the Effects of Reorganization Law', 46 *Journal of Finance*, 1189-1222.

Gilson, Stuart C. (1989), 'Management Turnover and Financial Distress', 25 *Journal of Financial Economics*, 241-265.

— ; John, Kose; and Lang, Larry H.P., (1990) 'Troubled Debt Restructurings: An Empirical Study of Private Reorganization of Firms in Default' 27 *Journal of Financial Economics*, 315-353.

— and Vetsuypens, Michael R. (1994), 'Creditor Control in Financially Distressed Firms: Empirical Evidence', 72 *Washington University Law Quarterly*, 1005-1025.

Goode, Roy M. (1997), *Principles of Corporate Insolvency Law* 2nd ed., London: Sweet & Maxwell.

Grantham, Ross (1991), 'The Judicial Extension of Directors' Duties to Creditors', *Journal of Business Law*, 1-18.

Gross, Karen (1997), *Failure and Forgiveness: Rebalancing the Bankruptcy System*, New Haven: Yale University Press.

Hart, Oliver (1995), *Firms, Contracts and Financial Structure*, Oxford: Clarendon Press.

Isern-Feliu, Santiago (1996), 'Loan Covenants: Negotiation and Compliance', 5(6) *Practical Law for Companies*, 13-18.

Jackson, Thomas H. (1982), 'Bankruptcy, Non-Bankruptcy Entitlements, and the Creditors' Bargain', 91 *Yale Law Journal*, 857-907.

— (1984), 'Avoiding Powers in Bankruptcy', 36 *Stanford Law Review*, 725.

— (1986), *The Logic and Limits of Bankruptcy*, Cambridge, MA: Harvard UP.

Jensen, Michael C. and Meckling, William H. (1976), 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure', 3 *Journal of Financial Economics*, 305-360.

Korobkin, Donald R. (1993), 'Contractarianism and the Normative Foundations of Bankruptcy Law', 71 *Texas Law Review,* 541.

— (1996), 'The Role of Normative Theory in Bankruptcy Debates', 82 *Iowa Law Review*, 75.

Lawless, Robert M., and Ferris, Stephen P. (1998), 'Direct Costs in Chapter 11 Bankruptcies', mimeo, University of Missouri-Columbia (available from <http://www.ssrn.com>).

LoPucki, Lynn and Whitford, William (1990), 'Bargaining Over Equity's Share in the Bankruptcy Reorganization of Large,

Publicly Held Companies', 139 *University of Pennsylvania Law Review,* 125.

Meckling, William H. (1977), 'Financial Markets, Default and Bankruptcy: The Role of the State', 41 *Law and Contemporary Problems*, 13.

Megginson, William L. (1997), *Corporate Finance Theory*, Reading, MA: Addison-Wesley.

Mokal, Rizwaan J. (2000), 'An Agency Cost Analysis of the Wrongful Trading Provisions: Redistribution, Perverse Incentives and the Creditors' Bargain', 59 *Cambridge Law Journal*, 335-369.

Myers, Stewart C. (1977), 'Determinants of CorporateBorrowing', 5 *Journal of Financial Economics*, 147-175.

Picker, Randall C. (1992), 'Security Interests, Misbehaviour, and Common Pools' 59 *University of Chicago Law Review,* 645.

Ponoroff, Lawrence and Knippenberg, F. Stephen (1991), 'The Implied Good Faith Filing Requirement: Sentinel of an Evolving Bankruptcy Policy', 85 *Northwestern University Law Review*, 919.

Prentice, Dan D. (1987), 'The Effect of Insolvency on Pre-Insolvency Transactions' in Pettet, Ben G. (ed.), *Company Law in Change: Current Legal Problems*, London: Stevens & Sons.

Rasmussen, Robert K. (1992), 'Debtor's Choice: A Menu Approach to Corporate Bankruptcy', 71 *Texas Law Review*, 51.

— (1994a), 'An Essay on Optimal Bankruptcy Rules and Social Justice', *University of Illinois Law Review*, 1.

— (1994b), 'The Ex Ante Effects of Bankruptcy Reform on Investment Incentives', 72 *Washington University Law Quarterly*, 1159.

Roe, Mark J. (1983), 'Bankruptcy and Debt: A New Model for Corporate Reorganization', 83 *Columbia Law Review*, 527.

— (1987), 'The Voting Prohibition in Bond Workouts', 97 *Yale Law Journal*, 232-279.

Schwartz, Alan (1989), 'A Theory of Loan Priorities', 18 *Journal of Legal Studies*, 209.

— (1993), 'Bankruptcy Workouts and Debt Contracts', 36 *Journal of Law and Economics*, 595-632.

— (1994), 'The Absolute Priority Rule and the Firm's Investment Policy', 72 *Washington University Law Quarterly*, 1213.

— (1997), 'Priority Contracts and Priority in Bankruptcy', 82 *Cornell Law Review*, 1396-1419.

— (1998), 'A Contract Theory Approach to Bankruptcy', 107 *Yale Law Journal*, 1807-1851.

Scott, Robert E. (1997), 'The Truth About Secured Lending', 82 *Cornell Law Review*, 1436-146.

Shleifer, Andrei and Vishny, Robert W. (1992), 'Liquidation Value and Debt Capacity : A Market Equilibrium Approach', 47 *Journal of Finance*, 4.

Strömberg, Per (2000), 'Conflicts of Interest and MarketIlliquidity in Bankruptcy Auctions: Theory and Tests', *CRSP Working Paper*, #459, University of Chicago Business School.

Smith, Jr., Clifford W., and Warner, Jerold B. (1979), 'On Financial Contracting: An Analysis of Bond Covenants', 7 *Journal of Financial Economics*, 117-161.

Trebilcock, Michael J. (1993), *The Limits of Freedom of Contract*, Cambridge, MA: Harvard University Press.

Triantis, George G. (1992), 'Secured Debt Under Conditions of Imperfect Information' 21 *Journal of Legal Studies*, 225.

— (1997), 'Debt Financing and Motivation', 31 *University of Richmond Law Review*, 1323.

Warren, Elizabeth (1987), 'Bankruptcy Policy', 54 *University of Chicago Law Review*, 775-814.

— (1993), 'Bankruptcy Policymaking in an Imperfect World', 92 *Michigan Law Review*, 336-387.

Webb, David C. (1991), 'An Economic Evaluation of Insolvency Procedures in the United Kingdom: Does the 1986 Insolvency Act Satisfy the Creditors' Bargain?', 43 *Oxford Economic Papers*, 139-157.

Weiss, Lawrence A. (1990), 'Bankruptcy Resolution: Direct Costs and Violation of Priority of Claims', 27 *Journal of Financial Economics*, 285-314.

Whincop, Michael J. (2000), 'The Economic and Strategic Structure of Insolvent Trading', forthcoming in Ian Ramsey (ed), *Insolvent Trading*, Melbourne: Centre for Corporate Law and Securities Research, forthcoming.

White, Michelle J. (1989), 'The Corporate Bankruptcy Decision', 3 *Journal of Economic Perspectives*, 129-151.

— (1994a), 'Corporate Bankruptcy as a Filtering Device: Chapter 11 Reorganizations and Out-of-Court Debt Restructurings', 10 *Journal of Law Economics and Organization*, 268-295.

— (1994b), 'Survey Evidence on Business Bankruptcy', in Logue, Dennis E. (ed.), *Handbook of Modern Finance* 3rd ed., Warren, Gorham and Lambert, 1994.

— (1996), 'The Costs of Corporate Bankruptcy: A US-European Comparison', in Bhandari, Jagdeep S. and Weiss, Lawrence A. (eds.), *Corporate Bankruptcy: Legal and Economic Perspectives*, Cambridge: CUP, 467-500.

Wood, Philip R. (1996), 'Term Loan Agreements: A Guide to Basics: Part 2', *Commercial Lawyer*, 1(7), 54-55.

Wruck, Karen H. (1990), 'Financial Distress, Reorganization, and Organizational Efficiency' 27 *Journal of Financial Economics*, 419-444.